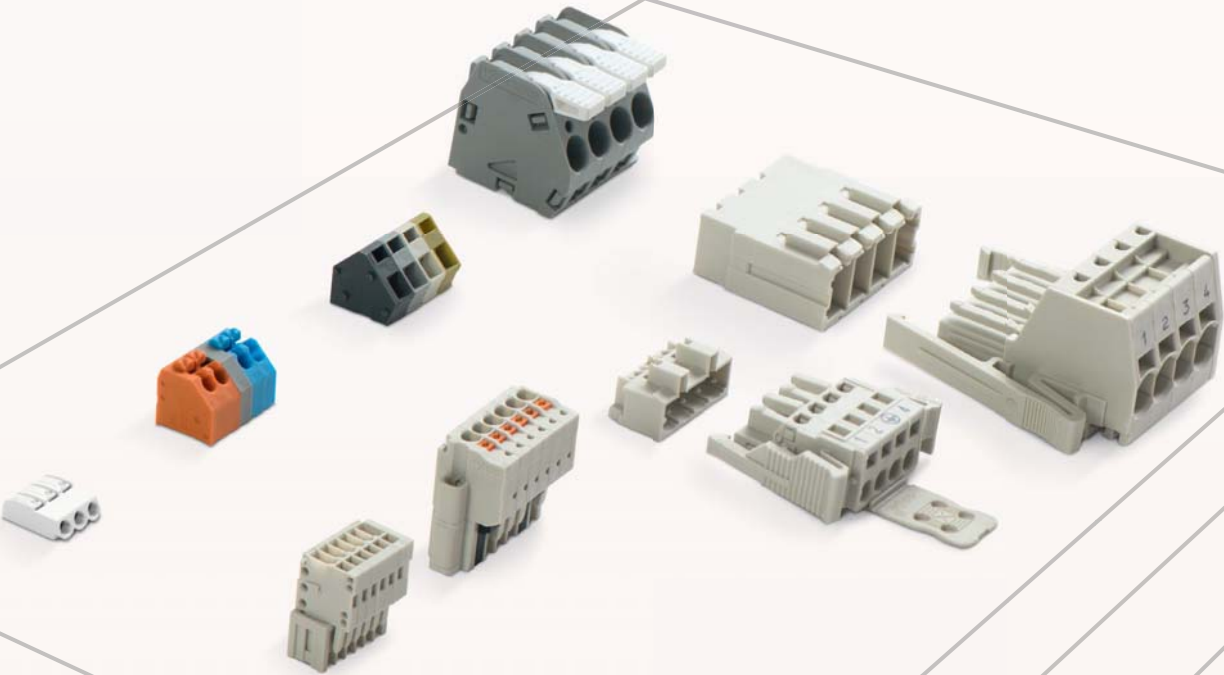


PCB Terminal Blocks and Connectors

Full Line Catalog, Volume 2 – Edition 2017/2018



WAGO Full Line Catalogs



Volume 1, Rail-Mounted Terminal Block Systems

- Rail-Mounted Terminal Blocks
- Rail-Mounted Terminal Blocks with Pluggable Connector (X-COM®-SYSTEM)
- Patchboard Systems
- Terminal Strips
- PUSH WIRE® Connectors for Junction Boxes
- Lighting Connectors
- Shield Connecting System



Volume 2, PCB Terminal Blocks and Connectors

- PCB Terminal Blocks
- SMD PCB Terminal Blocks
- *MULTI CONNECTION SYSTEM (MCS)*
- Pluggable PCB Terminal Blocks
- Feedthrough Terminal Blocks
- Specialty Connectors
- Empty Housings



Volume 3, Automation Technology

- Software
- Operating & Monitoring
- Controllers
- Modular I/O-SYSTEM, IP20/IP67
- Industrial Switches
- Radio Technology, *TO-PASS®* Telecontrol Technology
- IP67 Sensor/Actuator Boxes, IP67 Cables and Connectors



Volume 4, Interface Electronic

- Relay and Optocoupler Modules
- *JUMPFLEX®* Signal Conditioners and Isolation Amplifiers
- Current and Energy Measurement Technology
- *EPSITRON®* Power Supply System
- Interface Modules and System Wiring
- Overvoltage Protection
- Empty Housings



Volume 5, WINSTA® – The Pluggable Connection System

- Pluggable Connectors
- Snap-In Device Connectors
- Pluggable PCB Connectors
- Distribution Connectors
- Cable Assemblies
- Flat Cable Systems
- Distribution Boxes



Volume 6, Marking

- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Printer
- Software
- Marker Carriers

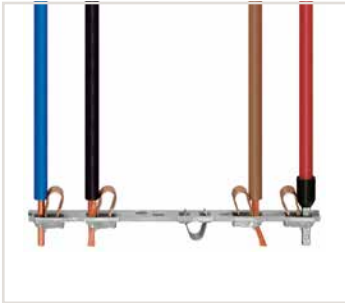
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Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

PUSH-IN CAGE CLAMP®



Push-in CAGE CLAMP® terminates the following copper conductors: solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

The universal connection with an additional advantage:

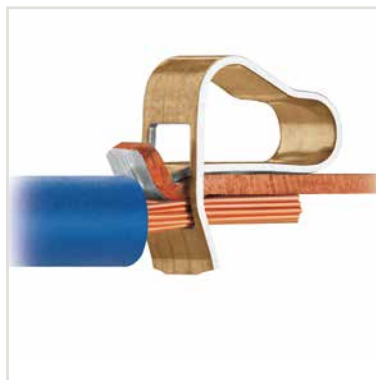
Push-in termination

Terminate solid and stranded, as well as ferruled conductors, by simply pushing them in – no tools required.

Termination for all conductor types:

- Open clamping unit
- Insert the conductor
- Release clamp – done!

CAGE CLAMP®



CAGE CLAMP® terminates the following copper conductors: solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

The universal connection for solid, stranded and fine-stranded conductors

Termination:

- Open clamping unit
- Insert the conductor
- Release clamp – done!

Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

POWER CAGE CLAMP®



POWER CAGE CLAMP terminates the following copper conductors: solid



stranded



fine-stranded, also with tinned single strands



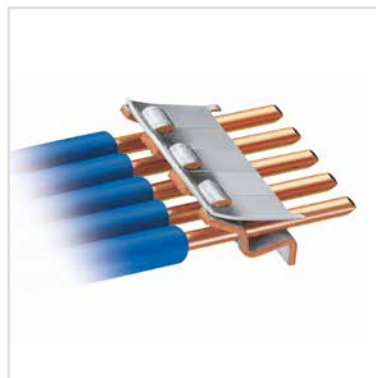
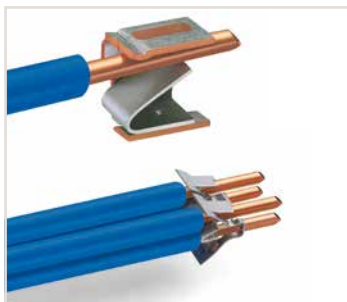
fine-stranded, with ferrule (gastight crimped)

The universal connection for conductors larger than 35 mm² (2 AWG)

Termination:

- Open clamp by turning a T-wrench counter-clockwise
- Press the integrated latch to open clamping unit for hands-free wiring
- Insert the conductor
- A small counter-clockwise rotation closes the clamp, securing conductor

PUSH WIRE®



PUSH WIRE® terminates the following copper conductors: solid

PUSH WIRE® connection for solid and stranded conductors (depending on the model used)

Termination:

Tool-free, twist-free terminations for solid and rigid stranded conductors – simply push into the unit.

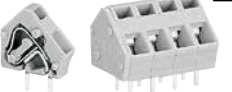
















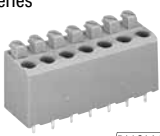

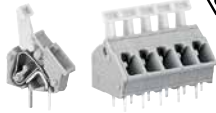

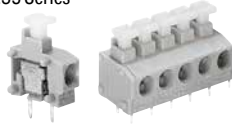





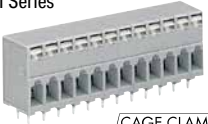

PCB Terminal Blocks

- Product Overview by Pin Spacing -

2.5 mm/0.098 inch, 2.54 mm/0.1 inch		3 mm/0.118 inch		3.5 mm/0.138 inch, 3.81 mm/0.15 inch		4 mm/0.156 inch	
<p>233 Series</p>  <p>CAGE CLAMP</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 19</p>	<p>2059 Series</p>  <p>SMT PUSH WIRE</p> <p>0.14 ... 0.34 mm² / 26 ... 22 AWG "sol." Page 225</p>	<p>739 Series</p>  <p>CAGE CLAMP</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 87, 89</p>	<p>739 Series</p>  <p>CAGE CLAMP</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 79, 81</p>	<p>2060 Series</p>  <p>4 THR PUSH-IN CAGE CLAMP</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 143</p>			
<p>218 Series</p>  <p>CAGE CLAMP</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 99</p>	<p>2059 Series</p>  <p>SMT PUSH WIRE</p> <p>0.14 ... 0.34 mm² / 26 ... 22 AWG "sol." Page 225</p>	<p>235 Series</p>  <p>3.81 PUSH-IN CAGE CLAMP</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG Page 165</p>		<p>2060 Series</p>  <p>4 THR PUSH-IN CAGE CLAMP</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 143</p>			
<p>218 Series</p>  <p>THR CAGE CLAMP</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Pages 101, 103</p>		<p>805 Series</p>  <p>3.5 PUSH-IN CAGE CLAMP</p> <p>0.2 ... 1.5 mm² / 24 ... 16 AWG Pages 173, 175</p>	<p>805 Series</p>  <p>3.5 THR PUSH-IN CAGE CLAMP</p> <p>0.2 ... 1.5 mm² / 24 ... 16 AWG Page 177</p>	<p>2060 Series</p>  <p>4 SMT PUSH-IN CAGE CLAMP</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 227</p>			
<p>233 Series</p>  <p>CAGE CLAMP</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 107</p>		<p>250 Series</p>  <p>3.5 PUSH-IN CAGE CLAMP</p> <p>0.2 ... 1.5 mm² / 24 ... 16 AWG Page 155</p>	<p>250 Series</p>  <p>THR 3.5 PUSH-IN CAGE CLAMP</p> <p>0.2 ... 1.5 mm² / 24 ... 16 AWG Page 159</p>	<p>2060 Series</p>  <p>4 SMT PUSH-IN CAGE CLAMP</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 227</p>			
<p>234 Series</p>  <p>CAGE CLAMP</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 109</p>		<p>251 Series</p>  <p>3.5 IDC PUSH WIRE</p> <p>0.5 ... 1.5/1.0 mm² / 20 ... 16/18 AWG Pages 197, 199</p>	<p>235 Series</p>  <p>3.81 PUSH WIRE</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG "sol." Page 181</p>				
<p>250 Series</p>  <p>PUSH-IN CAGE CLAMP</p> <p>0.2 ... 0.5 mm² / 24 ... 20 AWG Pages 151, 153</p>		<p>744 Series</p>  <p>3.5 PUSH WIRE</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG "sol." Page 195</p>	<p>735 Series</p>  <p>3.81 PUSH WIRE</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG "sol." Page 201</p>				
<p>250 Series</p>  <p>THR 2.5 PUSH-IN CAGE CLAMP</p> <p>0.2 ... 0.5 mm² / 24 ... 20 AWG Page 157</p>							

5 mm/0.197 inch, 5.08 mm/0.2 inch

6 mm/0.236 inch
































<p>236 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 21, 27</p>	<p>236 Series</p>  <p>5 THR</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 33</p>	<p>745 Series</p>  <p>Ex</p> <p>5</p> <p>CAGE CLAMP®</p> <p>0.08 ... 4 mm² / 28 ... 12 AWG Pages 35, 37</p>	<p>745 Series</p>  <p>Ex</p> <p>5</p> <p>CAGE CLAMP®</p> <p>0.08 ... 4 mm² / 28 ... 12 AWG Pages 41, 43</p>	<p>2061 Series</p>  <p>SMT</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG Page 231</p>
<p>739 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 91</p>	<p>739 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 83</p>	<p>740 Series</p>  <p>5</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 95</p>	<p>816 Series</p>  <p>5</p> <p>PUSH-IN CAGE CLAMP®</p> <p>2 x 0.2 ... 1.5 mm² / 2 x 24 ... 16 AWG Page 139</p>	<p>2061 Series</p>  <p>SMT</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG Page 231</p>
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<p>736 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 55, 59</p>	<p>737 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 63, 67</p>	<p>738 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 71, 73</p>	<p>735 Series</p>  <p>5</p> <p>PUSH WIRE®</p> <p>0.5 ... 1.5 mm² / 20 ... 16 AWG *sol.* Page 203</p>	
<p>255 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 113 ... 115</p>	<p>256 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 117 ... 122</p>	<p>257 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 125 ... 129</p>		
<p>235 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 14 AWG Pages 167, 169</p>	<p>250 Series</p>  <p>5</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 14 AWG Page 161</p>	<p>250 Series</p>  <p>5</p> <p>PUSH-IN CAGE CLAMP®</p> <p>2 x 0.5 ... 1.5 mm² / 20 ... 14 AWG Page 163</p>		
<p>235 Series</p>  <p>PUSH WIRE®</p> <p>0.5 ... 2.5 mm² / 20 ... 14 AWG *sol.* Pages 183, 185</p>	<p>254 Series</p>  <p>PUSH WIRE®</p> <p>0.5 ... 2.5 mm² / 20 ... 12 AWG *sol.* Pages 189, 191</p>	<p>253 Series</p>  <p>5</p> <p>PUSH WIRE®</p> <p>2 x 0.5 ... 1.5 mm² / 2 x 20 ... 16 AWG Page 193 *sol.*</p>		
<p>Feedthrough terminal strips, 741 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 553 ... 559</p>	<p>Feedthrough terminal strips, 231 and 731 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 561, 563</p>			









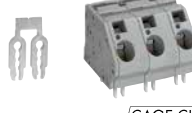

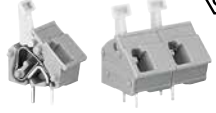







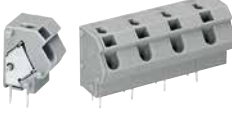

● Only available in this pin spacing!


*AWG 12: THHN, THWN

PCB Terminal Blocks

- Product Overview by Pin Spacing -

7.5 mm/0.295 inch, 7.62 mm/0.3 inch			8 mm/0.314 inch	10 mm/0.394 inch, 10.16 mm/0.4 inch
<p>236 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 23, 29</p>	<p>745 Series</p>  <p>Ex</p> <p>7.5</p> <p>CAGE CLAMP®</p> <p>0.08 ... 4 mm² / 28 ... 12 AWG Page 37</p>		<p>2060 Series</p>  <p>SMT</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 229</p>	<p>236 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 25, 31</p>
<p>739 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 93</p>	<p>739 Series</p>  <p>Press-In Technology</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 85</p>	<p>746 Series</p>  <p>7.5</p> <p>PUSH-IN CAGE CLAMP®</p> <p>2 x 0.5 ... 10 mm² / 2 x 20 ... 8 AWG Page 141</p>	<p>2060 Series</p>  <p>THR</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 145</p>	<p>745 Series</p>  <p>Ex</p> <p>10</p> <p>CAGE CLAMP®</p> <p>0.2 ... 6 mm² / 24 ... 10 AWG Page 47</p>
<p>745 Series</p>  <p>Ex</p> <p>7.5</p> <p>CAGE CLAMP®</p> <p>0.2 ... 4 mm² / 28 ... 12 AWG Pages 41, 43</p>	<p>745 Series</p>  <p>Ex</p> <p>7.5</p> <p>CAGE CLAMP®</p> <p>0.2 ... 6 mm² / 24 ... 10 AWG Pages 45, 49</p>		<p>2060 Series</p>  <p>THR</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 0.75 mm² / 24 ... 18 AWG Page 145</p>	<p>745 Series</p>  <p>Ex</p> <p>10</p> <p>CAGE CLAMP®</p> <p>0.08 ... 4 mm² / 28 ... 12 AWG Pages 41, 43</p>
<p>736 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 56, 60</p>	<p>737 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 64, 68</p>			<p>736 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 57, 61</p>
<p>255 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 113 ... 115</p>	<p>256 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 117 ... 122</p>	<p>257 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 125 ... 129</p>		<p>255 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 113 ... 115</p>
<p>235 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 14 AWG Page 167</p>	<p>250 Series</p>  <p>7.5</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 14 AWG Page 161</p>	<p>804 Series</p>  <p>7.5</p> <p>PUSH-IN CAGE CLAMP®</p> <p>0.25 ... 2.5 mm² / 22 ... 12 AWG Page 179</p>		<p>235 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 1.5 mm² / 20 ... 14 AWG Page 167</p>
<p>2706 Series</p>  <p>7.5</p> <p>CAGE CLAMP®</p> <p>0.5 ... 6 mm² / 20 ... 10 AWG Page 131</p>	<p>2706 Series</p>  <p>7.5</p> <p>CAGE CLAMP®</p> <p>0.5 ... 6 mm² / 20 ... 10 AWG Page 133</p>			<p>2706 Series</p>  <p>10</p> <p>CAGE CLAMP®</p> <p>0.5 ... 6 mm² / 20 ... 10 AWG Page 131</p>
<p>235 Series</p>  <p>PUSH WIRE®</p> <p>0.5 ... 2.5 mm² / 20 ... 14 AWG *sol.* Page 183</p>	<p>254 Series</p>  <p>PUSH WIRE®</p> <p>0.5 ... 2.5 mm² / 20 ... 12 AWG *sol.* Pages 189, 191</p>	<p>Feedthrough terminal strips, 741 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 553 ... 559</p>		<p>235 Series</p>  <p>PUSH WIRE®</p> <p>0.5 ... 2.5 mm² / 20 ... 14 AWG *sol.* Page 183</p>

10 mm/0.394 inch, 10.16 mm/0.4 inch		12.5 mm/0.492 inch	15 mm/0.59 inch	20 mm/0.787 inch
<p>745 Series</p>  <p>Ex</p> <p>10</p> <p>CAGE CLAMP®</p> <p>0.08 ... 4 mm² / 28 ... 12 AWG Page 39</p>		<p>745 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 4 mm² / 28 ... 12 AWG Page 39</p>	<p>745 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.2 ... 6 mm² / 24 ... 10 AWG Page 47</p>	<p>745 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.2 ... 16 mm² / 24 ... 6 AWG Pages 51, 53</p>
<p>739 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Page 93</p>		<p>745 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.2 ... 6 mm² / 24 ... 10 AWG Page 47</p>		
<p>745 Series</p>  <p>Ex</p> <p>10</p> <p>CAGE CLAMP®</p> <p>0.2 ... 6 mm² / 24 ... 10 AWG Pages 45, 49</p>	<p>745 Series</p>  <p>Ex</p> <p>10</p> <p>CAGE CLAMP®</p> <p>0.2 ... 16 mm² / 24 ... 6 AWG Pages 51, 53</p>		<p>745 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.2 ... 16 mm² / 24 ... 6 AWG Pages 51, 53</p>	
<p>737 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 65, 69</p>				
<p>256 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 117 ... 122</p>	<p>257 Series</p>  <p>Ex</p> <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 125 ... 129</p>		<p>2716 Series</p>  <p>CAGE CLAMP®</p> <p>1.5 ... 16 mm² / 16 ... 6 AWG Page 135</p>	
<p>2716 Series</p>  <p>10</p> <p>CAGE CLAMP®</p> <p>1.5 ... 16 mm² / 16 ... 6 AWG Page 135</p>	<p>2716 Series</p>  <p>10</p> <p>CAGE CLAMP®</p> <p>1.5 ... 16 mm² / 16 ... 6 AWG Page 137</p>		<p>2716 Series</p>  <p>CAGE CLAMP®</p> <p>1.5 ... 16 mm² / 16 ... 6 AWG Page 137</p>	
<p>2706 Series</p>  <p>10</p> <p>CAGE CLAMP®</p> <p>0.5 ... 6 mm² / 20 ... 10 AWG Page 133</p>		<p>2706 Series</p>  <p>CAGE CLAMP®</p> <p>0.5 ... 6 mm² / 20 ... 10 AWG Page 131</p>		
<p>254 Series</p>  <p>PUSH WIRE®</p> <p>0.5 ... 2.5 mm² / 20 ... 12 AWG *sol.* Pages 189, 191</p>	<p>Feedthrough terminal strips, 741 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12* AWG Pages 553 ... 559</p>			

 Only available in this pin spacing!

*AWG 12: THHN, THWN

MCS – MULTI CONNECTION SYSTEM

– Product Overview by Pin Spacing –

2.5 mm/0.098 inch MICRO*	3.5 mm/0.138 inch, 3.81 mm/0.15 inch MINI*			3.5 mm/0.138 inch MINI HD*
<p>Female connectors, 733 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 241</p>	<p>Female connectors, 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 261, 262</p>	<p>Female connectors with locking levers, 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 261, 262</p>	<p>Female connectors with screw flanges, 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Page 261</p>	<p>Female connectors, 713 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 16 AWG Page 303</p>
<p>Female connectors with locking levers, 733 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 241</p>	<p>Female connectors with snap-in mounting feet, 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 262, 263</p>	<p>Female connectors with push-buttons, 2734 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 1.5 mm² / 24 ... 14 AWG Pages 265, 266</p>	<p>Female connectors with push-buttons and locking levers, 2734 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 1.5 mm² / 24 ... 14 AWG Pages 266, 267</p>	<p>Female connectors with levers, 713 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 16 AWG Page 303</p>
<p>Male headers with solder pins, 733 Series</p>  <p>Page 243</p>	<p>Female connectors with push-buttons and mounting flanges, 2734 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 1.5 mm² / 24 ... 14 AWG Pages 265, 267</p>	<p>Female connectors with push-buttons and screw flanges, 2734 Series</p>  <p>PUSH-IN CAGE CLAMP® 3.5</p> <p>0.2 ... 1.5 mm² / 24 ... 14 AWG Page 266</p>		<p>Female connectors with screw flanges, 713 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 16 AWG Page 303</p>
<p>Male headers with press-in pins, 733 Series</p>  <p>Page 245</p>	<p>Male headers with solder pins, 734 Series</p>  <p>Pages 269, 271</p>	<p>Male headers with solder pins and threaded flanges, 734 Series</p>  <p>CAGE CLAMP® 3.5</p> <p>Page 269</p>	<p>Male headers with press-in pins, 734 Series</p>  <p>Page 275</p>	<p>Male headers with solder pins, 713 Series</p>  <p>THR</p> <p>Page 305, (THR: Page 309, 310)</p>
<p>Male headers with solder pins, 733 Series</p>  <p>THR</p> <p>Pages 247, 248</p>	<p>Double-deck male headers with solder pins, 734 Series</p>  <p>Pages 272, 273</p>	<p>Male headers with solder pins, 734 Series</p>  <p>THR</p> <p>Pages 277 ... 280</p>		<p>Male headers with solder pins and levers, 713 Series</p>  <p>THR</p> <p>Page 306, (THR: Pages 311, 312)</p>
<p>Male connectors 733 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 0.5 mm² / 28 ... 20 AWG Page 251</p>	<p>Male connectors 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 283, 284</p>	<p>Male connectors with mounting flanges, 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 283, 284</p>	<p>Male connectors with threaded flanges, 734 Series</p>  <p>CAGE CLAMP® 3.5</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Page 283</p>	<p>Male headers with solder pins and threaded flanges, 713 Series</p>  <p>THR</p> <p>Page 307, (THR: Pages 313, 314)</p>
	<p>Male connectors with snap-in mounting feet, 734 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Pages 284, 285</p>	<p>Female headers with solder pins, 734 Series</p>  <p>Pages 289, 290</p>	<p>Female headers with solder pins and locking levers, 734 Series</p>  <p>Pages 289 ... 291</p>	
	<p>Combi strips, 734 Series</p>  <p>CAGE CLAMP® 3.5</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Page 287</p>	<p>Combi strips with snap-in mounting feet, 734 Series</p>  <p>CAGE CLAMP® 3.5</p> <p>0.08 ... 1.5 mm² / 28 ... 14 AWG Page 287</p>		



Press-In Technology























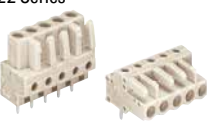




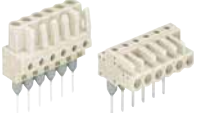
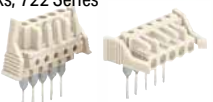


Through-Hole Reflow Soldering



Only available in this pin spacing!

*100 % protected against mismatching

3.5 mm/0.138 inch MINI SL	5 mm/0.197 inch MIDI*			
Female connectors, 714 Series  PUSH-IN CAGE CLAMP®	Female connectors, 721 Series  CAGE CLAMP®	Female connectors with locking levers, 721 Series  CAGE CLAMP®	Female connectors with mounting flanges, 721 Series  CAGE CLAMP®	Female connectors with snap-in mounting feet, 721 Series  CAGE CLAMP®
0.2 ... 1.5 mm ² / 24 ... 16 AWG Page 321	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 331	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 331	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 331, 332	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 332
Male headers with solder pins, 714 Series 	Angled female connectors, 722 Series  CAGE CLAMP®	Female connectors with flanges for panel mounting, 721 Series  CAGE CLAMP®	Female connectors with snap-in feet for panel mounting, 721 Series  CAGE CLAMP®	
Page 323	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 333	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 335	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 335	
	Female connectors with push-buttons, 2721 Series  PUSH-IN CAGE CLAMP®	Female connectors with push-buttons and snap-in mounting feet, 2721 Series  PUSH-IN CAGE CLAMP®	Female connectors with push-buttons and locking levers, 2721 Series  PUSH-IN CAGE CLAMP®	Female connectors with push-buttons and mounting flanges, 2721 Series  PUSH-IN CAGE CLAMP®
	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 337	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 337	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 337	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 338
	2-conductor female connectors, 721 Series  PUSH-IN CAGE CLAMP®	2-conductor female connectors with locking levers, 721 Series  PUSH-IN CAGE CLAMP®		
	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 341	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 341		
	Male headers with solder pins, 721 Series 	Male headers with press-in pins, 721 Series  		
	Pages 343, 345	Page 347		
	Male connectors, 721 Series  CAGE CLAMP®	Male connectors with snap-in mounting feet, 721 Series  CAGE CLAMP®	Male connectors with mounting flanges, 721 Series  CAGE CLAMP®	Male connectors with snap-in flanges, 721 Series  CAGE CLAMP®
	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 349	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 350	0.08 ... 2.5 mm ² / 28 ... 12* AWG Page 349	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 350
	Female headers with solder pins, 722 Series 	Female headers with solder pins and locking levers, 722 Series 	Female headers with solder pins and mounting flanges, 722 Series 	Female headers with solder pins and spacers, 722 Series 
	Page 353	Page 354	Pages 354, 355	Page 355
	Male connectors for rail-mount terminal blocks, 721 Series 	Female connectors for rail-mount terminal blocks, 722 Series 	Female connectors with locking levers, for rail-mount terminal blocks, 722 Series 	
	Page 357	Page 358	Page 359	

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– Product Overview by Pin Spacing –













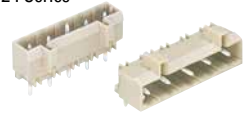



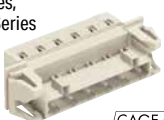



5 mm/0.197 inch, 5.08 mm/0.2 inch MIDI Classic				
Female connectors, 231 Series  (CAGE CLAMP®)	Female connectors with integrated end plate, 231 Series  (CAGE CLAMP®)	Female connectors with snap-in mounting feet, 231 Series  (CAGE CLAMP®)	Female connectors with locking levers, 231 Series  (CAGE CLAMP®)	Female connectors with mounting flanges, 231 Series  (CAGE CLAMP®)
0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 395, 398	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 395, 398	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 397, 400	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 396, 400	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 396, 399
Angled female connectors, 232 Series  (CAGE CLAMP®)	Female connectors with screw flanges, 231 Series  (CAGE CLAMP®) 5.08	Female connectors with flanges for panel mounting, 731 Series  (CAGE CLAMP®) 5	Female connectors with snap-in feet for panel mounting, 731 Series  (CAGE CLAMP®) 5	
0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 397, 401	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 400	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 403	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 403	
Female connectors with push-buttons, 2231 Series  (PUSH-IN CAGE CLAMP®)	Female connectors with push-buttons and integrated end plate, 2231 Series  (PUSH-IN CAGE CLAMP®)	Female connectors with push-buttons and snap-in mounting feet, 2231 Series  (PUSH-IN CAGE CLAMP®)	Female connectors with push-buttons and locking levers, 2231 Series  (PUSH-IN CAGE CLAMP®)	Female connectors with push-buttons and mounting flanges, 2231 Series  (PUSH-IN CAGE CLAMP®)
0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 405, 407	0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 406, 408	0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 405, 407	0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 405, 407	0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 406, 408
Female connectors with push-buttons and screw flanges, 2231 Series  (PUSH-IN CAGE CLAMP®) 5.08	2-conductor female connectors, 231 Series  (PUSH-IN CAGE CLAMP®)	2-conductor female connectors with locking levers, 231 Series  (PUSH-IN CAGE CLAMP®)	2-conductor female connectors with screw flanges, 231 Series  (PUSH-IN CAGE CLAMP®) 5.08	
0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 408	0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 411, 412	0.2 ... 2.5 mm ² / 24 ... 12 AWG Pages 411, 412	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 412	
Male headers with solder pins, 231 Series 	Male headers with solder pins and mounting flanges, 231 Series  5	Male headers with solder pins and threaded flanges, 231 Series  5.08	Male headers for double-deck assembly, 232 Series 	Male headers with solder pins, 231 Series  THR 5
Pages 415 ... 420	Pages 415 ... 420	Pages 417, 421	Page 423	Pages 425 ... 430
Male connectors, 231 Series  (CAGE CLAMP®)	Male connectors with snap-in mounting feet, 231 Series  (CAGE CLAMP®)	Male connectors with mounting flanges, 231 Series  (CAGE CLAMP®)	Male connectors with snap-in flanges, 231 Series  (CAGE CLAMP®)	Male connectors with threaded flanges, 231 Series  (CAGE CLAMP®) 5.08
0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 433, 435	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 433, 435	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 433, 435	0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 435, 436	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 436
Male connectors with snap-in and threaded flanges, 231 Series  (CAGE CLAMP®) 5.08	Double-pin male connectors for DIN-35 rail mounting, 232 Series 		Female headers with solder pins, 232 Series 	Female headers with solder pins and locking levers, 232 Series 
0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 436	Page 439		Pages 441, 444	Pages 441 ... 445
Female headers with solder pins and mounting flanges, 232 Series 	Female headers with solder pins and spacers, 232 Series 	Male connectors for rail-mount terminal blocks, 231 Series  5	Female connectors for rail-mount terminal blocks, 232 Series  5	Female connectors with locking levers, for rail-mount terminal blocks, 232 Series  5
Pages 442, 445	Pages 443, 446	Page 449	Page 451	Page 452



Through-Hole Reflow Soldering



Only available in this pin spacing!

7.5 mm/0.295 inch MIDI*		
<p>Female connectors, 721 Series</p>  <p><i>CAGE CLAMP®</i></p>	<p>Female connectors with snap-in mounting feet, 721 Series</p>  <p><i>CAGE CLAMP®</i></p>	<p>Female connectors with locking levers, 721 Series</p>  <p><i>CAGE CLAMP®</i></p>
0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 363	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 364	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 363
<p>Female connectors with mounting flanges, 721 Series</p>  <p><i>CAGE CLAMP®</i></p>	<p>Female connectors with flanges for panel mounting, 721 Series</p>  <p><i>CAGE CLAMP®</i></p>	<p>Female connectors with snap-in feet for panel mounting, 721 Series</p>  <p><i>CAGE CLAMP®</i></p>
0.08 ... 2.5 mm ² / 28 ... 12 AWG Pages 363, 364	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 367	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 367
<p>Female connectors with push-buttons, 2721 Series</p>  <p><i>PUSH-IN CAGE CLAMP®</i></p>	<p>Female connectors with push-buttons and snap-in mounting feet, 2721 Series</p>  <p><i>PUSH-IN CAGE CLAMP®</i></p>	<p>Female connectors with push-buttons and locking levers, 2721 Series</p>  <p><i>PUSH-IN CAGE CLAMP®</i></p>
0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 369	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 369	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 369
<p>Female connectors with push-buttons and mounting flanges, 2721 Series</p>  <p><i>PUSH-IN CAGE CLAMP®</i></p>	<p>2-conductor female connectors, 721 Series</p>  <p><i>PUSH-IN CAGE CLAMP®</i></p>	<p>2-conductor female connectors with locking levers, 721 Series</p>  <p><i>PUSH-IN CAGE CLAMP®</i></p>
0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 370	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 373	0.2 ... 2.5 mm ² / 24 ... 12 AWG Page 373
<p>Male headers with solder pins, 721 Series</p> 		
Pages 375, 377		
<p>Male connectors, 723 Series</p>  <p><i>CAGE CLAMP®</i></p>	<p>Male connectors with snap-in mounting feet, 723 Series</p>  <p><i>CAGE CLAMP®</i></p>	<p>Male connectors with mounting flanges, 723 Series</p>  <p><i>CAGE CLAMP®</i></p>
0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 379	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 380	0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 379
<p>Male connectors with snap-in flanges, 723 Series</p>  <p><i>CAGE CLAMP®</i></p>		<p>Female headers with solder pins, 722 Series</p> 
0.08 ... 2.5 mm ² / 28 ... 12 AWG Page 380		Page 383
<p>Female headers with solder pins and locking levers, 722 Series</p> 	<p>Female headers with solder pins and mounting flanges, 722 Series</p> 	<p>Female headers with solder pins and spacers, 722 Series</p> 
Page 384	Pages 384, 385	Page 385

*100 % protected against mismatching

MCS – MULTI CONNECTION SYSTEM

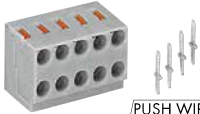
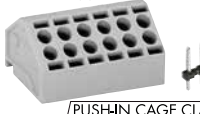


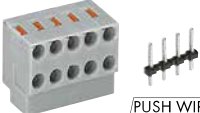

– Product Overview by Pin Spacing –

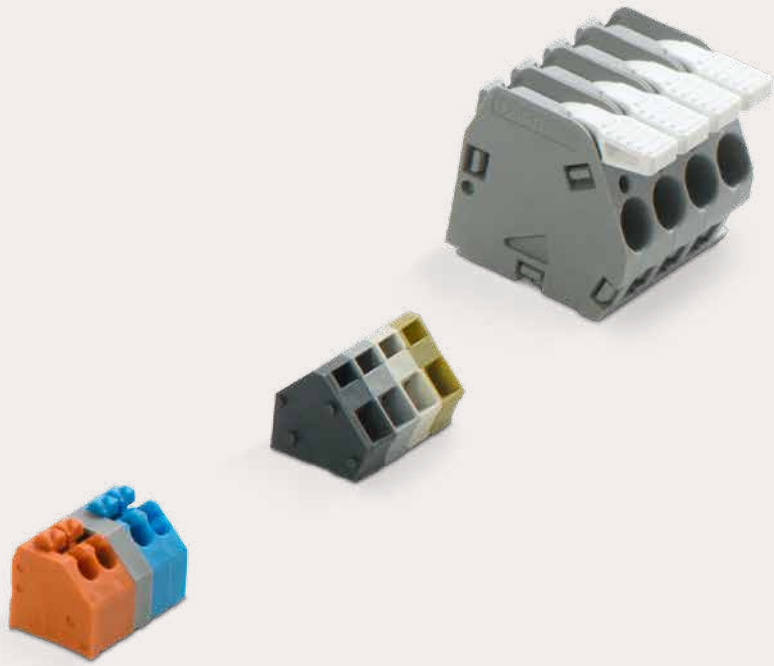
7.5 mm/0.295 inch, 7.62 mm/0.3 inch MIDI Classic			7.62 mm/0.3 inch MAXI*
<p>Female connectors, 231 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 455, 457</p>	<p>Female connectors with snap-in mounting feet, 231 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 456, 458</p>	<p>Female connectors with locking levers, 231 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 455, 457</p>	<p>Female connectors, 831 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 10 mm² / 20 ... 8 AWG Page 525</p>
<p>Female connectors with mounting flanges, 231 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 455 ... 458</p>	<p>Angled female connectors, 732 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 456, 432</p>	<p>Female connectors with flanges or snap-in feet for panel mounting, 731 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Page 461</p>	<p>Female connectors with locking levers, 831 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 10 mm² / 20 ... 8 AWG Page 525</p>
<p>Female connectors with push-buttons, 2231 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 2.5 mm² / 24 ... 12 AWG Pages 463, 464</p>	<p>Female connectors with push-buttons and snap-in mounting feet, 2231 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 2.5 mm² / 24 ... 12 AWG Pages 463, 464</p>	<p>Female connectors with push-buttons and locking levers, 2231 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 2.5 mm² / 24 ... 12 AWG Pages 463, 465</p>	
<p>Female connectors with push-buttons and mounting flanges, 2231 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 2.5 mm² / 24 ... 12 AWG Pages 464, 465</p>	<p>2-conductor female connectors, 231 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 2.5 mm² / 24 ... 12 AWG Pages 467, 468</p>	<p>2-conductor female connectors with locking levers, 231 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.2 ... 2.5 mm² / 24 ... 12 AWG Pages 467, 468</p>	
<p>Male headers with solder pins, 231 Series</p>  <p>Pages 471 ... 476</p>	<p>Male headers with solder pins and mounting flanges, 231 Series</p>  <p>7.5</p> <p>Pages 475, 476</p>	<p>Male headers with solder pins, 231 Series</p>  <p>THR</p> <p>7.5</p> <p>Pages 479 ... 484</p>	<p>Male headers with solder pins, 831 Series</p>  <p>Page 527</p>
<p>Male connectors, 731 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 487, 488</p>	<p>Male connectors with snap-in mounting feet, 731 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 487, 489</p>	<p>Male connectors with mounting flanges, 731 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 487, 488</p>	<p>Male connectors, 831 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 10 mm² / 20 ... 8 AWG Page 529</p>
<p>Male connectors with snap-in flanges, 731 Series</p>  <p>CAGE CLAMP®</p> <p>0.08 ... 2.5 mm² / 28 ... 12 AWG Pages 488, 489</p>	<p>Double-pin male connectors for DIN-35 rail mounting, 232 Series</p>  <p>Page 491</p>	<p>Female headers with solder pins, 232 Series</p>  <p>Pages 493, 496</p>	
<p>Female headers with solder pins and locking levers, 232 Series</p>  <p>Pages 493 ... 497</p>	<p>Female headers with solder pins and mounting flanges, 232 Series</p>  <p>Pages 494, 497</p>	<p>Female headers with solder pins and spacers, 232 Series</p>  <p>Pages 495, 498</p>	<p>Male connectors for DIN-35 rail mounting, 831 Series</p>  <p>PUSH-IN CAGE CLAMP®</p> <p>0.5 ... 10 mm² / 20 ... 8 AWG Page 529</p>

THR Through-Hole Reflow Soldering **7.5** Only available in this pin spacing!

*100 % protected against mismatching









Connectors for:

3.5 mm/0.138 inch	5 mm/0.197 inch, 5.75 mm/0.23 inch	Specialty Applications	KNX/EIB Applications
<p>2-conductor compact PCB connectors, 252 Series</p>  <p>PUSH WIRE[®]</p> <p>2 x 0.4 ... 0.8 mm Ø / 2 x 26 ... 20 AWG Page 537 "sol."</p>	<p>2-conductor PCB connector strips (pinstrip pluggable), 806 Series</p>  <p>PUSH-IN CAGE CLAMP[®]</p> <p>2 x 0.2 ... 1.5 mm² / 2 x 24 ... 16 AWG Page 539</p>	<p>Wire-tap branch connectors, 730 Series</p>  <p>IDC CAGE CLAMP[®]</p> <p>0.75 ... 1.5 mm² / 18 ... 16 AWG Pages 569, 570</p>	<p>Connectors for bus coupler units, 243 Series</p>  <p>PUSH WIRE[®]</p> <p>4 x 0.6 ... 0.8 mm Ø / 22 ... 20 AWG Page 573 "sol."</p>
<p>2-conductor compact PCB connectors, 252 Series</p>  <p>PUSH WIRE[®]</p> <p>2 x 0.4 ... 0.8 mm Ø / 2 x 26 ... 20 AWG Page 537 "sol."</p>	<p>4-conductor modular PCB connectors, 243 Series</p>  <p>PUSH WIRE[®]</p> <p>4 x 0.4 ... 0.8 mm Ø / 4 x 24 ... 18 AWG Page 541 "sol."</p>		



PCB Terminal Blocks

PCB Terminal Blocks

	Nominal Cross-Section	Series	Page
	0.5 mm ² /20 AWG	233	18
	2.5 mm ² /12 AWG	236	20
	4; 6; 16 mm ² /12,10, 6 AWG	745	34
	2.5 mm ² /12 AWG	736	54
	2.5 mm ² /12 AWG	737	62
	2.5 mm ² /12 AWG	738	70
	1.5; 2.5 mm ² /14, 12 AWG	739	78
	2.5 mm ² /12 AWG	740	94
	0.5 mm ² /20 AWG	218	98
	0.5 mm ² /20 AWG	233	106
	0.5 mm ² /20 AWG	234	108
	2.5 mm ² /12 AWG	255	112
	2.5 mm ² /12 AWG	256	116
	2.5 mm ² /12 AWG	257	124
	6 mm ² /10 AWG	2706	130
	16 mm ² /6 AWG	2716	134
	1.5 mm ² /16 AWG	816	138
	10 mm ² /8 AWG	746	140
	0.75 mm ² /18 AWG	2060	142
	1.5 mm ² /16 AWG	2061	146
	0.5; 1.5; 2.5 mm ² /20, 16, 14 AWG	250	150
	0.75; 1.5 mm ² /18, 16 AWG	235	164
	1.5 mm ² /16 AWG	805	172
	2.5 mm ² /12 AWG	804	178
	1.5; 2.5 mm ² /16, 14 AWG	235	180
	2.5 mm ² /12 AWG	254	188
	1.5 mm ² /16 AWG	253	192
	1.5 mm ² /16 AWG	744	194
	1.5 mm ² /16 AWG	251	196
	1.5 mm ² /16 AWG	735	200
	2.5 mm ² /12 AWG	742	206
	Accessories for PCB Terminal Blocks		218
	General Accessories – Section 12		586

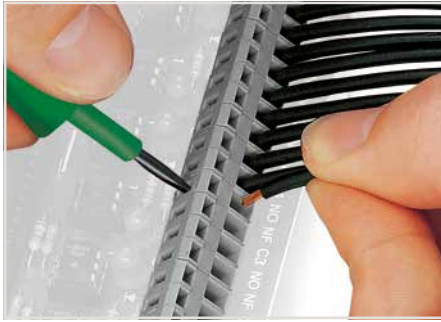
233, 236, 736, 737 and 738 Series

Description and Installation

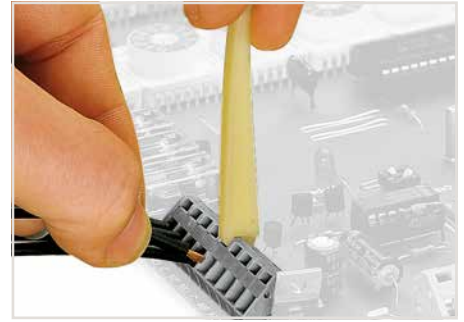
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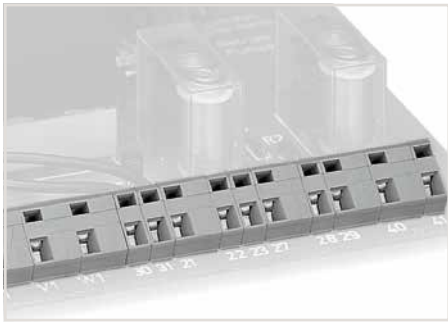
Inserting a conductor via 3.5 mm screwdriver. Screwdriver actuation parallel to conductor entry.



Inserting a conductor via 3.5 mm screwdriver. Screwdriver actuation perpendicular to conductor entry.



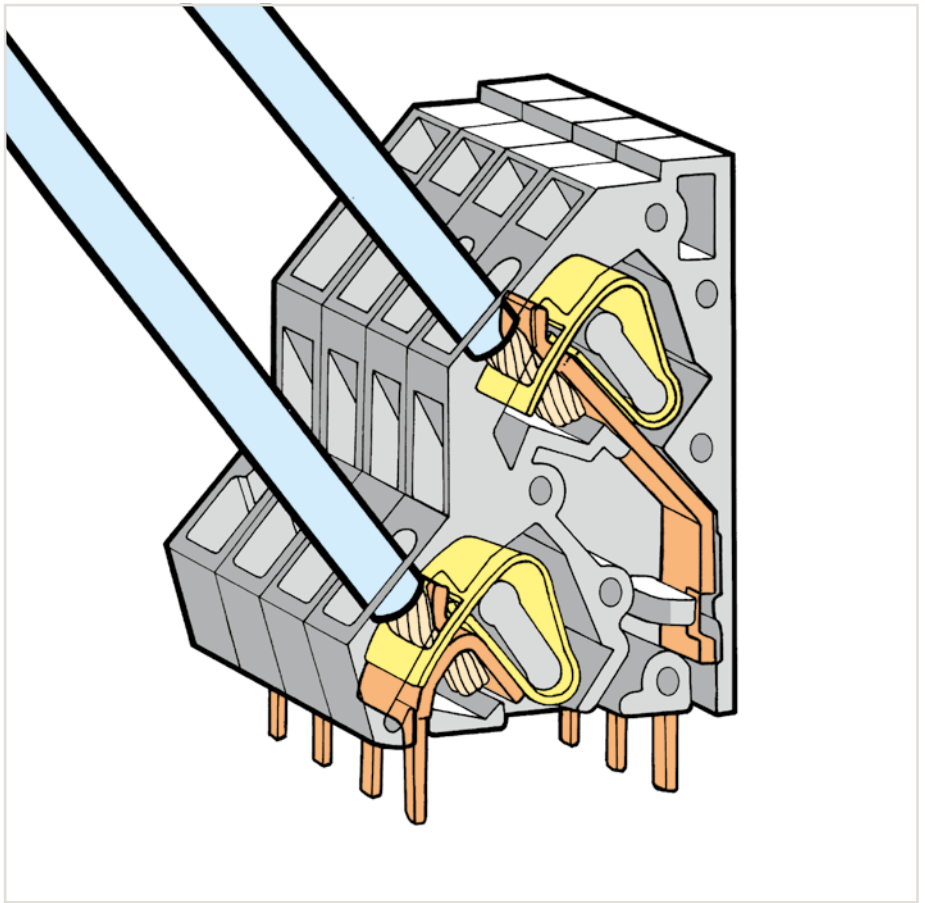
Inserting a conductor via operating tool.



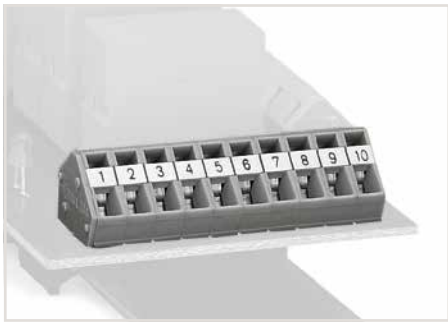
Combining PCB terminal blocks with different pin spacing.



PCB Terminal Strips placed behind each other save space – staggering them by half the pin spacing simplifies subsequent wiring of the first row.



736 Series



Labeling with self-adhesive marking strips.



Labeling via factory direct marking.



Testing via contact area above the conductors.

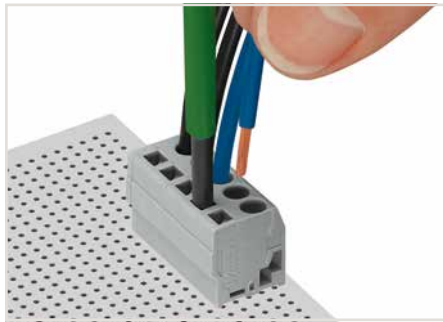
736, 739, 740 and 745 Series

Description and Installation

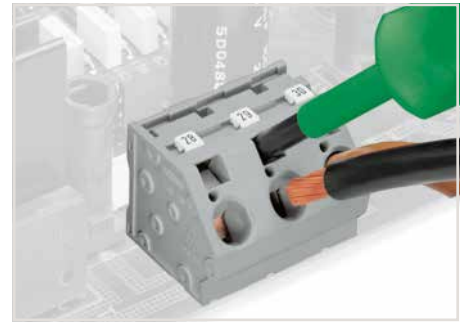
1



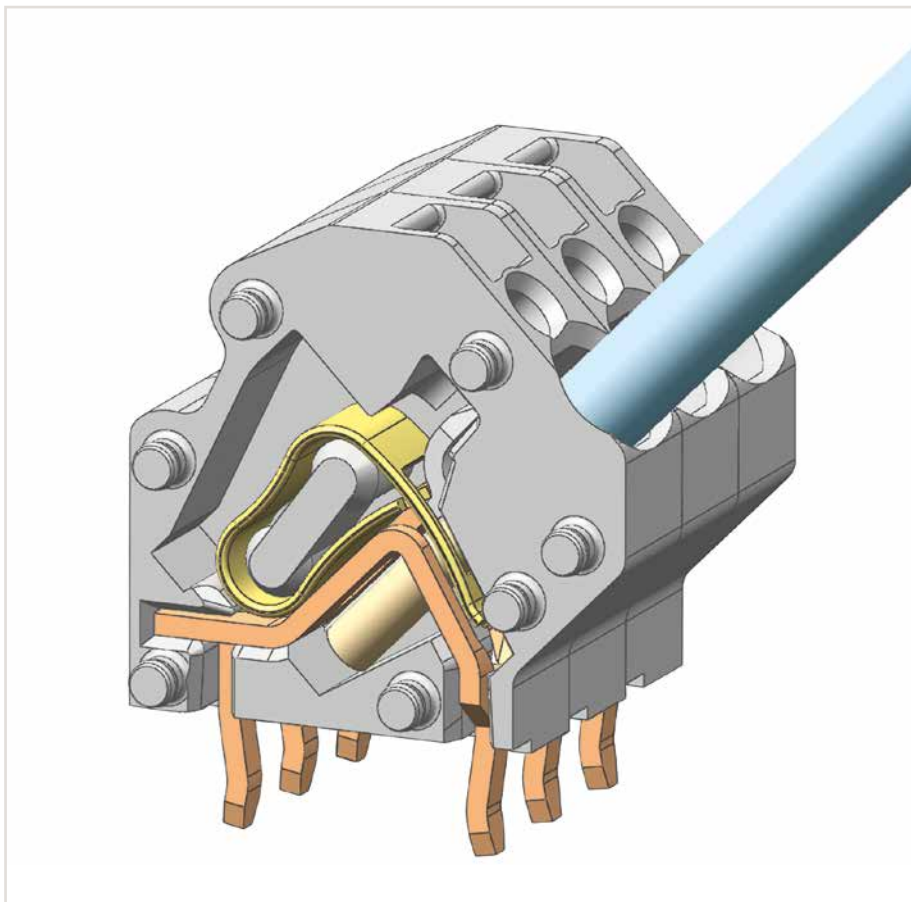
Inserting a conductor perpendicular to screwdriver actuation – 740 Series.



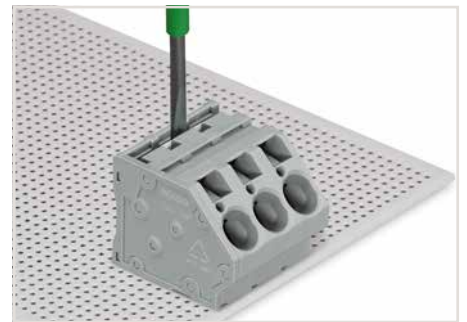
Inserting a conductor parallel to screwdriver actuation – 739 Series.



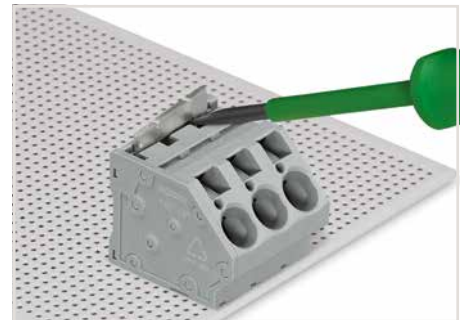
Inserting/removing a conductor via 5.5 mm screwdriver – 745 Series, 16 mm².



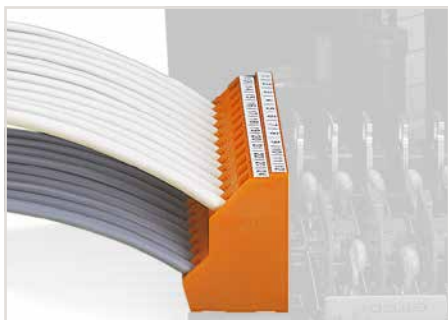
745 Series



To insert a comb-style jumper bar, push it down using a screwdriver until it hits the backstop – 745 Series.



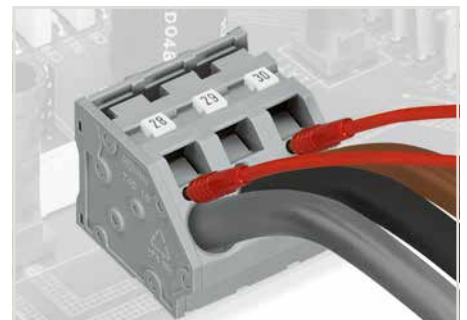
To remove the comb-style jumper bar, lift it up using a screwdriver – 745 Series.



Low space requirements due to high-density design – double-deck PCB terminal strip – 736 Series.



Marking via miniature WSB and WMB markers or factory direct marking – 745 Series.

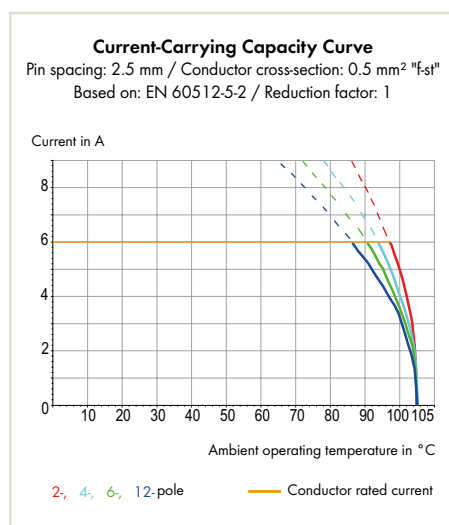


Testing with test plug – 745 Series.

PCB Terminal Strips, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 233 Series



- Compact PCB terminal strips with CAGE CLAMP® connection and screwdriver actuation parallel or perpendicular to conductor entry
- Double solder pins for high mechanical stability
- 233 Series with push-buttons, see page 107



Electrical Data for Pin Spacing

	2.5 mm / 0.098 inch	2.54 mm / 0.1 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	63 V	63 V
Rated surge voltage (III / 3)	2.5 kV	2.5 kV
Rated voltage (III / 2)	160 V	160 V
Rated surge voltage (III / 2)	2.5 kV	2.5 kV
Rated voltage (II / 2)	320 V	320 V
Rated surge voltage (II / 2)	2.5 kV	2.5 kV
Rated current	6 A	6 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	150 V	150 V
Rated current UL (Use Group B)	4 A	4 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	150 V	150 V
Rated current CSA (Use Group B)	4 A	4 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	30°
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 mm ²
Note (conductor cross-section)	Terminating 0.75 mm ² /18 AWG conductors is possible; however insulation diameter allows only every other clamping unit to be terminated with this conductor size.

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

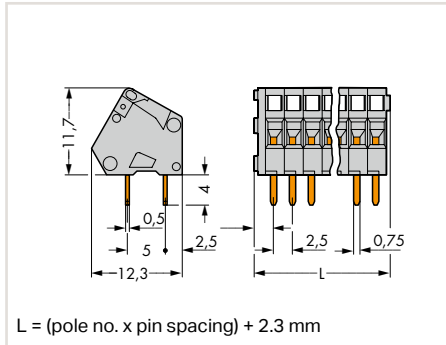
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 233 Series

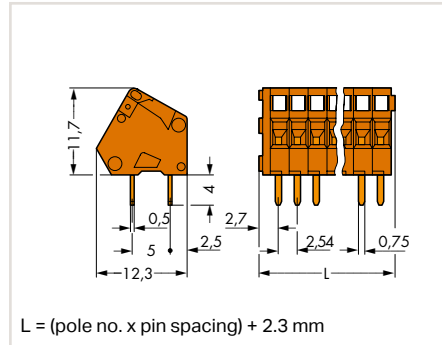


Dimensions (in mm):

PCB terminal strip, 2 solder pins/pole, gray,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	233-102	600 (100)
3	233-103	500 (125)
4	233-104	400 (100)
5	233-105	340 (85)
6	233-106	280 (70)
7	233-107	240 (60)
8	233-108	220 (55)
9	233-109	200 (50)
10	233-110	180 (45)
12	233-112	140 (35)
16	233-116	100 (25)
24	233-124	80 (20)

Dimensions (in mm):

PCB terminal strip, 2 solder pins/pole, orange,
2.54 mm (0.1 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	233-402	600 (100)
3	233-403	500 (125)
4	233-404	400 (100)
5	233-405	340 (85)
6	233-406	280 (70)
7	233-407	240 (60)
8	233-408	220 (55)
9	233-409	200 (50)
10	233-410	180 (45)
12	233-412	140 (35)
16	233-416	100 (25)
24	233-424	80 (20)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● light green, ● red, ● green, ● yellow, ● black, ● blue, ● brown
- Mixed-color terminal strips
- Direct marking

Modular PCB Terminal Blocks, 2.5 mm²

Pin Spacing: 5/5.08 mm

236 Series

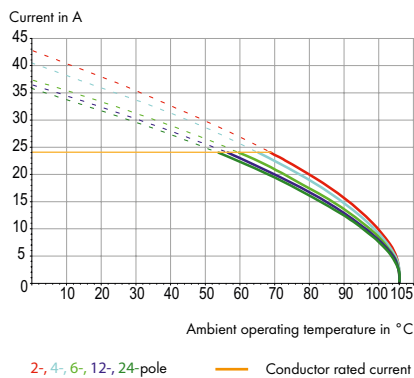
1



- Modular PCB terminal blocks with CAGE CLAMP® connection, screwdriver actuation parallel or perpendicular to conductor entry
- Versions with Ex approval
- For custom PCB terminal strip assemblies
- 45° conductor entry angle permits a wide range of applications and wiring options
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart

Current-Carrying Capacity Curve

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Electrical Data for Pin Spacing

	5/5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	24 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug modules,
see page 220

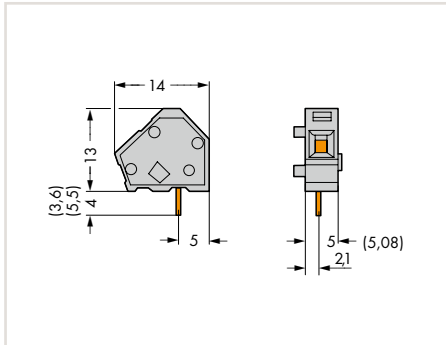
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

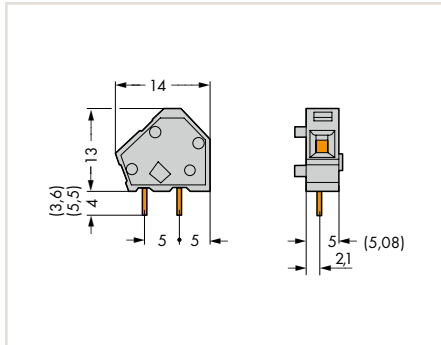
Modular PCB Terminal Blocks, 2.5 mm² Pin Spacing: 5/5.08 mm 236 Series



Dimensions (in mm):



Dimensions (in mm):

Modular PCB terminal block, 1 solder pin/pole,
5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	236-101	600 (100)
red	236-710	600 (100)
yellow	236-711	600 (100)
dark gray	236-712	600 (100)
light gray	236-713	600 (100)
blue*	236-714	600 (100)
green	236-715	600 (100)
orange	236-716	600 (100)
light green	236-717	600 (100)
violet	236-894	600 (100)
black	236-854	600 (100)
brown	236-884	600 (100)

Modular PCB terminal block, 2 solder pins/pole,
5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	236-401	600 (100)
red	236-740	600 (100)
yellow	236-741	600 (100)
dark gray	236-742	600 (100)
light gray	236-743	600 (100)
blue*	236-744	600 (100)
green	236-745	600 (100)
orange	236-746	600 (100)
light green	236-747	600 (100)
violet	236-891	600 (100)
black	236-851	600 (100)
brown	236-881	600 (100)

End plate, snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
gray	236-100	100
dark gray	236-200	100
light gray	236-300	100
blue	236-400	100
green	236-500	100
orange	236-600	100
light green	236-700	100
red	236-800	100
black	236-850	100

*Suitable for Ex i applications

Available upon request (depending on quantity required):

- Versions for Ex e II
- Solder pin length: 3.6 mm
- Solder pin length: 5.5 mm

Modular PCB Terminal Blocks, 2.5 mm²

Pin Spacing: 7.5/7.62 mm

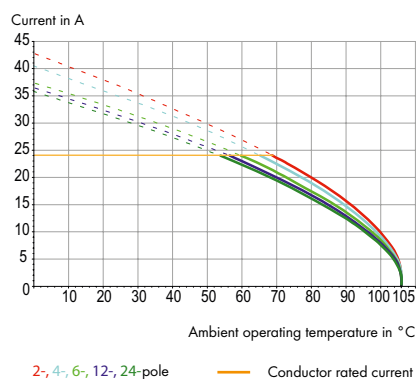
236 Series



- Modular PCB terminal blocks with CAGE CLAMP® connection, screwdriver actuation parallel or perpendicular to conductor entry
- Versions with Ex approval
- For custom PCB terminal strip assemblies
- Operating tools for factory wiring
- 45° conductor entry angle permits a wide range of applications and wiring options
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart

Current-Carrying Capacity Curve

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Electrical Data for Pin Spacing

Ratings per*	7.5/7.62 mm / 0.3 inch
Rated voltage (III / 3)	IEC/EN 60664-1 400 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	24 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug modules,
see page 220

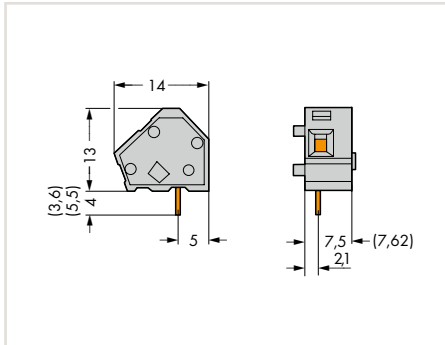
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

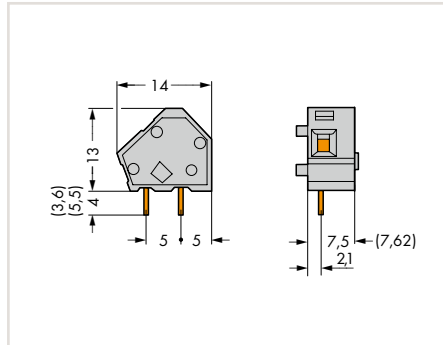
Modular PCB Terminal Blocks, 2.5 mm² Pin Spacing: 7.5/7.62 mm 236 Series



Dimensions (in mm):



Dimensions (in mm):

Modular PCB terminal block, 1 solder pin/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	236-201	400 (100)
dark gray	236-722	400 (100)
light gray	236-723	400 (100)
blue*	236-724	400 (100)
green	236-725	400 (100)
orange	236-726	400 (100)
light green	236-727	400 (100)
black	236-855	400 (100)
brown	236-885	400 (100)

Modular PCB terminal block, 2 solder pins/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	236-501	400 (100)
dark gray	236-752	400 (100)
light gray	236-753	400 (100)
blue*	236-754	400 (100)
green	236-755	400 (100)
orange	236-756	400 (100)
light green	236-757	400 (100)
black	236-852	400 (100)
brown	236-882	400 (100)

End plate, snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
gray	236-100	100
dark gray	236-200	100
light gray	236-300	100
blue	236-400	100
green	236-500	100
orange	236-600	100
light green	236-700	100
red	236-800	100
black	236-850	100

*Suitable for Ex i applications

Available upon request (depending on quantity required):

- Versions for Ex e II
- Solder pin length: 3.6 mm
- Solder pin length: 5.5 mm

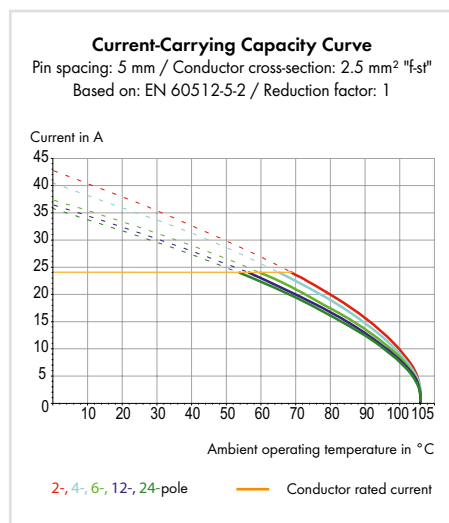
Modular PCB Terminal Blocks, 2.5 mm²

Pin Spacing: 10/10.16 mm

236 Series



- Modular PCB terminal blocks with CAGE CLAMP® connection, screwdriver actuation parallel or perpendicular to conductor entry
- Versions with Ex approval
- For custom PCB terminal strip assemblies
- Operating tools for factory wiring
- 45° conductor entry angle permits a wide range of applications and wiring options
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart



Electrical Data for Pin Spacing

Ratings per*	10/10.16 mm / 0.4 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	630 V
Rated voltage (III / 2)	8 kV
Rated surge voltage (III / 2)	1000 V
Rated voltage (II / 2)	8 kV
Rated surge voltage (II / 2)	1000 V
Rated current	8 kV
Approvals per	24 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	15 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	15 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Commoning strips, see page 75

Test plug modules, see page 220

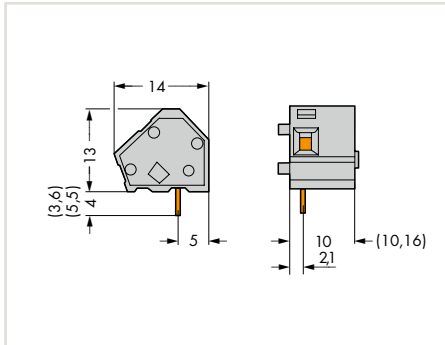
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

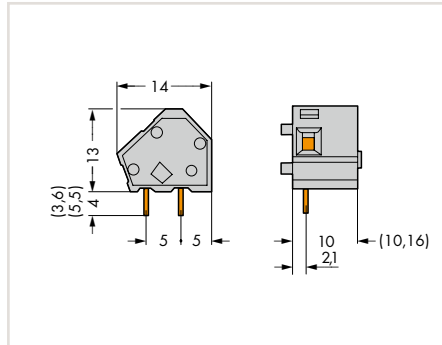
Modular PCB Terminal Blocks, 2.5 mm² Pin Spacing: 10/10.16 mm 236 Series



Dimensions (in mm):



Dimensions (in mm):

Modular PCB terminal block, 1 solder pin/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	236-301	300 (100)
dark gray	236-732	300 (100)
light gray	236-733	300 (100)
blue*	236-734	300 (100)
green	236-735	300 (100)
orange	236-736	300 (100)
light green	236-737	300 (100)
black	236-856	300 (100)

Modular PCB terminal block, 2 solder pins/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	236-601	300 (100)
dark gray	236-762	300 (100)
light gray	236-763	300 (100)
blue*	236-764	300 (100)
green	236-765	300 (100)
orange	236-766	300 (100)
light green	236-767	300 (100)
black	236-853	300 (100)

End plate, snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
gray	236-100	100
dark gray	236-200	100
light gray	236-300	100
blue	236-400	100
green	236-500	100
orange	236-600	100
light green	236-700	100
black	236-850	100

*Suitable for Ex i applications

Available upon request (depending on quantity required):

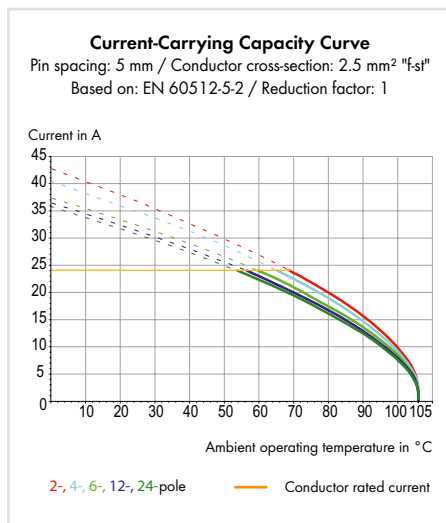
- Versions for Ex e II
- Solder pin length: 3.6 mm
- Solder pin length: 5.5 mm

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5/5.08 mm 236 Series

1



- PCB terminal strips with CAGE CLAMP® connection and screwdriver actuation parallel or perpendicular to conductor entry
- Versions with Ex approval
- Mixed-color PCB terminal strips from factory
- Operating tools for factory wiring
- 45° conductor entry angle permits a wide range of applications and wiring options
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart



Electrical Data for Pin Spacing

Ratings per*	5/5.08 mm / 0.2 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	24 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	15 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	15 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug modules,
see page 220

Additional technical information,
see Section 13

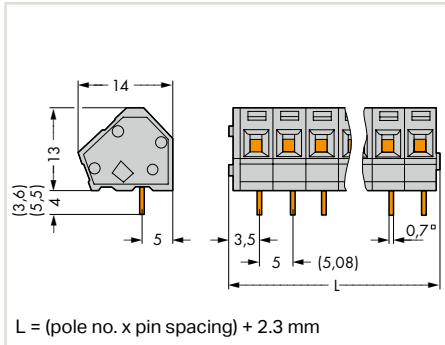
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5/5.08 mm 236 Series

1



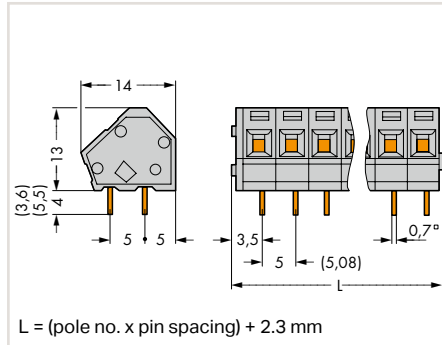
Dimensions (in mm):



PCB terminal strip, 1 solder pin/pole, gray,
5/5.8 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	236-102	420 (105)
3	236-103	280 (70)
4	236-104	220 (55)
6	236-106	140 (35)
8	236-108	100 (25)
12	236-112	80 (20)
16	236-116	60 (15)
24	236-124	40 (10)
36	236-136	20 (5)
48	236-148	20 (5)

Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

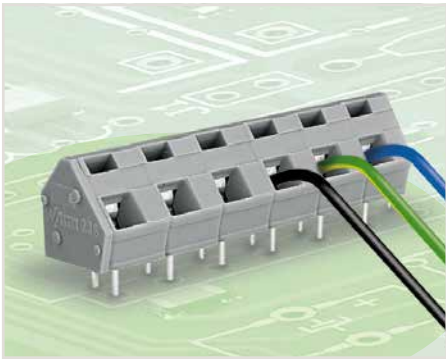
Pole No.	Item No.	Pack. Unit
2	236-402	420 (105)
3	236-403	280 (70)
4	236-404	220 (55)
6	236-406	140 (35)
8	236-408	100 (25)
12	236-412	80 (20)
16	236-416	60 (15)
24	236-424	40 (10)
36	236-436	20 (5)
48	236-448	20 (5)

Available upon request (depending on quantity required):

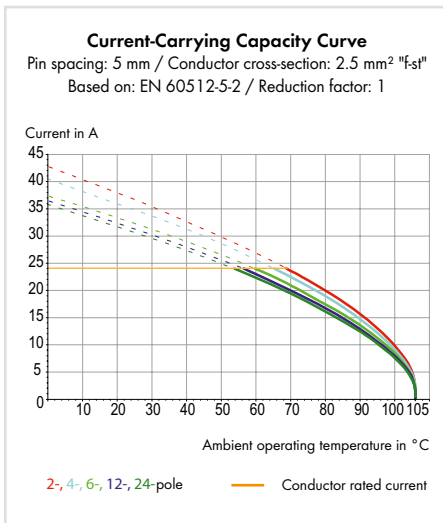
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ● dark gray, ● light gray, ● orange, ● light green, ● green
- Mixed-color terminal strips
- Direct marking
- Solder pin length: 3.6 mm
- Solder pin length: 5.5 mm

PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.5/7.62 mm 236 Series

1



- PCB terminal strips with CAGE CLAMP® connection and screwdriver actuation parallel or perpendicular to conductor entry
- Versions with Ex approval
- Mixed-color PCB terminal strips from factory
- Operating tools for factory wiring
- 45° conductor entry angle permits a wide range of applications and wiring options
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart



Electrical Data for Pin Spacing

	7.5/7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	400 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	24 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

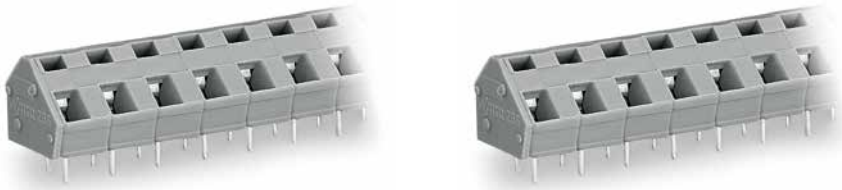
Commoning strips,
see page 75

Test plug modules,
see page 220

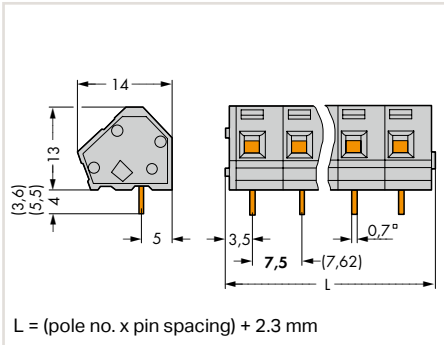
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.5/7.62 mm 236 Series



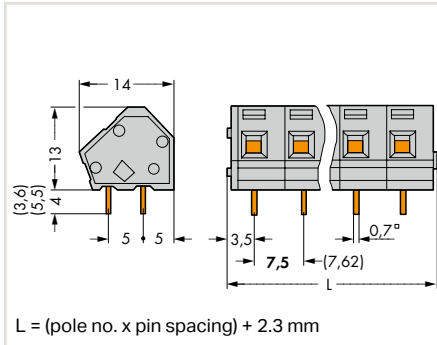
Dimensions (in mm):



PCB terminal strip, 1 solder pin/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	236-202	280 (70)
3	236-203	200 (50)
4	236-204	140 (35)
6	236-206	100 (25)
8	236-208	80 (20)
12	236-212	40 (10)
16	236-216	40 (10)
24	236-224	20 (5)

Dimensions (in mm):



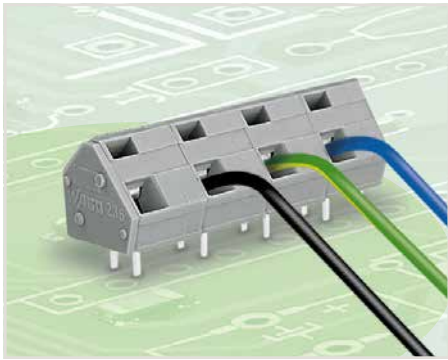
PCB terminal strip, 2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	236-502	280 (70)
3	236-503	200 (50)
4	236-504	140 (35)
6	236-506	100 (25)
8	236-508	80 (20)
12	236-512	40 (10)
16	236-516	40 (10)
24	236-524	20 (5)

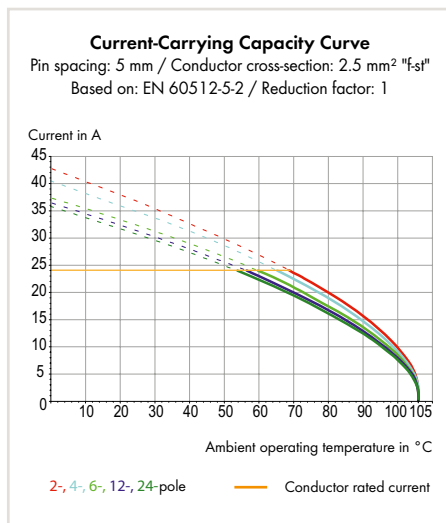
Available upon request (depending on quantity required):

- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ● dark gray, ● light gray, ● orange, ● light green, ● green
- Mixed-color terminal strips
- Direct marking
- Solder pin length: 3.6 mm
- Solder pin length: 5.5 mm

PCB Terminal Strips, 2.5 mm² Pin Spacing: 10/10.16 mm 236 Series



- PCB terminal strips with CAGE CLAMP® connection and screwdriver actuation parallel or perpendicular to conductor entry
- Versions with Ex approval
- Mixed-color PCB terminal strips from factory
- Operating tools for factory wiring
- 45° conductor entry angle permits a wide range of applications and wiring options
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart



Electrical Data for Pin Spacing

Ratings per*	10/10.16 mm / 0.4 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	630 V
Rated voltage (III / 2)	8 kV
Rated surge voltage (III / 2)	1000 V
Rated voltage (II / 2)	8 kV
Rated surge voltage (II / 2)	1000 V
Rated current	8 kV
Approvals per	24 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	15 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	15 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug modules,
see page 220

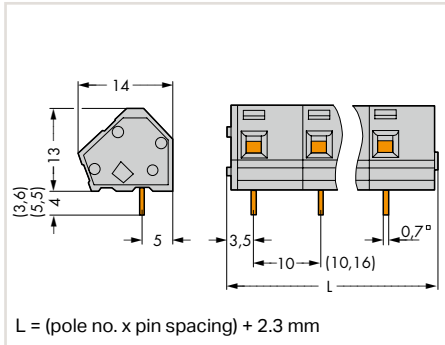
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 10/10.16 mm 236 Series



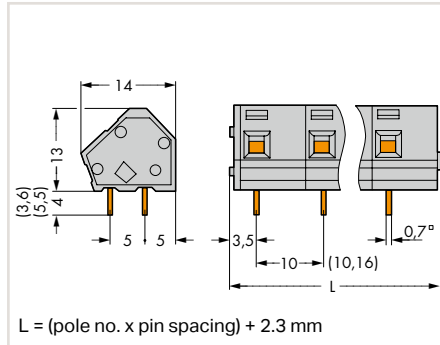
Dimensions (in mm):



PCB terminal strip, 1 solder pin/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	236-302	200 (50)
3	236-303	140 (35)
4	236-304	100 (25)
6	236-306	80 (20)
8	236-308	60 (15)
12	236-312	40 (10)
16	236-316	20 (5)
24	236-324	20 (5)

Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	236-602	200 (50)
3	236-603	140 (35)
4	236-604	100 (25)
6	236-606	80 (20)
8	236-608	60 (15)
12	236-612	40 (10)
16	236-616	20 (5)
24	236-624	20 (5)

Available upon request (depending on quantity required):

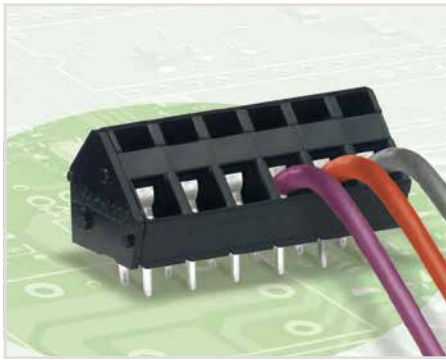
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ● dark gray, ● light gray, ● orange, ● light green, ● green
- Mixed-color terminal strips
- Direct marking
- Solder pin length: 3.6 mm
- Solder pin length: 5.5 mm

THR* PCB Terminal Strips, 2.5 mm²

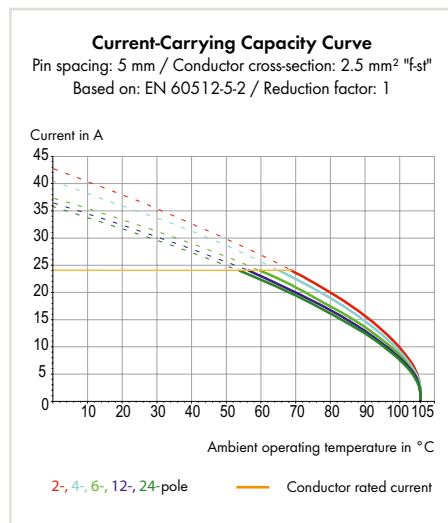
Pin Spacing: 5 mm

236 Series

1



- PCB terminal strips made of high-temperature resistant plastic are suitable for SMT reflow soldering
- Tape-and-reel packaging
- Double solder pins for high mechanical stability



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	200 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	320 V
Rated current	4 kV
Approvals per	24 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	15 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	15 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²


Solder Pin Data


Solder pin length	3.6 mm
Solder pin dimensions	0.7 x 0.7 mm
Plated through-hole diameter	1.1 ^{+0.1} mm


Material Data


Material group	III a
Insulation material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 / +115 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


* (III / 2) ± Overvoltage category III / Pollution degree 2


 *THR (Through-Hole Reflow) soldering process, see page 97

 Marking accessories, see page 604

 Operating tools, see page 588

 Test plug modules, see page 220

 Additional technical information, see Section 13

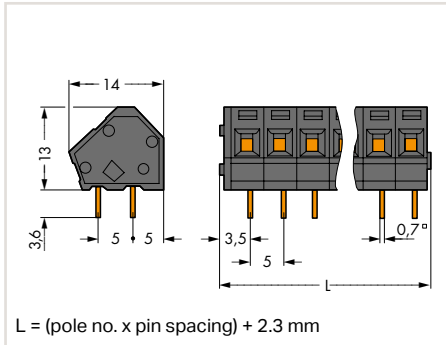
 Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 236 Series

1



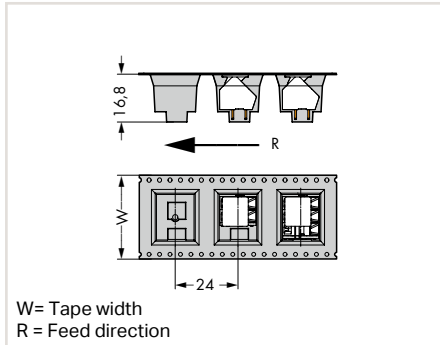
Dimensions (in mm):



PCB terminal strip, THR, 2 solder pins/pole, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	236-402/334-604	420 (105)
3	236-403/334-604	280 (70)
4	236-404/334-604	220 (55)
5	236-405/334-604	180 (45)
6	236-406/334-604	140 (35)

Dimensions (in mm):



PCB terminal strip, THR, 2 solder pins/pole, with additional suction pads, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 140 pieces per reel, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	236-402/334-604/997-405	32
3	236-403/334-604/997-405	32
4	236-404/334-604/997-406	44
5	236-405/334-604/997-406	44
6	236-406/334-604/997-406	44

Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

Modular PCB Terminal Blocks, 4 mm²

Pin Spacing: 5 mm

745 Series

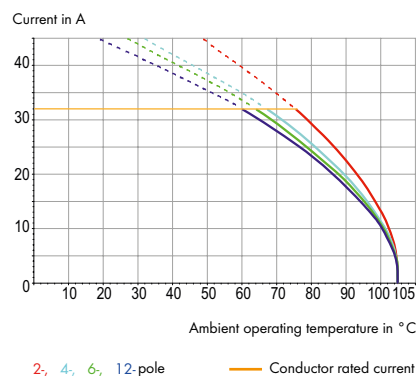
1



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP® for custom PCB terminal strip assemblies
- Versions with Ex approval
- Spacers for higher voltage applications
- Double solder pins for high mechanical stability
- Space-efficient configuration of terminal strips when placed behind each other
- Integrated testing tap

Current-Carrying Capacity Curve


Pin spacing: 5 mm / Conductor cross-section: 4 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1





Note on UL approval for 600 V:


The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.


*(III / 2) ± Overvoltage category III /
Pollution degree 2

 Marking accessories,
see page 604

 Operating tools,
see page 588

 Test plugs,
see page 568

 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	32 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	20 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	20 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.5 ^{+0.1} mm

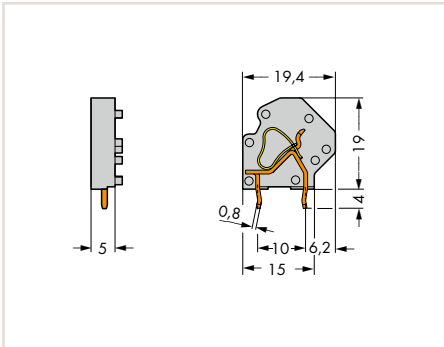
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Modular PCB Terminal Blocks, 4 mm² Pin Spacing: 5 mm 745 Series



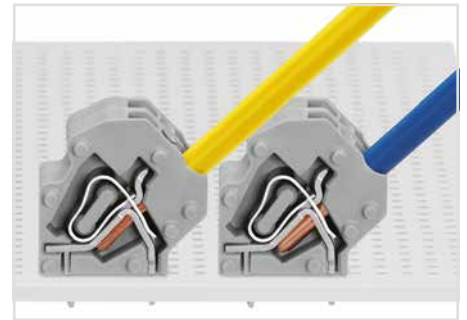
Dimensions (in mm):



Modular PCB terminal block, 1 solder pin/pole,
5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
gray	745-3801	200 (50)
light gray	745-3803	200 (50)
blue*	745-3803	200 (50)
green-yellow	745-3804	200 (50)
light green	745-3808	200 (50)

*Suitable for Ex i applications



Saving space: two PCB terminal strips arranged in a row.



Inserting a conductor via 3.5 mm screwdriver.



Testing with 2 mm Ø test plug.



Spacer, extends pin spacing, 2.5 mm thick		
Color	Item No.	Pack. Unit
gray	745-3138	200 (50)



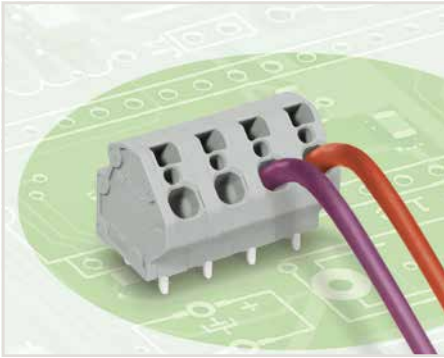
End plate		
Color	Item No.	Pack. Unit
gray	745-3100	1000 (100)
blue	745-3100/000-006	1000 (100)
light gray	745-3100/000-009	1000 (100)
green-yellow	745-3100/000-016	1000 (100)
light green	745-3100/000-017	1000 (100)

Available upon request (depending on quantity required):

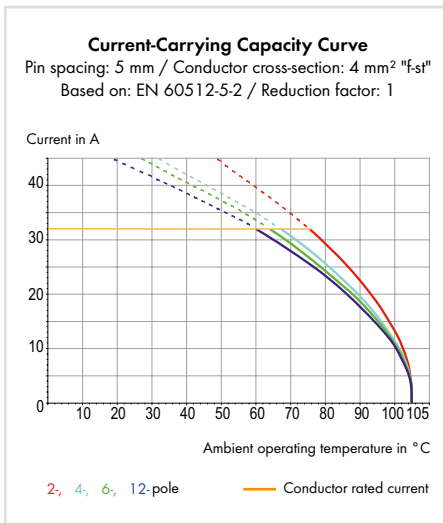
- Versions for Ex e II
- Other colors

PCB Terminal Strips, 4 mm² Pin Spacing: 5 mm, 7.5 mm 745 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Versions with Ex approval
- Mixed-color PCB terminal strips from factory
- Space-saving configuration of terminal strips placed when behind each other
- Custom color combinations
- Double solder pins for high mechanical stability
- Integrated testing tap



Electrical Data for Pin Spacing

	5 mm / 0.197 inch	7.5 mm / 0.295 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V
Rated surge voltage (III / 3)	4 kV	6 kV
Rated voltage (III / 2)	320 V	630 V
Rated surge voltage (III / 2)	4 kV	6 kV
Rated voltage (II / 2)	630 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV
Rated current	32 A	32 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	20 A	20 A
Rated voltage UL (Use Group C)		150 V
Rated current UL (Use Group C)		20 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	20 A	20 A
Rated voltage CSA (Use Group C)		150 V
Rated current CSA (Use Group C)		20 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.5 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 568

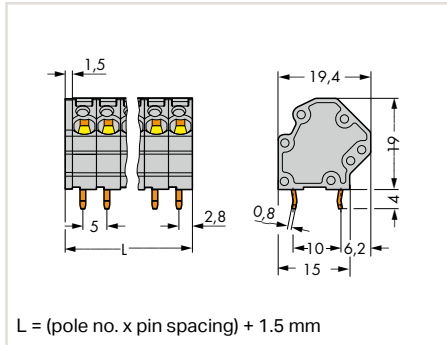
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 4 mm² Pin Spacing: 5 mm, 7.5 mm 745 Series



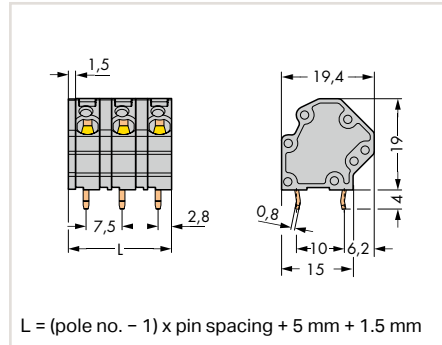
Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-3102	276
3	745-3103	192
4	745-3104	144
5	745-3105	120
6	745-3106	96
7	745-3107	84
8	745-3108	72
9	745-3109	60
10	745-3110	60
11	745-3111	48
12	745-3112	48

Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
7.5 mm (0.295 inch) pin spacing

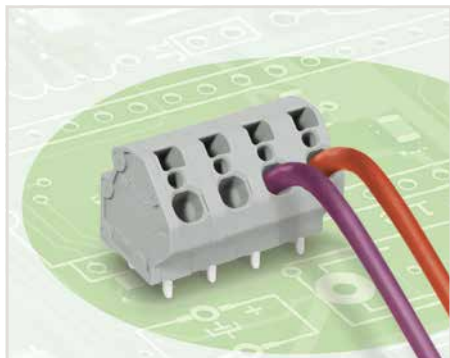
Pole No.	Item No.	Pack. Unit
2	745-3152	228
3	745-3153	144
4	745-3154	108
5	745-3155	84
6	745-3156	72
7	745-3157	60
8	745-3158	48
9	745-3159	48
10	745-3160	36
11	745-3161	36
12	745-3162	36

Available upon request (depending on quantity required):

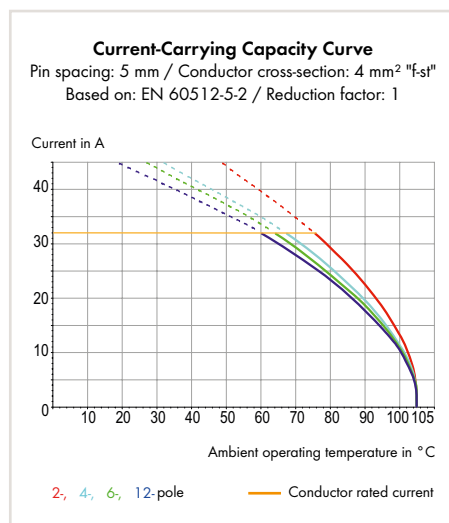
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● blue, ○ light gray, ● green-yellow, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 4 mm² Pin Spacing: 10 mm, 12.5 mm 745 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Versions with Ex approval
- Unrestricted UL approval up to 600 V with 12.5 mm pin spacing
- Custom color combinations
- Double solder pins for high mechanical stability
- Integrated testing tap



Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 568

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

	10 mm / 0.394 inch	12.5 mm / 0.492 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	800 V	1000 V
Rated surge voltage (III / 3)	8 kV	8 kV
Rated voltage (III / 2)	1000 V	1000 V
Rated surge voltage (III / 2)	8 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V
Rated surge voltage (II / 2)	8 kV	8 kV
Rated current	32 A	32 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	600 V
Rated current UL (Use Group B)	20 A	20 A
Rated voltage UL (Use Group C)	300 V	600 V
Rated current UL (Use Group C)	20 A	20 A
Rated voltage UL (Use Group D)	600 V	
Rated current UL (Use Group D)	5 A	
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	600 V
Rated current CSA (Use Group B)	20 A	20 A
Rated voltage CSA (Use Group C)	300 V	600 V
Rated current CSA (Use Group C)	20 A	20 A
Rated voltage CSA (Use Group D)	600 V	
Rated current CSA (Use Group D)	5 A	

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

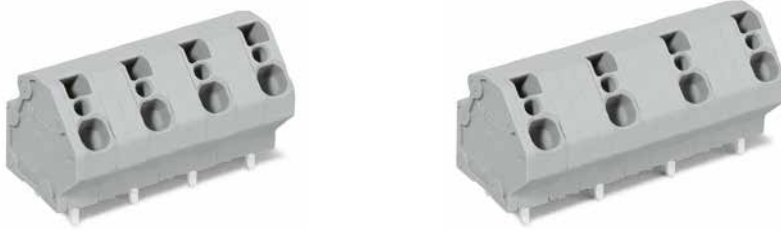
Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.5 ^{+0.1} mm

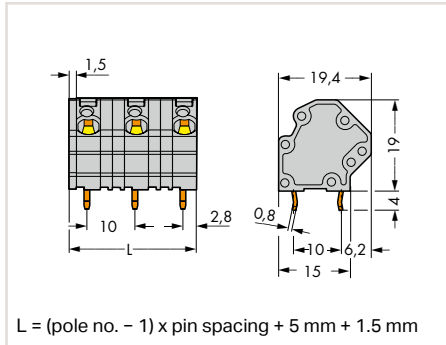
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

PCB Terminal Strips, 4 mm² Pin Spacing: 10 mm, 12.5 mm 745 Series



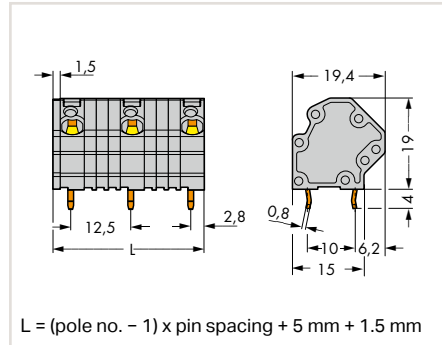
Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-3202	192
3	745-3203	120
4	745-3204	84
5	745-3205	60
6	745-3206	48
7	745-3207	48
8	745-3208	36
9	745-3209	36
10	745-3210	24
11	745-3211	24
12	745-3212	24

Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
12.5 mm (0.492 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-3252	168
3	745-3253	96
4	745-3254	72
5	745-3255	48
6	745-3256	36
7	745-3257	36
8	745-3258	24
9	745-3259	24
10	745-3260	24
11	745-3261	24
12	745-3262	12

Available upon request (depending on quantity required):

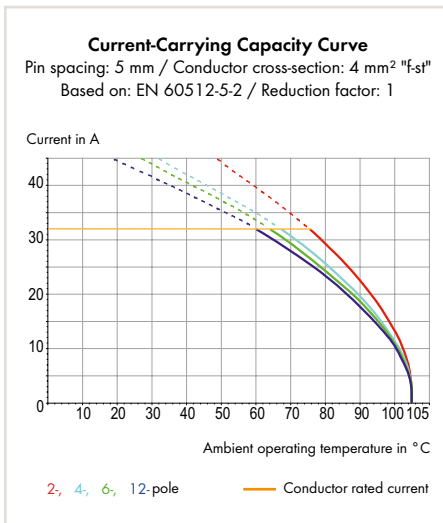
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● blue, ○ light gray, ● green-yellow, ● light green
- Mixed-color terminal strips
- Direct marking

Modular PCB Terminal Blocks with Jumper Slots, 4 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm 745 Series

1



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP® for custom PCB terminal strip assemblies
- Versions with Ex approval
- Common and distribute potentials via comb-style jumper bars
- Double solder pins for high mechanical stability
- Integrated testing tap
- Marker slot for Mini-WSB markers



Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Comb-style jumper bars,
see page 219

Test plugs,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

	5 mm 0.197 inch	7.5 mm 0.295 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	32 A	32 A	32 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	20 A	20 A	20 A
Rated voltage UL (Use Group C)		150 V	150 V
Rated current UL (Use Group C)		20 A	20 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	20 A	20 A	20 A
Rated voltage CSA (Use Group C)		150 V	150 V
Rated current CSA (Use Group C)		20 A	20 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.5 ^{+0.1} mm

Material Data

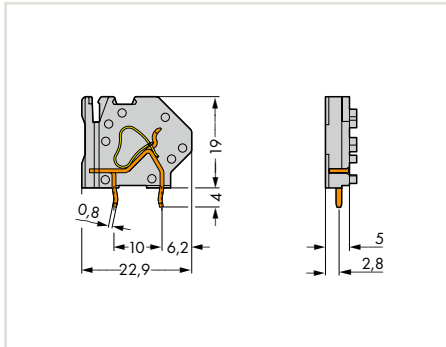
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Modular PCB Terminal Blocks with Jumper Slots, 4 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm 745 Series

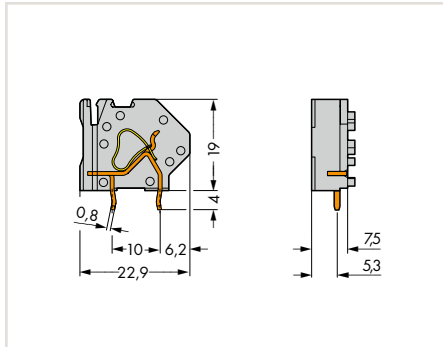
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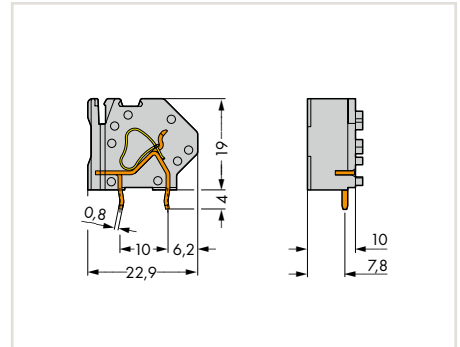
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Modular PCB terminal block with jumper slot, 2 solder pins/pole, 5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
gray	745-801	200 (50)
light gray	745-803	200 (50)
blue*	745-804	200 (50)
green-yellow	745-807	200 (50)
light green	745-808	200 (50)

Modular PCB terminal block with jumper slot, 2 solder pins/pole, 7.5 mm (0.295 inch) pin spacing

Color	Item No.	Pack. Unit
gray	745-811	200 (50)
light gray	745-813	200 (50)
blue*	745-814	200 (50)
green-yellow	745-817	200 (50)
light green	745-818	200 (50)

Modular PCB terminal block with jumper slot, 2 solder pins/pole, 10 mm (0.394 inch) pin spacing

Color	Item No.	Pack. Unit
gray	745-821	200 (50)
light gray	745-823	200 (50)
blue*	745-824	200 (50)
green-yellow	745-827	200 (50)
light green	745-828	200 (50)

*Suitable for Ex i applications



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
gray	745-100	1000 (100)
blue	745-100/000-006	1000 (100)
light gray	745-100/000-009	1000 (100)
green-yellow	745-100/000-016	1000 (100)
light green	745-100/000-017	1000 (100)

End plate with mounting flange

Color	Item No.	Pack. Unit
gray	745-140	500 (100)
blue	745-140/000-006	500 (100)
light gray	745-140/000-009	500 (100)
green-yellow	745-140/000-016	500 (100)
light green	745-140/000-017	500 (100)

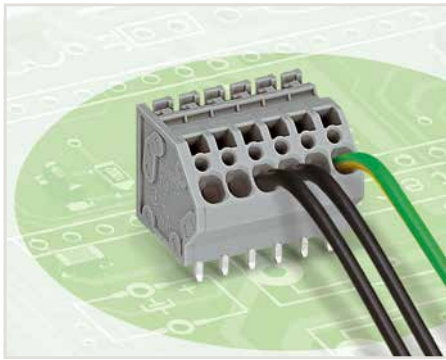
End plate with mounting flange

Color	Item No.	Pack. Unit
gray	745-145	500 (100)
blue	745-145/000-006	500 (100)
light gray	745-145/000-009	500 (100)
green-yellow	745-145/000-016	500 (100)
light green	745-145/000-017	500 (100)

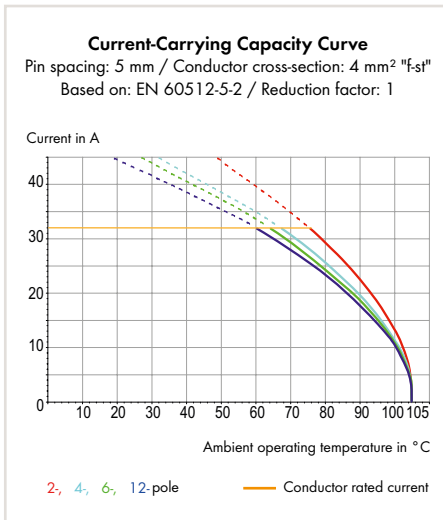
Available upon request (depending on quantity required):

- Versions for Ex e II
- Other colors

PCB Terminal Strips with Jumper Slots, 4 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm 745 Series



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Versions with Ex approval
- Common and distribute potentials via comb-style jumper bars
- Double solder pins for high mechanical stability
- Custom color combinations
- Integrated testing tap
- Marker slot for Mini-WSB markers



Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

* Using adjacent jumpers, the rated voltage is reduced to 250 V with 5 mm pin spacing in Category III/3 and to 400 V with 7.5 mm pin spacing in Category III/3.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Comb-style jumper bars, see page 219

Test plugs, see page 601

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	5 mm 0.197 inch	7.5 mm 0.295 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	32 A	32 A	32 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	20 A	20 A	20 A
Rated voltage UL (Use Group C)		150 V	150 V
Rated current UL (Use Group C)		20 A	20 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	20 A	20 A	20 A
Rated voltage CSA (Use Group C)		150 V	150 V
Rated current CSA (Use Group C)		20 A	20 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

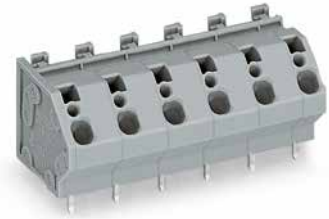
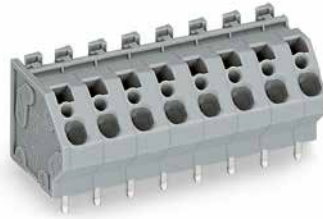
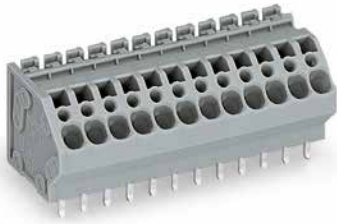
Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.5 ^{+0.1} mm

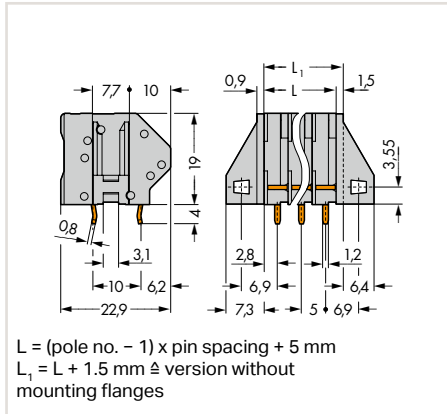
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

PCB Terminal Strips with Jumper Slots, 4 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm 745 Series



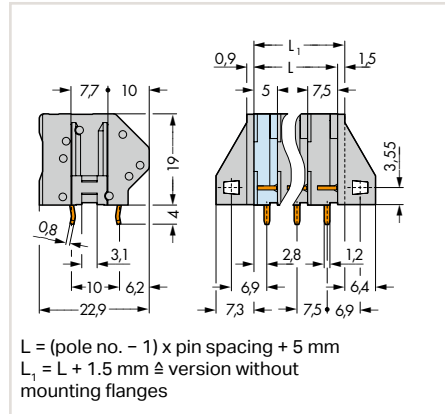
Dimensions (in mm):



PCB terminal strip with jumper slot,
2 solder pins/pole, gray
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-102	230
3	745-103	160
4	745-104	120
5	745-105	100
6	745-106	80
7	745-107	70
8	745-108	60
9	745-109	50
10	745-110	50
12	745-112	40

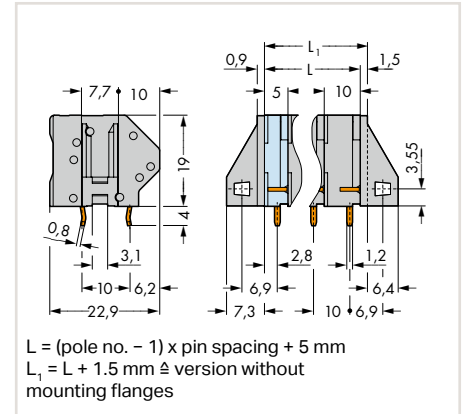
Dimensions (in mm):



PCB terminal strip with jumper slot,
2 solder pins/pole, gray
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-152	180
3	745-153	120
4	745-154	90
5	745-155	70
6	745-156	60
7	745-157	50
8	745-158	40
9	745-159	40
10	745-160	30
12	745-162	30

Dimensions (in mm):



PCB terminal strip with jumper slot,
2 solder pins/pole, gray
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-202	160
3	745-203	100
4	745-204	70
5	745-205	50
6	745-206	40
7	745-207	40
8	745-208	30
9	745-209	30
10	745-210	20
12	745-212	20

Available upon request (depending on quantity required):

- Other pole numbers
- Versions with mounting flanges
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ○ light gray, ● green-yellow, ● light green, ● green
- Mixed-color terminal strips
- Direct marking

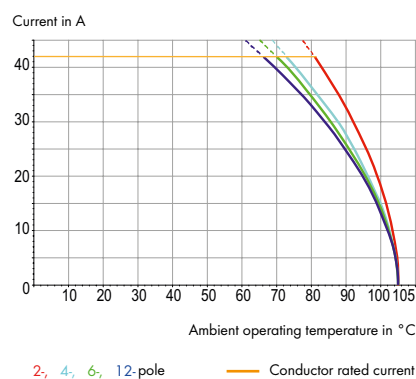
Modular PCB Terminal Blocks with Jumper Slots, 6 mm² Pin Spacing: 7.5 mm, 10 mm 745 Series



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP® for custom PCB terminal strip assemblies
- Versions with Ex approval
- Common and distribute potentials via comb-style jumper bars
- Spacers for higher voltage applications
- Double solder pins for high mechanical stability
- Integrated testing tap
- Marker slot for Mini-WSB markers

Current-Carrying Capacity Curve

Pin spacing: 7.5 mm / Conductor cross-section: 6 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch	10 mm / 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	630 V
Rated surge voltage (III / 3)	6 kV	8 kV
Rated voltage (III / 2)	630 V	1000 V
Rated surge voltage (III / 2)	6 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	8 kV
Rated current	41 A	41 A

Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	30 A	30 A
Rated voltage UL (Use Group C)	150 V	150 V
Rated current UL (Use Group C)	30 A	30 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A

Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	30 A	30 A
Rated voltage CSA (Use Group C)	150 V	150 V
Rated current CSA (Use Group C)	30 A	30 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	11 ... 12 mm / 0.39 ... 0.43 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 6 mm ² / 24 ... 10 AWG
Fine-stranded conductor	0.2 ... 6 mm ² / 24 ... 10 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 4 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 4 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	1 x 1.4 mm
Drilled hole diameter	1.8 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

* (III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Comb-style jumper bars, see page 219

Test plugs, see page 601

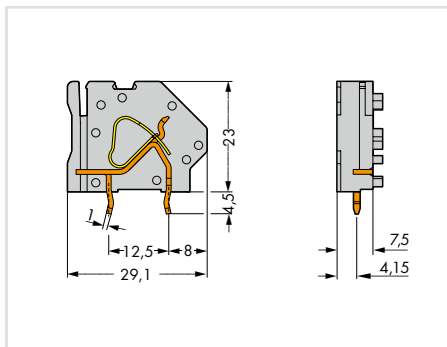
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Modular PCB Terminal Blocks with Jumper Slots, 6 mm² Pin Spacing: 7.5 mm, 10 mm 745 Series



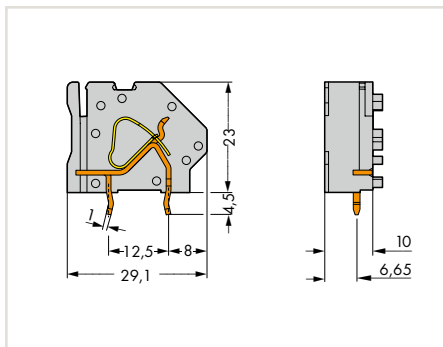
Dimensions (in mm):

Modular PCB terminal block with jumper slot,
2 solder pins/pole, 7.5 mm (0.295 inch) pin
spacing

Color	Item No.	Pack. Unit
gray	745-831	100 (50)
light gray	745-833	100 (50)
blue*	745-834	100 (50)
green-yellow	745-837	100 (50)
light green	745-838	100 (50)

*Suitable for Ex i applications

Dimensions (in mm):

Modular PCB terminal block with jumper slot,
2 solder pins/pole, 10 mm (0.394 inch) pin
spacing

Color	Item No.	Pack. Unit
gray	745-841	100 (50)
light gray	745-843	100 (50)
blue*	745-844	100 (50)
green-yellow	745-847	100 (50)
light green	745-848	100 (50)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
gray	745-300	500 (100)
blue	745-300/000-006	500 (100)
light gray	745-300/000-009	500 (100)
green-yellow	745-300/000-016	500 (100)
light green	745-300/000-017	500 (100)



End plate with mounting flange

Color	Item No.	Pack. Unit
gray	745-340	200 (50)
blue	745-340/000-006	200 (50)
light gray	745-340/000-009	200 (50)
green-yellow	745-340/000-016	200 (50)
light green	745-340/000-017	200 (50)



End plate with mounting flange

Color	Item No.	Pack. Unit
gray	745-345	200 (50)
blue	745-345/000-006	200 (50)
light gray	745-345/000-009	200 (50)
green-yellow	745-345/000-016	200 (50)
light green	745-345/000-017	200 (50)



Spacer, 2.5 mm thick

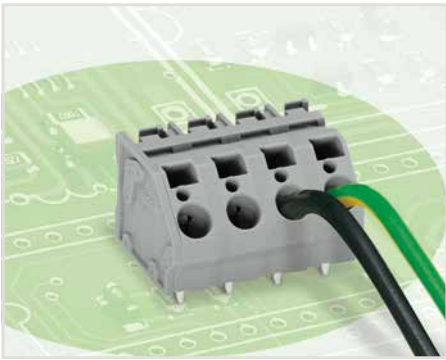
Color	Item No.	Pack. Unit
gray	745-338	500 (50)

Available upon request (depending on quantity required):

- Versions for Ex e II
- Other colors

PCB Terminal Strips, 6 mm² Pin Spacing: 10 mm, 12.5 mm, 15 mm 745 Series

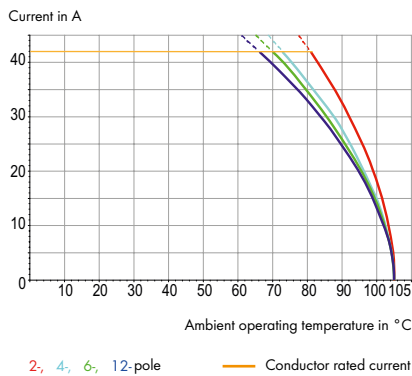
1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Versions with Ex approval
- Unrestricted UL approval up to 600 V with 12.5 mm pin spacing
- Double solder pins for high mechanical stability
- Custom color combinations
- Integrated testing tap
- Marker slot for Mini-WSB markers

Current-Carrying Capacity Curve

Pin spacing: 7.5 mm / Conductor cross-section: 6 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Electrical Data for Pin Spacing

	10 mm 0.394 inch	12.5 mm 0.492 inch	15 mm 0.591 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	800 V	1000 V	1000 V
Rated surge voltage (III / 3)	8 kV	8 kV	8 kV
Rated voltage (III / 2)	1000 V	1000 V	1000 V
Rated surge voltage (III / 2)	8 kV	8 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V	1000 V
Rated surge voltage (II / 2)	8 kV	8 kV	8 kV
Rated current	41 A	41 A	41 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	600 V	600 V
Rated current UL (Use Group B)	10 A	30 A	30 A
Rated voltage UL (Use Group C)	300 V	600 V	600 V
Rated current UL (Use Group C)	10 A	30 A	30 A
Rated voltage UL (Use Group D)	600 V		
Rated current UL (Use Group D)	5 A		
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	600 V	600 V
Rated current CSA (Use Group B)	10 A	30 A	30 A
Rated voltage CSA (Use Group C)	300 V	600 V	600 V
Rated current CSA (Use Group C)	10 A	30 A	30 A
Rated voltage CSA (Use Group D)	600 V		
Rated current CSA (Use Group D)	5 A		

Connection Data

Connection technology	CAGE CLAMP®
Strip length	11 ... 12 mm / 0.43 ... 0.47 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 6 mm ² / 24 ... 10 AWG
Fine-stranded conductor	0.2 ... 6 mm ² / 24 ... 10 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 4 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 4 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	1 x 1.4 mm
Drilled hole diameter	1.8 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

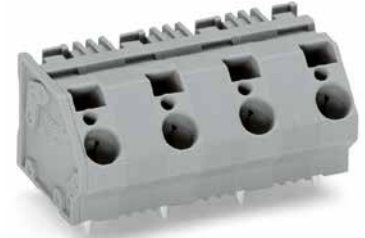
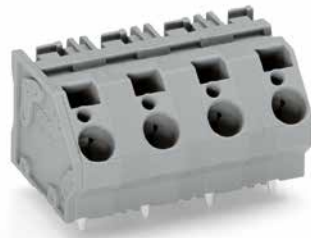
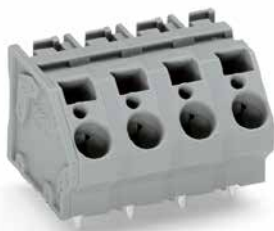
Operating tools,
see page 588

Test plugs,
see page 601

Additional technical information,
see Section 13

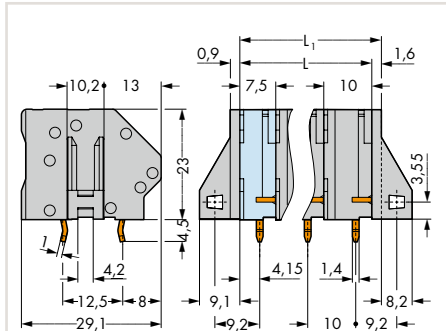
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 6 mm² Pin Spacing: 10 mm, 12.5 mm, 15 mm 745 Series



1

Dimensions (in mm):

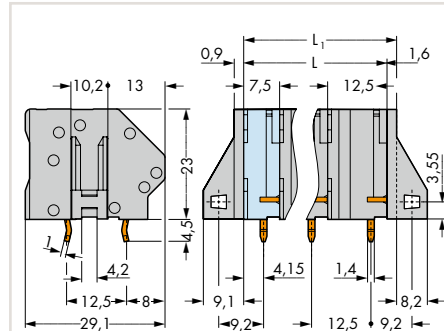


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 7.5 \text{ mm}$
 $L_1 = L + 1.6 \text{ mm} \hat{=} \text{version without mounting flanges}$

PCB terminal strip, 2 solder pins/pole, gray,
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-1352	104
3	745-1353	72
4	745-1354	48
5	745-1355	40
6	745-1356	32
7	745-1357	24
8	745-1358	24
9	745-1359	24
10	745-1360	16
12	745-1362	16

Dimensions (in mm):

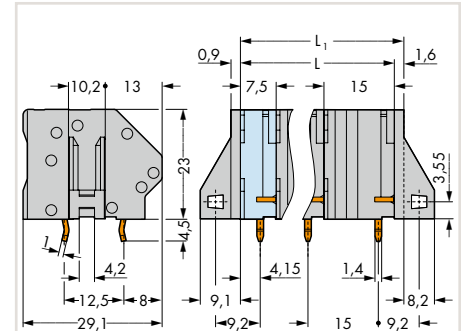


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 7.5 \text{ mm}$
 $L_1 = L + 1.6 \text{ mm} \hat{=} \text{version without mounting flanges}$

PCB terminal strip, 2 solder pins/pole, gray,
12.5 mm (0.492 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-1402	80
3	745-1403	48
4	745-1404	40
5	745-1405	32
6	745-1406	24
7	745-1407	24
8	745-1408	16
9	745-1409	16
10	745-1410	16
12	745-1412	8

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 7.5 \text{ mm}$
 $L_1 = L + 1.6 \text{ mm} \hat{=} \text{version without mounting flanges}$

PCB terminal strip, 2 solder pins/pole, gray,
15 mm (0.591 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-1452	64
3	745-1453	40
4	745-1454	32
5	745-1455	24
6	745-1456	16
7	745-1457	16
8	745-1458	16
9	745-1459	8
10	745-1460	8
12	745-1462	8

Available upon request (depending on quantity required):

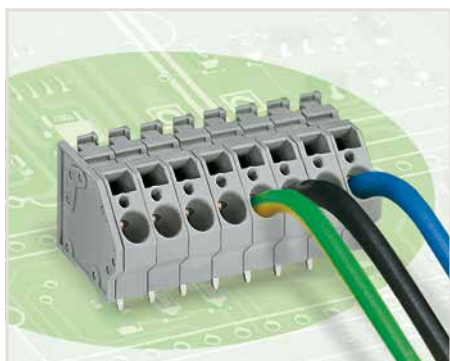
- Other pole numbers
- Versions with mounting flanges
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ○ light gray, ● green-yellow, ● light green, ● green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Jumper Slots, 6 mm²

Pin Spacing: 7.5 mm, 10 mm

745 Series

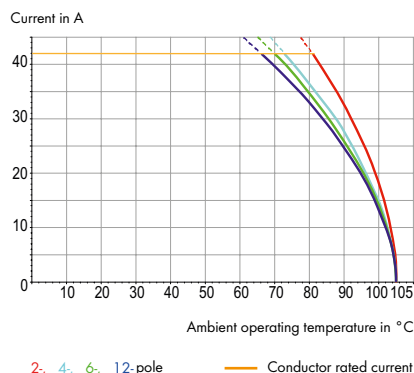
1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Versions with Ex approval
- Common and distribute potentials via comb-style jumper bars
- Double solder pins for high mechanical stability
- Custom color combinations
- Integrated testing tap
- Marker slot for Mini-WSB markers

Current-Carrying Capacity Curve

Pin spacing: 7.5 mm / Conductor cross-section: 6 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

* Using adjacent jumpers, the rated voltage is reduced to 250 V with 5 mm pin spacing in Category III/3 and to 400 V with 7.5 mm pin spacing in Category III/3.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Comb-style jumper bars, see page 219

Test plugs, see page 601

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch	10 mm / 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	630 V
Rated surge voltage (III / 3)	6 kV	8 kV
Rated voltage (III / 2)	630 V	1000 V
Rated surge voltage (III / 2)	6 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	8 kV
Rated current	41 A	41 A

Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	30 A	30 A
Rated voltage UL (Use Group C)	150 V	150 V
Rated current UL (Use Group C)	30 A	30 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A

Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	30 A	30 A
Rated voltage CSA (Use Group C)	150 V	150 V
Rated current CSA (Use Group C)	30 A	30 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	11 ... 12 mm / 0.39 ... 0.43 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 6 mm ² / 24 ... 10 AWG
Fine-stranded conductor	0.2 ... 6 mm ² / 24 ... 10 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 4 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 4 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	1 x 1.4 mm
Drilled hole diameter	1.8 ^{+0.1} mm

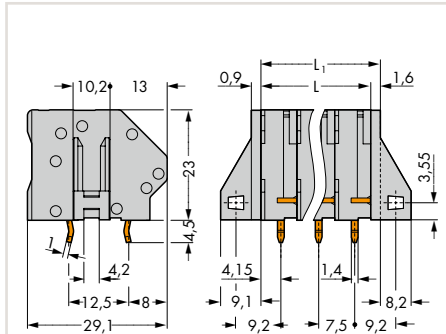
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

PCB Terminal Strips with Jumper Slots, 6 mm² Pin Spacing: 7.5 mm, 10 mm 745 Series



Dimensions (in mm):

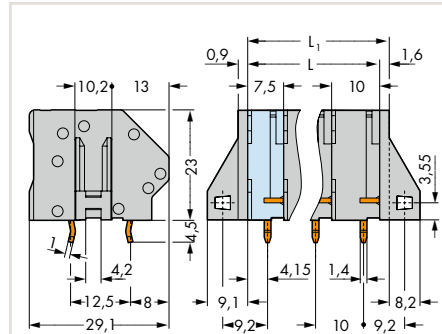


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 7.5 \text{ mm}$
 $L_1 = L + 1.6 \text{ mm} \hat{=}$ version without
 mounting flanges

PCB terminal strip with jumper slot,
 2 solder pins/pole, gray
 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-302	128
3	745-303	88
4	745-304	64
5	745-305	48
6	745-306	40
7	745-307	40
8	745-308	32
9	745-309	24
10	745-310	24
12	745-312	16

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 7.5 \text{ mm}$
 $L_1 = L + 1.6 \text{ mm} \hat{=}$ version without
 mounting flanges

PCB terminal strip with jumper slot,
 2 solder pins/pole, gray
 10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-352	104
3	745-353	72
4	745-354	48
5	745-355	40
6	745-356	32
7	745-357	24
8	745-358	24
9	745-359	24
10	745-360	16
12	745-362	16

Available upon request (depending on quantity required):

- Other pole numbers
- Versions with mounting flanges
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ○ light gray, ● green-yellow, ● light green, ● green
- Mixed-color terminal strips
- Direct marking

Modular PCB Terminal Blocks with Jumper Slots, 16 mm²

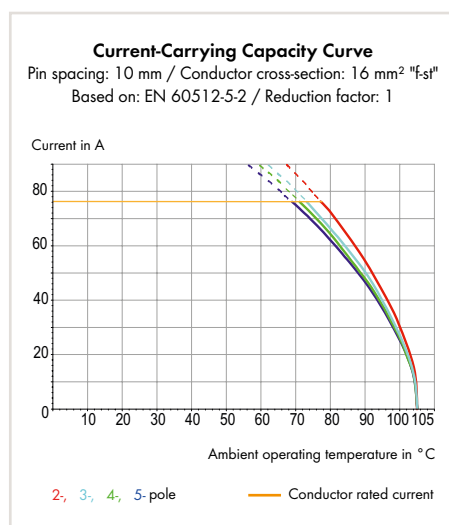
Pin Spacing: 10 mm, 15 mm, 20 mm

745 Series

1



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP® for custom PCB terminal strip assemblies
- Versions with Ex approval
- Unrestricted UL approval up to 600 V with 20 mm pin spacing
- Common and distribute potentials via comb-style jumper bars
- Four solder pins for high mechanical stability
- Integrated testing tap
- Marker slot for Mini-WSB markers



Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Comb-style jumper bars, see page 219

Test plugs, see page 601

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	10 mm 0.394 inch	15 mm 0.591 inch	20 mm 0.787 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	630 V	1000 V
Rated surge voltage (III / 3)	4 kV	8 kV	12 kV
Rated voltage (III / 2)	320 V	1000 V	1000 V
Rated surge voltage (III / 2)	4 kV	8 kV	12 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	8 kV	12 kV
Rated current	76 A	76 A	76 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	600 V
Rated current UL (Use Group B)	10 A	65 A	65 A
Rated voltage UL (Use Group C)		300 V	600 V
Rated current UL (Use Group C)		65 A	65 A
Rated voltage UL (Use Group D)	300 V	600 V	
Rated current UL (Use Group D)	10 A	5 A	
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	600 V
Rated current CSA (Use Group B)	10 A	65 A	65 A
Rated voltage CSA (Use Group C)		300 V	600 V
Rated current CSA (Use Group C)		65 A	65 A
Rated voltage CSA (Use Group D)	300 V	600 V	
Rated current CSA (Use Group D)	10 A	5 A	

Connection Data

Connection technology	CAGE CLAMP®
Strip length	12 ... 13 mm / 0.47 ... 0.51 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 16 mm ² / 24 ... 6 AWG
Fine-stranded conductor	0.2 ... 16 mm ² / 24 ... 6 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 10 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 10 mm ²

Solder Pin Data

Solder pin length	6.5 mm
Solder pin dimensions	1.2 x 1.6 mm
Drilled hole diameter	2.2 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

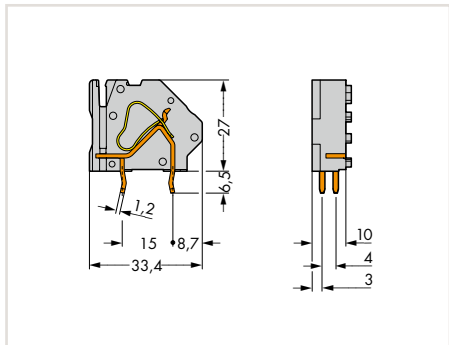
Modular PCB Terminal Blocks with Jumper Slots, 16 mm²

Pin Spacing: 10 mm, 15 mm, 20 mm

745 Series

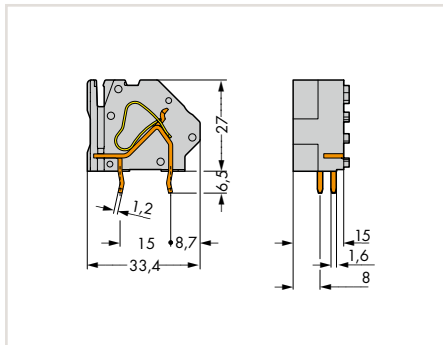


Dimensions (in mm):

Modular PCB terminal block with jumper slot,
4 solder pins/pole, 10 mm (0.394 inch) pin spacing

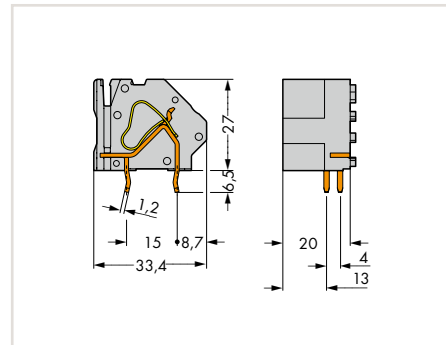
Color	Item No.	Pack. Unit
gray	745-851/006-000	100
light gray	745-853/006-000	100
blue*	745-854/006-000	100
green-yellow	745-857/006-000	100
light green	745-858/006-000	100

Dimensions (in mm):

Modular PCB terminal block with jumper slot,
4 solder pins/pole, 15 mm (0.591 inch) pin spacing

Color	Item No.	Pack. Unit
gray	745-871/006-000	100
light gray	745-873/006-000	100
blue*	745-874/006-000	100
green-yellow	745-877/006-000	100
light green	745-878/006-000	100

Dimensions (in mm):

Modular PCB terminal block with jumper slot,
4 solder pins/pole, 20 mm (0.787 inch) pin spacing

Color	Item No.	Pack. Unit
gray	745-881/006-000	50
light gray	745-883/006-000	50
blue*	745-884/006-000	50
green-yellow	745-887/006-000	50
light green	745-888/006-000	50

*Suitable for Ex i applications



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
gray	745-500	500 (100)
blue	745-500/000-006	500 (100)
light gray	745-500/000-009	500 (100)
green-yellow	745-500/000-016	500 (100)
light green	745-500/000-017	500 (100)



End plate with mounting flange

Color	Item No.	Pack. Unit
gray	745-540	200 (50)
blue	745-540/000-006	200 (50)
light gray	745-540/000-009	200 (50)
green-yellow	745-540/000-016	200 (50)
light green	745-540/000-017	200 (50)



End plate with mounting flange

Color	Item No.	Pack. Unit
gray	745-545	200 (50)
blue	745-545/000-006	200 (50)
light gray	745-545/000-009	200 (50)
green-yellow	745-545/000-016	200 (50)
light green	745-545/000-017	200 (50)

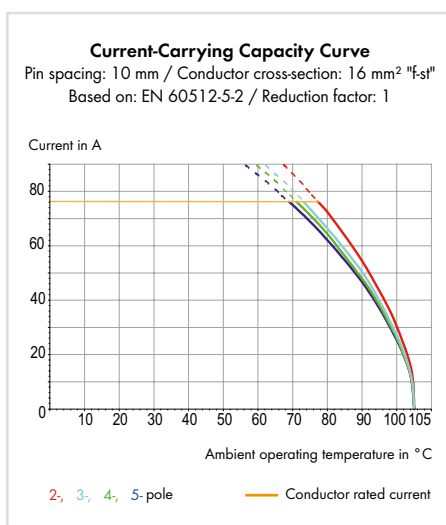
Available upon request (depending on quantity required):

- Versions for Ex e II
- Other colors
- Solder pin length: 5 mm

PCB Terminal Strips with Jumper Slots, 16 mm² Pin Spacing: 10 mm, 15 mm, 20 mm 745 Series



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Versions with Ex approval
- Unrestricted UL approval up to 600 V with 20 mm pin spacing
- Common and distribute potentials via comb-style jumper bars
- Four solder pins for high mechanical stability
- Integrated testing tap
- Marker slot for Mini-WSB markers



Note on UL approval for 600 V:

The conductor entry of the PCB terminal strips is designed for field- and factory-wiring applications and meets 600 V UL (Use Group C) requirements for clearances and creepage distances. Terminal strips with solder contacts are only suitable for factory-wiring applications. Both suitability and required pin spacing for 600 V UL shall be evaluated based on the relevant end device specifications.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Comb-style jumper bars,
see page 219

Test plugs,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

	10 mm 0.394 inch	15 mm 0.591 inch	20 mm 0.787 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	630 V	1000 V
Rated surge voltage (III / 3)	4 kV	8 kV	12 kV
Rated voltage (III / 2)	320 V	1000 V	1000 V
Rated surge voltage (III / 2)	4 kV	8 kV	12 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	8 kV	12 kV
Rated current	76 A	76 A	76 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	600 V
Rated current UL (Use Group B)	10 A	65 A	65 A
Rated voltage UL (Use Group C)		300 V	600 V
Rated current UL (Use Group C)		65 A	65 A
Rated voltage UL (Use Group D)	300 V	600 V	
Rated current UL (Use Group D)	10 A	5 A	
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	600 V
Rated current CSA (Use Group B)	10 A	65 A	65 A
Rated voltage CSA (Use Group C)		300 V	600 V
Rated current CSA (Use Group C)		65 A	65 A
Rated voltage CSA (Use Group D)	300 V	600 V	
Rated current CSA (Use Group D)	10 A	5 A	

Connection Data

Connection technology	CAGE CLAMP®
Strip length	12 ... 13 mm / 0.47 ... 0.51 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 16 mm ² / 24 ... 6 AWG
Fine-stranded conductor	0.2 ... 16 mm ² / 24 ... 6 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 10 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 10 mm ²

Solder Pin Data

Solder pin length	6.5 mm
Solder pin dimensions	1.2 x 1.6 mm
Drilled hole diameter	2.2 ^{+0.1} mm

Material Data

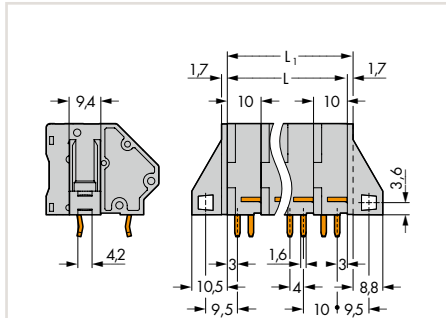
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

PCB Terminal Strips with Jumper Slots, 16 mm² Pin Spacing: 10 mm, 15 mm, 20 mm 745 Series



1

Dimensions (in mm):

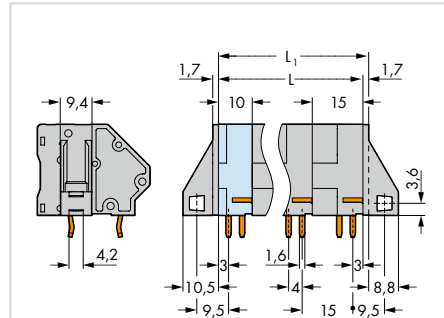


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 10 \text{ mm}$
 $L_1 = L + 1.7 \text{ mm} \hat{=} \text{version without mounting flanges}$

PCB terminal strip with jumper slot,
4 solder pins/pole, gray
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-502/006-000	48
3	745-503/006-000	32
4	745-504/006-000	24
5	745-505/006-000	20

Dimensions (in mm):

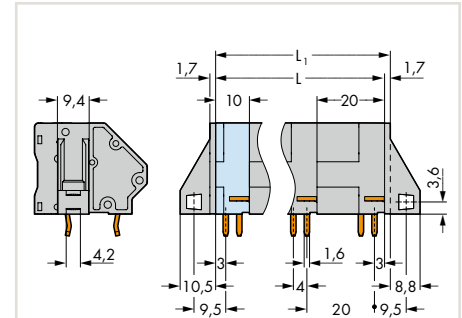


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 10 \text{ mm}$
 $L_1 = L + 1.7 \text{ mm} \hat{=} \text{version without mounting flanges}$

PCB terminal strip with jumper slot,
4 solder pins/pole, gray
15 mm (0.591 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-602/006-000	36
3	745-603/006-000	24
4	745-604/006-000	16
5	745-605/006-000	12

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 10 \text{ mm}$
 $L_1 = L + 1.7 \text{ mm} \hat{=} \text{version without mounting flanges}$

PCB terminal strip with jumper slot,
4 solder pins/pole, gray
20 mm (0.787 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	745-652/006-000	32
3	745-653/006-000	20
4	745-654/006-000	12
5	745-655/006-000	8

Available upon request (depending on quantity required):

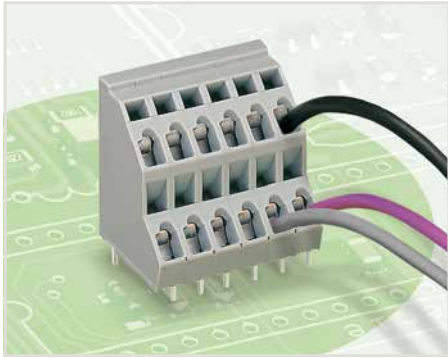
- Other pole numbers
- Versions with mounting flanges
- Versions for Ex e II and Ex i
- Other colors: ● black, ● blue, ○ light gray, ● green-yellow, ● light green, ● green
- Mixed-color terminal strips
- Direct marking
- Solder pin length: 5 mm

Double-Deck PCB Terminal Strips, 2.5 mm²

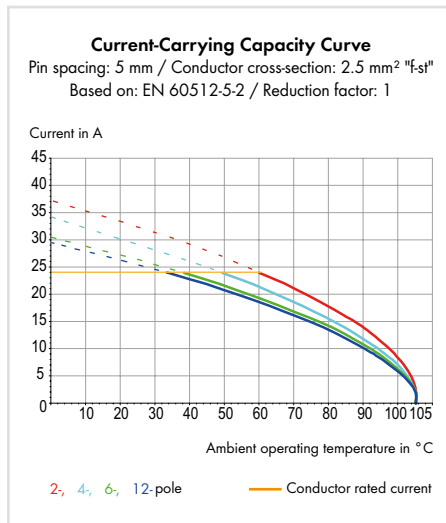
Pin Spacing: 5 mm, 7.5 mm, 10 mm

736 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- High-density, double-deck design for space-efficient wiring of multiple conductors in confined areas
- Custom marking for all termination levels
- PCB terminal strips with commoning strips for potential distribution, see page 77



Electrical Data for Pin Spacing

	5 mm 0.197 inch	7.5 mm 0.295 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	21 A	21 A	21 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug modules,
see page 220

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.3 ^{+0.1} mm

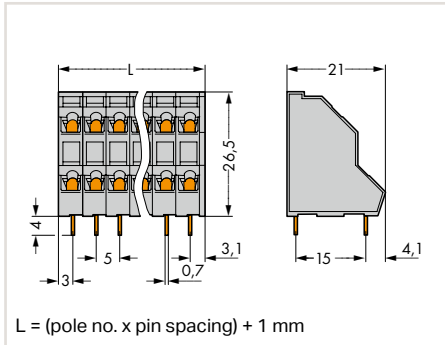
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

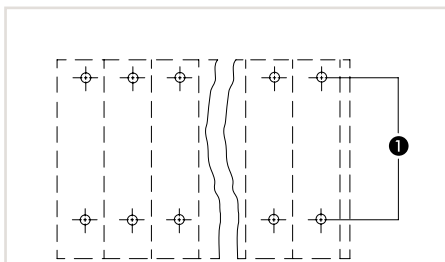
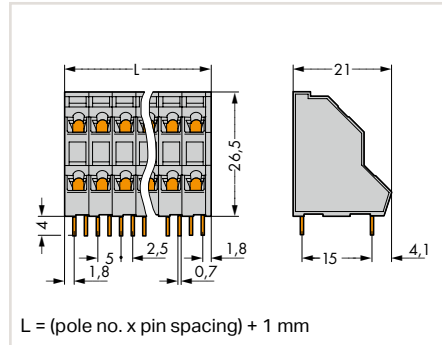
Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 736 Series



Dimensions (in mm):

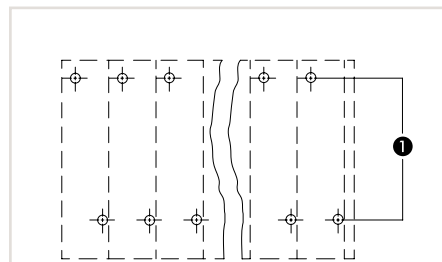


Dimensions (in mm):



Solder pins in line

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)



Solder pins staggered by half the pin spacing

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Double-deck PCB terminal strip, 2 solder pins in line, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-102	161
2 x 3	736-103	112
2 x 4	736-104	84
2 x 6	736-106	56
2 x 8	736-108	42
2 x 12	736-112	28
2 x 16	736-116	21
2 x 24	736-124	14

Double-deck PCB terminal strip, 2 solder pins staggered by half the pin spacing, gray, 5 mm (0.197 inch) pin spacing

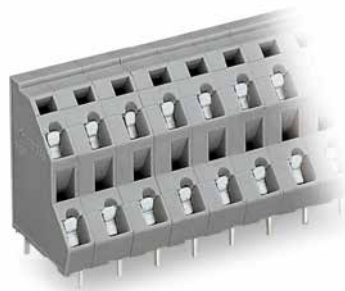
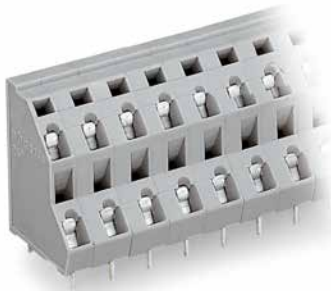
Pole No.	Item No.	Pack. Unit
2 x 2	736-202	161
2 x 3	736-203	112
2 x 4	736-204	84
2 x 6	736-206	56
2 x 8	736-208	42
2 x 12	736-212	28
2 x 16	736-216	21
2 x 24	736-224	14

Available upon request (depending on quantity required):

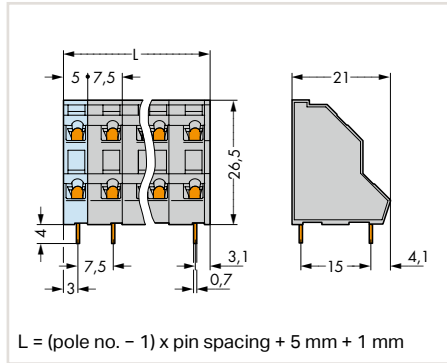
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.5 mm 736 Series

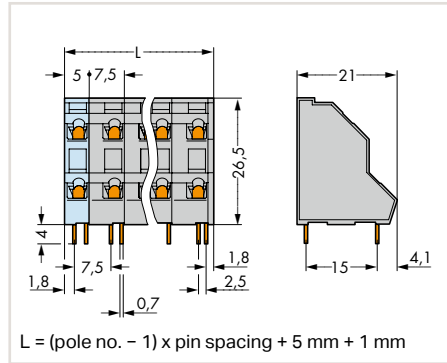
1



Dimensions (in mm):



Dimensions (in mm):



Solder pins in line

ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Solder pins staggered by half the pin spacing

ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Double-deck PCB terminal strip, 2 solder pins in line, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-502	133
2 x 3	736-503	84
2 x 4	736-504	63
2 x 6	736-506	42
2 x 8	736-508	28
2 x 12	736-512	21
2 x 16	736-516	14

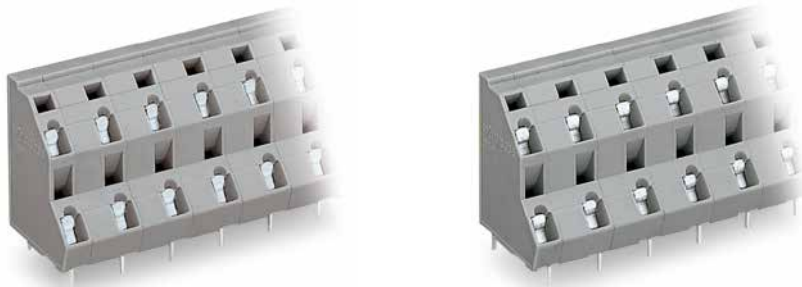
Double-deck PCB terminal strip, 2 solder pins staggered by half the pin spacing, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-552	133
2 x 3	736-553	84
2 x 4	736-554	63
2 x 6	736-556	42
2 x 8	736-558	28
2 x 12	736-562	21
2 x 16	736-566	14

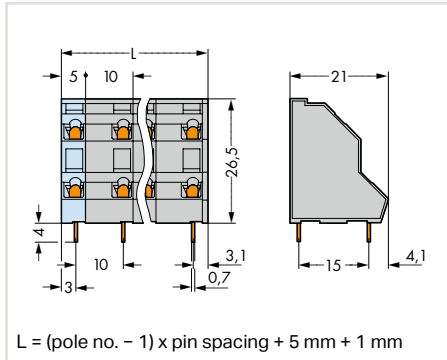
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

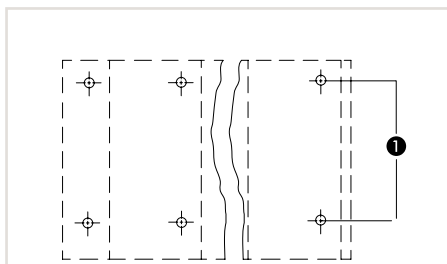
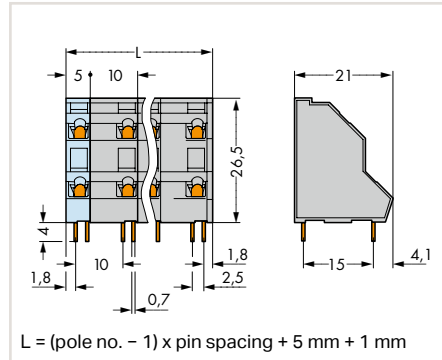
Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 10 mm 736 Series



Dimensions (in mm):



Dimensions (in mm):

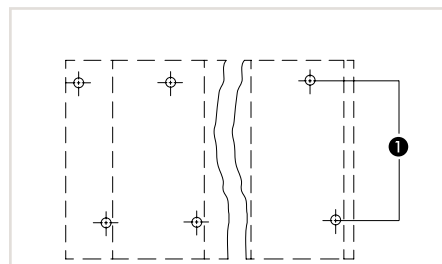


Solder pins in line

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Double-deck PCB terminal strip, 2 solder pins in line, gray, 10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-702	112
2 x 3	736-703	70
2 x 4	736-704	49
2 x 6	736-706	28
2 x 8	736-708	21
2 x 12	736-712	14



Solder pins staggered by half the pin spacing

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Double-deck PCB terminal strip, 2 solder pins staggered by half the pin spacing, gray, 10 mm (0.394 inch) pin spacing

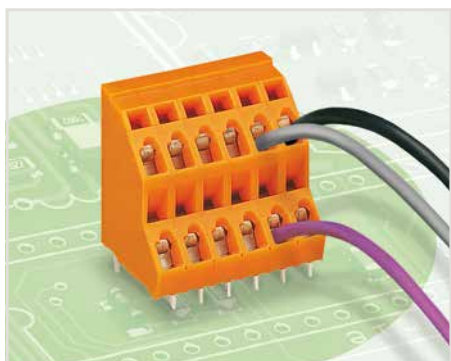
Pole No.	Item No.	Pack. Unit
2 x 2	736-752	112
2 x 3	736-753	70
2 x 4	736-754	49
2 x 6	736-756	28
2 x 8	736-758	21
2 x 12	736-762	14

Available upon request (depending on quantity required):

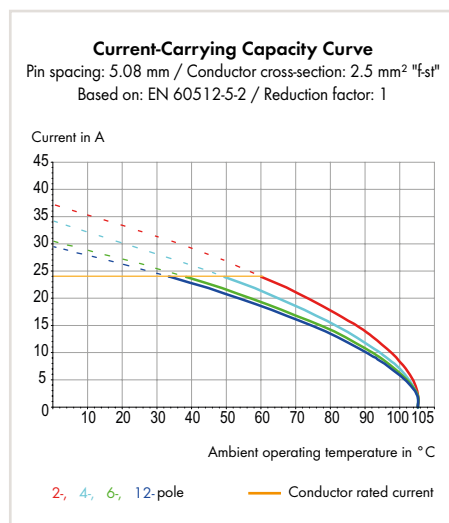
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5.08 mm, 7.62 mm, 10.16 mm 736 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- High-density, double-deck design for space-efficient wiring of multiple conductors in confined areas
- Custom marking for all termination levels
- PCB terminal strips with commoning strips for potential distribution, see page 77



Electrical Data for Pin Spacing

	5.08 mm 0.2 inch	7.62 mm 0.3 inch	10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	21 A	21 A	21 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

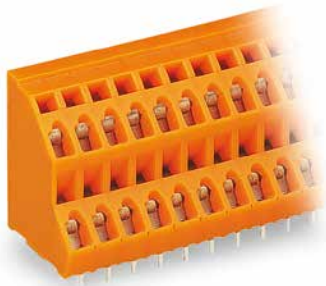
Commoning strips,
see page 75

Test plug modules,
see page 220

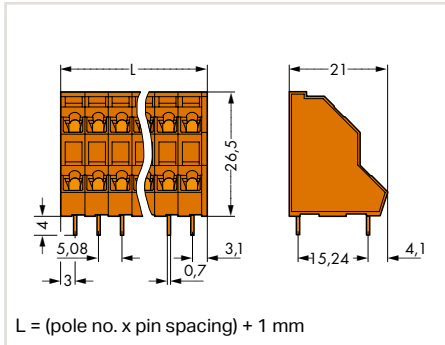
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

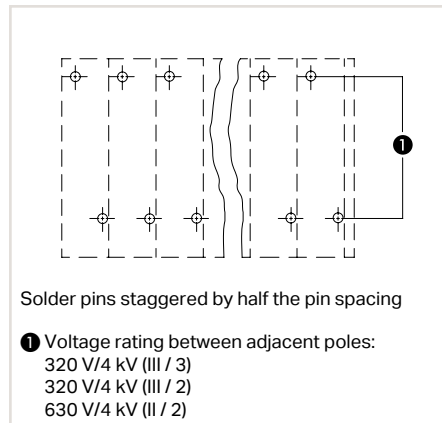
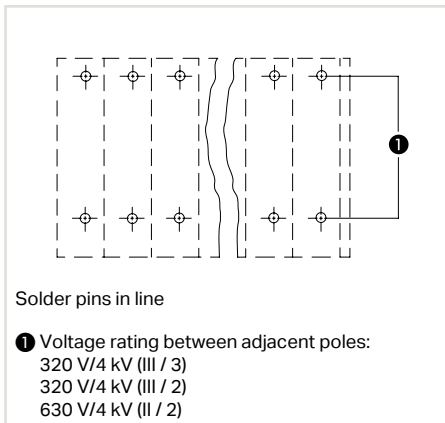
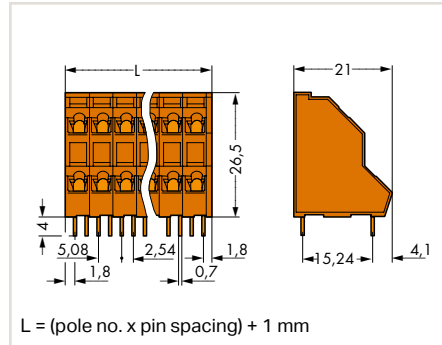
Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5.08 mm 736 Series



Dimensions (in mm):



Dimensions (in mm):



Double-deck PCB terminal strip, 2 solder pins in line, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-302	161
2 x 3	736-303	112
2 x 4	736-304	84
2 x 6	736-306	56
2 x 8	736-308	42
2 x 12	736-312	28
2 x 16	736-316	21
2 x 24	736-324	14

Double-deck PCB terminal strip, 2 solder pins staggered by half the pin spacing, orange, 5.08 mm (0.2 inch) pin spacing

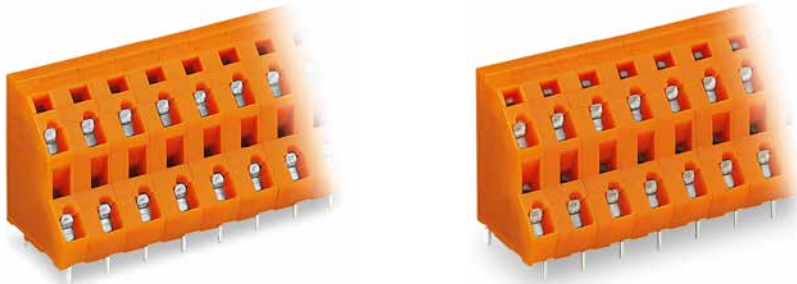
Pole No.	Item No.	Pack. Unit
2 x 2	736-402	161
2 x 3	736-403	112
2 x 4	736-404	84
2 x 6	736-406	56
2 x 8	736-408	42
2 x 12	736-412	28
2 x 16	736-416	21
2 x 24	736-424	14

Available upon request (depending on quantity required):

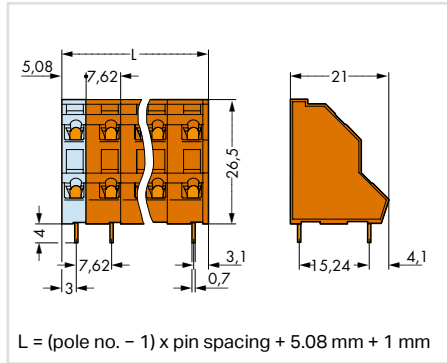
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.62 mm 736 Series

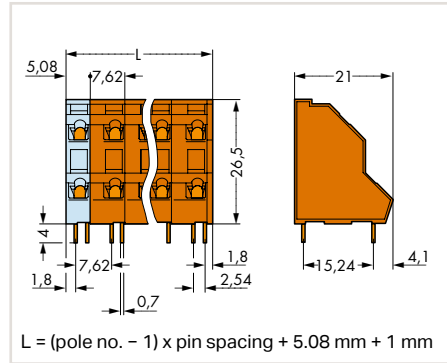
1



Dimensions (in mm):



Dimensions (in mm):



Solder pins in line

ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Solder pins staggered by half the pin spacing

ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Double-deck PCB terminal strip, 2 solder pins in line, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-602	133
2 x 3	736-603	84
2 x 4	736-604	63
2 x 6	736-606	35
2 x 8	736-608	28
2 x 12	736-612	14
2 x 16	736-616	14

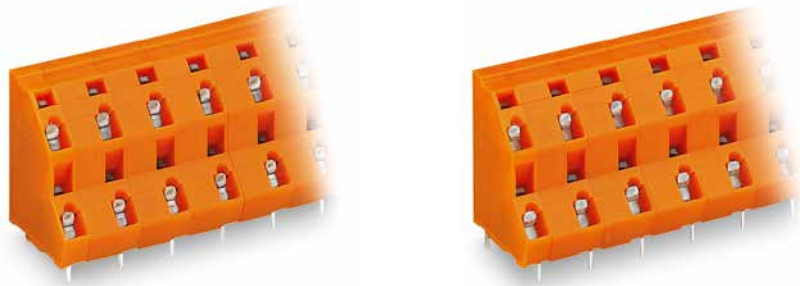
Double-deck PCB terminal strip, 2 solder pins staggered by half the pin spacing, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-652	133
2 x 3	736-653	84
2 x 4	736-654	63
2 x 6	736-656	35
2 x 8	736-658	28
2 x 12	736-662	14
2 x 16	736-666	14

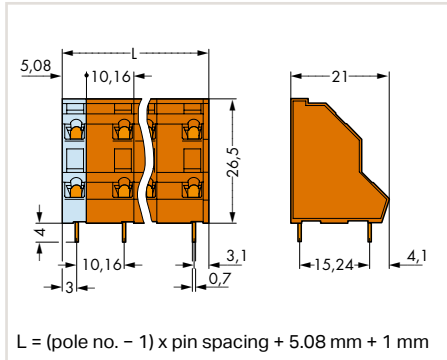
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

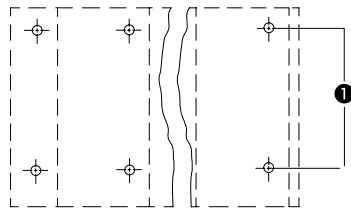
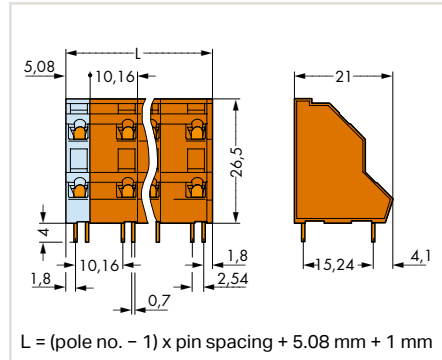
Double-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 10.16 mm 736 Series



Dimensions (in mm):

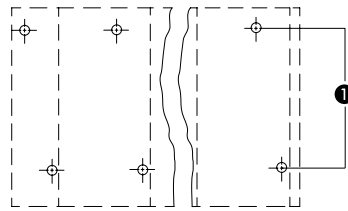


Dimensions (in mm):



Solder pins in line

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)



Solder pins staggered by half the pin spacing

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Double-deck PCB terminal strip, 2 solder pins in line, orange, 10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-802	112
2 x 3	736-803	70
2 x 4	736-804	49
2 x 6	736-806	28
2 x 8	736-808	21
2 x 12	736-812	14

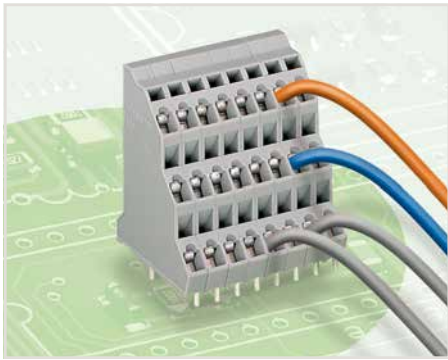
Double-deck PCB terminal strip, 2 solder pins staggered by half the pin spacing, orange, 10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	736-852	112
2 x 3	736-853	70
2 x 4	736-854	49
2 x 6	736-856	28
2 x 8	736-858	21
2 x 12	736-862	14

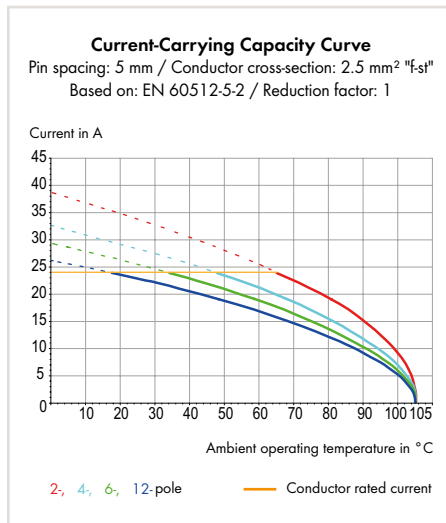
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm 737 Series



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- High-density, triple-deck design for space-efficient wiring of multiple conductors in confined areas
- Custom marking for all termination levels
- PCB terminal strips with commoning strips for potential distribution, see page 77



Electrical Data for Pin Spacing

	5 mm 0.197 inch	7.5 mm 0.295 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	21 A	21 A	21 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

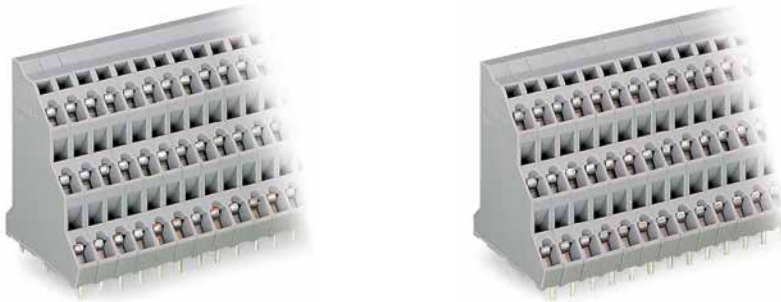
Commoning strips,
see page 75

Test plug modules,
see page 220

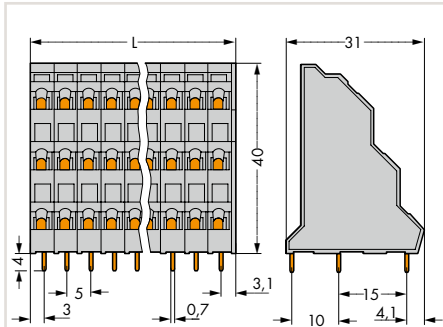
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 737 Series

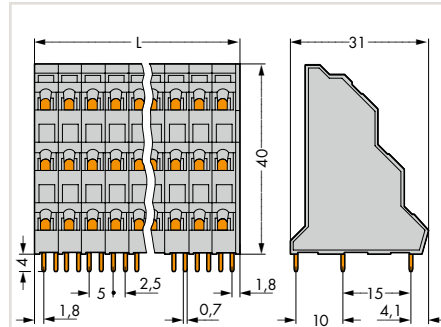


Dimensions (in mm):

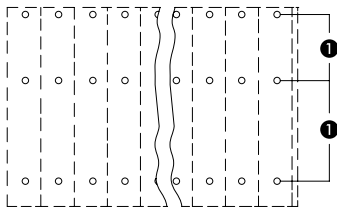


$$L = (\text{pole no.} \times \text{pin spacing}) + 1 \text{ mm}$$

Dimensions (in mm):

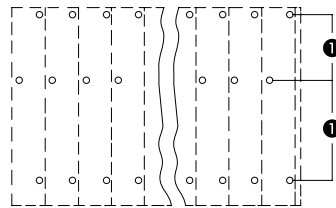


$$L = (\text{pole no.} \times \text{pin spacing}) + 1 \text{ mm}$$



Solder pins in line

- I** Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)



Solder pins for deck 2 staggered by half the pin spacing

- I** Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins in line, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-102	92
3 x 3	737-103	64
3 x 4	737-104	48
3 x 6	737-106	32
3 x 8	737-108	24
3 x 12	737-112	16
3 x 16	737-116	12
3 x 24	737-124	8

Triple-deck PCB terminal strip, 3 solder pins for deck 2 staggered by half the pin spacing, gray, 5 mm (0.197 inch) pin spacing

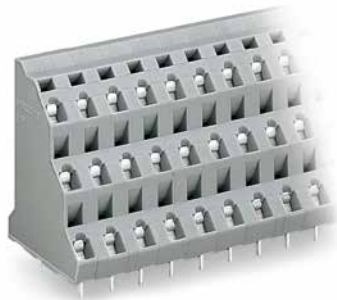
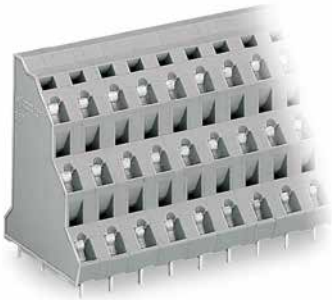
Pole No.	Item No.	Pack. Unit
3 x 2	737-202	92
3 x 3	737-203	64
3 x 4	737-204	48
3 x 6	737-206	32
3 x 8	737-208	24
3 x 12	737-212	16
3 x 16	737-216	12
3 x 24	737-224	8

Available upon request (depending on quantity required):

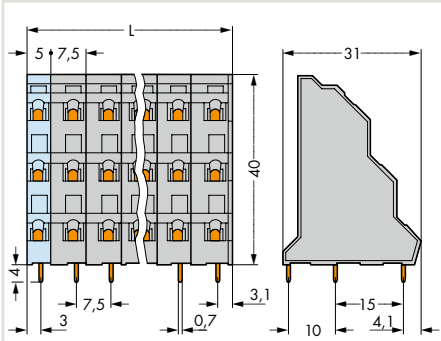
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.5 mm 737 Series

1

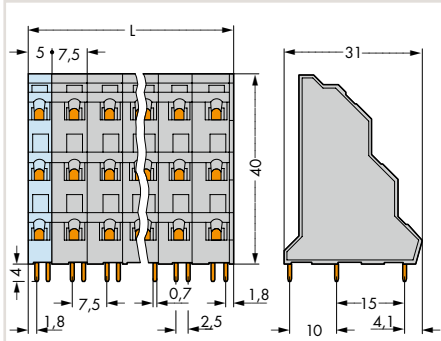


Dimensions (in mm):

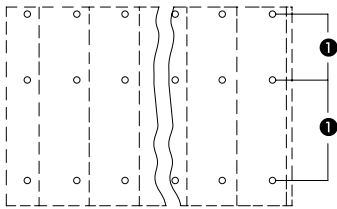


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1 \text{ mm}$$

Dimensions (in mm):

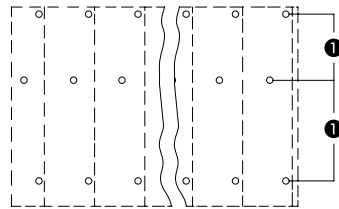


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1 \text{ mm}$$



Solder pins in line

- ① Voltage rating between adjacent poles:
 320 V/4 kV (III / 3)
 320 V/4 kV (III / 2)
 630 V/4 kV (II / 2)



Solder pins for deck 2 staggered by half the pin spacing

- ① Voltage rating between adjacent poles:
 320 V/4 kV (III / 3)
 320 V/4 kV (III / 2)
 630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins in line, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-502	76
3 x 3	737-503	48
3 x 4	737-504	36
3 x 6	737-506	24
3 x 8	737-508	16
3 x 12	737-512	8
3 x 16	737-516	8

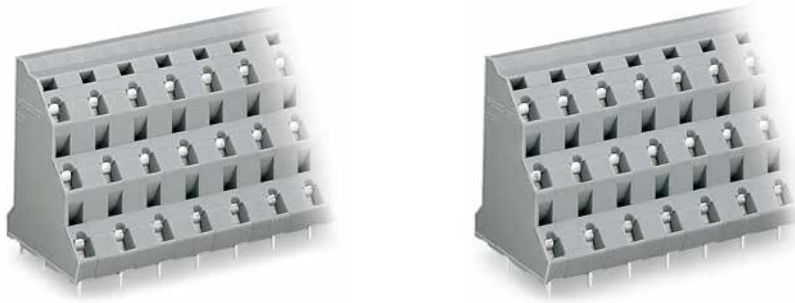
Triple-deck PCB terminal strip, 3 solder pins for deck 2 staggered by half the pin spacing, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-552	76
3 x 3	737-553	48
3 x 4	737-554	36
3 x 6	737-556	24
3 x 8	737-558	16
3 x 12	737-562	8
3 x 16	737-566	8

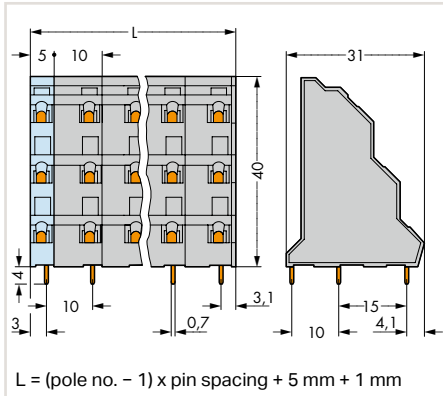
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

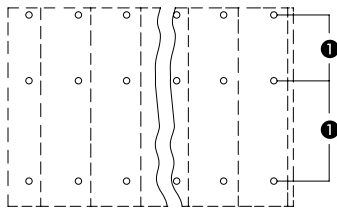
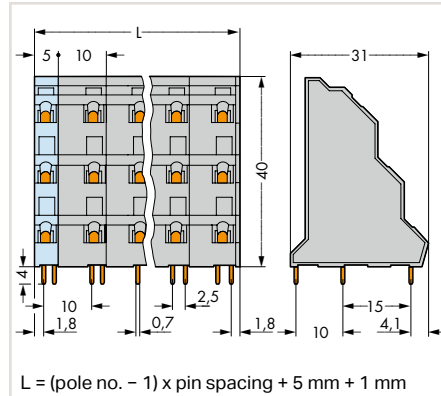
Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 10 mm 737 Series



Dimensions (in mm):



Dimensions (in mm):

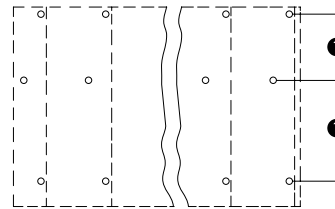


Solder pins in line

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins in line, gray, 10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-702	64
3 x 3	737-703	40
3 x 4	737-704	28
3 x 6	737-706	16
3 x 8	737-708	12
3 x 12	737-712	8



Solder pins for deck 2 staggered by half the pin spacing

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

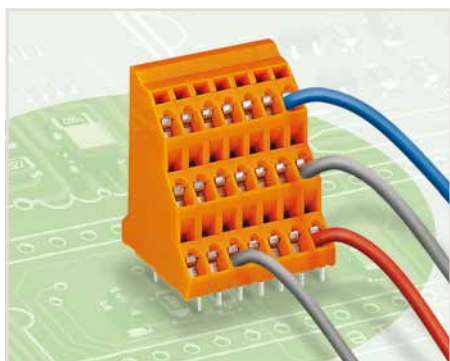
Triple-deck PCB terminal strip, 3 solder pins for deck 2 staggered by half the pin spacing, gray, 10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-752	64
3 x 3	737-753	40
3 x 4	737-754	28
3 x 6	737-756	16
3 x 8	737-758	12
3 x 12	737-762	8

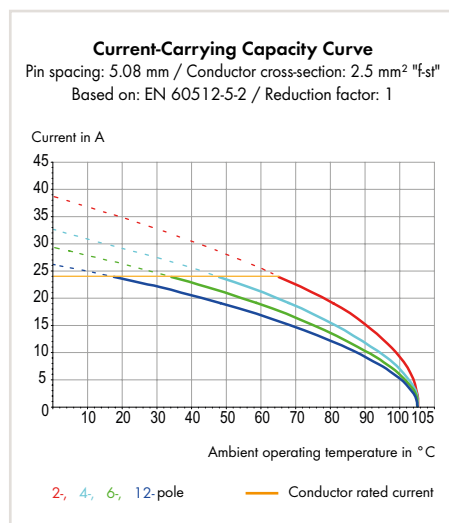
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5.08 mm, 7.62 mm, 10.16 mm 737 Series



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- High-density, triple-deck design for space-efficient wiring of multiple conductors in confined areas
- Custom marking for all termination levels
- PCB terminal strips with commoning strips for potential distribution, see page 77



Electrical Data for Pin Spacing

	5.08 mm 0.2 inch	7.62 mm 0.3 inch	10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	21 A	21 A	21 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

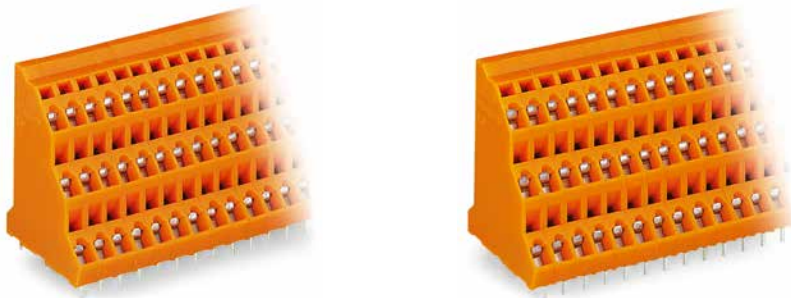
Commoning strips,
see page 75

Test plug modules,
see page 220

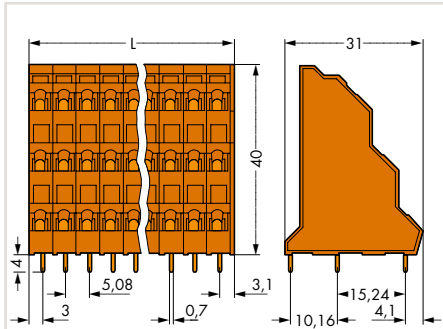
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5.08 mm 737 Series

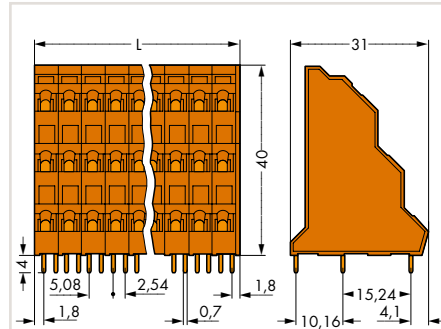


Dimensions (in mm):

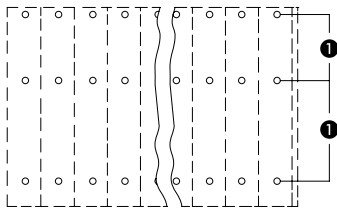


$$L = (\text{pole no.} \times \text{pin spacing}) + 1 \text{ mm}$$

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 1 \text{ mm}$$

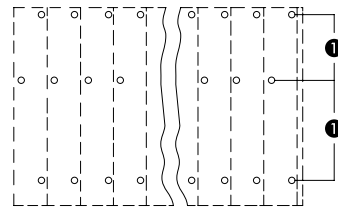


Solder pins in line

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins in line, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-302	92
3 x 3	737-303	64
3 x 4	737-304	48
3 x 6	737-306	32
3 x 8	737-308	24
3 x 12	737-312	16
3 x 16	737-316	12
3 x 24	737-324	8



Solder pins for deck 2 staggered by half the pin spacing

- ① Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins for deck 2 staggered by half the pin spacing, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-402	92
3 x 3	737-403	64
3 x 4	737-404	48
3 x 6	737-406	32
3 x 8	737-408	24
3 x 12	737-412	16
3 x 16	737-416	12
3 x 24	737-424	8

Available upon request (depending on quantity required):

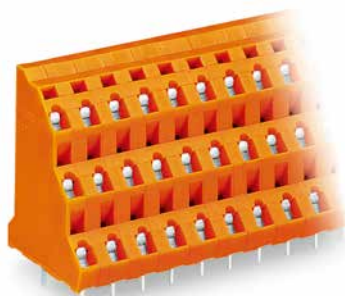
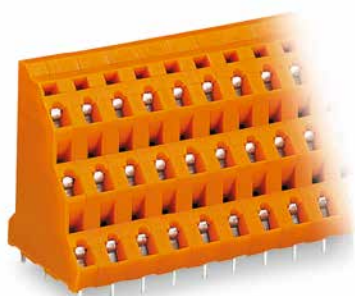
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Triple-Deck PCB Terminal Strips, 2.5 mm²

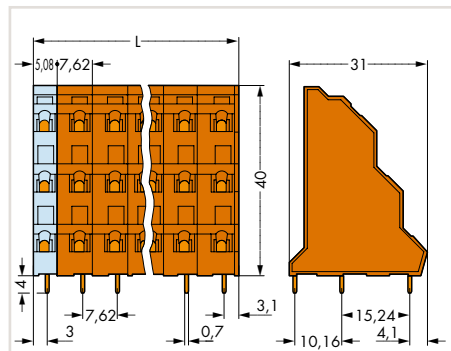
Pin Spacing: 7.62 mm

737 Series

1

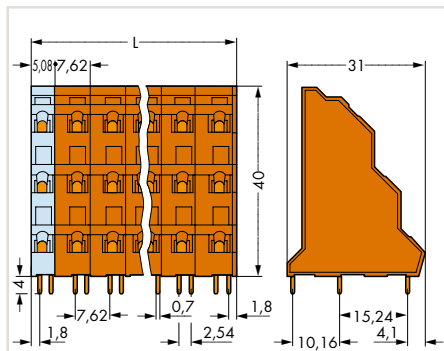


Dimensions (in mm):

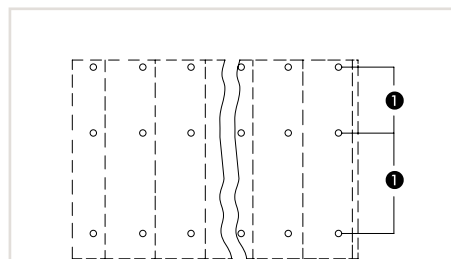


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm} + 1 \text{ mm}$$

Dimensions (in mm):

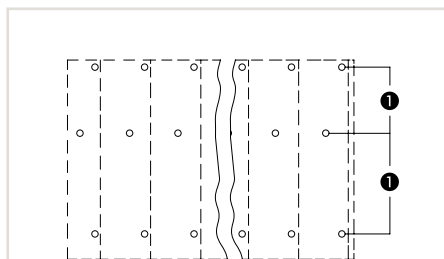


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm} + 1 \text{ mm}$$



Solder pins in line

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)



Solder pins for deck 2 staggered by half the pin spacing

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins in line, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-602	76
3 x 3	737-603	48
3 x 4	737-604	36
3 x 6	737-606	20
3 x 8	737-608	16
3 x 12	737-612	8
3 x 16	737-616	8

Triple-deck PCB terminal strip, 3 solder pins for deck 2 staggered by half the pin spacing, orange, 7.62 mm (0.3 inch) pin spacing

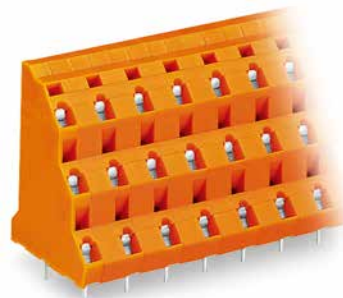
Pole No.	Item No.	Pack. Unit
3 x 2	737-652	76
3 x 3	737-653	48
3 x 4	737-654	36
3 x 6	737-656	20
3 x 8	737-658	16
3 x 12	737-662	8
3 x 16	737-666	8

Available upon request (depending on quantity required):

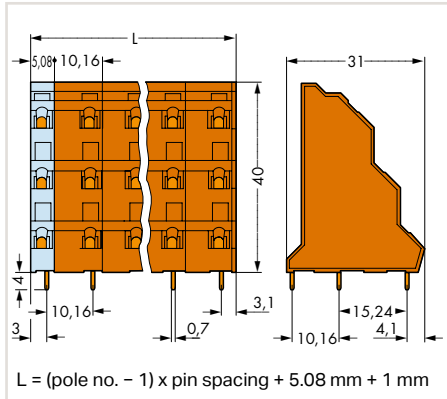
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Triple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 10.16 mm 737 Series

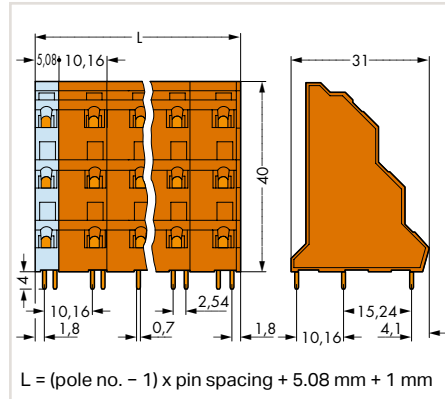
1



Dimensions (in mm):



Dimensions (in mm):



Solder pins in line

ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Solder pins for deck 2 staggered by half the pin spacing

ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Triple-deck PCB terminal strip, 3 solder pins in line, orange, 10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-802	64
3 x 3	737-803	40
3 x 4	737-804	28
3 x 6	737-806	16
3 x 8	737-808	12
3 x 12	737-812	8

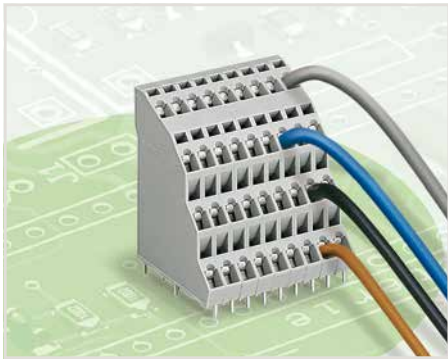
Triple-deck PCB terminal strip, 3 solder pins for deck 2 staggered by half the pin spacing, orange, 10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3 x 2	737-852	64
3 x 3	737-853	40
3 x 4	737-854	28
3 x 6	737-856	16
3 x 8	737-858	12
3 x 12	737-862	8

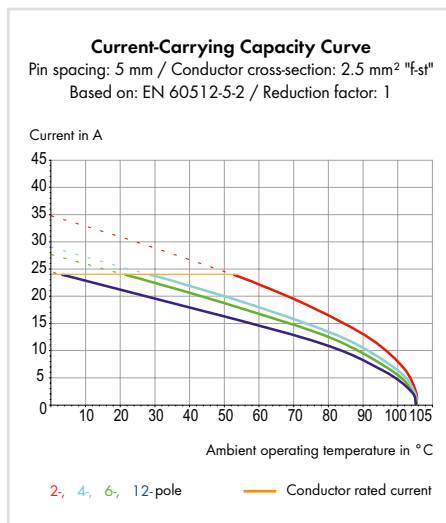
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Quadruple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 738 Series



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- High-density, quadruple-deck design for space-efficient wiring of multiple conductors in confined areas
- Angled conductor entry and CAGE CLAMP® actuation streamline operation
- Custom marking for all termination levels
- PCB terminal strips with commoning strips for potential distribution, see page 77



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	18 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	10 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

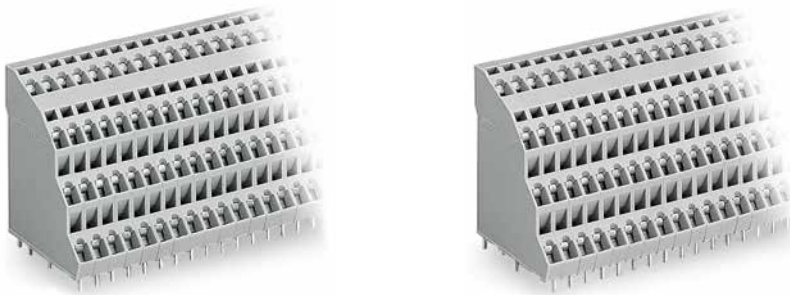
Commoning strips, see page 75

Test plug modules, see page 220

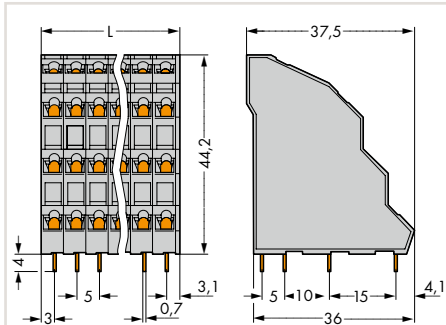
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Quadruple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 738 Series

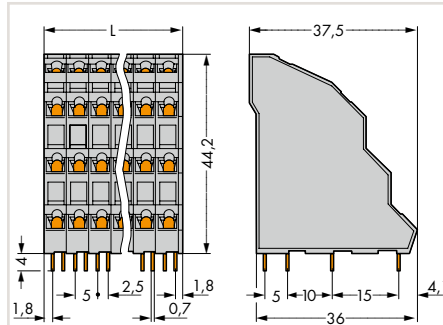


Dimensions (in mm):

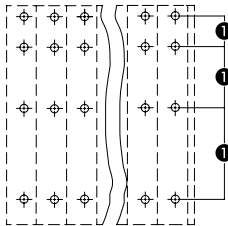


$$L = (\text{pole no.} \times \text{pin spacing}) + 1 \text{ mm}$$

Dimensions (in mm):

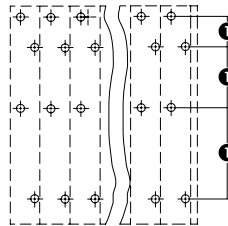


$$L = (\text{pole no.} \times \text{pin spacing}) + 1 \text{ mm}$$



Solder pins in line

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)



Solder pins for deck 2 and 4 staggered by half the pin spacing

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Quadruple-deck PCB terminal strip, 4 solder pins in line, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 x 2	738-102	72
4 x 3	738-103	48
4 x 4	738-104	36
4 x 6	738-106	24
4 x 8	738-108	18
4 x 12	738-112	12
4 x 16	738-116	9
4 x 24	738-124	6

Quadruple-deck PCB terminal strip, 4 solder pins for deck 2 staggered by half the pin spacing, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 x 2	738-202	72
4 x 3	738-203	48
4 x 4	738-204	36
4 x 6	738-206	24
4 x 8	738-208	18
4 x 12	738-212	12
4 x 16	738-216	9
4 x 24	738-224	6

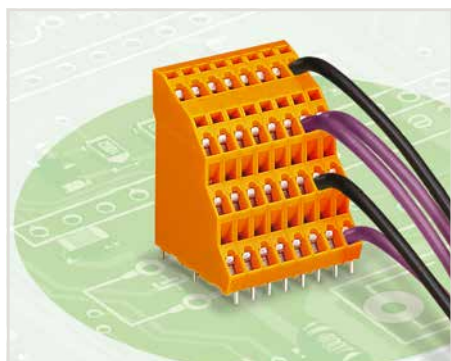
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

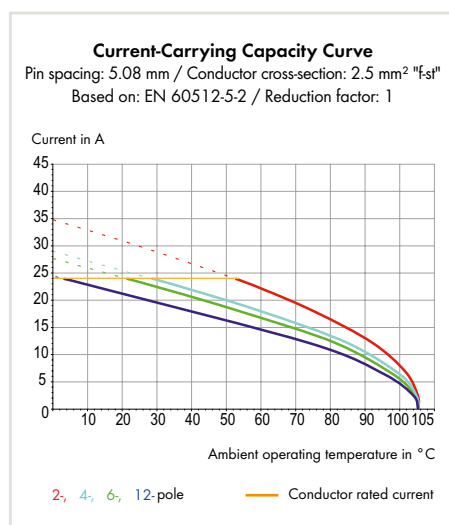
Quadruple-Deck PCB Terminal Strips, 2.5 mm²

Pin Spacing: 5.08 mm

738 Series



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- High-density, quadruple-deck design for space-efficient wiring of multiple conductors in confined areas
- Custom marking for all termination levels
- PCB terminal strips with commoning strips for potential distribution, see page 77



Electrical Data for Pin Spacing

Ratings per*	5.08 mm / 0.2 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	18 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	10 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

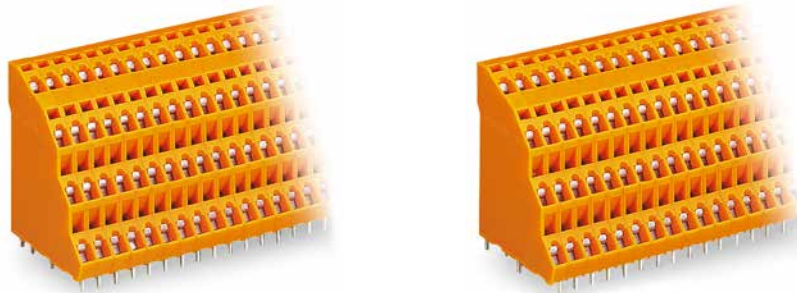
Commoning strips, see page 75

Test plug modules, see page 220

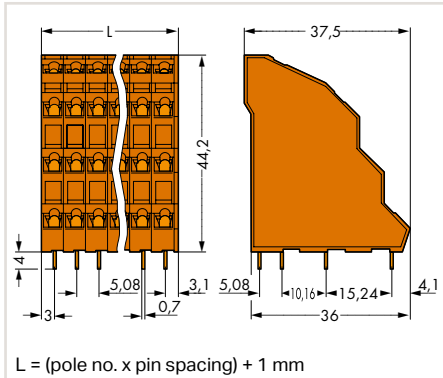
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

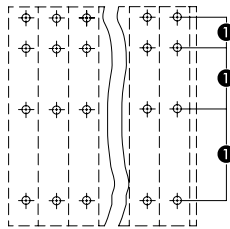
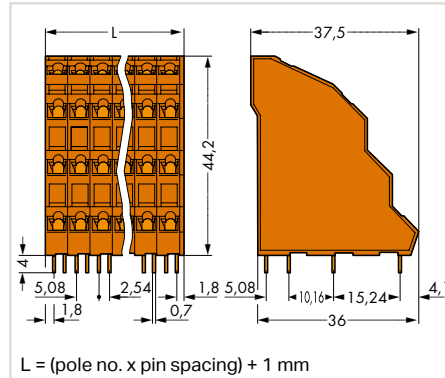
Quadruple-Deck PCB Terminal Strips, 2.5 mm² Pin Spacing: 5.08 mm 738 Series



Dimensions (in mm):

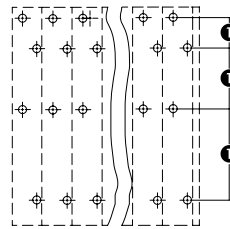


Dimensions (in mm):



Solder pins in line

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)



Solder pins for deck 2 and 4 staggered by half the pin spacing

- ⓘ Voltage rating between adjacent poles:
320 V/4 kV (III / 3)
320 V/4 kV (III / 2)
630 V/4 kV (II / 2)

Quadruple-deck PCB terminal strip, 4 solder pins in line, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 x 2	738-302	69
4 x 3	738-303	48
4 x 4	738-304	36
4 x 6	738-306	24
4 x 8	738-308	18
4 x 12	738-312	12
4 x 16	738-316	9
4 x 24	738-324	6

Quadruple-deck PCB terminal strip, 4 solder pins for deck 2 and 4 staggered by half the pin spacing, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 x 2	738-402	72
4 x 3	738-403	48
4 x 4	738-404	36
4 x 6	738-406	24
4 x 8	738-408	18
4 x 12	738-412	12
4 x 16	738-416	9
4 x 24	738-424	6

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Combination of Multilevel PCB Terminal Strips 736, 737 and 738 Series

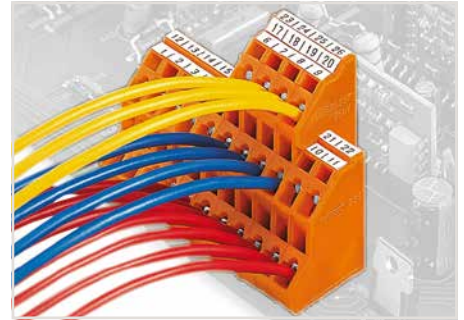
1



Possible combination:
Double- (736 Series) and triple-deck PCB terminal strips (737 Series) upon request



Possible combination:
Double- (736 Series) and triple-deck PCB terminal strips (737 Series) upon request



Possible combination:
Double- (737 Series) and quadruple-deck PCB terminal strips (738 Series) upon request



Possible combination:
Double- (737 Series) and quadruple-deck PCB terminal strips (738 Series) upon request

Commoning Strips for PCB Terminal Strips 236, 255, 256, 257, 736, 737 and 738 Series

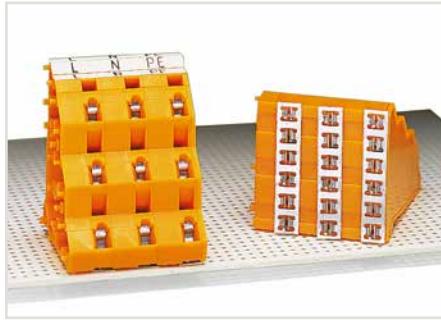


Horizontal commoning:

Connect adjacent potentials, e.g., as:

- "-" strip in connection modules for actuators with higher switching power
- Ground commoning strip for applications where the ground conductor shall not be looped over PCB tracks (max. short-time withstand current: 70 A/mm² for one second – observe the normative requirements of the end application!)

Note: Interruption of horizontal commoning reduces spacing to the adjacent solder pins.



Vertical commoning (only for 736 and 737 Series starting from 7.5 mm/0.295 inch pin spacing):

Connect the (in-line) solder pins of a PCB terminal block to one potential, e.g., as:

- 3-conductor supply and distribution PCB terminal block (up to 10 A)
- Intelligent circuit modifications without changing the track layout are also possible.

WAGO's commoning strips allow PCB terminal strips to be commoned to suit customer requirements.

Due to the many combination possibilities, the commoning strips can only be fitted onto the solder pins at the factory. Please refer to the order form on pages 1.70 and 1.71.

Furthermore, these commoning strips allow terminal blocks of a same potential to be created.

Commoning strips are available for the following pin spacing:

- 5 mm, 5.08 mm (up to 20 poles)
- 7.5 mm, 7.62 mm (up to 16 poles)
- 10 mm, 10.16 mm (up to 12 poles)

A spacer provides height compensation for the solder pins that are not commoned.

Order Form "Commoned PCB Terminal Strips"

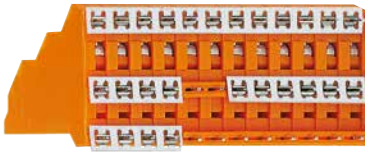
236, 255, 256, 257, 736
737, 738 Series

Company: _____
 Drawing No.: _____
 WAGO Item No.: _____

Change	5			
	4			
	3			
	2			
	1			
Original	Change Note	Date	Name	

Page of _____
 Release Note: _____

Ordering example: Horizontal commoning



Alert: Bei Klemmenleisten mit gemischten Rastermaßen ist für jede Einzelklemme Anschlussstand Pos. einzutragen.

Anschlussstand Pos.	Hersteller:	Rastermaß [mm]	Brückungsbild				Beschriftung	
			B = Brücke					
			Stockwerk					
1	2	3	4	1	2	3	4	
1								
2								
3								
4								
5	737-312	5						
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								

Längsbrückung
 Querbrückung
 Klemmenkennzeichnung in Leserichtung
 1 4 7 10 13 16 19 22 25 28 31 34
 2 5 8 11 14 17 20 23 26 29 32 35
 3 6 9 12 15 18 21 24 27 30 33 36

Ordering example: Vertical commoning

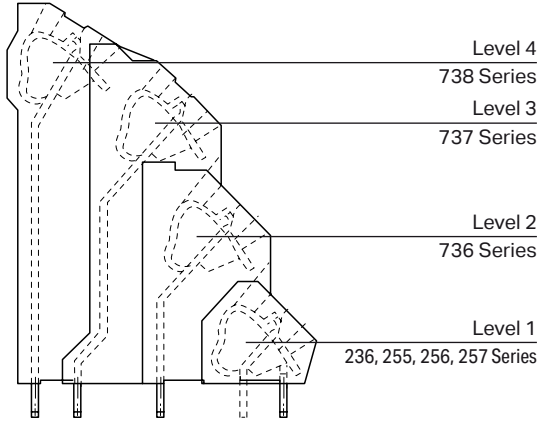


Alert: Bei Klemmenleisten mit gemischten Rastermaßen ist für jede Einzelklemme Anschlussstand Pos. einzutragen.

Anschlussstand Pos.	Hersteller:	Rastermaß [mm]	Brückungsbild				Beschriftung	
			B = Brücke					
			Stockwerk					
1	2	3	4	1	2	3	4	
1								
2								
3								
4								
5	737-505	7,5						
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								

Längsbrückung
 Querbrückung
 Klemmenkennzeichnung in Leserichtung
 1 2 3 4 5
 6 7 8 9 10
 11 12 13 14 15

Terminal strip design



Spacers are always installed at the factory. For mixed-pin-spacing terminal strips, enter the pin spacing, not the item number of each individual terminal block.

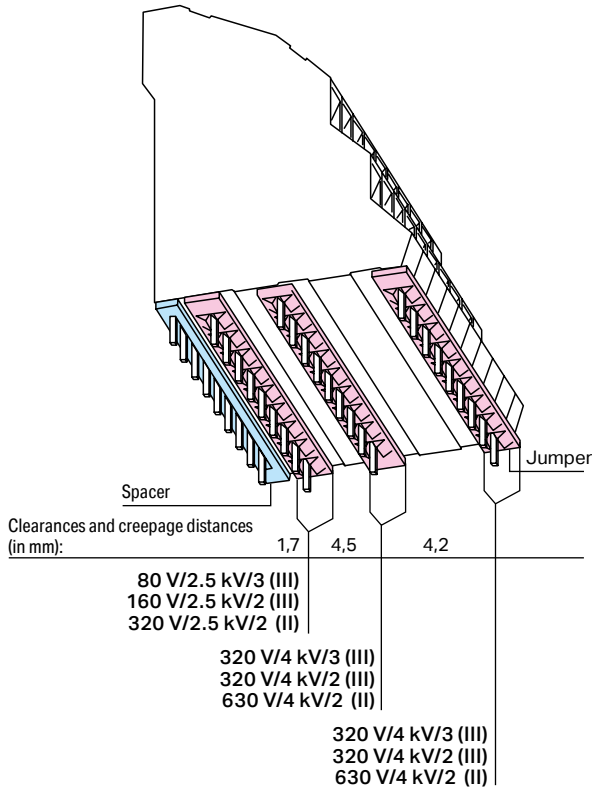
Item Changed	Item Position	Item No.	Pin Spacing (mm)	Commoning				Marking			
				B = Jumper							
				Level							
				4	3	2	1	4	3	2	1
End plate: for 736, 737, 738 Series				Vertical commoning <input type="checkbox"/>				Terminal block marking in read direction <input type="checkbox"/>			
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
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18											
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22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											

End plate: for 236, 255, 256, 257 Series

Technical Information on "Commoned PCB Terminal Strips"

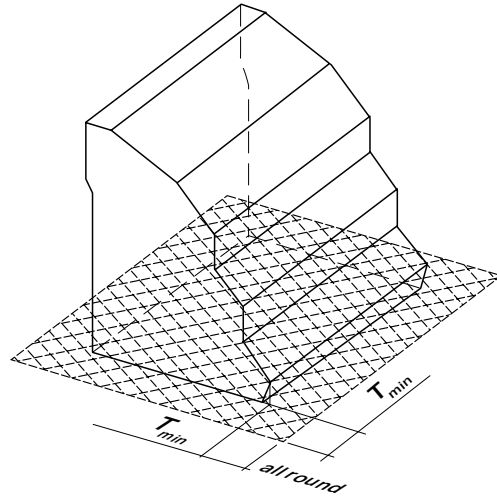
Use of commoning strips must account for both the specific conditions of the planned application, as well as relevant standards for the normal operating conditions in which operational failures (can) occur.

Horizontal commoning (236, 255, 256, 257, 736, 737, 738 Series)



- Pin spacing combination is only possible with 5 mm, 5.08 mm, 10 mm and 10.16 mm.
- In-line or staggered arrangement of solder pins (736, 737, 738 Series).
- 236 Series: Versions with only one solder pin cannot be commoned.
- In case of different potentials within one level, ensure that at least one interim terminal block must remain uncommoned in order to maintain the necessary creepage distances and clearances (see also the ordering example).

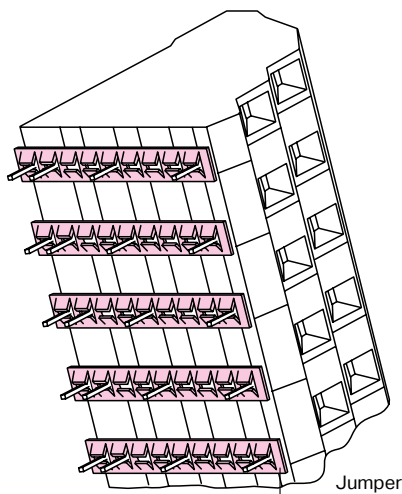
Distances to adjacent potentials



Recommendation: $T_{min} = 5 \text{ mm}$

Please note that the distance between the commoning strips and adjacent potentials must comply with requirements for the end application as specified in the relevant standard.

Vertical commoning (only possible with 736/737 Series Multilevel PCB Terminal Blocks)



Pin spacing:	Creepage distance (in mm):	Clearance (in mm):	Voltage:
7.5 mm, 7.62 mm	1,7	1,7	80 V/2.5 kV/3 (III)
	1,7	1,7	160 V/2.5 kV/2 (III)
			320 V/2.5 kV/2 (II)
10 mm, 10.16 mm	4,2	4,2	320 V/4 kV/3 (III)
	4,2	4,2	320 V/4 kV/2 (III)
			630 V/4 kV/2 (II)

- Not possible with 5 mm and 5.08 mm pin spacing
- Solder pins always arranged in line

PCB Terminal Strips, 1.5 mm², Press-In Technology

Pin Spacing: 3.5 mm

739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping
- Press-in technology saves costs – no additional soldering process required

Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	4 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	4 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	4 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.0 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²


Press-In Pin Data


Press-pin length	3.1 mm
Press-in pin width	0.6 x 1.2 mm
Drilled hole diameter	1.15 ^{+0.025} mm
Plated through-hole diameter (HAL Sn)	1.0 ^{+0.02} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1.0 ^{+0.02} _{-0.00} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-40 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu}) alloy for press-in technology
Contact plating	Tin-plated


*(III / 2) ≙ Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

 Screws, see page 610

 Additional technical information, see Section 13

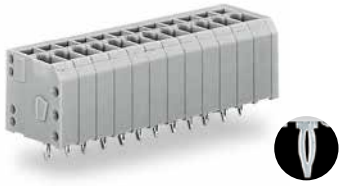
 Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips, 1.5 mm², Press-In Technology

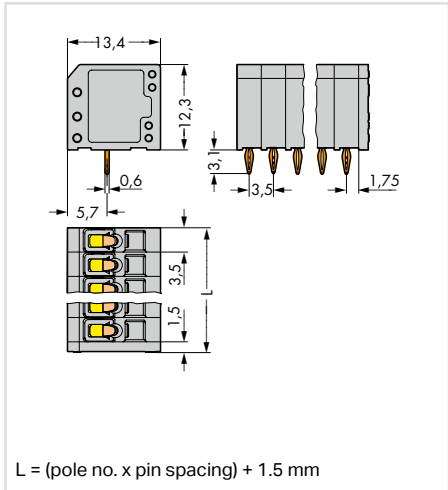
Pin Spacing: 3.5 mm

739 Series

1



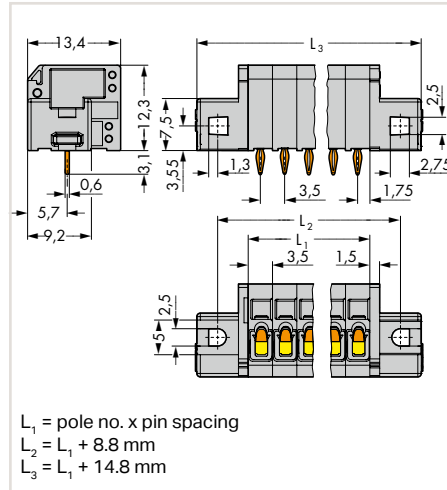
Dimensions (in mm):



PCB terminal strip, 1 press-in pin/pole, gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	739-303/100-000	400 (100)
4	739-304/100-000	300 (75)
5	739-305/100-000	240 (60)
6	739-306/100-000	200 (50)
7	739-307/100-000	180 (45)
8	739-308/100-000	160 (40)
9	739-309/100-000	140 (35)
10	739-310/100-000	120 (30)
12	739-312/100-000	100 ()

Dimensions (in mm):



PCB terminal strip with mounting flanges, 1 press-in pin/pole, gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-302/100-000/001-000	220 (55)
3	739-303/100-000/001-000	180 (45)
4	739-304/100-000/001-000	160 (40)
5	739-305/100-000/001-000	140 (35)
6	739-306/100-000/001-000	120 (30)
7	739-307/100-000/001-000	120 (30)
8	739-308/100-000/001-000	100 (25)
9	739-309/100-000/001-000	100 (25)
10	739-310/100-000/001-000	80 (20)
12	739-312/100-000/001-000	80 (20)

Unique features of WAGO press-in technology:

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameter
 -1.0 or 1.45^{+0.08} mm (HAL Sn)
 -1.0 or 1.45^{+0.08} mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 mm to 3 mm
- Press-in length of approx. 3.2 mm – no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robust bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area ≥ 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

Available upon request (depending on quantity required):

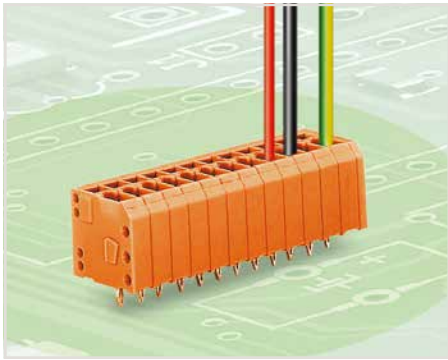
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 1.5 mm², Press-In Technology

Pin Spacing: 3.81 mm

739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping
- Press-in technology saves costs – no additional soldering process required

Electrical Data for Pin Spacing

	3.81 mm / 0.15 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	4 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	4 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	4 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.0 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²


Press-In Pin Data


Press-pin length	3.1 mm
Press-in pin width	0.6 x 1.6 mm
Drilled hole diameter	1.15 ^{+0.025} mm
Plated through-hole diameter (HAL Sn)	1.0 ^{+0.02} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1.0 ^{+0.02} _{-0.00} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-40 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu}) alloy for press-in technology
Contact plating	Tin-plated


*(III / 2) ≙ Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

 Screws, see page 610

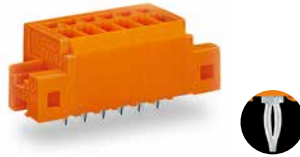
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips, 1.5 mm², Press-In Technology

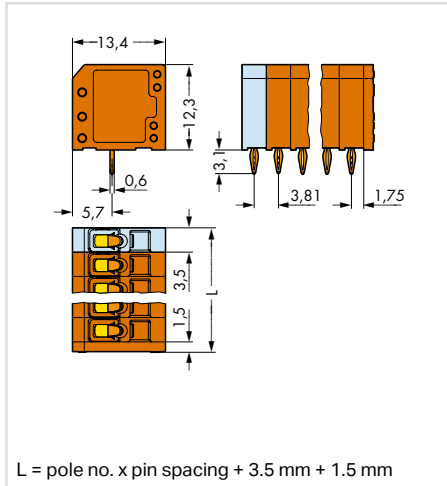
Pin Spacing: 3.81 mm

739 Series



1

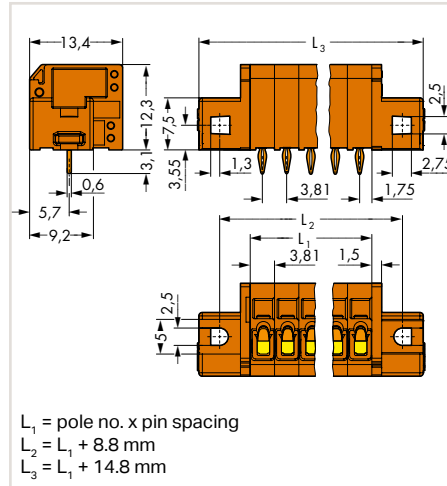
Dimensions (in mm):



PCB terminal strip, 1 press-in pin/pole, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	739-333/100-000	360 (90)
4	739-334/100-000	280 (70)
5	739-335/100-000	220 (55)
6	739-336/100-000	180 (45)
7	739-337/100-000	160 (40)
8	739-338/100-000	140 (35)
9	739-339/100-000	120 (30)
10	739-340/100-000	120 (30)
12	739-342/100-000	100 (25)

Dimensions (in mm):



PCB terminal strip with mounting flanges, 1 press-in pin/pole, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-332/100-000/001-000	200 (50)
3	739-333/100-000/001-000	180 (45)
4	739-334/100-000/001-000	160 (40)
5	739-335/100-000/001-000	140 (35)
6	739-336/100-000/001-000	120 (30)
7	739-337/100-000/001-000	100 (25)
8	739-338/100-000/001-000	100 (25)
9	739-339/100-000/001-000	80 (20)
10	739-340/100-000/001-000	80 (20)
12	739-342/100-000/001-000	60 (15)

Unique features of WAGO press-in technology:

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameter
 - 1.0 or 1.45 \pm 0.08 mm (HAL Sn)
 - 1.0 or 1.45 \pm 0.08 mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 mm to 3 mm
- Press-in length of approx. 3.2 mm
 - no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robust bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area $\geq 1.3 \text{ mm}$
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 2.5 mm², Press-In Technology

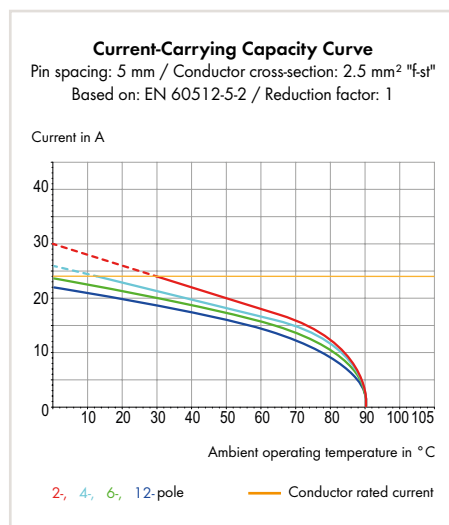
Pin Spacing: 5 mm, 5.08 mm

739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping
- Press-in technology saves costs – no additional soldering process required



Electrical Data for Pin Spacing

	5 mm / 0.197 inch	5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	250 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	8 A	8 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	8 A	8 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	8 A	8 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Press-In Pin Data

Press-pin length	3.1 mm
Press-in pin width	0.8 x 1.6 mm
Drilled hole diameter	1.6 ^{+0.025} mm
Plated through-hole diameter (HAL Sn)	1.45 ^{+0.09} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1.45 ^{+0.09} _{-0.06} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-40 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu}) alloy for press-in technology
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Screws, see page 610

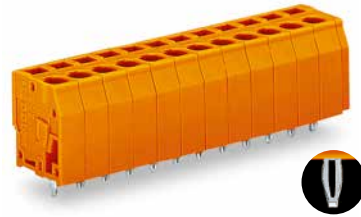
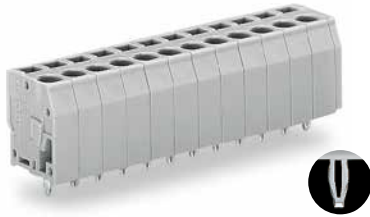
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips, 2.5 mm², Press-In Technology

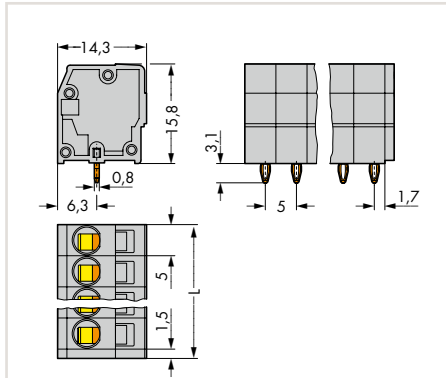
Pin Spacing: 5 mm, 5.08 mm

739 Series



1

Dimensions (in mm):

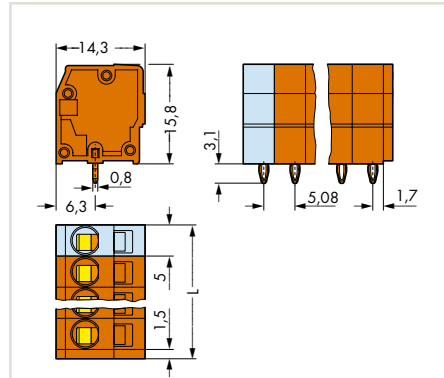


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 1 press-in pin/pole, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	739-103/100-000	280 (70)
4	739-104/100-000	220 (55)
5	739-105/100-000	180 (45)
6	739-106/100-000	140 (35)
7	739-107/100-000	120 (30)
8	739-108/100-000	100 (25)
9	739-109/100-000	100 (25)
10	739-110/100-000	80 (20)
12	739-112/100-000	60 (15)

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip, 1 press-in pin/pole, orange,
5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	739-153/100-000	280 (70)
4	739-154/100-000	220 (55)
5	739-155/100-000	160 (40)
6	739-156/100-000	140 (35)
7	739-157/100-000	120 (30)
8	739-158/100-000	100 (25)
9	739-159/100-000	100 (25)
10	739-160/100-000	80 (20)
12	739-162/100-000	60 (15)

Unique features of WAGO press-in technology:

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameter
–1.0 or 1.45^{+0.05} mm (HAL Sn)
–1.0 or 1.45^{+0.05} mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 mm to 3 mm
- Press-in length of approx. 3.2 mm
– no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robust bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area ≥ 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 2.5 mm², Press-In Technology

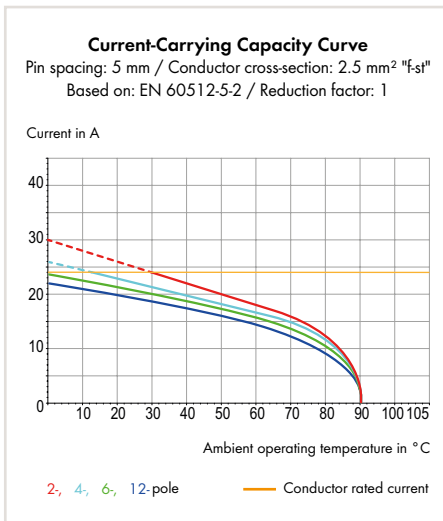
Pin Spacing: 7.5 mm, 7.62 mm

739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping
- Press-in technology saves costs – no additional soldering process required



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch	7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	500 V
Rated surge voltage (III / 3)	6 kV	6 kV
Rated voltage (III / 2)	630 V	630 V
Rated surge voltage (III / 2)	6 kV	6 kV
Rated voltage (II / 2)	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	6 kV
Rated current	8 A	8 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	8 A	8 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	8 A	8 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²


Press-In Pin Data


Press-pin length	3.1 mm
Press-in pin width	0.8 x 1.2 mm
Drilled hole diameter	1.6 ^{+0.025} mm
Plated through-hole diameter (HAL Sn)	1.45 ^{+0.09} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1.45 ^{+0.09} _{-0.06} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu}) alloy for press-in technology
Contact plating	Tin-plated


*(III / 2) ± Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

 Screws, see page 610

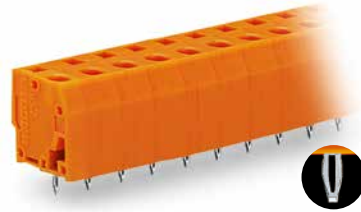
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips, 2.5 mm², Press-In Technology

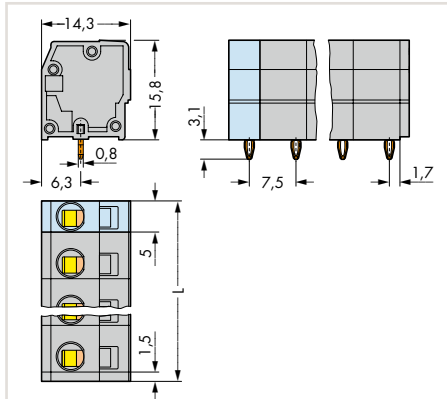
Pin Spacing: 7.5 mm, 7.62 mm

739 Series



1

Dimensions (in mm):

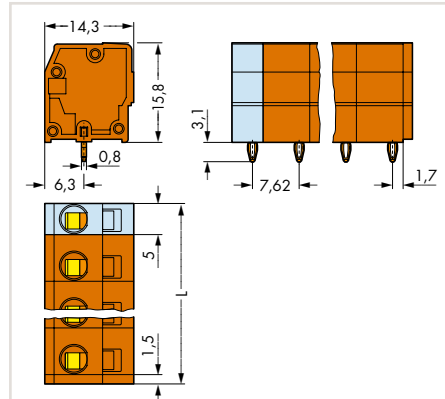


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 1 press-in pin/pole, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	739-203/100-000	220 (55)
4	739-204/100-000	160 (40)
5	739-205/100-000	120 (30)
6	739-206/100-000	100 (25)
7	739-207/100-000	80 (20)
8	739-208/100-000	80 (20)
9	739-209/100-000	60 (15)
10	739-210/100-000	60 (15)
12	739-212/100-000	40 (10)

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip, 1 press-in pin/pole, orange,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	739-233/100-000	220 (55)
4	739-234/100-000	160 (40)
5	739-235/100-000	120 (30)
6	739-236/100-000	100 (25)
7	739-237/100-000	80 (20)
8	739-238/100-000	80 (20)
9	739-239/100-000	60 (15)
10	739-240/100-000	60 (15)
12	739-242/100-000	40 (10)

Unique features of WAGO press-in technology:

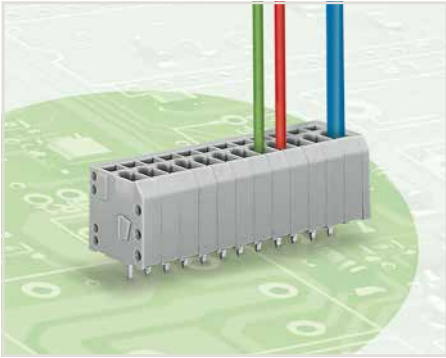
- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
 - Metal-plated hole with optimum diameter
 - 1.0 or 1.45^{+0.08} mm (HAL Sn)
 - 1.0 or 1.45^{+0.08} mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 mm to 3 mm
- Press-in length of approx. 3.2 mm
 - no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robust bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area ≥ 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 1.5 mm² Pin Spacing: 3.5 mm 739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping

Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	17.5 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	6 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	6 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.0 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²


Solder Pin Data


Solder pin length	3.4 mm
Solder pin dimensions	0.6 x 0.8 mm
Drilled hole diameter	1.1 ^{+0.1} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

 Marking accessories,
see page 604

 Operating tools,
see page 588

 Screws,
see page 610

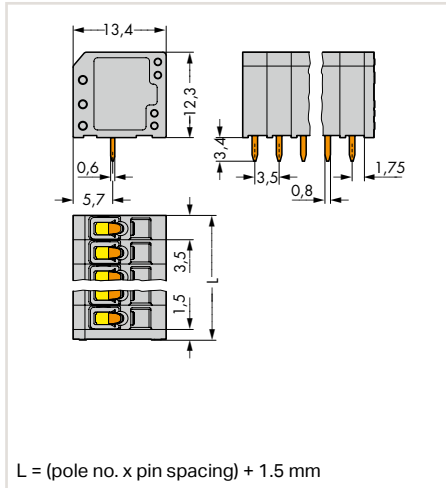
 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 1.5 mm² Pin Spacing: 3.5 mm 739 Series



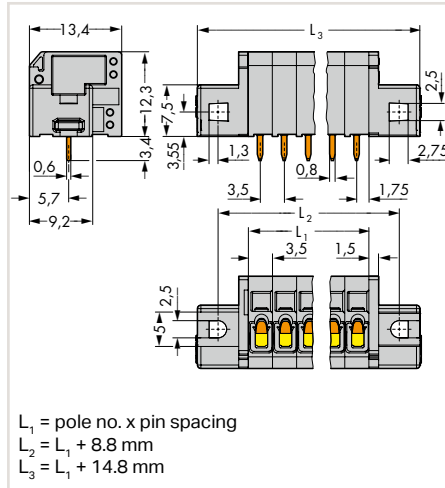
Dimensions (in mm):



PCB terminal strip, 1 solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-302	560 (140)
3	739-303	400 (100)
4	739-304	300 (75)
5	739-305	240 (60)
6	739-306	200 (50)
7	739-307	180 (45)
8	739-308	160 (40)
9	739-309	140 (35)
10	739-310	120 (30)
12	739-312	100 (25)

Dimensions (in mm):



PCB terminal strip with mounting flanges,
1 solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

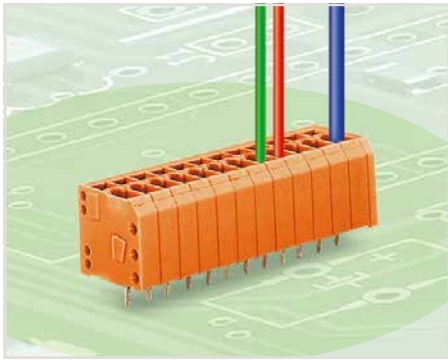
Pole No.	Item No.	Pack. Unit
2	739-302/001-000	220 (55)
3	739-303/001-000	180 (45)
4	739-304/001-000	160 (40)
5	739-305/001-000	140 (35)
6	739-306/001-000	120 (30)
7	739-307/001-000	120 (30)
8	739-308/001-000	100 (25)
9	739-309/001-000	100 (25)
10	739-310/001-000	80 (20)
12	739-312/001-000	80 (20)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 1.5 mm² Pin Spacing: 3.81 mm 739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping

Electrical Data for Pin Spacing	3.81 mm / 0.15 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	200 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	500 V
Rated surge voltage (II / 2)	4 kV
Rated current	17.5 A
Approvals per	UL 1059
Rated voltage (Use Group B)	300 V
Rated current UL (Use Group B)	6 A
Rated voltage (Use Group D)	300 V
Rated current UL (Use Group D)	6 A
Connection Data	
Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG (14: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.0 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²
Solder Pin Data	
Solder pin length	3.4 mm
Solder pin dimensions	0.6 x 0.8 mm
Drilled hole diameter	1.1 ^{+0.1} mm
Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

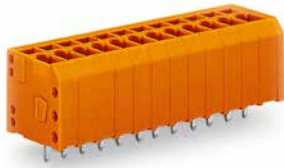
Operating tools,
see page 588

Screws,
see page 610

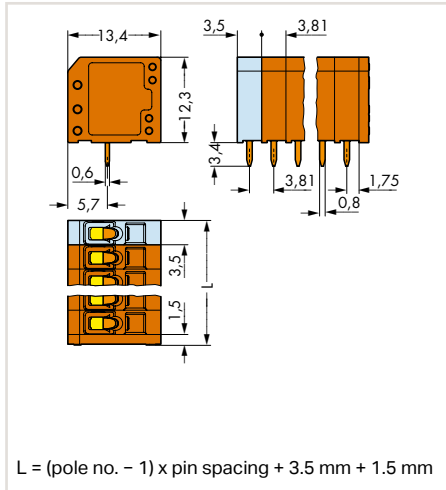
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 1.5 mm² Pin Spacing: 3.81 mm 739 Series



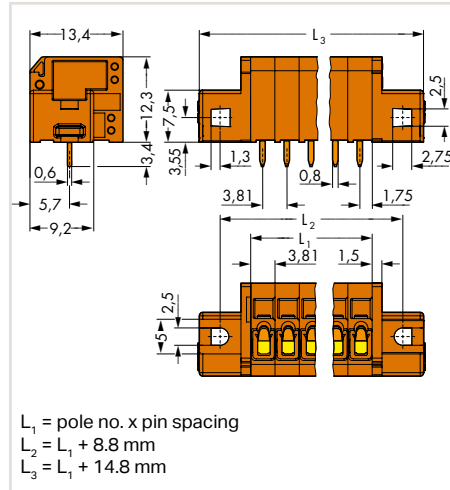
Dimensions (in mm):



PCB terminal strip, 1 solder pin/pole, orange,
3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-332	520 (130)
3	739-333	360 (90)
4	739-334	280 (70)
5	739-335	220 (55)
6	739-336	180 (45)
7	739-337	160 (40)
8	739-338	140 (35)
9	739-339	120 (30)
10	739-340	120 (30)
12	739-342	100 (25)

Dimensions (in mm):



PCB terminal strip with mounting flanges,
1 solder pin/pole, orange,
3.81 mm (0.15 inch) pin spacing

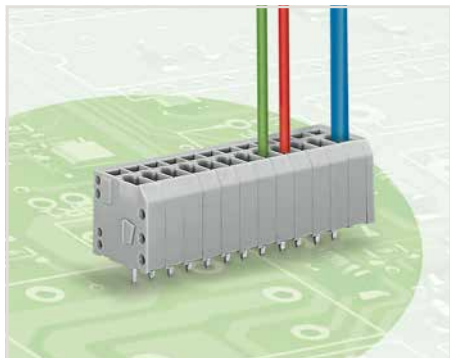
Pole No.	Item No.	Pack. Unit
2	739-332/001-000	200 (50)
3	739-333/001-000	180 (45)
4	739-334/001-000	160 (40)
5	739-335/001-000	140 (35)
6	739-336/001-000	120 (30)
7	739-337/001-000	100 (25)
8	739-338/001-000	100 (25)
9	739-339/001-000	80 (20)
10	739-340/001-000	80 (20)
12	739-342/001-000	60 (15)

Available upon request (depending on quantity required):

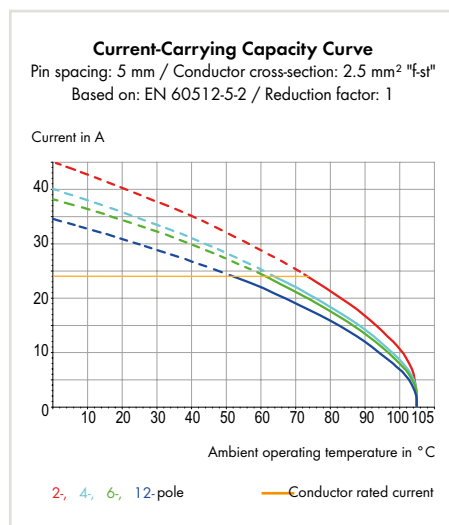
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm, 5.08 mm 739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping



Electrical Data for Pin Spacing

	5 mm / 0.197 inch	5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	24 A	24 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	12 A	12 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	12 A	12 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	3.2 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.6 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

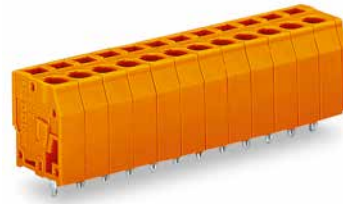
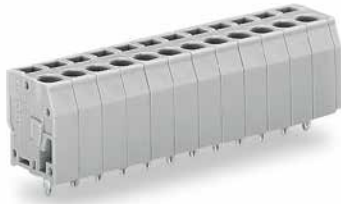
Operating tools,
see page 588

Screws,
see page 610

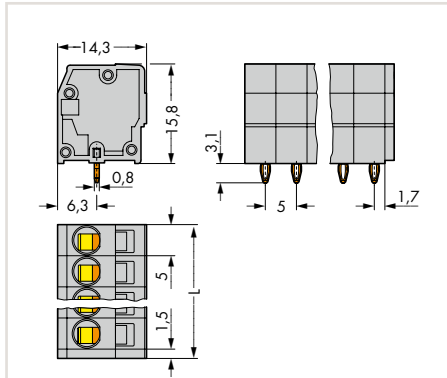
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm, 5.08 mm 739 Series



Dimensions (in mm):

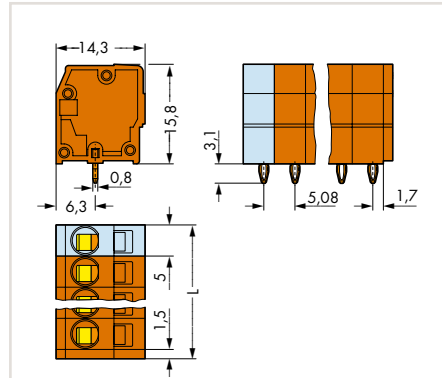


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 1 solder pin/pole, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-102	400 (100)
3	739-103	280 (70)
4	739-104	220 (55)
5	739-105	180 (45)
6	739-106	140 (35)
7	739-107	120 (30)
8	739-108	100 (25)
9	739-109	100 (25)
10	739-110	80 (20)
12	739-112	60 (15)
16	739-116	40 (10)
24	739-124	20 (5)

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip, 1 solder pin/pole, orange,
5.08 mm (0.2 inch) pin spacing

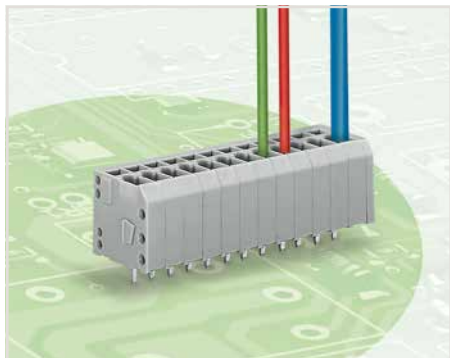
Pole No.	Item No.	Pack. Unit
2	739-152	400 (100)
3	739-153	280 (70)
4	739-154	220 (55)
5	739-155	160 (40)
6	739-156	140 (35)
7	739-157	120 (30)
8	739-158	100 (25)
9	739-159	100 (25)
10	739-160	80 (20)
12	739-162	60 (15)
16	739-166	40 (10)
24	739-174	20 (5)

Available upon request (depending on quantity required):

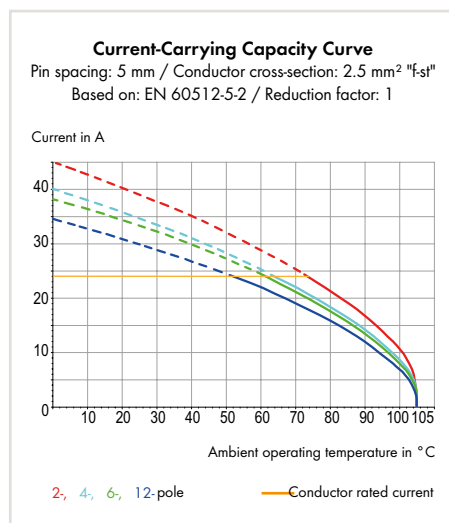
- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.5 mm, 7.62 mm, 10 mm 739 Series

1



- PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- Vertical conductor entry and operating direction for space-saving positioning/grouping



Electrical Data for Pin Spacing

	7.5 mm 0.295 inch	7.62 mm 0.3 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	500 V	1000 V
Rated surge voltage (III / 3)	6 kV	6 kV	8 kV
Rated voltage (III / 2)	630 V	630 V	1000 V
Rated surge voltage (III / 2)	6 kV	6 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	6 kV	8 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	12 A	12 A	12 A
Rated voltage UL (Use Group C)			300 V
Rated current UL (Use Group C)			12 A
Rated voltage UL (Use Group D)	300 V	300 V	600 V
Rated current UL (Use Group D)	10 A	10 A	5 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	12 A	8 A	12 A
Rated voltage CSA (Use Group C)			300 V
Rated current CSA (Use Group C)			12 A
Rated voltage CSA (Use Group D)	300 V	300 V	600 V
Rated current CSA (Use Group D)	10 A	8 A	5 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	3.2 mm
Solder pin dimensions	0.8 x 1.2 mm
Drilled hole diameter	1.6 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

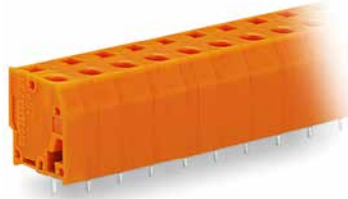
Operating tools,
see page 588

Screws,
see page 610

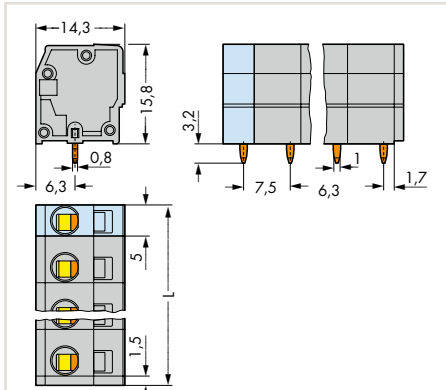
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 7.5 mm, 7.62 mm, 10 mm 739 Series



Dimensions (in mm):

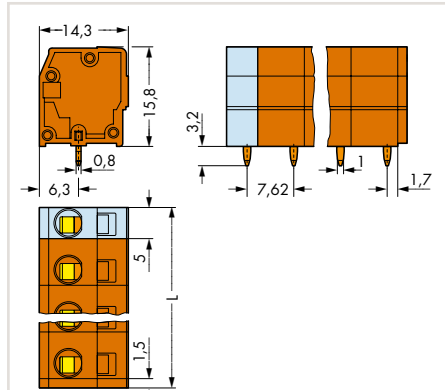


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip, 1 solder pin/pole, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-202	340 (85)
3	739-203	220 (55)
4	739-204	160 (40)
5	739-205	120 (30)
6	739-206	100 (25)
7	739-207	80 (20)
8	739-208	80 (20)
9	739-209	60 (15)
10	739-210	60 (15)
12	739-212	40 (10)

Dimensions (in mm):

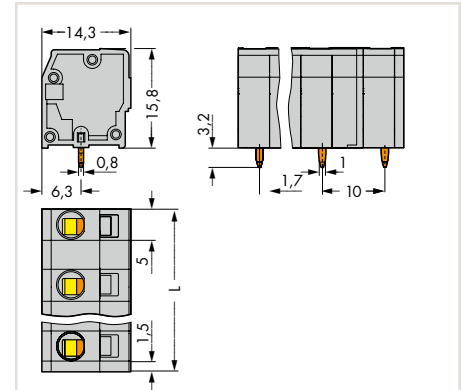


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip, 1 solder pin/pole, orange,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	739-232	340 (85)
3	739-233	220 (55)
4	739-234	160 (40)
5	739-235	120 (30)
6	739-236	100 (25)
7	739-237	80 (20)
8	739-238	80 (20)
9	739-239	60 (15)
10	739-240	60 (15)
12	739-242	40 (10)

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip, 1 solder pin/pole, gray,
10 mm (0.394 inch) pin spacing

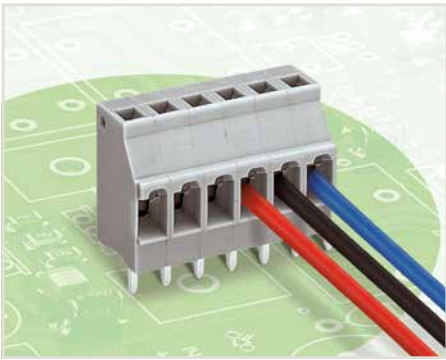
Pole No.	Item No.	Pack. Unit
2	739-3202	280 (70)
3	739-3203	180 (45)
4	739-3204	120 (30)
5	739-3205	100 (25)
6	739-3206	80 (20)
7	739-3207	60 (15)
8	739-3208	60 (15)
9	739-3209	40 (10)
10	739-3210	40 (10)
11	739-3211	40 (10)
12	739-3212	40 (10)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 740 Series


1





- PCB terminal strips with CAGE CLAMP® connection and top-of-unit screwdriver actuation
- Pin and dimensions compatible with screw-type terminal blocks of similar design
- PCB terminal strips may be positioned adjacently without losing any poles


Electrical Data for Pin Spacing	5 mm / 0.197 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	300 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	16 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A
Connection Data	
Connection technology	CAGE CLAMP®
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.0 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²
Solder Pin Data	
Solder pin length	5.1 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.3 ^{+0.1} mm
Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

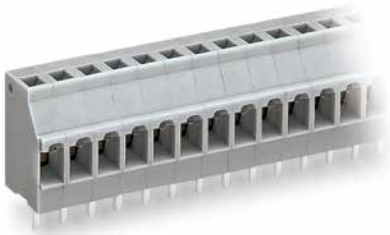
 Marking accessories,
see page 604

 Operating tools,
see page 588

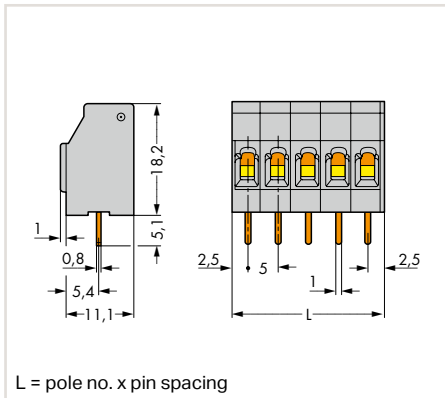
 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5 mm 740 Series



Dimensions (in mm):



PCB terminal strip, 1 solder pin/pole, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	740-102	460 (115)
3	740-103	300 (75)
4	740-104	240 (60)
5	740-105	180 (45)
6	740-106	140 (35)
7	740-107	120 (30)
8	740-108	100 (25)
9	740-109	100 (25)
10	740-110	80 (20)
12	740-112	60 (15)
16	740-116	60 (15)
24	740-124	40 (10)

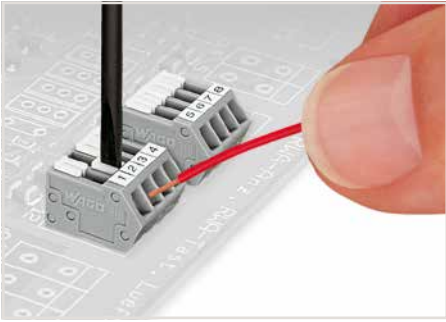
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● black, ● blue, ○ light gray, ● green
- Mixed-color terminal strips
- Direct marking

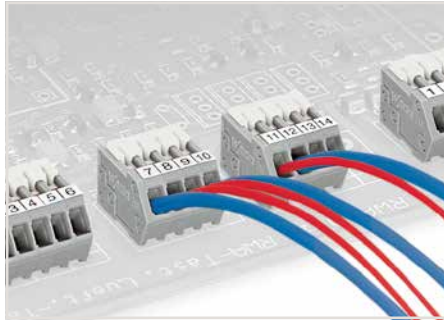
218 Series

Description and Installation

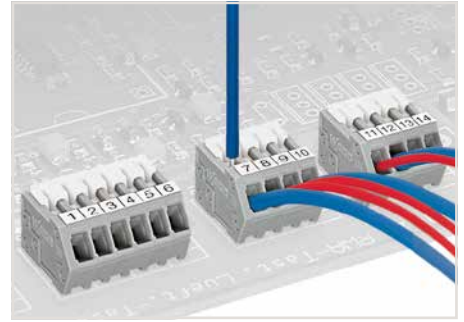
1



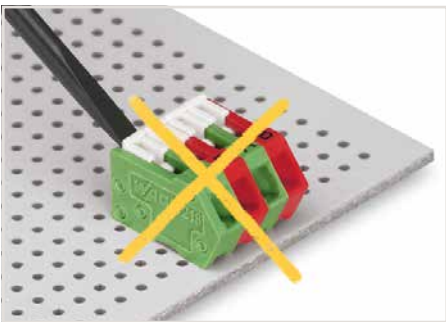
Terminating stranded conductors in confined spaces requires a great deal of patience, unless you use the new 218 Series PCB Terminal Strips. The clamping units of these strips can be held open during termination process via integrated locking slide.



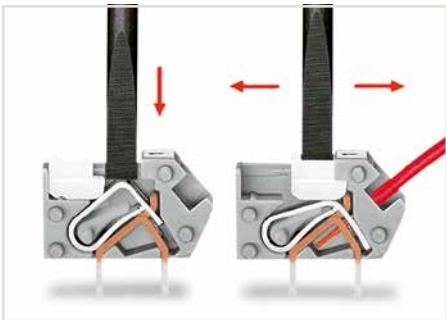
Terminating 0.75 mm² (18 AWG) conductors is possible; however, insulation diameter allows only every other clamping unit to be terminated with this conductor size.



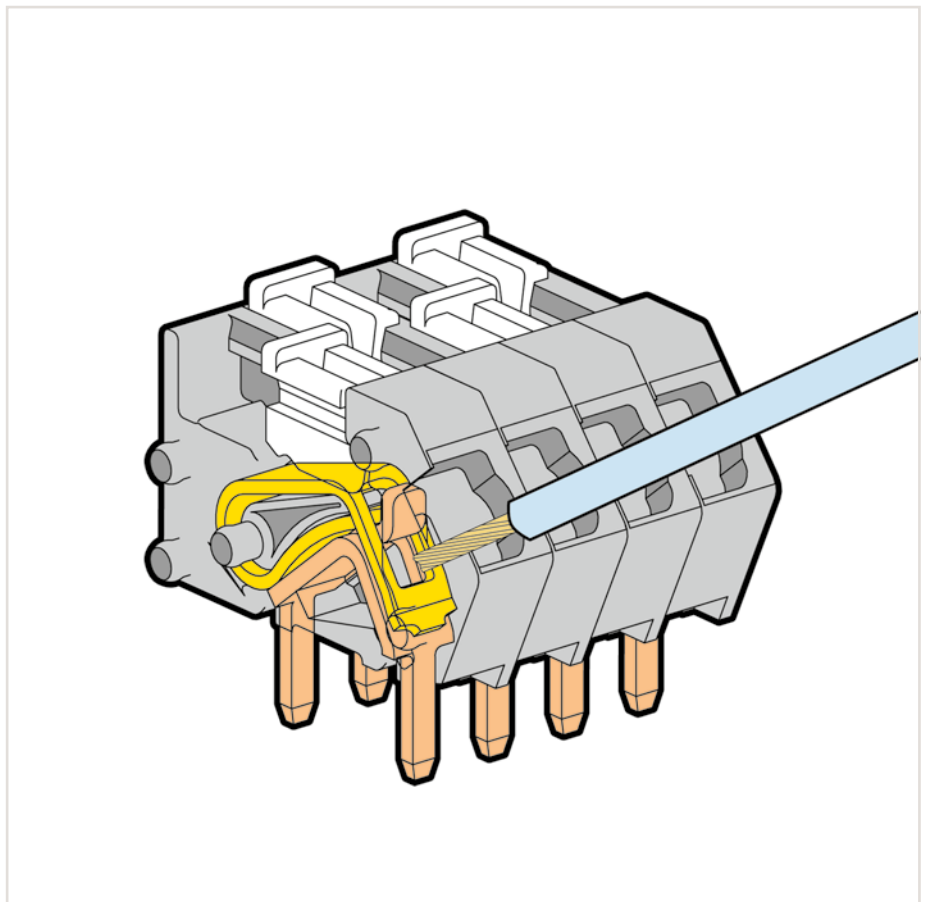
Testing directly on the clamping spring.



Incorrect – do not operate the locking slides from the back.



Conductor termination: To momentarily open the clamping unit, use screwdriver and then insert a stripped conductor. To open clamping unit for an extended period, move locking slide toward conductor entry hole. Then fully insert stripped conductor and move locking slide back to original position (also possible to perform with fingernail).



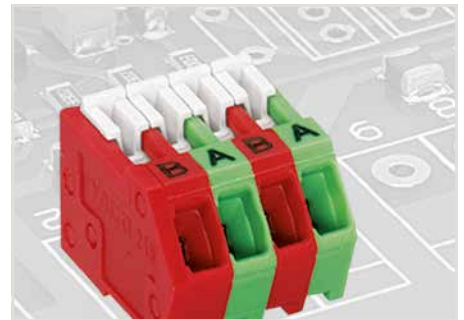
218 Series



Insulating housings are available in different colors.



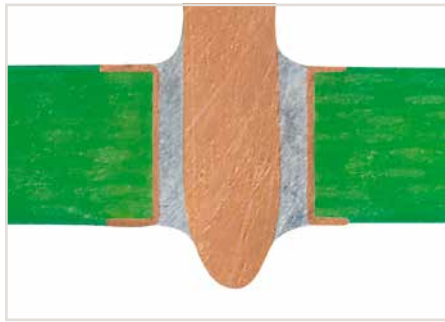
Labeling with self-adhesive marking strips.



Labeling via factory direct marking.

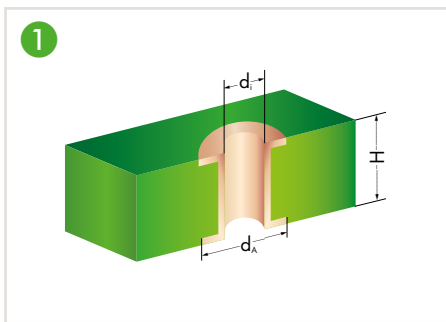
THR (Through-Hole Reflow) Soldering Process

1

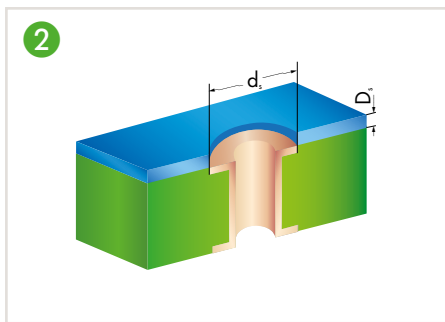


By using high-temperature-resistant plastic and a streamlined pin design, WAGO's THR male headers and PCB terminal blocks meet requirements for SMT process capability while maintaining the necessary stability. Both headers and terminal blocks are simply pushed into the solder paste-filled PCB holes and then soldered along with the SMT components via reflow soldering. The previous wave soldering process is no longer necessary. The result is a perfect connection – both mechanically and electrically.

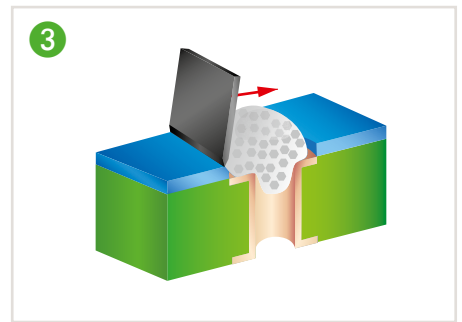
Terminal strips with an additional suction pad in tape-and-reel packaging per IEC 60286-3



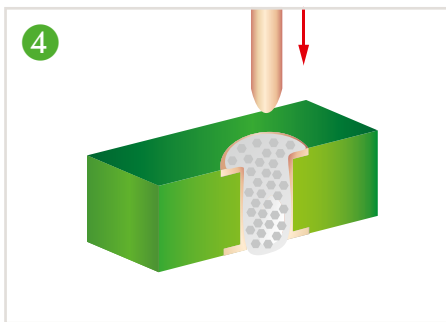
Metal-plated PCB bore hole



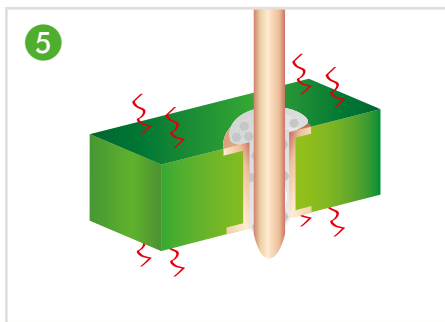
SMD positioning pattern



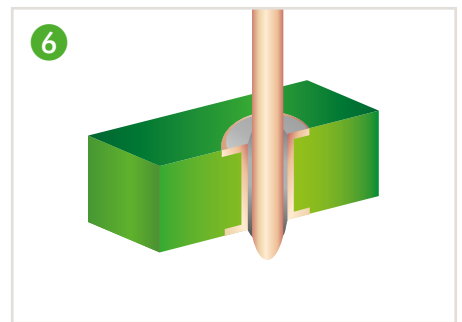
Solder paste application



Component assembly, automatic/by hand



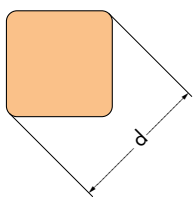
Reflow soldering process



THR soldering joint

Series	d _i (mm)	d _A (mm)	H(mm)	d _s (mm)	D _s (μm)	d(mm)	L(mm)
218	1.1 ^{+0.1}	1.9	< 2	1.8	150	0.9	2.8
236	1.1 ^{+0.1}	2.2	< 2	2.1	150	0.9	3.6
250	1.1 ^{+0.1}	2	< 2	1.9	150	0.9	3.6

WAGO recommends both a temperature profile that adheres to EN 61760-1 and the use of forced convection ovens for processing THR components.



- d_i: Plated through-hole diameter
- d_A: Outer diameter of metal-plated PCB hole*
- H: PCB thickness
- d_s: Pattern hole diameter
- D_s: Pattern thickness
- d: Pin diagonal
- L: Pin length

*When laying out the metal-plated bore holes, the clearance and creepage distance requirements – as specified in the equipment standards – must be considered.

PCB Terminal Strips with Locking Slides, 0.5 mm²

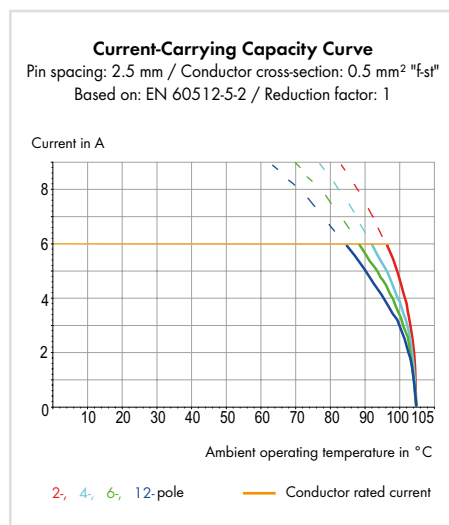
Pin Spacing: 2.5 mm, 2.54 mm

218 Series

1



- Terminal strips are just 8.1 mm tall and feature an innovative, locking slide-actuated CAGE CLAMP®
- Several clamping units can be held open simultaneously
- Easy termination of stranded conductors in tight spaces (e.g., bus connectors)



Electrical Data for Pin Spacing

	2.5 mm / 0.098 inch	2.54 mm / 0.1 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	80 V	80 V
Rated surge voltage (III / 3)	2.5 kV	2.5 kV
Rated voltage (III / 2)	160 V	160 V
Rated surge voltage (III / 2)	2.5 kV	2.5 kV
Rated voltage (II / 2)	320 V	320 V
Rated surge voltage (II / 2)	2.5 kV	2.5 kV
Rated current	6 A	6 A
Approvals per	UL 1059	UL 1059
Rated voltage (Use Group B)	150 V	150 V
Rated current UL (Use Group B)	4 A	4 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	150 V	150 V
Rated current CSA (Use Group B)	4 A	4 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	40°
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 mm ²
Note (conductor cross-section)	Terminating 0.75 mm ² (18 AWG) conductors is possible; however, insulation diameter allows only every other clamping unit to be terminated with this conductor size.

Solder Pin Data

Solder pin length	2.8 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 570

Operating tools, see page 556

Test pin, see page 568

Additional technical information, see Section 13

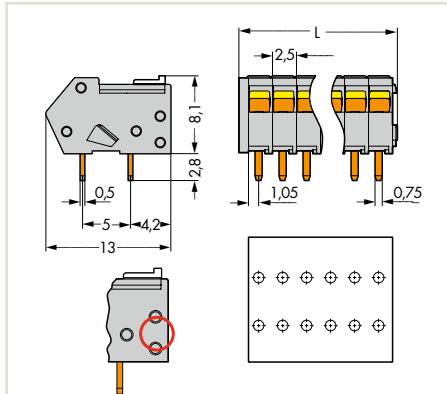
Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips with Locking Slides, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 218 Series

1



Dimensions (in mm):

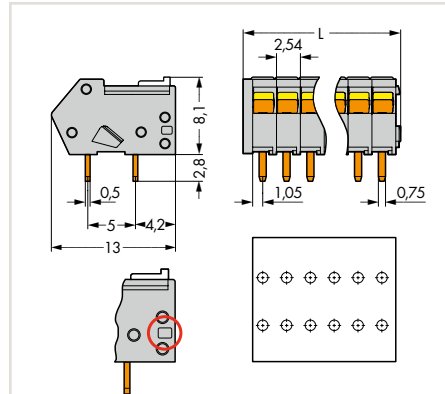


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
A groove at the back of the terminal strip differentiates between the two pin spacings (red circle).

PCB terminal strip with locking slides,
2 solder pins/pole in line, gray,
white locking slides,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	218-102	1000 (100)
3	218-103	1000 (100)
4	218-104	500 (100)
5	218-105	500 (100)
6	218-106	280 (70)
7	218-107	240 (60)
8	218-108	220 (55)
9	218-109	200 (50)
10	218-110	180 (45)
11	218-111	160 (40)
12	218-112	140 (35)
13	218-113	140 (35)
14	218-114	120 (30)
15	218-115	120 (30)
16	218-116	100 (25)
17	218-117	100 (25)
18	218-118	100 (25)
19	218-119	80 (20)
20	218-120	80 (20)
21	218-121	80 (20)
22	218-122	80 (20)
23	218-123	80 (20)
24	218-124	60 (15)

Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
A groove at the back of the terminal strip differentiates between the two pin spacings (red circle).

PCB terminal strip with locking slides,
2 solder pins/pole in line, gray,
white locking slides,
2.54 mm (0.1 inch) pin spacing

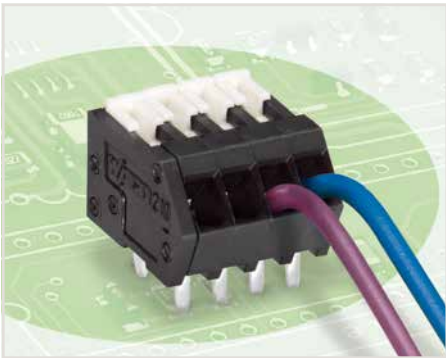
Pole No.	Item No.	Pack. Unit
2	218-502	1000 (100)
3	218-503	1000 (100)
4	218-504	500 (100)
5	218-505	500 (100)
6	218-506	280 (70)
7	218-507	240 (60)
8	218-508	220 (55)
9	218-509	200 (50)
10	218-510	160 (40)
11	218-511	160 (40)
12	218-512	140 (35)
13	218-513	140 (35)
14	218-514	120 (30)
15	218-515	120 (30)
16	218-516	100 (25)
17	218-517	100 (25)
18	218-518	100 (25)
19	218-519	80 (20)
20	218-520	80 (20)
21	218-521	80 (20)
22	218-522	80 (20)
23	218-523	80 (20)
24	218-524	60 (15)

Available upon request (depending on quantity required):

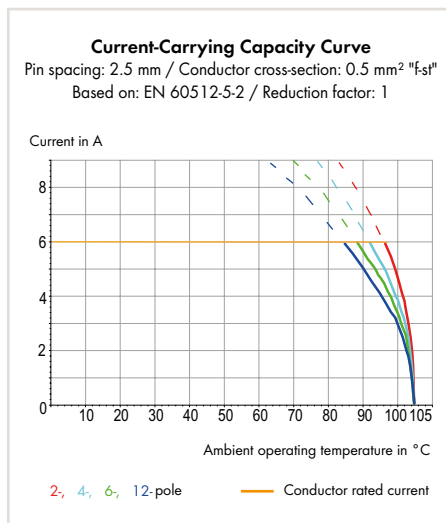
- Other pole numbers
- Other colors: ● black, ● red, ● blue, ● orange, ● green, ○ white
- Mixed-color terminal strips
- Direct marking

THR* PCB Terminal Strips with Locking Slides, 0.5 mm² Pin Spacing: 2.5 mm 218 Series

1



- Terminal strips are just 8.1 mm tall and feature an innovative, locking slide-actuated CAGE CLAMP®
- Several clamping units can be held open simultaneously
- Easy termination of stranded conductors in tight spaces (e.g., bus connectors)
- THR soldering provides integration into SMT assembly and soldering processes



Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	80 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	6 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	40°
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 mm ²

Note (conductor cross-section)

Terminating 0.75 mm² (18 AWG) conductors is possible; however, insulation diameter allows only every other clamping unit to be terminated with this conductor size.

Solder Pin Data

Solder pin length	2.8 mm
Solder pin dimensions	0.5 x 0.75 mm
Plated through-hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	III a
Insulation material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +115 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 81

Marking accessories, see page 570

Operating tools, see page 556

Test pin, see page 568

Additional technical information, see Section 13

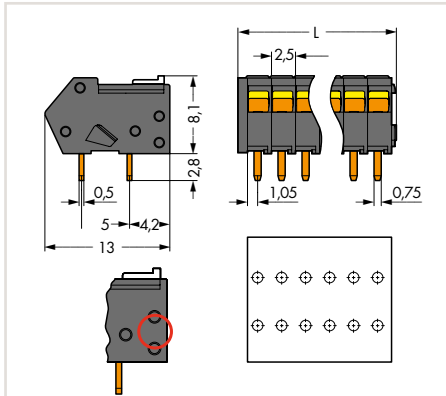
Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Strips with Locking Slides, 0.5 mm² Pin Spacing: 2.5 mm 218 Series

1



Dimensions (in mm):

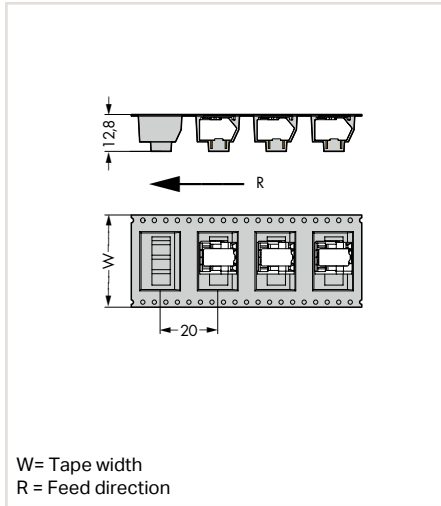


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
A groove at the back of the terminal strip differentiates between the two pin spacings (red circle).

PCB terminal strip with locking slides,
2 solder pins/pole in line, black,
white locking slides,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	218-102/000-604	1000 (100)
3	218-103/000-604	1000 (100)
4	218-104/000-604	500 (100)
5	218-105/000-604	500 (100)
6	218-106/000-604	280 (70)
7	218-107/000-604	240 (60)

Dimensions (in mm):



W= Tape width
R = Feed direction

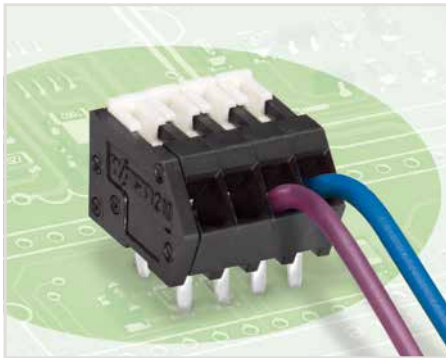
PCB terminal strip with locking slides,
2 solder pins/pole in line, black,
white locking slides, with additional suction pads,
in tape-and-reel packaging per IEC 60286-3,
330 mm reel diameter, 250 pieces per reel,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	W (mm)
2	218-102/000-604/997-403	16
3	218-103/000-604/997-405	32
4	218-104/000-604/997-405	32
5	218-105/000-604/997-405	32
6	218-106/000-604/997-405	32
7	218-107/000-604/997-405	32

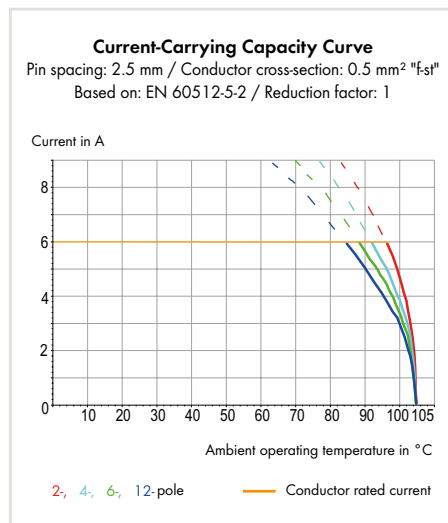
Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

THR* PCB Terminal Strips with Locking Slides, 0.5 mm² Pin Spacing: 2.54 mm 218 Series



- Terminal strips are just 8.1 mm tall and feature an innovative, locking slide-actuated CAGE CLAMP®
- Several clamping units can be held open simultaneously
- Easy termination of stranded conductors in tight spaces (e.g., bus connectors)
- THR soldering provides integration into SMT assembly and soldering processes



Electrical Data for Pin Spacing

Ratings per*	2.54 mm / 0.1 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	80 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	6 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	40°
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 mm ²

Note (conductor cross-section)

Terminating 0.75 mm² (18 AWG) conductors is possible; however, insulation diameter allows only every other clamping unit to be terminated with this conductor size.

Solder Pin Data

Solder pin length	2.8 mm
Solder pin dimensions	0.5 x 0.75 mm
Plated through-hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	III a
Insulation material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +115 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cup})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 97

Marking accessories, see page 604

Operating tools, see page 588

Test pin, see page 601

Additional technical information, see Section 13

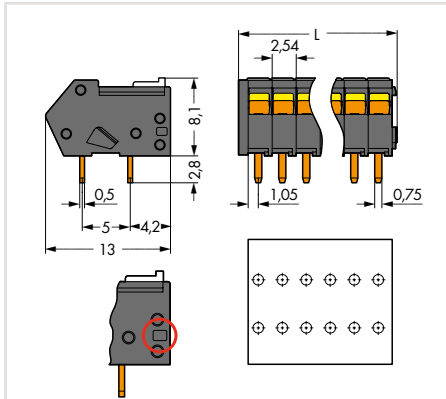
Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Strips with Locking Slides, 0.5 mm² Pin Spacing: 2.54 mm 218 Series

1



Dimensions (in mm):

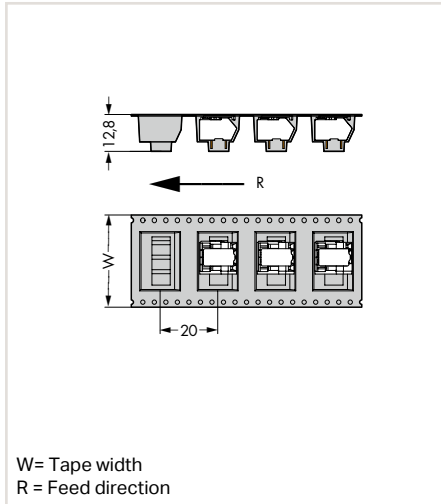


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
A groove at the back of the terminal strip differentiates between the two pin spacings (red circle).

PCB terminal strip with locking slides,
2 solder pins/pole in line, black,
white locking slides,
2.54 mm (0.1 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	218-502/000-604	1000 (100)
3	218-503/000-604	1000 (100)
4	218-504/000-604	500 (100)
5	218-505/000-604	500 (100)
6	218-506/000-604	280 (70)
7	218-507/000-604	240 (60)

Dimensions (in mm):



W= Tape width
R = Feed direction

PCB terminal strip with locking slides,
2 solder pins/pole in line, black,
white locking slides, with additional suction pads,
in tape-and-reel packaging per IEC 60286-3,
330 mm reel diameter, 250 pieces per reel,
2.54 mm (0.1 inch) pin spacing

Pole No.	Item No.	W (mm)
2	218-502/000-604/997-403	16
3	218-503/000-604/997-405	32
4	218-504/000-604/997-405	32
5	218-505/000-604/997-405	32
6	218-506/000-604/997-405	32
7	218-507/000-604/997-405	32

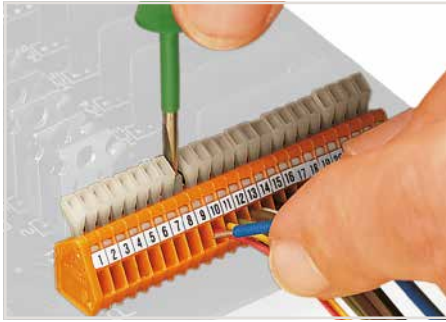
Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

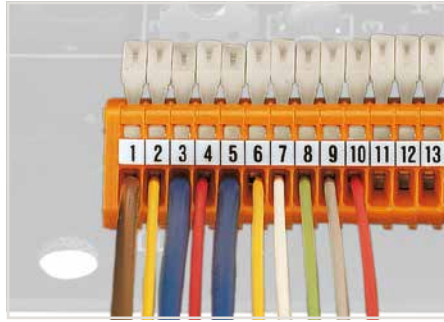
233 and 234 Series

Description and Installation

1



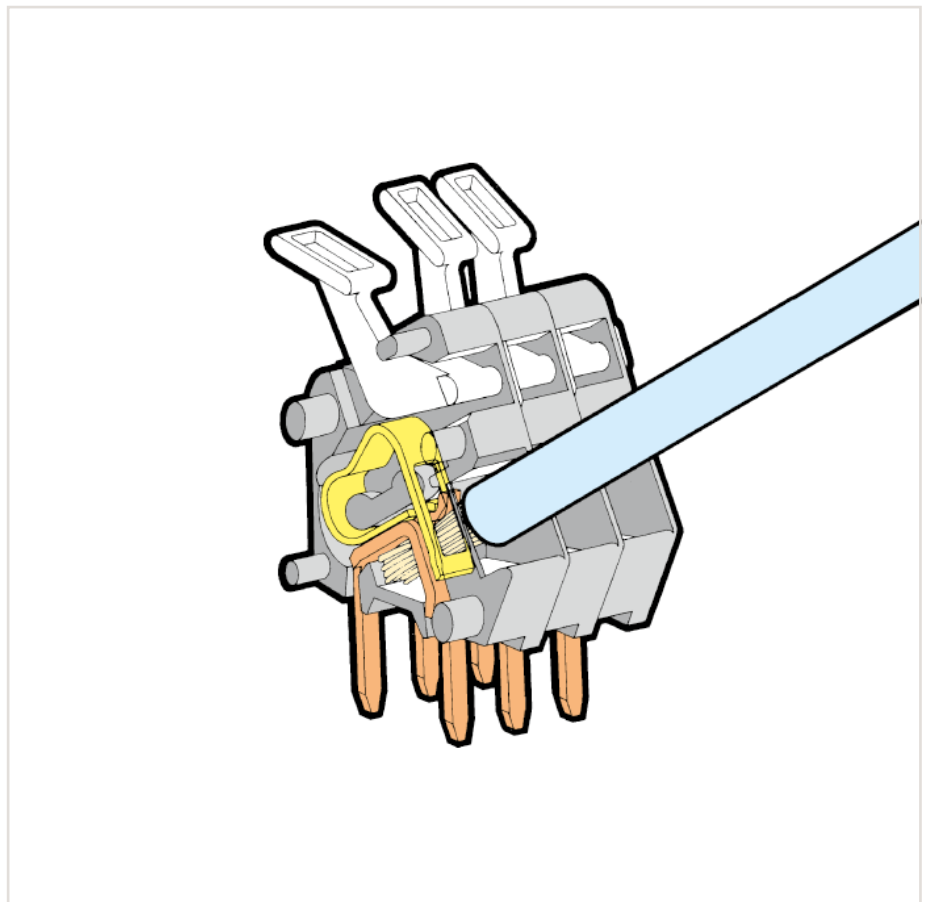
Inserting/removing a conductor.



Nominal cross-section: 0.5 mm² (20 AWG);
0.75 mm² (18 AWG) only in every other position



Labeling via factory direct marking or self-adhesive marking strips.



233 Series

736, 739, 740 and 745 Series

Description and Installation

1



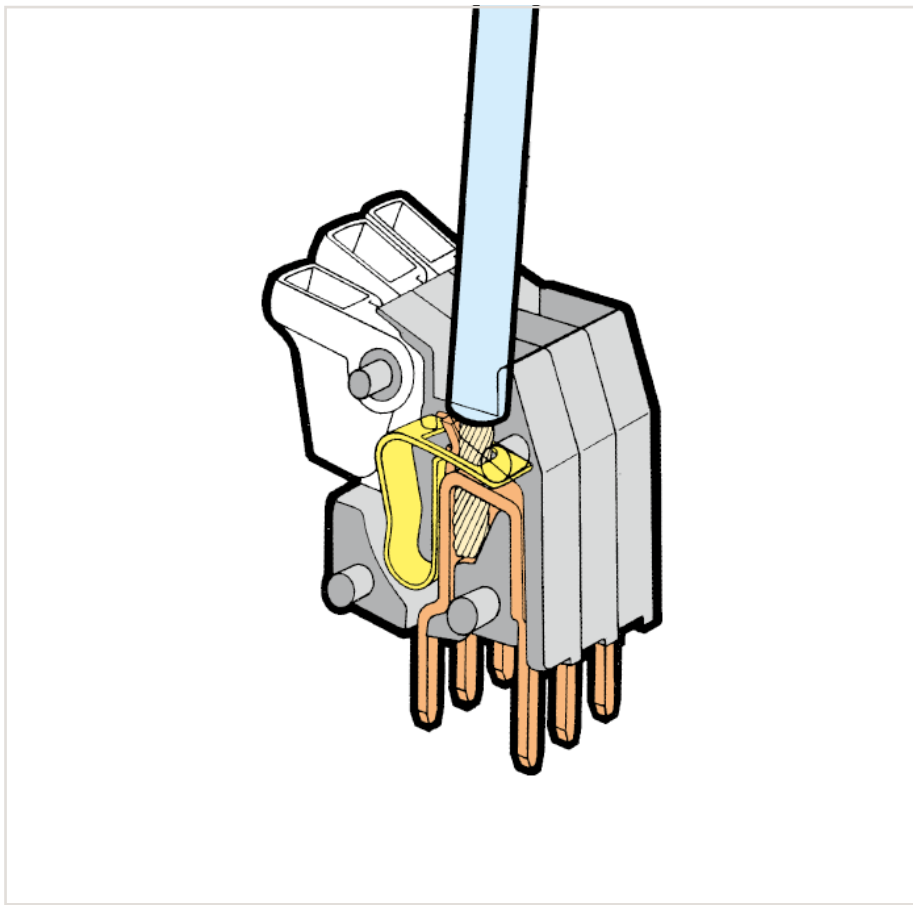
Inserting/removing a conductor.



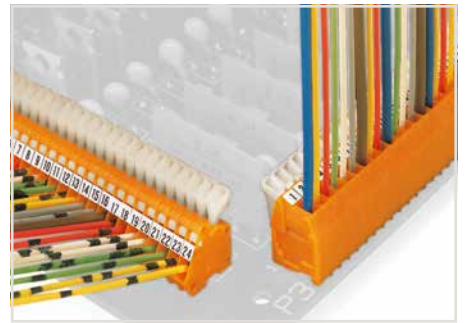
Nominal cross-section: 0.5 mm² (20 AWG);
0.75 mm² (18 AWG) only in every other position



Labeling via self-adhesive marking strips or factory direct marking.



234 Series



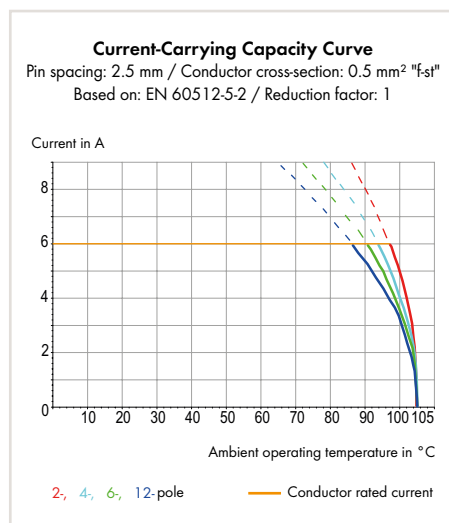
PCB Terminal Strips with Push-Buttons, 0.5 mm²

Pin Spacing: 2.5 mm, 2.54 mm

233 Series



- Terminal strips with push-buttons and CAGE CLAMP® connection
- Double solder pins for high mechanical stability
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation
- 233 Series without push-buttons, see page 19



Electrical Data for Pin Spacing

	2.5 mm / 0.098 inch	2.54 mm / 0.1 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	63 V	63 V
Rated surge voltage (III / 3)	2.5 kV	2.5 kV
Rated voltage (III / 2)	160 V	160 V
Rated surge voltage (III / 2)	2.5 kV	2.5 kV
Rated voltage (II / 2)	320 V	320 V
Rated surge voltage (II / 2)	2.5 kV	2.5 kV
Rated current	6 A	6 A
Approvals per	UL 1059	UL 1059
Rated voltage (Use Group B)	150 V	150 V
Rated current UL (Use Group B)	4 A	4 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	150 V	150 V
Rated current CSA (Use Group B)	4 A	4 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	30°
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 mm ²
Note (conductor cross-section)	Terminating 0.75 mm ² (18 AWG) conductors is possible; however insulation diameter allows only every other clamping unit to be terminated with this conductor size.

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

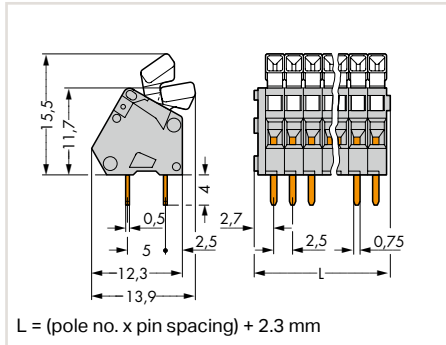
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips with Push-Buttons, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 233 Series



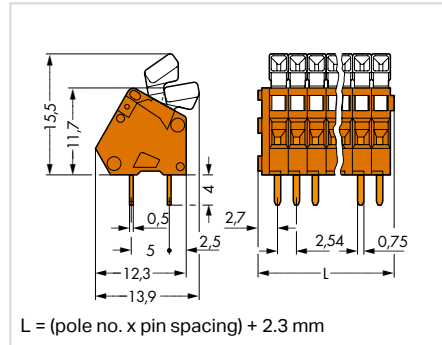
Dimensions (in mm):



PCB terminal strip with push-buttons, gray,
2 solder pins/pole, 2.5 mm (0.098 inch) pin
spacing

Pole No.	Item No.	Pack. Unit
2	233-202	600 (100)
3	233-203	500 (125)
4	233-204	400 (100)
5	233-205	340 (85)
6	233-206	280 (70)
7	233-207	240 (60)
8	233-208	220 (55)
9	233-209	200 (50)
10	233-210	180 (45)
12	233-212	140 (35)
16	233-216	100 (25)
24	233-224	80 (20)

Dimensions (in mm):



PCB terminal strip with push-buttons, orange,
2 solder pins/pole, 2.54 mm (0.1 inch) pin spacing

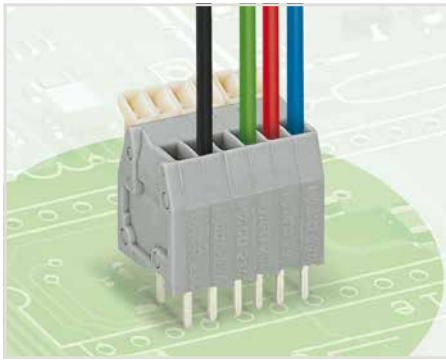
Pole No.	Item No.	Pack. Unit
2	233-502	600 (100)
3	233-503	500 (125)
4	233-504	400 (100)
5	233-505	340 (85)
6	233-506	280 (70)
7	233-507	240 (60)
8	233-508	220 (55)
9	233-509	200 (50)
10	233-510	180 (45)
12	233-512	140 (35)
16	233-516	100 (25)
24	233-524	80 (20)

Available upon request (depending on quantity required):

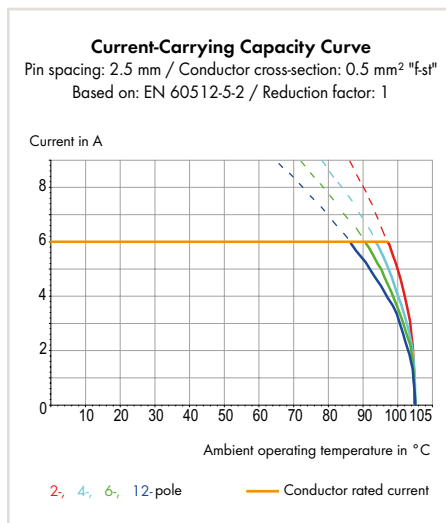
- Other pole numbers
- Other colors for 2.5 mm pin spacing: ● light green, ● red, ● green
- Other colors for 2.54 mm pin spacing: ● yellow, ● black, ● red, ● blue, ● brown, ○ white
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Push-Buttons, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 234 Series

1



- Terminal strips with push-buttons and CAGE CLAMP® connection
- Double solder pins for high mechanical stability
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation



Electrical Data for Pin Spacing

	2.5 mm / 0.098 inch	2.54 mm / 0.1 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	63 V	63 V
Rated surge voltage (III / 3)	2.5 kV	2.5 kV
Rated voltage (III / 2)	160 V	160 V
Rated surge voltage (III / 2)	2.5 kV	2.5 kV
Rated voltage (II / 2)	320 V	320 V
Rated surge voltage (II / 2)	2.5 kV	2.5 kV
Rated current	6 A	6 A
Approvals per	UL 1059	UL 1059
Rated voltage (Use Group B)	150 V	150 V
Rated current UL (Use Group B)	4 A	4 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	150 V	150 V
Rated current CSA (Use Group B)	4 A	4 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

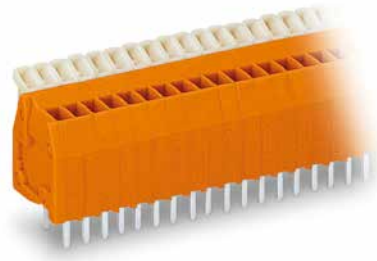
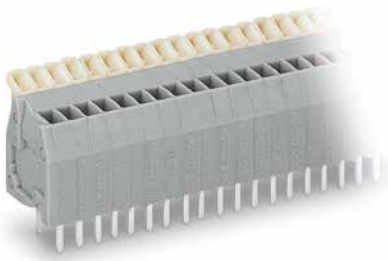
Operating tools,
see page 588

Additional technical information,
see Section 13

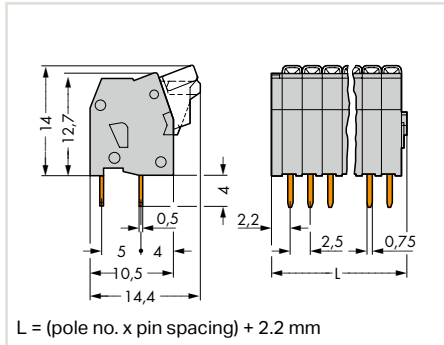
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Push-Buttons, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 234 Series

1



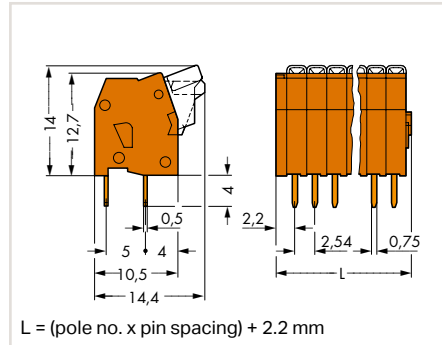
Dimensions (in mm):



PCB terminal strip with push-buttons, gray,
2 solder pins/pole, 2.5 mm (0.098 inch) pin
spacing

Pole No.	Item No.	Pack. Unit
2	234-202	600 (100)
3	234-203	520 (130)
4	234-204	400 (100)
5	234-205	340 (85)
6	234-206	280 (70)
7	234-207	240 (60)
8	234-208	220 (55)
9	234-209	200 (50)
10	234-210	180 (45)
12	234-212	140 (35)
16	234-216	100 (25)
24	234-224	80 (20)

Dimensions (in mm):



PCB terminal strip with push-buttons, orange,
2 solder pins/pole, 2.54 mm (0.1 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	234-502	600 (100)
3	234-503	520 (130)
4	234-504	400 (100)
5	234-505	340 (85)
6	234-506	280 (70)
7	234-507	240 (60)
8	234-508	220 (55)
9	234-509	200 (50)
10	234-510	180 (45)
12	234-512	140 (35)
16	234-516	100 (25)
24	234-524	80 (20)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors for 2.54 mm pin spacing: ● blue, ○ white
- Mixed-color terminal strips
- Direct marking

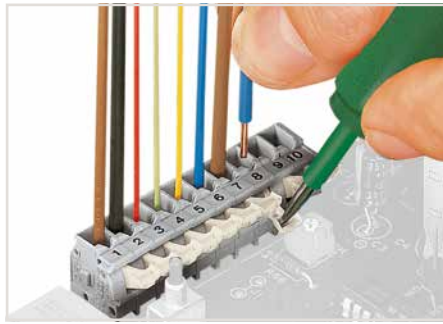
255, 256 and 257 Series

Description and Installation

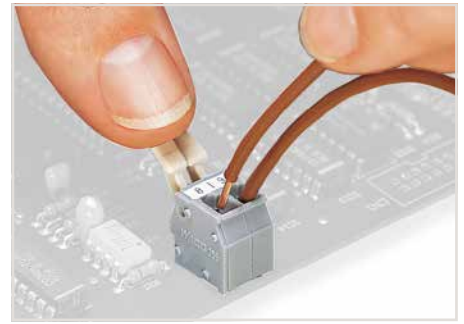
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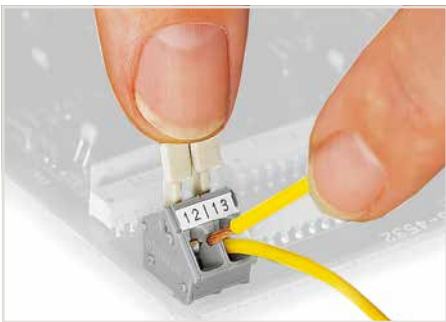
Inserting/removing a conductor – 256 Series.



Inserting/removing a conductor – 255 Series.



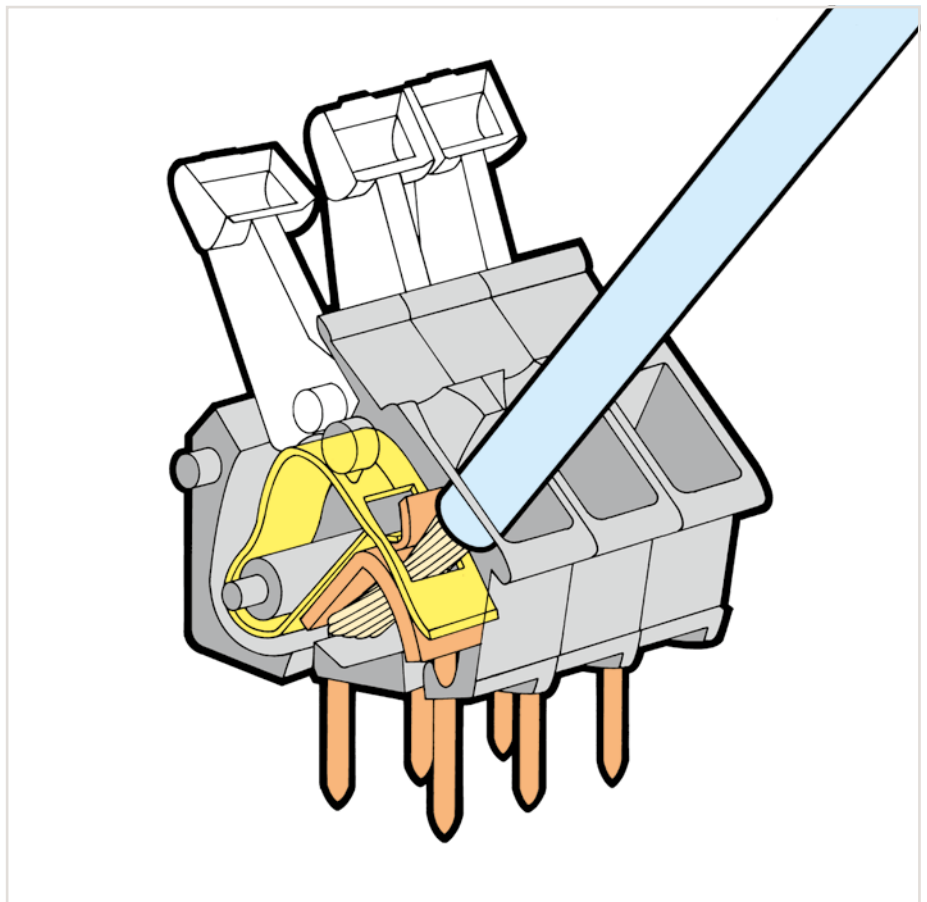
Inserting/removing a conductor via finger-operated lever – 255 Series.



Inserting/removing a conductor via finger-operated lever – 256 Series.



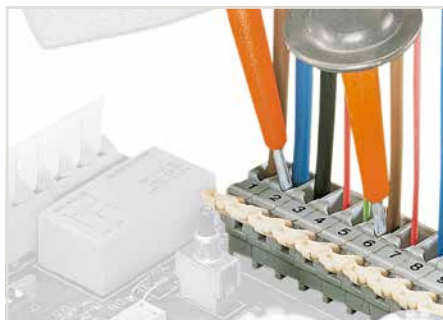
Possible conductor arrangement with terminal strips staggered (for 256 Series only).



255, 256 and 257 Series



Formation of groups using housings of different colors.



Testing with test probes.



Testing with test plug modules.

2706 and 2716 Series

Description and Installation

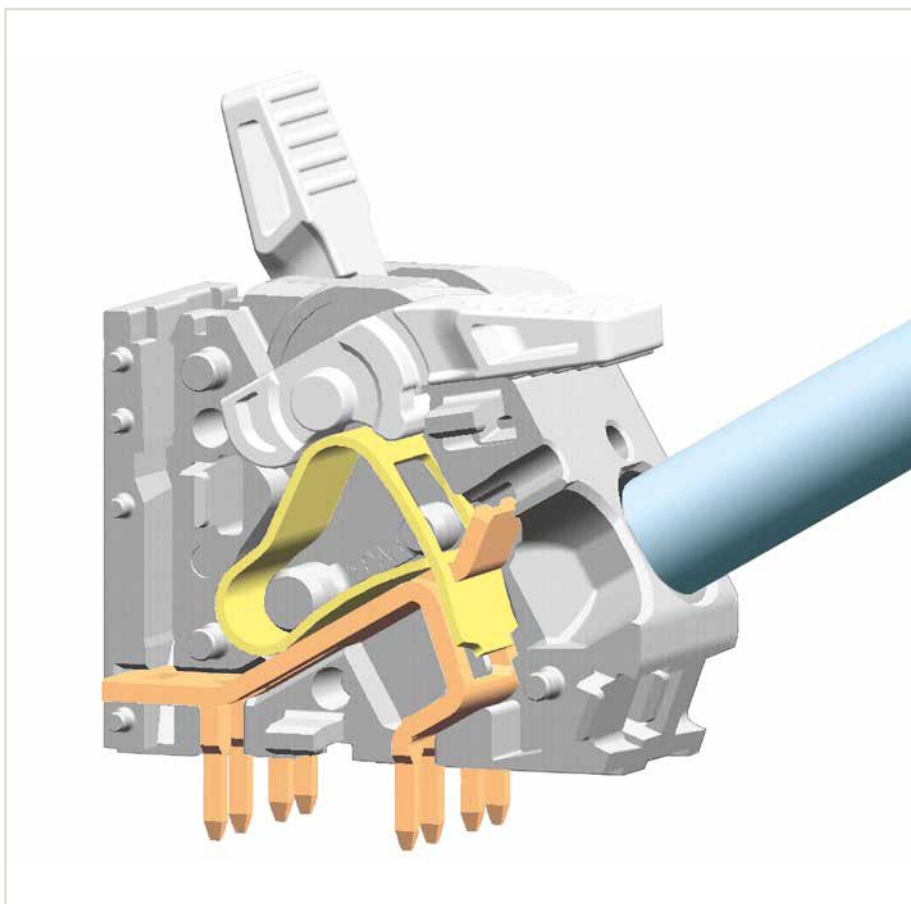
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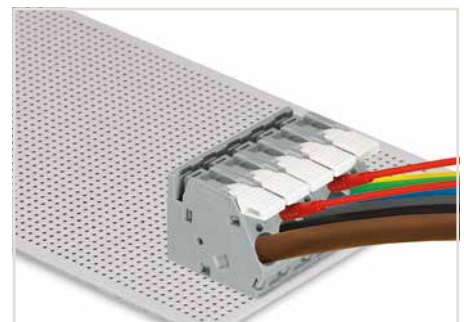
To open the clamping unit, pull the operating lever all the way back – 2706 and 2716 Series.



Inserting/removing a conductor – 2706 and 2716 Series.



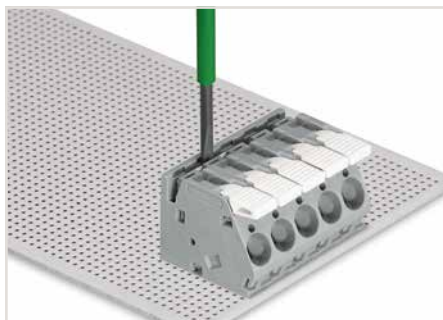
2706 and 2716 Series



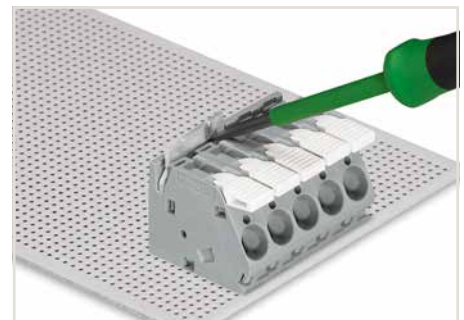
Testing with test plug – 2706 and 2716 Series.



Insert the comb-style jumper bar.



Push jumper bar down firmly using a screwdriver until it hits the backstop – 2706 and 2716 Series.



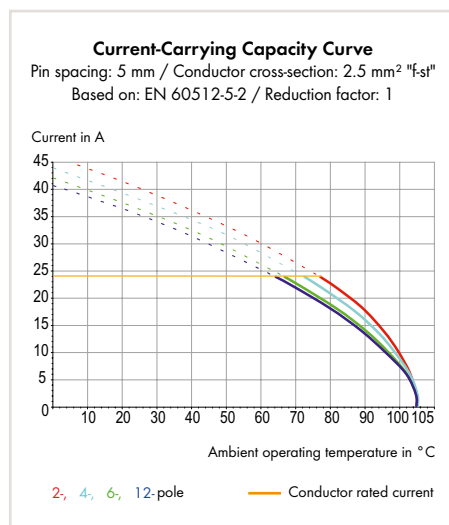
To remove the comb-style jumper bar, lift it up using a screwdriver – 2706 und 2716 Series.

PCB Modular Terminal Blocks and Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 255 Series

1



- PCB modular terminal blocks and terminal strips with push-buttons and CAGE CLAMP® connection
- Versions with Ex approval
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug adapter,
see page 218

Additional technical information,
see Section 13

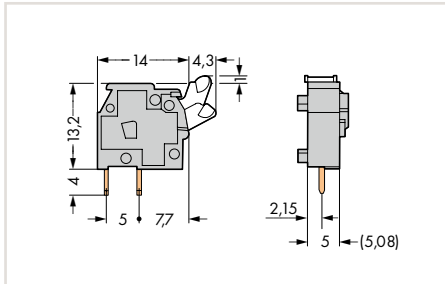
Approvals and corresponding ratings,
visit www.wago.com

Modular PCB Terminal Blocks with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 255 Series

1



Dimensions (in mm):

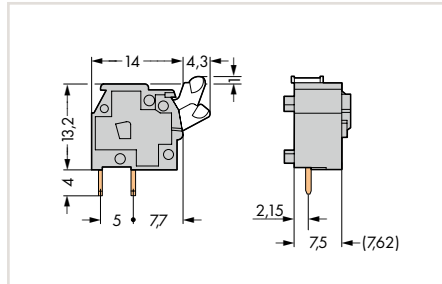


Modular PCB terminal block with push-button,
2 solder pins/pole,
5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	255-401	500 (100)
red	255-740	500 (100)
yellow	255-741	500 (100)
dark gray	255-742	500 (100)
light gray	255-743	500 (100)
blue*	255-744	500 (100)
orange	255-746	500 (100)
light green	255-747	500 (100)
black	255-748	500 (100)

*Suitable for Ex i applications

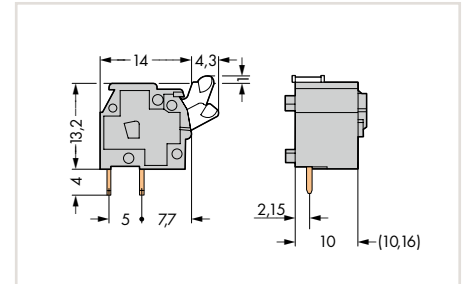
Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	255-501	400 (100)
red	255-750	400 (100)
yellow	255-751	400 (100)
dark gray	255-752	400 (100)
light gray	255-753	400 (100)
blue*	255-754	400 (100)
orange	255-756	400 (100)
light green	255-757	400 (100)
black	255-758	400 (100)

Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	255-601	300 (100)
red	255-760	300 (100)
yellow	255-761	300 (100)
dark gray	255-762	300 (100)
light gray	255-763	300 (100)
blue*	255-764	300 (100)
orange	255-766	300 (100)
light green	255-767	300 (100)
black	255-768	300 (100)



Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	255-801	500 (100)



Spacer, doubles 7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	255-811	400 (100)



Spacer, doubles 10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	255-821	500 (100)



End plate, snap-on type, 1 mm thick

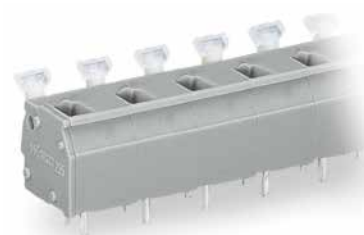
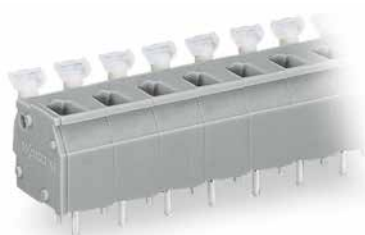
Color	Item No.	Pack. Unit
gray	255-100	100
dark gray	255-200	100
light gray	255-300	100
blue	255-400	100
red	255-500	100
orange	255-600	100
light green	255-700	100
black	255-800	100

Available upon request (depending on quantity required):

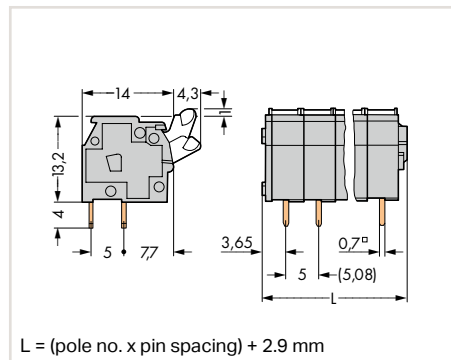
- Versions for Ex e II
- Other colors

PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 255 Series

1



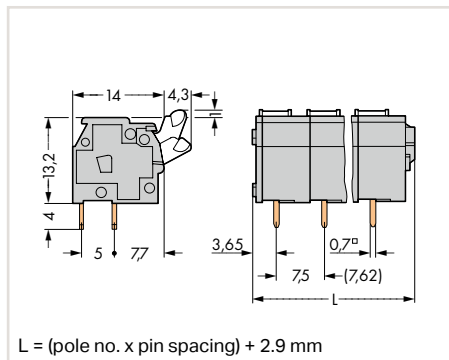
Dimensions (in mm):



PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	255-402	400 (100)
3	255-403	280 (70)
4	255-404	200 (50)
5	255-405	160 (40)
6	255-406	140 (35)
7	255-407	120 (30)
8	255-408	100 (25)
9	255-409	100 (25)
10	255-410	80 (20)
12	255-412	60 (15)
16	255-416	60 (15)
24	255-424	40 (10)
36	255-436	20 (5)
48	255-448	20 (5)

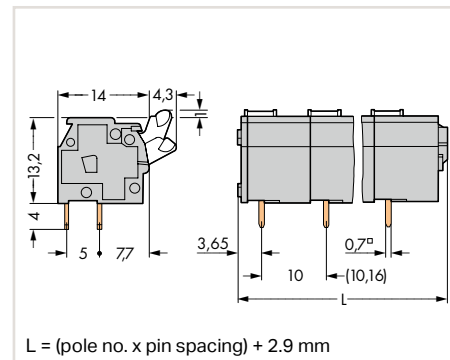
Dimensions (in mm):



PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	255-502	280 (70)
3	255-503	180 (45)
4	255-504	140 (35)
5	255-505	120 (30)
6	255-506	100 (25)
7	255-507	80 (20)
8	255-508	60 (15)
9	255-509	60 (15)
10	255-510	60 (15)
12	255-512	40 (10)
16	255-516	40 (10)
24	255-524	20 (5)

Dimensions (in mm):



PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	255-602	200 (50)
3	255-603	140 (35)
4	255-604	100 (25)
5	255-605	80 (20)
6	255-606	60 (15)
7	255-607	60 (15)
8	255-608	60 (15)
9	255-609	40 (10)
10	255-610	40 (10)
12	255-612	40 (10)
16	255-616	20 (5)
24	255-624	20 (5)

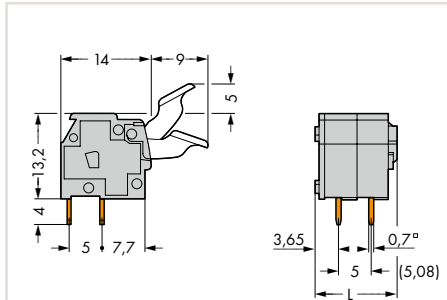
Available upon request (depending on quantity required):

- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Finger-Operated Levers, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 255 Series



Dimensions (in mm):

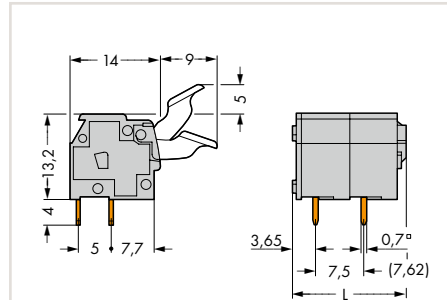


$$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$$

PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	255-402/333-000	400 (100)
3	255-403/333-000	280 (70)
4	255-404/333-000	200 (50)
5	255-405/333-000	160 (40)
6	255-406/333-000	140 (35)
7	255-407/333-000	120 (30)
8	255-408/333-000	100 (25)
9	255-409/333-000	100 (25)
10	255-410/333-000	80 (20)
12	255-412/333-000	60 (15)

Dimensions (in mm):

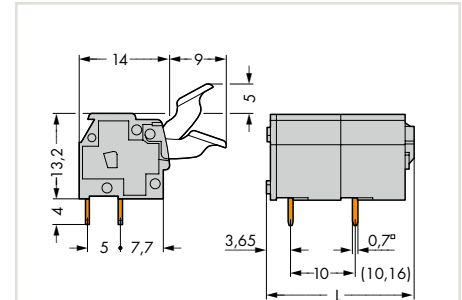


$$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$$

PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	255-502/333-000	280 (70)
3	255-503/333-000	180 (45)
4	255-504/333-000	140 (35)
5	255-505/333-000	120 (30)
6	255-506/333-000	100 (25)
7	255-507/333-000	80 (20)
8	255-508/333-000	60 (15)
9	255-509/333-000	60 (15)
10	255-510/333-000	60 (15)
12	255-512/333-000	40 (10)

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$$

PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	255-602/333-000	200 (50)
3	255-603/333-000	140 (35)
4	255-604/333-000	100 (25)
5	255-605/333-000	80 (20)
6	255-606/333-000	60 (15)
7	255-607/333-000	60 (15)
8	255-608/333-000	60 (15)
9	255-609/333-000	40 (10)
10	255-610/333-000	40 (10)
12	255-612/333-000	40 (10)

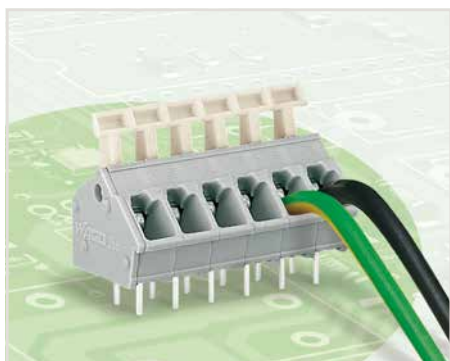
Note:

For lengths greater than three poles (5/5.08 mm pin spacing), finger lever operation for center levers may not be possible due to finger size/spacing limitations.

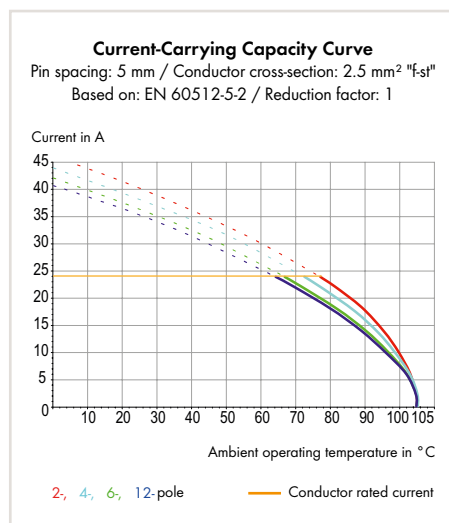
Available upon request (depending on quantity required):

- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Blocks with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 256 Series



- PCB modular terminal blocks and terminal strips with push-buttons and CAGE CLAMP® connection
- Versions with Ex approval
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	320 V	500 V
Rated surge voltage (III / 3)	4 kV	4 kV	6 kV
Rated voltage (III / 2)	320 V	320 V	630 V
Rated surge voltage (III / 2)	4 kV	4 kV	6 kV
Rated voltage (II / 2)	630 V	630 V	1000 V
Rated surge voltage (II / 2)	4 kV	4 kV	6 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug adapter,
see page 218

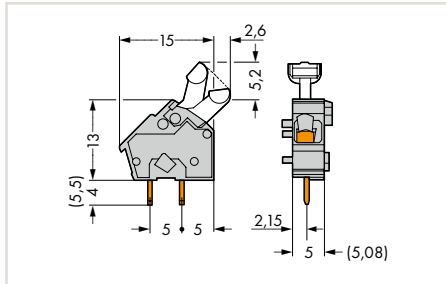
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Modular PCB Terminal Blocks with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 256 Series



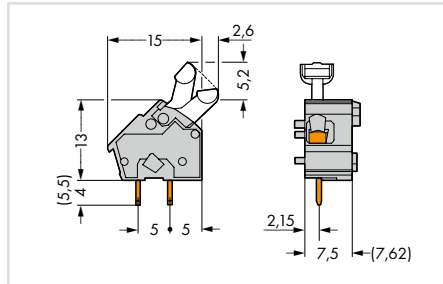
Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	256-401	600 (100)
● red	256-740	600 (100)
● dark gray	256-742	600 (100)
○ light gray	256-743	600 (100)
● blue	256-744	600 (100)
● orange	256-746	600 (100)
● light green	256-747	600 (100)

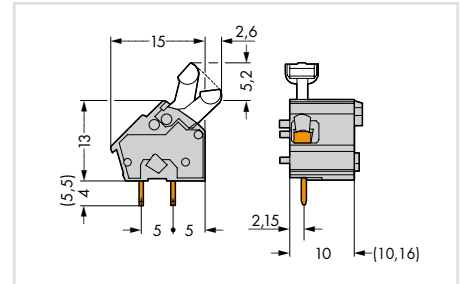
Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	256-501	400 (100)
● red	256-750	400 (100)
● dark gray	256-752	400 (100)
○ light gray	256-753	400 (100)
● blue*	256-754	400 (100)
● orange	256-756	400 (100)
● light green	256-757	400 (100)

Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	256-601	300 (100)
● red	256-760	300 (100)
● dark gray	256-762	300 (100)
○ light gray	256-763	300 (100)
● blue*	256-764	300 (100)
● orange	256-766	300 (100)
● light green	256-767	300 (100)

*Suitable for Ex i applications



End plate, snap-on type, 1 mm thick

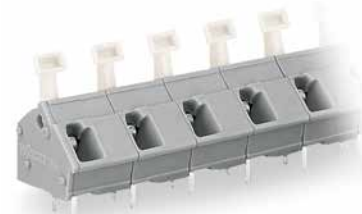
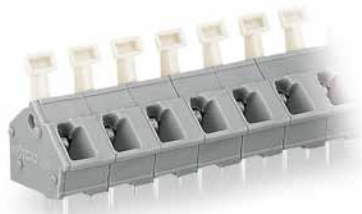
Color	Item No.	Pack. Unit
○ gray	256-100	100
● dark gray	256-200	100
○ light gray	256-300	100
● blue	256-400	100
● red	256-500	100
● orange	256-600	100
● light green	256-700	100
● black	256-800	100

Available upon request (depending on quantity required):

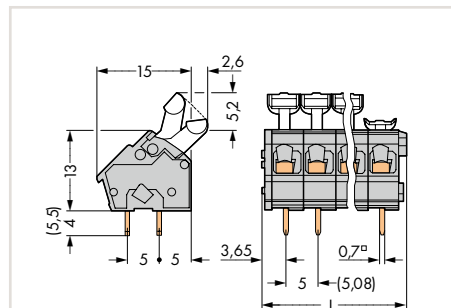
- Versions for Ex e II
- Other colors
- Solder pin length: 5.5 mm

PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 256 Series

1



Dimensions (in mm):

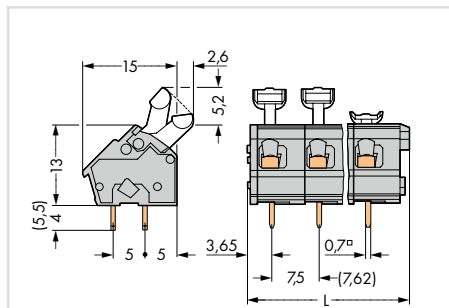


$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-402	400 (100)
3	256-403	280 (70)
4	256-404	200 (50)
5	256-405	160 (40)
6	256-406	140 (35)
7	256-407	120 (30)
8	256-408	100 (25)
9	256-409	100 (25)
10	256-410	80 (20)
12	256-412	60 (15)
16	256-416	60 (15)
24	256-424	40 (10)
36	256-436	20 (5)
48	256-448	20 (5)

Dimensions (in mm):

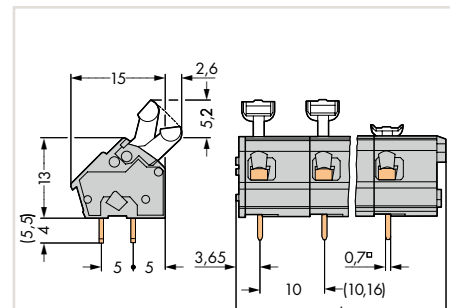


$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-502	280 (70)
3	256-503	180 (45)
4	256-504	140 (35)
5	256-505	120 (30)
6	256-506	100 (25)
7	256-507	80 (20)
8	256-508	60 (15)
9	256-509	60 (15)
10	256-510	60 (15)
12	256-512	40 (10)
16	256-516	40 (10)
24	256-524	20 (5)

Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-602	200 (50)
3	256-603	140 (35)
4	256-604	100 (25)
5	256-605	80 (20)
6	256-606	60 (15)
7	256-607	60 (15)
8	256-608	60 (15)
9	256-609	40 (10)
10	256-610	40 (10)
12	256-612	40 (10)
16	256-616	20 (5)
24	256-624	20 (5)

Available upon request (depending on quantity required):

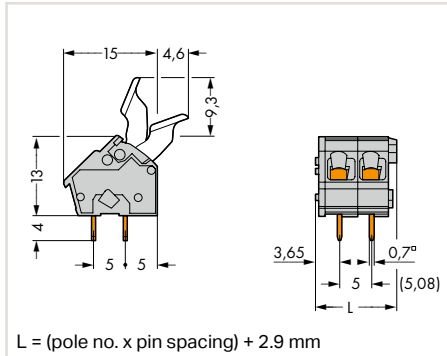
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking
- Solder pin length: 5.5 mm

PCB Terminal Strips with Finger-Operated Levers, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 256 Series

1



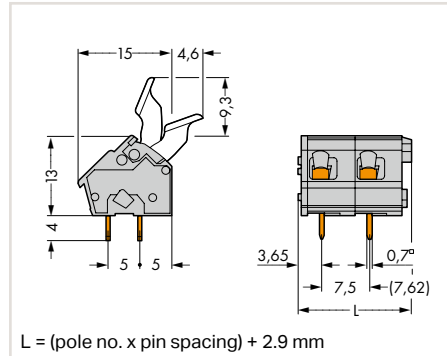
Dimensions (in mm):



PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-402/333-000	400 (100)
3	256-403/333-000	280 (70)
4	256-404/333-000	200 (50)
5	256-405/333-000	160 (40)
6	256-406/333-000	140 (35)
7	256-407/333-000	120 (30)
8	256-408/333-000	100 (25)
9	256-409/333-000	100 (25)
10	256-410/333-000	80 (20)
12	256-412/333-000	60 (15)

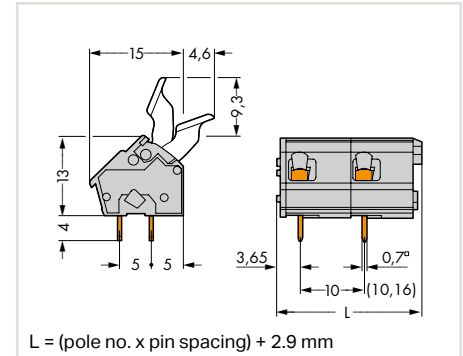
Dimensions (in mm):



PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-502/333-000	280 (70)
3	256-503/333-000	180 (45)
4	256-504/333-000	140 (35)
5	256-505/333-000	120 (30)
6	256-506/333-000	100 (25)
7	256-507/333-000	80 (20)
8	256-508/333-000	60 (15)
9	256-509/333-000	60 (15)
10	256-510/333-000	60 (15)
12	256-512/333-000	40 (10)

Dimensions (in mm):



PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-602/333-000	200 (50)
3	256-603/333-000	140 (35)
4	256-604/333-000	100 (25)
5	256-605/333-000	80 (20)
6	256-606/333-000	60 (15)
7	256-607/333-000	60 (15)
8	256-608/333-000	60 (15)
9	256-609/333-000	40 (10)
10	256-610/333-000	40 (10)
12	256-612/333-000	40 (10)

Note:

For lengths greater than three poles (5/5.08 mm pin spacing), finger lever operation for center levers may not be possible due to finger size/spacing limitations.

Available upon request (depending on quantity required):

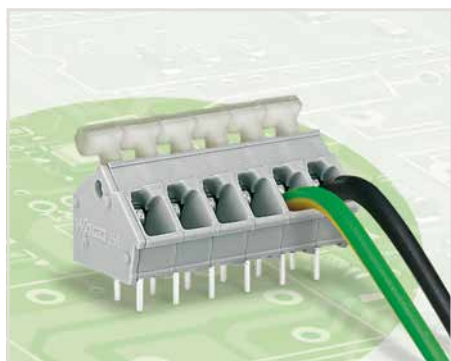
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Blocks with Angled Push-Buttons, 2.5 mm²

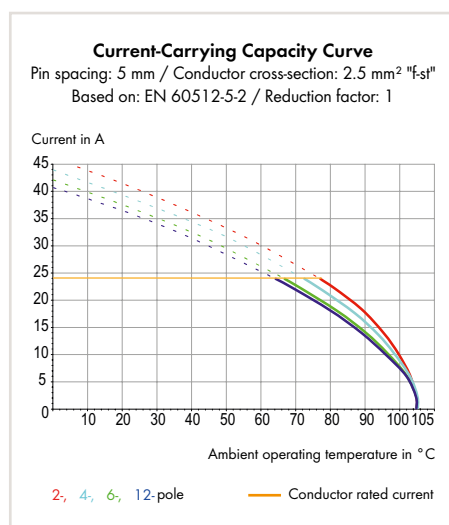
Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm

256 Series

1



- PCB modular terminal blocks and terminal strips with angled push-buttons and CAGE CLAMP® connection
- New version with angled push-buttons for easy top-of-unit actuation
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	320 V	500 V
Rated surge voltage (III / 3)	4 kV	4 kV	6 kV
Rated voltage (III / 2)	320 V	320 V	630 V
Rated surge voltage (III / 2)	4 kV	4 kV	6 kV
Rated voltage (II / 2)	630 V	630 V	1000 V
Rated surge voltage (II / 2)	4 kV	4 kV	6 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug adapter,
see page 218

Additional technical information,
see Section 13

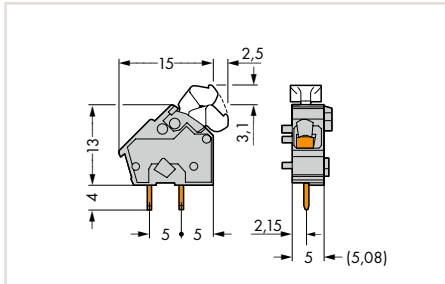
Approvals and corresponding ratings,
visit www.wago.com

Modular PCB Terminal Blocks with Angled Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 256 Series

1



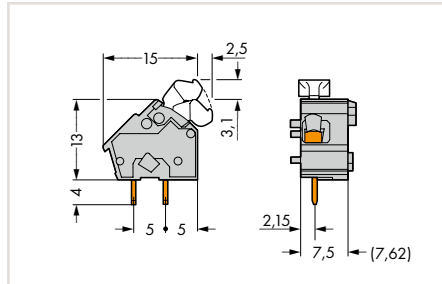
Dimensions (in mm):



Modular PCB terminal block with angled push-button, 2 solder pins/pole, 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	256-461	600 (100)
● red	256-840	600 (100)
● dark gray	256-842	600 (100)
○ light gray	256-843	600 (100)
● blue	256-844	600 (100)
● orange	256-846	600 (100)
● light green	256-847	600 (100)

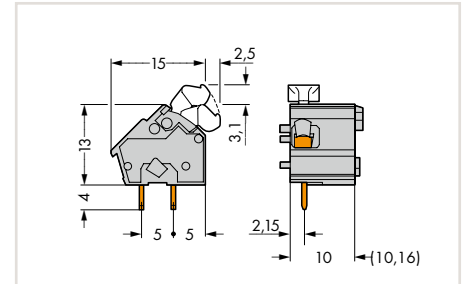
Dimensions (in mm):



Modular PCB terminal block with angled push-button, 2 solder pins/pole, 7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	256-561	400 (100)
● red	256-850	400 (100)
● dark gray	256-852	400 (100)
○ light gray	256-853	400 (100)
● blue	256-854	400 (100)
● orange	256-856	400 (100)
● light green	256-857	400 (100)

Dimensions (in mm):



Modular PCB terminal block with angled push-button, 2 solder pins/pole, 10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	256-661	300 (100)
● red	256-860	300 (100)
● dark gray	256-862	300 (100)
○ light gray	256-863	300 (100)
● blue	256-864	300 (100)
● orange	256-866	300 (100)
● light green	256-867	300 (100)



End plate, snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
○ gray	256-100	100
● dark gray	256-200	100
○ light gray	256-300	100
● blue	256-400	100
● red	256-500	100
● orange	256-600	100
● light green	256-700	100
● black	256-800	100

Available upon request (depending on quantity required):

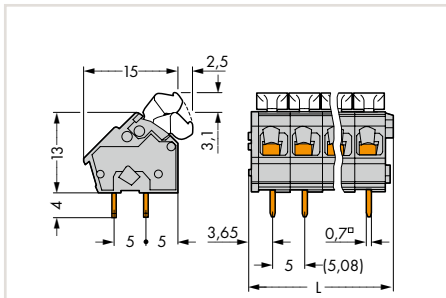
- Other colors

PCB Terminal Strips with Angled Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 256 Series

1



Dimensions (in mm):

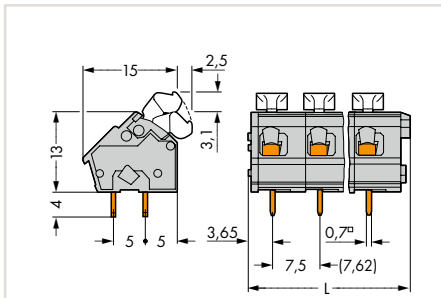


$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with angled push-buttons, 2 solder pins/pole, gray, 5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-402/334-000	400 (100)
3	256-403/334-000	280 (70)
4	256-404/334-000	200 (50)
5	256-405/334-000	160 (40)
6	256-406/334-000	140 (35)
7	256-407/334-000	120 (30)
8	256-408/334-000	100 (25)
9	256-409/334-000	100 (25)
10	256-410/334-000	80 (20)
12	256-412/334-000	60 (15)
16	256-416/334-000	60 (15)
24	256-424/334-000	40 (10)
36	256-436/334-000	20 (5)
48	256-448/334-000	20 (5)

Dimensions (in mm):

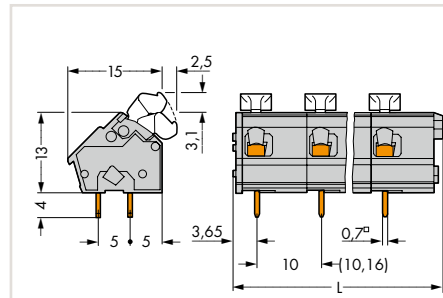


$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with angled push-buttons, 2 solder pins/pole, gray, 7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-502/334-000	280 (70)
3	256-503/334-000	180 (45)
4	256-504/334-000	140 (35)
5	256-505/334-000	120 (30)
6	256-506/334-000	100 (25)
7	256-507/334-000	80 (20)
8	256-508/334-000	60 (15)
9	256-509/334-000	60 (15)
10	256-510/334-000	60 (15)
12	256-512/334-000	40 (10)
16	256-516/334-000	40 (10)
24	256-524/334-000	20 (5)

Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

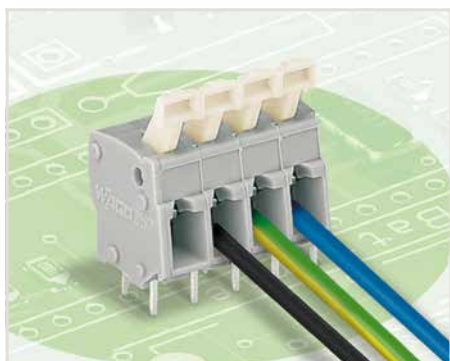
PCB terminal strip with angled push-buttons, 2 solder pins/pole, gray, 10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	256-602/334-000	200 (50)
3	256-603/334-000	140 (35)
4	256-604/334-000	100 (25)
5	256-605/334-000	80 (20)
6	256-606/334-000	60 (15)
7	256-607/334-000	60 (15)
8	256-608/334-000	60 (15)
9	256-609/334-000	40 (10)
10	256-610/334-000	40 (10)
12	256-612/334-000	40 (10)
16	256-616/334-000	20 (5)
24	256-624/334-000	20 (5)

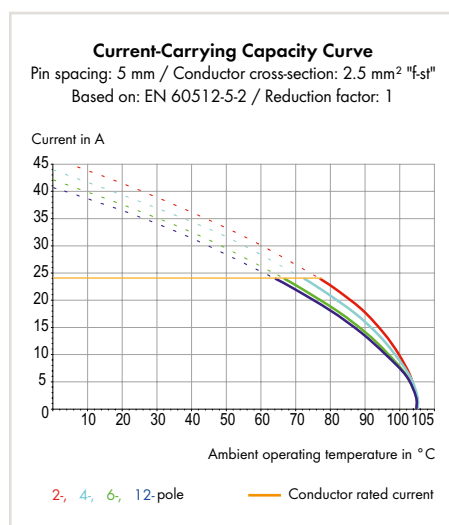
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Blocks with Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 257 Series



- PCB modular terminal blocks and terminal strips with push-buttons and CAGE CLAMP® connection
- Versions with Ex approval
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation
- Versions with angled push-buttons for simple top-of-unit actuation



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	24 A	24 A	24 A

Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A

Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.7 x 0.7 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Commoning strips,
see page 75

Test plug adapter,
see page 218

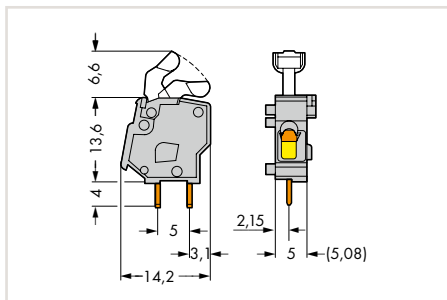
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Modular PCB Terminal Blocks with Angled Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 257 Series



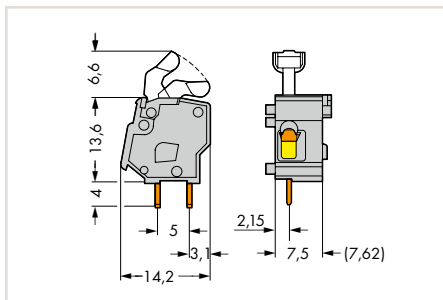
Dimensions (in mm):



Modular PCB terminal block with angled push-button, 2 solder pins/pole, 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	257-451	500 (100)
red	257-840	500 (100)
dark gray	257-842	500 (100)
light gray	257-843	500 (100)
blue	257-844	500 (100)
orange	257-846	500 (100)
light green	257-847	500 (100)

Dimensions (in mm):

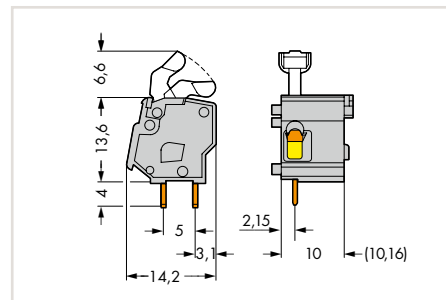


Modular PCB terminal block with angled push-button, 2 solder pins/pole, 7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	257-551	400 (100)
red	257-850	400 (100)
dark gray	257-852	400 (100)
light gray	257-853	400 (100)
blue*	257-854	400 (100)
orange	257-856	400 (100)
light green	257-857	400 (100)

*Suitable for Ex i applications

Dimensions (in mm):



Modular PCB terminal block with angled push-button, 2 solder pins/pole, 10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	257-651	300 (100)
red	257-860	300 (100)
dark gray	257-862	300 (100)
light gray	257-863	300 (100)
blue*	257-864	300 (100)
orange	257-866	300 (100)
light green	257-867	300 (100)



Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	257-801	500 (100)



Spacer, doubles 7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	257-811	400 (100)



Spacer, doubles 10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	257-821	300 (100)



End plate, snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
gray	257-100	100
dark gray	257-200	100
light gray	257-300	100
blue	257-400	100
red	257-500	100
orange	257-600	100
light green	257-700	100

Available upon request (depending on quantity required):

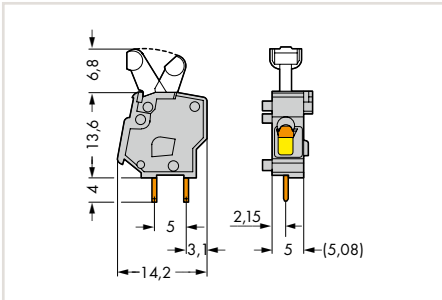
- Versions for Ex e II
- Other colors

Modular PCB Terminal Blocks with Straight Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 257 Series

1



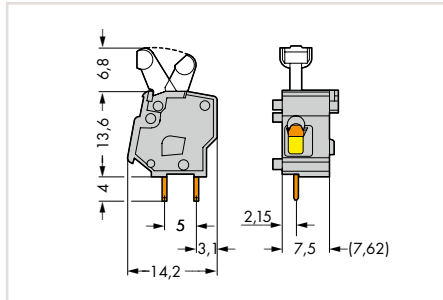
Dimensions (in mm):



Modular PCB terminal block with straight push-button, 2 solder pins/pole, 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	257-401	500 (100)
● red	257-740	500 (100)
● dark gray	257-742	500 (100)
○ light gray	257-743	500 (100)
● blue	257-744	500 (100)
● orange	257-746	500 (100)
● light green	257-747	500 (100)

Dimensions (in mm):

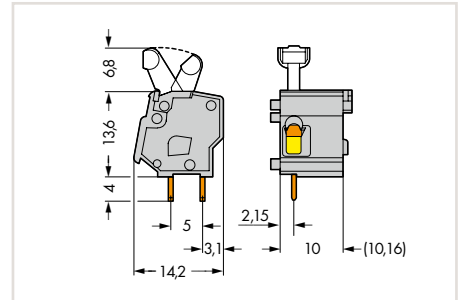


Modular PCB terminal block with straight push-button, 2 solder pins/pole, 7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	257-501	400 (100)
● red	257-750	400 (100)
● dark gray	257-752	400 (100)
○ light gray	257-753	400 (100)
● blue*	257-754	400 (100)
● orange	257-756	400 (100)
● light green	257-757	400 (100)

*Suitable for Ex i applications

Dimensions (in mm):



Modular PCB terminal block with straight push-button, 2 solder pins/pole, 10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	257-601	300 (100)
● red	257-760	300 (100)
● dark gray	257-762	300 (100)
○ light gray	257-763	300 (100)
● blue*	257-764	300 (100)
● orange	257-766	300 (100)
● light green	257-767	300 (100)



Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	257-801	500 (100)



Spacer, doubles 7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	257-811	400 (100)



Spacer, doubles 10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	257-821	300 (100)



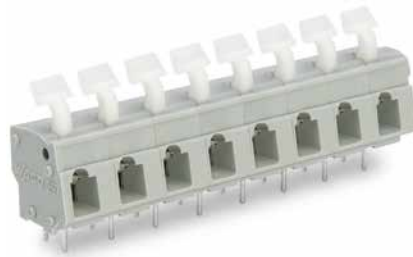
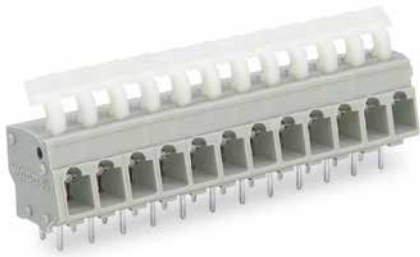
End plate, snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
○ gray	257-100	100
● dark gray	257-200	100
○ light gray	257-300	100
● blue	257-400	100
● red	257-500	100
● orange	257-600	100
● light green	257-700	100

Available upon request (depending on quantity required):

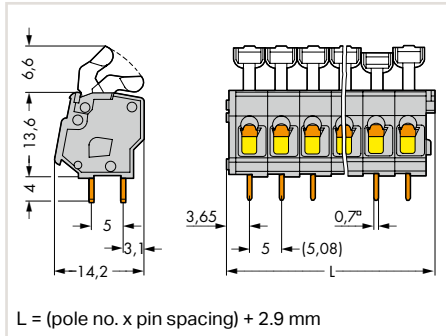
- Versions for Ex e II
- Other colors

PCB Terminal Strips with Angled Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 257 Series



1

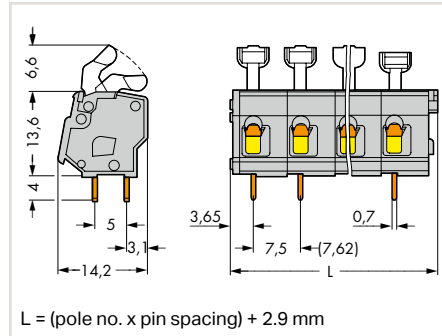
Dimensions (in mm):



PCB terminal strip with angled push-buttons,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-452	400 (100)
3	257-453	280 (70)
4	257-454	220 (55)
5	257-455	180 (40)
6	257-456	140 (35)
7	257-457	120 (30)
8	257-458	100 (25)
9	257-459	100 (25)
10	257-460	80 (20)
12	257-462	80 (20)
16	257-466	60 (15)
24	257-474	40 (10)
36	257-486	20 (5)
48	257-498	20 (5)

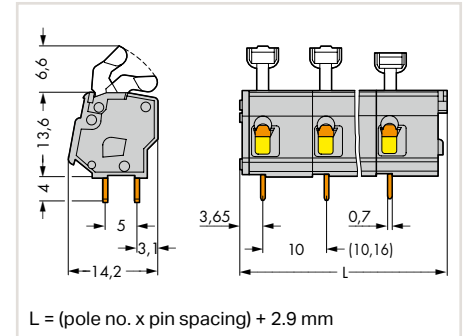
Dimensions (in mm):



PCB terminal strip with angled push-buttons,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-552	280 (70)
3	257-553	200 (50)
4	257-554	140 (35)
5	257-555	120 (30)
6	257-556	100 (25)
7	257-557	80 (20)
8	257-558	80 (20)
9	257-559	60 (15)
10	257-560	60 (15)
12	257-562	40 (10)
16	257-566	40 (10)
24	257-574	20 (5)

Dimensions (in mm):



PCB terminal strip with angled push-buttons,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

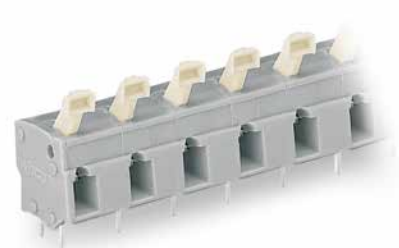
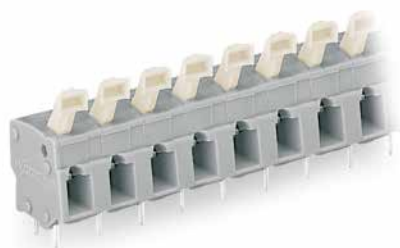
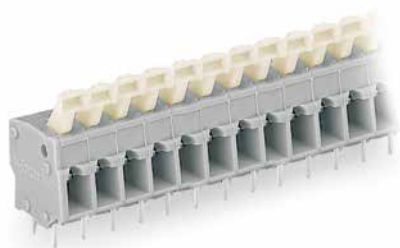
Pole No.	Item No.	Pack. Unit
2	257-652	200 (50)
3	257-653	140 (35)
4	257-654	100 (25)
5	257-655	80 (20)
6	257-656	80 (20)
7	257-657	60 (15)
8	257-658	60 (15)
9	257-659	40 (10)
10	257-660	40 (10)
12	257-662	40 (10)
16	257-666	20 (5)
24	257-674	20 (5)

Available upon request (depending on quantity required):

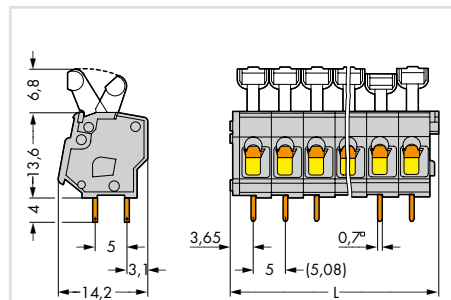
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Straight Push-Buttons, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 257 Series

1



Dimensions (in mm):

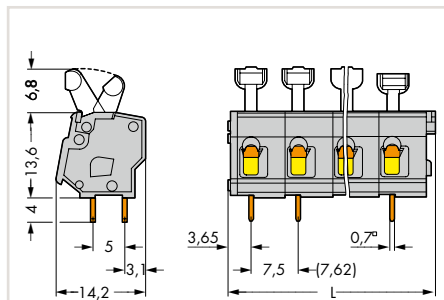


$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with straight push-buttons,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-402	400 (100)
3	257-403	280 (70)
4	257-404	220 (55)
5	257-405	180 (40)
6	257-406	140 (35)
7	257-407	120 (30)
8	257-408	100 (25)
9	257-409	100 (25)
10	257-410	80 (20)
12	257-412	80 (20)
16	257-416	60 (15)
24	257-424	40 (10)
36	257-436	20 (5)
48	257-448	20 (5)

Dimensions (in mm):

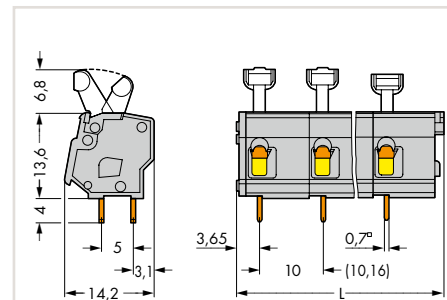


$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with straight push-buttons,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-502	280 (70)
3	257-503	200 (50)
4	257-504	140 (35)
5	257-505	120 (30)
6	257-506	100 (25)
7	257-507	80 (20)
8	257-508	80 (20)
9	257-509	60 (15)
10	257-510	60 (15)
12	257-512	40 (10)
16	257-516	40 (10)
24	257-524	20 (5)

Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$

PCB terminal strip with straight push-buttons,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-602	200 (50)
3	257-603	140 (35)
4	257-604	100 (25)
5	257-605	80 (20)
6	257-606	80 (20)
7	257-607	60 (15)
8	257-608	60 (15)
9	257-609	40 (10)
10	257-610	40 (10)
12	257-612	40 (10)
16	257-616	20 (5)
24	257-624	20 (5)

Available upon request (depending on quantity required):

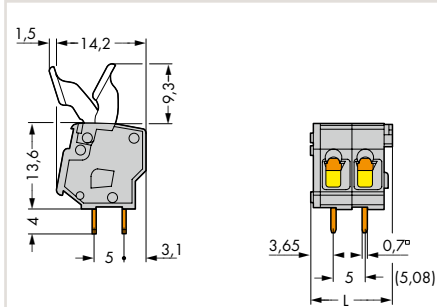
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Finger-Operated Levers, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 257 Series

1



Dimensions (in mm):

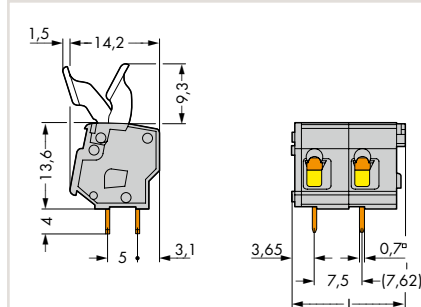


$$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$$

PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-402/333-000	400 (100)
3	257-403/333-000	280 (70)
4	257-404/333-000	220 (55)
5	257-405/333-000	180 (45)
6	257-406/333-000	140 (35)
7	257-407/333-000	120 (30)
8	257-408/333-000	100 (25)
9	257-409/333-000	100 (25)
10	257-410/333-000	80 (20)
12	257-412/333-000	80 (20)

Dimensions (in mm):

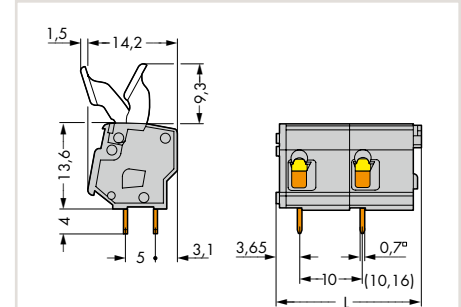


$$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$$

PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-502/333-000	280 (70)
3	257-503/333-000	200 (50)
4	257-504/333-000	140 (35)
5	257-505/333-000	120 (30)
6	257-506/333-000	100 (25)
7	257-507/333-000	80 (20)
8	257-508/333-000	80 (20)
9	257-509/333-000	60 (15)
10	257-510/333-000	60 (15)
12	257-512/333-000	40 (10)

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 2.9 \text{ mm}$$

PCB terminal strip with finger-operated levers,
2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	257-602/333-000	200 (50)
3	257-603/333-000	140 (35)
4	257-604/333-000	100 (25)
5	257-605/333-000	80 (20)
6	257-606/333-000	80 (20)
7	257-607/333-000	60 (15)
8	257-608/333-000	60 (15)
9	257-609/333-000	40 (10)
10	257-610/333-000	40 (10)
12	257-612/333-000	40 (10)

Note:

For lengths greater than three poles (5/5.08 mm pin spacing), finger lever operation for center levers may not be possible due to finger size/spacing limitations.

Available upon request (depending on quantity required):

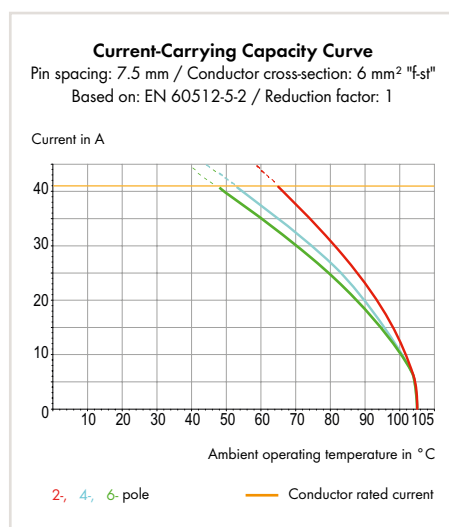
- Other pole numbers
- Versions for Ex e II and Ex i
- Other colors: ● red, ● blue, ● dark gray, ● light gray, ● orange, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Operating Levers, 6 mm² Pin Spacing: 7.5 mm, 10 mm, 12.5 mm 2706 Series

1



- High-current PCB terminal strips with lever-actuated CAGE CLAMP®
- Tool-free opening and closing – fingers open/close levers
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Two solder pins per contact point for high mechanical stability
- 600 V UL for 12.5 mm pin spacing



Electrical Data for Pin Spacing

	7.5 mm 0.295 inch	10 mm 0.394 inch	12.5 mm 0.492 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	800 V	1000 V
Rated surge voltage (III / 3)	6 kV	8 kV	8 kV
Rated voltage (III / 2)	630 V	1000 V	1000 V
Rated surge voltage (III / 2)	6 kV	8 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	8 kV	8 kV
Rated current	41 A	41 A	41 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	30 A	30 A	30 A
Rated voltage UL (Use Group C)	150 V	150 V	600 V
Rated current UL (Use Group C)	30 A	30 A	30 A
Rated voltage UL (Use Group D)	300 V	300 V	
Rated current UL (Use Group D)	30 A	30 A	

Connection Data

Connection technology	CAGE CLAMP®
Strip length	11 ... 12 mm / 0.43 ... 0.47 inch
Conductor entry angle to the PCB	30°
Conductor cross-sections	
Solid conductor	0.5 ... 6 mm ² / 20 ... 10 AWG
Fine-stranded conductor	0.5 ... 6 mm ² / 20 ... 10 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 6 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 6 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	1 x 1.4 mm
Drilled hole diameter	1.8 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Test plugs,
see page 601

Additional technical information,
see Section 13

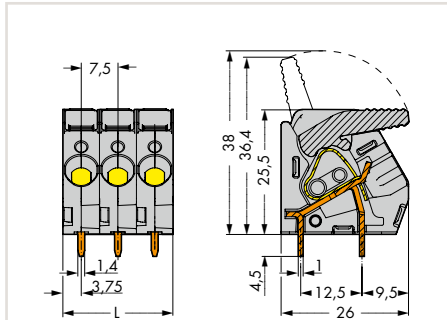
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Operating Levers, 6 mm² Pin Spacing: 7.5 mm, 10 mm, 12.5 mm 2706 Series



1

Dimensions (in mm):

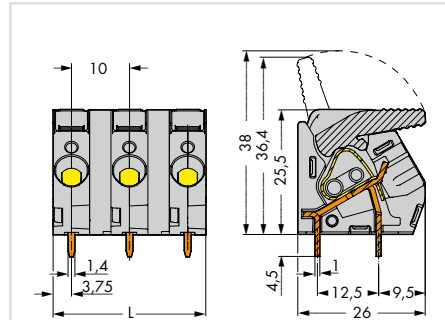


L = pole no. x pin spacing

PCB terminal strip with levers,
2 solder pins/pole, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2706-102	85
3	2706-103	55
4	2706-104	40
5	2706-105	30
6	2706-106	25
7	2706-107	20
8	2706-108	20
9	2706-109	15
10	2706-110	15
11	2706-111	15
12	2706-112	15

Dimensions (in mm):

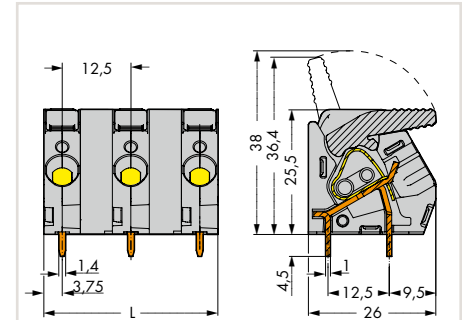


L = (pole no. x pin spacing) - 2.5 mm

PCB terminal strip with levers,
2 solder pins/pole, gray,
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2706-202	70
3	2706-203	45
4	2706-204	30
5	2706-205	25
6	2706-206	20
7	2706-207	15
8	2706-208	15
9	2706-209	10
10	2706-210	10
11	2706-211	10
12	2706-212	10

Dimensions (in mm):



L = (pole no. x pin spacing) - 5 mm

PCB terminal strip with levers,
2 solder pins/pole, gray,
12.5 mm (0.492 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2706-302	65
3	2706-303	40
4	2706-304	35
5	2706-305	20
6	2706-306	15
7	2706-307	15
8	2706-308	10
9	2706-309	10
10	2706-310	10
11	2706-311	5
12	2706-312	5

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ○ light gray, ● green-yellow, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Operating Levers and Jumper Slots, 6 mm²

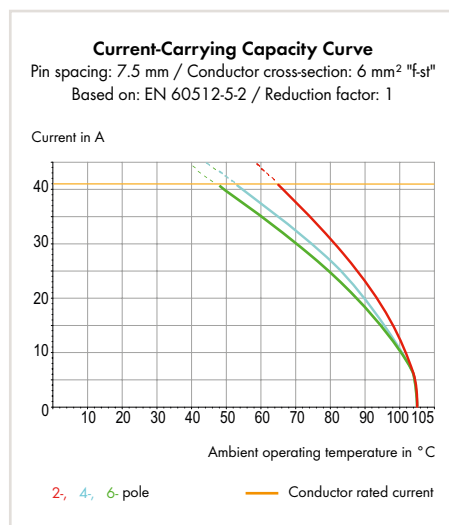
Pin Spacing: 7.5 mm, 10 mm

2706 Series

1



- High-current PCB terminal strips with lever-actuated CAGE CLAMP®
- Tool-free opening and closing – fingers open/close levers
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Two solder pins per contact point for high mechanical stability
- Versions with optional commoning for distributing potentials



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch	10 mm / 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	800 V
Rated surge voltage (III / 3)	6 kV	8 kV
Rated voltage (III / 2)	630 V	1000 V
Rated surge voltage (III / 2)	6 kV	8 kV
Rated voltage (II / 2)	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	8 kV
Rated current	41 A	41 A

Note (rated voltage)

Using adjacent jumpers, the rated voltage is reduced to 400 V with 7.5 mm pin spacing in Category III/3

Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	30 A	30 A
Rated voltage UL (Use Group C)	150 V	300 V
Rated current UL (Use Group C)	30 A	30 A
Rated voltage UL (Use Group D)	300 V	600 V
Rated current UL (Use Group D)	30 A	5 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	11 ... 12 mm / 0.43 ... 0.47 inch
Conductor entry angle to the PCB	30°
Conductor cross-sections	
Solid conductor	0.5 ... 6 mm ² / 20 ... 10 AWG
Fine-stranded conductor	0.5 ... 6 mm ² / 20 ... 10 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 6 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 6 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	1 x 1.4 mm
Drilled hole diameter	1.8 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Test plugs, see page 601

Comb-style jumper bars, see page 216

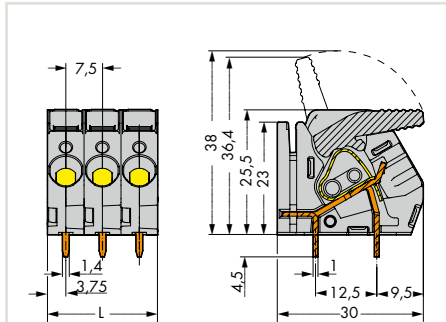
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips with Operating Levers and Jumper Slots, 6 mm² Pin Spacing: 7.5 mm, 10 mm 2706 Series



Dimensions (in mm):

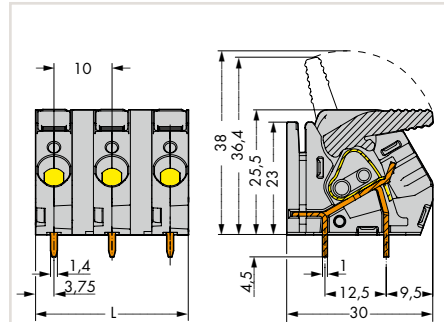


L = pole no. x pin spacing

PCB terminal strip with levers and
jumper slots, 2 solder pins/pole, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2706-152	85
3	2706-153	55
4	2706-154	40
5	2706-155	30
6	2706-156	25
7	2706-157	20
8	2706-158	20
9	2706-159	15
10	2706-160	15
11	2706-161	15
12	2706-162	15

Dimensions (in mm):



L = (pole no. x pin spacing) - 2.5 mm

PCB terminal strip with levers and
jumper slots, 2 solder pins/pole, gray,
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2706-252	70
3	2706-253	45
4	2706-254	30
5	2706-255	25
6	2706-256	20
7	2706-257	15
8	2706-258	15
9	2706-259	10
10	2706-260	10
11	2706-261	10
12	2706-262	10

Available upon request (depending on quantity required):

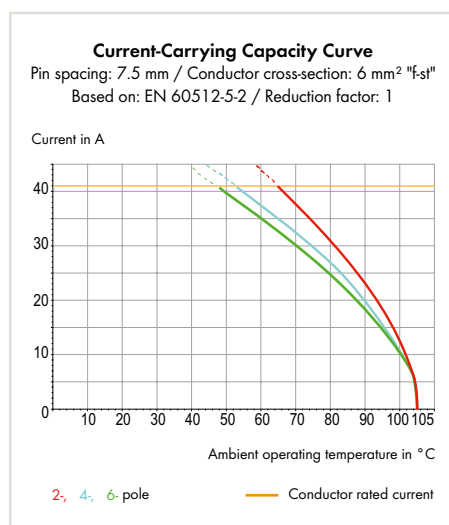
- Other pole numbers
- Other colors: ● blue, ○ light gray, ● green-yellow, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Operating Levers, 6 mm² Pin Spacing: 10 mm, 15 mm 2716 Series

1



- High-current PCB terminal strips with lever-actuated CAGE CLAMP®
- Tool-free opening and closing – fingers open/close levers
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Four solder pins per contact point for high mechanical stability
- 600 V UL for 15 mm pin spacing
- Pin and dimensions compatible to high-current, screw-type terminal blocks



Electrical Data for Pin Spacing

	10 mm / 0.394 inch	15 mm / 0.591 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	800 V
Rated surge voltage (III / 3)	4 kV	8 kV
Rated voltage (III / 2)	320 V	1000 V
Rated surge voltage (III / 2)	4 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V
Rated surge voltage (II / 2)	4 kV	8 kV
Rated current	76 A	76 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	600 V
Rated current UL (Use Group B)	55 A	65 A
Rated voltage UL (Use Group C)	150 V	600 V
Rated current UL (Use Group C)	55 A	65 A
Rated voltage UL (Use Group D)	300 V	
Rated current UL (Use Group D)	10 A	

Connection Data

Connection technology	CAGE CLAMP®
Strip length	12 ... 13 mm / 0.47 ... 0.51 inch
Conductor entry angle to the PCB	30°
Conductor cross-sections	
Solid conductor	1.5 ... 16 mm ² / 16 ... 6 AWG
Fine-stranded conductor	1.5 ... 16 mm ² / 16 ... 6 AWG
Fine-stranded conductor with insulated ferrule	1.5 ... 10 mm ²
Fine-stranded conductor with uninsulated ferrule	1.5 ... 10 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	0.95 x 1.2 mm
Drilled hole diameter	1.6 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Test plugs,
see page 601

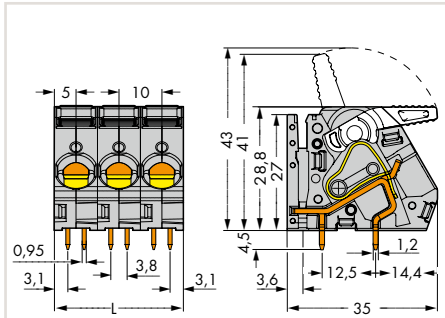
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Operating Levers, 6 mm² Pin Spacing: 10 mm, 15 mm 2716 Series



Dimensions (in mm):

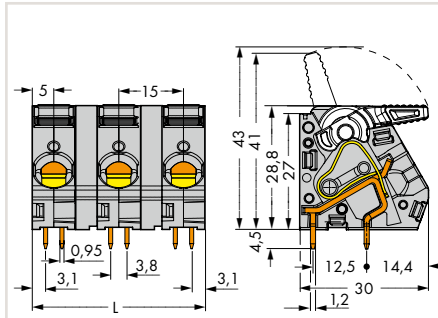


L = pole no. x pin spacing

PCB terminal strip with levers,
4 solder pins/pole, gray,
10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2716-102	65
3	2716-103	40
4	2716-104	30
5	2716-105	25
6	2716-106	20
7	2716-107	15
8	2716-108	15

Dimensions (in mm):



L = (pole no. x pin spacing) - 5 mm

PCB terminal strip with levers,
4 solder pins/pole, gray,
15 mm (0.591 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2716-202	50
3	2716-203	30
4	2716-204	20
5	2716-205	15
6	2716-206	15
7	2716-207	10
8	2716-208	10

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ○ light gray, ● green-yellow, ● light green
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Operating Levers and Jumper Slots, 16 mm²

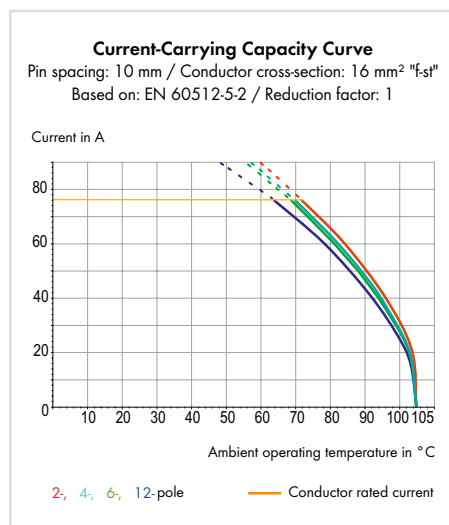
Pin Spacing: 10 mm, 15 mm

2716 Series

1



- High-current PCB terminal strips with lever-actuated CAGE CLAMP®
- Tool-free opening and closing – fingers open/close levers
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Four solder pins per contact point for high mechanical stability
- 600 V UL for 15 mm pin spacing
- Versions with optional commoning for distributing potentials



Electrical Data for Pin Spacing

	10 mm / 0.394 inch	15 mm / 0.591 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	800 V
Rated surge voltage (III / 3)	4 kV	8 kV
Rated voltage (III / 2)	320 V	1000 V
Rated surge voltage (III / 2)	4 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V
Rated surge voltage (II / 2)	4 kV	8 kV
Rated current	76 A	76 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	600 V
Rated current UL (Use Group B)	55 A	65 A
Rated voltage UL (Use Group C)	150 V	600 V
Rated current UL (Use Group C)	55 A	65 A
Rated voltage UL (Use Group D)	300 V	
Rated current UL (Use Group D)	10 A	

Connection Data

Connection technology	CAGE CLAMP®
Strip length	12 ... 13 mm / 0.47 ... 0.51 inch
Conductor entry angle to the PCB	30°
Conductor cross-sections	
Solid conductor	1.5 ... 16 mm ² / 16 ... 6 AWG
Fine-stranded conductor	1.5 ... 16 mm ² / 16 ... 6 AWG
Fine-stranded conductor with insulated ferrule	1.5 ... 10 mm ²
Fine-stranded conductor with uninsulated ferrule	1.5 ... 10 mm ²

Solder Pin Data

Solder pin length	4.5 mm
Solder pin dimensions	0.95 x 1.2 mm
Drilled hole diameter	1.6 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

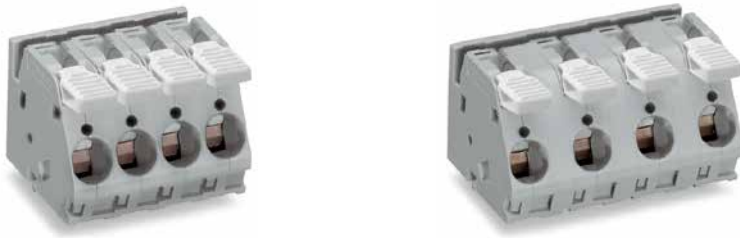
Test plugs, see page 601

Comb-style jumper bars, see page 219

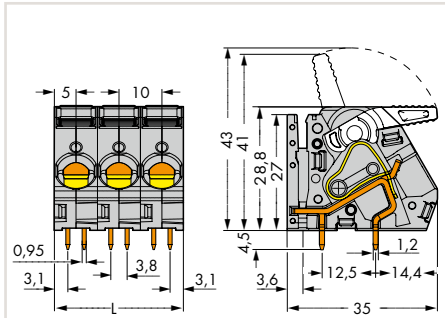
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips with Operating Levers and Jumper Slots, 16 mm² Pin Spacing: 10 mm, 15 mm 2716 Series



Dimensions (in mm):

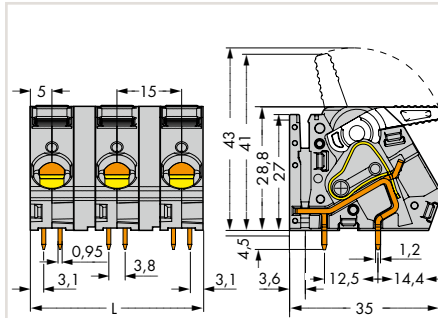


L = pole no. x pin spacing

PCB terminal strip with levers and jumper slots, 4 solder pins/pole, gray, 10 mm (0.394 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2716-152	52
3	2716-153	32
4	2716-154	24
5	2716-155	20
6	2716-156	16
7	2716-157	12
8	2716-158	12

Dimensions (in mm):



L = (pole no. x pin spacing) - 5 mm

PCB terminal strip with levers and jumper slots, 4 solder pins/pole, gray, 15 mm (0.591 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2716-252	40
3	2716-253	24
4	2716-254	16
5	2716-255	12
6	2716-256	12
7	2716-257	8
8	2716-258	8

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ○ light gray, ● green-yellow, ● light green
- Mixed-color terminal strips
- Direct marking

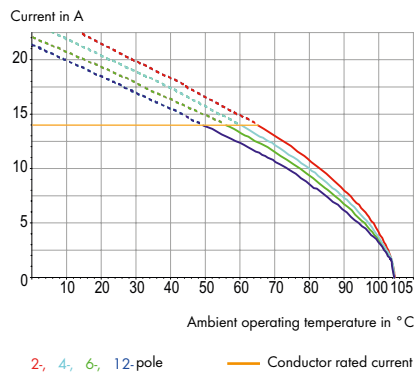
2-Conductor PCB Terminal Strips, 1.5 mm² Pin Spacing: 5 mm 816 Series



- Two-conductor PCB terminal strips with screwdriver actuation and Push-in CAGE CLAMP® connection
- Double entries for supply and power distribution
- Simple, reliable connection via clamping units featuring individual operating slots
- Simple, push-in termination of solid and ferruled conductors

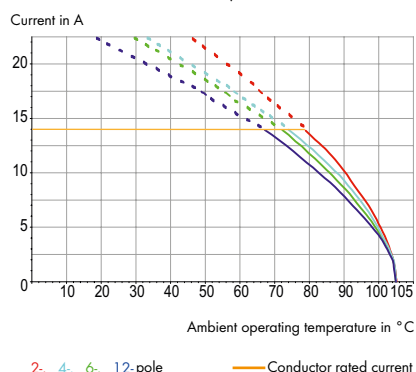
Current-Carrying Capacity Curve Conductor – Solder Pin

Pin spacing: 5 mm / Conductor cross-section: 1.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Current-Carrying Capacity Curve Conductor – Conductor

Pin spacing: 5 mm / Conductor cross-section: 1.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1



*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

5 mm / 0.197 inch	
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	14 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	8 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.2 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.2 ... 1.5 mm ²

Solder Pin Data

Solder pin length	3.5 mm
Solder pin dimensions	0.8 x 0.5 mm
Drilled hole diameter	1.1 ^{+0.1} mm

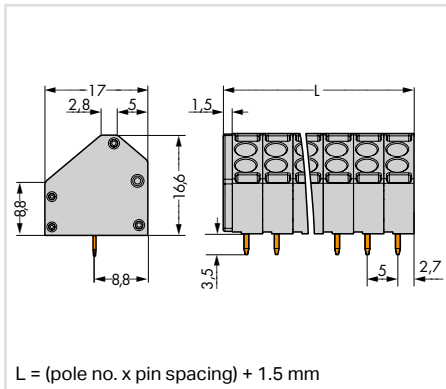
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

2-Conductor PCB Terminal Strips, 1.5 mm² Pin Spacing: 5 mm 816 Series



Dimensions (in mm):



2-conductor PCB terminal strip, 1 solder pin/pole,
gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	816-102	400
3	816-103	250
4	816-104	200
5	816-105	175
6	816-106	150
7	816-107	125
8	816-108	100
9	816-109	100
10	816-110	80
11	816-111	80
12	816-112	60



Open the clamping unit via 5.5 mm screwdriver to insert/remove fine-stranded conductors. Push in solid and ferruled conductors until fully inserted.

1

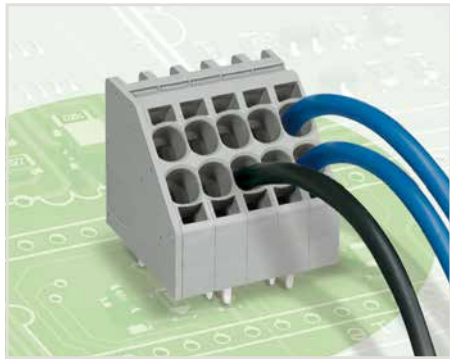
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ● orange, ● yellow
- Mixed-color terminal strips
- Direct marking

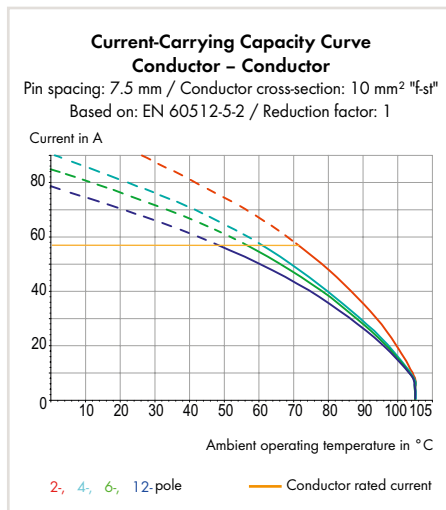
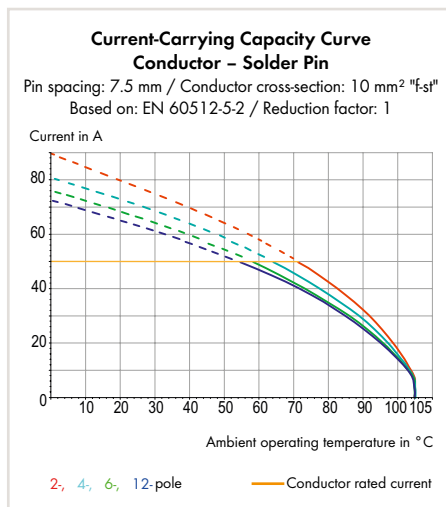
2-Conductor PCB Terminal Strips, 10 mm²

Pin Spacing: 7.5 mm

746 Series



- Two-conductor PCB terminal strips with screwdriver actuation and Push-in CAGE CLAMP® connection
- Double entries for supply and power distribution
- Simple, reliable connection via clamping units featuring individual operating slots
- 600 V UL per UL 1059
- Simple, push-in termination of solid and ferruled conductors
- Marker slot for Mini-WSB and WMB markers



*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	800 V
Rated voltage (III / 2)	8 kV
Rated surge voltage (III / 2)	1000 V
Rated voltage (II / 2)	8 kV
Rated surge voltage (II / 2)	1000 V
Rated current	8 kV
Approvals per	50 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	600 V
Rated voltage UL (Use Group C)	50 A
Rated current UL (Use Group C)	600 V
	50 A

Approvals per	CSA
Rated voltage CSA (Use Group B)	600 V
Rated current CSA (Use Group B)	44 A
Rated voltage CSA (Use Group C)	600 V
Rated current CSA (Use Group C)	44 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	13 ... 15 mm / 0.51 ... 0.59 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 6 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 6 mm ²

Solder Pin Data

Solder pin length	4.4 mm
Solder pin dimensions	1.6 x 1.2 mm
Drilled hole diameter	2.2 ^{+0.1} mm

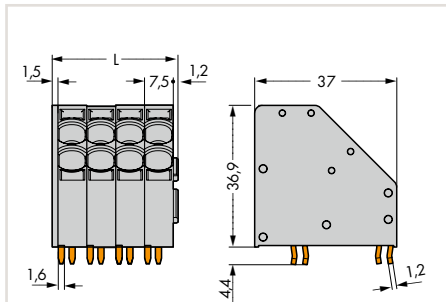
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

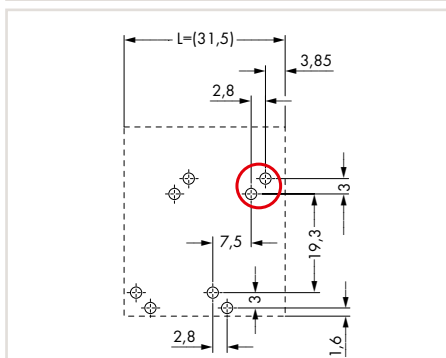
2-Conductor PCB Terminal Strips, 10 mm² Pin Spacing: 7.5 mm 746 Series



Dimensions (in mm):



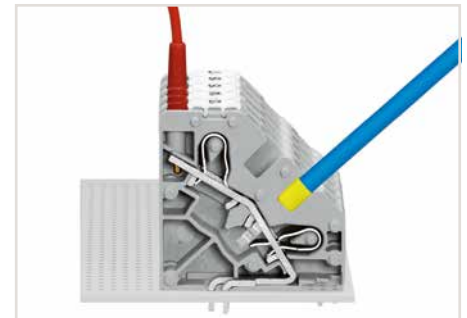
$$L = (\text{pole no.} \times \text{pin spacing}) + 2.7 \text{ mm}$$



First solder pins, right rear side (red circle)

2-conductor PCB terminal strip, 2 solder pins/
pole, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	746-2302	60
3	746-2303	40
4	746-2304	64
5	746-2305	48
6	746-2306	40
7	746-2307	16
8	746-2308	32
9	746-2309	24
10	746-2310	24
12	746-2312	16



Inserting solid and ferruled conductors by simply pushing them into unit.
Testing with 2 mm Ø test plug.



Inserting fine-stranded conductors via 5.5 mm screwdriver.

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ○ light gray, ● green-yellow, ● light green, ● blue (● blue for Ex i applications)
- Mixed-color terminal strips
- Direct marking

THR* PCB Terminal Blocks with Push-Buttons, 0.75 mm²

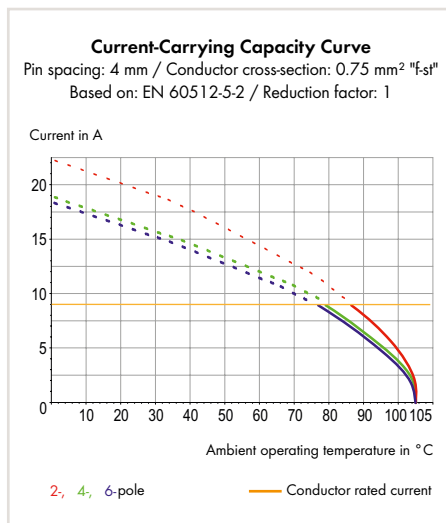
Pin Spacing: 4 mm

2060 Series

1



- THR PCB terminal blocks with push-buttons and Push-in CAGE CLAMP®
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 4.5 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also suitable for wave soldering
- For SMD version, see page 227



Electrical Data for Pin Spacing

Ratings per*	4 mm / 0.157 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	63 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
Approvals per	9 A
Rated voltage (UL), 1-pole	UL 1977
Rated voltage (UL), 2-pole and more	600 V
Rated current (UL)	320 V
	9 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.34 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.34 mm ²

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 0.75 mm
Plated through-hole diameter	1.5 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

Application note:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

Recommendation for stencil:

150 µm material thickness
The stencil hole diameter is identical to the outer diameter of the metal-plated PCB hole.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2



*THR (Through-Hole Reflow) soldering process, see page 97



Operating tools, see page 234



Additional technical information, see Section 13



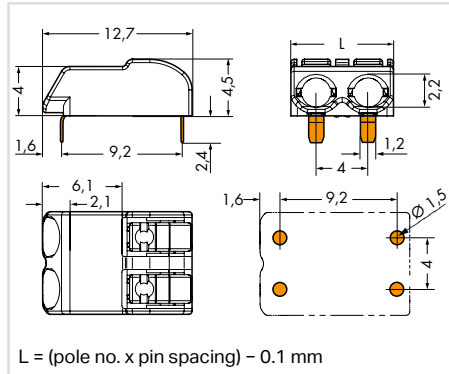
Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Blocks with Push-Buttons, 0.75 mm² Pin Spacing: 4 mm 2060 Series

1



Dimensions (in mm):

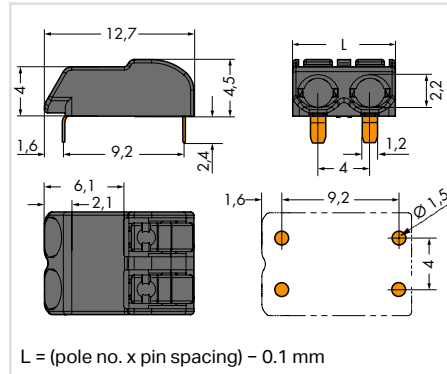


THR PCB terminal block with push-buttons,
2 solder pins/pole, white*, in tape-and-reel
packaging, 330 mm reel diameter,
4 mm (0.157 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2060-1451/998-404	10800 (1200)
2	2060-1452/998-404	6750 (750)
3	2060-1453/998-404	4950 (550)

*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

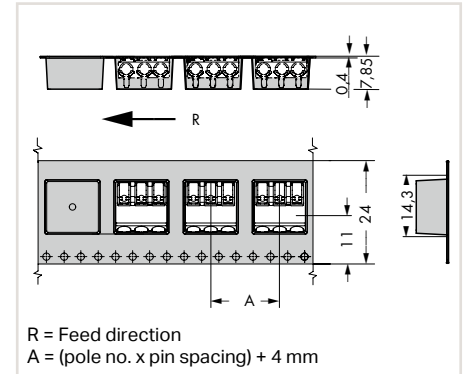
Dimensions (in mm):



THR PCB terminal block with push-buttons,
2 solder pins/pole, black, in tape-and-reel
packaging, 330 mm reel diameter,
4 mm (0.157 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2060-1471/998-404	10800 (1200)
2	2060-1472/998-404	6750 (750)
3	2060-1473/998-404	4950 (550)

Dimensions (in mm):



Insert solid conductors via push-in termination.



Insert/remove fine-stranded conductors by lightly pressing on push-button (e.g., via 206-860 Operating Tool).

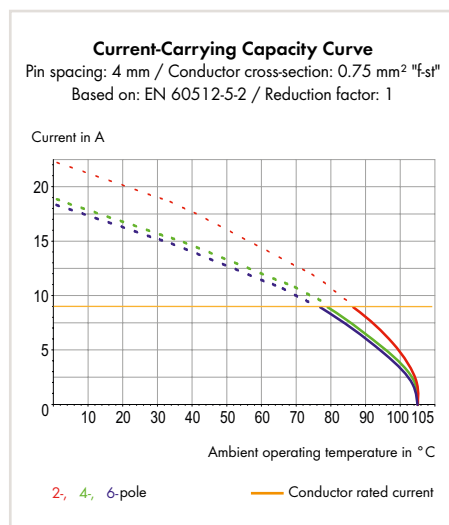
THR* PCB Terminal Blocks with Push-Buttons, 0.75 mm²

Pin Spacing: 8 mm

2060 Series



- THR PCB terminal blocks with push-buttons and Push-in CAGE CLAMP®
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 4.5 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also suitable for wave soldering
- For SMD version, see page 229



Application note:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

Recommendation for stencil:

150 µm material thickness
The stencil hole diameter is identical to the outer diameter of the metal-plated PCB hole.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2



*THR (Through-Hole Reflow) soldering process, see page 97



Operating tools, see page 234



Additional technical information, see Section 13



Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	8 mm / 0.314 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	400 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
Approvals per	9 A
Rated voltage (UL)	UL 1977
Rated current (UL)	600 V
	9 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.34 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.34 mm ²

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 0.75 mm
Plated through-hole diameter	1.5 ^{+0.1} mm

Material Data

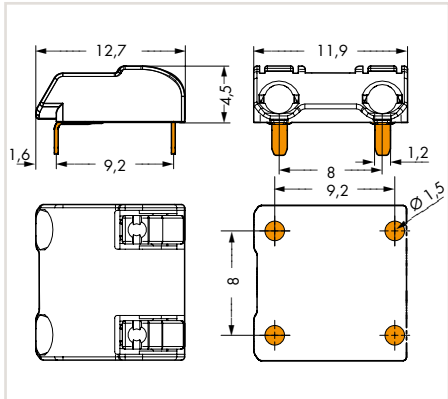
Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

THR PCB Terminal Blocks with Push-Buttons, 0.75 mm² Pin Spacing: 8 mm 2060 Series

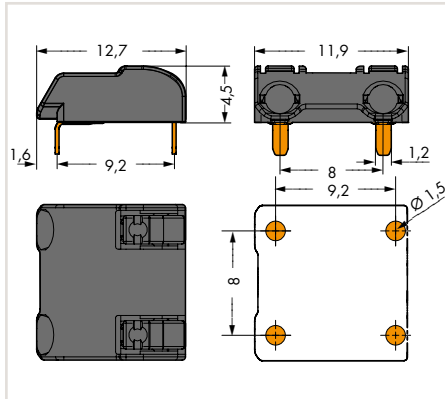


1

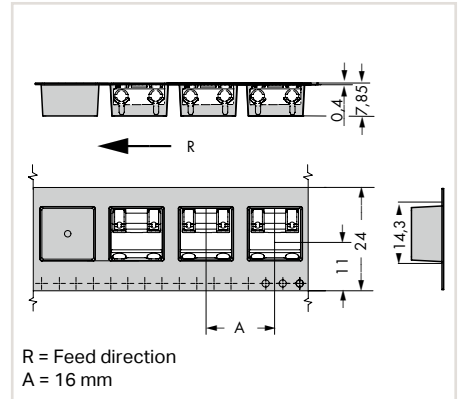
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



R = Feed direction
A = 16 mm

THR PCB terminal block with push-buttons, 2 solder pins/pole, white*, in tape-and-reel packaging, 330 mm reel diameter, 8 mm (0.314 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2060-1852/998-404	4950 (550)

THR PCB terminal block with push-buttons, 2 solder pins/pole, black, in tape-and-reel packaging, 330 mm reel diameter, 8 mm (0.314 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2060-1872/998-404	4950 (550)

*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.



Insert solid conductors via push-in termination.

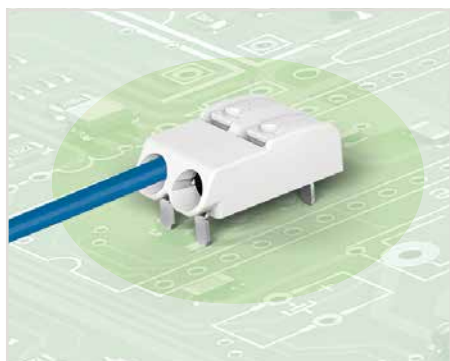


Insert/remove fine-stranded conductors by lightly pressing on push-button (e.g., via 206-860 Operating Tool).

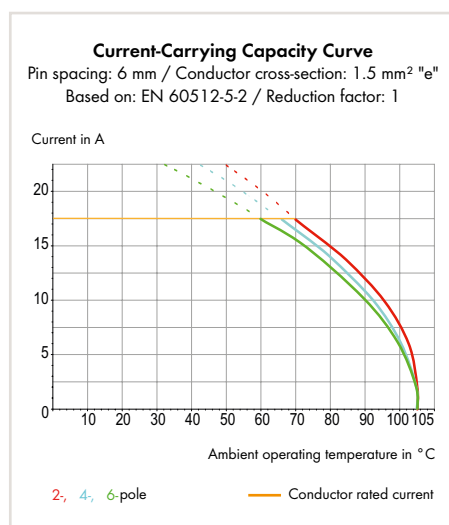
THR* PCB Terminal Blocks with Push-Buttons, 1.5 mm²

Pin Spacing: 6 mm

2061 Series



- THR PCB terminal blocks with push-buttons and Push-in CAGE CLAMP®
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 5.6 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also suitable for wave soldering
- Assemble terminal blocks without pole loss
- For SMD version, see page 231



Electrical Data for Pin Spacing

Ratings per*	6 mm / 0.24 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	17.5 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 10 mm / 0.28 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 0.75 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 0.75 mm ²

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 0.35 mm
Plated through-hole diameter	1.5 ^{+0.1} mm

Solder Pin Data

Solder pin length	1.5 mm
Solder pin dimensions	1.2 x 0.35 mm
Plated through-hole diameter	1.5 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

Application note:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

Recommendation for stencil:

150 µm material thickness
The stencil hole diameter is identical to the outer diameter of the metal-plated PCB hole.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 97

Operating tools, see page 234

Additional technical information, see Section 13

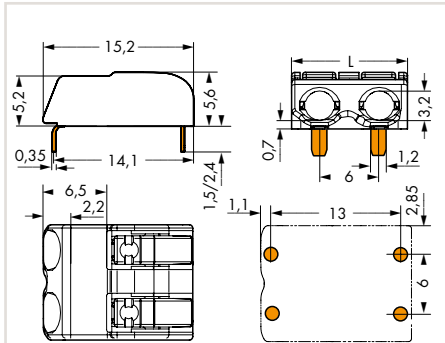
Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 6 mm 2061 Series

1



Dimensions (in mm):

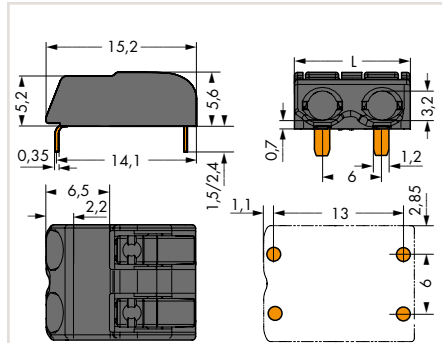


L = (pole no. x pin spacing) - 0.1 mm

THR PCB terminal block with push-buttons,
2 solder pins/pole, white*, in tape-and-reel
packaging, 330 mm reel diameter,
2.4 mm long solder pin,
6 mm (0.24 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2061-1601/998-404	5760 (640)
2	2061-1602/998-404	4320 (480)
3	2061-1603/998-404	2880 (320)

Dimensions (in mm):

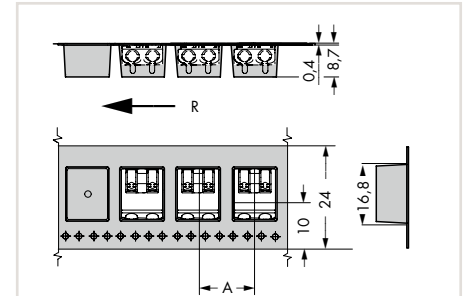


L = (pole no. x pin spacing) - 0.1 mm

THR PCB terminal block with push-buttons,
2 solder pins/pole, black, in tape-and-reel
packaging, 330 mm reel diameter,
2.4 mm long solder pin,
6 mm (0.24 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2061-1621/998-404	5760 (640)
2	2061-1622/998-404	4320 (480)
3	2061-1623/998-404	2880 (320)

Dimensions (in mm):



R = Feed direction
A = 12 mm (1-pole)
A = 16 mm (2-pole)
A = 22 mm (3-pole)

THR PCB terminal block with push-buttons,
2 solder pins/pole, white*, in tape-and-reel
packaging, 330 mm reel diameter,
1.5 mm long solder pin,
6 mm (0.24 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2061-1641/998-404	5760 (640)
2	2061-1642/998-404	4320 (480)
3	2061-1643/998-404	2880 (320)

THR PCB terminal block with push-buttons,
2 solder pins/pole, black, in tape-and-reel
packaging, 330 mm reel diameter,
1.5 mm long solder pin,
6 mm (0.24 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2061-1661/998-404	5760 (640)
2	2061-1662/998-404	4320 (480)
3	2061-1663/998-404	2880 (320)

*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.



Insert solid conductors via push-in termination.

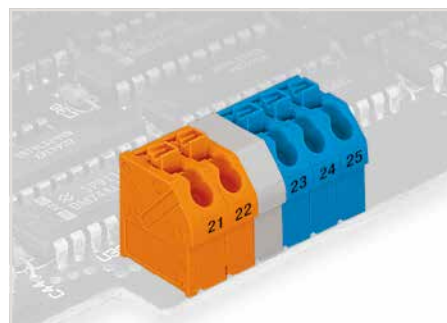
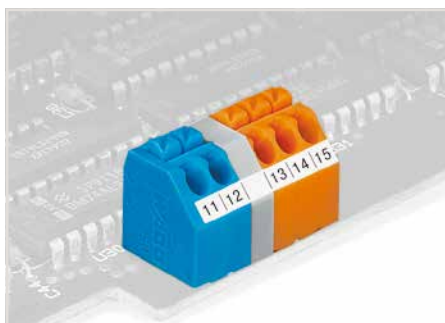
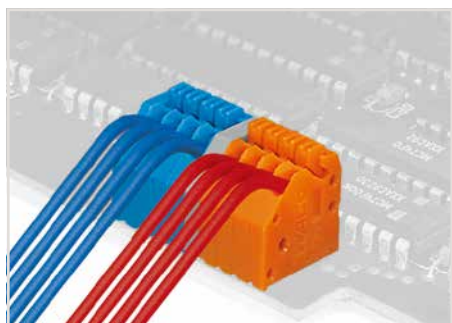


Insert/remove fine-stranded conductors by lightly pressing on push-button (e.g., via 206-861 Operating Tool).

250 Series

Description and Installation

1



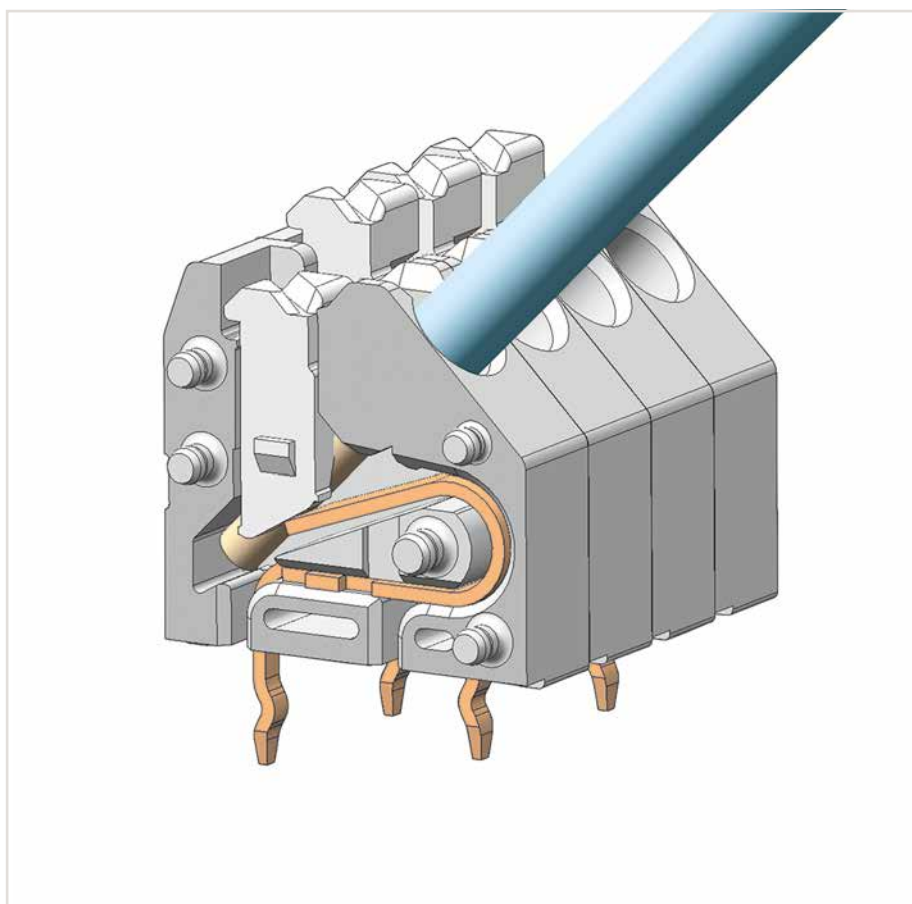
Labeling via self-adhesive strips or direct marking. Mixed-color terminal strips (with or without spacer) are available upon request.



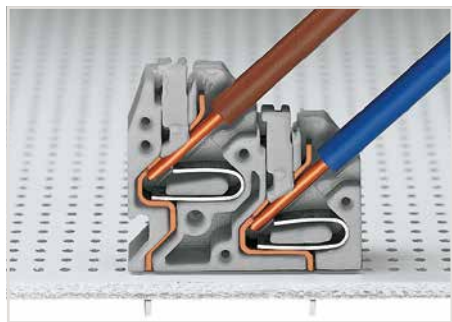
Space-saving wiring, 250 Series – 5 mm pin spacing.



Inserting solid conductors via push-in termination. Inserting fine-stranded conductors via push-buttons, 250 Series – 3.5 mm pin spacing.



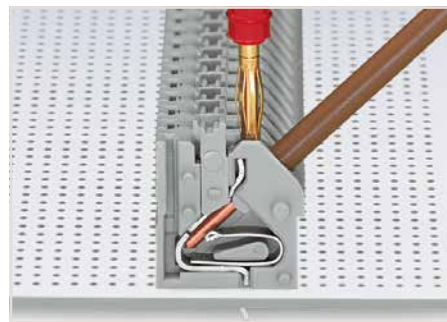
250 Series



Space-saving wiring – push-in termination of solid conductors.



Testing with 11 mm Ø test pin, on the conductor, 250 Series – 2.5 ... 3.5 mm pin spacing.

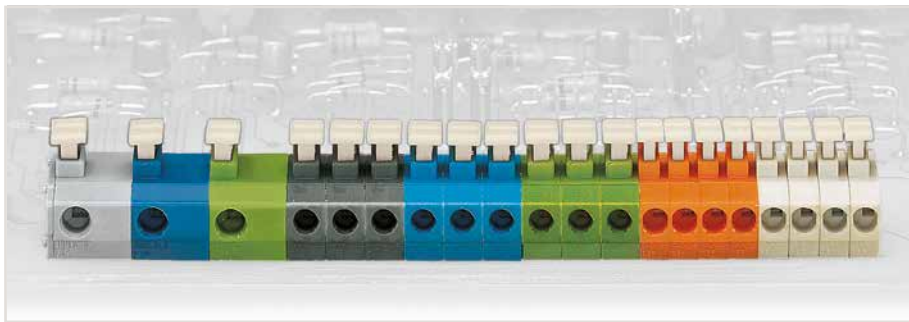


Testing with 2 mm Ø test plug, touch contact, 250 Series – 5 mm pin spacing.

235 Series

Description and Installation

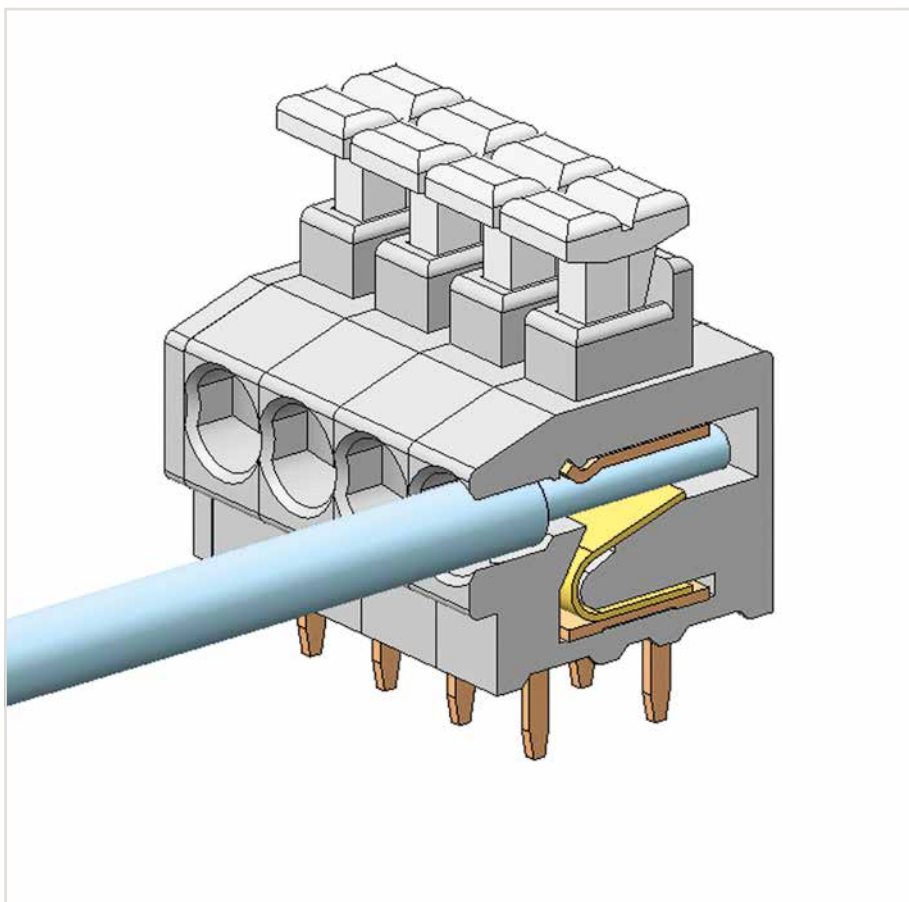
1



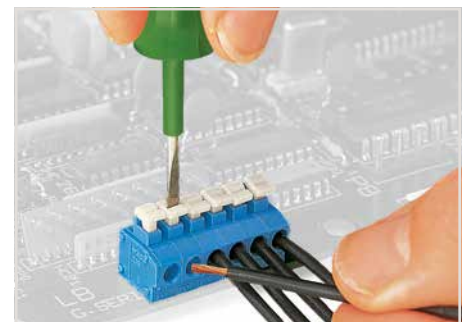
Combining 1- and 2-conductor terminal blocks, also with different housing colors and pin spacing.
 1 = 10/10.16 mm pin spacing 3 = 3.81 mm pin spacing 3 = 3.81 mm pin spacing
 2 = 5/5.08 mm pin spacing 4 = 3.96/4 mm pin spacing 4 = 3.96/4 mm pin spacing



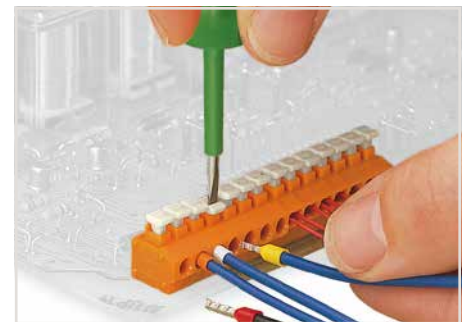
Inserting solid conductors via push-in termination.



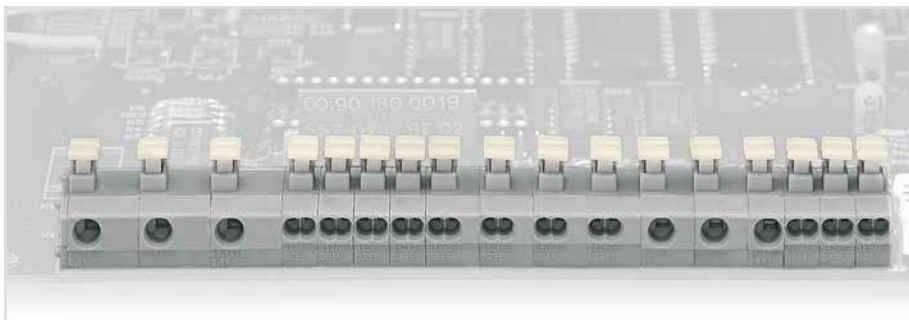
235 Series



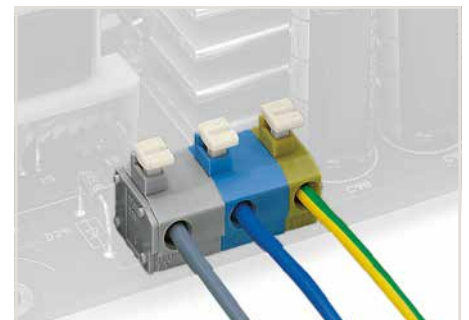
Inserting/removing fine-stranded conductors via push-button.



Inserting/removing fine-stranded conductors with ferrules via push-button.



Combining 1- and 2-conductor terminal blocks with different pin spacing.

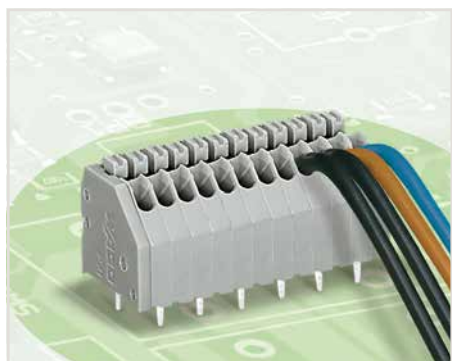


Application example: field-wiring terminal strip

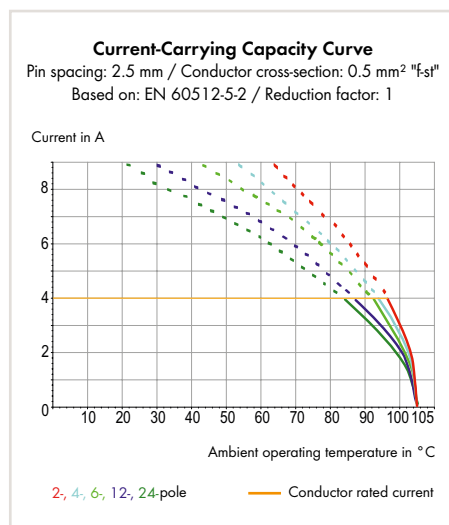
PCB Terminal Strips with Push-Buttons, 0.5 mm²

Pin Spacing: 2.5 mm, 2.54 mm

250 Series



- Compact PCB terminal strips with push-buttons
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring
- Custom color combinations
- Terminal strips also available with spacers upon request



Electrical Data for Pin Spacing

	2.5 mm / 0.098 inch	2.54 mm / 0.1 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	160 V	160 V
Rated surge voltage (III / 3)	2.5 kV	2.5 kV
Rated voltage (III / 2)	160 V	160 V
Rated surge voltage (III / 2)	2.5 kV	2.5 kV
Rated voltage (II / 2)	320 V	320 V
Rated surge voltage (II / 2)	2.5 kV	2.5 kV
Rated current	4 A	4 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	150 V
Rated current UL (Use Group B)	5 A	4 A
Rated voltage UL (Use Group D)	300 V	150 V
Rated current UL (Use Group D)	5 A	4 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	2 A	2 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	2 A	2 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.14 ... 0.5 mm ² / 24 ... 20 AWG
Solid conductor	0.4 ... 0.8 mm Ø / 26 AWG
Fine-stranded conductor	0.2 ... 0.5 mm ² / 24 ... 20 AWG

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test pin,
see page 601

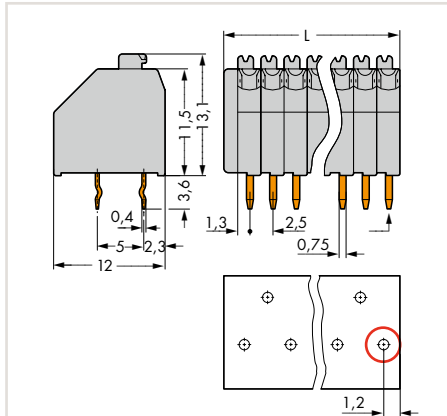
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Push-Buttons, 0.5 mm² Pin Spacing: 2.5 mm, 2.54 mm 250 Series



Dimensions (in mm):

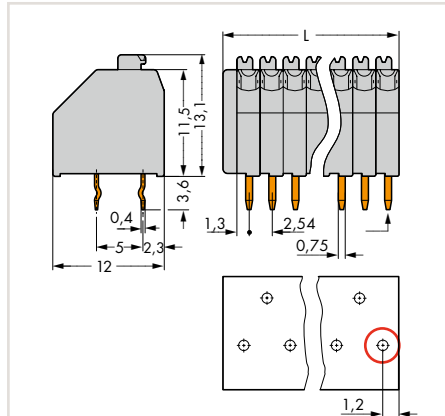


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
First solder pin, right front side (red circle)

PCB terminal strip with push-buttons,
1 staggered solder pin/pole, gray,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-402	720 (80)
3	250-403	520 (130)
4	250-404	400 (100)
5	250-405	340 (85)
6	250-406	280 (70)
7	250-407	240 (60)
8	250-408	220 (55)
9	250-409	200 (50)
10	250-410	180 (45)
11	250-411	160 (40)
12	250-412	140 (35)
13	250-413	140 (35)
14	250-414	120 (30)
15	250-415	120 (30)
16	250-416	100 (25)
17	250-417	100 (25)
18	250-418	80 (20)
19	250-419	80 (20)
20	250-420	80 (20)
21	250-421	80 (20)
22	250-422	80 (20)
23	250-423	80 (20)
24	250-424	60 (15)

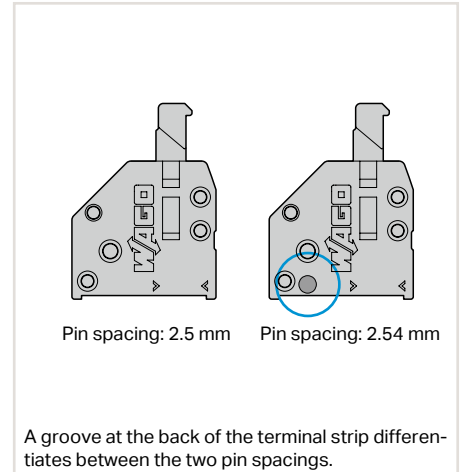
Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
First solder pin, right front side (red circle)

PCB terminal strip with push-buttons,
1 staggered solder pin/pole, gray,
2.54 mm (0.1 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-1402	720 (80)
3	250-1403	520 (130)
4	250-1404	400 (100)
5	250-1405	340 (85)
6	250-1406	280 (70)
7	250-1407	240 (60)
8	250-1408	200 (50)
9	250-1409	180 (45)
10	250-1410	160 (40)
11	250-1411	160 (40)
12	250-1412	140 (35)
13	250-1413	120 (30)
14	250-1414	120 (30)
15	250-1415	120 (30)
16	250-1416	100 (25)
17	250-1417	100 (25)
18	250-1418	100 (25)
19	250-1419	80 (20)
20	250-1420	80 (20)
21	250-1421	80 (20)
22	250-1422	80 (20)
23	250-1423	60 (15)
24	250-1424	60 (15)



Available upon request (depending on quantity required):

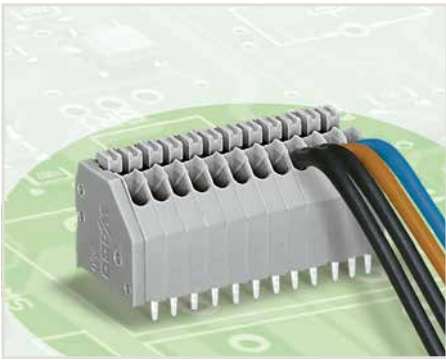
- Other pole numbers
- Other colors: ● black, ● red, ● green, ● orange, ● blue, ○ light gray, ○ white, ● violet
- Mixed-color terminal strips
- Terminal strips with spacers
- Direct marking

PCB Terminal Strips with Push-Buttons, 0.5 mm², 1 Front In-Line Solder Pin/Pole

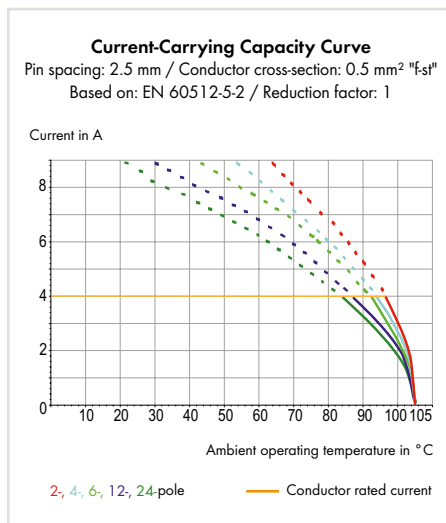
Pin Spacing: 2.5 mm

250 Series

1



- Compact PCB terminal strips with push-buttons
- Version with in-line solder pins
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring
- Custom color combinations
- Terminal strips also available with spacers upon request



Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	100 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	4 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.14 ... 0.5 mm ² / 24 ... 20 AWG
Solid conductor	0.4 ... 0.8 mm Ø / 26 AWG
Fine-stranded conductor	0.2 ... 0.5 mm ² / 24 ... 20 AWG

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test pin,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

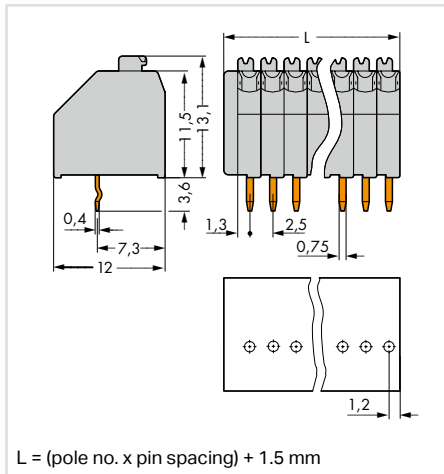
PCB Terminal Strips with Push-Buttons, 0.5 mm², 1 Front In-Line Solder Pin/Pole

Pin Spacing: 2.5 mm

250 Series



Dimensions (in mm):



PCB terminal strip with push-buttons,
1 front in-line solder pin/pole, gray,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-302	720 (80)
3	250-303	520 (130)
4	250-304	400 (100)
5	250-305	340 (85)
6	250-306	280 (70)
7	250-307	240 (60)
8	250-308	220 (55)
9	250-309	200 (50)
10	250-310	180 (45)
11	250-311	160 (40)
12	250-312	140 (35)
13	250-313	140 (35)
14	250-314	120 (30)
15	250-315	120 (30)
16	250-316	100 (25)
17	250-317	100 (25)
18	250-318	80 (20)
19	250-319	80 (20)
20	250-320	80 (20)
21	250-321	80 (20)
22	250-322	80 (20)
23	250-323	80 (20)
24	250-324	60 (15)

Available upon request (depending on quantity required):

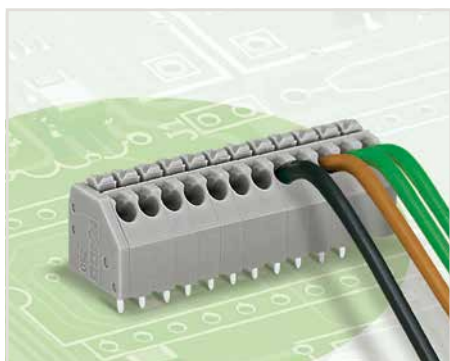
- Other pole numbers
- Other colors: ● black, ● red, ● green, ● orange, ● blue, ○ light gray, ○ white, ● violet
- Mixed-color terminal strips
- Terminal strips with spacers
- Direct marking

PCB Terminal Strips with Push-Buttons, 1.5 mm²

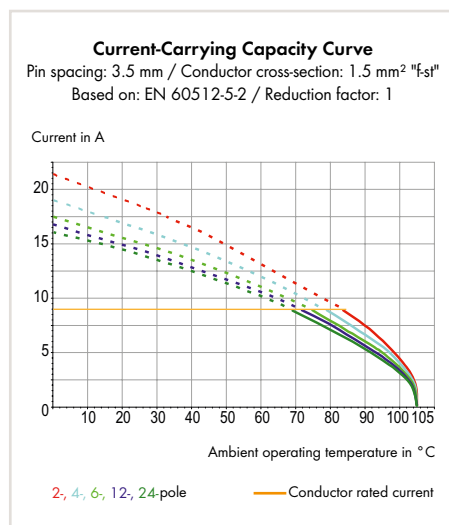
Pin Spacing: 3.5 mm

250 Series

1



- Compact PCB terminal strips with push-buttons
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring
- Custom color combinations
- Terminal strips also available with spacers upon request



Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch 1 front solder pin/pole	3.5 mm / 0.138 inch 1 solder pin/pole, staggered
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	160 V	250 V
Rated surge voltage (III / 3)	2.5 kV	4 kV
Rated voltage (III / 2)	160 V	320 V
Rated surge voltage (III / 2)	2.5 kV	4 kV
Rated voltage (II / 2)	320 V	630 V
Rated surge voltage (II / 2)	2.5 kV	4 kV
Rated current	8 A	8 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	5 A	5 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	5 A	5 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

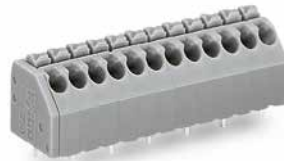
Operating tools, see page 588

Test pin, see page 601

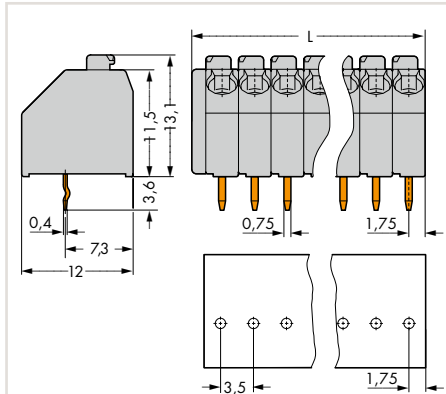
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.5 mm 250 Series



Dimensions (in mm):

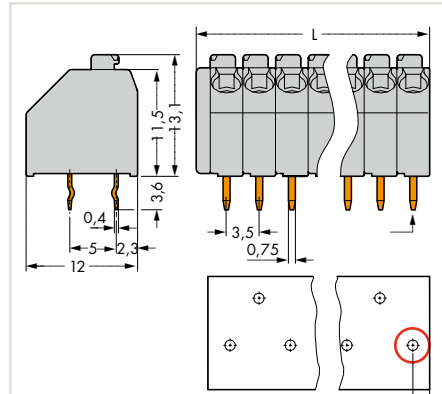


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip with push-buttons,
1 front in-line solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-102	560 (140)
3	250-103	400 (100)
4	250-104	300 (75)
5	250-105	240 (60)
6	250-106	200 (50)
7	250-107	180 (45)
8	250-108	160 (40)
9	250-109	140 (35)
10	250-110	120 (30)
11	250-111	120 (30)
12	250-112	100 (25)
13	250-113	100 (25)
14	250-114	80 (20)
15	250-115	80 (20)
16	250-116	80 (20)
17	250-117	80 (20)
18	250-118	60 (15)
19	250-119	60 (15)
20	250-120	60 (15)
21	250-121	60 (15)
22	250-122	60 (15)
23	250-123	60 (15)
24	250-124	40 (10)

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

First solder pin, right front side (red circle)

PCB terminal strip with push-buttons,
1 staggered solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-202	560 (140)
3	250-203	400 (100)
4	250-204	300 (75)
5	250-205	240 (60)
6	250-206	200 (50)
7	250-207	180 (45)
8	250-208	160 (40)
9	250-209	140 (35)
10	250-210	120 (30)
11	250-211	120 (30)
12	250-212	100 (25)
13	250-213	100 (25)
14	250-214	80 (20)
15	250-215	80 (20)
16	250-216	80 (20)
17	250-217	80 (20)
18	250-218	60 (15)
19	250-219	60 (15)
20	250-220	60 (15)
21	250-221	60 (15)
22	250-222	60 (15)
23	250-223	60 (15)
24	250-224	40 (10)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● black, ● red, ● green, ● orange, ● blue, ○ light gray, ● brown, ● light green, ● yellow, ● violet, ○ white, ● pink
- Mixed-color terminal strips
- Terminal strips with spacers
- Direct marking

THR* PCB Terminal Strips with Push-Buttons, 0.5 mm²

Pin Spacing: 2.5 mm

250 Series

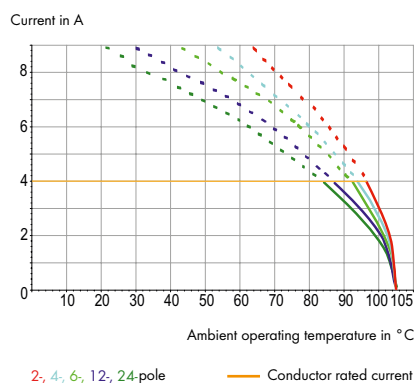
1



- Cost-effective integration of high-temperature resistant THR terminal strips into SMT reflow soldering processes
- Versions with suction pads are available in tape-and-reel packaging for automated assembly
- Push-in termination of solid and ferruled conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring

Current-Carrying Capacity Curve

Pin spacing: 2.5 mm / Conductor cross-section: 0.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 1



Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	160 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	250 V
Rated current	2.5 kV
Approvals per	4 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	5 A
Rated current UL (Use Group D)	300 V
Approvals per	5 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	2 A
Rated current CSA (Use Group D)	300 V
	2 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.14 ... 0.5 mm ² / 24 ... 20 AWG
Solid conductor	0.4 ... 0.8 mm Ø / 26 AWG
Fine-stranded conductor	0.2 ... 0.5 mm ² / 24 ... 20 AWG

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Plated through-hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	III a
Insulation material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 97

Marking accessories, see page 604

Operating tools, see page 588

Test pin, see page 601

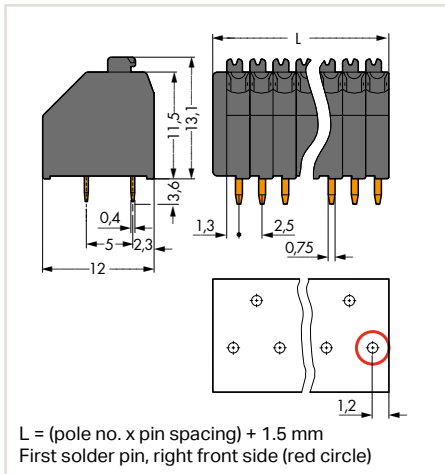
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Strips with Push-Buttons, 0.5 mm² Pin Spacing: 2.5 mm 250 Series



Dimensions (in mm):



THR PCB terminal strip with push-buttons,
1 staggered solder pin/pole, black,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-402/350-604	720 (180)
3	250-403/350-604	520 (130)
4	250-404/350-604	400 (100)
5	250-405/350-604	340 (85)
6	250-406/350-604	280 (70)
7	250-407/350-604	240 (60)
8	250-408/350-604	220 (55)

Available upon request (depending on quantity required):

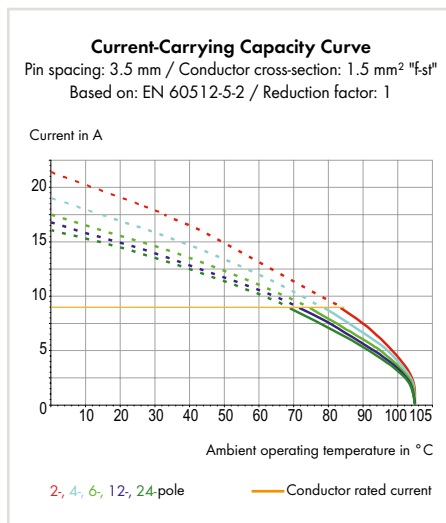
- Other pole numbers
- Direct marking

THR* PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.5 mm 250 Series

1



- Cost-effective integration of high-temperature resistant THR terminal strips into SMT reflow soldering processes
- Versions with suction pads are available in tape-and-reel packaging for automated assembly
- Push-in termination of solid and ferruled conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch	
Rated voltage (III / 3)	IEC/EN 60664-1	
Rated surge voltage (III / 3)	200 V	
Rated voltage (III / 2)	4 kV	
Rated surge voltage (III / 2)	320 V	
Rated voltage (II / 2)	4 kV	
Rated surge voltage (II / 2)	320 V	
Rated current	4 kV	
Approvals per	8 A	UL 1059
Rated voltage UL (Use Group B)		300 V
Rated current UL (Use Group B)		5 A
Rated voltage UL (Use Group D)		300 V
Rated current UL (Use Group D)		5 A
Approvals per		CSA
Rated voltage CSA (Use Group B)		300 V
Rated current CSA (Use Group B)		10 A
Rated voltage CSA (Use Group D)		300 V
Rated current CSA (Use Group D)		10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 97

Marking accessories, see page 604

Operating tools, see page 588

Test pin, see page 601

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	0.4 x 0.75 mm
Plated through-hole diameter	1.1 ^{+0.1} mm

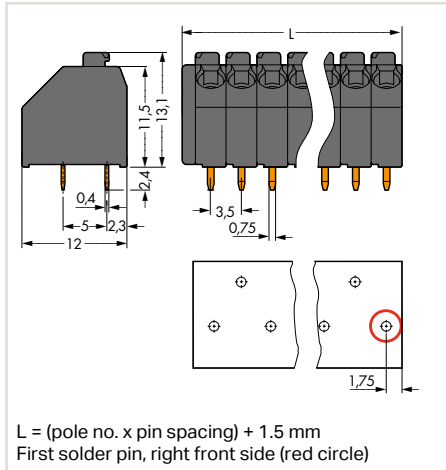
Material Data

Material group	III a
Insulation material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

THR PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.5 mm 250 Series



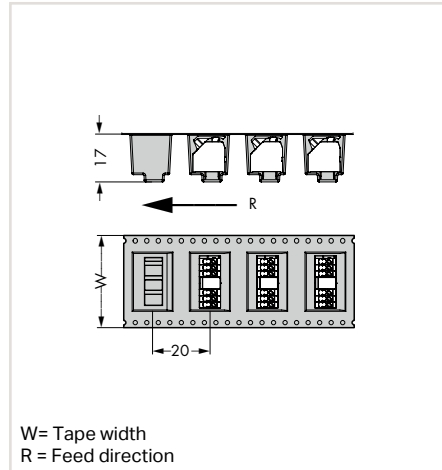
Dimensions (in mm):



THR PCB terminal strip with push-buttons,
1 staggered solder pin/pole, black,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-202/353-604	560 (140)
3	250-203/353-604	400 (100)
4	250-204/353-604	300 (75)
5	250-205/353-604	240 (60)
6	250-206/353-604	200 (50)
7	250-207/353-604	180 (45)
8	250-208/353-604	160 (40)

Dimensions (in mm):



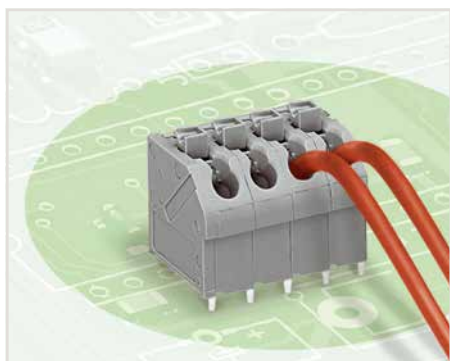
THR Terminal strip with push-buttons,
1 staggered solder pin/pole with additional
suction pad in tape-and-reel packaging per IEC
60286-3, 330 mm reel diameter, 160 pieces per
reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
2	250-202/353-604/997-404	24
3	250-203/353-604/997-404	24
4	250-204/353-604/997-405	32
5	250-205/353-604/997-405	32
6	250-206/353-604/997-406	44
7	250-207/353-604/997-406	44
8	250-208/353-604/997-406	44

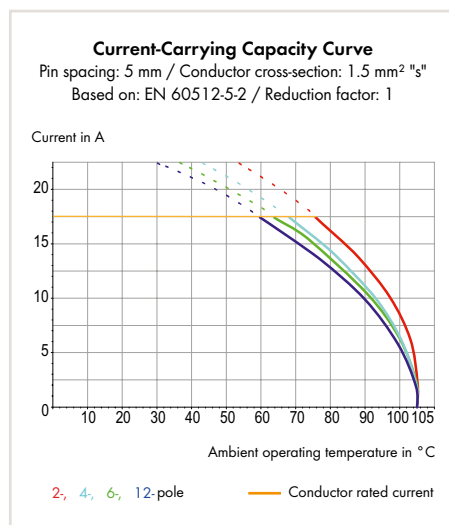
Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 5 mm, 7.5 mm 250 Series



- Compact PCB terminal strips with push-buttons
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring



Electrical Data for Pin Spacing

	5 mm / 0.197 inch	7.5 mm / 0.295 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V
Rated surge voltage (III / 3)	4 kV	6 kV
Rated voltage (III / 2)	320 V	630 V
Rated surge voltage (III / 2)	4 kV	6 kV
Rated voltage (II / 2)	630 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV
Rated current	17.5 A	17.5 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	2 A	2 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	2 A	2 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor	0.75 ... 1.5 mm ² / 18 ... 16 AWG (I max. 4 A)
Fine-stranded conductor	0.5 mm ² (I max. 2 A)
Fine-stranded conductor with insulated ferrule	0.5 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 1 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.2 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test pin,
see page 601

Additional technical information,
see Section 13

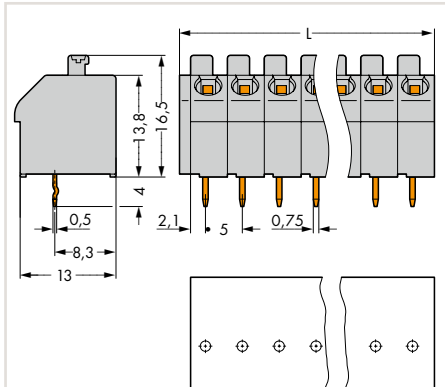
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 5 mm, 7.5 mm 250 Series

1



Dimensions (in mm):

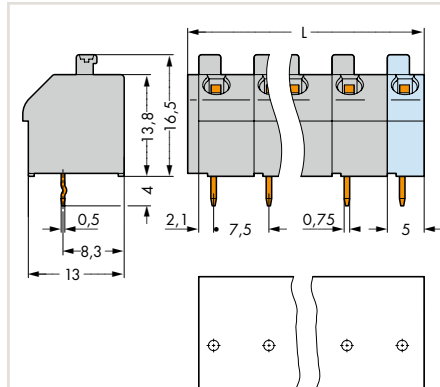


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip with push-buttons,
1 front in-line solder pin/pole, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-502	400 (100)
3	250-503	280 (70)
4	250-504	220 (55)
5	250-505	180 (45)
6	250-506	140 (35)
7	250-507	120 (30)
8	250-508	100 (25)
9	250-509	100 (25)
10	250-510	80 (20)
11	250-511	80 (20)
12	250-512	60 (15)
13	250-513	60 (15)
14	250-514	60 (15)
15	250-515	60 (15)
16	250-516	40 (10)

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip with push-buttons,
1 front in-line solder pin/pole, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	250-602	340 (85)
3	250-603	200 (50)
4	250-604	160 (40)
5	250-605	120 (30)
6	250-606	100 (25)
7	250-607	80 (20)
8	250-608	80 (20)
9	250-609	60 (15)
10	250-610	60 (15)
11	250-611	40 (10)
12	250-612	40 (10)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● red, ● orange, ● blue, ○ light gray, ● brown, ● light green, ● yellow, ○ white
- Mixed-color terminal strips
- Direct marking

Double-Deck PCB Terminal Strips with Push-Buttons 1.5 mm²

Pin Spacing: 5 mm

250 Series



- Space-saving, double-deck terminal strips with push-buttons
- Push-in termination of solid and ferruled conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring

Electrical Data for Pin Spacing

	5 mm / 0.197 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	10 A

Approvals per

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor	0.75 ... 1.5 mm ² (I max. 4 A)
Fine-stranded conductor	0.5 mm ² (I max. 2 A)
Fine-stranded conductor with insulated ferrule	0.5 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 1 mm ²


Solder Pin Data


Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.2 ^{+0.1} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


*(III / 2) ± Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

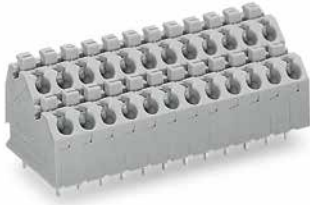
 Operating tools, see page 588

 Test pin, see page 601

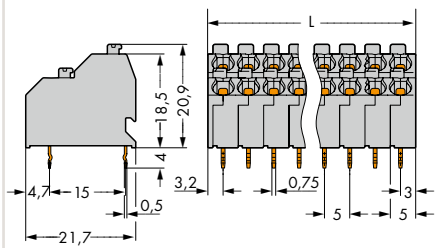
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

Double-Deck PCB Terminal Strips with Push-Buttons 1.5 mm² Pin Spacing: 5 mm 250 Series



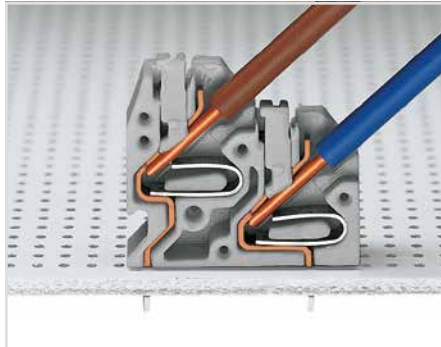
Dimensions (in mm):



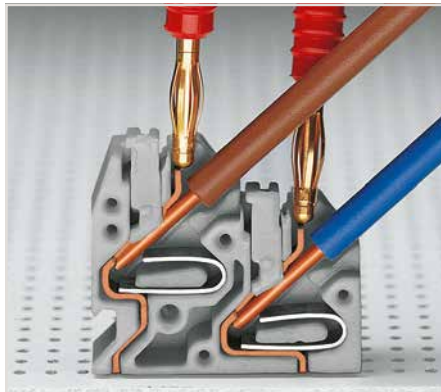
$$L = (\text{pole no.} \times \text{pin spacing}) + 1.2 \text{ mm}$$

Double-deck PCB terminal strip with push-buttons, 2 front in-line solder pins/pole, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2 x 2	250-702	264 (66)
3 x 2	250-703	180 (45)
4 x 2	250-704	132 (33)
6 x 2	250-706	84 (21)
8 x 2	250-708	72 (18)
10 x 2	250-710	48 (12)
12 x 2	250-712	48 (12)
16 x 2	250-716	36 (9)
24 x 2	250-726	24 (6)



Space-saving wiring – push-in termination of solid conductors.

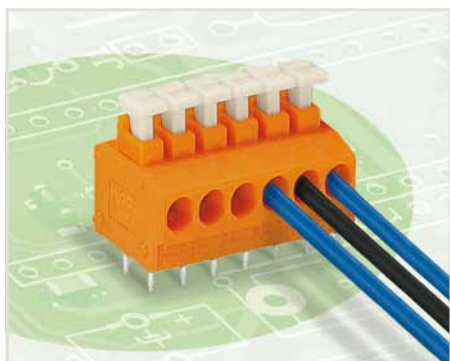


Testing with 2 mm Ø test plug – touch contact.

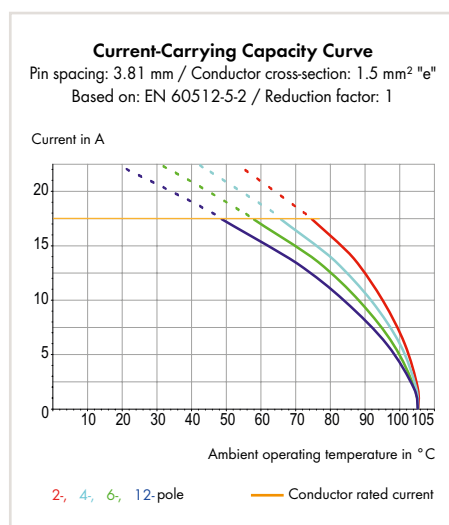
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● orange, ● blue
- Direct marking

PCB Modular Terminal Blocks and Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.81 mm 235 Series



- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- 235 Series available without push-buttons, see page 181



Electrical Data for Pin Spacing

Ratings per*	3.81 mm / 0.15 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	200 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	500 V
Rated current	4 kV
Approvals per	17.5 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor	0.75 ... 1.5 mm ² / 18 ... 16 AWG (I max. 4 A)
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

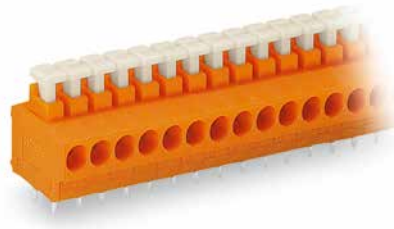
Marking accessories,
see page 604

Operating tools,
see page 588

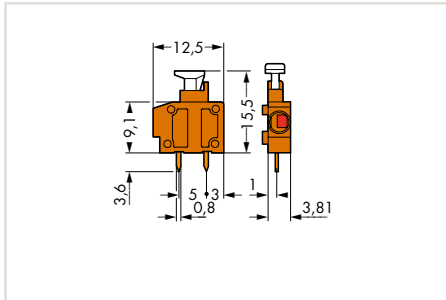
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Modular Terminal Blocks and Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.81 mm 235 Series



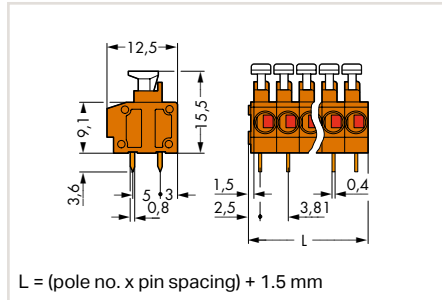
Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
3.81 mm (0.15 inch) pin spacing

Color	Item No.	Pack. Unit
orange	235-101	800 (100)
red	235-770	800 (100)
gray	235-771	800 (100)
dark gray	235-772	800 (100)
blue	235-774	800 (100)
white	235-775	800 (100)
yellow	235-776	800 (100)
light green	235-777	800 (100)
black	235-778	800 (100)

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip with push-buttons,
2 solder pins/pole, orange,
3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	235-102	520 (130)
3	235-103	360 (90)
4	235-104	280 (70)
5	235-105	220 (55)
6	235-106	180 (45)
7	235-107	160 (40)
8	235-108	140 (35)
9	235-109	120 (30)
10	235-110	120 (30)



End plate for modular terminal blocks,
snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
orange	235-600	100
red	235-800	100
gray	235-100	100
dark gray	235-200	100
blue	235-400	100
white	235-850	100
yellow	235-550	100
light green	235-700	100
black	235-500	100



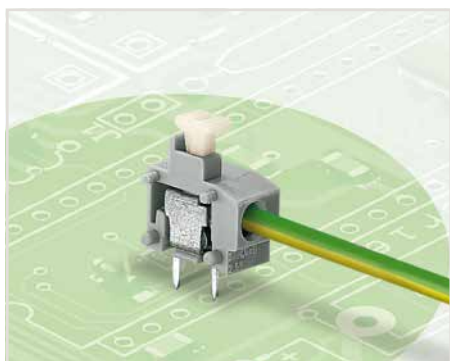
Spacer, doubles 3.81 mm (0.15 inch) pin spacing

Color	Item No.	Pack. Unit
orange	235-316	100

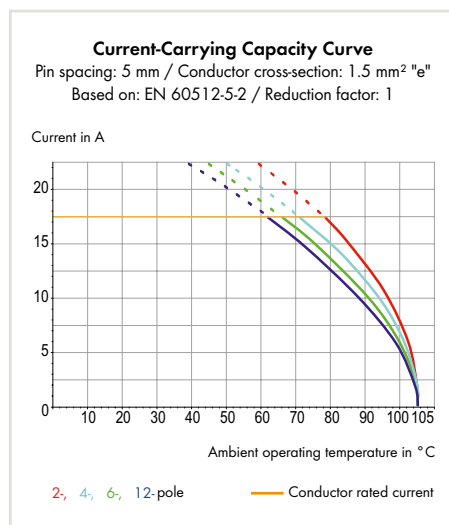
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors for terminal strips: ● red, ○ gray, ● dark gray, ● blue, ○ white, ● yellow, ● light green, ● black
- Mixed-color terminal strips
- Direct marking

Modular PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 235 Series



- Modular PCB terminal blocks with push-buttons for custom terminal strip assemblies
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- Two-conductor versions, visit www.wago.com
- 235 Series available without push-buttons, see page 183



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	17.5 A	17.5 A	17.5 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A	15 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor	0.25 ... 0.5 mm ² (I max. 2 A)
Fine-stranded conductor	0.75 ... 1.5 mm ² (I max. 6 A)
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

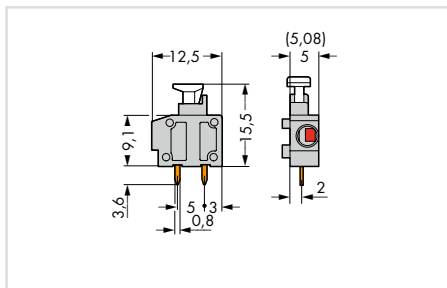
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Modular PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 235 Series



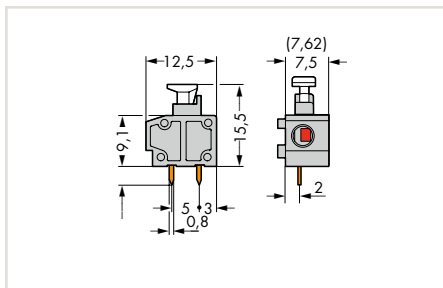
Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-401/331-000	800 (100)
red	235-740/331-000	800 (100)
yellow	235-741/331-000	800 (100)
dark gray	235-742/331-000	800 (100)
light gray	235-743/331-000	800 (100)
blue	235-744/331-000	800 (100)
white	235-745/331-000	800 (100)
orange	235-746/331-000	800 (100)
light green	235-747/331-000	800 (100)
black	235-748/331-000	800 (100)
violet	235-749/331-000	800 (100)

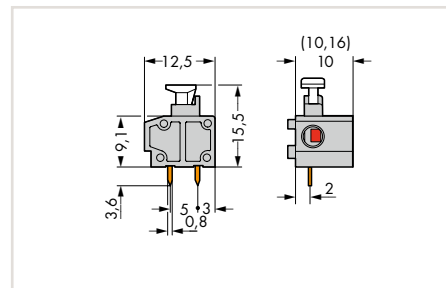
Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-501/331-000	600 (100)
dark gray	235-752/331-000	600 (100)
light gray	235-753/331-000	600 (100)
blue*	235-754/331-000	600 (100)
orange	235-756/331-000	600 (100)
light green	235-757/331-000	600 (100)
black	235-758/331-000	600 (100)

Dimensions (in mm):



Modular PCB terminal block with push-button,
2 solder pins/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-801/331-000	400 (100)
dark gray	235-762/331-000	400 (100)
light gray	235-763/331-000	400 (100)
blue*	235-764/331-000	400 (100)
orange	235-766/331-000	400 (100)
light green	235-767/331-000	400 (100)
black	235-768/331-000	400 (100)

*Suitable for Ex i applications



Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-701	100

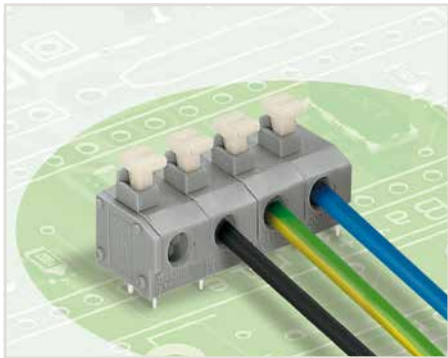
End plate for modular terminal blocks,
snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
gray	235-100	100
dark gray	235-200	100
light gray	235-300	100
blue	235-400	100
black	235-500	100
yellow	235-550	100
orange	235-600	100
violet	235-650	100
light green	235-700	100
red	235-800	100
white	235-850	100

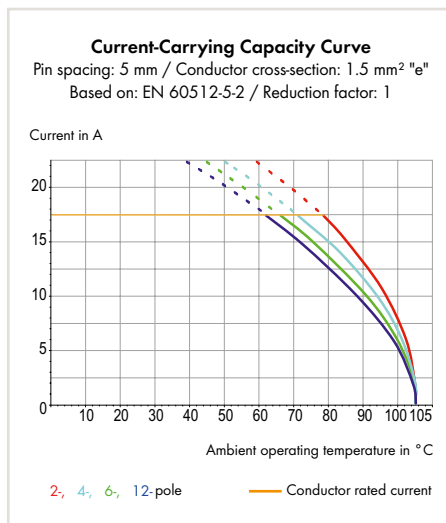
Available upon request (depending on quantity required):

- Other colors

PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 5/5.08 mm 235 Series



- PCB terminal strips with push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- 235 Series available without push-buttons, see page 185



Electrical Data for Pin Spacing

5/5.08 mm / 0.2 inch	
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	17.5 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor	0.25 ... 0.5 mm ² (I max. 2 A)
Fine-stranded conductor	0.75 ... 1.5 mm ² (I max. 6 A)
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

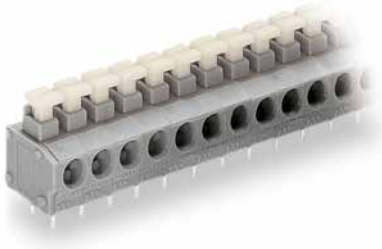
Marking accessories,
see page 604

Operating tools,
see page 588

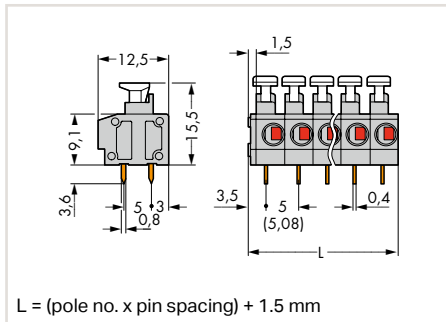
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 5/5.08 mm 235 Series



Dimensions (in mm):



PCB terminal strip with push-buttons,
2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	235-402/331-000	420 (105)
3	235-403/331-000	280 (70)
4	235-404/331-000	220 (55)
5	235-405/331-000	180 (45)
6	235-406/331-000	140 (35)
7	235-407/331-000	120 (30)
8	235-408/331-000	100 (25)
9	235-409/331-000	100 (25)
10	235-410/331-000	80 (20)
12	235-412/331-000	60 (15)

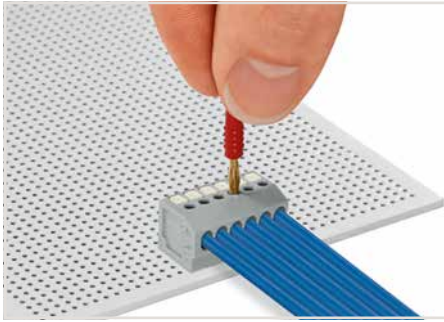
Available upon request (depending on quantity required):

- Other pole numbers
- PCB terminal strips with 7.5/7.62 mm and 10/10.16 mm pin spacing
- Other colors: ● red, ○ light gray, ● dark gray, ● blue, ○ white, ● yellow, ● light green, ● black, ● orange, ● violet
- Mixed-color terminal strips
- Direct marking

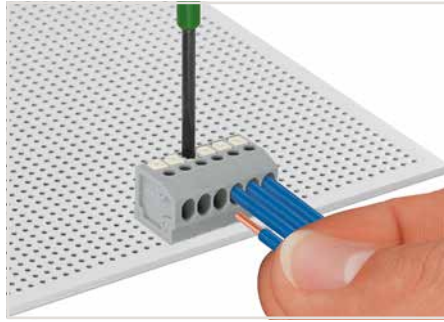
805 Series

Description and Installation

1



Testing with 2 mm Ø test plug.



Terminating solid conductors by simply pushing them in. Removing conductors and inserting fine-stranded conductors via push-buttons.



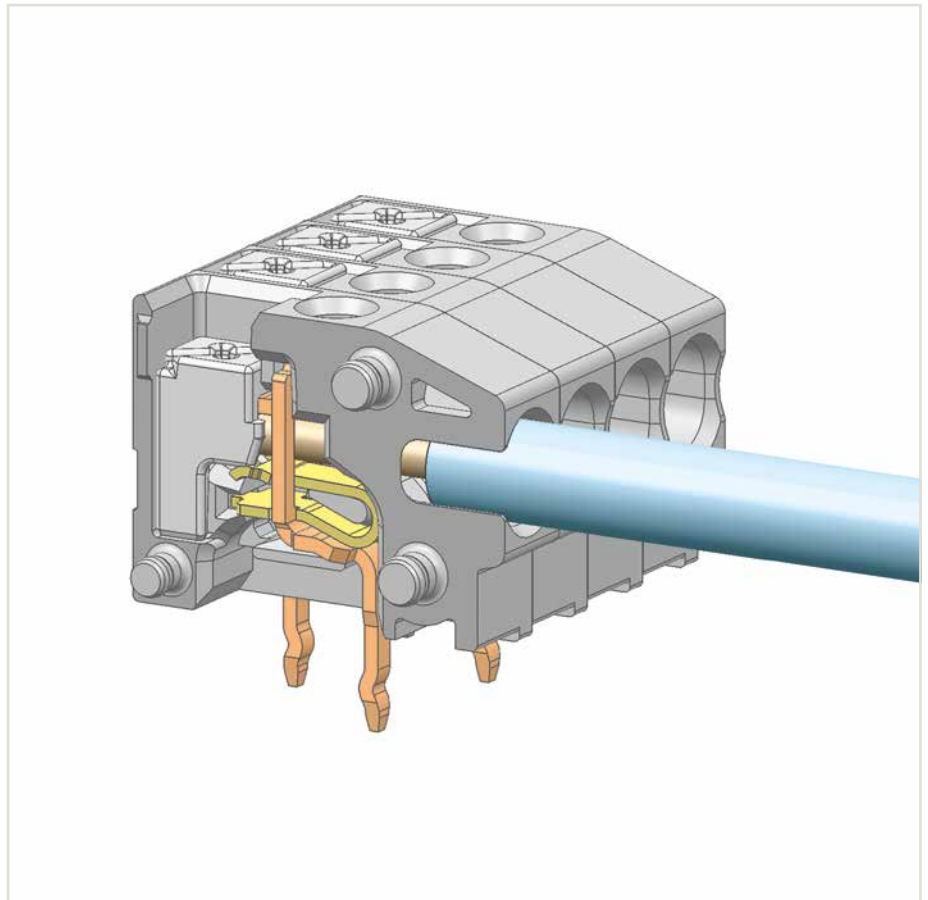
Mixed-color terminal strips are available upon request.



Terminal strips with spacers and enlarged conductor entry (5 mm pin spacing) are available upon request.



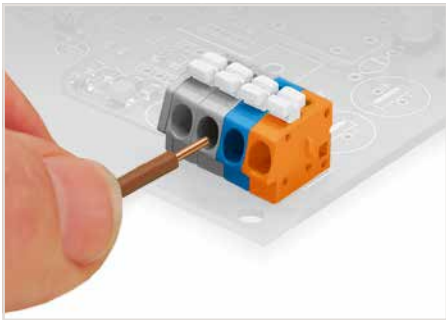
WAGO's 805 Series Terminal Strips provide "internal commoning" to meet requirements that ban routing the ground conductor over the board. This enables custom terminal strips to be commoned and marked at the factory upon request.



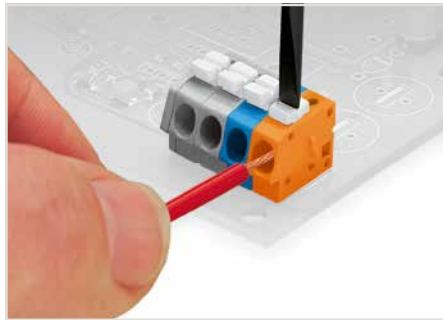
805 Series

804 Series

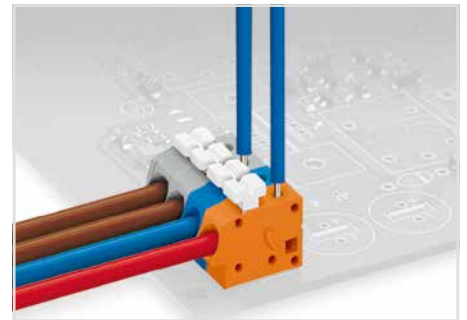
Description and Installation



Terminating solid conductors: Simply push in stripped conductor until it hits backstop.

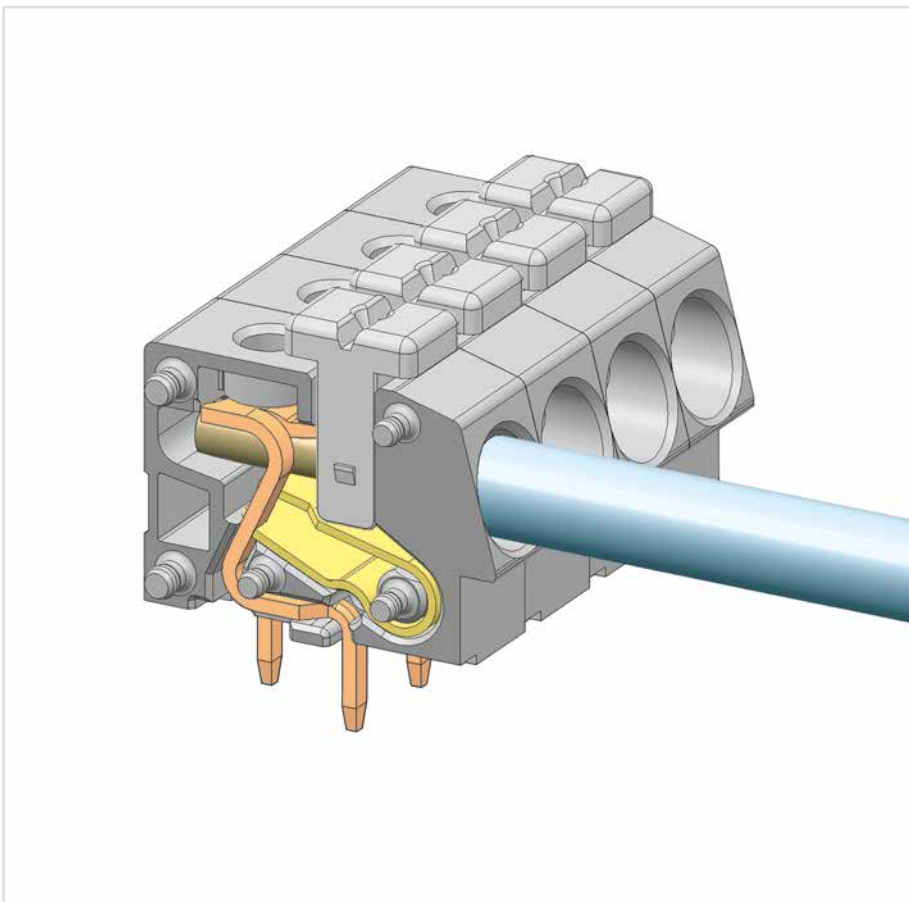


Inserting/removing fine-stranded conductors: Open the clamping unit via push-button and insert stripped conductor until it hits backstop.



Testing with 1 mm Ø test pin – manual touch contact.

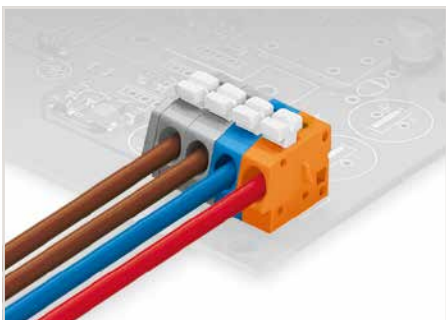
1



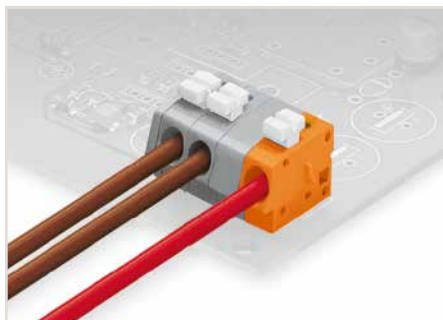
804 Series



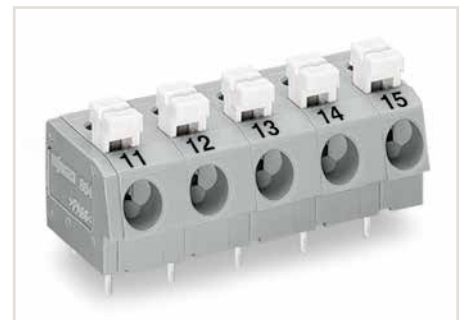
WAGO's 804 Series Terminal Strips provide "internal commoning" to meet requirements that ban routing the ground conductor over the board. This enables custom terminal strips to be commoned and marked at the factory upon request.



Mixed-color terminal strips are available upon request.



Terminal strips with spacer are available upon request.



Labeling via self-adhesive marking strips or factory direct marking.

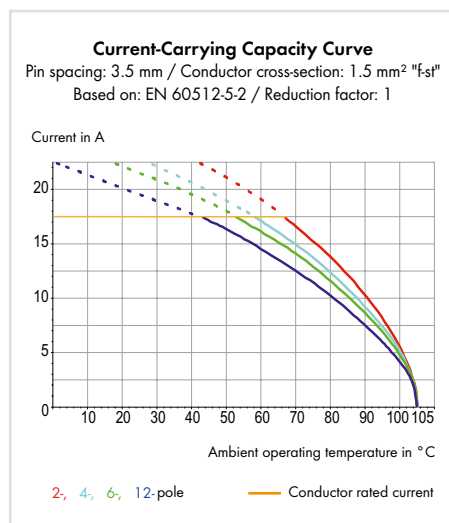
PCB Terminal Strips with Push-Buttons, 1.5 mm²

Pin Spacing: 3.5 mm

805 Series



- Terminal strips with push-buttons and Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled conductors
- Flush-mount push-buttons that close with minimal force for convenient termination/removal of fine-stranded conductors
- Convenient, tool-free operation
- Versions with/without test slots and spacers
- Versions available with custom internal commoning (factory assembly), e.g., commoning ground conductor



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	17.5 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group C)	150 V
Rated current UL (Use Group C)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	3.2 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +115 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Test plugs, see page 601

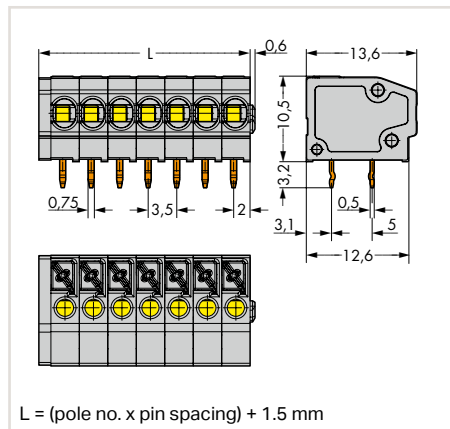
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

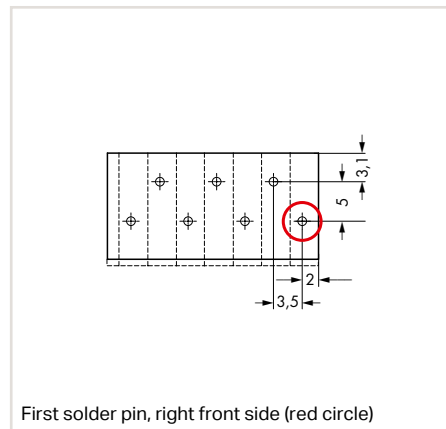
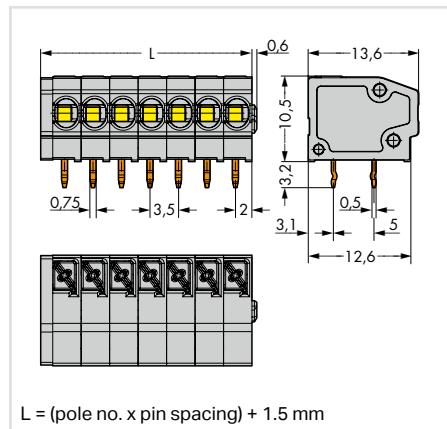
PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.5 mm 805 Series



Dimensions (in mm):



Dimensions (in mm):



PCB terminal strip with push-buttons,
and test slots for 2 mm Ø test plug,
1 staggered solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	805-102	580 (145)
3	805-103	420 (105)
4	805-104	320 (80)
5	805-105	260 (65)
6	805-106	220 (55)
7	805-107	180 (45)
8	805-108	160 (40)
9	805-109	140 (35)
10	805-110	120 (30)
11	805-111	100 (25)
12	805-112	100 (25)
13	805-113	100 (25)
14	805-114	100 (25)
15	805-115	80 (20)
16	805-116	80 (20)
17	805-117	80 (20)
18	805-118	60 (15)
19	805-119	60 (15)
20	805-120	60 (15)
21	805-121	60 (15)
22	805-122	60 (15)
23	805-123	60 (15)
24	805-124	40 (10)

PCB terminal strip with push-buttons,
1 staggered solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	805-302	580 (145)
3	805-303	420 (105)
4	805-304	320 (80)
5	805-305	260 (65)
6	805-306	220 (55)
7	805-307	180 (45)
8	805-308	160 (40)
9	805-309	140 (35)
10	805-310	120 (30)
11	805-311	100 (25)
12	805-312	100 (25)
13	805-313	100 (25)
14	805-314	100 (25)
15	805-315	80 (20)
16	805-316	80 (20)
17	805-317	80 (20)
18	805-318	60 (15)
19	805-319	60 (15)
20	805-320	60 (15)
21	805-321	60 (15)
22	805-322	60 (15)
23	805-323	60 (15)
24	805-324	40 (10)

Available upon request (depending on quantity required):

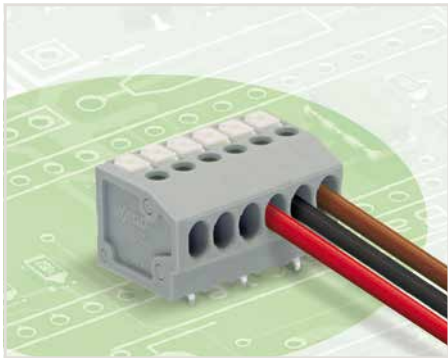
- Other pole numbers
- Other colors: ● blue, ● orange
- Mixed-color terminal strips
- Direct marking

PCB Terminal Strips with Push-Buttons, 1.5 mm², 1 Front In-Line Solder Pin/Pole

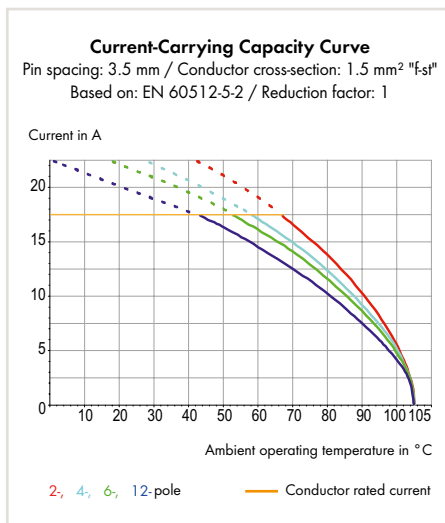
Pin Spacing: 3.5 mm

805 Series

1



- Terminal strips with push-buttons and Push-in CAGE CLAMP®
- Version with in-line solder pins
- Push-in termination of solid and ferruled conductors
- Flush-mount push-buttons that close with minimal force for convenient termination/removal of fine-stranded conductors
- Convenient, tool-free operation
- Versions with/without test slots and spacers
- Versions available with custom internal commoning (factory assembly), e.g., commoning ground conductor



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	160 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	17.5 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	3.2 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Push-Buttons, 1.5 mm², 1 Front In-Line Solder Pin/Pole

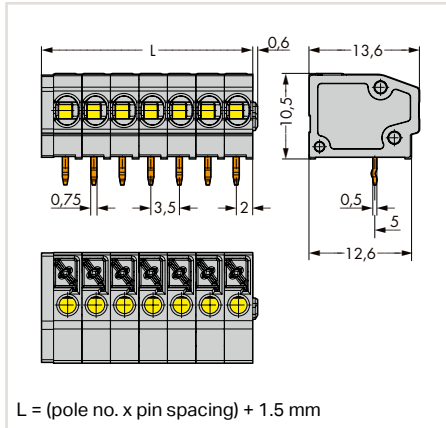
Pin Spacing: 3.5 mm

805 Series

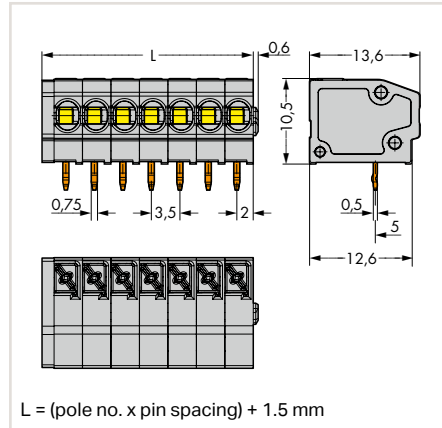
1



Dimensions (in mm):



Dimensions (in mm):



PCB terminal strip with push-buttons and test slots for 2 mm \varnothing test plug, 1 front in-line solder pin/pole, gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	805-152	600 (150)
3	805-153	420 (105)
4	805-154	300 (75)
5	805-155	260 (65)
6	805-156	220 (55)
7	805-157	180 (45)
8	805-158	160 (40)
9	805-159	140 (35)
10	805-160	120 (30)
11	805-161	100 (25)
12	805-162	100 (25)
13	805-163	100 (25)
14	805-164	100 (25)
15	805-165	80 (20)
16	805-166	80 (20)
17	805-167	80 (20)
18	805-168	60 (15)
19	805-169	60 (15)
20	805-170	60 (15)
21	805-171	60 (15)
22	805-172	60 (15)
23	805-173	60 (15)
24	805-174	40 (10)

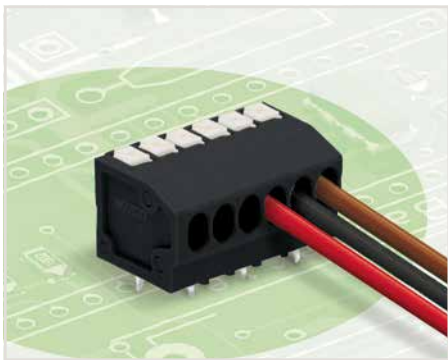
PCB terminal strip with push-buttons
1 front in-line solder pin/pole, gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	805-352	600 (150)
3	805-353	420 (105)
4	805-354	300 (75)
5	805-355	260 (65)
6	805-356	220 (55)
7	805-357	180 (45)
8	805-358	160 (40)
9	805-359	140 (35)
10	805-360	120 (30)
11	805-361	100 (25)
12	805-362	100 (25)
13	805-363	100 (25)
14	805-364	100 (25)
15	805-365	80 (20)
16	805-366	80 (20)
17	805-367	80 (20)
18	805-368	60 (15)
19	805-369	60 (15)
20	805-370	60 (15)
21	805-371	60 (15)
22	805-372	60 (15)
23	805-373	60 (15)
24	805-374	40 (10)

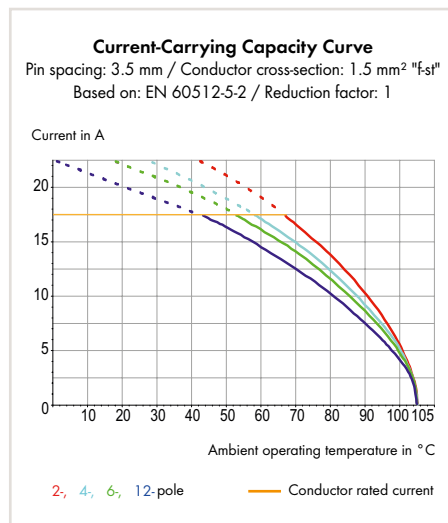
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ● orange
- Mixed-color terminal strips
- Direct marking

THR* PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.5 mm 805 Series



- THR PCB terminal strips with push-buttons and Push-in CAGE CLAMP®
- Push-in termination of solid and ferruled conductors
- Flush-mount push-buttons that close with minimal force for convenient termination/removal of fine-stranded conductors
- Convenient, tool-free operation



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	200 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	320 V
Rated current	4 kV
	17.5 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Solder Pin Data

Solder pin length	2.2 mm
Solder pin dimensions	0.5 x 0.75 mm
Plated through-hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	III a
Insulation material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 97

Marking accessories, see page 604

Operating tools, see page 588

Test plugs, see page 601

Additional technical information, see Section 13

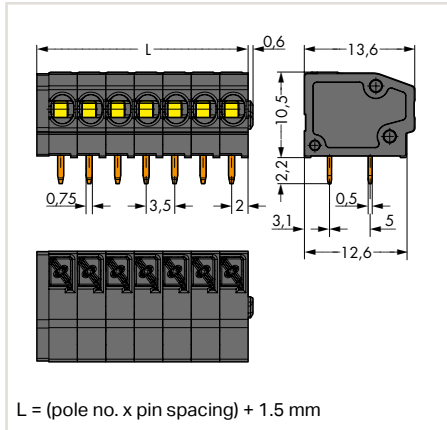
Approvals and corresponding ratings, visit www.wago.com

THR PCB Terminal Strips with Push-Buttons, 1.5 mm² Pin Spacing: 3.5 mm 805 Series

1



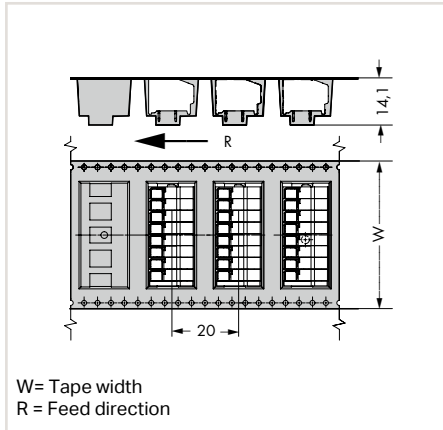
Dimensions (in mm):



THR PCB terminal strip with push-buttons, 1 staggered solder pin/pole, black, 3.5 mm (0.138 inch) pin spacing

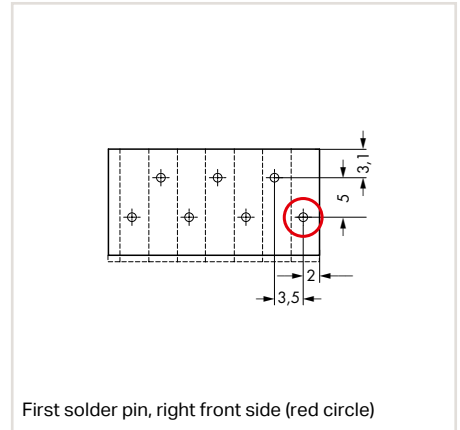
Pole No.	Item No.	Pack. Unit
2	805-302/200-604	600 (150)
3	805-303/200-604	420 (105)
4	805-304/200-604	300 (75)
5	805-305/200-604	260 (65)
6	805-306/200-604	220 (55)
7	805-307/200-604	180 (45)
8	805-308/200-604	160 (40)

Dimensions (in mm):

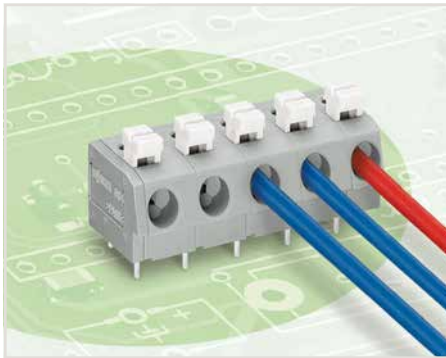


THR Terminal strip with push-buttons, 1 staggered solder pin/pole, black, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 160 pieces per reel, 3.5 mm (0.138 inch) pin spacing

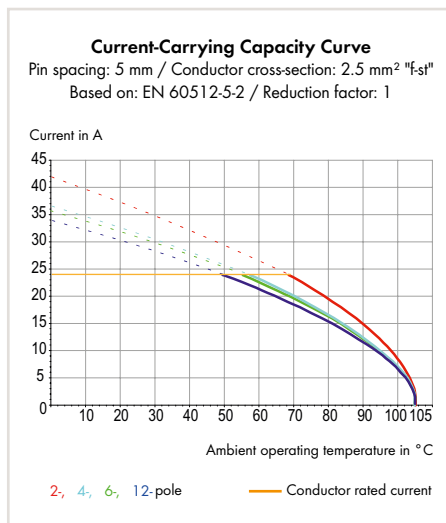
Pole No.	Item No.	W (mm)
2	805-302/200-604/997-404	24
3	805-303/200-604/997-405	32
4	805-304/200-604/997-405	32
5	805-305/200-604/997-405	32
6	805-306/200-604/997-406	44
7	805-307/200-604/997-406	44
8	805-308/200-604/997-406	44



PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5 mm, 7.5 mm 804 Series



- PCB terminal strips with push-buttons and Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled conductors
- A large conductor entry accommodates conductors with a cross-section up to 12 AWG with an insulation diameter up to 4.2 mm
- Terminal strips with spacers to increase pin spacing
- Versions available with custom internal commoning (factory assembly), e.g., commoning ground conductor



Electrical Data for Pin Spacing

	5 mm / 0.197 inch	7.5 mm / 0.295 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	24 A	24 A
Approvals per	UL 1059	UL 1059
Rated voltage (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A
Rated voltage (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	10 ... 11 mm / 0.39 ... 0.43 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.25 ... 2.5 mm ² / 20 ... 12 AWG
Fine-stranded conductor	0.25 ... 2.5 mm ² / 20 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.8 x 0.6 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 601

Additional technical information,
see Section 13

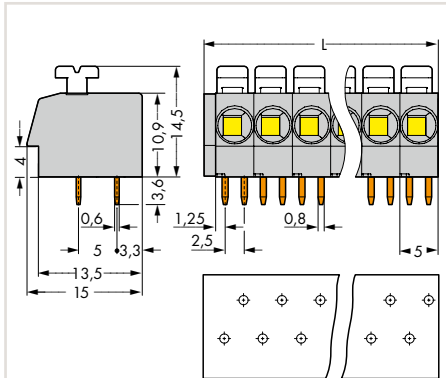
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5 mm, 7.5 mm 804 Series

1



Dimensions (in mm):

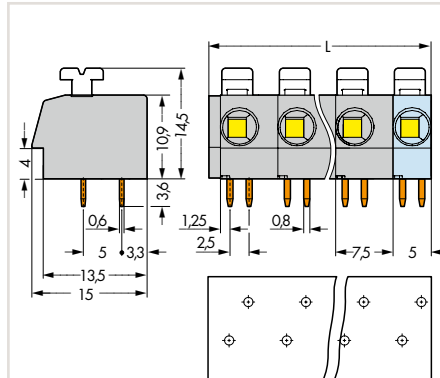


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip with push-buttons,
2 staggered solder pins/pole, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	804-102	420 (105)
3	804-103	300 (75)
4	804-104	220 (55)
5	804-105	180 (45)
6	804-106	140 (35)
7	804-107	120 (30)
8	804-108	100 (25)
9	804-109	100 (25)
10	804-110	80 (20)
11	804-111	80 (20)
12	804-112	80 (20)
13	804-113	60 (15)
14	804-114	60 (15)
15	804-115	60 (15)
16	804-116	60 (15)

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

PCB terminal strip with push-buttons,
2 staggered solder pins/pole, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	804-302	340 (85)
3	804-303	220 (55)
4	804-304	160 (40)
5	804-305	120 (30)
6	804-306	100 (25)
7	804-307	80 (20)
8	804-308	80 (20)
9	804-309	60 (15)
10	804-310	60 (15)
11	804-311	60 (15)
12	804-312	40 (10)

Available upon request (depending on quantity required):

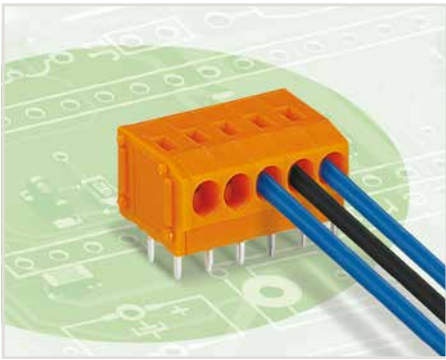
- Other pole numbers
- Other colors: ● red, ● orange, ● light green, ● pink, ● blue (● blue for Ex i applications)
- Mixed-color terminal strips
- 10 mm pin spacing version with spacers
- Direct marking

PCB Modular Terminal Blocks and Terminal Strips, 1.5 mm²

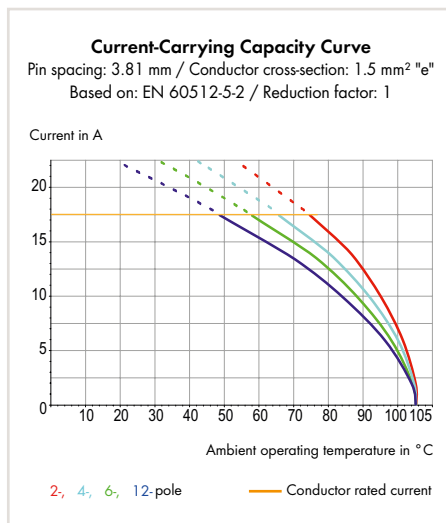
Pin Spacing: 3.81 mm

235 Series

1



- Low-profile PCB terminal strips with PUSH WIRE® connection and screwdriver actuation
- Push-in termination of solid conductors
- Double solder pins for high mechanical stability
- Conductor removal via (2.5 x 0.4) mm screwdriver
- 235 Series with push-buttons, see page 165



Electrical Data for Pin Spacing

Ratings per*	3.81 mm / 0.15 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	200 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	500 V
Rated current	4 kV
Approvals per	17.5 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
	10 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.75 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.75 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III /
Pollution degree 2

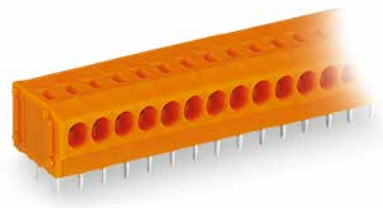
Marking accessories,
see page 604

Operating tools,
see page 588

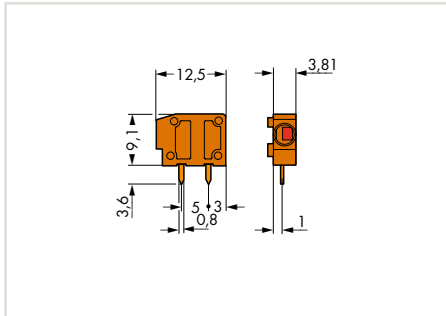
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Modular Terminal Blocks and Terminal Strips, 1.5 mm² Pin Spacing: 3.81 mm 235 Series



Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
3.81 mm (0.15 inch) pin spacing

Color	Item No.	Pack. Unit
orange	235-101/330-000	800 (100)

End plate for modular terminal blocks,
snap-on type, 1 mm thick

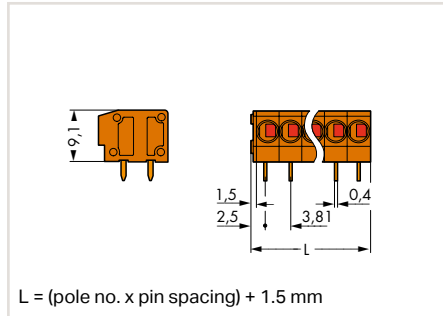
Color	Item No.	Pack. Unit
orange	235-600	100



Spacer, doubles 3.81 mm (0.15 inch) pin spacing

Color	Item No.	Pack. Unit
orange	235-316	100

Dimensions (in mm):



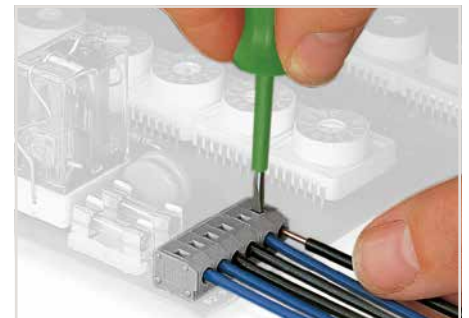
$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 2 solder pins/pole, orange,
3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	235-102/330-000	520 (130)
3	235-103/330-000	360 (90)
4	235-104/330-000	280 (70)
5	235-105/330-000	220 (55)
6	235-106/330-000	180 (45)
7	235-107/330-000	160 (40)
8	235-108/330-000	140 (35)
9	235-109/330-000	120 (30)
10	235-110/330-000	120 (30)



Inserting a solid conductor via push-in termination.



Removing conductor via (2.5 x 0.4) mm screwdriver.

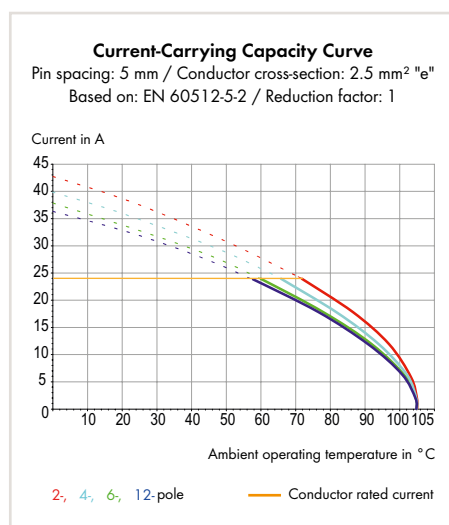
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Mixed-color terminal strips
- Direct marking

Modular PCB Terminal Blocks, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 235 Series



- Low-profile modular PCB terminal blocks with PUSH WIRE® connection for custom terminal strip assemblies
- Push-in termination of solid conductors
- Double solder pins for high mechanical stability
- Conductor removal via (2.5 x 0.4) mm screwdriver
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- Two-conductor versions, visit www.wago.com
- 235 Series with push-buttons, see page 163



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A	15 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 2.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Additional technical information,
see Section 13

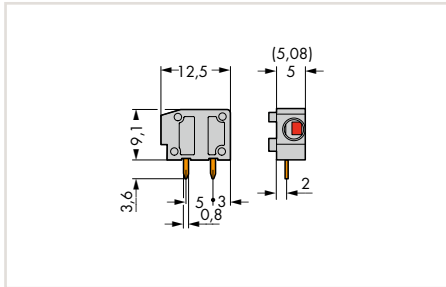
Approvals and corresponding ratings,
visit www.wago.com

Modular PCB Terminal Blocks, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 235 Series

1



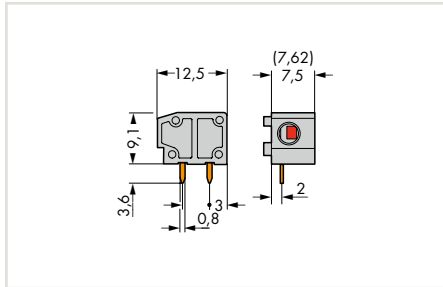
Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-401	800 (100)
dark gray	235-742	800 (100)
light gray	235-743	800 (100)
blue	235-744	800 (100)
orange	235-746	800 (100)
light green	235-747	800 (100)



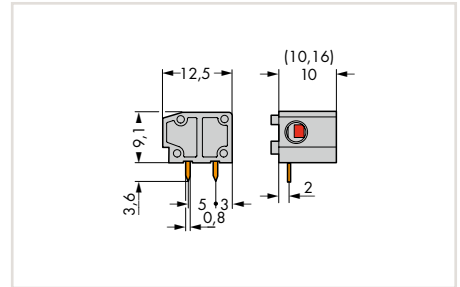
Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-501	600 (100)
dark gray	235-752	600 (100)
light gray	235-753	600 (100)
blue*	235-754	600 (100)
orange	235-756	600 (100)
light green	235-757	600 (100)



Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-801	400 (100)
dark gray	235-762	400 (100)
light gray	235-763	400 (100)
blue*	235-764	400 (100)
orange	235-766	400 (100)
light green	235-767	400 (100)

*Suitable for Ex i applications



Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
gray	235-701	100

End plate for modular terminal blocks,
snap-on type, 1 mm thick

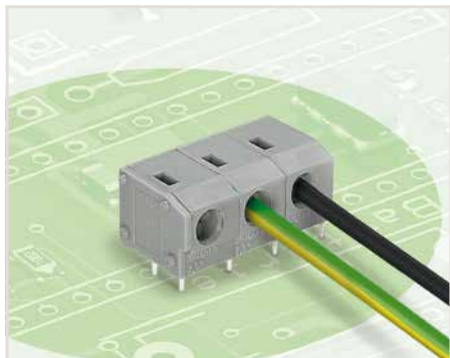
Color	Item No.	Pack. Unit
gray	235-100	100
dark gray	235-200	100
light gray	235-300	100
blue	235-400	100
black	235-500	100
yellow	235-550	100
orange	235-600	100
violet	235-650	100
light green	235-700	100
red	235-800	100
white	235-850	100

Available upon request (depending on quantity required):

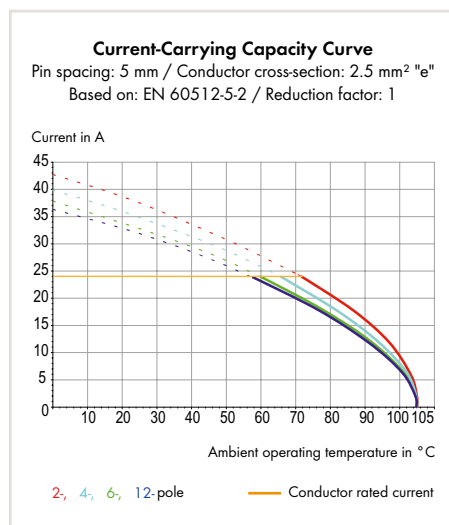
- Other colors

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5/5.08 mm 235 Series

1



- Low-profile PCB terminal strips with PUSH WIRE® connection and screwdriver actuation
- Push-in termination of solid conductors
- Double solder pins for high mechanical stability
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- 235 Series with push-buttons, see page 167



Electrical Data for Pin Spacing

Ratings per*	5/5.08 mm / 0.2 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	24 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
	15 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 2.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

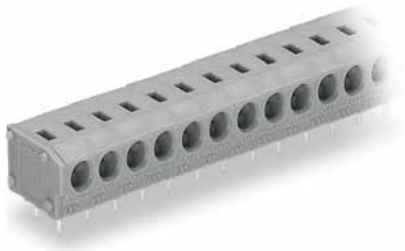
Marking accessories,
see page 604

Operating tools,
see page 588

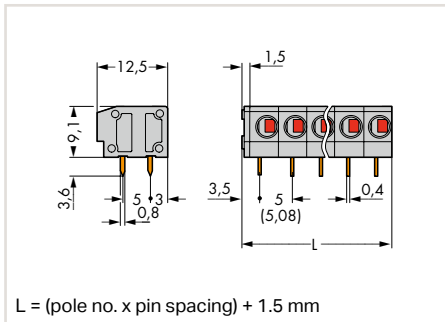
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm² Pin Spacing: 5/5.08 mm 235 Series



Dimensions (in mm):



PCB terminal strip, 2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	235-402	420 (105)
3	235-403	280 (70)
4	235-404	220 (55)
5	235-405	180 (45)
6	235-406	140 (35)
7	235-407	120 (30)
8	235-408	100 (25)
9	235-409	100 (25)
10	235-410	80 (20)
12	235-412	60 (15)

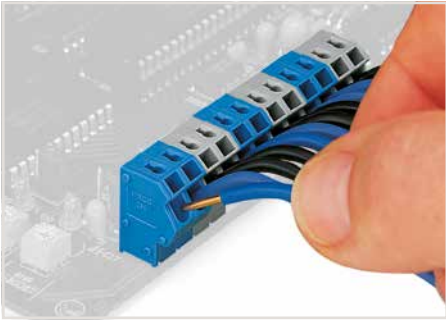
Available upon request (depending on quantity required):

- Other pole numbers
- PCB terminal strips with 7.5/7.62 mm and 10/10.16 mm pin spacing
- Other colors: ● blue, ○ light gray, ● dark gray, ● light green, ● orange
- Mixed-color terminal strips
- Direct marking

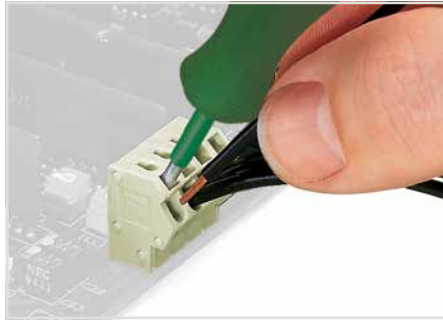
254 Series

Description and Installation

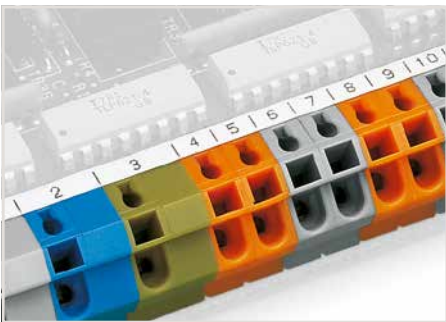
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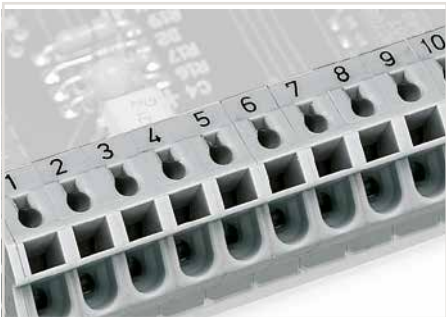
Inserting a solid conductors via push-in termination.



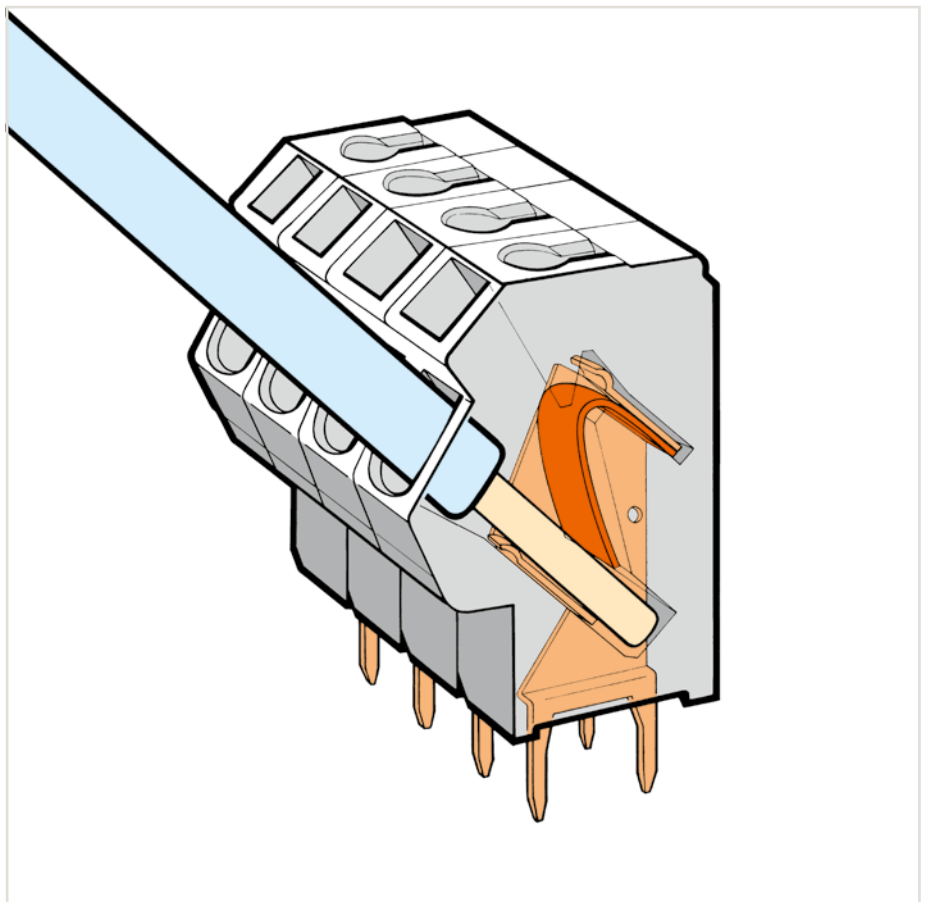
Inserting a tip-bonded conductor via screwdriver.



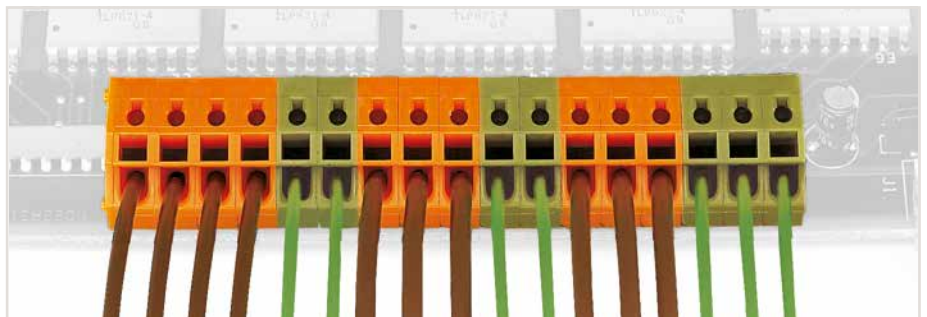
Labeling via self-adhesive marking strips.



Labeling via factory direct marking.



Application example: field-wiring terminal strip

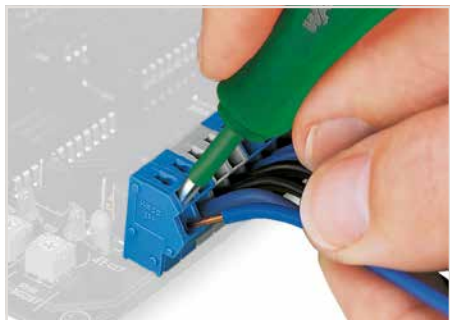


Mixed terminal strips can be assembled using different housing colors for the formation of groups.

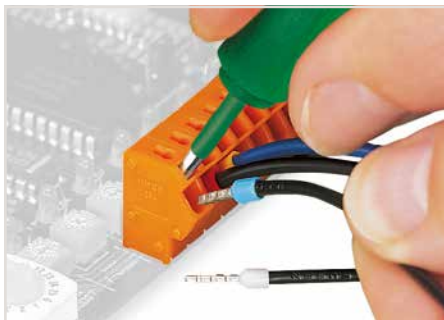
254 Series

Description and Installation

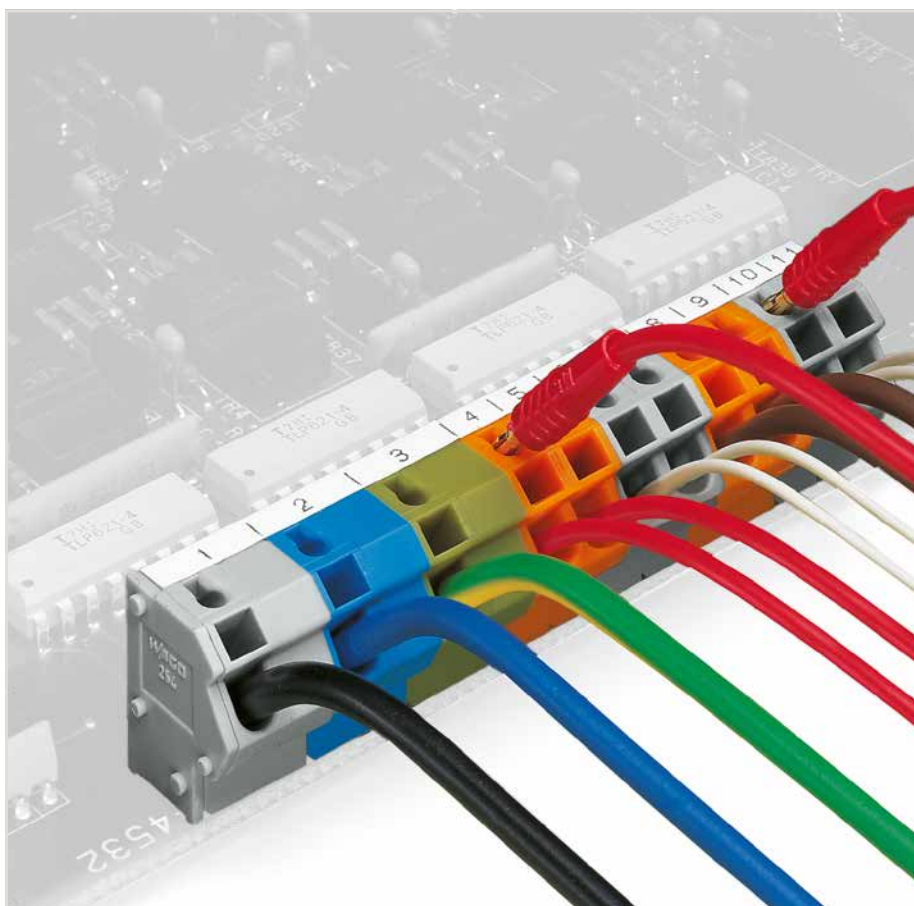
1



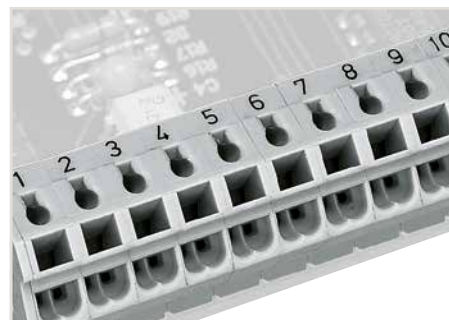
Removing a conductor.



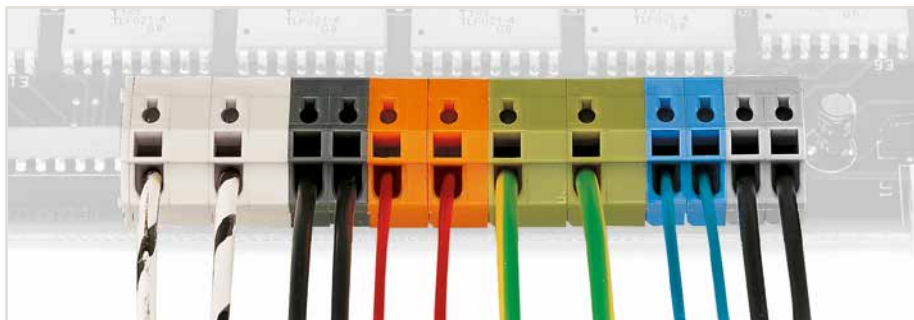
Inserting/removing a ferruled conductor.



Testing with 2 mm Ø test plug.



Two-conductor versions, visit www.wago.com



Mixed terminal strips can be assembled using different pin spacing and housing colors for the formation of groups.

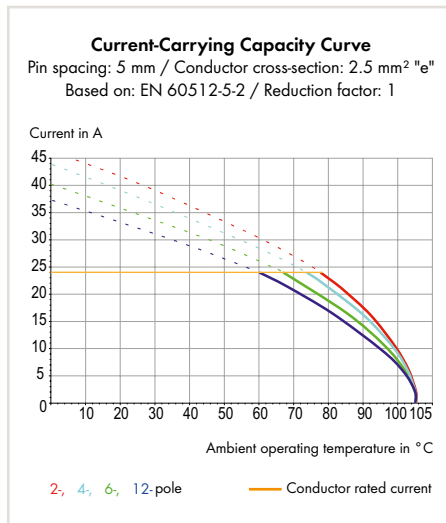
Modular PCB Terminal Blocks, 2.5 mm²

Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm

254 Series



- Modular PCB terminal blocks with PUSH WIRE® connection and screwdriver actuation for custom terminal strip assemblies
- Push-in termination of solid and ferruled conductors
- Test socket for 2 mm Ø test plug
- Save space on the PCB, just 8.9 mm deep
- Two-conductor versions, visit www.wago.com



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	10 ... 12 mm / 0.39 ... 0.47 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.5 ... 2.5 mm ² / 20 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.5 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 1.5 mm ²


Solder Pin Data


Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


*(III / 2) ≙ Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

 Test plugs, see page 601

 Additional technical information, see Section 13

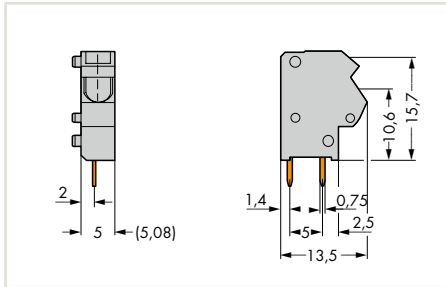
 Approvals and corresponding ratings, visit www.wago.com

Modular PCB Terminal Blocks, 2.5 mm² Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm 254 Series

1

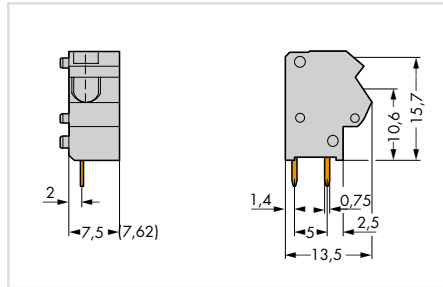


Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
5/5.08 mm (0.2 inch) pin spacing

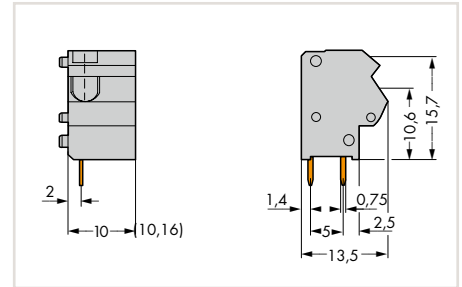
Color	Item No.	Pack. Unit
gray	254-451	500 (100)
dark gray	254-842	500 (100)
light gray	254-843	500 (100)
blue	254-844	500 (100)
orange	254-846	500 (100)
light green	254-847	500 (100)

Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
7.5/7.62 mm (0.3 inch) pin spacing

Color	Item No.	Pack. Unit
gray	254-551	400 (100)
dark gray	254-852	400 (100)
light gray	254-853	400 (100)
blue*	254-854	400 (100)
orange	254-856	400 (100)
light green	254-857	400 (100)

Dimensions (in mm):

Modular PCB terminal block, 2 solder pins/pole,
10/10.16 mm (0.4 inch) pin spacing

Color	Item No.	Pack. Unit
gray	254-651	300 (100)
dark gray	254-862	300 (100)
light gray	254-863	300 (100)
blue*	254-864	300 (100)
orange	254-866	300 (100)
light green	254-867	300 (100)

*Suitable for Ex i applications

End plate for modular terminal blocks,
snap-on type, 1 mm thick

Color	Item No.	Pack. Unit
gray	254-100	100
dark gray	254-200	100
light gray	254-300	100
blue	254-400	100
orange	254-600	100
light green	254-700	100

Available upon request (depending on quantity required):

- Other colors

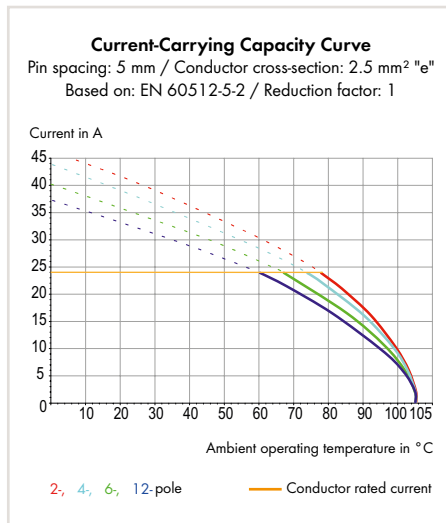
PCB Terminal Strips, 2.5 mm²

Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm

254 Series



- PCB terminal strips with PUSH WIRE® connection and screwdriver actuation
- Push-in termination of solid and ferruled conductors
- Test socket for 2 mm Ø test plug
- Save space on the PCB, just 8.9 mm deep
- Two-conductor versions, visit www.wago.com



Electrical Data for Pin Spacing

	5/5.08 mm 0.2 inch	7.5/7.62 mm 0.3 inch	10/10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	500 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	10 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	10 ... 12 mm / 0.39 ... 0.47 inch
Conductor entry angle to the PCB	45°
Conductor cross-sections	
Solid conductor	0.5 ... 2.5 mm ² / 20 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.5 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 601

Additional technical information,
see Section 13

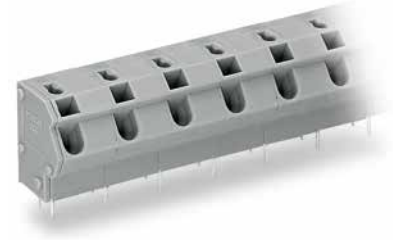
Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Strips, 2.5 mm²

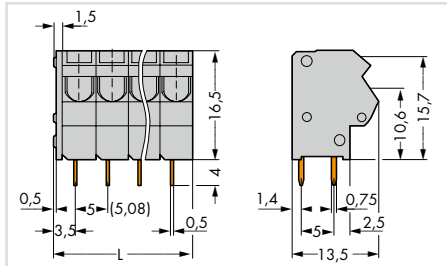
Pin Spacing: 5/5.08 mm, 7.5/7.62 mm, 10/10.16 mm

254 Series

1



Dimensions (in mm):

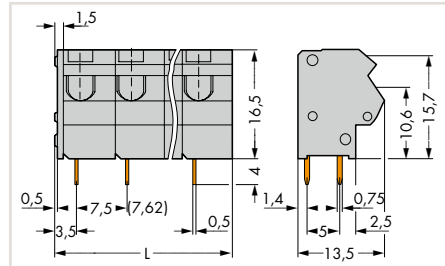


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 2 solder pins/pole, gray,
5/5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	254-452	420 (105)
3	254-453	280 (70)
4	254-454	220 (55)
5	254-455	180 (45)
6	254-456	140 (35)
7	254-457	120 (30)
8	254-458	100 (25)
9	254-459	100 (25)
10	254-460	80 (20)
12	254-462	80 (20)
16	254-466	60 (15)
24	254-474	40 (10)
36	254-486	20 (5)
48	254-498	20 (5)

Dimensions (in mm):

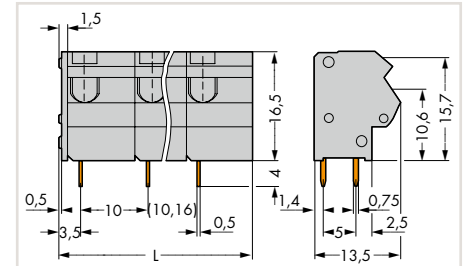


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 2 solder pins/pole, gray,
7.5/7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	254-552	280 (70)
3	254-553	200 (50)
4	254-554	140 (35)
5	254-555	120 (30)
6	254-556	100 (25)
7	254-557	80 (20)
8	254-558	80 (20)
9	254-559	60 (15)
10	254-560	60 (15)
12	254-562	40 (10)
16	254-566	40 (10)
24	254-574	20 (5)

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

PCB terminal strip, 2 solder pins/pole, gray,
10/10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	254-652	200 (50)
3	254-653	160 (40)
4	254-654	100 (25)
5	254-655	80 (20)
6	254-656	80 (20)
7	254-657	60 (15)
8	254-658	60 (15)
9	254-659	40 (10)
10	254-660	40 (10)
12	254-662	40 (10)
16	254-666	20 (5)
24	254-674	20 (5)

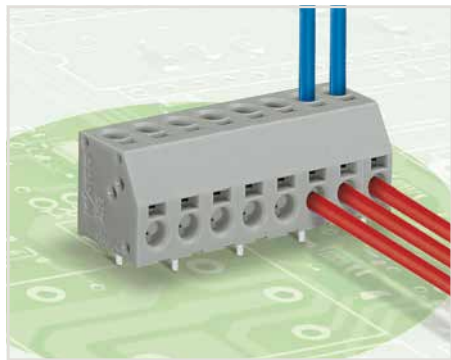
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● red, ● orange, ● light green, ● dark gray, ○ light gray, ● blue
- ● blue versions for Ex i applications (only for 7.5/7.62 mm and 10/10.16 mm pin spacing)
- Mixed-color terminal strips
- Direct marking

2-Conductor PCB Terminal Strips, 1.5 mm²

Pin Spacing: 5 mm

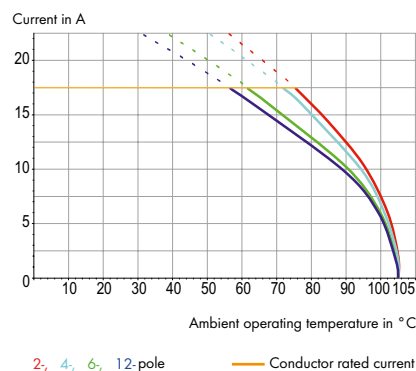
253 Series



- PCB terminal strips with PUSH WIRE® connection and screwdriver actuation
- Double-conductor connection provides top-entry (vertical) and/or side-entry (horizontal) wiring
- Push-in termination of solid conductors
- Double entries for power supply and potential distribution

Current-Carrying Capacity Curve Conductor – Solder Pin

Pin spacing: 5 mm / Conductor cross-section: 1.5 mm² "e"
Based on: EN 60512-5-2 / Reduction factor: 1



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III/2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	17.5 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	8 A
Rated current UL (Use Group D)	300 V
Approvals per	8 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	8 A
Rated current CSA (Use Group D)	300 V
	8 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Note (strip length)	7 ... 8 mm / 0.28 ... 0.31 inch (for wiring on both sides)
Conductor entry angle (1) to the PCB	0°
Conductor entry angle (2) to the PCB (2)	90°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG

Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.5 x 0.8 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

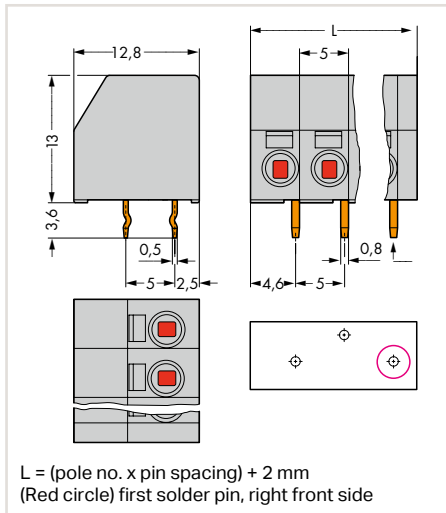
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

2-Conductor PCB Terminal Strips, 1.5 mm² Pin Spacing: 5 mm 253 Series

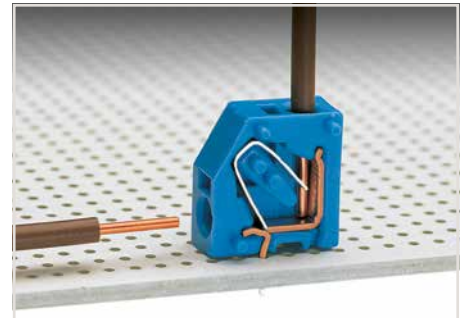


Dimensions (in mm):

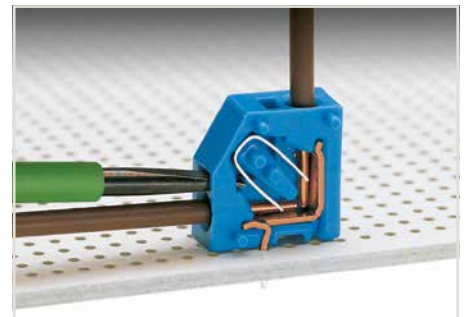


2-conductor PCB terminal strip,
1 staggered solder pin/pole, gray,
5 mm (0.197 inch) pin spacing

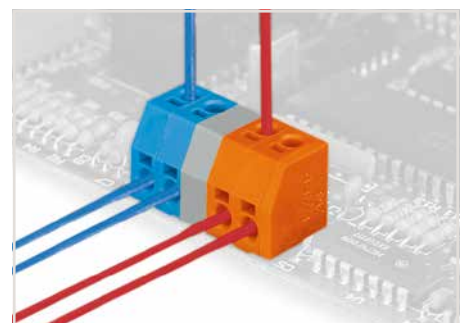
Pole No.	Item No.	Pack. Unit
2	253-102	400 (100)
3	253-103	280 (70)
4	253-104	220 (55)
5	253-105	160 (40)
6	253-106	140 (35)
7	253-107	120 (30)
8	253-108	100 (25)
9	253-109	100 (25)
10	253-110	80 (20)
11	253-111	80 (20)
12	253-112	60 (15)
13	253-113	60 (15)
14	253-114	60 (15)
15	253-115	60 (15)
16	253-116	40 (10)



Inserting a conductor via push-in termination.



Removing a conductor via 2.5 mm screwdriver.



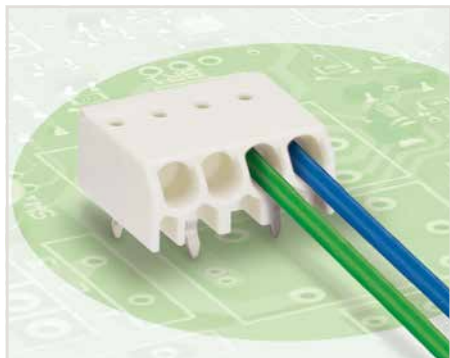
Mixed-color terminal strips (with or without spacer) are available upon request.

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● red, ○ light gray, ● blue, ○ white, ● yellow, ● light green, ● black, ● orange, ● violet
- Mixed-color terminal strips
- Direct marking

PCB Terminal Blocks, 1.5 mm² Pin Spacing: 3.5 mm 744 Series


1





- PCB terminal blocks with PUSH WIRE® connection
- Push-in termination of solid conductors – low insertion forces
- Just 6.6 mm tall
- Conductor removal via disconnection tool or by twist and pull

Electrical Data for Pin Spacing	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	2 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	2 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	2 A
Connection Data	
Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Solder Pin Data	
Solder pin length	3.5 mm
Solder pin dimensions	0.35 x 0.9 mm
Drilled hole diameter	1.1 ^{+0.1} mm
Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

 Disconnection tools,
see page 591

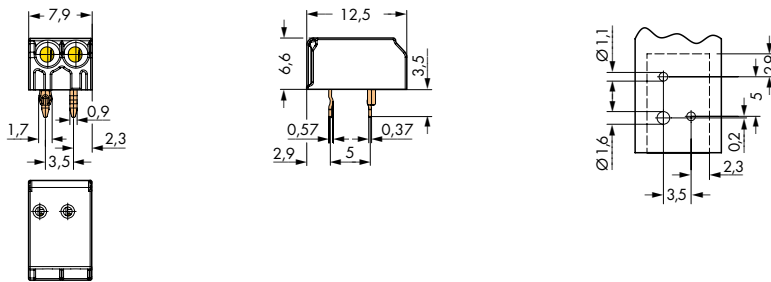
 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

PCB Terminal Blocks, 1.5 mm² Pin Spacing: 3.5 mm 744 Series



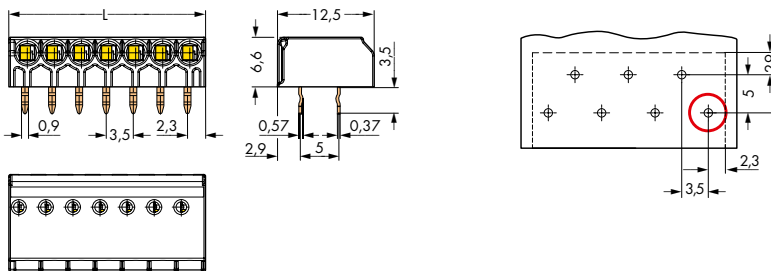
Dimensions (in mm):



Two-pole version with additional anti-rotating pin



Inserting a conductor via push-in termination.



For 3 poles and more, $L = (\text{pole no.} \times \text{pin spacing}) + 0.9 \text{ mm}$
First solder pin, right front side (red circle)



Removing a conductor via 1.0 mm \varnothing disconnection tool (206-840).

PCB terminal block with disconnecting slots,
1 staggered solder pin/pole, white,
3.5 mm (0.138 inch) pin spacing

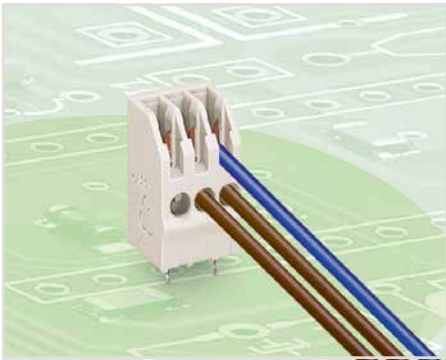
Pole No.	Item No.	Pack. Unit
2	744-392	1500
3	744-303	1000
4	744-304	800
6	744-306	500
7	744-307	300
8	744-308	300
10	744-310	200

Combi PCB Terminal Blocks "High Version" with PUSH WIRE® and IDC Connections

Pin Spacing: 3.5 mm

251 Series


1





- Compact Combi PCB terminal blocks – streamlined for automated wiring in the lighting industry
- Low conductor insertion forces
- PUSH WIRE® and IDC connections – ideal for automated wiring systems


Electrical Data for Pin Spacing	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	2 A
Connection Data	
Connection technology	PUSH WIRE®
Strip length	7.5 ... 8.5 mm / 0.29 ... 0.32 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Connection Data	
Connection technology	IDC
Strip length	7.5 ... 8.5 mm / 0.29 ... 0.32 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 mm ² (PVC insulation, simple)
Fine-stranded conductor	0.75 mm ² (PVC insulation, simple)
Solder Pin Data	
Solder pin length	3.5 mm
Solder pin dimensions	0.75 x 0.5 mm
Drilled hole diameter	1.2 ^{+0.1} mm
Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

 Operating tools,
see page 588

 Disconnection tools,
see page 591

 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

Combi PCB Terminal Blocks "High Version" with PUSH WIRE® and IDC Connections

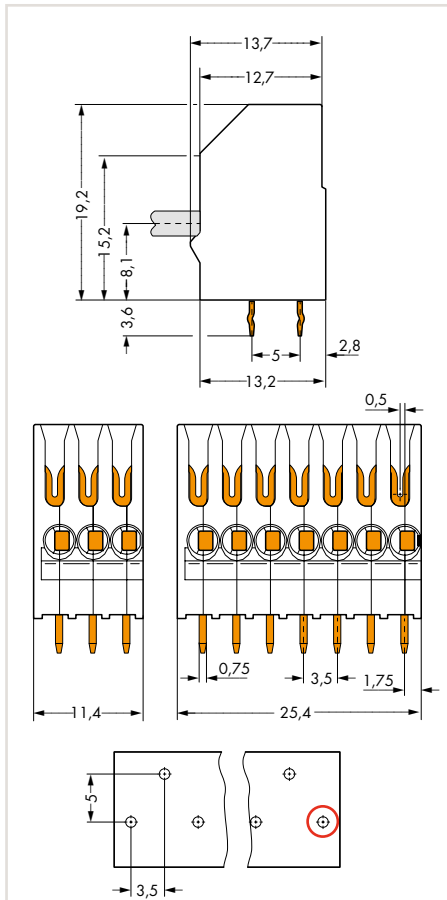
Pin Spacing: 3.5 mm

251 Series

1



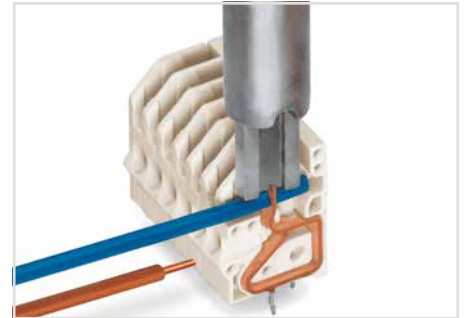
Dimensions (in mm):



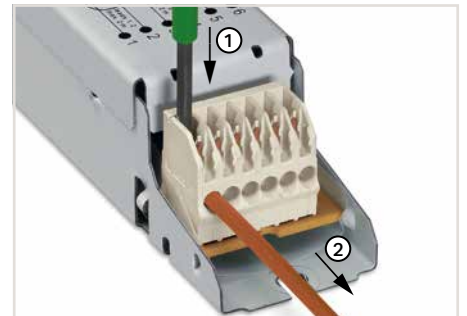
$L = (\text{pole no.} \times \text{pin spacing}) + 0,9 \text{ mm}$
 First solder pin, right front side (red circle)

Combi PCB terminal block, 251 Series, high version, with PUSH WIRE® and IDC connections, 1 staggered solder pin/pole, white, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	251-102	600 (150)
3	251-103	420 (105)
4	251-104	320 (80)
5	251-105	260 (65)
6	251-106	220 (55)
7	251-107	180 (45)



Conductor termination:
 PUSH WIRE®: Simply push in conductor.
 IDC: Push in conductor via 206-831 Operating Tool.



Conductor removal:
 PUSH WIRE®: (1) Open spring via 2.5 x 0.4 mm screwdriver and pull out conductor (2).

IDC: Pull up vertically on conductor to remove it (10x reconnection cycles possible when used properly – before re-using, cut off old contact point from conductor).

Available upon request (depending on quantity required):

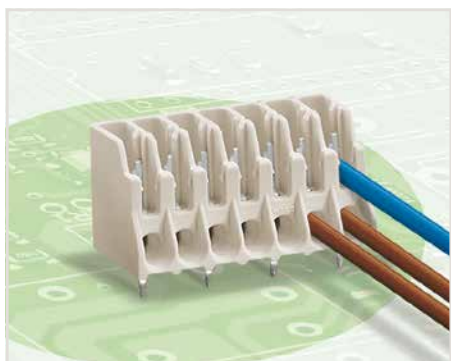
- Other pole numbers
- Direct marking

Combi PCB Terminal Blocks "Low Version" with PUSH WIRE® and IDC Connections

Pin Spacing: 3.5 mm

251 Series

1



- Compact Combi PCB terminal blocks – streamlined for automated wiring in the lighting industry
- Low conductor insertion forces
- PUSH WIRE® and IDC connections – ideal for automated wiring systems

Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	6 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	4 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	4 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1 mm ² / 20 ... 18 AWG

Connection technology	IDC
Strip length	7.5 ... 8.5 mm / 0.29 ... 0.32 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 mm ² (PVC insulation, simple)
Fine-stranded conductor	0.75 mm ² (PVC insulation, simple)


Solder Pin Data


Solder pin length	3.2 mm
Solder pin dimensions	0.75 x 0.5 mm
Drilled hole diameter	1.1 ^{+0.1} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

 Operating tools,
see page 588

 Disconnection tools,
see page 591

 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

Combi PCB Terminal Blocks "Low Version" with PUSH WIRE® and IDC Connections

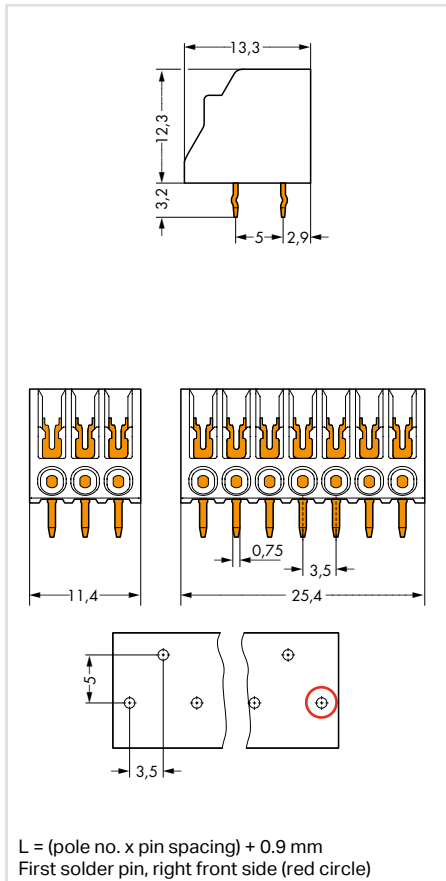
Pin Spacing: 3.5 mm

251 Series

1

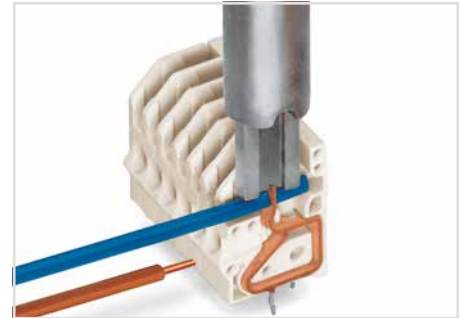


Dimensions (in mm):

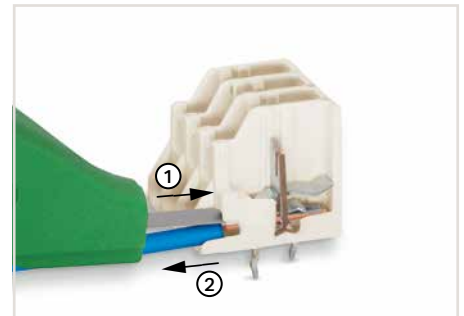


Combi PCB terminal block, 251 Series, low version, with PUSH WIRE® and IDC connections, 1 staggered solder pin/pole, white, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	251-303	420 (105)
4	251-304	320 (80)
6	251-306	200 (50)
7	251-307	180 (45)
8	251-308	160 (40)
10	251-310	120 (30)



Conductor termination:
 PUSH WIRE®: Simply push in conductor.
 IDC: Push in conductor via 206-831 Operating Tool.



Conductor removal:
 PUSH WIRE®: Twist conductor and pull out, or fully insert 206-830 Disconnection Tool over the conductor (1) and pull it out (2).

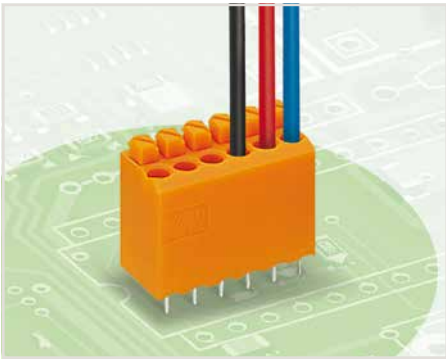
IDC: Pull up vertically on conductor to remove it (10x reconnection cycles possible when used properly – before re-using, cut off old contact point from conductor).

Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

Compact PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 3.81 mm 735 Series

1



- Compact PCB terminal blocks with push-buttons and PUSH WIRE® connection
- Top-of-unit, push-button actuation and conductor termination save space on the PCB
- Push-in termination of solid conductors
- Terminal blocks can be arranged side-by-side without loss of poles.

Electrical Data for Pin Spacing

Ratings per*	3.81 mm / 0.15 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III/2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	10 A
Approvals per	UL 1059
Rated voltage (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 1 mm ²

Solder Pin Data

Solder pin length	3.5 mm
Solder pin dimensions	0.4 x 0.9 mm
Drilled hole diameter	1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

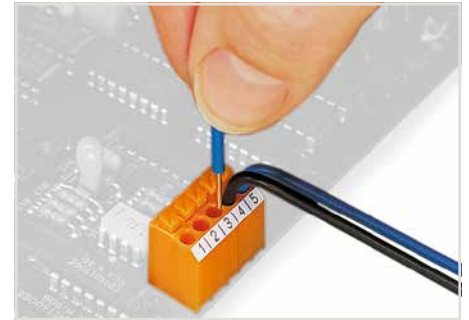
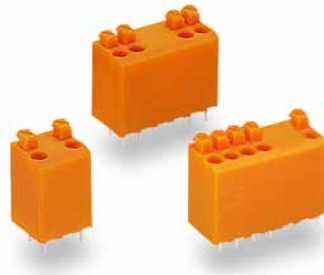
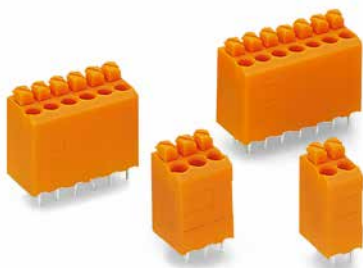
Test pin,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

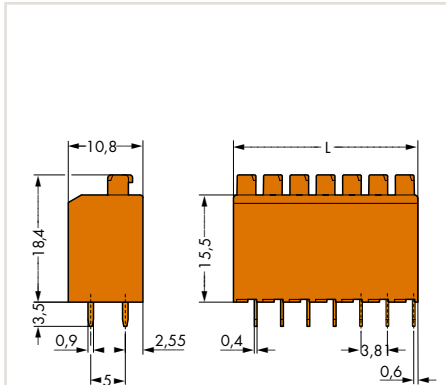
Compact PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 3.81 mm 735 Series

1



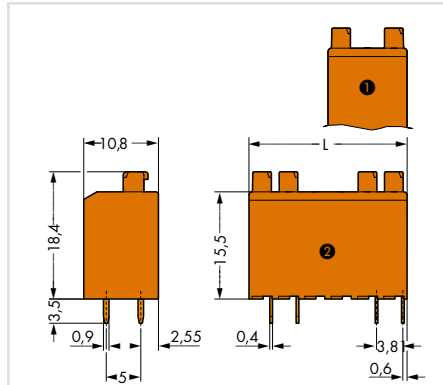
Inserting a solid conductor via push-in termination.

Dimensions (in mm):



L (2-pole): 7.62 mm, L (3-pole): 11.43 mm,
L (6-pole): 22.86 mm, L (7-pole): 26.67 mm

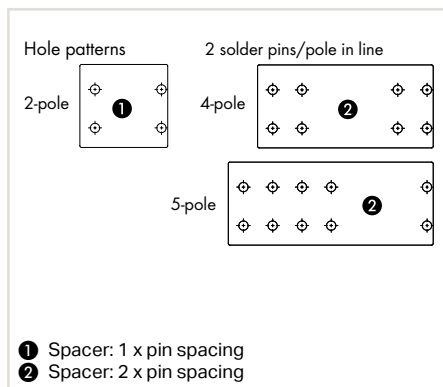
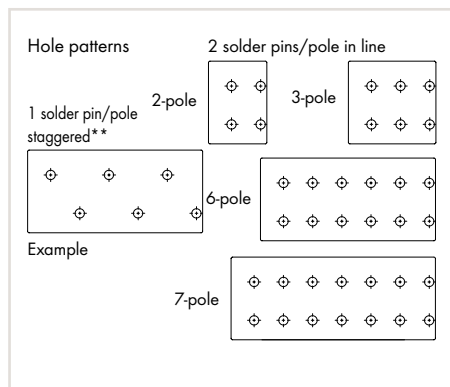
Dimensions (in mm):



L (2-pole): 11.43 mm, L (4-pole): 22.86 mm,
L (5-pole): 26.67 mm



Removing a conductor via push-button.



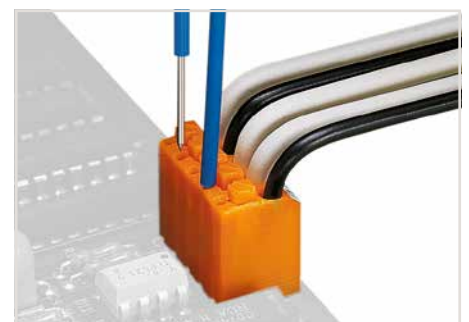
Terminal blocks can be arranged side-by-side without loss of poles.

Compact PCB terminal block with push-buttons, 2 in-line solder pins/pole, high version, orange, 3.81 mm (0.15 inch) version

Pole No.	Item No.	Pack. Unit
2	735-122	660 (165)
3	735-123	440 (110)
6	735-126	220 (55)
7	735-127	180 (45)

Compact PCB terminal block with push-buttons and spacer, 2 in-line solder pins/pole, high version, orange, 3.81 mm (0.15 inch) version

Pole No.	Item No.	Pack. Unit
2	735-123/001-000*	440 (110)
4	735-126/001-000	220 (55)
5	735-127/001-000	180 (45)



Testing via 1 mm Ø test pin.

*Technical data, visit www.wago.com

Available upon request (depending on quantity required):

- **Versions with staggered solder pins that increase clearances and creepage distances
- Direct marking

Compact PCB Terminal Blocks with Push-Buttons, 1.5 mm²

Pin Spacing: 5 mm

735 Series

1



- Compact PCB terminal blocks with push-buttons and PUSH WIRE® connection
- Top-of-unit, push-button actuation and conductor termination save space on the PCB
- Push-in termination of solid conductors
- Terminal blocks can be arranged side-by-side without loss of poles.

Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III/2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	10 A
Rated voltage (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	10 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	90°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 1 mm ²


Solder Pin Data


Solder pin length	3.5 mm
Solder pin dimensions	0.4 x 0.9 mm
Drilled hole diameter	1 ^{+0.1} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


* (III / 2) ≙ Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

 Test pin, see page 601

 Additional technical information, see Section 13

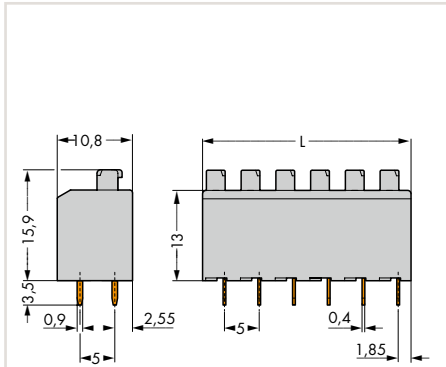
 Approvals and corresponding ratings, visit www.wago.com

Compact PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 5 mm 735 Series

1

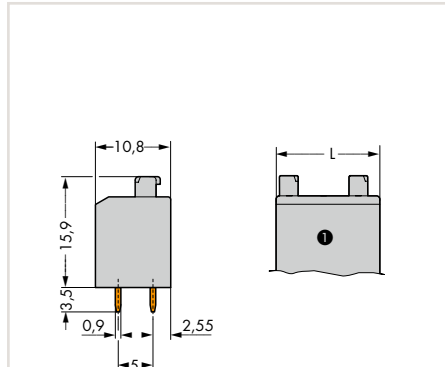


Dimensions (in mm):



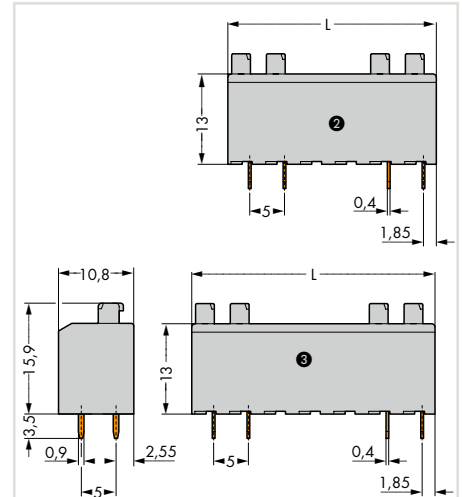
L (2-pole): 10 mm, L (3-pole): 15 mm,
L (4-pole): 20 mm, L (6-pole): 30 mm,
L (7-pole): 35 mm

Dimensions (in mm):

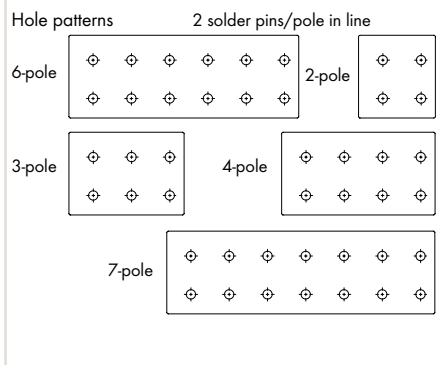


L (2-pole): ① x 15 mm pin spacing
L (5-pole): ① x 30 mm pin spacing
L (6-pole): ① x 35 mm pin spacing

Dimensions (in mm):

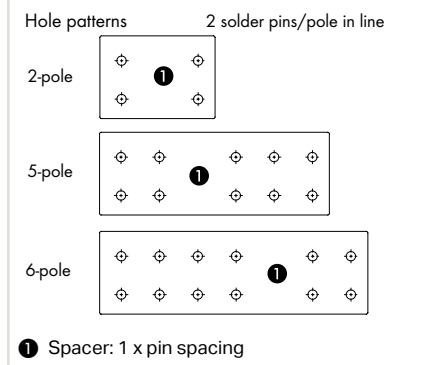


L (4-pole): ② x 30 mm pin spacing
L (4-pole): ③ x 35 mm pin spacing



Compact PCB terminal block with push-buttons, 2 in-line solder pins/pole, low version, gray, 5 mm (0.197 inch) pin spacing

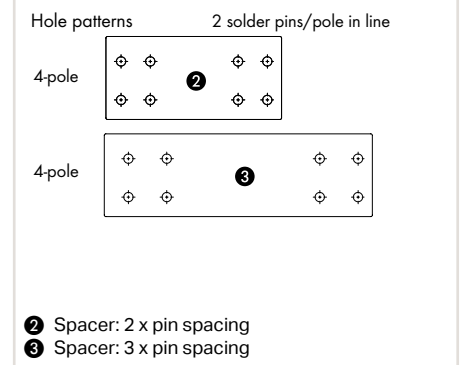
Pole No.	Item No.	Pack. Unit
2	735-302	500 (125)
3	735-303	320 (80)
4	735-304	240 (60)
6	735-306	160 (40)
7	735-307	140 (35)



Compact PCB terminal block with push-buttons and spacer for 1 x pin spacing, 2 in-line solder pins/pole, low version, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	735-303/001-000 *	320 (80)
5	735-306/003-000	160 (40)
6	735-307/001-000	140 (35)

*Technical data, visit www.wago.com



Compact PCB terminal block with push-buttons and spacer for 2 x pin spacing, 2 in-line solder pins/pole, low version, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4	735-306/001-000	160 (40)

Compact PCB terminal block with push-buttons and spacer for 3 x pin spacing, 2 in-line solder pins/pole, low version, gray, 5 mm (0.197 inch) pin spacing

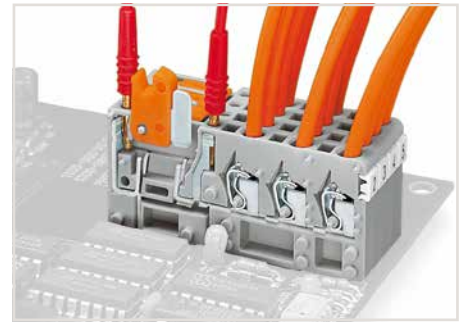
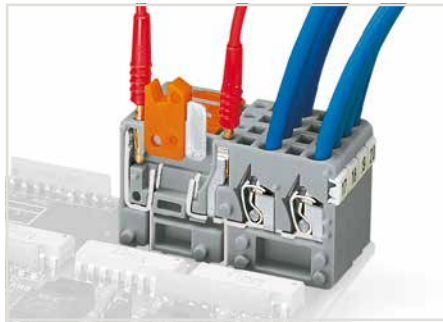
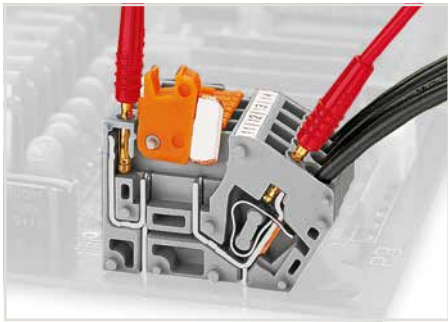
Pole No.	Item No.	Pack. Unit
4	735-307/002-000	140 (35)

Available upon request (depending on quantity required):
• Direct marking

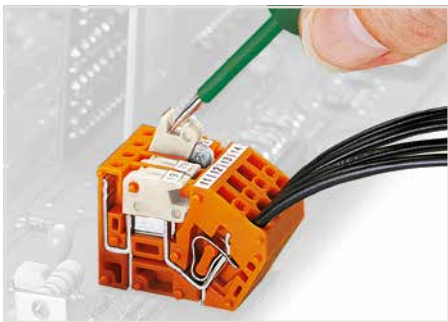
742 Series

Description and Installation

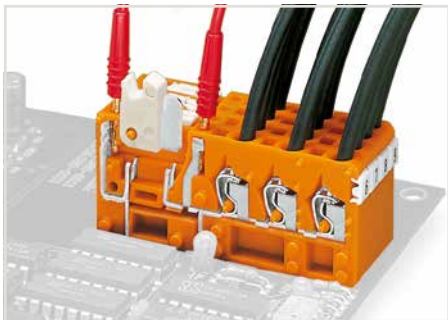
1



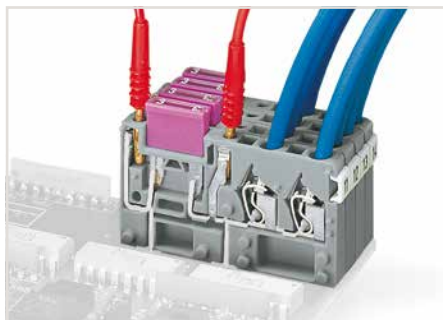
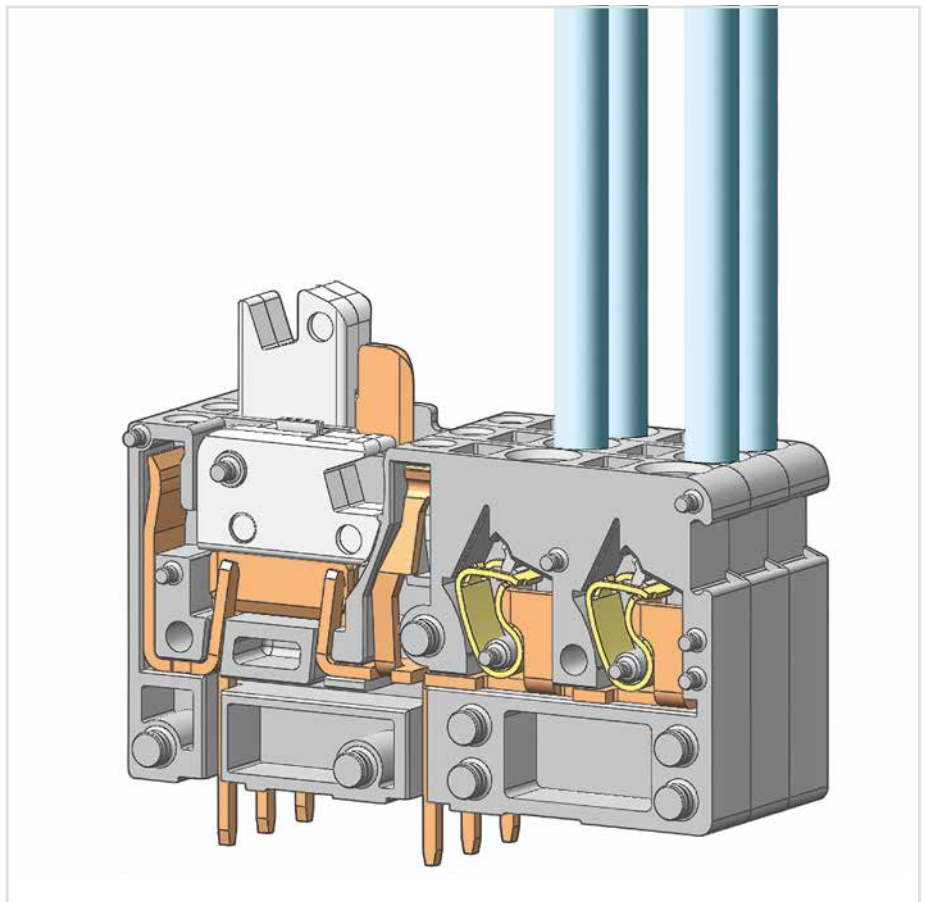
Testing all PCB disconnect terminal blocks via 2 mm or 2.3 mm Ø test plugs.



Opening a knife disconnect.



Distributing potentials via 3-conductor terminal blocks.

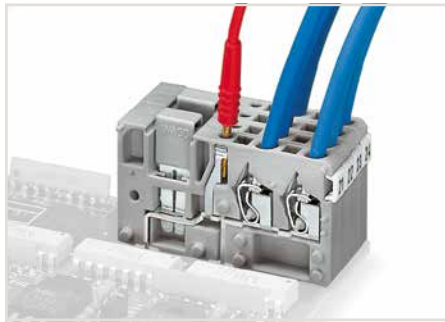


Testing all PCB fuse terminal blocks via 2 mm or 2.3 mm Ø test plugs.

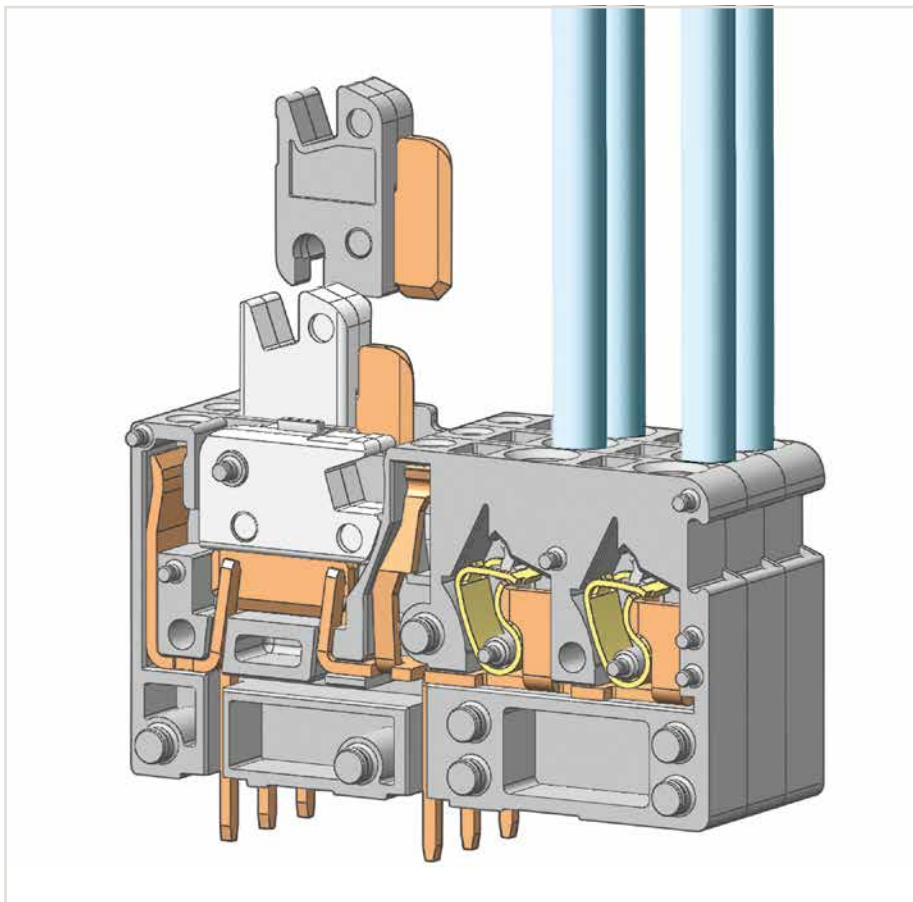
742 Series

Description and Installation

1



Testing all PCB terminal blocks via 2 mm or 2.3 mm Ø test plugs.



Disconnect terminal blocks with removable knife disconnect are available upon request.



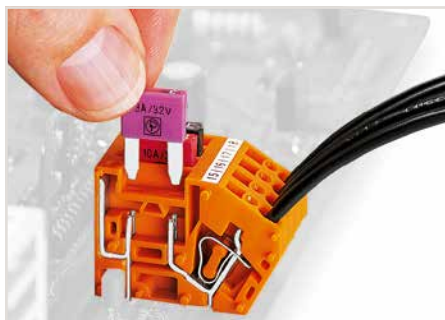
Mixed-color terminal strips are available upon request.



Mixed-color knife disconnect/test terminal strips are available upon request.



Commoning with adjacent jumpers – push jumpers down until fully inserted.



Inserting a fuse.



Custom PCB terminal strips are available upon request.

Modular PCB Disconnect/Test Terminal Blocks, 2.5 mm²

Pin Spacing: 5 mm

742 Series

1



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP®
- Power circuit disconnection via knife disconnect, e.g., for regular testing and measuring
- Test sockets on both sides of knife disconnect for 2.0 mm or 2.3 mm Ø test plugs
- 2- and 3-conductor PCB terminal blocks for distributing potentials independently of PCB
- Versions with removable knife disconnects available upon request

Electrical Data for 5 mm (0.197 inch) Pin Spacing

	1-Conductor Terminal Block	2-Conductor Terminal Block	3-Conductor Terminal Block
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV	4 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length (1-conductor terminal blocks)	8 ... 9 mm / 0.31 ... 0.35 inch
Strip length (2- and 3-conductor terminal blocks)	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB (1-conductor terminal blocks)	60°
Conductor entry angle to the PCB (2- and 3-conductor terminal blocks)	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²


Solder Pin Data


Solder pin length	4 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


*(III / 2) ± Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

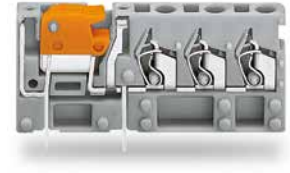
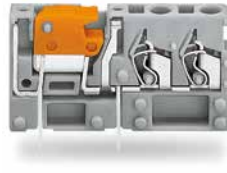
 Test plugs, see page 601

 Additional technical information, see Section 13

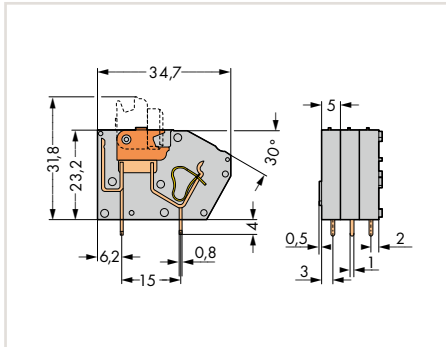
 Approvals and corresponding ratings, visit www.wago.com

Modular PCB Disconnect/Test Terminal Blocks, 2.5 mm² Pin Spacing: 5 mm 742 Series

1



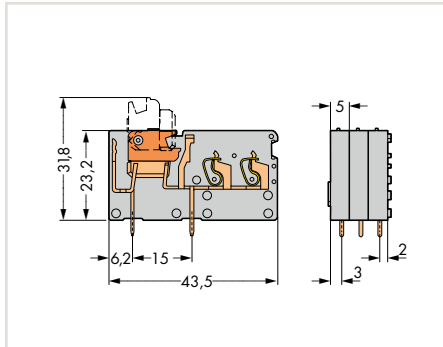
Dimensions (in mm):



1-conductor, modular PCB disconnect/test terminal block,
2 solder pins/pole, orange knife disconnect,
5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	742-101	384 (96)

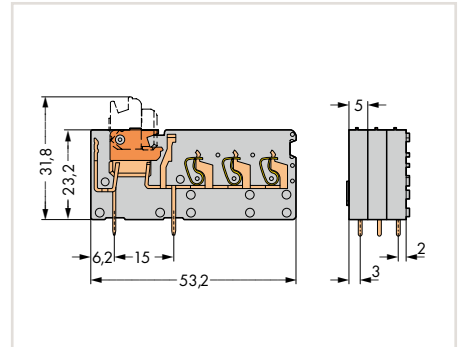
Dimensions (in mm):



2-conductor, modular PCB disconnect/test terminal block,
2 solder pins/pole, orange knife disconnect,
5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	742-151	200 (50)

Dimensions (in mm):



3-conductor, modular PCB disconnect/test terminal block,
2 solder pins/pole, orange knife disconnect,
5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	742-153	100 (2 x 50)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
○ gray	742-100	300 (100)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
○ gray	742-150	300 (100)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
○ gray	742-152	300 (100)

Modular PCB Disconnect/Test Terminal Blocks, 2.5 mm²

Pin Spacing: 5.08 mm

742 Series

1



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP®
- Power circuit disconnection via knife disconnect, e.g., for regular testing and measuring
- Test sockets on both sides of knife disconnect for 2.0 mm or 2.3 mm Ø test plugs
- 2- and 3-conductor PCB terminal blocks for distributing potentials independently of PCB
- Versions with removable knife disconnects available upon request

Electrical Data for 5.08 mm (0.2 inch) Pin Spacing

	1-Conductor Terminal Block	2-Conductor Terminal Block	3-Conductor Terminal Block
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV	4 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length (1-conductor terminal blocks)	8 ... 9 mm / 0.31 ... 0.35 inch
Strip length (2- and 3-conductor terminal blocks)	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB (1-conductor terminal blocks)	60°
Conductor entry angle to the PCB (2- and 3-conductor terminal blocks)	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Test plugs, see page 601

Additional technical information, see Section 13

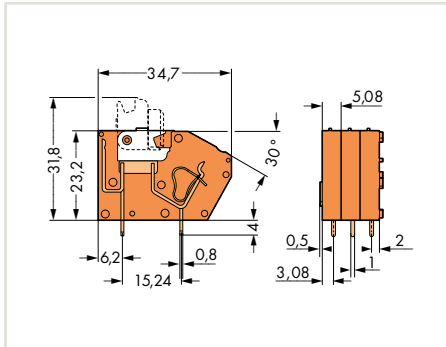
Approvals and corresponding ratings, visit www.wago.com

Modular PCB Disconnect/Test Terminal Blocks, 2.5 mm² Pin Spacing: 5.08 mm 742 Series

1



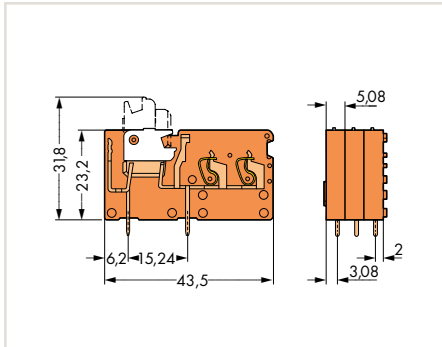
Dimensions (in mm):



1-conductor, modular PCB disconnect/test terminal block,
2 solder pins/pole, white knife disconnect,
5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-106	384 (96)

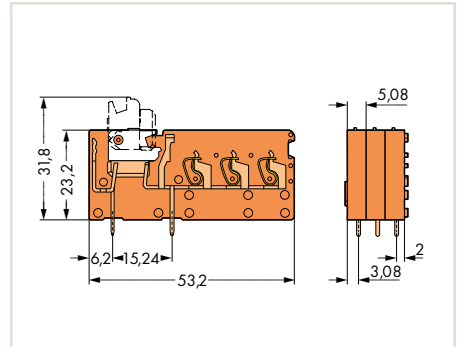
Dimensions (in mm):



2-conductor, modular PCB disconnect/test terminal block,
2 solder pins/pole, white knife disconnect,
5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-156	200 (50)

Dimensions (in mm):



3-conductor, modular PCB disconnect/test terminal block,
2 solder pins/pole, white knife disconnect,
5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-158	100 (2 x 50)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
orange	742-600	300 (100)

End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
orange	742-650	300 (100)

End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
orange	742-651	300 (100)

Modular PCB Terminal Blocks with Jumper Slot, 2.5 mm²

Pin Spacing: 5 mm

742 Series

1



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP®
- Adjacent jumpers for multiplying and distributing potentials
- Disconnect and fuse PCB terminal blocks can be combined to form complex function assemblies
- Test socket for 2.0 mm and 2.3 mm Ø test plugs

Electrical Data for 5 mm (0.197 inch) Pin Spacing

	1-Conductor Terminal Block	2-Conductor Terminal Block
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	16 A	16 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	16 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length (1-conductor terminal blocks)	8 ... 9 mm / 0.31 ... 0.35 inch
Strip length (2- and 3-conductor terminal blocks)	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB (1-conductor terminal blocks)	60°
Conductor entry angle to the PCB (2- and 3-conductor terminal blocks)	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

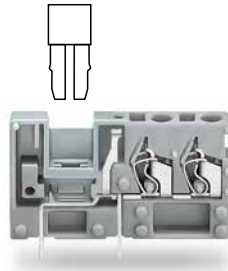
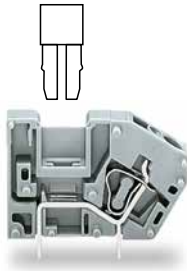
Operating tools, see page 588

Test plugs, see page 601

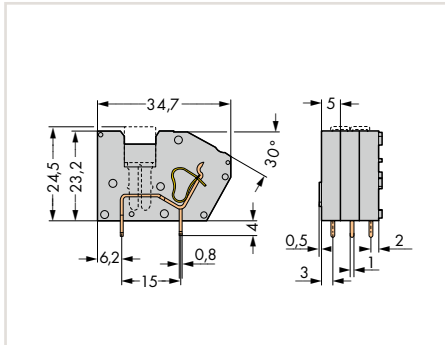
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Modular PCB Terminal Blocks with Jumper Slot, 2.5 mm² Pin Spacing: 5 mm 742 Series



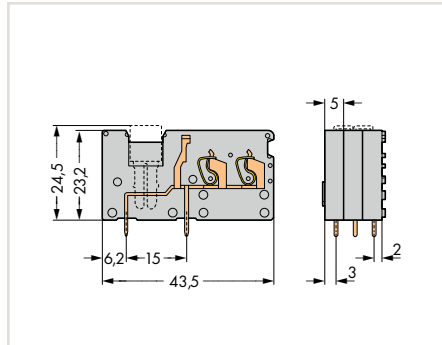
Dimensions (in mm):



1-conductor, modular PCB terminal block with optional commoning, 2 solder pins/pole, 5 mm (0.197 inch) pin spacing

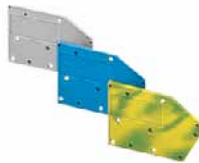
Color	Item No.	Pack. Unit
gray	742-121	300
blue	742-124	300
green-yellow	742-128	300

Dimensions (in mm):



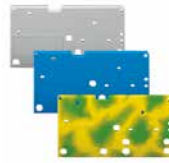
2-conductor, modular PCB terminal block with optional commoning, 2 solder pins/pole, 5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
gray	742-171	200
blue	742-174	200
green-yellow	742-178	200



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
gray	742-100	300 (100)
blue	742-400	300 (100)
green-yellow	742-800	300 (100)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
gray	742-150	300 (100)
blue	742-450	300 (100)
green-yellow	742-850	300 (100)



Adjacent jumper, insulated, I_N 24 A

Color	Item No.	Pack. Unit
gray	280-402	200 (25)

Modular PCB Terminal Blocks with Jumper Slot, 2.5 mm²

Pin Spacing: 5.08 mm

742 Series



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP®
- Adjacent jumpers for multiplying and distributing potentials
- Disconnect and fuse PCB terminal blocks can be combined to form complex function assemblies
- Test socket for 2.0 mm and 2.3 mm Ø test plugs

Electrical Data for 5.08 mm (0.2 inch) Pin Spacing

	1-Conductor Terminal Block	2-Conductor Terminal Block
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	16 A	16 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	16 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length (1-conductor terminal blocks)	8 ... 9 mm / 0.31 ... 0.35 inch
Strip length (2- and 3-conductor terminal blocks)	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB (1-conductor terminal blocks)	60°
Conductor entry angle to the PCB (2- and 3-conductor terminal blocks)	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

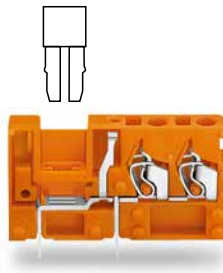
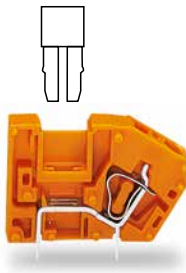
Test plugs, see page 601

Additional technical information, see Section 13

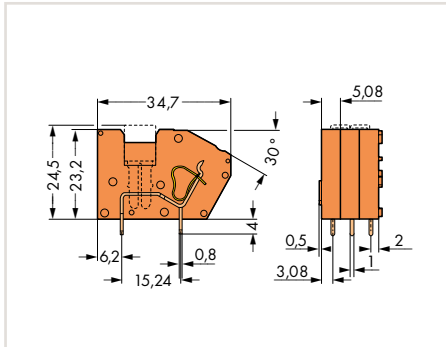
Approvals and corresponding ratings, visit www.wago.com

Modular PCB Terminal Blocks with Jumper Slot, 2.5 mm² Pin Spacing: 5.08 mm 742 Series

1



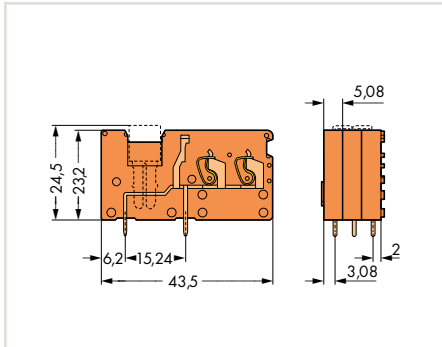
Dimensions (in mm):



1-conductor, modular PCB terminal block with optional commoning, 2 solder pins/pole, 5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-126	300

Dimensions (in mm):



2-conductor, modular PCB terminal block with optional commoning, 2 solder pins/pole, 5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-176	200



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
orange	742-600	300 (100)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
orange	742-650	300 (100)



Adjacent jumper, insulated, I_N 24 A

Color	Item No.	Pack. Unit
gray	280-402	200 (25)

Modular PCB Fuse Terminal Blocks, 2.5 mm²

Pin Spacing: 5 mm

742 Series



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP®
- Quick, easy replacement of mini-automotive blade-style fuses in the event of a fault
- Test sockets on both sides of fuse for 2.0 mm or 2.3 mm Ø test plugs
- Observe protection against direct contact for voltages of 42 V and higher!
- 2- and 3-conductor PCB terminal blocks for distributing potentials independently of PCB

Electrical Data for 5 mm (0.197 inch) Pin Spacing	1-Conductor Terminal Block	2-Conductor Terminal Block	3-Conductor Terminal Block
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV	4 kV
Rated current (individual arrangement)	15 A	15 A	15 A
Rated current (block arrangement)	10 A	10 A	10 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A
Connection Data	CAGE CLAMP®		
Connection technology	CAGE CLAMP®		
Strip length (1-conductor terminal blocks)	8 ... 9 mm / 0.31 ... 0.35 inch		
Strip length (2- and 3-conductor terminal blocks)	6 ... 7 mm / 0.24 ... 0.28 inch		
Conductor entry angle to the PCB (1-conductor terminal blocks)	60°		
Conductor entry angle to the PCB (2- and 3-conductor terminal blocks)	90°		
Conductor cross-sections			
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²		
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²		
Solder Pin Data			
Solder pin length	4 mm		
Solder pin dimensions	0.8 x 1 mm		
Drilled hole diameter	1.4 ^{+0.1} mm		
Material Data			
Material group	I		
Insulation material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	-60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact material	Electrolytic copper (E _{cu})		
Contact plating	Tin-plated		

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Test plugs, see page 601

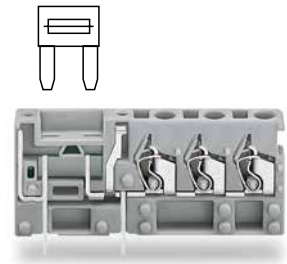
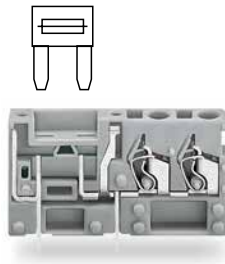
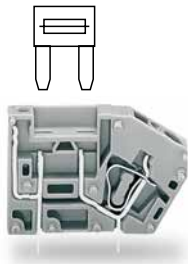
Automotive blade-style fuses per DIN 72581-3f
Supplier: e.g., www.littelfuse.de

Additional technical information, see Section 13

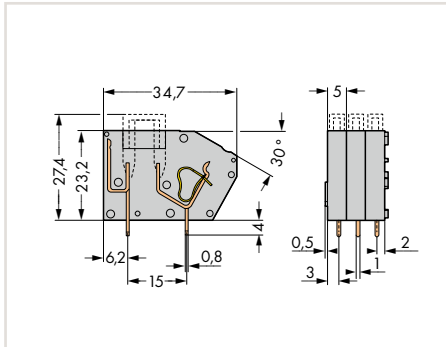
Approvals and corresponding ratings, visit www.wago.com

Modular PCB Fuse Terminal Blocks, 2.5 mm² Pin Spacing: 5 mm 742 Series

1



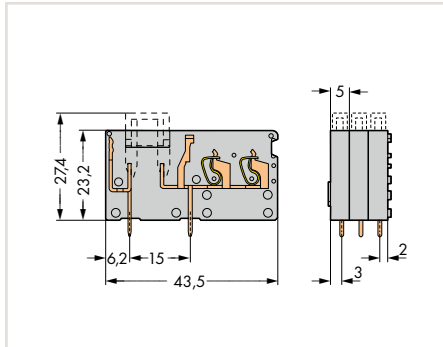
Dimensions (in mm):



1-conductor, modular PCB fuse terminal block,
2 solder pins/pole, 5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
● gray	742-111	300

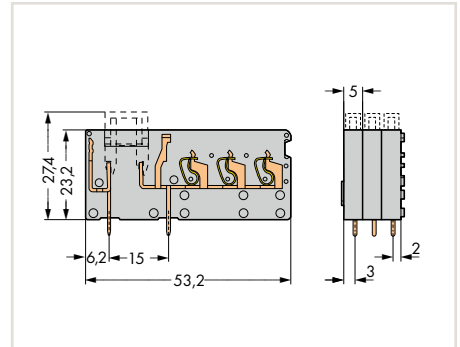
Dimensions (in mm):



2-conductor, modular PCB fuse terminal block,
2 solder pins/pole, 5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
● gray	742-161	200

Dimensions (in mm):



3-conductor, modular PCB fuse terminal block,
2 solder pins/pole, 5 mm (0.197 inch) pin spacing

Color	Item No.	Pack. Unit
● gray	742-163	100



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
● gray	742-100	300 (100)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
● gray	742-150	300 (100)



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
● gray	742-152	300 (100)

Modular PCB Fuse Terminal Blocks, 2.5 mm²

Pin Spacing: 5.08 mm

742 Series



- Modular PCB terminal blocks with screwdriver-actuated CAGE CLAMP®
- Quick, easy replacement of mini-automotive blade-style fuses in the event of a fault
- Test sockets on both sides of fuse for 2.0 mm or 2.3 mm Ø test plugs
- Observe protection against direct contact for voltages of 42 V and higher!
- 2- and 3-conductor PCB terminal blocks for distributing potentials independently of PCB

Electrical Data for 5.08 mm (0.2 inch) Pin Spacing

	1-Conductor Terminal Block	2-Conductor Terminal Block	3-Conductor Terminal Block
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV	4 kV
Rated current (individual arrangement)	15 A	15 A	15 A
Rated current (block arrangement)	10 A	10 A	10 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	10 A	10 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length (1-conductor terminal blocks)	8 ... 9 mm / 0.31 ... 0.35 inch
Strip length (2- and 3-conductor terminal blocks)	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB (1-conductor terminal blocks)	60°
Conductor entry angle to the PCB (2- and 3-conductor terminal blocks)	90°
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Test plugs,
see page 601

Automotive blade-style fuses per
DIN 72581-3f
Supplier: e.g., www.littelfuse.de

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Solder Pin Data

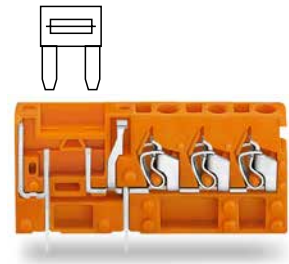
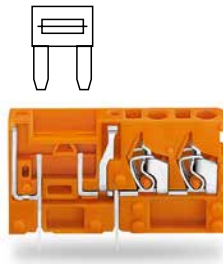
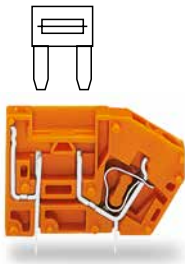
Solder pin length	4 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

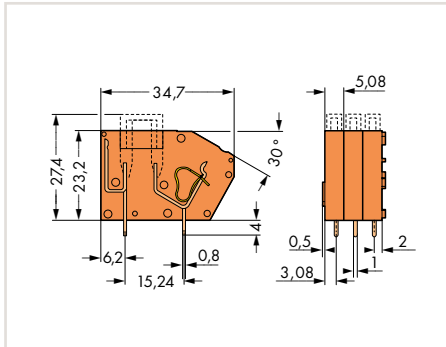
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

Modular PCB Fuse Terminal Blocks, 2.5 mm² Pin Spacing: 5.08 mm 742 Series

1



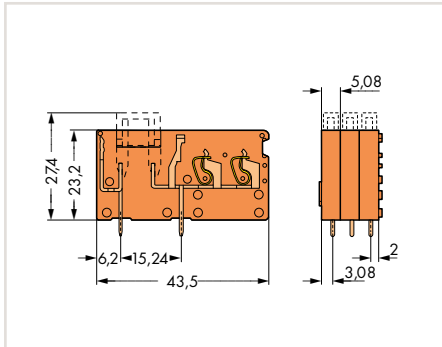
Dimensions (in mm):



1-conductor, modular PCB fuse terminal block,
2 solder pins/pole, 5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-116	300

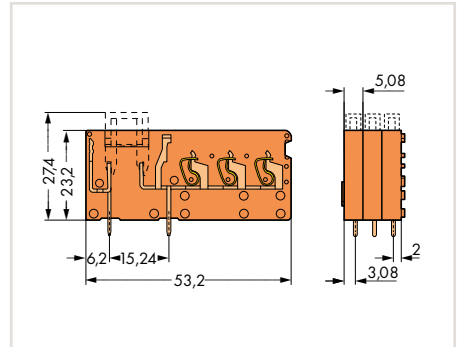
Dimensions (in mm):



2-conductor, modular PCB fuse terminal block,
2 solder pins/pole, 5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-166	200

Dimensions (in mm):



3-conductor, modular PCB fuse terminal block,
2 solder pins/pole, 5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
orange	742-168	100



End plate, snap-on type, 1.5 mm thick		
Color	Item No.	Pack. Unit
orange	742-600	300 (100)



End plate, snap-on type, 1.5 mm thick		
Color	Item No.	Pack. Unit
orange	742-650	300 (100)



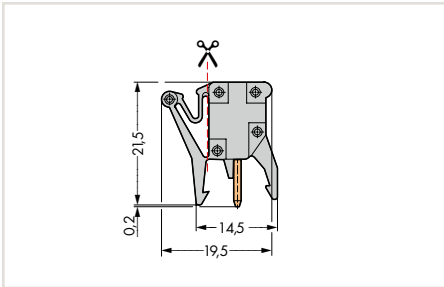
End plate, snap-on type, 1.5 mm thick		
Color	Item No.	Pack. Unit
orange	742-651	300 (100)

Test Plug Adapters for 255, 256 and 257 Series PCB Terminal Blocks

1

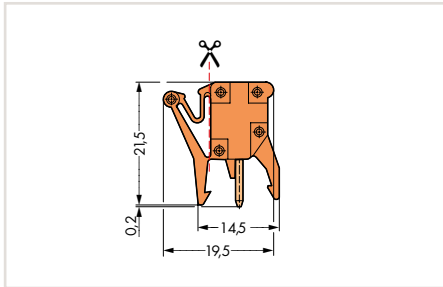


Dimensions (in mm):

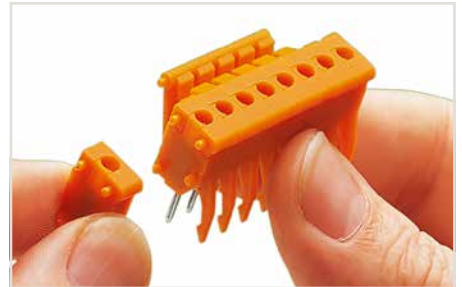


Cutting mark for separating the retaining clip and its snap-in mounting foot

Dimensions (in mm):



Cutting mark for separating the retaining clip and its snap-in mounting foot



Assembling a multipole test plug adapter.

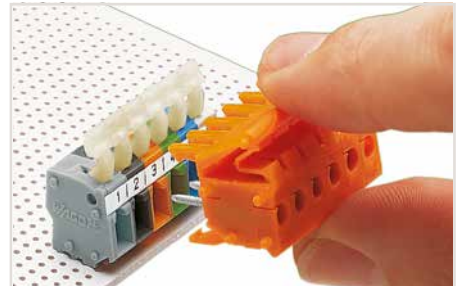
Test plug adapter, 1-pole, with socket for 2 mm and 2.3 mm Ø test plugs, modular, gray		
Pin spacing	Item No.	Pack. Unit
5 mm / 0.197 inch	249-110	100 (25)
7.5 mm / 0.295 inch	249-112	100 (25)
10 mm / 0.394 inch	249-114	100 (25)

Test plug adapter, 1-pole, with socket for 2 mm and 2.3 mm Ø test plugs, modular, orange		
Pin spacing	Item No.	Pack. Unit
5.08 mm / 0.2 inch	249-111	100 (25)
7.62 mm / 0.3 inch	249-113	100 (25)
10.16 mm / 0.4 inch	249-115	100 (25)

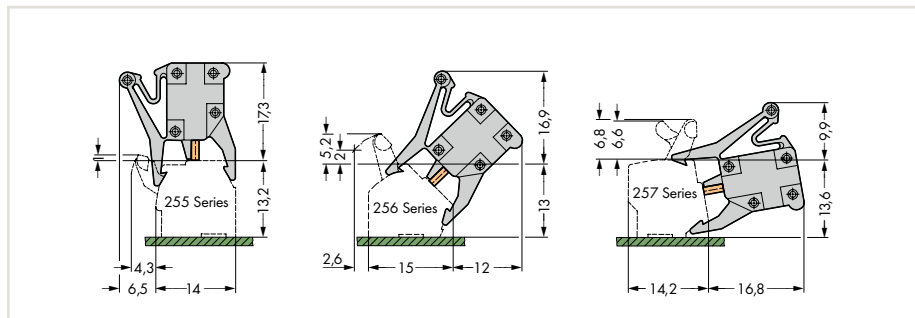
Electrical Data for Pin Spacing

Ratings per*	5/5.08 mm 0.197/0.2 inch IEC/EN 60664-1	7.5/7.62 mm 0.295/0.3 inch IEC/EN 60664-1	10/10.16 mm 0.394/0.4 inch IEC/EN 60664-1
Rated voltage (II / 2)	320 V	630 V	1000 V
Rated surge voltage (II / 2)	2.5 kV	4 kV	6 kV
Rated current	6 A	6 A	6 A

* (II / 2) ≙ Overvoltage category II / Pollution degree 2



Inserting a 6-pole test plug adapter into a terminal strip.



Testing a wired PCB terminal strip.

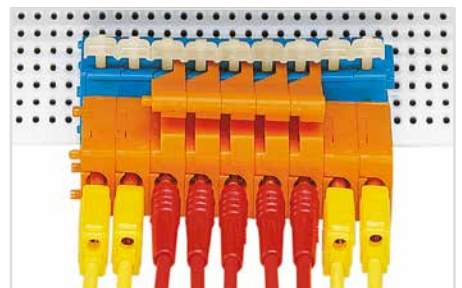
Adapters with snap-in mounting foot cut off assembled on both ends (7 to 9 poles)

Adapters with snap-in mounting foot cut off in center position (10 to 15 poles)

For lengths longer than 7 poles, the snap-in mounting foot with retaining clip should be cut off (see example below).

Adapters A:
Snap-in mounting foot with retaining clip cut off

Adapters B:
Standard version



9-pole test plug adapter with cut-off snap-in mounting feet and retaining clips on both ends

Comb-Style Jumper Bars for 745, 2706 and 2716 Series PCB Terminal Blocks

1



5 mm (0.197 inch) pin spacing
for 745 Series – 4 mm²

Jumper Type	Item No.	Pack. Unit
1 to 3	745-181	250 (50)
2-way	745-182	250 (50)
3-way	745-183	250 (50)
4-way	745-184	200 (50)
5-way	745-185	200 (50)
10-way	745-180	200 (50)

7.5 mm (0.295 inch) pin spacing
for 745 Series – 6 mm² and 2706 Series

Jumper Type	Item No.	Pack. Unit
1 to 3	745-381	250 (50)
2-way	745-382	250 (50)
3-way	745-383	250 (50)
4-way	745-384	200 (50)
5-way	745-385	200 (50)
10-way	745-380	200 (50)

10 mm (0.394 inch) pin spacing
for 745 Series – 16 mm² and 2716 Series

Jumper Type	Item No.	Pack. Unit
1 to 3	745-682	400 (50)
2-way	745-582	400 (50)
3-way	745-583	300 (50)
4-way	745-584	200 (50)
5-way	745-585	200 (50)

7.5 mm (0.295 inch) pin spacing
for 745 Series – 4 mm²

Jumper Type	Item No.	Pack. Unit
1 to 3	745-191	250 (50)
2-way	745-192	250 (50)
3-way	745-193	250 (50)
4-way	745-194	200 (50)
5-way	745-195	200 (50)
10-way	745-190	200 (50)

10 mm (0.394 inch) pin spacing
for 745 Series – 6 mm² and 2706 Series

Jumper Type	Item No.	Pack. Unit
1 to 3	745-391	250 (50)
2-way	745-392	250 (50)
3-way	745-393	250 (50)
4-way	745-394	200 (50)
5-way	745-395	200 (50)
10-way	745-390	200 (50)

15 mm (0.591 inch) pin spacing
for 745 Series – 16 mm² and 2716 Series

Jumper Type	Item No.	Pack. Unit
1 to 3	745-631	200 (50)
2-way	745-632	200 (50)
3-way	745-633	200 (50)
4-way	745-634	200 (50)
5-way	745-635	200 (50)

10 mm (0.394 inch) pin spacing
for 745 Series – 4 mm²

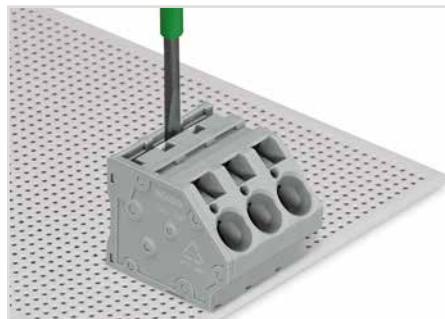
Jumper Type	Item No.	Pack. Unit
1 to 3	745-281	250 (50)
2-way	745-182	250 (50)
3-way	745-283	250 (50)
4-way	745-284	200 (50)
5-way	745-285	200 (50)
10-way	745-280	150 (50)

20 mm (0.787 inch) pin spacing
for 745 Series – 16 mm² and 2716 Series

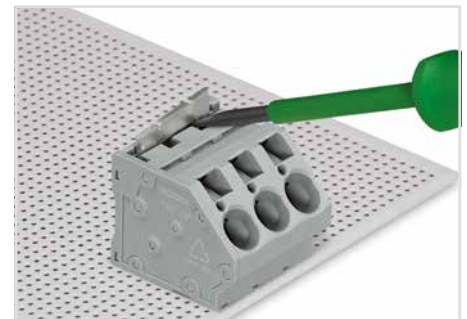
Jumper Type	Item No.	Pack. Unit
1 to 3	745-681	300 (50)
2-way	745-682	400 (50)
3-way	745-683	200 (50)
4-way	745-684	200 (50)
5-way	745-685	200 (50)



Inserting a comb-style jumper bar.



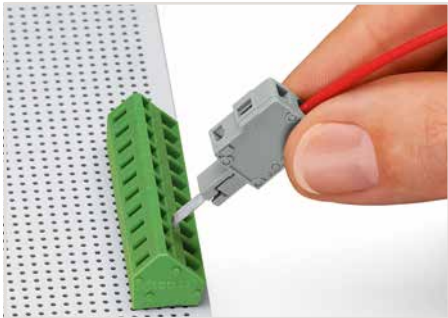
Push jumper bar down firmly using a screwdriver until it hits the backstop – 745 Series.



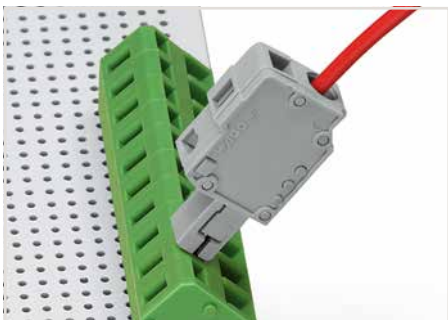
To remove the jumper bar, lift it up using a screwdriver – 745 Series.

Test Plug Modules, A-Type Contact, for 236, 736, 737 and 738 Series PCB Terminal Blocks (Testing unwired terminal blocks)

1



Inserting a test plug module into the operating slot.

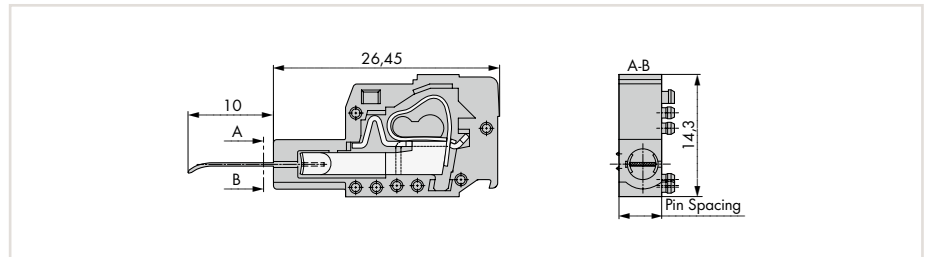


Unwired terminal strip with inserted test plug module

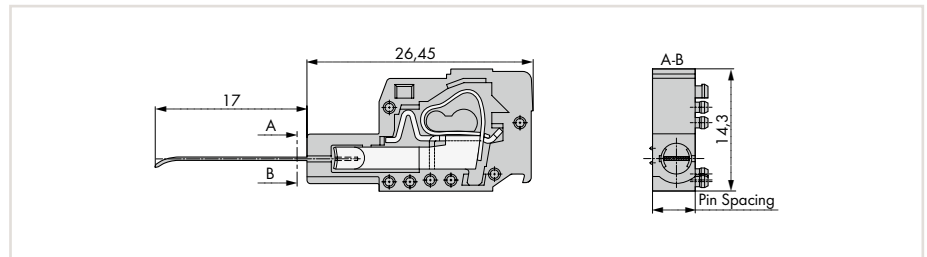


Contact type A: Testing only when unwired.

Dimensions (in mm):



Dimensions (in mm):



Test plug module, with 10 mm contact lug, for 236 Series, snaps together, gray		
Pin spacing	Item No.	Pack. Unit
5 mm / 0.197 inch	231-127	100
7.5 mm / 0.295 inch	231-161	100

Test plug module, with 10 mm contact lug, for 236 Series, snaps together, orange		
Pin spacing	Item No.	Pack. Unit
5.08 mm / 0.2 inch	231-128	100
7.62 mm / 0.3 inch	231-125	100

Test plug module, with 17 mm contact lug, for 280, 736, 737, 738 and 780 Series, snaps together, gray		
Pin spacing	Item No.	Pack. Unit
5 mm / 0.197 inch	231-126	100

Test plug module, with 17 mm contact lug, for 280, 736, 737, 738 and 780 Series, snaps together, orange		
Pin spacing	Item No.	Pack. Unit
5.08 mm / 0.2 inch	231-426	100

End plate		
Color	Item No.	Pack. Unit
○ gray	231-100	200

End plate		
Color	Item No.	Pack. Unit
● orange	231-300	200

Electrical Data	
Ratings per*	
Rated voltage (III/2)	
Rated surge voltage (III / 2)	
Rated current	

IEC/EN 60664-1
250 V (Observe touch-proof protection for 42 V and higher voltages!)
2.5 kV
0.5 A

Connection Data	
Connection technology	
Strip length	
Conductor cross-sections	
Solid conductor	
Fine-stranded conductor	

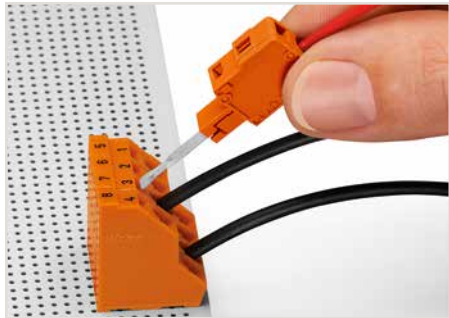
CAGE CLAMP®
12 ... 13 mm / 0.47 ... 0.51 inch
0.08 ... 2.5 mm² / 28 ... 12 AWG
0.08 ... 2.5 mm² / 28 ... 12 AWG

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Test Plug Modules, B-Type Contact, for 736, 737 and 738 Series PCB Terminal Blocks

(Testing wired terminal blocks with 0.75 ... 1.5 mm² "f-st" or 0.5 mm² "sol." conductors)

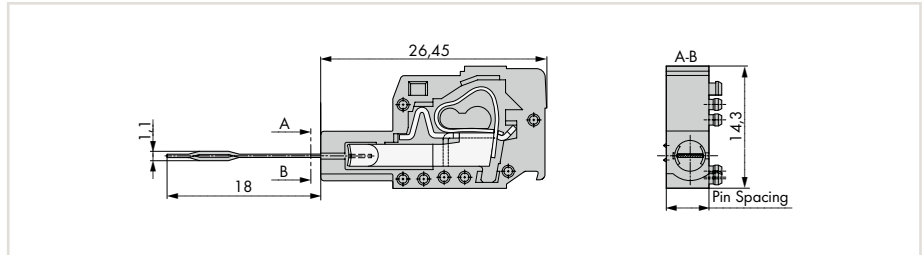
1



Inserting a test plug module into the operating slot.

Dimensions (in mm):

Dimensions (in mm):

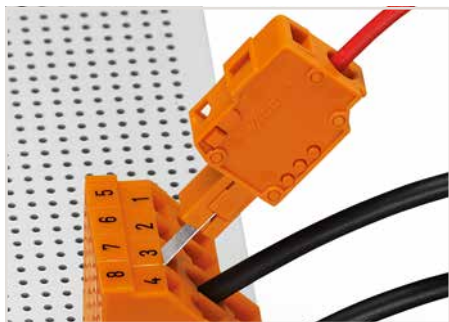


Test plug module, with 18 mm contact lug, for 280, 736, 737, 738 and 780 Series, snaps together, gray

Pin spacing	Item No.	Pack. Unit
5 mm / 0.197 inch	231-155	100

Test plug module, with 18 mm contact lug, for 736, 737 and 738 Series, snaps together, orange

Pin spacing	Item No.	Pack. Unit
5.08 mm / 0.2 inch	231-455	100



Wired terminal strip with inserted test plug module

Test plug module, with 11 mm contact lug, for 736 and 737 Series, snaps together, gray

Pin spacing	Item No.	Pack. Unit
7.5 mm / 0.295 inch	231-456	100



Contact type B:
Testing only when wired –
0.75 ... 1.5 mm² "f-st" or 0.5 mm² "sol."



End plate

Color	Item No.	Pack. Unit
gray	231-100	200

Electrical Data

Ratings per*	
Rated voltage (III/2)	
Rated surge voltage (III / 2)	
Rated current	

Connection Data

Connection technology	
Strip length	
Conductor cross-sections	
Solid conductor	
Fine-stranded conductor	



End plate

Color	Item No.	Pack. Unit
orange	231-300	200

IEC/EN 60664-1

250 V (Observe touch-proof protection for 42 V and higher voltages!)

2.5 kV

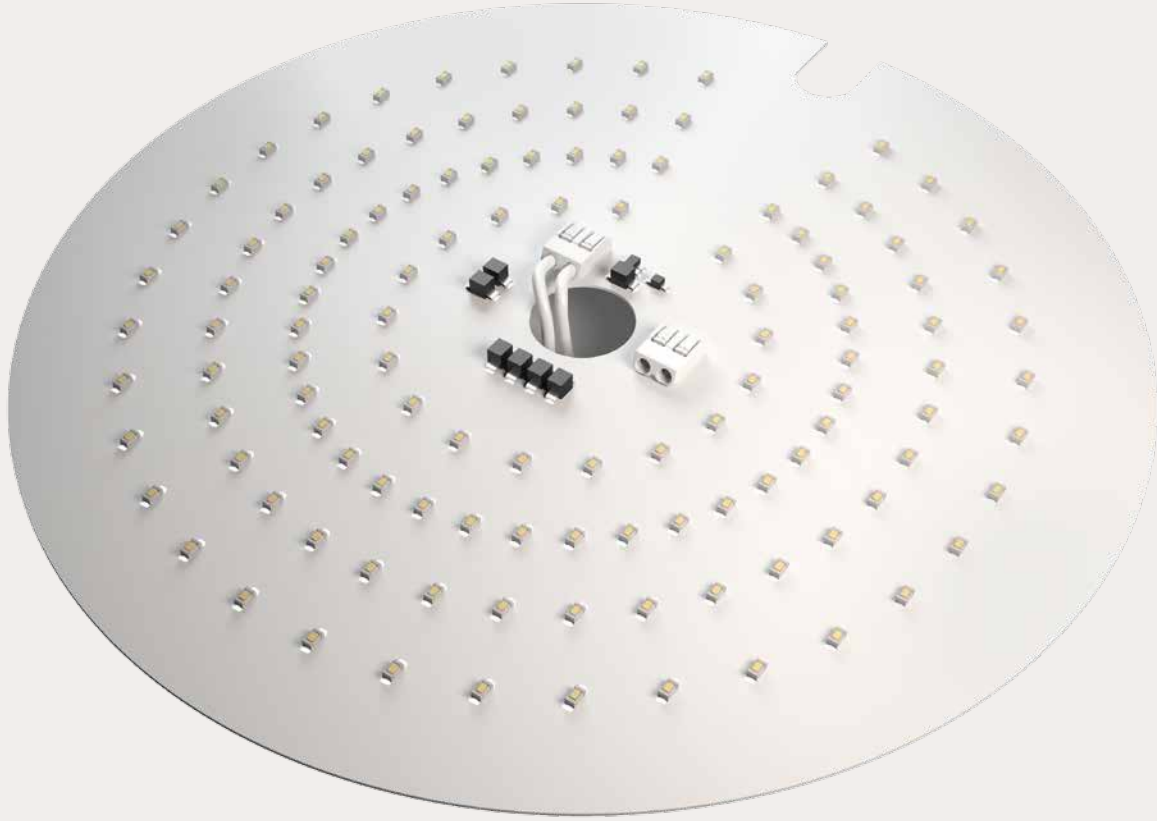
0.5 A

CAGE CLAMP®

12 ... 13 mm / 0.47 ... 0.51 inch






0.08 ... 2.5 mm² / 28 ... 12 AWG0.08 ... 2.5 mm² / 28 ... 12 AWG

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2



SMD PCB Terminal Blocks

SMD PCB Terminal Blocks

		Nominal Cross-Section	Series	Page
	SMD PCB Terminal Blocks, PUSH WIRE®	0.34 mm ² (24 AWG)	2059	224
	SMD PCB Terminal Blocks with Push-Buttons, Push-in CAGE CLAMP®	0.75 mm ² (18 AWG)	2060	226
	SMD PCB Terminal Blocks with Push-Buttons, Push-in CAGE CLAMP®	1.5 mm ² (16 AWG)	2061	230
	Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons		2060	232
	Operating Tools			234
	General Accessories – Section 12			586

SMD PCB Terminal Blocks, 0.5 mm²

Pin Spacing: 3 mm

2059 Series



- SMD PCB terminal blocks with PUSH WIRE® connection technology
- Push-in termination of solid conductors
- Easy conductor removal via operating tool
- Just 2.7 mm tall
- Assemble terminal blocks without pole loss
- Available in tape-and-reel packaging for automated assembly

Electrical Data for Pin Spacing

Ratings per*	3 mm / 0.118 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	63 V
Rated voltage (III/2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
Approvals per	3 A
Rated voltage (UL), 1-pole	UL 1977
Rated voltage (UL), 2-pole and more	600 V
Rated current (UL)	250 A
	3 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	6 ... 7.5 mm / 0.24 ... 0.3 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.14 ... 0.34 mm ² / 26 ... 22 AWG
Solid conductor	0.5 mm ² / 20 AWG
Note (conductor cross-sections)	No reconnection of smaller conductor cross-sections (0.5 mm ² / 20 AWG "sol.") For 26 AWG "sol." conductors that are not rigid enough, the clamping unit must be opened using an operating tool.

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated


Application notes:


Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.


Recommendation for SMD stencil:

Material thickness, 150 µm. Pattern layout identical to solder pad layout.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

 Operating tools,
see page 234

 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

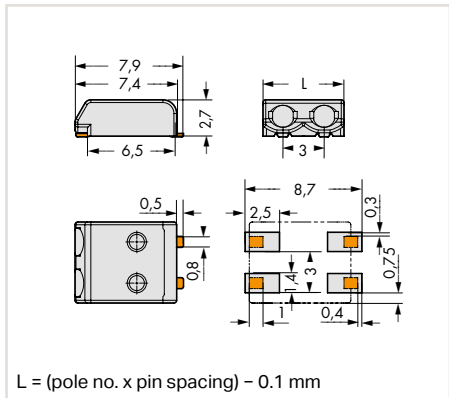
SMD PCB Terminal Blocks, 0.5 mm²

Pin Spacing: 3 mm

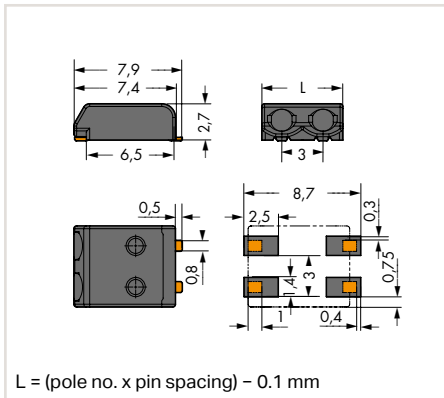
2059 Series



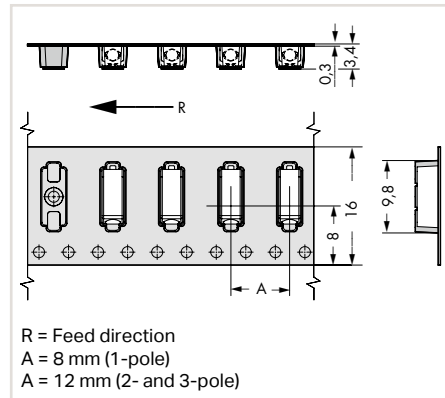
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



SMD PCB terminal block, white*,
 in tape-and-reel packaging,
 330 mm reel diameter,
 3 mm (0.118 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2059-301/998-403	31800 (2650)
2	2059-302/998-403	21000 (1750)
3	2059-303/998-403	21000 (1750)

SMD PCB terminal block, black,
 in tape-and-reel packaging,
 330 mm reel diameter,
 3 mm (0.118 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2059-321/998-403	31800 (2650)
2	2059-322/998-403	21000 (1750)
3	2059-323/998-403	21000 (1750)

*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.



Inserting solid conductors via push-in termination.



Easy conductor removal (e.g., via 206-859 Operating Tool)

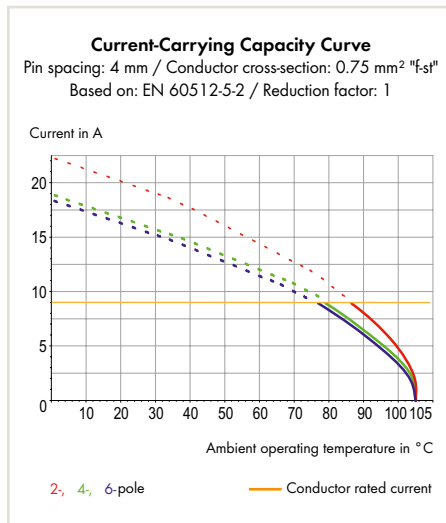
SMD PCB Terminal Blocks with Push-Buttons, 0.75 mm²

Pin Spacing: 4 mm

2060 Series



- SMD PCB terminal blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 4.5 mm tall
- Available in tape-and-reel packaging for automated assembly
- THR version, see page 123



Electrical Data for Pin Spacing

Pin Spacing	4 mm / 0.157 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	63 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	9 A
Approvals per	UL 1977
Rated voltage (UL), 1-pole	600 V
Rated voltage (UL), 2-pole and more	320 A
Rated current (UL)	9 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 9 mm / 0.28 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.34 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.34 mm ²

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

Recommendation for SMD stencil:

Material thickness, 150 µm. Pattern layout identical to solder pad layout.

* (III / 2) ± Overvoltage category III / Pollution degree 2

Operating tools, see page 234

Additional technical information, see Section 13

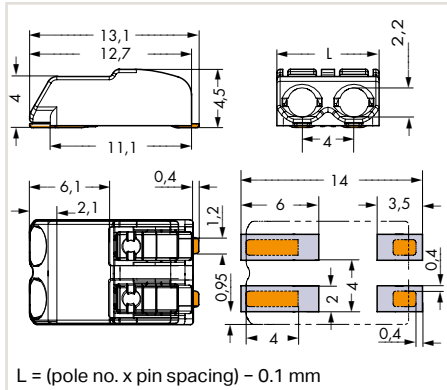
Approvals and corresponding ratings, visit www.wago.com

SMD PCB Terminal Blocks with Push-Buttons, 0.75 mm² Pin Spacing: 4 mm 2060 Series

2



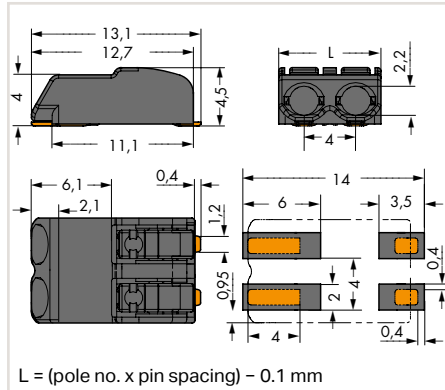
Dimensions (in mm):



THR PCB terminal block with push-buttons, white*, in tape-and-reel packaging, 330 mm reel diameter, 4 mm (0.157 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2060-451/998-404	13500 (1500)
2	2060-452/998-404	9000 (1000)
3	2060-453/998-404	6750 (750)

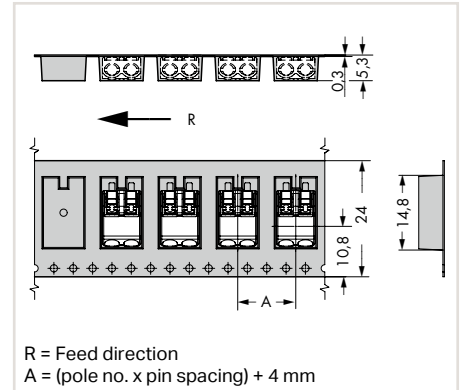
Dimensions (in mm):



THR PCB terminal block with push-buttons, black, in tape-and-reel packaging, 330 mm reel diameter, 4 mm (0.157 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2060-471/998-404	13500 (1500)
2	2060-472/998-404	9000 (1000)
3	2060-473/998-404	6750 (750)

Dimensions (in mm):



*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.



Inserting solid conductors via push-in termination.



Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g., via 206-860 Operating Tool).



Terminal blocks can be arranged side-by-side without loss of poles.

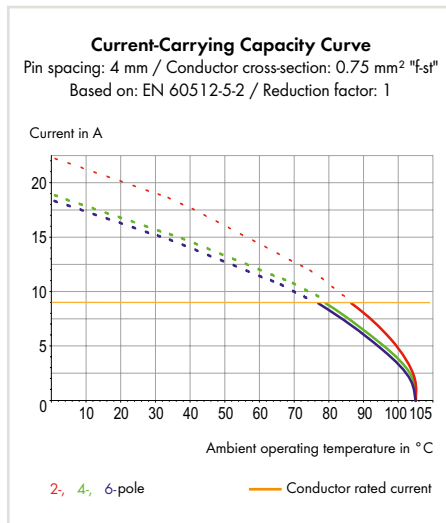
SMD PCB Terminal Blocks with Push-Buttons, 0.75 mm²

Pin Spacing: 8 mm

2060 Series



- SMD PCB terminal blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- 8 mm pin spacing version for higher-rated voltages
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Height of just 4.5 mm minimizes on-board LED shadowing
- Available in tape-and-reel packaging for automated assembly
- THR version, see page 125



Electrical Data for Pin Spacing

Ratings per*	8 mm / 0.314 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	400 V
Rated voltage (III/2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	9 A
Approvals per	UL 1977
Rated voltage (UL)	600 V
Rated current (UL)	9 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 9 mm / 0.28 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm ² / 24 ... 18 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.34 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.34 mm ²

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

Recommendation for SMD stencil:

Material thickness, 150 µm. Pattern layout identical to solder pad layout.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Operating tools,
see page 234

Additional technical information,
see Section 13

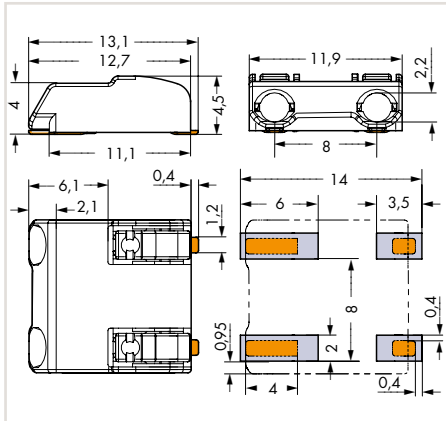
Approvals and corresponding ratings,
visit www.wago.com

SMD PCB Terminal Blocks with Push-Buttons, 0.75 mm² Pin Spacing: 8 mm 2060 Series



2

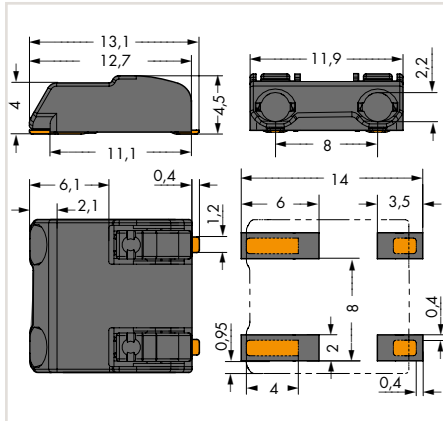
Dimensions (in mm):



SMD PCB terminal block with push-buttons, white*, in tape-and-reel packaging, 330 mm reel diameter, 8 mm (0.314 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2060-852/998-404	6750 (750)

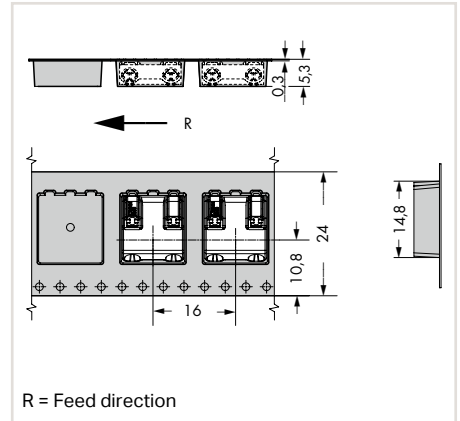
Dimensions (in mm):



SMD PCB terminal block with push-buttons, black, in tape-and-reel packaging, 330 mm reel diameter, 8 mm (0.314 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2060-872/998-404	6750 (750)

Dimensions (in mm):



*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.



Inserting solid conductors via push-in termination (picture shows 2060 Series).

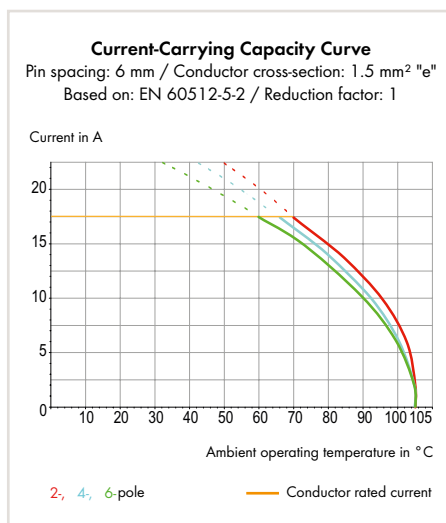


Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g., via 206-860 Operating Tool).

SMD PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 6 mm 2061 Series



- SMD PCB terminal blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Just 5.6 mm tall
- Push-in termination of solid and ferruled conductors
- Push-buttons simplify insertion/removal of all conductor types
- Available in tape-and-reel packaging for automated assembly
- THR version, see page 125



Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260 °C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

Recommendation for SMD stencil:

Material thickness, 150 µm. Pattern layout identical to solder pad layout.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Operating tools,
see page 234

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data

	1-pole	2- and 3-pole
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	250 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III/2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	17.5 A	17.5 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	600 V	300 V
Rated current UL (Use Group B)	10 A	10 A
Rated voltage UL (Use Group D)	600 V	300 V
Rated current UL (Use Group D)	5 A	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 10 mm / 0.28 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor cross-sections	
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor	0.5 ... 1.5 mm ² / 20 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 0.75 mm ²
Fine-stranded conductor with uninsulated ferrule	0.5 ... 0.75 mm ²

Material Data

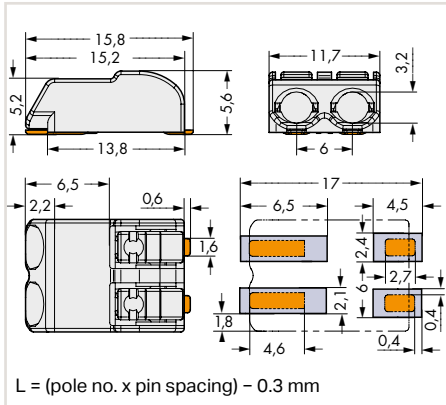
Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

SMD PCB Terminal Blocks with Push-Buttons, 1.5 mm² Pin Spacing: 6 mm 2061 Series

2



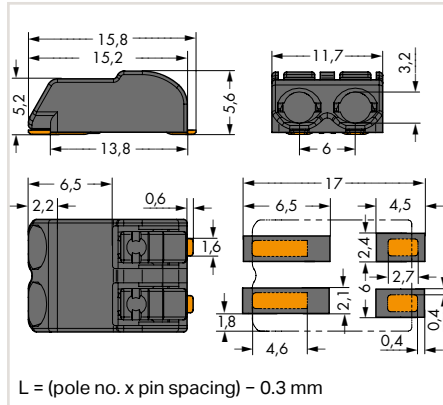
Dimensions (in mm):



SMD PCB terminal block with push-buttons,
white*, in tape-and-reel packaging,
330 mm reel diameter,
6 mm (0.24 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2061-601/998-404	8100 (900)
2	2061-602/998-404	6300 (700)
3	2061-603/998-404	4050 (450)

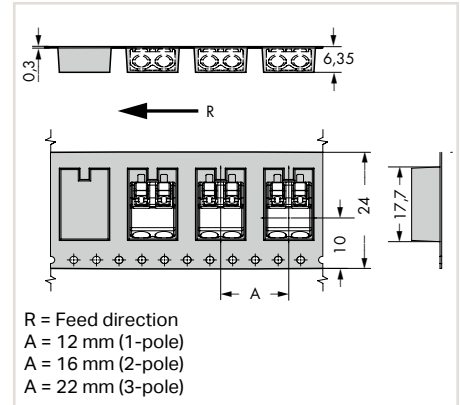
Dimensions (in mm):



SMD PCB terminal block with push-buttons,
black, in tape-and-reel packaging,
330 mm reel diameter,
6 mm (0.24 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2061-621/998-404	8100 (900)
2	2061-622/998-404	6300 (700)
3	2061-623/998-404	4050 (450)

Dimensions (in mm):



*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.



Inserting solid conductors via push-in termination.



Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g., via 206-861 Operating Tool).


Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons, 0.75 mm² Pin Spacing: 4 mm, 8 mm 2060 Series




- Board-to-board links simplify in-line assembly of LED modules
- Easy push-in connection and disconnection without push-button actuation

2

Electrical Data for Pin Spacing	4 mm / 0.157 inch	8 mm / 0.314 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	63 V	400 V
Rated surge voltage (III / 3)	2.5 kV	6 kV
Rated voltage (III/2)	160 V	630 V
Rated surge voltage (III / 2)	2.5 kV	6 kV
Rated voltage (II / 2)	320 V	1000 V
Rated surge voltage (II / 2)	2.5 kV	6 kV
Rated current	9 A	9 A
Approvals per	UL 1977	UL 1977
Rated voltage (UL)	250 V	600 V
Rated current (UL)	9 A	9 A
Material Data		
Material group	I	
Insulation material	Polyamide 66 (PA 66)	
Flammability class per UL94	V0	
Limit temperature range	-60 ... +105 °C	
Contact material	Copper alloy	
Contact plating	Tin-plated	

 Additional technical information,
see Section 13

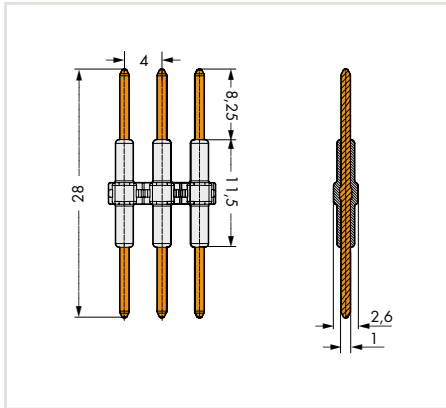
 Approvals and corresponding ratings,
visit www.wago.com

Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons, 0.75 mm² Pin Spacing: 4 mm, 8 mm

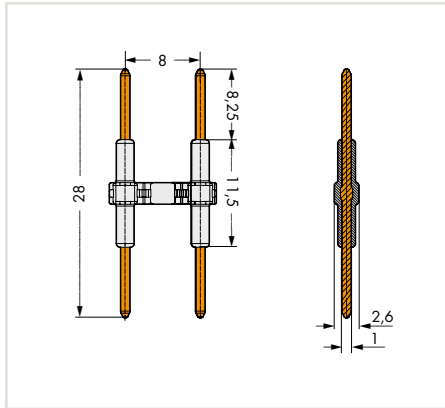
2060 Series



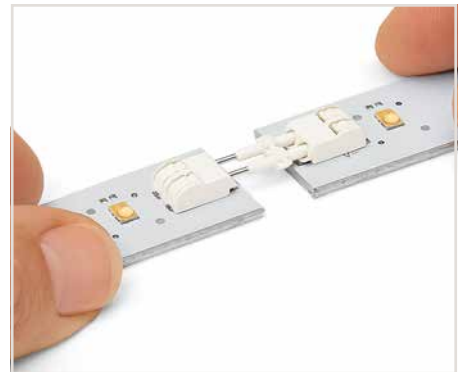
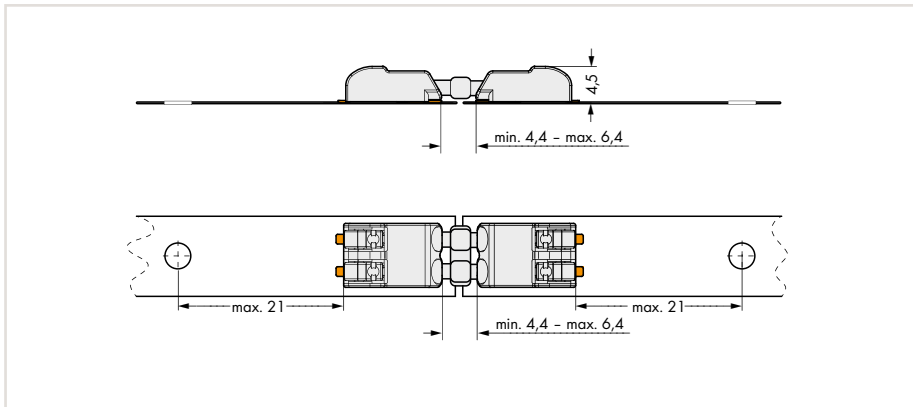
Dimensions (in mm):



Dimensions (in mm):



Inserting a board-to-board link into the terminal block.



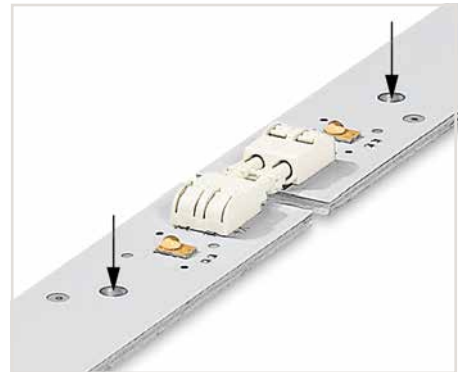
Assembly: Place PCBs on a flat surface and connect terminal blocks on adjoining PCBs via board-to-board link. Disassembly: Pull PCBs apart (max. 10 mating cycles).

Board-to-board link for SMD PCB terminal blocks with push-buttons, white, 4 mm (0.157 inch) pin spacing

Pole No.	Item No.	Pack. Unit
1	2060-951/028-000	1500
2	2060-952/028-000	500
3	2060-953/028-000	375
4	2060-954/028-000	250

Board-to-board link for SMD PCB terminal blocks with push-buttons, white, 8 mm (0.314 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2060-962/028-000	375



The PCBs must be secured.

Operating Tools

2



Operating tool
for 2059, 2060 and 2061 Series

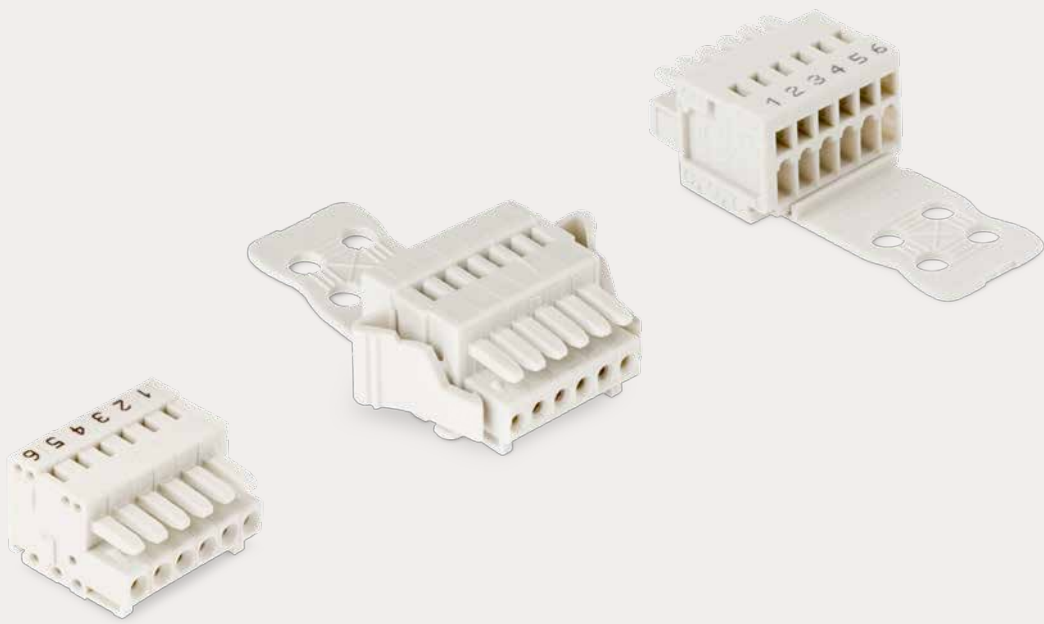
Series	Item No.	Pack. Unit
2059	206-859	5
2060	206-860	5
2061	206-861	5

Operating tool, insulated,
for 2059, 2060 and 2061 Series

Series	Item No.	Pack. Unit
2059	2059-189	600 (50)
2060	2060-189	300 (50)
2061	2061-189	300 (50)









Inserting/removing fine-stranded conductors by
lightly pressing on a push-button.



MCS – MULTI CONNECTION SYSTEM MICRO

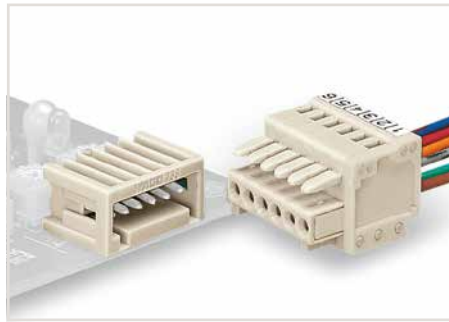
MCS MICRO Connectors / Headers**Pin Spacing: 2.5 mm / Nominal Cross-Section: 0.5 mm²**

		Page
	Female Connectors, CAGE CLAMP® Termination	240
	THT Male Connectors/Headers	242
	Press-In Male Headers	244
	THR Male Headers	246
	Male Connectors, CAGE CLAMP® Termination	250
	MCS MICRO Accessories	252
	General Accessories – Section 12	586

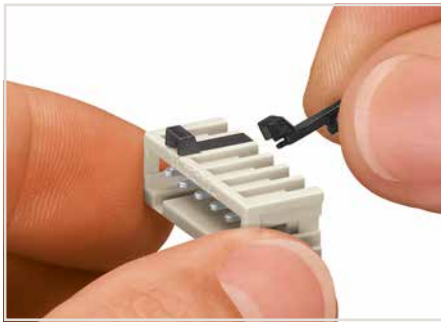
MCS MICRO

Description and Installation

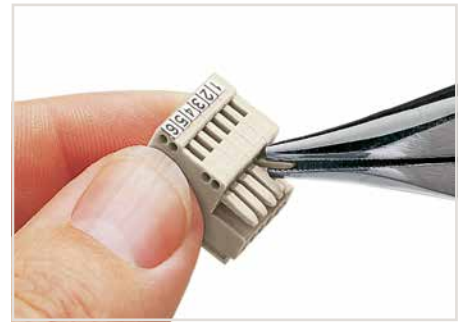
3



Male headers and female connectors are 100 % protected against mismatching. Only mating halves with the same pole number can be connected.



Coding a male header – fitting coding key(s).



Coding a female connector – removing coding finger(s).



Wire-to-wire connection of single conductors



Wire-to-wire connection of multi-core cables
Plug-in connection using strain relief plates and locking levers



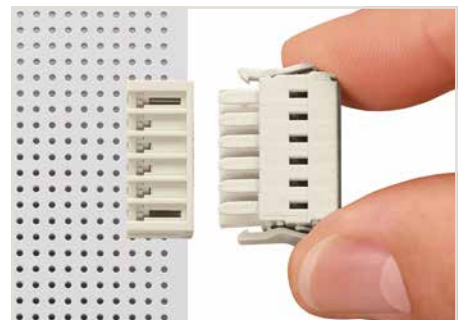
THR male headers for reflow soldering in SMT applications



Tape-and-reel packaging for THR male headers



Locking levers prevent accidental disconnection.

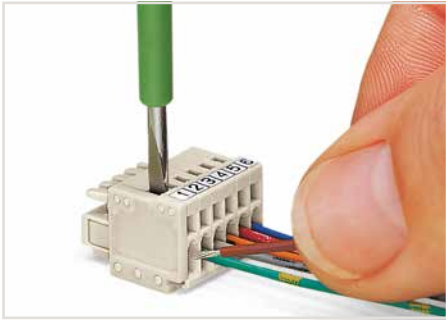


Locking levers prevent accidental disconnection.

MCS MICRO

Description and Installation

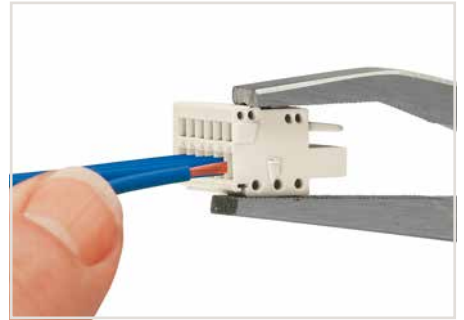
3



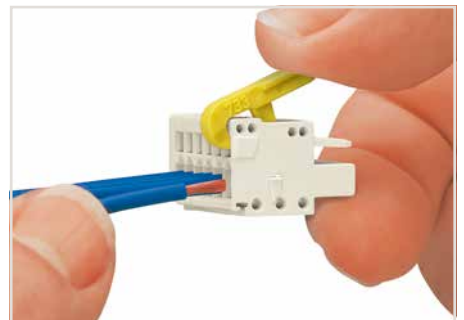
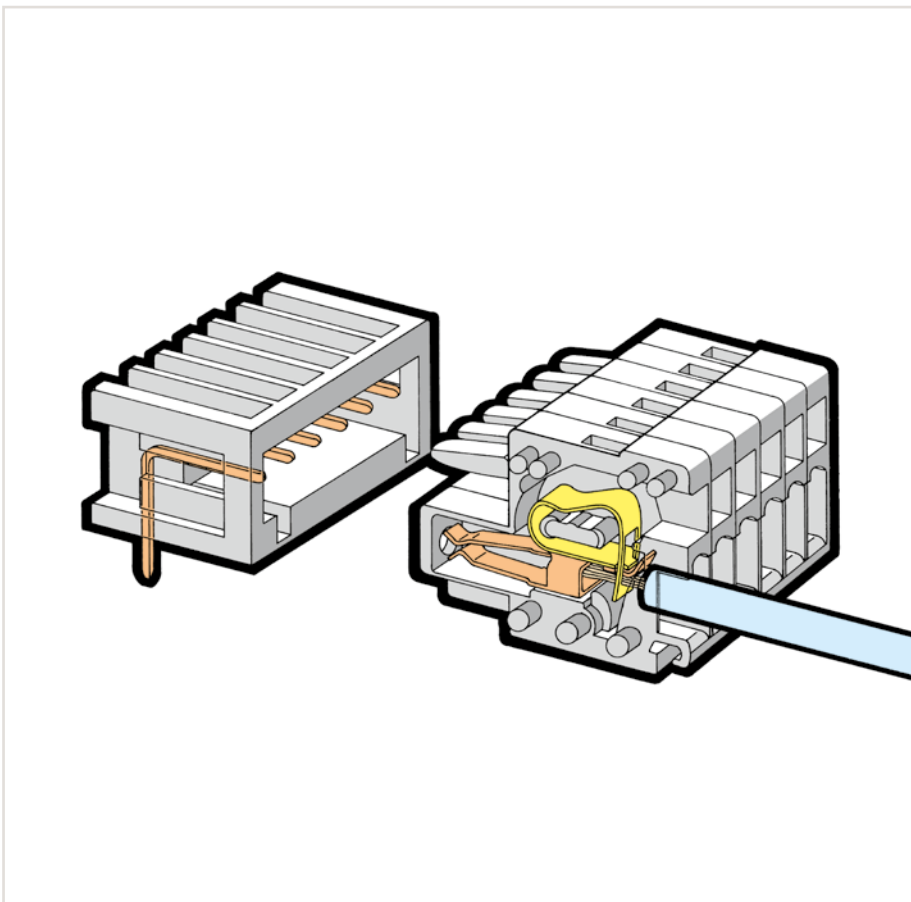
Inserting a conductor via (2.5 x 0.4) mm screwdriver. Operation is performed perpendicular to conductor entry.



Inserting a conductor via 233-331 Operating Tool. Operation is performed parallel to conductor entry.



Inserting a conductor via 210-251 Operating Tool.



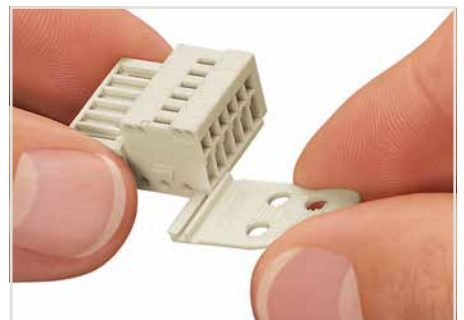
Inserting a conductor via 733-191 Operating Lever.



Testing via 1 mm Ø test pin (735-500) – touch contact.



Marking via self-adhesive strips or factory direct marking

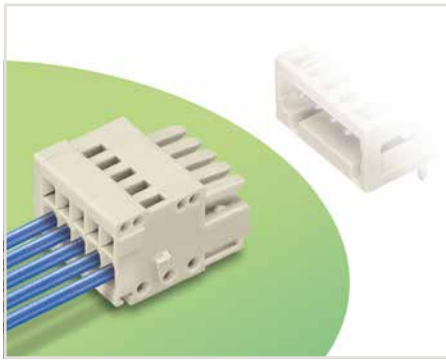


Strain relief plates for factory or in-the-field assembly.

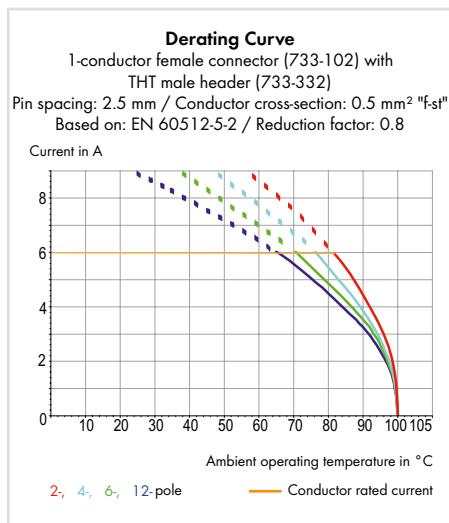
1-Conductor Female Connectors

Pin Spacing: 2.5 mm

MCS MICRO



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Strain relief plates for factory and in-the-field assembly
- 100% protected against mismatching
- Coding via coding fingers



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 252

Direct marking, see page 255

Test pin, see page 601

Strain relief plates, see page 254

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	100 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	6 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	4 A

Approvals per	CSA
Rated voltage CSA (Use Group B)	150 V
Rated current CSA (Use Group B)	4 A

Connection Data

Connection technology	CAGE CLAMP® Termination
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.34 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.34 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

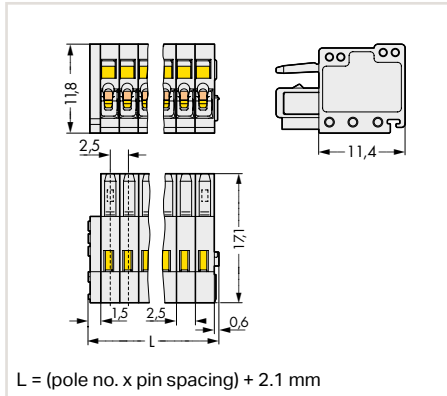
1-Conductor Female Connectors

Pin Spacing: 2.5 mm

MCS MICRO



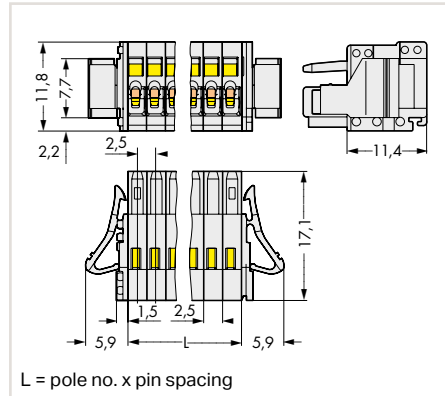
Dimensions (in mm):



1-conductor female connector, light gray,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	733-102	200
3	733-103	200
4	733-104	200
5	733-105	100
6	733-106	100
7	733-107	100
8	733-108	100
9	733-109	100
10	733-110	100
12	733-112	50

Dimensions (in mm):



1-conductor female connector, with locking
levers, light gray, 2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	733-102/037-000	100
3	733-103/037-000	100
4	733-104/037-000	100
5	733-105/037-000	100
6	733-106/037-000	100
7	733-107/037-000	50
8	733-108/037-000	50
9	733-109/037-000	50
10	733-110/037-000	50
12	733-112/037-000	50

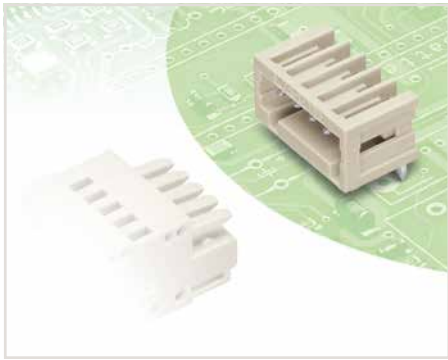
Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces. Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THT Male Headers

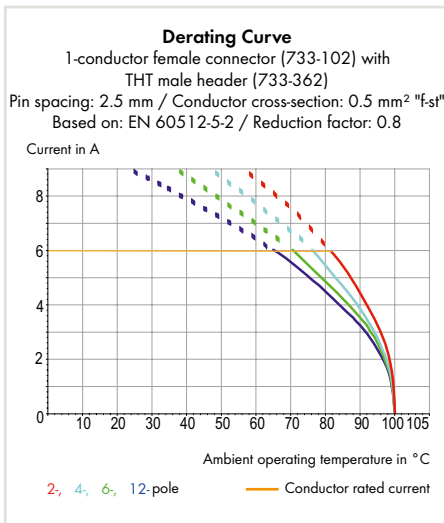
Pin Spacing: 2.5 mm

MCS MICRO



- Horizontal or vertical PCB mounting via straight or angled solder pins
- 100 % protected against mismatching; only mating halves with the same number of poles can be connected together
- Coding via coding fingers

3



Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	80 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	6 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	4 A

Approvals per	CSA
Rated voltage CSA (Use Group B)	150 V
Rated current CSA (Use Group B)	4 A

Solder Pin Data

Solder pin length (straight solder pins)	4.6 mm
Solder pin length (angled solder pins)	3.7 mm
Solder pin dimensions	0.8 x 0.8 mm
Drilled hole diameter	1.1 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) $\hat{=}$ Overvoltage category III / Pollution degree 2

Coding keys, see page 253

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

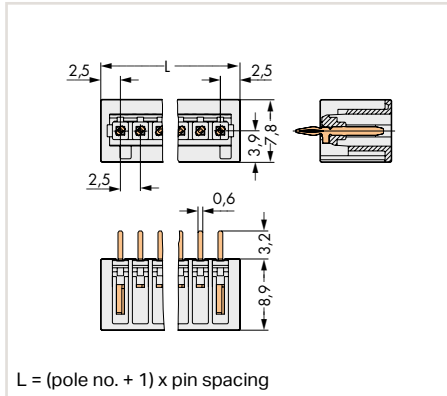
THT Male Headers

Pin Spacing: 2.5 mm

MCS MICRO



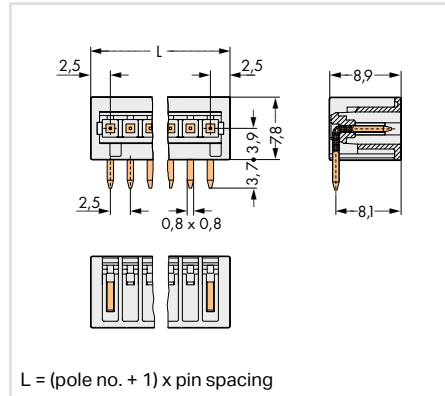
Dimensions (in mm):



THT male header, with straight solder pins, light gray, 2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	733-332	200
3	733-333	200
4	733-334	200
5	733-335	200
6	733-336	200
7	733-337	200
8	733-338	200
9	733-339	200
10	733-340	200
12	733-342	100

Dimensions (in mm):



THT male header, with angled solder pins, light gray, 2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	733-362	200
3	733-363	200
4	733-364	200
5	733-365	200
6	733-366	200
7	733-367	200
8	733-368	200
9	733-369	200
10	733-370	200
12	733-372	100

3

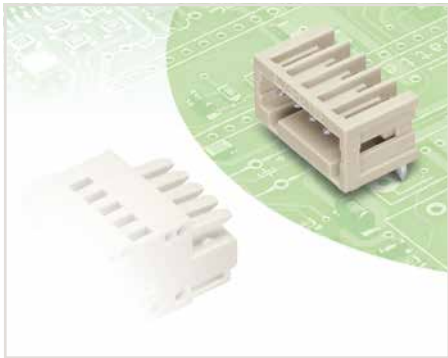
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins Item No. Suffix .../046-000
- Gold-plated or partially gold-plated contact surfaces. Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Press-In Male Headers

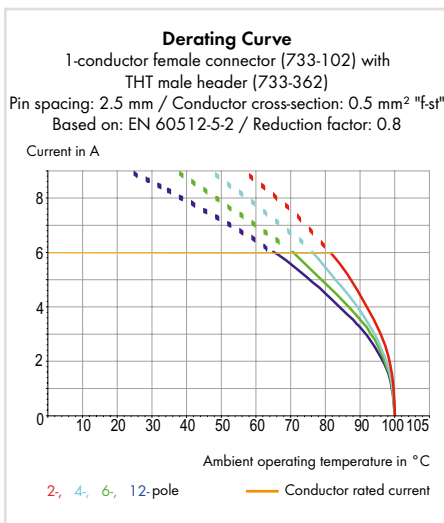
Pin Spacing: 2.5 mm

MCS MICRO



- 100 % protected against mismatching; only mating halves with the same number of poles can be connected together
- Coding via coding fingers

3



Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	80 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	4 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	4 A

Approvals per	CSA
Rated voltage CSA (Use Group B)	150 V
Rated current CSA (Use Group B)	4 A

Press-In Pin Data

Press-pin length	3.2 mm
Press-in pin dimensions	0.6 x 1.2 mm
Drilled hole diameter	1.15 ^{+0.025} mm
Plated through-hole diameter (HAL Sn)	1.0 ^{+0.02} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1.0 ^{+0.02} _{-0.06} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-40 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Coding keys,
see page 253

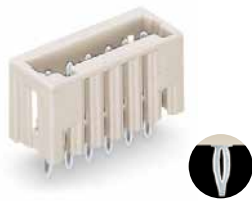
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

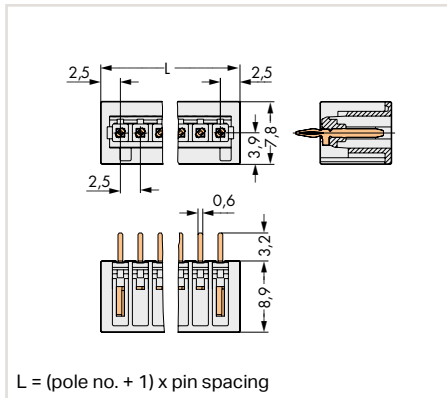
Press-In Male Headers

Pin Spacing: 2.5 mm

MCS MICRO



Dimensions (in mm):



Press-in male header, with straight press-in pins, light gray, 2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	733-332/100-000	200
3	733-333/100-000	200
4	733-334/100-000	200
5	733-335/100-000	200
6	733-336/100-000	200
7	733-337/100-000	200
8	733-338/100-000	200
9	733-339/100-000	200
10	733-340/100-000	200
12	733-342/100-000	100

Unique features of WAGO press-in technology:

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameter
–1.0 or 1.45^{±0.08} mm (HAL Sn)
–1.0 or 1.45^{±0.08} mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 to 3 mm
- Press-in length of approximately 3.2 mm – no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robustly bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area ≥ 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

3

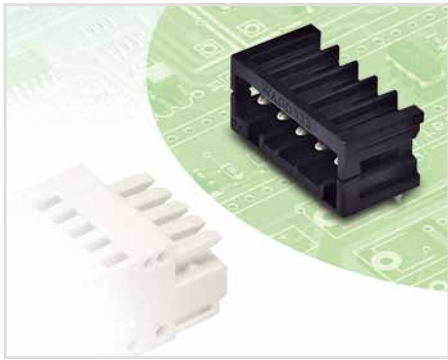
Available upon request (depending on quantity required):

- Other pole numbers
- Information on press-in tool design
- Gold-plated or partially gold-plated contact surfaces. Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THR* Male Headers

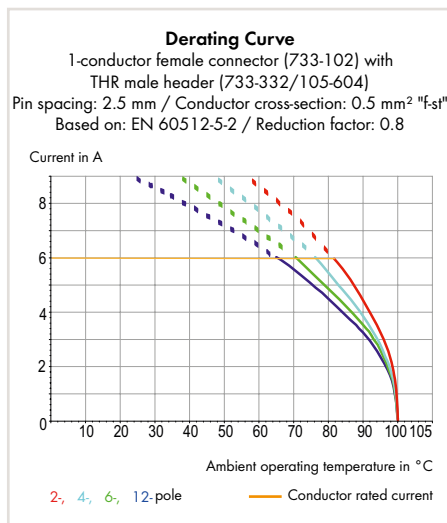
Pin Spacing: 2.5 mm

MCS MICRO



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Optimal thermal penetration via pin enclosure design provides lower soldering temperatures
- 100% protected against mismatching
- Coding via coding fingers

3



Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	80 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
	6 A

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	0.8 x 0.8 mm
Plated through-hole diameter	1.2 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2



*THR (Through-Hole Reflow) soldering process,
see page 249



Coding keys,
see page 253



Additional technical information,
see Section 13



Approvals and corresponding ratings,
visit www.wago.com

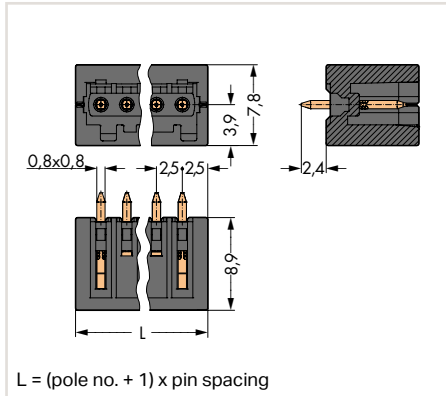
THR Male Headers

Pin Spacing: 2.5 mm

MCS MICRO



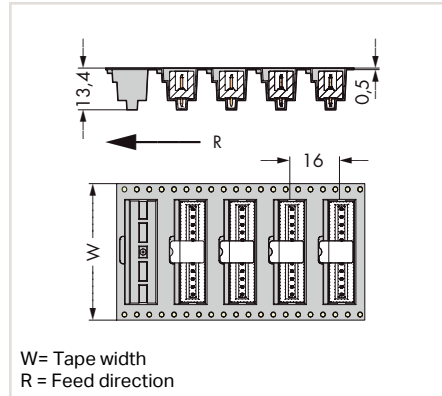
Dimensions (in mm):



THR male header, with straight solder pins, black, 2.5 mm (0.098 inch) pin spacing

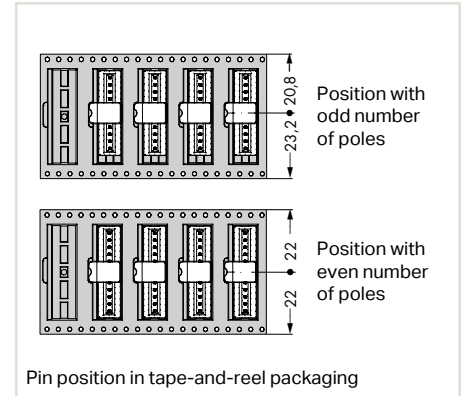
Pole No.	Item No.	W (mm)
2	733-332/105-604	200
3	733-333/105-604	200
4	733-334/105-604	200
5	733-335/105-604	200
6	733-336/105-604	200
7	733-337/105-604	200
8	733-338/105-604	200
9	733-339/105-604	200
10	733-340/105-604	200
12	733-342/105-604	100

Dimensions (in mm):



THR male header, with straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 290 pieces per reel, black, 2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	W (mm)
2	733-332/105-604/997-446	44
3	733-333/105-604/997-446	44
4	733-334/105-604/997-446	44
5	733-335/105-604/997-446	44
6	733-336/105-604/997-446	44
7	733-337/105-604/997-446	44
8	733-338/105-604/997-446	44
9	733-339/105-604/997-446	44
10	733-340/105-604/997-446	44
12	733-342/105-604/997-446	44



Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces. Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THR Male Headers

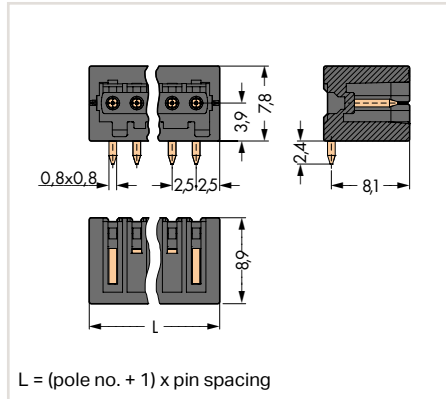
Pin Spacing: 2.5 mm

MCS MICRO



3

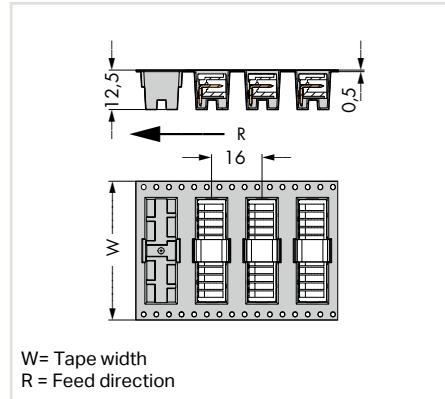
Dimensions (in mm):



THR male header, with angled solder pins, black, 2.5 mm (0.098 inch) pin spacing

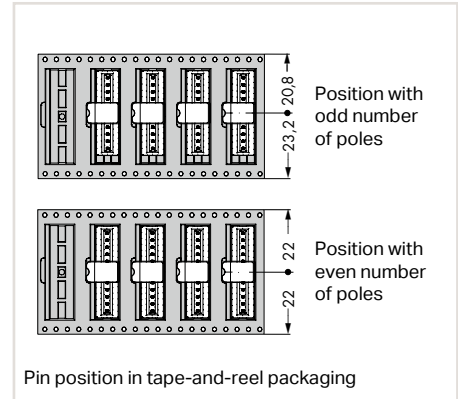
Pole No.	Item No.	W (mm)
2	733-362/105-604	200
3	733-363/105-604	200
4	733-364/105-604	200
5	733-365/105-604	200
6	733-366/105-604	200
7	733-367/105-604	200
8	733-368/105-604	200
9	733-369/105-604	200
10	733-370/105-604	200
12	733-372/105-604	100

Dimensions (in mm):



THR male header, with angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 300 pieces per reel, black, 2.5 mm (0.098 inch) pin spacing

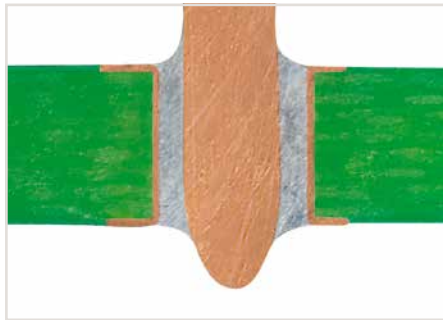
Pole No.	Item No.	W (mm)
2	733-362/105-604/997-406	44
3	733-363/105-604/997-406	44
4	733-364/105-604/997-406	44
5	733-365/105-604/997-406	44
6	733-366/105-604/997-406	44
7	733-366/105-604/997-406	44
8	733-368/105-604/997-406	44
9	733-368/105-604/997-406	44
10	733-370/105-604/997-406	44
12	733-372/105-604/997-406	44



Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces. Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

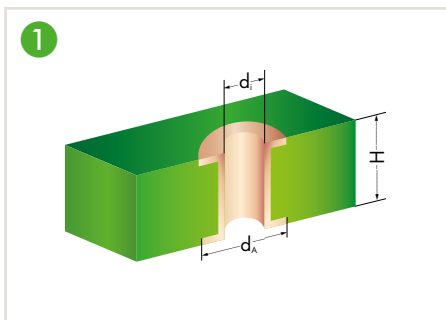
THR (Through-Hole Reflow) Soldering Process



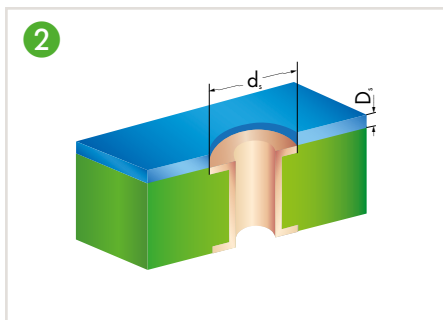
By using high-temperature-resistant plastic and a streamlined pin design, WAGO's THR male headers and THR PCB terminal blocks meet requirements for SMT process capability while maintaining the necessary stability. Both THR male headers and THR PCB terminal blocks are simply pushed into the solder paste-filled PCB holes and then soldered along with the SMT components via reflow soldering. The previous wave soldering process is no longer necessary. The result is a perfect connection – both mechanically and electrically.

Terminal strips with an additional suction pad in tape-and-reel packaging per IEC 60286-3

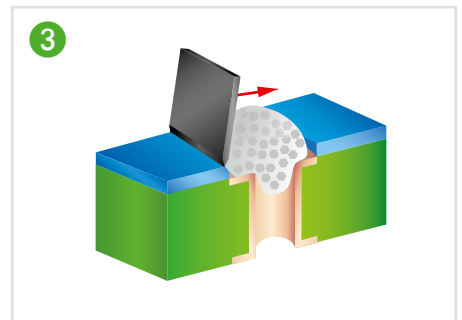
3



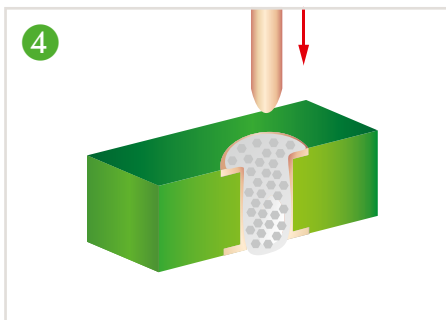
Metal-plated PCB bore hole



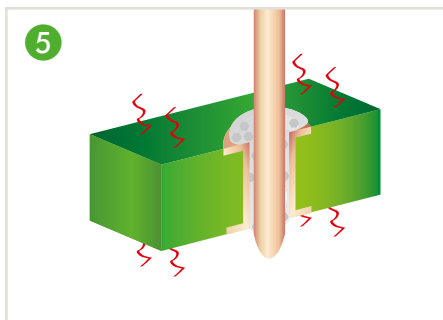
SMD positioning pattern



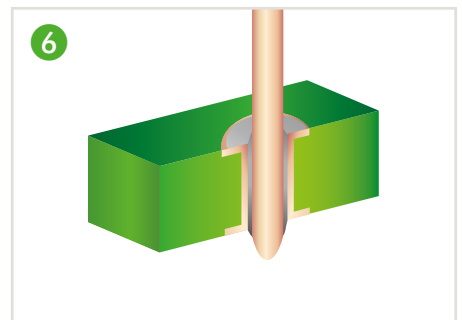
Solder paste application



Component assembly, automatic/by hand



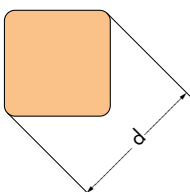
Reflow soldering process



THR soldering joint

Series	d _i (mm)	d _A (mm)	H(mm)	d _s (mm)	D _s (μm)	d(mm)	L(mm)
231 (1 x 1 mm)	1.4 ^{+0.1}	2.5	< 2	2.4	150	1.2	2.4
231 (1.2 x 1.2 mm)	1.7 ^{+0.1}	2.8	< 2	2.7	150	1.5	2.4
713	1.2 ^{+0.1}	1.9	< 2	1.8	150	1	2.4
733	1.2 ^{+0.1}	1.9	< 2	1.8	150	1	2.4
734	1.4 ^{+0.1}	2.5	< 2	2.4	150	1.2	2.4

WAGO recommends both a temperature profile that adheres to EN 61760-1 and the use of forced convection ovens for processing THR components.



- d: Plated through-hole diameter
- d_A: Outer diameter of metal-plated PCB hole*
- H: PCB thickness
- d_s: Pattern hole diameter
- D_s: Pattern thickness
- d: Pin diagonal
- L: Pin length

* When laying out the metal-plated bore holes, the clearance and creepage distance requirements – as specified in the equipment standards – must be considered.

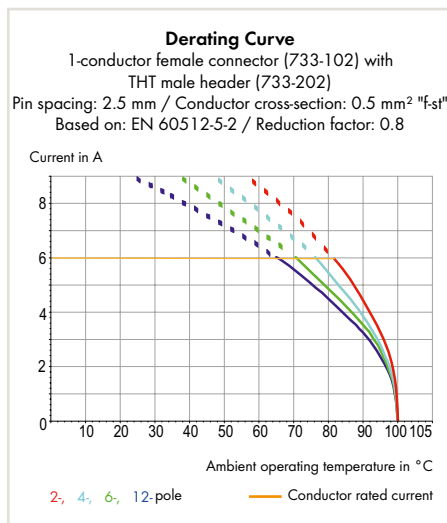
1-Conductor Male Connectors

Pin Spacing: 2.5 mm

MCS MICRO



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire connections
- 100% protected against mismatching
- Coding via coding fingers



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 252

Direct marking, see page 255

Test pin, see page 601

Coding keys, see page 253

Strain relief plates, see page 254

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	2.5 mm / 0.098 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	100 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
Approvals per	6 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	150 V
Approvals per	4 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	150 V
	4 A

Connection Data

Connection technology	CAGE CLAMP® Termination
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor cross-sections	
Solid conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor	0.08 ... 0.5 mm ² / 28 ... 20 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.34 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.34 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

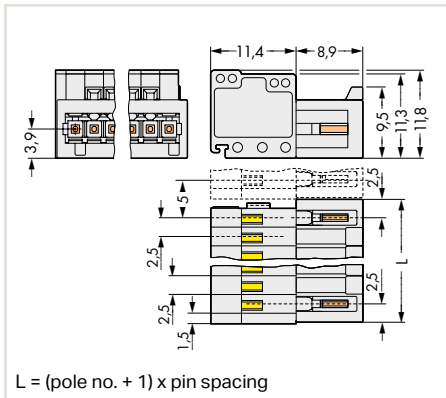
1-Conductor Male Connectors

Pin Spacing: 2.5 mm

MCS MICRO



Dimensions (in mm):



1-conductor male connector, light gray,
2.5 mm (0.098 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	733-202	200
3	733-203	200
4	733-204	200
5	733-205	100
6	733-206	100
7	733-207	100
8	733-208	100
9	733-209	100
10	733-210	100
12	733-212	50

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Operating Tools MCS MICRO

3



Operating tool for male and female connectors with CAGE CLAMP® connection, 2.5 mm, 3.5 mm and 3.81 mm pin spacing

Color	Item No.	Pack. Unit
● yellow	210-251	1



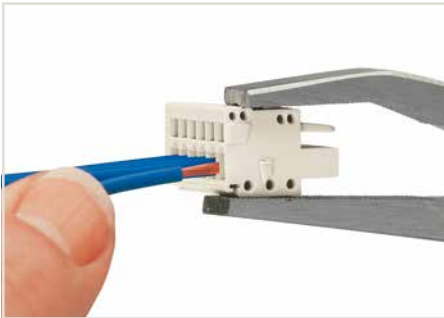
Operating lever for male and female connectors with CAGE CLAMP® connection, 2.5 mm pin spacing

Series	Item No.	Pack. Unit
○ natural	733-130	100 (25)
● yellow	733-191	100 (25)

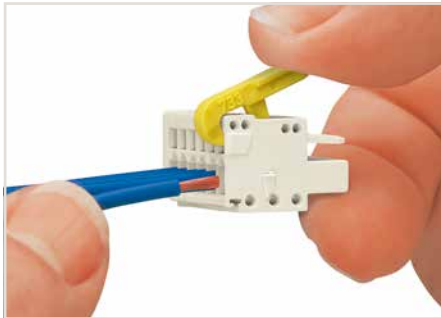


Operating tool for male and female connectors with CAGE CLAMP® connection, 2.5 mm pin spacing

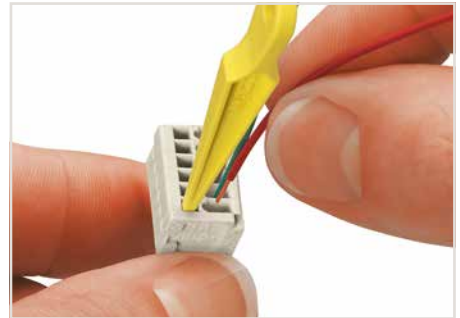
Color	Item No.	Pack. Unit
○ natural	233-332	25
● yellow	233-331	25



Inserting a conductor via operating tool.



Inserting a conductor via operating lever.



Inserting a conductor via operating tool (233-331) – CAGE CLAMP® actuation parallel to conductor entry.

Operating Tools and Coding Keys MCS MICRO



3

Operating tool with a partially insulated shaft, type 1, (2.5 x 0.4) mm blade

Item No.	Pack. Unit
210-719	1

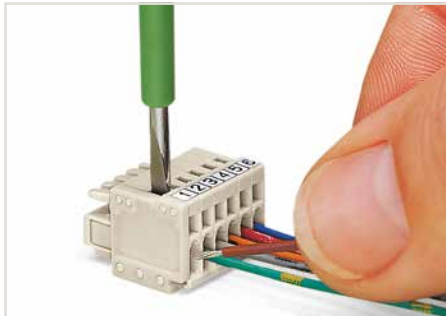
Operating tool with a partially insulated shaft, for male and female connectors with CAGE CLAMP connection

Item No.	Pack. Unit
233-335	1

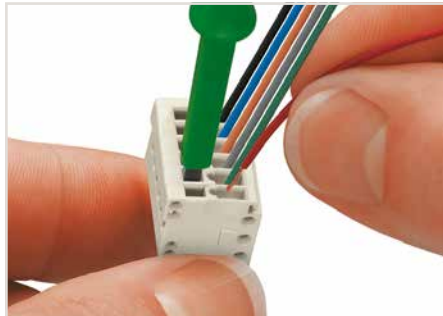
Coding key for male headers

Color	Item No.	Pack. Unit
○ white	733-330	100
● black*	733-331	100

*suitable for THR soldering



Inserting a conductor via (2.5 x 0.4 mm) screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.

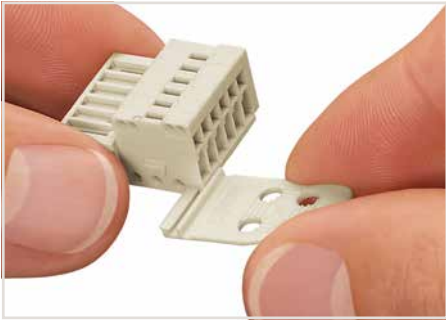


Inserting a conductor via screwdriver (233-335) – CAGE CLAMP® actuation parallel to conductor entry.

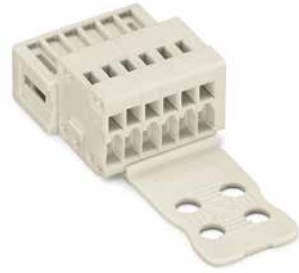


Coding a male header via snap-on coding keys.

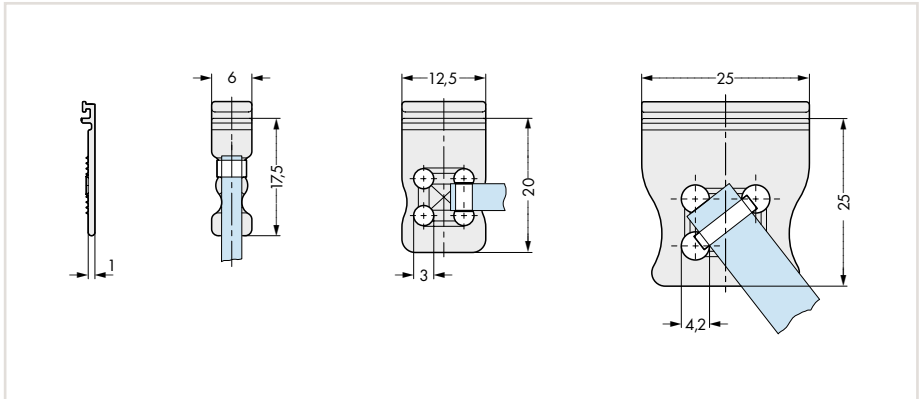
Strain Relief Plates MCS MICRO



Strain relief plate for in-the-field assembly



Dimensions (in mm):



Strain relief plate, for factory assembly, 1-conductor female connector, 2.5 mm pin spacing, light gray, 2-pole, with strain relief plate (733-102/032-000)

The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.

Cable ties and binding tools are not offered by WAGO.



Strain relief plate, for factory assembly, 1-conductor female connector, 2.5 mm pin spacing, light gray, 12-pole, with strain relief plate (733-112/034-000)

Strain relief plate, for in-the-field assembly, for male and female connectors with CAGE CLAMP® connection, light gray

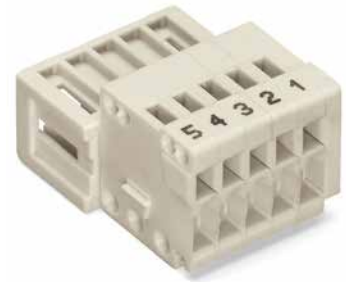
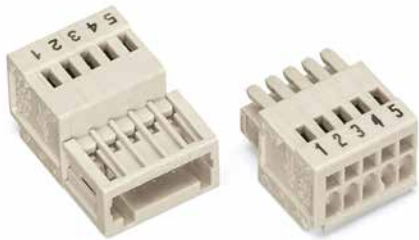
Pole No.	Width	Item No.	Pack. Unit
2 ... 4	6 mm	734-127	100 (25)
5 ... 9	12.5 mm	734-128	100 (25)
10 ... 12	25 mm	734-129	100 (25)

Strain relief plate, pre-assembled, for male and female connectors with CAGE CLAMP® connection, light gray

Pole No.	Width	Item No. Suffix *
2 ... 4	6 mm	.../032-000
5 ... 9	12.5 mm	.../033-000
10 ... 12	25 mm	.../034-000

*An "item no. suffix," referring to the width of the strain relief plate, is added to the "basic item no." and determines the type of male or female connector.

Direct Marking MCS MICRO



The pole numbers of male and female connectors for CAGE CLAMP® termination can be marked via factory direct marking.

Two standard marking orientations are available:
1. Marking perpendicular to conductor entry
2. Marking parallel to conductor entry

Other customized marking options are available upon request.

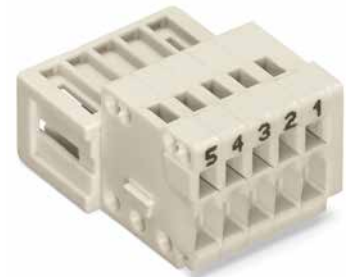
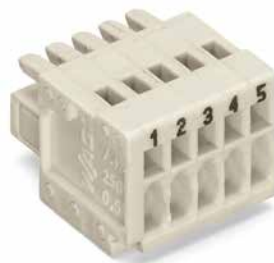
Direct marking is not suitable for MCS PCB male headers. WAGO recommends pole marking on the PCB for these headers.

Direct marking of female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-cond. female connector, 5-pole, light gray	733-105/000-047
1-cond. female connector, with locking levers, 5-pole, light gray	733-105/037-047
1-cond. female connector, with strain relief plate, 5-pole, light gray	733-105/033-047
1-cond. female connector, with locking levers and strain relief plate, 5-pole, light gray	733-105/037-047/033-000

Direct marking of male connectors, perpendicular to conductor entry, pole no. ... 1, item no. suffix.: /... - 044

Version	Item No. Example
1-cond. male connector, 5-pole, light gray	733-205/000-044
1-cond. male connector, with strain relief plate, 5-pole, light gray	733-205/033-044



Direct marking of female connectors, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
1-cond. female connector, 5-pole, light gray	733-105/000-9037
1-cond. female connector, with locking levers, 5-pole, light gray	733-105/037-9037
1-cond. female connector, with strain relief plate, 5-pole, light gray	733-105/033-9037
1-cond. female connector, with locking levers and strain relief plate, 5-pole, light gray	733-105/037-9037/033-000

Direct marking of male connectors, parallel to conductor entry, pole no. ... 1, item no. suffix.: /... - 9034

Version	Item No. Example
1-cond. male connector, 5-pole, light gray	733-205/000-9034
1-cond. male connector, with strain relief plate, 5-pole, light gray	733-205/033-9034



MCS – MULTI CONNECTION SYSTEM
MINI / MINI HD / MINI SL

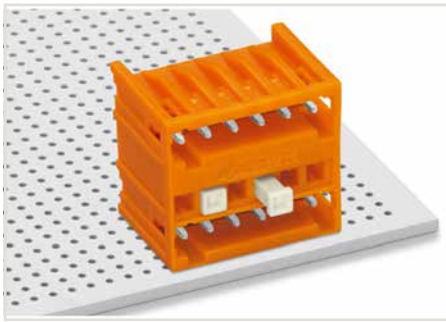
MCS MINI / MINI HD / MINI SL Connectors/Headers**Pin Spacing: 3.5 and 3.81 mm / Nominal Cross-Section: 1.5 mm²**

			Page
	MCS MINI Female Connectors, CAGE CLAMP® Termination	3.5 mm, 3.81 mm	260
	Push-in CAGE CLAMP® Termination, with Push-Buttons	3.5 mm, 3.81 mm	264
	MCS MINI THT Male Headers	3.5 mm, 3.81 mm	268
	Press-In Male Headers	3.5 mm, 3.81 mm	274
	THR Male Headers	3.5 mm, 3.81 mm	276
	MCS MINI Male Connectors, CAGE CLAMP® Termination	3.5 mm 3.81 mm	282 284
	MCS MINI 2-Conductor Combi Strips, CAGE CLAMP® Termination	3.5 mm	286
	MCS MINI THT Female Headers	3.5 mm 3.81 mm	288 290
	MCS MINI HD Female Connectors, CAGE CLAMP® Termination	3.5 mm	302
	MCS MINI HD THT Male Headers THR Male Headers	3.5 mm 3.5 mm	304 308
	MCS MINI SL Female Connectors, Push-in CAGE CLAMP® Termination, with Push-Buttons	3.5 mm	320
	MCS MINI SL THT Male Headers	3.5 mm	322
	MCS MINI Accessories		292
	MCS MINI HD Accessories		316
	MCS MINI SL Accessories		324
	General Accessories – Section 12		586

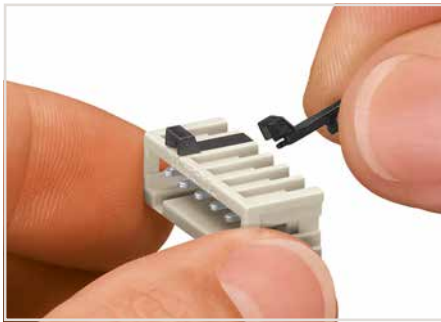
CAGE CLAMP®
PUSH-IN CAGE CLAMP®

MCS MINI

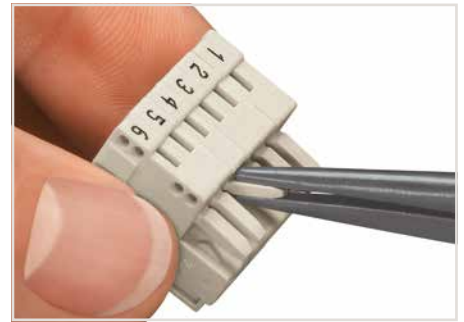
Description and Installation



Coding a THT double-deck male header – lower level.



Coding a male header – fitting coding key(s).

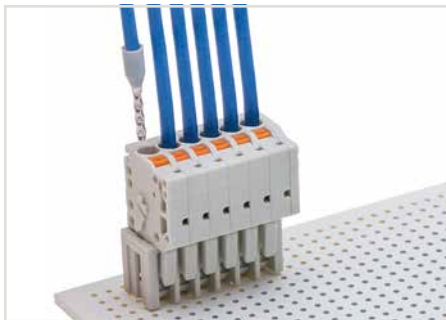


Coding a female connector – removing coding finger(s).

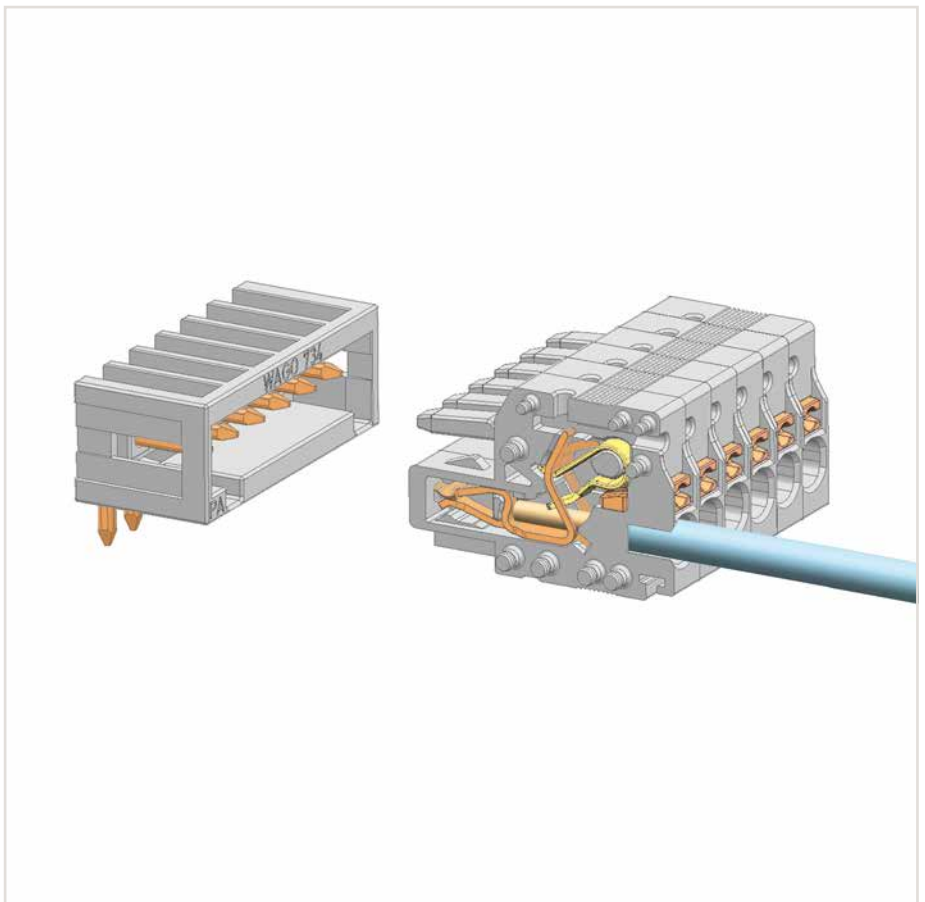
4



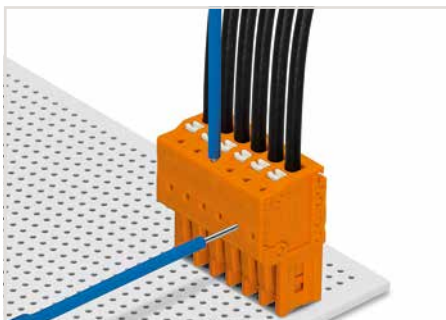
Inserting a fine stranded conductor into Push-in CAGE CLAMP® unit via push-button.



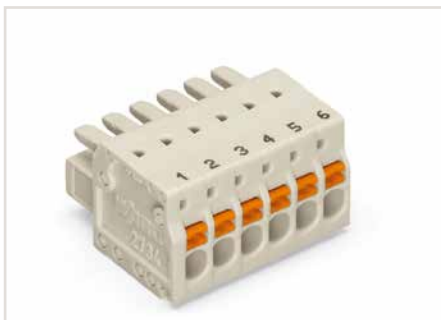
Solid and ferruled conductors are terminated by simply pushing them into unit.



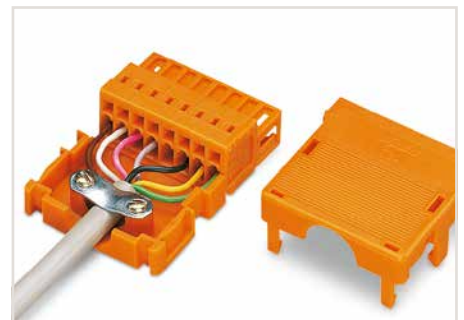
Pin spacing: 3.5 mm and 3.81 mm, Push-in CAGE CLAMP®



Testing via 1 mm Ø test pin (735-500). Push-in CAGE CLAMP® termination – parallel to conductor entry



Labeling via direct marking or self-adhesive strips.

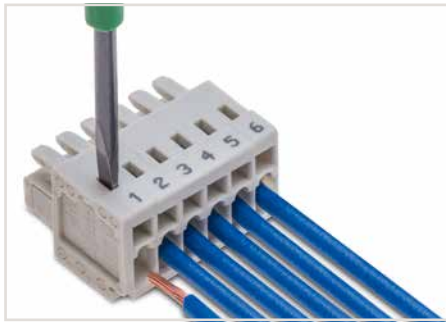


Strain relief housing for 734 Series Male and Female Connectors with CAGE CLAMP® connection.

CAGE CLAMP®
PUSH-IN CAGE CLAMP®

MCS MINI

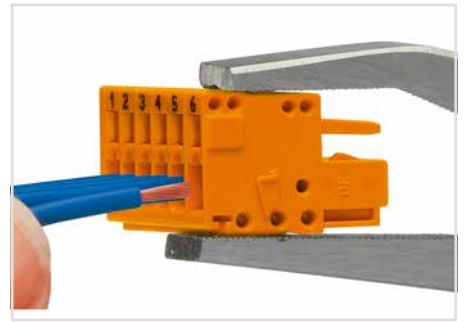
Description and Installation



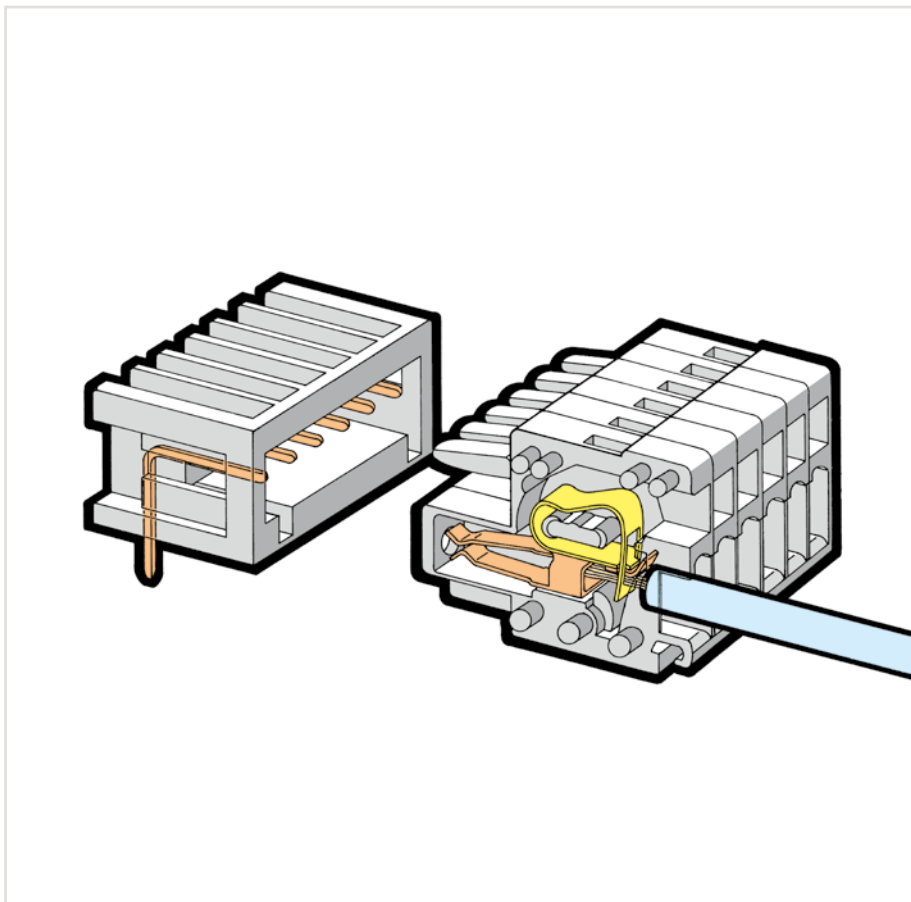
Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



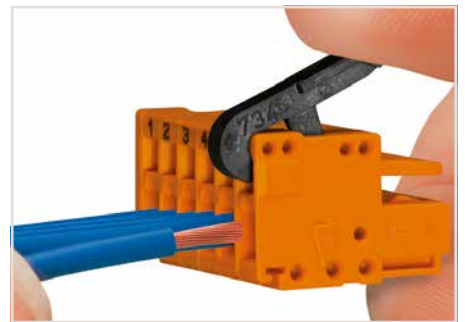
Inserting a conductor via (2.5 x 0.4) mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



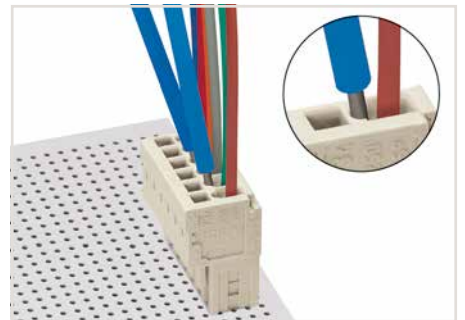
Inserting a conductor into CAGE CLAMP® unit via operating tool (210-251 or 210-250).



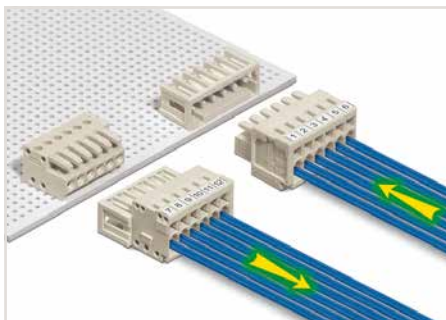
Pin spacing: 3.5 mm and 3.81 mm, CAGE CLAMP®



Inserting a conductor into CAGE CLAMP® unit via operating lever (734-191).



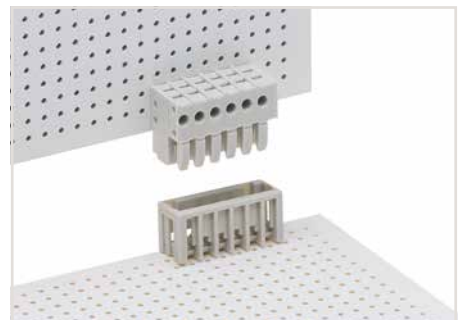
Testing via 1 mm Ø test pin (735-500) – CAGE CLAMP® connection – touch contact.



Easy-to-identify PCB inputs and outputs



Wire-to-wire connection of single conductors



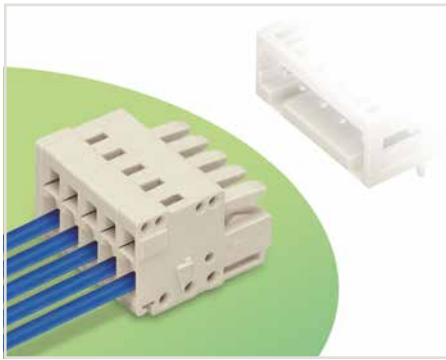
Board-to-board connection – male header with straight solder pins and female header with angled solder pins

4

1-Conductor Female Connectors

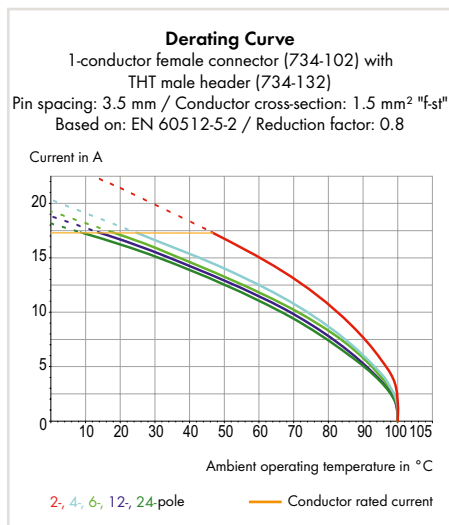
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Strain relief plates and housings for field assembly
- 100% protected against mismatching
- Coding via coding fingers

4



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 292, 588

Direct marking, see page 298

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test pin, see page 610

Strain relief housings, see page 296

Strain relief plates, see page 295

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch and 3.81 mm / 0.15 inch
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	10 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP® Termination
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²
Note (conductor cross-sections)	Terminating 1.5 mm ² conductors is possible; however insulation diameter does not allow clamping units to be terminated in a row.

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

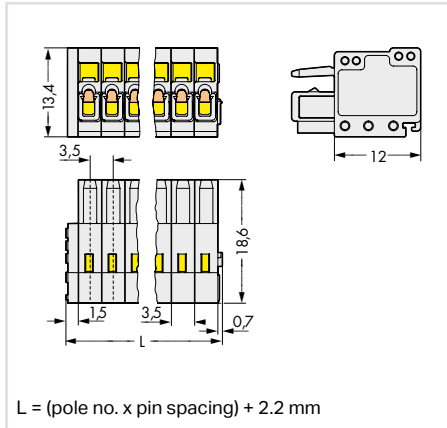
1-Conductor Female Connectors

Pin Spacing: 3.5 mm

MCS MINI



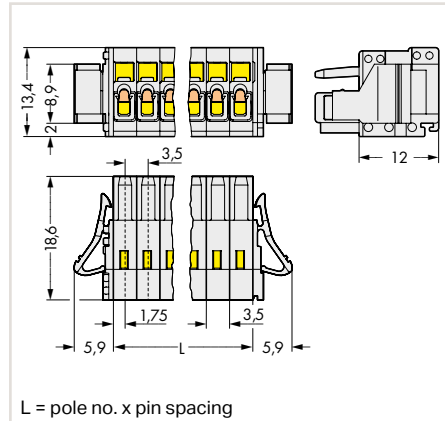
Dimensions (in mm):



1-conductor female connector, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-102	200
3	734-103	200
4	734-104	100
5	734-105	100
6	734-106	100
7	734-107	100
8	734-108	50
9	734-109	50
10	734-110	50
11	734-111	50
12	734-112	50
13	734-113	50
14	734-114	50
16	734-116	25
18	734-118	25
20	734-120	25
24	734-124	25

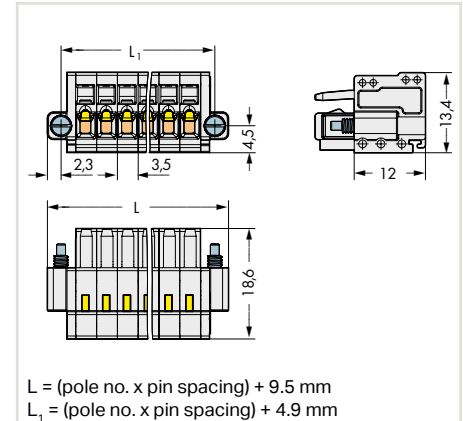
Dimensions (in mm):



1-conductor female connector, with locking levers, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-102/037-000	100
3	734-103/037-000	100
4	734-104/037-000	100
5	734-105/037-000	50
6	734-106/037-000	50
7	734-107/037-000	50
8	734-108/037-000	50
9	734-109/037-000	50
10	734-110/037-000	50
11	734-111/037-000	50
12	734-112/037-000	50
13	734-113/037-000	25
14	734-114/037-000	25
16	734-116/037-000	25
18	734-118/037-000	25
20	734-120/037-000	25
24	734-124/037-000	10

Dimensions (in mm):



1-conductor female connector, with screw flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-102/107-000	100
3	734-103/107-000	100
4	734-104/107-000	100
5	734-105/107-000	50
6	734-106/107-000	50
7	734-107/107-000	50
8	734-108/107-000	50
9	734-109/107-000	50
10	734-110/107-000	50
11	734-111/107-000	50
12	734-112/107-000	50
13	734-113/107-000	25
14	734-114/107-000	25
16	734-116/107-000	25
18	734-118/107-000	25
20	734-120/107-000	25
24	734-124/107-000	10

4

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

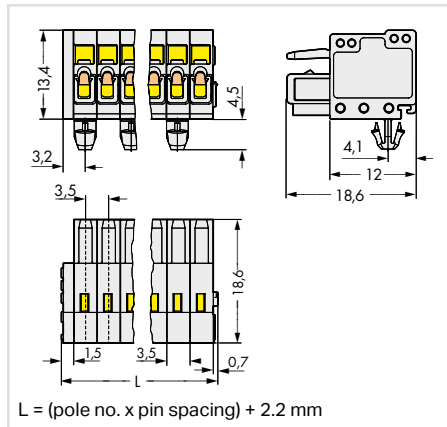
1-Conductor Female Connectors

Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



Dimensions (in mm):

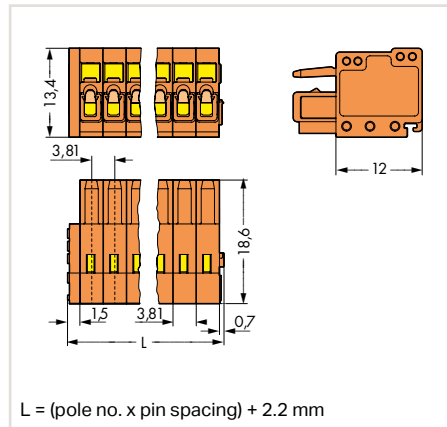


$L = (\text{pole no.} \times \text{pin spacing}) + 2.2 \text{ mm}$

1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-102/008-000	200
3	734-103/008-000	200
4	734-104/008-000	100
5	734-105/008-000	100
6	734-106/008-000	100
7	734-107/008-000	100
8	734-108/008-000	50
9	734-109/008-000	50
10	734-110/008-000	50
11	734-111/008-000	50
12	734-112/008-000	50
13	734-113/008-000	50
14	734-114/008-000	50
16	734-116/008-000	25
18	734-118/008-000	25
20	734-120/008-000	25
24	734-124/008-000	25

Dimensions (in mm):

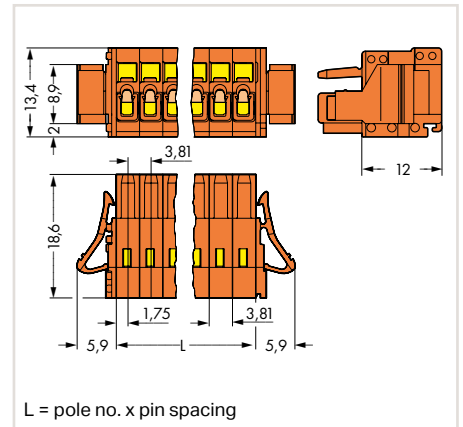


$L = (\text{pole no.} \times \text{pin spacing}) + 2.2 \text{ mm}$

1-conductor female connector, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-202	200
3	734-203	200
4	734-204	100
5	734-205	100
6	734-206	100
8	734-208	50
9	734-209	50
10	734-210	50
12	734-212	25
14	734-214	25
16	734-216	25
18	734-218	25
19	734-219	25
20	734-220	25

Dimensions (in mm):



$L = \text{pole no.} \times \text{pin spacing}$

1-conductor female connector, with locking levers, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-202/037-000	100
3	734-203/037-000	100
4	734-204/037-000	100
5	734-205/037-000	50
6	734-206/037-000	50
8	734-208/037-000	50
9	734-209/037-000	50
10	734-210/037-000	50
12	734-212/037-000	25
14	734-214/037-000	25
16	734-216/037-000	25
18	734-218/037-000	25
19	734-219/037-000	25
20	734-220/037-000	25

2-pole female connectors have two snap-in mounting feet. Three or more pole female connectors have a snap-in mounting foot at every other pole.

Available upon request (depending on quantity required):

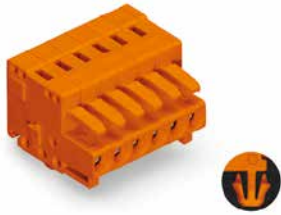
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

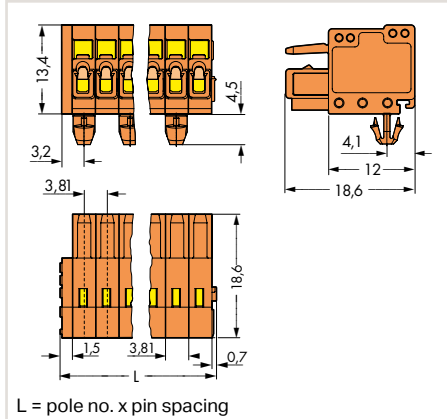
1-Conductor Female Connectors

Pin Spacing: 3.81 mm

MCS MINI



Dimensions (in mm):



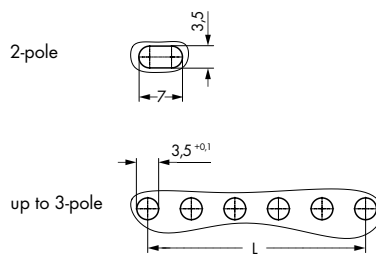
1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-202/008-000	100
3	734-203/008-000	100
4	734-204/008-000	100
5	734-205/008-000	50
6	734-206/008-000	50
8	734-208/008-000	50
9	734-209/008-000	50
10	734-210/008-000	50
12	734-212/008-000	50
14	734-214/008-000	25
16	734-216/008-000	25
18	734-218/008-000	25
19	734-219/008-000	25
20	734-220/008-000	25

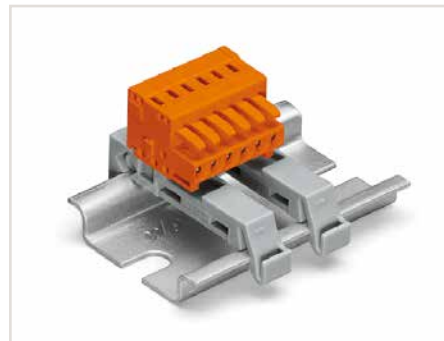
2-pole female connectors have two snap-in mounting feet. Three or more pole female connectors have a snap-in mounting foot at every other pole.

Dimensions (in mm):

Drilled hole pattern for panel mounting of female connectors with snap-in mounting feet



Even pole number : $L = (\text{pole no.} - 2) \times \text{pin spacing}$
 Odd pole number : $L = (\text{pole no.} - 1) \times \text{pin spacing}$



Using two DIN-35 rail mounting adapters (209-137) for 3 or more poles. Distance between two mounting adapters: maximum 7 poles.

Available upon request (depending on quantity required):

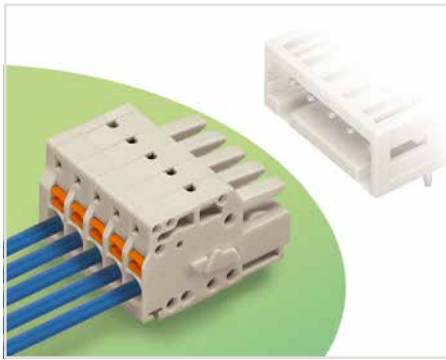
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors with Push-Buttons

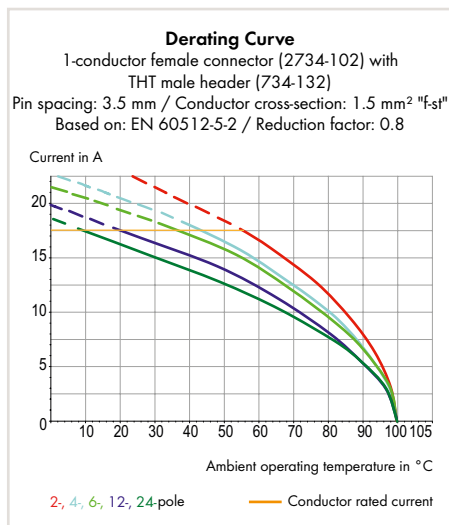
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- Universal connection for all conductor types
- Easy-to-use design does not require specialty tools
- Ability to wire while mated
- Simple, push-in termination of solid and ferruled conductors
- Integrated test ports for testing parallel to the conductor entry
- 100% protected against mismatching
- Coding via coding fingers

4



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 292; 588

Direct marking, see page 298

Test pin, see page 601

Screws, see page 610

Strain relief plates, see page 295

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch and 3.81 mm / 0.15 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	10 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.75 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 0.75 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

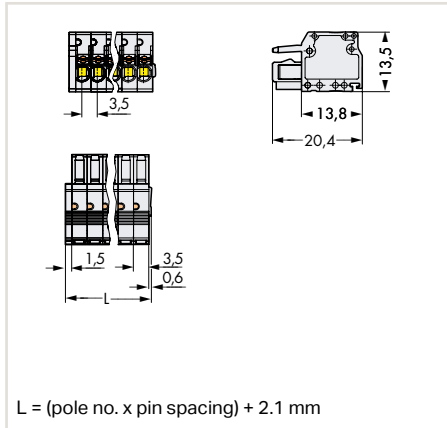
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 3.5 mm

MCS MINI



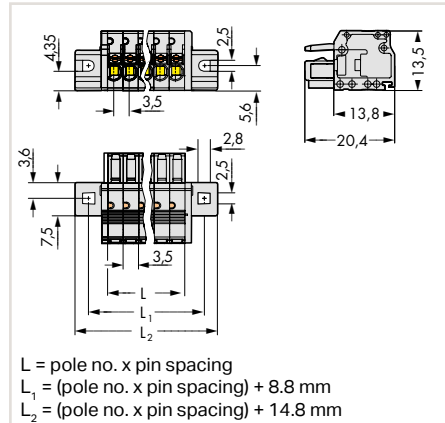
Dimensions (in mm):



1-conductor female connector, with push-buttons, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-102	200
3	2734-103	200
4	2734-104	100
5	2734-105	100
6	2734-106	100
7	2734-107	100
8	2734-108	50
9	2734-109	50
10	2734-110	50
11	2734-111	50
12	2734-112	50
13	2734-113	50
14	2734-114	50
16	2734-116	25
18	2734-118	25
20	2734-120	25
24	2734-124	25

Dimensions (in mm):

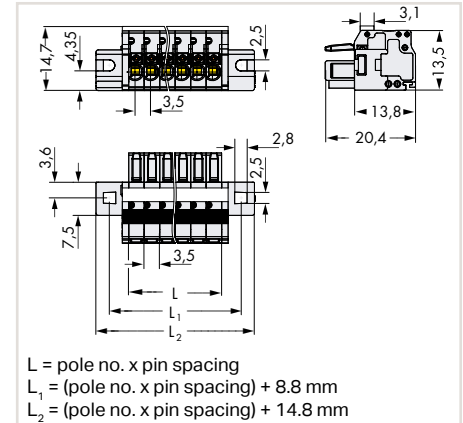


1-conductor female connector, with push-buttons and mounting flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-102/031-000	100
3	2734-103/031-000	100
4	2734-104/031-000	50
5	2734-105/031-000	50
6	2734-106/031-000	50
7	2734-107/031-000	50
8	2734-108/031-000	50
9	2734-109/031-000	50

Cutout dimensions, see page 297, Table 2

Dimensions (in mm):



1-conductor female connector, with push-buttons, mounting flanges and reinforcing strips, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
10	2734-110/027-000	50
11	2734-111/027-000	25
12	2734-112/027-000	25
13	2734-113/027-000	25
14	2734-114/027-000	25
16	2734-116/027-000	25
18	2734-118/027-000	25
20	2734-120/027-000	25
24	2734-124/027-000	10

Cutout dimensions, see page 297, Table 2

4

Available upon request (depending on quantity required):

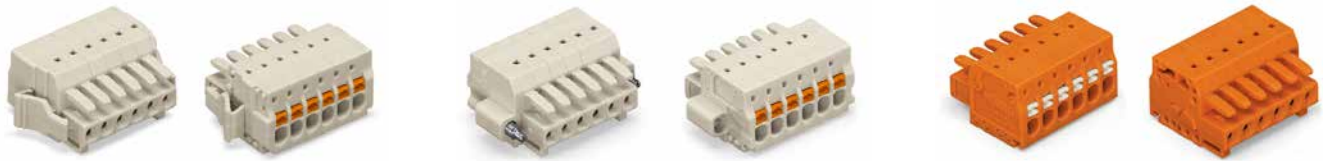
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

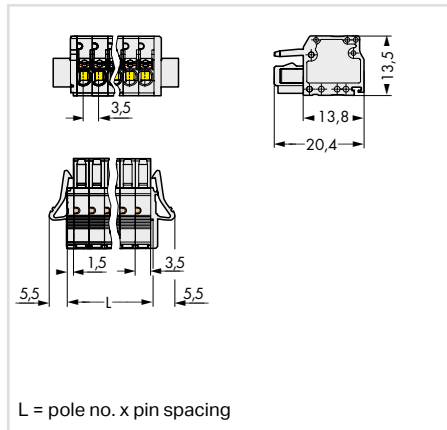
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



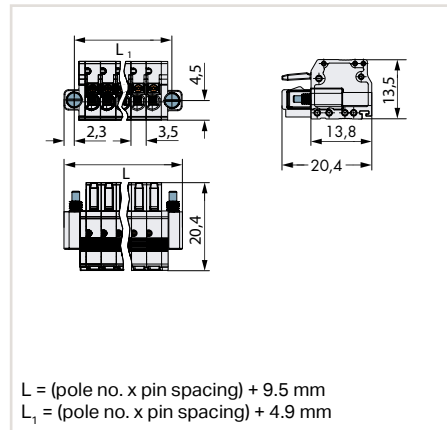
Dimensions (in mm):



1-conductor female connector, with push-buttons and locking levers, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-102/037-000	100
3	2734-103/037-000	100
4	2734-104/037-000	100
5	2734-105/037-000	50
6	2734-106/037-000	50
7	2734-107/037-000	50
8	2734-108/037-000	50
9	2734-109/037-000	50
10	2734-110/037-000	50
11	2734-111/037-000	50
12	2734-112/037-000	50
13	2734-113/037-000	25
14	2734-114/037-000	25
16	2734-116/037-000	25
18	2734-118/037-000	25
20	2734-120/037-000	25
24	2734-124/037-000	10

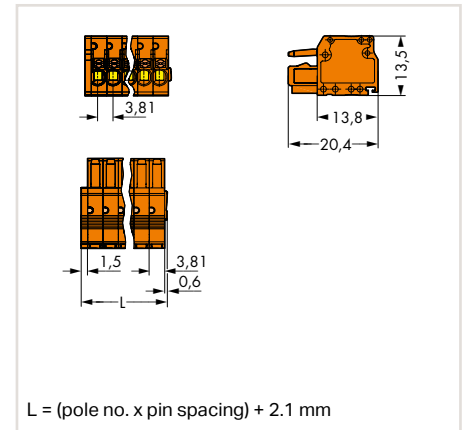
Dimensions (in mm):



1-conductor female connector, with push-buttons and screw flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-102/107-000	100
3	2734-103/107-000	100
4	2734-104/107-000	100
5	2734-105/107-000	50
6	2734-106/107-000	50
7	2734-107/107-000	50
8	2734-108/107-000	50
9	2734-109/107-000	50
10	2734-110/107-000	50
11	2734-111/107-000	50
12	2734-112/107-000	50
13	2734-113/107-000	25
14	2734-114/107-000	25
16	2734-116/107-000	25
18	2734-118/107-000	25
20	2734-120/107-000	25
24	2734-124/107-000	10

Dimensions (in mm):



1-conductor female connector, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-202	200
3	2734-203	200
4	2734-204	100
5	2734-205	100
6	2734-206	100
8	2734-208	50
9	2734-209	50
10	2734-210	50
12	2734-212	25
14	2734-214	25
16	2734-216	25
18	2734-218	25
19	2734-219	25
20	2734-220	25

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

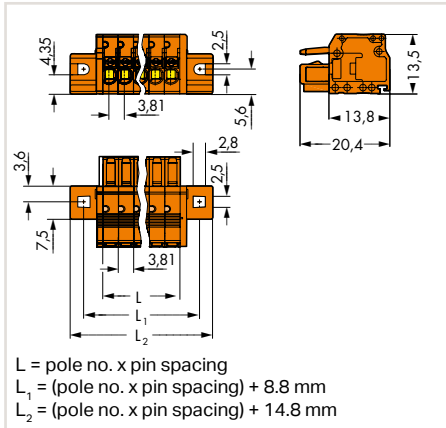
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 3.81 mm

MCS MINI



Dimensions (in mm):

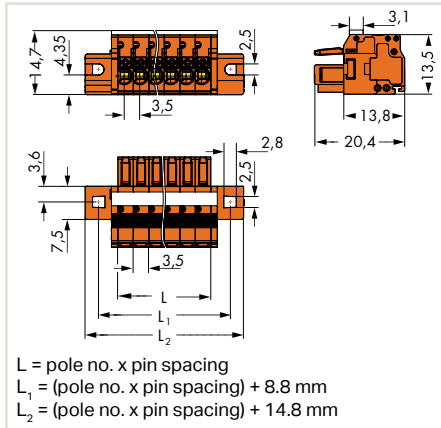


1-conductor female connector, with push-buttons and mounting flanges, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-202/031-000	100
3	2734-203/031-000	100
4	2734-204/031-000	50
5	2734-205/031-000	50
6	2734-206/031-000	50
8	2734-208/031-000	50
9	2734-209/031-000	50

Cutout dimensions, see page 297, Table 2

Dimensions (in mm):

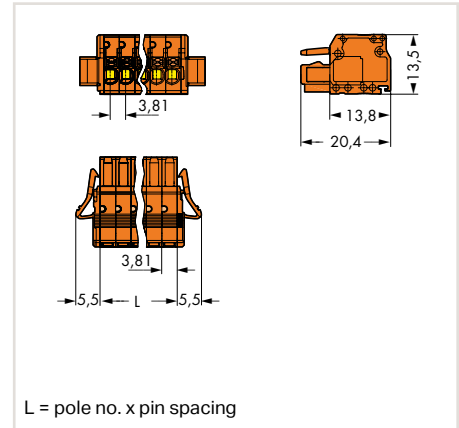


1-conductor female connector, with push-buttons, mounting flanges and reinforcing strips, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
10	2734-210/027-000	50
12	2734-212/027-000	25
14	2734-214/027-000	25
16	2734-216/027-000	25
18	2734-218/027-000	25
19	2734-219/027-000	25
20	2734-220/027-000	25

Cutout dimensions, see page 297, Table 2

Dimensions (in mm):



1-conductor female connector, with push-buttons and locking levers, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2734-202/037-000	100
3	2734-203/037-000	100
4	2734-204/037-000	100
5	2734-205/037-000	50
6	2734-206/037-000	50
8	2734-208/037-000	50
9	2734-209/037-000	50
10	2734-210/037-000	50
12	2734-212/037-000	25
14	2734-214/037-000	25
16	2734-216/037-000	25
18	2734-218/037-000	25
19	2734-219/037-000	25
20	2734-220/037-000	25

Available upon request (depending on quantity required):

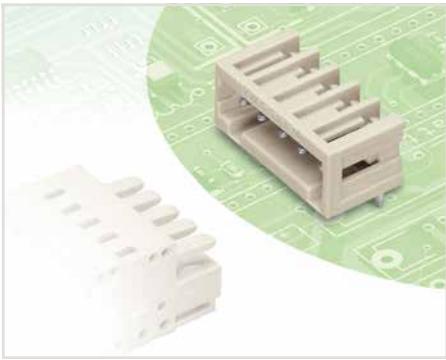
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers

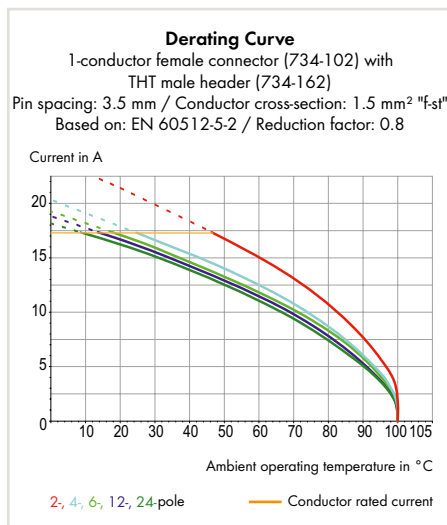
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- Horizontal or vertical PCB mounting via straight or angled solder pins
- 100 % protected against mismatching; only mating halves with the same number of poles can be connected together
- Coding via coding fingers

4



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Coding keys, see page 294

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch and 3.81 mm / 0.15 inch
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	10 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	4.5 mm
Solder pin length (angled solder pins)	3.8 mm
Solder pin length (double-deck male headers)	3.6 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

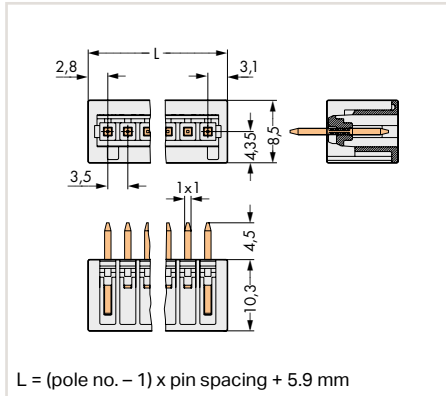
THT Male Headers

Pin Spacing: 3.5 mm

MCS MINI



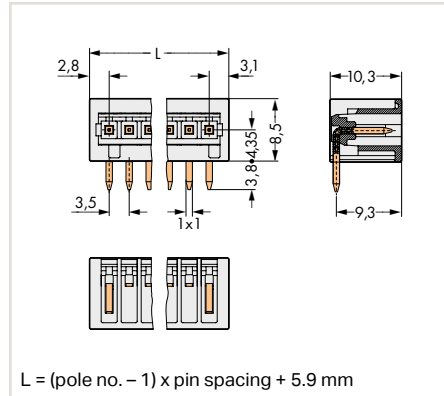
Dimensions (in mm):



THT male header, with straight solder pins, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-132	200
3	734-133	200
4	734-134	200
5	734-135	200
6	734-136	100
7	734-137	100
8	734-138	100
9	734-139	100
10	734-140	100
11	734-141	100
12	734-142	100
13	734-143	100
14	734-144	100
16	734-146	50
18	734-148	50
20	734-150	50
24	734-154	50

Dimensions (in mm):



THT male header, with angled solder pins, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-162	200
3	734-163	200
4	734-164	200
5	734-165	200
6	734-166	100
7	734-167	100
8	734-168	100
9	734-169	100
10	734-170	100
11	734-171	100
12	734-172	100
13	734-173	100
14	734-174	100
16	734-176	50
18	734-178	50
20	734-180	50
24	734-184	50

Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; Item no. suffix .../046-000
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

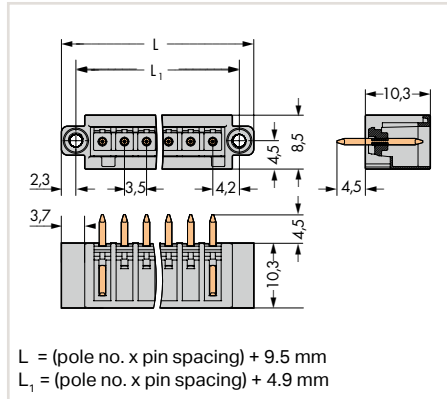
THT Male Headers with Threaded Flanges

Pin Spacing: 3.5 mm

MCS MINI



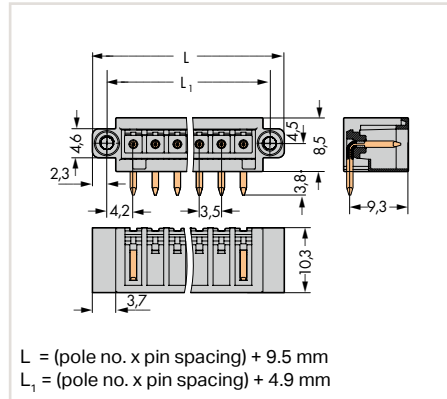
Dimensions (in mm):



THT male header, with straight solder pins and threaded flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-132/108-000	200
3	734-133/108-000	200
4	734-134/108-000	200
5	734-135/108-000	100
6	734-136/108-000	100
7	734-137/108-000	100
8	734-138/108-000	100
9	734-139/108-000	100
10	734-140/108-000	100
11	734-141/108-000	100
12	734-142/108-000	100
13	734-143/108-000	50
14	734-144/108-000	50
16	734-146/108-000	50
18	734-148/108-000	50
20	734-150/108-000	50
24	734-154/108-000	50

Dimensions (in mm):



THT male header, with angled solder pins and threaded flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-162/108-000	200
3	734-163/108-000	200
4	734-164/108-000	200
5	734-165/108-000	100
6	734-166/108-000	100
7	734-167/108-000	100
8	734-168/108-000	100
9	734-169/108-000	100
10	734-170/108-000	100
11	734-171/108-000	100
12	734-172/108-000	100
13	734-173/108-000	50
14	734-174/108-000	50
16	734-176/108-000	50
18	734-178/108-000	50
20	734-180/108-000	50
24	734-184/108-000	50

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

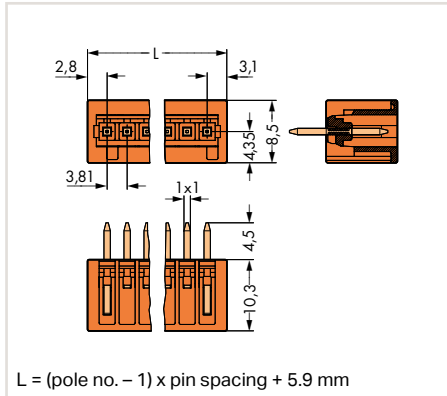
THT Male Headers

Pin Spacing: 3.81 mm

MCS MINI

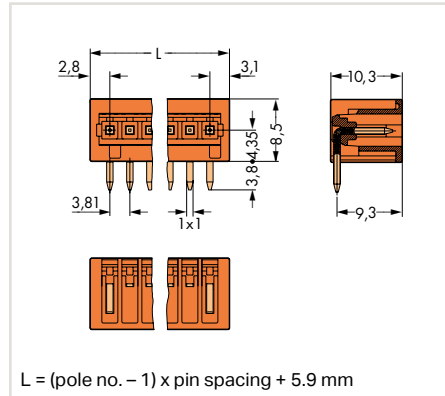


Dimensions (in mm):

THT male header, with straight solder pins,
orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-232	200
3	734-233	200
4	734-234	200
5	734-235	200
6	734-236	100
8	734-238	100
9	734-239	100
10	734-240	100
12	734-242	100
14	734-244	100
16	734-246	50
18	734-248	50
19	734-249	50
20	734-250	50

Dimensions (in mm):

THT male header, with angled solder pins,
orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-262	200
3	734-263	200
4	734-264	200
5	734-265	200
6	734-266	100
8	734-268	100
9	734-269	100
10	734-270	100
12	734-272	100
14	734-274	100
16	734-276	50
18	734-278	50
19	734-279	50
20	734-280	50

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

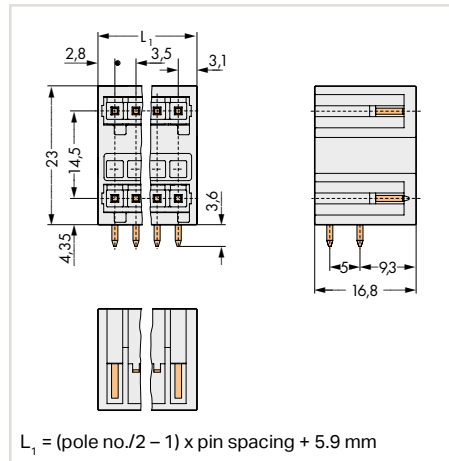
Double-Deck THT Male Headers

Pin Spacing: 3.5 mm

MCS MINI



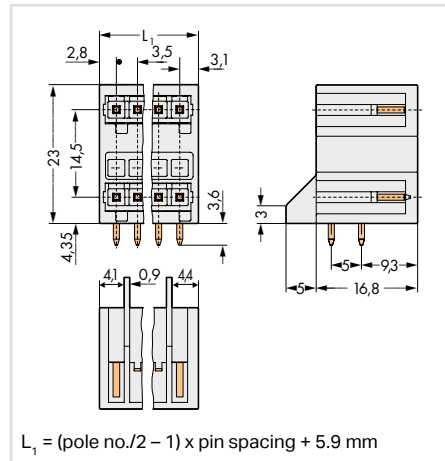
Dimensions (in mm):



Double-deck THT male header, with angled solder pins, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 (2 x 2)	734-402	100
6 (3 x 2)	734-403	100
8 (4 x 2)	734-404	100
10 (5 x 2)	734-405	100
12 (6 x 2)	734-406	100
14 (7 x 2)	734-407	50
16 (8 x 2)	734-408	50
18 (9 x 2)	734-409	50
20 (10 x 2)	734-410	50
24 (12 x 2)	734-412	50

Dimensions (in mm):



Double-deck THT male header, with angled solder pins and support, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 (2 x 2)	734-402/001-000	100
6 (3 x 2)	734-403/001-000	100
8 (4 x 2)	734-404/001-000	100
10 (5 x 2)	734-405/001-000	100
12 (6 x 2)	734-406/001-000	50
14 (7 x 2)	734-407/001-000	50
16 (8 x 2)	734-408/001-000	50
18 (9 x 2)	734-409/001-000	50
20 (10 x 2)	734-410/001-000	50
24 (12 x 2)	734-412/001-000	50

Available upon request (depending on quantity required):

- Other pole numbers

- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

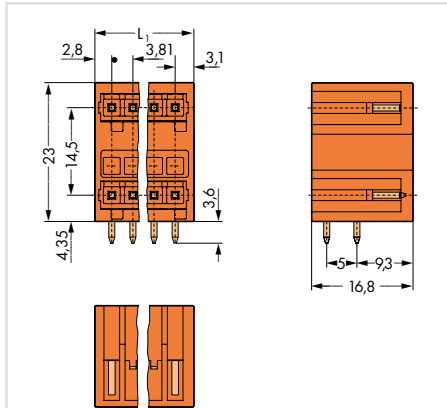
Double-Deck THT Male Headers

Pin Spacing: 3.81 mm

MCS MINI



Dimensions (in mm):

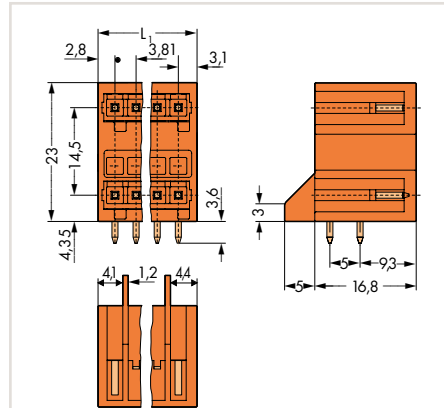


$$L_1 = (\text{pole no.}/2 - 1) \times \text{pin spacing} + 5.9 \text{ mm}$$

Double-deck THT male header,
with angled solder pins, orange,
3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 (2 x 2)	734-432	100
6 (3 x 2)	734-433	100
8 (4 x 2)	734-434	100
10 (5 x 2)	734-435	100
12 (6 x 2)	734-436	100
14 (7 x 2)	734-437	50
16 (8 x 2)	734-438	50
18 (9 x 2)	734-439	50
20 (10 x 2)	734-440	50
24 (12 x 2)	734-442	50

Dimensions (in mm):



$$L_1 = (\text{pole no.}/2 - 1) \times \text{pin spacing} + 5.9 \text{ mm}$$

Double-deck THT male header, with angled
solder pins and support, orange,
3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4 (2 x 2)	734-432/001-000	100
6 (3 x 2)	734-433/001-000	100
8 (4 x 2)	734-434/001-000	100
10 (5 x 2)	734-435/001-000	100
12 (6 x 2)	734-436/001-000	50
14 (7 x 2)	734-437/001-000	50
16 (8 x 2)	734-438/001-000	50
18 (9 x 2)	734-439/001-000	50
20 (10 x 2)	734-440/001-000	50
24 (12 x 2)	734-442/001-000	50

Available upon request (depending on quantity required):

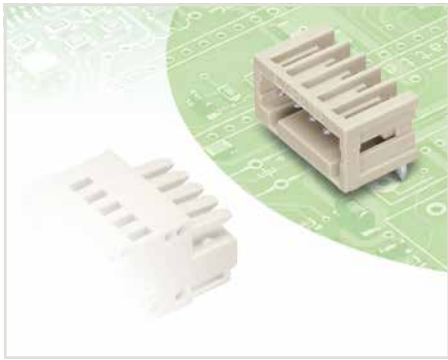
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Press-In Male Headers

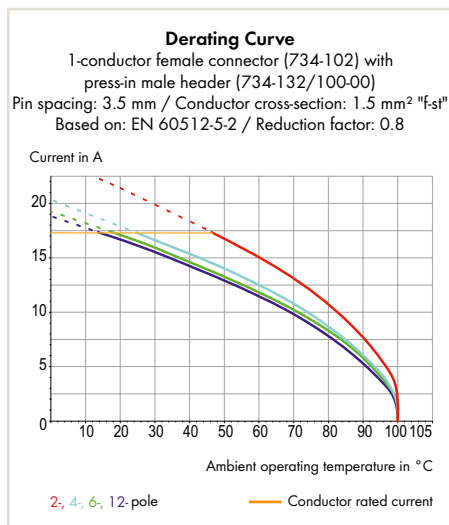
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- 100 % protected against mismatching; only mating halves with the same number of poles can be connected together
- Coding via coding fingers

4



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch and 3.81 mm / 0.15 inch
Rated voltage (III / 3)	IEC/EN 60664-1 160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	8 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Press-In Pin Data

Press-pin length	2.9 mm
Press-in pin dimensions	0.6 x 1.2 mm
Drilled hole diameter	1.15 ±0.025 mm
Plated through-hole diameter (HAL Sn)	1,0 ^{+0.02} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1,0 ^{+0.02} _{-0.06} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-40 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ± Overvoltage category III / Pollution degree 2

Coding keys, see page 294

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

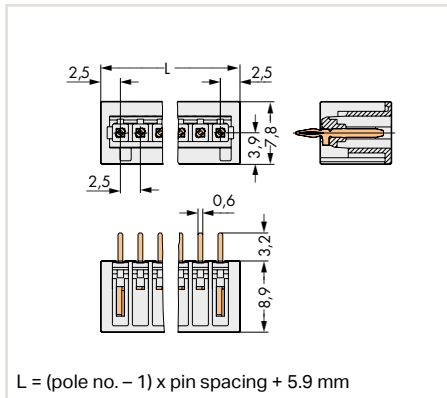
Press-In Male Headers

Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



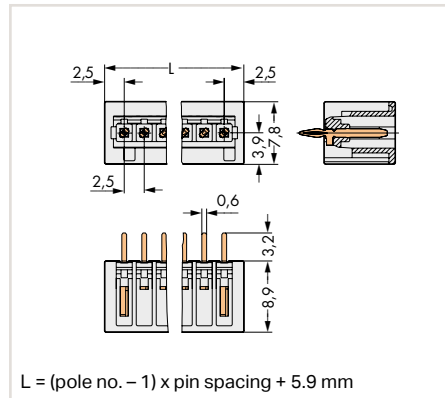
Dimensions (in mm):



Press-in male header, with straight press-in pins, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-132/100-000	200
3	734-133/100-000	200
4	734-134/100-000	200
5	734-135/100-000	200
6	734-136/100-000	100
7	734-137/100-000	100
8	734-138/100-000	100
9	734-139/100-000	100
10	734-140/100-000	100
11	734-141/100-000	100
12	734-142/100-000	100

Dimensions (in mm):



Press-in male header, with straight press-in pins, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-232/100-000	200
3	734-233/100-000	200
4	734-234/100-000	200
5	734-235/100-000	200
6	734-236/100-000	100
8	734-238/100-000	100
9	734-239/100-000	100
10	734-240/100-000	100
12	734-242/100-000	100

Unique features of WAGO press-in technology:

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameter
 - 1.0 or 1.45 \pm 0.08 mm (HAL Sn)
 - 1.0 or 1.45 \pm 0.08 mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 to 3 mm
- Press-in length of approximately 3.2 mm – no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robust bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area \geq 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

4

Available upon request (depending on quantity required):

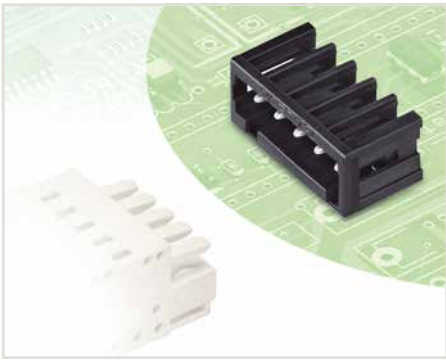
- Other pole numbers
- Information on press-in tool design
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR* Male Headers

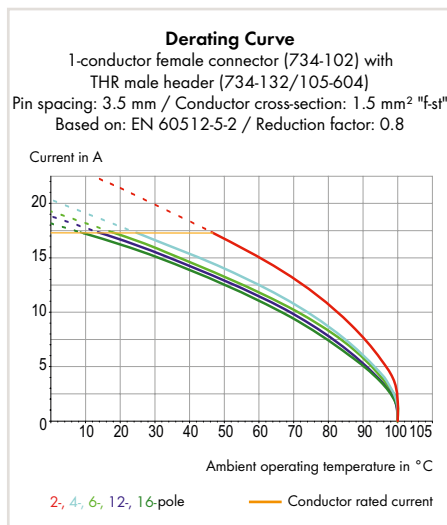
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Optimal thermal penetration via pin enclosure design provides lower soldering temperatures
- 100% protected against mismatching
- Coding via coding fingers

4



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 249

Coding keys, see page 294

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch	3.81 mm / 0.15 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	160 V	160 V
Rated surge voltage (III / 3)	2.5 kV	2.5 kV
Rated voltage (III / 2)	160 V	160 V
Rated surge voltage (III / 2)	2.5 kV	2.5 kV
Rated voltage (II / 2)	320 V	320 V
Rated surge voltage (II / 2)	2.5 kV	2.5 kV
Rated current	10 A	10 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1 x 1 mm
Plated through-hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

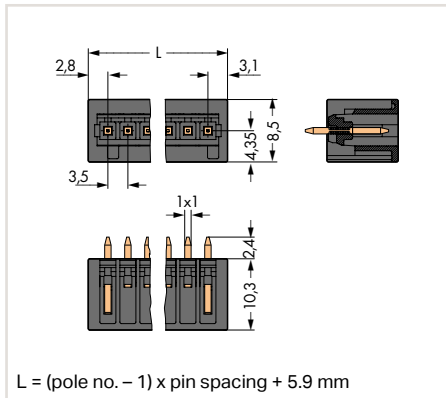
THR Male Headers with Straight Solder Pins

Pin Spacing: 3.5 mm

MCS MINI

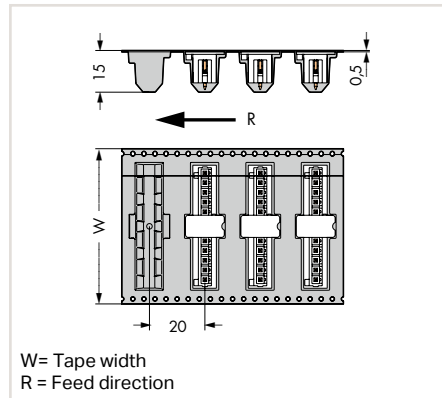


Dimensions (in mm):



THR male header, with straight solder pins, black, 3.5 mm (0.138 inch) pin spacing

Dimensions (in mm):



THR male header, with straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 200 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
2	734-132/105-604	200
3	734-133/105-604	200
4	734-134/105-604	200
5	734-135/105-604	200
6	734-136/105-604	100
7	734-137/105-604	100
8	734-138/105-604	100
9	734-139/105-604	100
10	734-140/105-604	100
11	734-141/105-604	100
12	734-142/105-604	100
14	734-144/105-604	100
16	734-146/105-604	50

Pole No.	Item No.	W (mm)
2	734-132/105-604/997-405	32
3	734-133/105-604/997-405	32
4	734-134/105-604/997-405	32
5	734-135/105-604/997-405	32
6	734-136/105-604/997-407	56
7	734-137/105-604/997-407	56
8	734-138/105-604/997-407	56
9	734-139/105-604/997-407	56
10	734-140/105-604/997-407	56
11	734-141/105-604/997-407	56
12	734-142/105-604/997-407	56
14	734-144/105-604/997-408	72
16	734-146/105-604/997-408	72

Available upon request (depending on quantity required):

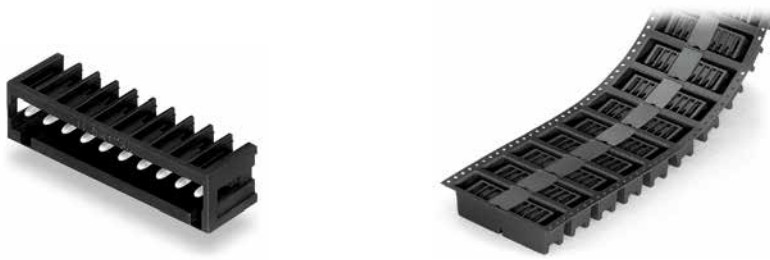
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

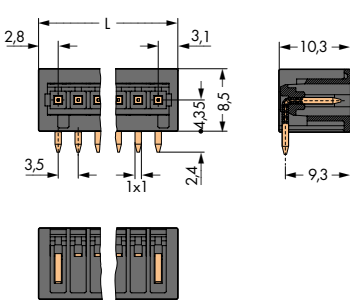
THR Male Headers with Angled Solder Pins

Pin Spacing: 3.5 mm

MCS MINI



Dimensions (in mm):

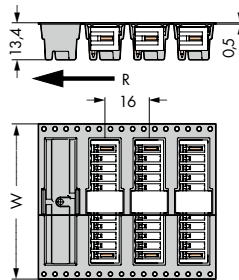


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm}$

THR male header, with angled solder pins, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
2	734-162/105-604	200
3	734-163/105-604	200
4	734-164/105-604	200
5	734-165/105-604	200
6	734-166/105-604	100
7	734-167/105-604	100
8	734-168/105-604	100
9	734-169/105-604	100
10	734-170/105-604	100
11	734-171/105-604	100
12	734-172/105-604	100
14	734-174/105-604	100
16	734-176/105-604	50

Dimensions (in mm):

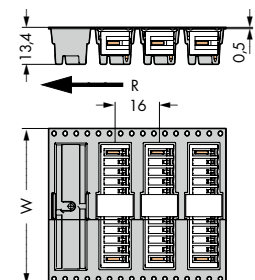


Position with even number of poles

W= Tape width
R = Feed direction

THR male header, with angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 280 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
2	734-162/105-604/997-405	32
3	734-163/105-604/997-405	32
4	734-164/105-604/997-405	32
5	734-165/105-604/997-405	32
6	734-166/105-604/997-407	56
7	734-167/105-604/997-407	56
8	734-168/105-604/997-407	56
9	734-169/105-604/997-407	56
10	734-170/105-604/997-407	56
11	734-171/105-604/997-407	56
12	734-172/105-604/997-407	56
14	734-174/105-604/997-408	72
16	734-176/105-604/997-408	72



Position with odd number of poles

W= Tape width
R = Feed direction

Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

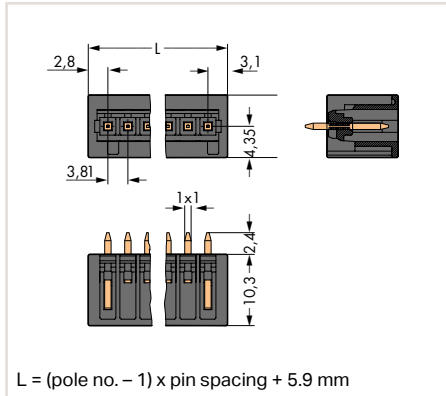
THR Male Headers with Straight Solder Pins

Pin Spacing: 3.81 mm

MCS MINI

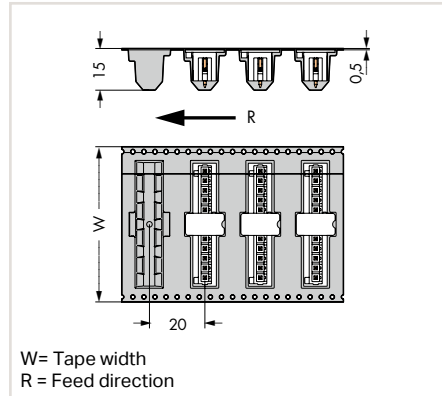


Dimensions (in mm):



THR male header, with straight solder pins, black, 3.81 mm (0.15 inch) pin spacing

Dimensions (in mm):



THR male header, with straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 200 pieces per reel, black, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	W (mm)
2	734-232/105-604	200
3	734-233/105-604	200
4	734-234/105-604	200
5	734-235/105-604	200
6	734-236/105-604	100
8	734-238/105-604	100
10	734-240/105-604	100
12	734-242/105-604	100

Pole No.	Item No.	W (mm)
2	734-232/105-604/997-405	32
3	734-233/105-604/997-405	32
4	734-234/105-604/997-405	32
5	734-235/105-604/997-407	56
6	734-236/105-604/997-407	56
8	734-238/105-604/997-407	56
10	734-240/105-604/997-407	56
12	734-242/105-604/997-408	72

Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

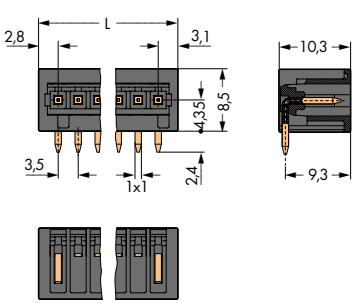
THR Male Headers with Angled Solder Pins

Pin Spacing: 3.81 mm

MCS MINI



Dimensions (in mm):

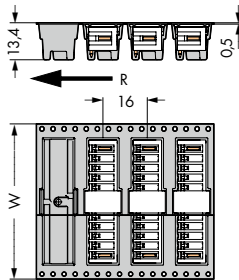


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm}$

THR male header, with angled solder pins, black, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	W (mm)
2	734-262/105-604	200
3	734-263/105-604	200
4	734-264/105-604	200
5	734-265/105-604	200
6	734-266/105-604	100
8	734-268/105-604	100
10	734-270/105-604	100
12	734-272/105-604	100

Dimensions (in mm):

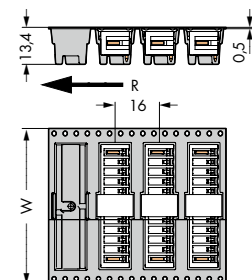


Position with even number of poles

W= Tape width
R = Feed direction

THR male header, with angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 280 pieces per reel, black, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	W (mm)
2	734-262/105-604/997-405	32
3	734-263/105-604/997-405	32
4	734-264/105-604/997-405	32
5	734-265/105-604/997-407	56
6	734-266/105-604/997-407	56
8	734-268/105-604/997-407	56
10	734-270/105-604/997-407	56
12	734-272/105-604/997-408	72



Position with odd number of poles

W= Tape width
R = Feed direction

Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

1-Conductor Male Connectors

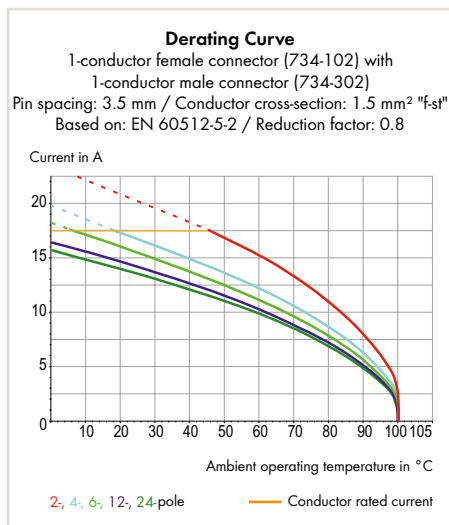
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Strain relief plates and housings for factory and field assembly
- 100% protected against mismatching
- Coding via coding fingers

4



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 292; 588

Direct marking, see page 298

Coding keys, see page 294

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Screws, see page 610

Strain relief housings, see page 296

Strain relief plates, see page 295

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch and 3.81 mm / 0.15 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	160 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
Approvals per	10 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	10 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP® Termination
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²
Note (conductor cross-sections)	Terminating 1.5 mm ² conductors is possible; however insulation diameter does not allow clamping units to be terminated in a row.

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

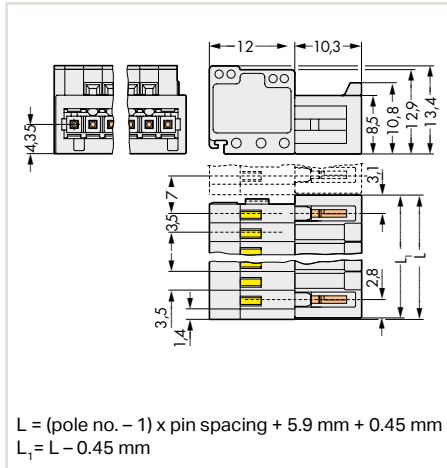
1-Conductor Male Connectors

3.5 mm pin spacing

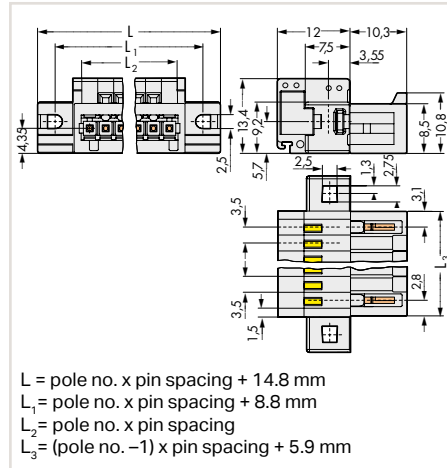
MCS MINI



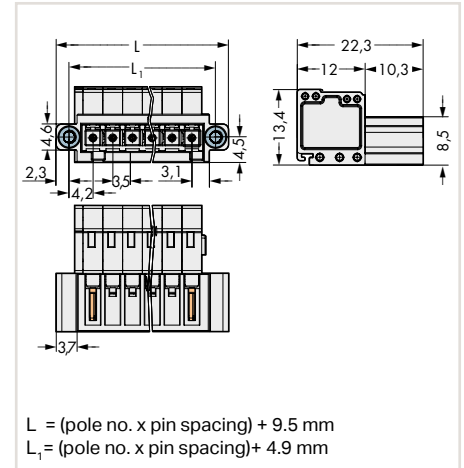
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



4

1-conductor male connector, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-302	200
3	734-303	200
4	734-304	100
5	734-305	100
6	734-306	100
7	734-307	100
8	734-308	50
9	734-309	50
10	734-310	50
11	734-311	50
12	734-312	50
13	734-313	50
14	734-314	50
16	734-316	25
18	734-318	25
20	734-320	25
24	734-324	25

1-conductor male connector, with mounting flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-302/019-000	100
3	734-303/019-000	100
4	734-304/019-000	50
5	734-305/019-000	50
6	734-306/019-000	50
7	734-307/019-000	50
8	734-308/019-000	50
9	734-309/019-000	50
10	734-310/019-000	50
11	734-311/019-000	25
12	734-312/019-000	25
13	734-313/019-000	25
14	734-314/019-000	25
16	734-316/019-000	25
18	734-318/019-000	25
20	734-320/019-000	25
24	734-324/019-000	10

1-conductor male connector, with threaded flanges, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-302/109-000	100
3	734-303/109-000	100
4	734-304/109-000	100
5	734-305/109-000	50
6	734-306/109-000	50
7	734-307/109-000	50
8	734-308/109-000	50
9	734-309/109-000	50
10	734-310/109-000	50
11	734-311/109-000	50
12	734-312/109-000	50
13	734-313/109-000	25
14	734-314/109-000	25
16	734-316/109-000	25
18	734-318/109-000	25
20	734-320/109-000	25
24	734-324/109-000	10

Cutout dimensions, see page 297, Table 1

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

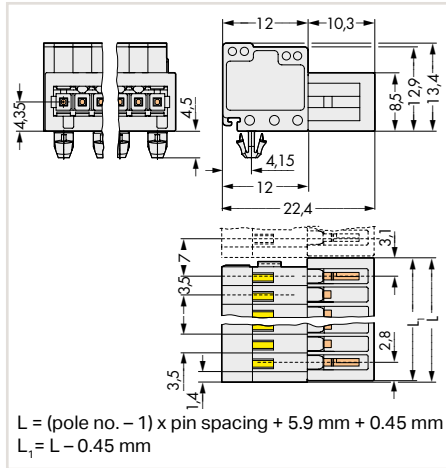
1-Conductor Male Connectors

Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



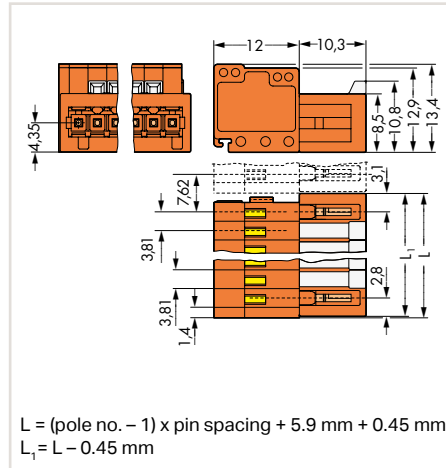
Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-302/018-000	200
3	734-303/018-000	200
4	734-304/018-000	100
5	734-305/018-000	100
6	734-306/018-000	100
7	734-307/018-000	100
8	734-308/018-000	50
9	734-309/018-000	50
10	734-310/018-000	50
11	734-311/018-000	50
12	734-312/018-000	50
13	734-313/018-000	50
14	734-314/018-000	50
16	734-316/018-000	25
18	734-318/018-000	25
20	734-320/018-000	25
24	734-324/018-000	25

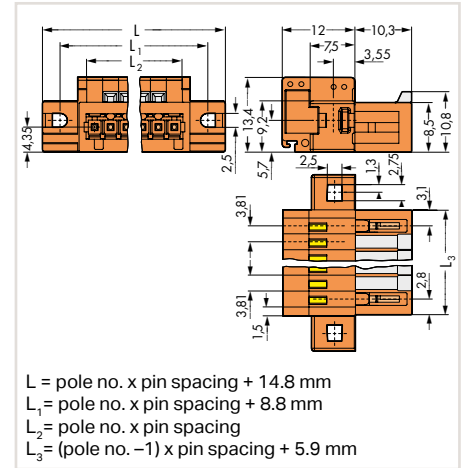
Dimensions (in mm):



1-conductor male connector, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-332	200
3	734-333	200
4	734-334	100
5	734-335	100
6	734-336	100
8	734-338	50
9	734-339	50
10	734-340	50
12	734-342	25
14	734-344	25
16	734-346	25
18	734-348	25
19	734-349	25
20	734-350	25

Dimensions (in mm):



1-conductor male connector, with mounting flanges, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-332/019-000	100
3	734-333/019-000	100
4	734-334/019-000	50
5	734-335/019-000	50
6	734-336/019-000	50
8	734-338/019-000	50
9	734-339/019-000	50
10	734-340/019-000	50
12	734-342/019-000	25
14	734-344/019-000	25
16	734-346/019-000	25
18	734-348/019-000	25
19	734-349/019-000	25
20	734-350/019-000	25

2-pole male connectors have two snap-in mounting feet. Three or more pole male connectors have a snap-in mounting foot at every other pole.

Cutout dimensions, see page 297, Table 1

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

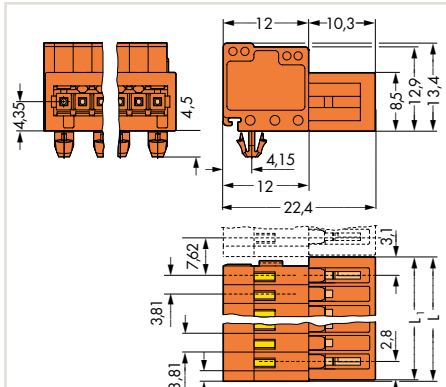
1-Conductor Male Connectors

Pin Spacing: 3.81 mm

MCS MINI



Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm} + 0.45 \text{ mm}$
 $L_1 = L - 0.45 \text{ mm}$

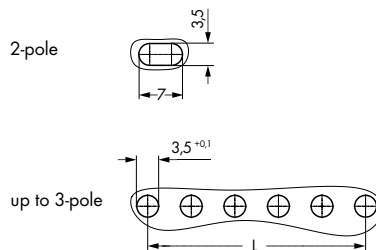
1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm \varnothing mounting holes, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-332/018-000	100
3	734-333/018-000	100
4	734-334/018-000	100
5	734-335/018-000	50
6	734-336/018-000	50
8	734-338/018-000	50
9	734-339/018-000	50
10	734-340/018-000	50
12	734-342/018-000	50
14	734-344/018-000	25
16	734-346/018-000	25
18	734-348/018-000	25
19	734-349/018-000	25
20	734-350/018-000	25

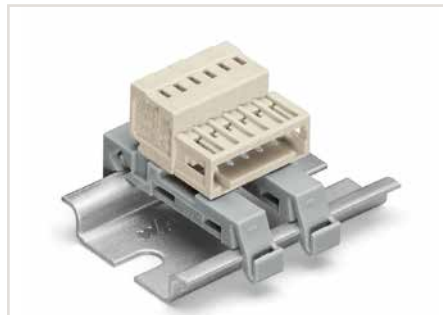
2-pole male connectors have two snap-in mounting feet. Three or more pole male connectors have a snap-in mounting foot at every other pole.

Dimensions (in mm):

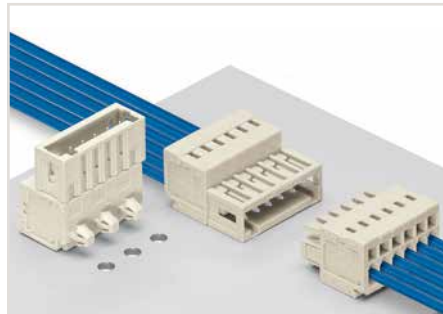
Drilled hole pattern for panel mounting of female connectors with snap-in mounting feet



Even pole number : $L = (\text{pole no.} - 2) \times \text{pin spacing}$
 Odd pole number : $L = (\text{pole no.} - 1) \times \text{pin spacing}$



Using two DIN-35 rail mounting adapters (209-137) for 3 or more poles; distance between two mounting adapters: maximum 7 poles



Available upon request (depending on quantity required):

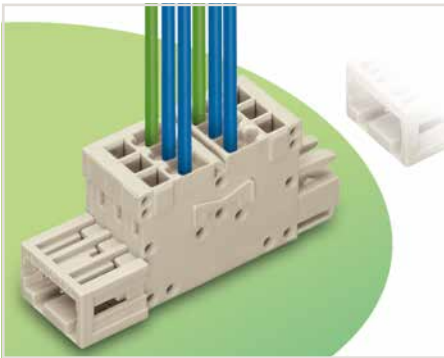
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

2-Conductor Combi Strips

3.5 mm pin spacing

MCS MINI



- Universal connection for all conductor types
- 2-conductor strips combine pin and socket connections
- Multiply potentials
- Strain relief plates for factory and field assembly
- Supply via pin-contact side
- Combi strips may be connected to multiply outputs
- 100% protected against mismatching
- Coding via coding fingers

4

Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	160 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
Approvals per	10 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	10 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	10 A
Rated current CSA (Use Group D)	300 V
	10 A

Connection Data

Connection technology	CAGE CLAMP® Termination
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²
Note (conductor cross-sections)	Terminating 1.5 mm ² conductors is possible; however insulation diameter does not allow clamping units to be terminated in a row.

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 292, 588

Direct marking, see page 298

Coding keys, see page 294

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test pin, see page 601

Strain relief plates, see page 295

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

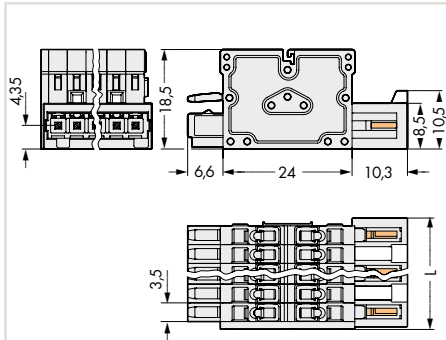
2-Conductor Combi Strips

3.5 mm pin spacing

MCS MINI



Dimensions (in mm):



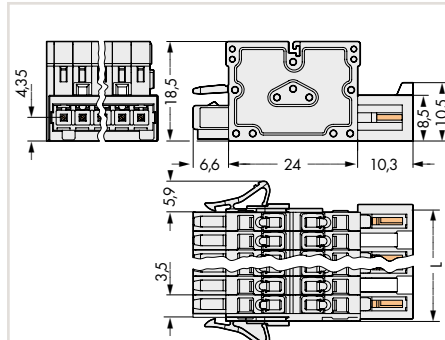
$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm} + 0.45 \text{ mm}$$

$$L_1 = L - 0.45 \text{ mm}$$

2-conductor combi strip, light gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-362	100
3	734-363	50
4	734-364	50
5	734-365	50
6	734-366	50
7	734-367	50
8	734-368	50
9	734-369	25
10	734-370	25
11	734-371	25
12	734-372	25

Dimensions (in mm):



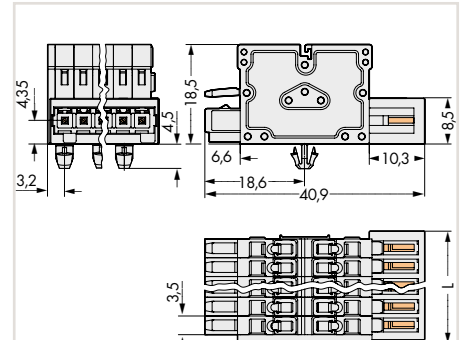
$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm} + 0.45 \text{ mm}$$

$$L_1 = L - 0.45 \text{ mm}$$

2-conductor combi strip, with locking levers,
light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-362/037-000	100
3	734-363/037-000	50
4	734-364/037-000	50
5	734-365/037-000	50
6	734-366/037-000	50
7	734-367/037-000	50
8	734-368/037-000	25
9	734-369/037-000	25
10	734-370/037-000	25
11	734-371/037-000	25
12	734-372/037-000	25

Dimensions (in mm):



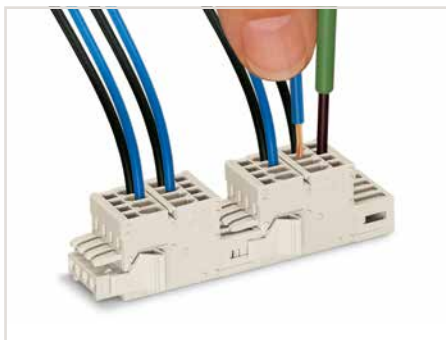
$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.9 \text{ mm} + 0.45 \text{ mm}$$

$$L_1 = L - 0.45 \text{ mm}$$

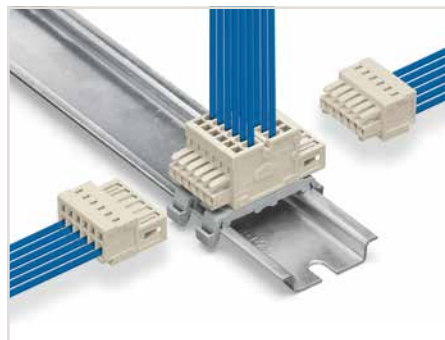
2-conductor combi strip, with snap-in mounting
feet, for 0.6 ... 1.2 mm plate thickness, light gray,
3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-362/008-000	100
3	734-363/008-000	50
4	734-364/008-000	50
5	734-365/008-000	50
6	734-366/008-000	50
7	734-367/008-000	25
8	734-368/008-000	25
9	734-369/008-000	25
10	734-370/008-000	25
11	734-371/008-000	25
12	734-372/008-000	25

2-pole combi strips have two snap-in mounting feet.
Three or more pole combi strips have a snap-in
mounting foot at every other pole.

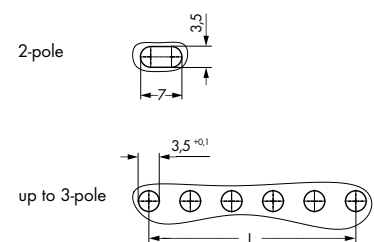


2-conductor combi strips with locking levers for
multiplying potentials



2-conductor combi strip with snap-in mounting
feet using two DIN-35 rail mounting adapters (209-
137) for 3 or more poles; distance between two
mounting adapters: maximum 7 poles

Drilled hole pattern for panel mounting of female
connectors with snap-in mounting feet



Even pole number : $L = (\text{pole no.} - 2) \times \text{pin spacing}$
Odd pole number : $L = (\text{pole no.} - 1) \times \text{pin spacing}$

Available upon request (depending on quantity required):

- Other pole numbers

THT Female Headers

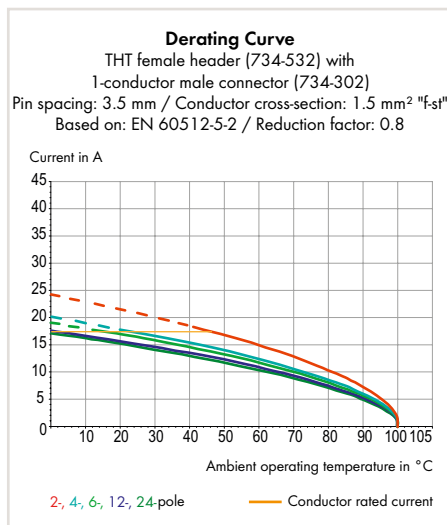
Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



- Horizontal or vertical PCB mounting via straight or angled solder pins
- Integrated test ports for 2 mm Ø test plugs
- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify inputs and outputs
- 100% protected against mismatching
- Coding via coding fingers

4



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch and 3.81 mm / 0.15 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	160 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	320 V
Rated current	2.5 kV
Approvals per	10 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage CSA (Use Group D)	10 A
Rated current CSA (Use Group D)	300 V
	10 A

Solder Pin Data

Solder pin length	3.8 mm
Solder pin dimensions	0.9 x 0.9 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Test plugs,
see page 601

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

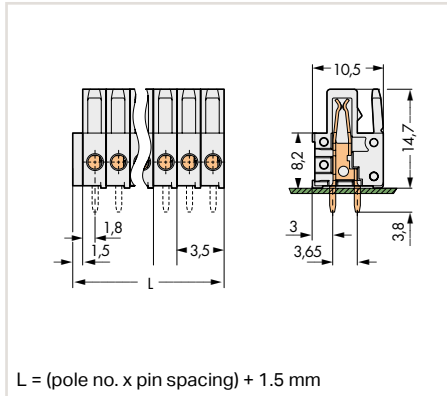
THT Female Headers

Pin Spacing: 3.5 mm

MCS MINI



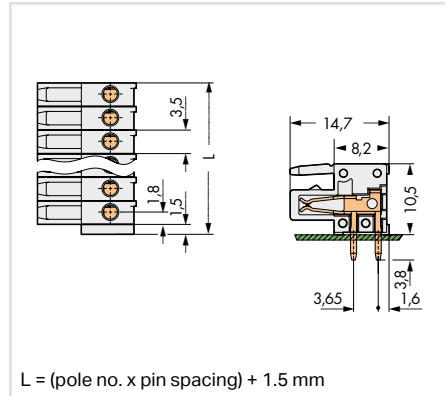
Dimensions (in mm):



THT female header, with straight solder pins, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-462	200
3	734-463	200
4	734-464	100
5	734-465	100
6	734-466	100
7	734-467	100
8	734-468	50
9	734-469	50
10	734-470	50
11	734-471	50
12	734-472	50
13	734-473	50
14	734-474	50
16	734-476	25
18	734-478	25
20	734-480	25
24	734-484	25

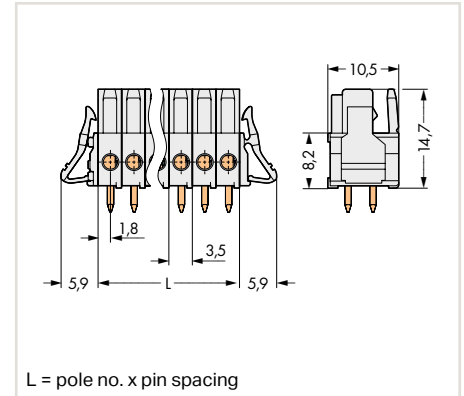
Dimensions (in mm):



THT female header, with angled solder pins, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-532	200
3	734-533	200
4	734-534	100
5	734-535	100
6	734-536	100
7	734-537	100
8	734-538	50
9	734-539	50
10	734-540	50
11	734-541	50
12	734-542	50
13	734-543	50
14	734-544	50
16	734-546	25
18	734-548	25
20	734-550	25
24	734-554	25

Dimensions (in mm):



THT female header, with straight solder pins and locking levers, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-462/037-000	100
3	734-463/037-000	100
4	734-464/037-000	100
5	734-465/037-000	50
6	734-466/037-000	50
7	734-467/037-000	50
8	734-468/037-000	50
9	734-469/037-000	50
10	734-470/037-000	50
11	734-471/037-000	50
12	734-472/037-000	50
13	734-473/037-000	25
14	734-474/037-000	25
16	734-476/037-000	25
18	734-478/037-000	25
20	734-480/037-000	25
24	734-484/037-000	10

4

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

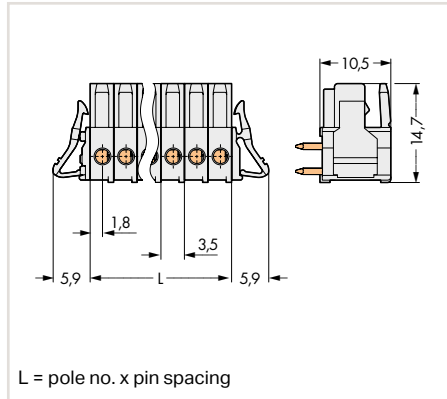
THT Female Headers

Pin Spacing: 3.5 mm, 3.81 mm

MCS MINI



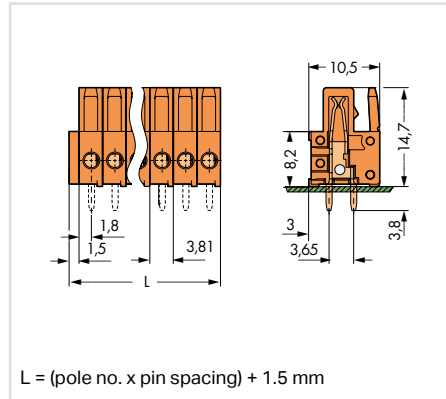
Dimensions (in mm):



THT female header, with angled solder pins and locking levers, light gray, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-532/037-000	100
3	734-533/037-000	100
4	734-534/037-000	100
5	734-535/037-000	50
6	734-536/037-000	50
7	734-537/037-000	50
8	734-538/037-000	50
9	734-539/037-000	50
10	734-540/037-000	50
11	734-541/037-000	50
12	734-542/037-000	50
13	734-543/037-000	25
14	734-544/037-000	25
16	734-546/037-000	25
18	734-548/037-000	25
20	734-550/037-000	25
24	734-554/037-000	10

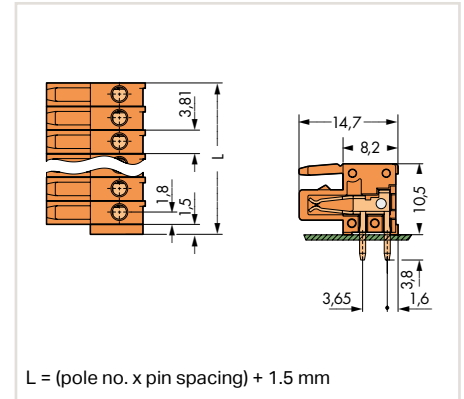
Dimensions (in mm):



THT female header, with straight solder pins, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-502	200
3	734-503	200
4	734-504	100
5	734-505	100
6	734-506	100
8	734-508	50
9	734-509	50
10	734-510	50
12	734-512	25
14	734-514	25
16	734-516	25
20	734-520	25

Dimensions (in mm):



THT female header, with angled solder pins, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-562	200
3	734-563	200
4	734-564	100
5	734-565	100
6	734-566	100
8	734-568	50
9	734-569	50
10	734-570	50
12	734-572	25
14	734-574	25
16	734-576	25
20	734-580	25

Available upon request (depending on quantity required):

- Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

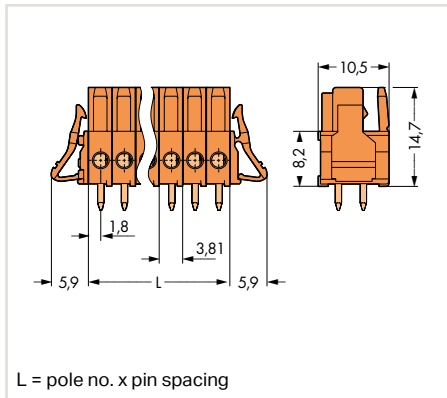
THT Female Headers

Pin Spacing: 3.81 mm

MCS MINI



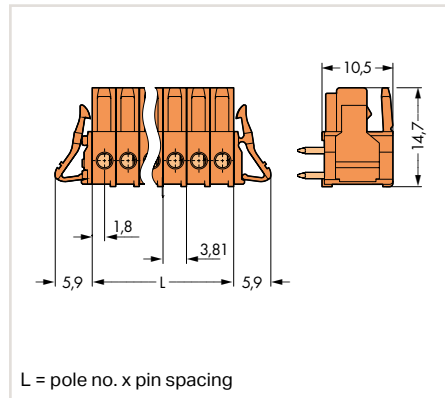
Dimensions (in mm):



THT female header, with straight solder pins and locking levers, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-502/037-000	100
3	734-503/037-000	100
4	734-504/037-000	100
5	734-505/037-000	50
6	734-506/037-000	50
8	734-508/037-000	50
9	734-509/037-000	50
10	734-510/037-000	50
12	734-512/037-000	25
14	734-514/037-000	25
16	734-516/037-000	25
20	734-520/037-000	25

Dimensions (in mm):



THT female header, with angled solder pins and locking levers, orange, 3.81 mm (0.15 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	734-562/037-000	100
3	734-563/037-000	100
4	734-564/037-000	100
5	734-565/037-000	50
6	734-566/037-000	50
8	734-568/037-000	50
9	734-569/037-000	50
10	734-570/037-000	50
12	734-572/037-000	25
14	734-574/037-000	25
16	734-576/037-000	25
20	734-580/037-000	25

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

Operating tools MCS MINI



Operating tool, for male and female connectors with CAGE CLAMP® connection

Color	Item No.	Pack. Unit
● yellow	210-251	1
● red	210-250	1

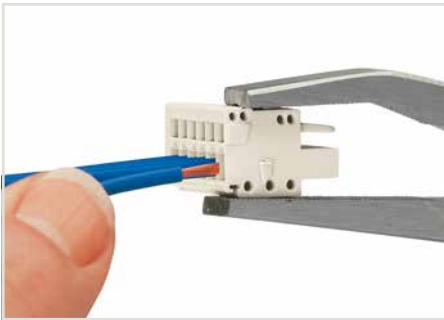
Operating lever, for male and female connectors with CAGE CLAMP® connection

Series	Item No.	Pack. Unit
○ natural	734-230	100 (25)
● black	734-191	100 (25)

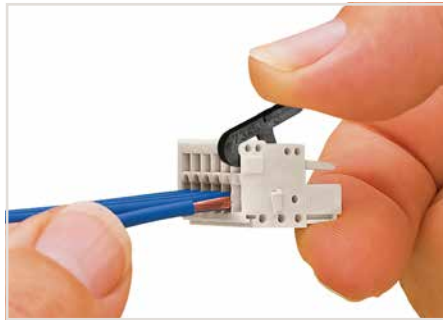
Operating tool, for male and female connectors with CAGE CLAMP® connection

Color	Item No.	Pack. Unit
○ natural	734-190	100 (25)
● black	734-231	100 (25)

4



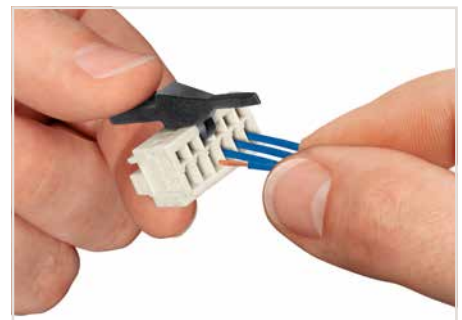
Inserting a conductor via operating tool. Terminating CAGE CLAMP®-equipped MCS MINI Male and Female Connectors can be performed via 210-250 and 210-251 Operating Tools.



Inserting a conductor via operating lever.



Conductor termination parallel to CAGE CLAMP® actuation



Conductor termination perpendicular to CAGE CLAMP® actuation

Insulation Stop and Finger Guard MCS MINI



Insulation stop, for conductor cross-sections from 0.08 ... 0.2 mm² "s" (0.14 mm² "f-st")
8 pcs/strip, 3.5 mm pin spacing

	Item No.	Pack. Unit
○ white	734-671	200 (25)

Finger guard, for THT male headers, 4-pole, 3.5/8.81 mm pin spacing

	Item No.	Pack. Unit
● black	734-420	100 (25)

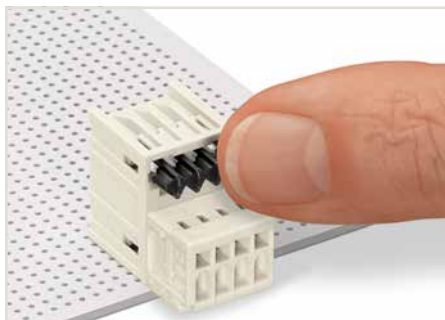


Conductors with small cross-sections are highly flexible, and they deform when pushed against the conductor stop in connectors. As a result, the conductor insulation – not the copper conductor – may be clamped, causing intermittent contact or no contact at all.

The solution: an insulation stop for CAGE CLAMP®-equipped 734 Series Male and Female Connectors.



Finger guards provide touch-proof protection (IP20).



Insert the finger guard into the male header to be protected.



Cut finger guard to the required number of poles.
Do not use single-pole covers!

Coding Keys MCS MINI



Coding key, for male headers,
3.5/3.81 mm pin spacing

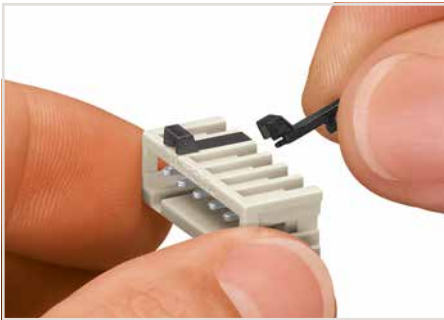
Color	Item No.	Pack. Unit
○ white	734-130	100
● black*	734-159	100

Coding key, for double-deck THT male headers,
to be snapped in bottom level,
3.5/3.81 mm pin spacing

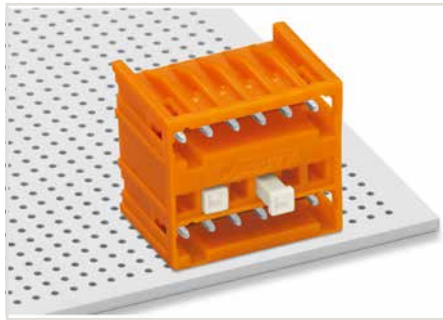
	Item No.	Pack. Unit
○ light gray	734-400	100

4

*suitable for THR soldering



Coding a male header via snap-on coding keys.

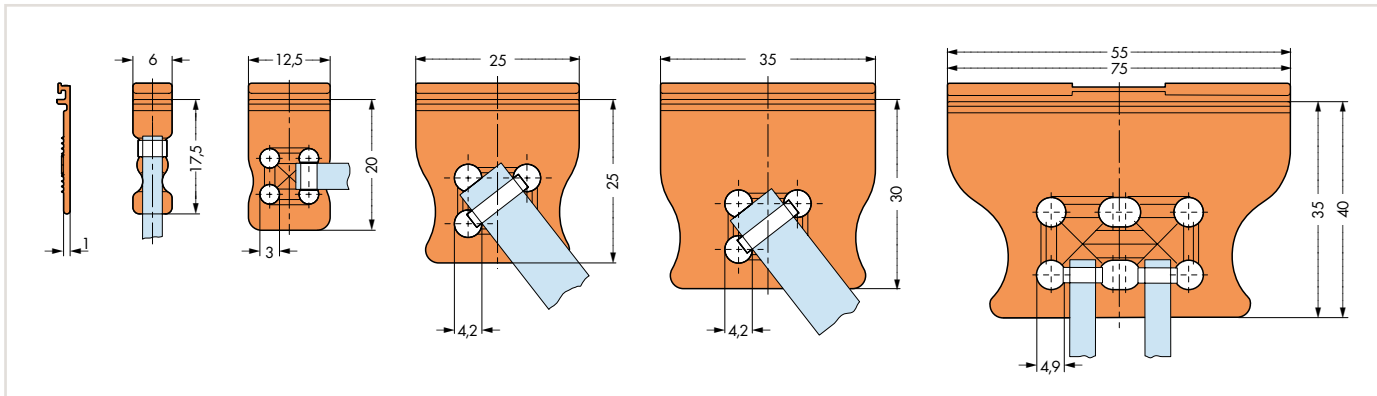


Coding a THT double-deck male header – lower level.

Strain Relief Plates MCS MINI



Dimensions (in mm):



The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.

Cable ties and binding tools are not offered by WAGO.

Strain relief plate, for field assembly, for male and female connectors with CAGE CLAMP® and Push-in CAGE CLAMP® connection, light gray, 3.5 mm pin spacing

Pole No.	Width	Item No.	Pack. Unit
2 ... 3	6 mm	734-127	100 (25)
4 ... 8	12.5 mm	734-128	100 (25)
9 ... 12	25 mm	734-129	100 (25)
13 ... 16	35 mm	734-126	100 (25)
17 ... max.	55 mm	734-426	50 (25)

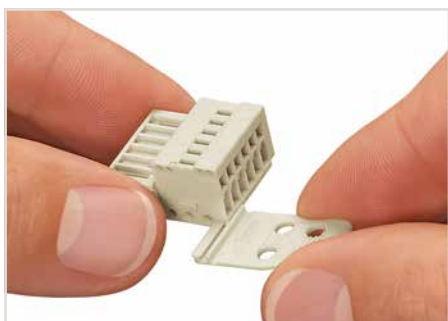
Strain relief plate, for field assembly, for male and female connectors with CAGE CLAMP® and Push-in CAGE CLAMP® connection, orange, 3.81 mm pin spacing

Pole No.	Width	Item No.	Pack. Unit
2 ... 3	6 mm	734-227	100 (25)
4 ... 8	12.5 mm	734-228	100 (25)
9 ... 12	25 mm	734-229	100 (25)
13 ... 16	35 mm	734-226	100 (25)
17 ... max.	55 mm	734-428	50 (25)

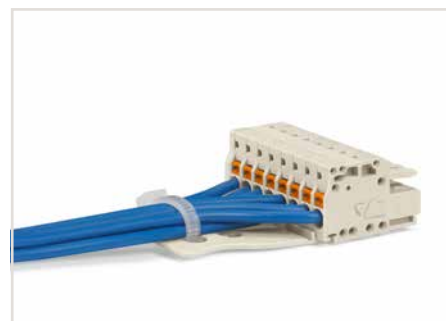
Strain relief plate, factory-assembled, for male and female connectors with CAGE CLAMP® and Push-in CAGE CLAMP® connection, light gray

Pole No.	Width	Item No. Suffix *
2 ... 3	6 mm	.../032-000
4 ... 8	12.5 mm	.../033-000
9 ... 12	25 mm	.../034-000
13 ... 16	35 mm	.../035-000
17 ... max.	55 mm	.../036-000

*An "item no. suffix," referring to the width of the strain relief plate, is added to the "basic item no." and determines the type of male or female connector.

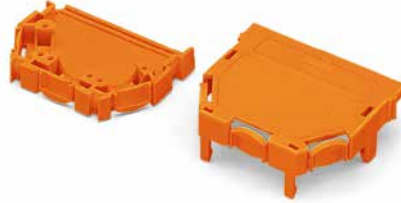


Strain relief plate for field assembly



Sample order:
1-conductor female connector with push-buttons, 3.5 mm pin spacing, 8-pole, light gray, with strain relief plate: 2734-108/033-000

Strain Relief Housings MCS MINI



Snap-on type strain relief housing, consisting of strain relief support and housing, light gray, 3.5 mm pin spacing

Pole No.	Item No.	Pack. Unit
2	734-602	50
3	734-603	25
4	734-604	25
5	734-605	25
6	734-606	25
7	734-607	25
8	734-608	25
9	734-609	25
10	734-610	25
11	734-611	25
12	734-612	25

Snap-on type strain relief housing, consisting of strain relief support and housing, orange, 3.81 mm pin spacing

Pole No.	Item No.	Pack. Unit
2	734-632	50
3	734-633	25
4	734-634	25
5	734-635	25
6	734-636	25
8	734-638	25
9	734-639	25
10	734-640	25
12	734-642	25

Cable clamp, for 6–12 pole strain relief

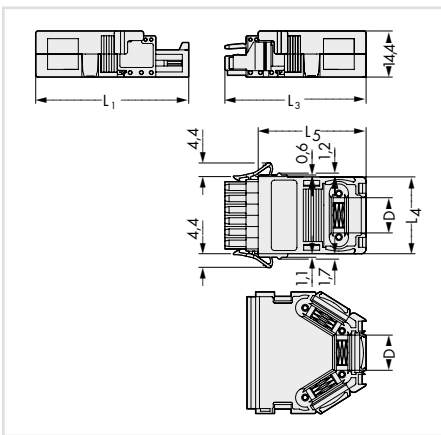
Item No.	Pack. Unit
209-177	25



Mounting screws, for cable clamp

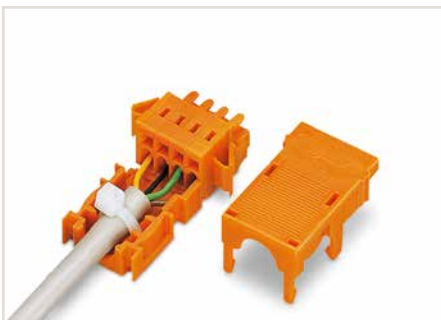
Item No.	Pack. Unit
209-172	50

2- to 5-pole, only suitable for cable ties, 1 cable outlet (rear side), max. cable tie width 3.6 mm;
6- to 9-pole, suitable for cable clamp, 1 x cable outlet (rear side);
10- to 12-pole, suitable for cable clamp, 1 x cable outlet (rear side) and 2 x cable outlets (side);
Removable built-in lockout caps

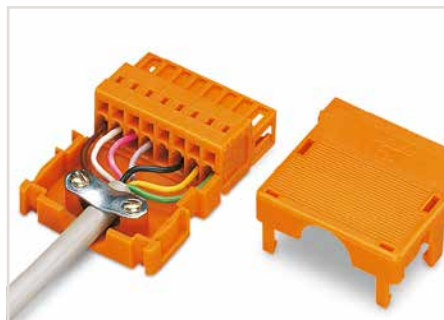


Strain Relief Housing Dimensions (in mm):

Pole No.	L ₄ (3.5 mm)	L ₄ (3.81 mm)	L ₃	L ₁	L ₅	D
2	10,0	10,6	43,1	46,8	32,7	5,0
3	13,5	14,4	43,1	46,8	32,7	8,5
4	17,0	18,2	43,1	46,8	32,7	8,5
5	20,5	22,0	43,1	46,8	32,7	8,5
6	24,0	25,9	44,1	47,8	33,7	11,5
7	27,5	–	44,1	47,8	33,7	11,5
8	31,0	33,5	44,1	47,8	33,7	11,5
9	34,5	37,3	44,1	47,8	33,7	11,5
10	38,0	41,1	53,1	56,8	42,7	11,5
11	41,5	–	53,1	56,8	42,7	11,5
12	45,0	48,7	53,1	56,8	42,7	11,5



4-pole, 1-conductor female connector, with locking levers and strain relief housing (2- to 5-pole strain relief housing suitable only for cable ties)



8-pole, 1-conductor male connector, with strain relief housing (6- to 12-pole strain relief housings suitable for cable clamp)

Cutout Dimensions MCS MINI

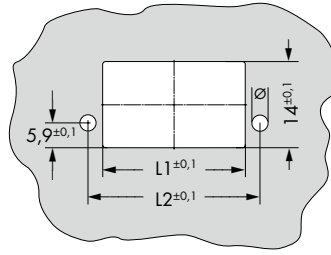
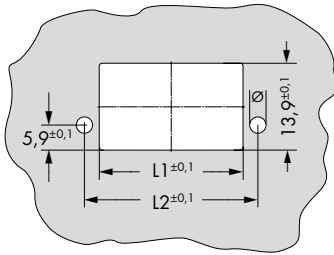


Table 1
Cutout for male connectors
with mounting flanges (734 Series)

Pole No.	Pin Spacing: 3.5 mm		Pin Spacing: 3.81 mm	
	L1	L2	L1	L2
2	9,8	15,5	10,1	16,1
3	13,3	19	13,9	19,9
4	16,8	22,5	17,7	23,7
5	20,3	26	21,5	27,6
6	24	29,4	25,6	31,3
7	27,5	32,9	29,4	35,1
8	31	36,4	33,2	38,9
9	34,5	39,9	37	42,7
10	38	43,4	40,8	46,5
11	41,5	46,9	44,6	50,3
12	45	50,4	48,4	54,1
13	48,8	53,8	52,5	57,8
14	52,3	57,3	56,3	61,6
15	55,8	60,8	60,1	65,5
16	59,3	64,3	64	69,3
17	62,8	67,8	67,8	73,1
18	66,3	71,3	71,6	76,9
19	69,9	74,7	75,5	80,6
20	73,4	78,2	79,3	84,4
21	76,9	81,7	83,1	88,2
22	80,4	85,2	86,9	92
23	83,9	88,7	90,7	95,8
24	87,4	92,2	94,5	99,6

Table 2
Cutout for female connectors
with mounting flanges (2734 Series)

Pole No.	Pin Spacing: 3.5 mm		Pin Spacing: 3.81 mm	
	L1	L2	L1	L2
2	10,4	15,5	11	16,1
3	13,9	19	14,8	19,9
4	17,4	22,5	18,6	23,7
5	20,9	26	22,5	27,6
6	24,6	29,4	26,5	31,3
7	28,1	32,9	30,3	35,1
8	31,6	36,4	34,1	38,9
9	35,1	39,9	37,9	42,7
10	38,6	43,4	41,7	46,5
11	42,1	46,9	45,5	50,3
12	45,6	50,4	49,3	54,1
13	49,4	53,8	53,4	57,8
14	52,9	57,3	57,2	61,6
15	56,4	60,8	61,1	65,5
16	59,9	64,3	64,9	69,3
17	63,4	67,8	68,7	73,1
18	66,9	71,3	72,5	76,9
19	70,5	74,7	76,4	80,6
20	74	78,2	80,2	84,4
21	77,5	81,7	84	88,2
22	81	85,2	87,8	92
23	84,5	88,7	91,6	95,8
24	88	92,2	95,4	99,6

Self-tapping screws
for 1.8 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
B 2.2 x 9.5 mm	209-147	200 (100)
B 2.2 x 13 mm	231-194	200 (100)

Screws with nuts,
for 2.5 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
M 2 x 12 mm	231-195	200 (100)

Screws with nuts,
for 3.0 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
M 2.5 x 10 mm	231-295	200 (100)

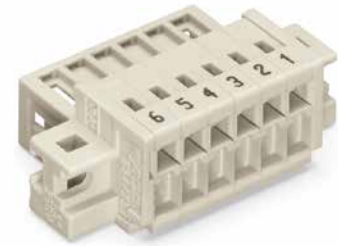
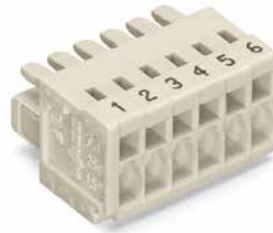
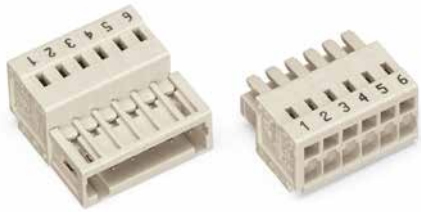
Dimensions (in mm)

Drilled hole Ø depends on the type of screw used (see mounting screws).

4

Additional information on through-panel mounting and cutout dimensions is available upon request.

Direct Marking MCS MINI



The pole numbers of male and female connectors for CAGE CLAMP® termination can be marked via factory direct marking.

Two standard marking orientations are available:
1. Marking perpendicular to conductor entry
2. Marking parallel to conductor entry

Other custom marking options are available upon request.

Direct marking is not suitable for MCS PCB Male Headers. WAGO recommends pole marking on the PCB for these headers.

Female headers with solder pins are exposed to aggressive flux agents during wave soldering. Select direct marking procedures are available upon request for these items.

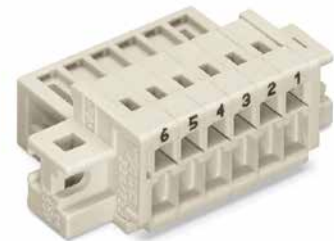
The marking type is always defined by the second 4-digit block of the item no. suffix for items with standard colors and materials.
Example: 734-106/... - xxxx
xxxx = Item no. suffix for direct marking

Direct marking of 1-conductor female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-cond. female connector, 6-pole, light gray	734-106/000-047
1-cond. female connector, with locking levers, 6-pole, light gray	734-106/037-047
1-cond. female connector, with strain relief plate, 6-pole, light gray	734-106/033-047
1-cond. female connector, with locking levers and strain relief plate, 6-pole, light gray	734-106/037-047/033-000

Direct marking of 1-conductor male connectors, perpendicular to conductor entry, pole no. ... 1, item no. suffix.: /... - 044

Version	Item No. Example
1-cond. male connector, 6-pole, light gray	734-306/000-044
1-cond. male connector, with mounting flanges, 6-pole, light gray	734-306/019-044
1-cond. male connector, with mounting flanges and strain relief plate, 6-pole, light gray	734-306/019-044/033-000



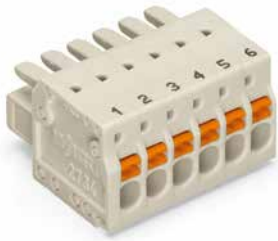
Direct marking of 1-conductor female connectors, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
1-cond. female connector, 6-pole, light gray	734-106/000-9037
1-cond. female connector, with locking levers, 6-pole, light gray	734-106/037-9037
1-cond. female connector, with strain relief plate, 6-pole, light gray	734-106/033-9037
1-cond. female connector, with locking levers and strain relief plate, 6-pole, light gray	734-106/037-9037/033-000

Direct marking of 1-conductor male connectors, parallel to conductor entry, pole no. ... 1, item no. suffix.: /... - 9034

Version	Item No. Example
1-cond. male connector, 6-pole, light gray	734-306/000-9034
1-cond. male connector, with mounting flanges, 6-pole, light gray	734-306/019-9034
1-cond. male connector, with mounting flanges and strain relief plate, 6-pole, light gray	734-306/019-9034/033-000

Direct Marking MCS MINI



Direct marking of 1-conductor female connectors with, push-buttons, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-conductor female connector, with push-buttons, 6-pole, light gray	2734-106/000-047
1-conductor female connector, with push-buttons and locking levers, 6-pole, light gray	2734-106/037-047
1-conductor female connector, with push-buttons and strain relief plate, 6-pole, light gray	2734-106/033-047
1-conductor female connector, with push-buttons, locking levers and strain relief plate, 6-pole, light gray	2734-106/037-047/ 033-0000

Direct marking of 2-conductor combi strips, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
2-conductor combi strip, 6-pole, light gray	734-366/000-047
2-conductor combi strip, with locking levers, 6-pole, light gray	734-366/037-047
2-conductor combi strip, with locking levers and strain relief plate, 6-pole, light gray	734-366/037-047/033-000

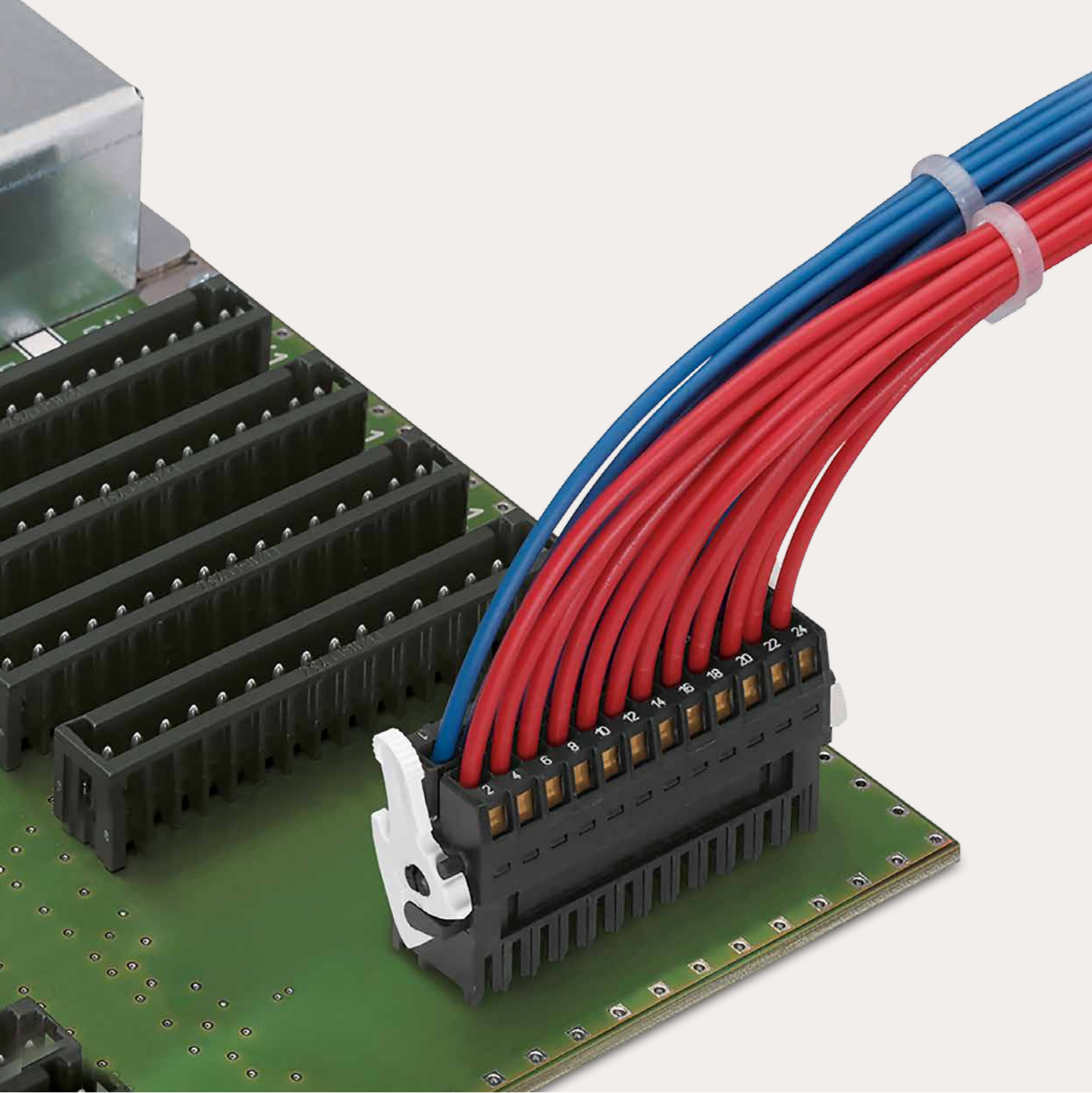


Direct marking of 1-conductor female connectors with, push-buttons, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
1-conductor female connector, with push-buttons, 6-pole, light gray	2734-106/000-9037
1-conductor female connector, with push-buttons and locking levers, 6-pole, light gray	2734-106/037-9037
1-conductor female connector, with push-buttons and strain relief plate, 6-pole, light gray	2734-106/033-9037
1-conductor female connector, with push-buttons, locking levers and strain relief plate, 6-pole, light gray	2734-106/037-9037/ 033-000

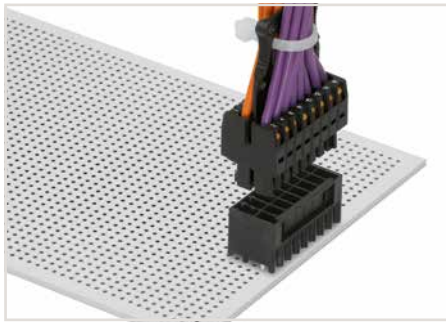
Direct marking of 2-conductor combi strips, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
2-conductor combi strip, 6-pole, light gray	734-366/000-9037
2-conductor combi strip, with locking levers, 6-pole, light gray	734-366/037-9037
2-conductor combi strip, with locking levers and strain relief plate, 6-pole, light gray	734-366/037-9037/033-000

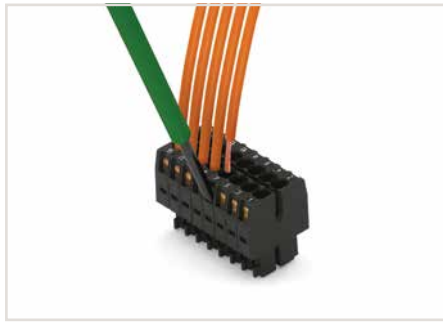


***MCS – MULTI CONNECTION SYSTEM
MINI HD***

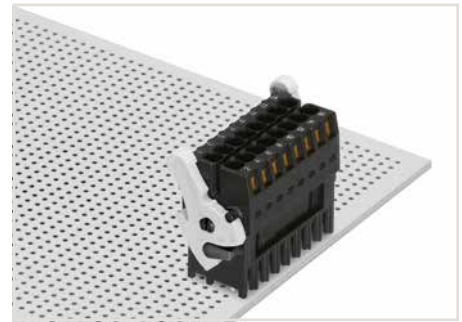
MCS MINI HD Description and Installation



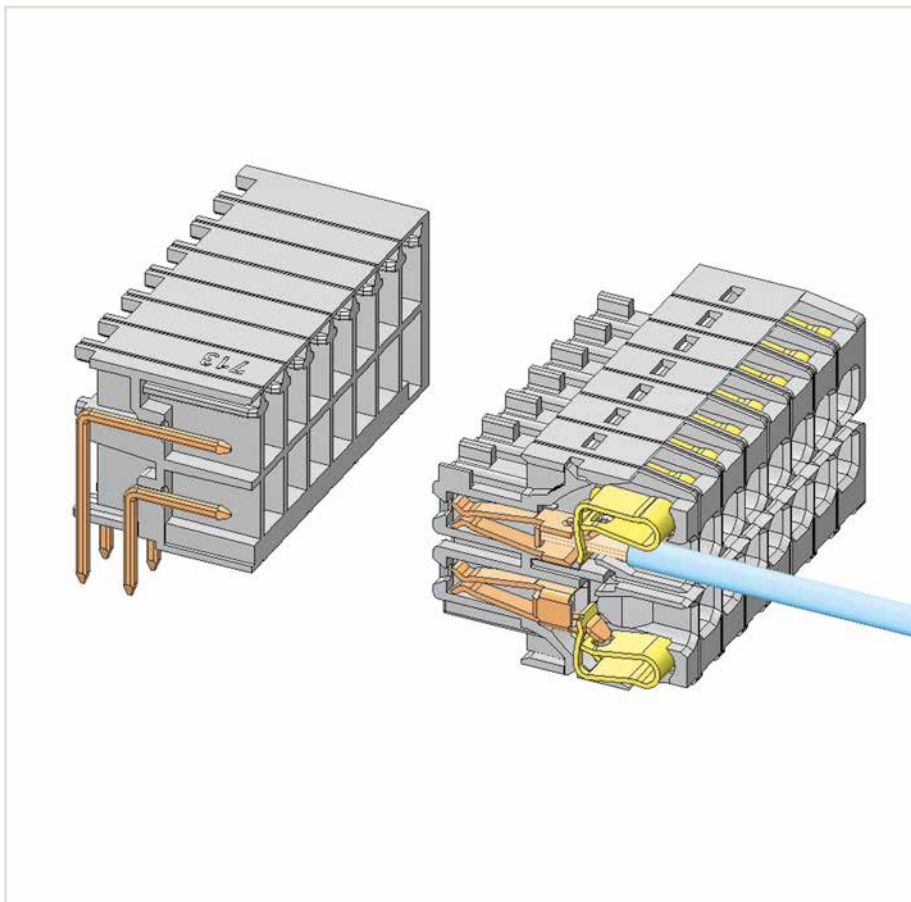
Centered strain relief plate anchors conductors for easy disconnection.



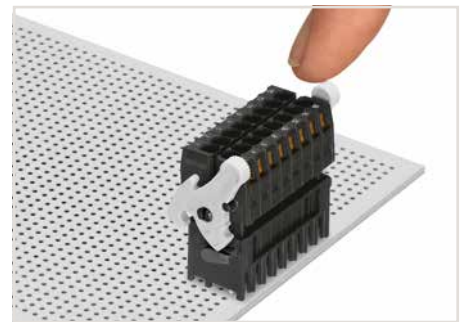
Inserting a conductor via (2.5 x 0.4) mm screwdriver.



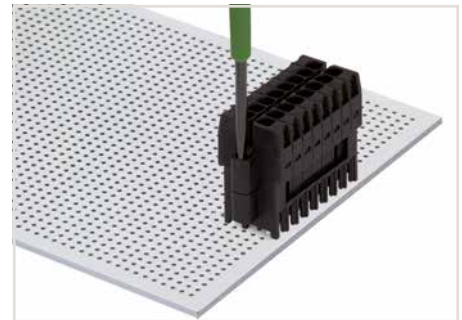
Lever as a lock – when closed, female connector is locked.



Pin spacing: 3.5 mm



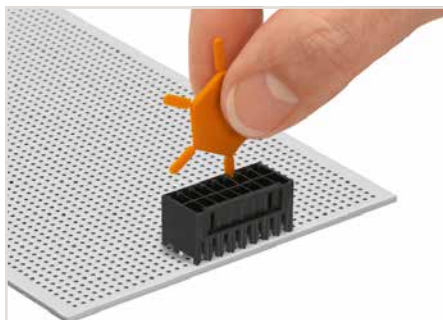
Lever as a disconnection aid – when opened, female connector is disconnected. Rotating the lever lifts the female connector out of the male header.



Screw interlock can only be disconnected using a tool.



Pole marking via self-adhesive strips or direct marking.



Coding a male header by inserting a coding pin.



Coding a female connector by removing coding finger(s).

1-Conductor Female Connectors, Double-Row

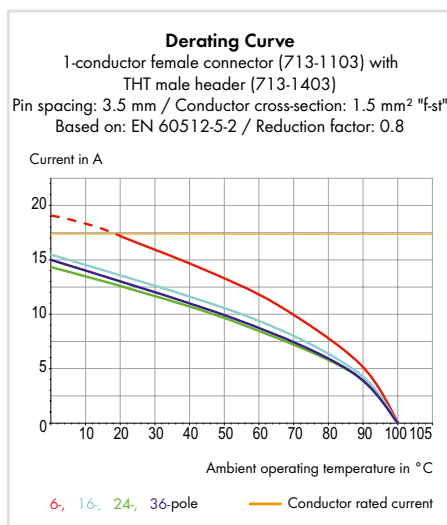
Pin spacing: 3.5 mm

MCS MINI HD



- Universal connection for all conductor types
- Unique, compact, double-row connector system for conductor cross-sections up to 1.5 mm²
- High-density, wire-to-board connections in very confined spaces
- Centered strain relief plate anchors conductors, while acting as convenient connection and disconnection handle. It also provides easy access to operating slots – even when wired
- Optional dual-purpose lever doubles as a lock and disconnection aid, while preventing accidental disconnection in closed position
- Coding fingers provide 100 % protection against mismatching

4



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

📖 Marking accessories, see page 604

📖 Operating tools, see page 588

📖 Direct marking, see page 317

📖 Strain relief plates, see page 316

📖 Additional technical information, see Section 13

📖 Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1 80 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	250 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	10 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group C)	50 V
Rated current UL (Use Group C)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A

Connection Data

Connection technology	CAGE CLAMP® Termination
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor cross-sections	
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 16 AWG
Fine-stranded conductor	0.08 ... 1.5 mm ² / 28 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²

Material Data

Material group	II
Insulation material	Glass-fiber-reinforced polyamide (PA66 GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

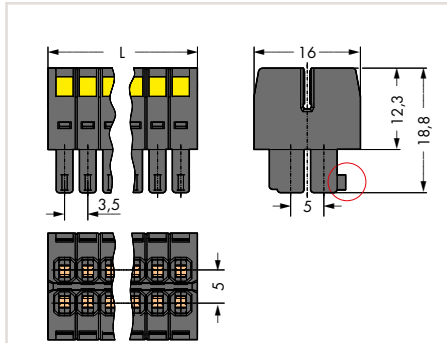
1-Conductor Female Connectors, Double-Row

Pin spacing: 3.5 mm

MCS MINI HD



Dimensions (in mm):

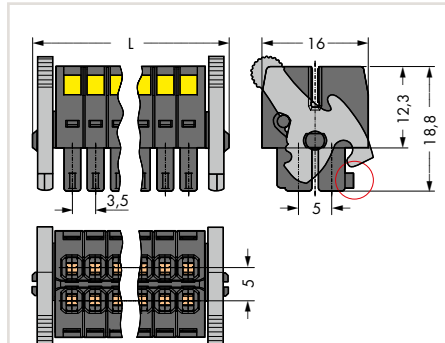


$L = [(pole\ no./2) - 1] \times pin\ spacing + 5.2\ mm$
Coding finger (red circle)

1-conductor female connector, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1103	100
8 (4x2)	713-1104	50
10 (5x2)	713-1105	50
12 (6x2)	713-1106	50
14 (7x2)	713-1107	50
16 (8x2)	713-1108	25
18 (9x2)	713-1109	25
20 (10x2)	713-1110	25
22 (11x2)	713-1111	25
24 (12x2)	713-1112	25
26 (13x2)	713-1113	25
28 (14x2)	713-1114	20
30 (15x2)	713-1115	20
32 (16x2)	713-1116	20
34 (17x2)	713-1117	20
36 (18x2)	713-1118	20

Dimensions (in mm):

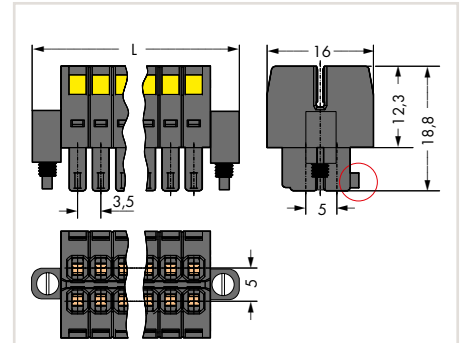


$L = [(pole\ no./2) - 1] \times pin\ spacing + 12.2\ mm$
Coding finger (red circle)

1-conductor female connector, with levers, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1103/037-000	50
8 (4x2)	713-1104/037-000	50
10 (5x2)	713-1105/037-000	50
12 (6x2)	713-1106/037-000	25
14 (7x2)	713-1107/037-000	25
16 (8x2)	713-1108/037-000	25
18 (9x2)	713-1109/037-000	25
20 (10x2)	713-1110/037-000	25
22 (11x2)	713-1111/037-000	20
24 (12x2)	713-1112/037-000	20
26 (13x2)	713-1113/037-000	20
28 (14x2)	713-1114/037-000	20
30 (15x2)	713-1115/037-000	20
32 (16x2)	713-1116/037-000	20
34 (17x2)	713-1117/037-000	10
36 (18x2)	713-1118/037-000	10

Dimensions (in mm):



$L = [(pole\ no./2) - 1] \times pin\ spacing + 13.6\ mm$
Coding finger (red circle)

1-conductor female connector, with screw flanges, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1103/107-000	50
8 (4x2)	713-1104/107-000	50
10 (5x2)	713-1105/107-000	25
12 (6x2)	713-1106/107-000	25
14 (7x2)	713-1107/107-000	25
16 (8x2)	713-1108/107-000	25
18 (9x2)	713-1109/107-000	25
20 (10x2)	713-1110/107-000	20
22 (11x2)	713-1111/107-000	20
24 (12x2)	713-1112/107-000	20
26 (13x2)	713-1113/107-000	20
28 (14x2)	713-1114/107-000	20
30 (15x2)	713-1115/107-000	20
32 (16x2)	713-1116/107-000	10
34 (17x2)	713-1117/107-000	10
36 (18x2)	713-1118/107-000	10

4

Available upon request (depending on quantity required):

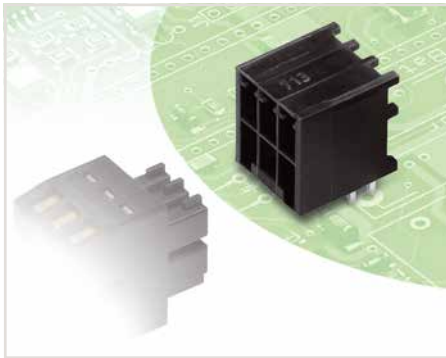
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers, Double-Row

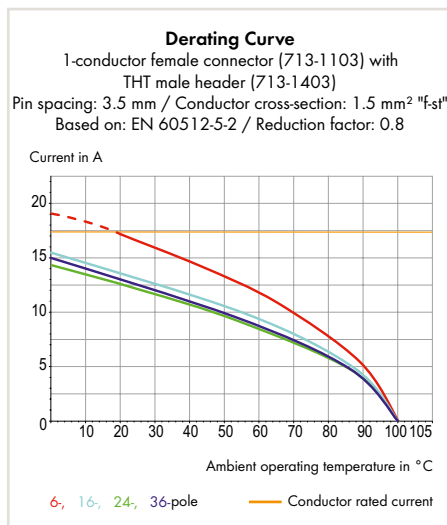
Pin Spacing: 3.5 mm

MCS MINI HD



- Male headers may be mounted horizontally or vertically via straight or angled solder pins
- Header housing is molded of THT-compatible insulation material for lead-free re-flow soldering
- Separated pin slots prevent damage and make the headers touch-proof when unplugged
- 100% protected against mismatching
- Coding pins available

4



Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	80 V
Rated voltage (III / 2)	2.5 kV
Rated surge voltage (III / 2)	160 V
Rated voltage (II / 2)	2.5 kV
Rated surge voltage (II / 2)	250 V
Rated current	2.5 kV
Approvals per	10 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	150 V
Rated voltage UL (Use Group C)	10 A
Rated current UL (Use Group C)	50 V
Approvals per	10 A
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	150 V
	12 A

Solder Pin Data

Solder pin length	3.8 mm
Solder pin dimensions	0.8 x 0.8 mm
Drilled hole diameter	1.2 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) $\hat{=}$ Overvoltage category III / Pollution degree 2

Coding pin carrier, see page 316

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

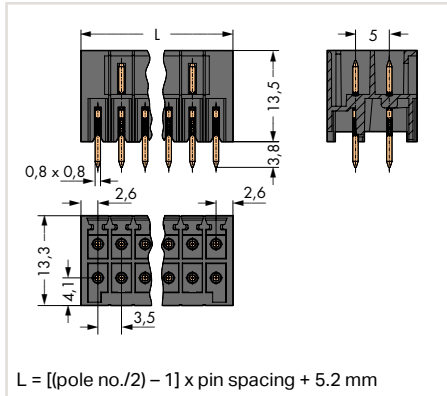
THT Male Headers, Double-Row

Pin Spacing: 3.5 mm

MCS MINI HD



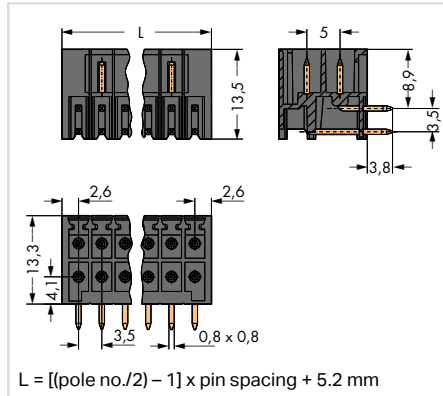
Dimensions (in mm):



THT male header, with straight solder pins, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1403	100
8 (4x2)	713-1404	50
10 (5x2)	713-1405	50
12 (6x2)	713-1406	50
14 (7x2)	713-1407	50
16 (8x2)	713-1408	25
18 (9x2)	713-1409	25
20 (10x2)	713-1410	25
22 (11x2)	713-1411	25
24 (12x2)	713-1412	25
26 (13x2)	713-1413	25
28 (14x2)	713-1414	20
30 (15x2)	713-1415	20
32 (16x2)	713-1416	20
34 (17x2)	713-1417	20
36 (18x2)	713-1418	20

Dimensions (in mm):



THT male header, with angled solder pins, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1423	100
8 (4x2)	713-1424	50
10 (5x2)	713-1425	50
12 (6x2)	713-1426	50
14 (7x2)	713-1427	50
16 (8x2)	713-1428	25
18 (9x2)	713-1429	25
20 (10x2)	713-1430	25
22 (11x2)	713-1431	25
24 (12x2)	713-1432	25
26 (13x2)	713-1433	25
28 (14x2)	713-1434	20
30 (15x2)	713-1435	20
32 (16x2)	713-1436	20
34 (17x2)	713-1437	20
36 (18x2)	713-1438	20

Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

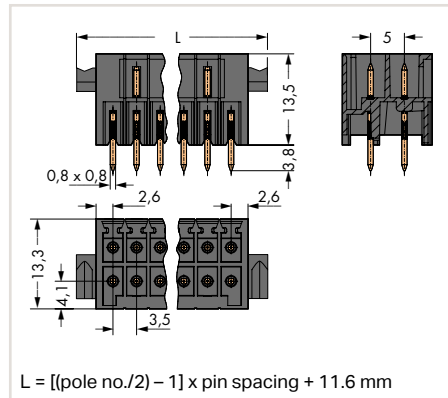
THT Male Headers with Levers, Double-Row

Pin Spacing: 3.5 mm

MCS MINI HD



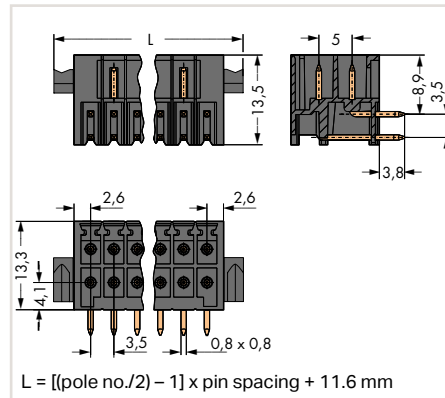
Dimensions (in mm):



THT male header, with straight solder pins and levers, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1403/037-000	50
8 (4x2)	713-1404/037-000	50
10 (5x2)	713-1405/037-000	50
12 (6x2)	713-1406/037-000	25
14 (7x2)	713-1407/037-000	25
16 (8x2)	713-1408/037-000	25
18 (9x2)	713-1409/037-000	25
20 (10x2)	713-1410/037-000	25
22 (11x2)	713-1411/037-000	20
24 (12x2)	713-1412/037-000	20
26 (13x2)	713-1413/037-000	20
28 (14x2)	713-1414/037-000	20
30 (15x2)	713-1415/037-000	20
32 (16x2)	713-1416/037-000	20
34 (17x2)	713-1417/037-000	10
36 (18x2)	713-1418/037-000	10

Dimensions (in mm):



THT male header, with angled solder pins and levers, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1423/037-000	50
8 (4x2)	713-1424/037-000	50
10 (5x2)	713-1425/037-000	50
12 (6x2)	713-1426/037-000	50
14 (7x2)	713-1427/037-000	50
16 (8x2)	713-1428/037-000	25
18 (9x2)	713-1429/037-000	25
20 (10x2)	713-1430/037-000	25
22 (11x2)	713-1431/037-000	20
24 (12x2)	713-1432/037-000	20
26 (13x2)	713-1433/037-000	20
28 (14x2)	713-1434/037-000	20
30 (15x2)	713-1435/037-000	20
32 (16x2)	713-1436/037-000	20
34 (17x2)	713-1437/037-000	10
36 (18x2)	713-1438/037-000	10

Available upon request (depending on quantity required):

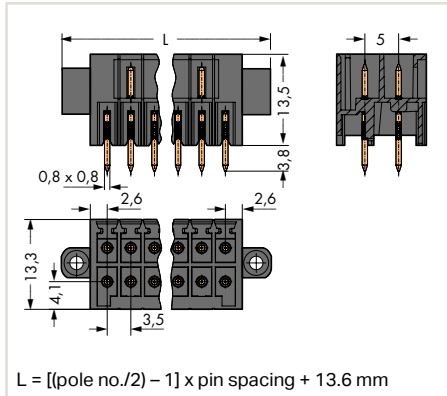
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers with Threaded Flanges, Double-Row Pin Spacing: 3.81 mm MCS MINI HD



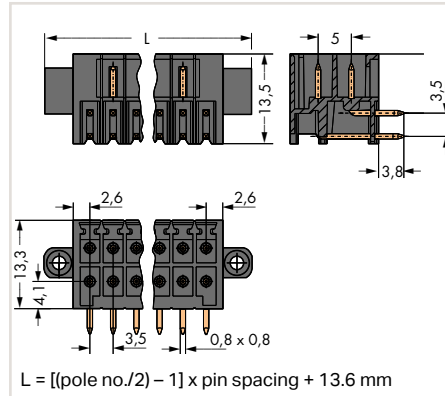
Dimensions (in mm):



THT male header, with straight solder pins and threaded flanges, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1403/107-000	50
8 (4x2)	713-1404/107-000	50
10 (5x2)	713-1405/107-000	25
12 (6x2)	713-1406/107-000	25
14 (7x2)	713-1407/107-000	25
16 (8x2)	713-1408/107-000	25
18 (9x2)	713-1409/107-000	25
20 (10x2)	713-1410/107-000	20
22 (11x2)	713-1411/107-000	20
24 (12x2)	713-1412/107-000	20
26 (13x2)	713-1413/107-000	20
28 (14x2)	713-1414/107-000	20
30 (15x2)	713-1415/107-000	20
32 (16x2)	713-1416/107-000	10
34 (17x2)	713-1417/107-000	10
36 (18x2)	713-1418/107-000	10

Dimensions (in mm):



THT male header, with angled solder pins and threaded flanges, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3x2)	713-1423/107-000	50
8 (4x2)	713-1424/107-000	50
10 (5x2)	713-1425/107-000	25
12 (6x2)	713-1426/107-000	25
14 (7x2)	713-1427/107-000	25
16 (8x2)	713-1428/107-000	25
18 (9x2)	713-1429/107-000	25
20 (10x2)	713-1430/107-000	20
22 (11x2)	713-1431/107-000	20
24 (12x2)	713-1432/107-000	20
26 (13x2)	713-1433/107-000	20
28 (14x2)	713-1434/107-000	20
30 (15x2)	713-1435/107-000	20
32 (16x2)	713-1436/107-000	10
34 (17x2)	713-1437/107-000	10
36 (18x2)	713-1438/107-000	10

Available upon request (depending on quantity required):

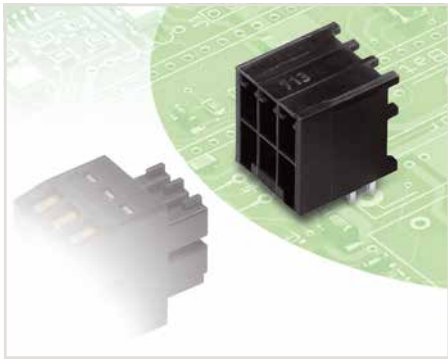
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THR* Male Headers, Double-Row

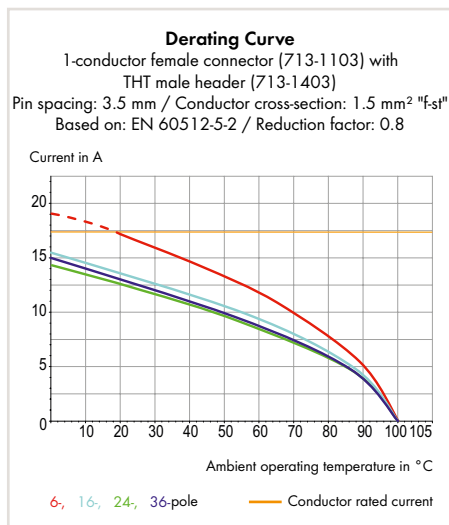
Pin Spacing: 3.5 mm

MCS MINI HD



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Separated pin slots prevent damage and make the headers touch-proof when unplugged
- 100% protected against mismatching
- Coding pins available

4



Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	80 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	250 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	10 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group C)	50 V
Rated current UL (Use Group C)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	150 V
Rated current CSA (Use Group B)	12 A

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	0.8 x 0.8 mm
Plated through-hole diameter (6- to 20-pole)	1.2 ^{+0.1} mm
Plated through-hole diameter (22- to 36-pole)	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cup})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2



*THR (Through-Hole Reflow) soldering process,
see page 249



Coding pin carrier,
see page 316

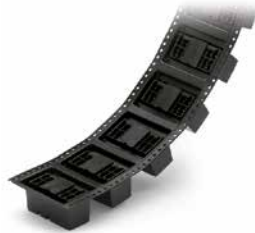


Additional technical information,
see Section 13

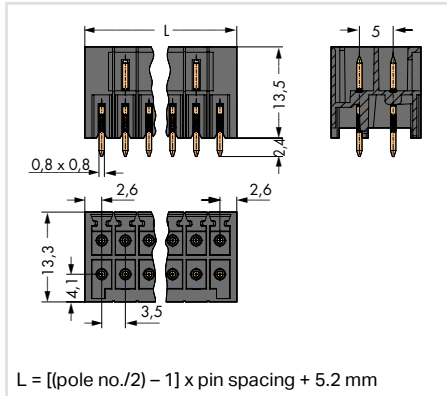


Approvals and corresponding ratings,
visit www.wago.com

THR Male Headers with Straight Solder Pins, Double-Row Pin Spacing: 3.5 mm MCS MINI HD



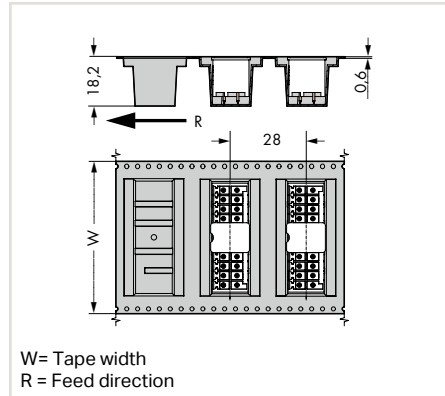
Dimensions (in mm):



THR male header, with straight solder pins, double-row, black, 3.5 mm (0.138 inch) pin spacing

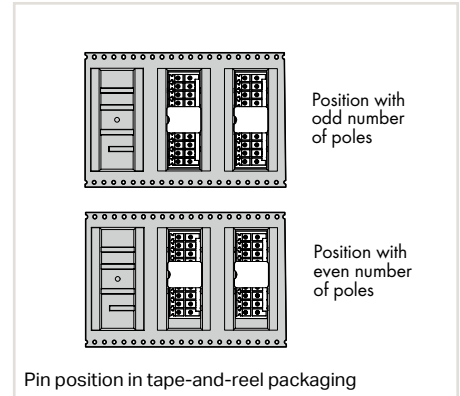
Pole No.	Item No.	Pack. Unit
6 (3 x 2)	713-1403/105-000	100
8 (4 x 2)	713-1404/105-000	50
10 (5 x 2)	713-1405/105-000	50
12 (6 x 2)	713-1406/105-000	50
14 (7 x 2)	713-1407/105-000	50
16 (8 x 2)	713-1408/105-000	25
18 (9 x 2)	713-1409/105-000	25
20 (10 x 2)	713-1410/105-000	25
22 (11 x 2)	713-1411/105-000	25
24 (12 x 2)	713-1412/105-000	25
26 (13 x 2)	713-1413/105-000	25
28 (14 x 2)	713-1414/105-000	20
30 (15 x 2)	713-1415/105-000	20
32 (16 x 2)	713-1416/105-000	20
34 (17 x 2)	713-1417/105-000	20
36 (18 x 2)	713-1418/105-000	20

Dimensions (in mm):



THR male header, with straight solder pins, double-row, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 120 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
6 (3 x 2)	713-1403/105-000/997-405	32
8 (4 x 2)	713-1404/105-000/997-405	32
10 (5 x 2)	713-1405/105-000/997-405	32
12 (6 x 2)	713-1406/105-000/997-406	44
14 (7 x 2)	713-1407/105-000/997-406	44
16 (8 x 2)	713-1408/105-000/997-406	44
18 (9 x 2)	713-1409/105-000/997-407	56
20 (10 x 2)	713-1410/105-000/997-407	56
22 (11 x 2)	713-1411/105-000/997-407	56
24 (12 x 2)	713-1412/105-000/997-408	72
26 (13 x 2)	713-1413/105-000/997-408	72
28 (14 x 2)	713-1414/105-000/997-408	72
30 (15 x 2)	713-1415/105-000/997-408	72
32 (16 x 2)	713-1416/105-000/997-408	72
34 (17 x 2)	713-1417/105-000/997-409	88
36 (18 x 2)	713-1418/105-000/997-409	88



Available upon request (depending on quantity required):

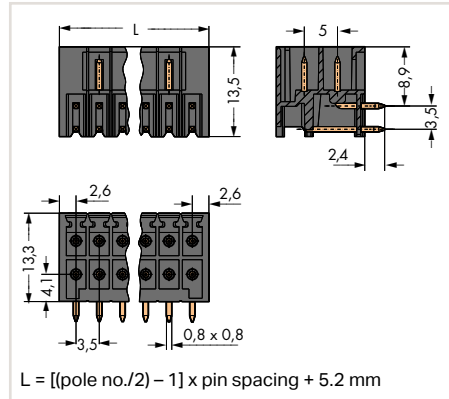
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

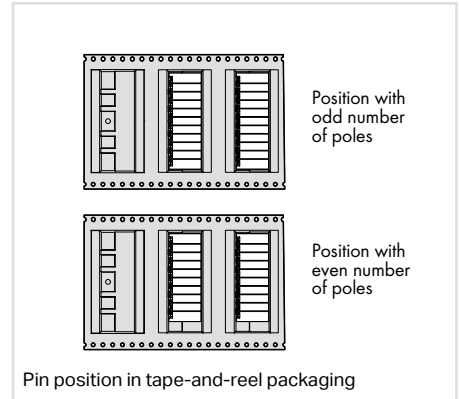
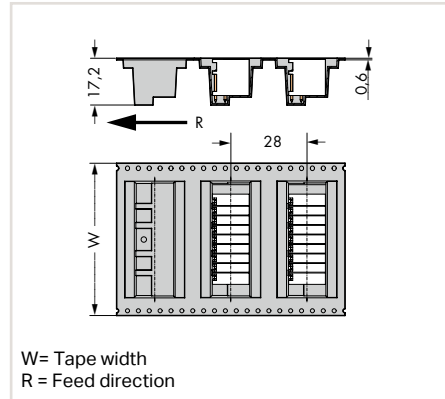
THR Male Headers with Angled Solder Pins, Double-Row Pin Spacing: 3.5 mm MCS MINI HD



Dimensions (in mm):



Dimensions (in mm):



THR male header, with angled solder pins, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3 x 2)	713-1423/105-000	100
8 (4 x 2)	713-1424/105-000	50
10 (5 x 2)	713-1425/105-000	50
12 (6 x 2)	713-1426/105-000	50
14 (7 x 2)	713-1427/105-000	50
16 (8 x 2)	713-1428/105-000	25
18 (9 x 2)	713-1429/105-000	25
20 (10 x 2)	713-1430/105-000	25
22 (11 x 2)	713-1431/105-000	25
24 (12 x 2)	713-1432/105-000	25
26 (13 x 2)	713-1433/105-000	25
28 (14 x 2)	713-1434/105-000	20
30 (15 x 2)	713-1435/105-000	20
32 (16 x 2)	713-1436/105-000	20
34 (17 x 2)	713-1437/105-000	20
36 (18 x 2)	713-1438/105-000	20

THR male header, with angled solder pins, double-row, in tape-and-reel packaging, per IEC 60286-3, 330 mm reel diameter, 120 pieces per reel, black, 3.81 mm (0.15 inch) pin spacing

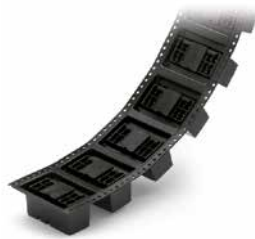
Pole No.	Item No.	W (mm)
6 (3 x 2)	713-1423/105-000/997-405	32
8 (4 x 2)	713-1424/105-000/997-405	32
10 (5 x 2)	713-1425/105-000/997-405	32
12 (6 x 2)	713-1426/105-000/997-406	44
14 (7 x 2)	713-1427/105-000/997-406	44
16 (8 x 2)	713-1428/105-000/997-406	44
18 (9 x 2)	713-1429/105-000/997-407	56
20 (10 x 2)	713-1430/105-000/997-407	56
22 (11 x 2)	713-1431/105-000/997-407	56
24 (12 x 2)	713-1432/105-000/997-408	72
26 (13 x 2)	713-1433/105-000/997-408	72
28 (14 x 2)	713-1434/105-000/997-408	72
30 (15 x 2)	713-1435/105-000/997-408	72
32 (16 x 2)	713-1436/105-000/997-408	72
34 (17 x 2)	713-1437/105-000/997-409	88
36 (18 x 2)	713-1438/105-000/997-409	88

Available upon request (depending on quantity required):

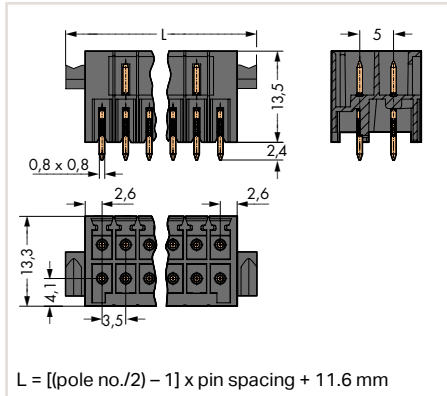
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR Male Headers with Straight Solder Pins and Levers, Double-Row Pin Spacing: 3.5 mm MCS MINI HD



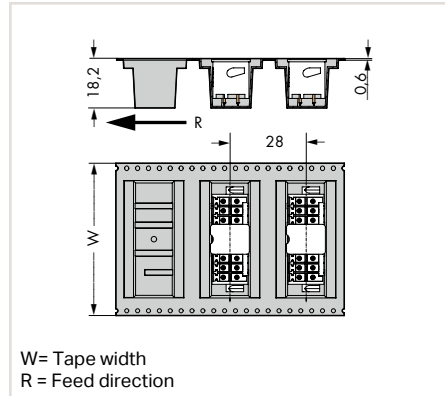
Dimensions (in mm):



THR male header, with straight solder pins and levers, double-row, black, 3.5 mm (0.138 inch) pin spacing

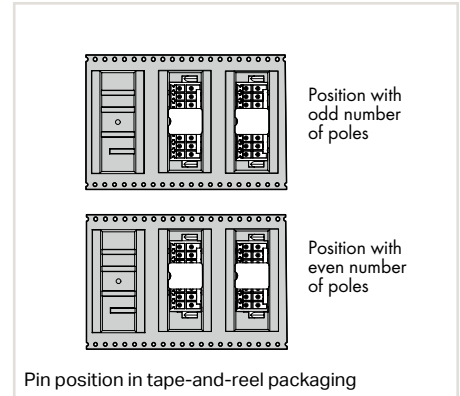
Pole No.	Item No.	Pack. Unit
6 (3 x 2)	713-1403/116-000	50
8 (4 x 2)	713-1404/116-000	50
10 (5 x 2)	713-1405/116-000	50
12 (6 x 2)	713-1406/116-000	25
14 (7 x 2)	713-1407/116-000	25
16 (8 x 2)	713-1408/116-000	25
18 (9 x 2)	713-1409/116-000	25
20 (10 x 2)	713-1410/116-000	25
22 (11 x 2)	713-1411/116-000	20
24 (12 x 2)	713-1412/116-000	20
26 (13 x 2)	713-1413/116-000	20
28 (14 x 2)	713-1414/116-000	20
30 (15 x 2)	713-1415/116-000	20
32 (16 x 2)	713-1416/116-000	20
34 (17 x 2)	713-1417/116-000	10
36 (18 x 2)	713-1418/116-000	10

Dimensions (in mm):



THR male header, with straight solder pins and levers, double-row, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 120 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
6 (3 x 2)	713-1403/116-000/997-405	32
8 (4 x 2)	713-1404/116-000/997-406	44
10 (5 x 2)	713-1405/116-000/997-406	44
12 (6 x 2)	713-1406/116-000/997-406	44
14 (7 x 2)	713-1407/116-000/997-407	56
16 (8 x 2)	713-1408/116-000/997-407	56
18 (9 x 2)	713-1409/116-000/997-407	56
20 (10 x 2)	713-1410/116-000/997-408	72
22 (11 x 2)	713-1411/116-000/997-408	72
24 (12 x 2)	713-1412/116-000/997-408	72
26 (13 x 2)	713-1413/116-000/997-408	72
28 (14 x 2)	713-1414/116-000/997-408	72
30 (15 x 2)	713-1415/116-000/997-409	88
32 (16 x 2)	713-1416/116-000/997-409	88
34 (17 x 2)	713-1417/116-000/997-409	88
36 (18 x 2)	713-1418/116-000/997-409	88



Available upon request (depending on quantity required):

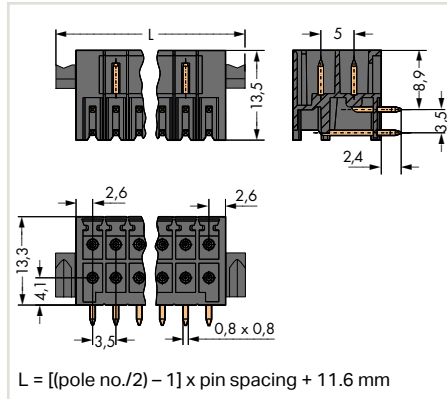
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

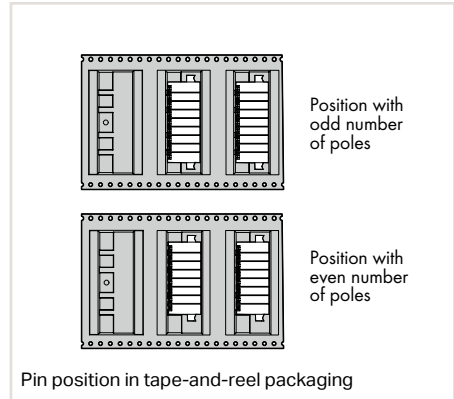
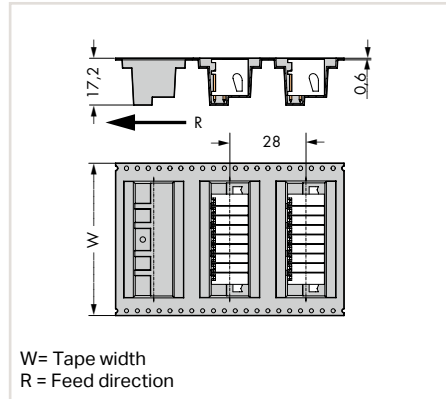
THR Male Headers with Angled Solder Pins and Levers, Double-Row Pin Spacing: 3.5 mm MCS MINI HD



Dimensions (in mm):



Dimensions (in mm):



THR male header, with angled solder pins and levers, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3 x 2)	713-1423/116-000	50
8 (4 x 2)	713-1424/116-000	50
10 (5 x 2)	713-1425/116-000	50
12 (6 x 2)	713-1426/116-000	50
14 (7 x 2)	713-1427/116-000	50
16 (8 x 2)	713-1428/116-000	25
18 (9 x 2)	713-1429/116-000	25
20 (10 x 2)	713-1430/116-000	25
22 (11 x 2)	713-1431/116-000	20
24 (12 x 2)	713-1432/116-000	20
26 (13 x 2)	713-1433/116-000	20
28 (14 x 2)	713-1434/116-000	20
30 (15 x 2)	713-1435/116-000	20
32 (16 x 2)	713-1436/116-000	20
34 (17 x 2)	713-1437/116-000	10
36 (18 x 2)	713-1438/116-000	10

THR male header, with angled solder pins and levers, double-row, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 120 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
6 (3 x 2)	713-1423/116-000/997-405	32
8 (4 x 2)	713-1424/116-000/997-406	44
10 (5 x 2)	713-1425/116-000/997-406	44
12 (6 x 2)	713-1426/116-000/997-406	44
14 (7 x 2)	713-1427/116-000/997-407	56
16 (8 x 2)	713-1428/116-000/997-407	56
18 (9 x 2)	713-1429/116-000/997-407	56
20 (10 x 2)	713-1430/116-000/997-408	72
22 (11 x 2)	713-1431/116-000/997-408	72
24 (12 x 2)	713-1432/116-000/997-408	72
26 (13 x 2)	713-1433/116-000/997-408	72
28 (14 x 2)	713-1434/116-000/997-408	72
30 (15 x 2)	713-1435/116-000/997-409	88
32 (16 x 2)	713-1436/116-000/997-409	88
34 (17 x 2)	713-1437/116-000/997-409	88
36 (18 x 2)	713-1438/116-000/997-409	88

Available upon request (depending on quantity required):

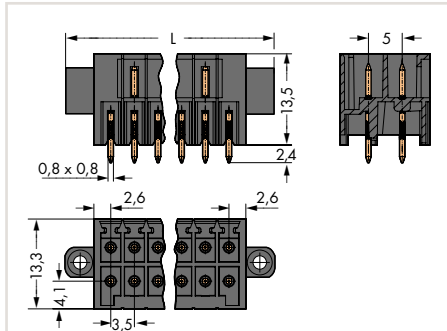
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR Male Headers with Straight Solder Pins and Threaded Flanges, Double-Row Pin Spacing: 3.5 mm MCS MINI HD



Dimensions (in mm):

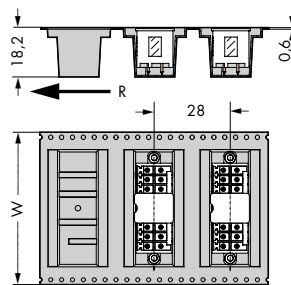


$$L = [(pole\ no./2) - 1] \times pin\ spacing + 13.6\ mm$$

THR male header, with straight solder pins and threaded flanges, double-row, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3 x 2)	713-1403/117-000	50
8 (4 x 2)	713-1404/117-000	50
10 (5 x 2)	713-1405/117-000	25
12 (6 x 2)	713-1406/117-000	25
14 (7 x 2)	713-1407/117-000	25
16 (8 x 2)	713-1408/117-000	25
18 (9 x 2)	713-1409/117-000	25
20 (10 x 2)	713-1410/117-000	20
22 (11 x 2)	713-1411/117-000	20
24 (12 x 2)	713-1412/117-000	20
26 (13 x 2)	713-1413/117-000	20
28 (14 x 2)	713-1414/117-000	20
30 (15 x 2)	713-1415/117-000	20
32 (16 x 2)	713-1416/117-000	10
34 (17 x 2)	713-1417/117-000	10
36 (18 x 2)	713-1418/117-000	10

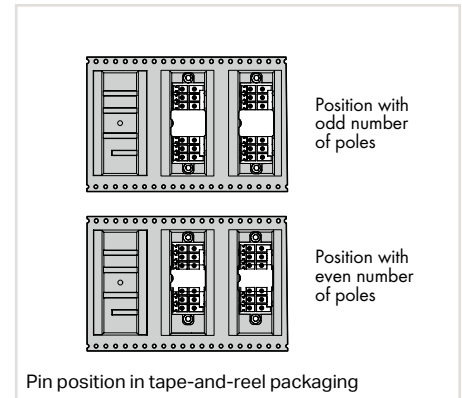
Dimensions (in mm):



W = Tape width
R = Feed direction

THR male header, with straight solder pins and threaded flanges, double-row, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 120 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	W (mm)
6 (3 x 2)	713-1403/117-000/997-405	32
8 (4 x 2)	713-1404/117-000/997-406	44
10 (5 x 2)	713-1405/117-000/997-406	44
12 (6 x 2)	713-1406/117-000/997-406	44
14 (7 x 2)	713-1407/117-000/997-407	56
16 (8 x 2)	713-1408/117-000/997-407	56
18 (9 x 2)	713-1409/117-000/997-407	56
20 (10 x 2)	713-1410/117-000/997-408	72
22 (11 x 2)	713-1411/117-000/997-408	72
24 (12 x 2)	713-1412/117-000/997-408	72
26 (13 x 2)	713-1413/117-000/997-408	72
28 (14 x 2)	713-1414/117-000/997-408	72
30 (15 x 2)	713-1415/117-000/997-409	88
32 (16 x 2)	713-1416/117-000/997-409	88
34 (17 x 2)	713-1417/117-000/997-409	88
36 (18 x 2)	713-1418/117-000/997-409	88



Pin position in tape-and-reel packaging

Available upon request (depending on quantity required):

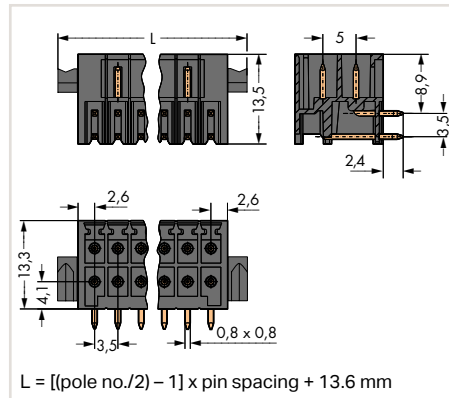
- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

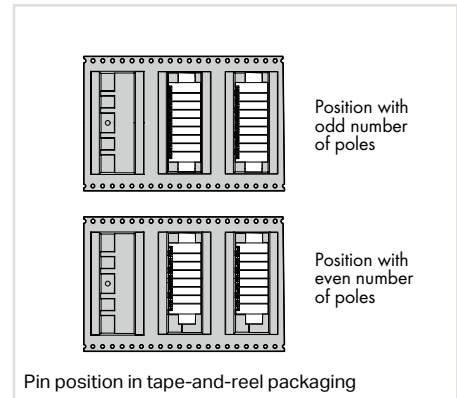
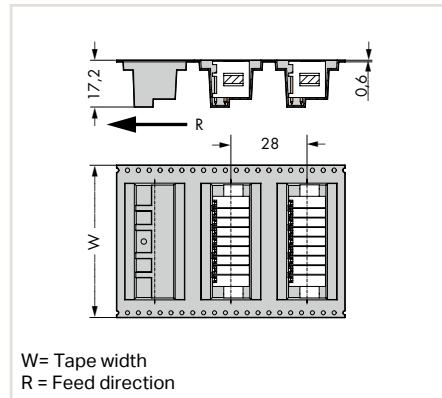
THR Male Headers with Angled Solder Pins and Threaded Flanges, Double-Row Pin Spacing: 3.5 mm MCS MINI HD



Dimensions (in mm):



Dimensions (in mm):



THR male header, with angled solder pins and threaded flanges, double-row, black, 3.5 mm (0.138 inch) pin spacing

THR male header, with angled solder pins and threaded flanges, double-row, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 120 pieces per reel, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
6 (3 x 2)	713-1423/117-000	50
8 (4 x 2)	713-1424/117-000	50
10 (5 x 2)	713-1425/117-000	25
12 (6 x 2)	713-1426/117-000	25
14 (7 x 2)	713-1427/117-000	25
16 (8 x 2)	713-1428/117-000	25
18 (9 x 2)	713-1429/117-000	25
20 (10 x 2)	713-1430/117-000	20
22 (11 x 2)	713-1431/117-000	20
24 (12 x 2)	713-1432/117-000	20
26 (13 x 2)	713-1433/117-000	20
28 (14 x 2)	713-1434/117-000	20
30 (15 x 2)	713-1435/117-000	20
32 (16 x 2)	713-1436/117-000	10
34 (17 x 2)	713-1437/117-000	10
36 (18 x 2)	713-1438/117-000	10

Pole No.	Item No.	W (mm)
6 (3 x 2)	713-1423/117-000/997-405	32
8 (4 x 2)	713-1424/117-000/997-406	44
10 (5 x 2)	713-1425/117-000/997-406	44
12 (6 x 2)	713-1426/117-000/997-406	44
14 (7 x 2)	713-1427/117-000/997-407	56
16 (8 x 2)	713-1428/117-000/997-407	56
18 (9 x 2)	713-1429/117-000/997-407	56
20 (10 x 2)	713-1430/117-000/997-408	72
22 (11 x 2)	713-1431/117-000/997-408	72
24 (12 x 2)	713-1432/117-000/997-408	72
26 (13 x 2)	713-1433/117-000/997-408	72
28 (14 x 2)	713-1434/117-000/997-408	72
30 (15 x 2)	713-1435/117-000/997-409	88
32 (16 x 2)	713-1436/117-000/997-409	88
34 (17 x 2)	713-1437/117-000/997-409	88
36 (18 x 2)	713-1438/117-000/997-409	88

Available upon request (depending on quantity required):

- Other pole numbers
- Other solder pin lengths
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

Strain Relief Plates MCS MINI HD



Strain relief plate, for field assembly, for female connectors with CAGE CLAMP® connection, black

Pole No.	Width	Item No.	Pack. Unit
6 ... 8	11 mm	713-126	100 (25)
10 ... 12	18 mm	713-130	100 (25)
14 ... 20	24 mm	713-127	100 (25)
22 ... 28	39 mm	713-128	100 (25)
30 ... 36	53 mm	713-129	100 (25)

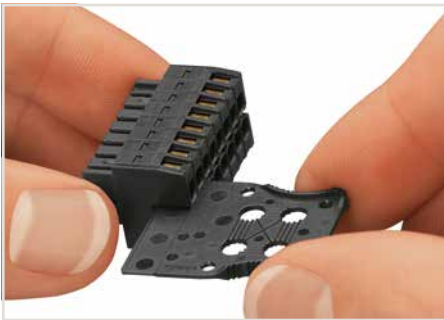
Strain relief plate, pre-assembled, for female connectors with CAGE CLAMP® connection, black

Pole No.	Width	Item No. Suffix *
6 ... 8	11 mm	.../032-000
10 ... 12	18 mm	.../036-000
14 ... 20	24 mm	.../033-000
22 ... 28	39 mm	.../034-000
30 ... 36	53 mm	.../035-000

Coding pin carrier, for male headers with six coding pins

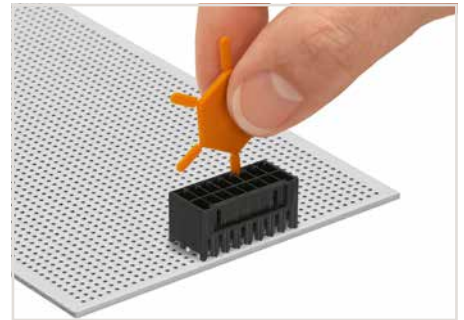
Item No.	Pack. Unit
714-101	100 (25)

4



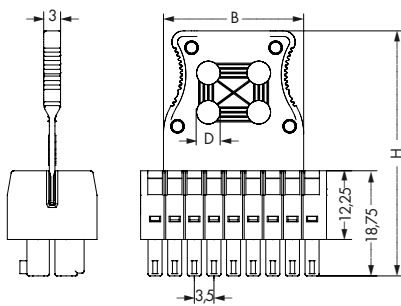
Strain relief plate for field assembly

*An "item no. suffix," referring to the width of the strain relief plate, is added to the "basic item no." and determines the type of female connector.



Coding a male header via coding pins.

Dimensions of strain relief plates (in mm):



Pole No.	B	H	D
6 ... 8	11	38,7	3
10 ... 12	18	43,7	4,2
14 ... 20	25	43,7	4,2
22 ... 28	39	48,7	4,2
30 ... 36	53	54,2	4,9

The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.

Cable ties and binding tools are not offered by WAGO.



Coding a female connector – removing coding finger(s).

Direct Marking MCS MINI HD



713 Series Female Connectors can be marked with "1 ... pole no." via factory direct marking.

Two standard marking orientations are available:

1. Marking perpendicular to conductor entry
2. Marking parallel to conductor entry

Other custom marking options are available upon request.

WAGO recommends pole marking on the PCB for male headers with solder pins (713 Series).

The marking type is always defined by the second 4-digit block of the item no. suffix for items with standard colors and materials.

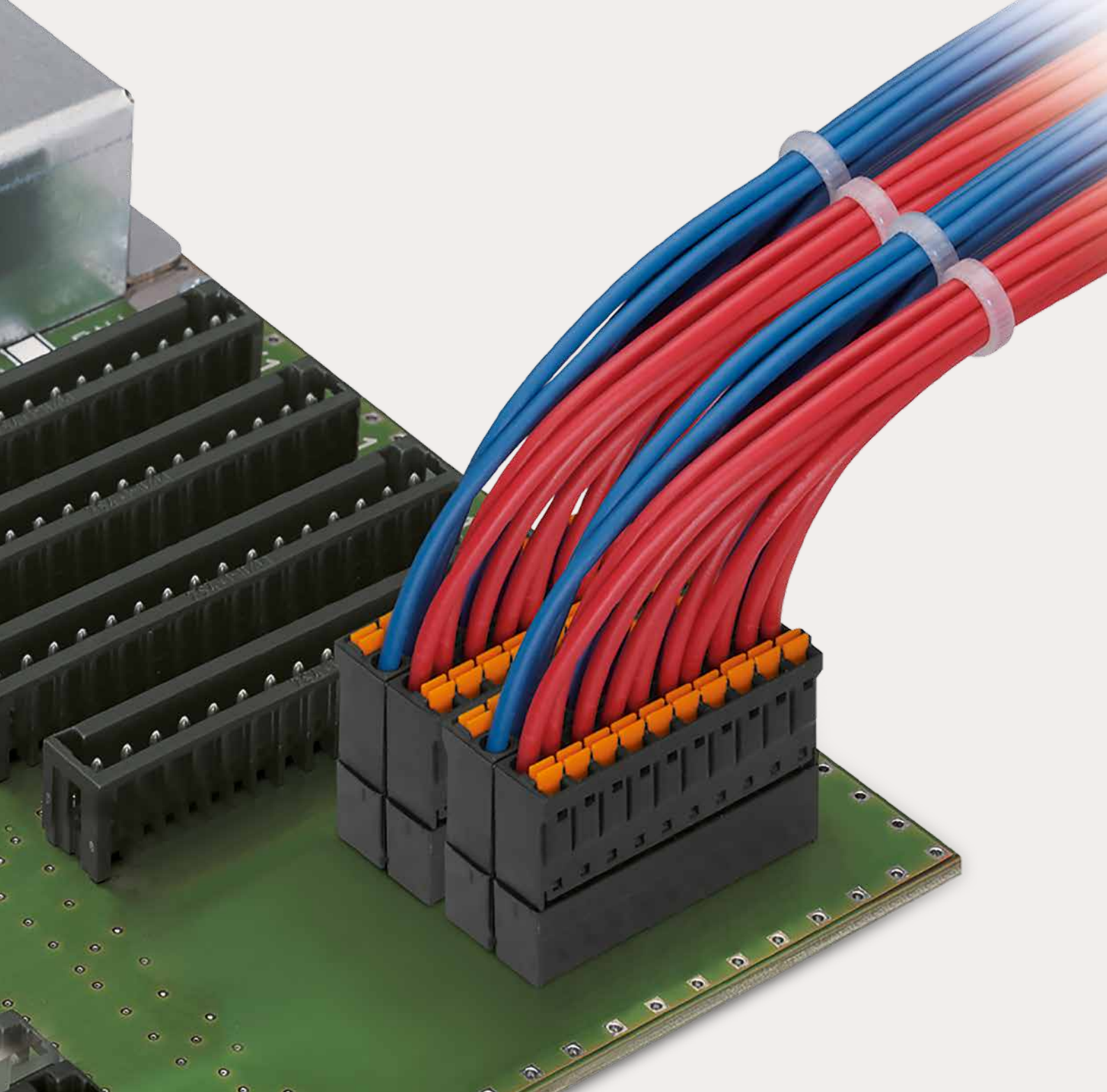
Example: 713-1110/. . . - xxxx
xxxx = Item no. suffix for direct marking

Direct marking of 1-conductor female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-conductor female connector, double-row, 16-pole, black	713-1108/000-047
1-conductor female connector, with screw flanges, double-row, 16-pole, black	713-1108/0107-047
1-conductor female connector, with levers and strain relief plate, double-row, 16-pole, black	713-1108/037-047/033-000

Direct marking of 1-conductor female connectors, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
1-conductor female connector, double-row, 16-pole, black	713-1108/000-9037
1-conductor female connector, with levers, double-row, 16-pole, black	13-1108/037-9037
1-conductor female connector, with strain relief plate, double-row, 16-pole, black	713-1108/033-9037



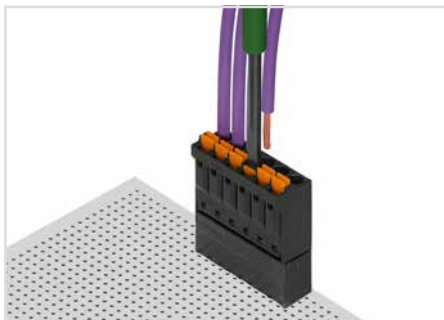
***MCS – MULTI CONNECTION SYSTEM
MINI SL***

MCS MINI SL

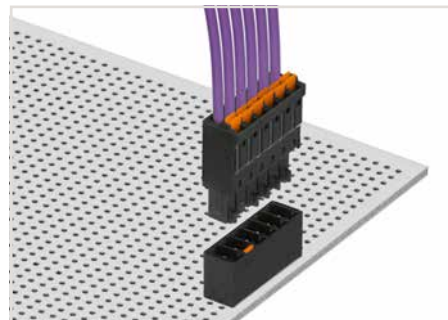
Description and Installation



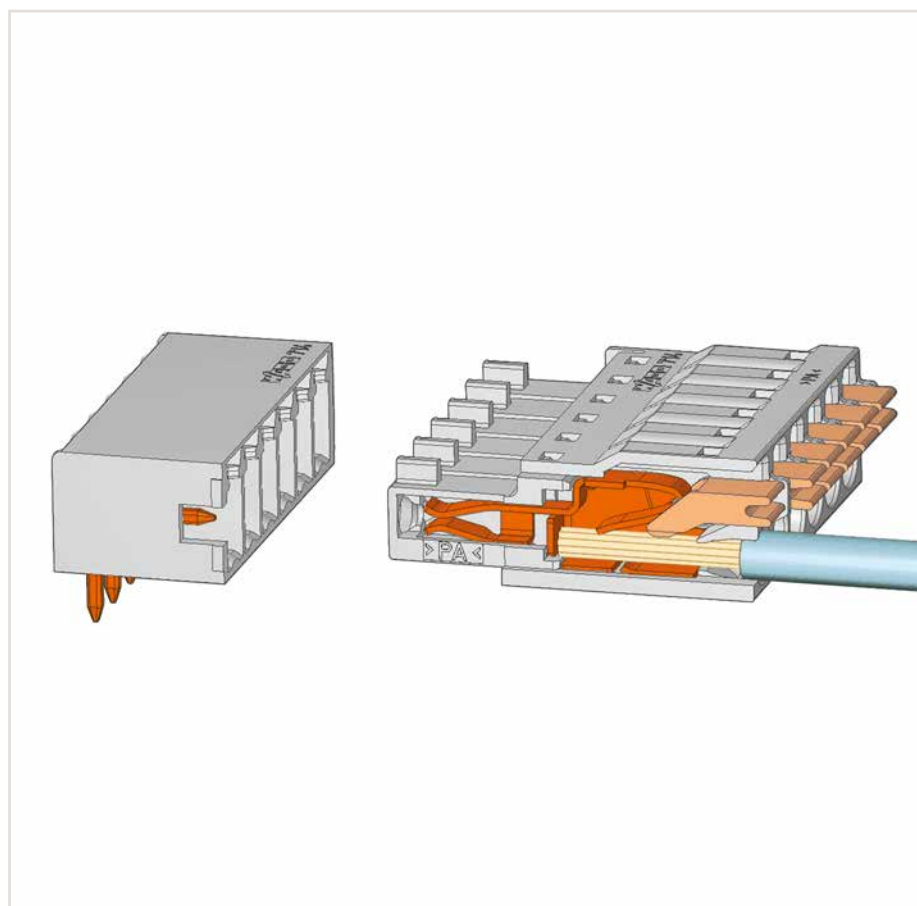
Terminating solid and ferruled conductors via push-in termination.



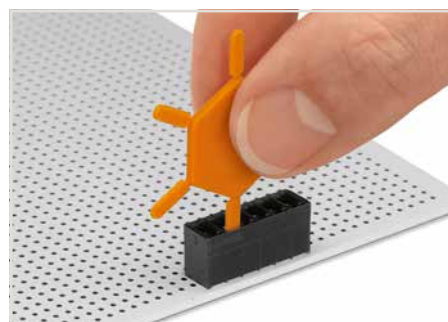
Inserting/removing fine-stranded conductors via push-button.



Coded connectors.



Pin spacing: 3.5 mm



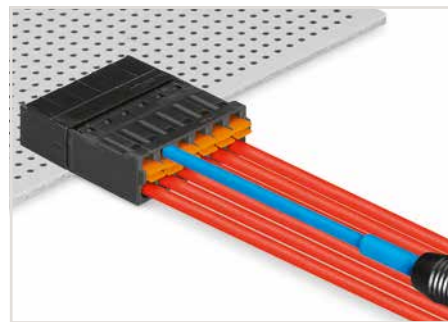
Coding a male header by inserting a coding pin.



Coding a female connector by removing coding finger(s).



Pole marking via factory direct marking.

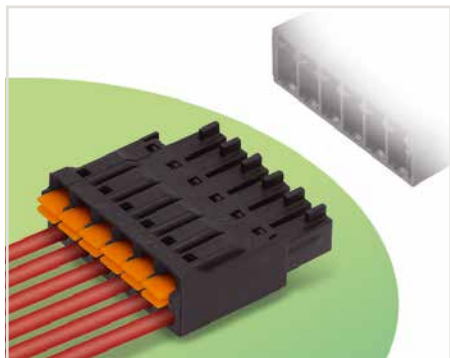


Testing via 1 mm Ø test pin – insertion parallel to conductor entry.

1-Conductor Female Connectors with Push-Buttons

Pin spacing: 3.5 mm

MCS MINI SL



- Female connectors terminate both solid and ferruled conductors via push-in termination
- Integrated push-buttons provide convenient, tool-free operation
- Ultra-low profile of just 7.8 mm for conductor cross-section up to 1.5 mm²
- With coding fingers and test points

4

Electrical Data for Pin Spacing

	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	8 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	8 A

Connection Data


Connection technology	Push-In CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 0.75 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated


The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.


*(III / 2) ≙ Overvoltage category III / Pollution degree 2


 Marking accessories, see page 604

 Operating tools, see page 588

 Direct marking, see page 324

 Test pin, see page 601

 Additional technical information, see Section 13

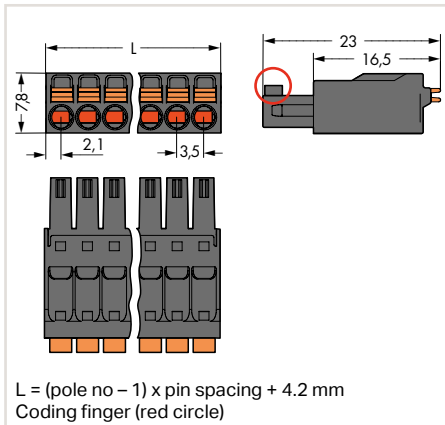
 Approvals and corresponding ratings, visit www.wago.com

1-Conductor Female Connectors with Push-Buttons

Pin spacing: 3.5 mm
MCS MINI SL



Dimensions (in mm):



1-conductor female connector, with push-buttons, black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	714-102	200
3	714-103	200
4	714-104	200
5	714-105	100
6	714-106	100
8	714-108	100
10	714-110	100
12	714-112	100
14	714-114	50
15	714-115	50
16	714-116	50

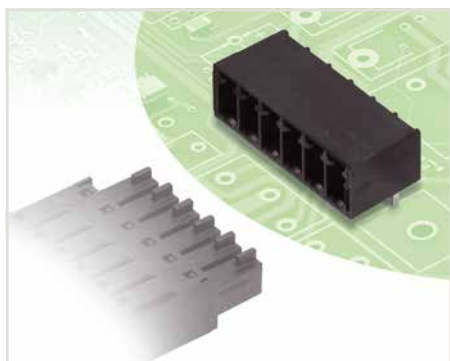
Available upon request (depending on quantity required):

- Other pole numbers

THT Male Headers

Pin Spacing: 3.5 mm

MCS MINI SL




- Male headers may be mounted horizontally or vertically via straight or angled solder pins
- Header housing is molded of THT-compatible insulation material for lead-free re-flow soldering
- Separated pin slots prevent damage and make the headers touch-proof when unplugged
- Coding pins available


4


Electrical Data for Pin Spacing	3.5 mm / 0.138 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	160 V
Rated surge voltage (III / 3)	2.5 kV
Rated voltage (III / 2)	160 V
Rated surge voltage (III / 2)	2.5 kV
Rated voltage (II / 2)	320 V
Rated surge voltage (II / 2)	2.5 kV
Rated current	8 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	8 A
Solder Pin Data	
Solder pin length	3.4 mm
Solder pin dimensions	0.8 x 0.8 mm
Drilled hole diameter	1.2 ^{+0.1} mm
Material Data	
Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +115 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

 Coding pin carrier, see page 324

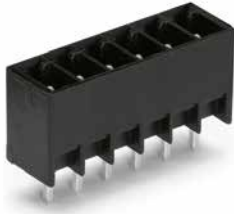
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

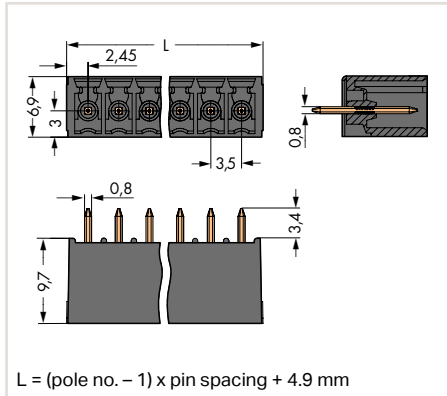
THT Male Headers

Pin Spacing: 3.5 mm

MCS MINI SL

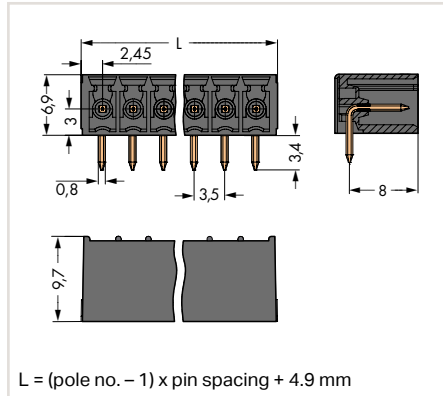


Dimensions (in mm):

THT male header, with straight solder pins,
black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	714-132	200
3	714-133	200
4	714-134	200
5	714-135	200
6	714-136	200
8	714-138	200
10	714-140	100
12	714-142	100
14	714-144	100
15	714-145	100
16	714-146	100

Dimensions (in mm):

THT male header, with angled solder pins,
black, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	714-162	200
3	714-163	200
4	714-164	200
5	714-165	200
6	714-166	200
8	714-168	200
10	714-170	100
12	714-172	100
14	714-174	100
15	714-175	100
16	714-176	100

Available upon request (depending on quantity required):

- Other pole numbers

Coding Pin Carrier and Direct Marking MCS MINI SL



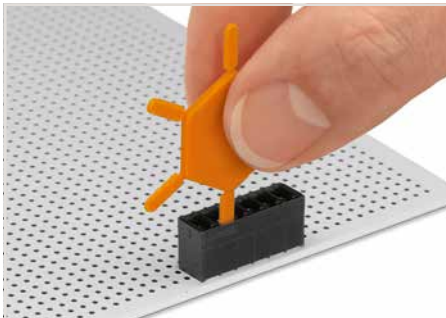
Coding pin carrier, for male headers with six coding pins

Item No.	Pack. Unit
714-101	100 (25)

Direct marking of 1-conductor female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-conductor female connector, with push-buttons, 6-pole, black	714-106/000-047

4



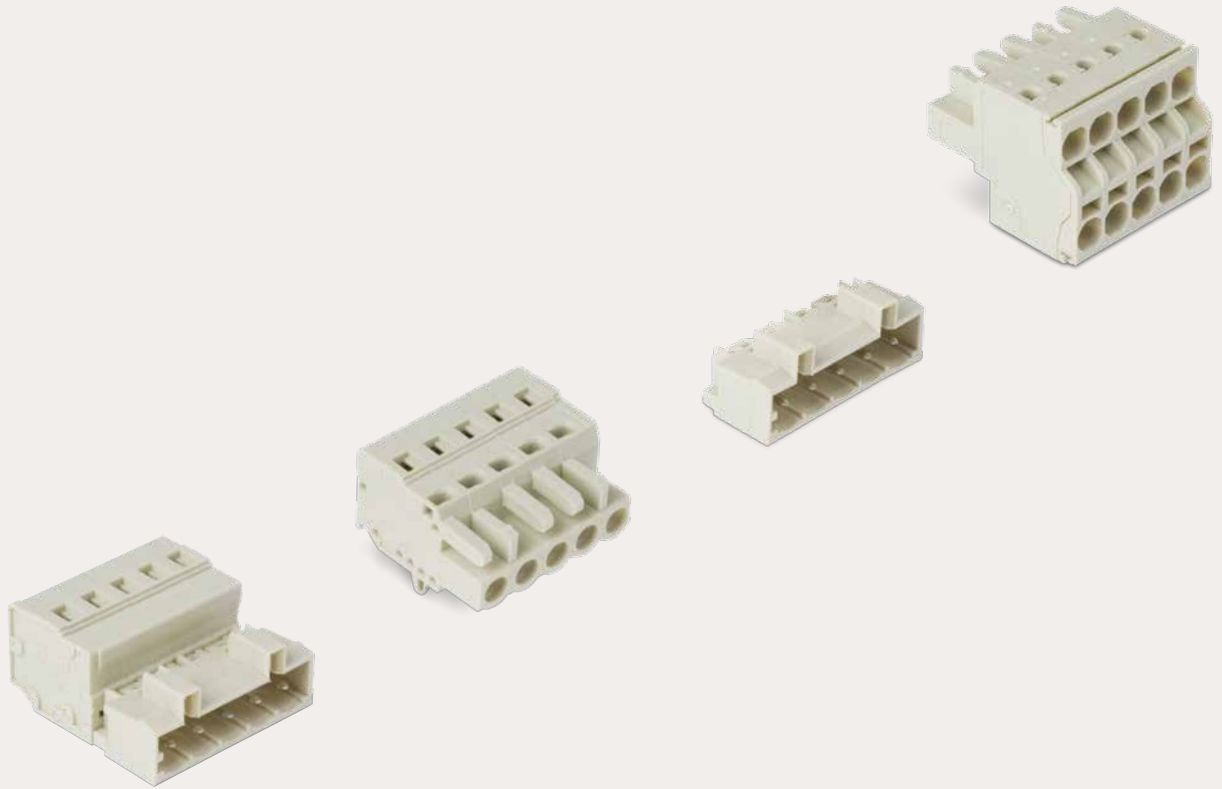
Coding a male header via coding pins.

714 Series Female Connectors can be marked with "1 ... pole no." via factory direct marking.

WAGO recommends pole marking on the PCB for male headers with solder pins (714 Series).



Coding a female connector – removing coding finger(s).



MCS – MULTI CONNECTION SYSTEM

MIDI

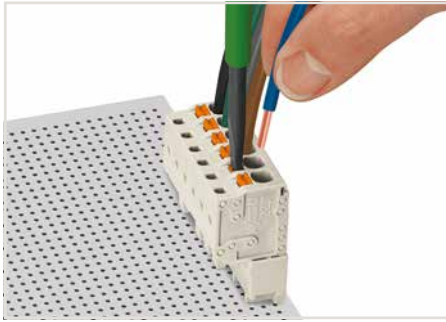
MCS MIDI Connectors/Headers

Pin Spacing: 5 and 7.5 mm / Nominal Cross-Section: 2.5 mm²

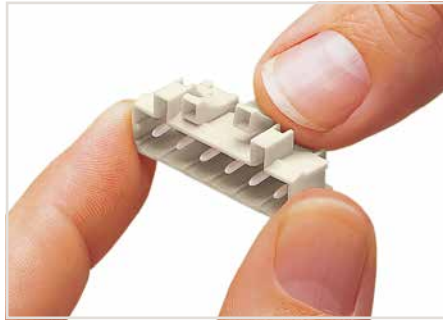
			Page
	MCS MIDI Female Connectors, Straight and Angled, CAGE CLAMP® Termination	5 mm / 0.197 inch 7.5 mm / 0.295 inch	330 362
	MCS MIDI Female Connectors for Panel Mounting, CAGE CLAMP® Termination	5 mm / 0.197 inch 7.5 mm / 0.295 inch	334 366
	MCS MIDI Female Connectors with Push-Buttons, Push-in CAGE CLAMP® Termination	5 mm / 0.197 inch 7.5 mm / 0.295 inch	336 368
	MCS MIDI Female Connectors, 2-Conductor, Push-in CAGE CLAMP® Termination	5 mm / 0.197 inch 7.5 mm / 0.295 inch	340 372
	MCS MIDI THT Male Headers	5 mm / 0.197 inch 7.5 mm / 0.295 inch	342 374
	Press-In Male Headers	5 mm / 0.197 inch	346
	MCS MIDI Male Connectors, CAGE CLAMP® Termination	5 mm / 0.197 inch 7.5 mm / 0.295 inch	348 378
	MCS MIDI THT Female Headers	5 mm / 0.197 inch 7.5 mm / 0.295 inch	352 382
	MCS MIDI Male Connectors for Rail-Mount Terminal Blocks	5 mm / 0.197 inch	356
	Female Connectors for Rail-Mount Terminal Blocks	5 mm / 0.197 inch	358
	MCS MIDI MCS MIDI Accessories		500
	Direct Marking		386
	General Accessories – Section 12		586
	Application Examples		514

MCS MIDI, 100 % Protected Against Mismatching

Description and Installation



Inserting/removing a conductor via 3.5 mm screwdriver – Push-in CAGE CLAMP® actuation in mated condition.

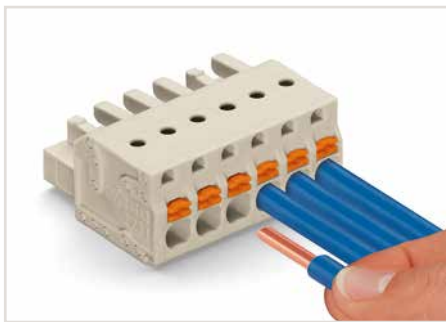


Coding a male header – fitting coding key(s).

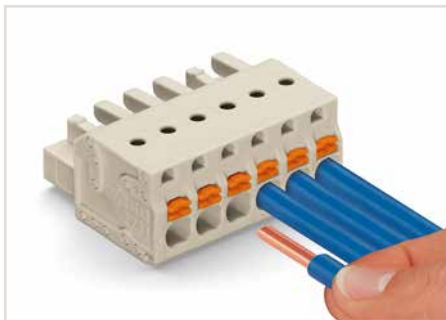


Coding a female connector – removing coding finger(s).

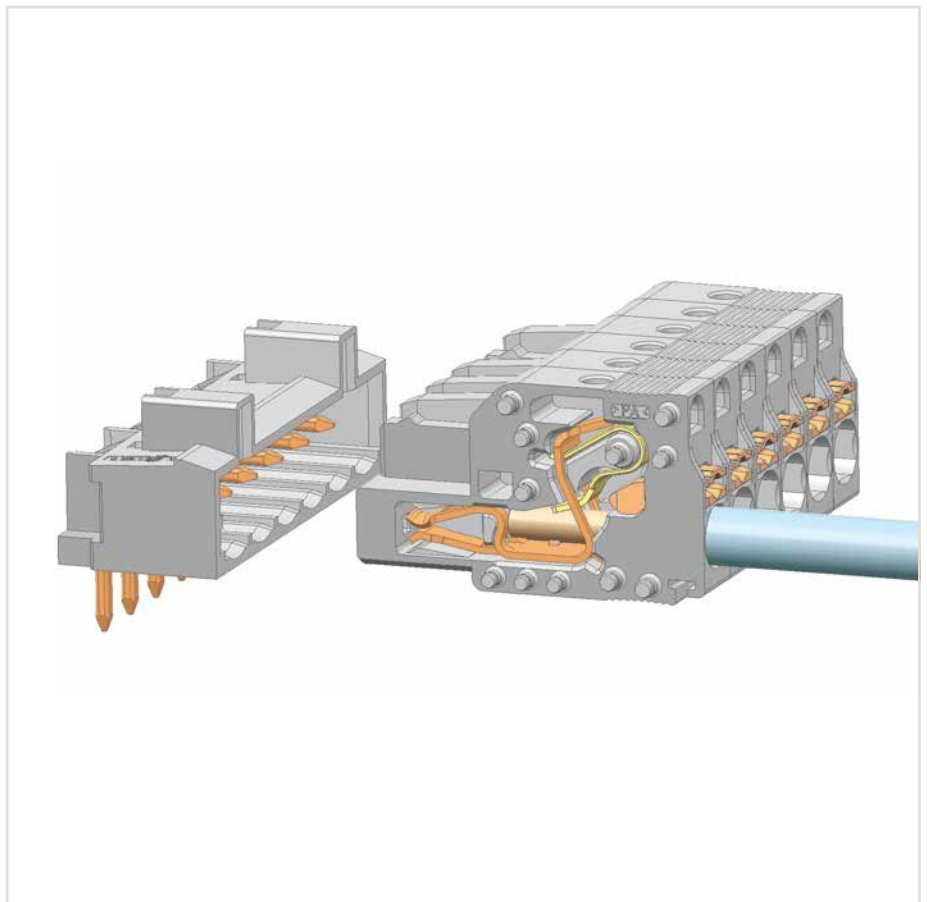
5



Push-in termination of solid conductors or fine-stranded conductors with ferrule



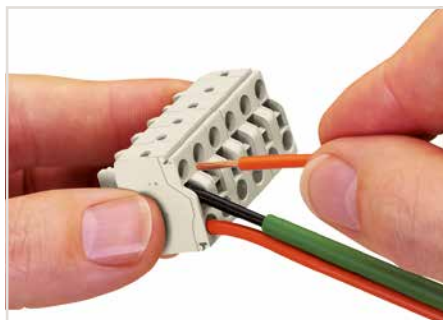
Testing parallel to conductor entry via integrated test ports – female connector with push-buttons and Push-in CAGE CLAMP® connection – touch contact perpendicular to conductor entry.



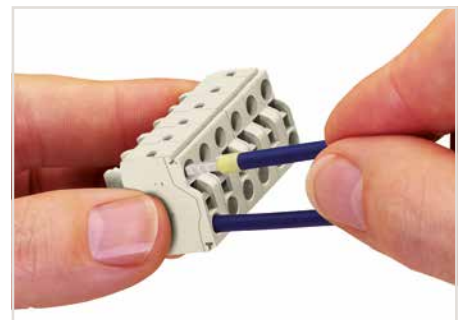
Pin spacing: 5 mm and 7.5 mm, Push-in CAGE CLAMP®



Labeling via direct marking or self-adhesive strips.



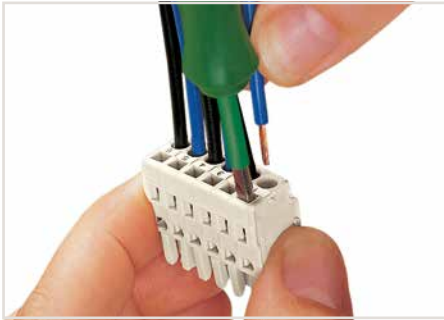
Inserting a fine-stranded conductor via 3.5 mm screwdriver into a 2-conductor female connector equipped with Push-in CAGE CLAMP®.



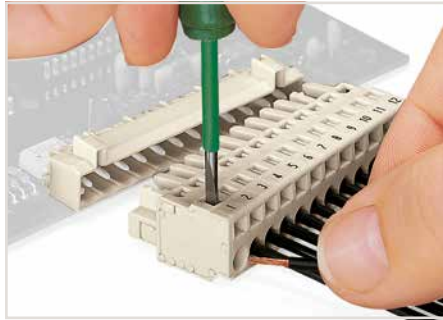
Push-in termination of solid conductors or fine-stranded conductors with ferrule

MCS MIDI, 100 % Protected Against Mismatching

Description and Installation



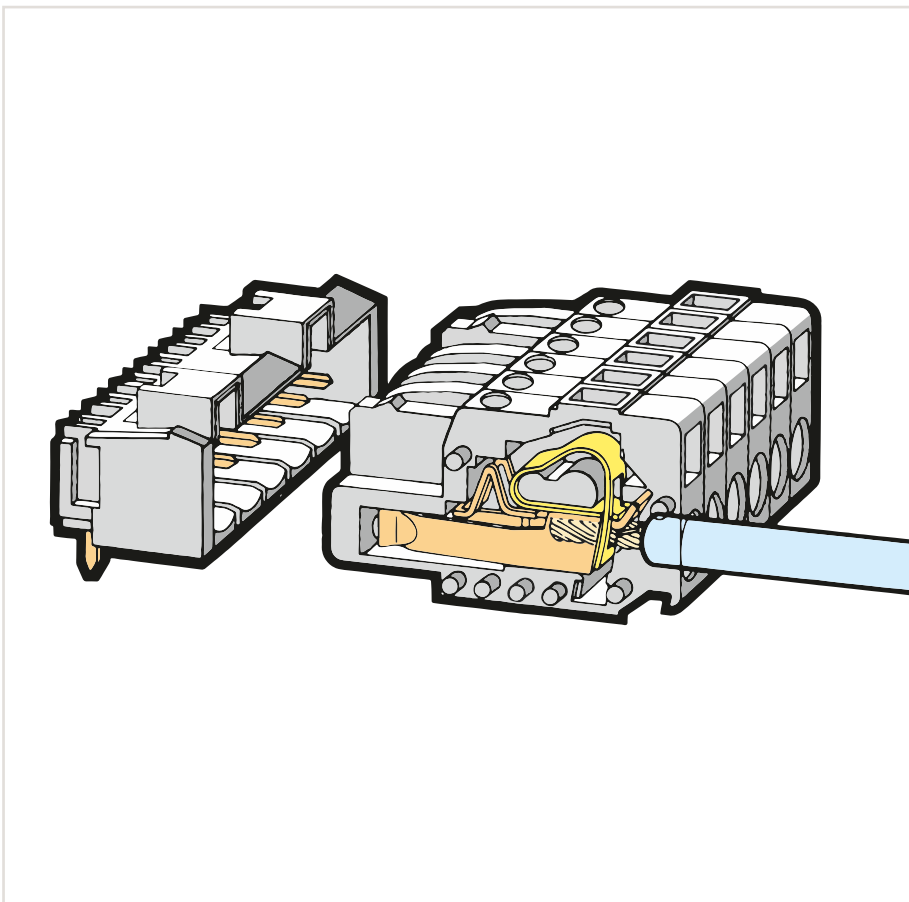
Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



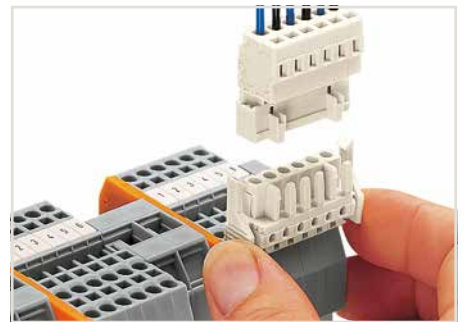
Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



Inserting a conductor into CAGE CLAMP® unit via operating lever (231-291).



Pin spacing: 5 mm and 7.5 mm, CAGE CLAMP®



Connectors for 280 Series Rail-Mount Terminal Blocks

5



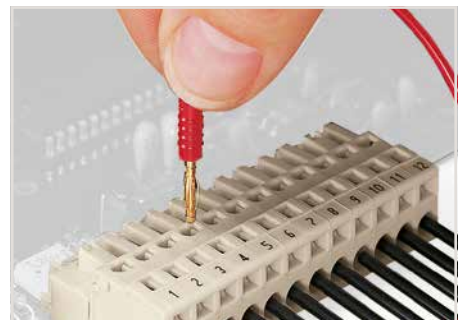
Angled female connector for panel mounting



Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®

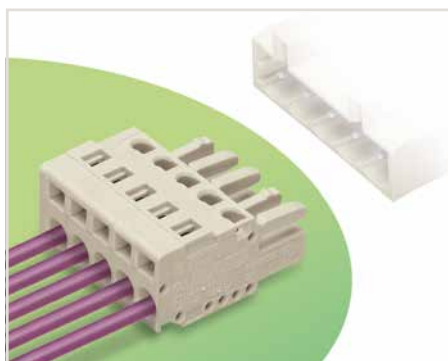


Testing perpendicular to conductor entry with 2 or 2.3 mm Ø test plug – female connector with CAGE CLAMP® – via integrated test ports

1-Conductor Female Connectors

Pin Spacing: 5 mm

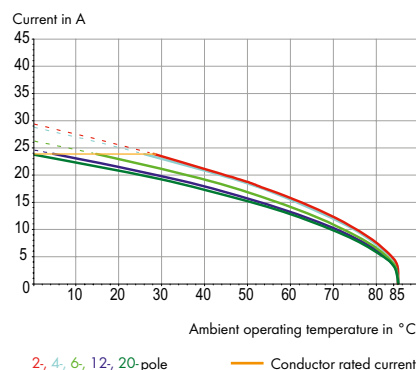
MCS MIDI



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Integrated test ports
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-102/026-000) with THT male header (721-132/001-000)
 Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
 Based on: EN 60512-5-2 / Reduction factor: 0.8



* (III / 2) ≙ Overvoltage category III / Pollution degree 2

	Marking accessories, see page 604
	Operating tools, see page 500, 588
	Direct marking, see page 386
	Comb-style jumper bars, see page 509
	Insulation stop, see page 503
	Mounting adapter for male and female connectors with snap-in mounting feet, see page 508
	Test plug adapters, see page 501
	Test plugs, see page 601
	Screws, see page 610
	Strain relief housings, see page 506
	Strain relief plates, see page 504
	Additional technical information, see Section 13
	Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	5 mm / 0.197 inch	5 mm / 0.197 inch (angled)
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	16 A	14 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	UL 1977 (factory wiring only)	
Rated voltage (UL)	600 V	
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

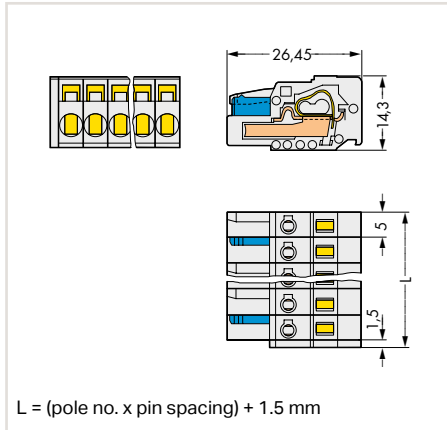
1-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI



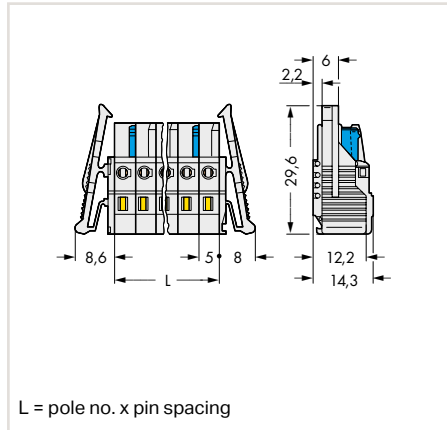
Dimensions (in mm):



1-conductor female connector, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-102/026-000	100
3	721-103/026-000	100
4	721-104/026-000	100
5	721-105/026-000	100
6	721-106/026-000	50
7	721-107/026-000	50
8	721-108/026-000	50
9	721-109/026-000	50
10	721-110/026-000	50
11	721-111/026-000	25
12	721-112/026-000	25
13	721-113/026-000	25
14	721-114/026-000	25
15	721-115/026-000	25
16	721-116/026-000	25
20	721-120/026-000	10

Dimensions (in mm):

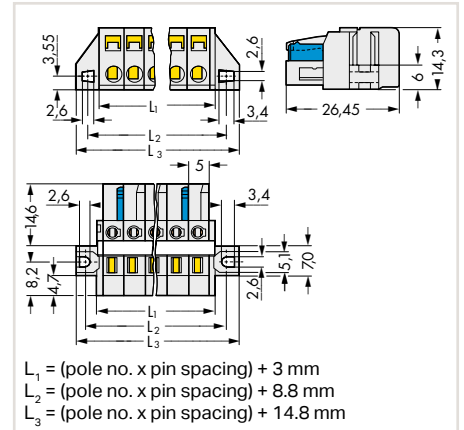


1-conductor female connector, with locking levers, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-102/037-000	100
3	721-103/037-000	50
4	721-104/037-000	50
5	721-105/037-000	50
6	721-106/037-000	50
7	721-107/037-000	50
8	721-108/037-000	25
9	721-109/037-000	25
10	721-110/037-000	25
11	721-111/037-000	25
12	721-112/037-000	25
13	721-113/037-000	25
14	721-114/037-000	25
15	721-115/037-000	25
16	721-116/037-000	10
20	721-120/037-000	10

2-pole female connectors – one latch only

Dimensions (in mm):



1-conductor female connector, with mounting flanges, for racks and through-panel mounting, with reinforcing strips, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-102/031-000	100
3	721-103/031-000	50
4	721-104/031-000	50
5	721-105/031-000	50
6	721-106/027-000	50
7	721-107/027-000	50
8	721-108/027-000	50
9	721-109/027-000	25
10	721-110/027-000	25
11	721-111/027-000	25
12	721-112/027-000	25
13	721-113/027-000	25
14	721-114/027-000	25
15	721-115/027-000	25
16	721-116/027-000	10
20	721-120/027-000	10

Cutout dimensions, see page 510, Table 1

5

Available upon request (depending on quantity required):

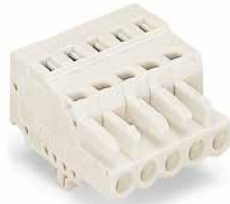
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

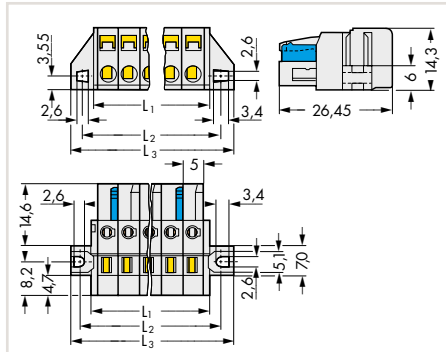
1-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI



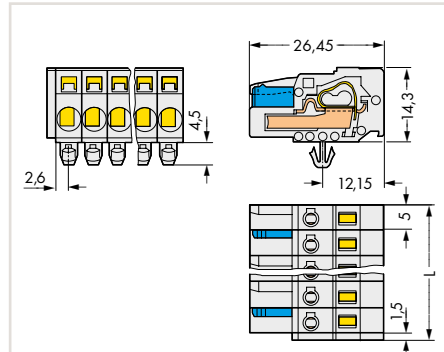
Dimensions (in mm):



$L_1 = (\text{pole no.} \times \text{pin spacing}) + 3 \text{ mm}$
 $L_2 = (\text{pole no.} \times \text{pin spacing}) + 8.8 \text{ mm}$
 $L_3 = (\text{pole no.} \times \text{pin spacing}) + 14.8 \text{ mm}$

1-conductor female connector, with mounting flanges, for panel mounting, light gray, 5 mm (0.197 inch) pin spacing

Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-102/031-000	100
3	721-103/031-000	50
4	721-104/031-000	50
5	721-105/031-000	50
6	721-106/031-000	50
7	721-107/031-000	50
8	721-108/031-000	50
9	721-109/031-000	25
10	721-110/031-000	25
11	721-111/031-000	25
12	721-112/031-000	25
13	721-113/031-000	25
14	721-114/031-000	25
15	721-115/031-000	25
16	721-116/031-000	10
20	721-120/031-000	10

Pole No.	Item No.	Pack. Unit
2	721-102/008-000	100
3	721-103/008-000	100
4	721-104/008-000	100
5	721-105/008-000	100
6	721-106/008-000	50
7	721-107/008-000	50
8	721-108/008-000	50
9	721-109/008-000	50
10	721-110/008-000	50
11	721-111/008-000	25
12	721-112/008-000	25
13	721-113/008-000	25
14	721-114/008-000	25
15	721-115/008-000	25
16	721-116/008-000	25
20	721-120/008-000	10

2-pole female connectors – one latch only

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

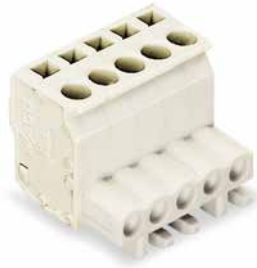
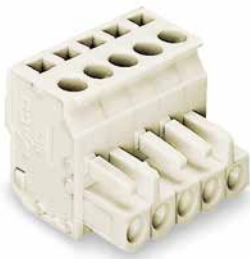
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

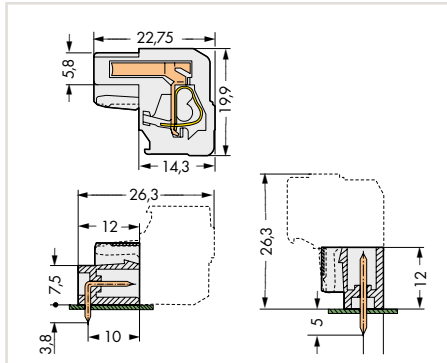
1-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):

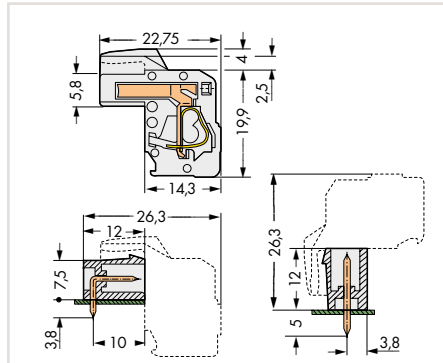


Length = (pole no. x pin spacing) + 1.5 mm + 0.9 mm

1-conductor angled female connector,
conductor entry same direction as latches,
light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-202/026-000	100
3	722-203/026-000	100
4	722-204/026-000	100
5	722-205/026-000	100
6	722-206/026-000	50
7	722-207/026-000	50
8	722-208/026-000	50
9	722-209/026-000	50
10	722-210/026-000	50
11	722-211/026-000	25
12	722-212/026-000	25
13	722-213/026-000	25
14	722-214/026-000	25
15	722-215/026-000	25
16	722-216/026-000	25
20	722-220/026-000	10

Dimensions (in mm):



Length = (pole no. x pin spacing) + 1.5 mm + 0.9 mm

1-conductor angled female connector,
conductor entry opposite of latches,
light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-102/026-000	100
3	722-103/026-000	100
4	722-104/026-000	100
5	722-105/026-000	100
6	722-106/026-000	50
7	722-107/026-000	50
8	722-108/026-000	50
9	722-109/026-000	50
10	722-110/026-000	50
11	722-111/026-000	25
12	722-112/026-000	25
14	722-114/026-000	25
16	722-116/026-000	25
20	722-120/026-000	10

2-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Other pole numbers

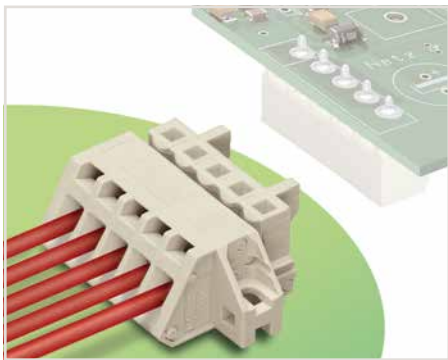
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 5 mm

MCS MIDI

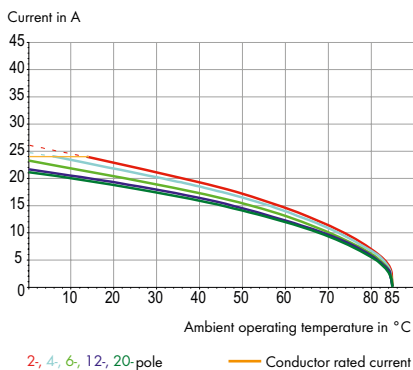


- Universal connection for all conductor types
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- Mounting adapter allows versions with snap-in mounting feet to be DIN-rail mounted
- Easy conductor termination, even when halves are mated
- 100 % protected against mismatching

Derating Curve

1-conductor female connector (721-302/031-000) with THT male header (721-162/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 5604

Operating tools, see page 500, 588

Direct marking, see page 386

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test plug adapters, see page 501

Screws, see page 610

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	7 ... 8 mm / 0.28 ... 0.31 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

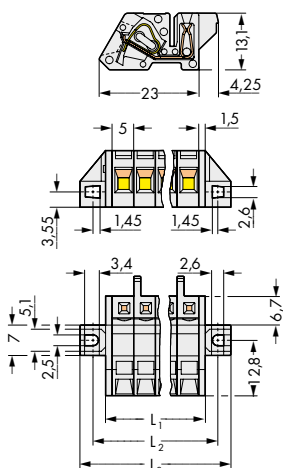
1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):



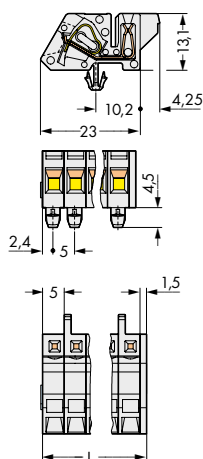
$L_1 = (\text{pole no.} \times \text{pin spacing}) + 3 \text{ mm}$
 $L_2 = (\text{pole no.} \times \text{pin spacing}) + 8.8 \text{ mm}$
 $L_3 = (\text{pole no.} \times \text{pin spacing}) + 14.8 \text{ mm}$

1-conductor angled female connector, with mounting flanges, for panel mounting, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-302/031-000	100
3	721-303/031-000	50
4	721-304/031-000	50
5	721-305/031-000	50
6	721-306/031-000	50
7	721-307/031-000	50
8	721-308/031-000	50
9	721-309/031-000	25
10	721-310/031-000	25
11	721-311/031-000	25
12	721-312/031-000	25
13	721-313/031-000	25
14	721-314/031-000	25
15	721-315/031-000	25
16	721-316/031-000	10
20	721-320/031-000	10

2-pole female connectors – one latch only

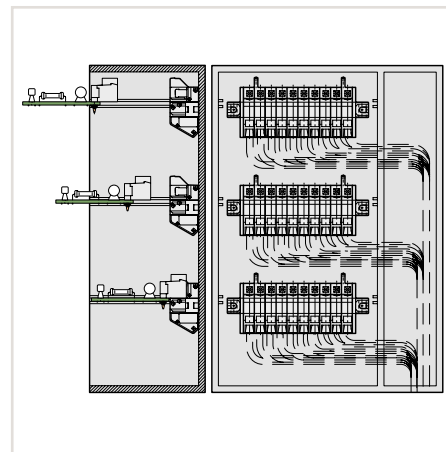
Dimensions (in mm):



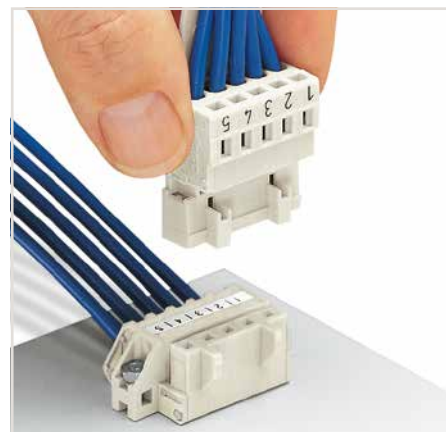
$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

1-conductor angled female connector, with snap-in mounting feet, for panel mounting, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-302/008-000	100
3	721-303/008-000	50
4	721-304/008-000	50
5	721-305/008-000	50
6	721-306/008-000	50
7	721-307/008-000	50
8	721-308/008-000	50
9	721-309/008-000	50
10	721-310/008-000	50
11	721-311/008-000	25
12	721-312/008-000	25
13	721-313/008-000	25
14	721-314/008-000	25
15	721-315/008-000	25
16	721-316/008-000	25
20	721-320/008-000	10



Multilevel arrangement in a distributed electronic housing



Panel-mount connectors – picture shows a male connector with CAGE CLAMP® and strain relief plate for outgoing circuit.



Angled female plug – a male header with straight solder pins is used for horizontal PCB mounting in narrow housings.

5

Available upon request (depending on quantity required):

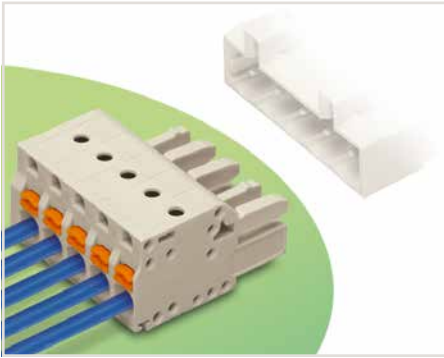
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5 mm

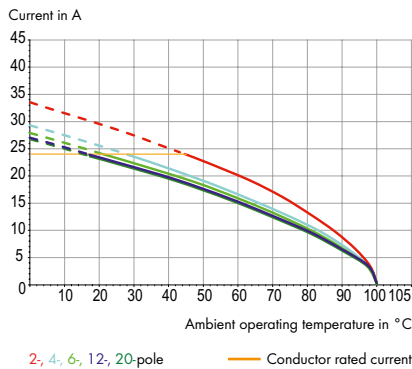
MCS MIDI



- Universal connection for all conductor types
- Easy-to-use design does not require specialty tools
- Ability to wire while mated
- Push-in termination of solid and ferruled conductors
- Integrated test ports for testing parallel to the conductor entry
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (2721-102/026-000) with
THT male header (721-162/001-000)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 500, 588

Direct marking,
see page 386

Insulation stop,
see page 503

Mounting adapter for male and female
connectors with snap-in mounting feet,
see page 508

Test plug adapters,
see page 501

Test plugs,
see page 601

Screws,
see page 610

Strain relief plates,
see page 504

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group C)	150 V
Rated current UL (Use Group C)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group C)	150 V
Rated current CSA (Use Group C)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	10 ... 11 mm / 0.39 ... 0.43 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

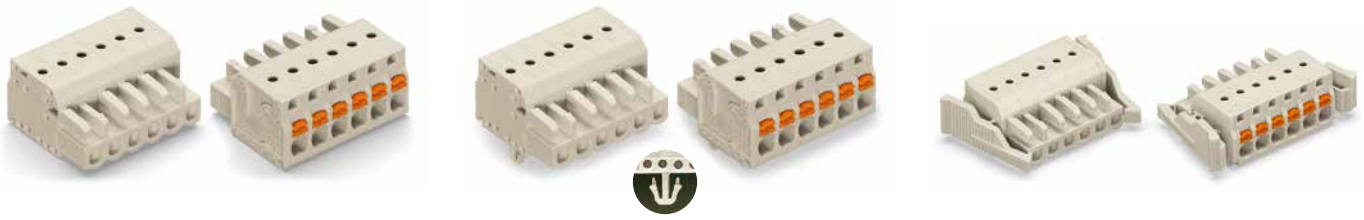
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

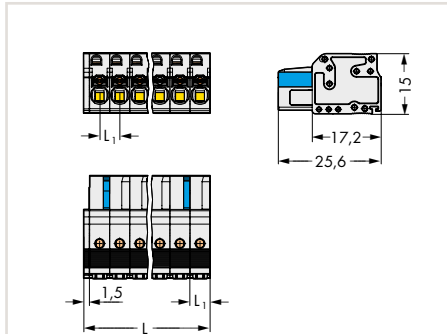
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):



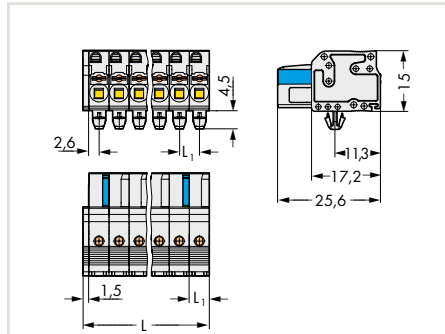
$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

$$L_1 = 5 \text{ mm}$$

1-conductor female connector, with push-buttons, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-102/026-000	100
3	2721-103/026-000	100
4	2721-104/026-000	100
5	2721-105/026-000	100
6	2721-106/026-000	50
7	2721-107/026-000	50
8	2721-108/026-000	50
9	2721-109/026-000	50
10	2721-110/026-000	50
11	2721-111/026-000	25
12	2721-112/026-000	25
14	2721-114/026-000	25
16	2721-116/026-000	25
20	2721-120/026-000	10

Dimensions (in mm):



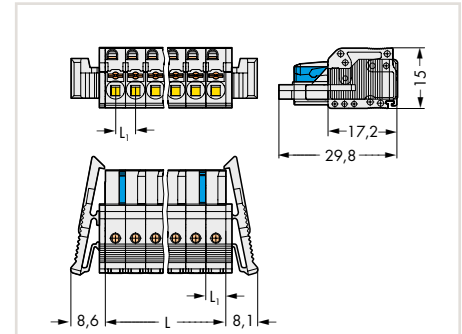
$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

$$L_1 = 5 \text{ mm}$$

1-conductor female connector, with push-buttons and snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-102/008-000	100
3	2721-103/008-000	100
4	2721-104/008-000	100
5	2721-105/008-000	100
6	2721-106/008-000	50
7	2721-107/008-000	50
8	2721-108/008-000	50
9	2721-109/008-000	50
10	2721-110/008-000	50
11	2721-111/008-000	25
12	2721-112/008-000	25
14	2721-114/008-000	25
16	2721-116/008-000	25
20	2721-120/008-000	10

Dimensions (in mm):



$$L = \text{pole no.} \times \text{pin spacing}$$

$$L_1 = 5 \text{ mm}$$

1-conductor female connector, with push-buttons and locking levers, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-102/037-000	100
3	2721-103/037-000	50
4	2721-104/037-000	50
5	2721-105/037-000	50
6	2721-106/037-000	50
7	2721-107/037-000	50
8	2721-108/037-000	25
9	2721-109/037-000	25
10	2721-110/037-000	25
11	2721-111/037-000	25
12	2721-112/037-000	25
14	2721-114/037-000	25
16	2721-116/037-000	10
20	2721-120/037-000	10

2-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Other pole numbers

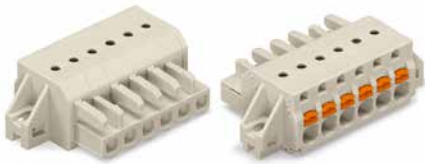
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

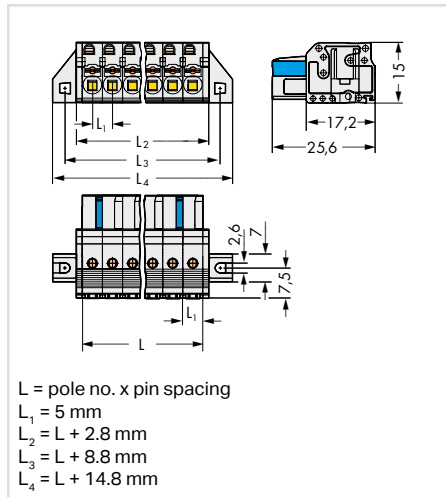
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):



1-conductor female connector, with push-buttons and mounting flanges, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-102/031-000	100
3	2721-103/031-000	50
4	2721-104/031-000	50
5	2721-105/031-000	50
6	2721-106/031-000	50
7	2721-107/031-000	50
8	2721-108/031-000	50
9	2721-109/031-000	25
10	2721-110/031-000	25
12	2721-112/031-000	25
14	2721-114/031-000	25
16	2721-116/031-000	10
20	2721-120/031-000	10

2-pole female connectors – one latch only

Cutout dimensions, see page 511, Table 2

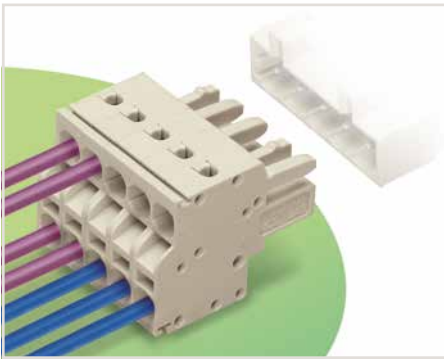
Available upon request (depending on quantity required):

- Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

2-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI

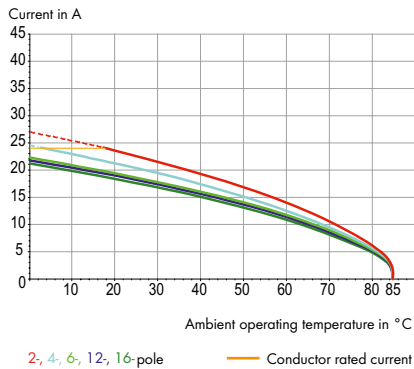


- Universal connection for all conductor types
- Two conductor entries per pole
- For looping through power or data buses
- Bus connection is retained, even when unmated
- Push-in termination of solid and ferruled conductors
- 100 % protected against mismatching
- With coding fingers

Derating Curve

2-conductor female connector (721-2102/026-000) with THT male header (721-132/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Insulation stop, see page 503

Test plug adapters, see page 501

Test pin, see page 601

Strain relief plates, see page 504

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	16 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	20 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage (UL)	UL 1977 (factory wiring only)
Approvals per	600 V
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	15 A
Rated current CSA (Use Group D)	300 V
Approvals per	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

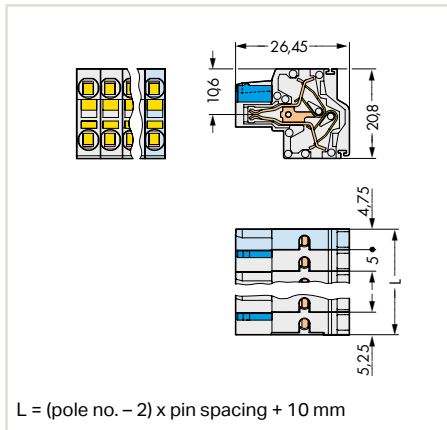
2-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):

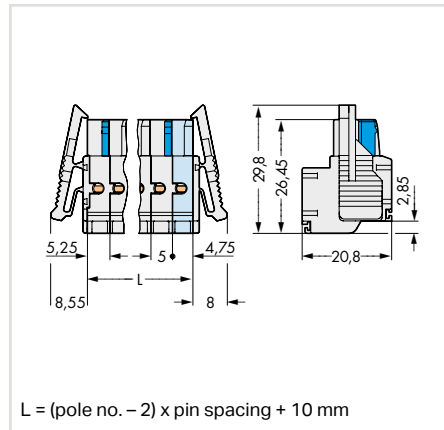


2-conductor female connector, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-2102/026-000	100
3	721-2103/026-000	100
4	721-2104/026-000	100
5	721-2105/026-000	50
6	721-2106/026-000	50
7	721-2107/026-000	50
8	721-2108/026-000	50
9	721-2109/026-000	50
10	721-2110/026-000	50
11	721-2111/026-000	25
12	721-2112/026-000	25
13	721-2113/026-000	25
14	721-2114/026-000	25
15	721-2115/026-000	25
16	721-2116/026-000	25

2-pole female connectors – one latch only

Dimensions (in mm):

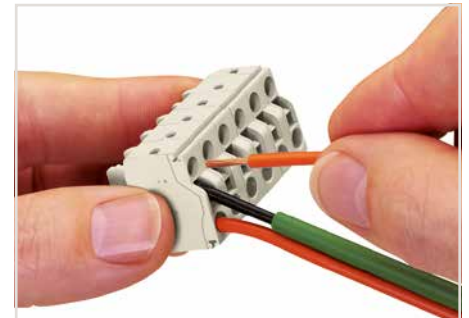


2-conductor female connector, with locking levers, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-2102/037-000	100
3	721-2103/037-000	50
4	721-2104/037-000	50
5	721-2105/037-000	50
6	721-2106/037-000	50
7	721-2107/037-000	50
8	721-2108/037-000	25
9	721-2109/037-000	25
10	721-2110/037-000	25
11	721-2111/037-000	25
12	721-2112/037-000	25
13	721-2113/037-000	25
14	721-2114/037-000	25
15	721-2115/037-000	25
16	721-2116/037-000	10

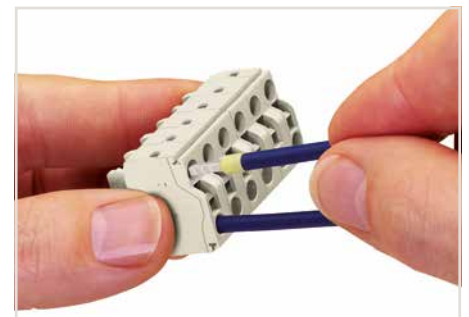
Female connectors equipped with two Push-in CAGE CLAMP® connections per pole allow conductors to be looped from one connector to another without interruption. Therefore, disconnecting one connector will not affect other connectors in the circuit.

These female connectors can be mated with male headers or CAGE CLAMP®-equipped male connectors that are 100 % protected against mismatching.



Operating Push-in CAGE CLAMP® is easy, fast and identical to that of CAGE CLAMP®.

The screwdriver is fully inserted into the operating slot, holding Push-in CAGE CLAMP® open. After the conductor has been inserted into the clamping unit and the screwdriver been withdrawn, the conductor is clamped safely. Solid and fine-stranded conductors <math>< 0.5 \text{ mm}^2</math> (20 AWG) are terminated and removed using a screwdriver.



Solid conductors $\geq 0.5 \text{ mm}^2$ (20 AWG), as well as feruled, fine-stranded conductors can be terminated by simply pushing them into unit. Integrated test ports allow touch contact with current bar via test probes in both horizontal and vertical directions.

Available upon request (depending on quantity required):

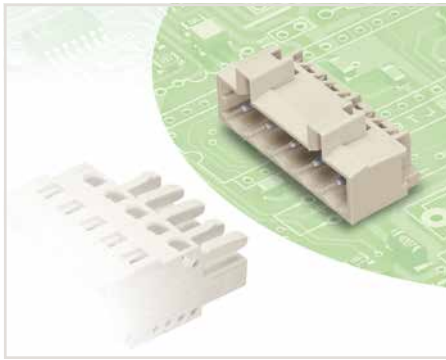
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 5 mm

MCS MIDI

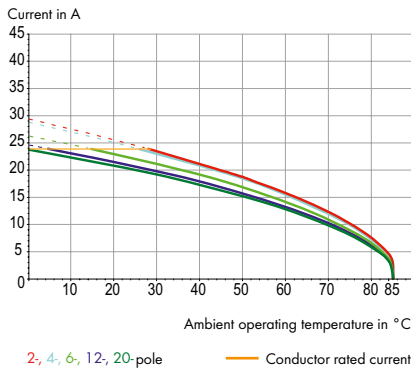


- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-102/026-000) with THT male header (721-432/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fsI"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm / 0.197 inch
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

📖 Mounting adapters, see page 503

📖 Coding keys, see page 502

📖 Screws, see page 610

📖 Additional technical information, see Section 13

📖 Approvals and corresponding ratings, visit www.wago.com

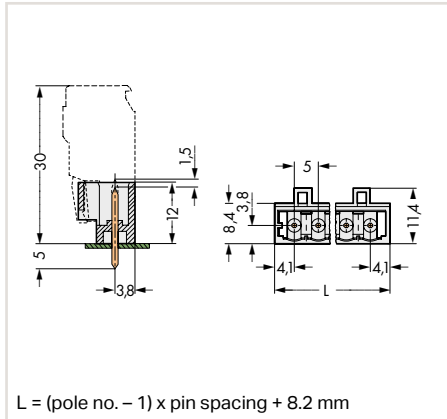
THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 5 mm

MCS MIDI



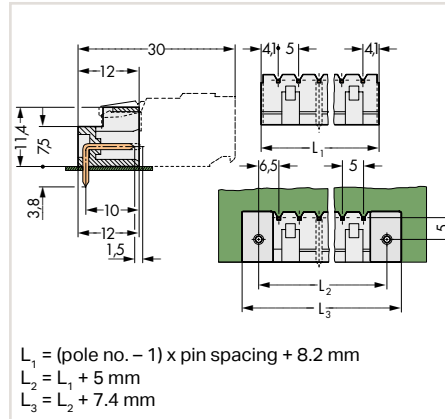
Dimensions (in mm):



THT male header, with 1 x 1 mm straight solder pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-132/001-000	200
3	721-133/001-000	200
4	721-134/001-000	200
5	721-135/001-000	200
6	721-136/001-000	100
7	721-137/001-000	100
8	721-138/001-000	100
9	721-139/001-000	100
10	721-140/001-000	100
11	721-141/001-000	100
12	721-142/001-000	100
13	721-143/001-000	50
14	721-144/001-000	50
15	721-145/001-000	50
16	721-146/001-000	50
20	721-150/001-000	50

Dimensions (in mm):



THT male header, with 1 x 1 mm angled solder pins, light gray, 5 mm (0.197 inch) pin spacing

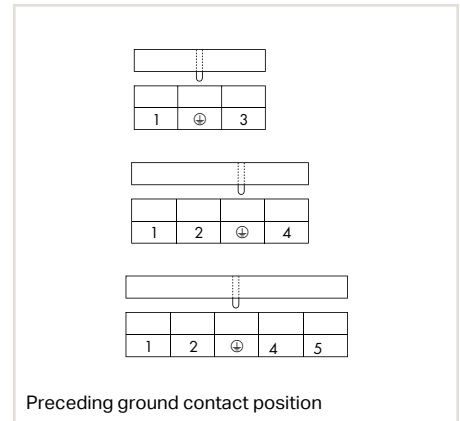
Pole No.	Item No.	Pack. Unit
2	721-432/001-000	200
3	721-433/001-000	200
4	721-434/001-000	200
5	721-435/001-000	200
6	721-436/001-000	100
7	721-437/001-000	100
8	721-438/001-000	100
9	721-439/001-000	100
10	721-440/001-000	100
11	721-441/001-000	100
12	721-442/001-000	100
13	721-443/001-000	50
14	721-444/001-000	50
15	721-445/001-000	50
16	721-446/001-000	50
20	721-450/001-000	50

THT male header, with 1 x 1 mm straight solder pins and preceding ground contact, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-133/001-040	200
4	721-134/001-040	200
5	721-135/001-040	200

THT male header, with 1 x 1 mm angled solder pins and preceding ground contact, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-433/001-040	200
4	721-434/001-040	200
5	721-435/001-040	200



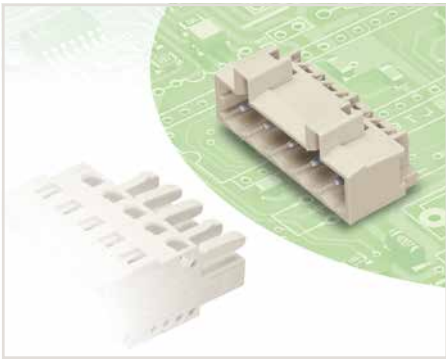
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix ... /001-000 with ... /046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 5 mm

MCS MIDI

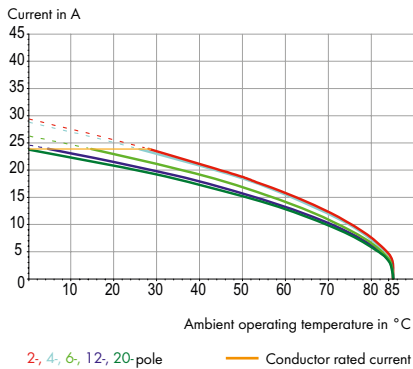


- Horizontal or vertical PCB mounting via straight or angled solder pins
- 1.2 x 1.2 mm solder pins allow a nominal current up to 16 A, enhancing the stability of shorter headers
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-102/026-000) with THT male header (721-432/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	250 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	16 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm / 0.197 inch
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1.2 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Mounting adapters, see page 503

Coding keys, see page 502

Screws, see page 610

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

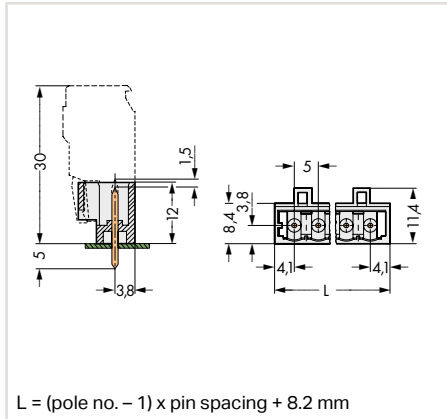
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 5 mm

MCS MIDI



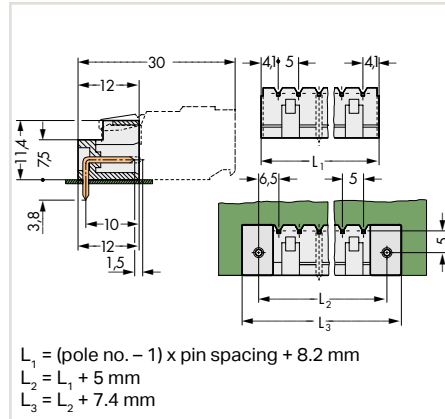
Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm straight solder pins, light gray, 5 mm (0.197 inch) pin spacing

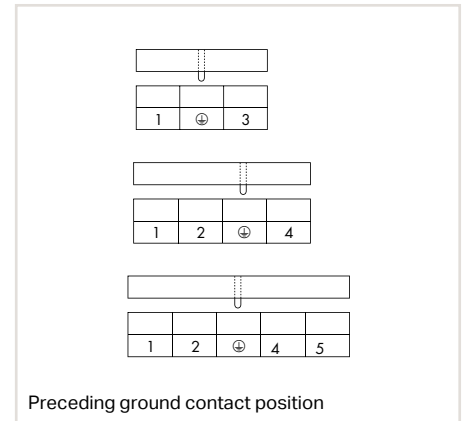
Pole No.	Item No.	Pack. Unit
2	721-162/001-000	200
3	721-163/001-000	200
4	721-164/001-000	200
5	721-165/001-000	200
6	721-166/001-000	100
7	721-167/001-000	100
8	721-168/001-000	100
9	721-169/001-000	100
10	721-170/001-000	100
11	721-171/001-000	100
12	721-172/001-000	100
13	721-173/001-000	50
14	721-174/001-000	50
15	721-175/001-000	50
16	721-176/001-000	50
20	721-180/001-000	50

Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm angled solder pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-462/001-000	200
3	721-463/001-000	200
4	721-464/001-000	200
5	721-465/001-000	200
6	721-466/001-000	100
7	721-467/001-000	100
8	721-468/001-000	100
9	721-469/001-000	100
10	721-470/001-000	100
11	721-471/001-000	100
12	721-472/001-000	100
13	721-473/001-000	50
14	721-474/001-000	50
15	721-475/001-000	50
16	721-476/001-000	50
20	721-480/001-000	50



THT male header, with 1.2 x 1.2 mm straight solder pins and preceding ground contact, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-163/001-040	200
4	721-164/001-040	200
5	721-165/001-040	200

THT male header, with 1.2 x 1.2 mm angled solder pins and preceding ground contact, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-463/001-040	200
4	721-464/001-040	200
5	721-465/001-040	200

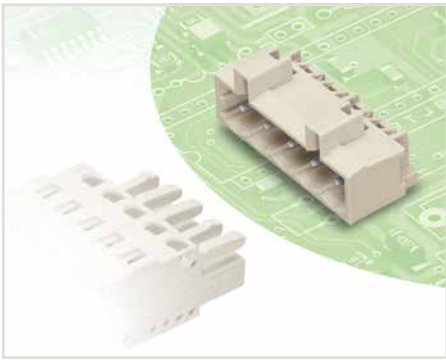
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Press-In Male Headers

Pin Spacing: 5 mm

MCS MIDI

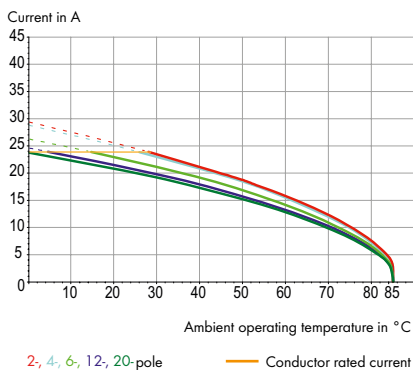


- Vertical PCB mounting via straight solder pins
- Version with press-in pins provides solder-free connection to PCB
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-102/026-000) with THT male header (721-432/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fsI"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	8 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Press-In Pin Data

Press-pin length	3.2 mm
Press-in pin dimensions	0.8 x 1.6 mm
Drilled hole diameter	1.6 ^{+0.025} mm
Plated through-hole diameter (HAL Sn)	1,45 ^{+0.09} _{-0.06} mm
Plated through-hole diameter (chemical Sn)	1,45 ^{+0.09} _{-0.00} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-40 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Coding keys, see page 502

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

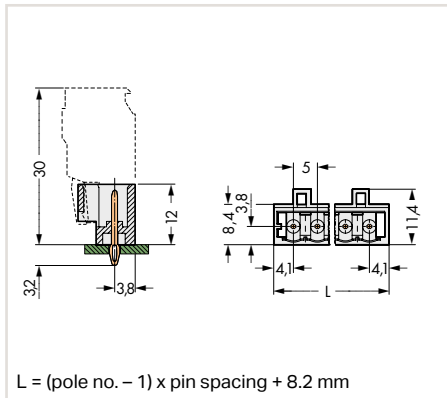
Press-In Male Headers

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):



Press-in male header, light gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-162/100-000	200
3	721-163/100-000	200
4	721-164/100-000	200
5	721-165/100-000	200
6	721-166/100-000	100
7	721-167/100-000	100
8	721-168/100-000	100
9	721-169/100-000	100
10	721-170/100-000	100
11	721-171/100-000	100
12	721-172/100-000	100

Unique features of WAGO press-in technology:

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameter
–1.0 or 1.45 \pm 0.08 mm (HAL Sn)
–1.0 or 1.45 \pm 0.08 mm (chemical Sn)
- Press-in pin for PCB thickness from 1.4 to 3 mm
- Press-in length of approximately 3.2 mm – no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- Robust bonded connection
- Excellent elastic spring behavior between the contact points
- No deformation of the metal-plated end hole
- Length of contact area \geq 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole – reduces wear and tear on PCB and contact points

5

Available upon request (depending on quantity required):

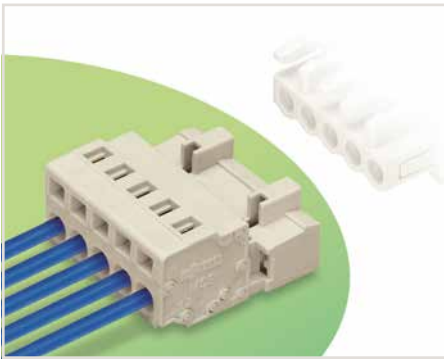
- Other pole numbers
- Information on press-in tool design
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Male Connectors

Pin Spacing: 5 mm

MCS MIDI

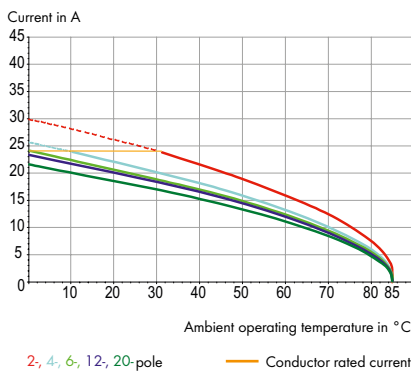


- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- 3- to 5-pole male connectors are also available with preceding ground contact
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-102/026-000) with
1-conductor male header (721-602)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
Approvals per	12 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	15 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage (UL)	UL 1977 (factory wiring only)
Approvals per	600 V
Rated voltage CSA (Use Group B)	CSA
Rated current CSA (Use Group B)	300 V
Rated voltage CSA (Use Group D)	15 A
Rated current CSA (Use Group D)	300 V
	10 A

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

📖 Marking accessories,
see page 604

📖 Operating tools,
see page 500, 588

📖 Direct marking,
see page 386

📖 Comb-style jumper bars,
see page 509

📖 Insulation stop,
see page 503

📖 Coding keys,
see page 502

📖 Mounting adapter for male and female
connectors with snap-in mounting feet,
see page 508

📖 Screws,
see page 610

📖 Strain relief housings,
see page 506

📖 Strain relief plates,
see page 504

📖 Additional technical information,
see Section 13

📖 Approvals and corresponding ratings,
visit www.wago.com

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

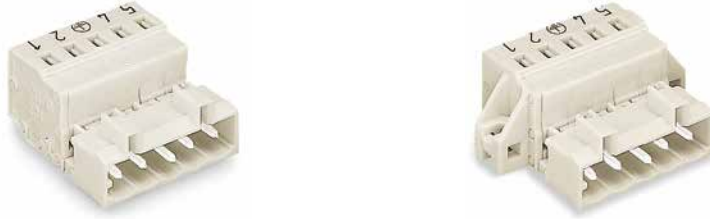
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

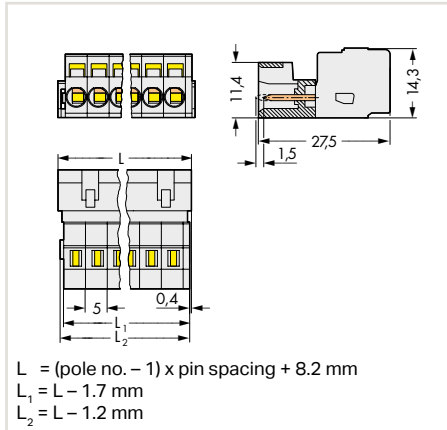
1-Conductor Male Connectors

Pin Spacing: 5 mm

MCS MIDI



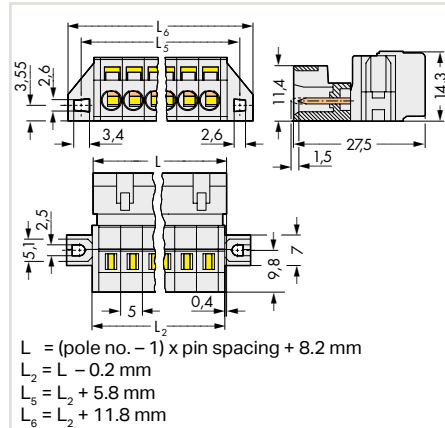
Dimensions (in mm):



1-conductor male connector, light gray,
5 mm (0.197 inch) pin spacing

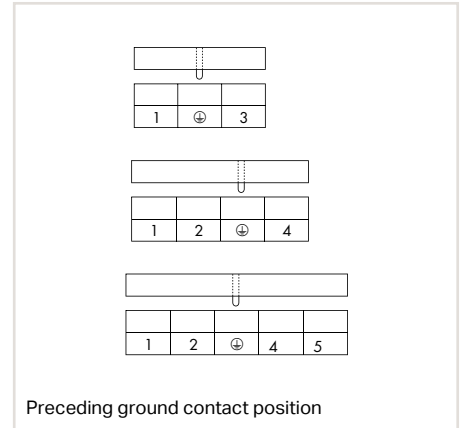
Pole No.	Item No.	Pack. Unit
2	721-602	100
3	721-603	100
4	721-604	100
5	721-605	50
6	721-606	50
7	721-607	50
8	721-608	50
9	721-609	50
10	721-610	50
11	721-611	25
12	721-612	25
13	721-613	25
14	721-614	25
15	721-615	25
16	721-616	25
20	721-620	10

Dimensions (in mm):



1-conductor male connector, with mounting
flanges, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-602/019-000	100
3	721-603/019-000	50
4	721-604/019-000	50
5	721-605/019-000	50
6	721-606/019-000	50
7	721-607/019-000	50
8	721-608/019-000	50
9	721-609/019-000	25
10	721-610/019-000	25
11	721-611/019-000	25
12	721-612/019-000	25
13	721-613/019-000	25
14	721-614/019-000	25
15	721-615/019-000	25
16	721-616/019-000	10
20	721-620/019-000	10



1-conductor male connector, with preceding
ground contact, light gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-603/000-042	100
4	721-604/000-042	50
5	721-605/000-042	50

1-conductor male connector, with mounting
flanges and preceding ground contact,
light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-603/019-042	100
4	721-604/019-042	50
5	721-605/019-042	50

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

- Other pole numbers

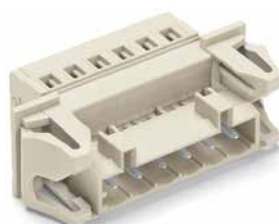
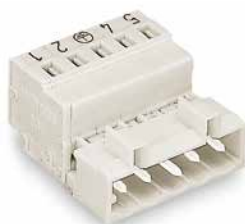
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

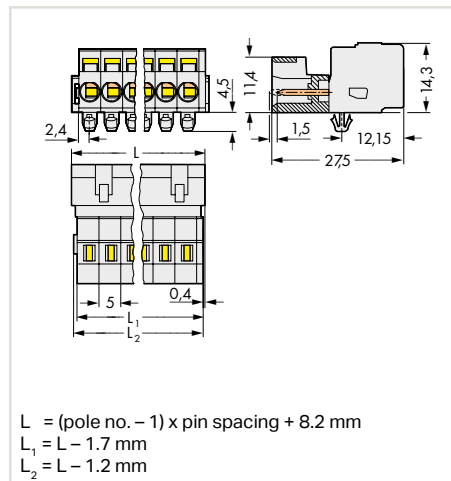
1-Conductor Male Connectors

Pin Spacing: 5 mm

MCS MIDI



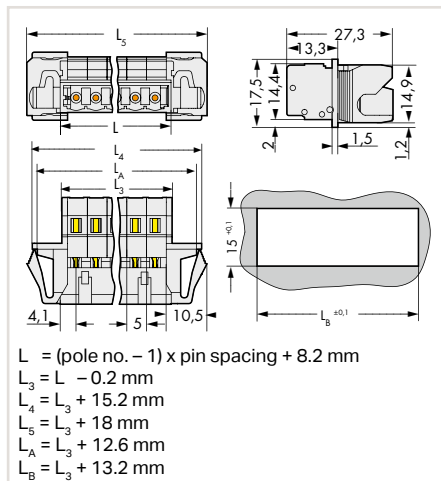
Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 5 mm (0.197 inch) pin spacing

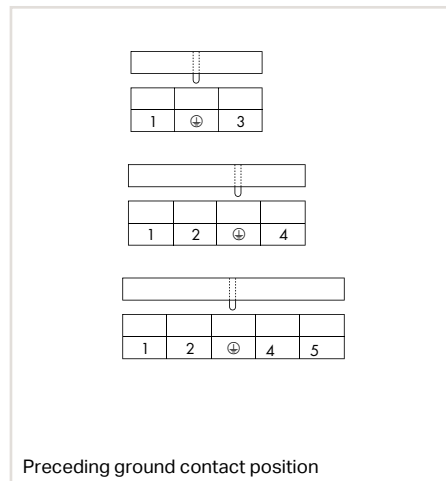
Pole No.	Item No.	Pack. Unit
2	721-602/018-000	100
3	721-603/018-000	100
4	721-604/018-000	100
5	721-605/018-000	50
6	721-606/018-000	50
7	721-607/018-000	50
8	721-608/018-000	50
9	721-609/018-000	50
10	721-610/018-000	50
11	721-611/018-000	25
12	721-612/018-000	25
13	721-613/018-000	25
14	721-614/018-000	25
15	721-615/018-000	25
16	721-616/018-000	25
20	721-620/018-000	10

Dimensions (in mm):



1-conductor male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-602/114-000	50
3	721-603/114-000	50
4	721-604/114-000	50
5	721-605/114-000	50
6	721-606/114-000	50
7	721-607/114-000	25
8	721-608/114-000	25
9	721-609/114-000	25
10	721-610/114-000	25
11	721-611/114-000	25
12	721-612/114-000	25
13	721-613/114-000	25
14	721-614/114-000	25
15	721-615/114-000	10
16	721-616/114-000	10
20	721-620/114-000	10



1-conductor male connector, with snap-in mounting feet and preceding ground contact, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-603/018-042	100
4	721-604/018-042	50
5	721-605/018-042	50

1-conductor male connector, with snap-in flanges and preceding ground contact, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-603/114-042	50
4	721-604/114-042	50
5	721-605/114-042	50

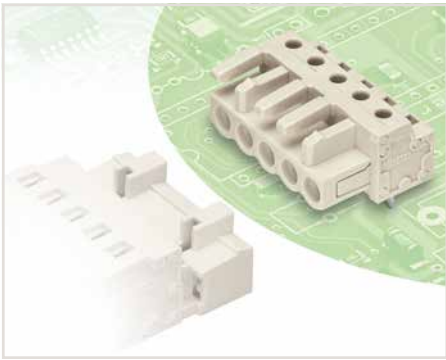
Available upon request (depending on quantity required):

- Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THT Female Headers

Pin Spacing: 5 mm

MCS MIDI

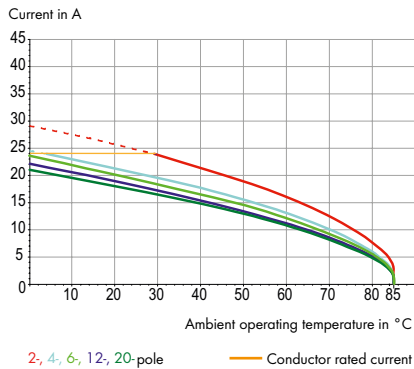


- Horizontal or vertical PCB mounting via straight or angled solder pins
- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify PCB inputs and outputs
- 100 % protected against mismatching
- With coding fingers

Derating Curve

THT female header (722-232) with
1-conductor male connector (721-602)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fsI"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	5 mm / 0.197 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm / 0.197 inch
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Test plug adapters,
see page 501

Test plugs,
see page 601

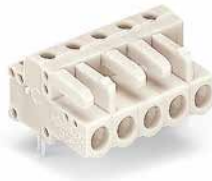
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

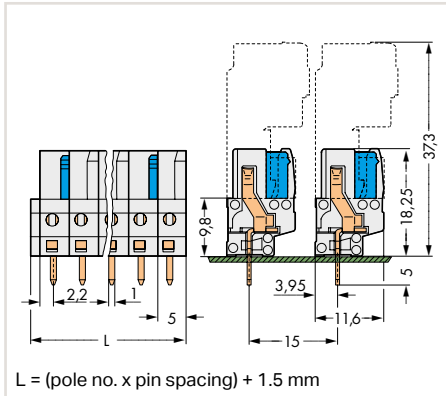
THT Female Headers

Pin Spacing: 5 mm

MCS MIDI



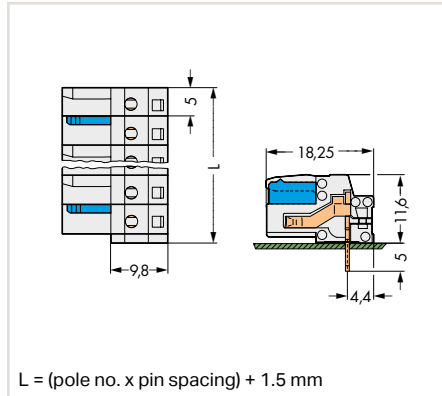
Dimensions (in mm):



THT female header, with straight solder pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-132	100
3	722-133	100
4	722-134	100
5	722-135	100
6	722-136	50
7	722-137	50
8	722-138	50
9	722-139	50
10	722-140	50
11	722-141	25
12	722-142	25
13	722-143	25
14	722-144	25
15	722-145	25
16	722-146	25
20	722-150	10

Dimensions (in mm):



THT female header, with angled solder pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-232	100
3	722-233	100
4	722-234	100
5	722-235	100
6	722-236	50
7	722-237	50
8	722-238	50
9	722-239	50
10	722-240	50
11	722-241	25
12	722-242	25
13	722-243	25
14	722-244	25
15	722-245	25
16	722-246	25
20	722-250	10

2-pole female connectors – one latch only

Available upon request (depending on quantity required):

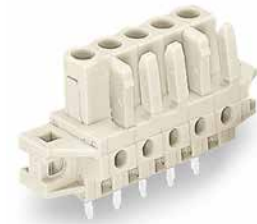
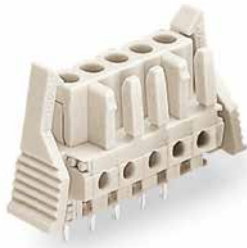
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix ... /045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

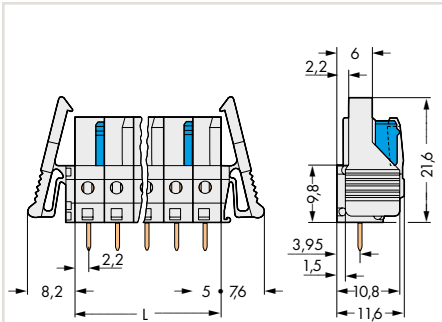
THT Female Headers

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):

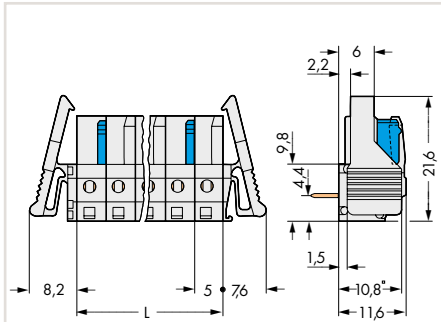


L = pole no. x pin spacing

THT female header, with straight solder pins and locking levers, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-132/039-000	100
3	722-133/039-000	50
4	722-134/039-000	50
5	722-135/039-000	50
6	722-136/039-000	50
7	722-137/039-000	50
8	722-138/039-000	50
9	722-139/039-000	25
10	722-140/039-000	25
11	722-141/039-000	25
12	722-142/039-000	25
13	722-143/039-000	25
14	722-144/039-000	25
15	722-145/039-000	25
16	722-146/039-000	10
20	722-150/039-000	10

Dimensions (in mm):

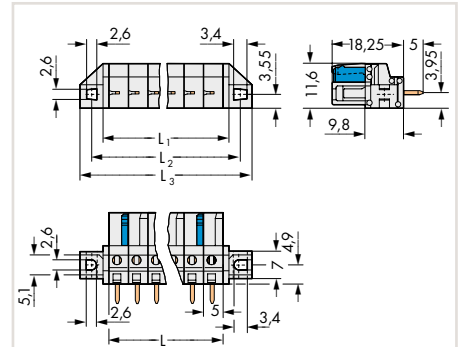


L = pole no. x pin spacing

THT female header, with angled solder pins and locking levers, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-232/039-000	100
3	722-233/039-000	50
4	722-234/039-000	50
5	722-235/039-000	50
6	722-236/039-000	50
7	722-237/039-000	50
8	722-238/039-000	50
9	722-239/039-000	25
10	722-240/039-000	25
11	722-241/039-000	25
12	722-242/039-000	25
13	722-243/039-000	25
14	722-244/039-000	25
15	722-245/039-000	25
16	722-246/039-000	10
20	722-250/039-000	10

Dimensions (in mm):



L = pole no. x pin spacing
 L₁ = L + 3 mm
 L₂ = L + 8.8 mm
 L₃ = L + 14.8 mm

THT female header, with straight solder pins and mounting flanges, for through-panel mounting, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-132/031-000	100
3	722-133/031-000	50
4	722-134/031-000	50
5	722-135/031-000	50
6	722-136/031-000	50
7	722-137/031-000	50
8	722-138/031-000	50
9	722-139/031-000	25
10	722-140/031-000	25
11	722-141/031-000	25
12	722-142/031-000	25
13	722-143/031-000	25
14	722-144/031-000	25
15	722-145/031-000	25
16	722-146/031-000	10
20	722-150/031-000	10

2-pole female connectors – one latch only

Cutout dimensions, see page 512, Table 3

Available upon request (depending on quantity required):

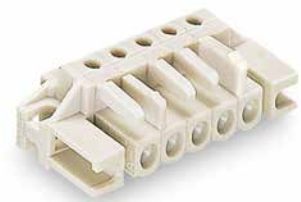
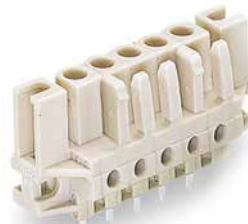
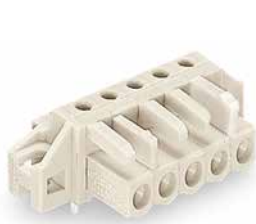
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

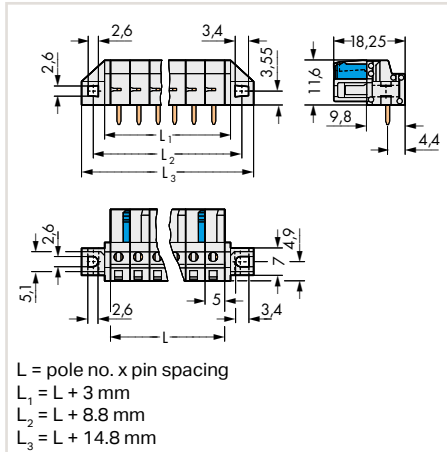
THT Female Headers

Pin Spacing: 5 mm

MCS MIDI



Dimensions (in mm):



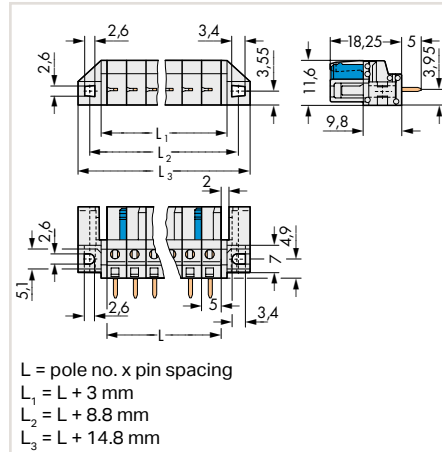
THT female header, with angled solder pins and mounting flanges, for through-panel mounting, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-232/031-000	100
3	722-233/031-000	50
4	722-234/031-000	50
5	722-235/031-000	50
6	722-236/031-000	50
7	722-237/031-000	50
8	722-238/031-000	50
9	722-239/031-000	25
10	722-240/031-000	25
11	722-241/031-000	25
12	722-242/031-000	25
13	722-243/031-000	25
14	722-244/031-000	25
15	722-245/031-000	25
16	722-246/031-000	10
20	722-250/031-000	10

Cutout dimensions, see page 512, Table 3

2-pole female connectors – one latch only

Dimensions (in mm):

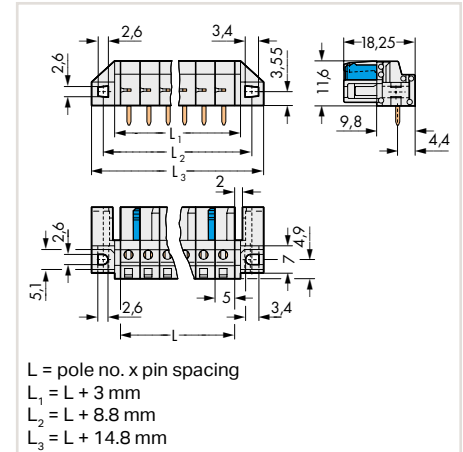


THT female header, with straight solder pins and spacers, for flush mounting, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-132/047-000	100
3	722-133/047-000	50
4	722-134/047-000	50
5	722-135/047-000	50
6	722-136/047-000	50
7	722-137/047-000	50
8	722-138/047-000	50
9	722-139/047-000	25
10	722-140/047-000	25
11	722-141/047-000	25
12	722-142/047-000	25
13	722-143/047-000	25
14	722-144/047-000	25
15	722-145/047-000	25
16	722-146/047-000	10
20	722-150/047-000	10

Cutout dimensions, see page 512, Table 3

Dimensions (in mm):



THT female header, with angled solder pins and spacers, for flush mounting, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-232/047-000	100
3	722-233/047-000	50
4	722-234/047-000	50
5	722-235/047-000	50
6	722-236/047-000	50
7	722-237/047-000	50
8	722-238/047-000	50
9	722-239/047-000	25
10	722-240/047-000	25
11	722-241/047-000	25
12	722-242/047-000	25
13	722-243/047-000	25
14	722-244/047-000	25
15	722-245/047-000	25
16	722-246/047-000	10
20	722-250/047-000	10

Cutout dimensions, see page 512, Table 3

Available upon request (depending on quantity required):

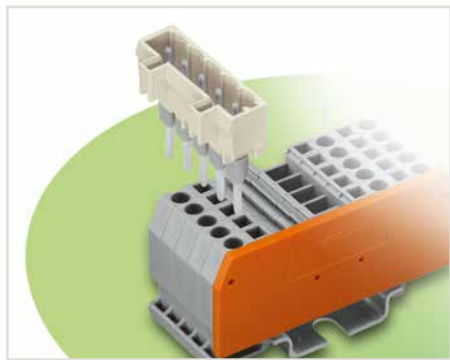
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Male Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI

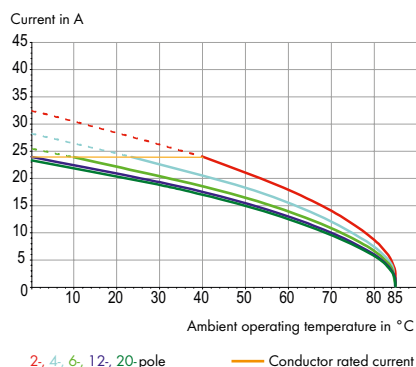


- Pluggable connectors for rail-mount terminal blocks equipped with CAGE CLAMP® connection
- Male connectors with long contact pins connect to the termination ports of 280 Series Rail-Mount Terminal Blocks
- Pins can be touched when the connector is unplugged, so power should be supplied via terminal block (observe rated voltage!)
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-102/026-000) with male connector (721-162/003-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs!"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1 250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Operating tools, see page 500, 588

Coding keys, see page 502

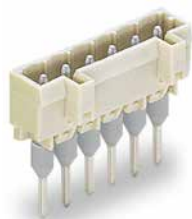
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Male Connectors for Front-Entry, Rail-Mount Terminal Blocks

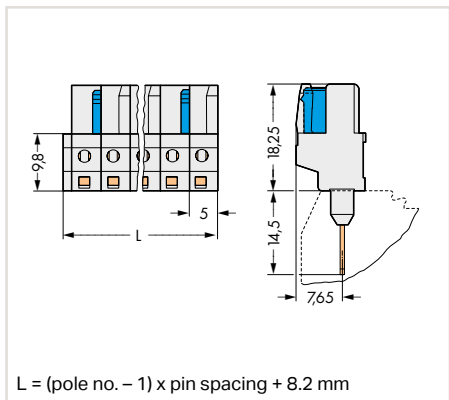
Pin Spacing: 5 mm

MCS MIDI



The extra width of the male connectors when used on front-entry, rail-mount terminal blocks must be compensated for by either two intermediate plates or rail-mount spacer block (block assembly).

Dimensions (in mm):



Male connector, with 1.2 x 1.2 mm straight, long contact pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-162/003-000	200
3	721-163/003-000	200
4	721-164/003-000	200
5	721-165/003-000	200
6	721-166/003-000	100
7	721-167/003-000	100
8	721-168/003-000	100
9	721-169/003-000	100
10	721-170/003-000	100
11	721-171/003-000	100
12	721-172/003-000	100
13	721-173/003-000	50
14	721-174/003-000	50
15	721-175/003-000	50
16	721-176/003-000	50
20	721-180/003-000	50

12- to 20-pole female connectors may only be assembled at the factory.

Rail-mount spacer block, horizontal type, same profile as through terminal blocks, orange

Space	Item No.	Pack. Unit
2 conductors	280-902/056-000	100
3 conductors	280-650/056-000	100
4 conductors	280-835/056-000	100

Rail-mount spacer block, angled type, same profile as through terminal blocks, orange

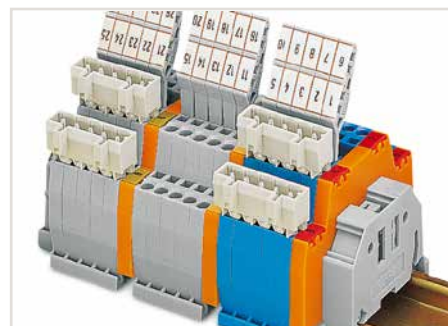
Space	Item No.	Pack. Unit
3/4 conductors	280-654/056-000	100

Spacer blocks can be bridged via alternate or staggered jumpers.

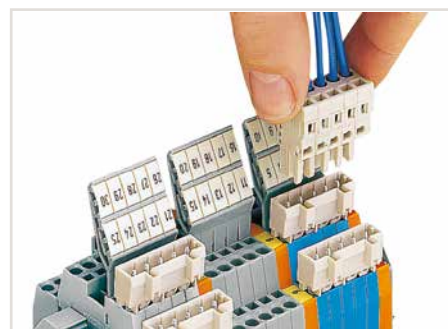


Inserting a male connector via multipole operating tool.

5



Male connectors fitted in 280 Series Double-Deck Terminal Blocks



Male connectors fitted in 280 Series Double-Deck Terminal Blocks

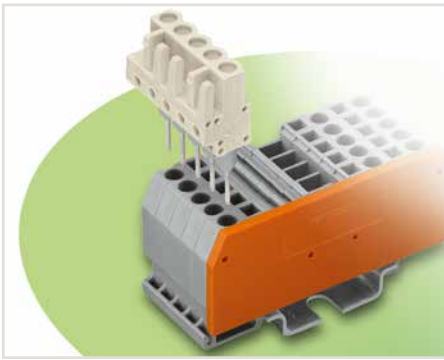
Available upon request (depending on quantity required):

- Other pole numbers

Female Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI

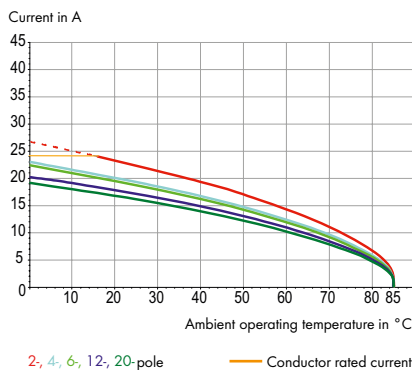


- Pluggable connectors for rail-mount terminal blocks equipped with CAGE CLAMP® connection
- Female connectors with long contact pins connect to the termination ports of 280 Series Rail-Mount Terminal Blocks
- Female connectors are touch-proof when unmated, providing a pluggable, live output
- 100 % protected against mismatching
- With coding fingers

Derating Curve

Female connector (722-232/005-000) with
1-conductor male connector (721-602)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Operating tools,
see page 500, 588

Test plug adapters,
see page 501

Test plugs,
see page 601

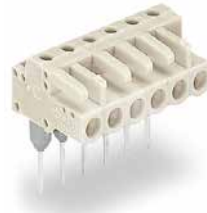
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

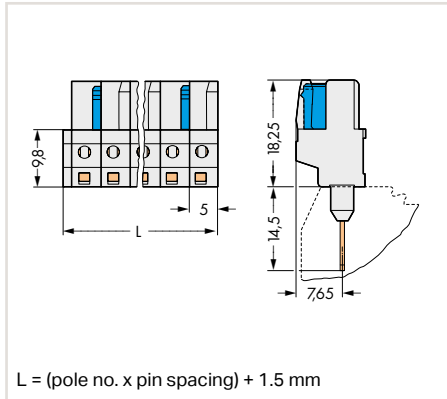
Female Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI



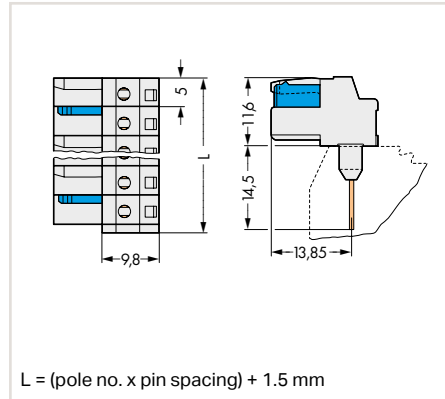
Dimensions (in mm):



Female connector, with 0.6 x 1 mm straight, long contact pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-132/005-000	100
3	722-133/005-000	100
4	722-134/005-000	100
5	722-135/005-000	100
6	722-136/005-000	50
7	722-137/005-000	50
8	722-138/005-000	50
9	722-139/005-000	50
10	722-140/005-000	50
11	722-141/005-000	25
12	722-142/005-000	25
13	722-143/005-000	25
14	722-144/005-000	25
15	722-145/005-000	25
16	722-146/005-000	25
20	722-150/005-000	10

Dimensions (in mm):



Female connector, with 0.6 x 1 mm angled, long contact pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-232/005-000	100
3	722-233/005-000	100
4	722-234/005-000	100
5	722-235/005-000	100
6	722-236/005-000	50
7	722-237/005-000	50
8	722-238/005-000	50
9	722-239/005-000	50
10	722-240/005-000	50
11	722-241/005-000	25
12	722-242/005-000	25
12	722-243/005-000	25
14	722-244/005-000	25
15	722-245/005-000	25
16	722-246/005-000	25
20	722-250/005-000	10

2-pole female connectors – one latch only

11- to 20-pole female connectors may only be assembled at the factory.

Available upon request (depending on quantity required):

- Other pole numbers

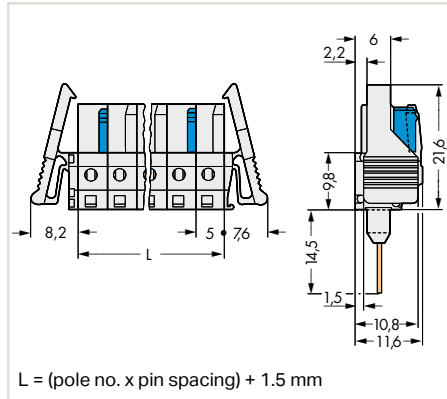
Female Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI



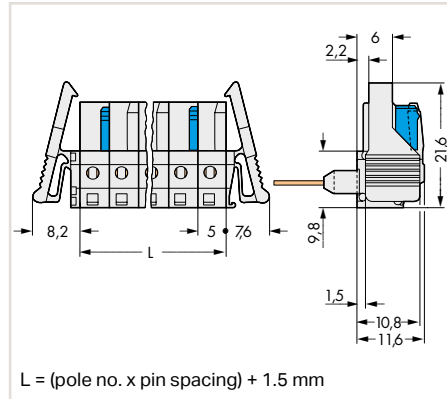
Dimensions (in mm):



Female connector, with 0.6 x 1 mm straight, long contact pins, light gray, 5 mm (0.197 inch) pin spacing

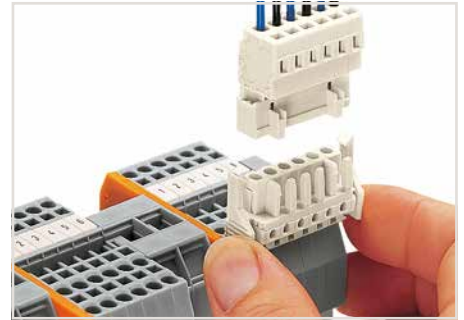
Pole No.	Item No.	Pack. Unit
2	722-132/005-000/039-000	100
3	722-133/005-000/039-000	50
4	722-134/005-000/039-000	50
5	722-135/005-000/039-000	50
6	722-136/005-000/039-000	50
7	722-137/005-000/039-000	50
8	722-138/005-000/039-000	50
9	722-139/005-000/039-000	25
10	722-140/005-000/039-000	25
11	722-141/005-000/039-000	25
12	722-142/005-000/039-000	25
14	722-144/005-000/039-000	25
16	722-146/005-000/039-000	10
20	722-150/005-000/039-000	10

Dimensions (in mm):



Female connector, with 0.6 x 1 mm angled, long contact pins, light gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-232/005-000/039-000	100
3	722-233/005-000/039-000	50
4	722-234/005-000/039-000	50
5	722-235/005-000/039-000	50
6	722-236/005-000/039-000	50
7	722-237/005-000/039-000	50
8	722-238/005-000/039-000	50
9	722-239/005-000/039-000	25
10	722-240/005-000/039-000	25
11	722-241/005-000/039-000	25
12	722-242/005-000/039-000	25
14	722-244/005-000/039-000	25
16	722-246/005-000/039-000	10
20	722-250/005-000/039-000	10



Locking devices prevent side-mounted or top-mounted connectors from loosening when tensile forces are exerted on conductors.

To operate the locking levers, at least 20 mm space is required on either side of each connector. When fitting touch-proof female connectors on the distribution side of front-entry, rail-mount terminal blocks, the nominal voltage shall not exceed 320 V/4 kV/3.

2-pole female connectors – one latch only

11- to 20-pole female connectors may only be assembled at the factory.

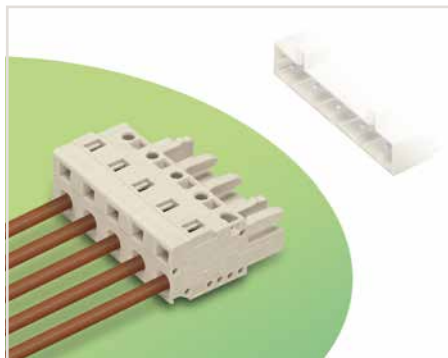
Available upon request (depending on quantity required):

- Other pole numbers

1-Conductor Female Connectors

Pin Spacing: 7.5 mm

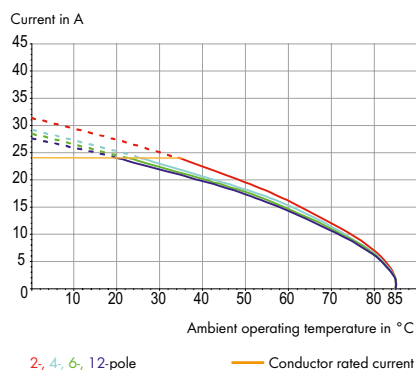
MCS MIDI



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Integrated test ports
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-202/026-000) with THT male header (721-832/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

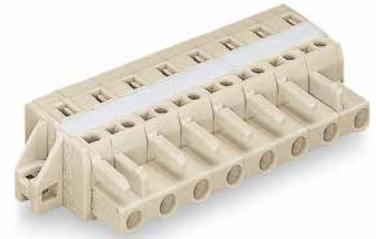
Marking accessories, see page 604
Operating tools, see page 500, 588
Direct marking, see page 386
Insulation stop, see page 503
Mounting adapter for male and female connectors with snap-in mounting feet, see page 508
Test plug adapters, see page 501
Test pin, see page 601
Screws, see page 610
Strain relief housings, see page 506
Strain relief plates, see page 504
Additional technical information, see Section 13
Approvals and corresponding ratings, visit www.wago.com

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

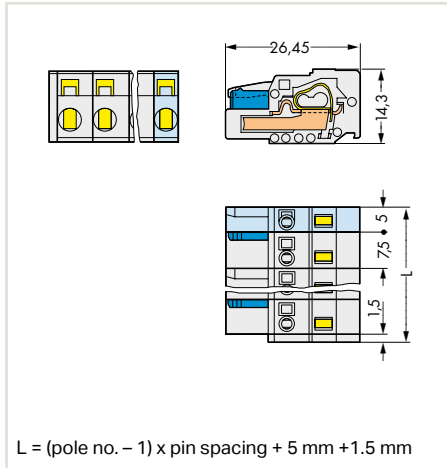
1-Conductor Female Connectors

Pin Spacing: 7.5 mm

MCS MIDI



Dimensions (in mm):

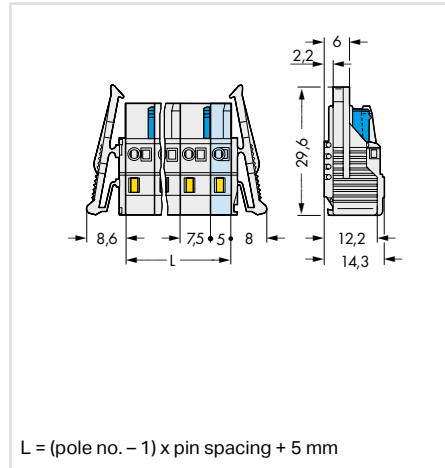


1-conductor female connector, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-202/026-000	100
3	721-203/026-000	100
4	721-204/026-000	50
5	721-205/026-000	50
6	721-206/026-000	50
7	721-207/026-000	50
8	721-208/026-000	25
9	721-209/026-000	25
10	721-210/026-000	25
11	721-211/026-000	25
12	721-212/026-000	25

2-pole female connectors – one latch only

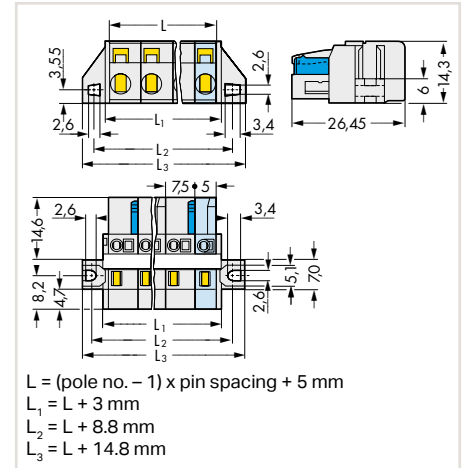
Dimensions (in mm):



1-conductor female connector,
with locking levers, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-202/037-000	50
3	721-203/037-000	50
4	721-204/037-000	50
5	721-205/037-000	50
6	721-206/037-000	25
7	721-207/037-000	25
8	721-208/037-000	25
9	721-209/037-000	25
10	721-210/037-000	25
11	721-211/037-000	10
12	721-212/037-000	10

Dimensions (in mm):



1-conductor female connector,
with mounting flanges, for racks
and through-panel mounting,
with reinforcing strips, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-202/031-000	50
3	721-203/031-000	50
4	721-204/031-000	50
5	721-205/031-000	50
6	721-206/027-000	25
7	721-207/027-000	25
8	721-208/027-000	25
9	721-209/027-000	25
10	721-210/027-000	25
11	721-211/027-000	10
12	721-212/027-000	10

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

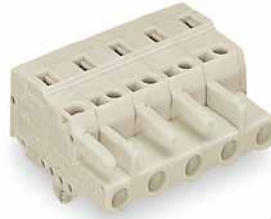
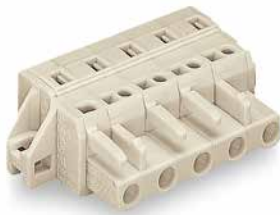
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

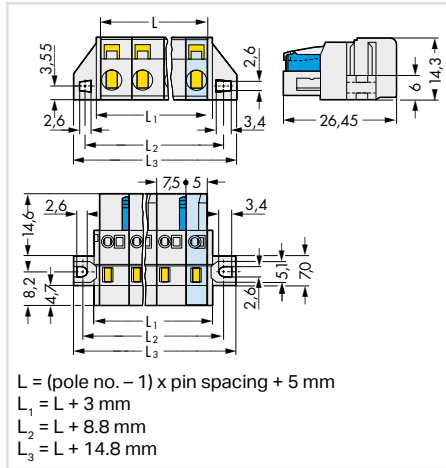
1-Conductor Female Connectors

Pin Spacing: 7.5 mm

MCS MIDI



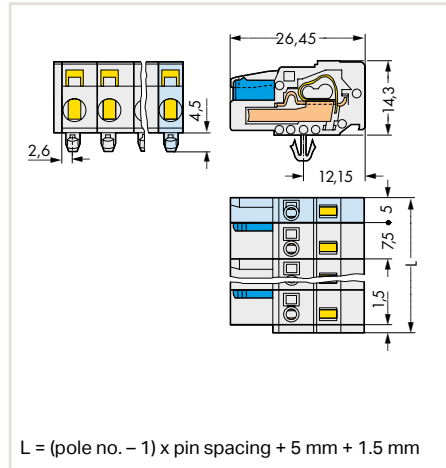
Dimensions (in mm):



1-conductor female connector, with flanges for panel mounting, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-202/031-000	50
3	721-203/031-000	50
4	721-204/031-000	50
5	721-205/031-000	50
6	721-206/031-000	25
7	721-207/031-000	25
8	721-208/031-000	25
9	721-209/031-000	25
10	721-210/031-000	25
11	721-211/031-000	10
12	721-212/031-000	10

Dimensions (in mm):



1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-202/008-000	100
3	721-203/008-000	100
4	721-204/008-000	50
5	721-205/008-000	50
6	721-206/008-000	50
7	721-207/008-000	50
8	721-208/008-000	25
9	721-209/008-000	25
10	721-210/008-000	25
11	721-211/008-000	25
12	721-212/008-000	25

2-pole female connectors – one latch only

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

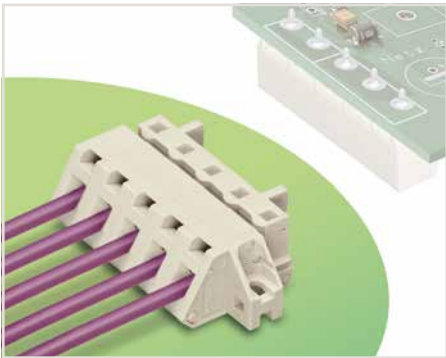
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

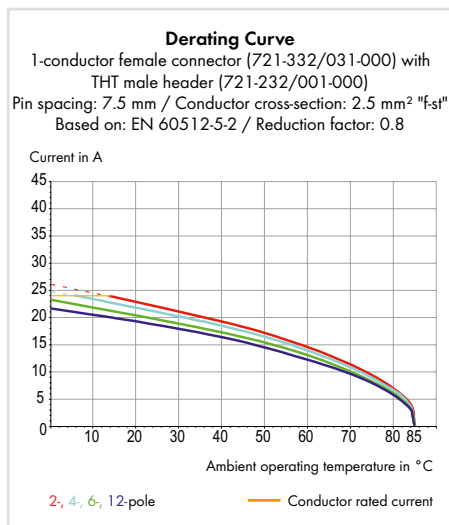
1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 7.5 mm

MCS MIDI



- Universal connection for all conductor types
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- Mounting adapter allows versions with snap-in mounting feet to be DIN-rail mounted
- Easy conductor termination, even when halves are mated
- 100 % protected against mismatching



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test plug adapters, see page 501

Screws, see page 610

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	7 ... 8 mm / 0.28 ... 0.31 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

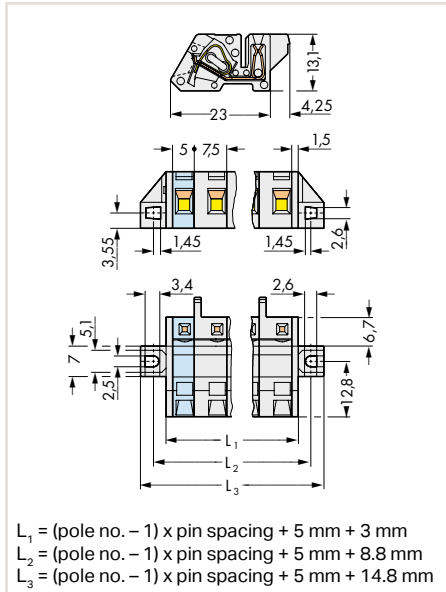
1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 7.5 mm

MCS MIDI



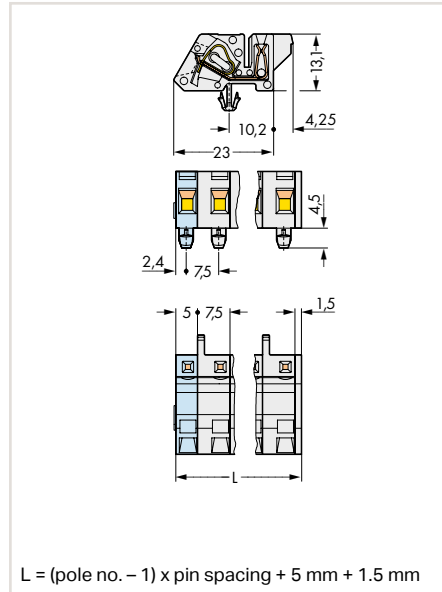
Dimensions (in mm):



1-conductor angled female connector, with mounting flanges, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-332/031-000	50
3	721-333/031-000	50
4	721-334/031-000	50
5	721-335/031-000	50
6	721-336/031-000	25
7	721-337/031-000	25
8	721-338/031-000	25
9	721-339/031-000	25
10	721-340/031-000	25
11	721-341/031-000	10
12	721-342/031-000	10

Dimensions (in mm):



1-conductor angled female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-332/008-000	100
3	721-333/008-000	100
4	721-334/008-000	50
5	721-335/008-000	50
6	721-336/008-000	50
7	721-337/008-000	50
8	721-338/008-000	25
9	721-339/008-000	25
10	721-340/008-000	25
11	721-341/008-000	25
12	721-342/008-000	25



Angled female plug – a male header with straight solder pins is used for horizontal PCB mounting in narrow housings.

5

2-pole female connectors – one latch only

Available upon request (depending on quantity required):

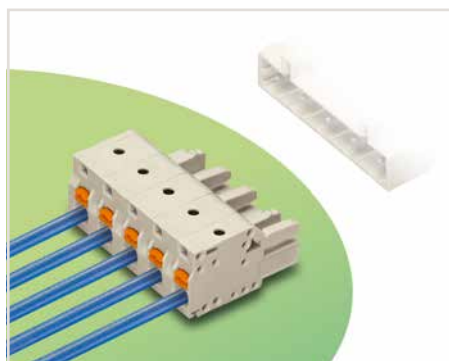
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.5 mm

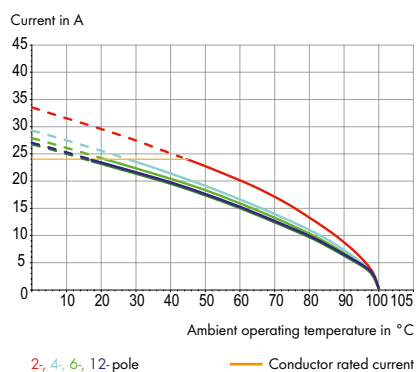
MCS MIDI



- Universal connection for all conductor types
- Easy-to-use design does not require specialty tools
- Ability to wire while mated
- Push-in termination of solid and ferruled conductors
- Integrated test ports for testing parallel to the conductor entry
- 100 % protected against mismating
- With coding fingers

Derating Curve

1-conductor female connector (2721-202/026-000) with
THT male header (721-262/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The **MULTI CONNECTION SYSTEM (MCS)** is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 500, 588

Direct marking,
see page 386

Insulation stop,
see page 503

Mounting adapter for male and female
connectors with snap-in mounting feet,
see page 508

Test plug adapters,
see page 501

Test plugs,
see page 601

Screws,
see page 610

Strain relief plates,
see page 504

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group C)	300 V
Rated current UL (Use Group C)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group C)	300 V
Rated current CSA (Use Group C)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	10 ... 11 mm / 0.39 ... 0.43 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

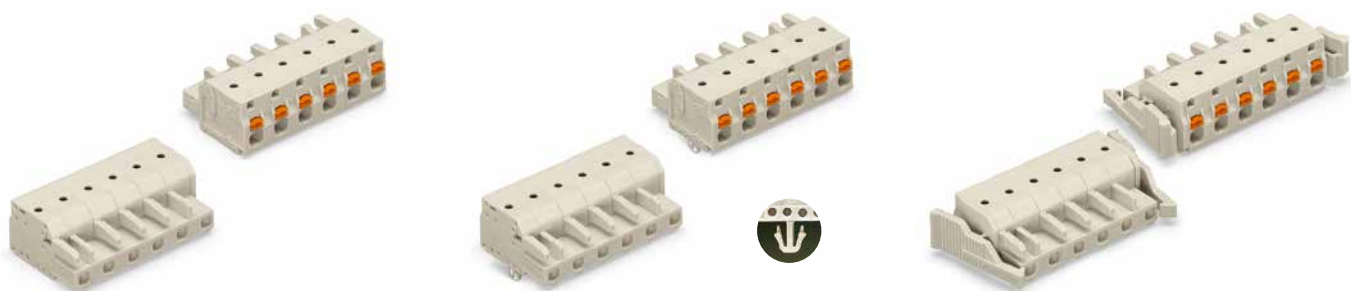
Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

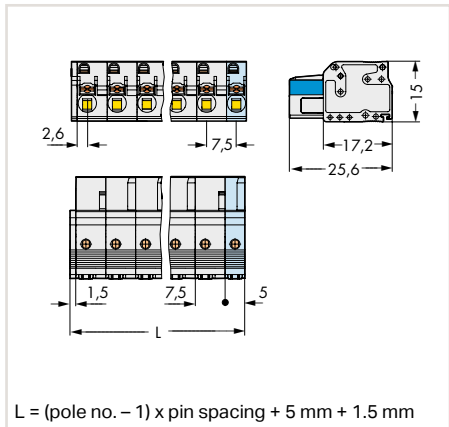
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.5 mm

MCS MIDI



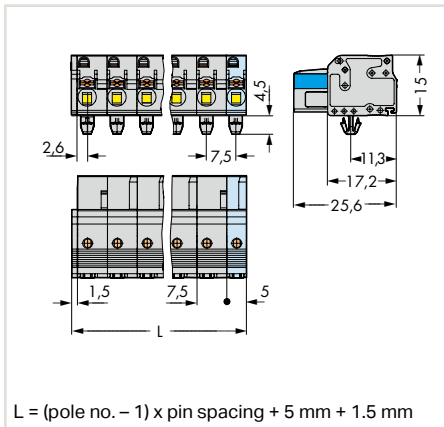
Dimensions (in mm):



1-conductor female connector, with push-buttons, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-202/026-000	100
3	2721-203/026-000	100
4	2721-204/026-000	50
5	2721-205/026-000	50
6	2721-206/026-000	50
7	2721-207/026-000	50
8	2721-208/026-000	25
9	2721-209/026-000	25
10	2721-210/026-000	25
11	2721-211/026-000	25
12	2721-212/026-000	25

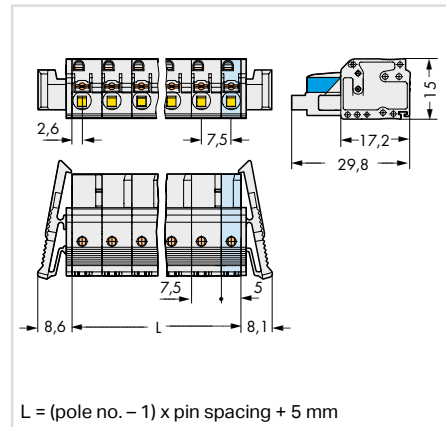
Dimensions (in mm):



1-conductor female connector, with push-buttons and snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-202/008-000	100
3	2721-203/008-000	100
4	2721-204/008-000	50
5	2721-205/008-000	50
6	2721-206/008-000	50
7	2721-207/008-000	50
8	2721-208/008-000	25
9	2721-209/008-000	25
10	2721-210/008-000	25
11	2721-211/008-000	25
12	2721-212/008-000	25

Dimensions (in mm):



1-conductor female connector, with push-buttons and locking levers, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-202/037-000	50
3	2721-203/037-000	50
4	2721-204/037-000	50
5	2721-205/037-000	50
6	2721-206/037-000	25
7	2721-207/037-000	25
8	2721-208/037-000	25
9	2721-209/037-000	25
10	2721-210/037-000	25
11	2721-211/037-000	10
12	2721-212/037-000	10

2-pole female connectors – one latch only

5

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

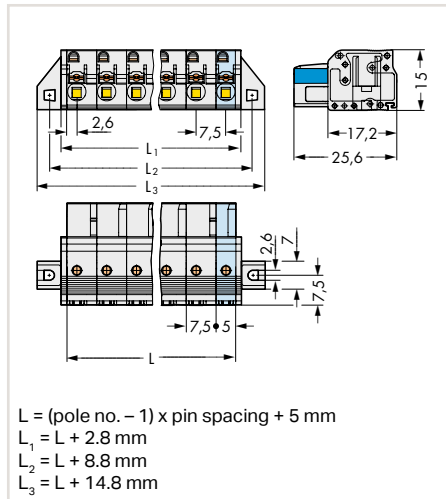
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.5 mm

MCS MIDI



Dimensions (in mm):



1-conductor female connector, with push-buttons and mounting flanges, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2721-202/031-000	50
3	2721-203/031-000	50
4	2721-204/031-000	50
5	2721-205/031-000	50
6	2721-206/031-000	25
7	2721-207/031-000	25
8	2721-208/031-000	25
9	2721-209/031-000	25
10	2721-210/031-000	25
11	2721-211/031-000	10
12	2721-212/031-000	10

2-pole female connectors – one latch only

Cutout dimensions, see page 511, Table 2

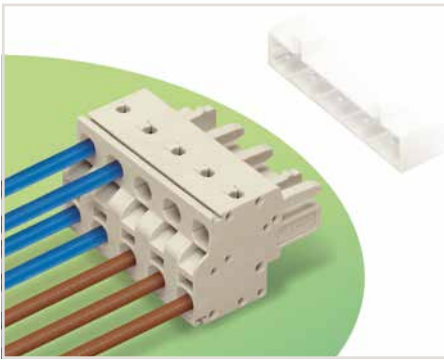
Available upon request (depending on quantity required):

- Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

2-Conductor Female Connectors

Pin Spacing: 7.5 mm

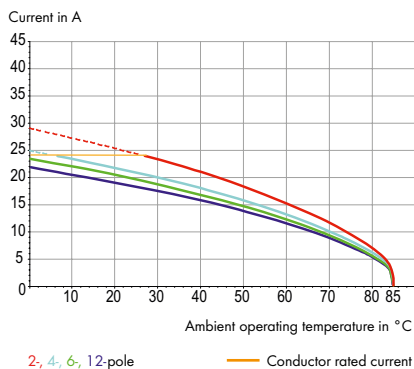
MCS MIDI



- Universal connection for all conductor types
- Two conductor entries per pole
- For looping through power or data buses
- Bus connection is retained, even when unmated
- Push-in termination of solid and ferruled conductors
- 100 % protected against mismatching
- With coding fingers

Derating Curve

2-conductor female connector (721-2202/026-000) with THT male header (721-262/001-000)
 Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
 Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Insulation stop, see page 503

Test plug adapters, see page 501

Test pin, see page 601

Strain relief plates, see page 504

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	16 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	20 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

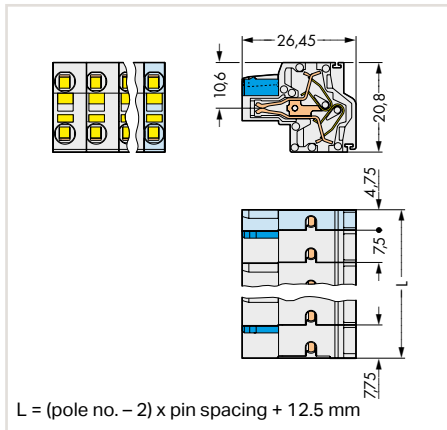
2-Conductor Female Connectors

Pin Spacing: 7.5 mm

MCS MIDI



Dimensions (in mm):

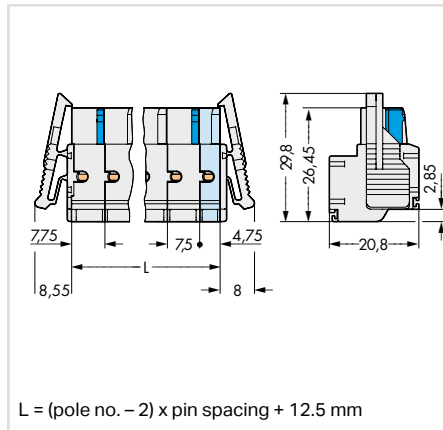


2-conductor female connector, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-2202/026-000	100
3	721-2203/026-000	100
4	721-2204/026-000	50
5	721-2205/026-000	50
6	721-2206/026-000	50
7	721-2207/026-000	50
8	721-2208/026-000	25
9	721-2209/026-000	25
10	721-2210/026-000	25
11	721-2211/026-000	25
12	721-2212/026-000	25

2-pole female connectors – one latch only

Dimensions (in mm):

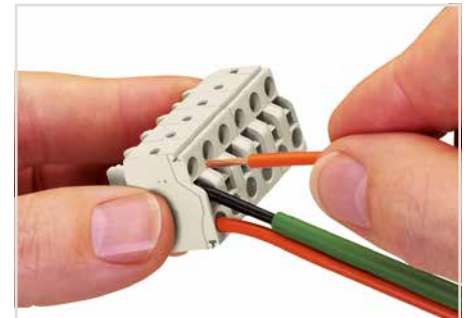


2-conductor female connector, with locking levers, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-2202/037-000	50
3	721-2203/037-000	50
4	721-2204/037-000	50
5	721-2205/037-000	50
6	721-2206/037-000	25
7	721-2207/037-000	25
8	721-2208/037-000	25
9	721-2209/037-000	25
10	721-2210/037-000	25
11	721-2211/037-000	10
12	721-2212/037-000	10

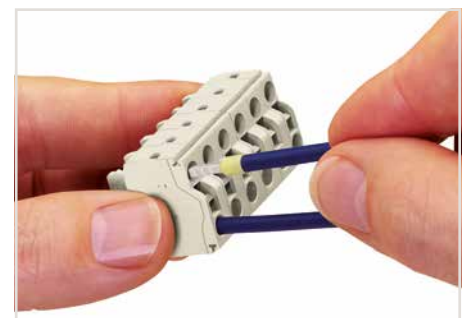
Female connectors equipped with two Push-in CAGE CLAMP® connections per pole allow conductors to be looped from one connector to another without interruption. Therefore, disconnecting one connector will not affect other connectors in the circuit.

These female connectors can be mated with male headers or CAGE CLAMP®-equipped male connectors that are 100 % protected against mismatching.



Operating Push-in CAGE CLAMP® is easy, fast and identical to that of CAGE CLAMP®.

The screwdriver is fully inserted into the operating slot, holding Push-in CAGE CLAMP® open. After the conductor has been inserted into the clamping unit and the screwdriver been withdrawn, the conductor is clamped safely. Solid and fine-stranded conductors < 0.5 mm² (20 AWG) are terminated and removed using a screwdriver.



Solid conductors ≥ 0.5 mm² (20 AWG), as well as feruled, fine-stranded conductors can be terminated by simply pushing them into unit. Integrated test ports allow touch contact with current bar via test probes in both horizontal and vertical directions.

Available upon request (depending on quantity required):

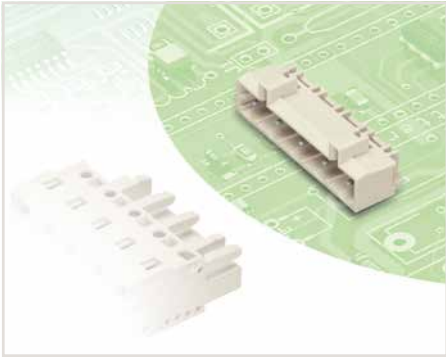
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 7.5 mm

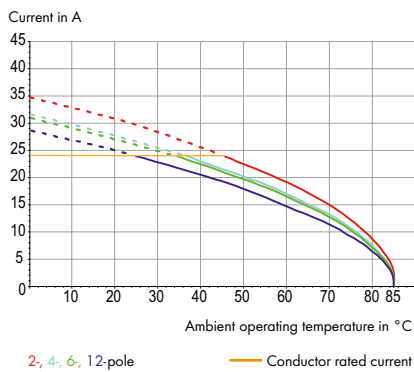
MCS MIDI



- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-202/026-000) with THT male header (721-862/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

📖 Mounting adapters, see page 503

📖 Coding keys, see page 502

📖 Screws, see page 610

📖 Additional technical information, see Section 13

📖 Approvals and corresponding ratings, visit www.wago.com

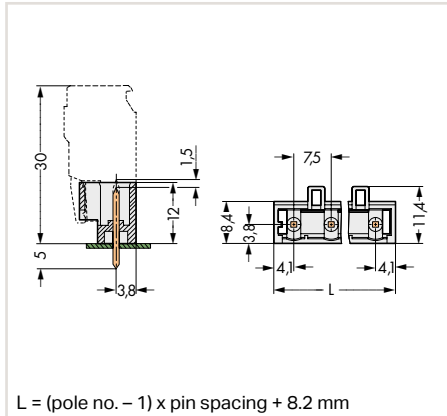
THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI



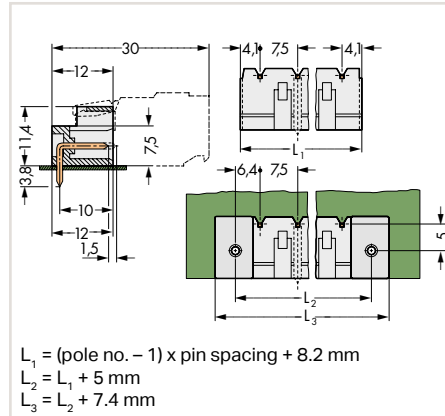
Dimensions (in mm):



THT male header, with 1 x 1 mm straight solder pins, light gray, 7.5 mm (0.295 inch) pin spacing

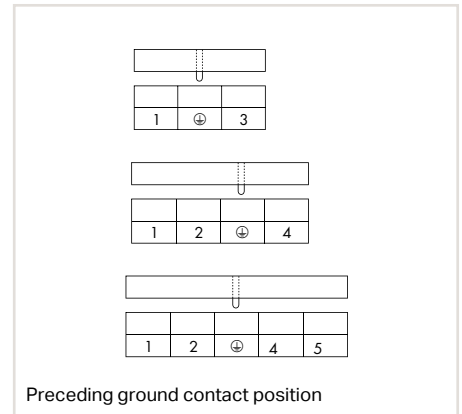
Pole No.	Item No.	Pack. Unit
2	721-232/001-000	200
3	721-233/001-000	200
4	721-234/001-000	100
5	721-235/001-000	100
6	721-236/001-000	100
7	721-237/001-000	50
8	721-238/001-000	50
9	721-239/001-000	50
10	721-240/001-000	50
11	721-241/001-000	50
12	721-242/001-000	50

Dimensions (in mm):



THT male header, with 1 x 1 mm angled solder pins, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-832/001-000	200
3	721-833/001-000	200
4	721-834/001-000	100
5	721-835/001-000	100
6	721-836/001-000	100
7	721-837/001-000	50
8	721-838/001-000	50
9	721-839/001-000	50
10	721-840/001-000	50
11	721-841/001-000	50
12	721-842/001-000	50



THT male header, with 1 x 1 mm straight solder pins and preceding ground contact, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-233/001-040	200
4	721-234/001-040	100
5	721-235/001-040	100

THT male header, with 1 x 1 mm angled solder pins and preceding ground contact, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-833/001-040	200
4	721-834/001-040	100
5	721-835/001-040	100

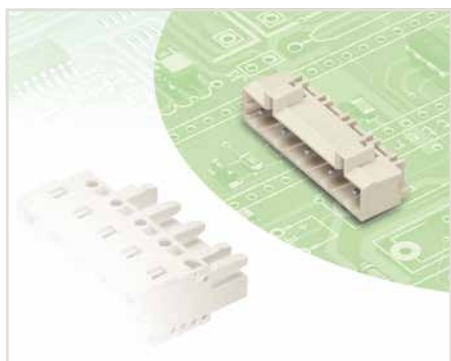
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 7.5 mm

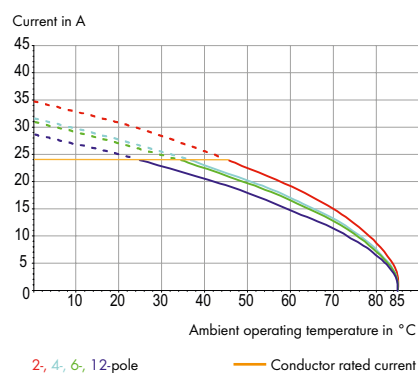
MCS MIDI



- Horizontal or vertical PCB mounting via straight or angled solder pins
- 1.2 x 1.2 mm solder pins allow a nominal current up to 16 A, enhancing the stability of shorter headers
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-202/026-000) with THT male header (721-862/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1.2 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

📖 Mounting adapters, see page 503

📖 Coding keys, see page 502

📖 Screws, see page 610

📖 Additional technical information, see Section 13

📖 Approvals and corresponding ratings, visit www.wago.com

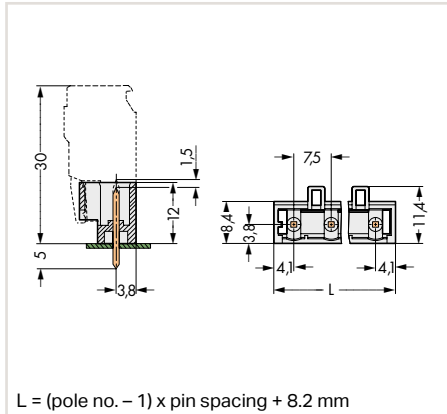
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI



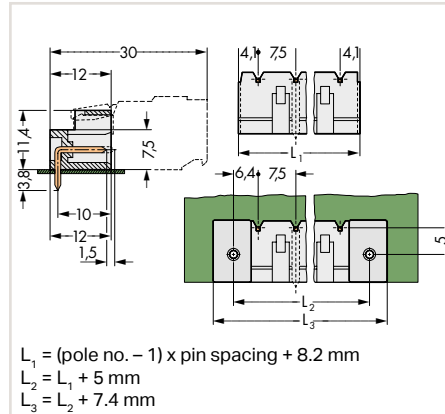
Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm straight solder pins, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	721-262/001-000	200
3	721-263/001-000	200
4	721-264/001-000	100
5	721-265/001-000	100
6	721-266/001-000	100
7	721-267/001-000	50
8	721-268/001-000	50
9	721-269/001-000	50
10	721-270/001-000	50
11	721-271/001-000	50
12	721-272/001-000	50

Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm angled solder pins, light gray, 7.5 mm (0.295 inch) pin spacing

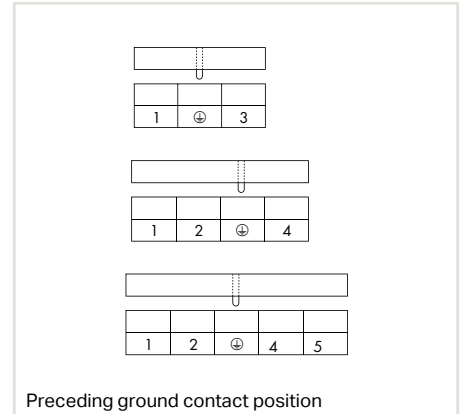
Pole No.	Item No.	Pack. Unit
2	721-862/001-000	200
3	721-863/001-000	200
4	721-864/001-000	100
5	721-865/001-000	100
6	721-866/001-000	100
7	721-867/001-000	50
8	721-868/001-000	50
9	721-869/001-000	50
10	721-870/001-000	50
11	721-871/001-000	50
12	721-872/001-000	50

THT male header, with 1.2 x 1.2 mm straight solder pins and preceding ground contact, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-263/001-040	200
4	721-264/001-040	100
5	721-265/001-040	100

THT male header, with 1.2 x 1.2 mm angled solder pins and preceding ground contact, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	721-863/001-040	200
4	721-864/001-040	100
5	721-865/001-040	100



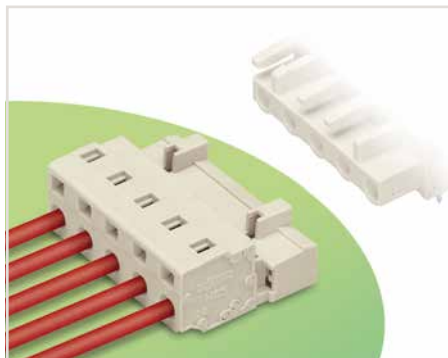
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

1-Conductor Male Connectors

Pin Spacing: 7.5 mm

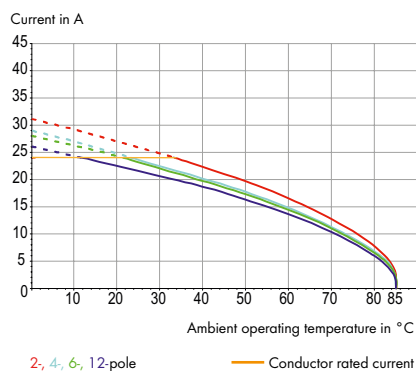
MCS MIDI



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- 3- to 5-pole male connectors are also available with preceding ground contact
- 100 % protected against mismatching
- With coding fingers

Derating Curve

1-conductor female connector (721-202/026-000) with
1-conductor male connector (723-602)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

5

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories, see page 604
Operating tools, see page 500, 588
Direct marking, see page 386
Comb-style jumper bars, see page 509
Insulation stop, see page 503
Coding keys, see page 502
Mounting adapter for male and female connectors with snap-in mounting feet, see page 508
Screws, see page 610
Strain relief housings, see page 506
Strain relief plates, see page 504
Additional technical information, see Section 13
Approvals and corresponding ratings, visit www.wago.com

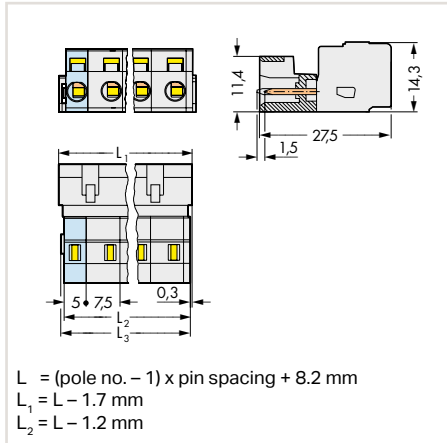
1-Conductor Male Connectors

Pin Spacing: 7.5 mm

MCS MIDI



Dimensions (in mm):



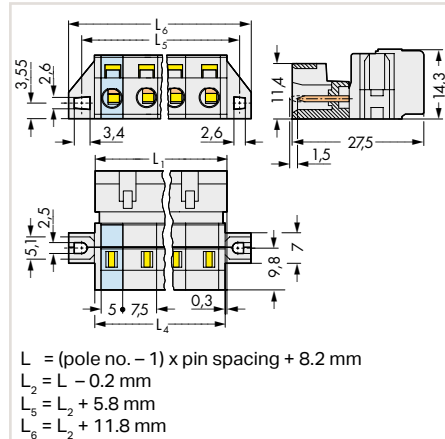
1-conductor male connector, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	723-602	100
3	723-603	100
4	723-604	50
5	723-605	50
6	723-606	50
7	723-607	50
8	723-608	25
9	723-609	25
10	723-610	25
11	723-611	25
12	723-612	25

1-conductor male connector, with preceding
ground contact, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	723-603/000-042	100
4	723-604/000-042	50
5	723-605/000-042	50

Dimensions (in mm):



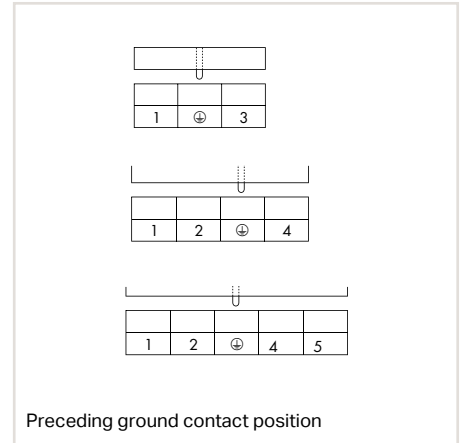
1-conductor male connector, with mounting
flanges, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	723-602/019-000	50
3	723-603/019-000	50
4	723-604/019-000	50
5	723-605/019-000-	50
6	723-606/019-000	25
7	723-607/019-000	25
8	723-608/019-000	25
9	723-609/019-000	25
10	723-610/019-000	25
11	723-611/019-000	10
12	723-612/019-000	10

1-conductor male connector, with mounting
flanges and preceding ground contact,
light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	723-603/019-042	50
4	723-604/019-042	50
5	723-605/019-042	50

Cutout dimensions, see page 510, Table 1



Available upon request (depending on quantity required):

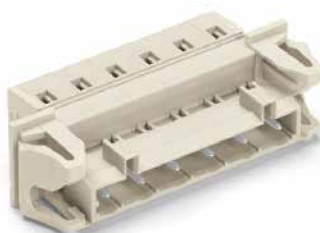
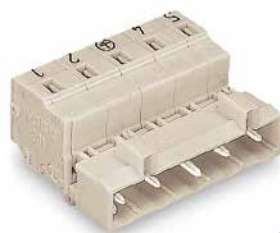
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

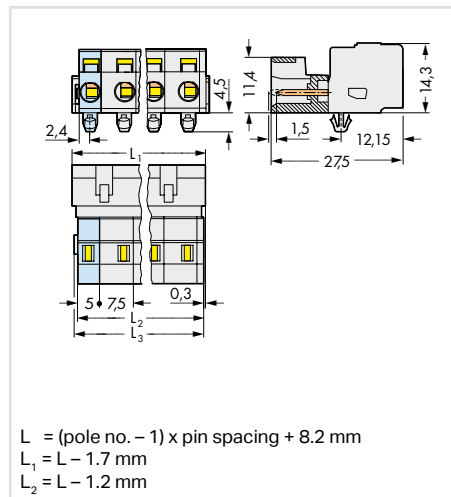
1-Conductor Male Connectors

Pin Spacing: 7.5 mm

MCS MIDI



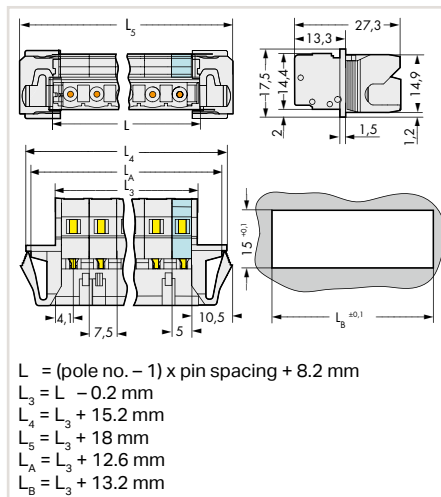
Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, light gray, 7.5 mm (0.295 inch) pin spacing

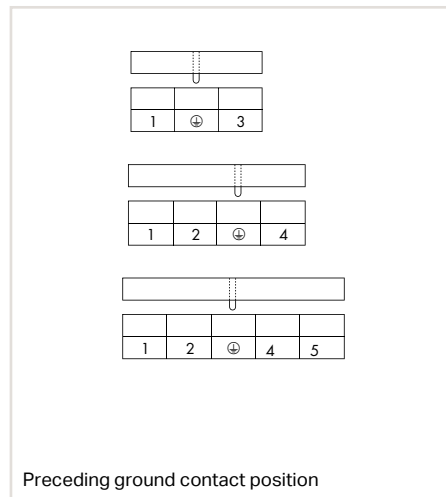
Pole No.	Item No.	Pack. Unit
2	723-602/018-000	100
3	723-603/018-000	100
4	723-604/018-000	50
5	723-605/018-000	50
6	723-606/018-000	50
7	723-607/018-000	50
8	723-608/018-000	25
9	723-609/018-000	25
10	723-610/018-000	25
11	723-611/018-000	25
12	723-612/018-000	25

Dimensions (in mm):



1-conductor male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	723-602/114-000	50
3	723-603/114-000	50
4	723-604/114-000	50
5	723-605/114-000	25
6	723-606/114-000	25
7	723-607/114-000	25
8	723-608/114-000	25
9	723-609/114-000	25
10	723-610/114-000	10
11	723-611/114-000	10
12	723-612/114-000	10



1-conductor male connector, with snap-in mounting feet and preceding ground contact, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	723-603/018-042	100
4	723-604/018-042	50
5	723-605/018-042	50

1-conductor male connector, with snap-in flanges and preceding ground contact, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
3	723-603/114-042	50
4	723-604/114-042	50
5	723-605/114-042	25

Available upon request (depending on quantity required):

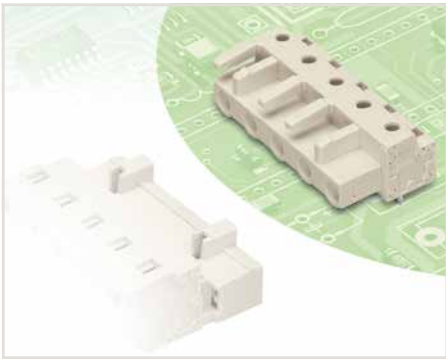
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

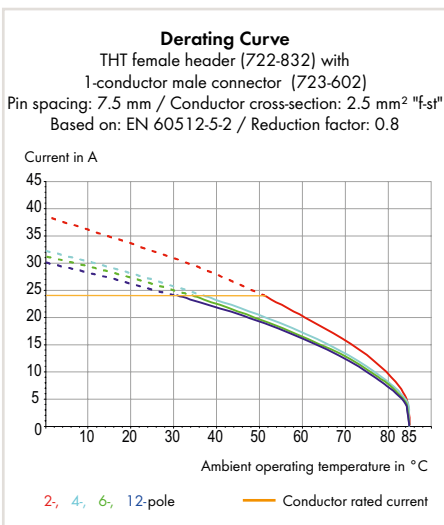
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI



- Horizontal or vertical PCB mounting via straight or angled solder pins
- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify PCB inputs and outputs
- 100 % protected against mismatching
- With coding fingers



Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Test plug adapters, see page 501

Test plugs, see page 601

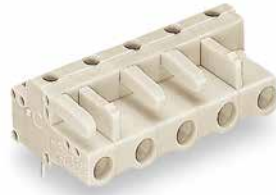
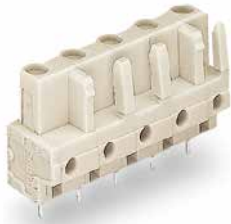
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

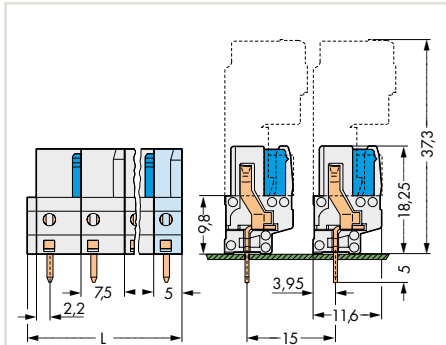
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI



Dimensions (in mm):

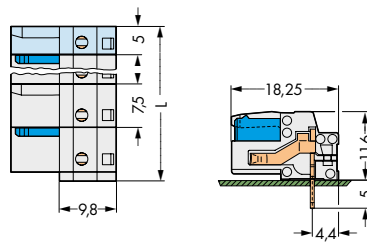


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

THT female header, with straight
solder pins, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-732	100
3	722-733	100
4	722-734	50
5	722-735	50
6	722-736	50
7	722-737	50
8	722-738	25
9	722-739	25
10	722-740	25
11	722-741	25
12	722-742	25

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

THT female header, with angled
solder pins, light gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-832	100
3	722-833	100
4	722-834	50
5	722-835	50
6	722-836	50
7	722-837	50
8	722-838	25
9	722-839	25
10	722-840	25
11	722-841	25
12	722-842	25

2-pole female connectors – one latch only

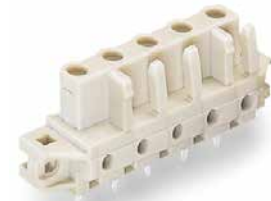
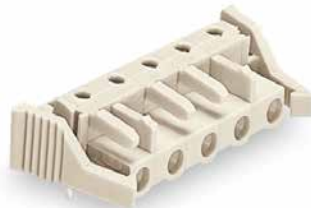
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix ... /045-000.

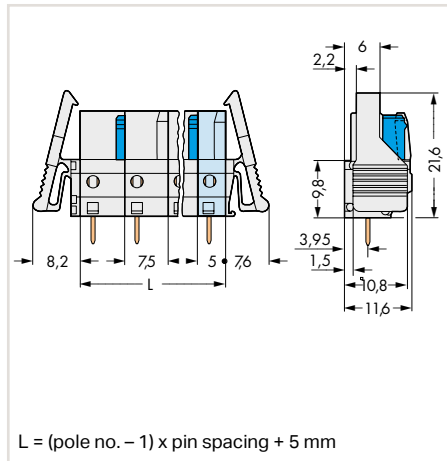
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI



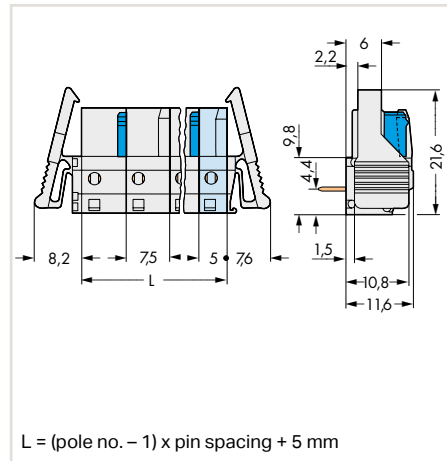
Dimensions (in mm):



THT female header, with straight solder pins and locking levers, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-732/039-000	50
3	722-733/039-000	50
4	722-734/039-000	50
5	722-735/039-000	50
6	722-736/039-000	25
7	722-737/039-000	25
8	722-738/039-000	25
9	722-739/039-000	25
10	722-740/039-000	25
11	722-741/039-000	10
12	722-742/039-000	10

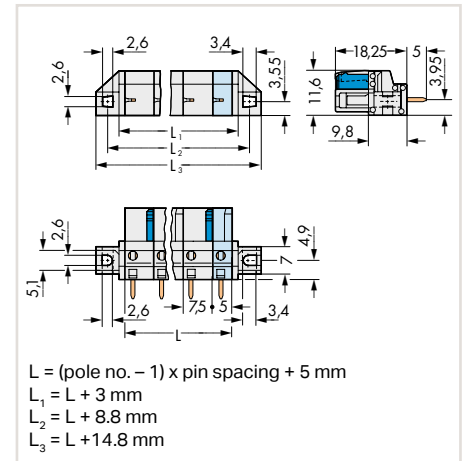
Dimensions (in mm):



THT female header, with angled solder pins and locking levers, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-832/039-000	50
3	722-833/039-000	50
4	722-834/039-000	50
5	722-835/039-000	50
6	722-836/039-000	25
7	722-837/039-000	25
8	722-838/039-000	25
9	722-839/039-000	25
10	722-840/039-000	25
11	722-841/039-000	10
12	722-842/039-000	10

Dimensions (in mm):



THT female header, with straight solder pins and mounting flanges, for through-panel mounting, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-732/031-000	50
3	722-733/031-000	50
4	722-734/031-000	50
5	722-735/031-000	50
6	722-736/031-000	25
7	722-737/031-000	25
8	722-738/031-000	25
9	722-739/031-000	25
10	722-740/031-000	25
11	722-741/031-000	10
12	722-742/031-000	10

2-pole female connectors – one latch only

Cutout dimensions, see page 512, Table 3

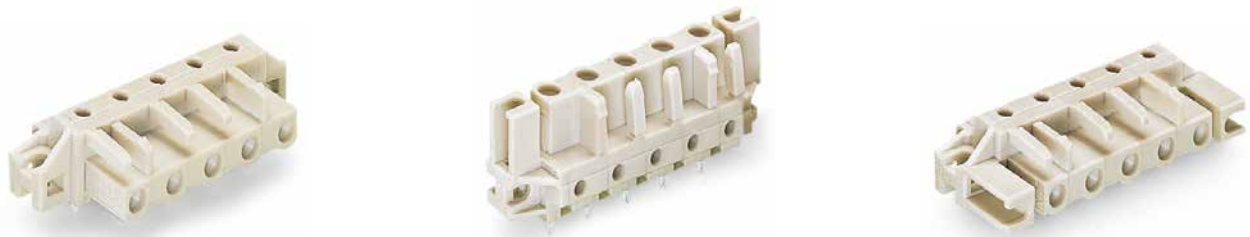
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix ... /045-000.

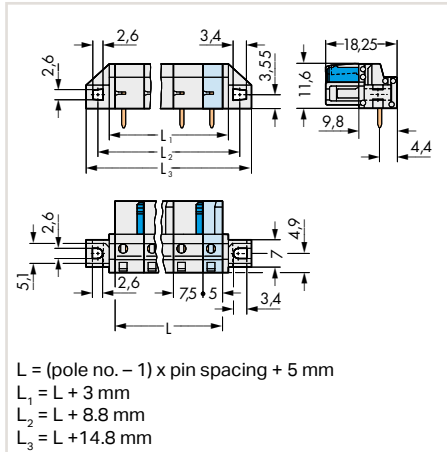
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI



Dimensions (in mm):



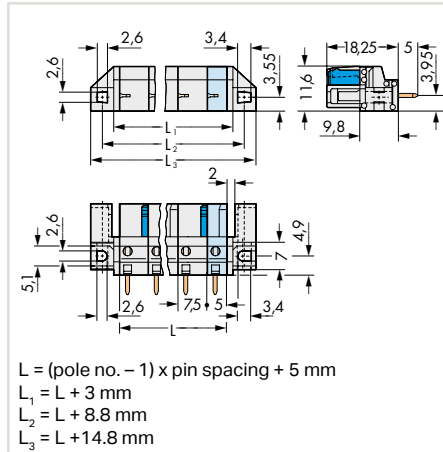
THT female header, with angled solder pins and mounting flanges, for through-panel mounting, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-832/031-000	50
3	722-833/031-000	50
4	722-834/031-000	50
5	722-835/031-000	50
6	722-836/031-000	25
7	722-837/031-000	25
8	722-838/031-000	25
9	722-839/031-000	25
10	722-840/031-000	25
11	722-841/031-000	10
12	722-842/031-000	10

Cutout dimensions, see page 512, Table 3

2-pole female connectors – one latch only

Dimensions (in mm):

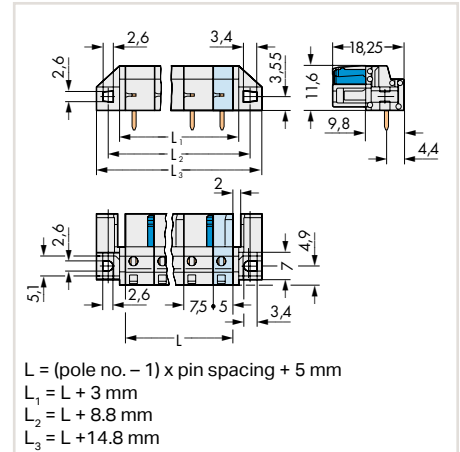


THT female header, with straight solder pins and spacers, for flush mounting, light gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	722-732/047-000	50
3	722-733/047-000	50
4	722-734/047-000	50
5	722-735/047-000	50
6	722-736/047-000	25
7	722-737/047-000	25
8	722-738/047-000	25
9	722-739/047-000	25
10	722-740/047-000	25
11	722-741/047-000	10
12	722-742/047-000	10

Cutout dimensions, see page 512, Table 3

Dimensions (in mm):



THT female header, with angled solder pins and spacers, for flush mounting, light gray, 7.5 mm (0.295 inch) pin spacing

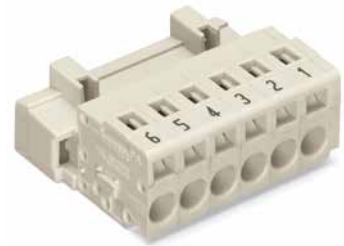
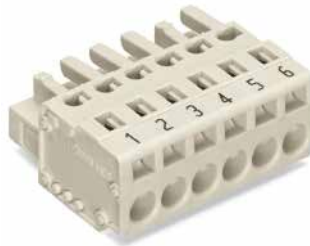
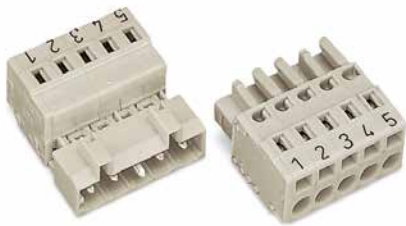
Pole No.	Item No.	Pack. Unit
2	722-832/047-000	50
3	722-833/047-000	50
4	722-834/047-000	50
5	722-835/047-000	50
6	722-836/047-000	25
7	722-837/047-000	25
8	722-838/047-000	25
9	722-839/047-000	25
10	722-840/047-000	25
11	722-841/047-000	10
12	722-842/047-000	10

Cutout dimensions, see page 512, Table 3

Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix ... /045-000.

Direct Marking MCS MIDI and MCS MIDI Classic



The pole numbers of male and female connectors for CAGE CLAMP® termination can be marked via factory direct marking.

Two standard marking orientations are available:
1. Marking perpendicular to conductor entry
2. Marking parallel to conductor entry

Other custom marking options are available upon request.

5

Direct marking is not suitable for MCS PCB Male Headers. WAGO recommends pole marking on the PCB for these headers.

Female headers with solder pins are exposed to aggressive flux agents during wave soldering. Custom direct marking procedures are available upon request for these items.

The marking type is always defined by the second 4-digit block of the item no. suffix for items with standard colors and materials.

Example: 721-106/... - xxxx
xxxx = Item no. suffix for direct marking

Direct marking of 1-conductor female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-cond. female connector, 5 mm pin spacing, 6-pole, light gray	721-106/026-047
1-cond. female connector, with locking levers, 5 mm pin spacing, 6-pole, light gray	721-106/037-047
1-cond. female connector, with strain relief plate, 5 mm pin spacing, 6-pole, light gray	721-106/026-047/034-000
1-cond. female connector, with locking levers and strain relief plate, 5 mm pin spacing, 6-pole, light gray	721-106/026-047/034-000

Direct marking of 1-conductor male connectors, perpendicular to conductor entry, pole no. ... 1, item no. suffix.: /... - 044

Version	Item No. Example
1-cond. male connector, 6-pole, light gray	721-606/000-044
1-cond. male connector, with mounting flanges, 6-pole, light gray	721-606/019-044
1-cond. male connector, with mounting flanges and strain relief plate, 6-pole, light gray	721-606/019-044/034-000



Direct marking of 1-conductor female connectors, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

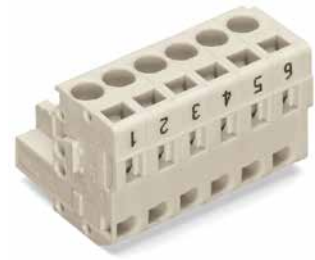
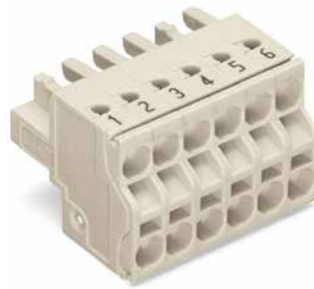
Version	Item No. Example
1-cond. female connector, 5 mm pin spacing, 6-pole, light gray	721-106/026-9037
1-cond. female connector, with locking levers, 5 mm pin spacing, 6-pole, light gray	721-106/037-9037
1-cond. female connector, with strain relief plate, 5 mm pin spacing, 6-pole, light gray	721-106/026-9037/034-000
1-cond. female connector, with locking levers and strain relief plate, 5 mm pin spacing, 6-pole, light gray	721-106/037-9037/034-000

Direct marking of 1-conductor male connectors, parallel to conductor entry, pole no. ... 1, item no. suffix.: /... - 9034

Version	Item No. Example
1-cond. male connector, 5 mm pin spacing, 6-pole, light gray	721-606/000-9034
1-cond. male connector, with mounting flanges, 5 mm pin spacing, 6-pole, light gray	721-606/019-9034
1-cond. male connector, with mounting flanges and strain relief plate, 5 mm pin spacing, 6-pole, light gray	721-606/019-9034/034-000

Direct Marking

MCS MIDI and MCS MIDI Classic



Direct marking of 1-conductor female connectors with push-buttons, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

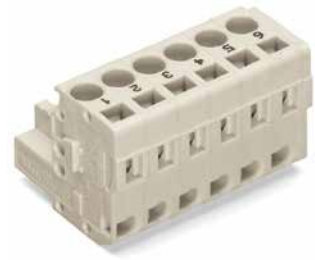
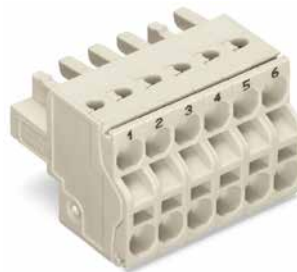
Version	Item No. Example
1-cond. female connector, with push-buttons, 5 mm pin spacing, 6-pole, light gray	2721-106/026-047
1-cond. female connector, with locking levers, 5 mm pin spacing, 6-pole, light gray	2721-106/037-047
1-cond. female connector, with push-buttons and strain relief plate, 5 mm pin spacing, 6-pole, light gray	2721-106/026-047/ 134-000
1-cond. female connector, with push-buttons, locking levers and strain relief plate, 5 mm pin spacing, 6-pole, light gray	2721-106/037-047/ 134-000

Direct marking of 2-conductor female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
2-cond. female connector, 6-pole, light gray	721-2106/026-047
2-cond. female connector, with locking levers, 6-pole, light gray	721-2106/037-047
2-cond. female connector, with locking levers and strain relief plate, 6-pole, light gray	721-2106/026-047/ 134-000

Direct marking of 1-conductor angled female connectors, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-cond. angled female connector, 6-pole, light gray	722-206/026-047
1-cond. angled female connector, with strain relief plate, 6-pole, light gray	722-206/026-047/ 034-000



Direct marking of 1-conductor female connectors with push-buttons, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
1-cond. female connector, with push-buttons, 5 mm pin spacing, 6-pole, light gray	2721-106/026-9037
1-cond. female connector, with push-buttons and locking levers, 5 mm pin spacing, 6-pole, light gray	2721-106/037-9037
1-cond. female connector, with push-buttons and strain relief plate, 5 mm pin spacing, 6-pole, light gray	2721-106/026-9037/ 134-000
1-cond. female connector, with push-buttons, locking levers and strain relief plate, 5 mm pin spacing, 6-pole, light gray	2721-106/037-9037/ 134-000

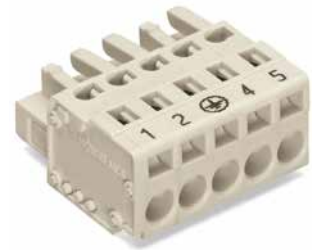
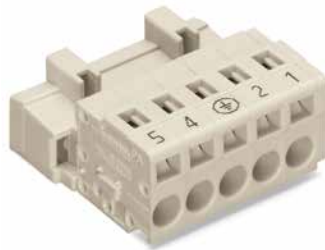
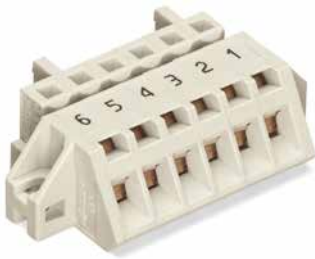
Direct marking of 2-conductor female connectors, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
2-cond. female connector, 5 mm pin spacing, 6-pole, light gray	721-2106/026-9037
2-cond. female connector, with locking levers, 5 mm pin spacing, 6-pole, light gray	721-2106/037-9037
2-cond. female connector, with locking levers and strain relief plate, 5 mm pin spacing, 6-pole, light gray	721-2106/026-9037/ 134-000

Direct marking of 1-conductor angled female connectors, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-cond. angled female connector, 5 mm pin spacing, 6-pole, light gray	722-206/026-9037
1-cond. angled female connector, with strain relief plate, 5 mm pin spacing, 6-pole, light gray	722-206/026-9037/ 034-000

Direct Marking MCS MIDI and MCS MIDI Classic



Direct marking of 2-conductor angled female connectors with flanges for panel mounting, perpendicular to conductor entry, 1 ... pole no., item no. suffix.: /... - 047

Version	Item No. Example
1-cond. angled female connector, with flanges for panel mounting, 5 mm pin spacing, 6-pole, light gray	721-306/031-047
1-cond. angled female connector, with flanges for panel mounting, with snap-in mounting feet, 5 mm pin spacing, 6-pole, light gray	721-306/008-047

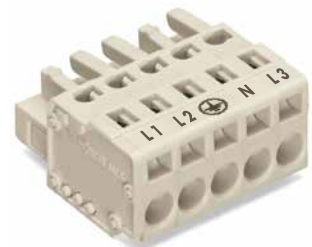
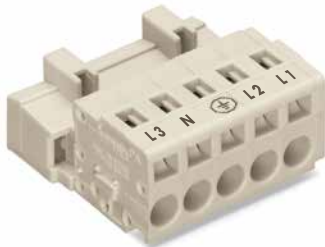
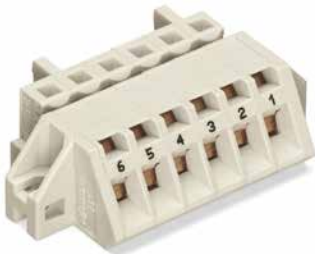
Direct marking of 3- to 5-pole, 1-cond. male connectors with preceding ground contact, perpendicular to conductor entry, pole assignment, item no. suffix.: /... - 042

Version	Item No. Example
1-cond. male connector, with preceding ground contact, 5 mm pin spacing 5-pole, light gray	721-605/000-042
1-conductor male connectors in 3- to 5-pole versions (721 and 723 Series) are available with the following markings:	
3-pole: 3 - ⊕ - 1	
4-pole: 4 - ⊕ - 2 - 1	
5-pole: 5 - ⊕ - 3 - 2 - 1	

Direct marking of 3- to 5-pole, 1-cond. female connectors for 1-cond. male connectors with preceding ground contact, perpendicular to conductor entry, pole assignment, item no. suffix.: /... - 045

Version	Item No. Example
1-cond. female connector, with preceding ground contact, 5 mm pin spacing 5-pole, light gray	721-105/026-045
1-conductor female connectors in 3- to 5-pole versions (721, 2721, 722 and 723 Series) for 1-conductor male connectors with preceding ground contact are available with the following markings:	
3-pole: 1 - ⊕ - 3	
4-pole: 1 - 2 - ⊕ - 4	
5-pole: 1 - 2 - ⊕ - 4 - 5	

5



Direct marking of 1-conductor angled female connectors with flanges for panel mounting, parallel to conductor entry, 1 ... pole no., item no. suffix.: /... - 9037

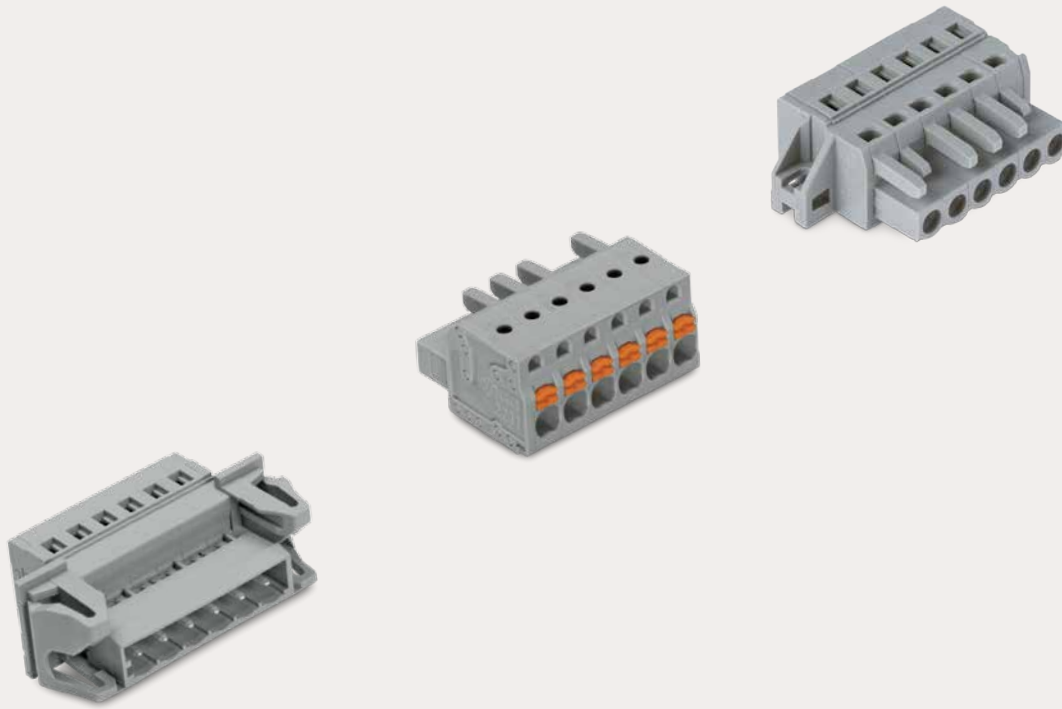
Version	Item No. Example
1-cond. female connector, with push-buttons, 5 mm pin spacing, 6-pole, light gray	2721-106/026-9037
1-cond. female connector, with push-buttons and locking levers, 5 mm pin spacing, 6-pole, light gray	2721-106/037-9037
1-cond. female connector, with push-buttons and strain relief plate, 5 mm pin spacing, 6-pole, light gray	2721-106/026-9037/134-000
1-cond. female connector, with push-buttons, locking levers and strain relief plate, 5 mm pin spacing, 6-pole, light gray	2721-106/037-9037/134-000

Direct marking of 3- to 5-pole, 1-cond. male connectors with preceding ground contact, perpendicular to conductor entry, pole assignment, item no. suffix.: /... - 041

Version	Item No. Example
1-cond. male connector, with preceding ground contact, 5 mm pin spacing 5-pole, light gray	721-605/000-041
1-conductor male connectors in 3- to 5-pole versions (721 and 723 Series) are available with the following markings:	
3-pole: N - ⊕ - L 1	
4-pole: L 2 - ⊕ - N - L 1	
5-pole: L 3 - N - ⊕ - L 2 - L 1	
Pole no. ... 1, item no. suffix.: /... - 043	

Direct marking of 3- to 5-pole, 1-cond. female connectors for 1-cond. male connectors with preceding ground contact, perpendicular to conductor entry, pole assignment, item no. suffix.: /... - 046

Version	Item No. Example
1-cond. female connector, with preceding ground contact, 5 mm pin spacing 5-pole, light gray	721-105/026-046
1-conductor female connectors in 3- to 5-pole versions (721, 2721, 722 and 723 Series) for 1-conductor male connectors with preceding ground contact are available with the following markings:	
3-pole: L 1 - ⊕ - N	
4-pole: L 1 - N - ⊕ - L 2	
5-pole: L 1 - L 2 - ⊕ - N - L 3	
1 ... pole no., item no. suffix.: /... - 047	



MCS – MULTI CONNECTION SYSTEM

MIDI Classic

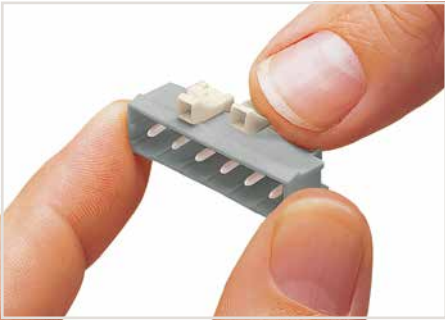
MCS MIDI Classic Connectors/Headers

Pin Spacing: 5/5.08 and 7.5/7.62 mm / Nominal Cross-Section: 2.5 mm²

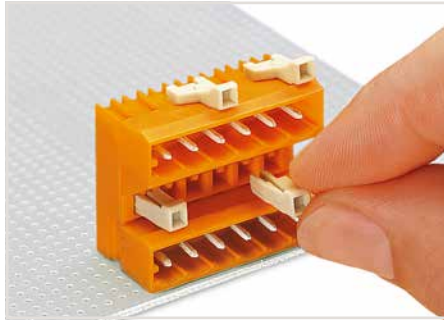
			Page
	MCS MIDI Classic Female Connectors, Straight and Angled, CAGE CLAMP® Termination	5/5.08 mm (0.197/0.2 inch) 7.5/7.62 mm (0.295/0.3 inch)	394 454
	MCS MIDI Classic Female Connectors for Panel Mounting, CAGE CLAMP® Termination	5 mm (0.197 inch) 7.5 mm (0.295 inch)	402 460
	MCS MIDI Classic Female Connectors, with Push-Buttons Push-in CAGE CLAMP® Termination,	5/5.08 mm (0.197/0.2 inch) 7.5/7.62 mm (0.295/0.3 inch)	404 462
	MCS MIDI Classic Female Connectors, 2-Conductor, Push-in CAGE CLAMP® Termination	5/5.08 mm (0.197/0.2 inch) 7.5/7.62 mm (0.295/0.3 inch)	410 466
	MCS MIDI Classic THT Male Headers	5/5.08 mm (0.197/0.2 inch) 7.5/7.62 mm (0.295/0.3 inch)	414 470
	THR Male Headers	5 mm (0.197 inch) 7.5 mm (0.295 inch)	424 478
	MCS MIDI Classic Male Connectors, CAGE CLAMP® Termination	5/5.08 mm (0.197/0.2 inch) 7.5/7.62 mm (0.295/0.3 inch)	432 486
	MCS MIDI Classic THT Female Headers	5/5.08 mm (0.197/0.2 inch) 7.5/7.62 mm (0.295/0.3 inch)	440 492
	MCS MIDI Classic Male Connectors for Rail-Mount Terminal Blocks	5 mm (0.197 inch)	448
	Female Connectors for Rail-Mount Terminal Blocks	5 mm (0.197 inch)	450
	MCS MIDI Accessories		500
	Direct Marking		386
	General Accessories – Section 12		586
	Application Examples		514

MCS MIDI Classic

Description and Installation



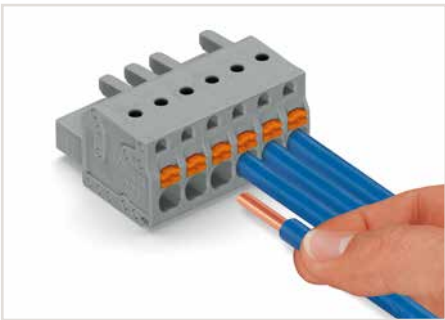
Coding a male header – fitting coding key(s).



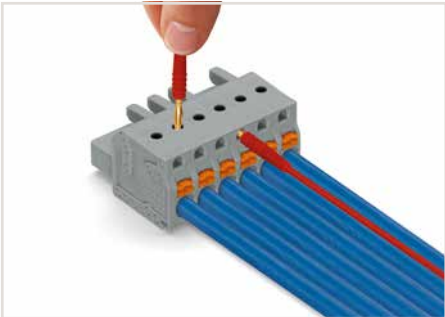
Coding a lower male header – inserting coding key(s).



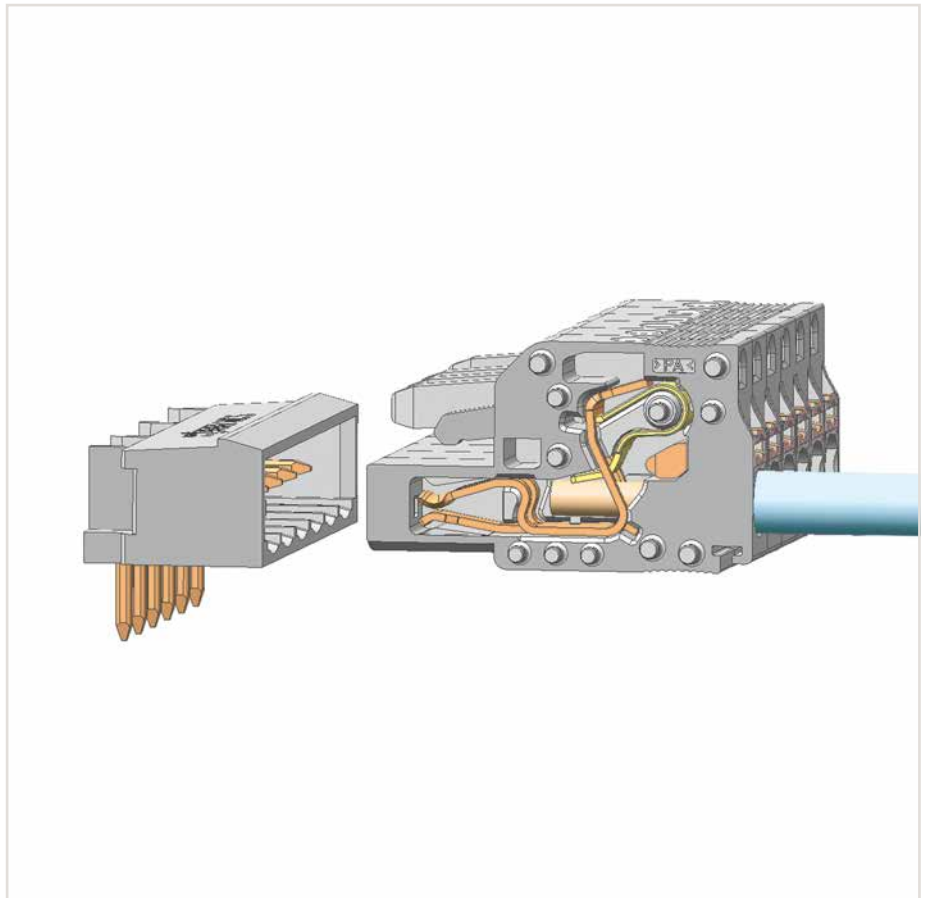
Coding a female connector – removing coding finger(s).



Push-in termination of solid conductors or fine-stranded conductors with ferrule



Testing parallel to conductor entry via integrated test ports – female connector with push-buttons and Push-in CAGE CLAMP® connection – touch contact perpendicular to conductor entry.



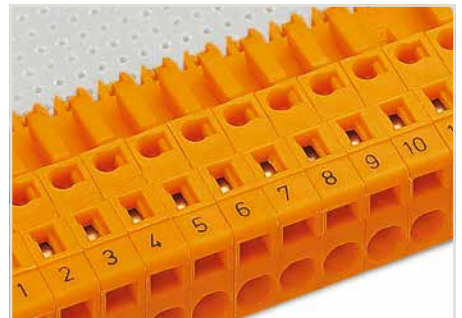
Pin spacing: 5/5.08 mm and 7.5/7.62 mm, Push-in CAGE CLAMP®



Inserting fine-stranded conductors into Push-in CAGE CLAMP® unit via push-buttons.



THR male headers in tape-and-reel packaging for SMT applications

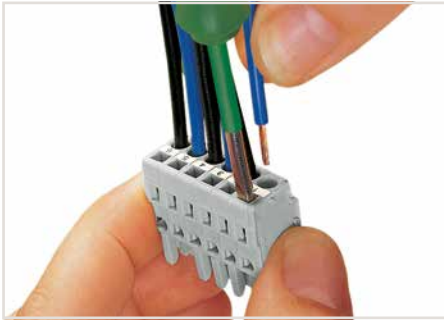


Labeling via direct marking or self-adhesive strips.

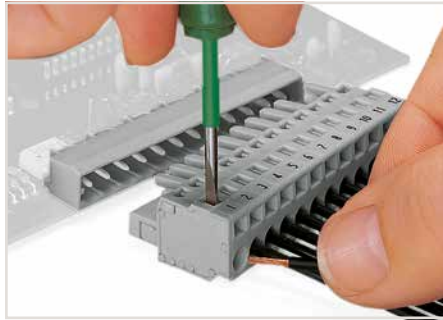
6

MCS MIDI Classic

Description and Installation



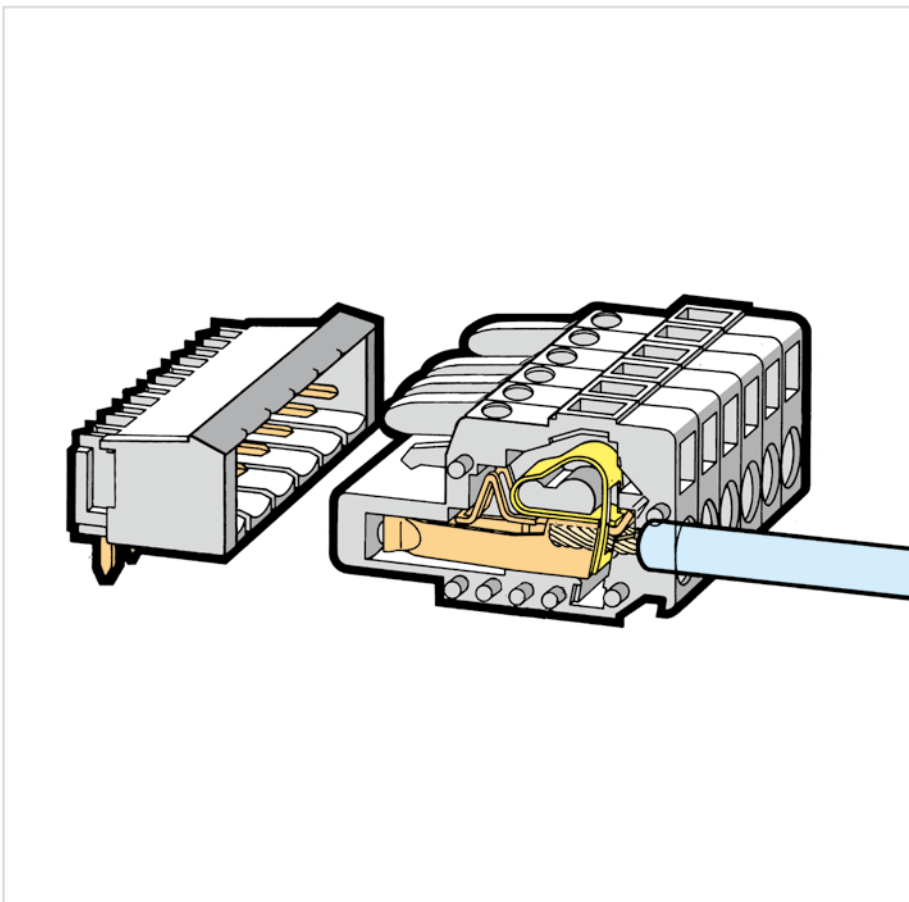
Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.



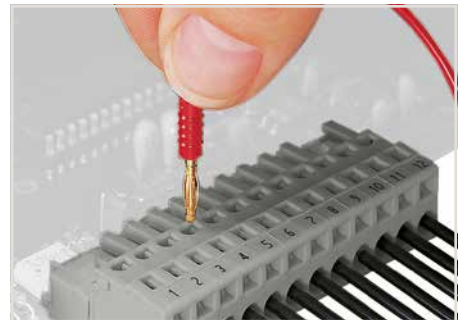
Inserting a conductor into CAGE CLAMP® unit via operating lever (231-291).



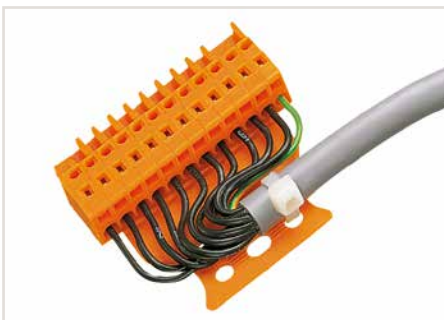
Pin spacing: 5/5.08 mm and 7.5/7.62 mm, CAGE CLAMP®



Inserting a conductor into CAGE CLAMP® unit via operating tool (210-250).



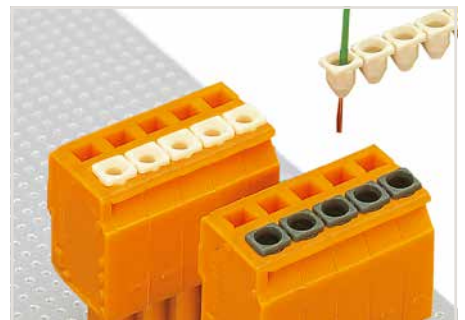
Testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug – female connector with CAGE CLAMP®.



Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®



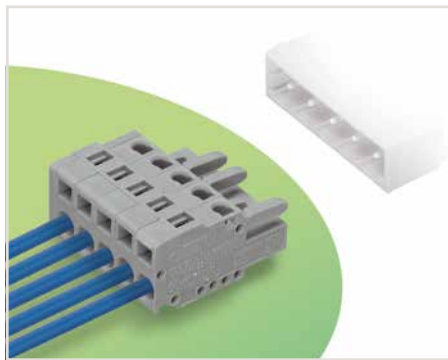
Insulation stop – prevents conductor insulation from being inserted into CAGE CLAMP® and Push-in CAGE CLAMP® units.

6

1-Conductor Female Connectors

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic



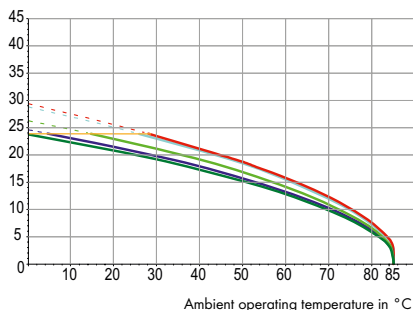
- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Integrated test ports
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with THT male header (231-432/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fst"
Based on: EN 60512-5-2 / Reduction factor: 0.8

Current in A



2-, 4-, 6-, 12-, 24-pole

— Conductor rated current

Electrical Data for Pin Spacing

	5 mm / 0.197 inch 5.08 mm / 0.2 inch	5 mm / 0.197 inch 5.08 mm / 0.2 inch (angled)
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	16 A	14 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	UL 1977 (factory wiring only)	
Rated voltage (UL)	600 V	

	CSA	CSA
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Comb-style jumper bars, see page 509

Insulation stop, see page 503

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test plug adapters, see page 501

Test plugs, see page 601

Screws, see page 610

Strain relief housings, see page 506

Strain relief plates, see page 504

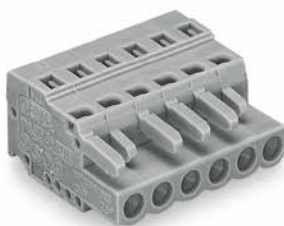
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

1-Conductor Female Connectors

Pin Spacing: 5 mm

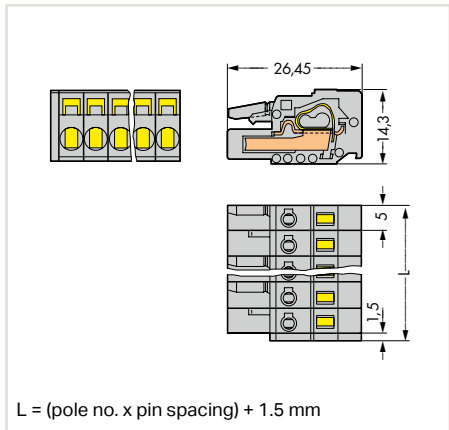
MCS MIDI Classic



Group Arrangement without Loss of Pin Spacing

Dividing multipole MCS Connectors into pluggable functional groups is a common requirement for customers using pluggable PCB connectors. WAGO's modular female connectors with an integrated end plate can be combined into a single assembly without loss of pin spacing.

Dimensions (in mm):

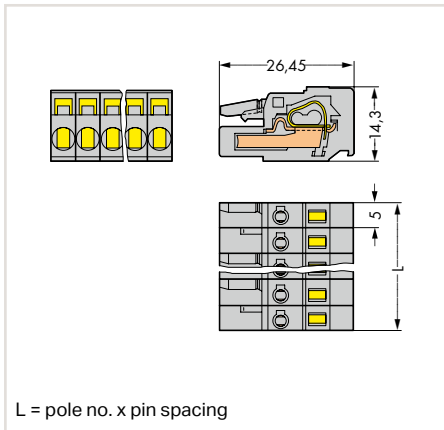


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

1-conductor female connector, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-102/026-000	100
3	231-103/026-000	100
4	231-104/026-000	100
5	231-105/026-000	100
6	231-106/026-000	50
7	231-107/026-000	50
8	231-108/026-000	50
9	231-109/026-000	50
10	231-110/026-000	50
11	231-111/026-000	25
12	231-112/026-000	25
13	231-113/026-000	25
14	231-114/026-000	25
15	231-115/026-000	25
16	231-116/026-000	25
17	231-117/026-000	25
18	231-118/026-000	25
19	231-119/026-000	10
20	231-120/026-000	10
21	231-121/026-000	10
22	231-122/026-000	10
23	231-123/026-000	10
24	231-124/026-000	10

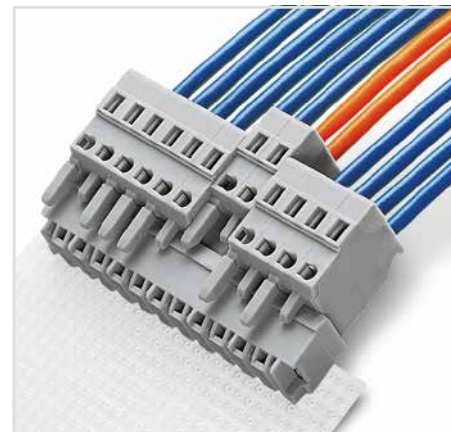
Dimensions (in mm):



$L = \text{pole no.} \times \text{pin spacing}$

1-conductor female connector, with integrated end plate, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-102/102-000	100
3	231-103/102-000	100
4	231-104/102-000	100
5	231-105/102-000	100
6	231-106/102-000	50
7	231-107/102-000	50
8	231-108/102-000	50
9	231-109/102-000	50
10	231-110/102-000	50
11	231-111/102-000	25
12	231-112/102-000	25
13	231-113/102-000	25
14	231-114/102-000	25
15	231-115/102-000	25
16	231-116/102-000	25
17	231-117/102-000	25
18	231-118/102-000	25
19	231-119/102-000	10
20	231-120/102-000	10
21	231-121/102-000	10
22	231-122/102-000	10
23	231-123/102-000	10
24	231-124/102-000	10



Total pole number for female connectors = pole number for male header



Female connectors with a built-in end plate require no extra space, while maintaining the nominal cross-section. This means: Total length of female connectors is reduced to "pole no. x pin spacing"!

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

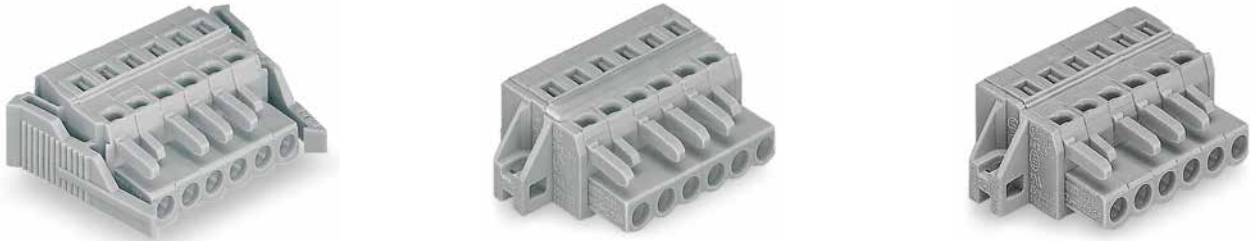
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

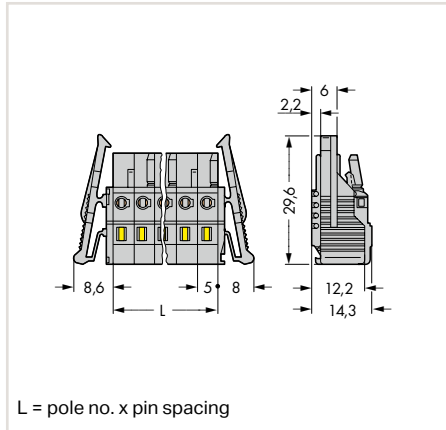
1-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):

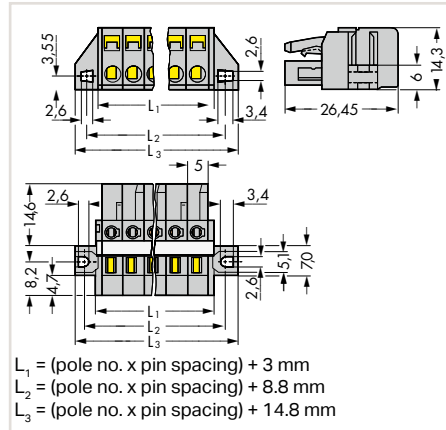


1-conductor female connector, with locking levers, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-102/037-000	100
3	231-103/037-000	50
4	231-104/037-000	50
5	231-105/037-000	50
6	231-106/037-000	50
7	231-107/037-000	50
8	231-108/037-000	25
9	231-109/037-000	25
10	231-110/037-000	25
11	231-111/037-000	25
12	231-112/037-000	25
13	231-113/037-000	25
14	231-114/037-000	25
15	231-115/037-000	25
16	231-116/037-000	10
17	231-117/037-000	10
18	231-118/037-000	10
19	231-119/037-000	10
20	231-120/037-000	10
21	231-121/037-000	10
22	231-122/037-000	10
23	231-123/037-000	10
24	231-124/037-000	10

2- to 3-pole female connectors – one latch only

Dimensions (in mm):

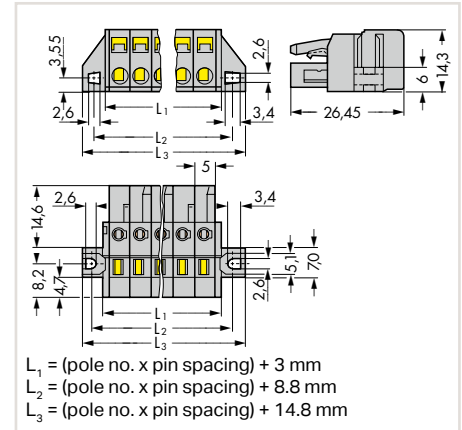


1-conductor female connector, with flanges for racks and through-panel mounting, with reinforcing strips, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-102/031-000	100
3	231-103/031-000	50
4	231-104/031-000	50
5	231-105/031-000	50
6	231-106/027-000	50
7	231-107/027-000	50
8	231-108/027-000	50
9	231-109/027-000	25
10	231-110/027-000	25
11	231-111/027-000	25
12	231-112/027-000	25
13	231-113/027-000	25
14	231-114/027-000	25
15	231-115/027-000	25
16	231-116/027-000	10
17	231-117/027-000	10
18	231-118/027-000	10
19	231-119/027-000	10
20	231-120/027-000	10
21	231-121/027-000	10
22	231-122/027-000	10
23	231-123/027-000	10
24	231-124/027-000	10

Cutout dimensions, see page 510, Table 1

Dimensions (in mm):



1-conductor female connector, with flanges for panel mounting, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-102/031-000	100
3	231-103/031-000	50
4	231-104/031-000	50
5	231-105/031-000	50
6	231-106/031-000	50
7	231-107/031-000	50
8	231-108/031-000	50
9	231-109/031-000	25
10	231-110/031-000	25
11	231-111/031-000	25
12	231-112/031-000	25
13	231-113/031-000	25
14	231-114/031-000	25
15	231-115/031-000	25
16	231-116/031-000	10
17	231-117/031-000	10
18	231-118/031-000	10
19	231-119/031-000	10
20	231-120/031-000	10
21	231-121/031-000	10
22	231-122/031-000	10
23	231-123/031-000	10
24	231-124/031-000	10

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

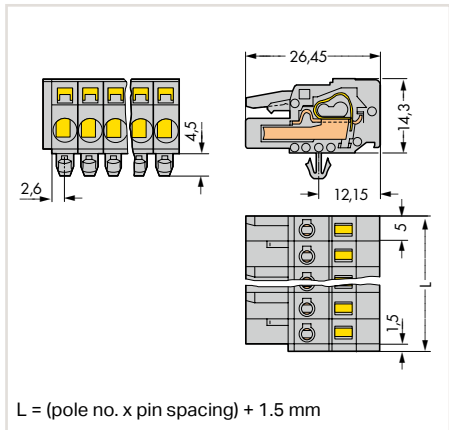
1-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI Classic



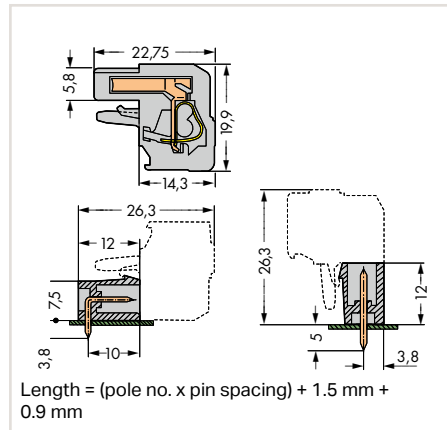
Dimensions (in mm):



1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-102/008-000	100
3	231-103/008-000	100
4	231-104/008-000	100
5	231-105/008-000	100
6	231-106/008-000	50
7	231-107/008-000	50
8	231-108/008-000	50
9	231-109/008-000	50
10	231-110/008-000	50
11	231-111/008-000	25
12	231-112/008-000	25
13	231-113/008-000	25
14	231-114/008-000	25
15	231-115/008-000	25
16	231-116/008-000	25
17	231-117/008-000	25
18	231-118/008-000	25
19	231-119/008-000	10
20	231-120/008-000	10
21	231-121/008-000	10
22	231-122/008-000	10
23	231-123/008-000	10
24	231-124/008-000	10

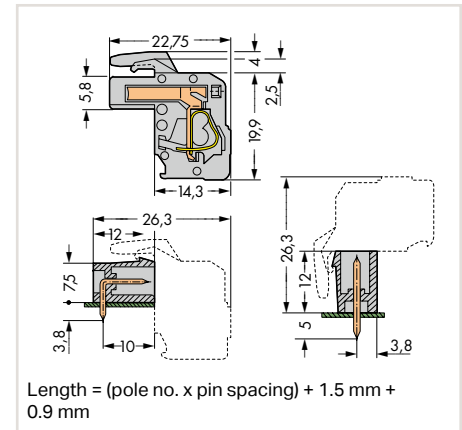
Dimensions (in mm):



1-conductor angled female connector, conductor entry same direction as latches, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-202/026-000	100
3	232-203/026-000	100
4	232-204/026-000	100
5	232-205/026-000	100
6	232-206/026-000	50
7	232-207/026-000	50
8	232-208/026-000	50
9	232-209/026-000	50
10	232-210/026-000	50
11	232-211/026-000	25
12	232-212/026-000	25
13	232-213/026-000	25
14	232-214/026-000	25
15	232-215/026-000	25
16	232-216/026-000	25
17	232-217/026-000	25
18	232-218/026-000	25
19	232-219/026-000	10
20	232-220/026-000	10
21	232-221/026-000	10
22	232-222/026-000	10
23	232-223/026-000	10
24	232-224/026-000	10

Dimensions (in mm):



1-conductor angled female connector, conductor entry opposite of latches, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-102/026-000	100
3	232-103/026-000	100
4	232-104/026-000	100
5	232-105/026-000	100
6	232-106/026-000	50
7	232-107/026-000	50
8	232-108/026-000	50
9	232-109/026-000	50
10	232-110/026-000	50
11	232-111/026-000	25
12	232-112/026-000	25
13	232-113/026-000	25
14	232-114/026-000	25
15	232-115/026-000	25
16	232-116/026-000	25
17	232-117/026-000	25
18	232-118/026-000	25
19	232-119/026-000	10
20	232-120/026-000	10
21	232-121/026-000	10
22	232-122/026-000	10
23	232-123/026-000	10
24	232-124/026-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

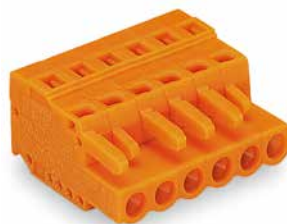
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors

Pin Spacing: 5.08 mm

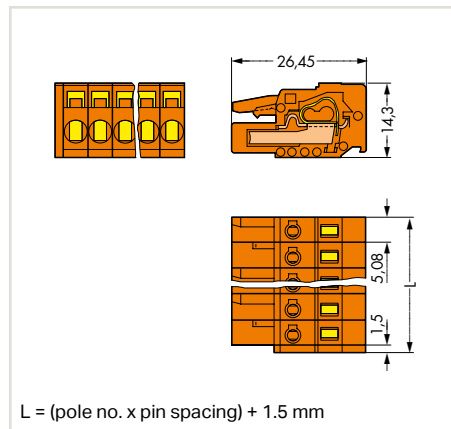
MCS MIDI Classic



Group Arrangement without Loss of Pin Spacing

Dividing multipole MCS Connectors into pluggable functional groups is a common requirement for customers using pluggable PCB connectors. WAGO's modular female connectors with an integrated end plate can be combined into a single assembly without loss of pin spacing.

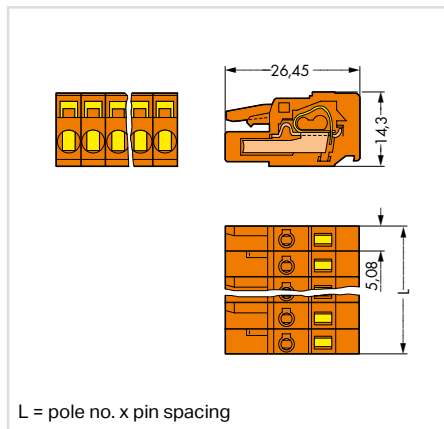
Dimensions (in mm):



1-conductor female connector, orange, 5.08 mm (0.2 inch) pin spacing

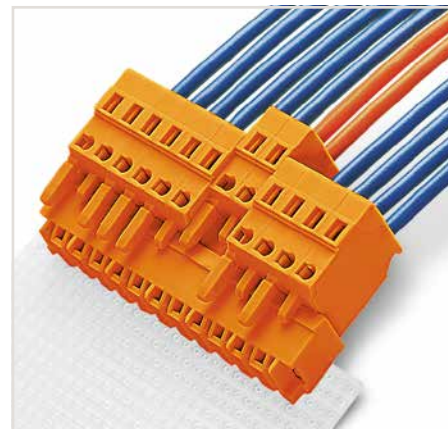
Pole No.	Item No.	Pack. Unit
2	231-302/026-000	100
3	231-303/026-000	100
4	231-304/026-000	100
5	231-305/026-000	100
6	231-306/026-000	50
7	231-307/026-000	50
8	231-308/026-000	50
9	231-309/026-000	50
10	231-310/026-000	50
11	231-311/026-000	25
12	231-312/026-000	25
13	231-313/026-000	25
14	231-314/026-000	25
15	231-315/026-000	25
16	231-316/026-000	25
17	231-317/026-000	25
18	231-318/026-000	10
19	231-319/026-000	10
20	231-320/026-000	10
21	231-321/026-000	10
22	231-322/026-000	10
23	231-323/026-000	10
24	231-324/026-000	10

Dimensions (in mm):

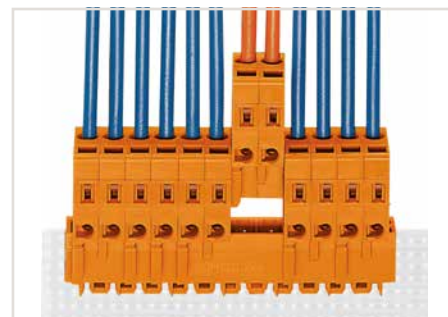


1-conductor female connector, with integrated end plate, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-302/102-000	100
3	231-303/102-000	100
4	231-304/102-000	100
5	231-305/102-000	100
6	231-306/102-000	50
7	231-307/102-000	50
8	231-308/102-000	50
9	231-309/102-000	50
10	231-310/102-000	50
11	231-311/102-000	25
12	231-312/102-000	25
13	231-313/102-000	25
14	231-314/102-000	25
15	231-315/102-000	25
16	231-316/102-000	25
17	231-317/102-000	25
18	231-318/102-000	10
19	231-319/102-000	10
20	231-320/102-000	10
21	231-321/102-000	10
22	231-322/102-000	10
23	231-323/102-000	10
24	231-324/102-000	10



Total pole number for female connectors = pole number for male header



Female connectors with built-in end plate require no extra space, while maintaining the nominal cross-section. This means: Total length of female connectors is reduced to "pole no. x pin spacing"!

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

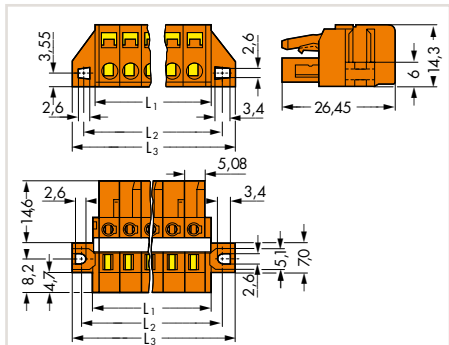
1-Conductor Female Connectors

Pin Spacing: 5.08 mm

MCS MIDI Classic



Dimensions (in mm):

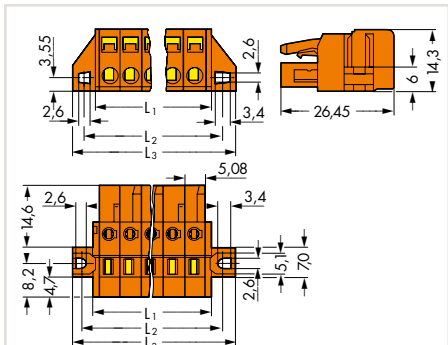


$L_1 = (\text{pole no.} \times \text{pin spacing}) + 3 \text{ mm}$
 $L_2 = (\text{pole no.} \times \text{pin spacing}) + 8.8 \text{ mm}$
 $L_3 = (\text{pole no.} \times \text{pin spacing}) + 14.8 \text{ mm}$

1-conductor female connector, with flanges for racks and through-panel mounting, with reinforcing strips, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-302/031-000	100
3	231-303/031-000	50
4	231-304/031-000	50
5	231-305/031-000	50
6	231-306/027-000	50
7	231-307/027-000	50
8	231-308/027-000	50
9	231-309/027-000	25
10	231-310/027-000	25
11	231-311/027-000	25
12	231-312/027-000	25
13	231-313/027-000	25
14	231-314/027-000	25
15	231-315/027-000	25
16	231-316/027-000	10
17	231-317/027-000	10
18	231-318/027-000	10
19	231-319/027-000	10
20	231-320/027-000	10
21	231-321/027-000	10
22	231-322/027-000	10
23	231-323/027-000	10
24	231-324/027-000	10

Dimensions (in mm):



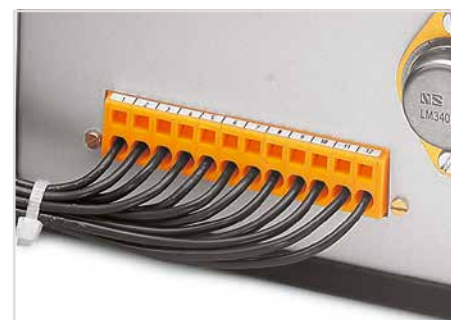
$L_1 = (\text{pole no.} \times \text{pin spacing}) + 3 \text{ mm}$
 $L_2 = (\text{pole no.} \times \text{pin spacing}) + 8.8 \text{ mm}$
 $L_3 = (\text{pole no.} \times \text{pin spacing}) + 14.8 \text{ mm}$

1-conductor female connector, with flanges for panel mounting, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-302/031-000	100
3	231-303/031-000	50
4	231-304/031-000	50
5	231-305/031-000	50
6	231-306/031-000	50
7	231-307/031-000	50
8	231-308/031-000	50
9	231-309/031-000	25
10	231-310/031-000	25
11	231-311/031-000	25
12	231-312/031-000	25
13	231-313/031-000	25
14	231-314/031-000	25
15	231-315/031-000	25
16	231-316/031-000	10
17	231-317/031-000	10
18	231-318/031-000	10
19	231-319/031-000	10
20	231-320/031-000	10
21	231-321/031-000	10
22	231-322/031-000	10
23	231-323/031-000	10
24	231-324/031-000	10



Female connectors with mounting flanges can be used as PCB through-panel connectors – conductor termination parallel to CAGE CLAMP® actuation.



PCB female connectors with mounting flanges can be used as through-panel connectors for external wiring.



16-pole female connector with mounting flanges in a 19" rack – conductor termination parallel to CAGE CLAMP® actuation

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

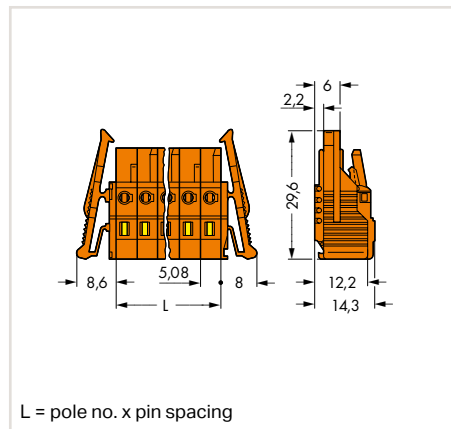
1-Conductor Female Connectors

Pin Spacing: 5.08 mm

MCS MIDI Classic



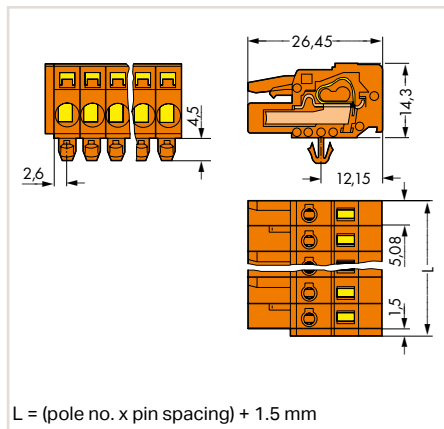
Dimensions (in mm):



1-conductor female connector, with locking levers, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-302/037-000	100
3	231-303/037-000	50
4	231-304/037-000	50
5	231-305/037-000	50
6	231-306/037-000	50
7	231-307/037-000	50
8	231-308/037-000	25
9	231-309/037-000	25
10	231-310/037-000	25
11	231-311/037-000	25
12	231-312/037-000	25
13	231-313/037-000	25
14	231-314/037-000	25
15	231-315/037-000	25
16	231-316/037-000	10
17	231-317/037-000	10
18	231-318/037-000	10
19	231-319/037-000	10
20	231-320/037-000	10
21	231-321/037-000	10
22	231-322/037-000	10
23	231-323/037-000	10
24	231-324/037-000	10

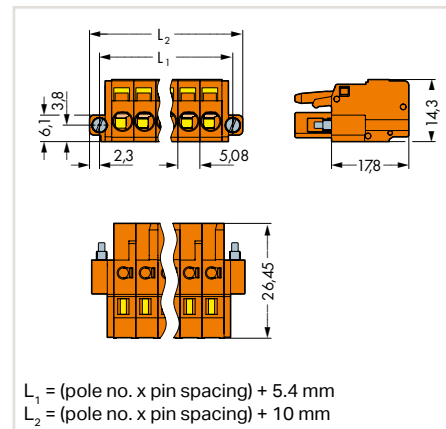
Dimensions (in mm):



1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-302/008-000	100
3	231-303/008-000	100
4	231-304/008-000	100
5	231-305/008-000	100
6	231-306/008-000	50
7	231-307/008-000	50
8	231-308/008-000	50
9	231-309/008-000	50
10	231-310/008-000	50
11	231-311/008-000	25
12	231-312/008-000	25
13	231-313/008-000	25
14	231-314/008-000	25
15	231-315/008-000	25
16	231-316/008-000	25
17	231-317/008-000	25
18	231-318/008-000	10
19	231-319/008-000	10
20	231-320/008-000	10
21	231-321/008-000	10
22	231-322/008-000	10
23	231-323/008-000	10
24	231-324/008-000	10

Dimensions (in mm):



1-conductor female connector, with screw flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-302/107-000	100
3	231-303/107-000	100
4	231-304/107-000	50
5	231-305/107-000	50
6	231-306/107-000	50
7	231-307/107-000	50
8	231-308/107-000	50
9	231-309/107-000	25
10	231-310/107-000	25
12	231-312/107-000	25
14	231-314/107-000	25
15	231-315/107-000	25
16	231-316/107-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

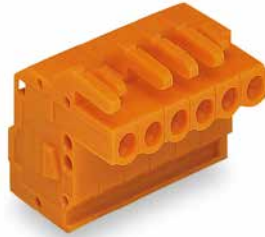
- *Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

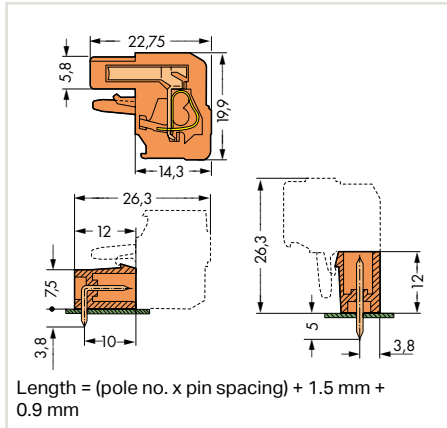
1-Conductor Female Connectors

Pin Spacing: 5.08 mm

MCS MIDI Classic



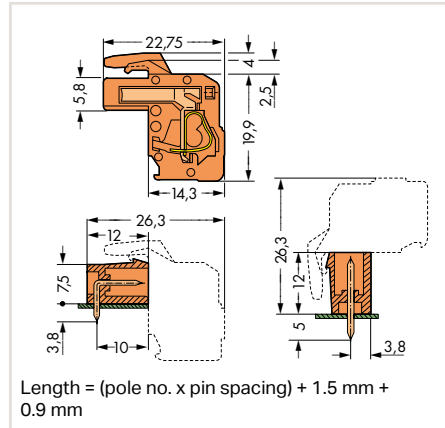
Dimensions (in mm):



1-conductor angled female connector, conductor entry same direction as latches, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-402/026-000	100
3	232-403/026-000	100
4	232-404/026-000	100
5	232-405/026-000	100
6	232-406/026-000	50
7	232-407/026-000	50
8	232-408/026-000	50
9	232-409/026-000	50
10	232-410/026-000	50
11	232-411/026-000	25
12	232-412/026-000	25
13	232-413/026-000	25
14	232-414/026-000	25
15	232-415/026-000	25
16	232-416/026-000	25
17	232-417/026-000	25
18	232-418/026-000	10
19	232-419/026-000	10
20	232-420/026-000	10
21	232-421/026-000	10
22	232-422/026-000	10
23	232-423/026-000	10
24	232-424/026-000	10

Dimensions (in mm):



1-conductor angled female connector, conductor entry opposite of latches, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-302/026-000	100
3	232-303/026-000	100
4	232-304/026-000	100
5	232-305/026-000	100
6	232-306/026-000	50
7	232-307/026-000	50
8	232-308/026-000	50
9	232-309/026-000	50
10	232-310/026-000	50
11	232-311/026-000	25
12	232-312/026-000	25
13	232-313/026-000	25
14	232-314/026-000	25
15	232-315/026-000	25
16	232-316/026-000	25
17	232-317/026-000	25
18	232-318/026-000	10
19	232-319/026-000	10
20	232-320/026-000	10
21	232-321/026-000	10
22	232-322/026-000	10
23	232-323/026-000	10
24	232-324/026-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

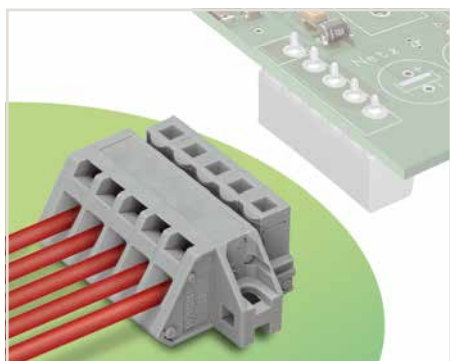
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 5 mm

MCS MIDI Classic

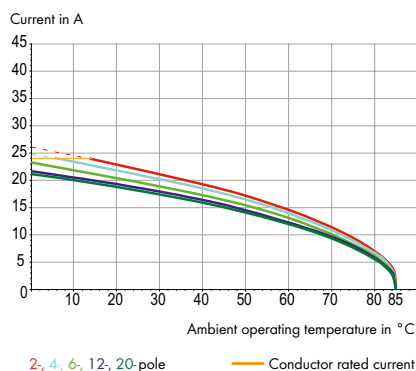


- Universal connection for all conductor types
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- Mounting adapter allows versions with snap-in mounting feet to be DIN-rail mounted
- Easy conductor termination, even when halves are mated

Derating Curve

1-conductor female connector (731-502/031-000) with THT male header (231-132/001-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test plug adapters, see page 501

Screws, see page 610

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

5 mm / 0.197 inch	
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	7 ... 8 mm / 0.28 ... 0.31 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

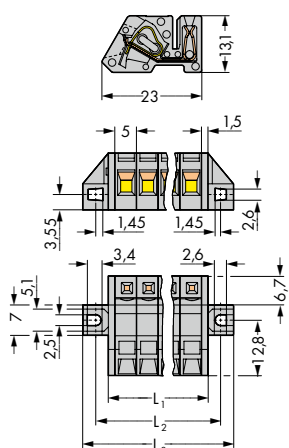
1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 5 mm

MCS MIDI Classic



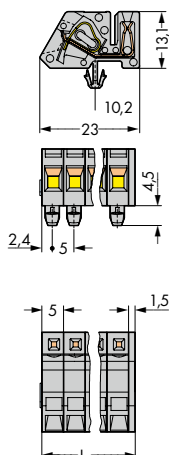
Dimensions (in mm):



$L_1 = (\text{pole no.} \times \text{pin spacing}) + 3 \text{ mm}$
 $L_2 = (\text{pole no.} \times \text{pin spacing}) + 8.8 \text{ mm}$
 $L_3 = (\text{pole no.} \times \text{pin spacing}) + 14.8 \text{ mm}$

1-conductor angled female connector, with flanges for panel mounting, gray, 5 mm (0.197 inch) pin spacing

Dimensions (in mm):



$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

1-conductor angled female connector, with snap-in feet for panel mounting, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 5 mm (0.197 inch) pin spacing



Angled female connector with DIN-35 rail-mount adapter (209-120)



Angled female connector used as through-panel connector. Termination ports and operating slots are located outside the housing – panel thickness up to 2 mm.



Angled female plug – a male header with straight solder pins is used for horizontal PCB mounting in narrow housings.

Pole No.	Item No.	Pack. Unit
2	731-502/031-000	100
3	731-503/031-000	50
4	731-504/031-000	50
5	731-505/031-000	50
6	731-506/031-000	50
7	731-507/031-000	50
8	731-508/031-000	50
9	731-509/031-000	25
10	731-510/031-000	25
11	731-511/031-000	25
12	731-512/031-000	25
13	731-513/031-000	25
14	731-514/031-000	25
15	731-515/031-000	25
16	731-516/031-000	10
17	731-517/031-000	10
18	731-518/031-000	10
19	731-519/031-000	10
20	731-520/031-000	10

Pole No.	Item No.	Pack. Unit
2	731-502/008-000	100
3	731-503/008-000	50
4	731-504/008-000	50
5	731-505/008-000	50
6	731-506/008-000	50
7	731-507/008-000	50
8	731-508/008-000	50
9	731-509/008-000	50
10	731-510/008-000	50
11	731-511/008-000	25
12	731-512/008-000	25
13	731-513/008-000	25
14	731-514/008-000	25
15	731-515/008-000	25
16	731-516/008-000	25
17	731-517/008-000	25
18	731-518/008-000	25
19	731-519/008-000	10
20	731-520/008-000	10

Available upon request (depending on quantity required):

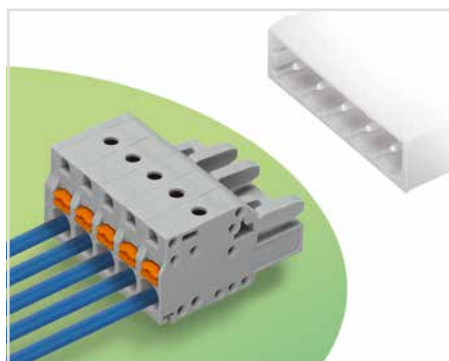
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5 mm, 5.08 mm

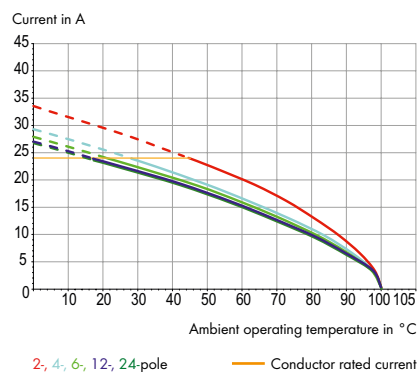
MCS MIDI Classic



- Universal connection for all conductor types
- Easy-to-use design does not require specialty tools
- Ability to wire while mated
- Push-in termination of solid and ferruled conductors
- Integrated test ports for testing parallel to the conductor entry
- With coding fingers

Derating Curve

1-conductor female connector (2231-102/026-000) with THT male header (231-162/001-000)
 Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fst"
 Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Insulation stop, see page 503

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test plug adapters, see page 501

Test plugs, see page 601

Screws, see page 610

Strain relief plates, see page 504

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group C)	150 V
Rated current UL (Use Group C)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group C)	150 V
Rated current CSA (Use Group C)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	10 ... 11 mm / 0.39 ... 0.43 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

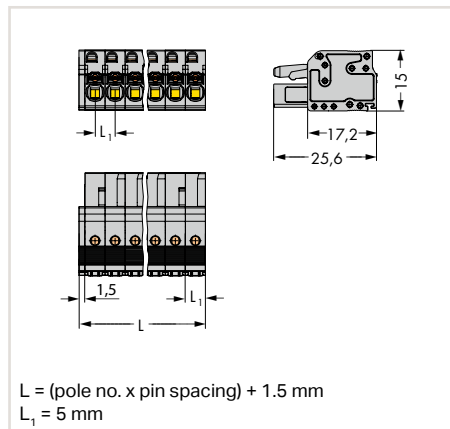
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5 mm

MCS MIDI Classic



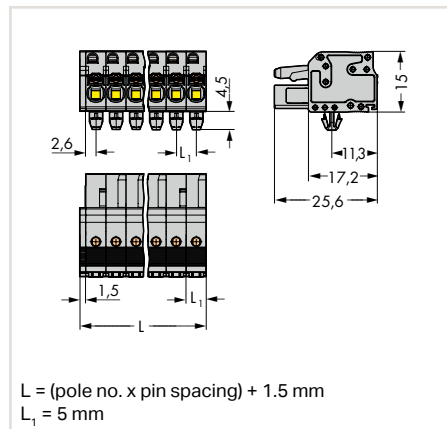
Dimensions (in mm):



1-conductor female connector, with push-buttons, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-102/026-000	100
3	2231-103/026-000	100
4	2231-104/026-000	100
5	2231-105/026-000	100
6	2231-106/026-000	50
7	2231-107/026-000	50
8	2231-108/026-000	50
9	2231-109/026-000	50
10	2231-110/026-000	50
11	2231-111/026-000	25
12	2231-112/026-000	25
13	2231-113/026-000	25
14	2231-114/026-000	25
15	2231-115/026-000	25
16	2231-116/026-000	25
17	2231-117/026-000	25
18	2231-118/026-000	25
19	2231-119/026-000	10
20	2231-120/026-000	10
21	2231-121/026-000	10
22	2231-122/026-000	10
23	2231-123/026-000	10
24	2231-124/026-000	10

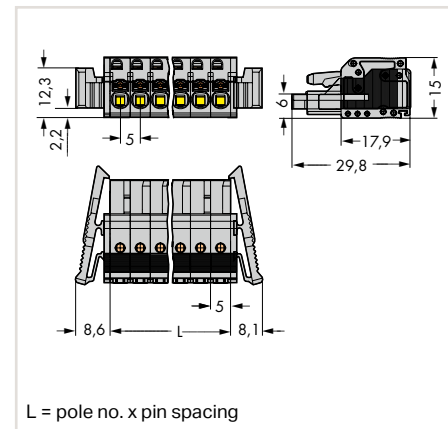
Dimensions (in mm):



1-conductor female connector, with push-buttons and snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-102/008-000	100
3	2231-103/008-000	100
4	2231-104/008-000	100
5	2231-105/008-000	100
6	2231-106/008-000	50
7	2231-107/008-000	50
8	2231-108/008-000	50
9	2231-109/008-000	50
10	2231-110/008-000	50
11	2231-111/008-000	25
12	2231-112/008-000	25
13	2231-113/008-000	25
14	2231-114/008-000	25
15	2231-115/008-000	25
16	2231-116/008-000	25
17	2231-117/008-000	25
18	2231-118/008-000	25
19	2231-119/008-000	10
20	2231-120/008-000	10
21	2231-121/008-000	10
22	2231-122/008-000	10
23	2231-123/008-000	10
24	2231-124/008-000	10

Dimensions (in mm):



1-conductor female connector, with push-buttons and locking levers, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-102/037-000	100
3	2231-103/037-000	50
4	2231-104/037-000	50
5	2231-105/037-000	50
6	2231-106/037-000	50
7	2231-107/037-000	50
8	2231-108/037-000	25
9	2231-109/037-000	25
10	2231-110/037-000	25
11	2231-111/037-000	25
12	2231-112/037-000	25
13	2231-113/037-000	25
14	2231-114/037-000	25
15	2231-115/037-000	25
16	2231-116/037-000	10
17	2231-117/037-000	10
18	2231-118/037-000	10
19	2231-119/037-000	10
20	2231-120/037-000	10
21	2231-121/037-000	10
22	2231-122/037-000	10
23	2231-123/037-000	10
24	2231-124/037-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5 mm

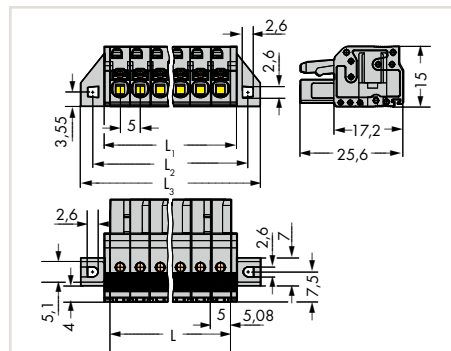
MCS MIDI Classic

Group Arrangement without Loss of Pin Spacing

Dividing multipole MCS Connectors into pluggable functional groups is a common requirement for customers using pluggable PCB connectors. WAGO's modular female connectors with an integrated end plate can be combined into a single assembly without loss of pin spacing.



Dimensions (in mm):

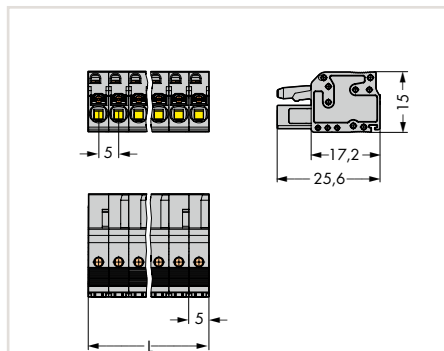


L = pole no. x pin spacing
 $L_1 = L + 2.8 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

1-conductor female connector, with push-buttons and flanges for panel mounting, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-102/031-000	100
3	2231-103/031-000	50
4	2231-104/031-000	50
5	2231-105/031-000	50
6	2231-106/031-000	50
7	2231-107/031-000	50
8	2231-108/031-000	50
9	2231-109/031-000	25
10	2231-110/031-000	25
11	2231-111/031-000	25
12	2231-112/031-000	25
13	2231-113/031-000	25
14	2231-114/031-000	25
15	2231-115/031-000	25
16	2231-116/031-000	10
17	2231-117/031-000	10
18	2231-118/031-000	10
19	2231-119/031-000	10
20	2231-120/031-000	10
21	2231-121/031-000	10
22	2231-122/031-000	10
23	2231-123/031-000	10
24	2231-124/031-000	10

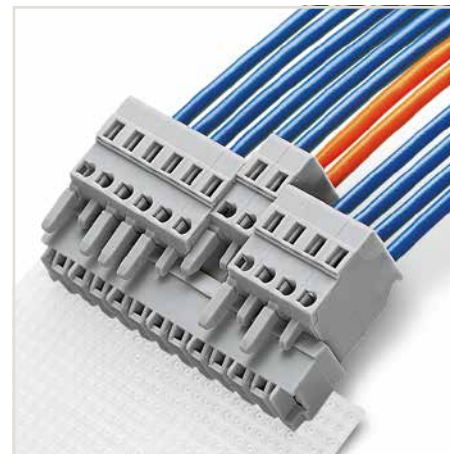
Dimensions (in mm):



L = pole no. x pin spacing

1-conductor female connector, with push-buttons and integrated end plate, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-102/102-000	100
3	2231-103/102-000	100
4	2231-104/102-000	100
5	2231-105/102-000	100
6	2231-106/102-000	50
7	2231-107/102-000	50
8	2231-108/102-000	50
9	2231-109/102-000	50
10	2231-110/102-000	50
11	2231-111/102-000	25
12	2231-112/102-000	25
13	2231-113/102-000	25
14	2231-114/102-000	25
15	2231-115/102-000	25
16	2231-116/102-000	25
17	2231-117/102-000	25
18	2231-118/102-000	25
19	2231-119/102-000	10
20	2231-120/102-000	10
21	2231-121/102-000	10
22	2231-122/102-000	10
23	2231-123/102-000	10
24	2231-124/102-000	10



Total pole number for female connectors = pole number for male header



Female connectors with a built-in end plate require no extra space, while maintaining the nominal cross-section. This means: Total length of female connectors is reduced to "pole no. x pin spacing"!

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 511, Table 2

Available upon request (depending on quantity required):

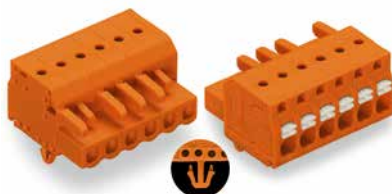
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

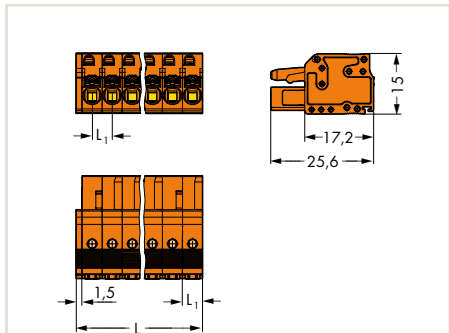
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5.08 mm

MCS MIDI Classic



Dimensions (in mm):

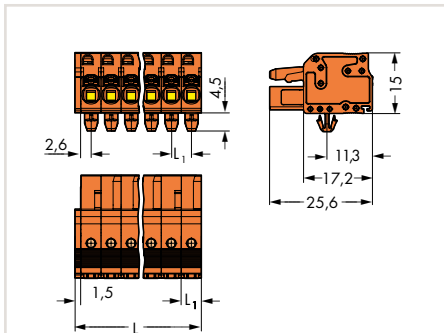


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
 $L_1 = 5.08 \text{ mm}$

1-conductor female connector, with push-buttons, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-302/026-000	100
3	2231-303/026-000	100
4	2231-304/026-000	100
5	2231-305/026-000	100
6	2231-306/026-000	50
7	2231-307/026-000	50
8	2231-308/026-000	50
9	2231-309/026-000	50
10	2231-310/026-000	50
11	2231-311/026-000	25
12	2231-312/026-000	25
13	2231-313/026-000	25
14	2231-314/026-000	25
15	2231-315/026-000	25
16	2231-316/026-000	25
17	2231-317/026-000	25
18	2231-318/026-000	10
19	2231-319/026-000	10
20	2231-320/026-000	10
21	2231-321/026-000	10
22	2231-322/026-000	10
23	2231-323/026-000	10
24	2231-324/026-000	10

Dimensions (in mm):

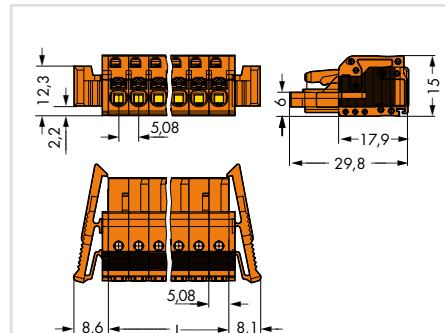


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$
 $L_1 = 5.08 \text{ mm}$

1-conductor female connector, with push-buttons and snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-302/008-000	100
3	2231-303/008-000	100
4	2231-304/008-000	100
5	2231-305/008-000	100
6	2231-306/008-000	50
7	2231-307/008-000	50
8	2231-308/008-000	50
9	2231-309/008-000	50
10	2231-310/008-000	50
11	2231-311/008-000	25
12	2231-312/008-000	25
13	2231-313/008-000	25
14	2231-314/008-000	25
15	2231-315/008-000	25
16	2231-316/008-000	25
17	2231-317/008-000	25
18	2231-318/008-000	10
19	2231-319/008-000	10
20	2231-320/008-000	10
21	2231-321/008-000	10
22	2231-322/008-000	10
23	2231-323/008-000	10
24	2231-324/008-000	10

Dimensions (in mm):



$L = \text{pole no.} \times \text{pin spacing}$

1-conductor female connector, with push-buttons and locking levers, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-302/037-000	100
3	2231-303/037-000	50
4	2231-304/037-000	50
5	2231-305/037-000	50
6	2231-306/037-000	50
7	2231-307/037-000	50
8	2231-308/037-000	25
9	2231-309/037-000	25
10	2231-310/037-000	25
11	2231-311/037-000	25
12	2231-312/037-000	25
13	2231-313/037-000	25
14	2231-314/037-000	25
15	2231-315/037-000	25
16	2231-316/037-000	10
17	2231-317/037-000	10
18	2231-318/037-000	10
19	2231-319/037-000	10
20	2231-320/037-000	10
21	2231-321/037-000	10
22	2231-322/037-000	10
23	2231-323/037-000	10
24	2231-324/037-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

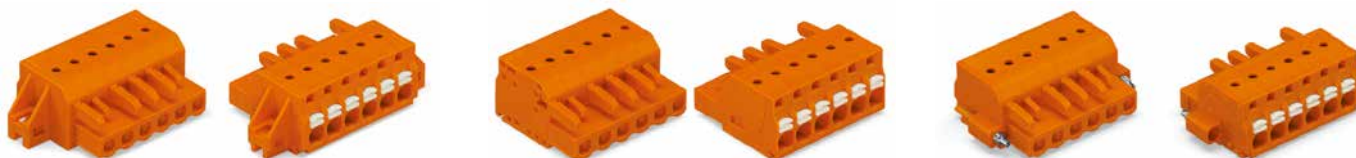
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

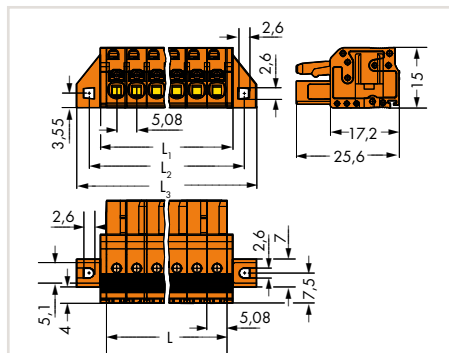
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 5.08 mm

MCS MIDI Classic



Dimensions (in mm):

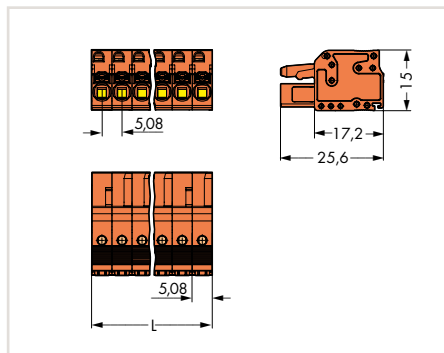


L = pole no. x pin spacing
 $L_1 = L + 2.8 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

1-conductor female connector, with push-buttons and flanges for panel mounting, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-302/031-000	100
3	2231-303/031-000	50
4	2231-304/031-000	50
5	2231-305/031-000	50
6	2231-306/031-000	50
7	2231-307/031-000	50
8	2231-308/031-000	50
9	2231-309/031-000	25
10	2231-310/031-000	25
11	2231-311/031-000	25
12	2231-312/031-000	25
13	2231-313/031-000	25
14	2231-314/031-000	25
15	2231-315/031-000	25
16	2231-316/031-000	25
17	2231-317/031-000	10
18	2231-318/031-000	10
19	2231-319/031-000	10
20	2231-320/031-000	10
21	2231-321/031-000	10
22	2231-322/031-000	10
23	2231-323/031-000	10
24	2231-324/031-000	10

Dimensions (in mm):

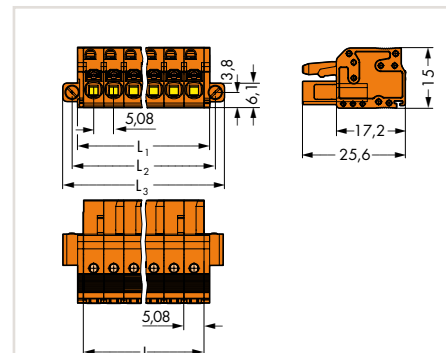


L = pole no. x pin spacing

1-conductor female connector, with push-buttons and integrated end plate, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-302/102-000	100
3	2231-303/102-000	100
4	2231-304/102-000	100
5	2231-305/102-000	100
6	2231-306/102-000	50
7	2231-307/102-000	50
8	2231-308/102-000	50
9	2231-309/102-000	50
10	2231-310/102-000	50
11	2231-311/102-000	25
12	2231-312/102-000	25
13	2231-313/102-000	25
14	2231-314/102-000	25
15	2231-315/102-000	25
16	2231-316/102-000	25
17	2231-317/102-000	25
18	2231-318/102-000	10
19	2231-319/102-000	10
20	2231-320/102-000	10
21	2231-321/102-000	10
22	2231-322/102-000	10
23	2231-323/102-000	10
24	2231-324/102-000	10

Dimensions (in mm):



L = pole no. x pin spacing
 $L_1 = L + 2.8 \text{ mm}$
 $L_2 = L + 5.4 \text{ mm}$
 $L_3 = L + 10 \text{ mm}$

1-conductor female connector, with screw flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-302/107-000	100
3	2231-303/107-000	100
4	2231-304/107-000	50
5	2231-305/107-000	50
6	2231-306/107-000	50
7	2231-307/107-000	50
8	2231-308/107-000	50
9	2231-309/107-000	25
10	2231-310/107-000	25
12	2231-312/107-000	25
14	2231-314/107-000	25
15	2231-315/107-000	25
16	2231-316/107-000	10

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 511, Table 2

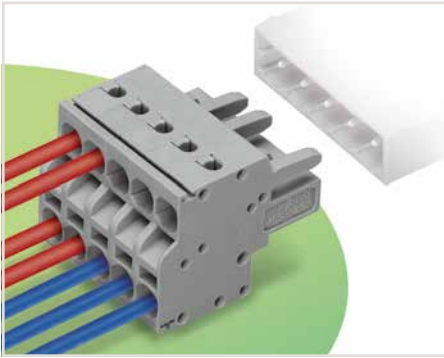
Available upon request (depending on quantity required):

- *Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

2-Conductor Female Connectors

Pin Spacing: 5 mm; 5.08 mm

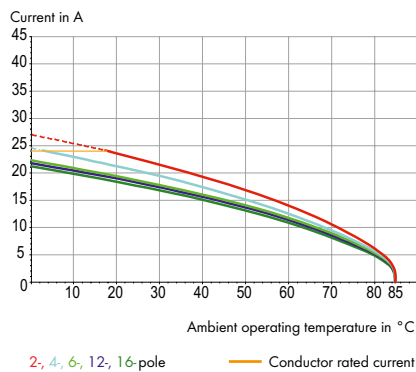
MCS MIDI Classic



- Universal connection for all conductor types
- Two conductor entries per pole
- For looping through power or data buses
- Bus connection is retained, even when unmated
- Push-in termination of solid and ferruled conductors
- With coding fingers

Derating Curve

2-conductor female connector (231-2102/026-000) with THT male header (231-132/001-000)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Insulation stop, see page 503

Test plug adapters, see page 501

Test pin, see page 601

Strain relief plates, see page 504

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	20 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

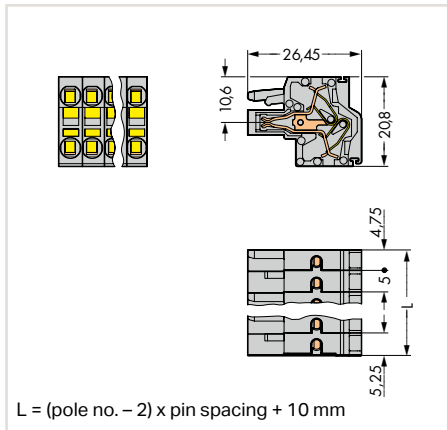
2-Conductor Female Connectors

Pin Spacing: 5 mm

MCS MIDI Classic



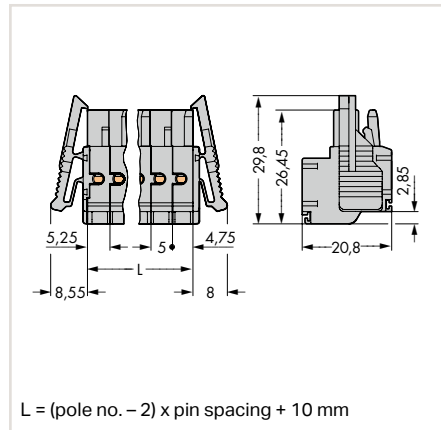
Dimensions (in mm):



2-conductor female connector, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2102/026-000	100
3	231-2103/026-000	100
4	231-2104/026-000	100
5	231-2105/026-000	50
6	231-2106/026-000	50
7	231-2107/026-000	50
8	231-2108/026-000	50
9	231-2109/026-000	50
10	231-2110/026-000	50
11	231-2111/026-000	25
12	231-2112/026-000	25
13	231-2113/026-000	25
14	231-2114/026-000	25
15	231-2115/026-000	25
16	231-2116/026-000	25

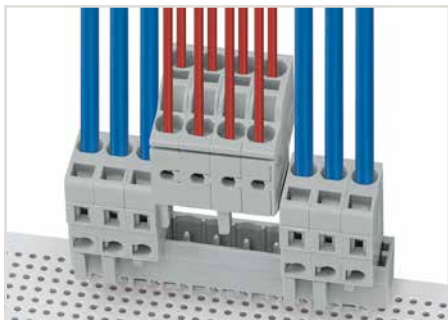
Dimensions (in mm):



2-conductor female connector,
with locking levers, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2102/037-000	100
3	231-2103/037-000	50
4	231-2104/037-000	50
5	231-2105/037-000	50
6	231-2106/037-000	50
7	231-2107/037-000	50
8	231-2108/037-000	25
9	231-2109/037-000	25
10	231-2110/037-000	25
11	231-2111/037-000	25
12	231-2112/037-000	25
13	231-2113/037-000	25
14	231-2114/037-000	25
15	231-2115/037-000	25
16	231-2116/037-000	10

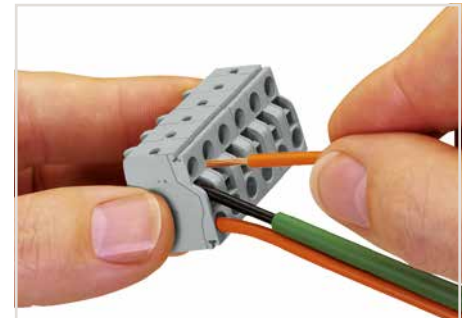
2- to 3-pole female connectors – one latch only



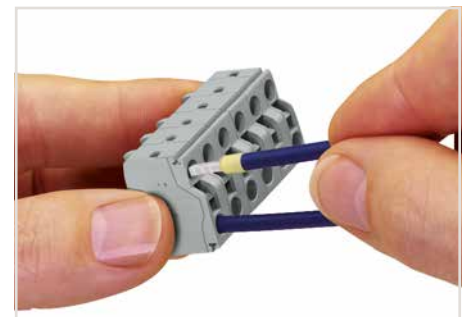
Group Arrangement without Loss of Pin Spacing
Dividing multipole MCS Connectors into pluggable functional groups is a common requirement for customers using pluggable PCB connectors. WAGO's modular female connectors with an integrated end plate can be combined into a single assembly without loss of pin spacing. Female connectors with built-in end plate require no extra space, while maintaining the nominal cross-section. This means: Total length of female connectors is reduced to "pole no. x pin spacing"!

Female connectors equipped with two Push-in CAGE CLAMP® connections per pole allow conductors to be looped from one connector to another without interruption. Therefore, disconnecting one connector will not affect other connectors in the circuit.

These female connectors can be mated with male headers or CAGE CLAMP®-equipped male connectors.



Operating Push-in CAGE CLAMP® is easy, fast and identical to that of CAGE CLAMP®. The screwdriver is fully inserted into the operating slot, holding Push-in CAGE CLAMP® open. After the conductor has been inserted into the clamping unit and the screwdriver been withdrawn, the conductor is clamped safely. Solid and fine-stranded conductors <math>< 0.5 \text{ mm}^2</math> (20 AWG) are terminated and removed using a screwdriver.



Solid conductors $\geq 0.5 \text{ mm}^2$ (20 AWG), as well as feruled, fine-stranded conductors can be terminated by simply pushing them into unit. Integrated test ports allow touch contact with current bar via test probes in both horizontal and vertical directions.

Available upon request (depending on quantity required):

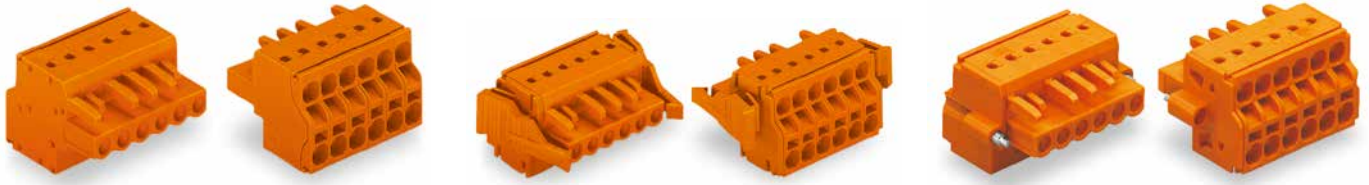
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

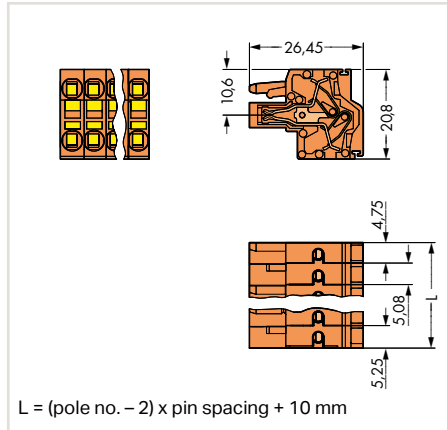
2-Conductor Female Connectors

Pin Spacing: 5.08 mm

MCS MIDI Classic



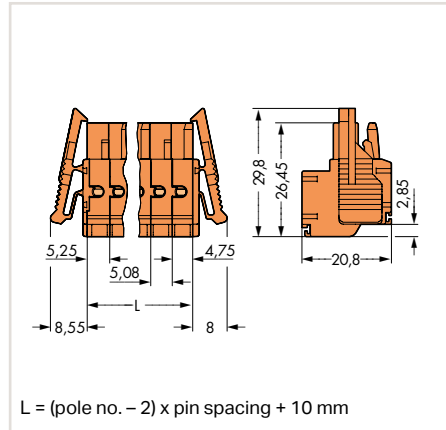
Dimensions (in mm):



2-conductor female connector, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2302/026-000	100
3	231-2303/026-000	100
4	231-2304/026-000	100
5	231-2305/026-000	50
6	231-2306/026-000	50
7	231-2307/026-000	50
8	231-2308/026-000	50
9	231-2309/026-000	50
10	231-2310/026-000	50
11	231-2311/026-000	25
12	231-2312/026-000	25
13	231-2313/026-000	25
14	231-2314/026-000	25
15	231-2315/026-000	25
16	231-2316/026-000	25

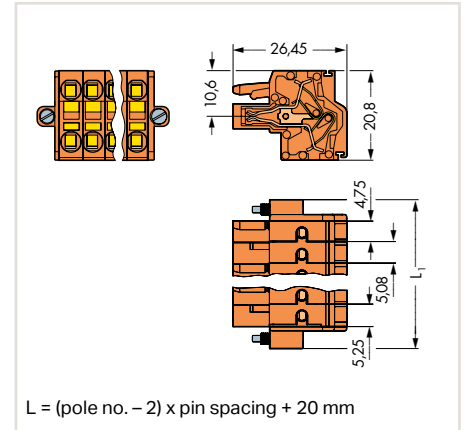
Dimensions (in mm):



2-conductor female connector, with locking levers, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2302/037-000	100
3	231-2303/037-000	50
4	231-2304/037-000	50
5	231-2305/037-000	50
6	231-2306/037-000	50
7	231-2307/037-000	50
8	231-2308/037-000	25
9	231-2309/037-000	25
10	231-2310/037-000	25
11	231-2311/037-000	25
12	231-2312/037-000	25
13	231-2313/037-000	25
14	231-2314/037-000	25
15	231-2315/037-000	25
16	231-2316/037-000	10

Dimensions (in mm):



2-conductor female connector, with screw flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2302/107-000	100
3	231-2303/107-000	100
4	231-2304/107-000	50
5	231-2305/107-000	50
6	231-2306/107-000	50
7	231-2307/107-000	50
8	231-2308/107-000	50
9	231-2309/107-000	25
10	231-2310/107-000	25
12	231-2312/107-000	25
14	231-2314/107-000	25
15	231-2315/107-000	25
16	231-2316/107-000	10

2- to 3-pole female connectors – one latch only

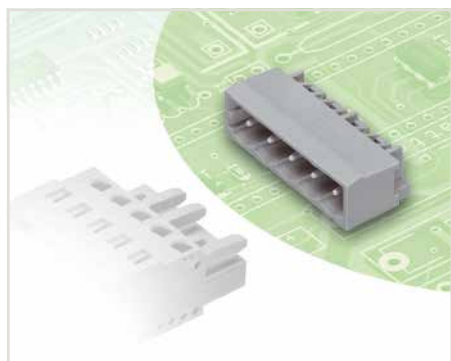
Available upon request (depending on quantity required):

- *Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 5 mm, 5.08 mm

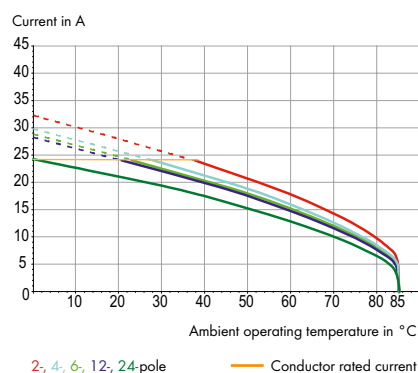
MCS MIDI Classic



- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with THT male header (231-462/001-000)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm (0.197 inch)
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Locking devices, see page 503

Coding keys, see page 502

Screws, see page 610

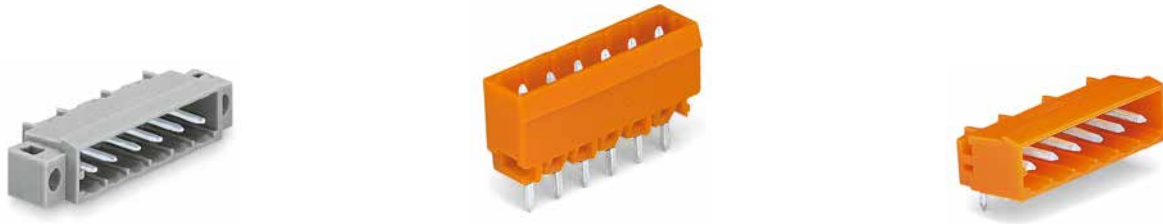
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

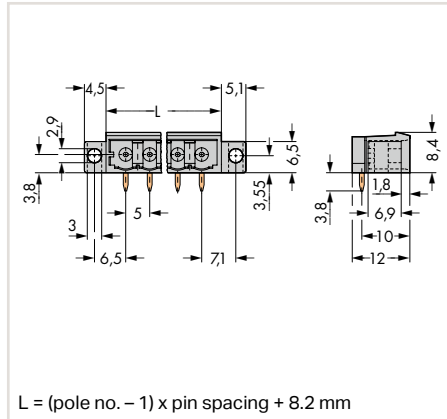
THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic



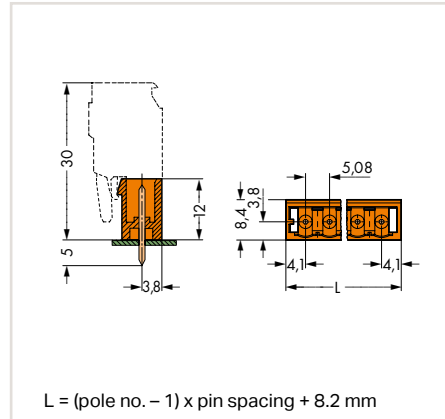
Dimensions (in mm):



THT male header, with 1 x 1 mm angled solder pins and mounting flanges, gray*, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-432/040-000	200
3	231-433/040-000	200
5	231-435/040-000	100
6	231-436/040-000	100
14	231-444/040-000	50

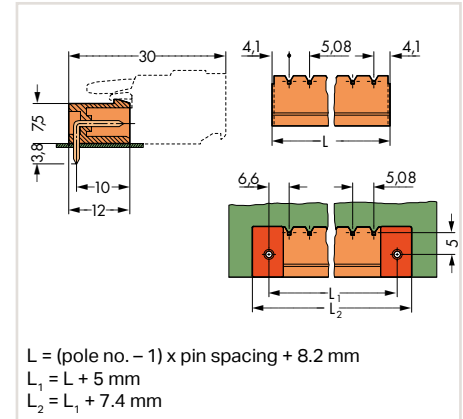
Dimensions (in mm):



THT male header, with 1 x 1 mm straight solder pins, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-332/001-000	200
3	231-333/001-000	200
4	231-334/001-000	200
5	231-335/001-000	200
6	231-336/001-000	100
7	231-337/001-000	100
8	231-338/001-000	100
9	231-339/001-000	100
10	231-340/001-000	100
11	231-341/001-000	100
12	231-342/001-000	100
13	231-343/001-000	50
14	231-344/001-000	50
15	231-345/001-000	50
16	231-346/001-000	50
17	231-347/001-000	50
18	231-348/001-000	50
19	231-349/001-000	50
20	231-350/001-000	50
21	231-351/001-000	50
22	231-352/001-000	50
23	231-353/001-000	50
24	231-354/001-000	50

Dimensions (in mm):



THT male header, with 1 x 1 mm angled solder pins, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-532/001-000	200
3	231-533/001-000	200
4	231-534/001-000	200
5	231-535/001-000	200
6	231-536/001-000	100
7	231-537/001-000	100
8	231-538/001-000	100
9	231-539/001-000	100
10	231-540/001-000	100
11	231-541/001-000	100
12	231-542/001-000	100
13	231-543/001-000	50
14	231-544/001-000	50
15	231-545/001-000	50
16	231-546/001-000	50
17	231-547/001-000	50
18	231-548/001-000	50
19	231-549/001-000	50
20	231-550/001-000	50
21	231-551/001-000	50
22	231-552/001-000	50
23	231-553/001-000	50
24	231-554/001-000	50

Cutout dimensions, see page 513, Table 4

Available upon request (depending on quantity required):

- *Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix ... /001-000 with ... /046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

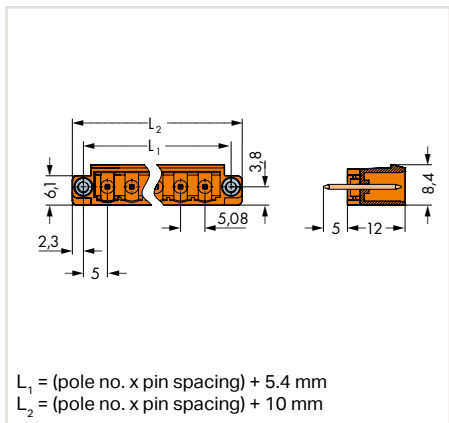
THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 5.08 mm

MCS MIDI Classic



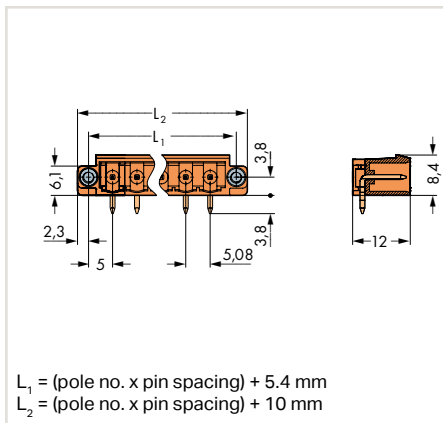
Dimensions (in mm):



THT male header, with 1 x 1 mm straight solder pins and threaded flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-332/108-000	200
3	231-333/108-000	200
4	231-334/108-000	100
5	231-335/108-000	100
6	231-336/108-000	100
7	231-337/108-000	100
8	231-338/108-000	100
9	231-339/108-000	100
10	231-340/108-000	100
12	231-342/108-000	100
14	231-344/108-000	50
15	231-345/108-000	50
16	231-346/108-000	50

Dimensions (in mm):



THT male header, with 1 x 1 mm angled solder pins and threaded flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-532/108-000	200
3	231-533/108-000	200
4	231-534/108-000	100
5	231-535/108-000	100
6	231-536/108-000	100
7	231-537/108-000	100
8	231-538/108-000	100
9	231-539/108-000	100
10	231-540/108-000	100
12	231-542/108-000	100
14	231-544/108-000	50
15	231-545/108-000	50
16	231-546/108-000	50

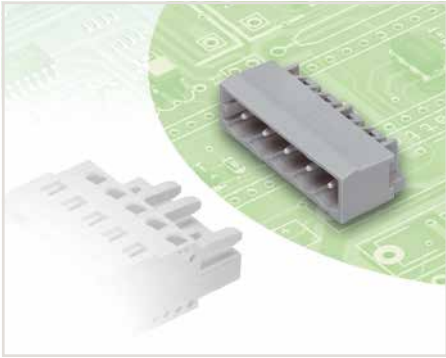
Available upon request (depending on quantity required):

- *Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 5 mm, 5.08 mm

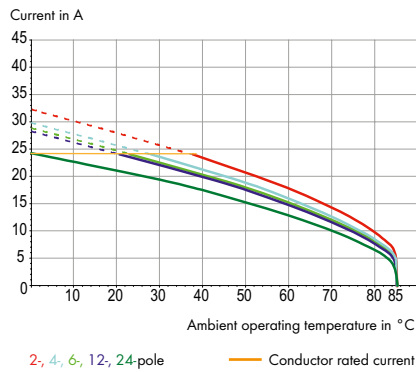
MCS MIDI Classic



- Horizontal or vertical PCB mounting via straight or angled solder pins
- 1.2 x 1.2 mm solder pins allow nominal current up to 16 A, enhancing stability of shorter headers
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with THT male header (231-462/001-000)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fs"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm (0.197 inch)
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1.2 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Locking devices, see page 604

Coding keys, see page 502

Screws, see page 610

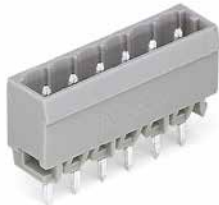
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

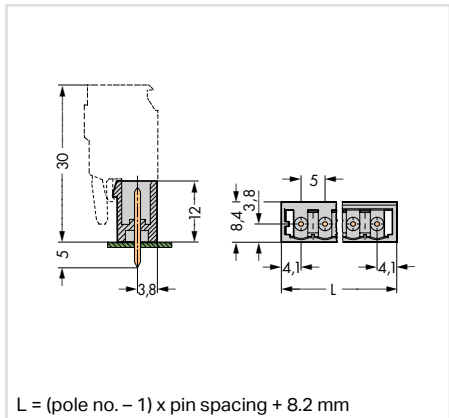
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 5 mm

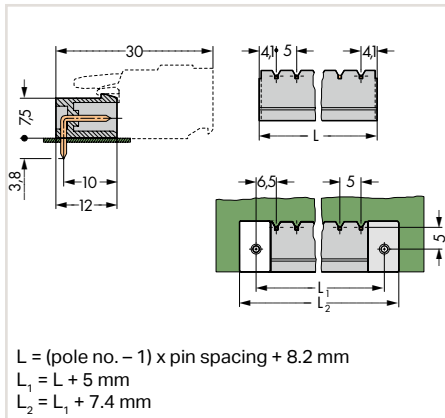
MCS MIDI Classic



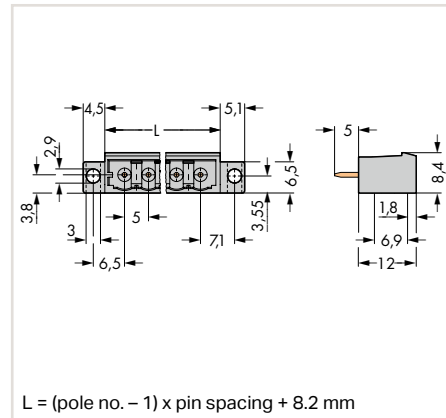
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm straight solder pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-162/001-000	200
3	231-163/001-000	200
4	231-164/001-000	200
5	231-165/001-000	200
6	231-166/001-000	100
7	231-167/001-000	100
8	231-168/001-000	100
9	231-169/001-000	100
10	231-170/001-000	100
11	231-171/001-000	100
12	231-172/001-000	100
13	231-173/001-000	50
14	231-174/001-000	50
15	231-175/001-000	50
16	231-176/001-000	50
17	231-177/001-000	50
18	231-178/001-000	50
19	231-179/001-000	50
20	231-180/001-000	50
21	231-181/001-000	50
22	231-182/001-000	50
23	231-183/001-000	50
24	231-184/001-000	50

THT male header, with 1.2 x 1.2 mm angled solder pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-462/001-000	200
3	231-463/001-000	200
4	231-464/001-000	200
5	231-465/001-000	200
6	231-466/001-000	100
7	231-467/001-000	100
8	231-468/001-000	100
9	231-469/001-000	100
10	231-470/001-000	100
11	231-471/001-000	100
12	231-472/001-000	100
13	231-473/001-000	50
14	231-474/001-000	50
15	231-475/001-000	50
16	231-476/001-000	50
17	231-477/001-000	50
18	231-478/001-000	50
19	231-479/001-000	50
20	231-480/001-000	50
21	231-481/001-000	50
22	231-482/001-000	50
23	231-483/001-000	50
24	231-484/001-000	50

THT male header, with 1.2 x 1.2 mm straight solder pins and mounting flanges, gray*, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-162/040-000	200
3	231-163/040-000	200
5	231-165/040-000	100
6	231-166/040-000	100
14	231-174/040-000	50

Cutout dimensions, see page 513, Table 4

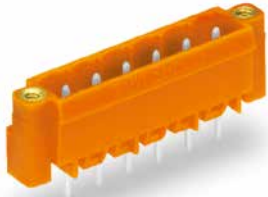
Available upon request (depending on quantity required):

- *Other pole numbers
 - 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix ... /001-000 with ... /046-000.
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

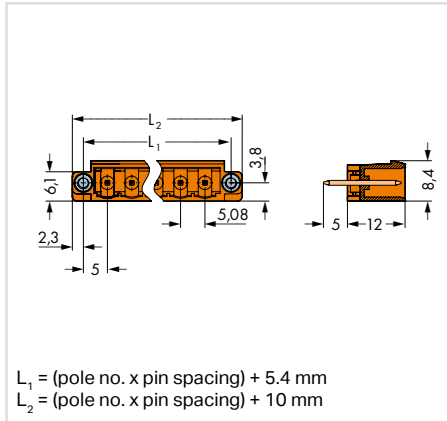
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 5.08 mm

MCS MIDI Classic



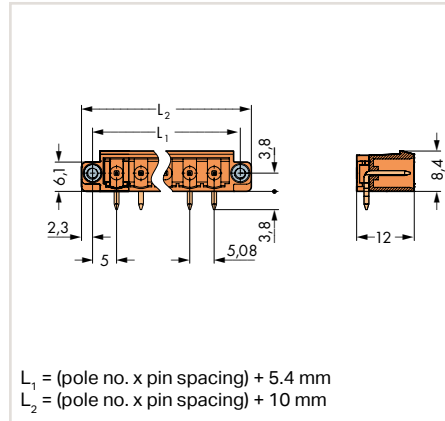
Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm straight solder pins and threaded flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-362/108-000	200
3	231-363/108-000	200
4	231-364/108-000	100
5	231-365/108-000	100
6	231-366/108-000	100
7	231-367/108-000	100
8	231-368/108-000	100
9	231-369/108-000	100
10	231-370/108-000	100
12	231-372/108-000	100
14	231-374/108-000	50
15	231-375/108-000	50
16	231-376/108-000	50

Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm angled solder pins and threaded flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-562/108-000	200
3	231-563/108-000	200
4	231-564/108-000	100
5	231-565/108-000	100
6	231-566/108-000	100
7	231-567/108-000	100
8	231-568/108-000	100
9	231-569/108-000	100
10	231-570/108-000	100
12	231-572/108-000	100
14	231-574/108-000	50
15	231-575/108-000	50
16	231-576/108-000	50

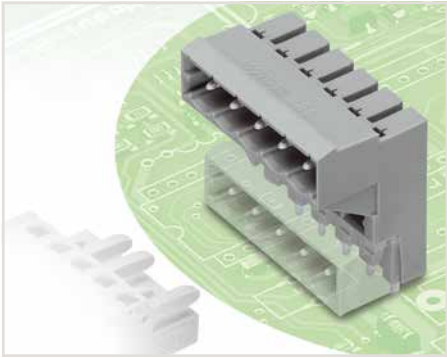
Available upon request (depending on quantity required):

- *Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
- Gold-plated or partially gold-plated contact surfaces
Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers for Double-Deck Assembly

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic

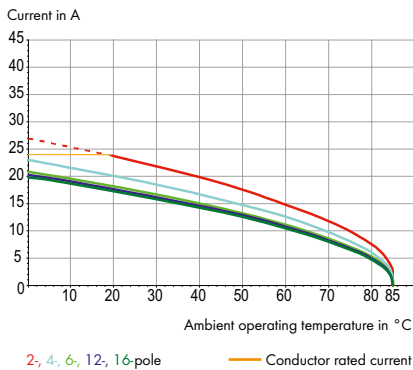


- Male headers for double-deck assembly provide high-density wiring for wire-to-board connections
- Horizontal PCB mounting
- Double-deck design allows male or female headers with angled solder pins to be placed on the lower deck
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with THT male header (232-332)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length	5 mm (0.197 inch)
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cup})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

📖 Separators, see page 502

📖 Coding keys, see page 502

📖 Coding pins, see page 502

📖 Screws, see page 610

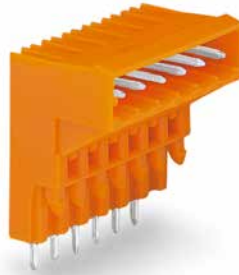
📖 Additional technical information, see Section 13

📖 Approvals and corresponding ratings, visit www.wago.com

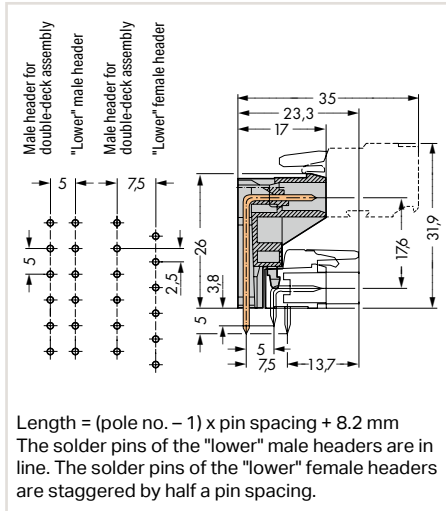
THT Male Headers for Double-Deck Assembly

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic



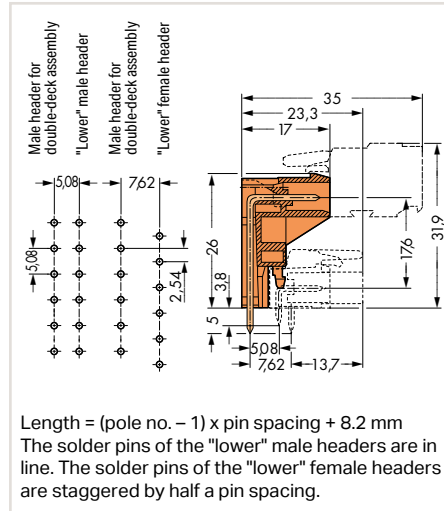
Dimensions (in mm):



THT male header for double-deck assembly, with angled solder pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-332	100
3	232-333	100
4	232-334	100
5	232-335	100
6	232-336	50
7	232-337	50
8	232-338	50
10	232-340	50
12	232-342	50
16	232-346	25

Dimensions (in mm):



THT male header for double-deck assembly, with angled solder pins, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-362	100
3	232-363	100
4	232-364	100
6	232-366	50
8	232-368	50
10	232-370	50
12	232-372	50

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

THR* Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 5 mm

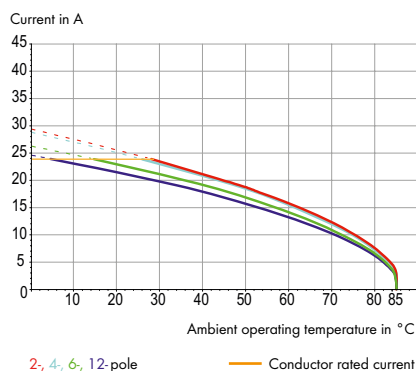
MCS MIDI Classic



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Also available in bulk packaging for manual placement
- Male headers may be mounted horizontally or vertically
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with THR male header (231-432/001-000/105-604)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fst"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 431

Locking devices, see page 503

Coding keys, see page 502

Separators, see page 218

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

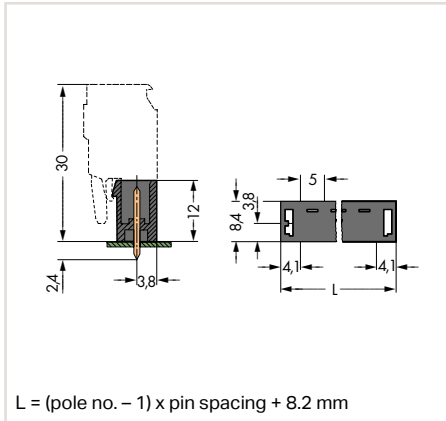
THR Male Headers with 1 x 1 mm Straight Solder Pins

Pin Spacing: 5 mm

MCS MIDI Classic



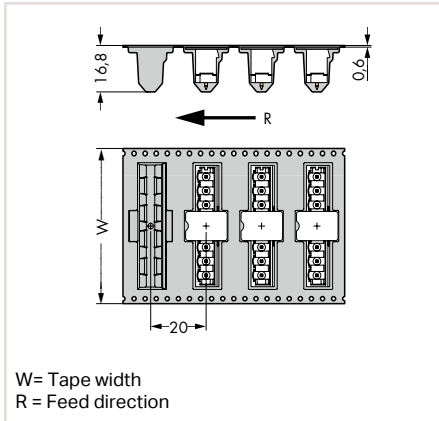
Dimensions (in mm):



THR male header, with 1 x 1 mm straight solder pins, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-132/001-000/105-604	200
3	231-133/001-000/105-604	200
4	231-134/001-000/105-604	200
5	231-135/001-000/105-604	200
6	231-136/001-000/105-604	100
8	231-138/001-000/105-604	100
10	231-140/001-000/105-604	100
12	231-142/001-000/105-604	100

Dimensions (in mm):



THR male header, with 1 x 1 mm straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-132/001-000/105-604/997-405	32
3	231-133/001-000/105-604/997-405	32
4	231-134/001-000/105-604/997-407	56
5	231-135/001-000/105-604/997-407	56
6	231-136/001-000/105-604/997-407	56
8	231-138/001-000/105-604/997-407	56
10	231-140/001-000/105-604/997-409	88
12	231-142/001-000/105-604/997-409	88

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

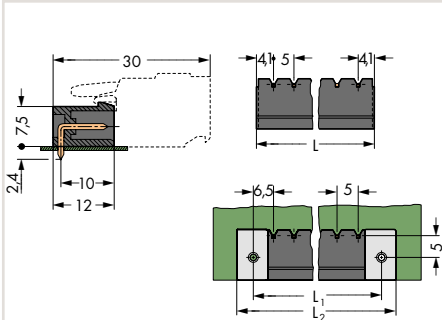
THR Male Headers with 1 x 1 mm Angled Solder Pins

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):

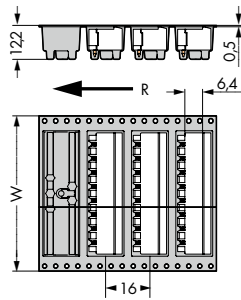


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_1 = L + 4.8 \text{ mm}$
 $L_2 = L_1 + 7.2 \text{ mm}$

THR male header, with 1 x 1 mm angled solder pins, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-432/001-000/105-604	200
3	231-433/001-000/105-604	200
4	231-434/001-000/105-604	200
5	231-435/001-000/105-604	200
6	231-436/001-000/105-604	100
8	231-438/001-000/105-604	100
10	231-440/001-000/105-604	100
12	231-442/001-000/105-604	100

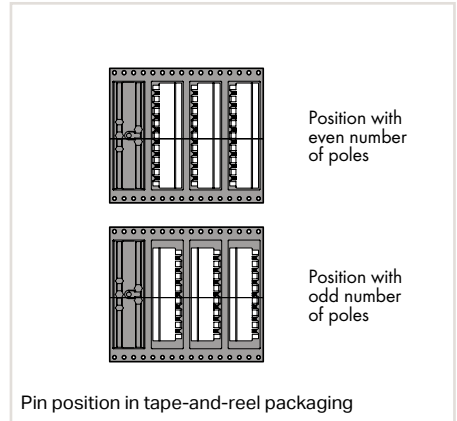
Dimensions (in mm):



$W =$ Tape width
 $R =$ Feed direction

THR male header, with 1 x 1 mm angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-432/001-000/105-604/997-405	32
3	231-433/001-000/105-604/997-405	32
4	231-434/001-000/105-604/997-407	56
5	231-435/001-000/105-604/997-407	56
6	231-436/001-000/105-604/997-407	56
8	231-438/001-000/105-604/997-407	56
10	231-440/001-000/105-604/997-409	88
12	231-442/001-000/105-604/997-409	88



6

Available upon request (depending on quantity required):

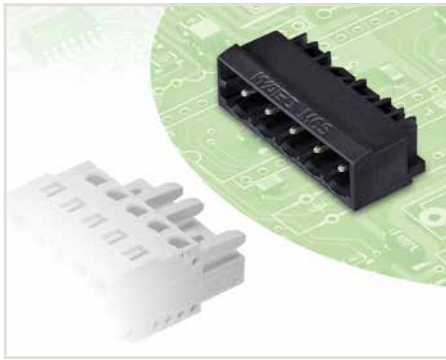
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR* Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 5 mm

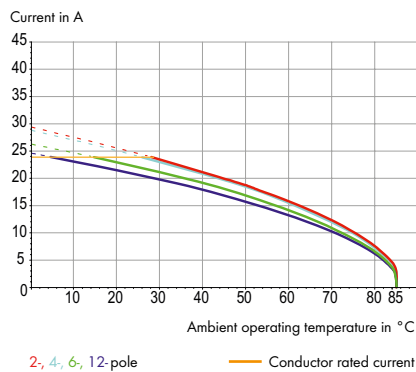
MCS MIDI Classic



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- 1.2 x 1.2 mm solder pins allow nominal current up to 16 A, enhancing stability of shorter headers
- Also available in bulk packaging for manual placement
- Male headers may be mounted horizontally or vertically
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with THR male header (231-432/001-000/105-604)
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	5 mm / 0.197 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 431

Locking devices, see page 503

Coding keys, see page 502

Separators, see page 502

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

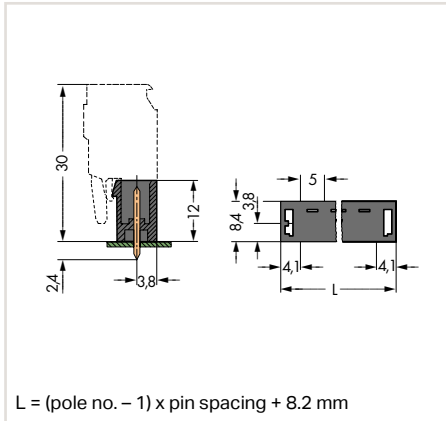
THR Male Headers with 1.2 x 1.2 mm Straight Solder Pins

Pin Spacing: 5 mm

MCS MIDI Classic



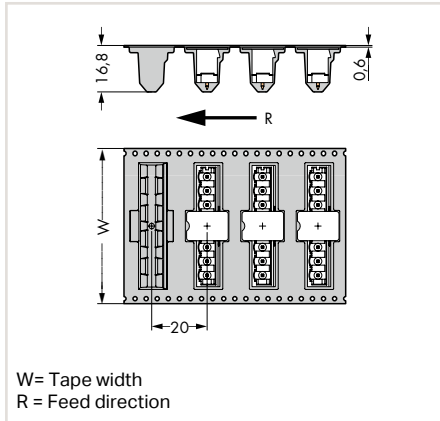
Dimensions (in mm):



THR male header, with 1.2 x 1.2 mm straight solder pins, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-162/001-000/105-604	200
3	231-163/001-000/105-604	200
4	231-164/001-000/105-604	200
5	231-165/001-000/105-604	200
6	231-166/001-000/105-604	100
7	231-167/001-000/105-604	100
8	231-168/001-000/105-604	100
9	231-169/001-000/105-604	100
10	231-170/001-000/105-604	100
11	231-171/001-000/105-604	100
12	231-172/001-000/105-604	100

Dimensions (in mm):



THR male header, with 1.2 x 1.2 mm straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-162/001-000/105-604/997-405	32
3	231-163/001-000/105-604/997-405	32
4	231-164/001-000/105-604/997-407	56
5	231-165/001-000/105-604/997-407	56
6	231-166/001-000/105-604/997-407	56
7	231-167/001-000/105-604/997-407	56
8	231-168/001-000/105-604/997-407	56
9	231-169/001-000/105-604/997-409	88
10	231-170/001-000/105-604/997-409	88
11	231-171/001-000/105-604/997-409	88
12	231-172/001-000/105-604/997-409	88

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

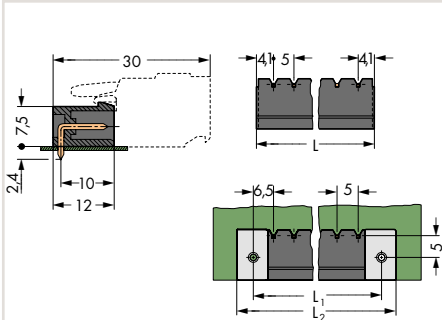
THR Male Headers with 1.2 x 1.2 mm Angled Solder Pins

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):

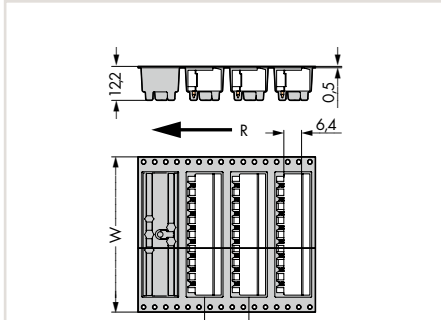


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_1 = L + 4.8 \text{ mm}$
 $L_2 = L_1 + 7.2 \text{ mm}$

THR male header, with 1.2 x 1.2 mm angled solder pins, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-462/001-000/105-604	200
3	231-463/001-000/105-604	200
4	231-464/001-000/105-604	200
5	231-465/001-000/105-604	200
6	231-466/001-000/105-604	100
7	231-467/001-000/105-604	100
8	231-468/001-000/105-604	100
9	231-469/001-000/105-604	100
10	231-470/001-000/105-604	100
11	231-471/001-000/105-604	100
12	231-472/001-000/105-604	100

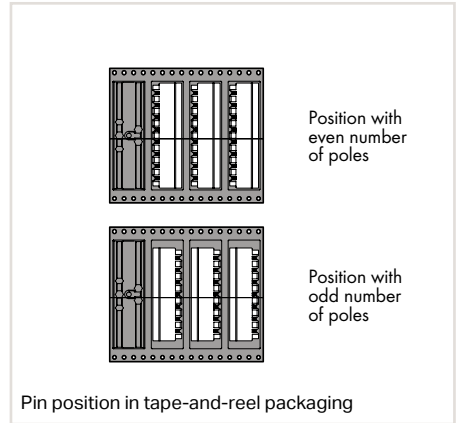
Dimensions (in mm):



$W = \text{Tape width}$
 $R = \text{Feed direction}$

THR male header, with 1.2 x 1.2 mm angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-462/001-000/105-604/997-405	32
3	231-463/001-000/105-604/997-405	32
4	231-464/001-000/105-604/997-407	56
5	231-465/001-000/105-604/997-407	56
6	231-466/001-000/105-604/997-407	56
7	231-467/001-000/105-604/997-407	56
8	231-468/001-000/105-604/997-407	56
9	231-469/001-000/105-604/997-409	88
10	231-470/001-000/105-604/997-409	88
11	231-471/001-000/105-604/997-409	88
12	231-472/001-000/105-604/997-409	88



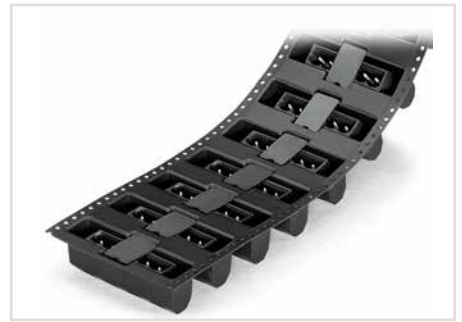
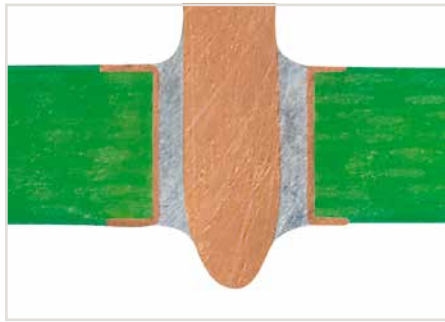
6

Available upon request (depending on quantity required):

- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

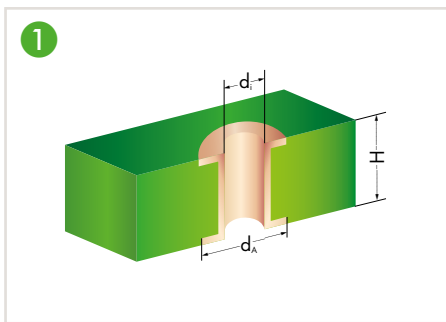
Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR (Through-Hole Reflow) Soldering Process

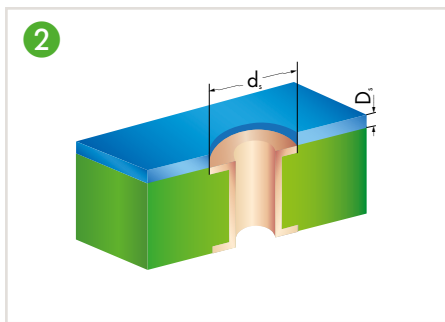


By using high-temperature-resistant plastic and a streamlined pin design, WAGO's THR male headers and THR PCB terminal blocks meet requirements for SMT process capability while maintaining the necessary stability. Both THR male headers and THR PCB terminal blocks are simply pushed into the solder paste-filled PCB holes and then soldered along with the SMT components via reflow soldering. The previous wave soldering process is no longer necessary. The result is a perfect connection – both mechanically and electrically.

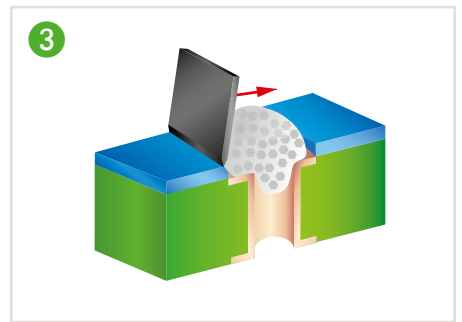
Terminal strips with an additional suction pad in tape-and-reel packaging per IEC 60286-3



Metal-plated PCB bore hole

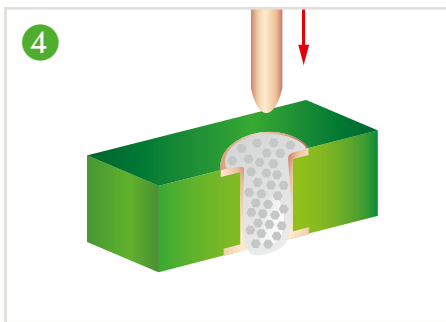


SMD positioning pattern

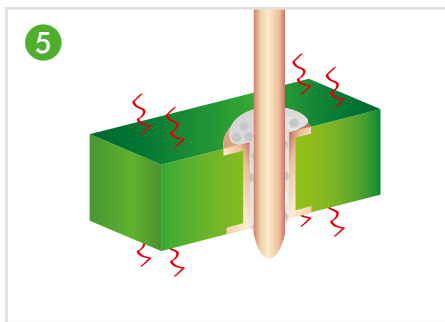


Solder paste application

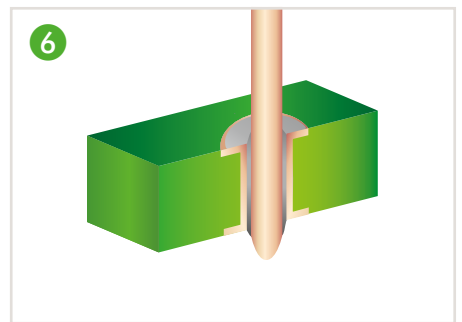
6



Component assembly, automatic/by hand



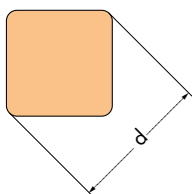
Reflow soldering process



THR soldering joint

Series	d _i (mm)	d _A (mm)	H(mm)	d _s (mm)	D _s (μm)	d(mm)	L(mm)
231 (1 x 1 mm)	1.4 ^{+0.1}	2.5	< 2	2.4	150	1.2	2.4
231 (1.2 x 1.2 mm)	1.7 ^{+0.1}	2.8	< 2	2.7	150	1.5	2.4
713	1.2 ^{+0.1}	1.9	< 2	1.8	150	1	2.4
733	1.2 ^{+0.1}	1.9	< 2	1.8	150	1	2.4
734	1.4 ^{+0.1}	2.5	< 2	2.4	150	1.2	2.4

WAGO recommends both a temperature profile that adheres to EN 61760-1 and the use of forced convection ovens for processing THR components.



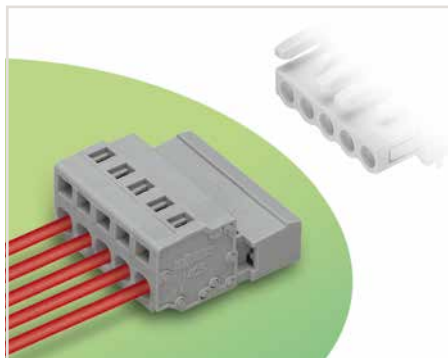
- d: Plated through-hole diameter
- d_A: Outer diameter of metal-plated PCB hole*
- H: PCB thickness
- d_s: Pattern hole diameter
- D_s: Pattern thickness
- d: Pin diagonal
- L: Pin length

* When laying out the metal-plated bore holes, the clearance and creepage distance requirements – as specified in the equipment standards – must be considered.

1-Conductor Male Connectors

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic

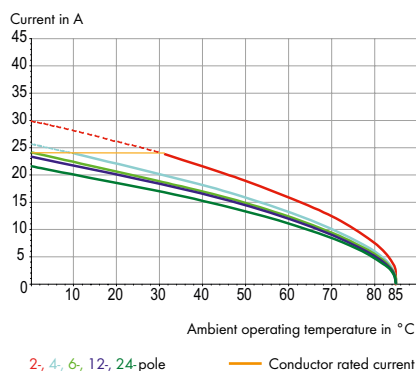


- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with
1-conductor male header (231-602)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "fst"
Based on: EN 60512-5-2 / Reduction factor: 0.8



* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 500, 588

Direct marking,
see page 386

Separators,
see page 502

Comb-style jumper bars,
see page 509

Insulation stop,
see page 503

Coding keys,
see page 502

Mounting adapter for male and female
connectors with snap-in mounting feet,
see page 508

Screws,
see page 610

Strain relief housings,
see page 506

Strain relief plates,
see page 504

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

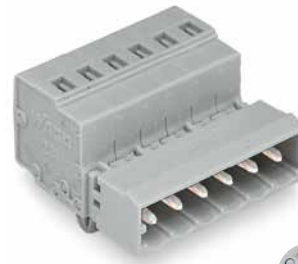
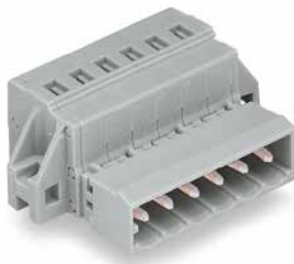
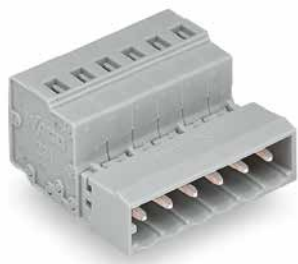
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

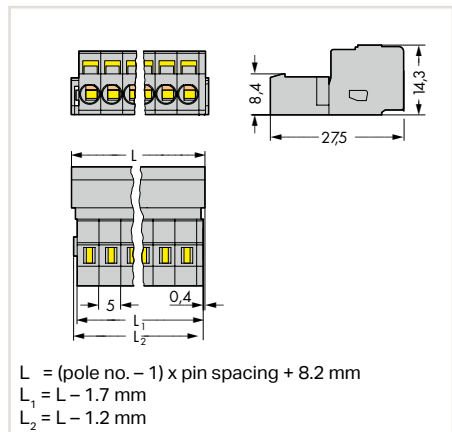
1-Conductor Male Connectors

Pin Spacing: 5 mm

MCS MIDI Classic



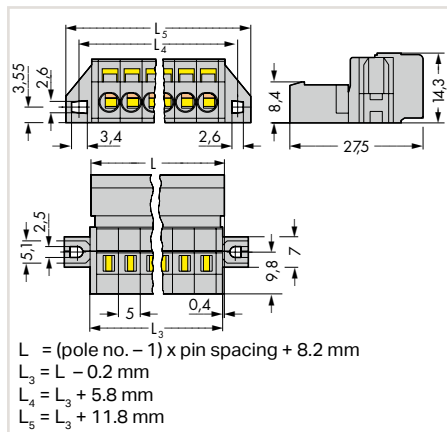
Dimensions (in mm):



1-conductor male connector, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-602	100
3	231-603	100
4	231-604	100
5	231-605	50
6	231-606	50
7	231-607	50
8	231-608	50
9	231-609	50
10	231-610	50
11	231-611	25
12	231-612	25
13	231-613	25
14	231-614	25
15	231-615	25
16	231-616	25
17	231-617	25
18	231-618	25
19	231-619	10
20	231-620	10
21	231-621	10
22	231-622	10
23	231-623	10
24	231-624	10

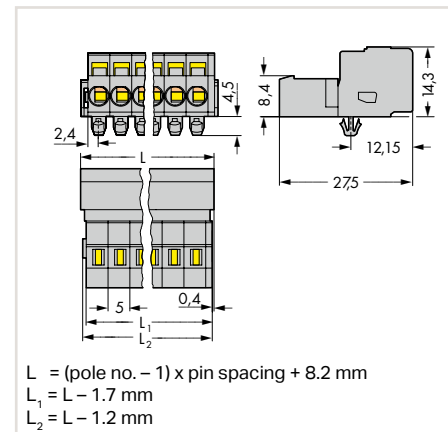
Dimensions (in mm):



1-conductor male connector, with mounting flanges, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-602/019-000	100
3	231-603/019-000	50
4	231-604/019-000	50
5	231-605/019-000	50
6	231-606/019-000	50
7	231-607/019-000	50
8	231-608/019-000	50
9	231-609/019-000	25
10	231-610/019-000	25
11	231-611/019-000	25
12	231-612/019-000	25
13	231-613/019-000	25
14	231-614/019-000	25
15	231-615/019-000	25
16	231-616/019-000	10
17	231-617/019-000	10
18	231-618/019-000	10
19	231-619/019-000	10
20	231-620/019-000	10
21	231-621/019-000	10
22	231-622/019-000	10
23	231-623/019-000	10
24	231-624/019-000	10

Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-602/018-000	100
3	231-603/018-000	100
4	231-604/018-000	100
5	231-605/018-000	50
6	231-606/018-000	50
7	231-607/018-000	50
8	231-608/018-000	50
9	231-609/018-000	50
10	231-610/018-000	50
11	231-611/018-000	25
12	231-612/018-000	25
13	231-613/018-000	25
14	231-614/018-000	25
15	231-615/018-000	25
16	231-616/018-000	25
17	231-617/018-000	25
18	231-618/018-000	25
19	231-619/018-000	10
20	231-620/018-000	10
21	231-621/018-000	10
22	231-622/018-000	10
23	231-623/018-000	10
24	231-624/018-000	10

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

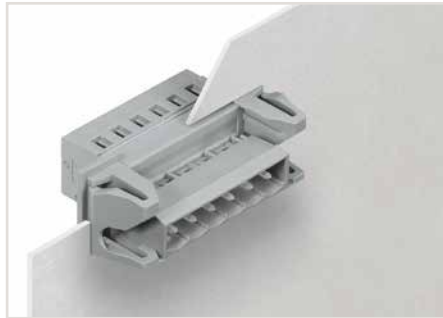
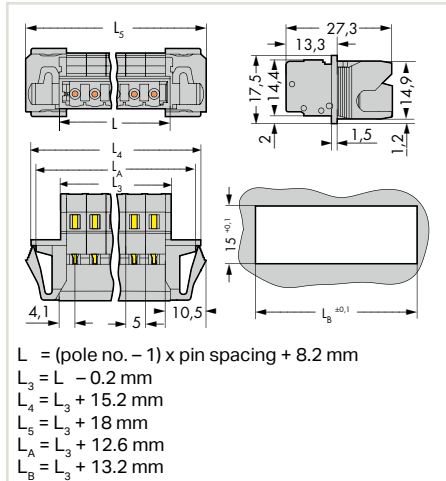
1-Conductor Male Connectors

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):



Male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness

6

1-conductor male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-602/114-000	50
3	231-603/114-000	50
4	231-604/114-000	50
5	231-605/114-000	50
6	231-606/114-000	50
7	231-607/114-000	25
8	231-608/114-000	25
9	231-609/114-000	25
10	231-610/114-000	25
11	231-611/114-000	25
12	231-612/114-000	25
13	231-613/114-000	25
14	231-614/114-000	25
15	231-615/114-000	10
16	231-616/114-000	10
17	231-617/114-000	10
18	231-618/114-000	10
19	231-619/114-000	10
20	231-620/114-000	10
21	231-621/114-000	10
22	231-622/114-000	10
23	231-623/114-000	10
24	231-624/114-000	10

Available upon request (depending on quantity required):

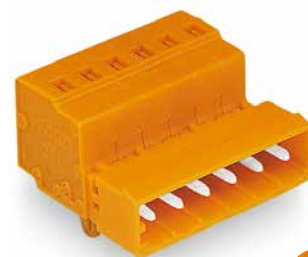
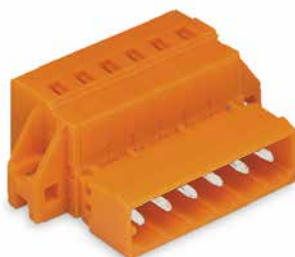
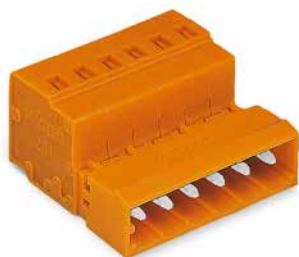
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

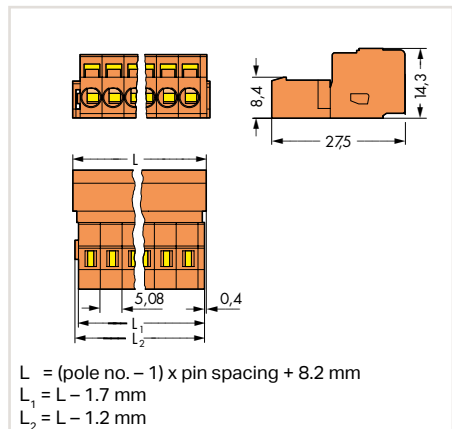
1-Conductor Male Connectors

Pin Spacing: 5.08 mm

MCS MIDI Classic



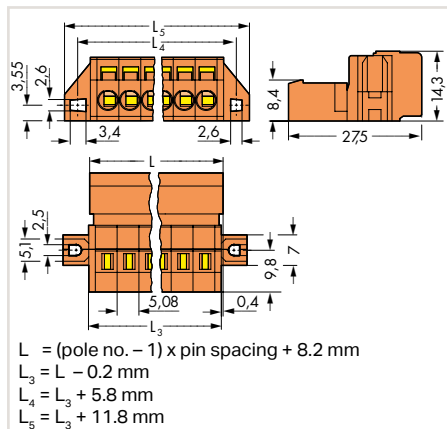
Dimensions (in mm):



1-conductor male connector, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632	100
3	231-633	100
4	231-634	100
5	231-635	50
6	231-636	50
7	231-637	50
8	231-638	50
9	231-639	50
10	231-640	50
11	231-641	25
12	231-642	25
13	231-643	25
14	231-644	25
15	231-645	25
16	231-646	25
17	231-647	25
18	231-648	10
19	231-649	10
20	231-650	10
21	231-651	10
22	231-652	10
23	231-653	10
24	231-654	10

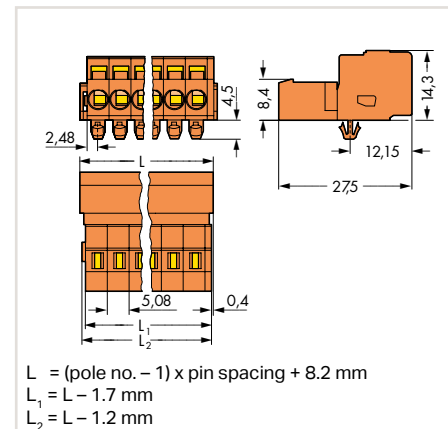
Dimensions (in mm):



1-conductor male connector, with mounting flanges, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/019-000	100
3	231-633/019-000	50
4	231-634/019-000	50
5	231-635/019-000	50
6	231-636/019-000	50
7	231-637/019-000	50
8	231-638/019-000	50
9	231-639/019-000	25
10	231-640/019-000	25
11	231-641/019-000	25
12	231-642/019-000	25
13	231-643/019-000	25
14	231-644/019-000	25
15	231-645/019-000	25
16	231-646/019-000	10
17	231-647/019-000	10
18	231-648/019-000	10
19	231-649/019-000	10
20	231-650/019-000	10
21	231-651/019-000	10
22	231-652/019-000	10
23	231-653/019-000	10
24	231-654/019-000	10

Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/018-000	100
3	231-633/018-000	100
4	231-634/018-000	100
5	231-635/018-000	50
6	231-636/018-000	50
7	231-637/018-000	50
8	231-638/018-000	50
9	231-639/018-000	50
10	231-640/018-000	50
11	231-641/018-000	25
12	231-642/018-000	25
13	231-643/018-000	25
14	231-644/018-000	25
15	231-645/018-000	25
16	231-646/018-000	25
17	231-647/018-000	25
18	231-648/018-000	10
19	231-649/018-000	10
20	231-650/018-000	10
21	231-651/018-000	10
22	231-652/018-000	10
23	231-653/018-000	10
24	231-654/018-000	10

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

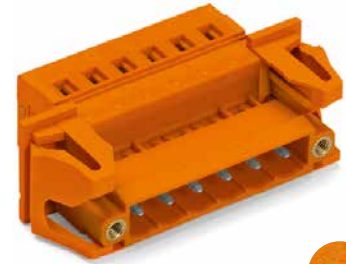
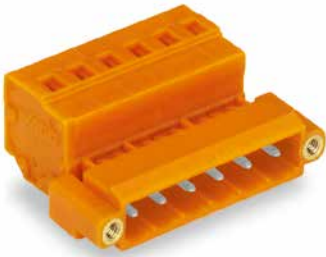
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

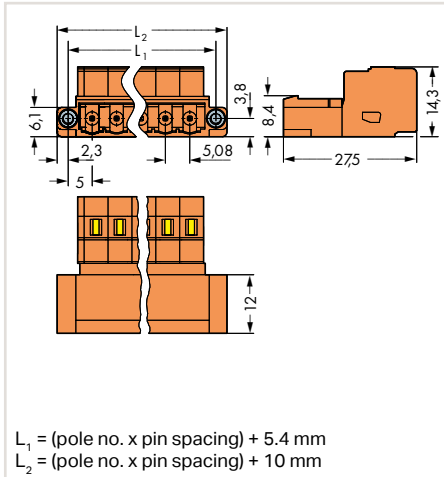
1-Conductor Male Connectors

Pin Spacing: 5.08 mm

MCS MIDI Classic



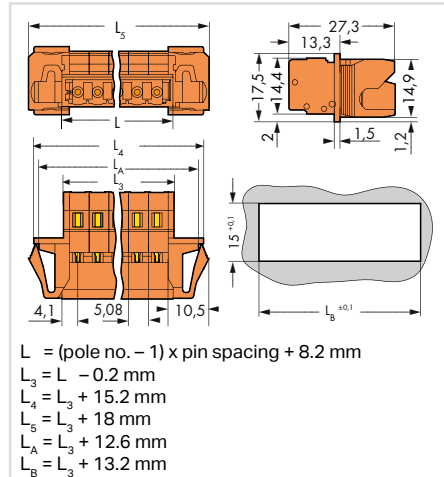
Dimensions (in mm):



1-conductor male connector, with threaded flanges, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/109-000	100
3	231-633/109-000	100
4	231-634/109-000	50
5	231-635/109-000	50
6	231-636/109-000	50
7	231-637/109-000	50
8	231-638/109-000	50
9	231-639/109-000	25
10	231-640/109-000	25
12	231-642/109-000	25
14	231-644/109-000	25
15	231-645/109-000	25
16	231-646/109-000	10

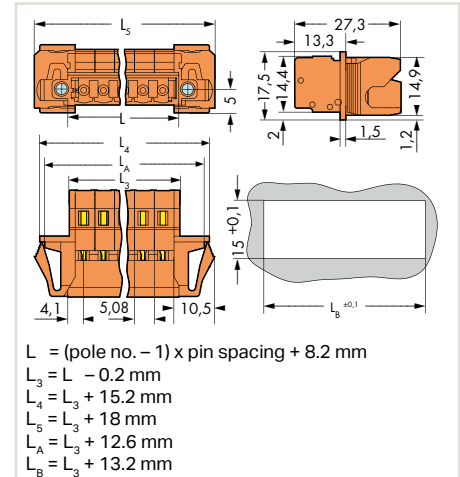
Dimensions (in mm):



1-conductor male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/114-000	50
3	231-633/114-000	50
4	231-634/114-000	50
5	231-635/114-000	50
6	231-636/114-000	50
7	231-637/114-000	25
8	231-638/114-000	25
9	231-639/114-000	25
10	231-640/114-000	25
11	231-641/114-000	25
12	231-642/114-000	25
13	231-643/114-000	25
14	231-644/114-000	25
15	231-645/114-000	10
16	231-646/114-000	10
17	231-647/114-000	10
18	231-648/114-000	10
19	231-649/114-000	10
20	231-650/114-000	10
21	231-651/114-000	10
22	231-652/114-000	10
23	231-653/114-000	10
24	231-654/114-000	10

Dimensions (in mm):

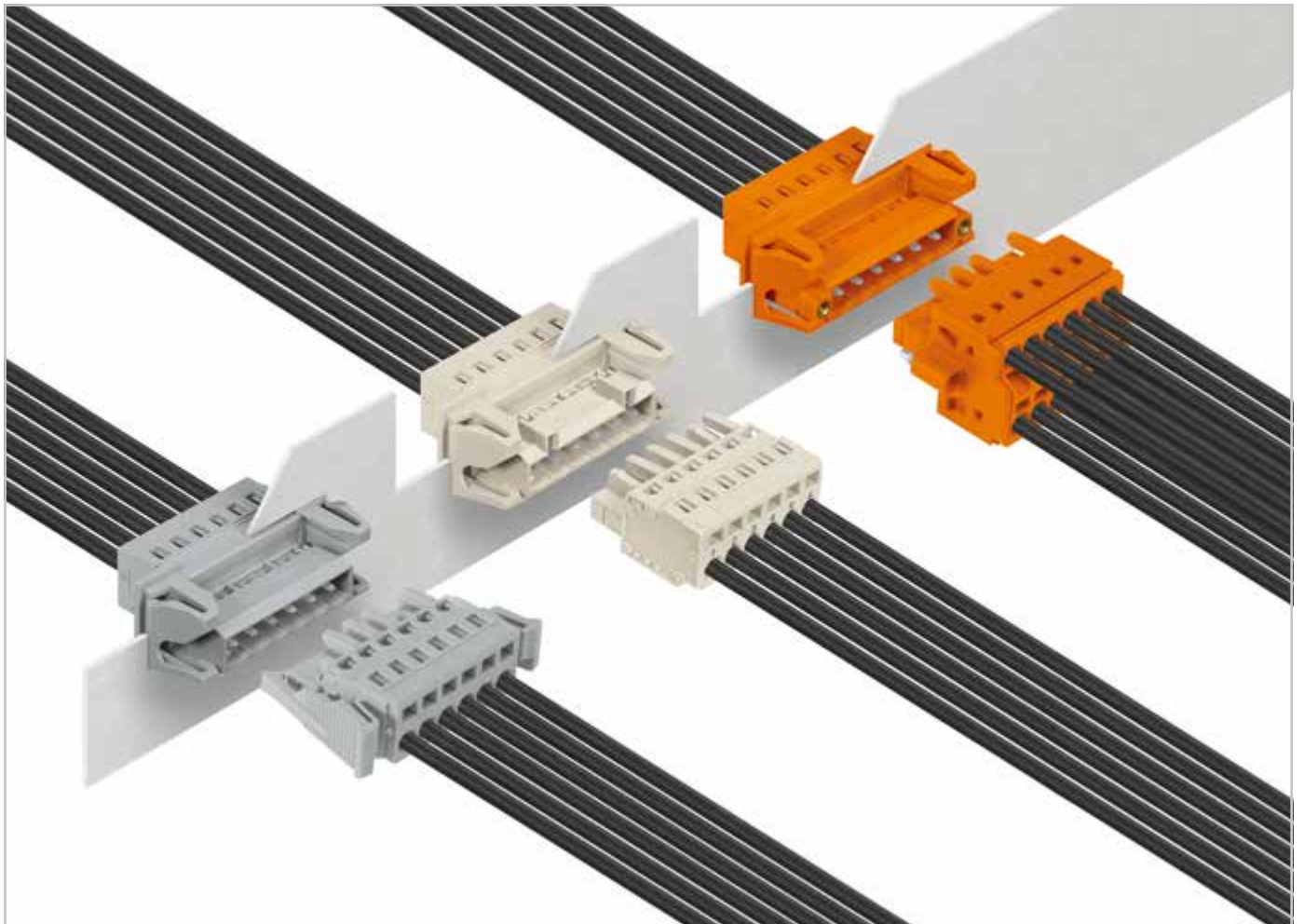


1-conductor male connector, with snap-in and threaded flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness, orange*, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/129-000	50
3	231-633/129-000	50
4	231-634/129-000	50
5	231-635/129-000	50
6	231-636/129-000	50
7	231-637/129-000	25
8	231-638/129-000	25
9	231-639/129-000	25
10	231-640/129-000	25
12	231-642/129-000	25
14	231-644/129-000	25
15	231-645/129-000	10
16	231-646/129-000	10

Available upon request (depending on quantity required):

- *Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

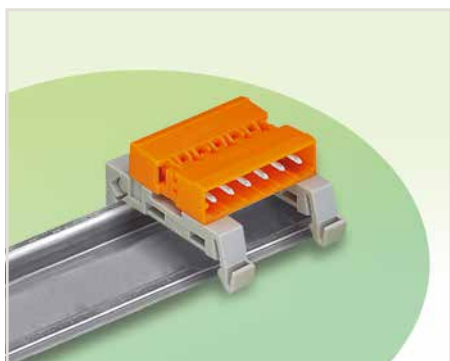


6

Double-Pin Male Connectors with Mounting Feet for DIN-35 Rail

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic



- Allow MCS Female Connectors fitted with wire harness or cable assembly to be plugged together
- Adapter for DIN-35 rail mounting
- Coding via coding keys on both sides

6

Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A

Approvals per

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Note (rated voltage)	Notice: Male connectors shall not be live when disconnected!

Approvals per

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per


Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.


* (III / 2) $\hat{=}$ Overvoltage category III / Pollution degree 2

 Separators, see page 502

 Coding keys, see page 502

 DIN-35 rail, see page 611

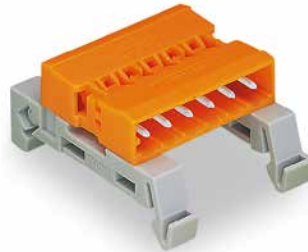
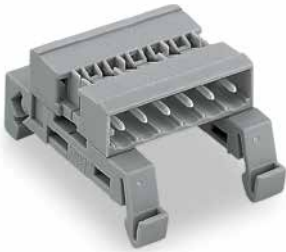
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

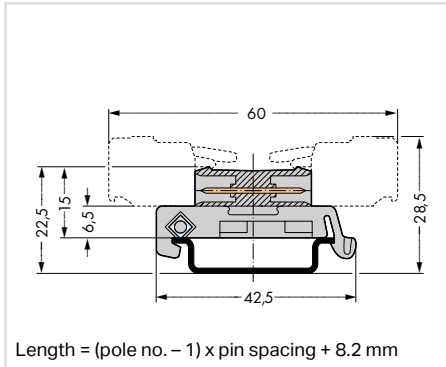
Double-Pin Male Connectors with Mounting Feet for DIN-35 Rail

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic



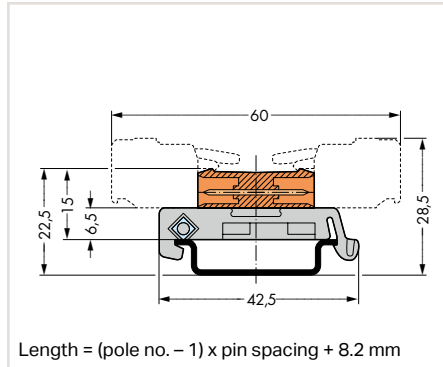
Dimensions (in mm):



Double-pin male connector, with mounting feet for DIN-35 rail, gray, 5 mm (0.197 inch) pin spacing

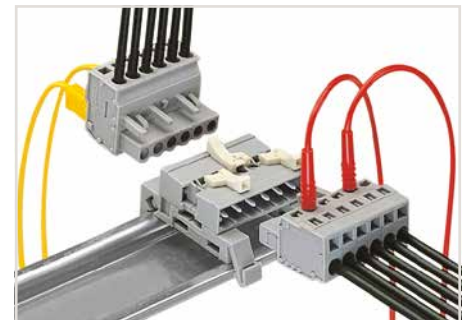
Pole No.	Item No.	Pack. Unit
2	232-502/007-000	100
3	232-503/007-000	50
4	232-504/007-000	50
5	232-505/007-000	50
6	232-506/007-000	50
7	232-507/007-000	25
8	232-508/007-000	25
9	232-509/007-000	25
10	232-510/007-000	25
11	232-511/007-000	25
12	232-512/007-000	25
13	232-513/007-000	25
14	232-514/007-000	25
15	232-515/007-000	25
16	232-516/007-000	25
17	232-517/007-000	25
18	232-518/007-000	25
19	232-519/007-000	25
20	232-520/007-000	25
21	232-521/007-000	10
22	232-522/007-000	10
23	232-523/007-000	10
24	232-524/007-000	10

Dimensions (in mm):

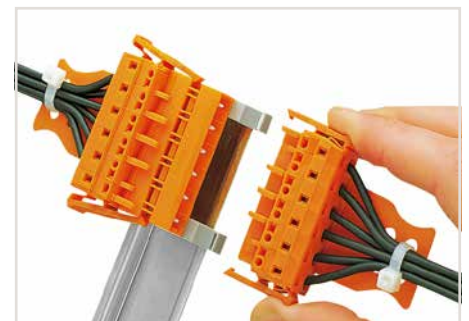


Double-pin male connector, with mounting feet for DIN-35 rail, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-532/007-000	100
3	232-533/007-000	50
4	232-534/007-000	50
5	232-535/007-000	50
6	232-536/007-000	50
7	232-537/007-000	25
8	232-538/007-000	25
9	232-539/007-000	25
10	232-540/007-000	25
11	232-541/007-000	25
12	232-542/007-000	25
13	232-543/007-000	25
14	232-544/007-000	25
15	232-545/007-000	25
16	232-546/007-000	25
17	232-547/007-000	25
18	232-548/007-000	25
19	232-549/007-000	25
20	232-550/007-000	25
21	232-551/007-000	10
22	232-552/007-000	10
23	232-553/007-000	10
24	232-554/007-000	10



Angled female connector – straight female connector

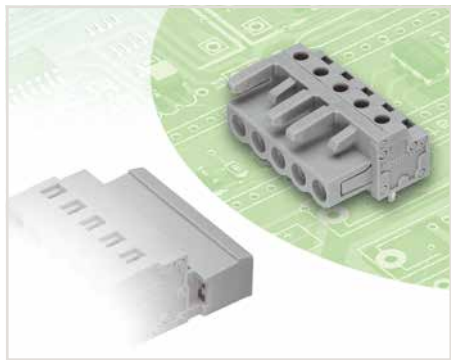


Female connectors with locking levers

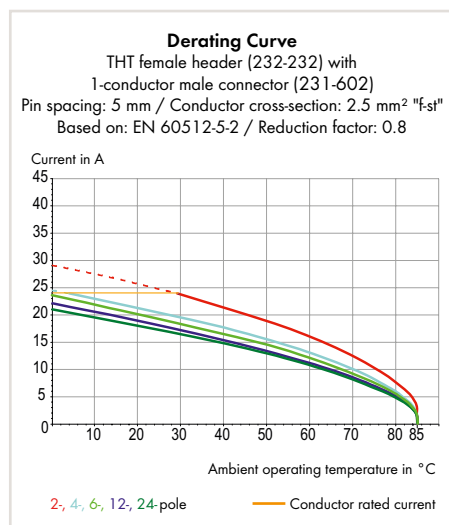
THT Female Headers

Pin Spacing: 5 mm, 5.08 mm

MCS MIDI Classic



- Horizontal or vertical PCB mounting via straight or angled solder pins
- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify PCB inputs and outputs
- With coding fingers



Electrical Data for Pin Spacing

	5 mm / 0.197 inch and 5.08 mm / 0.2 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm (0.197 inch)
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Test plug adapters, see page 501

Test plugs, see page 601

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

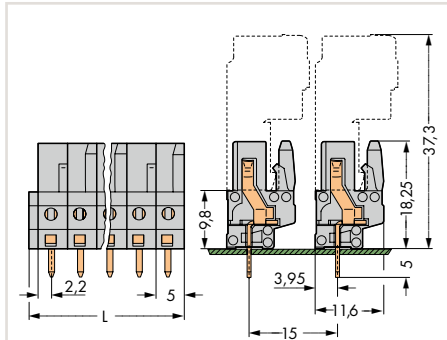
THT Female Headers

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):

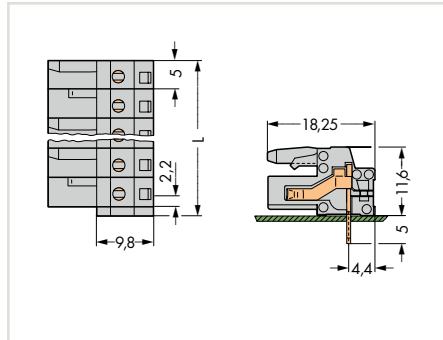


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

THT female header, with straight solder pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-132	100
3	232-133	100
4	232-134	100
5	232-135	100
6	232-136	50
7	232-137	50
8	232-138	50
9	232-139	50
10	232-140	50
11	232-141	25
12	232-142	25
13	232-143	25
14	232-144	25
15	232-145	25
16	232-146	25
17	232-147	25
18	232-148	25
19	232-149	10
20	232-150	10
21	232-151	10
22	232-152	10
23	232-153	10
24	232-154	10

Dimensions (in mm):

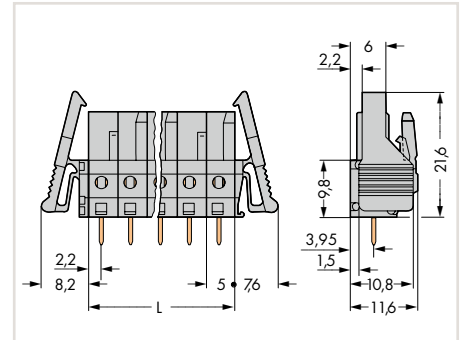


$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

THT female header, with angled solder pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-232	100
3	232-233	100
4	232-234	100
5	232-235	100
6	232-236	50
7	232-237	50
8	232-238	50
9	232-239	50
10	232-240	50
11	232-241	25
12	232-242	25
13	232-243	25
14	232-244	25
15	232-245	25
16	232-246	25
17	232-247	25
18	232-248	25
19	232-249	10
20	232-250	10
21	232-251	10
22	232-252	10
23	232-253	10
24	232-254	10

Dimensions (in mm):



$$L = \text{pole no.} \times \text{pin spacing}$$

THT female header, with straight solder pins and locking levers, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-132/039-000	100
3	232-133/039-000	50
4	232-134/039-000	50
5	232-135/039-000	50
6	232-136/039-000	50
7	232-137/039-000	50
8	232-138/039-000	50
9	232-139/039-000	25
10	232-140/039-000	25
11	232-141/039-000	25
12	232-142/039-000	25
13	232-143/039-000	25
14	232-144/039-000	25
15	232-145/039-000	25
16	232-146/039-000	10
17	232-147/039-000	10
18	232-148/039-000	10
19	232-149/039-000	10
20	232-150/039-000	10
21	232-151/039-000	10
22	232-152/039-000	10
23	232-153/039-000	10
24	232-154/039-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

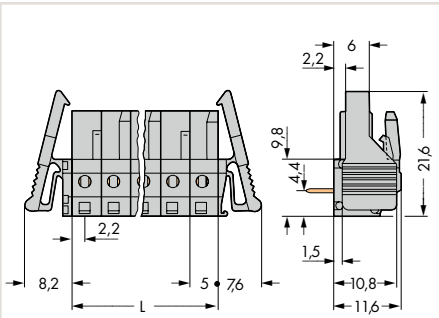
THT Female Headers

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):

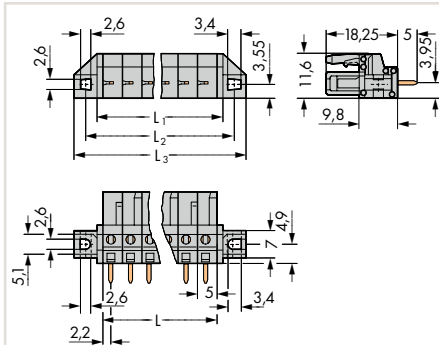


L = pole no. x pin spacing

THT female header, with angled solder pins and locking levers, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-232/039-000	100
3	232-233/039-000	50
4	232-234/039-000	50
5	232-235/039-000	50
6	232-236/039-000	50
7	232-237/039-000	50
8	232-238/039-000	50
9	232-239/039-000	25
10	232-240/039-000	25
11	232-241/039-000	25
12	232-242/039-000	25
13	232-243/039-000	25
14	232-244/039-000	25
15	232-245/039-000	25
16	232-246/039-000	10
17	232-247/039-000	10
18	232-248/039-000	10
19	232-249/039-000	10
20	232-250/039-000	10
21	232-251/039-000	10
22	232-252/039-000	10
23	232-253/039-000	10
24	232-254/039-000	10

Dimensions (in mm):

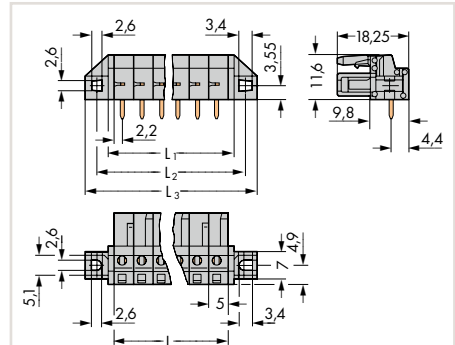


L = pole no. x pin spacing
 $L_1 = L + 3$ mm
 $L_2 = L + 8.8$ mm
 $L_3 = L + 14.8$ mm

THT female header, with straight solder pins and flanges for through-panel mounting, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-132/031-000	100
3	232-133/031-000	50
4	232-134/031-000	50
5	232-135/031-000	50
6	232-136/031-000	50
7	232-137/031-000	50
8	232-138/031-000	50
9	232-139/031-000	25
10	232-140/031-000	25
11	232-141/031-000	25
12	232-142/031-000	25
13	232-143/031-000	25
14	232-144/031-000	25
15	232-145/031-000	25
16	232-146/031-000	10
17	232-147/031-000	10
18	232-148/031-000	10
19	232-149/031-000	10
20	232-150/031-000	10
21	232-151/031-000	10
22	232-152/031-000	10
23	232-153/031-000	10
24	232-154/031-000	10

Dimensions (in mm):



L = pole no. x pin spacing
 $L_1 = L + 3$ mm
 $L_2 = L + 8.8$ mm
 $L_3 = L + 14.8$ mm

THT female header, with angled solder pins and flanges for through-panel mounting, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-232/031-000	100
3	232-233/031-000	50
4	232-234/031-000	50
5	232-235/031-000	50
6	232-236/031-000	50
7	232-237/031-000	50
8	232-238/031-000	50
9	232-239/031-000	25
10	232-240/031-000	25
11	232-241/031-000	25
12	232-242/031-000	25
13	232-243/031-000	25
14	232-244/031-000	25
15	232-245/031-000	25
16	232-246/031-000	10
17	232-247/031-000	10
18	232-248/031-000	10
19	232-249/031-000	10
20	232-250/031-000	10
21	232-251/031-000	10
22	232-252/031-000	10
23	232-253/031-000	10
24	232-254/031-000	10

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 512, Table 3

Cutout dimensions, see page 512, Table 3

Available upon request (depending on quantity required):

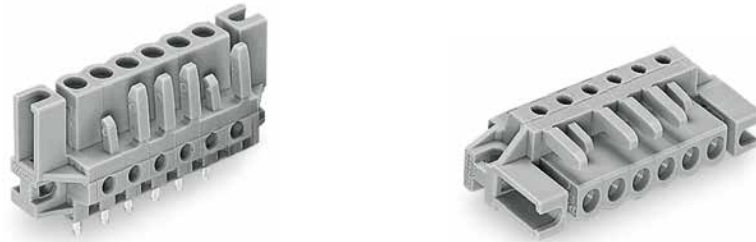
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

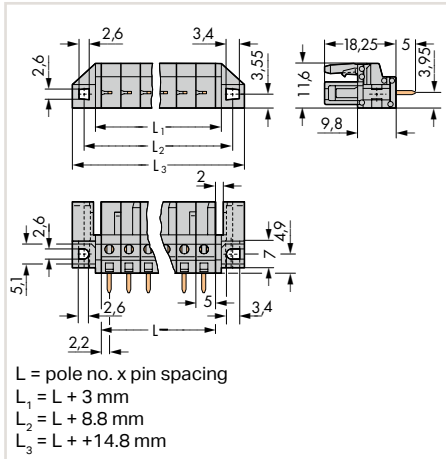
THT Female Headers

Pin Spacing: 5 mm

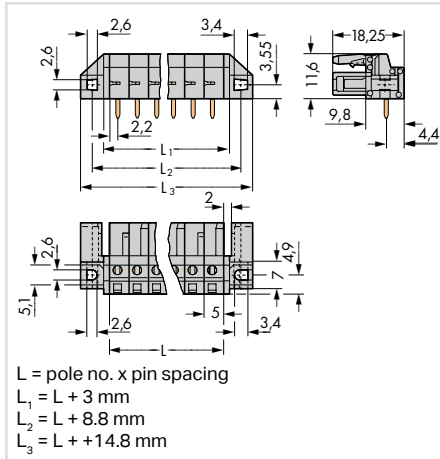
MCS MIDI Classic



Dimensions (in mm):



Dimensions (in mm):



THT female header, with straight solder pins and spacers for flush mounting, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-132/047-000	100
3	232-133/047-000	50
4	232-134/047-000	50
5	232-135/047-000	50
6	232-136/047-000	50
7	232-137/047-000	50
8	232-138/047-000	50
9	232-139/047-000	25
10	232-140/047-000	25
11	232-141/047-000	25
12	232-142/047-000	25
13	232-143/047-000	25
14	232-144/047-000	25
15	232-145/047-000	25
16	232-146/047-000	10
17	232-147/047-000	10
18	232-148/047-000	10
19	232-149/047-000	10
20	232-150/047-000	10
21	232-151/047-000	10
22	232-152/047-000	10
23	232-153/047-000	10
24	232-154/047-000	10

THT female header, with angled solder pins and spacers for flush mounting, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-232/047-000	100
3	232-233/047-000	50
4	232-234/047-000	50
5	232-235/047-000	50
6	232-236/047-000	50
7	232-237/047-000	50
8	232-238/047-000	50
9	232-239/047-000	25
10	232-240/047-000	25
11	232-241/047-000	25
12	232-242/047-000	25
13	232-243/047-000	25
14	232-244/047-000	25
15	232-245/047-000	25
16	232-246/047-000	10
17	232-247/047-000	10
18	232-248/047-000	10
19	232-249/047-000	10
20	232-250/047-000	10
21	232-251/047-000	10
22	232-252/047-000	10
23	232-253/047-000	10
24	232-254/047-000	10

Cutout dimensions, see page 512, Table 3

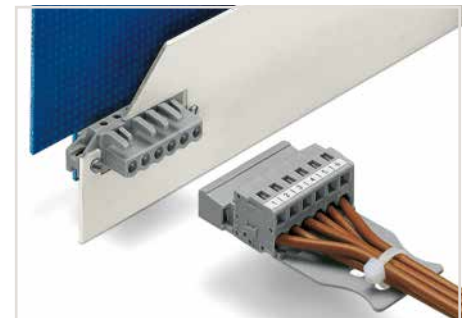
Cutout dimensions, see page 512, Table 3

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

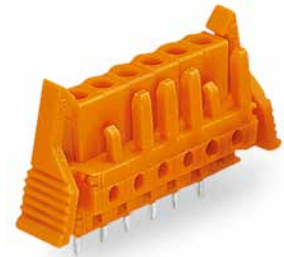
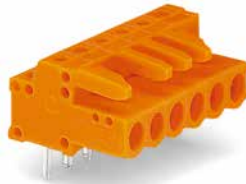


The innovative flange design provides standard panel mounting options or various through-panel mounting configurations. Depending on the type of application and flange, female headers can be used either for through-panel or flush mount applications.

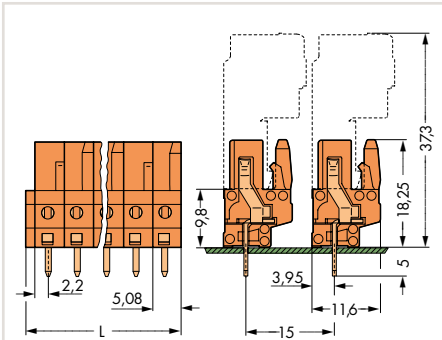
THT Female Headers

Pin Spacing: 5.08 mm

MCS MIDI Classic



Dimensions (in mm):

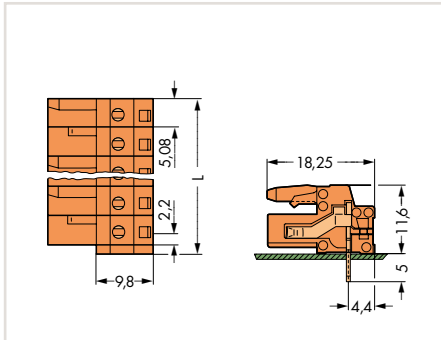


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

THT female header, with straight solder pins, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-162	100
3	232-163	100
4	232-164	100
5	232-165	100
6	232-166	50
7	232-167	50
8	232-168	50
9	232-169	50
10	232-170	50
11	232-171	25
12	232-172	25
13	232-173	25
14	232-174	25
15	232-175	25
16	232-176	25
17	232-177	25
18	232-178	25
19	232-179	10
20	232-180	10
21	232-181	10
22	232-182	10
23	232-183	10
24	232-184	10

Dimensions (in mm):

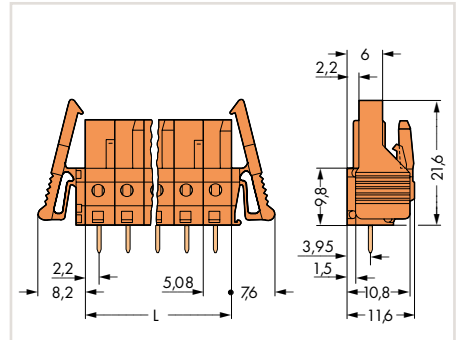


$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$

THT female header, with angled solder pins, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-262	100
3	232-263	100
4	232-264	100
5	232-265	100
6	232-266	50
7	232-267	50
8	232-268	50
9	232-269	50
10	232-270	50
11	232-271	25
12	232-272	25
13	232-273	25
14	232-274	25
15	232-275	25
16	232-276	25
17	232-277	25
18	232-278	25
19	232-279	10
20	232-280	10
21	232-281	10
22	232-282	10
23	232-283	10
24	232-284	10

Dimensions (in mm):



$L = \text{pole no.} \times \text{pin spacing}$

THT female header, with straight solder pins and locking levers, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-162/039-000	100
3	232-163/039-000	50
4	232-164/039-000	50
5	232-165/039-000	50
6	232-166/039-000	50
7	232-167/039-000	50
8	232-168/039-000	50
9	232-169/039-000	25
10	232-170/039-000	25
11	232-171/039-000	25
12	232-172/039-000	25
13	232-173/039-000	25
14	232-174/039-000	25
15	232-175/039-000	25
16	232-176/039-000	10
17	232-177/039-000	10
18	232-178/039-000	10
19	232-179/039-000	10
20	232-180/039-000	10
21	232-181/039-000	10
22	232-182/039-000	10
23	232-183/039-000	10
24	232-184/039-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

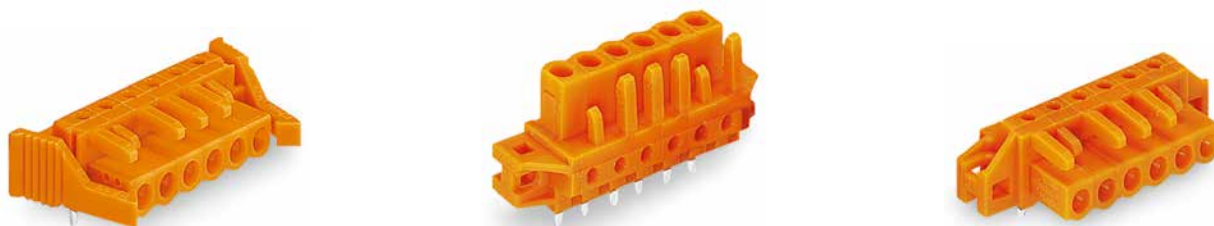
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

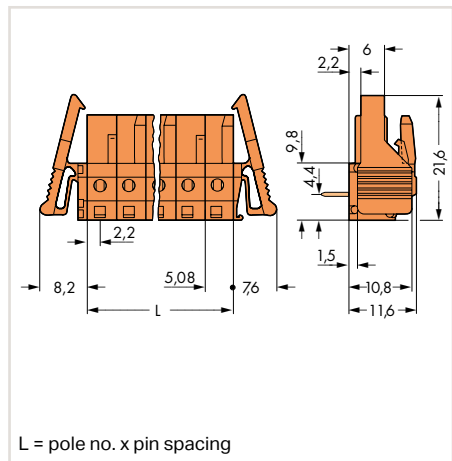
THT Female Headers

Pin Spacing: 5.08 mm

MCS MIDI Classic



Dimensions (in mm):

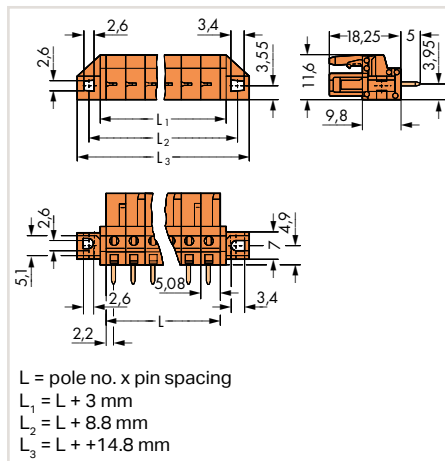


THT female header, with angled solder pins and locking levers, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-262/039-000	100
3	232-263/039-000	50
4	232-264/039-000	50
5	232-265/039-000	50
6	232-266/039-000	50
7	232-267/039-000	50
8	232-268/039-000	50
9	232-269/039-000	25
10	232-270/039-000	25
11	232-271/039-000	25
12	232-272/039-000	25
13	232-273/039-000	25
14	232-274/039-000	25
15	232-275/039-000	25
16	232-276/039-000	10
17	232-277/039-000	10
18	232-278/039-000	10
19	232-279/039-000	10
20	232-280/039-000	10
21	232-281/039-000	10
22	232-282/039-000	10
23	232-283/039-000	10
24	232-284/039-000	10

2- to 3-pole female connectors – one latch only

Dimensions (in mm):

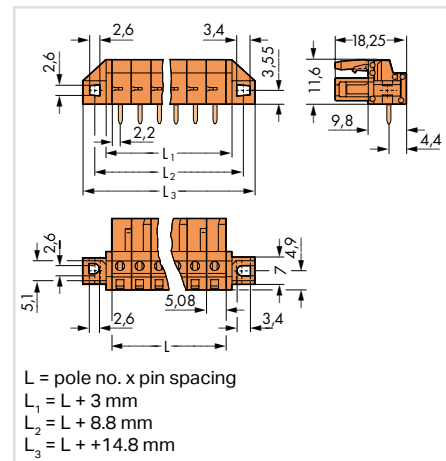


THT female header, with straight solder pins and flanges for through-panel mounting, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-162/031-000	100
3	232-163/031-000	50
4	232-164/031-000	50
5	232-165/031-000	50
6	232-166/031-000	50
7	232-167/031-000	50
8	232-168/031-000	50
9	232-169/031-000	25
10	232-170/031-000	25
11	232-171/031-000	25
12	232-172/031-000	25
13	232-173/031-000	25
14	232-174/031-000	25
15	232-175/031-000	25
16	232-176/031-000	10
17	232-177/031-000	10
18	232-178/031-000	10
19	232-179/031-000	10
20	232-180/031-000	10
21	232-181/031-000	10
22	232-182/031-000	10
23	232-183/031-000	10
24	232-184/031-000	10

Cutout dimensions, see page 512, Table 3

Dimensions (in mm):



THT female header, with angled solder pins and flanges for through-panel mounting, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-262/031-000	100
3	232-263/031-000	50
4	232-264/031-000	50
5	232-265/031-000	50
6	232-266/031-000	50
7	232-267/031-000	50
8	232-268/031-000	50
9	232-269/031-000	25
10	232-270/031-000	25
11	232-271/031-000	25
12	232-272/031-000	25
13	232-273/031-000	25
14	232-274/031-000	25
15	232-275/031-000	25
16	232-276/031-000	10
17	232-277/031-000	10
18	232-278/031-000	10
19	232-279/031-000	10
20	232-280/031-000	10
21	232-281/031-000	10
22	232-282/031-000	10
23	232-283/031-000	10
24	232-284/031-000	10

Cutout dimensions, see page 512, Table 3

Available upon request (depending on quantity required):

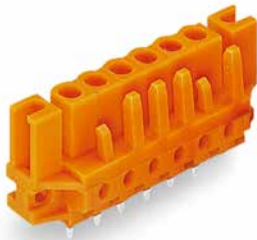
- 3.8 mm pin projection; in this case, add or insert item no. suffix ... /045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

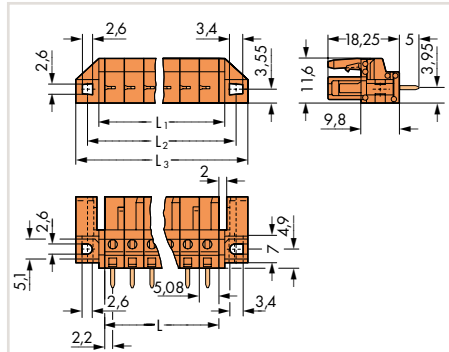
THT Female Headers

Pin Spacing: 5.08 mm

MCS MIDI Classic



Dimensions (in mm):

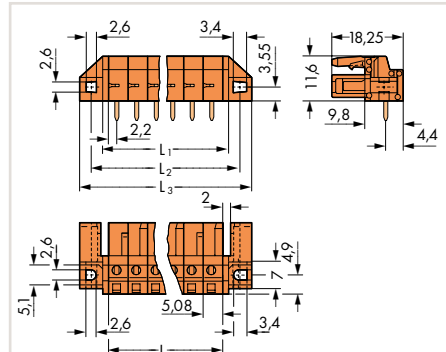


L = pole no. x pin spacing
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

THT female header, with straight solder pins and spacers for flush mounting, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-162/047-000	100
3	232-163/047-000	50
4	232-164/047-000	50
5	232-165/047-000	50
6	232-166/047-000	50
7	232-167/047-000	50
8	232-168/047-000	50
9	232-169/047-000	25
10	232-170/047-000	25
11	232-171/047-000	25
12	232-172/047-000	25
13	232-173/047-000	25
14	232-174/047-000	25
15	232-175/047-000	25
16	232-176/047-000	10
17	232-177/047-000	10
18	232-178/047-000	10
19	232-179/047-000	10
20	232-180/047-000	10
21	232-181/047-000	10
22	232-182/047-000	10
23	232-183/047-000	10
24	232-184/047-000	10

Dimensions (in mm):



L = pole no. x pin spacing
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

THT female header, with angled solder pins and spacers for flush mounting, orange, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-262/047-000	100
3	232-263/047-000	50
4	232-264/047-000	50
5	232-265/047-000	50
6	232-266/047-000	50
7	232-267/047-000	50
8	232-268/047-000	50
9	232-269/047-000	25
10	232-270/047-000	25
11	232-271/047-000	25
12	232-272/047-000	25
13	232-273/047-000	25
14	232-274/047-000	25
15	232-275/047-000	25
16	232-276/047-000	10
17	232-277/047-000	10
18	232-278/047-000	10
19	232-279/047-000	10
20	232-280/047-000	10
21	232-281/047-000	10
22	232-282/047-000	10
23	232-283/047-000	10
24	232-284/047-000	10



The innovative flange design provides standard panel mounting options or various through-panel mounting configurations. Depending on the type of application and flange, female headers can be used either for through-panel or flush mount applications.

Cutout dimensions, see page 512, Table 3

Cutout dimensions, see page 512, Table 3

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

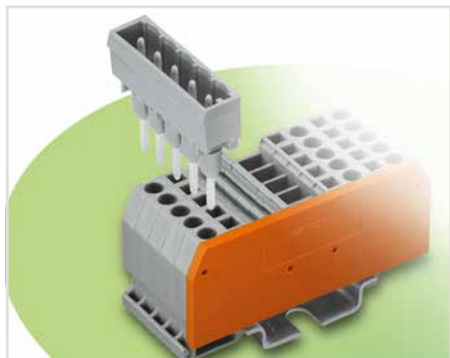
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Male Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI Classic

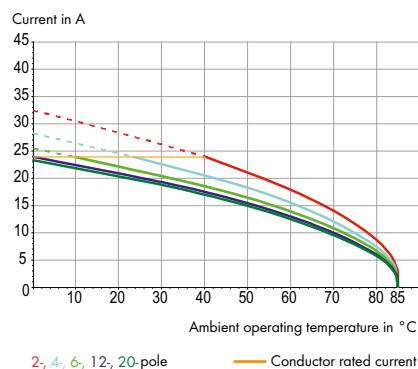


- Pluggable connectors for rail-mount terminal blocks equipped with CAGE CLAMP® connection
- Male connectors with long contact pins connect to the termination ports of 280 Series Rail-Mount Terminal Blocks
- Pins can be touched when the connector is unplugged, so power supply should be performed via terminal block (observe rated voltage!)
- With coding fingers

Derating Curve

1-conductor female connector (231-102/026-000) with male connector (231-162/003-000)

Pin spacing: 5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1 250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Operating tools, see page 500, 588

Coding keys, see page 502

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

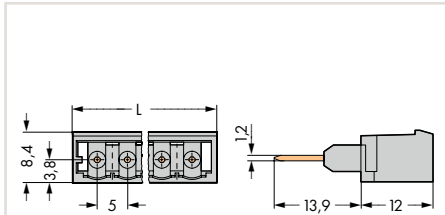
Male Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI Classic



Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

Male connector, with 1.2 x 1.2 mm straight, long contact pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-162/003-000	200
3	231-163/003-000	200
4	231-164/003-000	200
5	231-165/003-000	200
6	231-166/003-000	100
7	231-167/003-000	100
8	231-168/003-000	100
9	231-169/003-000	100
10	231-170/003-000	100
11	231-171/003-000	100
12	231-172/003-000	100
16	231-176/003-000	50
20	231-180/003-000	50

12- to 20-pole female connectors may only be assembled at the factory.

Rail-mount spacer block, horizontal type, same profile as through terminal blocks, orange

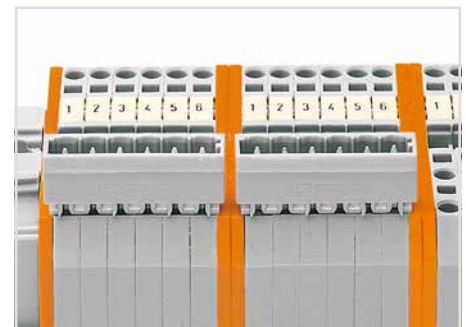
	Item No.	Pack. Unit
2 conductors	280-902/056-000	100
3 conductors	280-650/056-000	100
4 conductors	280-835/056-000	100

Rail-mount spacer block, angled type, same profile as through terminal blocks, orange

	Item No.	Pack. Unit
3/4 conductors	280-654/056-000	100



Inserting a male connector via multipole operating tool.



The extra width of the male connectors when used on front-entry, rail-mount terminal blocks must be compensated for by either two intermediate plates or rail-mount spacer block (block assembly).



Spacer blocks can be bridged via alternate or staggered jumpers.

6

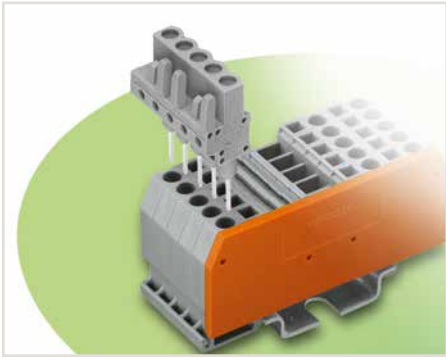
Available upon request (depending on quantity required):

- Other pole numbers

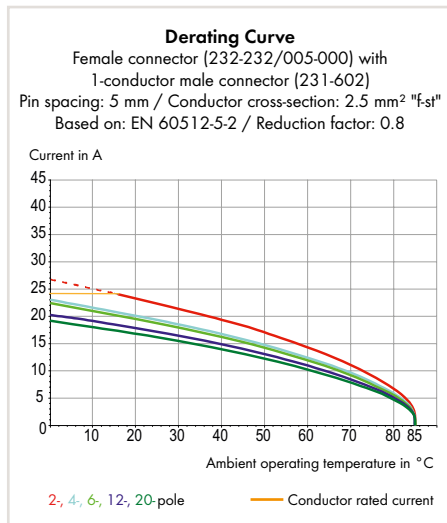
Female Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI Classic



- Pluggable connectors for rail-mount terminal blocks equipped with CAGE CLAMP® connection
- Female connectors with long contact pins connect to the termination ports of 280 Series Rail-Mount Terminal Blocks
- Female connectors are touch-proof when unmated, providing a pluggable, live output
- With coding fingers



Electrical Data for Pin Spacing

Ratings per*	5 mm / 0.197 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated current	4 kV
	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

Operating tools,
see page 500, 588

Test plug adapters,
see page 501

Test plugs,
see page 601

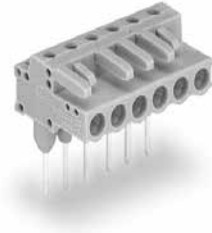
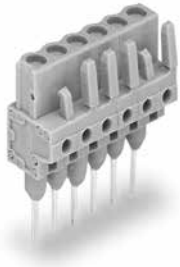
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

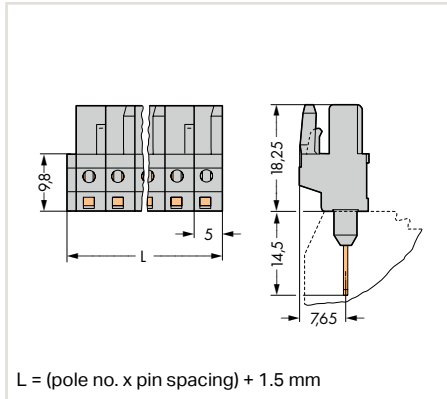
Female Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

MCS MIDI Classic



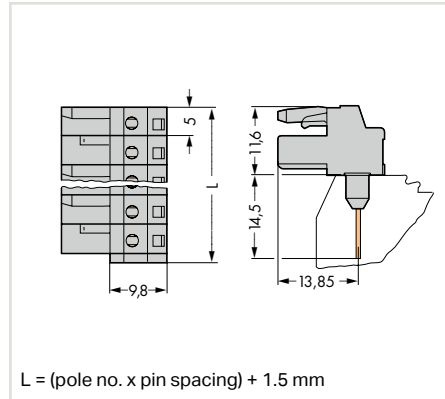
Dimensions (in mm):



Female connector, with 0.6 x 1 mm straight, long contact pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-132/005-000	100
3	232-133/005-000	100
4	232-134/005-000	100
5	232-135/005-000	100
6	232-136/005-000	50
7	232-137/005-000	50
8	232-138/005-000	50
9	232-139/005-000	50
10	232-140/005-000	50
12	232-142/005-000	25
16	232-146/005-000	25
20	232-150/005-000	10

Dimensions (in mm):



Female connector, with 0.6 x 1 mm angled, long contact pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-232/005-000	100
3	232-233/005-000	100
4	232-234/005-000	100
5	232-235/005-000	100
6	232-236/005-000	50
7	232-237/005-000	50
8	232-238/005-000	50
9	232-239/005-000	50
10	232-240/005-000	50
12	232-242/005-000	25
16	232-246/005-000	25
20	232-250/005-000	10

2- to 3-pole female connectors – one latch only

12- to 20-pole female connectors may only be assembled at the factory.

Available upon request (depending on quantity required):

- Other pole numbers

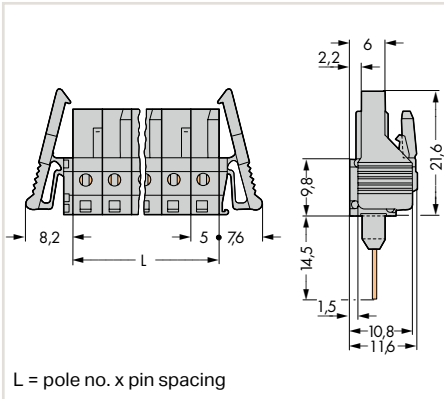
Female Connectors for Front-Entry, Rail-Mount Terminal Blocks

Pin Spacing: 5 mm

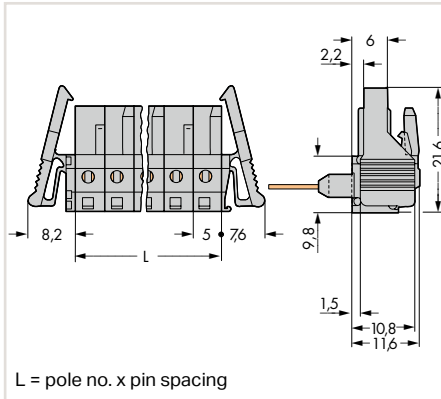
MCS MIDI Classic



Dimensions (in mm):



Dimensions (in mm):



Female connector, with 0.6 x 1 mm straight, long contact pins and locking levers, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-132/005-000/039-000	100
3	232-133/005-000/039-000	50
4	232-134/005-000/039-000	50
5	232-135/005-000/039-000	50
6	232-136/005-000/039-000	50
7	232-137/005-000/039-000	50
8	232-138/005-000/039-000	50
9	232-139/005-000/039-000	25
10	232-140/005-000/039-000	25
12	232-142/005-000/039-000	25
16	232-146/005-000/039-000	10
20	232-150/005-000/039-000	10

Female connector, with 0.6 x 1 mm angled, long contact pins and locking levers, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-232/005-000/039-000	100
3	232-233/005-000/039-000	50
4	232-234/005-000/039-000	50
5	232-235/005-000/039-000	50
6	232-236/005-000/039-000	50
7	232-237/005-000/039-000	50
8	232-238/005-000/039-000	50
9	232-239/005-000/039-000	25
10	232-240/005-000/039-000	25
12	232-242/005-000/039-000	25
16	232-246/005-000/039-000	10
20	232-250/005-000/039-000	10

2- to 3-pole female connectors – one latch only

12- to 20-pole female connectors may only be assembled at the factory.

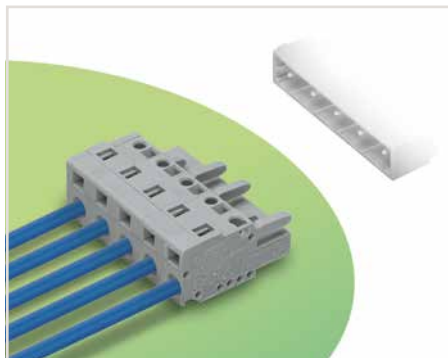
Available upon request (depending on quantity required):

- Other pole numbers

1-Conductor Female Connectors

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



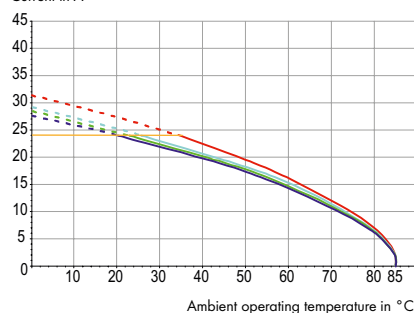
- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- Integrated test ports
- With coding fingers

Derating Curve

1-conductor female connector (231-202/026-000) with THT male header (231-832/001-000)

Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8

Current in A



2-, 4-, 6-, 12-pole

Conductor rated current

Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch 7.62 mm / 0.3 inch	7.5 mm / 0.295 inch 7.62 mm / 0.3 inch (angled)
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	500 V
Rated surge voltage (III / 3)	6 kV	6 kV
Rated voltage (III / 2)	630 V	630 V
Rated surge voltage (III / 2)	6 kV	6 kV
Rated voltage (II / 2)	1000 V	1000 V
Rated surge voltage (II / 2)	6 kV	6 kV
Rated current	16 A	14 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	15 A	15 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A
Approvals per	UL 1977 (factory wiring only)	
Rated voltage (UL)	600 V	

	CSA	CSA
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	15 A	15 A
Rated voltage CSA (Use Group D)	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604
Operating tools, see page 500, 588
Direct marking, see page 386
Insulation stop, see page 503
Mounting adapter for male and female connectors with snap-in mounting feet, see page 508
Test plug adapters, see page 501
Test plugs, see page 601
Screws, see page 610
Strain relief housings, see page 506
Strain relief plates, see page 504
Additional technical information, see Section 13
Approvals and corresponding ratings, visit www.wago.com

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

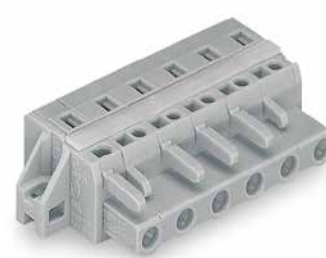
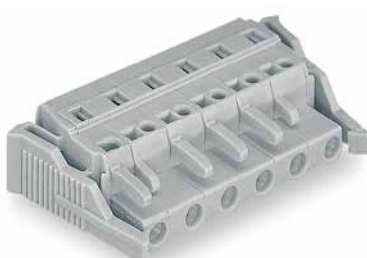
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

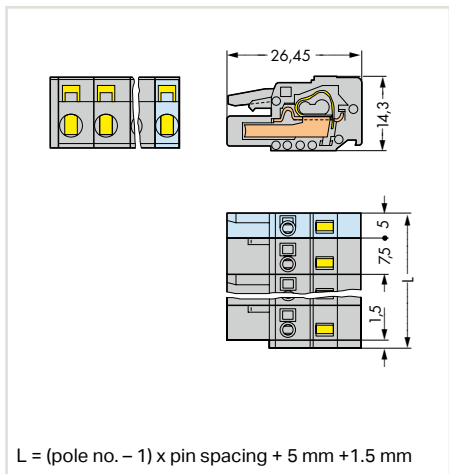
1-Conductor Female Connectors

Pin Spacing: 7.5 mm

MCS MIDI Classic



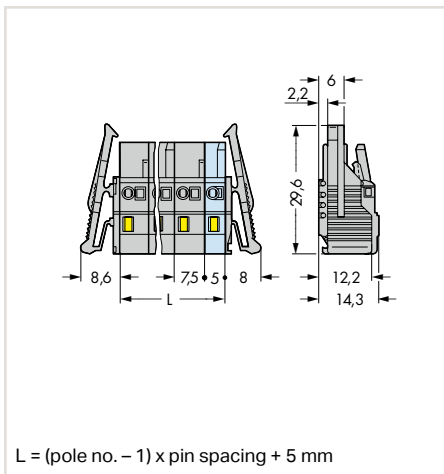
Dimensions (in mm):



1-conductor female connector, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-202/026-000	100
3	231-203/026-000	100
4	231-204/026-000	50
5	231-205/026-000	50
6	231-206/026-000	50
7	231-207/026-000	50
8	231-208/026-000	25
9	231-209/026-000	25
10	231-210/026-000	25
11	231-211/026-000	25
12	231-212/026-000	25
13	231-213/026-000	10
16	231-216/026-000	10

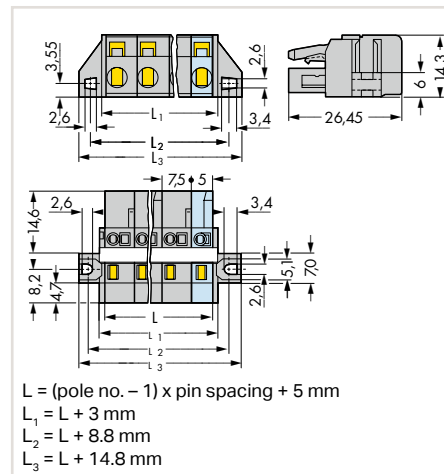
Dimensions (in mm):



1-conductor female connector, with locking levers, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-202/037-000	50
3	231-203/037-000	50
4	231-204/037-000	50
5	231-205/037-000	50
6	231-206/037-000	25
7	231-207/037-000	25
8	231-208/037-000	25
9	231-209/037-000	25
10	231-210/037-000	25
11	231-211/037-000	10
12	231-212/037-000	10
13	231-213/037-000	10
16	231-216/037-000	10

Dimensions (in mm):



1-conductor female connector, with flanges for racks and through-panel mounting, with reinforcing strips, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-202/031-000	50
3	231-203/031-000	50
4	231-204/031-000	50
5	231-205/031-000	50
6	231-206/027-000	25
7	231-207/027-000	25
8	231-208/027-000	25
9	231-209/027-000	25
10	231-210/027-000	25
11	231-211/027-000	10
12	231-212/027-000	10
13	231-213/027-000	10
16	231-216/027-000	10

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 510, Table 1

6

Available upon request (depending on quantity required):

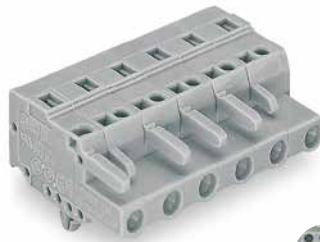
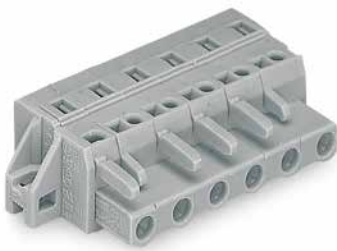
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

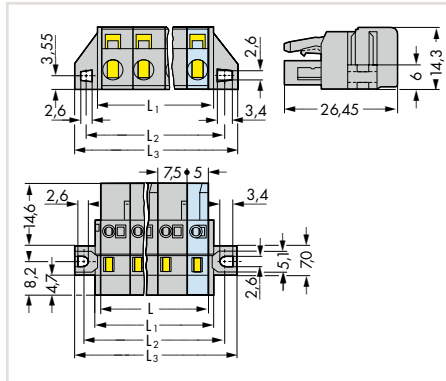
1-Conductor Female Connectors

Pin Spacing: 7.5 mm

MCS MIDI Classic



Dimensions (in mm):

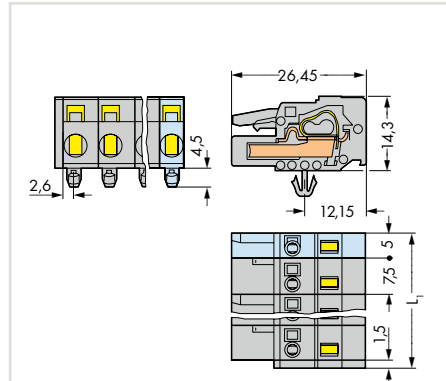


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm}$
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

1-conductor female connector, with flanges for panel mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-202/031-000	100
3	231-203/031-000	100
4	231-204/031-000	50
5	231-205/031-000	50
6	231-206/031-000	50
7	231-207/031-000	50
8	231-208/031-000	50
9	231-209/031-000	50
10	231-210/031-000	25
11	231-211/031-000	25
12	231-212/031-000	25
13	231-213/031-000	25
16	231-216/031-000	25

Dimensions (in mm):

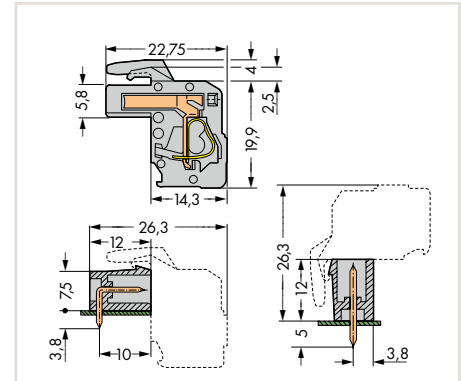


$L_1 = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$

1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-202/008-000	100
3	231-203/008-000	100
4	231-204/008-000	50
5	231-205/008-000	50
6	231-206/008-000	50
7	231-207/008-000	50
8	231-208/008-000	25
9	231-209/008-000	25
10	231-210/008-000	25
11	231-211/008-000	25
12	231-212/008-000	25
13	231-213/008-000	10
16	231-216/008-000	10

Dimensions (in mm):



Length = (pole no. - 1) x pin spacing + 5 mm + 1.5 mm + 0.9 mm

1-conductor angled female connector, conductor entry opposite of latches, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	732-102/026-000	100
3	732-103/026-000	100
4	732-104/026-000	50
5	732-105/026-000	50
6	732-106/026-000	50
7	732-107/026-000	50
8	732-108/026-000	25
9	732-109/026-000	25
10	732-110/026-000	25
11	732-111/026-000	25
12	732-112/026-000	25
13	732-113/026-000	10
16	732-116/026-000	10

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

- Other pole numbers
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

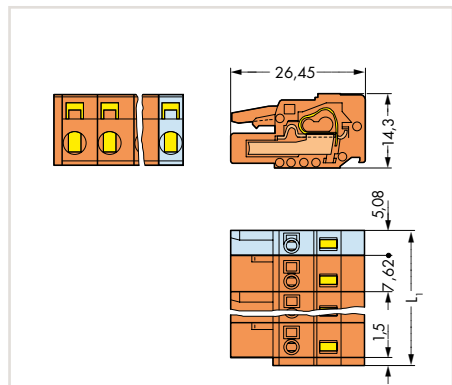
1-Conductor Female Connectors

Pin Spacing: 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

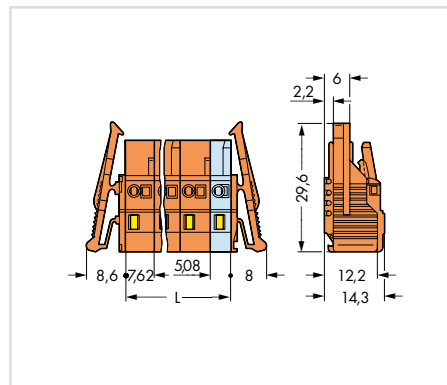


$$L_1 = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm} + 1.5 \text{ mm}$$

1-conductor female connector, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-702/026-000	100
3	231-703/026-000	100
4	231-704/026-000	50
5	231-705/026-000	50
6	231-706/026-000	50
7	231-707/026-000	50
8	231-708/026-000	25
9	231-709/026-000	25
10	231-710/026-000	25
11	231-711/026-000	25
12	231-712/026-000	25

Dimensions (in mm):



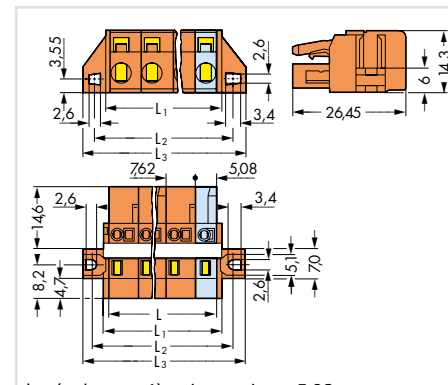
$$L_1 = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$$

1-conductor female connector, with locking levers, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-702/037-000	50
3	231-703/037-000	50
4	231-704/037-000	50
5	231-705/037-000	50
6	231-706/037-000	25
7	231-707/037-000	25
8	231-708/037-000	25
9	231-709/037-000	25
10	231-710/037-000	25
11	231-711/037-000	10
12	231-712/037-000	10

2- to 3-pole female connectors – one latch only

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$$

$$L_1 = L + 3 \text{ mm}$$

$$L_2 = L + 8.8 \text{ mm}$$

$$L_3 = L + 14.8 \text{ mm}$$

1-conductor female connector, with flanges for racks and through-panel mounting, with reinforcing strips, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-702/031-000	50
3	231-703/031-000	50
4	231-704/031-000	50
5	231-705/031-000	50
6	231-706/027-000	25
7	231-707/027-000	25
8	231-708/027-000	25
9	231-709/027-000	25
10	231-710/027-000	25
11	231-711/027-000	10
12	231-712/027-000	10

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

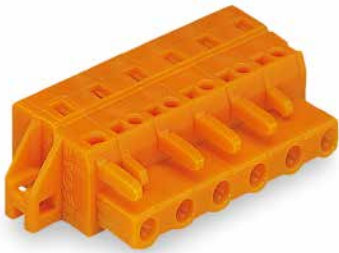
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

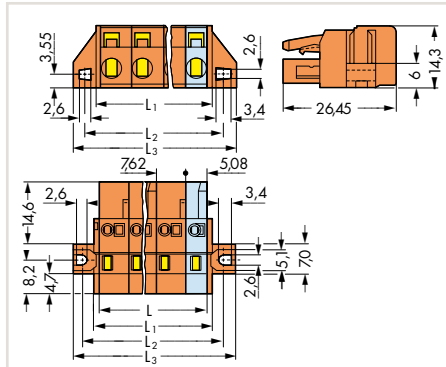
1-Conductor Female Connectors

Pin Spacing: 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

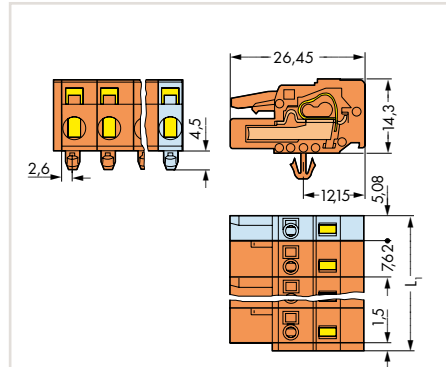


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

1-conductor female connector, with flanges for panel mounting, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-702/031-000	50
3	231-703/031-000	50
4	231-704/031-000	50
5	231-705/031-000	50
6	231-706/031-000	25
7	231-707/031-000	25
8	231-708/031-000	25
9	231-709/031-000	25
10	231-710/031-000	25
11	231-711/031-000	10
12	231-712/031-000	10

Dimensions (in mm):

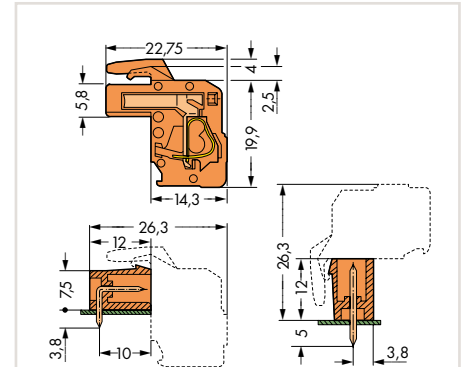


$L_1 = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm} + 1.5 \text{ mm}$

1-conductor female connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-702/008-000	100
3	231-703/008-000	100
4	231-704/008-000	50
5	231-705/008-000	50
6	231-706/008-000	50
7	231-707/008-000	50
8	231-708/008-000	25
9	231-709/008-000	25
10	231-710/008-000	25
11	231-711/008-000	25
12	231-712/008-000	25

Dimensions (in mm):



Length = (pole no. - 1) x pin spacing + 5.08 mm + 1.5 mm + 0.9 mm

1-conductor angled female connector, conductor entry opposite of latches, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	732-122/026-000	100
3	732-123/026-000	100
4	732-124/026-000	50
5	732-125/026-000	50
6	732-126/026-000	50
7	732-127/026-000	50
8	732-128/026-000	25
9	732-129/026-000	25
10	732-130/026-000	25
11	732-131/026-000	25
12	732-132/026-000	25

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

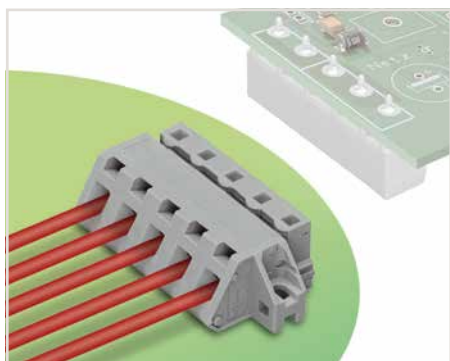
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 7.5 mm

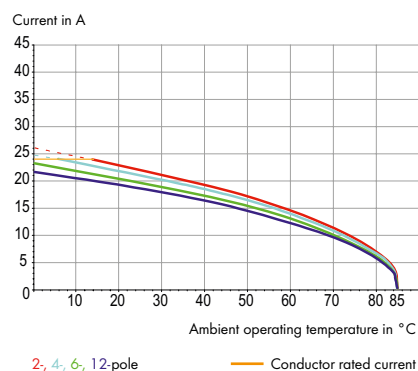
MCS MIDI Classic



- Universal connection for all conductor types
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- Mounting adapter so models with snap-in mounting feet may be DIN-rail mounted
- Easy conductor termination, even when halves are mated

Derating Curve

1-conductor female connector (731-532/031-000) with
THT male header (231-232/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	7 ... 8 mm / 0.28 ... 0.31 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 500, 588

Direct marking,
see page 386

Mounting adapter for male and female
connectors with snap-in mounting feet,
see page 508

Test plug adapters,
see page 501

Screws,
see page 610

Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

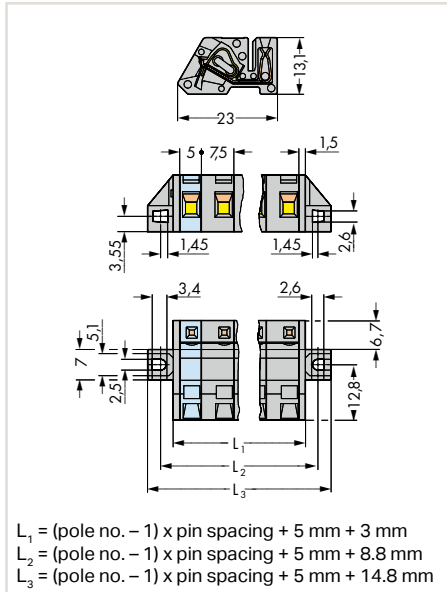
1-Conductor Angled Female Connectors for Panel Mounting

Pin Spacing: 7.5 mm

MCS MIDI Classic



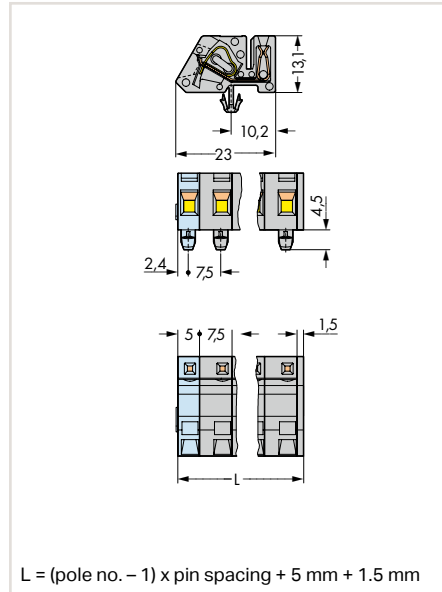
Dimensions (in mm):



1-conductor angled female connector, with flanges for panel mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-532/031-000	50
3	731-533/031-000	50
4	731-534/031-000	50
5	731-535/031-000	50
6	731-536/031-000	25
7	731-537/031-000	25
8	731-538/031-000	25
9	731-539/031-000	25
10	731-540/031-000	25
11	731-541/031-000	10
12	731-542/031-000	10
13	731-543/031-000	10
16	731-546/031-000	10

Dimensions (in mm):



1-conductor angled female connector, with snap-in feet for panel mounting, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-532/008-000	100
3	731-533/008-000	50
4	731-534/008-000	50
5	731-535/008-000	50
6	731-536/008-000	50
7	731-537/008-000	50
8	731-538/008-000	25
9	731-539/008-000	25
10	731-540/008-000	25
11	731-541/008-000	25
12	731-542/008-000	10
13	731-543/008-000	10
16	731-546/008-000	10



Angled female connector with DIN-35 rail-mount adapter (209-120)



Angled female connector used as through-panel connector. Termination ports and operating slots are located outside the housing – panel thickness up to 2 mm.



Angled female plug – a male header with straight solder pins is used for horizontal PCB mounting in narrow housings.

Available upon request (depending on quantity required):

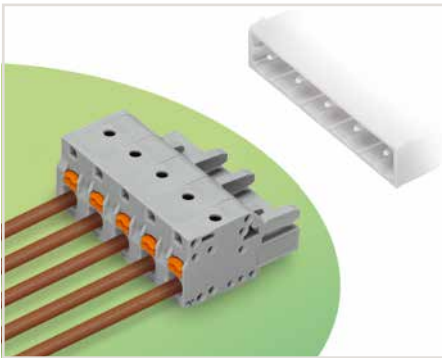
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.5 mm, 7.62 mm

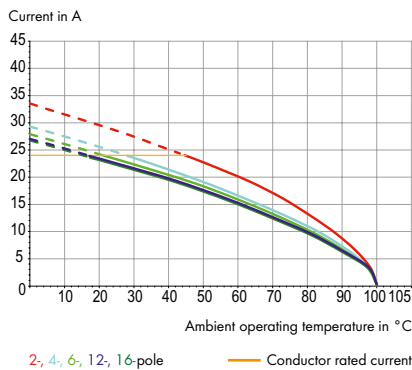
MCS MIDI Classic



- Universal connection for all conductor types
- Easy-to-use design does not require specialty tools
- Ability to wire while mated
- Push-in termination of solid and ferruled conductors
- Integrated test ports for testing parallel to the conductor entry
- With coding fingers

Derating Curve

1-conductor female connector (2231-202/026-000) with THT male header (231-262/001-000)
 Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "F-st"
 Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Insulation stop, see page 503

Mounting adapter for male and female connectors with snap-in mounting feet, see page 508

Test plug adapters, see page 501

Test plugs, see page 601

Screws, see page 610

Strain relief plates, see page 504

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group C)	300 V
Rated current UL (Use Group C)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group C)	300 V
Rated current CSA (Use Group C)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	10 ... 11 mm / 0.39 ... 0.43 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

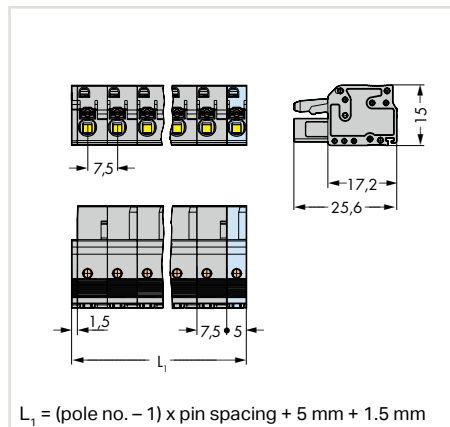
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.5 mm

MCS MIDI Classic



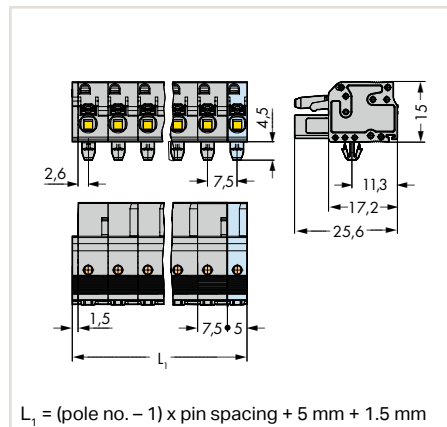
Dimensions (in mm):



1-conductor female connector,
with push-buttons, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-202/026-000	100
3	2231-203/026-000	100
4	2231-204/026-000	50
5	2231-205/026-000	50
6	2231-206/026-000	50
7	2231-207/026-000	50
8	2231-208/026-000	25
9	2231-209/026-000	25
10	2231-210/026-000	25
11	2231-211/026-000	25
12	2231-212/026-000	25
13	2231-213/026-000	10
16	2231-216/026-000	10

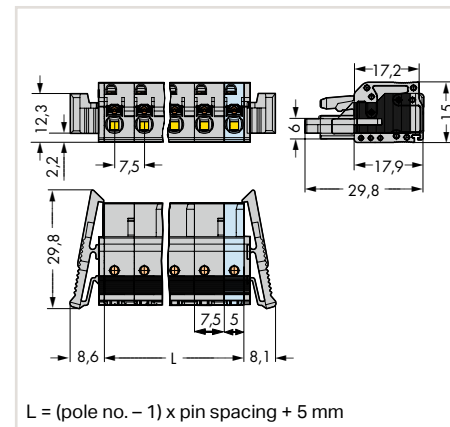
Dimensions (in mm):



1-conductor female connector,
with push-buttons and snap-in mounting feet,
for 0.6 ... 1.2 mm plate thickness,
3.5 mm Ø mounting holes, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-202/008-000	100
3	2231-203/008-000	100
4	2231-204/008-000	50
5	2231-205/008-000	50
6	2231-206/008-000	50
7	2231-207/008-000	50
8	2231-208/008-000	25
9	2231-209/008-000	25
10	2231-210/008-000	25
11	2231-211/008-000	10
12	2231-212/008-000	25
13	2231-213/008-000	25
16	2231-216/008-000	10

Dimensions (in mm):



1-conductor female connector,
with push-buttons and locking levers, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-202/037-000	50
3	2231-203/037-000	50
4	2231-204/037-000	50
5	2231-205/037-000	50
6	2231-206/037-000	25
7	2231-207/037-000	25
8	2231-208/037-000	25
9	2231-209/037-000	25
10	2231-210/037-000	25
11	2231-211/037-000	10
12	2231-212/037-000	10
13	2231-213/037-000	10
16	2231-216/037-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Other pole numbers

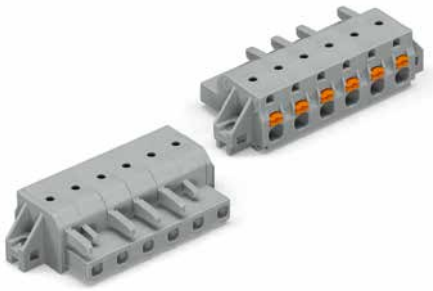
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

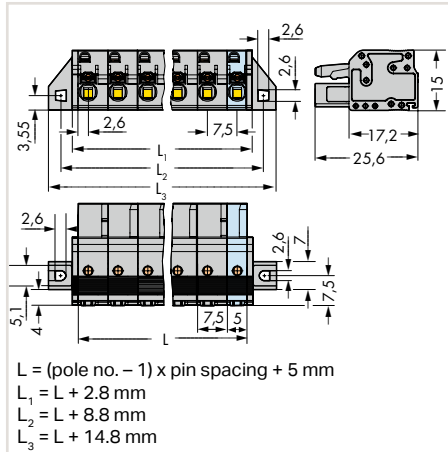
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.5 mm, 7.62

MCS MIDI Classic

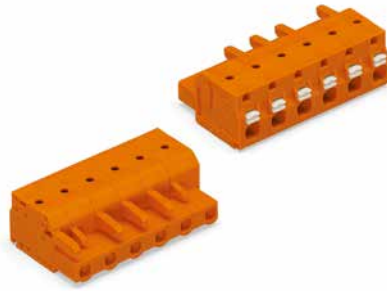


Dimensions (in mm):

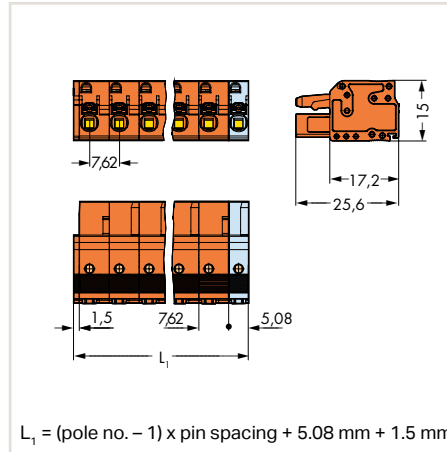


1-conductor female connector, with push-buttons and flanges for panel mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-202/031-000	50
3	2231-203/031-000	50
4	2231-204/031-000	50
5	2231-205/031-000	50
6	2231-206/031-000	25
7	2231-207/031-000	25
8	2231-208/031-000	25
9	2231-209/031-000	25
10	2231-210/031-000	25
11	2231-211/031-000	10
12	2231-212/031-000	10
13	2231-213/031-000	10
16	2231-216/031-000	10



Dimensions (in mm):

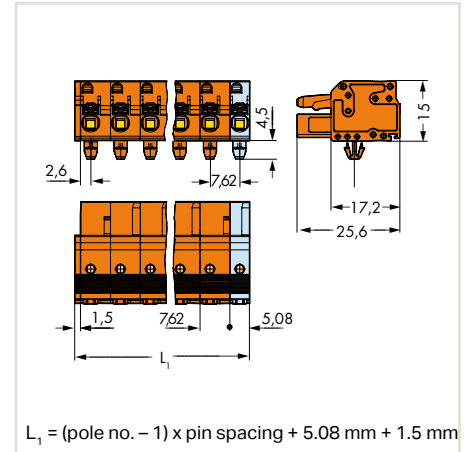


1-conductor female connector, with push-buttons, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-702/026-000	100
3	2231-703/026-000	100
4	2231-704/026-000	50
5	2231-705/026-000	50
6	2231-706/026-000	50
7	2231-707/026-000	50
8	2231-708/026-000	25
9	2231-709/026-000	25
10	2231-710/026-000	25
11	2231-711/026-000	25
12	2231-712/026-000	25



Dimensions (in mm):



1-conductor female connector, with push-buttons and snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-702/008-000	100
3	2231-703/008-000	100
4	2231-704/008-000	50
5	2231-705/008-000	50
6	2231-706/008-000	50
7	2231-707/008-000	50
8	2231-708/008-000	25
9	2231-709/008-000	25
10	2231-710/008-000	25
11	2231-711/008-000	25
12	2231-712/008-000	25

2- to 3-pole female connectors – one latch only

Cutout dimensions, see page 511, Table 2

Available upon request (depending on quantity required):

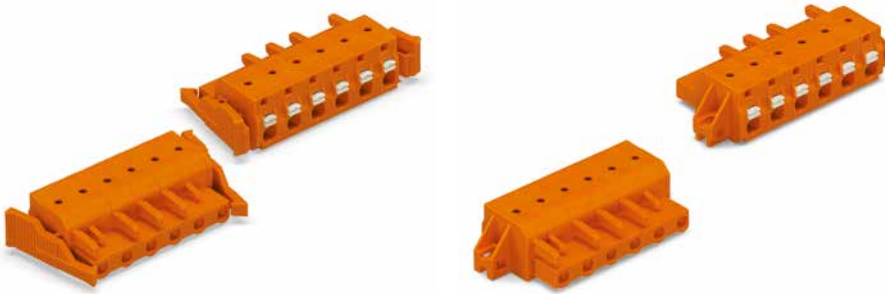
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

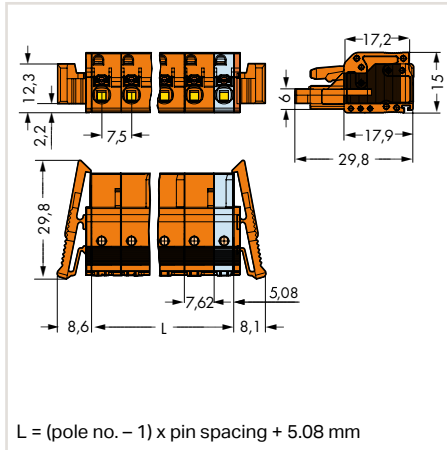
1-Conductor Female Connectors with Push-Buttons

Pin Spacing: 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

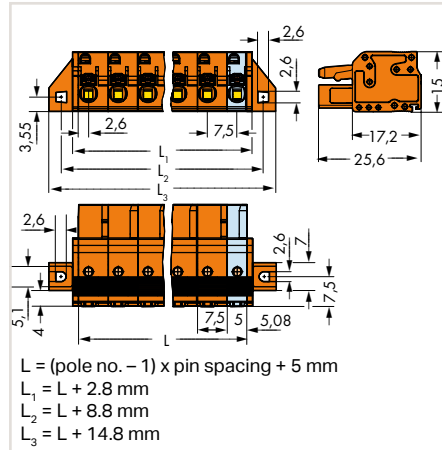


1-conductor female connector, with push-buttons and locking levers, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-702/037-000	50
3	2231-703/037-000	50
4	2231-704/037-000	50
5	2231-705/037-000	50
6	2231-706/037-000	25
7	2231-707/037-000	25
8	2231-708/037-000	25
9	2231-709/037-000	25
10	2231-710/037-000	25
11	2231-711/037-000	10
12	2231-712/037-000	10

2- to 3-pole female connectors – one latch only

Dimensions (in mm):



1-conductor female connector, with push-buttons and flanges for panel mounting, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	2231-702/031-000	50
3	2231-703/031-000	50
4	2231-704/031-000	50
5	2231-705/031-000	50
6	2231-706/031-000	25
7	2231-707/031-000	25
8	2231-708/031-000	25
9	2231-709/031-000	25
10	2231-710/031-000	25
11	2231-711/031-000	10
12	2231-712/031-000	10

Cutout dimensions, see page 511, Table 2

Available upon request (depending on quantity required):

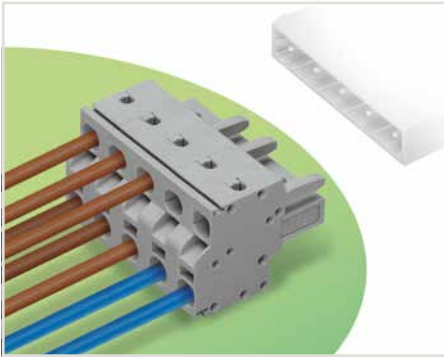
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

2-Conductor Female Connectors

Pin Spacing: 7.5 mm; 7.62 mm

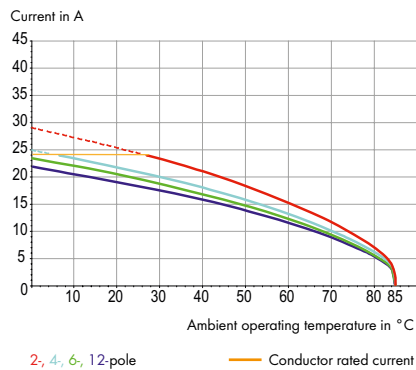
MCS MIDI Classic



- Universal connection for all conductor types
- Two conductor entries per pole
- For looping through power or data buses
- Bus connection is retained, even when unmated
- Push-in termination of solid and ferruled conductors
- With coding fingers

Derating Curve

2-conductor female connector (231-2202/026-000) with THT male header (231-262/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 500, 588

Direct marking, see page 386

Insulation stop, see page 503

Test plug adapters, see page 501

Test pin, see page 601

Strain relief plates, see page 504

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
Approvals per	16 A
Rated voltage UL (Use Group B)	UL 1059
Rated current UL (Use Group B)	300 V
Rated voltage UL (Use Group D)	20 A
Rated current UL (Use Group D)	300 V
Approvals per	10 A
Rated voltage (UL)	UL 1977 (factory wiring only)
Approvals per	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

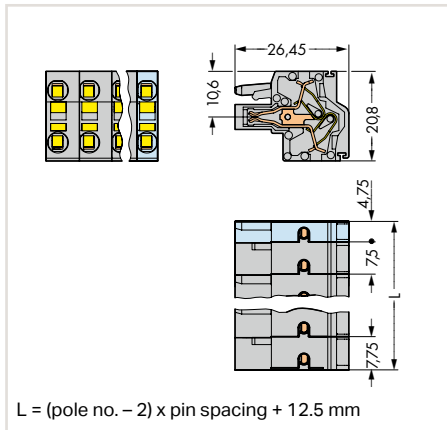
2-Conductor Female Connectors

Pin Spacing: 7.5 mm

MCS MIDI Classic



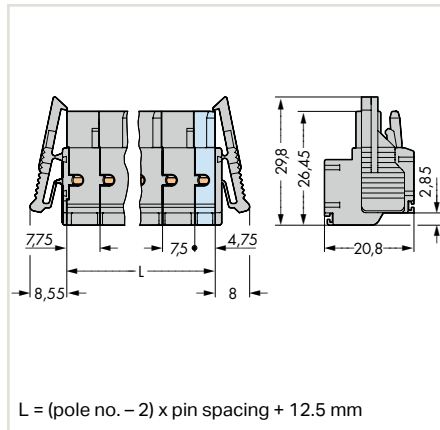
Dimensions (in mm):



2-conductor female connector, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2202/026-000	100
3	231-2203/026-000	100
4	231-2204/026-000	50
5	231-2205/026-000	50
6	231-2206/026-000	50
7	231-2207/026-000	50
8	231-2208/026-000	25
9	231-2209/026-000	25
10	231-2210/026-000	25
11	231-2211/026-000	25
12	231-2212/026-000	25

Dimensions (in mm):



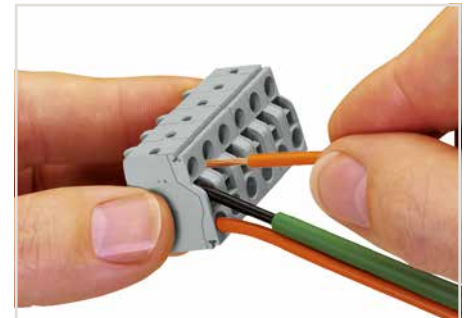
2-conductor female connector, with locking levers, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2202/037-000	50
3	231-2203/037-000	50
4	231-2204/037-000	50
5	231-2205/037-000	50
6	231-2206/037-000	25
7	231-2207/037-000	25
8	231-2208/037-000	25
9	231-2209/037-000	25
10	231-2210/037-000	25
11	231-2211/037-000	10
12	231-2212/037-000	10

2- to 3-pole female connectors – one latch only

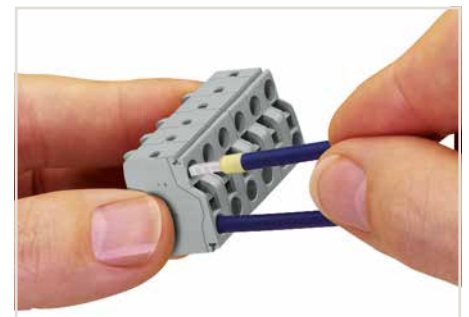
Female connectors equipped with two Push-in CAGE CLAMP® connections per pole allow conductors to be looped from one connector to another without interruption. Therefore, disconnecting one connector will not affect other connectors in the circuit.

These female connectors can be mated with male headers or CAGE CLAMP®-equipped male connectors.



Operating Push-in CAGE CLAMP® is easy, fast and identical to that of CAGE CLAMP®.

The screwdriver is fully inserted into the operating slot, holding Push-in CAGE CLAMP® open. After the conductor has been inserted into the clamping unit and the screwdriver been withdrawn, the conductor is clamped safely. Solid and fine-stranded conductors < 0.5 mm² (20 AWG) are terminated and removed using a screwdriver.



Solid conductors $\geq 0.5 \text{ mm}^2$ (20 AWG), as well as feruled, fine-stranded conductors can be terminated by simply pushing them into the unit. Integrated test ports allow touch contact with current bar via test probes in both horizontal and vertical directions.

Available upon request (depending on quantity required):

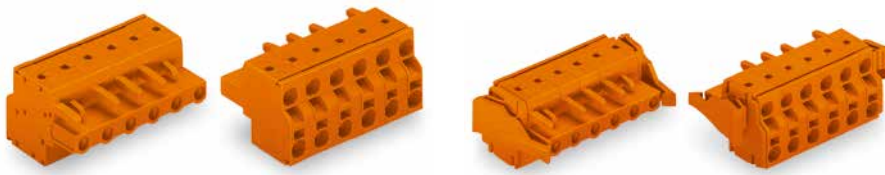
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

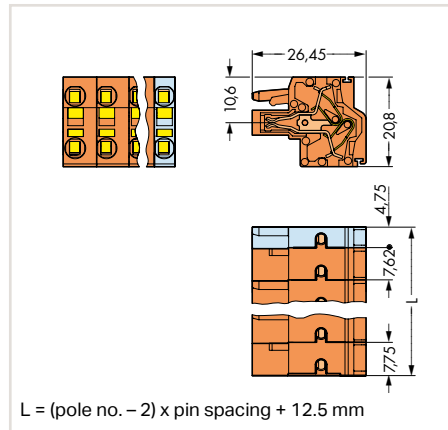
2-Conductor Female Connectors

Pin Spacing: 7.62 mm

MCS MIDI Classic

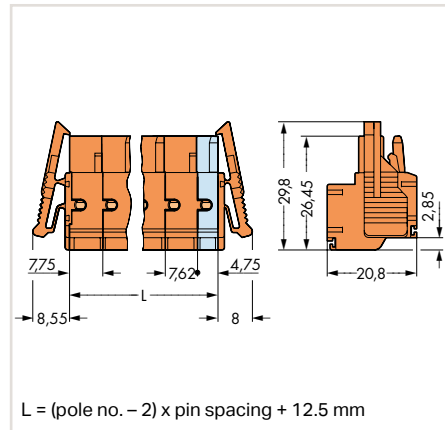


Dimensions (in mm):

2-conductor female connector, orange,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2702/026-000	100
3	231-2703/026-000	100
4	231-2704/026-000	50
5	231-2705/026-000	50
6	231-2706/026-000	50
7	231-2707/026-000	50
8	231-2708/026-000	25
9	231-2709/026-000	25
10	231-2710/026-000	25
11	231-2711/026-000	25
12	231-2712/026-000	25

Dimensions (in mm):

2-conductor female connector,
with locking levers, orange,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-2702/037-000	50
3	231-2703/037-000	50
4	231-2704/037-000	50
5	231-2705/037-000	50
6	231-2706/037-000	25
7	231-2707/037-000	25
8	231-2708/037-000	25
9	231-2709/037-000	25
10	231-2710/037-000	25
11	231-2711/037-000	10
12	231-2712/037-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

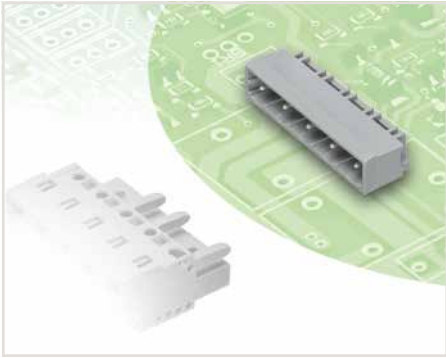
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 7.5 mm, 7.62 mm

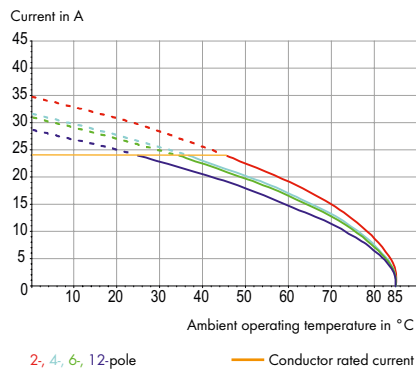
MCS MIDI Classic



- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- With coding fingers

Derating Curve

1-conductor female connector (231-202/026-000) with
THT male header (231-862/001-000)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "fst"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Locking devices,
see page 503

Separators,
see page 502

Coding keys,
see page 502

Screws,
see page 610

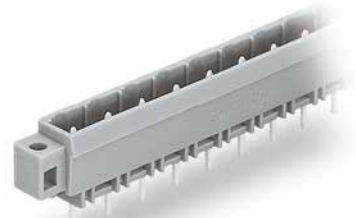
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

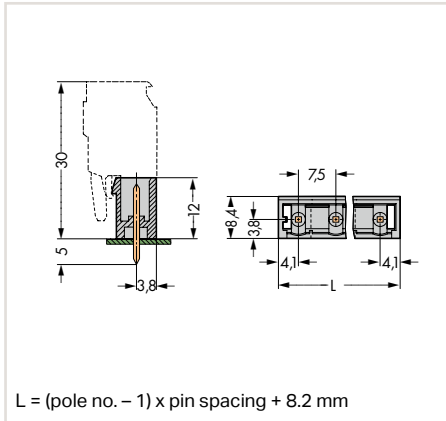
THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 7.5 mm

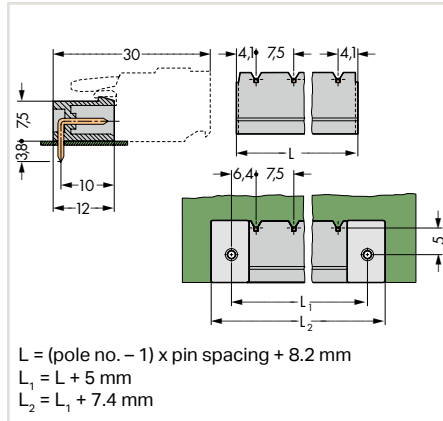
MCS MIDI Classic



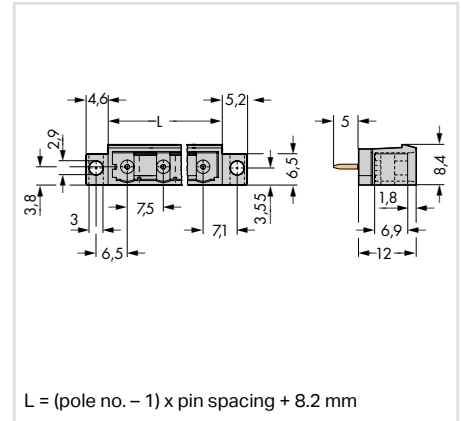
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



THT male header, with 1 x 1 mm straight solder pins, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-232/001-000	200
3	231-233/001-000	200
4	231-234/001-000	100
5	231-235/001-000	100
6	231-236/001-000	100
7	231-237/001-000	50
8	231-238/001-000	50
9	231-239/001-000	50
10	231-240/001-000	50
11	231-241/001-000	50
12	231-242/001-000	50
13	231-243/001-000	50
16	231-246/001-000	50

THT male header, with 1 x 1 mm angled solder pins, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-832/001-000	200
3	231-833/001-000	200
4	231-834/001-000	100
5	231-835/001-000	100
6	231-836/001-000	100
7	231-837/001-000	50
8	231-838/001-000	50
9	231-839/001-000	50
10	231-840/001-000	50
11	231-841/001-000	50
12	231-842/001-000	50
13	231-843/001-000	50
16	231-846/001-000	50

THT male header, with 1 x 1 mm straight solder pins and mounting flanges, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
10	231-240/040-000	50

Cutout dimensions, see page 513, Table 4

Available upon request (depending on quantity required):

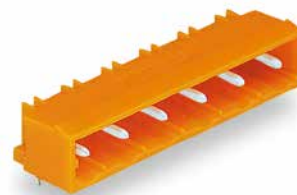
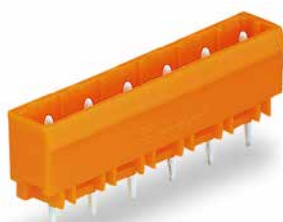
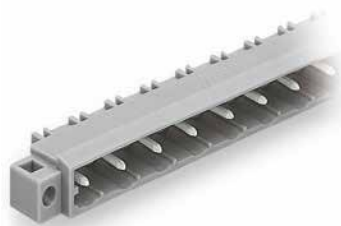
- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

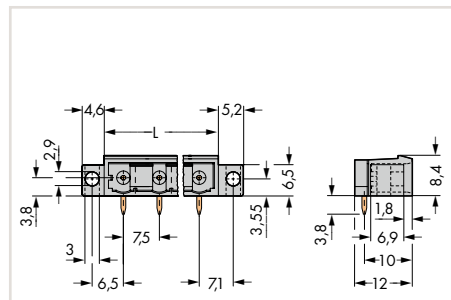
THT Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

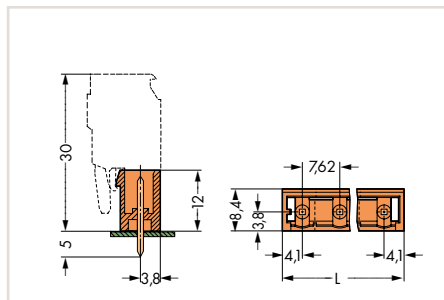


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

THT male header, with 1 x 1 mm angled solder pins and mounting flanges, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
10	231-840/040-000	50

Dimensions (in mm):

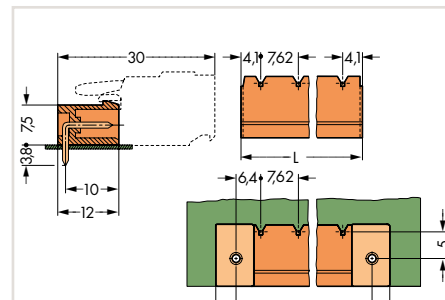


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

THT male header, with 1 x 1 mm straight solder pins, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-732/001-000	200
3	231-733/001-000	200
4	231-734/001-000	100
5	231-735/001-000	100
6	231-736/001-000	100
7	231-737/001-000	50
8	231-738/001-000	50
9	231-739/001-000	50
10	231-740/001-000	50
11	231-741/001-000	50
12	231-742/001-000	50

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

$$L_1 = L + 5 \text{ mm}$$

$$L_2 = L_1 + 7.4 \text{ mm}$$

THT male header, with 1 x 1 mm angled solder pins, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-932/001-000	200
3	231-933/001-000	200
4	231-934/001-000	100
5	231-935/001-000	100
6	231-936/001-000	100
7	231-937/001-000	50
8	231-938/001-000	50
9	231-939/001-000	50
10	231-940/001-000	50
11	231-941/001-000	50
12	231-942/001-000	50

Cutout dimensions, see page 513, Table 4

6

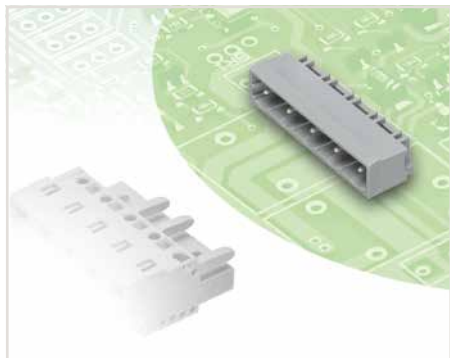
Available upon request (depending on quantity required):

- Other pole numbers
 - 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

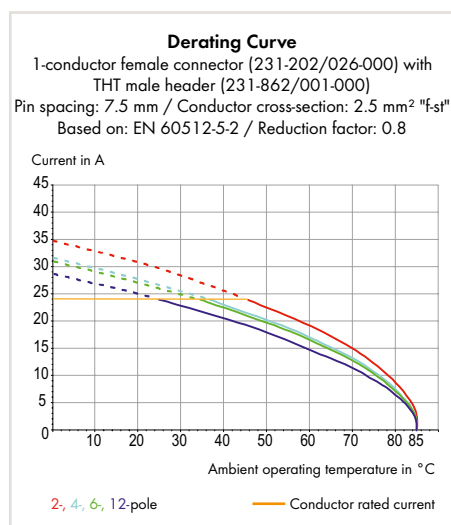
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



- Horizontal or vertical PCB mounting via straight or angled solder pins
- 1.2 x 1.2 mm solder pins allow nominal current up to 16 A, enhancing stability of shorter headers
- With coding fingers



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm
Solder pin length (angled solder pins)	3.8 mm
Solder pin dimensions	1.2 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Locking devices, see page 503

Coding keys, see page 502

Screws, see page 610

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

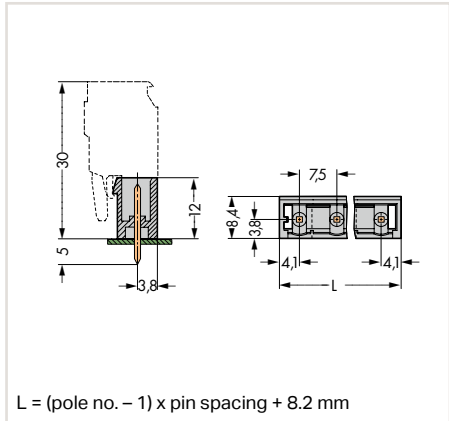
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI Classic



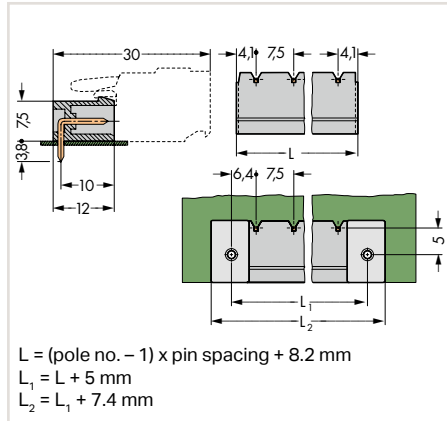
Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm straight solder pins, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-262/001-000	200
3	231-263/001-000	200
4	231-264/001-000	100
5	231-265/001-000	100
6	231-266/001-000	100
7	231-267/001-000	50
8	231-268/001-000	50
9	231-269/001-000	50
10	231-270/001-000	50
11	231-271/001-000	50
12	231-272/001-000	50
13	231-273/001-000	50
16	231-276/001-000	50

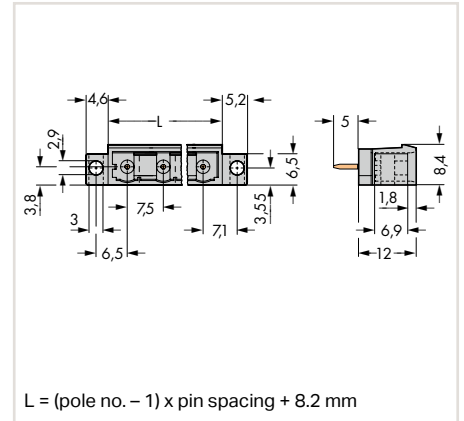
Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm angled solder pins, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-862/001-000	200
3	231-863/001-000	200
4	231-864/001-000	100
5	231-865/001-000	100
6	231-866/001-000	100
7	231-867/001-000	50
8	231-868/001-000	50
9	231-869/001-000	50
10	231-870/001-000	50
11	231-871/001-000	50
12	231-872/001-000	50
13	231-873/001-000	50
16	231-876/001-000	50

Dimensions (in mm):



THT male header, with 1.2 x 1.2 mm straight solder pins and mounting flanges, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
10	231-270/040-000	50

6

Cutout dimensions, see page 513, Table 4

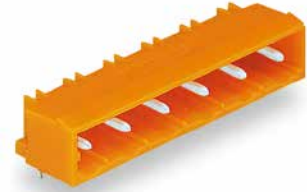
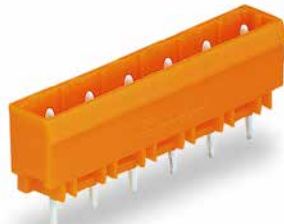
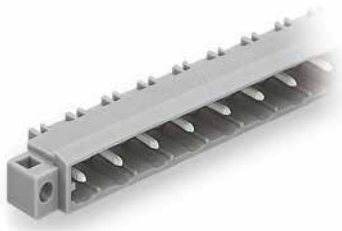
Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix ... /001-000 with ... /046-000.
- Gold-plated or partially gold-plated contact surfaces
 Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

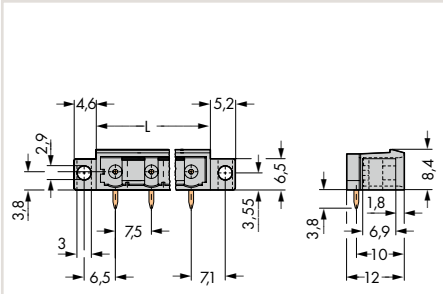
THT Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

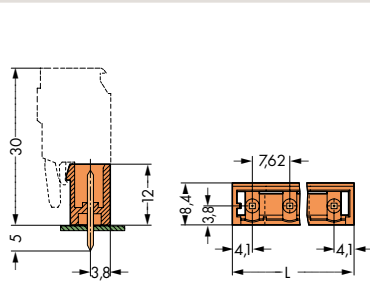


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

THT male header, with 1.2 x 1.2 mm angled solder pins and mounting flanges, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
10	231-870/040-000	50

Dimensions (in mm):

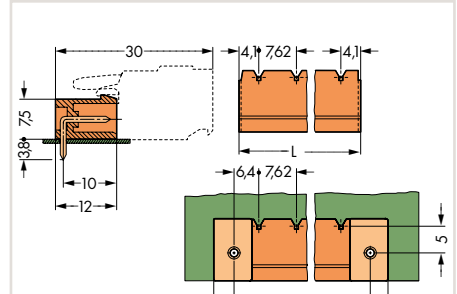


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

THT male header, with 1.2 x 1.2 mm straight solder pins, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-762/001-000	200
3	231-763/001-000	200
4	231-764/001-000	100
5	231-765/001-000	100
6	231-766/001-000	100
7	231-767/001-000	50
8	231-768/001-000	50
9	231-769/001-000	50
10	231-770/001-000	50
11	231-771/001-000	50
12	231-772/001-000	50

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

$$L_1 = L + 5 \text{ mm}$$

$$L_2 = L_1 + 7.4 \text{ mm}$$

THT male header, with 1.2 x 1.2 mm angled solder pins, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-962/001-000	200
3	231-963/001-000	200
4	231-964/001-000	100
5	231-965/001-000	100
6	231-966/001-000	100
7	231-967/001-000	50
8	231-968/001-000	50
9	231-969/001-000	50
10	231-970/001-000	50
11	231-971/001-000	50
12	231-972/001-000	50

Cutout dimensions, see page 513, Table 4

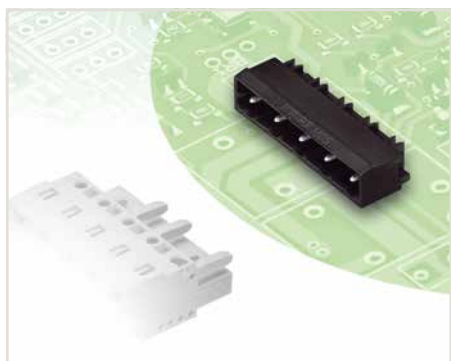
Available upon request (depending on quantity required):

- Other pole numbers
 - 3.8 mm pin projection for male headers with straight solder pins; in this case, replace item no. suffix .../001-000 with .../046-000.
 - Gold-plated or partially gold-plated contact surfaces
- Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR* Male Headers, 1 x 1 mm Solder Pins

Pin Spacing: 7.5 mm

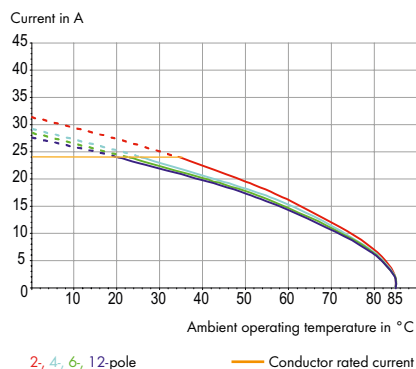
MCS MIDI Classic



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Also available in bulk packaging for manual placement
- Male headers may be mounted horizontally or vertically
- With coding fingers

Derating Curve

1-conductor female connector (231-202/026-000) with THR male header (231-832/001-000/105-604)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	12 A

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter	1.4 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 431

Locking devices, see page 503

Coding keys, see page 502

Separators, see page 502

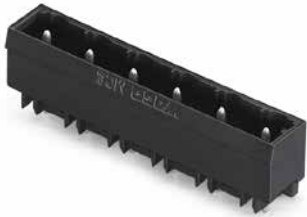
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

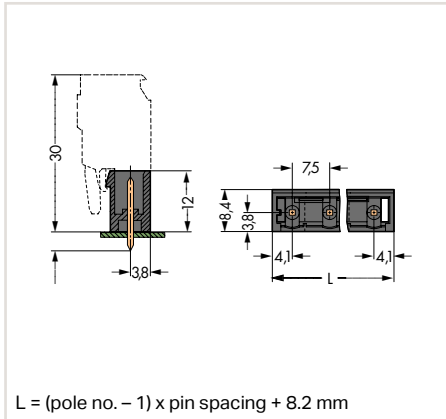
THR Male Headers with 1 x 1 mm Straight Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI Classic



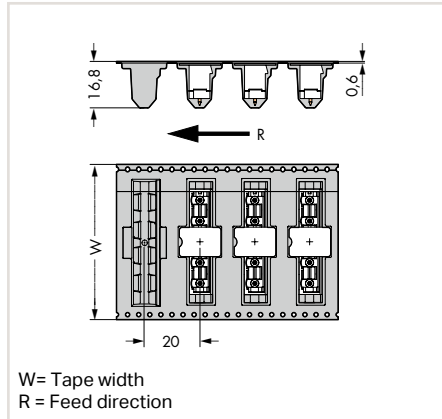
Dimensions (in mm):



THR male header, with 1 x 1 mm straight solder pins, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-232/001-000/105-604	200
3	231-233/001-000/105-604	200
4	231-234/001-000/105-604	100
5	231-235/001-000/105-604	100
6	231-236/001-000/105-604	100
7	231-237/001-000/105-604	50
8	231-238/001-000/105-604	50
9	231-239/001-000/105-604	50
10	231-240/001-000/105-604	50
11	231-241/001-000/105-604	50
12	231-242/001-000/105-604	50

Dimensions (in mm):



THR male header, with 1 x 1 mm straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-232/001-000/105-604/997-405	32
3	231-233/001-000/105-604/997-407	56
4	231-234/001-000/105-604/997-407	56
5	231-235/001-000/105-604/997-407	56
6	231-236/001-000/105-604/997-409	88
7	231-237/001-000/105-604/997-409	88
8	231-238/001-000/105-604/997-409	88
9	231-239/001-000/105-604/997-409	88

Available upon request (depending on quantity required):

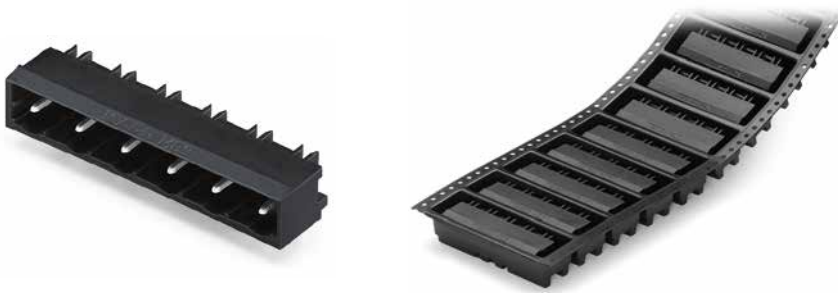
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

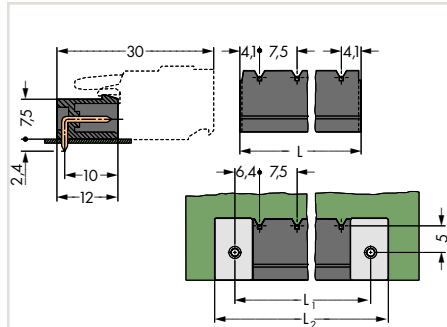
THR Male Headers with 1 x 1 mm Angled Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI Classic



Dimensions (in mm):

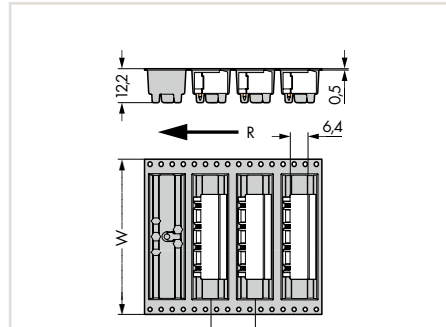


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_1 = L + 5 \text{ mm}$
 $L_2 = L_1 + 7.2 \text{ mm}$

THR male header, with 1 x 1 mm angled solder pins, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-832/001-000/105-604	200
3	231-833/001-000/105-604	200
4	231-834/001-000/105-604	100
5	231-835/001-000/105-604	100
6	231-836/001-000/105-604	100
7	231-837/001-000/105-604	50
8	231-838/001-000/105-604	50
9	231-839/001-000/105-604	50
10	231-840/001-000/105-604	50
11	231-841/001-000/105-604	50
12	231-842/001-000/105-604	50

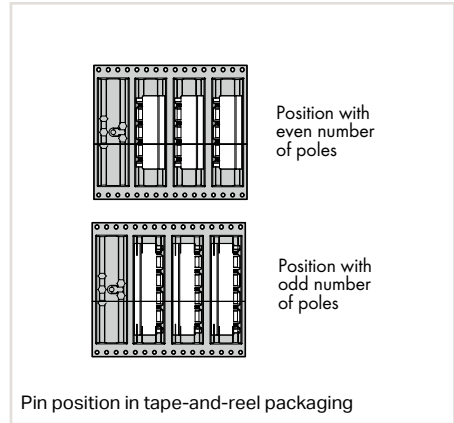
Dimensions (in mm):



$W = \text{Tape width}$
 $R = \text{Feed direction}$

THR male header, with 1 x 1 mm angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-832/001-000/105-604/997-405	32
3	231-833/001-000/105-604/997-407	56
4	231-834/001-000/105-604/997-407	56
5	231-835/001-000/105-604/997-407	56
6	231-836/001-000/105-604/997-409	88
7	231-837/001-000/105-604/997-409	88
8	231-838/001-000/105-604/997-409	88
9	231-839/001-000/105-604/997-409	88



6

Available upon request (depending on quantity required):

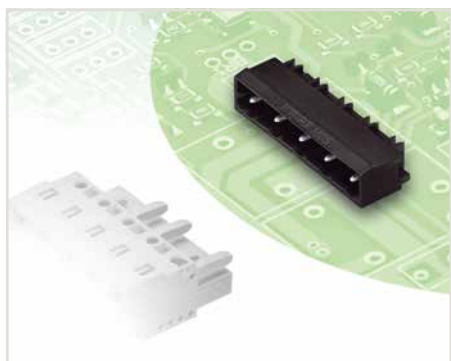
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

THR* Male Headers, 1.2 x 1.2 mm Solder Pins

Pin Spacing: 7.5 mm

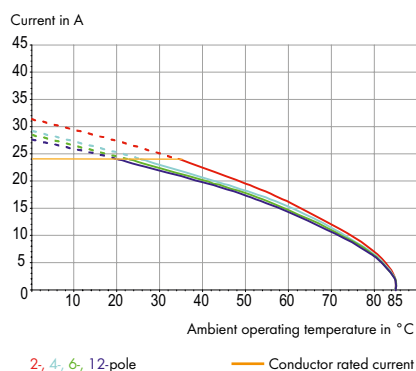
MCS MIDI Classic



- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- 1.2 x 1.2 mm solder pins allow nominal current up to 16 A, enhancing stability of shorter headers
- Also available in bulk packaging for manual placement
- Male headers may be mounted horizontally or vertically
- With coding fingers

Derating Curve

1-conductor female connector (231-202/026-000) with THR male header (231-832/001-000/105-604)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Electrical Data for Pin Spacing

Ratings per*	7.5 mm / 0.295 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	16 A

Solder Pin Data

Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

*THR (Through-Hole Reflow) soldering process, see page 431

Locking devices, see page 503

Coding keys, see page 502

Separators, see page 502

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

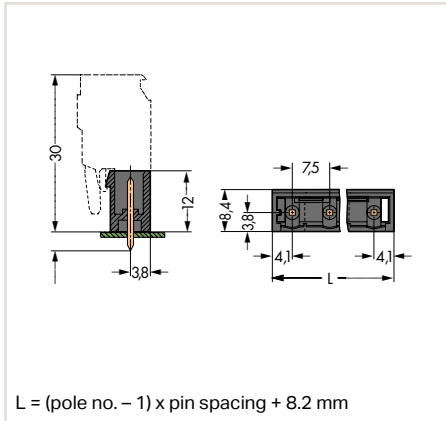
THR Male Headers with 1.2 x 1.2 mm Straight Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI Classic



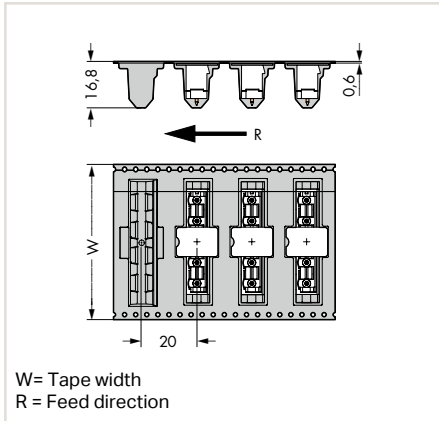
Dimensions (in mm):



THR male header, with 1.2 x 1.2 mm straight solder pins, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-262/001-000/105-604	200
3	231-263/001-000/105-604	200
4	231-264/001-000/105-604	100
5	231-265/001-000/105-604	100
6	231-266/001-000/105-604	100
7	231-267/001-000/105-604	50
8	231-268/001-000/105-604	50
9	231-269/001-000/105-604	50
10	231-270/001-000/105-604	50
11	231-271/001-000/105-604	50
12	231-272/001-000/105-604	50

Dimensions (in mm):



THR male header, with 1.2 x 1.2 mm straight solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-262/001-000/105-604/997-405	32
3	231-263/001-000/105-604/997-407	56
4	231-264/001-000/105-604/997-407	56
5	231-265/001-000/105-604/997-407	56
6	231-266/001-000/105-604/997-409	88
7	231-267/001-000/105-604/997-409	88
8	231-268/001-000/105-604/997-409	88
9	231-269/001-000/105-604/997-409	88

Available upon request (depending on quantity required):

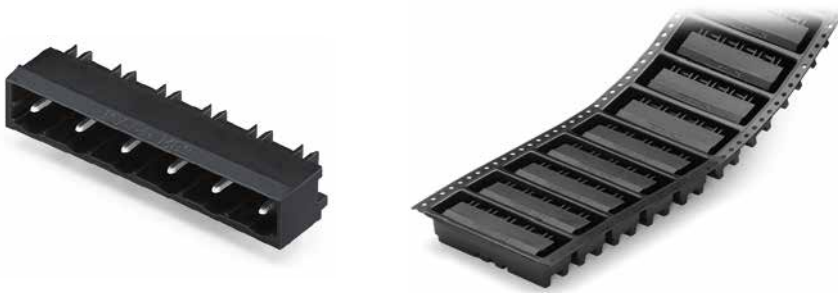
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

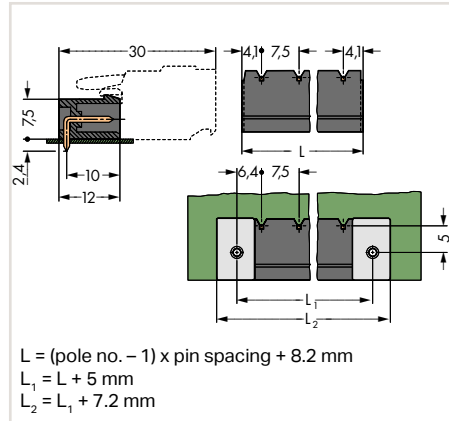
THR Male Headers with 1.2 x 1.2 mm Angled Solder Pins

Pin Spacing: 7.5 mm

MCS MIDI Classic



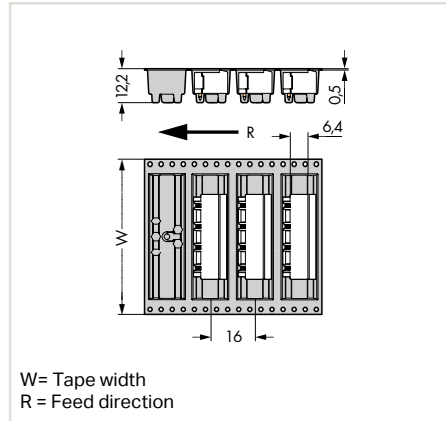
Dimensions (in mm):



THR male header, with 1.2 x 1.2 mm angled solder pins, black, 7.5 mm (0.295 inch) pin spacing

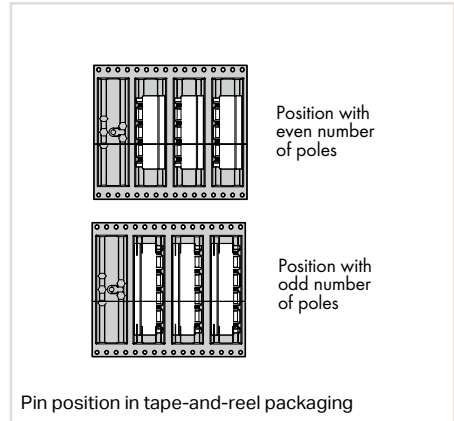
Pole No.	Item No.	W (mm)
2	231-862/001-000/105-604	200
3	231-863/001-000/105-604	200
4	231-864/001-000/105-604	100
5	231-865/001-000/105-604	100
6	231-866/001-000/105-604	100
7	231-867/001-000/105-604	50
8	231-868/001-000/105-604	50
9	231-869/001-000/105-604	50
10	231-870/001-000/105-604	50
11	231-871/001-000/105-604	50
12	231-872/001-000/105-604	50

Dimensions (in mm):



THR male header, with 1.2 x 1.2 mm angled solder pins, in tape-and-reel packaging per IEC 60286-3, 330 mm reel diameter, 170 pieces per reel, black, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	W (mm)
2	231-862/001-000/105-604/997-405	32
3	231-863/001-000/105-604/997-407	56
4	231-864/001-000/105-604/997-407	56
5	231-865/001-000/105-604/997-407	56
6	231-866/001-000/105-604/997-409	88
7	231-867/001-000/105-604/997-409	88
8	231-868/001-000/105-604/997-409	88
9	231-869/001-000/105-604/997-409	88



6

Available upon request (depending on quantity required):

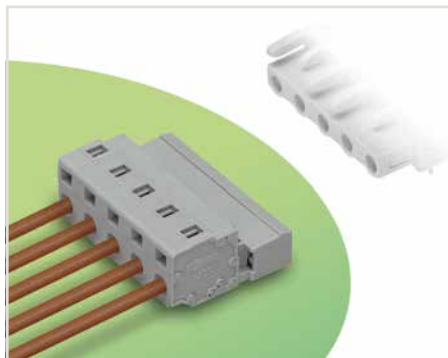
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

1-Conductor Male Connectors

Pin Spacing: 7.5 mm, 7.62 mm

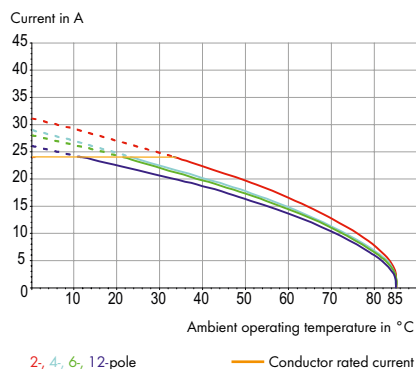
MCS MIDI Classic



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- With coding fingers

Derating Curve

1-conductor female connector (231-202/026-000) with
1-conductor male connector (731-602)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² *fst*
Based on: EN 60512-5-2 / Reduction factor: 0.8



* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

📖 Marking accessories,
see page 604

📖 Operating tools,
see page 500, 588

📖 Direct marking,
see page 386

📖 Separators,
see page 502

📖 Comb-style jumper bars,
see page 509

📖 Insulation stop,
see page 503

📖 Coding keys,
see page 502

📖 Mounting adapter for male and female
connectors with snap-in mounting feet,
see page 508

📖 Screws,
see page 610

📖 Strain relief housings,
see page 506

📖 Strain relief plates,
see page 504

📖 Additional technical information,
see Section 13

📖 Approvals and corresponding ratings,
visit www.wago.com

Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	12 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection Data

Connection technology	CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross-sections	
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²

Material Data

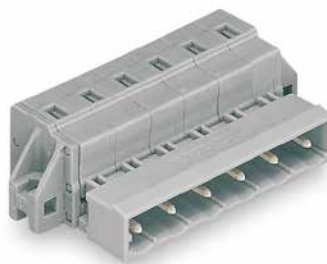
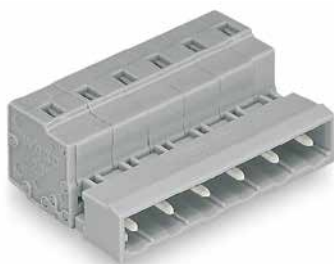
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

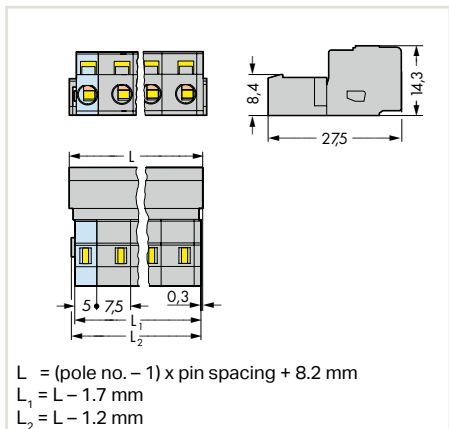
1-Conductor Male Connectors

Pin Spacing: 7.5 mm

MCS MIDI Classic



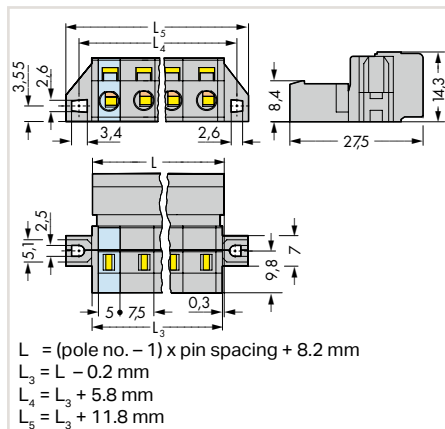
Dimensions (in mm):



1-conductor male connector, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-602	100
3	731-603	100
4	731-604	50
5	731-605	50
6	731-606	50
7	731-607	50
8	731-608	25
9	731-609	25
10	731-610	25
11	731-611	25
12	731-612	25
13	731-613	10
16	731-616	10
15	231-615	25
16	231-616	25

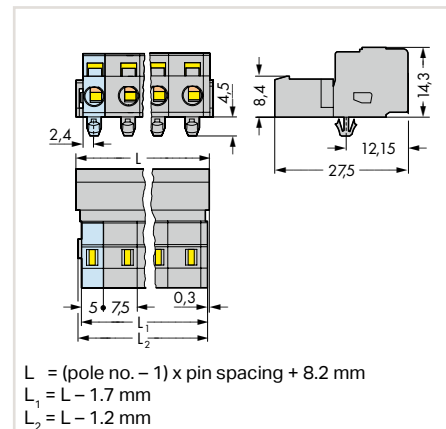
Dimensions (in mm):



1-conductor male connector, with mounting flanges, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-602/019-000	50
3	731-603/019-000	50
4	731-604/019-000	50
5	731-605/019-000	50
6	731-606/019-000	25
7	731-607/019-000	25
8	731-608/019-000	25
9	731-609/019-000	25
10	731-610/019-000	25
11	731-611/019-000	10
12	731-612/019-000	10
13	731-613/019-000	10
16	731-616/019-000	10
15	231-615/019-000	25
16	231-616/019-000	10

Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-602/018-000	100
3	731-603/018-000	100
4	731-604/018-000	50
5	731-605/018-000	50
6	731-606/018-000	50
7	731-607/018-000	50
8	731-608/018-000	25
9	731-609/018-000	25
10	731-610/018-000	25
11	731-611/018-000	25
12	731-612/018-000	25
13	731-613/018-000	10
16	731-616/018-000	10
15	231-615/018-000	25
16	231-616/018-000	25

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

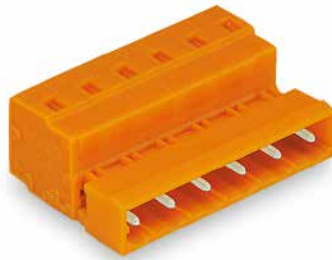
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

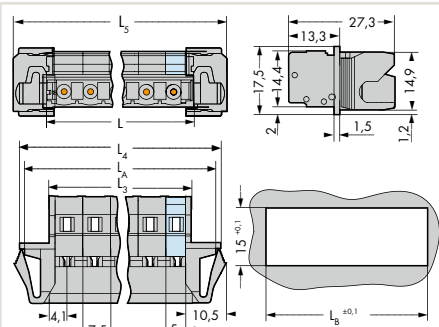
1-Conductor Male Connectors

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

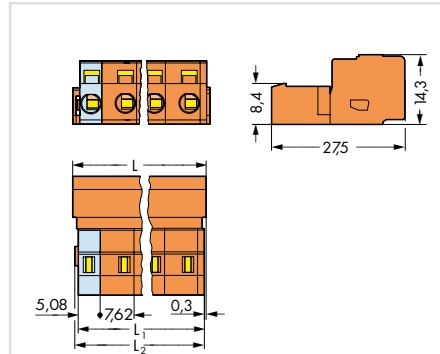


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_3 = L - 0.2 \text{ mm}$
 $L_4 = L_3 + 15.2 \text{ mm}$
 $L_5 = L_3 + 18 \text{ mm}$
 $L_A = L_3 + 12.6 \text{ mm}$
 $L_B = L_3 + 13.2 \text{ mm}$

1-conductor male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-602/114-000	50
3	731-603/114-000	50
4	731-604/114-000	50
5	731-605/114-000	25
6	731-606/114-000	25
7	731-607/114-000	25
8	731-608/114-000	25
9	731-609/114-000	25
10	731-610/114-000	10
11	731-611/114-000	10
12	731-612/114-000	10
13	731-613/114-000	10
16	731-616/114-000	10

Dimensions (in mm):

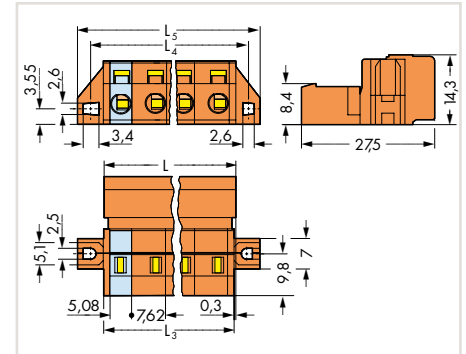


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_1 = L - 1.7 \text{ mm}$
 $L_2 = L - 1.2 \text{ mm}$

1-conductor male connector, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-632	100
3	731-633	100
4	731-634	50
5	731-635	50
6	731-636	50
7	731-637	50
8	731-638	25
9	731-639	25
10	731-640	25
11	731-641	25
12	731-642	25

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_3 = L - 0.2 \text{ mm}$
 $L_4 = L_3 + 5.8 \text{ mm}$
 $L_5 = L_3 + 11.8 \text{ mm}$

1-conductor male connector, with mounting flanges, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-632/019-000	50
3	731-633/019-000	50
4	731-634/019-000	50
5	731-635/019-000	50
6	731-636/019-000	25
7	731-637/019-000	25
8	731-638/019-000	25
9	731-639/019-000	25
10	731-640/019-000	25
11	731-641/019-000	10
12	731-642/019-000	10

Cutout dimensions, see page 510, Table 1

Available upon request (depending on quantity required):

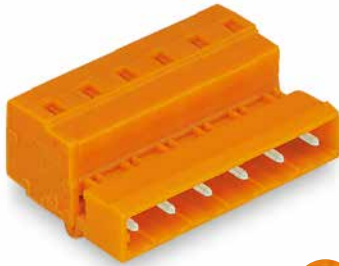
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

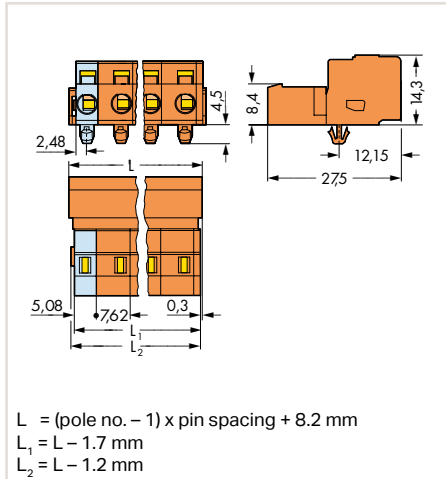
1-Conductor Male Connectors

Pin Spacing: 7.62 mm

MCS MIDI Classic



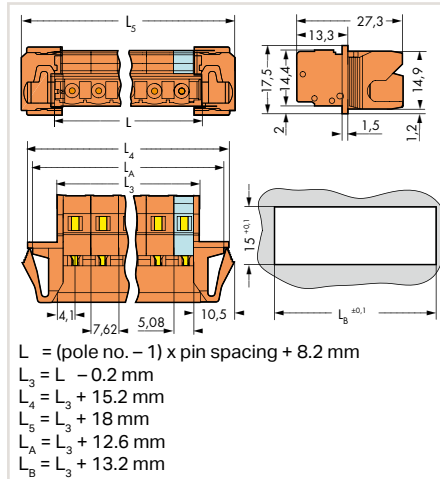
Dimensions (in mm):



1-conductor male connector, with snap-in mounting feet, for 0.6 ... 1.2 mm plate thickness, 3.5 mm Ø mounting holes, orange, 7.62 mm (0.3 inch) pin spacing

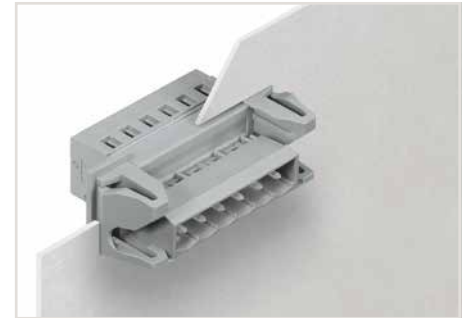
Pole No.	Item No.	Pack. Unit
2	731-632/018-000	100
3	731-633/018-000	100
4	731-634/018-000	50
5	731-635/018-000	50
6	731-636/018-000	50
7	731-637/018-000	50
8	731-638/018-000	25
9	731-639/018-000	25
10	731-640/018-000	25
11	731-641/018-000	25
12	731-642/018-000	25

Dimensions (in mm):



1-conductor male connector, with mounting flanges, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-632/114-000	50
3	731-633/114-000	50
4	731-634/114-000	50
5	731-635/114-000	25
6	731-636/114-000	25
7	731-637/114-000	25
8	731-638/114-000	25
9	731-639/114-000	25
10	731-640/114-000	10
11	731-641/114-000	10
12	731-642/114-000	10



Male connector, with snap-in flanges for feedthrough applications, for 0.5 ... 2.5 mm plate thickness

6

Available upon request (depending on quantity required):

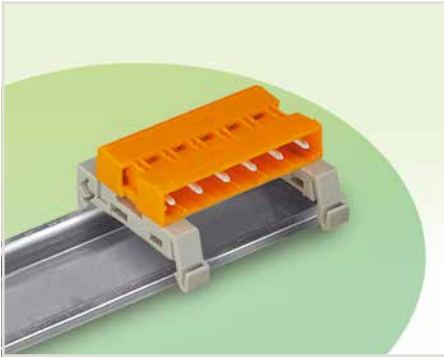
- Other pole numbers
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

Double-Pin Male Connectors with Mounting Feet for DIN-35 Rail

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



- Allow MCS Female Connectors fitted with wire harness or cable assembly to be plugged together
- Adapter for DIN-35 rail mounting
- Coding via coding keys on both sides

6

Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	12 A

Approvals per

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Note (rated voltage)

Notice: Male connectors shall not be live when disconnected!

Approvals per

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per


Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.


* (III / 2) ≙ Overvoltage category III / Pollution degree 2

 Separators, see page 502

 Coding keys, see page 502

 DIN-35 rail, see page 611

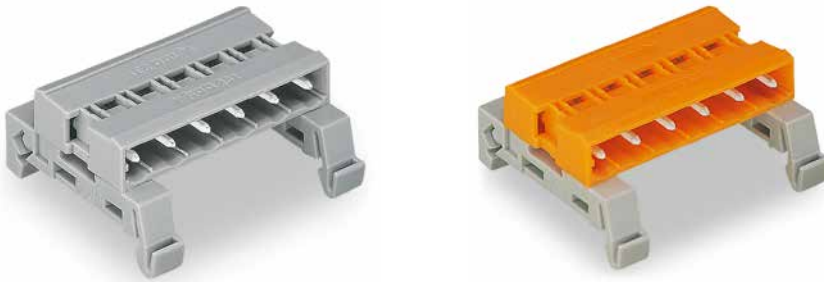
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

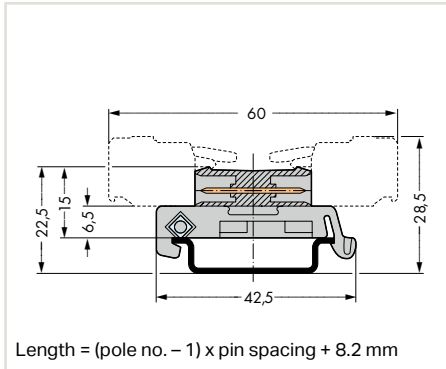
Double-Pin Male Connectors with Mounting Feet for DIN-35 Rail

Pin Spacing: 7.5 mm, 7.62 mm

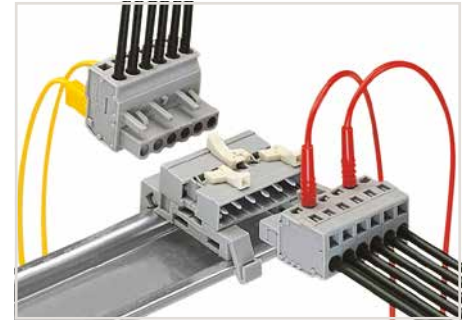
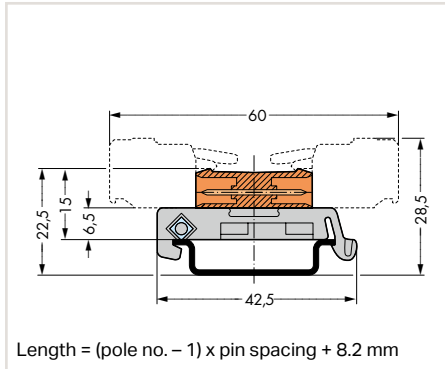
MCS MIDI Classic



Dimensions (in mm):



Dimensions (in mm):



Angled female connector – straight female connector

Double-pin male connector, with mounting feet for DIN-35 rail, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-562/007-000	50
3	232-563/007-000	50
4	232-564/007-000	25
5	232-565/007-000	50
6	232-566/007-000	25
7	232-567/007-000	10
8	232-568/007-000	10
9	232-569/007-000	10
10	232-570/007-000	10
11	232-571/007-000	10
12	232-572/007-000	10

Double-pin male connector, with mounting feet for DIN-35 rail, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-582/007-000	50
3	232-583/007-000	50
4	232-584/007-000	25
5	232-585/007-000	25
6	232-586/007-000	25
7	232-587/007-000	10
8	232-588/007-000	10
9	232-589/007-000	10
10	232-590/007-000	10
11	232-591/007-000	10
12	232-592/007-000	10



Female connectors with locking levers

6

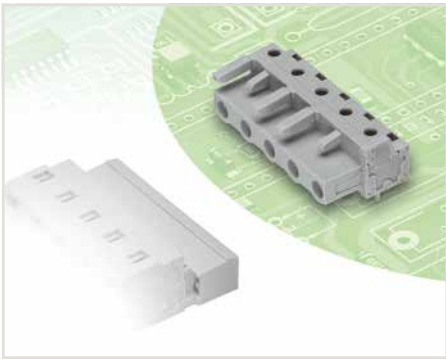
Available upon request (depending on quantity required):

- Other pole numbers

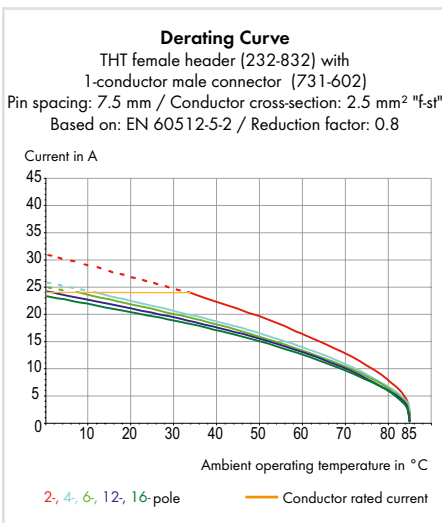
THT Female Headers

Pin Spacing: 7.5 mm, 7.62 mm

MCS MIDI Classic



- Horizontal or vertical PCB mounting via straight or angled solder pins
- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify PCB inputs and outputs
- With coding fingers



Electrical Data for Pin Spacing

	7.5 mm / 0.295 inch and 7.62 mm / 0.3 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	500 V
Rated surge voltage (III / 3)	6 kV
Rated voltage (III / 2)	630 V
Rated surge voltage (III / 2)	6 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	6 kV
Rated current	12 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Approvals per	UL 1977 (factory wiring only)
Rated voltage (UL)	600 V

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Solder Pin Data

Solder pin length (straight solder pins)	5 mm
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter	1.3 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +85 °C
Contact material	Copper alloy
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Test plug adapters, see page 501

Test plugs, see page 601

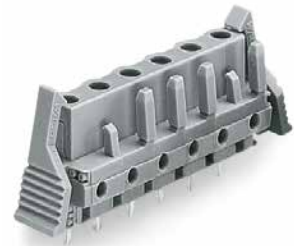
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

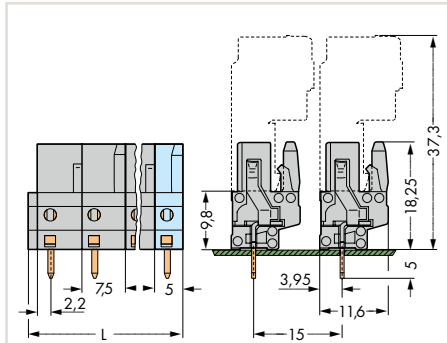
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI Classic



Dimensions (in mm):

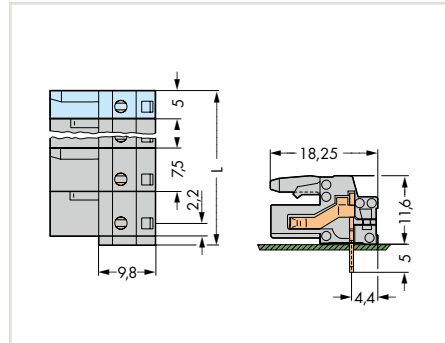


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

THT female header,
with straight solder pins, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-732	100
3	232-733	100
4	232-734	50
5	232-735	50
6	232-736	50
7	232-737	50
8	232-738	25
9	232-739	25
10	232-740	25
11	232-741	25
12	232-742	25
13	232-743	10
16	232-746	10

Dimensions (in mm):

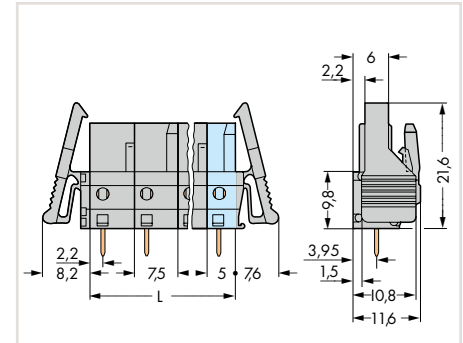


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

THT female header,
with angled solder pins, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-832	100
3	232-833	100
4	232-834	50
5	232-835	50
6	232-836	50
7	232-837	50
8	232-838	25
9	232-839	25
10	232-840	25
11	232-841	25
12	232-842	25
13	232-843	10
16	232-846	10

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm}$$

THT female header, with straight
solder pins and locking levers, gray,
7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-732/039-000	50
3	232-733/039-000	50
4	232-734/039-000	50
5	232-735/039-000	50
6	232-736/039-000	25
7	232-737/039-000	25
8	232-738/039-000	25
9	232-739/039-000	25
10	232-740/039-000	25
11	232-741/039-000	10
12	232-742/039-000	10
13	232-743/039-000	10
16	232-746/039-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

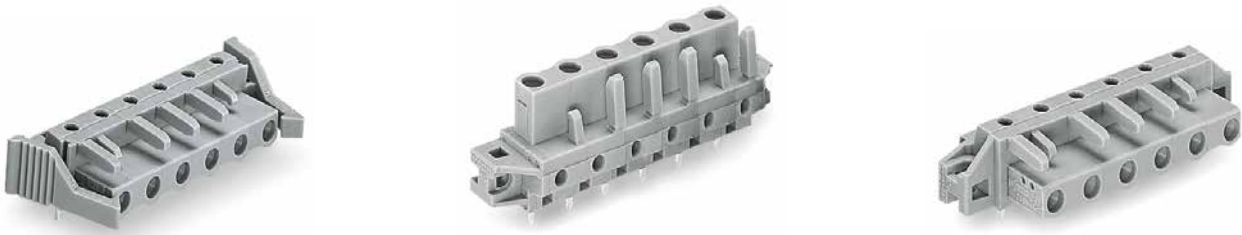
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

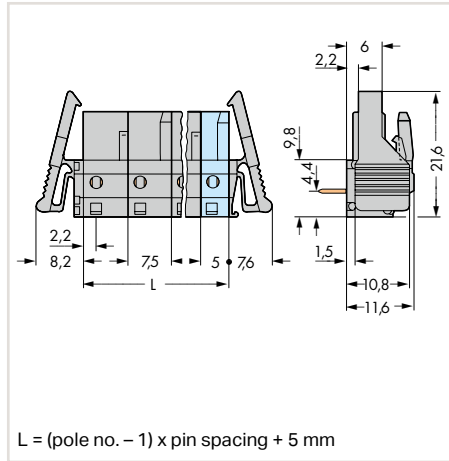
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI Classic



Dimensions (in mm):

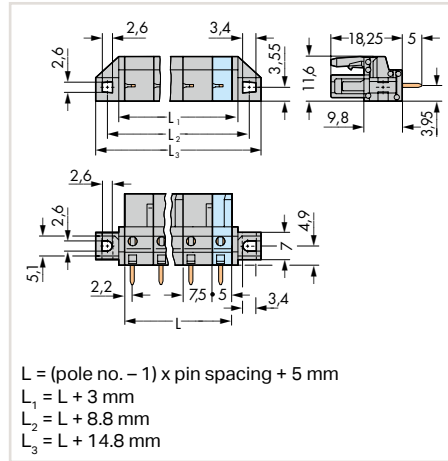


THT female header, with angled solder pins and locking levers, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-832/039-000	50
3	232-833/039-000	50
4	232-834/039-000	50
5	232-835/039-000	50
6	232-836/039-000	25
7	232-837/039-000	25
8	232-838/039-000	25
9	232-839/039-000	25
10	232-840/039-000	25
11	232-841/039-000	10
12	232-842/039-000	10
13	232-843/039-000	10
16	232-846/039-000	10

2- to 3-pole female connectors – one latch only

Dimensions (in mm):

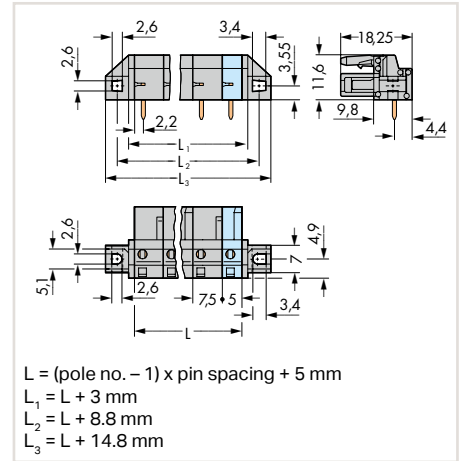


THT female header, with straight solder pins and flanges for through-panel mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-732/031-000	50
3	232-733/031-000	50
4	232-734/031-000	50
5	232-735/031-000	50
6	232-736/031-000	25
7	232-737/031-000	25
8	232-738/031-000	25
9	232-739/031-000	25
10	232-740/031-000	25
11	232-741/031-000	10
12	232-742/031-000	10
13	232-743/031-000	10
16	232-746/031-000	10

Cutout dimensions, see page 512, Table 3

Dimensions (in mm):



THT female header, with angled solder pins and flanges for through-panel mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-832/031-000	50
3	232-833/031-000	50
4	232-834/031-000	50
5	232-835/031-000	50
6	232-836/031-000	25
7	232-837/031-000	25
8	232-838/031-000	25
9	232-839/031-000	25
10	232-840/031-000	25
11	232-841/031-000	10
12	232-842/031-000	10
13	232-843/031-000	10
16	232-846/031-000	10

Cutout dimensions, see page 490, Table 3

Available upon request (depending on quantity required):

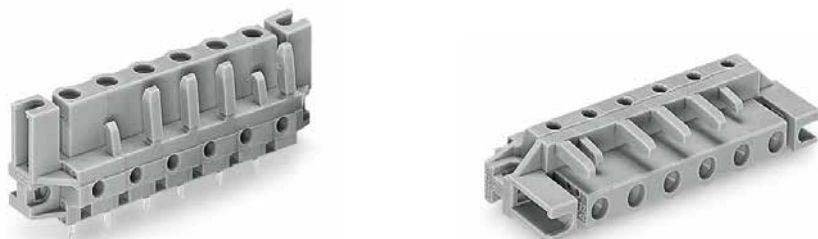
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

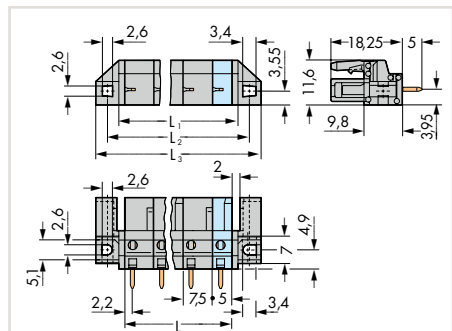
THT Female Headers

Pin Spacing: 7.5 mm

MCS MIDI Classic



Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm}$$

$$L_1 = L + 3 \text{ mm}$$

$$L_2 = L + 8.8 \text{ mm}$$

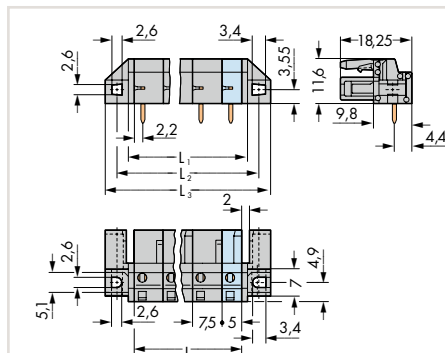
$$L_3 = L + 14.8 \text{ mm}$$

THT female header, with straight solder pins and spacers for flush mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-732/047-000	50
3	232-733/047-000	50
4	232-734/047-000	50
5	232-735/047-000	50
6	232-736/047-000	25
7	232-737/047-000	25
8	232-738/047-000	25
9	232-739/047-000	25
10	232-740/047-000	25
11	232-741/047-000	10
12	232-742/047-000	10
13	232-743/047-000	10
16	232-746/047-000	10

Cutout dimensions, see page 512, Table 3

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm}$$

$$L_1 = L + 3 \text{ mm}$$

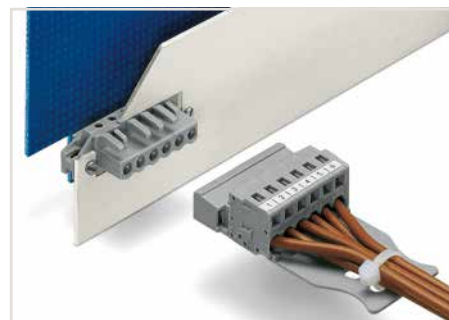
$$L_2 = L + 8.8 \text{ mm}$$

$$L_3 = L + 14.8 \text{ mm}$$

THT female header, with angled solder pins and spacers for flush mounting, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-832/047-000	50
3	232-833/047-000	50
4	232-834/047-000	50
5	232-835/047-000	50
6	232-836/047-000	25
7	232-837/047-000	25
8	232-838/047-000	25
9	232-839/047-000	25
10	232-840/047-000	25
11	232-841/047-000	10
12	232-842/047-000	10
13	232-843/047-000	10
16	232-846/047-000	10

Cutout dimensions, see page 512, Table 3



The innovative flange design provides standard panel mounting options or various through-panel mounting configurations. Depending on the type of application and flange, female headers can be used either for through-panel or flush-mount applications.

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

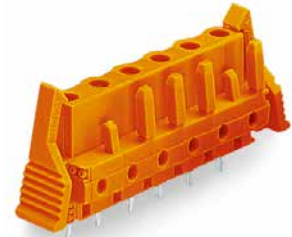
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

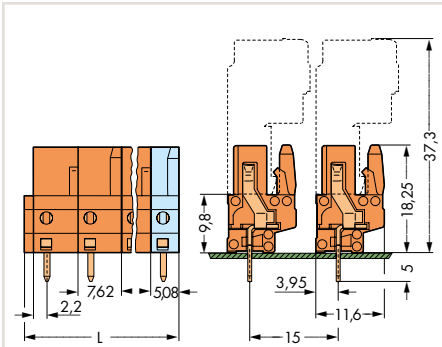
THT Female Headers

Pin Spacing: 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

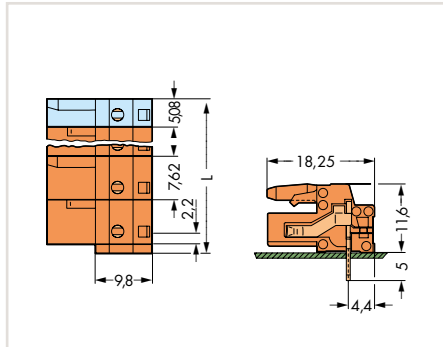


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm} + 1.5 \text{ mm}$$

THT female header, with straight solder pins, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-762	100
3	232-763	100
4	232-764	50
5	232-765	50
6	232-766	50
7	232-767	50
8	232-768	25
9	232-769	25
10	232-770	25
11	232-771	25
12	232-772	25

Dimensions (in mm):

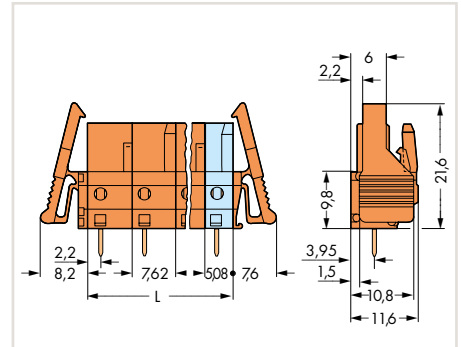


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm} + 1.5 \text{ mm}$$

THT female header, with angled solder pins, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-862	100
3	232-863	100
4	232-864	50
5	232-865	50
6	232-866	50
7	232-867	50
8	232-868	25
9	232-869	25
10	232-870	25
11	232-871	25
12	232-872	25

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$$

THT female header, with straight solder pins and locking levers, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-762/039-000	50
3	232-763/039-000	50
4	232-764/039-000	50
5	232-765/039-000	50
6	232-766/039-000	25
7	232-767/039-000	25
8	232-768/039-000	25
9	232-769/039-000	25
10	232-770/039-000	25
11	232-771/039-000	10
12	232-772/039-000	10

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

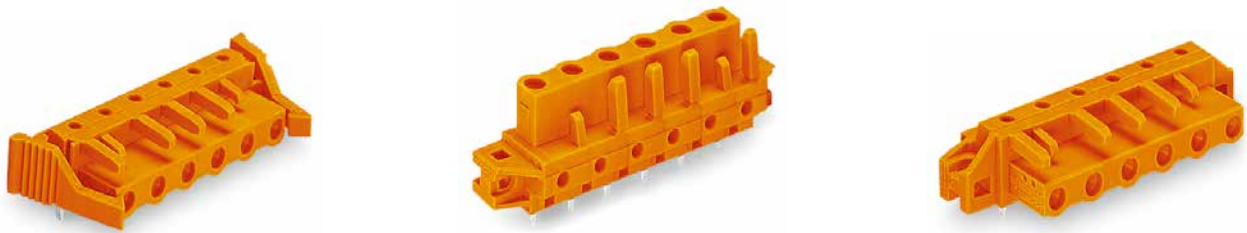
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

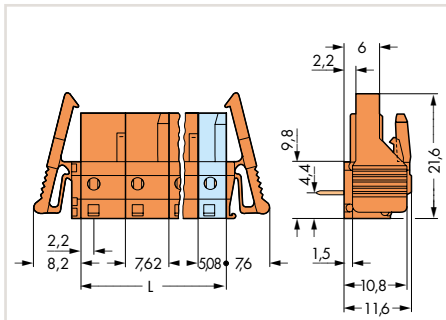
THT Female Headers

Pin Spacing: 7.62 mm

MCS MIDI Classic



Dimensions (in mm):



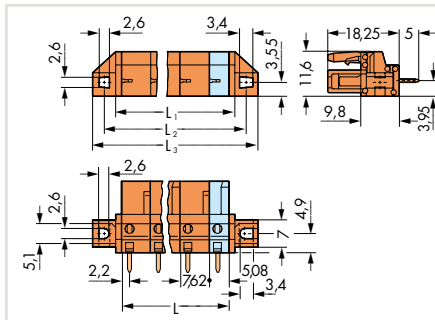
$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$

THT female header, with angled solder pins and locking levers, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-862/039-000	50
3	232-863/039-000	50
4	232-864/039-000	50
5	232-865/039-000	50
6	232-866/039-000	25
7	232-867/039-000	25
8	232-868/039-000	25
9	232-869/039-000	25
10	232-870/039-000	25
11	232-871/039-000	10
12	232-872/039-000	10

2- to 3-pole female connectors – one latch only

Dimensions (in mm):



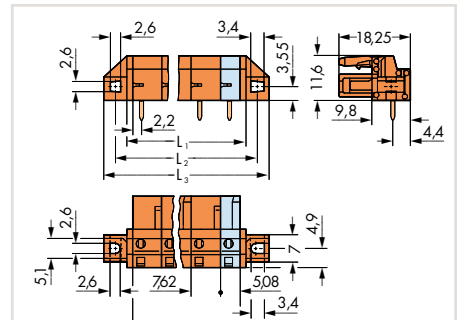
$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

THT female header, with straight solder pins and flanges for through-panel mounting, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-762/031-000	50
3	232-763/031-000	50
4	232-764/031-000	50
5	232-765/031-000	50
6	232-766/031-000	25
7	232-767/031-000	25
8	232-768/031-000	25
9	232-769/031-000	25
10	232-770/031-000	25
11	232-771/031-000	10
12	232-772/031-000	10

Cutout dimensions, see page 512, Table 3

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

THT female header, with angled solder pins and flanges for through-panel mounting, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-862/031-000	50
3	232-863/031-000	50
4	232-864/031-000	50
5	232-865/031-000	50
6	232-866/031-000	25
7	232-867/031-000	25
8	232-868/031-000	25
9	232-869/031-000	25
10	232-870/031-000	25
11	232-871/031-000	10
12	232-872/031-000	10

Cutout dimensions, see page 512, Table 3

Available upon request (depending on quantity required):

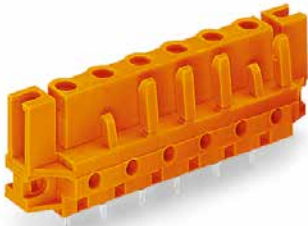
- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix ... /045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix ... /010-000" is added to the "basic item no."

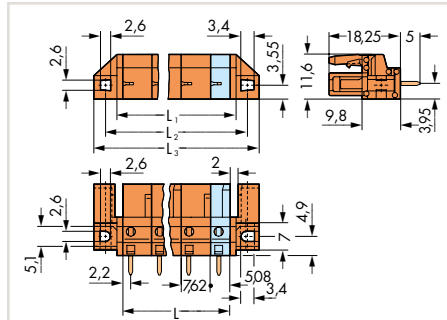
THT Female Headers

Pin Spacing: 7.62 mm

MCS MIDI Classic



Dimensions (in mm):

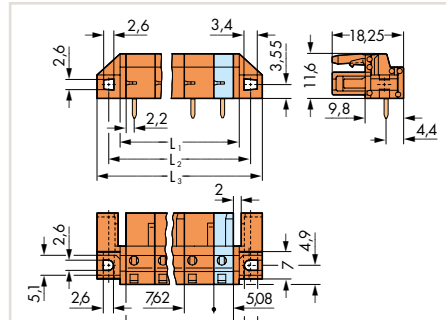


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

THT female header, with straight solder pins and spacers for flush mounting, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-762/047-000	50
3	232-763/047-000	50
4	232-764/047-000	50
5	232-765/047-000	50
6	232-766/047-000	25
7	232-767/047-000	25
8	232-768/047-000	25
9	232-769/047-000	25
10	232-770/047-000	25
11	232-771/047-000	10
12	232-772/047-000	10

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5.08 \text{ mm}$
 $L_1 = L + 3 \text{ mm}$
 $L_2 = L + 8.8 \text{ mm}$
 $L_3 = L + 14.8 \text{ mm}$

THT female header, with angled solder pins and spacers for flush mounting, orange, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	232-862/047-000	50
3	232-863/047-000	50
4	232-864/047-000	50
5	232-865/047-000	50
6	232-866/047-000	25
7	232-867/047-000	25
8	232-868/047-000	25
9	232-869/047-000	25
10	232-870/047-000	25
11	232-871/047-000	10
12	232-872/047-000	10

Cutout dimensions, see page 512, Table 3

Cutout dimensions, see page 512, Table 3

2- to 3-pole female connectors – one latch only

Available upon request (depending on quantity required):

- Other pole numbers
- 3.8 mm pin projection; in this case, add or insert item no. suffix .../045-000.
- Gold-plated or partially gold-plated contact surfaces

Depending on the version requested, "item no. suffix .../010-000" is added to the "basic item no."

Operating Tools MCS MIDI



Operating tool, for male and female connectors equipped with CAGE CLAMP® connection, 5/5.08 mm and 7.5/7.62 mm pin spacing

Color	Item No.	Pack. Unit
● red	210-250	1

Operating lever, for male and female connectors equipped with CAGE CLAMP® connection 5/5.08 mm and 7.5/7.62 mm pin spacing

Series	Item No.	Pack. Unit
○ natural	231-131	100 (25)
● red	231-291	100 (25)

Operating tool, for male and female connectors equipped with CAGE CLAMP® connection, 5/5.08 mm and 7.5/7.62 mm pin spacing

Color	Item No.	Pack. Unit
○ natural	231-159	100 (25)
● red	231-231	100 (25)

6



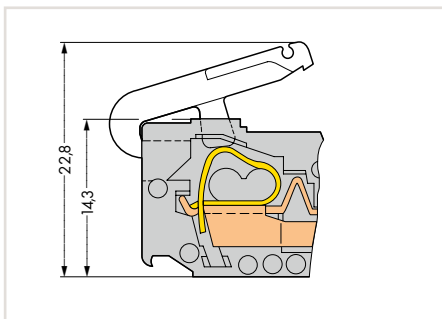
Inserting a conductor via operating tool.



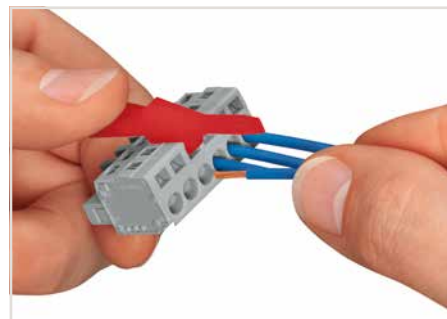
Inserting a conductor via operating lever.



Conductor termination parallel to CAGE CLAMP® actuation



Operating levers are not suitable for panel-mount, angled female connectors.



Conductor termination perpendicular to CAGE CLAMP® actuation

Operating Tools and Test Plug Adapters MCS MIDI



Multipole operating tool, insulated, operation parallel to conductor entry, suitable for male and female connectors with CAGE CLAMP®, 5/5.08 mm pin spacing

	Item No.	Pack. Unit
1-pole	209-130	1
2-pole	280-432	1
3-pole	280-433	1
4-pole	280-434	1
5-pole	280-435	1
6-pole	280-436	1
7-pole	280-437	1
8-pole	280-438	1
9-pole	280-439	1
10-pole	280-440	1

Operating tool, insulated, operation perpendicular to conductor entry, suitable for male and female connectors with CAGE CLAMP®, 5/5.08 mm pin spacing

	Item No.	Pack. Unit
2-pole	209-132	1

Test plug adapter, for female connectors, light gray

Pin Spacing	Item No.	Pack. Unit
5/5.08 mm	231-661	100
7.5/7.62 mm	231-662	100

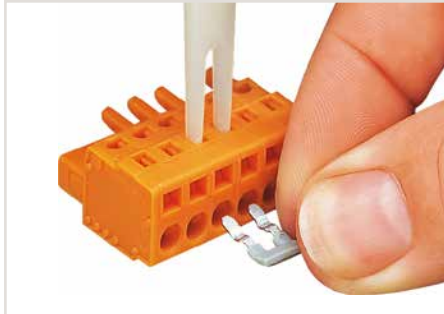
6



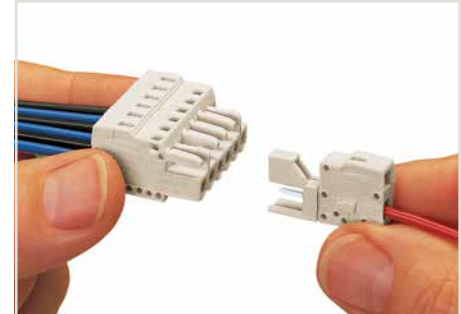
Inserting male or female connectors with long contact pins into 280 Series Rail-Mount Terminal Blocks via multipole operating tool (max. 10-pole for field assembly).

Using CAGE CLAMP®-equipped male and female connectors (5/5.08 mm pin spacing), this operating tool allows up to ten CAGE CLAMP® units to be opened simultaneously, e.g., when inserting 231-90x Comb-Style Jumper Bars.

Wiring male or female connectors should be performed in a suitable mount.



Operating tool for 231-902 Comb-Style Jumper Bars



Test plug adapter with CAGE CLAMP® connection

Electrical Data

Ratings per*

IEC/EN 60664-1

Rated voltage (III / 2)

320 V

Rated surge voltage (III / 2)

4 kV

Rated current

12 A

Connection Data

Connection technology

CAGE CLAMP®

Strip length

8 ... 9 mm / 0.33 inch

Conductor cross-sections

Solid conductor

0.08 ... 2.5 mm² / 28 ... 12 AWG

Fine-stranded conductor

0.08 ... 2.5 mm² / 28 ... 12 AWG

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

Coding Keys MCS MIDI



Coding key, for male headers

Color	Item No.	Pack. Unit
○ light gray	231-500	200 (100)

Coding key, for male headers, 5/5.08 mm pin spacing

Color	Item No.	Pack. Unit
○ light gray	231-129	100

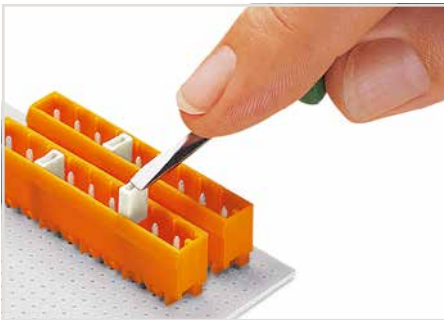
Coding pin, for male headers for double-deck assembly, snaps into lower level

Color	Item No.	Pack. Unit
○ light gray	231-160	100

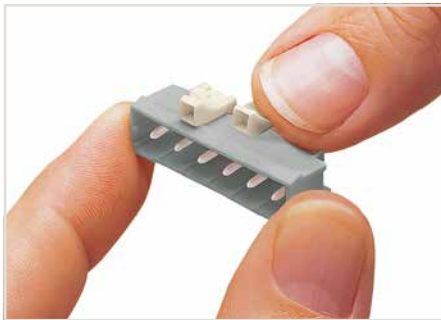
Coding key, for male headers, 7.5/7.62 mm pin spacing

Color	Item No.	Pack. Unit
○ light gray	231-130	100

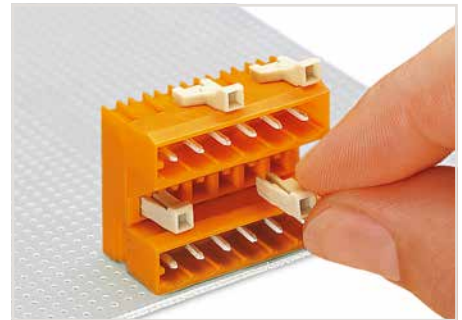
6



Inserting separators for group formation directly into MCS MIDI Classic Male Headers. Group formation using separators means that pole count is reduced by at least one pole. Female connectors with integrated end plates and 5/5.08 mm pin spacing are available for group formation without loss of poles. Group formation without loss of poles is possible using standard female connectors (7.5/7.62 mm pin spacing) without separators.



Snap-on coding key for male headers with solder pins and CAGE CLAMP®-equipped male connectors. The last pole of male and female connectors with 7.5 mm pin spacing has a width of 5 mm; for 7.62 mm pin spacing, the pole width is 5.08 mm. Always use a 231-129 Coding Key for coding this pole.



Coding a THT double-deck male header – lower level.

Lockout Caps, Insulation Stops and Locking Devices MCS MIDI



Lockout caps, for male and female connectors equipped with CAGE CLAMP® connection

Color	Item No.	Pack. Unit
● gray	231-668	500 (100)
● orange	231-669	500 (100)

Insulation stop, for male and female connectors equipped with CAGE CLAMP® or Push-in CAGE CLAMP® connection, with CAGE CLAMP®, 5/5.08 mm pin spacing

Color	Conductor Size	Item No.	Pack. Unit
white	0.08 ... 0.2 mm ² "s"	231-670	200
white	0.08 ... 0.14 mm ² "f-st"		
light gray	0.25 ... 0.5 mm ²	231-671	200
dark gray	0.27 ... 1 mm ²	231-672	200

7.5/7.62 mm pin spacing

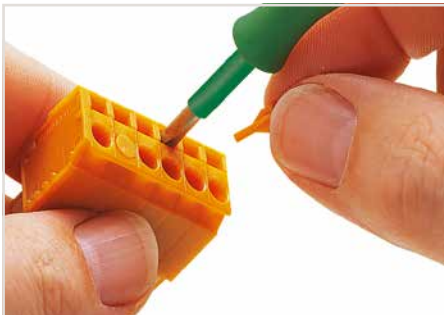
Color	Conductor Size	Item No.	Pack. Unit
white	0.08 ... 0.2 mm ² "s"	231-673	200
white	0.08 ... 0.14 mm ² "f-st"		
light gray	0.25 ... 0.5 mm ²	231-674	200
dark gray	0.27 ... 1 mm ²	231-675	200

Locking devices, for angled THT male headers with solder pins

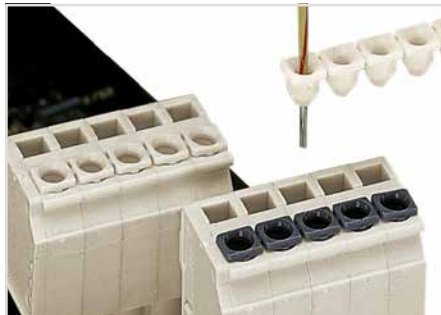
Color	Item No.	Pack. Unit
● gray	231-193	100
● orange	231-393	100

Screws for locking devices

Type	Item No.	Pack. Unit
Screw with nut		
M2 x 12 mm	231-195	100
Self-tapping screw, 1.8 mm Ø mounting hole		
B 2.2 x 13 mm	231-194	100



Sealing unnecessary clamping points in CAGE CLAMP®-equipped male and female connectors (e.g., when doubling the pin spacing to meet clearance and creepage distance requirements, or when higher rated voltage is required). Lockout pins are not suitable for panel-mount, angled female connectors.



The wiring of programmable logic controllers and microprocessor-operated control circuits often relies on very small, fine-stranded conductors. These conductors are highly flexible and deform when pushed against the conductor stop in terminal blocks. As a result, the conductor insulation – not the copper conductor – may be clamped, causing intermittent contact or no contact at all. Common to all terminal block types currently offered, this problem creates unnecessary downtime for troubleshooting.

Insulation stops for connectors reliably ensure proper termination. Insulation stops automatically bundle the cores of fine-stranded conductors when inserted into the clamping unit, preventing splaying. This also limits the conductor entry to a defined cross sectional area – ensuring the actual conductor, not the insulation, will enter the clamping unit

Insulation stops are available as dividable 5-pole strips for MCS MIDI Male and Female Connectors. Insulation stop usage will not affect the conductor strip lengths for the aforementioned connectors.

Insulation stops are not suitable for panel-mount female connectors.

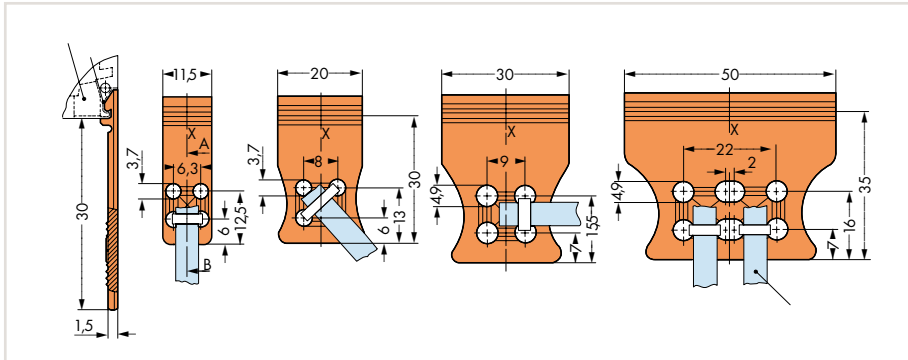


Locking devices enhance connection reliability between male headers with angled solder pins and the PCB. This substantially reduces mechanical stress on both solder pins and joints, particularly when dealing with small lengths and frequent mating cycles.

Strain Relief Plates (Pre-Assembled) MCS MIDI



Dimensions (in mm):



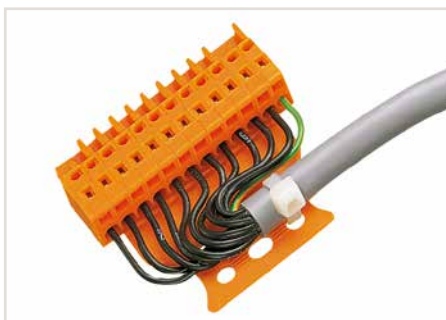
6

Strain relief plate, pre-assembled, for male and female connectors with CAGE CLAMP® connection, orange, with CAGE CLAMP®, 5/5.08 mm pin spacing			Strain relief plate, pre-assembled, for male and female connectors with CAGE CLAMP® connection, gray, 7.5/7.62 mm pin spacing		
Pole No.	Width	Item No. Suffix *	Pole No.	Width	Item No. Suffix *
2 ... 3	11.5 mm	.../032-000	2 ... 3	11.5 mm	.../032-000
4 ... 5	20 mm	.../033-000	4 ... 5	20 mm	.../033-000
6 ... 9	30 mm	.../034-000	6 ... 9	30 mm	.../034-000
10 ... 24	50 mm	.../035-000	10 ... 24	50 mm	.../035-000

Both CAGE CLAMP®-equipped male and female connectors can be fitted with a strain relief plate. The strain relief plates must be pre-assembled (glued) prior to delivery for connector models equipped with CAGE CLAMP® connection. These strain relief plates are available in four different widths and are allocated to the specific pin spacing and pole number (as shown above). Angled female connectors for panel mounting cannot be fitted with strain relief plates.

*An "item no. suffix," referring to the width of the strain relief plate, is added to the "basic item no." and determines the type of male or female connector.

Cable ties and binding tools are not offered by WAGO. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.



Ordering example:
1-conductor female connector, with strain relief plate, 5.08 mm pin spacing, 12-pole, orange:
231-312/026-000/035-000

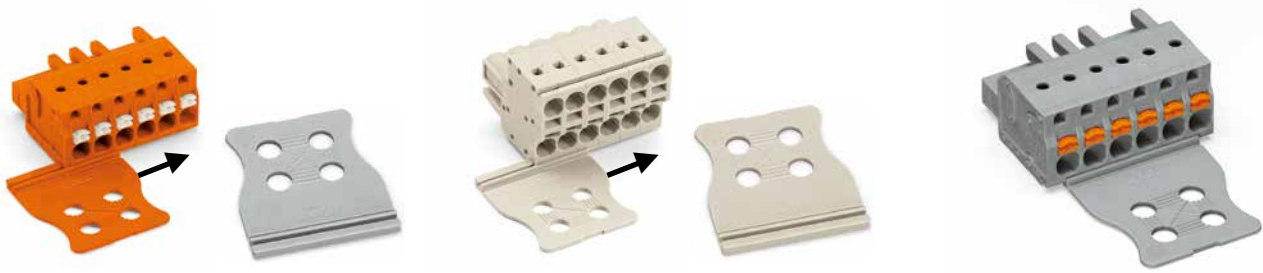


Ordering example:
1-conductor female connector, with strain relief plate, 5 mm pin spacing, 3-pole, gray:
231-103/026-000/032-000

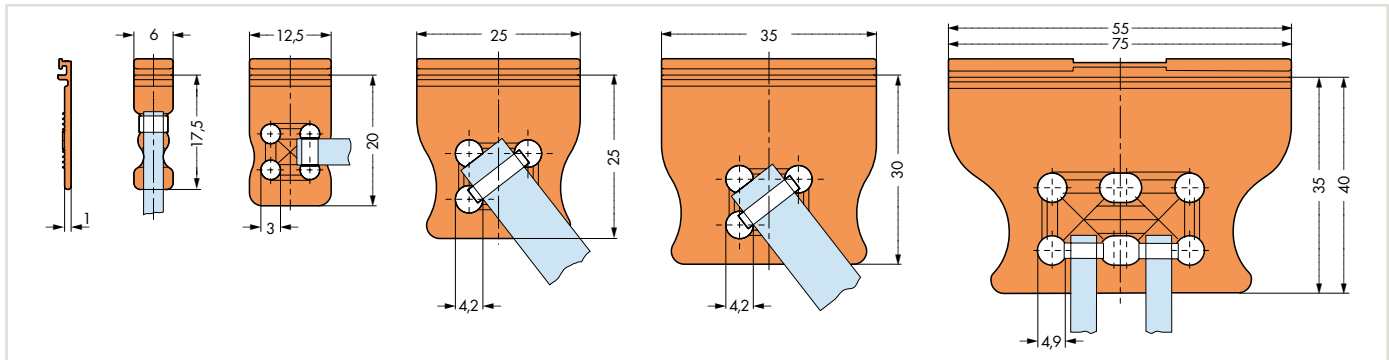


Gray strain relief plates are used for light gray 721, 722 and 723 Series Male and Female Connectors equipped with CAGE CLAMP® connection.

Strain Relief Plates (for Field Assembly or Pre-Assembled) MCS MINI



Dimensions (in mm):



Strain relief plate, for field assembly,
for male and female connectors with
CAGE CLAMP® and Push-in CAGE CLAMP®,
for female connectors (2721, 2231 Series and
2-conductor 231, 721 Series)
5/5.08 mm pin spacing, light gray

Pole No.	Width	Item No.	Pack. Unit
2	6 mm	734-127	100 (25)
3 ... 4	12.5 mm	734-128	100 (25)
5 ... 7	25 mm	734-129	100 (25)
8 ... 11	35 mm	734-126	100 (25)
12 ... 16	55 mm	734-426	50 (25)
17 ... 24	75 mm	734-427	50 (25)

Strain relief plate, for field assembly,
for male and female connectors with
CAGE CLAMP® and Push-in CAGE CLAMP®,
for female connectors (2721, 2231 Series and
2-conductor 231, 721 Series)
7.5/7.62 mm pin spacing, light gray

Pole No.	Width	Item No.	Pack. Unit
2	6 mm	734-127	100 (25)
2 ... 3	12.5 mm	734-128	100 (25)
4 ... 6	25 mm	734-129	100 (25)
7 ... 9	35 mm	734-126	100 (25)
10 ... 12	55 mm	734-426	50 (25)
13 ... 16	75 mm	734-427	50 (25)

Strain relief plate, pre-assembled,
for male and female connectors with
CAGE CLAMP® and Push-in CAGE CLAMP®,
for female connectors (2721, 2231 Series and
2-conductor 231, 721 Series)
5/5.08 mm and 7.5/7.62 mm pin spacing

Pole No.	Width	Item No. Suffix *
2	6 mm	.../132-000
2 ... 3	12.5 mm	.../133-000
4 ... 6	25 mm	.../134-000
7 ... 9	35 mm	.../135-000
10 ... 12	55 mm	.../136-000
13 ... 16	75 mm	.../137-000

5/5.08 mm pin spacing, gray

Pole No.	Width	Item No.	Pack. Unit
2	6 mm	734-327	100 (25)
3 ... 4	12.5 mm	734-328	100 (25)
5 ... 7	25 mm	734-329	100 (25)
8 ... 11	35 mm	734-326	100 (25)
12 ... 16	55 mm	734-430	50 (25)
17 ... 24	75 mm	734-431	50 (25)

7.5/7.62 mm pin spacing, gray

Pole No.	Width	Item No.	Pack. Unit
2	6 mm	734-327	100 (25)
2 ... 3	12.5 mm	734-328	100 (25)
4 ... 6	25 mm	734-329	100 (25)
7 ... 9	35 mm	734-326	100 (25)
10 ... 12	55 mm	734-430	50 (25)
13 ... 16	75 mm	734-431	50 (25)

5/5.08 mm pin spacing, orange

Pole No.	Width	Item No.	Pack. Unit
2	6 mm	734-227	100 (25)
3 ... 4	12.5 mm	734-228	100 (25)
5 ... 7	25 mm	734-229	100 (25)
8 ... 11	35 mm	734-226	100 (25)
12 ... 16	55 mm	734-428	50 (25)
17 ... 24	75 mm	734-429	50 (25)

7.5/7.62 mm pin spacing, orange

Pole No.	Width	Item No.	Pack. Unit
2	6 mm	734-227	100 (25)
2 ... 3	12.5 mm	734-228	100 (25)
4 ... 6	25 mm	734-229	100 (25)
7 ... 9	35 mm	734-226	100 (25)
10 ... 12	55 mm	734-428	50 (25)
13 ... 16	75 mm	734-429	50 (25)

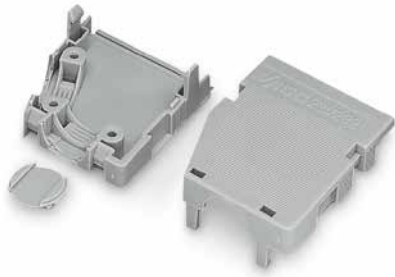
Female connectors with Push-in CAGE CLAMP® can be retrofitted with a strain relief plate or pre-assembled with one at the factory. These strain relief plates are available in six different widths and are allocated to the specific pin spacing and pole number (as shown left). The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways.

*An "item no. suffix," referring to the width of the strain relief plate, is added to the "basic item no." and determines the type of male or female connector.

Cable ties and binding tools are not offered by WAGO.

The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.

Strain Relief Housings MCS MIDI



Snap-on type strain relief housing, consisting of strain relief support and housing, gray, 5 mm pin spacing

Pole No.	Item No.	Pack. Unit
2	232-602	25
3	232-603	25
4	232-604	25
5	232-605	25
6	232-606	25
7	232-607	25
8	232-608	25
9	232-609	25
10	232-610	25
12	232-612	25

Snap-on type strain relief housing, consisting of strain relief support and housing, orange, 5.08 mm pin spacing

Pole No.	Item No.	Pack. Unit
2	232-632	25
3	232-633	25
4	232-634	25
5	232-635	25
6	232-636	25
7	232-637	25
8	232-638	25
9	232-639	25
10	232-640	25
12	232-642	25
16	232-646	25

Cable clamp, for strain relief

Pole No.	Item No.	Pack. Unit
4 ... 6	209-177	25
7 ... 16	209-174	25



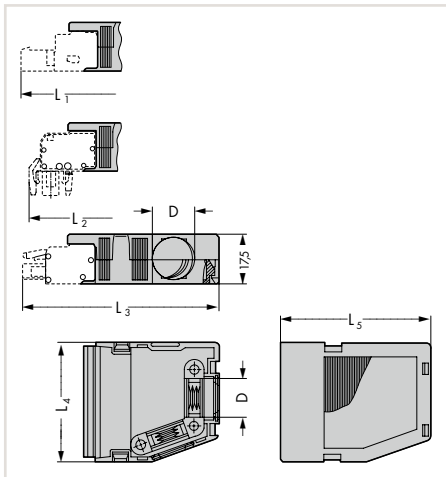
Mounting screws, for cable clamp

Pole No.	Item No.	Pack. Unit
4 ... 6	209-176	50
7 ... 16	209-173	50

6

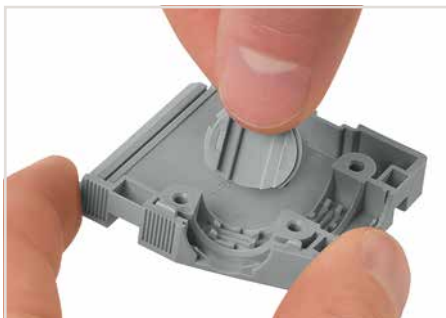
- 2- to 3-pole, only suitable for cable ties, 1 cable outlet (rear side), max. 3.6 mm cable tie width
- 4- to 6-pole, suitable for cable clamp, 1 x cable outlet (rear side)
- 7- to 8-pole, suitable for cable clamp, 1 x cable outlet (rear side) and 1 x cable outlet (side), 1 cover (included)
- 9- to 16-pole, suitable for cable clamp, 1 x cable outlet (rear side) and 2 x cable outlets (side), 2 covers (included)

Cable ties and binding tools are not offered by WAGO.



Strain Relief Housing Dimensions (in mm):

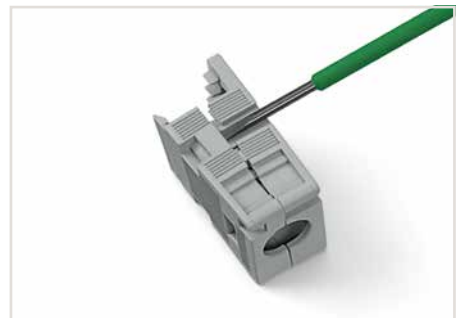
Pole No.	L ₄ (5 mm)	L ₄ (5.08 mm)	L ₁	L ₂	L ₃	L ₅	Cable Ø (max.)
2	13	13	59	55.5	58	41.5	6
3	18	18	59	55.5	58	41.5	7.5
4	23	23	59	55.5	58	41.5	9.5
5	28	28	59	55.5	58	41.5	
6	33	33	59	55.5	58	41.5	14
7	38	38	71.5	68	70.5	54	
8	43	43	71.5	68	70.5	54	
9	48	48.7	71.5	68	70.5	54	
10	53	53.8	71.5	68	70.5	54	
12	63	64	71.5	68	70.5	54	
16	85	85	71.5	68	70.5	54	



Snapping a cover into the unused cable outlet.

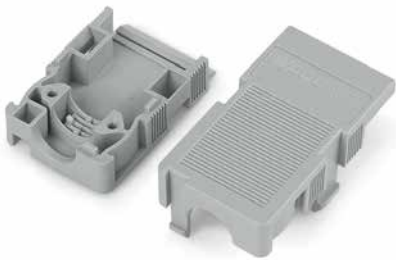


Snapping on a strain relief housing, demonstrated with a female connector with locking levers. Cable exits laterally – strain relief by cable tie (up to a width of 4 mm).



Disassembling a strain relief housing is only possible using an operating tool (e.g., 210-719).

Strain Relief Housings MCS MIDI



Snap-on type strain relief housing, consisting of strain relief support and housing, light gray, 7.5 mm pin spacing

Pole No.	Item No.	Pack. Unit
2	232-662	25
3	232-663	25
4	232-664	25
5	232-665	25
7	232-667	25
10	232-670	25

Snap-on type strain relief housing, consisting of strain relief support and housing, orange, 7.62 mm pin spacing

Pole No.	Item No.	Pack. Unit
2	232-682	25
3	232-683	25
4	232-684	25
5	232-685	25
7	232-687	25

Cable clamp, for strain relief

Pole No.	Item No.	Pack. Unit
4 ... 6	209-177	25
7 ... 16	209-174	25

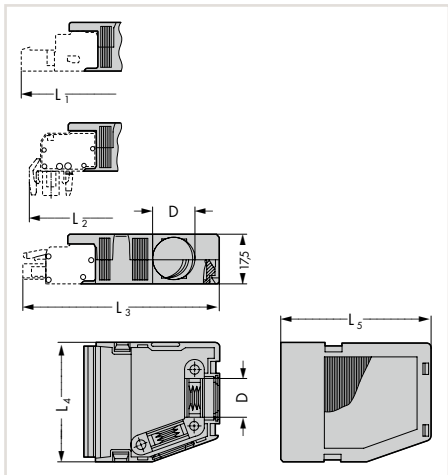


Mounting screws, for cable clamp

Pole No.	Item No.	Pack. Unit
4 ... 6	209-176	50
7 ... 16	209-173	50

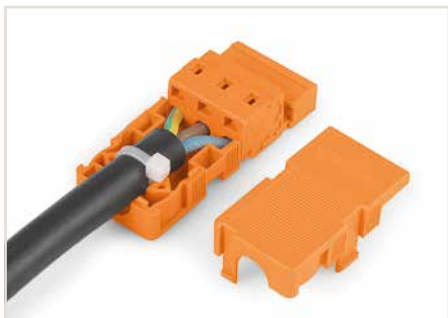
- 2-pole, only suitable for cable ties, 1 cable outlet (rear side), max. cable tie width 3.6 mm;
- 3- to 4-pole, suitable for cable clamp, 1 x cable outlet (rear side);
- 5-pole, suitable for cable clamp, 1 x cable outlet (rear side) and 1 x cable outlets (side), 1 cover (included)
- 7-pole, suitable for cable clamp, 1 x cable outlet (rear side) and 2 x cable outlets (side), 2 covers (included)

Cable ties and binding tools are not offered by WAGO.

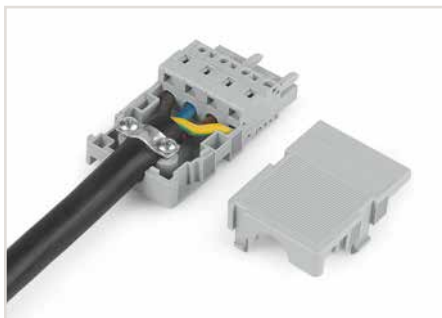


Strain Relief Housing Dimensions (in mm):

Pole No.	L ₄ (5 mm)	L ₄ (5.08 mm)	L ₁	L ₂	L ₃	L ₅	Cable Ø (max.)
2	15.5	15.5	59	55.5	58	41.5	6
3	23	23	59	55.5	58	41.5	9.5
4	30.5	30.5	59	55.5	58	41.5	9.5
5	38	38	71.5	68	70.5	54	14
7	53	53.8	71.5	68	70.5	54	14



3-pole female connector with strain relief housing



4-pole male connector with strain relief housing



Gray strain relief plates are used for light gray 721, 722 and 723 Series Male and Female Connectors equipped with CAGE CLAMP® connection.

Mounting Adapters MCS MIDI



Mounting adapter for DIN-35 rail, for male and female connectors with snap-in mounting feet

Color	Item No.	Pack. Unit
○ gray	209-137	1

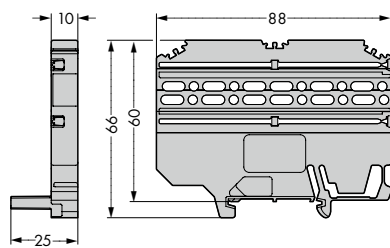
Mounting adapter, for DIN-35 rail, for angled female connectors with snap-in feet for panel mounting

Color	Item No.	Pack. Unit
○ gray	209-120	1

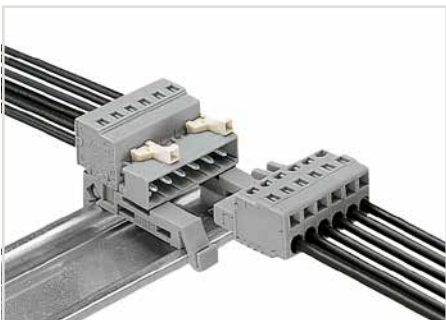
Multi mounting adapter, for DIN-35 rail, for male and female connectors with snap-in mounting feet

Color	Item No.	Pack. Unit
○ gray	209-148	25

Dimensions (in mm):



6



Female connector with snap-in mounting feet and 209-189 Mounting Adapter on DIN-35 rail



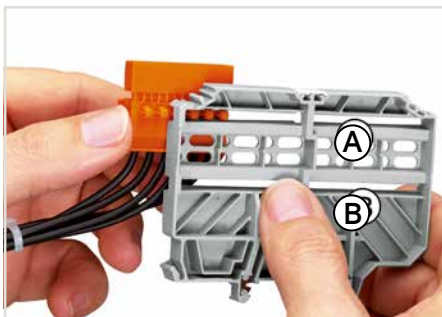
Multi mounting adapter (209-120) on DIN-35 rail and angled female connector with snap-in feet for panel mounting



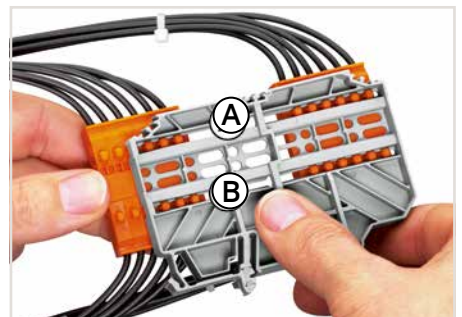
The pluggable male or female connector can also be fitted with a strain relief plate.



The adapter can be marked either with WSB, Mini-WSB or WMB markers.

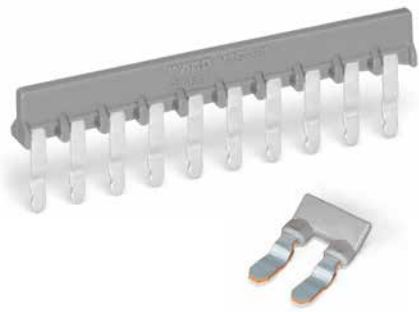


Both male and female connectors remain pluggable when they are mounted on the multi mounting adapter via its oblong holes or open grooves (A/B).



If a connector is pushed from the side into the open grooves (A/B) of the multi mounting adapter, the plug connection will be reliably protected from unintentional disconnection when mounted.

Comb-Style Jumper Bars MCS MIDI



Comb-style jumper bar, for male and female connectors with CAGE CLAMP®, with CAGE CLAMP®, 5/5.08 mm pin spacing

	Item No.	Pack. Unit
2-pole	231-902	200 (25)
3-pole	231-903	200 (25)
5-pole	231-905	100 (25)
7-pole	231-907	100 (25)
10-pole	231-910	100 (25)

Electrical Data

Ratings per

IEC/EN 60664-1

Rated voltage (III / 2)

320 V

Rated surge voltage (III / 2)

4 kV

Rated current

12 A (2-way)

16 A (3 ... 7-way)

Notice:

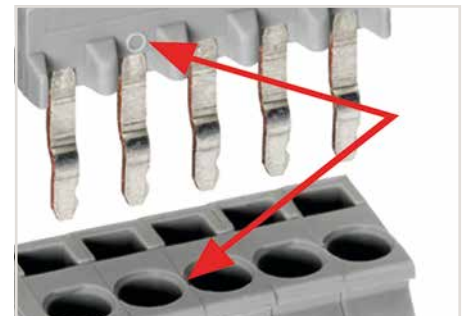
Not suitable for female connectors equipped with Push-in CAGE CLAMP® connection and angled, panel-mount female connectors.

Comb-style jumper bar reduces maximum conductor cross-section to 1.5 mm².



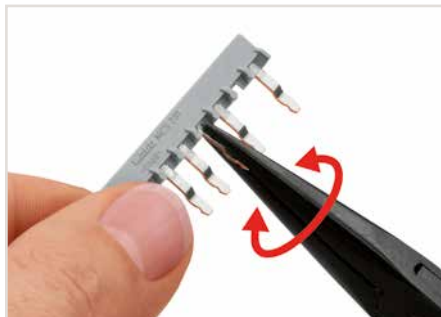
Notice:

Insert jumper bar according to direction of symbols. □ symbol correlates to the direction of the operating slot.



Notice:

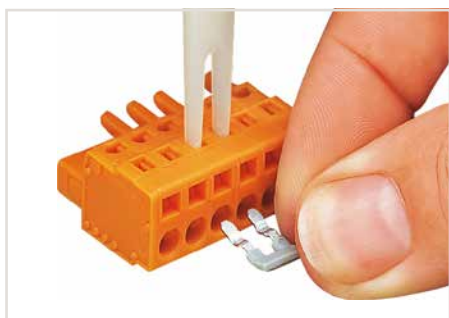
Insert jumper bar according to direction of symbols. ○ symbol correlates to the direction of the conductor entry.



Custom comb-style jumper bars are created by breaking off jumper contacts (3 contacts and more).



Inserting a comb-style jumper bar via multipole operating tool – with the female or male connector being supported in a suitable holding device.



Commoning a female connector with 231-902 Comb-Style Jumper Bar via 2-pole operating tool.

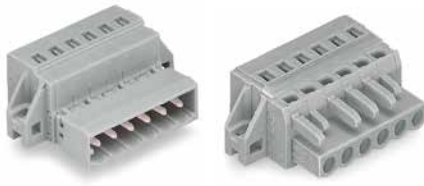


Both male and female connectors can be pre-assembled with comb-style jumper bars upon request.

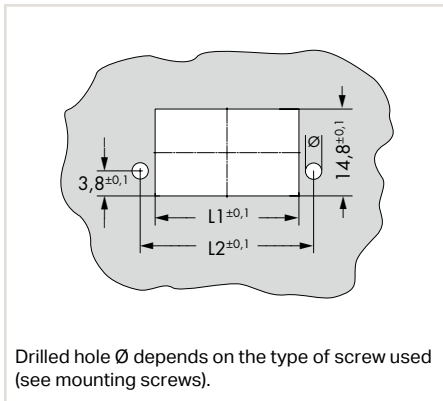


Notice: Comb-style jumper bars reduce the conductor cross-section to 1.5 mm² "s" + "f-st."

Cutout Dimensions MCS MIDI



Dimensions (in mm):



6

Table 1:
Cutout for 231. 721. 723 and 731 Series Male and Female Connectors with Mounting Flanges

Pole No.	Pin Spacing: 5 mm		Pin Spacing: 5.08 mm		Pin Spacing: 7.5 mm		Pin Spacing: 7.62 mm	
	L1	L2	L1	L2	L1	L2	L1	L2
2	13.4	18.4	13.6	18.6	15.9	20.9	16	21
3	18.4	23.4	18.6	23.6	23.4	28.4	23.6	28.6
4	23.4	28.4	23.7	28.7	30.9	35.9	31.3	36.3
5	28.4	33.4	28.8	33.8	38.4	43.4	38.9	43.9
6	33.5	38.3	34	38.8	46	50.8	46.6	51.4
7	38.5	43.3	39.1	43.9	53.5	58.3	54.2	59
8	43.5	48.3	44.1	48.9	61	65.8	61.8	66.6
9	48.5	53.3	49.2	54	68.5	73.3	69.5	74.3
10	53.5	58.3	54.3	59.1	76	80.8	77.1	81.9
11	58.5	63.3	59.4	64.2	83.5	88.3	84.7	89.5
12	63.5	68.3	64.5	69.3	91	95.8	92.3	97.1
13	68.6	73.2	69.6	74.2	98.6	103.2	100	104.6
14	73.6	78.2	74.7	79.3	106.1	110.7	107.7	112.3
15	78.6	83.2	79.8	84.4	113.6	118.2	115.3	119.9
16	83.6	88.2	84.9	89.5	121.1	125.7	122.9	127.5
17	88.6	93.2	90	94.6	128.6	133.2	130.5	135.1
18	93.6	98.2	95	99.6	136.1	140.7	138.1	142.7
19	98.7	103.1	100.2	104.6	143.7	148.1	145.9	150.3
20	103.7	108.1	105.3	109.7	151.2	155.6	153.5	157.9
21	108.7	113.1	110.4	114.8	158.7	163.1	161.1	165.5
22	113.7	118.1	115.5	119.9	166.2	170.6	168.7	173.1
23	118.7	123.1	120.5	124.9	173.7	178.1	176.3	180.7
24	123.7	128.1	125.6	130	181.2	185.6	184	188.4

Self-tapping screws, for 1.8 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
B 2.2 x 9.5 mm	209-147	200 (100)
B 2.2 x 13 mm	231-194	200 (100)

Screws with nuts, for 2.5 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
M 2 x 12 mm	231-195	200 (100)

Screws with nuts, for 3.0 mm ± 0.1 mm Ø mounting hole

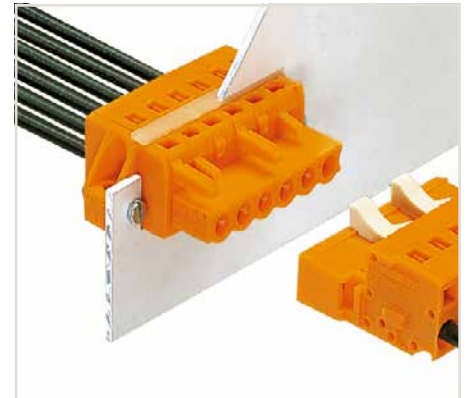
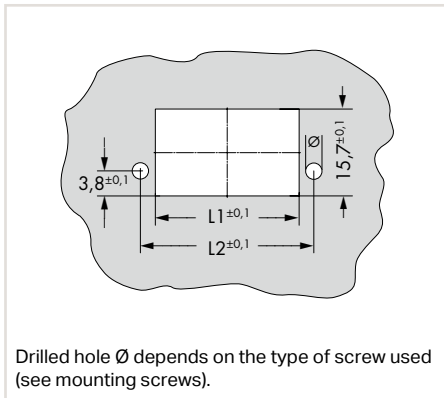
Dimensions	Item No.	Pack. Unit
M 2.5 x 10 mm	231-295	200 (100)

Additional information on through-panel mounting and cutout dimensions is available upon request.

Cutout Dimensions MCS MIDI



Dimensions (in mm):



6

Table 2:
Cutout for 2721 and 2231 Series Female Connectors with Mounting Flanges

Pole No.	Pin Spacing: 5 mm		Pin Spacing: 5.08 mm		Pin Spacing: 7.5 mm		Pin Spacing: 7.62 mm	
	L1	L2	L1	L2	L1	L2	L1	L2
2	13.2	18.4	13.4	18.6	15.7	20.9	15.8	21
3	18.2	23.4	18.4	23.6	23.2	28.4	23.4	28.6
4	23.2	28.4	23.5	28.7	30.7	35.9	31.1	36.3
5	28.2	33.4	28.6	33.8	38.2	43.4	38.7	43.9
6	33.4	38.3	33.9	38.8	45.9	50.8	46.5	51.4
7	38.4	43.3	39	43.9	53.4	58.3	54.1	59
8	43.4	48.3	44	48.9	60.9	65.8	61.7	66.6
9	48.4	53.3	49.1	54	68.4	73.3	69.4	74.3
10	53.4	58.3	54.2	59.1	75.9	80.8	77	81.9
11	58.4	63.3	59.3	64.2	83.4	88.3	84.6	89.5
12	63.4	68.3	64.4	69.3	90.9	95.8	92.2	97.1
13	68.6	73.2	69.6	74.2	98.6	103.2	100	104.6
14	73.6	78.2	74.7	79.3	106.1	110.7	107.7	112.3
15	78.6	83.2	79.8	84.4	113.6	118.2	115.3	119.9
16	83.6	88.2	84.9	89.5	121.1	125.7	122.9	127.5
17	88.6	93.2	90	94.6	128.6	133.2	130.5	135.1
18	93.6	98.2	95	99.6	136.1	140.7	138.1	142.7
19	98.8	103.1	100.3	104.6	143.8	148.1	146	150.3
20	103.8	108.1	105.4	109.7	151.3	155.6	153.6	157.9
21	108.8	113.1	110.5	114.8	158.8	163.1	161.2	165.5
22	113.8	118.1	115.6	119.9	166.3	170.6	168.8	173.1
23	118.8	123.1	120.6	124.9	173.8	178.1	176.4	180.7
24	123.8	128.1	125.7	130	181.3	185.6	184.1	188.4

Self-tapping screws,
for 1.8 mm \pm 0.1 mm \varnothing mounting hole

Dimensions	Item No.	Pack. Unit
B 2.2 x 9.5 mm	209-147	200 (100)
B 2.2 x 13 mm	231-194	200 (100)

Screws with nuts,
for 2.5 mm \pm 0.1 mm \varnothing mounting hole

Dimensions	Item No.	Pack. Unit
M 2 x 12 mm	231-195	200 (100)

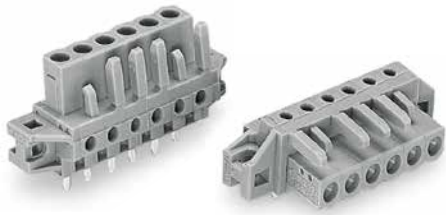
Screws with nuts,
for 3.0 mm \pm 0.1 mm \varnothing mounting hole

Dimensions	Item No.	Pack. Unit
M 2.5 x 10 mm	231-295	200 (100)

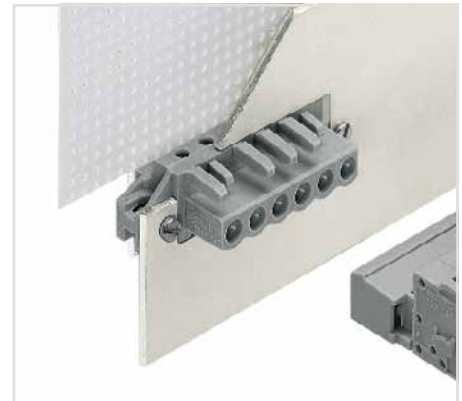
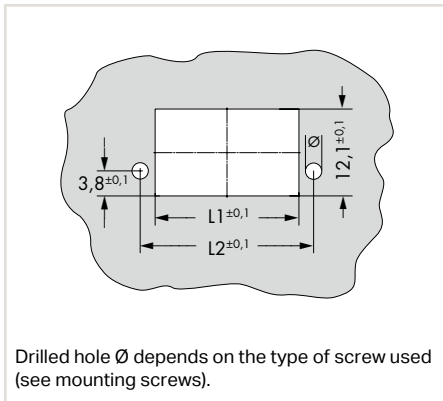
Additional information on through-panel mounting and cutout dimensions is available upon request.

Cutout Dimensions

MCS MIDI



Dimensions (in mm):



6

Table 3:
Cutout for 232 and 722 Series THT Female Headers with Mounting Flanges

Pole No.	Pin Spacing: 5 mm		Pin Spacing: 5.08 mm		Pin Spacing: 7.5 mm		Pin Spacing: 7.62 mm	
	L1	L2	L1	L2	L1	L2	L1	L2
2	13.4	18.4	13.6	18.6	15.9	20.9	16	21
3	18.4	23.4	18.6	23.6	23.4	28.4	23.6	28.6
4	23.4	28.4	23.7	28.7	30.9	35.9	31.3	36.3
5	28.4	33.4	28.8	33.8	38.4	43.4	38.9	43.9
6	33.5	38.3	34	38.8	46	50.8	46.6	51.4
7	38.5	43.3	39.1	43.9	53.5	58.3	54.2	59
8	43.5	48.3	44.1	48.9	61	65.8	61.8	66.6
9	48.5	53.3	49.2	54	68.5	73.3	69.5	74.3
10	53.5	58.3	54.3	59.1	76	80.8	77.1	81.9
11	58.5	63.3	59.4	64.2	83.5	88.3	84.7	89.5
12	63.5	68.3	64.5	69.3	91	95.8	92.3	97.1
13	68.6	73.2	69.6	74.2	98.6	103.2	100	104.6
14	73.6	78.2	74.7	79.3	106.1	110.7	107.7	112.3
15	78.6	83.2	79.8	84.4	113.6	118.2	115.3	119.9
16	83.6	88.2	84.9	89.5	121.1	125.7	122.9	127.5
17	88.6	93.2	90	94.6	128.6	133.2	130.5	135.1
18	93.6	98.2	95	99.6	136.1	140.7	138.1	142.7
19	98.7	103.1	100.2	104.6	143.7	148.1	145.9	150.3
20	103.7	108.1	105.3	109.7	151.2	155.6	153.5	157.9
21	108.7	113.1	110.4	114.8	158.7	163.1	161.1	165.5
22	113.7	118.1	115.5	119.9	166.2	170.6	168.7	173.1
23	118.7	123.1	120.5	124.9	173.7	178.1	176.3	180.7
24	123.7	128.1	125.6	130	181.2	185.6	184	188.4

Self-tapping screws,
for 1.8 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
B 2.2 x 9.5 mm	209-147	200 (100)
B 2.2 x 13 mm	231-194	200 (100)

Screws with nuts,
for 2.5 mm ± 0.1 mm Ø mounting hole

Dimensions	Item No.	Pack. Unit
M 2 x 12 mm	231-195	200 (100)

Screws with nuts,
for 3.0 mm ± 0.1 mm Ø mounting hole

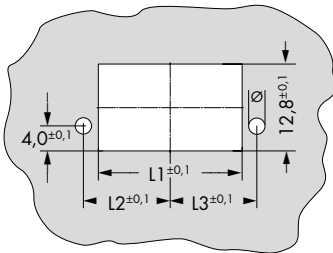
Dimensions	Item No.	Pack. Unit
M 2.5 x 10 mm	231-295	200 (100)

Additional information on through-panel mounting and cutout dimensions is available upon request.

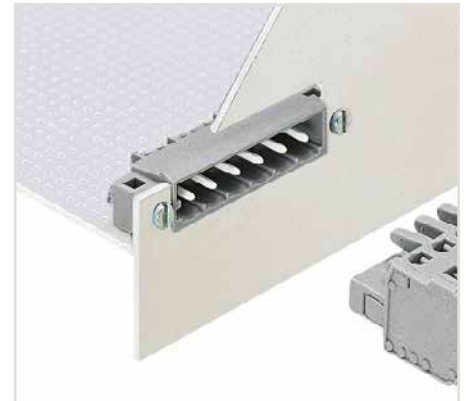
Cutout Dimensions MCS MIDI



Dimensions (in mm):



Drilled hole \varnothing depends on the type of screw used (see mounting screws).



6

Table 4:
Cutout for 231 Series THT Male Headers with Mounting Flanges

Pole No.	Pin Spacing: 5 mm			Pin Spacing: 7.5 mm		
	L1	L2	L3	L1	L2	L3
2	13.6	8.9	9.5	16.1	10.6	10.8
3	18.6	11.4	12	23.6	14.3	14.5
4	23.6	13.9	14.5	31.1	18.1	18.3
5	28.6	16.4	17	38.6	21.8	22
6	33.8	19	19.6	46.3	25.7	25.9
7	38.8	21.5	22.1	53.8	29.4	29.6
8	43.8	24	24.6	61.3	33.2	33.4
9	48.8	26.5	27.1	68.8	36.9	37.1
10	53.8	29	29.6	76.3	40.7	40.9
11	58.8	31.5	32.1	83.8	44.4	44.6
12	63.8	34	34.6	91.3	48.2	48.4
13	69	36.6	37.2	99	52	52.2
14	74	39.1	39.7	106.5	55.8	56
15	79	41.6	42.2	114	59.5	59.7
16	84	44.1	44.7	121.5	63.3	63.5
17	89	46.6	47.2	129	67	67.2
18	94	49.1	49.7	136.5	70.8	71
19	99.2	51.7	52.3	144.2	74.6	74.8
20	104.2	54.2	54.8	151.7	78.4	78.6
21	109.2	56.7	57.3	159.2	82.1	82.3
22	114.2	59.2	59.8	166.7	85.9	86.1
23	119.2	61.7	62.3	174.2	89.6	89.8
24	124.2	64.2	64.8	181.7	93.4	93.6

Self-tapping screws,
for 1.8 mm \pm 0.1 mm \varnothing mounting hole

Dimensions	Item No.	Pack. Unit
B 2.2 x 9.5 mm	209-147	200 (100)
B 2.2 x 13 mm	231-194	200 (100)

Screws with nuts,
for 2.5 mm \pm 0.1 mm \varnothing mounting hole

Dimensions	Item No.	Pack. Unit
M 2 x 12 mm	231-195	200 (100)

Screws with nuts,
for 3.0 mm \pm 0.1 mm \varnothing mounting hole

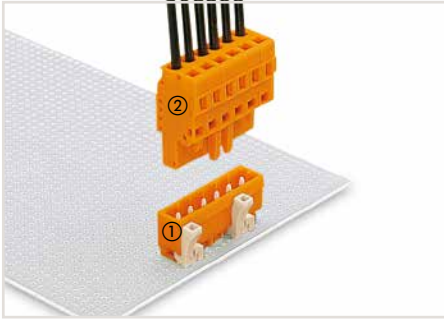
Dimensions	Item No.	Pack. Unit
M 2.5 x 10 mm	231-295	200 (100)

Additional information on through-panel mounting and cutout dimensions is available upon request.

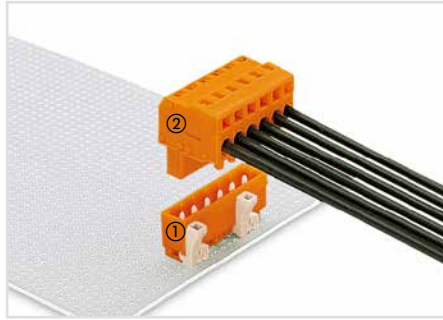
Application Examples

PCB Connectors and Headers

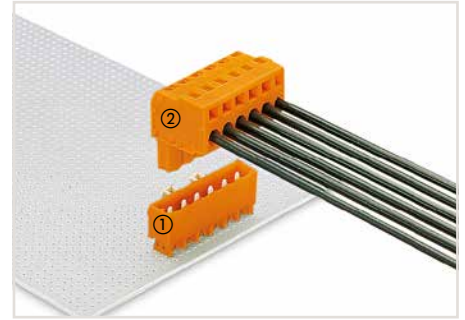
MCS MIDI Classic



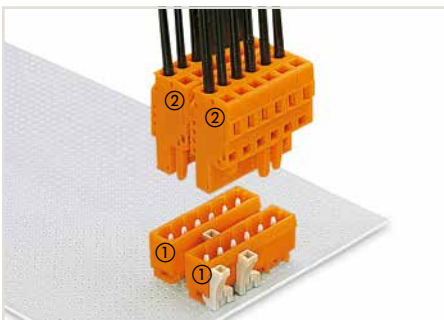
①*Male header with straight solder pins
②*Female connector with CAGE CLAMP*



①*Male header with straight solder pins
②*Angled female connector, conductor entry same direction as latches

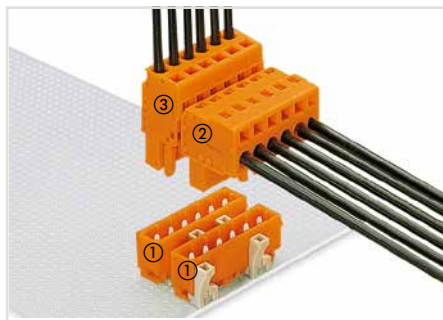


① Male header with straight solder pins
② Angled female connector, conductor entry opposite of latches



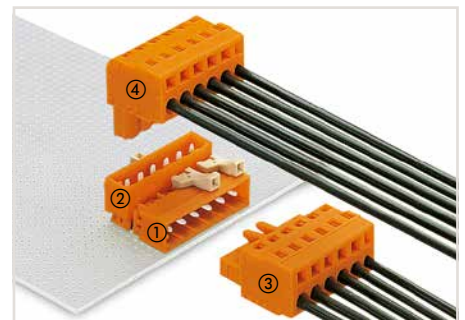
①*Male headers with straight solder pins**
②*Female connectors with CAGE CLAMP*

**Rear male header must be coded prior to soldering!

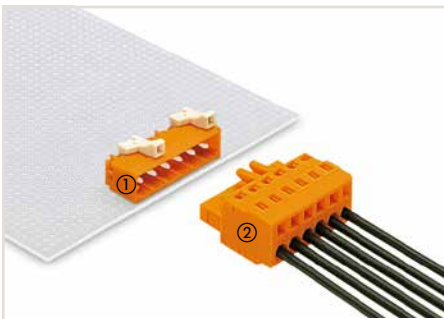


①*Male headers with straight solder pins**
②*Angled female connector, conductor entry same direction as latches
③*Female connector with CAGE CLAMP*

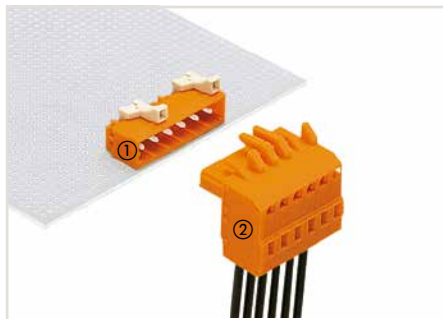
**Rear male header must be coded prior to soldering!



① Male header with angled solder pins
② Male header with straight solder pins
③ Female connector with CAGE CLAMP*
④ Angled female connector, conductor entry opposite of latches



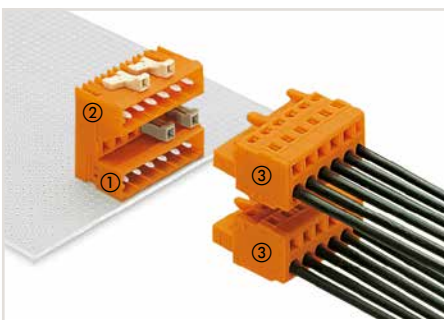
①*Male header with angled solder pins
②*Female connector with CAGE CLAMP*



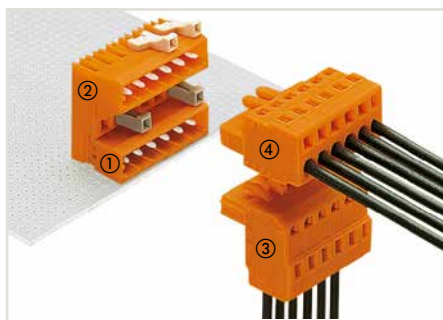
① Male header with angled solder pins
② Angled female connector, conductor entry opposite of latches



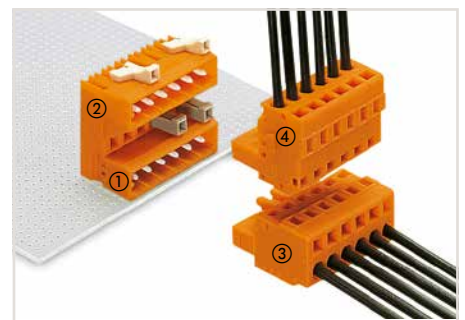
①*Male header with angled solder pins
②*Angled female connector, conductor entry same direction as latches



① Male header with angled solder pins
② Male header for double-deck assembly
③ Female connectors with CAGE CLAMP*



① Male header with angled solder pins
② Male header for double-deck assembly
③ Angled female connector, conductor entry opposite of latches
④ Female connector with CAGE CLAMP*



① Male header with angled solder pins
② Male header for double-deck assembly
③ Female connector with CAGE CLAMP*
④ Angled female connector, conductor entry same direction as latches

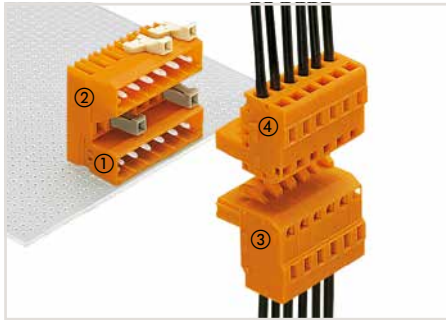
*also available in version "100 % protected against mismatching" (see Section 5)

6

Application Examples

PCB Connectors and Headers

MCS MIDI Classic

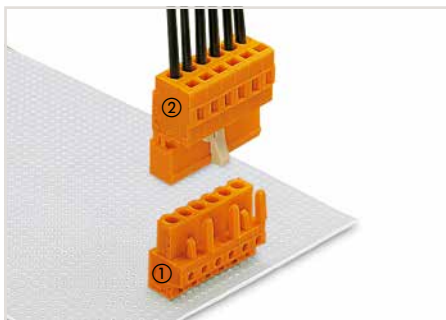


- ① Male header with angled solder pins
- ② Male header for double-deck assembly
- ③ Angled female connector, conductor entry opposite of latches
- ④ Angled female connector, conductor entry same direction as latches

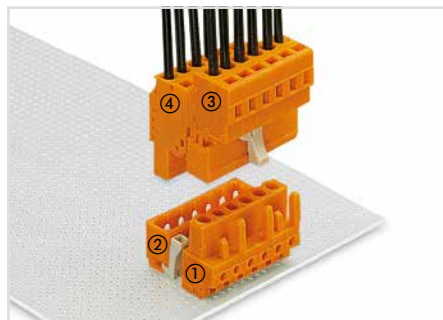
Angled female connectors are available with conductor entries in the same direction as latches, or opposite of latches. This allows different conductor entry directions with the same mounting direction of the male headers. Angled female connectors with conductor entry opposite of latches are not available in versions that are 100 % protected against mismatching. Male headers and female connectors allow touch-proof supply to the PCB. Female headers and male connectors equipped with CAGE CLAMP® allow touch-proof supply from the PCB. These combinations can also be used for coding different circuits.



Female connectors with strain relief plate

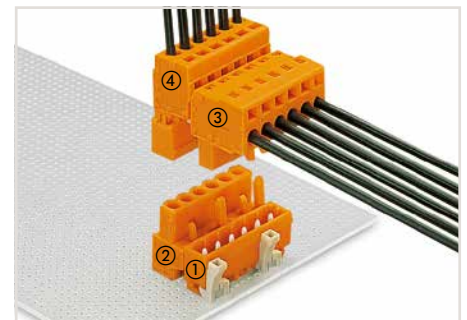


- ①*Female connector with straight solder pins
- ②*Male connector with CAGE CLAMP®

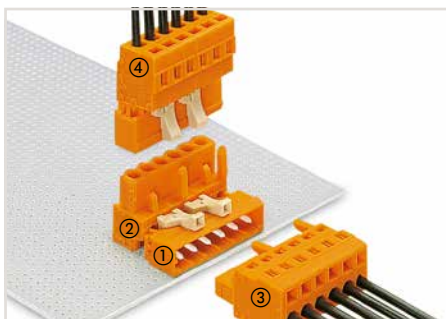


- ①*Female connector with straight solder pins
- ②*Male header with straight solder pins**
- ③*Male connector with CAGE CLAMP®
- ④*Female connector with CAGE CLAMP®

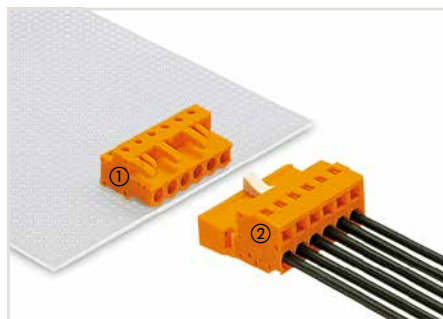
**Male header must be coded prior to soldering!



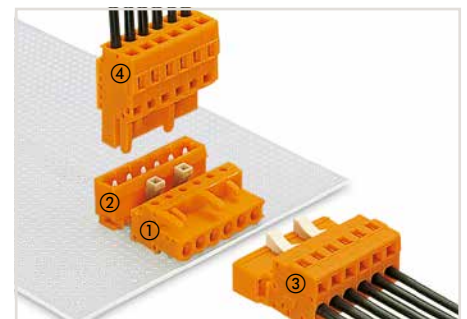
- ①*Male header with straight solder pins
- ②*Female header with straight solder pins
- ③*Angled female connector, conductor entry same direction as latches
- ④*Male connector with CAGE CLAMP®



- ①*Male header with angled solder pins
- ②*Female header with straight solder pins
- ③*Female connector with CAGE CLAMP®
- ④*Male connector with CAGE CLAMP®

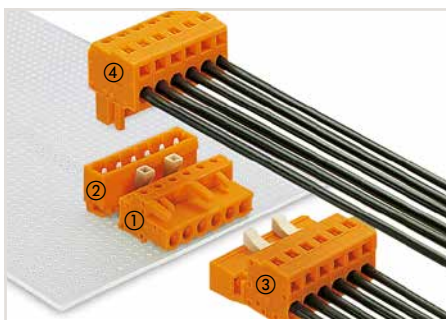


- ①*Female header with angled solder pins
- ②*Male connector with CAGE CLAMP®



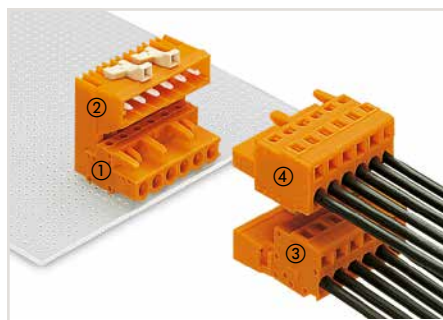
- ①*Female header with angled solder pins
- ②*Male header with straight solder pins**
- ③*Male connector with CAGE CLAMP®
- ④*Female connector with CAGE CLAMP®

**Male header must be coded prior to soldering!

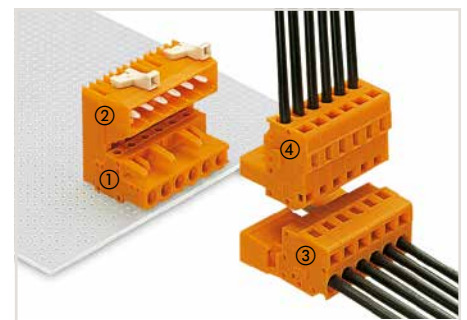


- ①*Female header with angled solder pins
- ②*Male header with straight solder pins**
- ③*Male connector with CAGE CLAMP®
- ④*Angled female connector, conductor entry same direction as latches

**Male header must be coded prior to soldering!



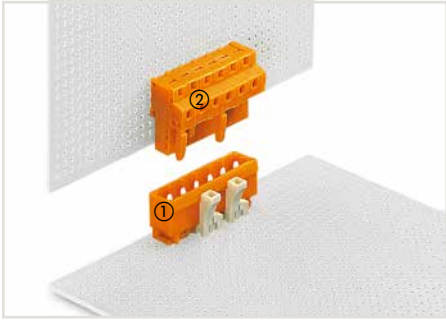
- ① Female header with angled solder pins
- ② Male header for double-deck assembly
- ③ Male connector with CAGE CLAMP®
- ④ Female connector with CAGE CLAMP®



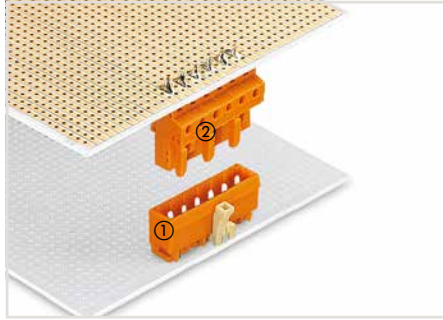
- ① Female header with angled solder pins
- ② Male header for double-deck assembly
- ③ Male connector with CAGE CLAMP®
- ④ Angled female connector, conductor entry same direction as latches

*also available in version "100 % protected against mismatching" (see Section 5)

Application Examples PCB Headers and Connectors MCS MIDI Classic

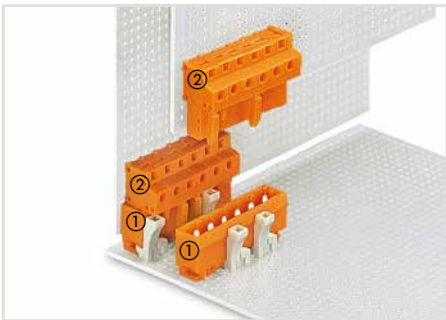


①*Male header with straight solder pins
②*Female header with angled solder pins

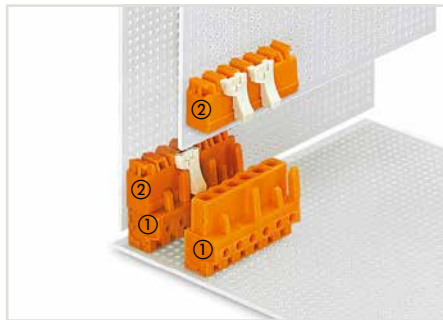


①*Male header with straight solder pins
②*Female header with straight solder pins

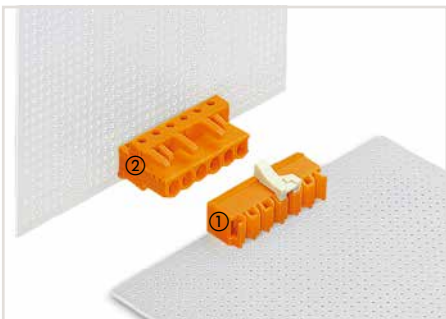
Total height when mated:
22.5 mm (0.886 inch)



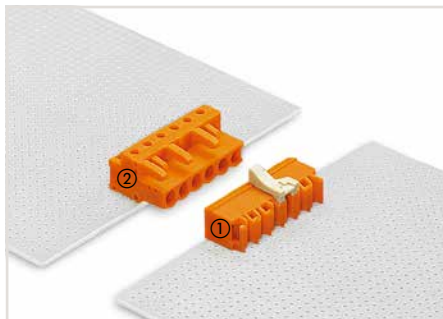
①*Male headers with straight solder pins
②*Female headers with angled solder pins



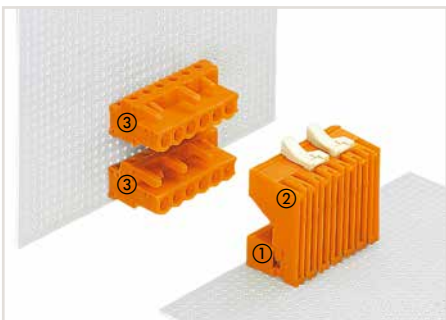
①*Female headers with straight solder pins
②*Male headers with angled solder pins



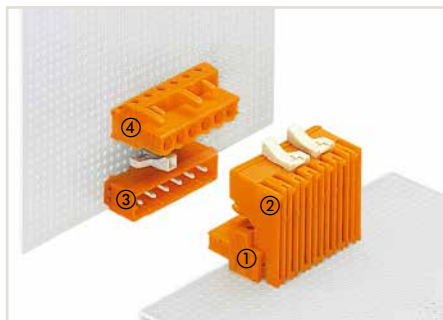
①*Male header with angled solder pins
②*Female header with straight solder pins



①*Male header with angled solder pins
②*Female header with angled solder pins



① Male header with angled solder pins
② Male header for double-deck assembly
③ Female header with straight solder pins

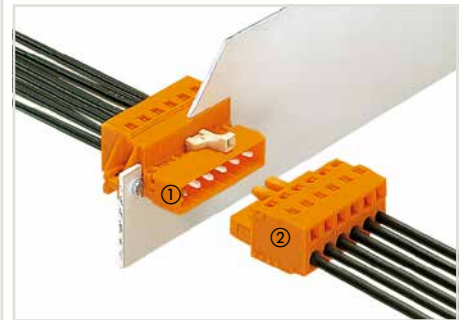


① Female header with angled solder pins
② Male header for double-deck assembly
③ Male header with straight solder pins
④ Female header with straight solder pins

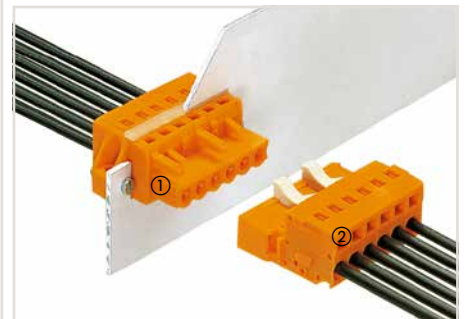
Panel Feedthrough Connectors



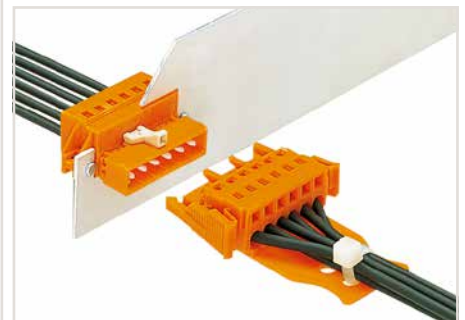
Snap-on type strain relief housings



①*Male connector with mounting flanges and CAGE CLAMP®
②*Female connector with CAGE CLAMP®



①*Female connector with mounting flanges and CAGE CLAMP®
②*Male connector with CAGE CLAMP®



Female connector with locking levers and strain relief plate

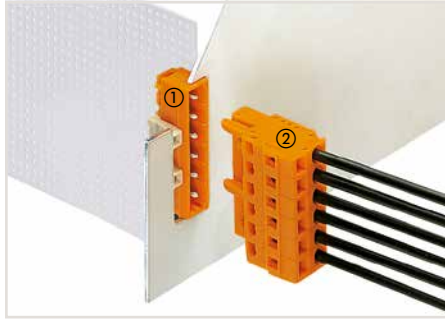
*also available in version "100 % protected against mismatching" (see Section 5)

Cutout dimensions, see page 510

Application Examples PCB Panel Feedthrough Headers



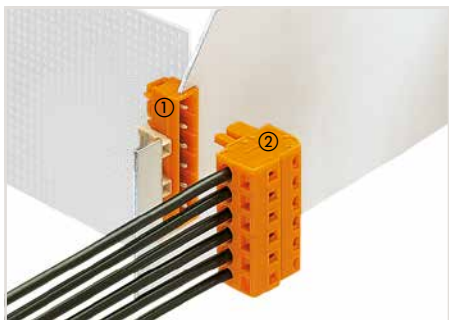
Panel feedthrough male header in large cutout
Coding via coding keys:
Coding finger(s) opposite to coding key(s) must be broken off.



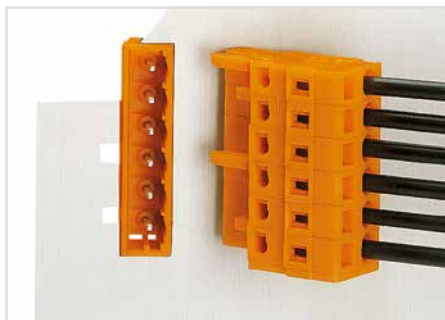
①*Male header with angled solder pins
②*Female connector with CAGE CLAMP*



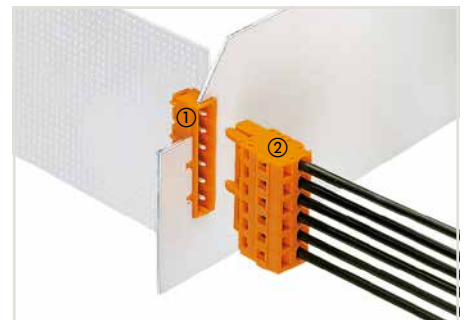
① Male header with angled solder pins
② Angled female connector, conductor entry opposite of latches



①*Male header with angled solder pins
②*Angled female connector, conductor entry same direction as latches

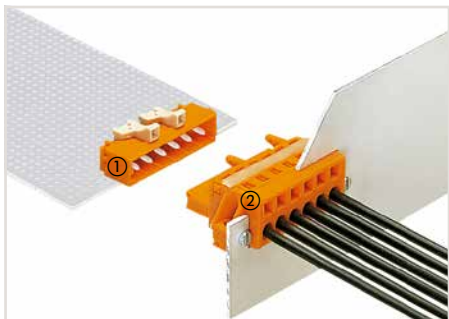


Panel feedthrough male header in small cutout
Coding via coding slots:
Leave the coding finger(s) on female connector in coding slot position(s).
Break off remaining fingers.

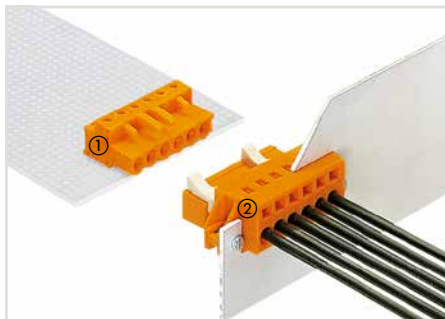


①*Male header with angled solder pins
②*Female connector with CAGE CLAMP*

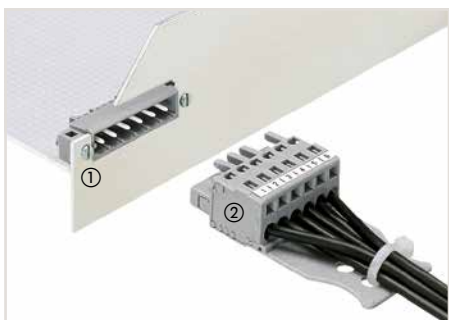
Angled female connectors with mounting flanges are also available in version "100 % protected against mismatching."



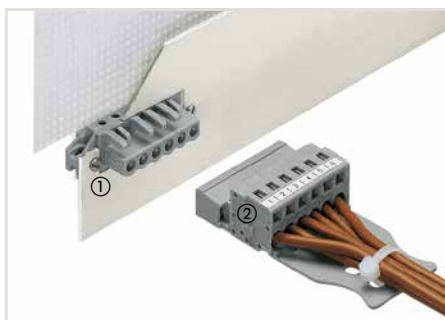
①*Male header with angled solder pins
②*Female connector with mounting flanges and CAGE CLAMP*



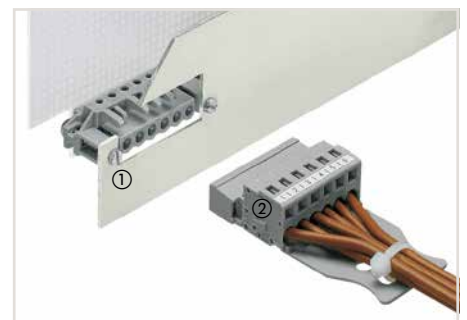
①*Female header with angled solder pins
②*Male connector with mounting flanges and CAGE CLAMP*



① Male header with mounting flanges and solder pins
② Female connector with CAGE CLAMP*
Angled female connectors with mounting flanges are also available in version "100 % protected against mismatching."



①*Female header with feedthrough flanges and solder pins
②*Male connector with CAGE CLAMP*



①*Female header with spacers and solder pins
②*Male connector with CAGE CLAMP*

*also available in version "100 % protected against mismatching" (see Section 5)

Cutout dimensions, see page 510

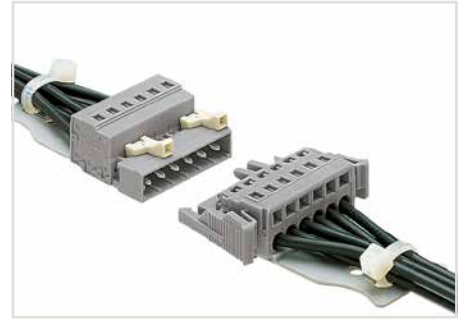
Application Examples

Connectors for Different Mounting Types and Rail-Mount Connectors

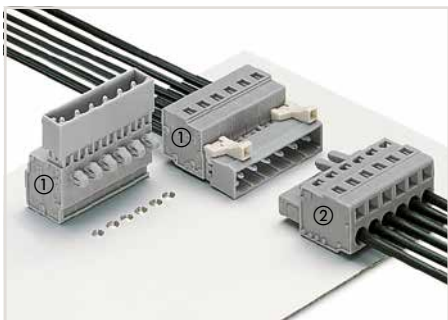
MCS MIDI Classic



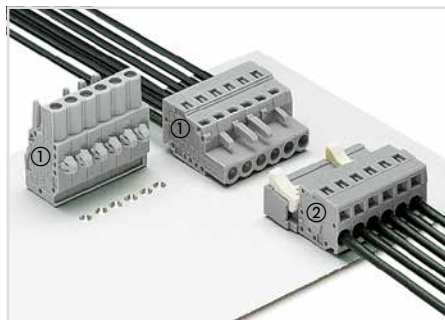
①*Male connector with CAGE CLAMP®
②*Female connector with CAGE CLAMP®



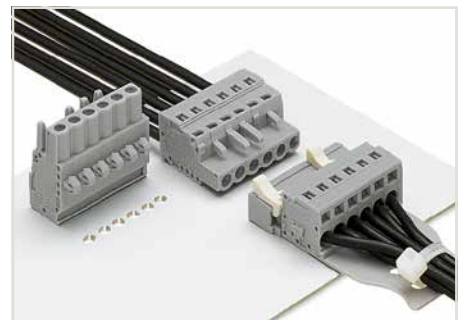
Male connector with CAGE CLAMP® and strain relief plate
Female connector with locking levers and strain relief plate



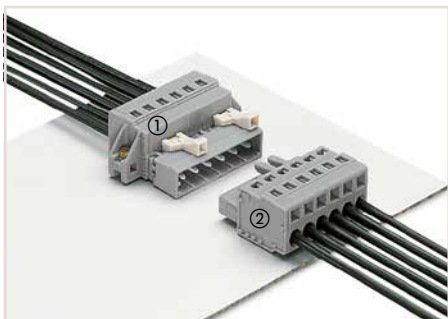
①*Male connector with snap-in mounting feet and CAGE CLAMP®
②*Female connector with CAGE CLAMP®



①*Female connector with snap-in mounting feet and CAGE CLAMP®
②*Male connector with CAGE CLAMP®



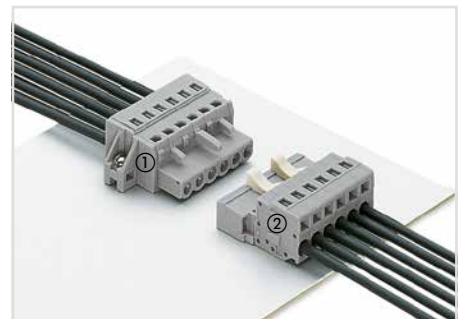
Male connector with CAGE CLAMP® and strain relief plate
Female connector with CAGE CLAMP® and strain relief plate



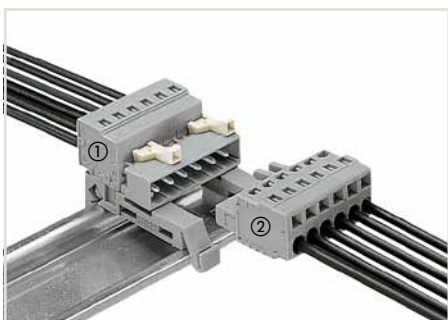
①*Male connector with mounting flanges and CAGE CLAMP®
②*Female connector with CAGE CLAMP®



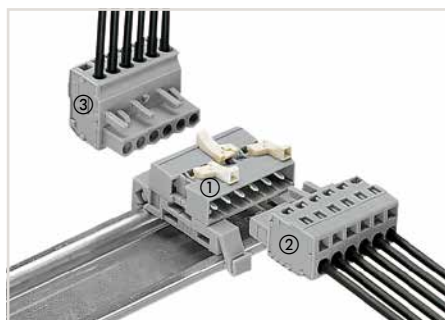
①*Male connector with mounting flanges and CAGE CLAMP®
②*Angled female connector, conductor entry same direction as latches



①*Female connector with mounting flanges and CAGE CLAMP®
②*Male connector with CAGE CLAMP®



①*Male connector with snap-in mounting feet and CAGE CLAMP®, on DIN-35 rail-mount adapters**
②*Female connector with CAGE CLAMP®
For 5/5.08 mm pin spacing, starting with 3 poles
For 7.5/7.62 mm pin spacing, starting with 2 poles
**Distance between mounting adapters: 30 ... 40 mm



① Double-pin male connector with mounting feet, for DIN-35 rail
② Female connector with CAGE CLAMP®
③ Angled female connector with CAGE CLAMP®, conductor exit same direction as latches



① Double-pin male connector with mounting feet, for DIN-35 rail
② Female connectors with locking levers and CAGE CLAMP®

*also available in version "100 % protected against mismatching" (see Section 5)

6

Application Examples

Connectors for Front-Entry, Rail-Mount Terminal Blocks

MCS MIDI Classic



①*Male connector with straight, long contact pins
②*Female connector with CAGE CLAMP*



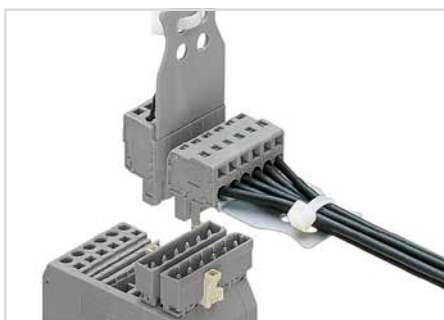
①*Male connectors with straight, long contact pins
②*Female connectors with CAGE CLAMP*



①*Male connector with straight, long contact pins
②*Angled female connector, conductor entry same direction as latches



①*Male connectors with straight, long contact pins
②*Angled female connector, conductor entry same direction as latches
③*Female connector with CAGE CLAMP*



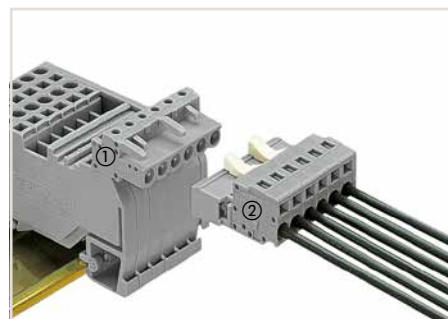
Female connector with strain relief plate
Angled female connector with strain relief plate



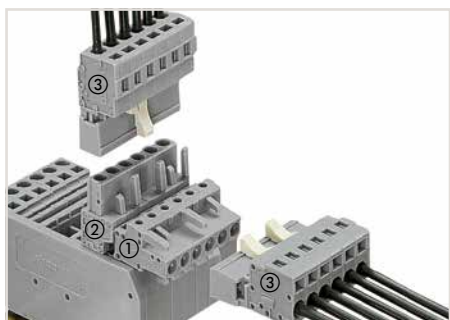
①*Female connector with straight, long contact pins
②*Male connector with CAGE CLAMP*



①*Male connector with straight, long contact pins
②*Female connector with straight, long contact pins
③*Angled female connector, conductor entry same direction as latches
④*Male connector with CAGE CLAMP*



①*Female connector with angled, long contact pins
②*Male connector with CAGE CLAMP*



①*Female connector with angled, long contact pins
②*Female connector with straight, long contact pins
③*Male connectors with CAGE CLAMP*

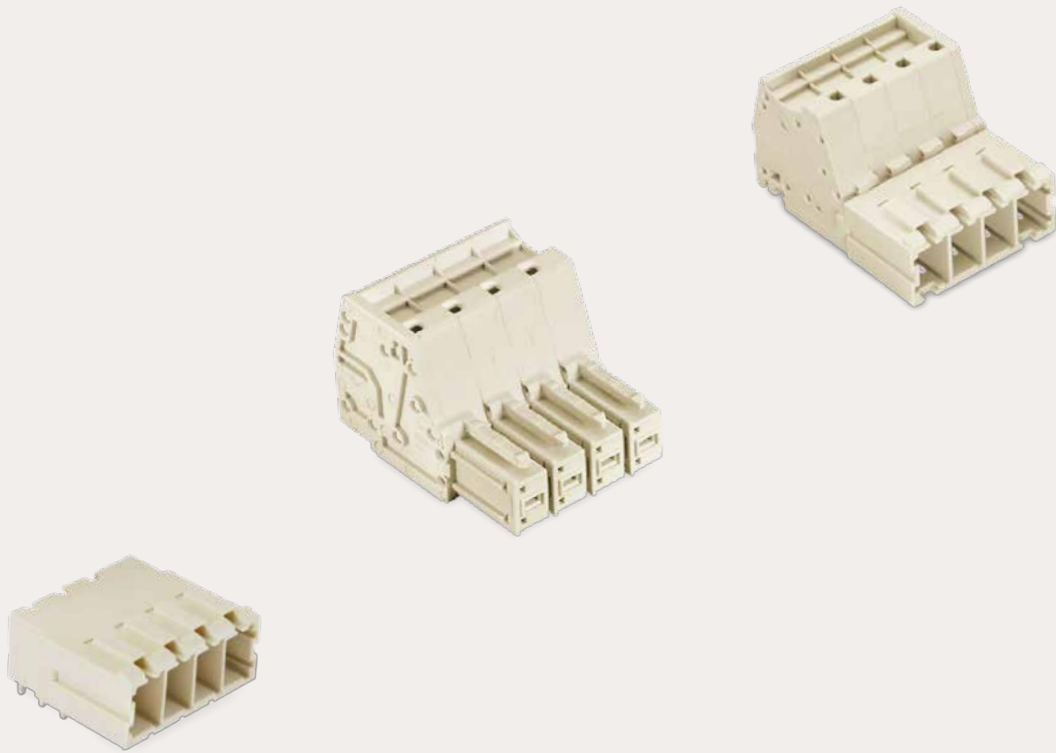


①*Female connector with angled, long contact pins
②*Male connector with straight, long contact pins
③*Male connector with CAGE CLAMP*
④*Female connector with CAGE CLAMP*







① Female connector with angled, long contact pins
② Male connector with straight, long contact pins
③ Male connector with CAGE CLAMP*
④ Angled female connector, conductor entry opposite of latches

*also available in version "100 % protected against mismatching" (see Section 5)



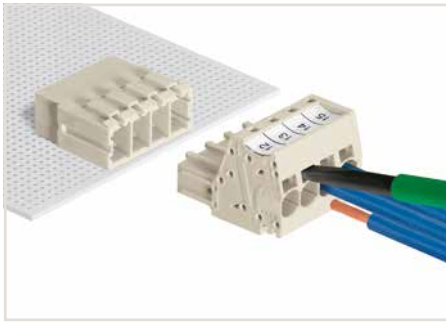
MCS – MULTI CONNECTION SYSTEM MAXI

MCS MAXI Connectors / Headers**Pin Spacing: 7.62 mm / Nominal Cross-Section: 10 mm²**

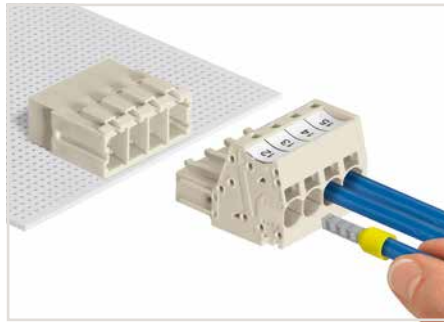
		Page
	MCS MAXI Female Connectors, Push-in CAGE CLAMP® Termination	524
	MCS MAXI THT Male Headers	526
	MCS MAXI Male Connectors, Push-in CAGE CLAMP® Termination	528
	MCS MAXI Accessories	530
	General Accessories – Section 12	586

MCS MAXI

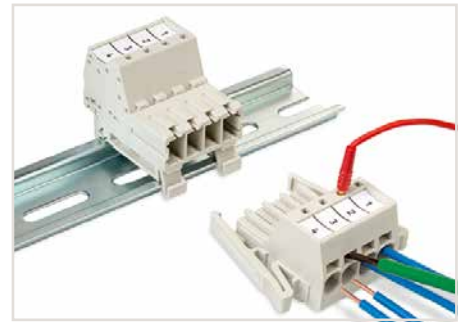
Description and Installation



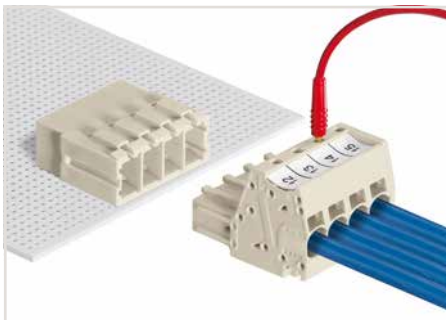
Inserting fine-stranded conductors via (5.5 x 0.8) mm screwdriver.



Inserting solid and ferruled conductors via push-in termination.

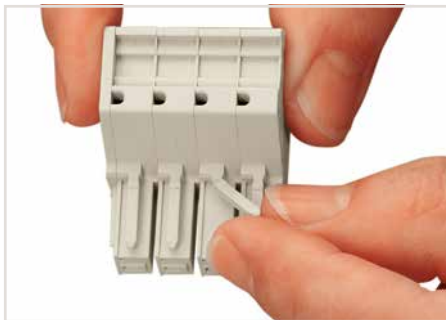


Male connector mounted on a DIN-35 rail via integrated mounting adapter.

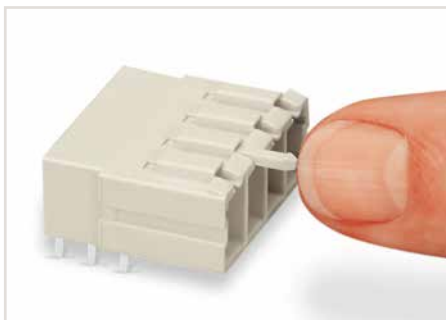
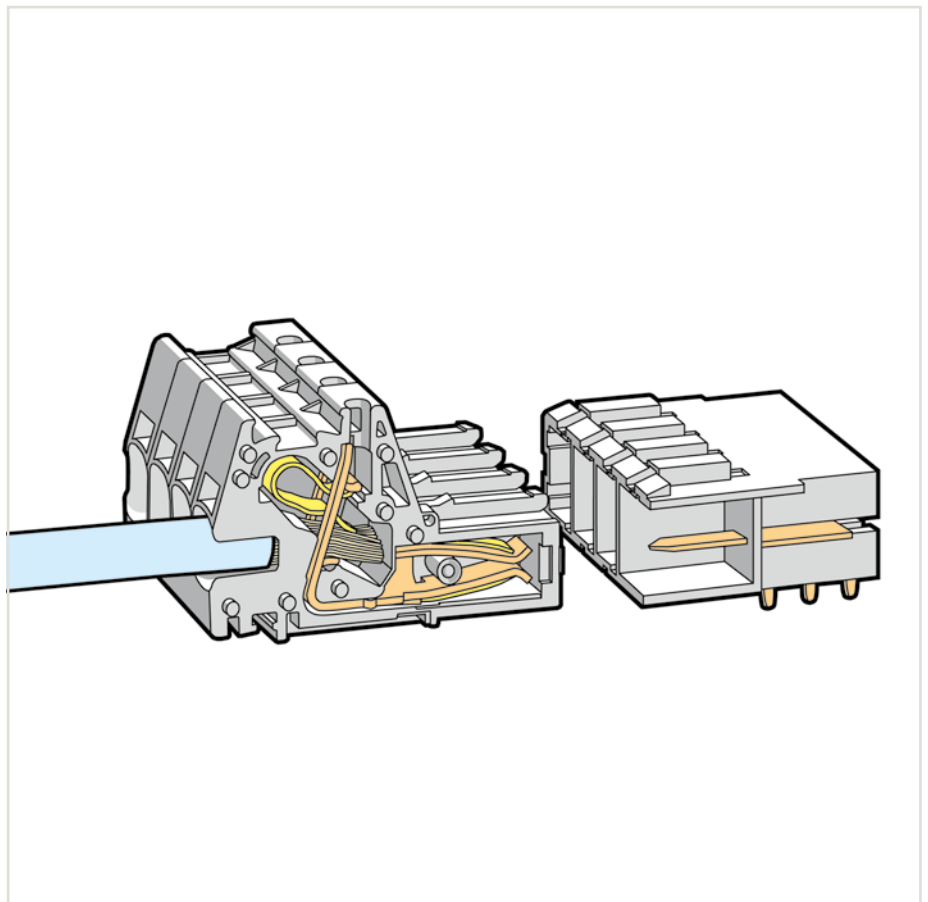


Testing with 2 mm Ø test plug.

7



Break or cut off coding pin from female connector.



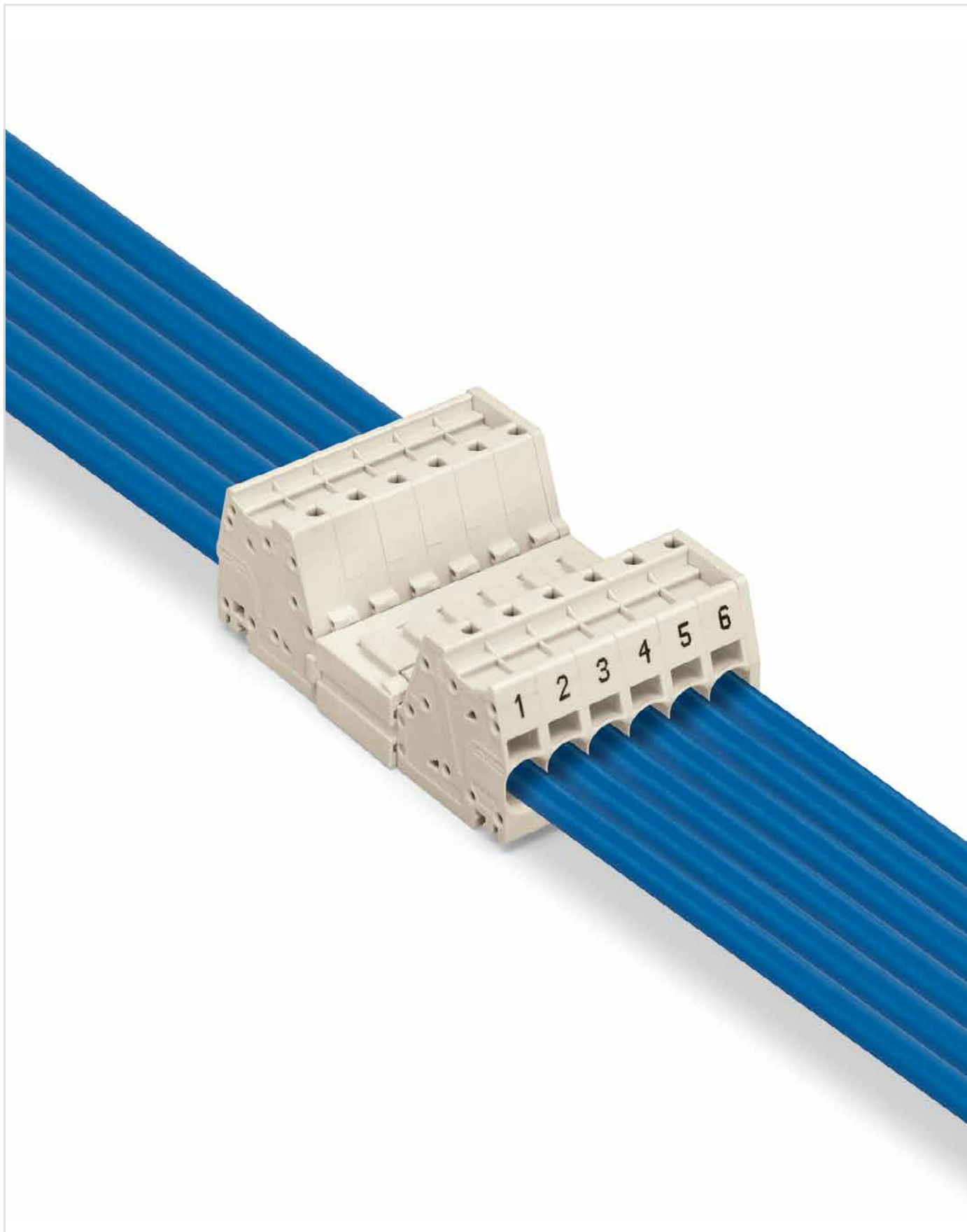
Insert coding pin into male header (break first) until it engages.



Marking via WMB or Mini-WSB marking strips.



Labeling via direct marking.

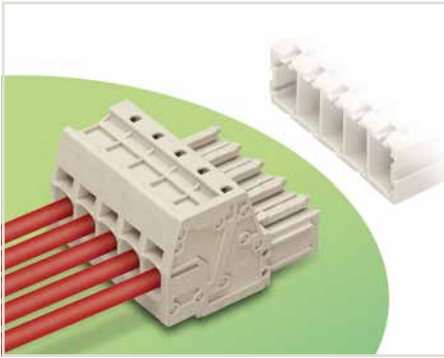


7

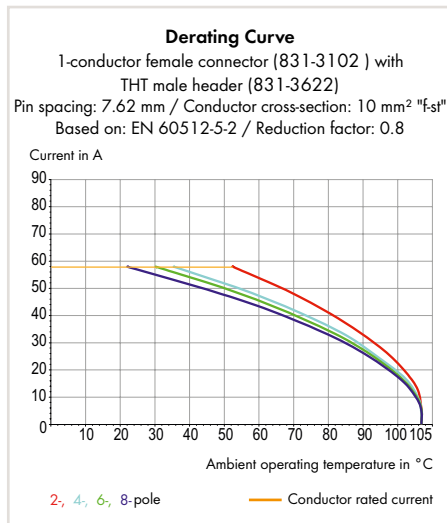
1-Conductor Male Connectors

Pin Spacing: 7.62 mm

MCS MAXI



- Universal connection for all conductor types
- Push-in termination of solid or ferruled conductors
- Integrated test ports for 2 mm Ø test plugs
- 600 V UL per UL 1059
- 100 % protected against mismatching
- Coding via coding fingers



The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Direct marking and marking strips, see page 531

Test plugs, see page 601

Strain relief plates, see page 218

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

Electrical Data for Pin Spacing

Ratings per*	7.62 mm / 0.3 inch
Rated voltage (III / 3)	IEC/EN 60664-1 800 V
Rated surge voltage (III / 3)	8 kV
Rated voltage (III / 2)	1000 V
Rated surge voltage (III / 2)	8 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	8 kV
Rated current	41 A
Approvals per	UL 1059
Rated voltage UL (Use Group C)	600 V
Rated current UL (Use Group C)	42 A
Approvals per	CSA
Rated voltage CSA (Use Group C)	600 V
Rated current CSA (Use Group C)	50 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	13 ... 15 mm / 0.52 ... 0.58 inch
Conductor cross-sections	
Solid conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 6 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 6 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated
Additional springs for socket contact	Chrome nickel spring steel (CrNi)

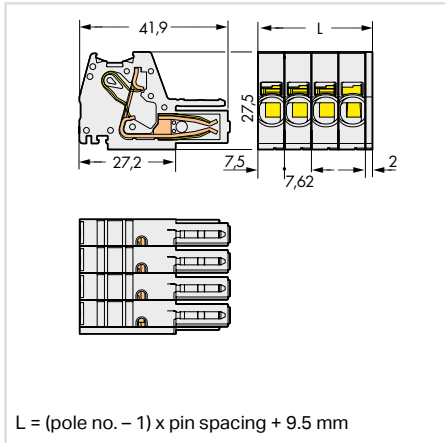
1-Conductor Male Connectors

Pin Spacing: 7.62 mm

MCS MAXI



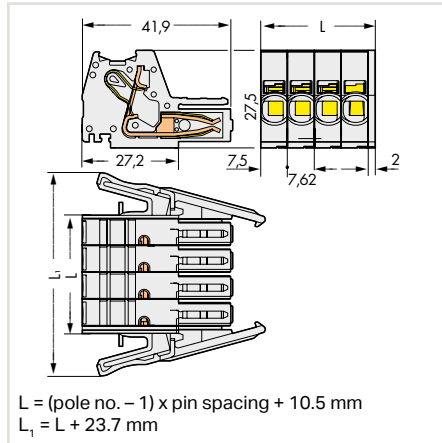
Dimensions (in mm):



1-conductor male connector, light gray,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	831-3102	48
3	831-3103	48
4	831-3104	24
5	831-3105	24
6	831-3106	24
7	831-3107	12
8	831-3108	12
9	831-3109	12

Dimensions (in mm):



1-conductor male connector, with locking levers,
light gray, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	831-3102/037-000	24
3	831-3103/037-000	24
4	831-3104/037-000	12
5	831-3105/037-000	12
6	831-3106/037-000	12
7	831-3107/037-000	12
8	831-3108/037-000	12
9	831-3109/037-000	12

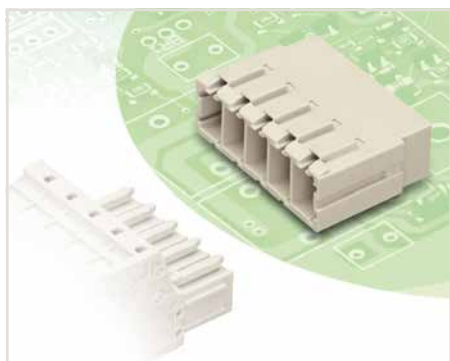
Available upon request (depending on quantity required):

- Other pole numbers

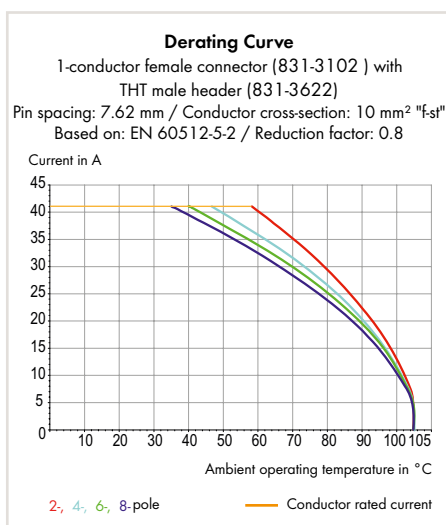
THT Male Headers

Pin Spacing: 7.62 mm

MCS MAXI



- Male headers may be mounted horizontally or vertically via straight or angled solder pins
- Three solder pins per pole provide high electrical and mechanical stability
- 100 % protected against mismatching
- Coding via coding fingers



Electrical Data for Pin Spacing

Ratings per*	7.62 mm / 0.3 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	500 V
Rated voltage (III / 2)	6 kV
Rated surge voltage (III / 2)	630 V
Rated voltage (II / 2)	6 kV
Rated surge voltage (II / 2)	1000 V
Rated current	6 kV
	41 A

Approvals per	UL 1059
Rated voltage UL (Use Group C)	300 V
Rated current UL (Use Group C)	42 A
Rated voltage UL (Use Group D)	600 V
Rated current UL (Use Group D)	5 A

Approvals per	CSA
Rated voltage CSA (Use Group C)	300 V
Rated current CSA (Use Group C)	50 A
Rated voltage CSA (Use Group D)	600 V
Rated current CSA (Use Group D)	5 A

Solder Pin Data

Solder pin length	4 mm
Solder pin dimensions	1 x 1.2 mm
Drilled hole diameter	1.7 ^{+0.1} mm

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

*(III / 2) ± Overvoltage category III / Pollution degree 2

Coding pins, page 530

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

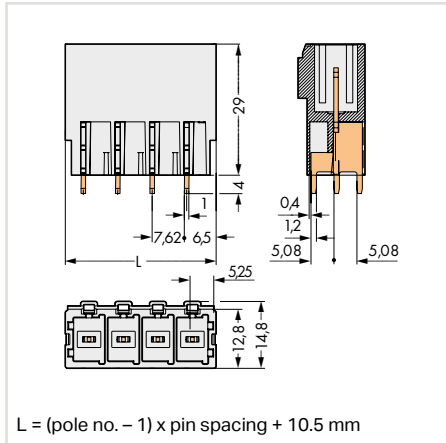
THT Male Headers

Pin Spacing: 7.62 mm

MCS MAXI



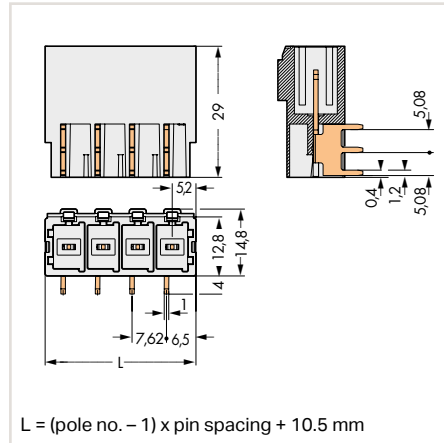
Dimensions (in mm):



THT male header, with straight solder pins,
3 solder pins/pole, light gray,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	831-3602	48
3	831-3603	48
4	831-3604	24
5	831-3605	24
6	831-3606	24
7	831-3607	12
8	831-3608	12
9	831-3609	12

Dimensions (in mm):



THT male header, with angled solder pins,
3 solder pins/pole, light gray,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	831-3622	48
3	831-3623	48
4	831-3624	24
5	831-3625	24
6	831-3626	24
7	831-3627	12
8	831-3628	12
9	831-3629	12

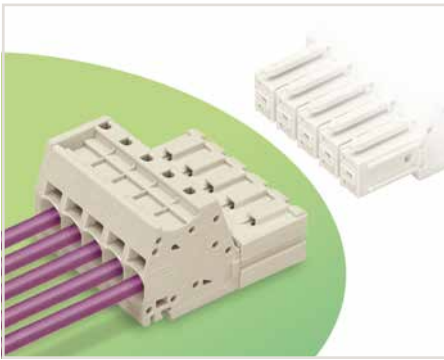
Available upon request (depending on quantity required):

- Other pole numbers
- Protection against PCB mounting errors

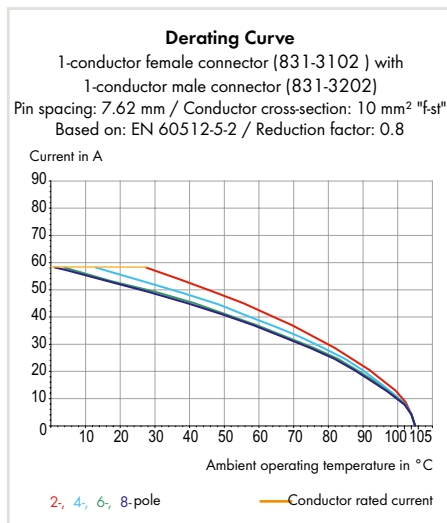
1-Conductor Male Connectors

Pin Spacing: 7.62 mm

MCS MAXI



- Universal connection for all conductor types
- Push-in termination of solid or ferruled conductors
- Integrated test ports for 2 mm Ø test plugs
- 600 V UL per UL 1059
- 100 % protected against mismatching
- Coding via coding fingers



Electrical Data for Pin Spacing

Ratings per*	7.62 mm / 0.3 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	800 V
Rated voltage (III / 2)	8 kV
Rated surge voltage (III / 2)	1000 V
Rated voltage (II / 2)	8 kV
Rated surge voltage (II / 2)	1000 V
Rated current	8 kV
Approvals per	41 A
Rated voltage UL (Use Group C)	UL 1059
Rated current UL (Use Group C)	600 V
Approvals per	42 A
Rated voltage CSA (Use Group C)	CSA
Rated current CSA (Use Group C)	600 V
	50 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	13 ... 15 mm / 0.52 ... 0.58 inch
Conductor cross-sections	
Solid conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor with insulated ferrule	0.5 ... 6 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 6 mm ²

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Direct marking and marking strips, see page 531

Test plugs, see page 601

DIN-35 rail, see page 611

Strain relief plates, see page 530

Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

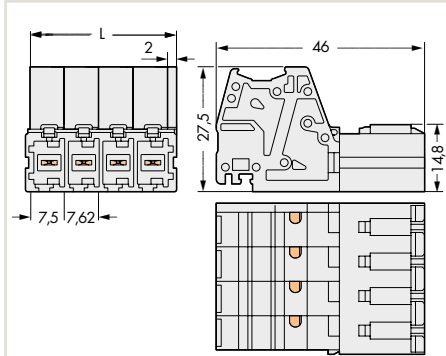
1-Conductor Male Connectors

Pin Spacing: 7.62 mm

MCS MAXI



Dimensions (in mm):

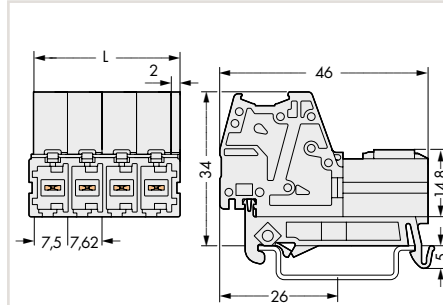


$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 9.5 \text{ mm}$$

1-conductor male connector, light gray,
7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	831-3202	48
3	831-3203	48
4	831-3204	24
5	831-3205	24
6	831-3206	24
7	831-3207	12
8	831-3208	12
9	831-3209	12

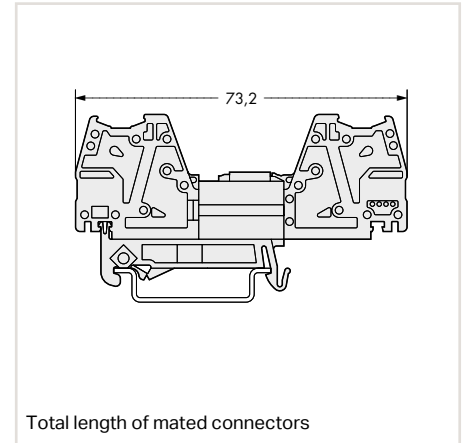
Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 9.5 \text{ mm}$$

1-conductor male connector, with locking levers,
light gray, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	831-3202/007-000	48
3	831-3203/007-000	48
4	831-3204/007-000	24
5	831-3205/007-000	24
6	831-3206/007-000	24
7	831-3207/007-000	12
8	831-3208/007-000	12
9	831-3209/007-000	12



Mounting adapter for DIN-35 rail

Color	Item No.	Pack. Unit
○ gray	831-137	48

Available upon request (depending on quantity required):

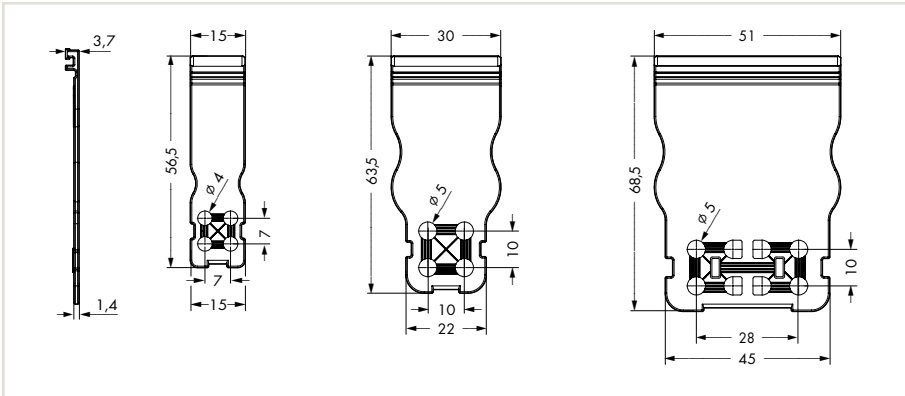
- Other pole numbers

Strain Relief Plates and Coding Pins

MCS MAXI



Dimensions (in mm):



The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.

Cable ties and binding tools are not offered by WAGO.

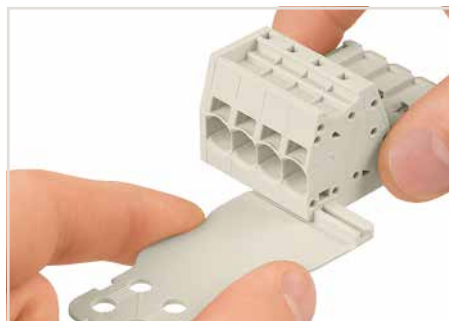
Strain relief plate, for in-the-field assembly, for male and female connectors with Push-in CAGE CLAMP®, light gray

Pole No.	Width	Item No.	Pack. Unit
2 ... 3	15 mm	831-503	96 (24)
4 ... 6	30 mm	831-505	48 (24)
7 ... 9	51 mm	831-506	48 (24)

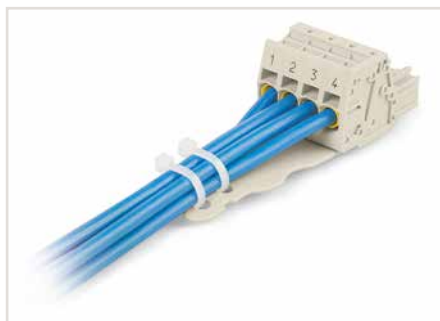
Strain relief plate, pre-assembled, for male and female connectors with Push-in CAGE CLAMP®, light gray

Pole No.	Width	Item No. Suffix *
2 ... 3	15 mm	.../133-000
4 ... 6	30 mm	.../135-000
7 ... 9	51 mm	.../136-000

*An "item no. suffix," referring to the width of the strain relief plate, is added to the "basic item no." and determines the type of male or female connector.



Strain relief plate for field assembly

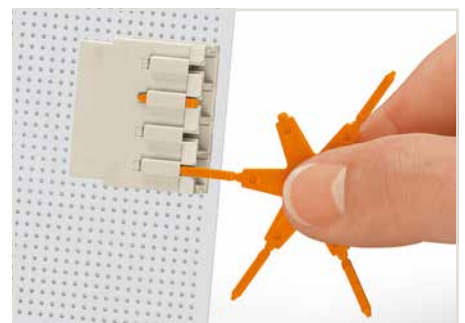


Strain relief plate, pre-assembled, 1-conductor female connector, 4-pole, 7.62 mm pin spacing, light gray (831-3104/135-000)

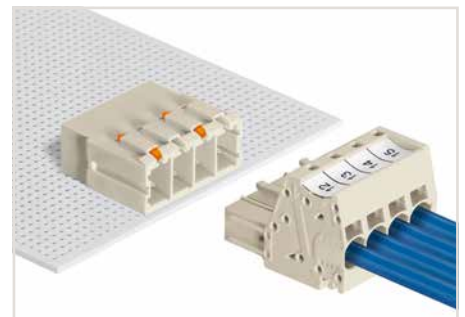


Coding pin carrier, with six coding pins, for THT male headers, orange

Item No.	Pack. Unit
831-500	100 (25)



Coding a THT male header by inserting a coding pin.



Coded connectors

Direct Marking and Marking Strips

MCS MAXI

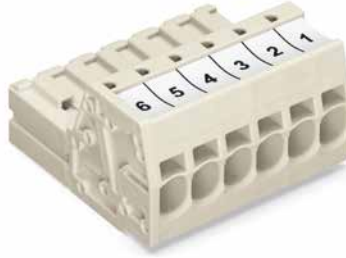


Direct marking of female connectors,
parallel to conductor entry,
1 ... pole no., item no. suffix.: /... - 9037

Version	Item No. Example
1-cond. female connector, 6-pole, light gray	831-3106/000-9037
1-cond. female connector, with locking levers, 6-pole, light gray	831-3106/037-9037

Direct marking of male connectors,
parallel to conductor entry,
pole no. ... 1, item no. suffix.: /... - 9034

Version	Item No. Example
1-cond. male connector, 6-pole, light gray	831-3206/000-9034
1-cond. male connector, for DIN-35 rail mounting, 6-pole, light gray	831-3206/007-9034



Marking strip, 1 ... pole no.,
for marking female connectors,
perpendicular to conductor entry

Pole No.	Item No.	Pack. Unit
2	2009-110/762-802	100
3	2009-110/762-803	100
4	2009-110/762-804	100
5	2009-110/762-805	100
6	2009-110/762-806	100
7	2009-110/762-807	100
8	2009-110/762-808	100
9	2009-110/762-809	100

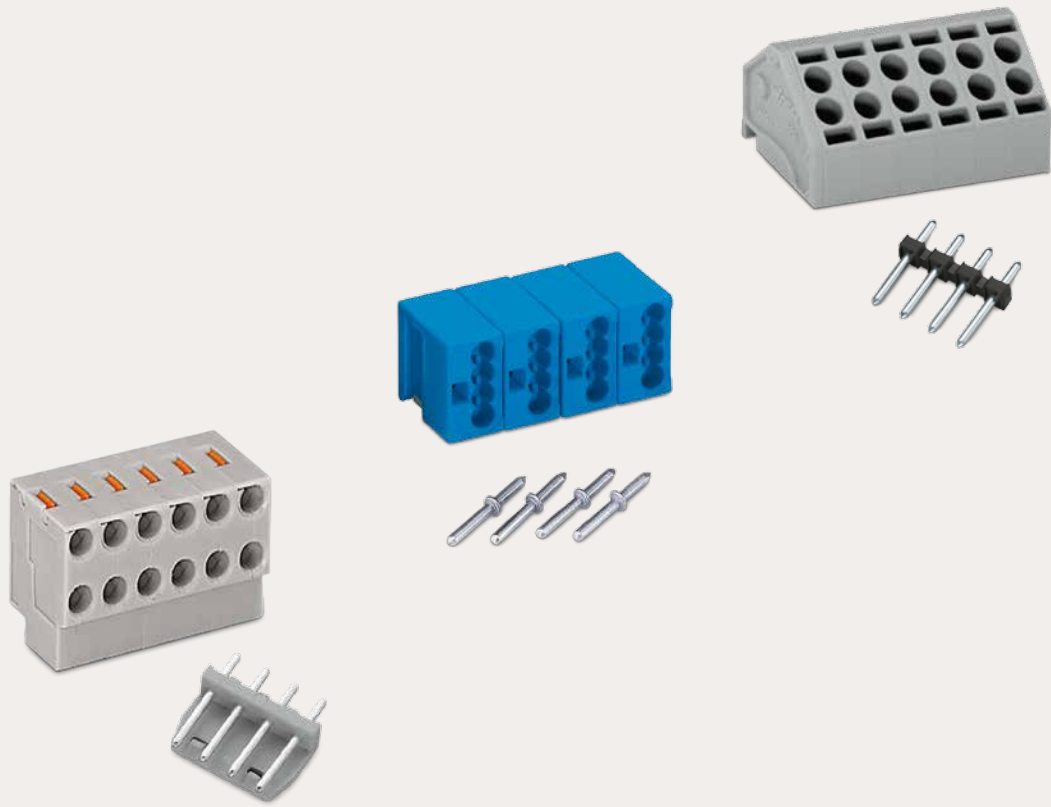
Marking strip, pole no. ... 1,
for marking male connectors,
perpendicular to conductor entry

Pole No.	Item No.	Pack. Unit
2	2009-110/762-852	50
3	2009-110/762-853	50
4	2009-110/762-854	50
5	2009-110/762-855	50
6	2009-110/762-856	50
7	2009-110/762-857	50
8	2009-110/762-858	50
9	2009-110/762-859	50

MCS MAXI male and female connectors can also be marked via Mini-WSB or WMB markers (see Section 12).





Available upon request (depending on quantity required):

- Customized marking

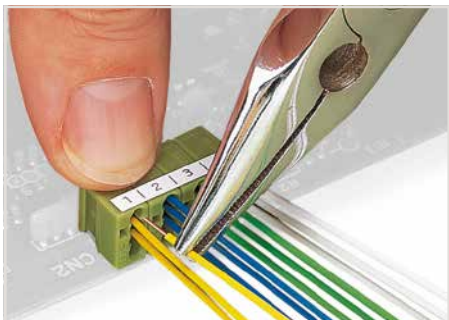


Pluggable PCB Connectors

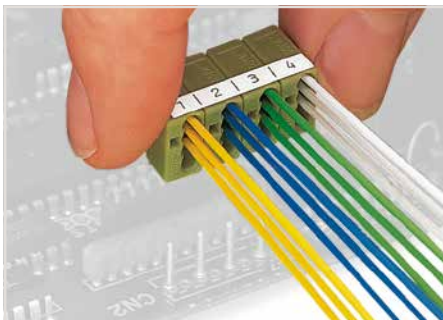
Pluggable PCB Connectors

		Series	Page
	2-Conductor Compact PCB Connectors, PUSH WIRE® 3.5 mm pin spacing 0.4 ... 0.8 mm Ø "sol."	252	536
	2-Conductor PCB Connector Strips (Pinstrip Pluggable), Push-in CAGE CLAMP® 5 mm pin spacing 0.2 ... 1.5 mm ² (16 AWG)	806	538
	4-Conductor Modular PCB Connectors, PUSH WIRE® 5.75 mm pin spacing 0.4 ... 0.8 mm Ø "sol."	243	540
	General Accessories – Section 12		586

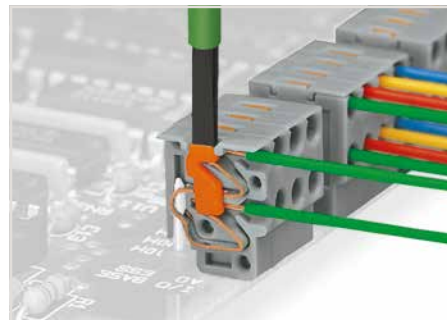
Pluggable PCB Connectors 252 and 243 Series Description and Installation



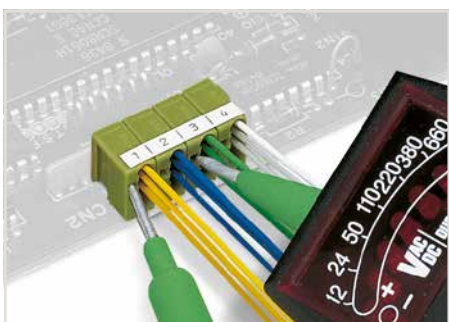
Inserting a conductor using pliers until it hits backstop – directly on the PCB or wiring prior to mounting on PCB.



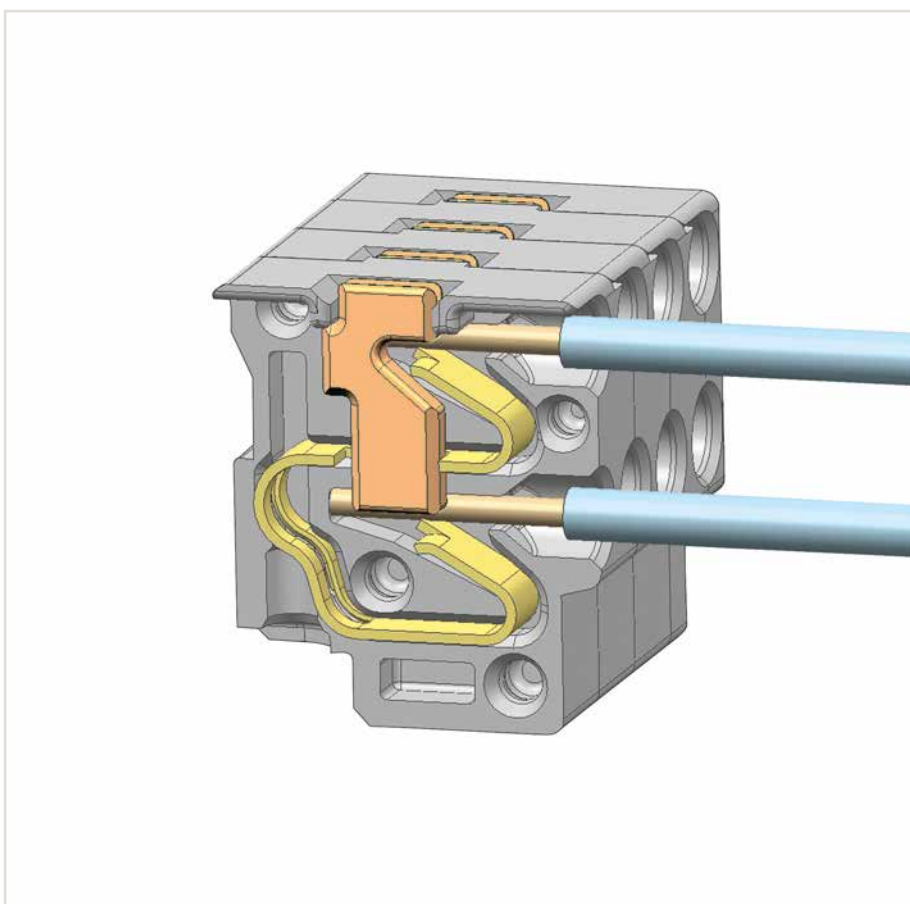
Removing a PCB connector strip to replace the board.



Removing a conductor via push-button – 252 Series

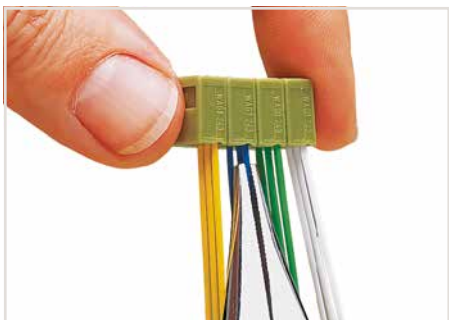


Testing – 243 Series

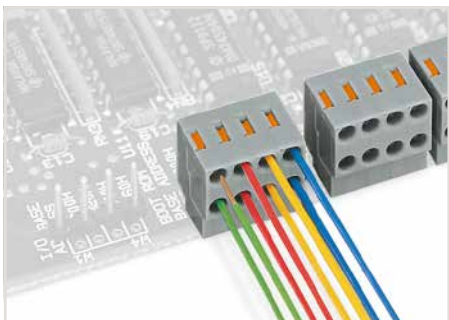


252 Series

8



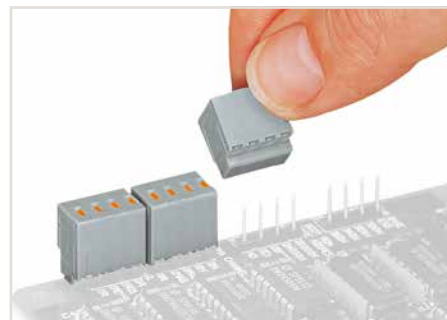
Removing a conductor using pliers – twisting alternately left and right – 243 Series



Conductor termination directly on the PCB or wiring prior to mounting on PCB – 252 Series



Solder pin strip with strain relief, 4-pole

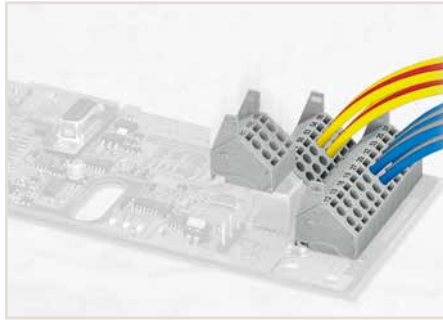


Plugging a compact PCB connector – 252 Series.

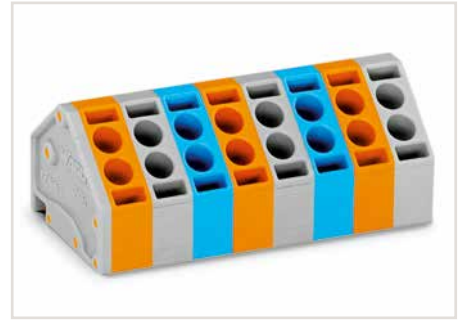
Pluggable PCB Connectors 806 Series Description and Installation



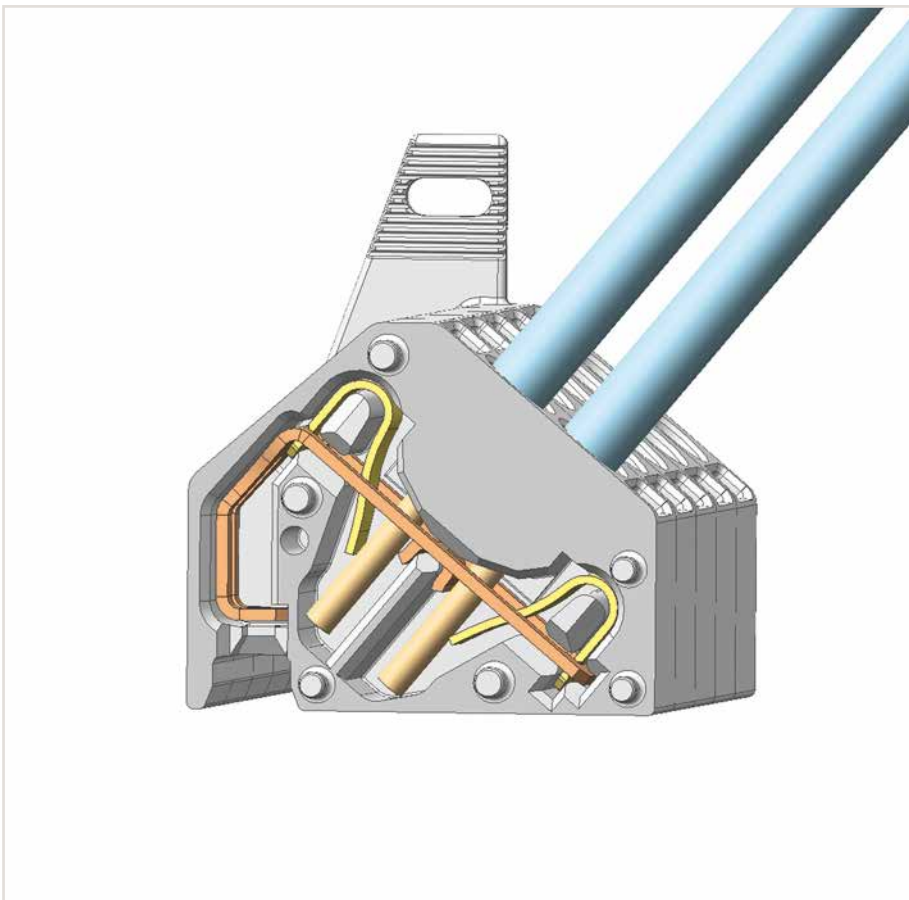
Inserting solid conductors via push-in termination. Inserting/removing fine-stranded conductors: Open the clamping unit using a screwdriver and insert a stripped conductor until it hits backstop.



Conductor termination directly on the PCB or wiring prior to mounting on PCB



Mixed-color PCB connector strips (with or without spacer) are available upon request.

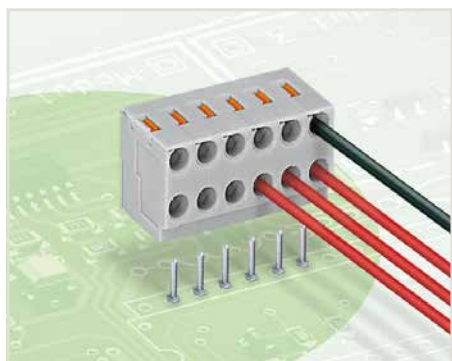


806 Series

2-Conductor Compact PCB Connectors

3.5 mm pin spacing

252 Series



- Compact, 2-conductor PCB connectors with push-buttons and PUSH WIRE® connection
- Push-in termination of solid conductors – conductor removal via push-buttons
- Double entries for power supply and distribution
- Quick and easy PCB replacement
- Loop connection is retained, even when unmated
- Group arrangement is possible without losing any poles

Electrical Data for Pin Spacing

Ratings per*	3.5 mm / 0.138 inch
Rated voltage (III / 3)	IEC/EN 60664-1
Rated surge voltage (III / 3)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (III / 2)	320 V
Rated voltage (III / 2)	4 kV
Rated surge voltage (II / 2)	630 V
Rated voltage (II / 2)	4 kV
Rated surge voltage (II / 2)	4 kV
Rated current	6 A

Approvals per

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	2 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	2 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB	0°
Conductor diameter	
Solid conductor	0.4 ... 0.8 mm / 26 ... 20 AWG


Solder Pin Data


Solder pin length (solder pin strip)	3.5 mm
Solder pin length (individual solder pins)	4.5 mm
Solder pin diameter	1 mm
Drilled hole diameter	1.2 ^{+0.05} mm


Material Data


Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

 Marking accessories,
see page 604

 Operating tools,
see page 588

 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

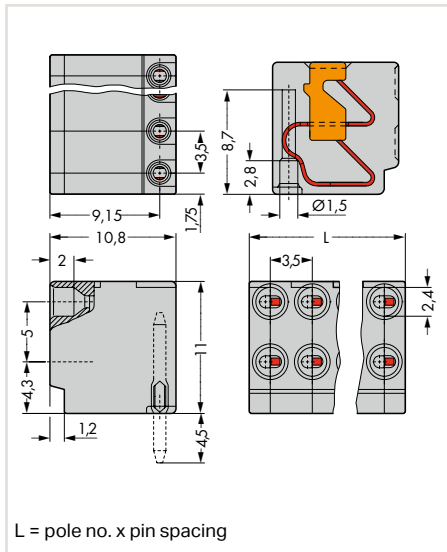
2-Conductor Compact PCB Connectors

3.5 mm pin spacing

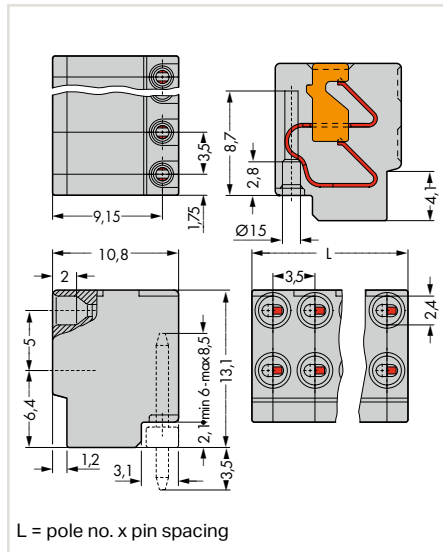
252 Series



Dimensions (in mm):



Dimensions (in mm):



2-conductor compact PCB connector for individual solder pins, gray, 3.5 mm (0.138 inch)

Pole No.	Item No.	Pack. Unit
2	252-102	600 (100)
3	252-103	400 (100)
4	252-104	300 (100)
5	252-105	300 (100)
6	252-106	200 (100)
7	252-107	200 (100)
8	252-108	200 (100)
9	252-109	200 (100)
10	252-110	150 (50)

2-conductor compact PCB connector for solder pin strips, gray, 3.5 mm (0.138 inch)

Pole No.	Item No.	Pack. Unit
2	252-152	600 (100)
3	252-153	400 (100)
4	252-154	300 (100)
5	252-155	300 (100)
6	252-156	200 (100)
7	252-157	200 (100)
8	252-158	200 (100)
9	252-159	200 (100)
10	252-160	150 (50)

Solder pin strip, 3.5 mm (0.138 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	252-902	500
3	252-903	500
4	252-904	500
5	252-905	500
6	252-906	500
7	252-907	500
8	252-908	500
9	252-909	500
10	252-910	500



Solder pin, 1 x 8.5 mm Ø, for PCBs up to 2 mm thick

Item No.	Pack. Unit
243-131	1000



Solder pin strip with strain relief, 4-pole

Item No.	Pack. Unit
252-954	1000

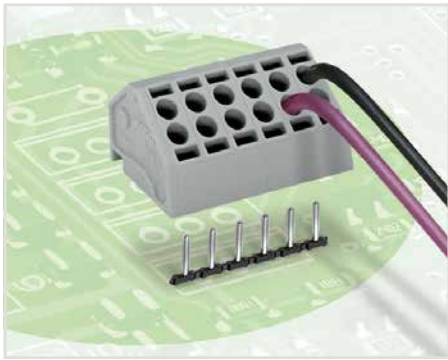
Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

2-Conductor PCB Connector Strips (Pinstrip Pluggable), 1.5 mm²

5 mm pin spacing


806 Series





- Compact, 2-conductor PCB connector strips (pinstrip pluggable) with Push-in CAGE CLAMP® connection and screwdriver-actuation
- Push-in termination of solid and ferruled conductors
- Double entries for power supply and potential distribution
- Quick and easy PCB replacement, without disrupting looped-through potentials


Electrical Data for Pin Spacing	5 mm / 0.197 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	10 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	45°
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.25 ... 1 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1 mm ²
Solder Pin Data	
Solder pin length	3.4 mm
Solder pin diameter	1 mm
Drilled hole diameter	1.3 mm
Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

 Operating tools, see page 588

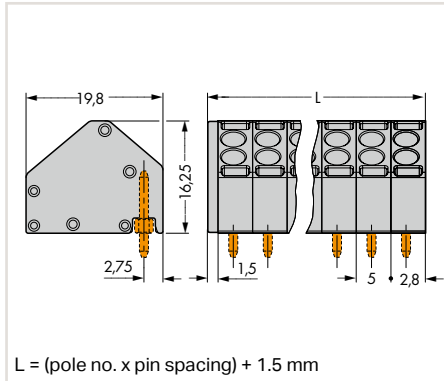
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

2-Conductor PCB Connector Strips (Pinstrip Pluggable), 1.5 mm² 5 mm pin spacing 806 Series



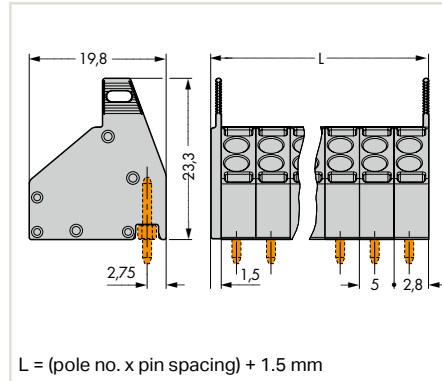
Dimensions (in mm):



2-conductor PCB connector strip
(pinstrip pluggable), gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	806-102	400
3	806-103	250
4	806-104	200
5	806-105	175
6	806-106	150
7	806-107	125
8	806-108	100
9	806-109	100
10	806-110	80
11	806-111	80
12	806-112	60

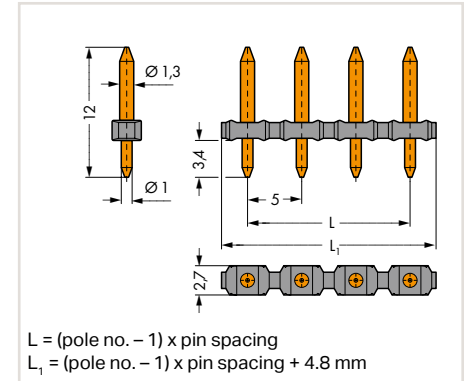
Dimensions (in mm):



2-conductor PCB connector strip (pinstrip
pluggable) with removable aid, gray,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	806-202	400
3	806-203	250
4	806-204	200
5	806-205	175
6	806-206	150
7	806-207	125
8	806-208	100
9	806-209	100
10	806-210	80
11	806-211	80
12	806-212	60

Dimensions (in mm):



Solder pin strip,
1.3 mm Ø connector pin, 1 mm Ø solder pin,
5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	806-902	100
3	806-903	100
4	806-904	100
5	806-905	100
6	806-906	100
7	806-907	100
8	806-908	100
9	806-909	100
10	806-910	100
11	806-911	100
12	806-912	100

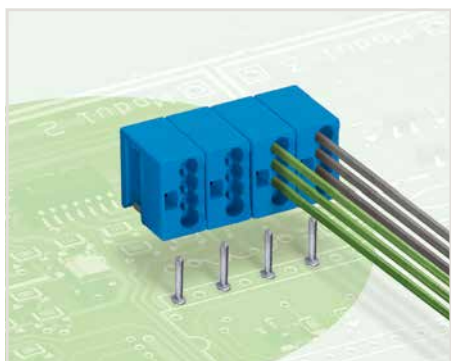
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ● orange
- Mixed-color PCB connector strips
- Direct marking

Modular, 4-Conductor PCB Connectors

5.75 mm pin spacing

243 Series



- Compact, 4-conductor PCB connectors with PUSH WIRE® connection
- Can be assembled to connector strips via dovetail joints
- Push-in termination of solid conductors
- Four entries for power supply and potential distribution
- Quick and easy PCB replacement, without disrupting looped-through potentials

Electrical Data for Pin Spacing

	5.75 mm / 0.226 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	6 A

Approvals per

	UL 1059
Rated voltage UL (Use Group B)	150 V
Rated current UL (Use Group B)	7 A
Rated voltage UL (Use Group D)	150 V
Rated current UL (Use Group D)	7 A

Approvals per

	CSA
Rated voltage CSA (Use Group B)	150 V
Rated current CSA (Use Group B)	7 A
Rated voltage CSA (Use Group D)	150 V
Rated current CSA (Use Group D)	7 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor diameter	
Solid conductor	0.5 ... 1 mm / 24 ... 18 AWG


Solder Pin Data


Solder pin length	4.5 mm
Solder pin diameter	1 mm
Drilled hole diameter	1.2 ^{+0.05} mm


Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Copper alloy
Contact plating	Tin-plated

*(III / 2) ≙ Overvoltage category III /
Pollution degree 2

 Marking accessories,
see page 604

 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

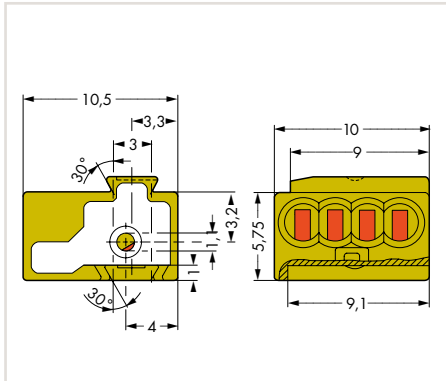
Modular, 4-Conductor PCB Connectors

5.75 mm pin spacing

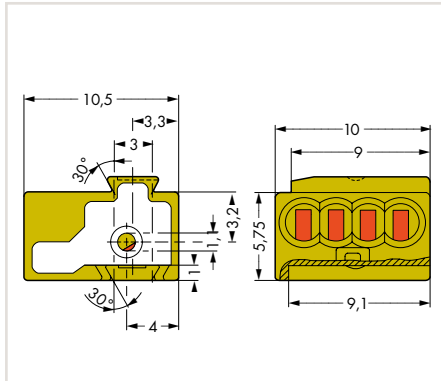
243 Series



Dimensions (in mm):



Dimensions (in mm):



4-conductor PCB connector, can be assembled to connector strips via dovetail joints, with test slot, for solid conductors, 5.75 mm (0.226 inch) pin spacing

Color	Item No.	Pack. Unit
gray	243-721	400
blue	243-722	400
orange	243-723	400
light green	243-724	400

4-conductor PCB connector strip, with test slots, for solid conductors, light green, 5.75 mm (0.226 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	243-742	50
3	243-743	50
4	243-744	50
5	243-745	50
6	243-746	50
7	243-747	50
8	243-748	50

Solder pin, 1 x 8.5 mm Ø, for PCBs up to 2 mm thick

Pole No.	Item No.	Pack. Unit
	243-131	1000

Note:
To limit the insertion forces of multi-pole PCB connector strips to the solder pins, the connector assembly should not exceed eight poles.

- Available upon request (depending on quantity required):
- Other pole numbers
 - PCB connector strips in other colors: gray, blue, orange
 - Mixed-color PCB connector strips
 - Direct marking



Feedthrough Terminal Blocks

Feedthrough Terminal Blocks

		Nominal cross-section	Series	Page
	Feedthrough Terminal Blocks and Terminal Strips with Screwdriver Actuation, for CAGE CLAMP® Termination	4 mm ² (12 AWG)	826	546
	Feedthrough Terminal Blocks with Screwdriver Actuation, for CAGE CLAMP® Termination	4 mm ² (12 AWG)	226	548
	Feedthrough Terminal Strips with Levers, for CAGE CLAMP® Termination	16 mm ² (6 AWG)	828	550
	Feedthrough Terminal Strips with Push-Buttons, for CAGE CLAMP® Termination	2.5 mm ² (12 AWG)	741	552
	Feedthrough Terminal Strips with Screwdriver Actuation, for CAGE CLAMP® Termination	2.5 mm ² (12 AWG) 2.5 mm ² (12 AWG)	231 731	560 560
	General Accessories – Section 12			586

Feedthrough Terminal Blocks

826 Series

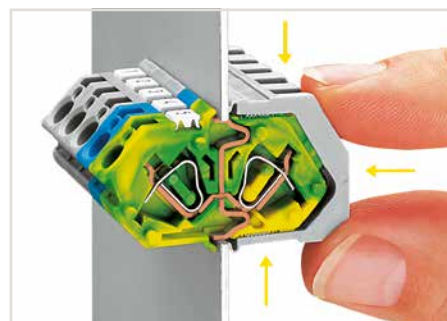
Description and Installation



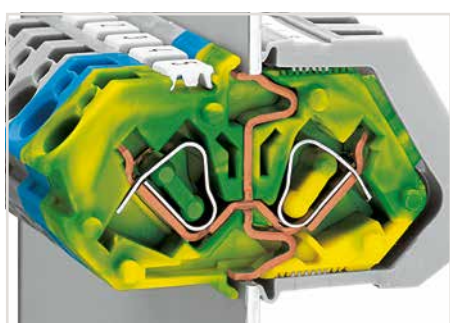
Insert the terminal strip into the cutout until the stop hits the enclosure wall.



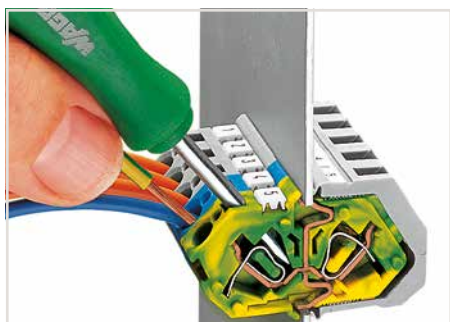
Secure the terminal strip to the inner side of the cutout via retaining clips.



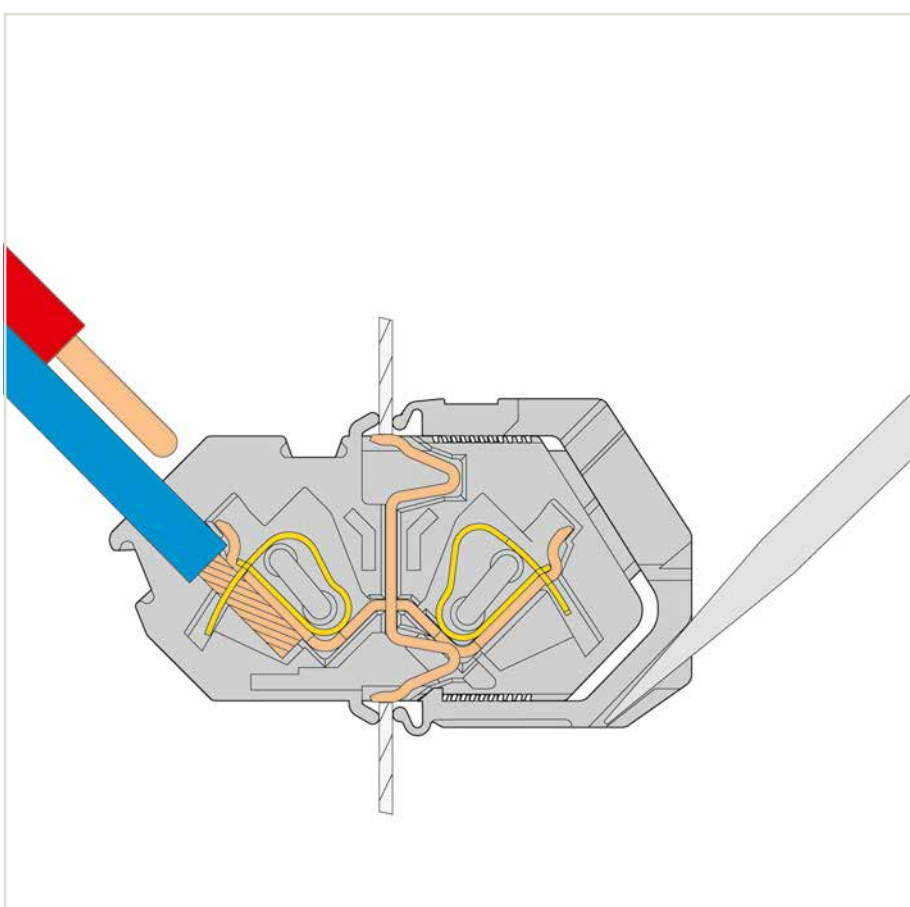
Push retaining clips until stop and press together in the direction of the terminal strip center.



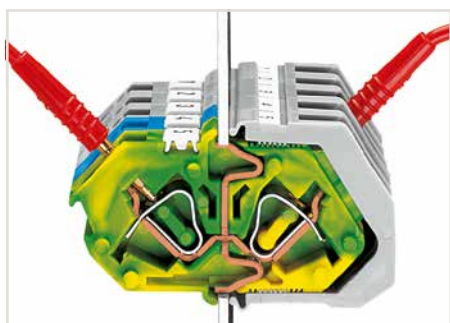
Automatic, double contact of the ground contact to the enclosure wall



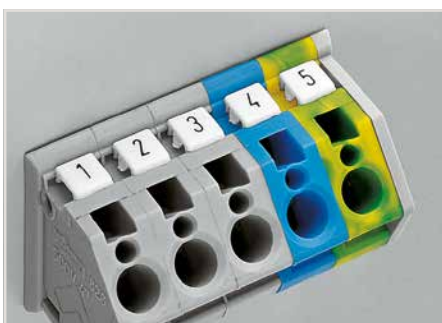
Inserting a conductor via screwdriver.



826 Series



Testing with 2 mm or 2.3 mm Ø test plug.



Labeling via Mini-WSB makers – directly on the terminal blocks.



Self-adhesive marking strips adhere directly on the retaining clips.

9

Feedthrough Terminal Blocks 231, 731 and 226 Series Description and Installation



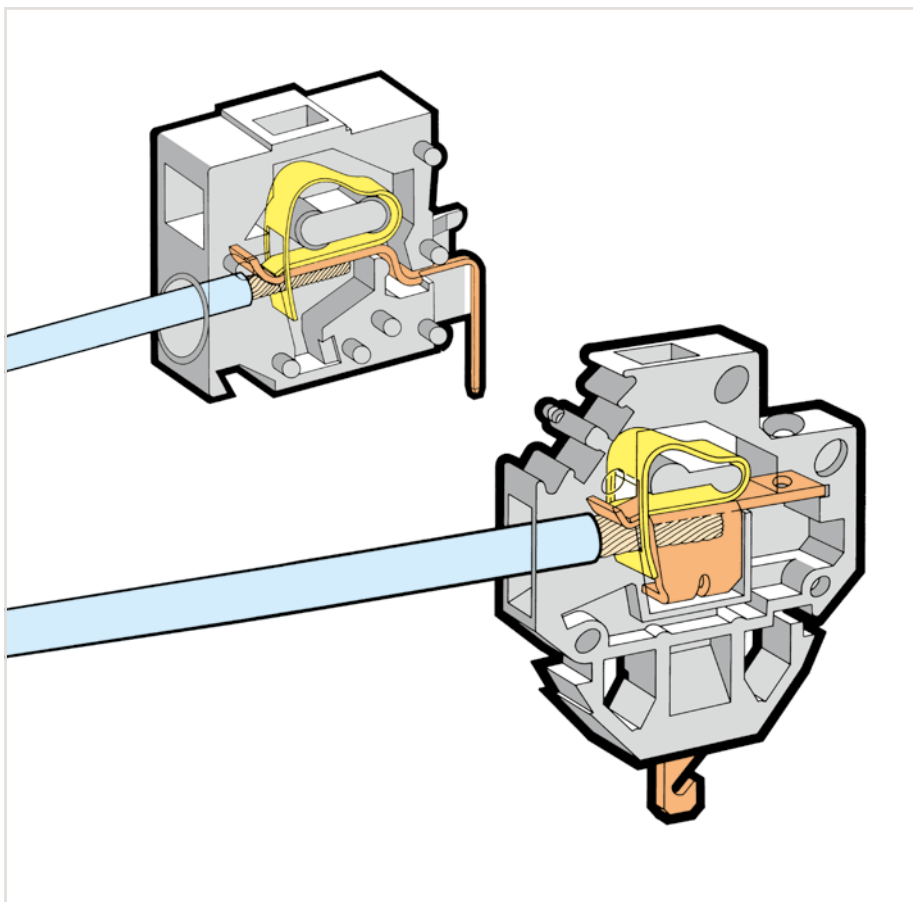
Feedthrough PCB terminal strips – front-entry conductor termination



Feedthrough PCB terminal strips can be used as front-panel feedthrough for external conductor termination.



With flanges for PCB or front-panel mounting – either flush with enclosure or protruding



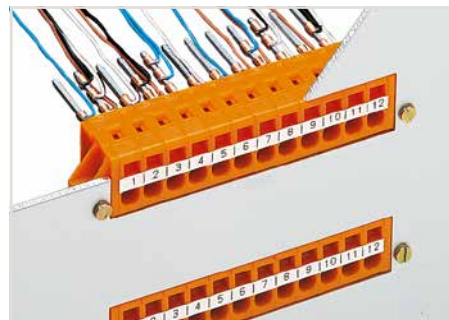
231, 731 and 226 Series



Snapping a 226 Series Feedthrough Terminal Block into the cutout.



Testing with 2 mm Ø test plug – touch contact.

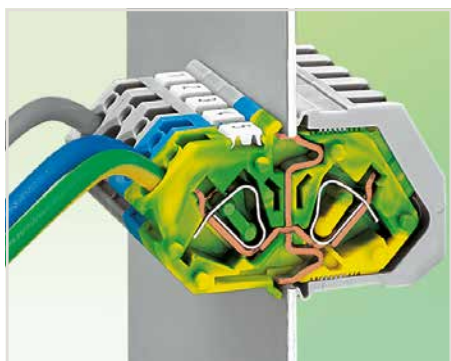


Feedthrough terminal strips with mounting flanges

Feedthrough Terminal Blocks, 4 mm²

Pin spacing: 7 mm

826 Series



- Feedthrough terminal blocks with screwdriver-actuated CAGE CLAMP® on both sides
- Easy, tool-free installation
- Direct ground contact with enclosure/panel
- Test ports available on both sides

Electrical Data for Pin Spacing	7 mm / 0.276 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	32 A
Note (rated voltage) (III / 3) and (III / 2)	Suitable for neutral-grounded, three-phase, 4-wire systems rated at 400 V (line-to-line) per IEC/EN 60664-1.


Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	20 A
Rated voltage UL (Use Group C)	150 V
Rated current UL (Use Group C)	20 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A


Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	20 A
Rated voltage CSA (Use Group C)	150 V
Rated current CSA (Use Group C)	20 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A


Connection Data	
Connection technology	CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²


Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated


* (III / 2) ≙ Overvoltage category III / Pollution degree 2

 Marking accessories, see page 604

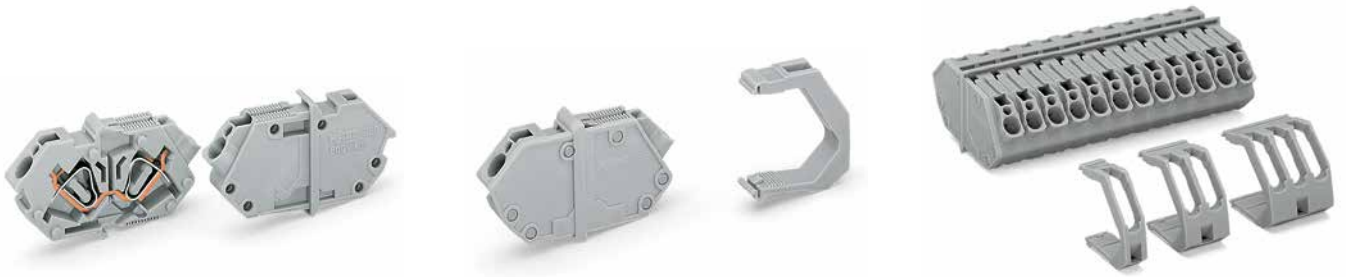
 Operating tools, see page 588

 Test plugs, see page 601

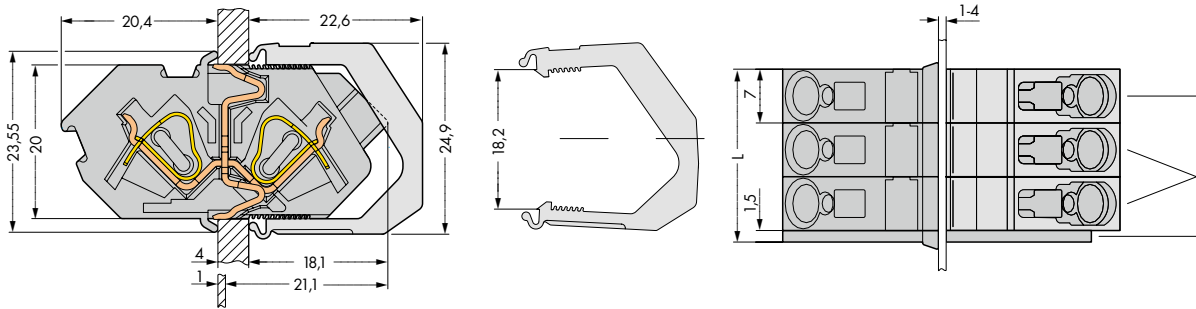
 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

Feedthrough Terminal Blocks, 4 mm² Pin spacing: 7 mm 826 Series



Dimensions (in mm):



Cut-out dimensions: H = 20.1^{+0.1} mm; L = (pole no. x 7 mm) + 1.6^{+0.1} mm

Feedthrough end terminal block, 7 mm (0.276 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	826-159	50

Feedthrough terminal block, including end plate and retaining clip, 7 mm (0.276 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	826-161	50

Feedthrough terminal strip, including end plate and retaining clips, gray, 7 mm (0.276 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	826-162	50
3	826-163	50
4	826-164	50
5	826-165	50
6	826-166	50
7	826-167	25
8	826-168	25
9	826-169	25
10	826-170	25
11	826-171	10
12	826-172	10

Modular feedthrough terminal block, gray, 7 mm (0.276 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	826-160	50



End plate, snap-on type, 1.5 mm thick

Color	Item No.	Pack. Unit
○ gray	826-158	100 (25)
● blue	826-158/000-006	100 (25)
● green-yellow	826-158/000-016	100 (25)

Retaining clip, as replacement, gray

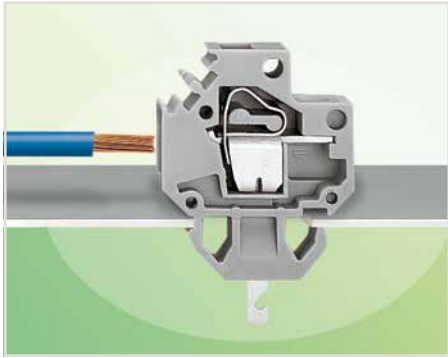
Pole No.	Item No.	Pack. Unit
2	826-155	50 (25)
3	826-156	50 (25)
4	826-157	50 (25)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ● green-yellow
- Direct marking


Modular Feedthrough Terminal Blocks, 4 mm²


226 Series





- Modular feedthrough terminal blocks with screwdriver-actuated CAGE CLAMP®
- Tool-free insertion into sheet metal cutout
- Conductor entry parallel to enclosure wall saves space

Electrical Data	Quick Connect Contact	Solder Contact	Wire-Wrap Pin	Contact Pin
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV	4 kV	4 kV
Rated current	6 A	20 A	4 A	4 A
Approvals per	UL 1059	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V	300 V
Rated current UL (Use Group B)	6 A	20 A	4 A	4 A
Rated voltage UL (Use Group C)	300 V	300 V	300 V	300 V
Rated current UL (Use Group C)	6 A	20 A	4 A	4 A
Rated voltage UL (Use Group D)	600 V	600 V	600 V	600 V
Rated current UL (Use Group D)	5 A	5 A	4 A	4 A
Approvals per	CSA	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V	300 V
Rated current CSA (Use Group B)	6 A	20 A	4 A	4 A
Rated voltage CSA (Use Group C)	300 V	300 V	300 V	300 V
Rated current CSA (Use Group C)	6 A	20 A	4 A	4 A
Rated voltage CSA (Use Group D)	600 V	600 V	600 V	600 V
Rated current CSA (Use Group D)	5 A	5 A	4 A	4 A
Connection Data				
Connection technology	CAGE CLAMP®			
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch			
Conductor cross-sections				
Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG			
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG			
Fine-stranded conductor with insulated ferrule	0.25 ... 2.5 mm ²			
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²			
Material Data				
Material group	I			
Insulation material	Polyamide 66 (PA 66)			
Flammability class per UL94	V0			
Limit temperature range	-60 ... +105 °C			
Clamping spring material	Chrome nickel spring steel (CrNi)			
Contact material	Electrolytic copper (E _{cu})			
Contact plating	Tin-plated			

 Marking accessories, see page 604

 Operating tools, see page 588

 Additional technical information, see Section 13

 Approvals and corresponding ratings, visit www.wago.com

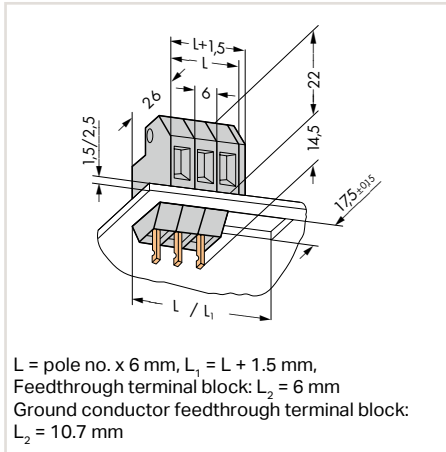
*(III / 2) ± Overvoltage category III / Pollution degree 2

Modular Feedthrough Terminal Blocks, 4 mm²

226 Series



Dimensions (in mm):

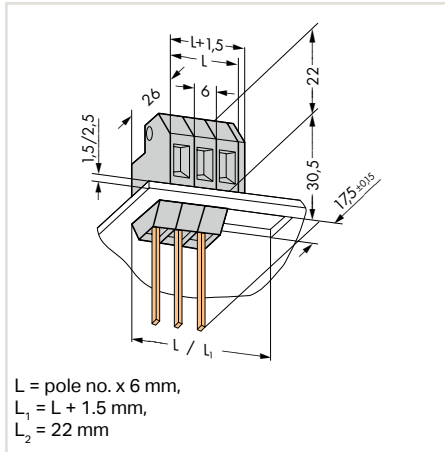


Modular feedthrough terminal block, for 1.5 mm plate thickness, quick connect/solder contact, gray

Contact Dimensions	Item No.	Pack. Unit
2.8 x 0.8	226-101	200
4.8 x 0.8	226-104	200



Dimensions (in mm):

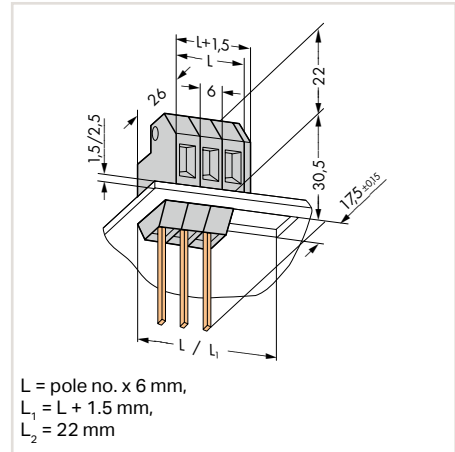


Modular feedthrough terminal block, for 1.5 mm plate thickness, 1 x 1 mm wire-wrap pin, gray

Item No.	Pack. Unit
226-102	150



Dimensions (in mm):



Modular feedthrough terminal block, for 1.5 mm plate thickness, 0.8 x 1.6 mm pin, gray

Item No.	Pack. Unit
226-103	150

Modular feedthrough terminal block, for 2.5 mm plate thickness, quick connect/solder contact, gray

Contact Dimensions	Item No.	Pack. Unit
2.8 x 0.8	226-111	200
4.8 x 0.8	226-114	200

Modular feedthrough terminal block, for 2.5 mm plate thickness, 1 x 1 mm wire-wrap pin, gray

Item No.	Pack. Unit
226-112	150

Modular feedthrough terminal block, for 2.5 mm plate thickness, 0.8 x 1.6 mm pin, gray

Item No.	Pack. Unit
226-113	150

Modular ground conductor feedthrough terminal block, for 1.5 mm plate thickness, quick connect/solder contact, green-yellow

Contact Dimensions	Item No.	Pack. Unit
4.8 x 0.8	226-107	200

Modular ground conductor feedthrough terminal block, for 1.5 mm plate thickness, without quick connect/solder contact, with direct contact to metal enclosure, green-yellow

Item No.	Pack. Unit
226-108	200



Spacer, 6 mm wide, gray		
Plate Thickness	Item No.	Pack. Unit
1.5 mm	226-109	25
2.5 mm	226-119	25



End plate (long): 1.5 mm wide, gray		
Cutout	Item No.	Pack. Unit
L ₁	226-110	25

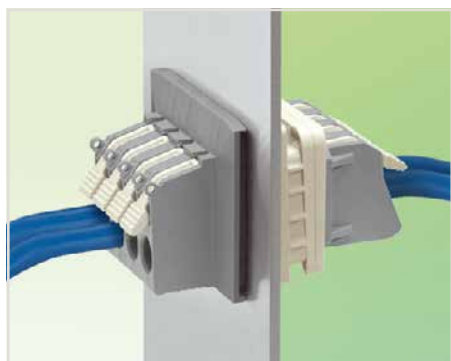


End plate (short): 1.5 mm wide, gray		
Cutout	Item No.	Pack. Unit
L ₂	226-120	25

Feedthrough Terminal Strips with Levers, 16 mm²

Pin Spacing: 11.5 mm


828 Series




- Feedthrough terminal strips with CAGE CLAMP® on both sides
- Easy, tool-free installation
- Tool-free termination – fingers open/close levers
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- 600 V UL

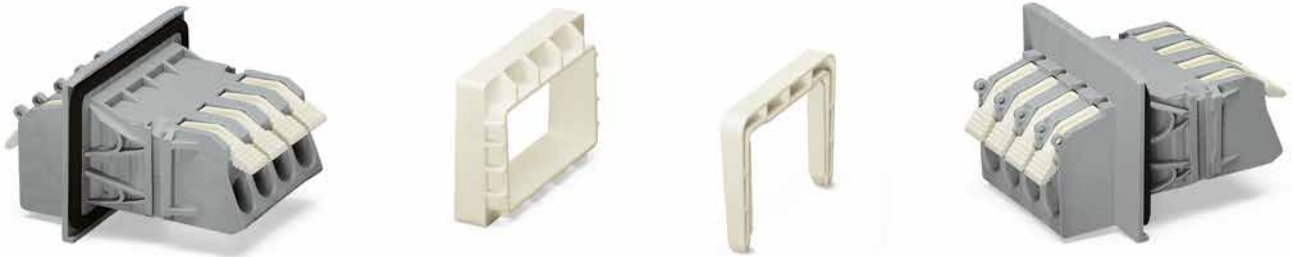
Electrical Data for Pin Spacing	11.5 mm / 0.45 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	1000 V
Rated surge voltage (III / 3)	8 kV
Rated voltage (III / 2)	1000 V
Rated surge voltage (III / 2)	8 kV
Rated voltage (II / 2)	1000 V
Rated surge voltage (II / 2)	8 kV
Rated current	41 A
Approvals per	UL 1059
Rated voltage UL (Use Group B)	600 V
Rated current UL (Use Group B)	30 A
Rated voltage UL (Use Group C)	600 V
Rated current UL (Use Group C)	30 A
Approvals per	CSA
Rated voltage CSA (Use Group B)	600 V
Rated current CSA (Use Group B)	30 A
Rated voltage CSA (Use Group C)	600 V
Rated current CSA (Use Group C)	30 A
Connection Data	
Connection technology	CAGE CLAMP®
Strip length	12 ... 13 mm / 0.47 ... 0.51 inch
Conductor cross-sections	
Solid conductor	1.5 ... 16 mm ² / 16 ... 6 AWG
Fine-stranded conductor	1.5 ... 16 mm ² / 16 ... 6 AWG
Fine-stranded conductor with insulated ferrule	1.5 ... 10 mm ²
Fine-stranded conductor with uninsulated ferrule	1.5 ... 10 mm ²
Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

* (III / 2) ≙ Overvoltage category III /
Pollution degree 2

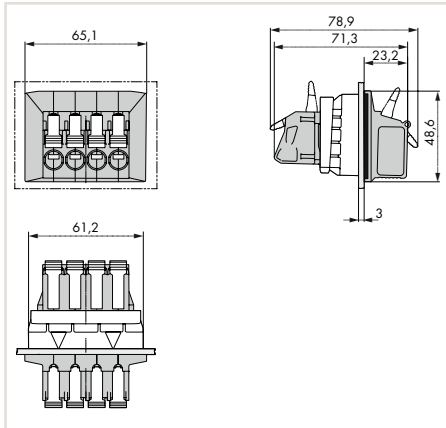
 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

Feedthrough Terminal Strips with Levers, 16 mm² Pin Spacing: 11.5 mm 828 Series



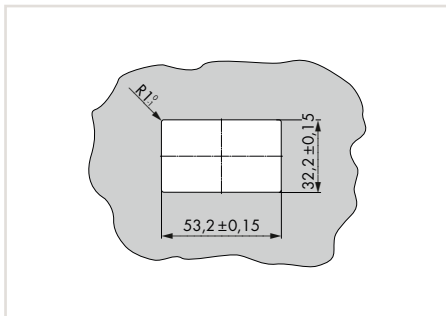
Dimensions (in mm):



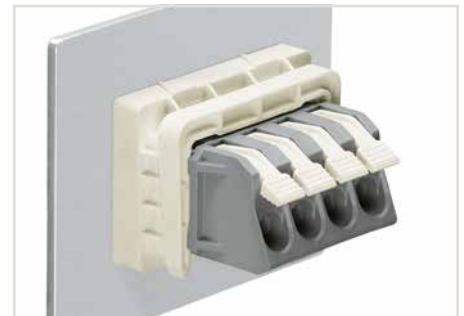
Insert terminal strip from the outside.



Snap the panel thickness adapter on from the inside.



Secure to panel via locking clip.



Mounted feedthrough terminal strip (as seen from inside)

Feedthrough terminal strip, with levers, gray, 11.5 mm (0.45 inch) pin spacing

Pole No.	Item No.	Pack. Unit
4	828-334	15

Available upon request (depending on quantity required):

- Other pole numbers
- Adapters for varying sheet panel thicknesses
- Direct marking

Feedthrough PCB Terminal Strips with Push-Buttons, 2.5 mm²

Pin Spacing: 5 mm, 7.5 mm, 10 mm


741 Series





- Feedthrough PCB terminal strips with push-button actuated CAGE CLAMP®
- Simple, push-button wiring
- Test slot integrated into upper-portion of conductor entry for test pins


Electrical Data for Pin Spacing	5 mm 0.197 inch	7.5 mm 0.295 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	16 A	16 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A
Connection Data	CAGE CLAMP®		
Connection technology	CAGE CLAMP®		
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch		
Conductor entry angle to the PCB	0°		
Conductor cross-sections			
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²		
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²		
Solder Pin Data			
Solder pin length	4 mm		
Solder pin dimensions	0.7 x 0.7 mm		
Drilled hole diameter	1.1 ^{+0.1} mm		
Material Data			
Material group	I		
Insulation material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	-60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact material	Electrolytic copper (E _{cu})		
Contact plating	Tin-plated		

*(III / 2) ± Overvoltage category III /
Pollution degree 2

 Marking accessories,
see page 604

 Operating tools,
see page 588

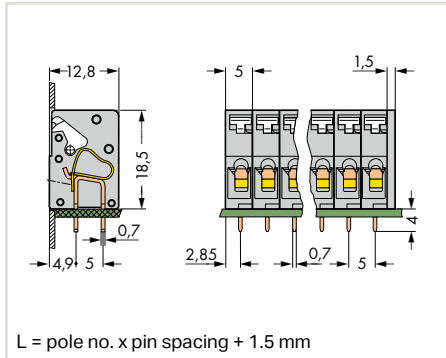
 Additional technical information,
see Section 13

 Approvals and corresponding ratings,
visit www.wago.com

Feedthrough PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm 741 Series



Dimensions (in mm):

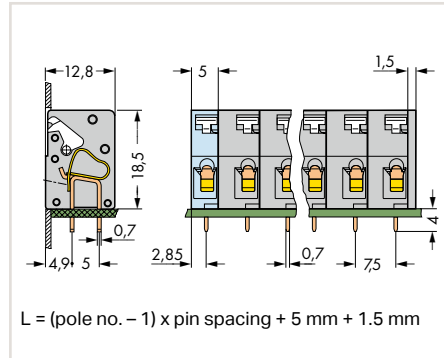


Feedthrough PCB terminal strip, with push-buttons, 2 solder pins/pole, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-102	400 (100)
3	741-103	280 (70)
4	741-104	220 (55)
5	741-105	180 (45)
6	741-106	140 (35)
7	741-107	120 (30)
8	741-108	100 (25)
9	741-109	100 (25)
10	741-110	80 (20)
12	741-112	60 (15)
16	741-116	40 (10)

With terminal strips having more than 16 poles, use the panel cutout to stabilize the strip.

Dimensions (in mm):

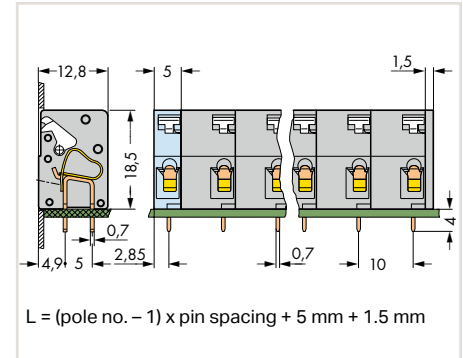


Feedthrough PCB terminal strip, with push-buttons, 2 solder pins/pole, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-302	340 (85)
3	741-303	220 (55)
4	741-304	160 (40)
5	741-305	120 (30)
6	741-306	100 (25)
7	741-307	80 (20)
8	741-308	80 (20)
9	741-309	60 (15)
10	741-310	60 (15)

With terminal strips having more than 10 poles, use the panel cutout to stabilize the strip.

Dimensions (in mm):



Feedthrough PCB terminal strip, with push-buttons, 2 solder pins/pole, gray, 10 mm (0.394 inch) pin spacing

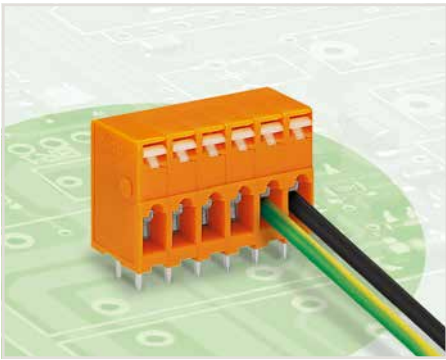
Pole No.	Item No.	Pack. Unit
2	741-502	280 (70)
3	741-503	160 (40)
4	741-504	120 (30)
5	741-505	100 (25)
6	741-506	80 (20)
7	741-507	60 (15)
8	741-508	60 (15)

With terminal strips having more than 8 poles, use the panel cutout to stabilize the strip.

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking

Feedthrough PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5.08 mm, 7.62 mm, 10.16 mm 741 Series



- Feedthrough PCB terminal strips with push-button actuated CAGE CLAMP®
- Simple, push-button wiring
- Test slot integrated into upper-portion of conductor entry for test pins

Electrical Data for Pin Spacing	5.08 mm 0.2 inch	7.62 mm 0.3 inch	10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	16 A	16 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A
Connection Data	CAGE CLAMP®		
Connection technology	CAGE CLAMP®		
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch		
Conductor entry angle to the PCB	0°		
Conductor cross-sections			
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²		
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²		
Solder Pin Data			
Solder pin length	4 mm		
Solder pin dimensions	0.7 x 0.7 mm		
Drilled hole diameter	1.1 ^{+0.1} mm		
Material Data			
Material group	I		
Insulation material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	-60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact material	Electrolytic copper (E _{cu})		
Contact plating	Tin-plated		

*(III / 2) ± Overvoltage category III /
Pollution degree 2

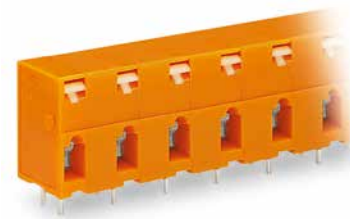
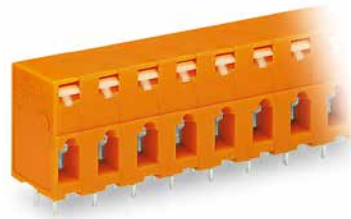
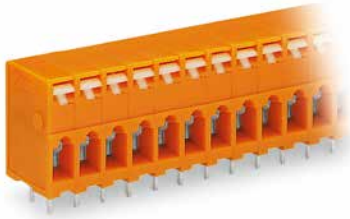
Marking accessories,
see page 604

Operating tools,
see page 588

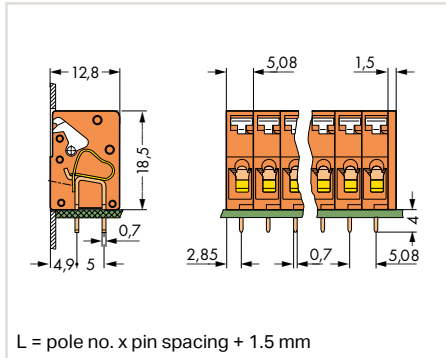
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Feedthrough PCB Terminal Strips with Push-Buttons, 2.5 mm² Pin Spacing: 5.08 mm, 7.62 mm, 10.16 mm 741 Series



Dimensions (in mm):

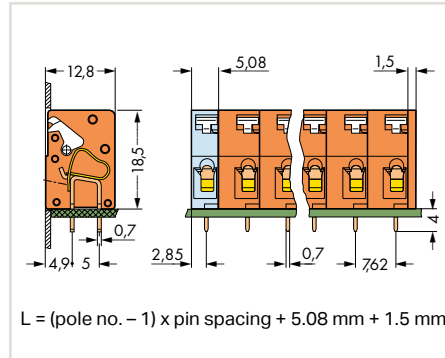


Feedthrough PCB terminal strip, with push-buttons, 2 solder pins/pole, gray, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-202	400 (100)
3	741-203	280 (70)
4	741-204	220 (55)
5	741-205	180 (45)
6	741-206	140 (35)
7	741-207	120 (30)
8	741-208	100 (25)
9	741-209	100 (25)
10	741-210	80 (20)
12	741-212	60 (15)
16	741-216	40 (10)

With terminal strips having more than 16 poles, use the panel cutout to stabilize the strip.

Dimensions (in mm):

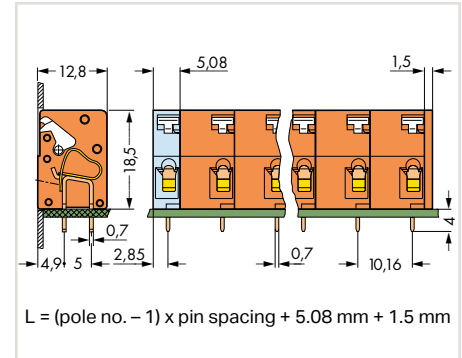


Feedthrough PCB terminal strip, with push-buttons, 2 solder pins/pole, gray, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-402	340 (85)
3	741-403	220 (55)
4	741-404	160 (40)
5	741-405	120 (30)
6	741-406	100 (25)
7	741-407	80 (20)
8	741-408	80 (20)
9	741-409	60 (15)
10	741-410	60 (15)

With terminal strips having more than 10 poles, use the panel cutout to stabilize the strip.

Dimensions (in mm):



Feedthrough PCB terminal strip, with push-buttons, 2 solder pins/pole, gray, 10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-602	280 (70)
3	741-603	160 (40)
4	741-604	120 (30)
5	741-605	100 (25)
6	741-606	80 (20)
7	741-607	60 (15)
8	741-608	60 (15)

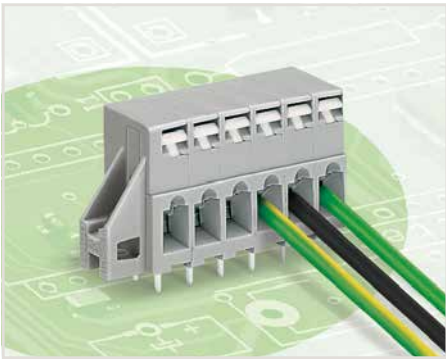
With terminal strips having more than 8 poles, use the panel cutout to stabilize the strip.

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking

Feedthrough PCB Terminal Strips with Push-Buttons and Mounting Flanges, 2.5 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm

741 Series



- Feedthrough PCB terminal strips with push-button actuated CAGE CLAMP®
- Simple, push-button wiring
- Test slot integrated into upper-portion of conductor entry for test pins
- Mounting flanges for additional mechanical stability

Electrical Data for Pin Spacing	5 mm 0.197 inch	7.5 mm 0.295 inch	10 mm 0.394 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	16 A	16 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A
Connection Data	CAGE CLAMP®		
Connection technology	CAGE CLAMP®		
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch		
Conductor entry angle to the PCB	0°		
Conductor cross-sections			
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²		
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²		
Solder Pin Data			
Solder pin length	4 mm		
Solder pin dimensions	0.7 x 0.7 mm		
Drilled hole diameter	1.1 ^{+0.1} mm		
Material Data			
Material group	I		
Insulation material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	-60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact material	Electrolytic copper (E _{cu})		
Contact plating	Tin-plated		

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

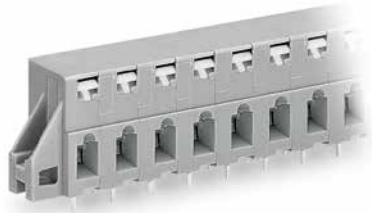
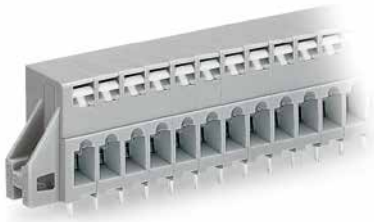
Screws,
see page 610

Additional technical information,
see Section 13

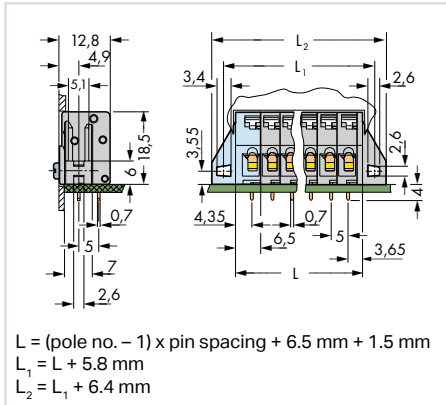
Approvals and corresponding ratings,
visit www.wago.com

Feedthrough PCB Terminal Strips with Push-Buttons and Mounting Flanges, 2.5 mm² Pin Spacing: 5 mm, 7.5 mm, 10 mm

741 Series



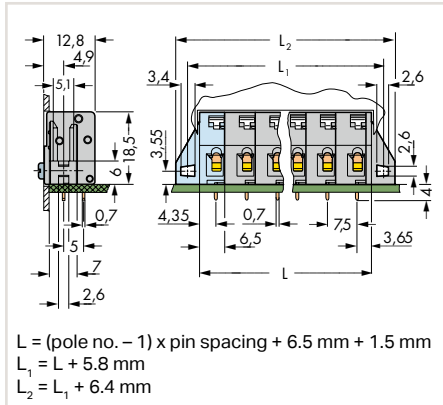
Dimensions (in mm):



Feedthrough PCB terminal strip, with push-buttons and mounting flanges, 2 solder pins/pole, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-132	180 (45)
3	741-133	160 (40)
4	741-134	140 (35)
5	741-135	120 (30)
6	741-136	100 (25)
7	741-137	80 (20)
8	741-138	80 (20)
9	741-139	80 (20)
10	741-140	60 (15)
12	741-142	60 (15)
16	741-146	40 (10)

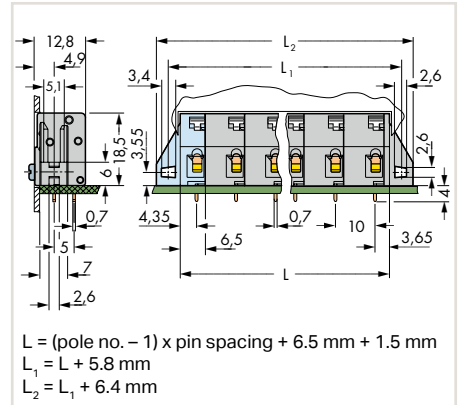
Dimensions (in mm):



Feedthrough PCB terminal strip, with push-buttons and mounting flanges, 2 solder pins/pole, gray, 7.5 mm (0.295 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-322	160 (40)
3	741-323	140 (35)
4	741-324	100 (25)
5	741-325	80 (20)
6	741-326	80 (20)
7	741-327	60 (15)
8	741-328	60 (15)
9	741-329	60 (15)
10	741-330	40 (10)

Dimensions (in mm):



Feedthrough PCB terminal strip, with push-buttons and mounting flanges, 2 solder pins/pole, gray, 10 mm (0.394 inch) pin spacing

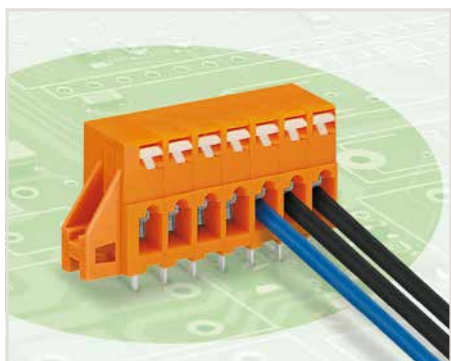
Pole No.	Item No.	Pack. Unit
2	741-522	160 (40)
3	741-523	120 (30)
4	741-524	80 (20)
5	741-525	80 (20)
6	741-526	60 (15)
7	741-527	60 (15)
8	741-528	40 (10)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking

Feedthrough PCB Terminal Strips with Push-Buttons and Mounting Flanges, 2.5 mm² Pin Spacing: 5.08 mm, 7.62 mm, 10.16 mm

741 Series



- Feedthrough PCB terminal strips with push-button actuated CAGE CLAMP®
- Simple, push-button wiring
- Test slot integrated into upper-portion of conductor entry for test pins
- Mounting flanges for additional mechanical stability

Electrical Data for Pin Spacing	5.08 mm 0.2 inch	7.62 mm 0.3 inch	10.16 mm 0.4 inch
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	250 V	400 V	630 V
Rated surge voltage (III / 3)	4 kV	6 kV	8 kV
Rated voltage (III / 2)	320 V	630 V	1000 V
Rated surge voltage (III / 2)	4 kV	6 kV	8 kV
Rated voltage (II / 2)	630 V	1000 V	1000 V
Rated surge voltage (II / 2)	4 kV	6 kV	8 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V	300 V
Rated current UL (Use Group B)	10 A	10 A	10 A
Rated voltage UL (Use Group D)	300 V	300 V	300 V
Rated current UL (Use Group D)	10 A	10 A	10 A
Approvals per	CSA	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V	300 V
Rated current CSA (Use Group B)	16 A	16 A	16 A
Rated voltage CSA (Use Group D)	300 V	300 V	300 V
Rated current CSA (Use Group D)	10 A	10 A	10 A
Connection Data	CAGE CLAMP®		
Connection technology	CAGE CLAMP®		
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch		
Conductor entry angle to the PCB	0°		
Conductor cross-sections			
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG (12: THHN, THWN)		
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²		
Fine-stranded conductor with uninsulated ferrule	0.25 ... 1.5 mm ²		
Solder Pin Data			
Solder pin length	4 mm		
Solder pin dimensions	0.7 x 0.7 mm		
Drilled hole diameter	1.1 ^{+0.1} mm		
Material Data			
Material group	I		
Insulation material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	-60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact material	Electrolytic copper (E _{cu})		
Contact plating	Tin-plated		

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

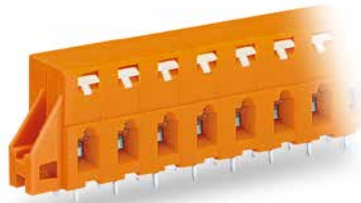
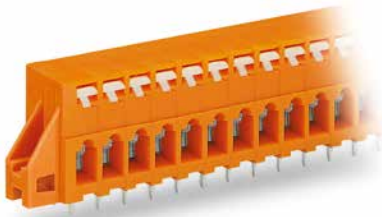
Operating tools,
see page 588

Screws,
see page 610

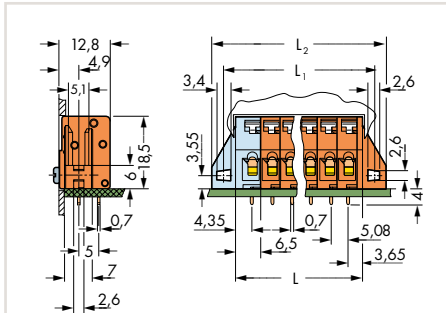
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

Feedthrough PCB Terminal Strips with Push-Buttons and Mounting Flanges, 2.5 mm² Pin Spacing: 5.08 mm, 7.62 mm, 10.16 mm 741 Series



Dimensions (in mm):

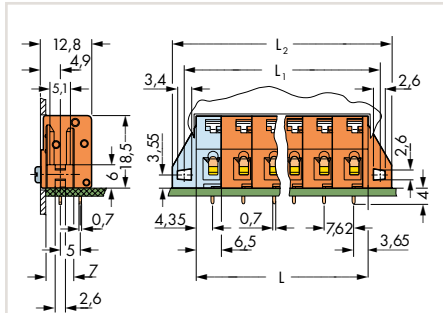


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 6.5 \text{ mm} + 1.5 \text{ mm}$
 $L_1 = L + 5.8 \text{ mm}$
 $L_2 = L_1 + 6.4 \text{ mm}$

Feedthrough PCB terminal strip, with push-buttons and mounting flanges, 2 solder pins/pole, gray, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-232	180 (45)
3	741-233	160 (40)
4	741-234	140 (35)
5	741-235	120 (30)
6	741-236	100 (25)
7	741-237	80 (20)
8	741-238	80 (20)
9	741-239	80 (20)
10	741-240	60 (15)
12	741-242	60 (15)
16	741-246	40 (10)

Dimensions (in mm):

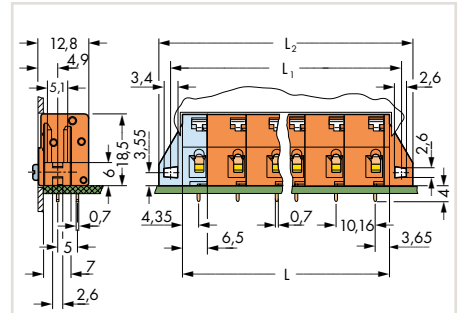


$L = (\text{pole no.} - 1) \times \text{pin spacing} + 6.5 \text{ mm} + 1.5 \text{ mm}$
 $L_1 = L + 5.8 \text{ mm}$
 $L_2 = L_1 + 6.4 \text{ mm}$

Feedthrough PCB terminal strip, with push-buttons and mounting flanges, 2 solder pins/pole, gray, 7.62 mm (0.3 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-422	160 (40)
3	741-423	140 (35)
4	741-424	100 (20)
5	741-425	80 (20)
6	741-426	80 (20)
7	741-427	60 (15)
8	741-428	60 (15)
9	741-429	40 (10)
10	741-430	40 (10)

Dimensions (in mm):



$L = (\text{pole no.} - 1) \times \text{pin spacing} + 6.5 \text{ mm} + 1.5 \text{ mm}$
 $L_1 = L + 5.8 \text{ mm}$
 $L_2 = L_1 + 6.4 \text{ mm}$

Feedthrough PCB terminal strip, with push-buttons and mounting flanges, 2 solder pins/pole, gray, 10.16 mm (0.4 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	741-622	160 (40)
3	741-623	120 (30)
4	741-624	80 (20)
5	741-625	80 (20)
6	741-626	60 (15)
7	741-627	40 (10)
8	741-628	40 (10)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors:
- Direct marking

Feedthrough PCB Terminal Strips with Mounting Flanges, 2.5 mm²

Pin Spacing: 5 mm

231 and 731 Series



- Feedthrough PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- With flanges for PCB or front-panel mounting – either flush with enclosure or protruding

Electrical Data	231 Series	731 Series
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	16 A	5 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	15 A	5 A
Rated voltage UL (Use Group C)	150 V	150 V
Rated current UL (Use Group C)	15 A	5 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	5 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	15 A	5 A
Rated voltage CSA (Use Group C)	150 V	
Rated current CSA (Use Group C)	15 A	
Rated voltage CSA (Use Group D)	300 V	
Rated current CSA (Use Group D)	10 A	
Connection Data		
Connection technology	CAGE CLAMP®	
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch	
Conductor entry angle to the PCB	0°	
Conductor cross-sections		
Solid conductor	0.08 ... 2.5 mm / 28 ... 14 AWG	
Fine-stranded conductor	0.08 ... 2.5 mm / 28 ... 14 AWG	
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²	
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²	
Solder Pin Data		
Solder pin length	4.7 mm	
Solder pin dimensions	0.8 x 1.3 mm	
Drilled hole diameter	1.8 ^{+0.1} mm	
Material Data		
Material group	I	
Insulation material	Polyamide 66 (PA 66)	
Flammability class per UL94	V0	
Limit temperature range	-60 ... +105 °C	
Clamping spring material	Chrome nickel spring steel (CrNi)	
Contact material	Electrolytic copper (E _{cu})	
Contact plating	Tin-plated	

*(III / 2) ± Overvoltage category III / Pollution degree 2

Marking accessories, see page 604

Operating tools, see page 588

Screws, see page 610

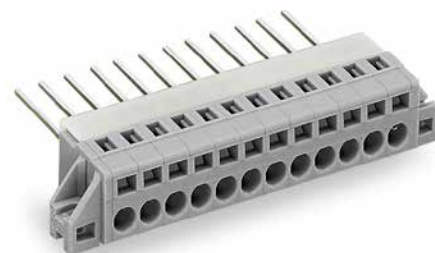
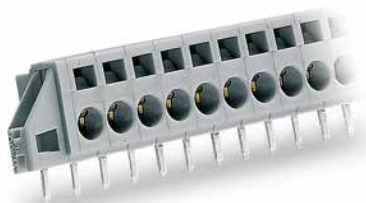
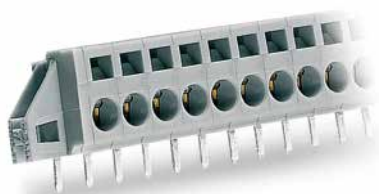
Additional technical information, see Section 13

Approvals and corresponding ratings, visit www.wago.com

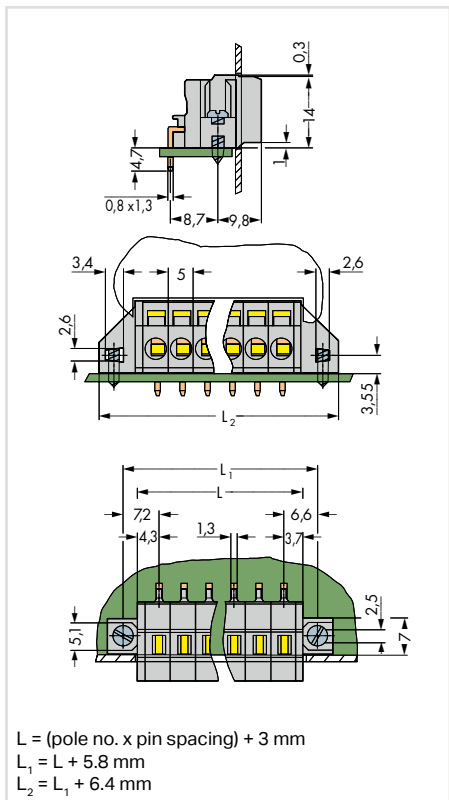
Feedthrough PCB Terminal Strips with Mounting Flanges, 2.5 mm²

Pin Spacing: 5 mm

231 and 731 Series



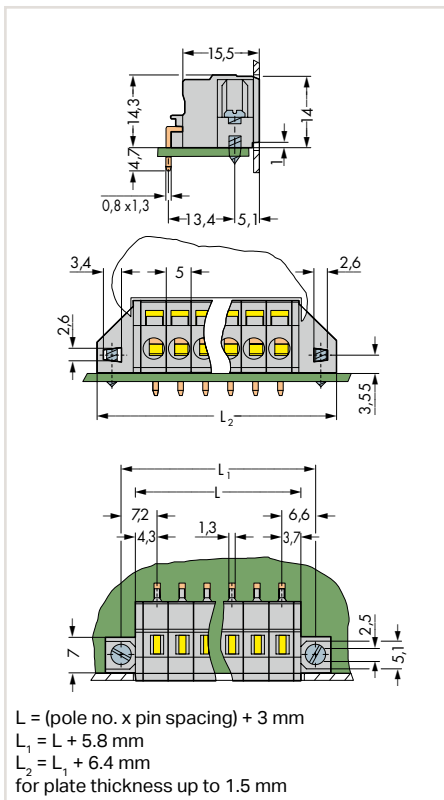
Dimensions (in mm):



Feedthrough PCB terminal strip, with mounting flanges, 1 solder pin/pole, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-602/017-000	100
3	231-603/017-000	50
4	231-604/017-000	50
5	231-605/017-000	50
6	231-606/017-000	50
7	231-607/017-000	50
8	231-608/017-000	50
9	231-609/017-000	25
10	231-610/017-000	25
11	231-611/017-000	25
12	231-612/017-000	25

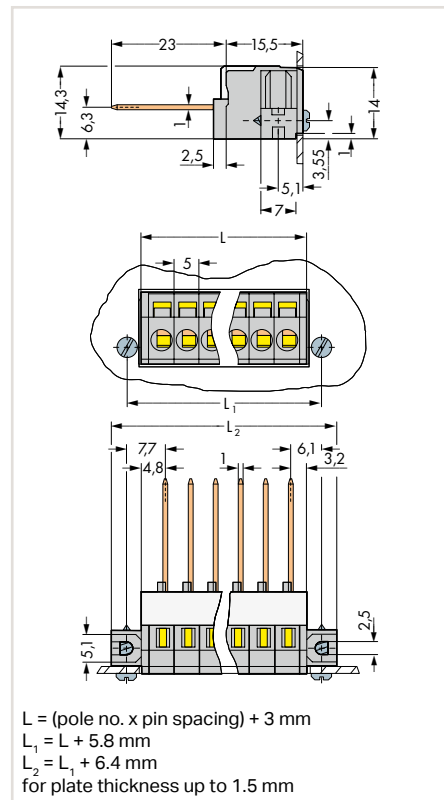
Dimensions (in mm):



Feedthrough PCB terminal strip, with flanges flush mounting, 1 solder pin/pole, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-602/023-000	100
3	231-603/023-000	50
4	231-604/023-000	50
5	231-605/023-000	50
6	231-606/023-000	50
7	231-607/023-000	50
8	231-608/023-000	50
9	231-609/023-000	25
10	231-610/023-000	25
11	231-611/023-000	25
12	231-612/023-000	25

Dimensions (in mm):



Feedthrough PCB terminal strip, with flanges for flush mounting and wire-wrap pins, gray, 5 mm (0.197 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-132	50
3	731-133	50
4	731-134	25
5	731-135	25
6	731-136/048-000	25
7	731-137/048-000	25
8	731-138/048-000	25
9	731-139/048-000	10
10	731-140/048-000	10
11	731-141/048-000	10
12	731-142/048-000	10

Models with 6 poles or more feature a reinforcement.

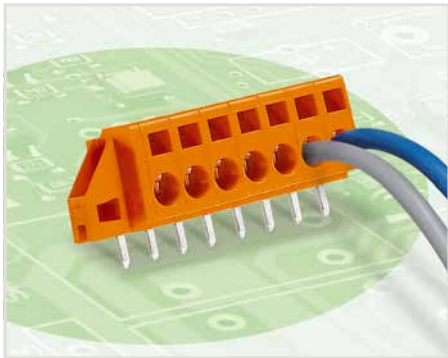
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking
- Versions without mounting flanges

Feedthrough PCB Terminal Strips with Mounting Flanges, 2.5 mm²

Pin Spacing: 5.08 mm

231 and 731 Series



- Feedthrough PCB terminal strips with screwdriver-actuated CAGE CLAMP®
- With flanges for PCB or front-panel mounting – either flush with enclosure or protruding

Electrical Data	231 Series	731 Series
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	320 V	320 V
Rated surge voltage (III / 3)	4 kV	4 kV
Rated voltage (III / 2)	320 V	320 V
Rated surge voltage (III / 2)	4 kV	4 kV
Rated voltage (II / 2)	630 V	630 V
Rated surge voltage (II / 2)	4 kV	4 kV
Rated current	16 A	5 A
Approvals per	UL 1059	UL 1059
Rated voltage UL (Use Group B)	300 V	300 V
Rated current UL (Use Group B)	15 A	5 A
Rated voltage UL (Use Group C)	150 V	150 V
Rated current UL (Use Group C)	15 A	5 A
Rated voltage UL (Use Group D)	300 V	300 V
Rated current UL (Use Group D)	10 A	5 A
Approvals per	CSA	CSA
Rated voltage CSA (Use Group B)	300 V	300 V
Rated current CSA (Use Group B)	15 A	5 A
Rated voltage CSA (Use Group C)	150 V	
Rated current CSA (Use Group C)	15 A	
Rated voltage CSA (Use Group D)	300 V	
Rated current CSA (Use Group D)	10 A	
Connection Data		
Connection technology	CAGE CLAMP®	
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch	
Conductor entry angle to the PCB	0°	
Conductor cross-sections		
Solid conductor	0.08 ... 2.5 mm / 28 ... 14 AWG	
Fine-stranded conductor	0.08 ... 2.5 mm / 28 ... 14 AWG	
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²	
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²	
Solder Pin Data		
Solder pin length	4.7 mm	
Solder pin dimensions	0.8 x 1.3 mm	
Drilled hole diameter	1.8 ^{+0.1} mm	
Material Data		
Material group	I	
Insulation material	Polyamide 66 (PA 66)	
Flammability class per UL94	V0	
Limit temperature range	-60 ... +105 °C	
Clamping spring material	Chrome nickel spring steel (CrNi)	
Contact material	Electrolytic copper (E _{cu})	
Contact plating	Tin-plated	

*(III / 2) ± Overvoltage category III /
Pollution degree 2

Marking accessories,
see page 604

Operating tools,
see page 588

Screws,
see page 610

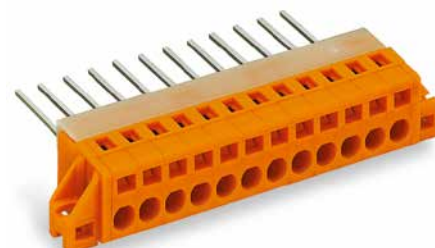
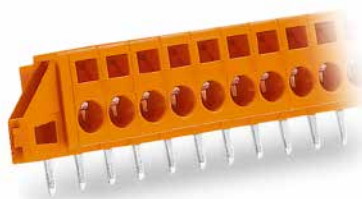
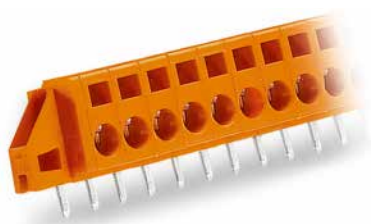
Additional technical information,
see Section 13

Approvals and corresponding ratings,
visit www.wago.com

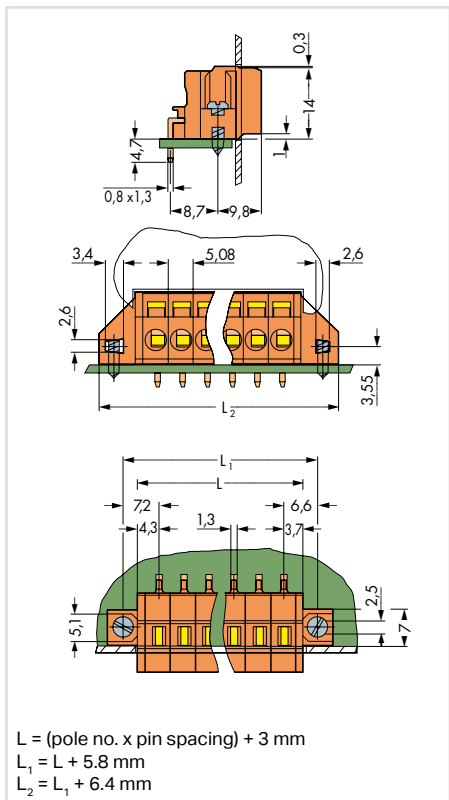
Feedthrough PCB Terminal Strips with Mounting Flanges, 2.5 mm²

Pin Spacing: 5.08 mm

231 and 731 Series



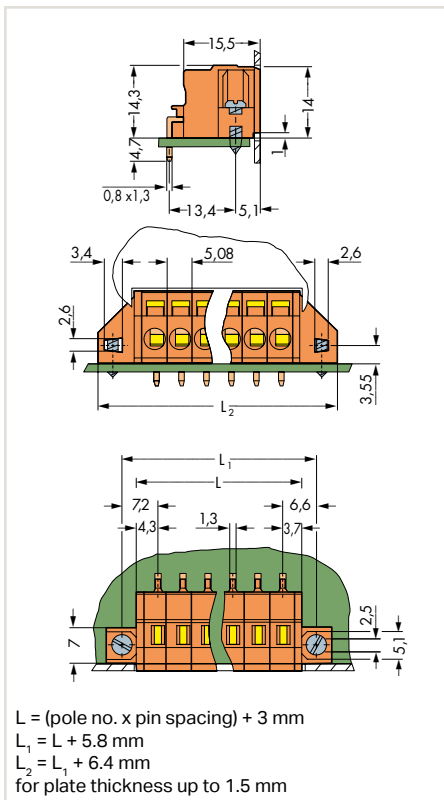
Dimensions (in mm):



Feedthrough PCB terminal strip, with mounting flanges, 1 solder pin/pole, gray, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/017-000	100
3	231-633/017-000	50
4	231-634/017-000	50
5	231-635/017-000	50
6	231-636/017-000	50
7	231-637/017-000	50
8	231-638/017-000	50
9	231-639/017-000	25
10	231-640/017-000	25
11	231-641/017-000	25
12	231-642/017-000	25

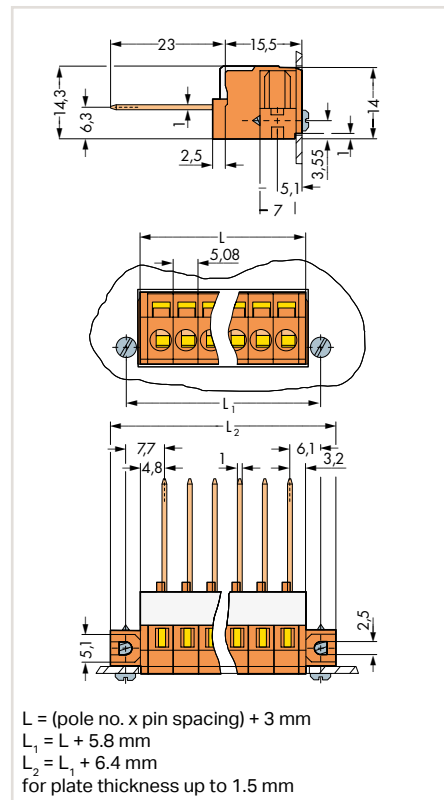
Dimensions (in mm):



Feedthrough PCB terminal strip, with flanges for flush mounting 1 solder pin/pole, gray, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	231-632/023-000	100
3	231-633/023-000	50
4	231-634/023-000	50
5	231-635/023-000	50
6	231-636/023-000	50
7	231-637/023-000	50
8	231-638/023-000	50
9	231-639/023-000	25
10	231-640/023-000	25
11	231-641/023-000	25
12	231-642/023-000	25

Dimensions (in mm):



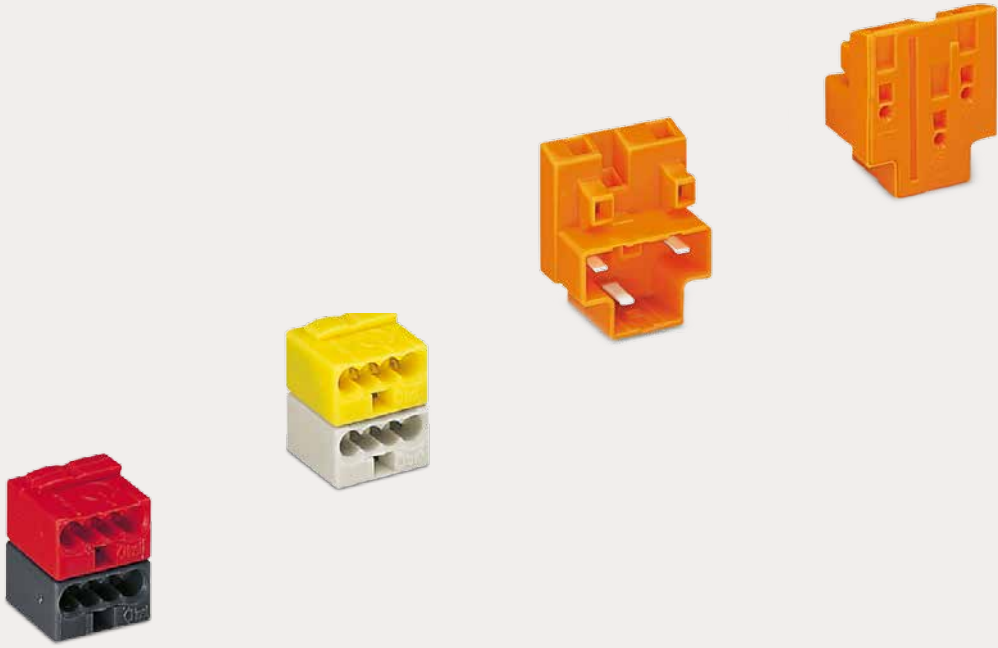
Feedthrough PCB terminal strip, with flanges for flush mounting and wire-wrap pins, gray, 5.08 mm (0.2 inch) pin spacing

Pole No.	Item No.	Pack. Unit
2	731-162	50
3	731-163	50
4	731-164	25
5	731-165	25
6	731-166/048-000	25
7	731-167/048-000	25
8	731-168/048-000	25
9	731-169/048-000	10
10	731-170/048-000	10
11	731-171/048-000	10
12	731-172/048-000	10

Models with 6 poles or more feature a reinforcement.




Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking
- Versions without mounting flanges

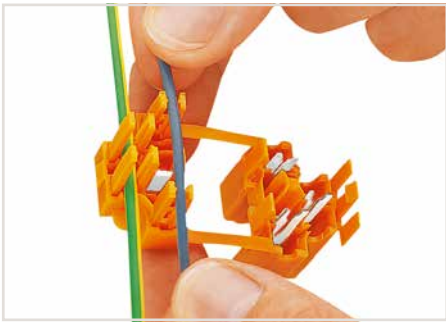


Specialty Connectors

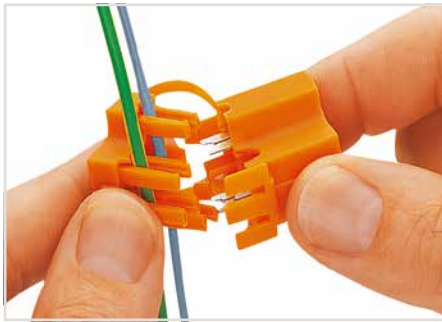
Specialty Connectors

	Series	Page
 <p>3- and 6-Pole Wire-Tap Branch Connectors (e.g., for elevators), CAGE CLAMP®: 0.08 ... 2.5 mm² (28 ... 14 AWG) IDC: 0.75 ... 1.5 mm² (18 ... 16 AWG) "f-st"</p>	730	568
 <p>Connectors for KNX/EIB Bus Coupler Units, PUSH WIRE®: 0.6 ... 0.8 mm Ø (22 ... 20 AWG) "sol."</p>	243	572
 <p>General Accessories – Section 12</p>		586

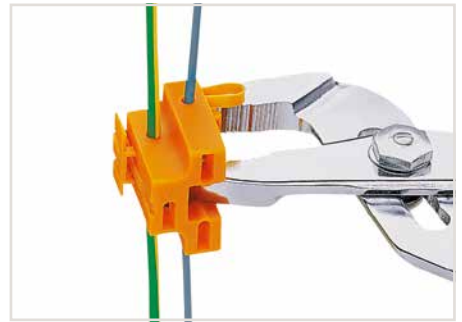
Wire-Tap Branch Connectors, 3-Pole 730 Series Description and Installation



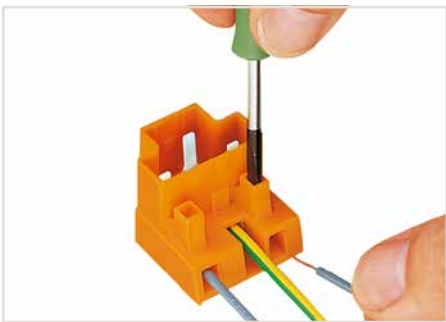
Press conductor into strain relief fingers.



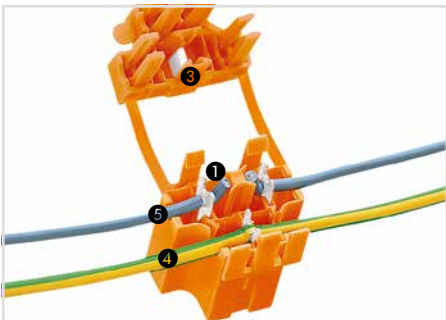
Place upper and lower part of the socket into pre-locking position.



Press into final position using pliers.

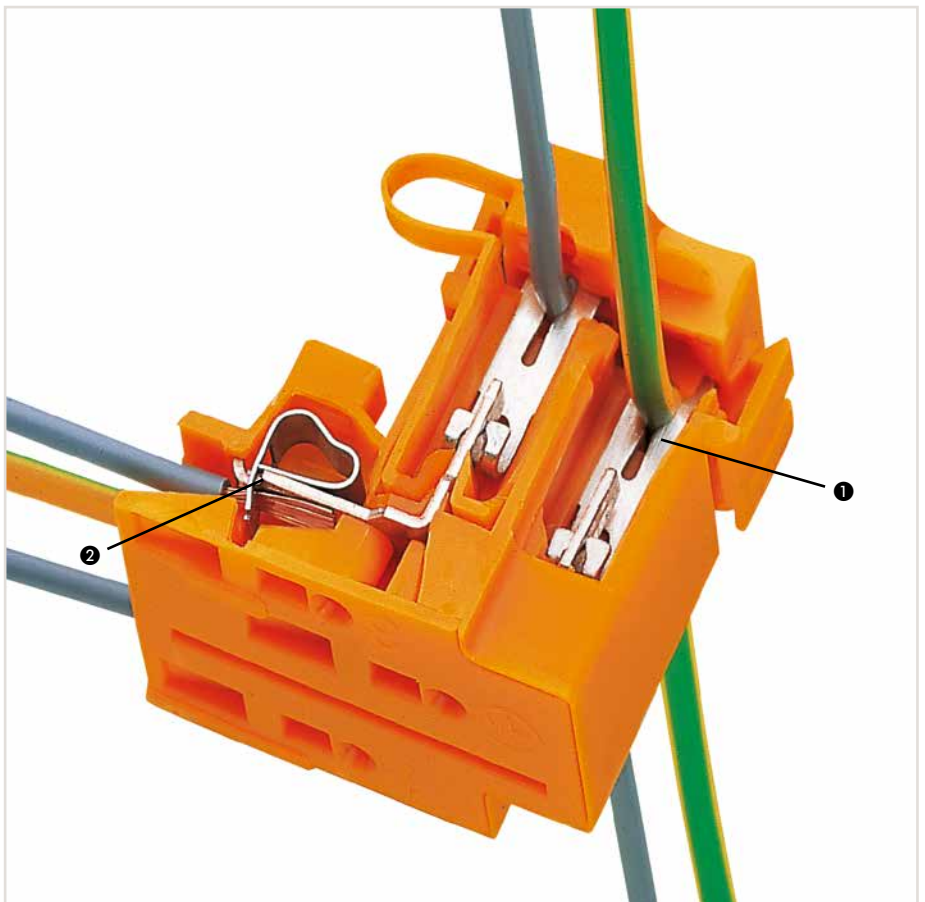


Insert conductors via screwdriver – 3-pole plug equipped with CAGE CLAMP®.



Three-pole socket includes:

- 1 IDC
- 2 CAGE CLAMP®
- 3 Isolation blade
- 4 IDC contacted ground conductor
- 5 Cut and IDC contacted "live" conductor

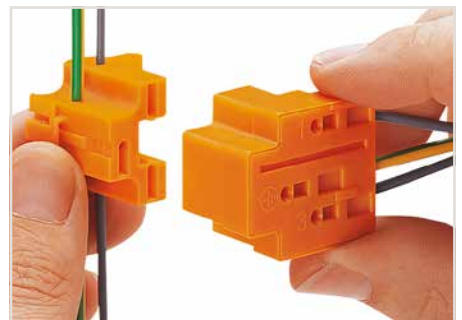


730 Series, 3-pole

10

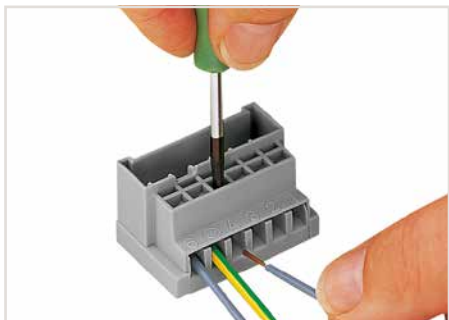


Snapping socket halves together will automatically cut and terminate a "live" conductor without stripping – enables switching applications (e.g., door switches).

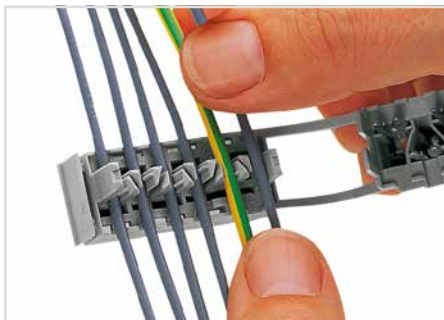


Insert plug into socket.

Wire-Tap Branch Connectors, 6-Pole 730 Series Description and Installation



Insert conductors via screwdriver – 6-pole plug equipped with CAGE CLAMP®.



Press conductors into strain relief fingers.



Place upper and lower part of the socket into pre-locking position.



730 Series



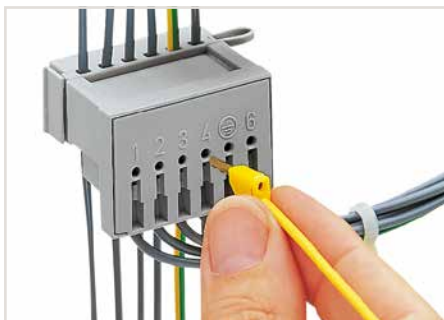
Press into final position using pliers.



Insert plug into socket.



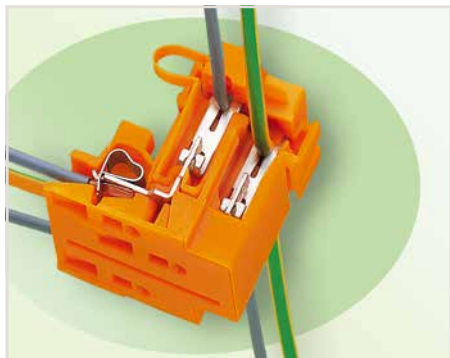
Marking via side marker carrier.



Testing via 2.3 mm Ø test plug.

Wire-Tap Branch Connectors, 3- and 6-Pole


730 Series





- Plugs with CAGE CLAMP® for the universal connection of all conductor types
- Sockets with IDC for tapping individual conductors without stripping
- Three-pole sockets automatically cut "live" conductors (e.g., door switches in elevator shafts)
- Sockets available with additional mounting flanges


Electrical Data	Potential – Potential	Potential – Surface
Ratings per*	IEC/EN 60664-1	IEC/EN 60664-1
Rated voltage (III / 3)	500 V	320 V
Rated surge voltage (III / 3)	6 kV	4 kV
Rated voltage (III / 2)	630 V	320 V
Rated surge voltage (III / 2)	6 kV	4 kV
Rated voltage (II / 2)	1000 V	630 V
Rated surge voltage (II / 2)	6 kV	4 kV
Rated current	10 A	10 A
Approvals per	UL 1059	
Rated voltage UL (Use Group C)	600 V	
Rated current UL (Use Group C)	10 A	
Approvals per	CSA	
Rated voltage CSA (Use Group C)	600 V	
Rated current CSA (Use Group C)	10 A	
Connection Data		
Connection technology	CAGE CLAMP®	
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch	
Conductor sizes		
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG (12: THHN, THWN)	
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG (12: THHN, THWN)	
Fine-stranded conductor with insulated ferrule	0.25 ... 1.5 mm ²	
Fine-stranded conductor with uninsulated ferrule	0.25 ... 2.5 mm ²	
Connection technology	IDC	
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch	
Conductor sizes		
Fine-stranded conductor	0.75 ... 1.5 mm / 18 ... 16 AWG	
Insulation diameter	max. 3.5 mm Ø	
Note (fine-stranded conductor)	PVC insulation, single	
Material Data		
Material group	I	
Insulation material	Polyamide 66 (PA 66)	
Flammability class per UL94	V0	
Limit temperature range	-60 ... +85 °C	
Clamping spring material	Chrome nickel spring steel (CrNi)	
Contact material (socket)	Brass	
Contact material (plug)	Electrolytic copper (E _{cu})	
Contact plating	Tin-plated	

*(III / 2) ± Overvoltage category III /
Pollution degree 2

 Operating tools,
see page 588

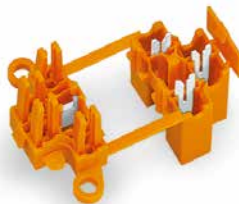
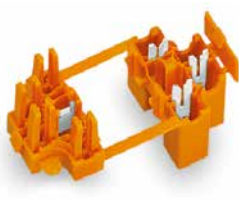
 Test plugs,
see page 601

 Additional technical information,
see Section 13

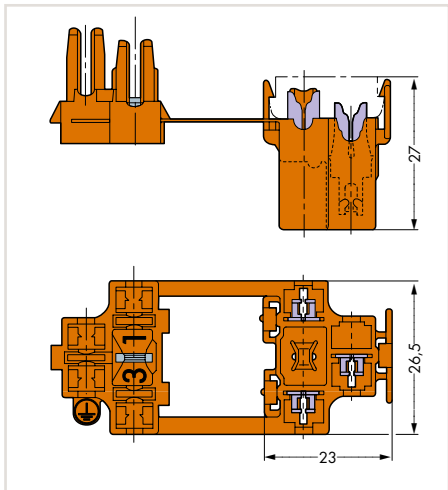
 Approvals and corresponding ratings,
visit www.wago.com

Tap-Off Connectors, 3-Pole

730 Series

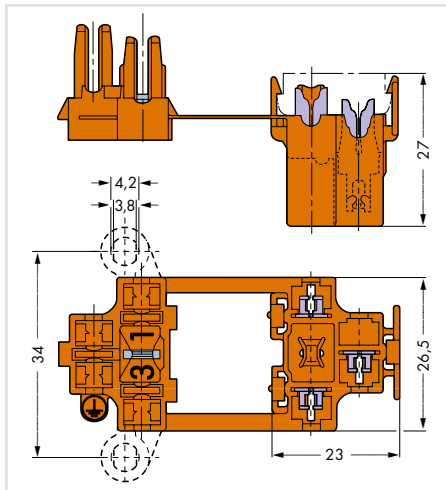


Dimensions (in mm):



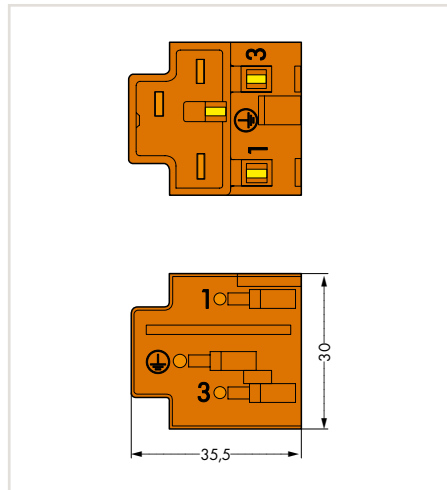
Socket, with IDC, 2 x live, 1 x protective ground, orange

Color	Item No.	Pack. Unit
3	730-103	50



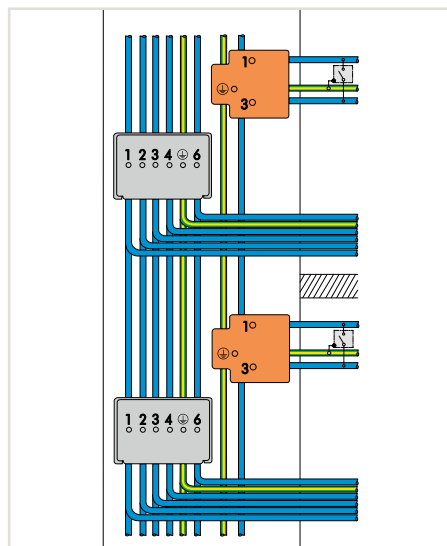
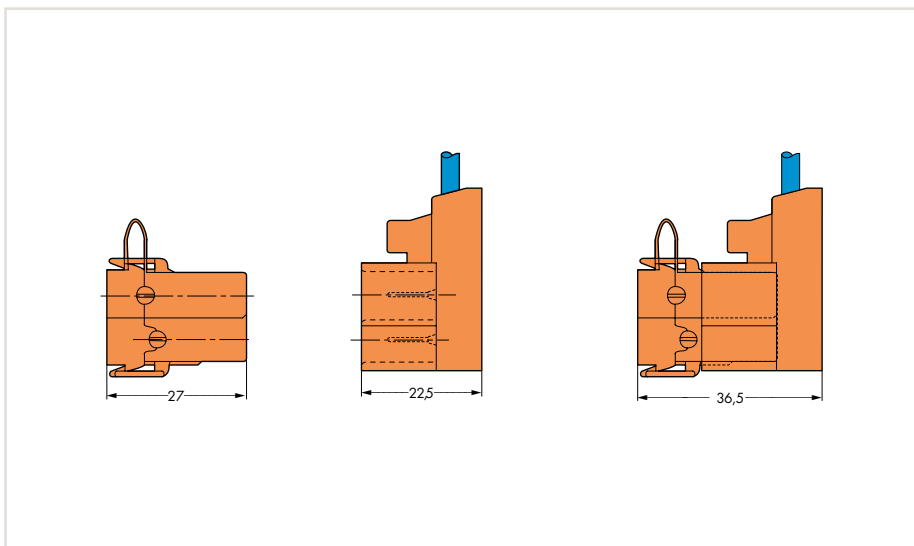
Socket, with IDC and mounting flanges, 2 x live, 1 x protective ground, orange

Color	Item No.	Pack. Unit
3	730-123	50



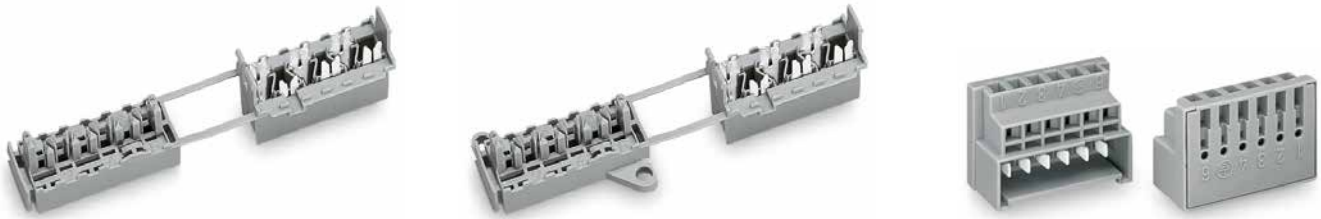
Plug, with CAGE CLAMP® connection, 2 x live, 1 x protective ground, orange

Pole No.	Item No.	Pack. Unit
3	730-113	50

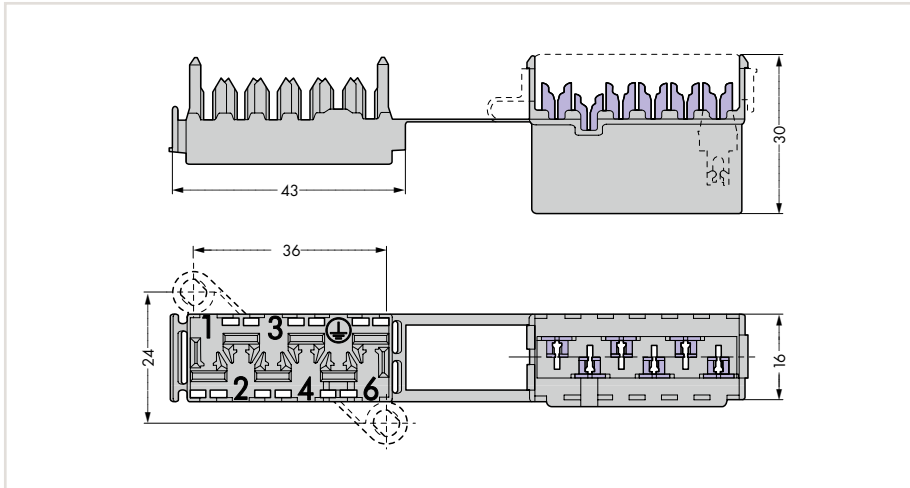


Wire-Tap Branch Connectors, 6-Pole

730 Series



Dimensions (in mm):

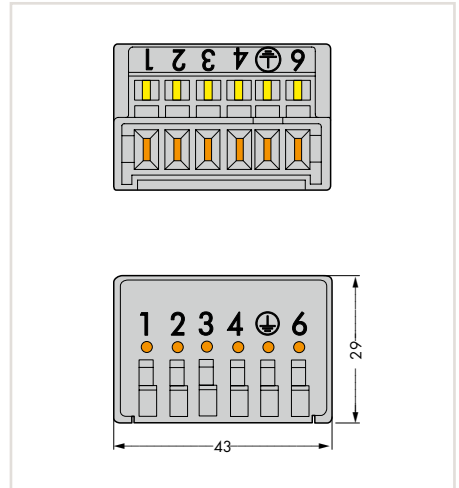


Socket, with IDC, 5 x live, 1 x protective ground, gray

Color	Item No.	Pack. Unit
6	730-106	50

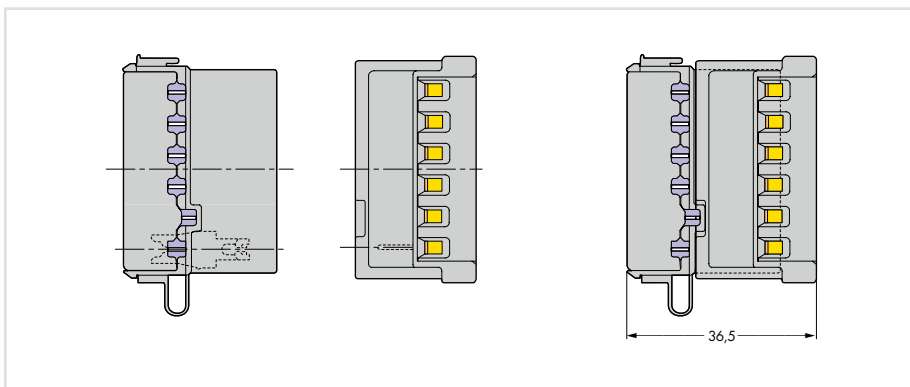
Socket, with IDC and mounting flanges, 5 x live, 1 x protective ground, gray

Color	Item No.	Pack. Unit
6	730-126	50



Plug, with CAGE CLAMP® connection, 5 x live, 1 x protected ground, gray

Pole No.	Item No.	Pack. Unit
6	730-116	50



10

Connectors for KNX/EIB Bus Coupler Units

243 Series



- Compact, 4-conductor KNX/EIB connectors with PUSH WIRE® connection
- Push-in termination of solid conductors
- Four-conductor entries allow devices to be replaced without disrupting the KNX/EIB bus connection

Electrical Data

Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	6 A

Connection Data

Connection technology	PUSH WIRE®
Strip length	5 ... 6 mm / 0.20 ... 0.24 inch
Conductor diameter	
Solid conductor	0.6 ... 0.8 mm / 22 ... 20 AWG
Solid conductor	1.0 mm / 18 AWG

Material Data

Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E _{cu})
Contact plating	Tin-plated

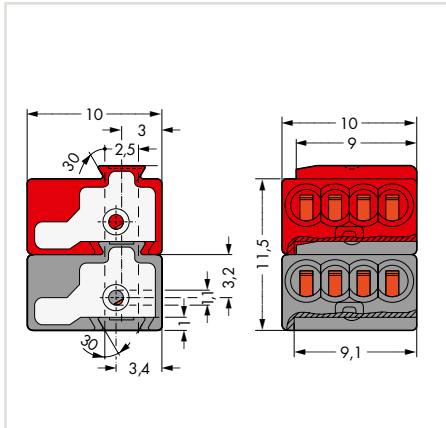
* (III / 2) ± Overvoltage category III /
Pollution degree 2

Connectors for KNX/EIB Bus Coupler Units

243 Series



Dimensions (in mm):



Connectors, for KNX/EIB bus coupler units, assembled, with test slot

Color	Item No.	Pack. Unit
● red ● dark gray	243-211	250
● yellow ● light gray	243-212	250

The KNX bus system is the intelligent solution to simplify existing building installation control. Instead of many different conventional wiring styles, the KNX bus system offers a flexible general solution for every application in the field of switching, controlling, measuring, monitoring and signaling.

The decentralized KNX system consists of active and intelligent modules. The system can be customized using the different KNX components.

For example, pairs of sensors/actuators control:

- lighting
- window blinds
- heating/ventilation
- energy management systems
- information display/transmission

Command data is transmitted via twisted-pair bus cable, which is connected to the sensors and actuators by WAGO PUSH WIRE® connectors.

The sensors transmit the commands as "telegrams" to the actuators via the bus. Once the information is gathered, the commands are performed by the actuators. An address is assigned to each "telegram" so that only a defined transmitter is allowed to activate a specified receiver. The address assignment is done using a programming tool.


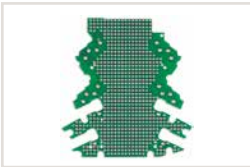
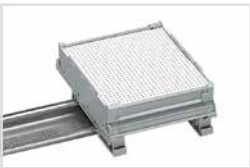

The bus system is divided into "lines" (segments). The bus lines can be laid out either in a line, star or tree topology. WAGO's PUSH WIRE® connectors connect the different branches to one another in the junction boxes.

New components can be easily added to the existing bus, permitting future expansion of the installation. When future reallocation of rooms, floors or buildings is required, the installation remains unchanged, so that only the sensors must be reassigned to the actuators.



■ Empty Housings

Empty Housings

		Series	Page
	Modular Empty Housings Housing Width: 12.5 mm and 22.5 mm	2857	579
	Stripboards for Modular Empty Housings	2857	580
	DIN-Rail Mount PCB Carriers	288	582
	Mounting Feet	209	584
	General Accessories – Section 12		586

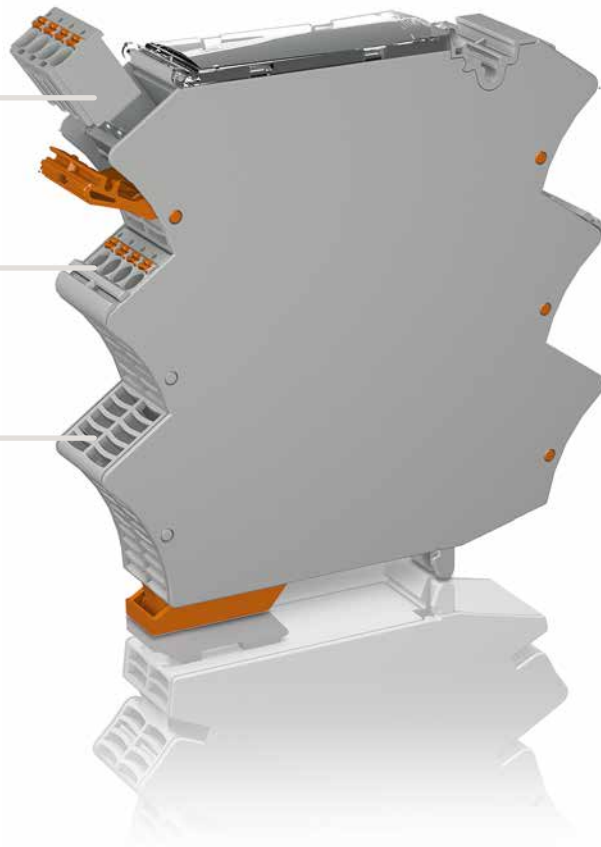
Modular Empty Housings Overview and Configuration 2857 Series

Pluggable *picoMAX*[®]
Connectors

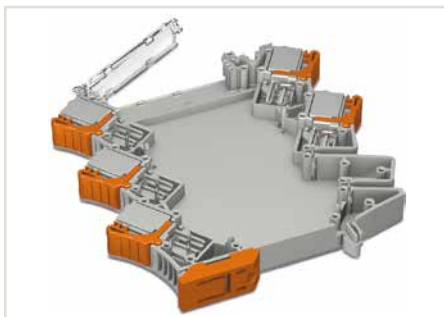
Fixed *picoMAX*[®] Connectors

Connector-free slot

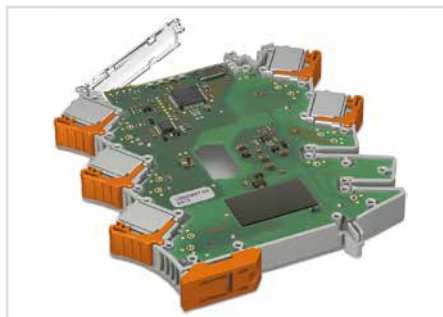
All are freely selectable for
each connection point



Supplied as a pre-assembled unit:



1. Pre-assembled unit










2. Insert and solder the PCB.



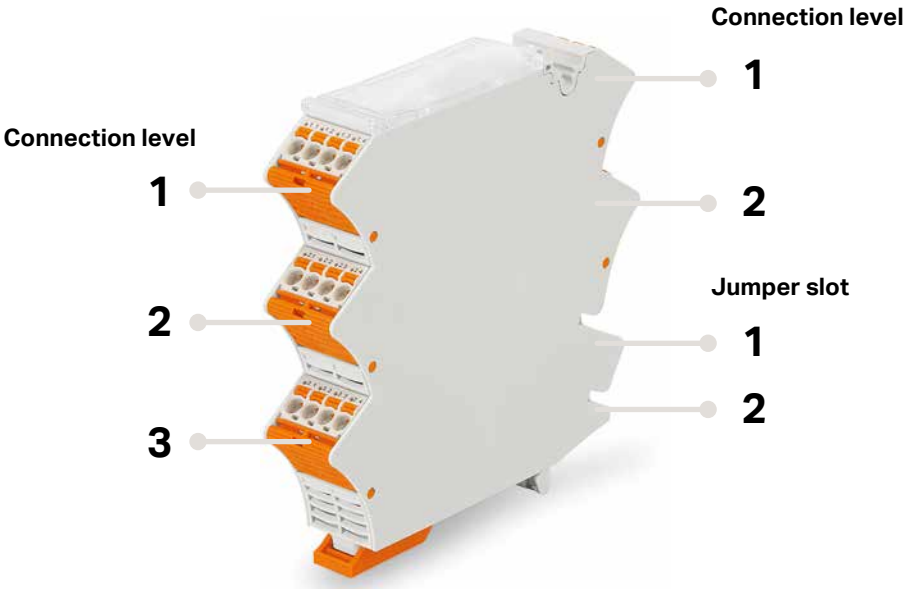
3. Snap on the side wall.

Housing configuration:

Housing width: 12.5 mm	 2857-101	 2857-102	 2857-103	-
Housing width: 22.5 mm	 2857-121	 2857-122	 2857-123	 2857-124
Connection levels	2-2	3-2	3-3	1-1
Jumper slots	2-2	0-2	0-0	2-2

Mixed configuration (fixed/removable/empty slot) upon request!

Example of connection level and jumper slot assignment:



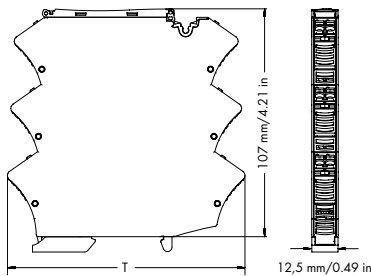
Connection levels	3-2
Jumper slots	0-2

Modular Empty Housings

2857 Series



- picoMAX® female connectors, with coding keys, 4-pole
- Pre-assembled unit
- Flexible conductor termination
- Customizable connection levels
- Various marking options available
- Sealable, transparent cover
- Commoning via 859-402 Jumpers



Electrical Data (picoMAX® 5.0 Female Connector)

Pin spacing	5 mm / 0.197 inch
Ratings per*	IEC/EN 60664-1
Rated voltage (III / 3)	250 V
Rated surge voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated surge voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated surge voltage (II / 2)	4 kV
Rated current	16 A

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor cross-sections	
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG (12: THHN, THWN)
Fine-stranded conductor with insulated ferrule	0.2 ... 1.5 mm ²
Fine-stranded conductor with uninsulated ferrule	0.2 ... 2.5 mm ²


Material Data (picoMAX® 5.0 Female Connector)


Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +100 °C
Contact material	Electrolytic copper (E _{CU})
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact plating	Tin-plated

Material Data (Empty Housing)

Housing material	PC
Flammability class	V0
Ambient operating temperature	-40 ... +70 °C
Storage temperature	-40 ... +85 °C

* (III / 2) ≙ Overvoltage category III / Pollution degree 2

 Additional technical data, see *picoMAX®* Catalog

 Marking strips, WMB and WMB Inline, see page 608

Modular Empty Housings

2857 Series



Modular empty housing, for DIN-35 rail,
12.5 mm wide housing

Description	Item No.	Pack. Unit
2-2 connection levels, 2-2 jumper slots	2857-101	10
3-2 connection levels, 0-2 jumper slots	2857-102	10
3-3 connection levels, 0-0 jumper slots	2857-103	10

Technical Data: Empty Housing

Dimensions (mm) W x H x D	12.5 x 107 x 108 (2857-101) 12.5 x 107 x 110 (2857-102) 12.5 x 107 x 112 (2857-103) Height from upper-edge of DIN-35 rail
Power loss	2 W

Accessories

Description	Item No.	Pack. Unit
Coding pin carrier	2092-1610	1
Jumpers	859-402	1



Modular empty housing, for DIN-35 rail,
22.5 mm wide housing

Description	Item No.	Pack. Unit
2-2 connection levels, 2-2 jumper slots	2857-121	5
3-2 connection levels, 0-2 jumper slots	2857-122	5
3-3 connection levels, 0-0 jumper slots	2857-123	5
1-1 connection levels, 2-2 jumper slots	2857-124	5

Technical Data: Empty Housing

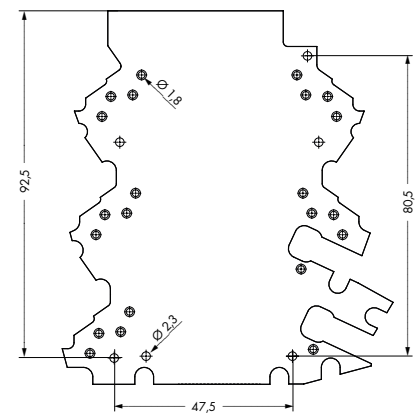
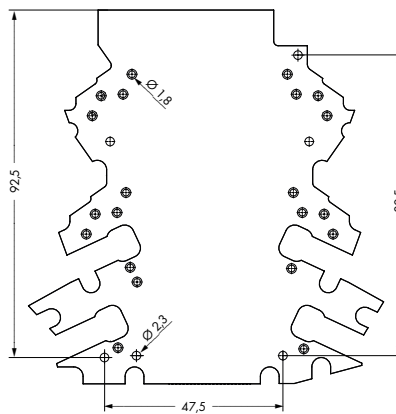
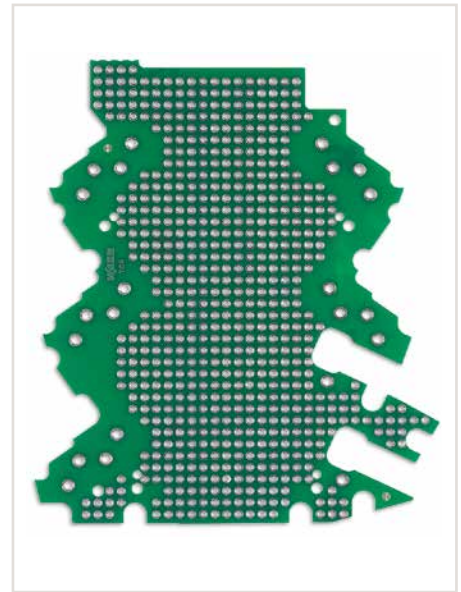
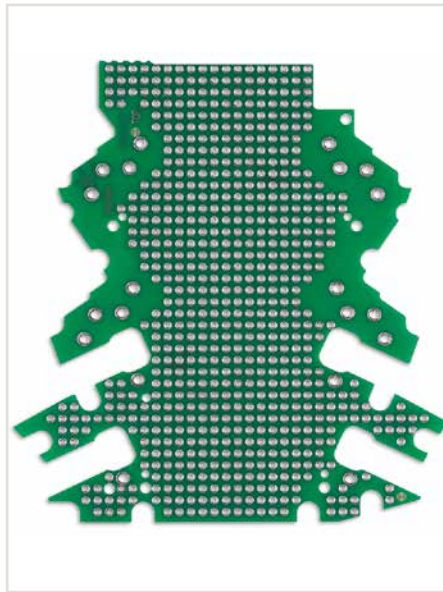
Dimensions (mm) W x H x D	22.5 x 107 x 108 (2857-121) 22.5 x 107 x 110 (2857-122) 22.5 x 107 x 112 (2857-123) 22.5 x 107 x 105 (2857-124) Height from upper-edge of DIN-35 rail
Power loss	3 W

Accessories

Description	Item No.	Pack. Unit
Coding pin carrier	2092-1610	1
Jumpers	859-402	1

Stripboards for Modular Empty Housings

2857 Series



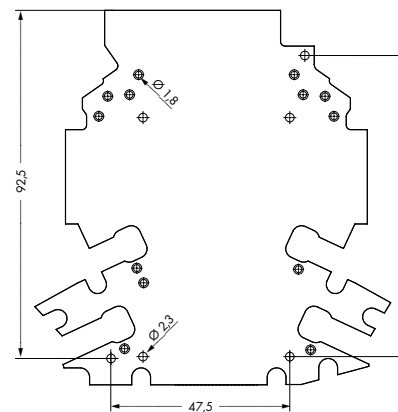
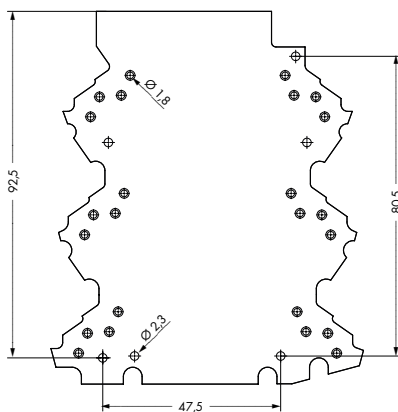
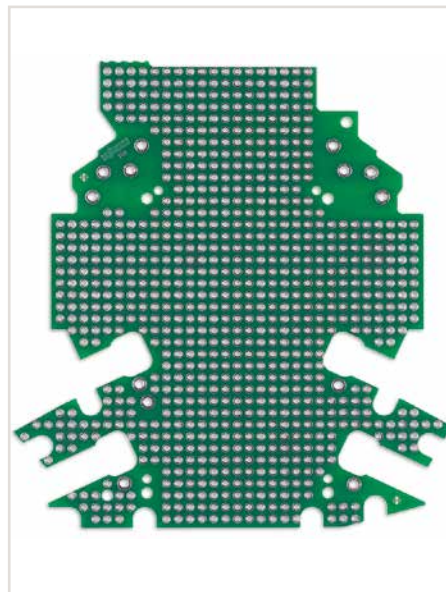
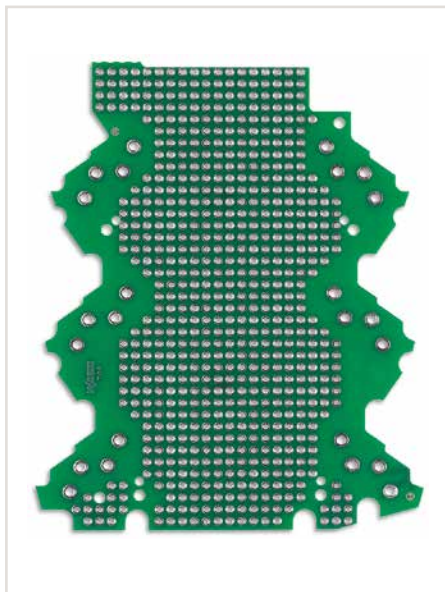
Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-191/3140-000	5 (5 x 1)

Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-192/3140-000	5 (5 x 1)

Technical Data		
Connection levels	2-2	3-2
Jumper slots	2-2	0-2

Stripboards for Modular Empty Housings

2857 Series



Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-193/3140-000	5 (5 x 1)

Stripboard, for installation in 12.5 mm and 22.5 mm empty housings		
	Item No.	Pack. Unit
	2857-194/3140-000	5 (5 x 1)

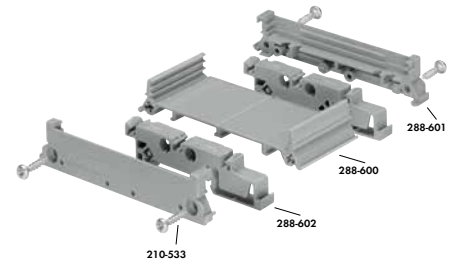
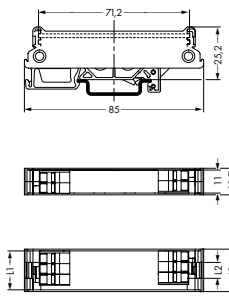
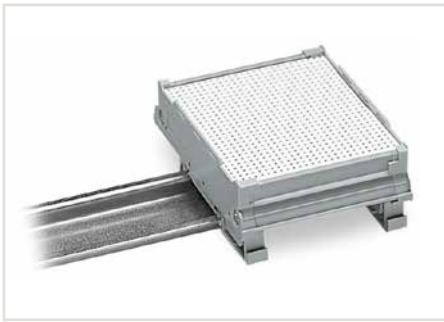
Technical Data

Connection levels	3-3
Jumper slots	0-0

1-1
2-2

DIN-Rail Mount PCB Carriers

288 Series

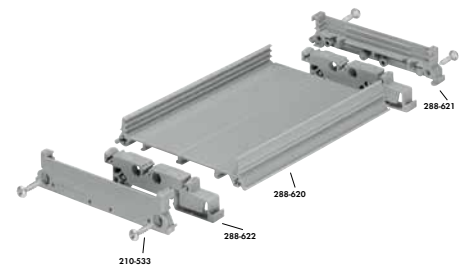
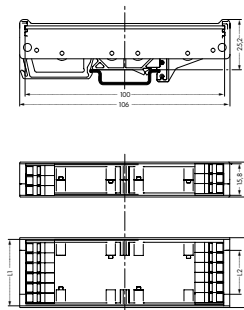


Mounting carrier (size 1)

Length calculation for a complete mounting carrier:

- PCB length: L1
- Base length: L2 = L1 - 11 mm
- Mounting carrier length: L3 = L1 + 2 mm
- Lateral cover (size 1): 6.35 mm thick
- Free space between base and PCB (when using upper PCB groove): 5 mm
- PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width); -0.1/+0.3 for milling contours

Mounting carrier, size 1		
Description	Item No.	Pack. Unit
Lateral cover, size 1, small, 6.35 mm thick	288-601	1
Mounting foot for DIN-35 rail	288-602	1
Carrier base, size 1, 1 m long	288-600	1



Mounting carrier (size 2)

Length calculation for a complete mounting carrier:

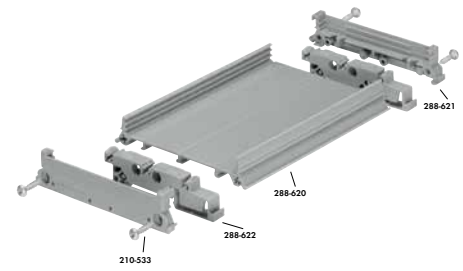
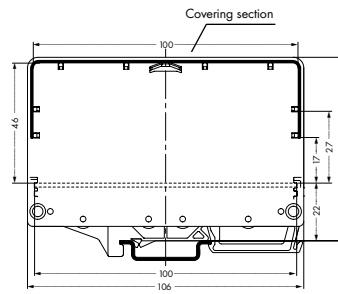
- PCB length: L1
- Base length: L2 = L1 - 15.8 mm
- Mounting carrier length: L3 = L1 + 2 mm
- Cover length: L4 = L1
- Lateral cover (size 2): 8.75 mm thick
- Free space between base and PCB (when using upper PCB groove): 5 mm
- PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width); -0.1/+0.3 for milling contours

Mounting carrier, size 2		
Description	Item No.	Pack. Unit
Lateral cover, size 2, small, 8.75 mm thick	288-621	1
Mounting foot for DIN-35 rail	288-622	1
Carrier base, size 2, 1 m long	288-620	1

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DIN-Rail Mount PCB Carriers

288 Series



Mounting carrier (size 2)

Length calculation for a complete mounting carrier:

- PCB length: L1
- Base length: L2 = L1 - 15.8 mm
- Mounting carrier length: L3 = L1 + 2 mm
- Cover length: L4 = L1
- Lateral cover (size 2): 8.75 mm thick
- Free space between base and PCB (when using upper PCB groove): 5 mm
- PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width); -0.1/+0.3 for milling contours

Mounting carrier, size 2, with cover		
Description	Item No.	Pack. Unit
Lateral cover, size 2, large, 8.75 mm thick	288-626	1
Cover, size 2, 1 m long	288-627	1

Accessories

Marking strips

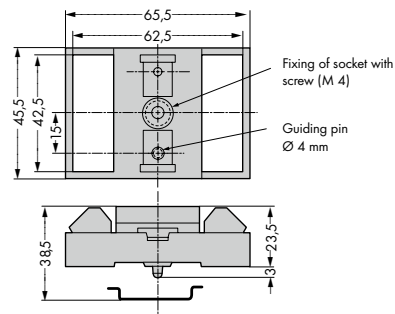


Description	Item No.	Pack. Unit
Phillips screw 2.9 x 13*	210-533	25
Marking strip 7.5 x 0.5 mm, 1 m long, translucent	709-196	1

* Two pieces per lateral cover; for a module length of 35 mm or higher; lateral covers must be riveted for smaller modules. Rivet length depends on module length (rivets are not offered by WAGO).

DIN-Rail-Mount PCB Carriers and Feet

288 Series












Mounting carrier			
Description		Item No.	Pack. Unit
Mounting carrier	For screw mounting or DIN-rail mounting via universal snap-on type mounting feet (to be ordered separately)	288-001	1
Universal mounting foot	Snap-on type, for DIN-15, DIN-32 and DIN-35 rails	288-002	10
Mounting carrier for PCBs	Suitable for a "Eurocard" PCB (100 x 160 mm)	288-003	1



General Accessories



General Accessories

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Operating Tools



Operating tool, type 1, (2.5 x 0.4) mm blade, with a partially insulated shaft, for 218, 233, 234, 235, 250, 253, 730, 733, 734, 735, 739, 713, 714, 805, 2734 Series

Item No.	Pack. Unit
210-719	1

Operating tool set, type 1, (2.5 x 0.4) mm blade, type 2, (3.5 x 0.5) mm blade, type 3, (5.5 x 0.8) mm blade

Item No.	Pack. Unit
210-722	1

Operating tool, type 2, short, (2.5 x 0.4) mm straight blade, with a partially insulated shaft, for 218, 233, 234, 235, 250, 253, 730, 733, 734, 735, 739, 713, 714, 805, 2734 Series

Item No.	Pack. Unit
210-647	1

Operating tool, type 2, (3.5 x 0.5) mm blade, with a partially insulated shaft, for 226, 231, 232, 235, 236, 237, 246, 250, 254, 255, 256, 257, 721, 722, 723, 731, 732, 733, 735, 736, 737, 738, 739, 740, 741, 742, 745, 804, 805, 806, 816, 2231, 2721 Series

Item No.	Pack. Unit
210-720	1

Operating tool, type 2, short, (3.5 x 0.5) mm straight blade, with a partially insulated shaft, for 226, 231, 232, 235, 236, 237, 246, 250, 254, 255, 256, 257, 721, 722, 723, 731, 732, 733, 735, 736, 737, 738, 739, 740, 741, 742, 745, 804, 805, 806, 816, 2231, 2721 Series

Item No.	Pack. Unit
210-657	1

Operating tool, type 3, (5.5 x 0.8) mm blade, with a partially insulated shaft, for 745, 746, 831 Series

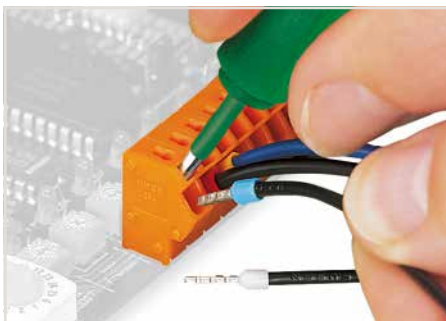
Item No.	Pack. Unit
210-721	1

Operating tool, type 1, short, (2.5 x 0.4) mm angled blade, with a partially insulated shaft, for 218, 233, 234, 235, 250, 253, 730, 733, 734, 735, 739, 713, 714, 805, 2734 Series

Item No.	Pack. Unit
210-648	1

Operating tool, type 2, short, (3.5 x 0.5) mm angled blade, with a partially insulated shaft, for 226, 231, 232, 235, 236, 237, 246, 250, 254, 255, 256, 257, 721, 722, 723, 731, 732, 733, 735, 736, 737, 738, 739, 740, 741, 742, 745, 804, 805, 806, 816, 2231, 2721 Series

Item No.	Pack. Unit
210-658	1



The blade dimensions of the above-listed operating tools are ideal for operating both PCB terminal blocks and MCS connectors.



The above-listed operating tools with blade dimensions per DIN 5264 are ideal for operating PCB terminal blocks.

Operating Tools



Operating tool,
for 233, 733, 2060 Series

	Item No.	Pack. Unit
insulated, natural	233-332	25
insulated, yellow	233-331	25
metal, partially insulated, green	233-335	1



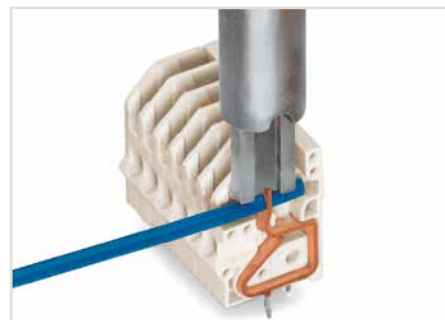
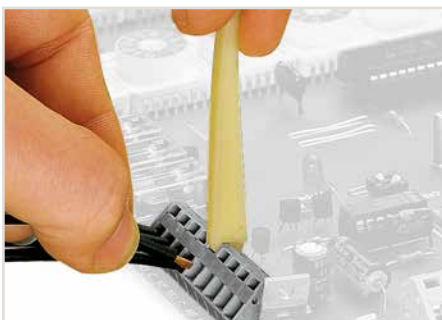
Operating tool,
for 236 Series

	Item No.	Pack. Unit
insulated	236-332	400 (8 x 50)
metal	236-335	1



Connection tool, for IDC termination,
for 251 Series

	Item No.	Pack. Unit
	206-831	1



Compared to standard screwdrivers, these operating tools are far more convenient for wiring PCB terminal strips at factory.

Operating Tools



Operating tool, insulated, 5/5.08 mm pin spacing, operation parallel to conductor entry, for male and female connectors with CAGE CLAMP® connection, also suitable for 280 Series Rail-Mount Terminal Blocks

	Item No.	Pack. Unit
1-pole	209-130	1
2-pole	280-432	1
3-pole	280-433	1
4-pole	280-434	1
5-pole	280-435	1
6-pole	280-436	1
7-pole	280-437	1
8-pole	280-438	1
9-pole	280-439	1
10-pole	280-440	1

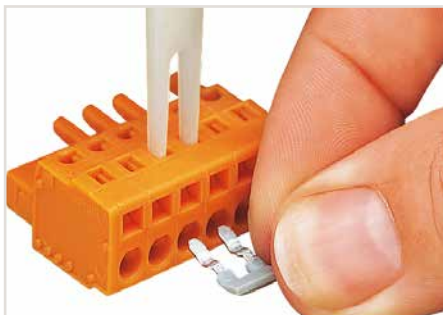


Operating tool, insulated, 5/5.08 mm pin spacing, operation perpendicular to conductor entry, for male and female connectors with CAGE CLAMP®

	Item No.	Pack. Unit
2-pole	209-132	1



Inserting a male connector with long contact pins into a front-entry rail-mount terminal block via 6-pole operating tool.



Commoning a female connector with comb-style jumper bar (231-902) via 2-pole operating tool.

Disconnection Tools



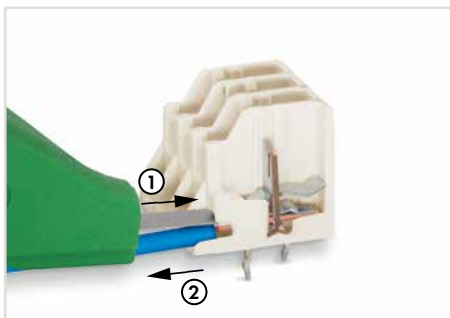
Disconnection tool, with two replacement blades in the handle, for 251 Series, "mini" version

Item No.	Pack. Unit
206-830	1



Disconnection tool, for 744 Series

Item No.	Pack. Unit
206-840	400 (8 x 50)



Conductor removal – PUSH WIRE®: Fully insert disconnection tool over the conductor (1) and pull it out (2).



Remove the conductor by inserting a disconnection tool into the operating slot and pull it out.



Disconnection tool includes two replacement blades in the handle.

Cable Strippers



Cable stripper, for round cables with 2.5 ... 11 mm outer diameter		
Item No.	Pack. Unit	
206-171	1	

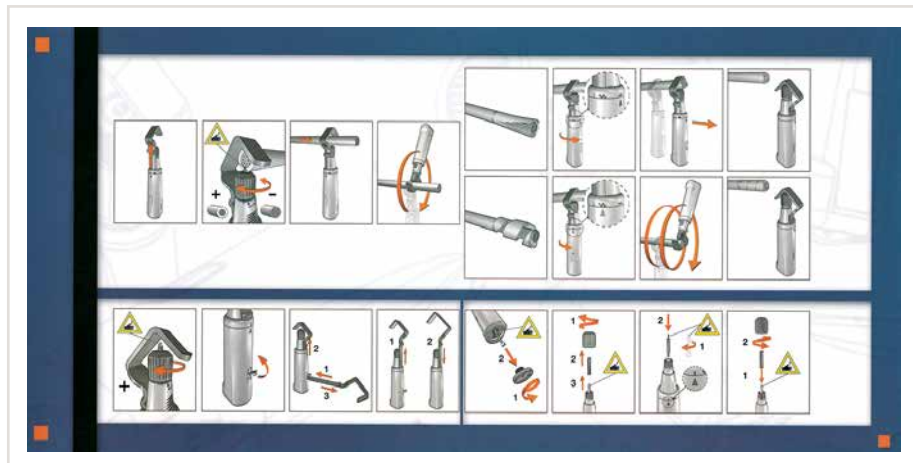
Cable stripper, for round cables with 4.5 ... 45 mm outer diameter		
Item No.	Pack. Unit	
206-174	1	

Replacement blade, for 2.5 ... 11 mm Ø, for 206-171 Cable Stripper		
Item No.	Pack. Unit	
206-170	1	



- Cable stripper (206-171):
- 10-position adjustment wheel ensures consistent stripping results
 - Precision via 10-position blade cutting depth adjustment
 - Strips the sheath from multi-core and fiber optic cables up to 11 mm/0.43 inch diameter
 - Safe and easy to use through closed stripping cavity

Replacement blade, for 4.5 ... 45 mm Ø, for 206-174 Cable Stripper		
Item No.	Pack. Unit	
206-173	1	



- Cable stripper (206-174):
- Safe and easy to use: three locking positions for circular, longitudinal and spiral cuts
 - High cable stripping capacity of up to 45 mm diameter
 - Ergonomic design features rests for thumb, index and pinky fingers to ease raising of the cable retention hook
 - Replacement blades can be stored within the tool's handle



Set the cable diameter.



Strip the cable.

12

Stripping Tools



"Quickstrip 10" wire stripper, 0.02 ... 10 mm² "f-st" (6 mm² "s"), wire cutter up to 10 mm² "f-st" (1.5 mm² "s")

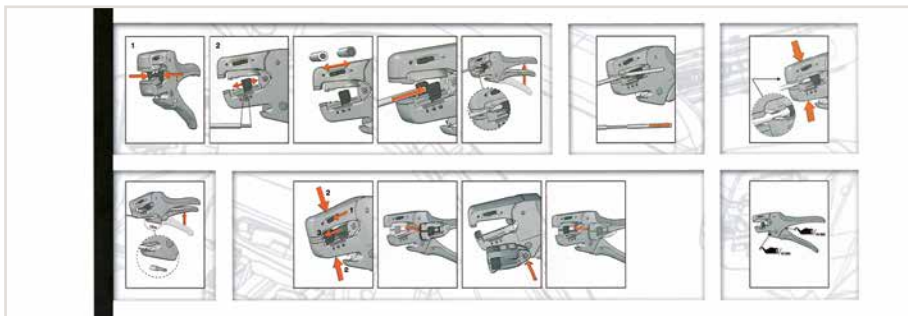
Item No.	Pack. Unit
206-124	1

"Quickstrip 16" wire stripper, 4 ... 16 mm², wire cutter up to 10 mm² "f-st" (1.5 mm² "s")

Item No.	Pack. Unit
206-125	1

"Standard" blade cassette, 0.02 ... 10 mm², for wire stripper (206-124)

Item No.	Pack. Unit
206-126	1



V-blade cassette, 0.1 ... 4 mm², for PTFE, for wire stripper (206-124)

Item No.	Pack. Unit
206-127	1

"Standard" blade cassette, 4 ... 16 mm², for wire stripper (206-125)

Item No.	Pack. Unit
206-128	1

Operating instructions are included.

Wire strippers:

- Automatically adjust to conductor size
- Stripping blades cause no damage to conductor strands
- Gripping pressure of jaws adjusts automatically to conductor insulation diameter
- Clamping jaws and stripping blades automatically open once the stripping process is completed – no splaying of the conductor strands
- Exact strip length may be set by sliding black setting stop
- Stripping blades can be replaced
- Self-sharpening, fully protected cutter (replaceable*)
- Entire body made of glass-fiber-reinforced polyamide

*applies to Microstrip



Cutting a conductor.



Stripping a conductor.

Cable Cutter and Crimping Tools



Cable cutter, for copper or aluminum conductors up to 35 mm²

Item No.	Pack. Unit
206-118	1



"Variocrimp 4" crimping tool, for insulated and uninsulated ferrules, crimps 0.25 ... 4 mm² conductors

Item No.	Pack. Unit
206-204	1



"Variocrimp 16" crimping tool, for insulated and uninsulated ferrules, crimps 6 ... 16 mm² conductors

Item No.	Pack. Unit
206-216	1



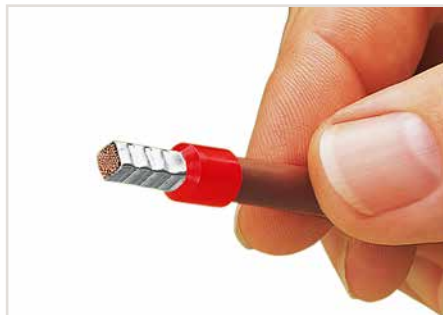
Cut the cable.



Insert the ferruled conductor into the crimping station.



Squeeze handles until the ratchet mechanism is released.



A perfect gas-tight crimp – both electrically and mechanically reliable

Crimping Tools



Crimping tool 25,
for insulated and uninsulated ferrules,
crimps 10, 16 and 25 mm² conductors

Item No.	Pack. Unit
206-225	1

Crimping tool 50,
for insulated and uninsulated ferrules,
crimps 35 and 50 mm² conductors

Item No.	Pack. Unit
206-250	1

Application notes:

- Improved crimping for higher conductor retention
- Crimping can be performed from either side (for left- or right-handed users)
- Built-in ratchet mechanism ensures gas-tight crimp connection
- The crimping tool automatically opens once the crimping process is completed
- Ergonomically designed handles



Insert the ferruled conductor into the crimping station.



Squeeze handles until the ratchet mechanism is released.

What is a "gas-tight" connection?

In a gas-tight connection, the conductor and the ferrule are compressed, eliminating all spaces. Under normal atmospheric conditions, neither a liquid nor gaseous medium can penetrate the crimped connection.

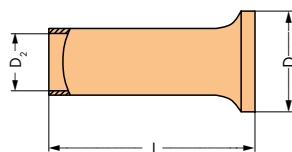
Oxidation between crimped single conductors is prevented, virtually eliminating the possibility of any increase in the crimped connection's resistance. In some exceptional cases, minute, isolated spaces may be present. However, these instances can be considered as closed off due to the twisted conductor.

Inadequate crimping can allow the conductor to be pulled out of the connection. Hollow spaces also remain in which oxidation can form and lead to an increase in contact resistance.

Elevated resistance is detrimental for both signal transmission (signal flow is damped) and power transmission, resulting in power loss and contact heating (risk of fire).

Crimping tools with built-in ratchets are recommended, such as the WAGO crimping tools. These tools only open after the crimping process has been fully completed. Space-saving crimping from all four sides is ideal for spring clamp termination. Ferruled conductor cross-sections specified for WAGO products are based on this crimping method.

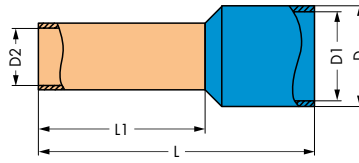
Uninsulated Ferrules



Ferrule, uninsulated, electro-tin-plated, electrolytic copper, gastight crimped, per DIN 46288, Part 4/09.09

Conductor Size	Strip Length	L	D	D 2	Item No.	Pack. Unit
0.25 mm ² / 24 AWG	5 mm / 0.2 inch	5	1,7	0,75	216-151	1000
0.25 mm ² / 24 AWG	7 mm / 0.28 inch	7	1,7	0,75	216-131	1000
0.34 mm ² / 22 AWG	5 mm / 0.2 inch	5	1,8	0,85	216-152	1000
0.34 mm ² / 22 AWG	7 mm / 0.28 inch	7	1,8	0,85	216-132	1000
0.5 mm ² / 20 AWG	6 mm / 0.24 inch	6	2,1	1	216-121	1000
0.5 mm ² / 20 AWG	8 mm / 0.31 inch	8	2,1	1	216-101	1000
0.75 mm ² / 18 AWG	6 mm / 0.24 inch	6	2,3	1,2	216-122	1000
0.75 mm ² / 18 AWG	8 mm / 0.31 inch	8	2,3	1,2	216-102	1000
1 mm ² / 18 AWG	6 mm / 0.24 inch	6	2,5	1,4	216-123	1000
1 mm ² / 18 AWG	8 mm / 0.31 inch	8	2,5	1,4	216-103	1000
1.5 mm ² / 16 AWG	6 mm / 0.24 inch	6	2,8	1,7	216-124	1000
1.5 mm ² / 16 AWG	8 mm / 0.31 inch	8	2,8	1,7	216-104	1000
2.5 mm ² / 14 AWG	10 mm / 0.39 inch	10	3,4	2,2	216-106	1000
4 mm ² / 12 AWG	10 mm / 0.39 inch	10	4	2,8	216-107	1000
6 mm ² / 10 AWG	12 mm / 0.47 inch	12	4,7	3,5	216-108	250
10 mm ² / 8 AWG	12 mm / 0.47 inch	12	5,8	4,5	216-109	250
16 mm ² / 6 AWG	15 mm / 0.59 inch	15	7,5	5,8	216-110	250

Ferrules



Ferrule, insulated, electro-tin-plated, electrolytic copper, gastight crimped, per DIN 46288, Part 4/09.09

Conductor Size	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	Pack. Unit
0.25 mm ² / 24 AWG	● yellow	7 mm / 0.28 inch	10	6	2,3	1,8	0,5	216-321	1000
0.25 mm ² / 24 AWG	● yellow	9 mm / 0.35 inch	12	8	2,3	1,8	0,5	216-301	1000
0.34 mm ² / 22 AWG	● green	7 mm / 0.28 inch	10	6	2,5	2	0,5	216-322	1000
0.34 mm ² / 22 AWG	● green	9 mm / 0.35 inch	12	8	2,5	2	0,5	216-302	1000
0.5 mm ² / 20 AWG	○ white	7 mm / 0.28 inch	12	6	3,1	2,6	1	216-221	1000
0.5 mm ² / 20 AWG	○ white	9 mm / 0.35 inch	14	8	3,1	2,6	1	216-201	1000
0.75 mm ² / 18 AWG	● gray	8 mm / 0.31 inch	12	6	3,3	2,8	1,2	216-222	1000
0.75 mm ² / 18 AWG	● gray	10 mm / 0.39 inch	14	8	3,3	2,8	1,2	216-202	1000
1 mm ² / 18 AWG	● red	8 mm / 0.31 inch	12	6	3,5	3	1,4	216-223	1000
1 mm ² / 18 AWG	● red	10 mm / 0.39 inch	14	8	3,5	3	1,4	216-203	1000
1.5 mm ² / 16 AWG	● black	8 mm / 0.31 inch	12	6	4	3,5	1,7	216-224	1000
1.5 mm ² / 16 AWG	● black	10 mm / 0.39 inch	14	8	4	3,5	1,7	216-204	1000
2.08 mm ² / 14 AWG	● yellow	10 mm / 0.39 inch	15	8	4,8	4,2	2,05	216-205	1000
2.5 mm ² / 14 AWG	● blue	10 mm / 0.39 inch	15	8	4,7	4,2	2,2	216-206	1000
4 mm ² / 12 AWG	● gray	12 mm / 0.47 inch	18	10	5,4	4,8	2,8	216-207	500
6 mm ² / 10 AWG	● yellow	14 mm / 0.55 inch	20	12	6,9	6,3	3,5	216-208	100
10 mm ² / 8 AWG	● red	16 mm / 0.63 inch	22	12	8,4	7,6	4,5	216-209	100
16 mm ² / 6 AWG	● blue	23 mm / 0.91 inch	28	18	9,6	8,8	5,8	216-210	100

Test and Measurement Devices



Profi-LCD+,
2-pole voltage tester, with LCD display,
removable 4 mm Ø test probes,
measures from 6 ... 1000 VAC/DC,
IP65 protection class,
measures resistance up to 2000 Ω

Item No.	Pack. Unit
206-807	1

Profi-LED+,
2-pole voltage tester, with LED display,
removable 4 mm Ø test probes,
measures from 6 ... 1000 VAC/DC,
IP65 protection class,
measures resistance up to 2000 Ω

Item No.	Pack. Unit
206-806	1

Replacement test probes, 4 mm Ø (2 probes)

Item No.	Pack. Unit
206-808	1



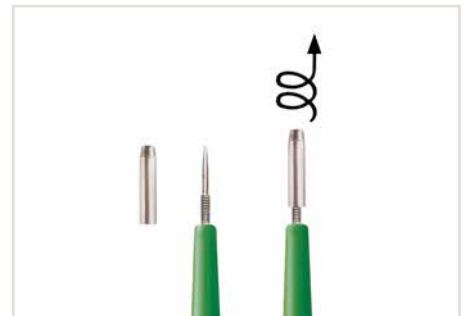
Additional Profi LCD+ features:

- Automatic measurement range selection
- Single-pole phase testing (AC > 100 V)
- Two-pole sequence testing (R and L)
- Continuity testing
- FI/RCD testing (30 mA) via buttons
- One-hand operation for SCHUKO and CEE sockets
- LED torch lamp function
- Automatic backlight
- Auto power-off function
- CAT IV 1000 V
- TÜV/GS tested and approved
- IEC/EN 61243-3 (DIN VDE 0682-401)



Additional Profi LED+ features:

- Automatic measurement range selection
- Single-pole phase testing (AC > 100 V)
- Two-pole sequence testing (R and L)
- Continuity testing
- FI/RCD testing (30 mA) via buttons
- One-hand operation for SCHUKO and CEE sockets
- LED torch lamp function
- CAT IV 1000 V
- TÜV/GS tested and approved
- IEC/EN 61243-3 (DIN VDE 0682-401)



Profi-LCD+ and Profi-LED+ features:

- Improved socket contact via 4 mm Ø test probes
- Removable test probes for small test ports (suitable for all WAGO terminal blocks)

Test and Measurement Devices



Multi-Tester, digital multimeter with non-contact voltage tester, with bag, measures up to 600 VAC/DC and 10 AAC/DC, resistance up to 20 M Ω

Item No.	Pack. Unit
206-810	1



Amp-Tester, digital clamp meter, true RMS measurement, with bag, measures 0.01 ... 200 AAC/DC, up to 400 Hz (sinus), IP44 protection class

Item No.	Pack. Unit
206-816	1



Clamp-Multi-Tester, digital clamp meter, measures DC and AC current up to 600 A, true RMS and min./max. values, DC and AC voltage up to 600 V, manual or automatic measurement range selection

Item No.	Pack. Unit
206-816	1



Additional Multi-Tester features:

- Contact-less voltage testing AC >100 V (optical and acoustical)
- Resistance measurement up to 20 M Ω
- Acoustical continuity testing
- Diode test
- Data hold function
- Auto power-off function
- LED torch lamp function
- CAT IV 600 V
- TÜV/GS tested and approved
- IEC/EN 61010-1 (DIN VDE 0411)



Additional Amp-Tester features:

- AC and DC current measurement
- True RMS measurement
- Data hold function
- Maximum jaw opening: 21 mm \emptyset
- Compact design for measuring in tight spaces
- Resolution: 0.01 A at 40 A
- Resolution: 0.1 A at 200 A
- Sampling rate: 3 times per second
- Auto power-off function
- CAT III 300 V
- TÜV/GS tested and approved
- IEC/EN 61010-1 (DIN VDE 0411)



Additional Clamp-Multi-Tester features:

- Resistance up to 60 M Ω
- Capacitance measurement
- Acoustical continuity testing
- Diode test
- Data hold function
- Large LCD with backlight
- LED measuring point lighting
- CAT III 600 V overvoltage protection
- IEC/EN 61010-1 (DIN VDE 0411)
- Includes batteries, measurement leads and carrying bag

Test and Measurement Devices



Testboy,
non-contact voltage tester,
with integrated flashlight
measures voltage from 12 ... 1000 VAC

Item No.	Pack. Unit
206-804	1

Replacement test leads, red/black

Item No.	Pack. Unit
206-811	1

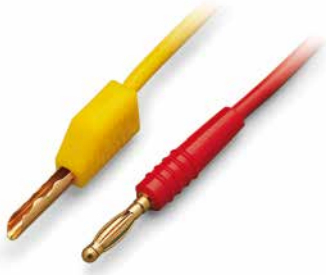


The device reliably detects AC voltage in cables, sockets, fuses, switches, junction boxes and other installations.

The voltage tester detects:

- Live conductors
- Cable breaks
- Blown fuses (in cartridges or holders)
- Defective switches
- Defective lamps in strings of lights

Test Plugs and Test Pin

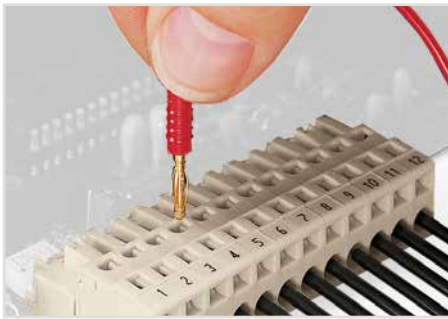


Test plug,
500 mm cable length

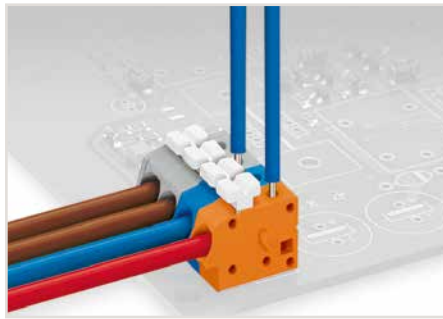
Ø	Color	Item No.	Pack. Unit
2 mm	red	210-136	50
2.3 mm	yellow	210-137	50

Test pin,
with solder connection, for test cable

Ø	Item No.	Pack. Unit
1 mm	735-500	1



Testing with a 2 mm Ø test plug.



Testing with a 1 mm Ø test pin – touch contact.

"Alu-Plus" Contact Paste



"Alu-Plus" syringe, contains 20 ml "Alu-Plus" contact paste, for reliable connection of solid aluminum conductors* up to 4 mm² in WAGO spring-clamp terminal blocks

Item No.	Pack. Unit
249-130	20 (4 x 5)

Use "Alu-Plus" contact paste when terminating solid aluminum conductors in WAGO spring clamp terminal blocks.

* Aluminum conductors per IEC 61545 standard, Class B, "Alloy 1370" with 90 ... 180 N/mm² tensile strength and 1 ... 4 % elongation.

"Alu-Plus" contact paste also allows WAGO spring clamp terminal blocks to properly terminate solid aluminum conductors up to 4 mm²/12 AWG.

"Alu-Plus" Contact Paste

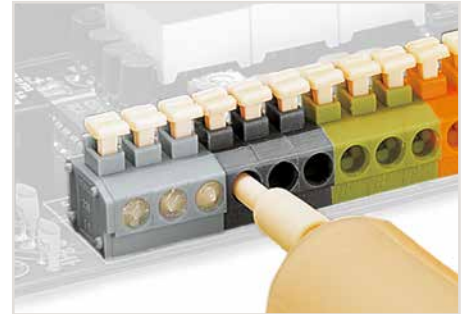
- Prevents fresh oxidation at the clamping point
- Prevents electrolytic corrosion between aluminum and copper conductors
- Provides long-term protection against corrosion

Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, aluminum conductors must first be cleaned and then immediately be inserted into the clamping units filled with "Alu-Plus" contact paste.

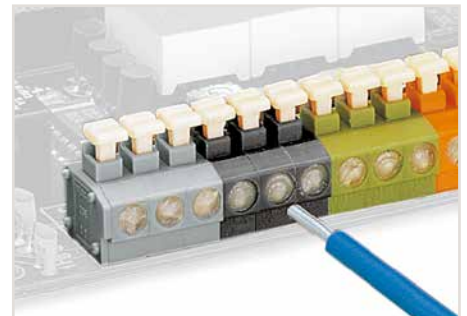
It is also possible to apply WAGO "Alu-Plus" additionally on the whole surface of the aluminum conductor before termination.

Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:

2.5 mm² (14 AWG) = 16 A
4 mm² (12 AWG) = 22 A

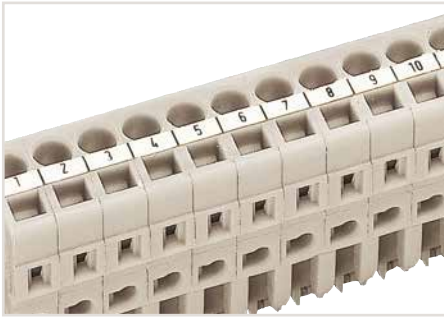


1. Push nozzle of the "Alu-Plus" syringe into every open conductor entry hole (one after the other).

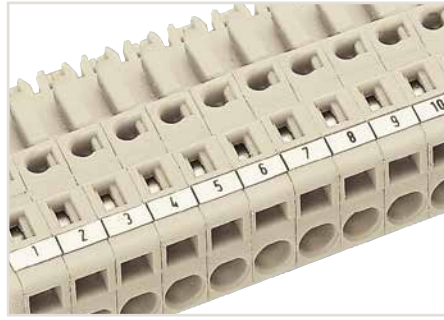


2. Press plunger down until "Alu-Plus" has filled all conductor entry holes.

Marking Cards



Marking MCS connectors – parallel to conductor entry.



Marking MCS connectors – perpendicular to conductor entry.



Marking PCB terminal blocks (256 Series).

Marking card for 2.5 mm pin spacing, for 218, 233, 234, 250 Series and MCS MICRO male and female connectors, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (400 x)	2.3 mm	210-331/250-202	1 card / 100 strips
17 ... 32 (400 x)	2.3 mm	210-331/250-204	1 card / 100 strips
33 ... 48 (400 x)	2.3 mm	210-331/250-206	1 card / 100 strips
1 ... 48 (400 x)	2.3 mm	210-331/250-207	1 card / 100 strips

Marking card for 2.54 mm pin spacing, for 218, 233, 234, 250 Series

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (400 x)	2.3 mm	210-331/254-202	1 card / 100 strips
17 ... 32 (400 x)	2.3 mm	210-331/254-204	1 card / 100 strips
33 ... 48 (400 x)	2.3 mm	210-331/254-206	1 card / 100 strips
1 ... 48 (100 x)	2.3 mm	210-331/254-207	1 card / 100 strips

Marking card for 3.5 mm pin spacing, for 250, 252, 739, 805 Series and MCS MINI male and female connectors, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (240 x)	3 mm	210-332/350-202	1 card / 80 strips
17 ... 32 (240 x)	3 mm	210-332/350-204	1 card / 80 strips
33 ... 48 (240 x)	3 mm	210-332/350-206	1 card / 80 strips

Marking card for 3.81 mm pin spacing, for 235, 734, 735, 739 Series

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (160 x)	3 mm	210-332/381-202	1 card / 80 strips
17 ... 32 (160 x)	3 mm	210-332/381-204	1 card / 80 strips
33 ... 48 (160 x)	3 mm	210-332/381-206	1 card / 80 strips
1 ... 32 (80 x)	3 mm	210-332/381-205	1 card / 80 strips

Marking card for 3.96 mm pin spacing, for 235 Series

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (160 x)	3 mm	210-332/396-202	1 card / 80 strips
17 ... 32 (160 x)	3 mm	210-332/396-204	1 card / 80 strips
33 ... 48 (160 x)	3 mm	210-332/396-206	1 card / 80 strips
1 ... 32 (80 x)	3 mm	210-332/396-205	1 card / 80 strips

Marking card for 4 mm pin spacing, for 235 Series

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (160 x)	3 mm	210-332/400-202	1 card / 80 strips
17 ... 32 (160 x)	3 mm	210-332/400-204	1 card / 80 strips
33 ... 48 (160 x)	3 mm	210-332/400-206	1 card / 80 strips
1 ... 32 (80 x)	3 mm	210-332/400-205	1 card / 80 strips

Marking card for 5 mm pin spacing, for 235, 236, 250, 253, 254, 255, 256, 257, 736, 737, 738, 739, 740, 741, 745, 806, 816 Series and MCS MIDI male and female connectors, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (160 x)	3 mm	210-332/500-202	1 card / 80 strips
17 ... 32 (160 x)	3 mm	210-332/500-204	1 card / 80 strips
33 ... 48 (160 x)	3 mm	210-332/500-206	1 card / 80 strips
1 ... 32 (80 x)	3 mm	210-332/500-205	1 card / 80 strips

Marking card for 5 mm pin spacing, for 804 Series and MCS MIDI male and female connectors with CAGE CLAMP® connection, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 12 (300 x)	2.3 mm	210-331/500-103	1 card / 100 strips
13 ... 24 (300 x)	2.3 mm	210-331/500-104	1 card / 100 strips

Marking card for 5.08 mm pin spacing, for 235, 236, 254, 255, 256, 257, 736, 737, 738, 739, 741 Series and MCS MIDI male and female connectors, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (160 x)	3 mm	210-332/508-202	1 card / 80 strips
17 ... 32 (160 x)	3 mm	210-332/508-204	1 card / 80 strips
33 ... 48 (160 x)	3 mm	210-332/508-206	1 card / 80 strips
1 ... 32 (80 x)	3 mm	210-332/508-205	1 card / 80 strips

Marking card for 5.08 mm pin spacing, for MCS MIDI male and female connectors with CAGE CLAMP® connection, marking parallel to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 12 (200 x)	2.3 mm	210-331/508-103	1 card / 100 strips
13 ... 24 (200 x)	2.3 mm	210-331/508-104	1 card / 100 strips

Marking card for 5.75 mm pin spacing, for 243 Series

Marking	Strip Height	Item No.	Pack. Unit
1 ... 12 (160 x)	3 mm	210-332/575-103	1 card / 80 strips

Marking card for 7 mm pin spacing, for 826 Series

Marking	Strip Height	Item No.	Pack. Unit
1 ... 12 (160 x)	3 mm	210-332/700-103	1 card / 80 strips
12 ... 1 (160 x)	3 mm	210-332/700-102	1 card / 80 strips

Marking card for 7.5 mm pin spacing, for 235, 236, 239, 250, 254, 255, 256, 257, 736, 737, 739, 741, 746, 745 Series and MCS MIDI male and female connectors, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 20 (80 x)	3 mm	210-332/750-202	1 card / 80 strips

Marking card for 7.5 mm pin spacing, for 804 Series and MCS MIDI male and female connectors with CAGE CLAMP® connection, marking parallel to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (100 x)	2.3 mm	210-331/750-202	1 card / 100 strips

Marking card for 7.62 mm pin spacing, for 235, 236, 254, 255, 256, 257, 736, 737, 739, 741 Series and MCS MIDI male and female connectors, marking perpendicular to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 20 (80 x)	3 mm	210-332/762-202	1 card / 80 strips

Marking card for 7.62 mm pin spacing, for MCS MIDI male and female connectors with CAGE CLAMP® connection, marking parallel to conductor entry

Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (100 x)	2.3 mm	210-331/762-202	1 card / 100 strips

Marking Cards

Marking card for 7.62 mm pin spacing, for MCS MAXI male and female connectors			
Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (100 x)	5 mm	210-334/762-202	1 card / 48 strips

Marking card for 10 mm pin spacing, for 235, 236, 254, 255, 256, 257, 736, 737, 741, 745 Series			
Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (80 x)	3 mm	210-332/1000-202	1 card / 80 strips
17 ... 32 (80 x)	3 mm	210-332/1000-204	1 card / 80 strips
33 ... 48 (80 x)	3 mm	210-332/1000-206	1 card / 80 strips

Marking card for 10.16 mm pin spacing, for 235, 236, 254, 255, 256, 257, 736, 737, 741 Series			
Marking	Strip Height	Item No.	Pack. Unit
1 ... 16 (80 x)	3 mm	210-332/1016-202	1 card / 80 strips
17 ... 32 (80 x)	3 mm	210-332/1016-204	1 card / 80 strips
33 ... 48 (80 x)	3 mm	210-332/1016-206	1 card / 80 strips

Marking card available for all pin spacing dimensions:			
Marking	Strip Height	Item No.	Pack. Unit
plain*	2.3 mm	210-331	1 card / 100 strips
	3 mm	210-332	1 card / 80 strips
	5 mm	210-334	1 card / 48 strips
Only separators printed	2.3 mm	210-331/xxxx-001	1 card / 100 strips
	3 mm	210-332/xxxx-001	1 card / 80 strips
	5 mm	210-334/xxxx-001	1 card / 48 strips

Ordering example:

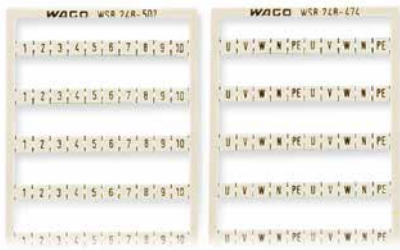
5.08 mm pin spacing, 3 mm strip height: 210-332/508-001

(xxxx = pin spacing)

* Plain marking cards can be printed via WAGO *smartSCRIPT*.

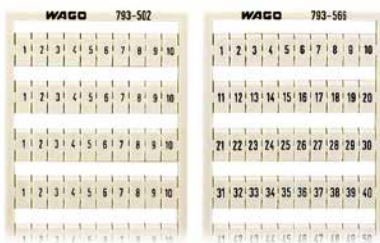
WAGO *smartSCRIPT* is part of the WAGO ProServe® Software. You can download this free software at www.wago.com.

Mini-WSB and WMB Marking Systems



Mini-WSB marker card, e.g., for 745 and 831 Series, 10 strips with 10 markers per card, horizontal marking, consecutive numbers/letters per strip

Marking per card	Item No.	Pack. Unit
1 ... 10 (10x)	248-502	5 cards
11 ... 20 (10x)	248-503	5 cards
21 ... 30 (10x)	248-504	5 cards
31 ... 40 (10x)	248-505	5 cards
41 ... 50 (10x)	248-506	5 cards
51 ... 60 (10x)	248-569	5 cards
61 ... 70 (10x)	248-570	5 cards
71 ... 80 (10x)	248-571	5 cards
81 ... 90 (10x)	248-572	5 cards
91 ... 100 (10x)	248-573	5 cards
1 ... 50 (2x)	248-566	5 cards
51 ... 100 (2x)	248-507	5 cards
101 ... 150 (2x)	248-508	5 cards
151 ... 200 (2x)	248-509	5 cards
201 ... 300 (2x)	248-510	5 cards
301 ... 400 (2x)	248-511	5 cards
401 ... 500 (2x)	248-512	5 cards
501 ... 600 (2x)	248-513	5 cards
601 ... 700 (2x)	248-514	5 cards
701 ... 800 (2x)	248-515	5 cards
801 ... 900 (2x)	248-516	5 cards
901 ... 1000 (2x)	248-517	5 cards
1 ... 9, ; (10x)	248-565	5 cards
U, V, W, N, PE, U, V, W, N, PE; (10x)	248-474	5 cards
L1, L2, L3, N, PE, L1, L2, L3, N, PE; (10x)	248-472	5 cards
plain, for self-marking	248-501	5 cards



WMB marker card, e.g., for 745 Series (4 mm² / 10 mm pin spacing) and 831 Series, 10 strips with 10 markers per card, horizontal marking, consecutive numbers per strip

Marking per card	Item No.	Pack. Unit
1 ... 10 (10x)	793-502	5 cards
11 ... 20 (10x)	793-503	5 cards
21 ... 30 (10x)	793-504	5 cards
31 ... 40 (10x)	793-505	5 cards
41 ... 50 (10x)	793-506	5 cards
51 ... 60 (10x)	793-569	5 cards
61 ... 70 (10x)	793-570	5 cards
71 ... 80 (10x)	793-571	5 cards
81 ... 90 (10x)	793-572	5 cards
91 ... 100 (10x)	793-573	5 cards
1 ... 50 (2x)	793-566	5 cards
51 ... 100 (2x)	793-507	5 cards
101 ... 150 (2x)	793-508	5 cards
151 ... 200 (2x)	793-509	5 cards
201 ... 300 (2x)	793-510	5 cards
301 ... 400 (2x)	793-511	5 cards
401 ... 500 (2x)	793-512	5 cards
501 ... 600 (2x)	793-513	5 cards
601 ... 700 (2x)	793-514	5 cards
701 ... 800 (2x)	793-515	5 cards
801 ... 900 (2x)	793-516	5 cards
901 ... 1000 (2x)	793-517	5 cards
1 ... 9, ; (10x)	793-565	5 cards
plain, for self-marking	793-501	5 cards

Felt-tip pen, for permanent marking

	Item No.	Pack. Unit
	210-110	1

Mini-WSB and WMB Marking Systems and Operating Stickers



Item no. suffix for colored marker cards, e.g., for 745 and 831 Series, 10 strips with 10 markers per card, horizontal marking

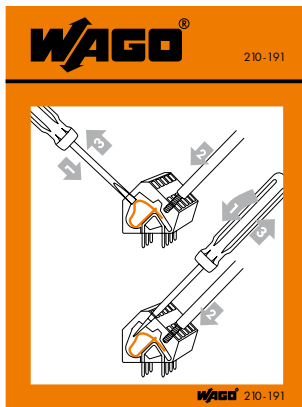
Color	Item No.	Pack. Unit
yellow	.../000-002	
red	.../000-005	
blue	.../000-006	
gray	.../000-007	
orange	.../000-012	
light green	.../000-017	
green	.../000-023	
violet	.../000-024	

Ordering example: Mini-WSB
Marking on yellow card, 41 ... 50,
248-506/000-002

Ordering example: WMB
793-506/000-002

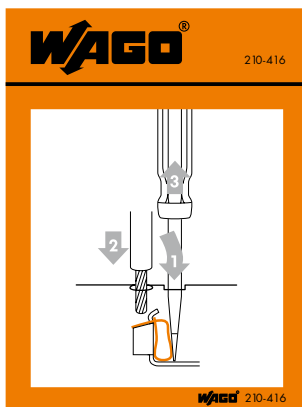
Note:

Please note that colored marker cards are subject to longer lead times and are more expensive than standard cards.



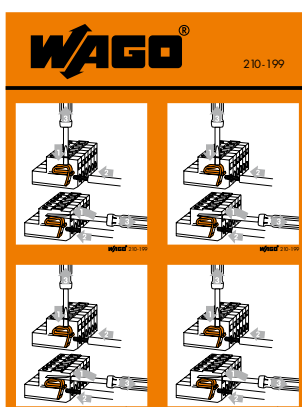
Operating sticker for PCB terminal blocks with CAGE CLAMP® connection,
size: (60 x 63) mm

Series	Item No.	Pack. Unit
236	210-191	100
736, 737 and 738	210-406	100



Operating sticker for CAGE CLAMP® connection,
size: (60 x 63) mm

Series	Item No.	Pack. Unit
universal	210-416	100



Operating sticker for MCS with CAGE CLAMP® connection,
size: (30 x 30) mm x 4 mm

Series	Item No.	Pack. Unit
universal	210-199	100
713	210-493	100

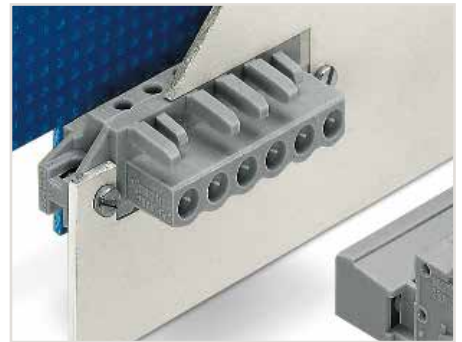
Screws



Self-tapping screws, for 1.8 mm Ø mounting hole		
Dimensions	Item No.	Pack. Unit
B 2.2 x 9.5 mm	209-147	200 (2 x 100)
B 2.2 x 13 mm	231-194	200 (2 x 100)



Screws with nuts, e.g., for mounting adapters or flanges		
Dimensions	Item No.	Pack. Unit
M 2 x 12 mm	231-195	200 (2 x 100)
M 2.5 x 10 mm	231-295	200 (2 x 100)



M 2.5 x 10 screws with nut (e.g., for mounting flanges)



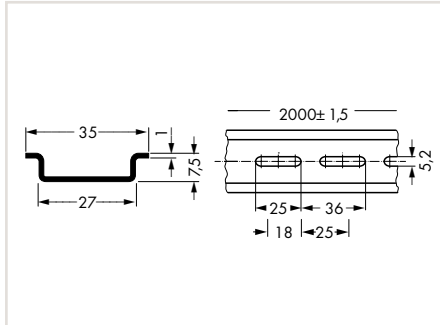
M 2 x 12 screws with nut (e.g., for locking devices)

Carrier Rails



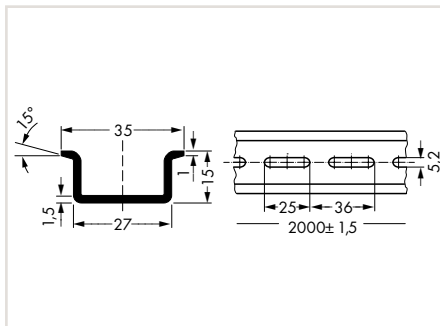
Steel carrier rail,
I_N 76 A (based on 1 m length),
(35 x 7.5) mm, 1 mm thick, 2 m long, per EN 60715

Description	Item No.	Pack. Unit
unslotted	210-113	10 (10x1)
slotted, hole width: 25 mm, hole spacing: 36 mm	210-112	10 (10x1)
slotted, hole width: 18 mm, hole spacing: 25 mm	210-115	10 (10x1)



Steel carrier rail,
I_N 125 A (based on 1 m length),
(35 x 15) mm, 1.5 mm thick, 2 m long, per EN 60715

Description	Item No.	Pack. Unit
unslotted	210-114	10 (10x1)
slotted, hole width: 25 mm, hole spacing: 36 mm	210-197	10 (10x1)



For the entire range of WAGO carrier rails, refer to Full Line Catalog, Volume 1, Rail-Mount Terminal Block Systems, or visit www.wago.com.



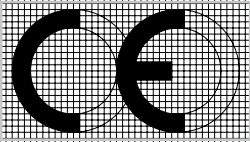

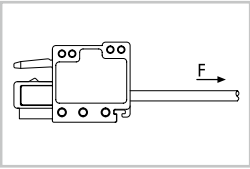





Technical Section



Technical Information

Approvals – User Guide

Seminars

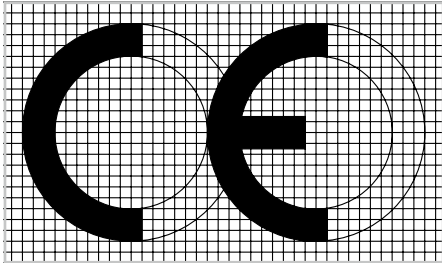
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CE Marking and EC Directives

CE Conformity Marking:

The CE conformity marking consists of the characters "CE" with the following script:



Communauté Européenne
(European Community)

EC directives are legally binding specifications for the European Union.

Their goal is aligning legal and administrative specifications in the various EC member countries, in order to prevent trading hindrances arising from different national specifications.

In order to launch a product on the market, it must comply with the relevant directives. Several directives may apply for one single product, for example, EMC and low voltage directives.

For WAGO products the following EC directives apply:

2014/35/EU

– Low Voltage Directive (LVD)

The LVD covers all electrical equipment operating with a voltage between 50 and 1000 VAC and between 75 and 1500 VDC.

This directive applies to products, such as rail-mount terminal blocks, splicing connectors, modular terminal blocks, terminal strips, etc., which comply with the specifications of the coordinated European standards and their specific parts (e.g., EN 60947 for rail-mount terminal blocks and EN 60998 for splicing connectors).

The CE conformity marking must be applied to all electrical equipment; should on-unit marking not be possible, mark the smallest packing unit. With this marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, manufacturers provide an EC "Declaration of Conformity" for their products. This declaration of conformity must be retained and submitted to a national surveillance authority upon request.

2014/30/EU

– EMC Directive

This directive applies to any devices, equipment and systems containing electric or electronic components. The German Federal Office for Post and Telecommunications (Bundesamt für Post und Telekommunikation, BAPT) is authorized to draw a distinction between elementary and complex components. Elementary components, such as resistors, transformers, ICs, relays, etc., are not provided with marking. For complex components, such as electro-motors, electronic cards, thermostats, etc., the EMC directives apply only if these components are sold directly to the end user.

All products subject to the application range of the EMC directive must display the CE marking on their housing. This marking proves conformity with the corresponding standards.

2006/42/EC

– Machinery Directive

This directive applies to complete machines or equipment.

The manufacturers of machines or equipment are, however, obliged to use components which meet the corresponding EC directives (e.g., Low Voltage or EMC Directives).

Fulfillment and conformity with these directives is required for the free exchange of goods within Europe.

2014/34/EU

ATEX Directive

Explosion-proof devices –
General technical information on electrical equipment used in hazardous areas

IEC/EN Specifications

The following standards apply to the design and application of the terminal blocks and connectors contained in this catalog:

IEC 60364-1 HD 60364-1 VDE 0100-100 / Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	IEC 60079-11 EN 60079-11 VDE 0170-7 / Explosive atmospheres - - Part 11: Equipment protection by intrinsic safety "i"	IEC 61643-11 EN 61643-11 VDE 0675-6-11 / Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
IEC 61140 EN 61140 VDE 0140-1 / Protection against electric shock - Common aspects for installation and equipment	IEC 60079-14 EN 60079-14 VDE 0165-1 / Explosive atmospheres - - Part 14: Electrical installations design, selection and erection	IEC 60335-1 EN 60335-1 VDE 0700-1 / Safety of household and similar electrical appliances - Part 1: General requirements
IEC 60364-7-710 HD 60364-7-710 VDE 0100-710 - Part 7-710: Requirements for special installations or locations - Medically used areas	IEC 60079-15 EN 60079-15 VDE 0170-16 / Explosive atmospheres - - Part 15: Equipment protection by type of protection "n"	IEC 60598-1 EN 60598-1 VDE 0711-1 / Lighting fixtures - Part 1: General requirements and tests
IEC 60364-7-718 HD 60364-7-718 VDE 0100-718 - Part 7-718: Requirements for special installations or locations - Communal facilities and workplaces	IEC 60038 EN 60038 VDE 0175-1 / IEC CENELEC standard voltages	IEC 60715 EN 60715 / Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations
EN 50110-1 VDE 0105-1 / Operation of electrical installations - Part 1: General requirements	VDE 0298-4 / Application of cables and flexible cords in power installations - Part 4: Recommended values for current carrying capacities of cables for fixed installation and for flexible cables	IEC 60999-1 EN 60999-1 VDE 0609-1 / Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0.2 mm ² up to 35 mm ² (included)
IEC 60664-1 EN 60664-1 VDE 0110-1 / Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	IEC 60112 EN 60112 VDE 0303-11 / Method for determining the comparative and the proof tracking indices of solid insulating materials	IEC 60999-2 EN 60999-2 VDE 0609-101 - Part 2: General requirements and particular requirements for clamping units for conductors from 35 mm ² up to 300 mm ² (included)
IEC 60204-1 EN 60204-1 VDE 0113-1 / Electrical equipment for machinery - Part 1: General requirements	IEC 60529 EN 60529 VDE 0470-1 / Degrees of protection provided by enclosures (IP code) - Testing equipment and testing method	
IEC 60079-0 EN 60079-0 VDE 0170-1 / Explosive atmospheres Part 0: Equipment - General requirements	IEC 61439-1 EN 61439-1 VDE 0660-600-1 / Low-voltage switchgear and controlgear assemblies - Part 1: General rules	
IEC 60079-7 EN 60079-7 VDE 0170-6 / Explosive atmospheres - - Part 7: Equipment protection by increased safety "e"	IEC 61439-3 EN 61439-3 VDE 0660-600-3 / Low-voltage switchgear and controlgear assemblies - Part 3: Distribution boards intended to be operated by ordinary persons (DBO)	

IEC 60998-1 EN 60998-1 E VDE 0613-1 / Connecting devices for low-voltage circuits for household and similar purposes - Part 1: General requirements	IEC 61984 EN 61984 VDE 0627 / Connectors - Safety requirements and tests
IEC 60998-2-1 EN 60998-2-1 VDE 0613-2-1 - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	IEC 60512-1 EN 60512-1 / Connectors for electronic equipment – Tests and measurements - Part 1: General
IEC 60998-2-2 EN 60998-2-2 VDE 0613-2-2 - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	IEC 60320-1 EN 60320-1 VDE 0625-1 / Appliance couplers for household and similar general purposes - Part 1: General requirements
IEC 60998-2-3 EN 60998-2-3 VDE 0613-2-3, - Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units	IEC 60352-1 EN 60352-1 / Solderless connections; - Part 1: Wrapped connections – General requirements, test methods and practical guidance
IEC 60947-1 EN 60947-1 VDE 0660-100 / Low-voltage switchgear and controlgear - Part 1: General rules	IEC 60352-2 EN 60352-2 / Solderless connections; - Part 2: Crimped connections - General requirements, test methods and practical guidance
IEC 60947-7-1 EN 60947-7-1 VDE 0611-1 - Part 7-1: Ancillary equipment Terminal blocks for copper conductors	IEC 60352-3 EN 60352-3 - Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance
IEC 60947-7-2 EN 60947-7-2 VDE 0611-3 - Part 7-2: Ancillary equipment Protective conductor terminal blocks for copper conductors	IEC 60352-4 EN 60352-4 - Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance
IEC 60947-7-3 EN 60947-7-3 VDE 0611-6 - Part 7-3: Ancillary equipment Safety requirements for fuse terminal blocks	IEC 60352-5 EN 60352-5 - Part 5: Press-in connections - General requirements, test methods and practical guidance
IEC 60947-7-4 EN 60947-7-4 VDE 0611-4 - Part 7-4: Ancillary equipment – PCB terminal blocks for copper conductors	IEC 60352-6 EN 60352-6 Part 6: Insulation piercing connections – General requirements, test methods and practical guidance
	IEC 60352-7 EN 60352-7 - Part 7: Spring clamp connections - General requirements, test methods and practical guidance

Tests and Testing Procedures per IEC/EN Standards (continued)

Products such as connecting devices, rail-mount terminal blocks and connectors, etc., have their own product-specific test specifications. The following sections describe the most important tests and are limited to a description of the test procedures and an explanation of the test purpose. The data shown (e.g., voltages, temperatures, forces) only serve as illustration and may differ depending on the test.

Mechanical Tests

All WAGO products meet requirements for the following mechanical tests:

• Termination Requirements

Conductor Termination

Two WAGO connection systems are proven in the field of Spring Pressure Connection Technology:

The **PUSH WIRE®** connection for applications requiring solid conductors ranging from 0.2 ... 4 mm² / 0.28 ... 4 AWG (e.g., for lighting and building wiring, telecommunications, house communication or alarm systems).

The **universal CAGE CLAMP® spring pressure connection** for solid, stranded and fine-stranded conductors ranging from 0.08 ... 35 mm² (28 ... 2 AWG) and designed for a variety of industrial, electrical and electronic applications (e.g., fine-stranded conductors in the elevator industry, in power stations, in the chemi-

cal and automotive industry, and aboard ships).

The **Push-in CAGE CLAMP® connection** takes universal CAGE CLAMP® connections further by allowing the termination of 0.2 ... 16 mm² (24 ... 6 AWG) solid, stranded and fine-stranded conductors (25 mm²/4 AWG only "f-st") and offering all the benefits and safety of the original CAGE CLAMP®. Furthermore, the Push-in CAGE CLAMP® connection technology allows solid and stranded conductors from 0.5 ... 16 mm² (20 ... 6 AWG), as well as 0.5 ... 16 mm² (20 ... 6 AWG) ferruled stranded conductors to be terminated by simply pushing them in.

Fine-stranded conductors of small or very small size are highly flexible, and

deform when pushed against the conductor stop in terminal blocks. As a result, the conductor insulation – not the copper conductor – may be clamped, causing intermittent contact or no contact at all.

In order to prevent conductor insulation from being inserted into the clamp, insulation stops are available, even providing protection for 0.08 mm² (28 AWG) conductors.

Rated Cross-Sections and Connectable Conductors

I. Per IEC 60999-1 / EN 60999-1 / VDE 0609, Part 1, Table 1:

Rated Cross-Section	Theoretical Largest Conductor Diameter							Connectable Conductor	
	Metric			AWG				Rigid	Flexible
	Rigid		Flexible	Rigid		Flexible			
	Solid	Stranded		Conductor Size	b) Solid	b) Class B Stranded	c) Class I, K, M Stranded		
mm ²	mm	mm	mm	mm	mm	mm	To be defined in the corresponding product standard		
0.2	0.51	0.53	0.61	24	0.54	0.61	0.64		
0.34	0.63	0.66	0.8	22	0.68	0.71	0.8		
0.5	0.9	1.1	1.1	20	0.85	0.97	1.02		
0.75	1.0	1.2	1.3	18	1.07	1.23	1.28		
1.0	1.2	1.4	1.5	–	–	–	–		
1.5	1.5	1.7	1.8	16	1.35	1.55	1.6		
2.5	1.9	2.2	2.3 ^{a)}	14	1.71	1.95	2.08		
4.0	2.4	2.7	2.9 ^{a)}	12	2.15	2.45	2.7		
6.0	2.9	3.3	3.9 ^{a)}	10	2.72	3.09	3.36		
10.0	3.7	4.2	5.1	8	3.34	3.89	4.32		
16.0	4.6	5.3	6.3	6	4.32	4.91	5.73		
25.0	–	6.6	7.8	4	5.45	6.18	7.26		
35.0	–	7.9	9.2	2	6.87	7.78	9.02		

NOTE: The diameters of the largest rigid and flexible conductors are based on Table 1 of IEC 60228 A/IEC 60344 and on ASTM B172-71 [4], IECA Publication S-19-81 [5], IECA Publication S-66-524 [6], as well as IECA Publication S-66-516 [7] for AWG conductors.

a) Dimensions for Class 5 flexible conductors only (IEC 60228 A)

b) Nominal diameter + 5 %

c) Largest diameter for conductors of classes I, K, M + 5 %

In practical use, the conductor cross-sections are approximately 5 % below the values stated in the table!

The IEC 60999-1/EN 60999-1/VDE 0609 Specification (Part 1, Section 7.1) requires that:

Clamping units must be able to connect unprepared conductors.

Under normal operating conditions, direct clamping (i.e., directly connecting a conductor to the terminal block's current bar) provides optimal contact quality, because all risk factors arising from anti-splaying methods are prevented. Occasionally, conductor anti-splaying protection may be required, including various methods (see illustrations

below).

Special requirements apply only in special application areas exposed to extremely corrosive atmospheres.

In this case, we recommend using either solid copper conductors or fine-stranded copper conductors with properly crimped, tin-coated copper ferrules or copper pin terminals.

As with solid copper conductors, the fine strands are crimped to a dense inner core. This prevents ingress of aggressive atmospheres (depending on the ppm concentration), which can dif-

fuse into the conductor bundle along the individual strands and cause corrosion deposits between individual strands and the clamping point.

One Conductor per Clamping Unit

A number of VDE specifications specify that **only one conductor must be connected per clamping unit** (e.g., DIN VDE 0611, Part 4, 02.91, Section 3.1.9). The same applies to the recommendations of the German Automotive Industry Association (VDA) "Supply specification for the electrical equipment of machines, mechanical installations and buildings in the automotive industry" according to Section 15.1.1.3; Draft 8.93.

II. Per IEC 60999-2 / EN 60999-2 / VDE 0609, Part 101, Table 1:

Rated Cross-Section mm ²	Theoretical Largest Conductor Diameter					Connectable Conductor	
	Metric		AWG/Kcmil				
	Rigid Strand- ed mm	Fine- Strand- ed ^{a)} mm	Gauge	Rigid Strand- ed mm	Fine- Strand- ed mm	Rigid	Flexible
50	9.1	11	0	9.64	12.08	To be defined in the corresponding product standard	
70	11	13.1	00	11.17	13.54		
95	12.9	15.1	000	12.54	15.33		
–	–	–	0000	14.08	17.22		
120	14.5	17	250	15.34	19.01		
150	16.2	19	300	16.8	20.48		
185	18.0	21	350	18.16	22.05		
–	–	–	400	19.42	24.05		
240	20.6	24	500	21.68	26.57		
300	23.1	27	600	23.82	30.03		

a) Dimensions for Class 5 flexible conductors only (IEC 60228A)

NOTE: The diameters of the largest rigid and flexible conductors are based on Table 1 and Table 3 of IEC 60228 and on ASTM B172-71 [1], IECA Publication S-19-81 [2], IECA Publication S-66-524 [3], as well as IECA Publication S-66-516 [7] for AWG conductors.

Other VDE and EN specifications also recommend the connection of **only one conductor per clamping unit**, unless the clamping unit is specifically tested and approved for the connection of several conductors, for example:

VDE 0609-1, 12.00/

EN 60999-1:2000, Section 7.1

VDE 0660, Part 600, 06.12

EN 61439-1:2011, Section 8.6.3

VDE 0113-1, 06.07/

EN 60204-1:2006, Section 13.1.1

This WAGO principle is the basis for a number of other technical and economic advantages:

- Each conductor may be terminated or removed without affecting previously connected conductors.
- Where re-wiring is required, only the conductor to be changed is removed from the clamping point, all other conductors remain safely clamped.
- Each conductor is clamped independently.
- Any conductor size combination can be connected.

WAGO provides 2-conductor terminal blocks and connectors to increase the number of clamping units.



Tip-bonded conductor



Ultrasonically bonded conductor



Crimped pin terminal (gas-tight), preferably made of copper with a tin-plated surface



Tin-plated copper ferrule (gas-tight crimped)

Anti-splaying methods require a terminal block one size larger than the nominal cross-section of the conductor to be terminated.

Feruled conductor cross-sections specified for individual products are based on WAGO's Variocrimp square crimping technology.

Gas-tight, crimped twin ferrules may be used, provided the ferrule is inserted all the way into the clamping unit and that there is a sufficient clearance and creepage distance between adjacent potentials.

Tests and Testing Procedures per IEC/EN Standards (continued)

Mechanical Tests (continued)

• Pull-Out Test per IEC/EN 60947-7-1, IEC/EN 60998-2-2, IEC/EN 60999-1

The pull-out test simulates the mechanical stress on the clamping unit when, for example, the installer pushes the conductor aside to better access/operate the adjacent clamping unit, or verifies if the conductor is connected properly by briefly pulling on it.

During the test, a pulling force is applied without jerking, for one minute, to the connected conductor. The pulling force is selected according to the cross-sectional area. The larger the cross-section of the conductor, the higher the pull-out force that is selected. For example, the pulling force is 40 N for a conductor having a cross-section of 1.5 mm² (16 AWG) and 100 N for a conductor with a cross-section of 16 mm² (6 AWG). The values specified by these standards are the same for both screw clamp and spring clamp terminal blocks. During the test, the conductor must neither slip out of the clamping unit, nor break near the clamping unit.

Conductor Pull-Out Forces

The clamping units of screwless terminal blocks must withstand the pull-out forces as follows:

IEC 60947-1/EN 60947-1/VDE 0660-100, Table 5:

Low-voltage switchgear and controlgear – General rules

IEC 60947-7-1/EN 60947-7-1/

VDE 0611-1,

Terminal blocks for copper conductors

IEC 60998-2-1/EN 60998-2-1/

VDE 0613-2-1, Table 104

IEC 60998-2-2/ EN 60998-2-2/VDE

0613-2-2, Table 103:

Connecting devices for low-voltage circuits for household and similar purposes

Particular requirements for connecting devices as separate entities with screw-clamp or screwless terminal blocks

IEC 60999-1/EN 60999-1/VDE 0609-1,

Table 3

IEC 60999-2/EN 60999-2, /VDE 0609-

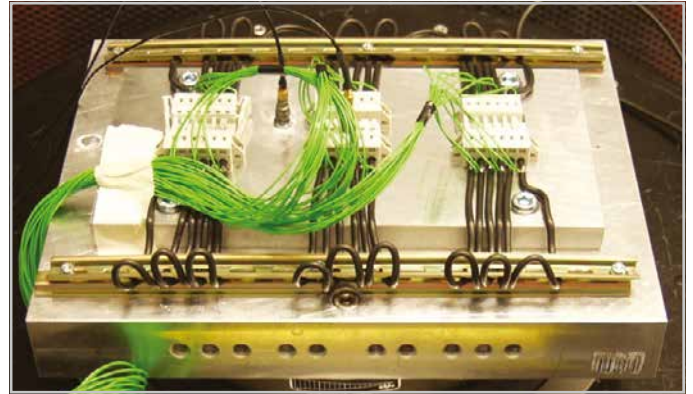
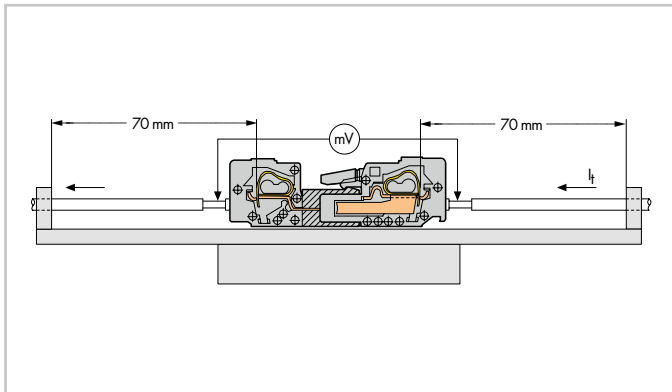
101, Table 2:

Safety requirements for screw clamp and screwless clamping units for electrical copper conductors

Rated Cross-Section		Pull-Out Forces per IEC/EN		
mm ²	AWG/kcmil	60947-7-1 N	60998-2-2 N	60999-1/-2 N
0,2	24	10	10	10
0,34	22	15	15	15
0,5	20	20	20	20
0,75	18	30	30	30
1,0	–	35	35	35
1,5	16	40	40	40
2,5	14	50	50	50
4,0	12	60	60	60
6,0	10	80	80	80
10	8	90	90	90
16	6	100	100	100
25	4	135	135	135
–	3	156		
35	2	190	190	190
–	1	236		
50	0	236		236
70	00	285		285
95	000	351		351
–	0000	427		427
120	250	427		427
150	300	427		427
185	350	503		503
–	400	503		503
240	500	578		578
300	600	578		578

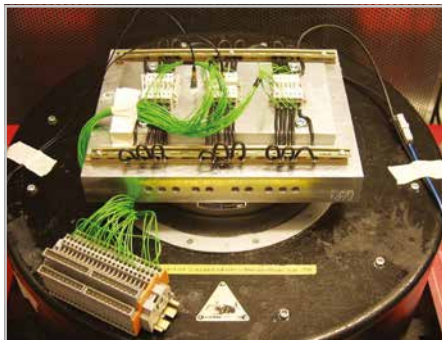
- Shock/Vibration Test per IEC/EN 60068-2-6; DNV GL, LR (Marine Applications); IEC/EN 61373 (Railway Applications)

The vibration test determines whether vibrations, such as those produced in the vicinity of machines or in vehicles, will permanently affect the electrical connection, or if contact breaks will occur during vibrations. Using a vibration table, the test specimen is subjected to vibration in each of the X, Y and Z axes (see pictures). The amplitude, acceleration and in particular the frequency of the vibration must vary during the test.

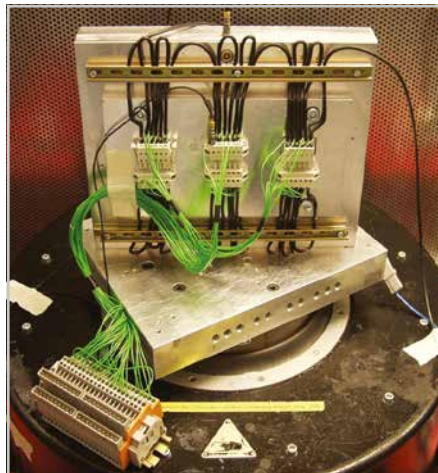


The "open length" of the conductor up to the point where the conductor is attached in the application must be kept as short as possible (length = 70 mm in this example).

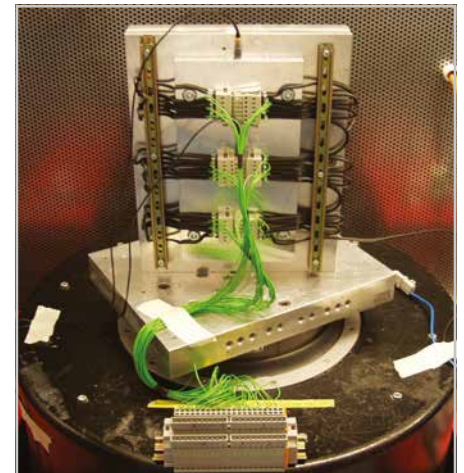
1. Axis



2. Axis



3. Axis



The exact test procedure may vary considerably depending on how the product will be used.

Application Examples per IEC/EN 60068-2-6	Associated Test Levels	
Devices attached to heavy, rotating machines	1 ... 35 Hz,	50 m/s ² (5 g) or 100 m/s ² (10 g)
Devices designed for use in large-scale power plants and general industrial applications	10 ... 55 Hz,	20 m/s ² (2 g) 50 m/s ² (5 g)
Devices designed for use in large-scale power plants and general industrial applications if it has been determined that detectable vibration components greater than 55 Hz exist	10 ... 150 Hz,	20 m/s ² (2 g) 50 m/s ² (5 g)

Some test specifications require the determination of possible resonant frequencies, i.e., determining if resonance occurs within the frequency spectrum to be passed through. Analyzing the specimen behavior under the influence of resonant frequencies is performed using a special testing procedure.

Tests and Testing Procedures per IEC/EN Standards (continued)

Mechanical Tests (continued)

Beyond these standard testing procedures, each market segment performs additional testing. Examples include a railway company testing its electrical installations on rolling stock, or the testing performed out by shipping classification societies (e.g., DNV GL Group, Lloyd, Lloyd's Register of Shipping). Though the requirements of such test procedures are particularly demanding, test arrangements are identical for all of them. During vibrations, possible contact breaks are monitored on an oscilloscope. Voltage drop is measured before and after the test to detect permanent failures, i.e., checking if electrical resistance at the clamping unit has not increased beyond the permissible limit. The smaller this value is, the smaller the contact resistance of the clamping unit.

The test is passed if:

- the conductor has neither slipped out of the terminal block nor been damaged
- the maximum permissible voltage drop has not been exceeded
- and neither contact breaks have occurred nor a defined break time has been exceeded.

The test specimen must not be damaged in any way that might affect its future use.

Since their inception, both CAGE CLAMP® and Push-in CAGE CLAMP® connections have been routinely tested for their resistance to shock/vibration in connection with approval tests.

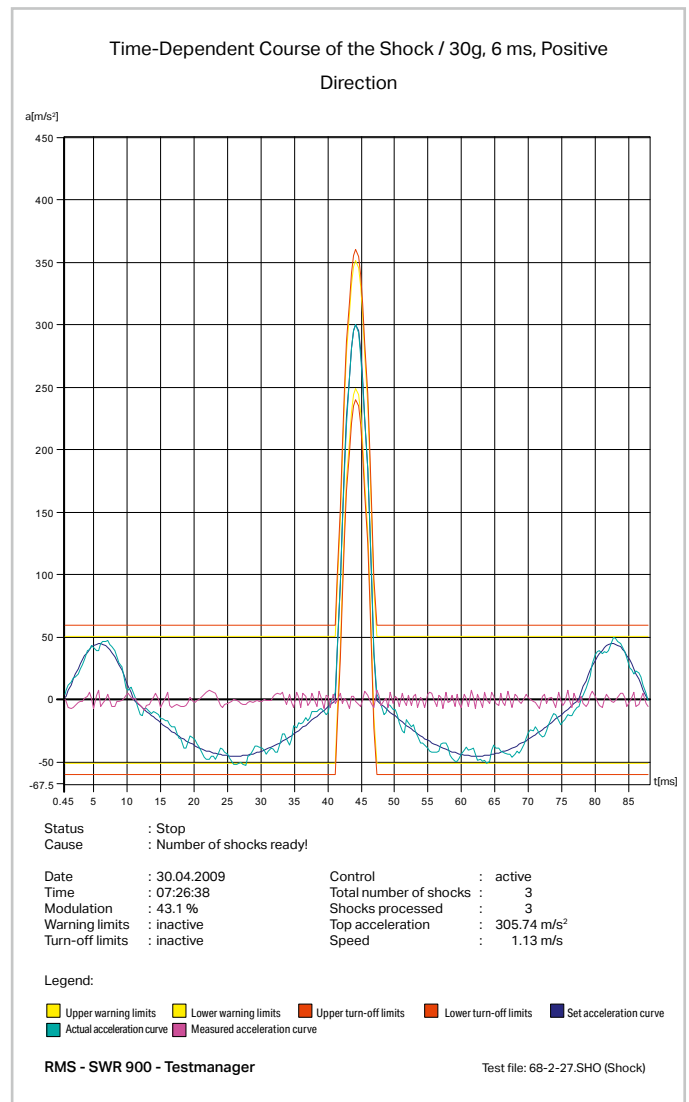
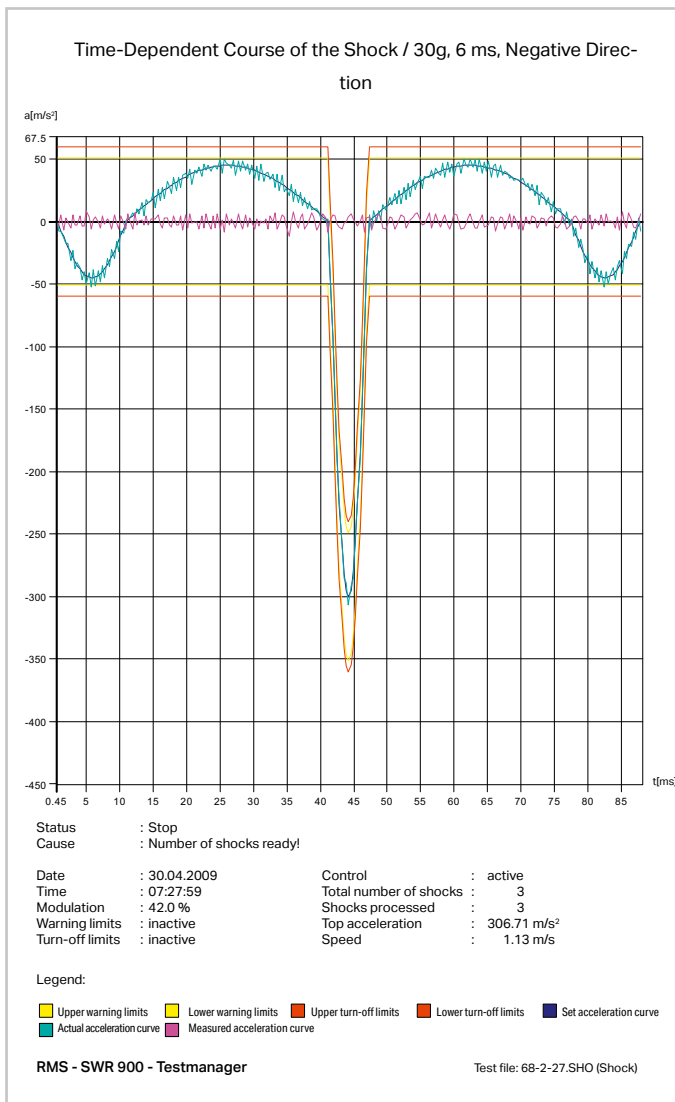
Notes:

These test results are based solely on tests conducted under "laboratory conditions." Connector usage in actual applications must be evaluated by the user.

• Shock Test per IEC/EN 60068-2-27; IEC/EN 61373 (Railway Applications)

The shock test is similar to the vibration test except that, instead of continuous vibrations, single shocks are applied to the specimen. Shock tests are usually performed with an acceleration of 15g, for example, over a period of 11 ms. Tests for special requirements often call for much higher values. Like the vibration tests, shock tests are primarily used to test the voltage drop variation or contact breaks, etc.

Example: Shock requirement per IEC/EN 60068-2-27 (half-sine shock)
 30g acceleration, 6 ms duration
 Shock direction: 3 axes (3 shocks each in positive and negative direction)



Tests and Testing Procedures per IEC/EN Standards (continued)

Electrical Tests

All WAGO products meet requirements for the following electrical tests:

- **Temperature-Rise Test per IEC/EN 61984, IEC/EN 60947-7-1, IEC/EN 60998-1**

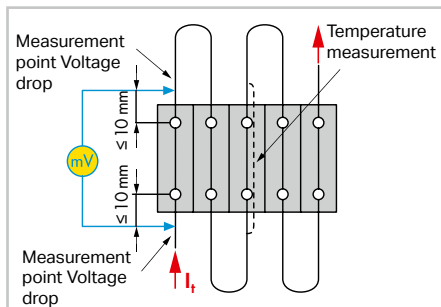
The temperature-rise test examines the clamping unit – including the surrounding insulation – at rated current, over-current and short-circuit current levels.

Unless otherwise specified in the related equipment specification, e.g., by specifying the nominal currents of the equipment, terminal blocks and connectors are tested with current loads as specified in the respective construction specification.

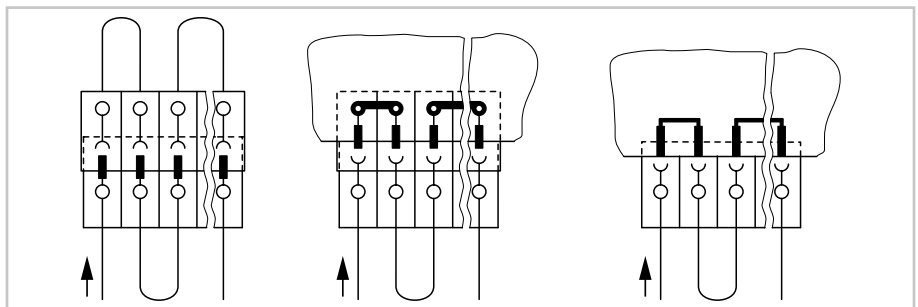
For rail-mount terminal blocks complying with IEC 60947-7-1/EN 60947-7-1/VDE 0611-1, or terminal blocks complying with IEC 60998-1/EN 60998-1/ VDE 0613-1, the temperature rise must not exceed 45 Kelvin.

Connectors must withstand the upper and lower values of the temperature range as specified in the detail or manufacturer’s specification.

The sum of the ambient temperature and the temperature rise of a connector must not exceed the upper temperature limit.



Test arrangement: "Temperature-Rise Test" per IEC/EN 60947-7-1



Test arrangement: "Temperature-Rise Test" per IEC/EN 61984

Rated Cross-Section	Test Current per IEC/EN		Conductor Size	Test Current per IEC/EN 60947-7-1 Table 5
	60947-7-1 Table 4	60998-1 Table 2		
mm ²	A	A	AWG/kcmil	A
0.2	4.0	4.0	24	4
0.34	5.0	5.0	22	6
0.5	6.0	6.0	20	8
0.75	9.0	9.0	18	10
1.0	13.5	13.5	-	-
1.5	17.5	17.5	16	16
2.5	24	24	14	22
4.0	32	32	12	29
6.0	41	41	10	38
10	57	57	8	50
16	76	76	6	67
25	101	101	4	90
35	125	125	2	121
-	-	-	1	139
50	150	-	0	162
70	192	-	00	185
95	232	-	000	217
-	-	-	0000	242
120	269	-	250 kcmil	271
150	309	-	300 kcmil	309
185	353	-	350 kcmil	353
240	415	-	500 kcmil	415
300	520	-	600 kcmil	520

• Current-Carrying Capacity Curve (Derating Curve) per EN 60512-5-2

Both the design requirements (e.g., dimensions) and the current-carrying capacity of a connector must be checked by the user when selecting connectors.

This information depends on the following factors: conductor size, ambient temperature, number of simultaneously loaded poles, internal resistance of the connector, PCB layout, width and thickness of the printed circuits and connector materials.

A current-carrying capacity curve (basic curve) is determined based on the EN 60512-5-2 standard, accounting for the upper temperature limit.

The relationship between current, ambient temperature and temperature rise up to the connector's upper temperature limit is illustrated via current-carrying capacity curve (derating curve, reduction factor: 0.8).

The connector must only be operated up to this temperature limit (sum of the self-generated heat and the ambient temperature) without being damaged or destroyed during operation.

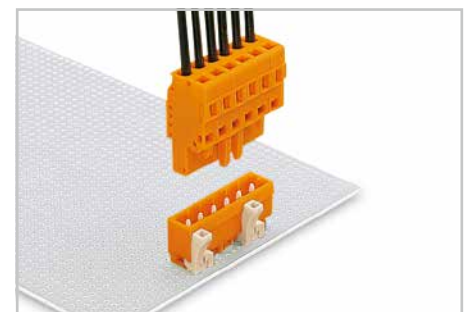
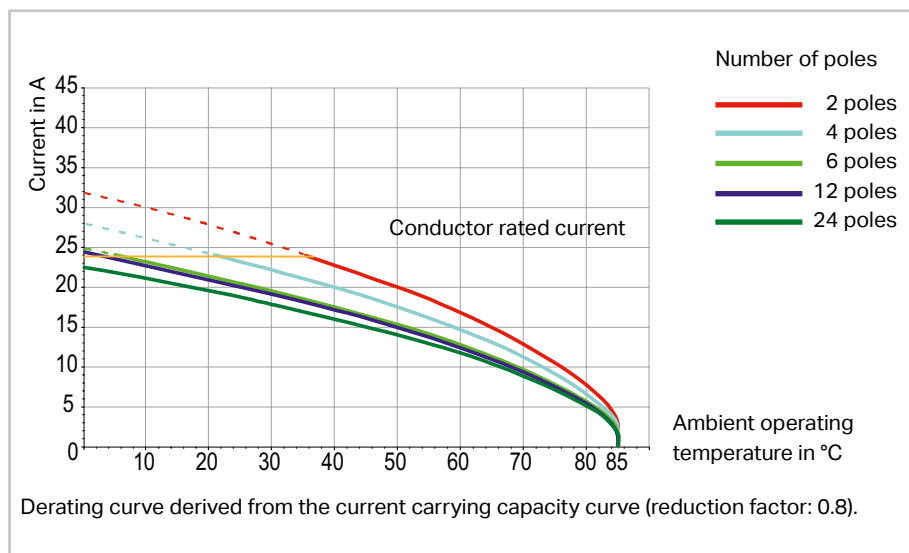
The nominal current figures given for the WAGO PCB Connectors are based on the maximum number of poles, the maximum conductor cross-section and a maximum temperature rise of 45 K.

Note: Current-carrying capacity curves merely document the self-generated heat of the connectors and terminal blocks under defined test conditions (conductor length, commoning of solder pins).

Usability of the components in actual applications must be investigated by the user.

Functioning of a current-carrying capacity curve (derating curve) per EN 60512-5-2 is shown by an application using a derating curve for the **MULTI CONNECTION SYSTEM**:

This application requires each pole of a 4-pole connector be subjected to a load of 20 A. Based on the derating curve determined for this pole number with a conductor cross-section of 2.5 mm², it has been determined the maximum ambient temperature is 39 °C. The current must be reduced at higher ambient temperatures, e.g., to 11 A at an ambient temperature of 70 °C.



Male header with straight solder pins and female connector with CAGE CLAMP® connection

The non-reduced current-carrying capacity curves (basic curves, reduction factor: 1) can be used when selecting WAGO's PCB terminal blocks!

The nominal current values given are based on a 4-pole PCB terminal strip with a temperature rise of 45 K.



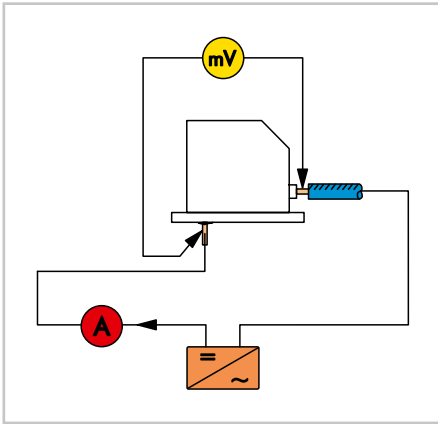
4-pole PCB terminal strip (2706 Series)

Tests and Testing Procedures per IEC/EN Standards (continued)

Electrical Tests (continued)

- Voltage Drop Test per IEC/EN 60947-7-1, IEC/EN 60999-1

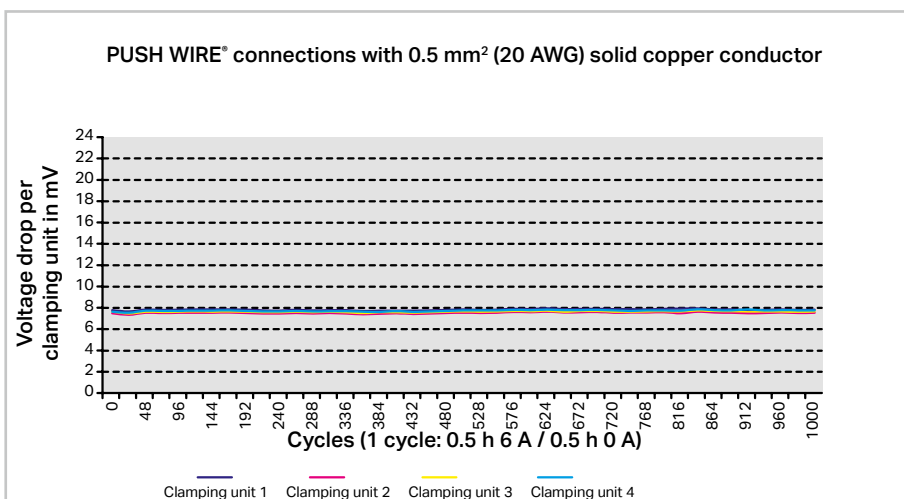
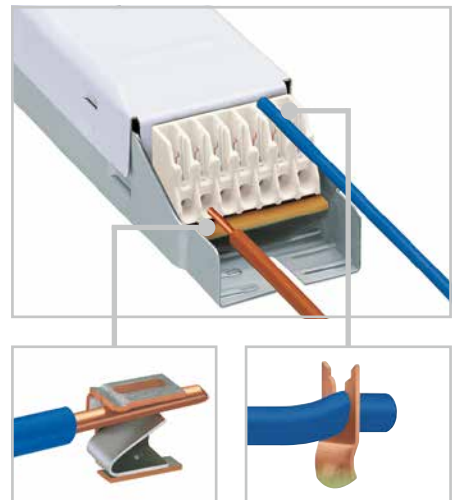
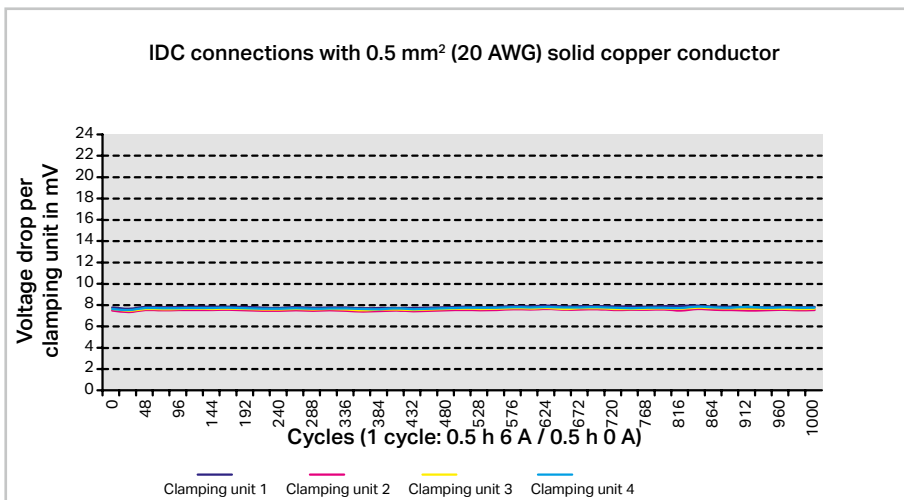
The voltage drop test evaluates clamping unit quality under stress such as vibration, temperature change, industrial climate and salt spray, in order to verify that the contact point is gas-tight.



Test arrangement: "Voltage Drop Test"

Example: Current load cycling test result for Combi PCB terminal blocks with IDC and PUSH WIRE® connections

Voltage drop variation over longer periods under current load cycling conditions is shown for 251-3xx Combi PCB Terminal Blocks using solid copper conductors. The diagram shows that the voltage drop is constant, far beyond the 192 cycles required in IEC/EN 60998-2-2.



(The voltage drop was determined at rated current.)

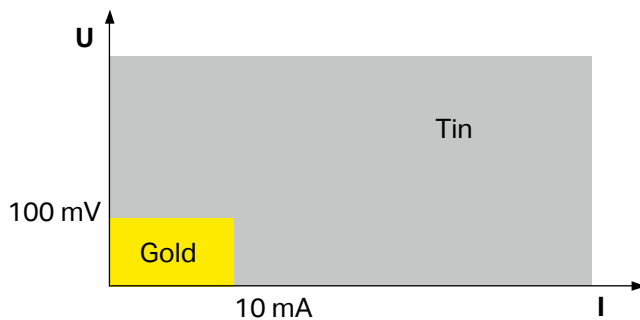
• Minimum Current / Specialty Connector Applications

The contact surfaces of WAGO connectors are tin-plated. This surface exhibits excellent conductivity, along with outstanding protection against corrosion. Pollution layer deposits may penetrate this pure tin coating when the contacts are connected, lowering contact resistance.

The following information regarding proper selection of suitable WAGO components should be considered for applications in which connectors are used with minimal current and voltage levels and under special conditions, involving, for example, temperature, aggressive gases, vibration, shock, etc.

Signal corruption may occur in applications with minimal current and voltage levels under the special conditions cited above. In such cases, we recommend using gold-plated contacts. Here, the user must always examine the suitability of the connectors for the application at hand.

The diagram below is based on practical experience.



WAGO also offers connectors with gold-plated contacts upon request.

Fig.: Selection of surface properties for special conditions

Tests and Testing Procedures per IEC/EN Standards (continued)

Electrical Tests (continued)

• Insulation Parameters per IEC/EN 60664-1

Clearances and Creepage Distances

The following generally applies:

The equipment specification contains data for the measurement of clearances and creepage distances, or refers to the data contained in the new revised edition of the basic standard DIN EN 60664-1/VDE 0110-1.

DIN EN 60664-1/VDE 0110-1 contains new clearances and creepage distances in compliance with insulation coordination requirements. That is, the insulation parameters of equipment are assigned to:

- the anticipated surge voltages,
- the parameters of the protection device against surge voltage and
- the anticipated environmental conditions and the protection measures against pollution.

This standard is based on IEC 60604-1.

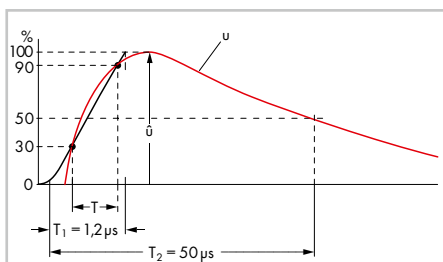
Clearances, Rated Impulse Voltages, Overvoltage Categories, Pollution Degrees

Surge voltages (Table 1) are a decisive factor in determining clearances.

The basis forms the **overvoltage category**, i.e., the allocation of the equipment to the expected overvoltage, and the **conductor-ground voltage derived from the rated line voltage in installations with a grounded Y (star) point**.

In ungrounded installations, or in installations where the conductor is not grounded, the voltage between conductors is applicable in the same way as conductor voltage to ground.

❶ Voltage pulse: 1.2/50 µs



per DIN EN 60060-1/VDE 0432-1

Overvoltage Categories for Electrical Equipment:

A specific overvoltage category must be defined on the basis of the following, general description:

- Equipment in overvoltage category I is intended to be connected to the fixed electrical installations of a building. Protective means are taken outside the equipment – either in the fixed installation or between the fixed installation and the equipment – to limit transient overvoltages to the specific level.
- Equipment in overvoltage category II is to be connected to the fixed electrical installations of a building.
Note: Examples of such equipment are household appliances, portable tools and similar loads.
- Equipment in overvoltage category III is part of the fixed electrical installations and other equipment where a higher degree of availability is expected.
Note: Examples of such equipment are distribution boards, circuit breakers, wiring systems (IEV 826-16-08, including cables, bus bars, junction boxes, switches, socket outlets) in the fixed installation and equipment for industrial use and other equipment, e.g., stationary motors with permanent connection to the fixed installation.
- Equipment in overvoltage category IV is for use in or near the feed-in in electrical building installations upstream of the main distribution board in the direction of the network.
Note: Examples include electricity meters, primary overcurrent protection devices and ripple control units.

The rated impulse voltage must be selected from Table 1 corresponding to the overvoltage category specified and to the rated voltage of the equipment. Table F.1: Rated surge voltage for equipment energized directly from the low-voltage mains (DIN EN 60664-1/VDE 0110-1)

❶ Voltage curve: 1.2/50 µs per DIN EN 60060-1/VDE 0432-1

Nominal voltage of the supply system ¹⁾ (mains) per IEC 60038 ³⁾		Line-to-neutral voltage, derived from the nominal AC or DC voltage up to and including: V	Rated surge voltage ²⁾			
Three-phase V	Single-phase V		Overvoltage category ⁴⁾			
			I V	II V	III V	IV V
		50	330	500	800	1500
		100	500	800	1500	2500
	120-240	150 ⁵⁾	800	1500	2500	4000
230/400 277/480		300	1500	2500	4000	6000
400/690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

¹⁾ See Annex B for application to existing different low-voltage mains and their nominal voltages.

²⁾ Equipment with these rated impulse voltage levels can be used in installations complying with IEC60364-4-443.

³⁾ The / mark indicates a three-phase, 4-wire system. The lower value is the line-to-neutral voltage, while the higher value is the line-to-line voltage. Where only one value is indicated, it refers to three-phase, 3-wire systems and specifies the line-to-line voltage.

⁴⁾ See 4.3.3.2.2 for an explanation of the overvoltage categories.

⁵⁾ The nominal voltages for single-phase systems in Japan are 100 V or 100 ... 200 V. The value for the rated impulse voltage is, however, derived from the voltage gaps line-to-neutral for a voltage level of 150 V (see Annex B).

The nominal supply voltage and the corresponding rated impulse voltage values apply for grounded and ungrounded circuits.

• Insulation Parameters per IEC/EN 60664-1 (continued)

Pollution Degrees

Pollution factors are all solid, liquid or gaseous foreign matter which may reduce the dielectric strength or the specific surface resistance. Factors are divided into four classes based on expected environmental conditions:

		Examples of pollution degrees for assigned areas:
Pollution degree 1:	No pollution, or only dry, non-conductive pollution occurs. Pollution has no influence.	Open, unprotected insulated equipment in air-conditioned or clean, dry rooms
Pollution degree 2:	Only non-conductive pollution occurs. Occasional, temporary conductivity caused by condensation can also be expected.	Open, unprotected insulated equipment in occupied areas, shops, laboratories, mechanical workshops and medical rooms.
Pollution degree 3:	Conductive pollution occurs, or dry, non-conductive pollution occurs which will become conductive due to condensation.	Open, unprotected insulated equipment in industrial, business and farming areas (e.g., unheated rooms, workshops and boiler rooms)
Pollution degree 4:	The pollution generates persistent conductivity caused by conductive dust, rain or wet conditions.	Open, unprotected insulated equipment for outdoor use

Table F.2: Clearances to Withstand Transient Overvoltages
DIN EN 60664-1 / VDE 0110-1

Required impulse withstand voltage ¹⁾⁵⁾ kV	Minimum clearances in air up to 2000 m above sea level					
	Case A (inhomogeneous field, see 3.15)			Case B (homogeneous field, see 3.14)		
	Pollution degree ⁶⁾			Pollution degree ⁶⁾		
	1 mm	2 mm	3 mm	1 mm	2 mm	3 mm
0.33 ²⁾	0.01	0.2 ³⁾⁴⁾	0.8 ⁴⁾	0.01	0.2 ³⁾⁴⁾	0.8 ⁴⁾
0.40	0.02			0.02		
0.50 ²⁾	0.04			0.04		
0.60	0.06			0.06		
0.80 ²⁾	0.10			0.10		
1.0	0.15			0.15		
1.2	0.25	0.25	0.2	0.3	0.3	
1.5 ²⁾	0.5	0.5	1.0	0.45	0.45	
2.0	1.0	1.0	1.5	0.60	0.60	
2.5 ²⁾	1.5	1.5	2.0	0.80	0.80	
3.0	2.0	2.0	3.0	1.2	1.2	1.2
4.0 ²⁾	3.0	3.0	4.0	1.5	1.5	1.5
5.0	4.0	4.0	5.0	2.0	2.0	2.0
6.0 ²⁾	5.5	5.5	6.0	3.0	3.0	3.0
8.0 ²⁾	8.0	8.0	8.0	3.5	3.5	3.5
10	11	11	11	4.5	4.5	4.5
12 ²⁾	14	14	14	5.5	5.5	5.5
15	18	18	18	8.0	8.0	8.0
20	25	25	25	10	10	10
25	33	33	33	12.5	12.5	12.5
30	40	40	40	17	17	17
40	60	60	60	22	22	22
50	75	75	75	27	27	27
60	90	90	90	35	35	35
80	130	130	130	45	45	45
100	170	170	170			

Dimensioning Clearances

See Table F.2 for specifications per DIN EN 60664-1/ VDE 0110, Part 1. Select the minimum clearances in accordance with the rated impulse voltages and pollution degrees. To maximize the operating life of the equipment, do not go below these minimum clearances.

Table F.2 contains a list of information for Case A, the inhomogeneous field and for Case B, the homogeneous field. This involves an electric field with essentially constant (Case B) or non-constant (Case A) voltage gradients between the electrodes.

Equipment with a clearance that is dimensioned per Case A, in other words rated for the most unfavorable case, requires no verification by the impulse voltage test.

Equipment with a clearance that is dimensioned per Case B, or between A and B, requires verification by the impulse voltage test.

The clearances shown in Table F.2 are applicable for an installation height of up to 2000 m above sea level.

Values for clearances above 2000 m must be multiplied by a high correction factor in accordance with Table A.2.

¹⁾ This voltage is

- for functional insulation: the maximum impulse voltage expected to occur across the clearance (see 5.1.5);
- for basic insulation directly exposed to or significantly influenced by transient overvoltages from the low-voltage mains (see 4.3.3.3, 4.3.3.4.1 and 5.1.6): the rated impulse voltage for the equipment;
- for other basic insulation (see 4.3.3.4.2): the highest impulse voltage that can occur in the circuit. For reinforced insulation, see 5.1.6.

²⁾ Preferred values specified in 4.2.3

³⁾ For printed wiring material, the values for pollution degree 1 apply, except that the value must not be less than 0.04 mm, as specified in Table F.4.

⁴⁾ The minimum clearances given for pollution degree 2 and 3 are based on the reduced withstand characteristics of the associated creepage distance under humidity conditions (see IEC 60664-5).

⁵⁾ For parts or circuit within equipment subject to surge voltages based on 4.3.3.4.2, interpolation of values is allowed. However, standardization is achieved by using the preferred series of impulse voltage values based on 4.2.3.

⁶⁾ The dimensions for pollution degree 4 are as specified for pollution degree 3, except that the minimum clearance is 1.6 mm.

Tests and Testing Procedures per IEC/EN Standards (continued)

Electrical Tests (continued)

Table A.2:
Altitude Correction Factors
(DIN EN 60664-1/VDE 0110-1)

Altitude m	Standard air pressure kPa	Multiplier for clearances
2000	80	1
3000	70	1.14
4000	62	1.29
5000	54	1.48
6000	47	1.7
7000	41	1.95
8000	35.5	2.25
9000	30.5	2.62
10000	26.5	3.02
15000	12	6.67
20000	5.5	14.5



Creepage Distances, Rated Voltages, Material Groups

Criteria for dimensioning creepage distances are the rated voltages, pollution degrees and material groups.

The pollution degrees specified for the clearances, and its quoted allocation to locations, is also applicable for creepage distances.

Tables F.3 a and F.3 b of DIN EN 60664-1/VDE 0110-1 contain the rated voltages that have to be considered for dimensioning the minimum creepage distances.

Table F.3a: Single-Phase, 3- or 2-Wire, AC or DC Systems

Nominal voltage of the power supply system (mains)* V	Voltages for Table F.4	
	For insulation line-to-line ¹⁾	For insulation line-to-ground ¹⁾
	All systems  V	Three-wire systems, mid-point grounded  V
12.5	12.5	
24 25	25	
30	32	
42 48 50**	50	
60	63	
30 - 60	63	32
100**	100	
110 120	125	
150**	160	
200	200	
110 - 200	200	100
220	250	
110 - 220 120 - 240	250	
300**	320	
220 - 440	500	250
600**	630	
480 - 960	1000	500
1000**	1000	


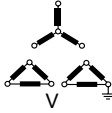
¹⁾Line-to-ground insulation level for non-grounded or impedance-grounded systems equals that for line-to-line, as the operating voltage to ground of any line can, in practice, approach full line-to-line voltage. This is because the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each line to ground; thus, low (but acceptable) insulation resistance of one line can in effect ground it and raise the other two to full line-to-line voltage to ground.

*For the relationship to rated voltage, see 4.3.2.

**These values correspond to the values given in Table F.1.

• Insulation Parameters per IEC/EN 60664-1 (continued)

Table F.3b: Single-Phase, 4- or 3-Wire AC Systems

Nominal voltage of the power supply system (mains)*	Voltages for Table F.4		
	For insulation line-to-line ¹⁾	For insulation line-to-ground ¹⁾	
	All systems	3-phase, 4-wire systems with grounded neutral line ²⁾	3-phase, 3-wire systems, non-grounded ¹⁾ or grounded line
V	V	 V	 V
60	63	32	63
110 120 127	125	80	125
150**	160		160
200	200		200
208	200	125	200
220 230 240	250	160	250
300**	320		320
380 400 415	400	250	400
440	500	250	500
480 500	500	320	500
575	630	400	630
600**	630		630
660 690	630	400	630
720 830	800	500	800
960	1000	630	1000
1000**	1000		1000

¹⁾ Line-to-ground insulation level for non-grounded or impedance-grounded systems equals that for line-to-line, as the operating voltage to ground of any line can, in practice, approach full line-to-line voltage. This is because the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each line to ground; thus, low (but acceptable) insulation resistance of one line can in effect ground it and raise the other two to full line-to-line voltage to ground.

²⁾ For equipment used on both three-phase, 4-wire and three-phase, 3-wire systems, grounded and non-grounded, use only the values for 3-wire systems.

*For the relationship to rated voltage, see 4.3.2.

**These values correspond to the values given in Table F.1.

Material Groups

Insulating materials are classified into four groups according to their Comparative Tracking Index (CTI) as follows:

Material group I:	$600 \leq \text{CTI}$
Material group II:	$400 \leq \text{CTI} < 600$
Material group III a:	$175 \leq \text{CTI} < 400$
Material group III b:	$100 \leq \text{CTI} < 175$

The CTI values above refer to values obtained in accordance

with DIN EN 60664-1/VDE 0110-1 on samples specially made for this purpose and tested with Solution A.

Tests and Testing Procedures per IEC/EN Standards (continued)

Electrical Tests (continued)

Table F.4: Creepage Distances to Avoid Failure due to Tracking (Excerpt)
DIN EN 60664-1 / VDE 0110-1

Voltage ¹⁾ rms V	Minimum Creepage Distances								
	Printed Wiring Material		Pollution Degree						
	Pollution Degree		Pollution Degree						
	1 All Material Groups	2 All Mat. Gr. except IIIb	1 All Material Groups	2 Material Group I	2 Material Group II	2 Material Group III	3 Material Group I	3 Material Group II	3 Material Group III ²⁾
mm	mm	mm	mm	mm	mm	mm	mm	mm	
10	0.025	0.040	0.080	0.400	0.400	0.400	1.000	1.000	1.000
12.5	0.025	0.040	0.090	0.420	0.420	0.420	1.050	1.050	1.050
16	0.025	0.040	0.100	0.450	0.450	0.450	1.100	1.100	1.100
20	0.025	0.040	0.110	0.480	0.480	0.480	1.200	1.200	1.200
25	0.025	0.040	0.125	0.500	0.500	0.500	1.250	1.250	1.250
32	0.025	0.040	0.14	0.53	0.53	0.53	1.30	1.30	1.30
40	0.025	0.040	0.16	0.56	0.80	1.10	1.40	1.60	1.80
50	0.025	0.040	0.18	0.60	0.85	1.20	1.50	1.70	1.90
63	0.040	0.063	0.20	0.63	0.90	1.25	1.60	1.80	2.00
80	0.063	0.100	0.22	0.67	0.95	1.30	1.70	1.90	2.10
100	0.100	0.160	0.25	0.71	1.00	1.40	1.80	2.00	2.20
125	0.160	0.250	0.28	0.75	1.05	1.50	1.90	2.10	2.40
160	0.250	0.400	0.32	0.80	1.10	1.60	2.00	2.20	2.50
200	0.400	0.630	0.42	1.00	1.40	2.00	2.50	2.80	3.20
250	0.560	1.00	0.56	1.25	1.80	2.50	3.20	3.60	4.00
320	0.75	1.60	0.75	1.60	2.20	3.20	4.00	4.50	5.00
400	1.0	2.0	1.0	2.0	2.8	4.0	5.0	5.6	6.3
500	1.3	2.5	1.3	2.5	3.6	5.0	6.3	7.1	8.0 (7.9) ⁴⁾
630	1.8	3.2	1.8	3.2	4.5	6.3	8.0 (7.9) ⁴⁾	9.0 (8.4) ⁴⁾	10.0 (9.0) ⁴⁾
800	2.4	4.0	2.4	4.0	5.6	8.0	10.0 (9.0) ⁴⁾	11.0 (9.6) ⁴⁾	12.5 (10.2) ⁴⁾
1000	3.2	5.0	3.2	5.0	7.1	10.0	12.5 (10.2) ⁴⁾	14.0 (11.2) ⁴⁾	16.0 (12.8) ⁴⁾
1250			4.2	6.3	9.0	12.5	16.0 (12.8) ⁴⁾	18.0 (14.4) ⁴⁾	20.0 (16.0) ⁴⁾
1600			5.6	8.0	11.0	16.0	20.0 (16.0) ⁴⁾	22.0 (17.6) ⁴⁾	25.0 (20.0) ⁴⁾
2000			7.5	10.0	14.0	20.0	25.0 (20.0) ⁴⁾	28.0 (22.4) ⁴⁾	32.0 (25.6) ⁴⁾
2500			10.0	12.5	18.0	25.0	32.0 (25.6) ⁴⁾	36.0 (28.8) ⁴⁾	40.0 (32.0) ⁴⁾
3200			12.5	16.0	22.0	32.0	40.0 (32.0) ⁴⁾	45.0 (36.0) ⁴⁾	50.0 (40.0) ⁴⁾
4000			16.0	20.0	28.0	40.0	50.0 (40.0) ⁴⁾	56.0 (44.8) ⁴⁾	63.0 (50.4) ⁴⁾
5000			20.0	25.0	36.0	50.0	63.0 (50.4) ⁴⁾	71.0 (56.8) ⁴⁾	80.0 (64.0) ⁴⁾
6300			25.0	32.0	45.0	63.0	80.0 (64.0) ⁴⁾	90.0 (72.0) ⁴⁾	100.0 (80.0) ⁴⁾
8000			32.0	40.0	56.0	80.0	100.0 (80.0) ⁴⁾	110.0 (88.0) ⁴⁾	125.0 (100.0) ⁴⁾
10000			40.0	50.0	71.0	100.0	125.0 (100.0) ⁴⁾	140.0 (112.0) ⁴⁾	160.0 (128.0) ⁴⁾
12500			50.0 ³⁾	63.0 ³⁾	90.0 ³⁾	125.0 ³⁾			
16000			63.0 ³⁾	80.0 ³⁾	110.0 ³⁾	160.0 ³⁾			
20000			80.0 ³⁾	100.0 ³⁾	140.0 ³⁾	200.0 ³⁾			
25000			100.0 ³⁾	125.0 ³⁾	180.0 ³⁾	250.0 ³⁾			
32000			125.0 ³⁾	160.0 ³⁾	220.0 ³⁾	320.0 ³⁾			
40000			160.0 ³⁾	200.0 ³⁾	280.0 ³⁾	400.0 ³⁾			
50000			200.0 ³⁾	250.0 ³⁾	360.0 ³⁾	500.0 ³⁾			
63000			250.0 ³⁾	320.0 ³⁾	450.0 ³⁾	600.0 ³⁾			

¹⁾ This voltage for:

- functional insulation; the working voltage;
- basic and supplementary insulation of the circuit energized directly from the mains (see 4.3.2.2.1): for the voltage rationalized through Table F.3a or F.3b, based on the rated voltage of the equipment, or the rated insulation voltage;
- basic and supplementary insulation of systems, equipment and internal circuits not energized directly from the mains (see 4.3.2.2.2): the highest rms voltage which can occur in the system, equipment or internal circuit when supplied at rated voltage and under the most onerous combination of operation conditions within equipment rating.

²⁾ Material group IIIb is not recommended for applications in pollution degree 3 above 630V.

³⁾ Provisional data based on extrapolation. Technical committees who have other information based on experience may use their dimensions.

⁴⁾ The values in brackets shall only be applied for reducing creepage distances if a rib is used (see 5.2.5).

The high degree of accuracy of the creepage distances given in the table does not imply that the measuring accuracy must be of the same quality.

• Insulation Parameters per IEC/EN 60664-1 (continued)

Depending on the intended use, WAGO's terminal blocks, splicing and pluggable connectors are suitable for pollution degrees 2 or 3 and for overvoltage categories II or III. The rated voltages of WAGO's PCB terminal blocks and connectors are based on pollution degree 2 and overvoltage category III in per IEC/EN 60664-1 (insulation parameters).

Example:

**WAGO 236 Series PCB Terminal Strips
(5/5.08 mm pin spacing)**

320 V/4kV/2

Rated voltage 320 V
Rated surge voltage 4kV
Pollution degree 2
Overvoltage category III

The specific values for pollution degree 3 and overvoltage category II are also given in the technical data.

The clearances and creepage distances required for defined voltage values in Table 3 of IEC/EN 60998-1 deviate somewhat from the requirements specified in the insulation parameters.

**Table 3: Clearances and Creepage Distances
(IEC/EN 60998-1)**

Rated Insulation Voltage V	Creepage Distances, Clearances
	mm
≤ 130	1.5
> 130 and ≤ 250	3.0
> 250 and ≤ 450	4.0
> 450 and ≤ 750	6.0
> 750	8.0

It must be determined in the end application which clearance and creepage distance requirements are to be observed for approval.

Tests and Testing Procedures per IEC/EN Standards (continued)

Electrical Tests (continued)

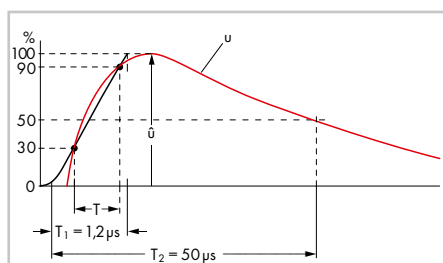
• Power-Frequency Withstand Voltage Test per IEC/EN 60998-1

This testing procedure verifies creepage distances. Creepage distances, i.e., the distances of creeping currents, are caused by conductive impurities on the surface of the insulation housing. Apart from the amount of impurities to which a terminal block is subjected, for example, the plastic material and housing design are also involved in generating creeping currents. The insulation material of the housing may be carbonized by a creeping current, which increases conductivity even more.

The specimen is tested using a power-frequency withstand voltage for a short time. For example, a PCB terminal block designed to operate at 320 V nominal voltage is usually tested using 2500 V alternating voltage for one minute. The test is passed if no flashovers or breakdowns have occurred.

• Rated Impulse Withstand Voltage Test per IEC/EN 60664-1

This test verifies the clearances of a product. In simplified terms, a clearance is the distance between two poles of a terminal block. If this distance is too small, voltage peaks may cause flashovers or breakdowns. The arrangement of the rated impulse withstand voltage test is identical to that of the power frequency withstand voltage test; the test voltages, however, are comparatively higher and the testing times shorter, e.g., 7.385 kV over 50 μ s (see figure).



Voltage pulse: measurement curve (red) and auxiliary curve (black) for calculating the rate of rise of the pulse and the resulting (virtual) peak of the curve.

- T Time interval for calculating the rate of rise
- T₁ Front time (duration between start of impulse and reaching the peak)
- T₂ Total pulse duration

The test values are the values at sea level as specified in the relevant test specification.

The values indicated in the catalog correspond to an altitude of 2000 m.

The test is passed if no flashovers or breakdowns have occurred.

• IP Ratings for Electrical Equipment per IEC/EN 60529

Alphanumeric Nomenclature for Type of Protection		
Code letters IP	Protection against accidental contact and against the penetration of foreign objects or water	IP (Ingress Protection) = International degree of protection
First code number 0 to 6	Indicates the degree of protection against accidental contact and the penetration of foreign objects.	If indicating the degree of protection requires only one digit, the other (second) digit must be substituted for with an X.
Second code number 0 to 8	Indicates the degree of protection against water penetration.	
First digit:		Second digit:
IP0X	No protection against accidental contact or the penetration of foreign objects	IPX0 No protection against water
IP1X	Protection against foreign objects > 50 mm	IPX1 Protection against vertically falling water
IP2X	Protection against foreign objects > 12 mm (e.g., finger)	IPX2 Protection against diagonally dripping water (15° angle)
IP3X	Protection against foreign objects > 2.5 mm	IPX3 Protection against water spray
IP4X	Protection against foreign objects > 1 mm	IPX4 Protection against water spray
IP5X	Protection against damaging dust deposits	IPX5 Protected against water jet, e.g., from a nozzle
IP6X	Protection against dust penetration	IPX6 Protected against flooding
		IPX7 Protected against temporary immersion
		IPX8 Protected against continuous immersion
		IPX9 Protection against high-pressure and high-temperature water jets

IP vs. NEMA	
IP Code	NEMA
10	1
11	2
54	3
14	3R
54	3S
55	4&4X
52	5
67	6&6P
52	12&12K
54	13

13

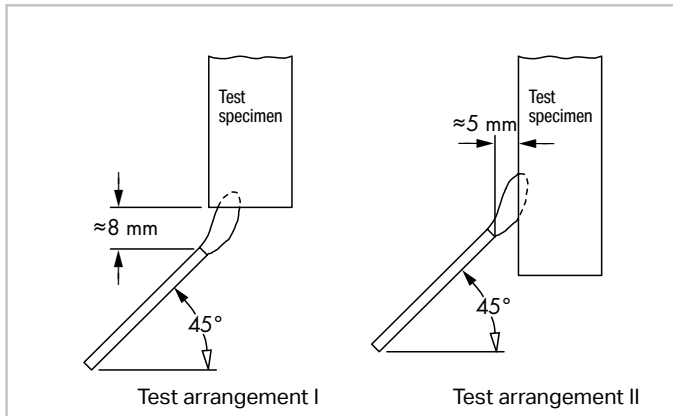
- Material Tests

All WAGO products meet requirements for the following material tests:

- Needle Flame Test per IEC/EN 60695-11-5

This test simulates flames that may arise under certain conditions (e.g, fault current over a creepage distance, overloading of parts or components). Nearby parts can also be affected by such flames.

Not only the ignition of the test specimen resulting from an intrinsic defect is tested, but also its behavior when other parts ignite.

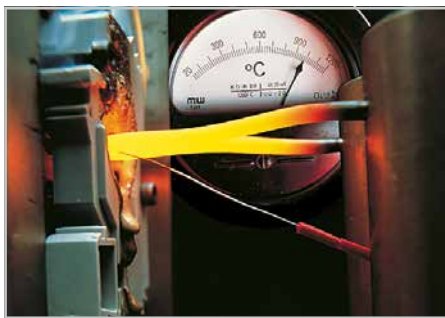


Flames must not be fuelled by the insulation materials used, thus creating a larger fire. The test specimen is exposed to a standard gas flame during a defined time period (e.g., ten seconds).

After the test flame has been removed, the specimen must self-extinguish within 30 seconds. Furthermore, a layer of tissue paper located beneath the specimen shall not be ignited by glowing particles falling from the specimen.

- Glow-Wire Test per IEC/EN 60998-1, IEC/EN 60695-2-11

In the event of failure, a high current may cause a conductor to glow.



However, the glowing conductor shall not cause ignition of the product involved (e.g., a rail-mount terminal block). For the glow-wire test, the tip of the glow-wire is pressed against a surface of the test specimen (see picture). The position of the test specimen, surface to be tested, test duration and glow-wire temperature (e.g., 960 °C over 30 seconds, or 850 °C over 5 seconds) are specified in the standards.

The specimen must be positioned such that the tip of the glow-wire acts on the surface section of the specimen (vertical surface of the specimen) that is most likely to be exposed to thermal loading

during normal use. As the highest temperature in the event of a fault is anticipated at the contact insert/wire connection, the tip of the glow-wire must act upon the section of the insulation housing that is the closest to this contact point.

The test is passed if there are no visible flames or permanent glowing, or if flames or glowing extinguish within 30 seconds after removal of the glow-wire. Furthermore, a layer of tissue paper located beneath the specimen shall not be ignited by glowing particles falling from the specimen.

Tests and Testing Procedures per IEC/EN Standards (continued)

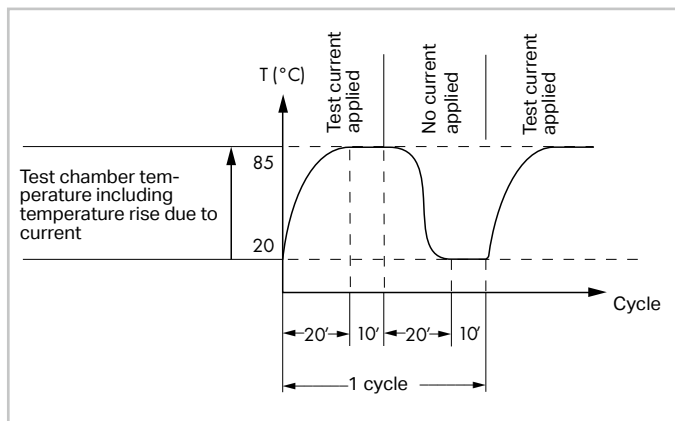
- Environmental Tests

The following tests show how a product reacts when exposed to an aggressive environment. Climatic chambers simulate standard atmospheres that could impact long-term constancy of clamping units.

All WAGO products meet requirements for the following environmental tests:

- Temperature Cycling Test per IEC/EN 60947-7-1, IEC/EN 60998-2-2

This test shows the change of voltage drop over longer periods under temperature cycling conditions. The test procedure usually consists of 192 temperature cycles, for example, each cycle having a duration of 60 minutes (see diagram).



The rated current is applied to the test specimen during temperature rise and when the temperature has reached its maximum value; during the second half of the cycle, the current is zero. Voltage drop is measured every 24 cycles and must not exceed a maximum value or vary greatly. The voltage drop measured at the end of the 192nd cycle must not exceed 1.5 times the value measured after the 24th cycle. After the test, an inspection must show no changes that would impair further use of the product.

- Industrial Atmospheres per EN ISO 6988, IEC/EN 60068-2-42, IEC/EN 60068-2-60

Sulphur and its combustion products are particularly aggressive pollutants commonly found in industrial environments. A test procedure simulating such corrosive conditions consists of exposing a test specimen to water condensation in variable atmospheres containing sulphur dioxide.



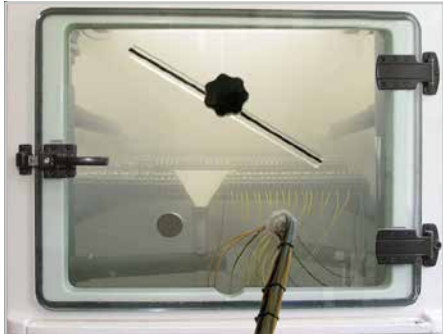
A saturated atmosphere is first created in a climatic chamber by heating an aqueous sulphur dioxide solution. After less than half an hour, the test specimen is fully saturated by the condensing vapors and exposed to this atmosphere for eight hours.

After exposure to a humid atmosphere, the test specimen is subjected to dry and cooler conditions at room temperature for 16 hours. Depending on the test severity, the specimen is exposed to both these conditions several times. The gas-tightness of the clamping unit is verified by a voltage drop test.

In other test procedures, products are exposed to a dry corrosive gas atmosphere containing sulfide, nitrogen and sulfur oxides or chloride gas. These tests can be performed over a period of four to 21 days.

• Salt Spray Test per IEC/EN 60068-2-11; DNV GL, LR (Marine Applications)

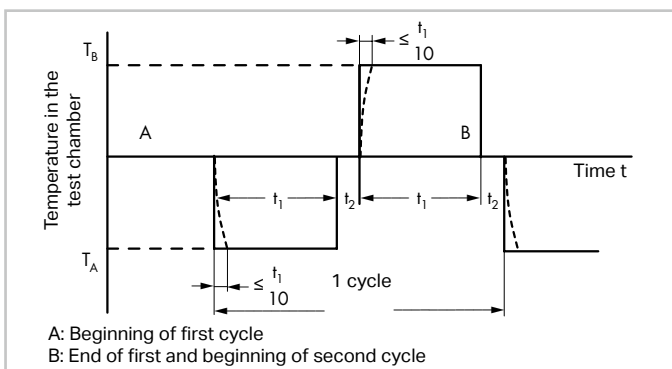
This test is similar to the test performed in water condensation alternating atmospheres, except that instead of industrial atmospheres, salt mist conditions will be simulated in a heated test chamber (see picture).



Depending on the test procedure being used, the test specimen is sprayed with salt mist for 16 hours up to 672 hours (4 weeks). Salt spray tests are widely used, especially for ship approvals. However, this test is performed differently than the test procedures described previously for general applications: During a typical test, the test specimen is sprayed with a salt solution for two hours and is then stored for seven days in an atmosphere with a relative humidity between 90 and 95 %. This procedure is repeated four times. Voltage drop measurements are used as an evaluation criterion.

• Quick Change of Temperature per IEC/EN 60068-2-14

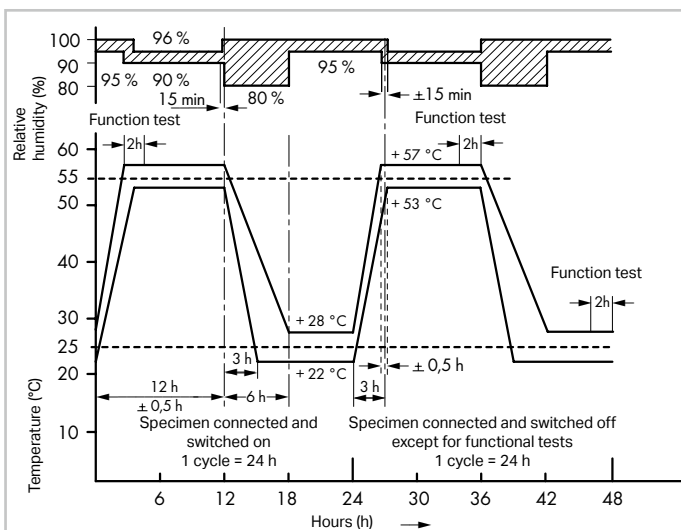
Without air-conditioning, distribution panels and terminal boxes are exposed to seasonal (and ever-changing) temperature extremes – especially on the open field side. In process technology, for example, a terminal block is exposed to even quicker changes in temperature.



To simulate such conditions, the test specimen is exposed to repeated temperature changes, for example, between $T_A -40\text{ °C}$ and $T_B +70\text{ °C}$. The dwell time t_1 depends on the thermal capacity of the test specimen and should be between maximum of 3 hours and minimum of 10 minutes and the transition time t_2 2 ... 3 min., 20 ... 30 sec. or less than 10 seconds. The mechanical and electrical properties of the product are checked at the end of the test.

• Damp Heat, Cyclic (12 + 12 Hour Cycle) per IEC/EN 60068-2-30, DNV GL, LR (Marine Applications)

This test determines the suitability of electrical equipment for use and storage under conditions of high relative humidity when combined with cyclic temperature changes and, in general, producing condensation on the surface of the specimen.



In addition to the salt spray tests, the damp heat test is also used for marine approvals. For this test, the specimens are subjected to temperatures varying cyclically between $+25\text{ °C}$ (77 °F) and $+55\text{ °C}$ (131 °F) with a relative humidity of 95% (for tolerances see figure). Functional tests are performed at defined times during the storage period. The mechanical and electrical properties of the product are checked at the end of the test.

UL Specifications – Underwriters Laboratories, USA

WAGO's terminal blocks and connectors are tested by Underwriters Laboratories Inc. according to one or more of the relevant following UL standards:

- PCB terminal strips (e.g., 236, 745 Series) are approved as non-stand-alone components per UL 1059 in connection with UL 486E.

UL 1059	Standard for terminal blocks
UL 486 E	Equipment wiring terminals for use with aluminum and/or copper conductors

- The *MULTI CONNECTION SYSTEM "MCS-MIDI"* has dual approval; as a terminal block per UL 1059 standard in connection with UL 486 E. It is therefore defined for "field and factory wiring" with a voltage of 300 V.

- It is also approved as a "connector for use in data, signal, control and power applications" per UL 1977 for "factory wiring" at 600 V (i.e., the clamping unit must be wired under controlled manufacturing conditions).

UL 1977	Component connectors for use in data, signal, control and power applications
---------	--

- Ex e II terminal blocks are approved to UL 60079-7.

- Insulation materials are tested for flammability and performance in accordance with UL 94.

UL 60079-7	Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety
UL 94	Tests for flammability of plastic materials for parts in devices and appliances

Tests and Testing Procedures per UL Standards

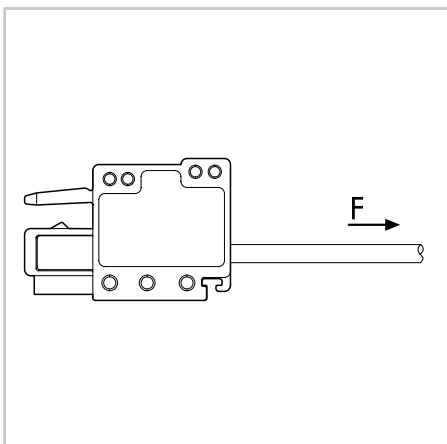
All WAGO products meet requirements for the following tests:

- Pull-Out Test per UL 1059, UL 486 E

In this test, the connected conductors are subjected to the appropriate pull-out forces specified in the following table without jerking for a period of one minute.

Conductor Size AWG or kcmil		(mm ²)		Pull-Out Force, Pounds (N)	
				UL 486 E, Table 22	
		Copper	Aluminum		
30	(0.05)	0.5	(2.2)	-	-
28	(0.08)	1	(4.5)	-	-
26	(0.13)	2	(8.9)	-	-
24	(0.20)	3	(13.4)	-	-
22	(0.32)	4.5	(20)	-	-
20	(0.52)	6.75	(30)	-	-
18	(0.82)	6.75	(30)	-	-
16	(1.3)	9	(40)	-	-
14	(2.1)	11.5	(50)	-	-
12	(3.3)	13.5	(60)	10	(44)
10	(5.3)	18	(80)	10	(44)
8	(8.4)	20.5	(90)	10	(44)
6	(13.3)	21	(94)	28	(124)
4	(21.2)	30	(133)	36	(160)
3	(26.7)	35	(156)	42	(187)
2	(33.6)	42	(186)	50	(222)
1	(42.4)	53	(236)	61	(271)
1/0	(53.5)	64	(285)	72	(320)
2/0	(67.4)	64	(285)	78	(347)
3/0	(85.0)	79	(351)	97	(432)
4/0	(107)	96	(427)	116	(516)
250	(127)	96	(427)	116	(516)
300	(156)	99	(441)	116	(516)

Test Arrangement per
UL 1059, UL 486 E:



UL Specifications – Underwriters Laboratories, USA (continued)

Tests and Testing Procedures per UL Standards (continued)

• Heat Cycling Test per UL 1059, UL 486 E

Tests performed:

UL 1059

Test performed with maximum rated cross-section

Test current: 150 % of maximum rated current

84 cycles of: 3 1/2 h "ON" / 1/2 h "OFF"

The temperature rise is measured after the first and the 84th cycle. Cycle

The temperature rise must not exceed 5 °C (41 °F) after the 84th cycle, compared to the temperature measured after the first cycle.

UL 486 E (equipment wiring terminals)

Test performed with maximum rated cross-section

Test current: Increased test current per UL 486 E, Table 4

500 cycles of: 1 h "ON" / 1 h "OFF"

1 1/2 h "ON" / 1 1/2 h "OFF"

(from 4/0 AWG up to 400 kcmil per UL 486 E)

The temperature rises at the terminal blocks and control conductors are measured and recorded after: 1, 25, 50, 75, 100, 125, 175, 225, 275, 350, 425 and 500 cycles.

The temperature rise must not exceed 125 °C (257 °F) and the stability factor "S" must exceed ± 10.

Conductor Size		Test Current for Copper Conductors in A			
		UL 486 E, Table 4			
AWG or kcmil	(mm ²)	Assigned Maximum Ampere Rating ^b	Static Heating ^{a,c,g}	Heating Cycling Temperature Rating ^a	
				75 °C ^{d,g}	90 °C ^{e,g}
30	(0.05)	-	3	3,5	4
28	(0.08)	-	3,5	4	5
26	(0.13)	-	5,5	6	8
24	(0.20)	-	7	8	10
22	(0.32)	-	9	12	13
20	(0.52)	-	12	16	17
18	(0.82)	-	17	19	24
16	(1.3)	-	18	20	31
14	(2.1)	15	[20] 30	[22] 33	[27] 40
12	(3.3)	20	[25] 35	[28] 39	[40] 54
10	(5.3)	30	[40] 50	[45] 56	[60] 75
8	(8.4)	50	70	80	100
6	(13.3)	65	95	105	131
4	(21.2)	85	125	140	175
3	(26.7)	100	145	165	205
2	(33.6)	115	170	190	240
1	(42.4)	130	195	220	275
1/0	(53.5)	150	230	255	320
2/0	(67.4)	175	265	300	370
3/0	(85.0)	200	310	345	435
4/0	(107)	230	360	405	505
250	(127)	255	405	445	565
300	(152)	285	445	500	625

^a See Section 7.2, 8.2 and 9.2 (UL 486 E)

^b Values are for 75 °C (167 °F), not more than 3 conductors in raceway or cable ampacities, National Electric Code, ANSI/NFPA 70.

^c Values are for 75 °C (167 °F) single conductors in free air ampacities, National Electric Code, ANSI/NFPA 70.

^d Values are approximately 112 % of the static heating test currents.

^e Values for 8 AWG and larger conductors are approximately 140 % of the static heating test currents.

^f See Section 9.2.4

^g Values in parentheses apply to connectors with assigned ampere ratings.

- Conditioning – Temperature-Rise Rest per UL 1059

Tests performed:
per UL 1059 (terminal blocks)

Conditioning:

The clamping units are **pre-wired/pre-inserted nine times** using a conductor with maximum rated cross-section. On the 10th time, a new conductor is connected. After this, a static heating test is performed.

Static Heating Test:

Test current:	Terminal block rated current
Test duration:	30 days
Max. permissible temperature rise:	30 °C

UL Specifications – Underwriters Laboratories, USA (continued) Tests and Testing Procedures per UL Standards (continued)

• Insulation Parameters per UL 1059

The table below shows the potential involved and the corresponding clearances and creepage distances required in different applications.

Minimum Acceptable Spacing for Terminal Blocks, UL Standard 1059, Table 8.1:

Use Group	Application	Potential Involved in Volts	Spacing in inches (mm) between uninsulated live parts of opposite polarity, uninsulated live parts and uninsulated grounded parts other than the enclosure			
			Through Air		Over Surfaces	
A.	Dead-front switchboards, panelboards, service equipment and similar applications	51 ... 150 151 ... 300 301 ... 600	1/2 (12.7) 3/4 (19.1) 1 (25.4)		3/4 (19.1) 1...1/4 (25.4) 2 (50.8)	
B.	Commercial appliances, including business equipment, electronic data processing equipment and similar applications	51 ... 150 151 ... 300 301 ... 600	1/16 ^a (1.6) ^a 3/32 ^a (2.4) ^a 3/8 (9.5)		1/16 ^a (1.6) ^a 3/32 ^a (2.4) ^a 1/2 (12.7)	
C.	Industrial, general	51 ... 150 151 ... 300 301 ... 600	1/8 ^a (3.2) ^a 1/4 (6.4) 3/8 (9.5)		1/4 (6.4) 3/8 (9.5) 1/2 (12.7)	
D.	Industrial, devices having limited ratings ^b	51 ... 300 301 ... 600	1/16 ^a (1.6) ^a 3/16 ^a (4.8) ^a		1/8 ^a (3.2) ^a 3/8 (9.5)	
E.	Terminal blocks rated 601 ... 1500 V ^c	601 ... 1000 1001 ... 1500	0.55 (14.0) 0.70 (17.8)		0.85 (21.6) 1.20 (30.5)	

Notes

1 A slot, groove, or similar, 0.013 inch (0.33 mm) wide or less in the contour of the insulating material is to be disregarded.

2 Air space of 0.33 mm or less between a live part and an insulating surface is to be disregarded for the purpose of measuring over surface spacing.

^a The spacing between terminal blocks of opposite polarity and the spacing between a terminal block and a grounded dead metal part shall not be less than 1/4 inch (6.4 mm) if short-circuiting or grounding of such terminal blocks may result from protruding wire strands.

^b See Section 8.5 (UL 1059)
The spacing values indicated in sub-paragraph D in Table 8.1 are applicable to a terminal block for use only in or with industrial control equipment where the load on any single circuit of the terminal block does not exceed 15 A at 51 ... 150 V, 10 A at 151 ... 300 V, 5 A at 301 ... 600 V or the maximum ampere rating, whichever is less.

^c Applies only to terminal blocks investigated to Part II of this standard. See Section 22.1 (UL 1059).

• Flammability Test per UL 94

This test provides an indication of the material's ability to extinguish a flame, once ignited. Several ratings can be applied, based on the rated of burning, time to extinguish, ability to resist dripping, and after-glow extinguishing time. Each material tested may receive several ratings, depending on the wall thickness. UL 94 rating categories:

V2

- Specimen mounted vertically
- Burning stops within 30 seconds after the flame is removed
- Flaming drips allowed
- After-glow extinguishes within 60 seconds max.

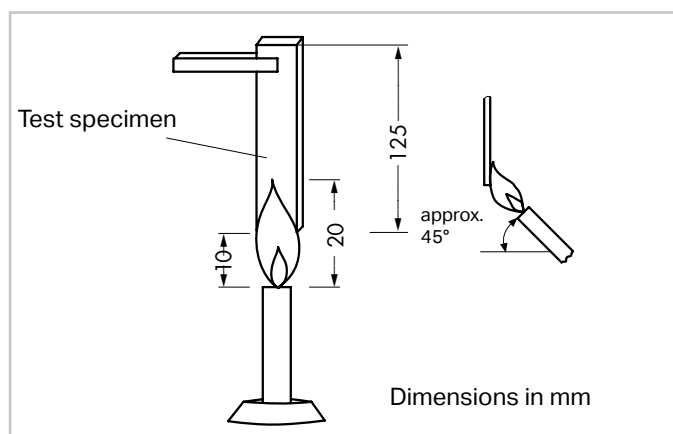
V1

- Specimen mounted vertically
- Burning stops within 30 seconds after the flame is removed
- No flaming drips allowed
- After-glow extinguishes within 60 seconds max.

V0

- Specimen mounted vertically
- Burning stops within 10 seconds after the flame is removed
- No flaming drips allowed
- After-glow extinguishes within 30 seconds max.

During the test, a 3/4 inch (20 ±1 mm) flame is applied for two 10-second intervals to the specified bar specimen held vertically.



Terminating Aluminum Conductors

WAGO "Alu-Plus" Contact Paste also allows WAGO spring clamp terminal blocks to properly terminate solid aluminum conductors up to 4 mm²/12 AWG. ①

"Alu-Plus" Contact Paste:

- Prevents fresh oxidation at the clamping point.
- Prevents electrolytic corrosion between aluminum and copper conductors.
- Provides long-term protection against corrosion.

Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, aluminum conductors must first be cleaned and then immediately be inserted into the clamping units filled with WAGO "Alu-Plus" Contact Paste.

It is also possible to apply WAGO "Alu-Plus" additionally on the whole surface of the aluminum conductor before termination.

Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:

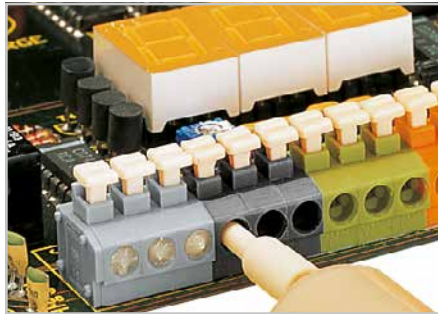
2.5 mm² (14 AWG) = 16 A
4 mm² (12 AWG) = 22 A

① Aluminum conductors per IEC 61545 standard, Class B, "Alloy 1370" with 90 ... 180 N/mm² tensile strength and 1 ... 4 % elongation.

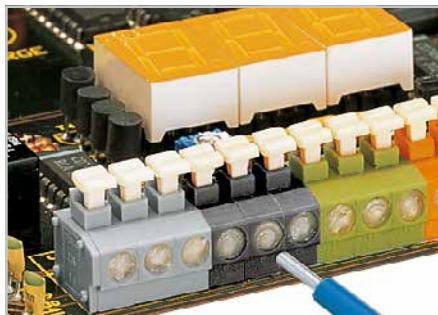
Standard values: 90 ... 180 MPa tensile strength,
1 ... 4 % elongation (per EN 615.4.1)

WAGO "Alu-Plus" in the syringe offers a higher degree of reliability and cleanliness when connecting solid aluminum conductors.

Filling is, for example, quickly performed on WAGO PCB terminal trips:



1. Push nozzle of the "Alu-Plus" syringe into every open conductor entry hole (one after the other).



2. Press plunger down until "Alu-Plus" has filled all conductor entry holes.

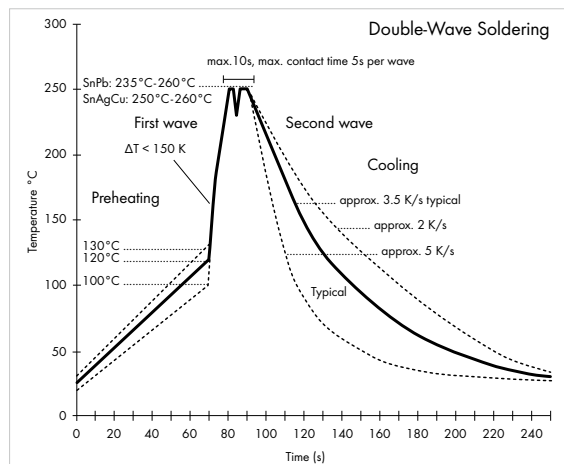
Processing Information and Material Specifications

• Soldering Information

Wave Soldering:

WAGO's PCB terminal blocks and connectors comply with the 2011/65/EU Directive of June 8, 2011 and display the "RoHS compliant" logo on their packaging.

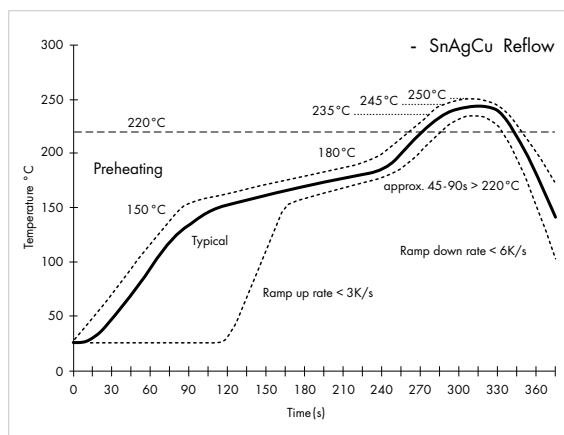
In accordance with IEC 61760-1, the maximum double-wave soldering temperature is 260 °C for maximum 10 seconds or 5 seconds per wave.



Reflow Soldering:

WAGO's THR and SMD PCB terminal blocks and connectors have high-temperature-resistant insulated housings and reflow solder contacts.

In accordance with IEC 61760-1 or IEC 60068-2-58, the maximum soldering temperature is 260 °C (peak temperature). Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.



• Insulation Materials

WAGO primarily uses polyamide (PA 66 and PA 46) for housing current-conducting parts, as well as polyphthalamide (PPA) and polycarbonate (PC) for insulation material (see table). For more than 50 years, these materials have proven themselves in WAGO products and all are approved by certified, third-party agencies. All listed halogen-free and flame-retardant polymer materials do not contain any heavy metals, silicone, asbestos, or formaldehyde as formulation components.

Table: Standard Insulation Materials

Material	PA 66	PA 66 GF	PPA GF	PA 46	PC	PC
Flammability UL 94 flammability test ratings	V0	V0	V0	V2	V2	V0
Oxygen Index (OI) per EN ISO 4589-2	> 32 %	> 33 %	> 37 %	> 27 %	> 26 %	> 35 %
Glow-wire test per IEC 60695-2-12 GWFI* IEC 60695-2-13 GWIT*	850 °C 775 °C	850 °C 775 °C	850 °C 775 °C	750 °C 725 °C	800 °C 850 °C	960 °C 850 °C
Comparative Tracking Index (CTI) per IEC 60112	600 V	600 V	600 V	375 V	225 V	225 V
Temperature of the ball indentation hardness test per EN ISO 2039-1 IEC 60695-10-2	≥ 125 °C	≥ 175 °C	≥ 225 °C	n.s.**	≥ 125 °C	≥ 125 °C
RTI impact per UL 746B	105 °C	100 °C	115 °C	115 °C	125 °C	120 °C
Heat deflection temperature (HDT/B) per ISO 75 (at 0.45 MPa bending stress)	215 °C	235 °C	285 °C	280 °C	130 °C (1.8 MPa)	130 °C (1.8 MPa)
Surface resistivity per IEC 60093	10 ¹² Ω	10 ¹² Ω	10 ¹⁵ Ω	10 ¹³ Ω	10 ¹⁵ Ω	10 ¹⁵ Ω
Specific contact resistance per IEC 60093	10 ¹⁵ Ω/cm	10 ¹⁵ Ω/cm	10 ¹³ Ω/cm	10 ¹³ Ω/cm	10 ¹¹ Ω/cm	10 ¹³ Ω/cm
Dielectric strength per IEC 60243-1	30 kV/mm	40 kV/mm	25 kV/mm	25 kV/mm	25 kV/mm	29 kV/mm

*Value depends on wall thickness, EN 60335 compliance upon request; **n.s. = not specified

Polyamide (PA 66)

WAGO uses modified, halogen-free, flame-retardant polyamides. These materials do not corrode, are difficult to ignite and feature self-extinguishing properties (V0 rating per UL 94). Adhering to UL 746C, the polyamides used at WAGO have a continuous operating temperature of 105 °C (221 °F) based on the relative RTIimp temperature index with sudden loading. This ensures that the necessary electrical and mechanical insulating properties are maintained at a sufficiently guaranteed level over a long period of time. The short-term upper temperature limit is 200 °C (392 °F). In lower temperature ranges, it has been determined that no damage to the insulation material occurs during usage down to -35 °C (-31 °F). After installation and wiring, WAGO products can even be used at temperatures down to -60 °C (-76 °F). Environmental humidity (up to 2.5 % in a standard atmosphere) is absorbed, providing the polyamides with optimum elasticity, strength and durability. In practical use, basic stabilization of WAGO's polyamides has been proven over many years as sufficient to prevent damage caused by ozone or UV radiation exposure in intended applications. Polyamides have excellent resilience against the most demanding climates and have proven themselves in tropical applications worldwide. Insulation parts made of polyamide are resistant to insects. The material does not provide oxygen or other biogenic elements to microorganisms. The presence of anaerobic earth bacteria, mold, fungus and enzymes does not degrade the material. Polyamides are resistant to most fuels, greases, and oils, as well as the most commonly used cleaners, such as alcohol, Freon, Frigen, and carbon tetrachloride. Acid resistance depends on the acid type and concentration, as well as the exposure time. The use of insulation materials during in-house production at WAGO only occurs after acceptance of factory test certificates and specified material tests.

Glass Fiber-Reinforced Polyamide (PA 66 GF)

WAGO uses glass-fiber-reinforced polyamides for components with increased mechanical demands, such as levers, push-buttons or housings exposed to high stresses, because glass-reinforced polyamides have significantly higher characteristic properties than non-reinforced polyamides. In general, materials are used that have excellent creepage current resistance, flammability ratings and high temperature resistance. More data can be found in the table.

Polyphthalamide (PPA GF)

Glass-fiber-reinforced, high-performance polyamides are ideal for high-temperature applications, due to the material's high level of thermal dimensional stability, its low dependence on ambient conditions and its excellent strength properties. The material's outstanding tracking resistance permits short creepage distances to be incorporated into miniature components. Fire protection equipment enables placement into flammability class V0 per UL 94 – even for extremely thin walls. PPA GF absorbs minute amounts of moisture from the ambient air, making it ideal for reflow soldering applications and for thin-walled, dimensionally stable components. More data can be found in the table.

Polyamide (PA 46)

In comparison with PA 66, PA 46 has substantially higher dimensional stability under heat. The relative RTIimp temperature index with sudden loading is 115 °C (239 °F) for PA 46. The reliable short-term temperature for the type used by WAGO is 280 °C (536 °F). More data can be found in the table.

Polycarbonate (PC)

Polycarbonate has excellent dimensional stability under heat. The electrical and mechanical properties remain intact at extremely high temperatures up to approximately 120 °C (248 °F) per UL Yellow Card. Its excellent electrical insulating properties and dimensional stability are virtually independent of environmental conditions, such as humidity and temperature. Highly precise components can be created due to the low shrinkage of the material during injection molding. Polycarbonate has excellent weather resistance and is also highly resistant to high-energy radiation. If the PC is not colored, then the components are glass-clear. Thanks to its desirable properties (e.g., dimensional stability, heat resistance, non-flammability, durability and transparency), PC is a proven and widely used material in the electrical industry. Depending on the demands placed on the finished product, WAGO uses polycarbonates that carry flammability classifications V2 and V0 per UL 94. Medium-viscosity PC is used that features excellent chemical resistance.

Material Specifications (continued)

Contact Materials

Hard and extra-hard electrolytic copper (ECu), as well as extra-hard copper alloys are the standard materials used for the current-carrying parts of all WAGO products.

This material combines excellent conductivity and good chemical resistance without the risk of stress-induced cracking.

Contact Plating

The special tin layer, which is the standard layer for all current-carrying parts in WAGO products, ensures perfect long-term protection against corrosive substances. Furthermore, these layers provide a gas-tight contact that ensures a durable transition resistance.

At the clamping unit, the conductor is embedded into the soft tin layer via high contact pressure. This protects the contact area against corrosion.

The thick tin layer also ensures good solderability of both PCB terminal block and connector solder pins.

Clamping Spring Material

Every WAGO clamping spring is made of high-quality, accurately tested austenitic chrome nickel steel (CrNi) with high tensile strength, which boasts proven corrosion resistance through long-term usage.

It is resistant to sea spray, city pollutants and industrial emissions (e.g., sulfur dioxide, hydrogen sulfide).

At room temperatures of approximately 20 °C (68 °F), the material is resistant to salt solutions up to 30 % and dilute phosphoric acids up to 30 %.

Even after decades of use, no galvanic corrosion between the chrome nickel spring steel (in connection with the contact materials used by WAGO) and the connected copper conductors has been detected.

The relaxation of the material as a function of time and surrounding temperatures up to 105 °C (221 °F) can be ignored. Samples loaded with 500 N/mm² at a temperature of 250 °C (482 °F) showed a relaxation of only 1.5 %.

In certain product lines, the clamping springs are thermally treated at temperatures between 350 °C (662 °F) and 420 °C (788 °F) after production.

This treatment reduces internal stress due to the material's mechanical deformation, which may result in a slight brown discoloration of the spring surface.

WAGO only accepts deliveries of chrome nickel spring steel against certificates of conformity and after select material tests have been performed.

General Technical Information on Electrical Equipment Used in Hazardous Areas

A prerequisite for a potentially explosive hazard is the formation of an explosive atmosphere. Such an atmosphere can be produced at any location where flammable gases or liquids are manufactured, processed, transported and/or stored.

Such **hazardous areas** can be found in a wide range of industries, including chemical plants, refineries, power plants, paint producing facilities, painting shops, filling stations, vehicles, sewage treatment plants, airports, grain mills or harbor facilities.

THE FOLLOWING APPLIES AS A GUIDELINE FOR THE UNDERLYING PRINCIPLE FOR EXPLOSION PROTECTION:

General Requirements

The European EN 60079-0 Standard – VDE 0170 Classification, Part 1 – contains general requirements for the design and testing of electrical equipment to be used in hazardous areas. This ensures this equipment does not cause an explosion in the surrounding atmosphere.

Electrical Equipment

Electrical equipment includes all objects used in whole or in part with electricity. This includes items for generation, transport, distribution, storage, measurement, control, conversion and consumption of electrical power, as well as telecommunications.

Ex Components

Ex components are elements of electrical equipment for hazardous areas that are marked with the "U" letter. These components must not be used on their own in such areas and require an additional certificate when used in such areas when installed in the electrical equipment.

Ignition Protection Categories

Only explosion-proof (protected) equipment must be used in areas in which an explosive atmosphere may still be expected despite the implementation of prevention measures.

Explosion-protected electrical equipment can have various types of protection in accordance with the EN 60079 standard requirements.

Protection used by the manufacturer essentially depends on the type and function of the apparatus. From a safety point of view, all standardized types of protection should be viewed as equal. The ignition protection category "n" describes exclusively the use of explosion-protected electrical components in Zone 2. This zone includes areas in which hazardous, potentially explosive atmospheres are likely to occur rarely or short-term. This represents a transition between Zone 1, in which explosion protection is required, and the safe area in which, for example, welding may be performed at any time. Regulations covering these electrical components are being prepared worldwide. Organizations such as KEMA in the Netherlands, or PTB in Germany certify that the devices meet the requirements of the EN60079-15 standard. Ignition protection category "n" also requires that electrical equipment be provided with additional ID markings as follows:

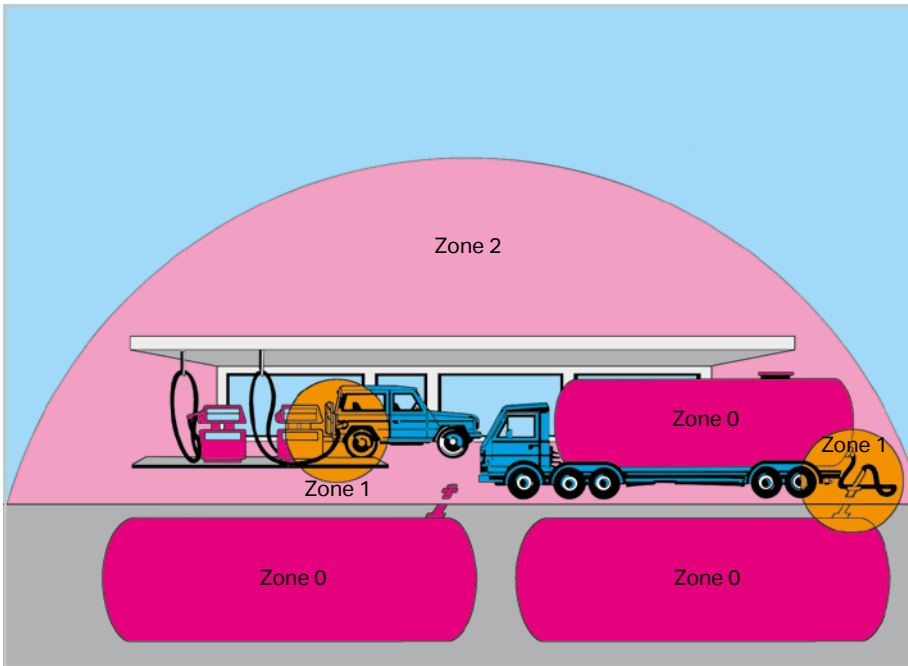
- A – non-sparking (function modules without relays/switches)
- AC – sparking, contacts protected with seals (function modules with relays/without switches)
- L – limited power (function modules with switches)

General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)

Hazardous environments are areas in which the atmosphere may become explosive. An explosive atmosphere is a mixture of flammable substances in the form of gases, vapors or mixtures with air under atmospheric conditions in

critically mixed ratios such that excessive high temperature, arcs or sparks may cause an explosion.

DIN EN 1127-1 and all other related standards that are well-known divide up hazardous areas according to the likelihood of the occurrence of an explosive atmosphere into the following zones:



- ❶ Hazardous areas due to explosive gases, vapors and mists

Zone 0

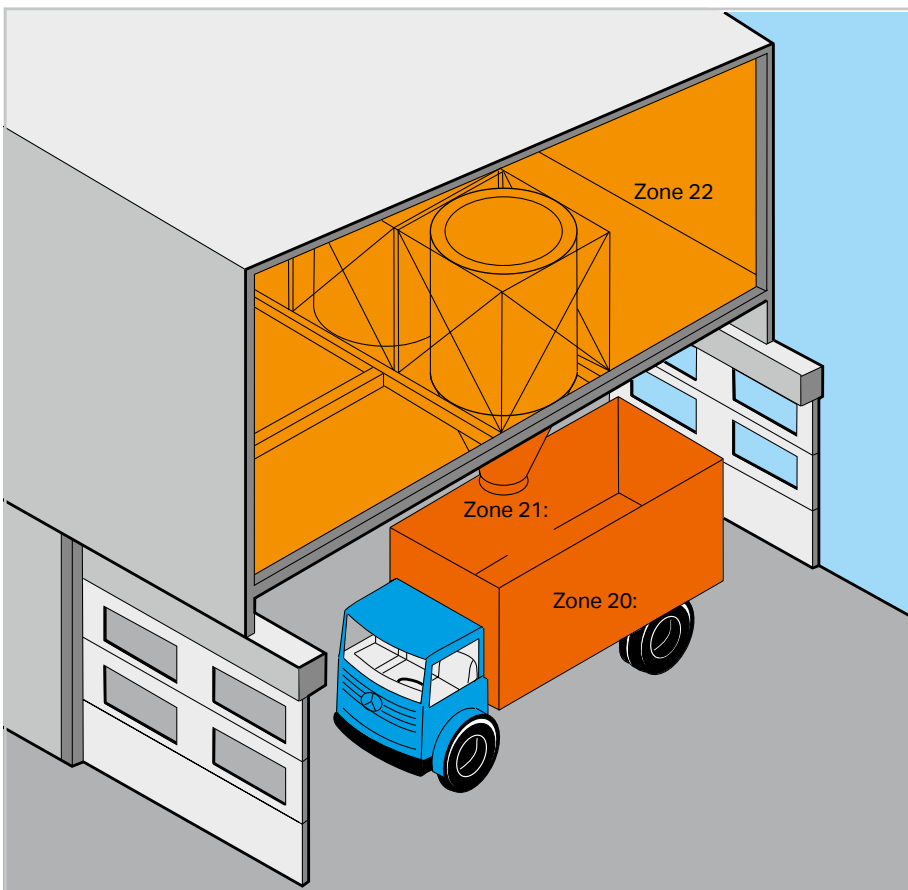
Areas in which an explosive atmosphere is present continuously, for long periods or frequently.

Zone 1

Areas in which an explosive atmosphere is likely to occur occasionally during normal operation.

Zone 2

Areas in which an explosive atmosphere is likely to occur rarely or only for a short period during normal operation.



- ❷ Hazardous areas due to explosive dust/air mixtures

Zone 20

Areas in which an explosive atmosphere due to dust/air mixtures is present continuously, for long periods or frequently and in which dust deposits of known or excessive thickness may form. Dust deposits alone do not constitute a Zone 20.

Zone 21

Areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected occasionally and in which deposits or layers of combustible dust can generally be present.

Zone 22

Areas in which an explosive atmosphere due to dust/air mixtures is not likely to occur during normal operation and, if it occurs, will only exist for a short period, or in which accumulations or layers of combustible dust are present.

EN 60079-0 also classifies electrical equipment for use in hazardous areas into two groups:

Group I:

Electrical equipment for mines susceptible to firedamp

Group II:

Electrical equipment for hazardous areas, except for mines susceptible to firedamp.

As this broad application range encompasses a large number of potentially flammable gases, Group II is broken down into subgroups IIA, IIB and IIC.

This breakdown is based on different gases/materials exhibiting differing ignition power levels as parameters. Therefore, representative gases have been allocated to these three sub-groups:

- IIA – Propane
- IIB – Ethylene
- IIC – Hydrogen

Publication of the WBK Mining Authority dated March 1989.
Quote: "... terminal blocks that have been certified for the type of protection Ex e II will also be accepted, for example, for Group I – equipment with "e" (increased safety) protection type."

This information is also given under Item 12 in the EC Prototype Test Certificates, based on which the terminal blocks have been approved for Group I and Group II.

Temperature Category	Maximum Surface Temperature °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Depending on the maximum surface temperature, electrical equipment in Group II are classified in temperature categories T1 to T6 for all protection types. The ambient temperature, which must be accounted for in dimensioning, is defined as 40 °C/104 °F (deviations are acceptable under some conditions). Terminal blocks for "e" (increased safety) protection type are generally assigned to temperature category T 6. When terminal blocks are used in equipment of temperature categories T1 to T5, ensure that the highest temperature on the insulating parts does not exceed 85 °C (185 °F). The highest measured surface temperature rise must not exceed 40 K.

Thermal resistance of the insulation material must be at least 20 °C (68 °F) greater than the highest operating temperature. Low temperature stability is considered to be sufficient when the insulation material can withstand 24-hour storage at a temperature of –60 °C (–76 °F) without nullifying the type of protection.

Special Requirements

"Increased Safety Ex e"

The European EN 60079-7 Standard – VDE 0170 Classification, Part 6 – contains special requirements for the design and testing of electrical equipment with "e" (increased safety) protection type for use in hazardous areas.

This standard is a supplement to EN 60079-0 and applies to equipment or parts thereof that neither generate sparks or arcing under normal operating conditions, nor exhibit hazardous temperatures.

This standard describes special measures, which have to be observed to obtain a safety degree according to the "e" (increased safety) protection type. Ex components such as PCB terminal blocks are covered by Section 4.2 "Terminal Blocks for External Conductors." The following are the most important design requirements for terminal blocks for external supply conductors to electrical equipment:

These must:

- be sufficiently large to permit reliable connection of external supply conductors with cross-section of at least the size required by the nominal current of the equipment
- be protected against self-loosening and designed such that the supply conductors cannot slip out of their clamping units
- be designed such that adequate contact pressure is ensured without damaging the conductors
- be designed such that their contact pressure does not change with temperature cycling
- be equipped with a spring connecting link for the connection of stranded conductors
- be designed so as to allow secure connection of smaller conductors for terminal blocks up to 4 mm² (12 AWG).

Minimum Ignition Power of Typical Gases:

Explosion Group	I	IIA	IIB	IIC
Gas	Methane	Propane	Ethylene	Hydrogen
Ignition Power	280	250	82	16

The following table shows a comparison between the current practice based on Ex eV, DIN VDE 0165: 1991 and the new EN 1127-1:

Device Group II				
Category	Protection degree	Adequate safety for	Comparable to current practice	New, based on EN 1127
1 Ex atmosphere is very probable, swirled dust	Highest	Two protective measures Two faults	Group II, Zone 0, Zone 10	Zone 0, Zone 20
2 Occasional Ex atmosphere	Increased	Equipment failure or fault	Group II, Zone 1	Zone 1, Zone 21
3 Low probability of Ex atmosphere, settled dust	Normal	Fault-free operation	Group II, Zone 2, Zone 11	Zone 2, Zone 22

General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)

It is expressly prohibited to use insulating parts for transferring contact forces. Terminal blocks with sharp edges which could damage supply lines and those types that can be rotated, turned or permanently deformed when fixed in place are not permitted for use. Terminal blocks for internal connections in electrical equipment must not be subjected to excessive mechanical stress. These items must fulfill the requirements for terminal blocks used for external supply conductors.

Clearances between conductive parts having different potentials must be at least 3 mm for external connections, as specified in Table 1. The value of the creepage distances depends on the working voltage, surface geometry of the insulating parts and tracking resistance of the insulation material.

Grooves on the surface may only be considered if they are at least 2.5 mm deep and wide; ribs on the surface only if their height is at least 2.5 mm and their width corresponds to the mechanical strength of the material, however not smaller than 1 mm.

Table 1: Creepage Distances and Clearances

Voltage ¹⁾ RMS Value for AC or DC Voltage (V)	Minimum Creepage Distance (in mm) Material Group			Minimum Clearance (in mm)
	I	II	III a	
10 ²⁾	1.6	1.6	1.6	1.6
12.5	1.6	1.6	1.6	1.6
16	1.6	1.6	1.6	1.6
20	1.6	1.6	1.6	1.6
25	1.7	1.7	1.7	1.7
32	1.8	1.8	1.8	1.8
40	1.9	2.4	3	1.9
50	2.1	2.6	3.4	2.1
63	2.1	2.6	3.4	2.1
80	2.2	2.8	3.6	2.2
100	2.4	3	3.8	2.4
125	2.5	3.2	4	2.5
160	3.2	4	5	3.2
200	4	5	6.3	4
250	5	6.3	8	5
320	6.3	8	10	6
400 (440)*)	8	10	12.5	6
500 (550)*)	10	12.5	16	8
630 (690)*)	12	16	20	10
800	16	20	25	12
1000	20	25	32	14
1250	22	26	32	18
1600	23	27	32	20
2000	25	28	32	23
2500	32	36	40	29
3200	40	45	50	36
4000	50	56	63	44
5000	63	71	80	50
6300	80	90	100	60
8000	100	110	125	80
10000	125	140	160	100

1) The listed voltages are taken from IEC 60664-1. The working voltage *) may exceed the voltage indicated in the table by 10 %. This is based on the simplification of the supply voltages in accordance with Table 3b for IEC 60664-1.

The listed values for creepage distances and clearances are based on a maximum limit deviation for supply voltage of $\pm 10\%$.

2) CTI values are not applicable for voltages of 10 V or less. Materials that do not meet the requirements of material group III a can be used.

Classification of insulation materials according to their tracking resistance is based on their Comparative Tracking Index (CTI) and is defined in Table 2 as follows:

This classification applies to insulating parts without ribs or grooves.

If the insulating parts have ribs or grooves sufficiently large to be considered, the minimum creepage distances must be set according to values for the insulation materials in the next-higher level (e.g., Group I, instead of Group II). Accounting for the ambient temperature of 40 °C (104 °F) specified for electrical equipment, the current-carrying capacity of rubber-insulated conductors is reduced to 82 %, based on DIN VDE 0298-4:2013-06, Table 12 and to 87 % for PVC-insulated conductors for the current-carrying capacity defined for 30 °C (86 °F) in accordance with Item 4.3.3 in DIN VDE 0298-4:2013-06.

**Table 2:
Tracking Resistance for
Insulation Materials**

Material Group	Comparative Tracking Index
I	$600 \leq \text{CTI}$
II	$400 \leq \text{CTI} < 600$
III a	$175 \leq \text{CTI} < 400$

Conductor Types and Conductor Preparation

In accordance with EN 60079-14/DIN VDE 0165-1, the ends of stranded and fine-stranded conductors must be protected against splaying (e.g., via cable lugs or ferrules) **or by the type of terminal blocks used**. Soldering alone is not sufficient.

The conductor entry funnels of WAGO PCB terminal blocks fulfill this requirement.

According to EN 60069-7/DIN VDE 0170, Part 6, connecting electrical equipment to terminal blocks having an "e" (increased safety) protection type must not lead to a reduction of the clearances and creepage distances. Based on experience through the application of terminal blocks in aggressive atmospheres in the chemical industry, WAGO recommends gas-tight tinned copper ferrules or tinned copper pin terminals when connecting fine-stranded conductors to terminal blocks in corrosive atmospheres.

Approvals

Terminal blocks may be used in Zone 1 and Zone 2, provided that the terminal blocks are accommodated in an enclosure that has a minimum IP54 protection and an Ex e certification.

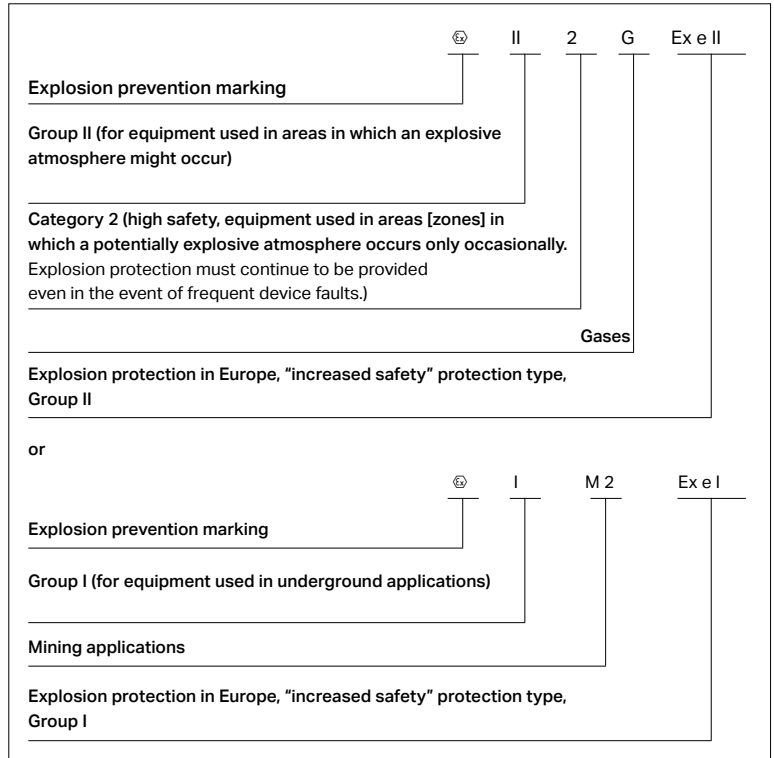
Terminal blocks are considered to be Ex components, because they are a part of the equipment. Part certificates provided by Ex Certification Agencies serve as a basis for issuing the complete conformity declaration for the unit.

An EC-type examination certificate is issued in accordance with the 2014/34/EU ATEX Directive.

In addition, an IEXEx Certificate may also be obtained from an appropriate, recognized certification agency in accordance with the IECEx Certification Agreement that is accepted throughout Europe and also in countries such as Canada, China and Australia.

These certificates can also be viewed at: www.iecex.com.

Terminal block marking per 2014/34/EU ATEX Directive:

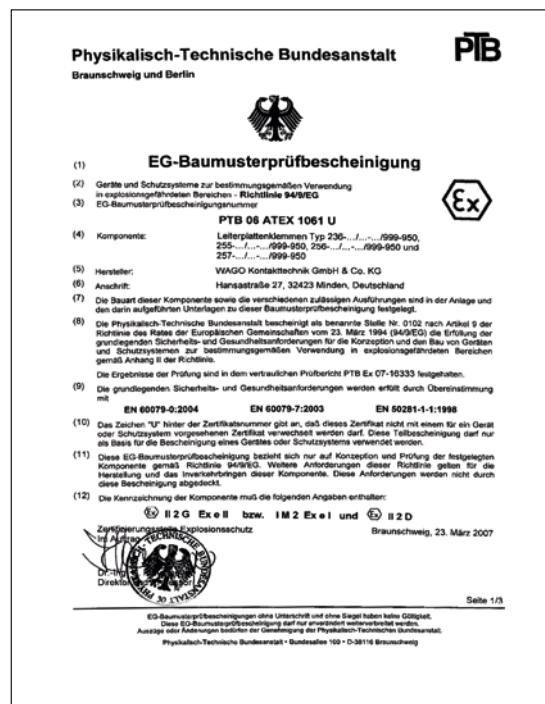


Marking only with the Ex code Ⓜ is also adequate as an alternative.

EC-type examination certificates have been granted to all WAGO terminal blocks listed in this catalog. WAGO terminal blocks approved for use in Ex e II areas are manufactured of flame-resistant, self-extinguishing Polyamide 66. The same applies to the

terminal blocks used in non-hazardous areas. Tracking resistance with a CTI value of 600 as per IEC 60112 and a constant operating temperature of 105 °C (22 °F) in accordance with IEC 60216-1 and -2 are provided. Factory part quality tests are performed

on all PCB terminal blocks with Ex e II approval to monitor and ensure the quality features described above.



General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)

Special Requirements "Intrinsic safety Ex i"

The European EN 60079-11 Standard – DIN EN 60079-11 Classification (VDE 0170-7) – contains special requirements for the design and testing of electrical equipment with "i" (intrinsic safety) protection type for use in hazardous areas.

A circuit is "intrinsically safe" when, under normal operating conditions and in the event of specific fault conditions, no sparks or thermal effects can occur and cause the ignition of a certain explosive atmosphere.

A distinction is made here between:

- intrinsically safe electrical equipment when all circuits are intrinsically safe and
- associated electrical equipment including both intrinsically and non-intrinsically safe circuits, and being designed such that the non-intrinsically safe circuits cannot affect the intrinsically safe ones.

Intrinsically safe electrical equipment and intrinsically safe parts of associated electrical equipment are classified at "ia" or "ib" protection level.

Electrical equipment classified Ex "ia" shall not ignite when current is applied in the following cases:

- During fault-free operation, with those non-discreet faults present that result in the most adverse condition;
- During fault-free operation and with a discreet fault, plus those non-discreet faults that result in unfavorable conditions;
- During fault-free operation with two discreet faults, plus those non-discreet faults that result in the most adverse conditions.

Electrical equipment classified Ex "ib" shall not ignite when current is applied in the following cases:

- During fault-free operation, with those non-discreet faults present that result in the most adverse condition;
- During fault-free operation and with a discreet fault, plus those non-discreet faults that result in unfavorable conditions.

No special approval is required for terminal blocks used as simple electrical equipment for "Ex i" protection type, as they do not contain a voltage source and precise information is available concerning electrical data and temperature rise performance.

The terminal blocks must be identifiable, for example by their type designation, and the following design requirements must also be upheld:

- The clearance between bare, conducting parts of terminal blocks of different intrinsically safe circuits has to be equal or higher than the values specified in the standard. In addition, clearances between the terminal blocks must be so that the clearances between the bare, conductive parts of the connected external conductors is at least 6 mm when measured. Each possible motion of metallic parts that are not rigidly secured must be considered.
- When a possible connection has not been considered during safety analysis, the minimum clearance between grounded metallic or other conducting parts and the uninsulated conducting parts of the conductors that are connected to the terminal blocks must be 3 mm.

Terminal block marking must be unique and clearly visible. If a color is used for this, the color must be light blue (similar to RAL 5015).

Note also when using terminal blocks:

Terminal blocks used for intrinsically safe circuits must be isolated from those used in non-intrinsically safe circuits. This is accomplished

by several accepted methods. First, intrinsically safe circuits are separated by at least 50 mm of air space from non-intrinsically safe circuits. Second, intrinsically safe circuits are housed in a separate enclosure. Third, intrinsically safe terminal blocks are separated from non-intrinsically safe terminal blocks by either an insulated partition or grounded metal partition. The partition size must allow for either 1.5 mm or less distance from the sides of the housing or provide at least 50 mm of creepage distance between the intrinsically and non-intrinsically safe circuits in all directions.

Requirements pertaining to the necessary distances as appropriate for use of the terminal blocks in the area DIN EN 60079-11 (VDE 0170-7) "Explosive atmosphere – Part 11: Device protection by intrinsically safe features "i" (IEC 60079-11)" are defined under Section 6.2 "Connecting point for external circuits," Section 6.2.1 "Terminal blocks." In general, the following can be stated for terminal blocks based on figure 1: "Example of isolation of intrinsically safe terminal blocks with partition" in conjunction with figure 2: "Example of isolation of conductive parts," considering Table 5 – "Clearances, Creepage and Isolation Distances."

Outside:

a) Isolated intrinsically safe circuits: at least 6 mm

All PCB terminal blocks listed on the ordering pages as suitable for Ex "i" applications fulfill these requirements.

b) Intrinsically safe circuits and normal circuits (non-intrinsically safe): ≥ 50 mm

Inside:

a) Ex "i" to Ex "i"

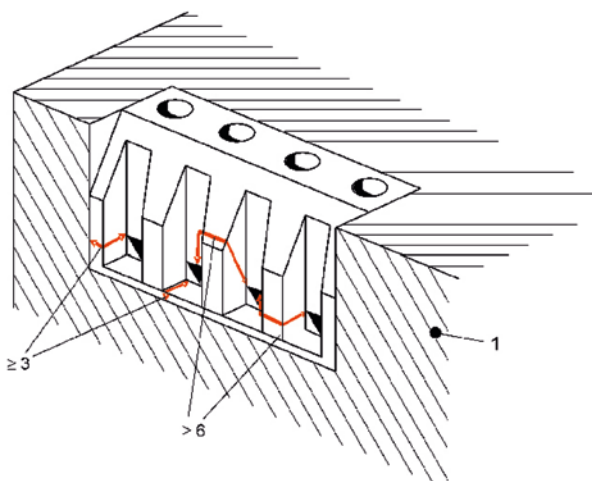
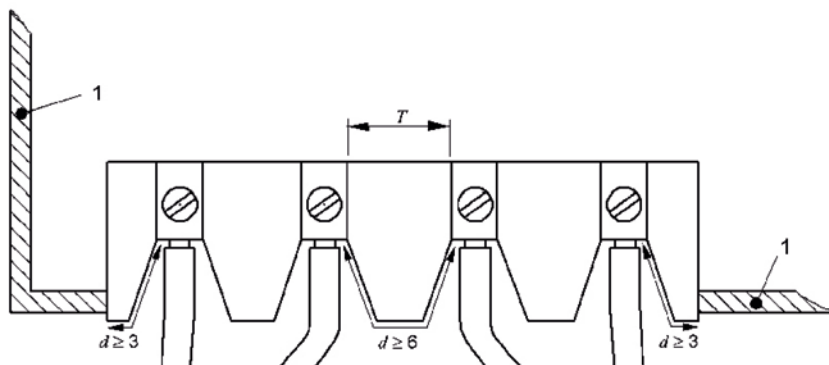
b) Ex "i" to normal circuits

c) Ex "i" to ground

Based on Figure 2 and Table 5 (see next page) in accordance with the selected protection level and the special requirements for isolation distances as described in Sections 6.3.1 to 6.3.13, or in accordance with the alternative procedure for dimensioning of isolation distances given in Annex F.

Terminal blocks with smaller pin spacing may also be used for internal connections, provided they meet the requirements laid out in Table 5 (see below).

The exact clearances, creepage and isolation distances based on Table 5 must be derived from the application items cited above.



Legend:

1: Conductive cover

T: Distances based on Table 5

d: Distance at outer connecting parts of the terminal blocks according to 6.2.1

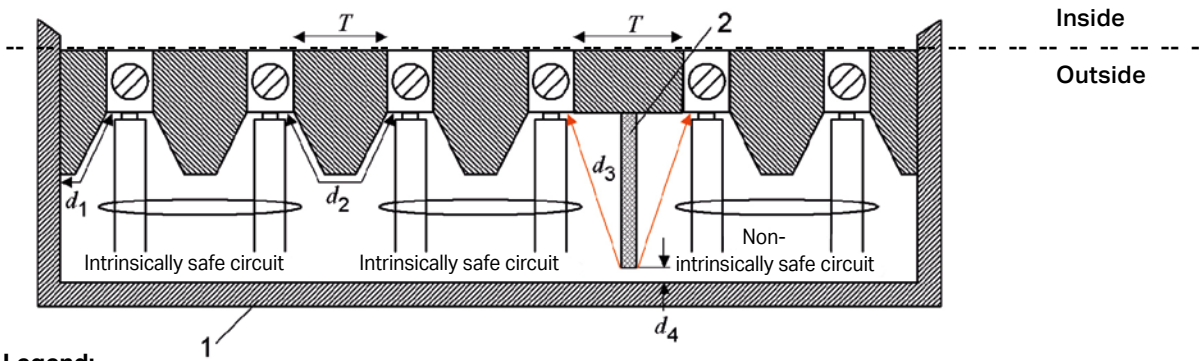
Note:

The dimensions indicated here represent the clearances and creepage distances around the insulation and not the thickness of the insulation.

Dimensions in mm

Figure 1a: Requirements for clearances and creepage distances for terminal blocks with isolated, intrinsically safe circuits

General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)



Legend:

- 1: Cover: non-conductive or conductive and grounded
- 2: Partition based on 6.2.1 b); in this example, the partition must end at the base
- T: Distances based on Table 5
- $d_1 \geq 3 \text{ mm}$, when the cover is conductive and grounded
- $d_2 \geq 6 \text{ mm}$
- $d_3 \geq 50 \text{ mm}$ or $d_4 \leq 1.5 \text{ mm}$

Note:
The dimensions indicated here represent the clearances around the insulation and not the thickness of the insulation!

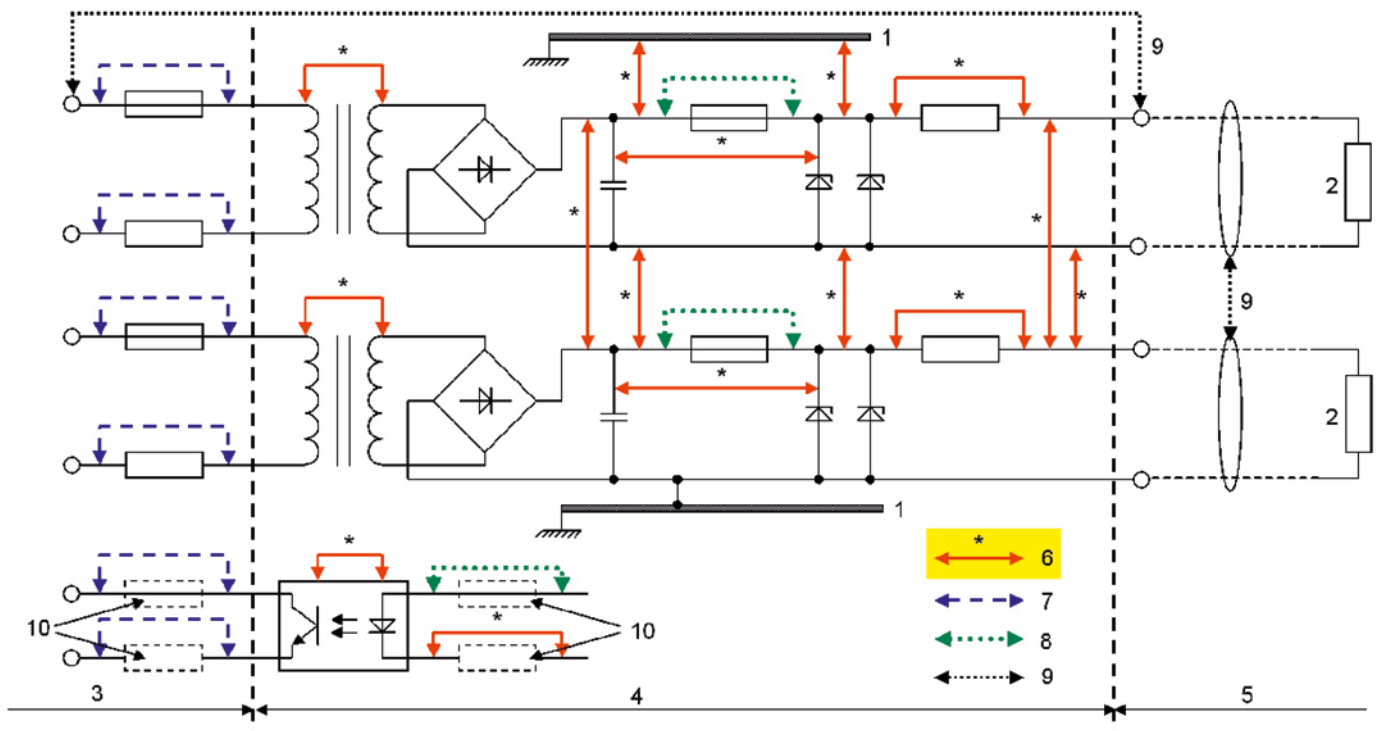
Figure 1b: Example of isolation of intrinsically safe and non-intrinsically safe terminal blocks by a partition

Table 5: Clearances, Creepage and Isolation Distances

1 Voltage (Peak) (V)	2 Clearance (in mm)		3 Separation by Encapsulation (in mm)		4 Separation by Fixed Insulation (in mm)		5 Creepage Distance through Air (in mm)		6 Creepage Distance beneath Protective Layer (in mm)		7 Comparative Tracking Index (CTI)	
	ia, ib	ic	ia, ib	ic	ia, ib	ic	ia, ib	ic	ia, ib	ic	ia	ib, ic
10	1.5	0.4	0.5	0.2	0.5	0.2	1.5	1.0	0.5	0.3	--	
30	2.0	0.8	0.7	0.2	0.5	0.2	2.0	1.3	0.7	0.3	100	100
60	3.0	0.8	1.0	0.3	0.5	0.3	3.0	1.9	1.0	0.6	100	100
90	4.0	0.8	1.3	0.3	0.7	0.3	4.0	2.1	1.3	0.6	100	100
190	5.0	1.5	1.7	0.6	0.8	0.6	8.0	2.5	2.6	1.1	175	175
375	6.0	2.5	2.0	0.6	1.0	0.6	10.0	4.0	3.3	1.7	175	175
550	7.0	4.0	2.4	0.8	1.2	0.8	15.0	6.3	5.0	2.4	275	175
750	8.0	5.0	2.7	0.9	1.4	0.9	18.0	10.0	6.0	2.9	275	175
1000	10.0	7.0	3.3	1.1	1.7	1.1	25.0	12.5	8.3	4.0	275	175
1300	14.0	8.0	4.6	1.7	2.3	1.7	36.0	13.0	12.0	5.8	275	175
1575	16.0	10.0	5.3	*	2.7	*	49.0	15.0	16.3	*	275	175
3.3k	*	18.0	9.0	*	4.5	*	*	32.0	*	*	*	*
4.7k	*	22.0	12.0	*	6.0	*	*	50.0	*	*	*	*
9.5k	*	45.0	20.0	*	10.0	*	*	100.0	*	*	*	*
15.6k	*	70.0	33.0	*	16.5	*	*	150.0	*	*	*	*

Note 1: *At present, no values have been recommended for these voltages.

Note 2: Proof of fulfillment of the CTI requirements for the insulating materials must be provided by the manufacturer. Defining a CTI is not required for insulation materials for voltage levels up to 10 V.

**Legend:**

- 1: Chassis
- 2: Load
- 3: Non-intrinsically safe circuit defined by U_m
- 4: Portion of intrinsically safe circuit, item is not intrinsically safe
- 5: Intrinsically safe circuit
- 6: Dimensions for which Table 5 applies
- 7: Dimensions for which general industrial standards apply
- 8: Dimensions per 7.3
- 9: Dimensions based on 6.2.1 for output terminal blocks between isolated intrinsically safe circuits ($d_2 \geq 6 \text{ mm}$) and between intrinsically safe circuits and non-intrinsically safe circuits ($d_3 \geq 50 \text{ mm}$)
- 10: Where required























Figure 2: Isolation examples for conductive parts


In accordance with DIN EN 60079-14 (VDE 0165-1), in intrinsically safe circuits, the ends of stranded and fine-stranded conductors must be protected against splaying (e.g., via cable lugs or ferrules) or by the type of terminal blocks used. Soldering alone is not sufficient.

The conductor entry funnels of WAGO PCB terminal blocks fulfill this requirement.

WAGO recommends gas-tight tinned copper ferrules or tinned copper pin terminals when connecting fine-stranded conductors to terminal blocks in corrosive atmospheres.

International Certification Organizations – Overview

		Abbreviation			Abbreviation
	Underwriters Laboratories USA http://www.ul.com	UL		Danmarks Elektriske Materielkontrol Denmark http://www.demko.dk	DEMKO
	Underwriters Laboratories USA http://www.ul.com	UL		CENELEC CERTIFICATION AGREEMENT Danmarks Elektriske Materielkontrol Denmark http://www.cenelec.org	CCA Appr. No. with NL
Y	Underwriters Laboratories USA http://www.ul.com	cURus			
	Underwriters Laboratories USA http://www.ul.com	cULus		SETI – FEMKO Sähkötarkastuskeskus Elin-spektionscentralen Finland http://www.seti.fi	
	Canadian Standards Association Canada http://www.csa.ca	CSA		Sähkötarkastuskeskus Elin-spektionscentralen Finland http://www.fimko.com	FIMKO
	VDE-Gutachten mit Fertigungsüberwachung Germany http://www.vde.de/vde/html/e/home.htm	VDE	SABS	South African Bureau of Standards South Africa http://www.sabs.co.za	SABS
	VDE – Deutscher Verband für Elektrotechnik Germany http://www.vde.de			RosTesT Russia http://www.rostest.ru	ROTEST
VDE	VDE – Prüfbericht Germany			Departamentul Moldovastandard Moldova http://www.moldova.md/ro/government/oil/D_STAND/en/strcent2.htm	CSM
	Österreichischer Verband für Elektrotechnik Austria http://www.ove.at	ÖVE		Certificate of Registration Great Britain http://www.astacertification.com	ASTA
	Schweizerischer Elektrotechnischer Verein Switzerland http://www.sev.ch/	SEV		Rheinisch-Westfälischer Technischer Überwachungsverein e.V. Germany http://www.rwtuv.de	RWTüv
	N.V. tot Keuring van Elektrotechnische Materialen Netherlands http://www.kema.nl	KEMA		Elektrotechnický výskumný a projektový ústav Czech Republic http://www.ezu.cz	EZU
CCA	CENELEC CERTIFICATION AGREEMENT N.V. tot Keuring van Elektrotechnische Materialen Netherlands http://www.cenelec.org	CCA Appr. No. with NL		Stowarzyszenie Elektryków Polskich Poland http://www.sep.com.pl	BBJ
	Norges Elektriske Materialkontroll Norway http://express.nemko.com	NEMKO		Stowarzyszenie Elektryków Polskich Poland http://www.bbj.pl	SEP
	Svenska Elektriska Materielkontrollanstalten AB Sweden http://www.semko.com	SEMKO			

		Abbreviation
CNET	Centre National d'Etudes des Télécommunications France http://www.lannion.cnet.fr	CNET
LCIE	Laboratoire Central des Industries Electriques France http://www.lcie.fr	LCIE
	Fyzikální Technický Ústav, Ostrava-Radvanice Czech Republic http://www.ftzu.cz	FTZU
Marine Approvals		
	Germanischer Lloyd Germany http://www.gl-group.com	GL
	Bureau Veritas France http://www.bureauveritas.fr	BV
	Lloyd's Register of Shipping Great Britain http://www.lloydsregister.com	LR
	NV – Det Norske Veritas Norway http://www.dnv.com	DNV
	Russian Maritime Register of Shipping GUS http://www.rs-head.spb.ru	RMR
	Polski Rejestr Statków Poland http://www.prs.pl	PRS
	Korean Register of Shipping Korea http://www.krs.co.kr	KR
	American Bureau of Shipping USA http://www.eagle.org	ABS

Electrical Engineering Laboratory Product Safety for Our Customers

WAGO's Minden, Germany laboratory is an "accredited test lab for electrical and mechanical tests on terminal blocks and connectors, as well as for environment simulations."

Accreditation, as ISO/IEC 17011:2004 defines, is a third-party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.

Accreditation, according to DIN EN ISO/IEC 17025, is granted by the Deutsche Akkreditierungsstelle GmbH DAkkS (German Accreditation Office GmbH DAkkS). This national accreditation office, which was established by the German Federal Ministry for Economics and Technology (BMWi), certifies that our test laboratory is officially recognized as possessing the necessary expertise to conduct defined tests and types of tests independently and objectively.

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- Exceeding customer requirements
- Workflow optimization
- Clearly defined processes
- Clear organization and structure
- Greater transparency
- Consistent, high-quality laboratory testing
- Maximum traceability
- Traceable measurement results
- Sustainable quality awareness

Visitor center



High-voltage test



**Conductor retention
force testing**

Vibration- and shock-resistance testing





Deutsche Akkreditierungsstelle GmbH

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 Unterzeichnerin der Multilateralen Abkommen
 von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

WAGO Kontakttechnik GmbH & Co. KG
Hansastraße 27, 32423 Minden

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

**Elektrische und mechanische Prüfungen an Klemmen und Steckverbinder
 sowie Umweltsimulation**

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 18.12.2014 mit der Akkreditierungsnummer D-PL-19704-01 und ist gültig bis 17.12.2019. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 5 Seiten.

Registrierungsnummer der Urkunde: **D-PL-19704-01-00**

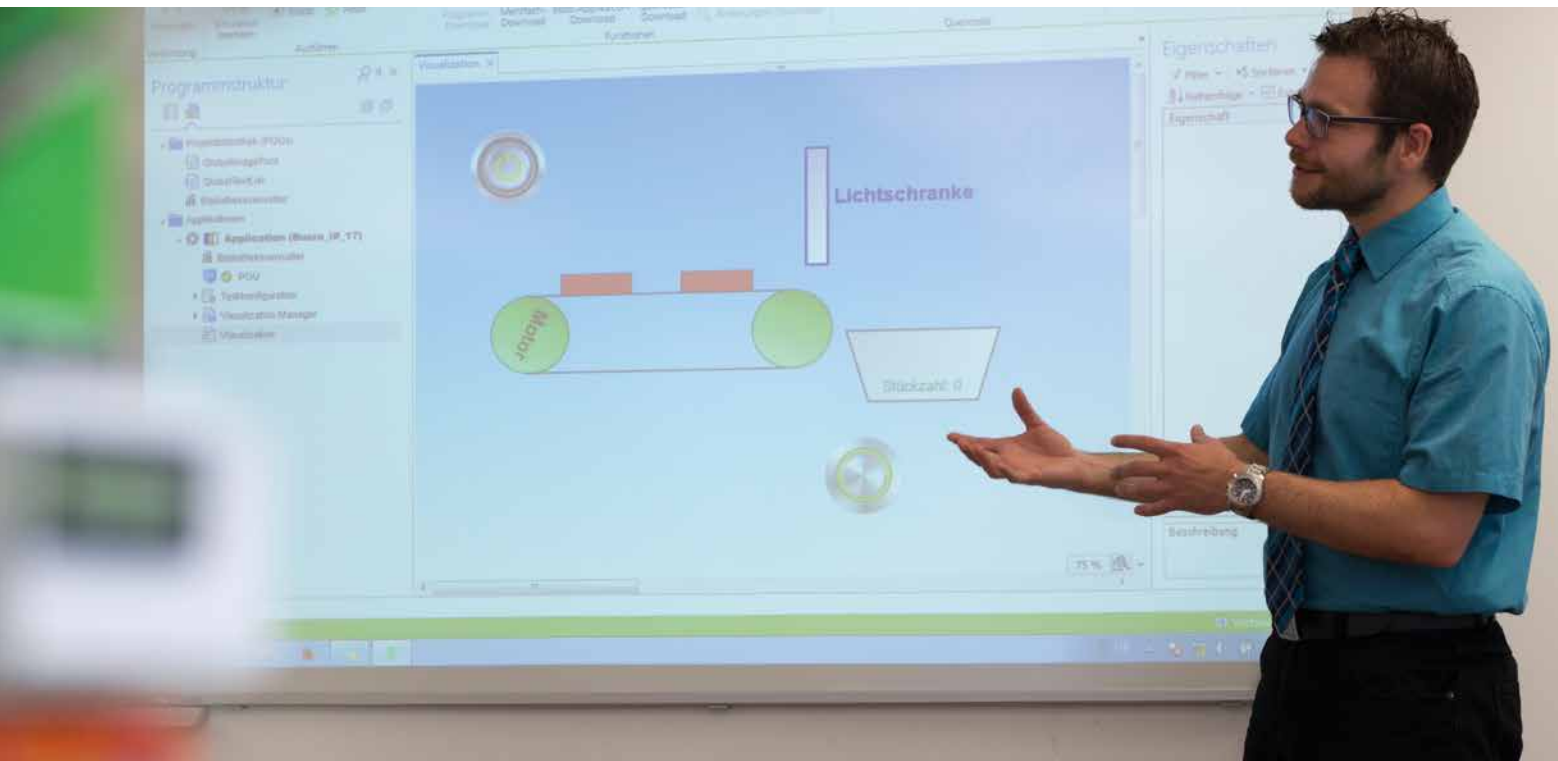
Frankfurt am Main, 18.12.2014

Siehe Hinweise auf der Rückseite

Im Auftrag Dipl.-Ing. (FH) Ralf Egnér
 Abteilungsleiter

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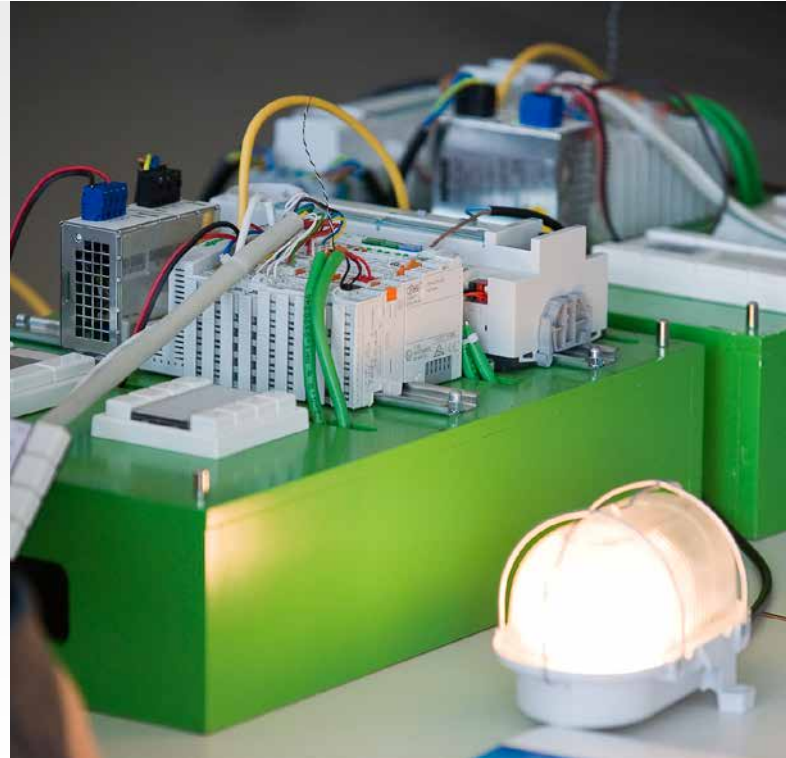
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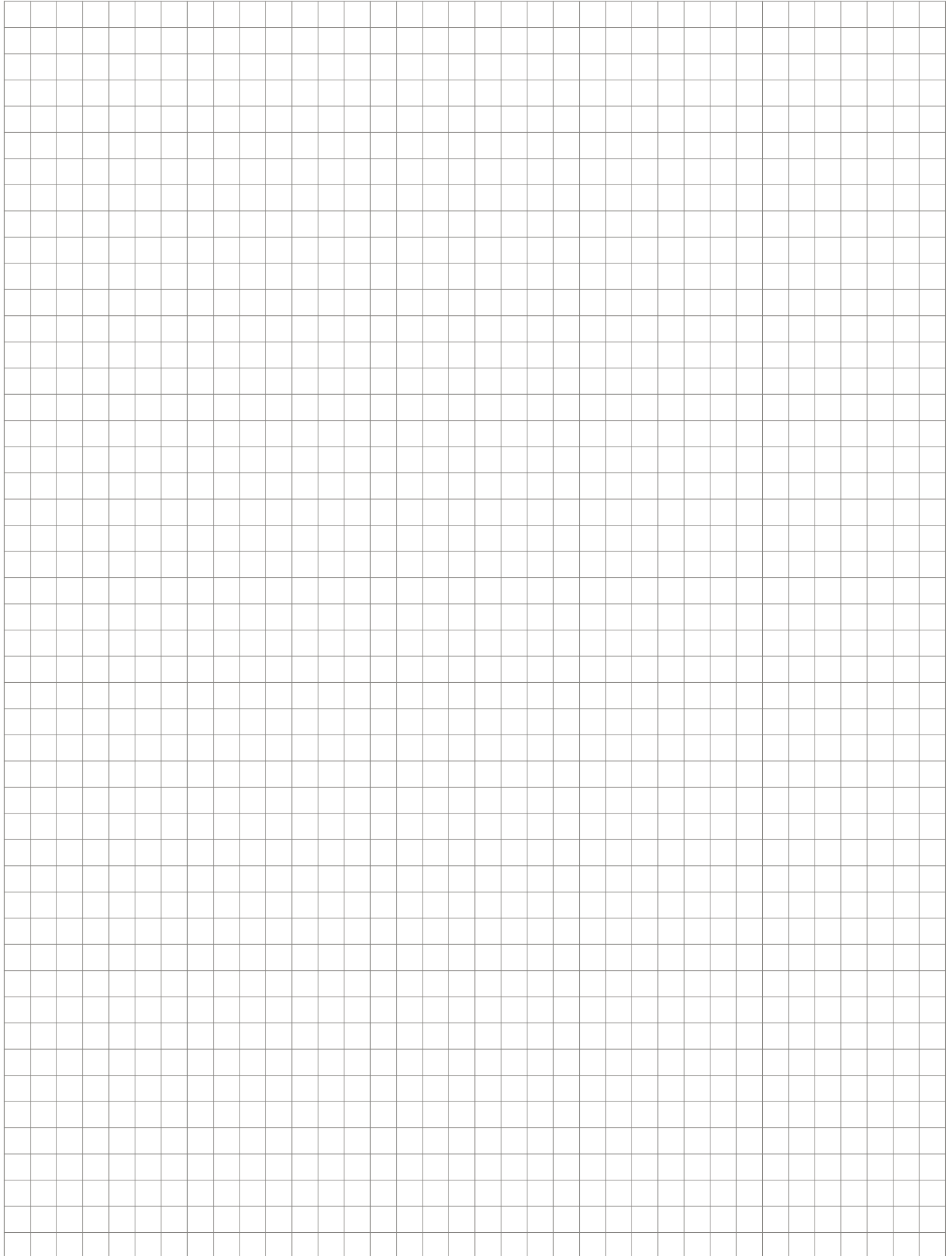
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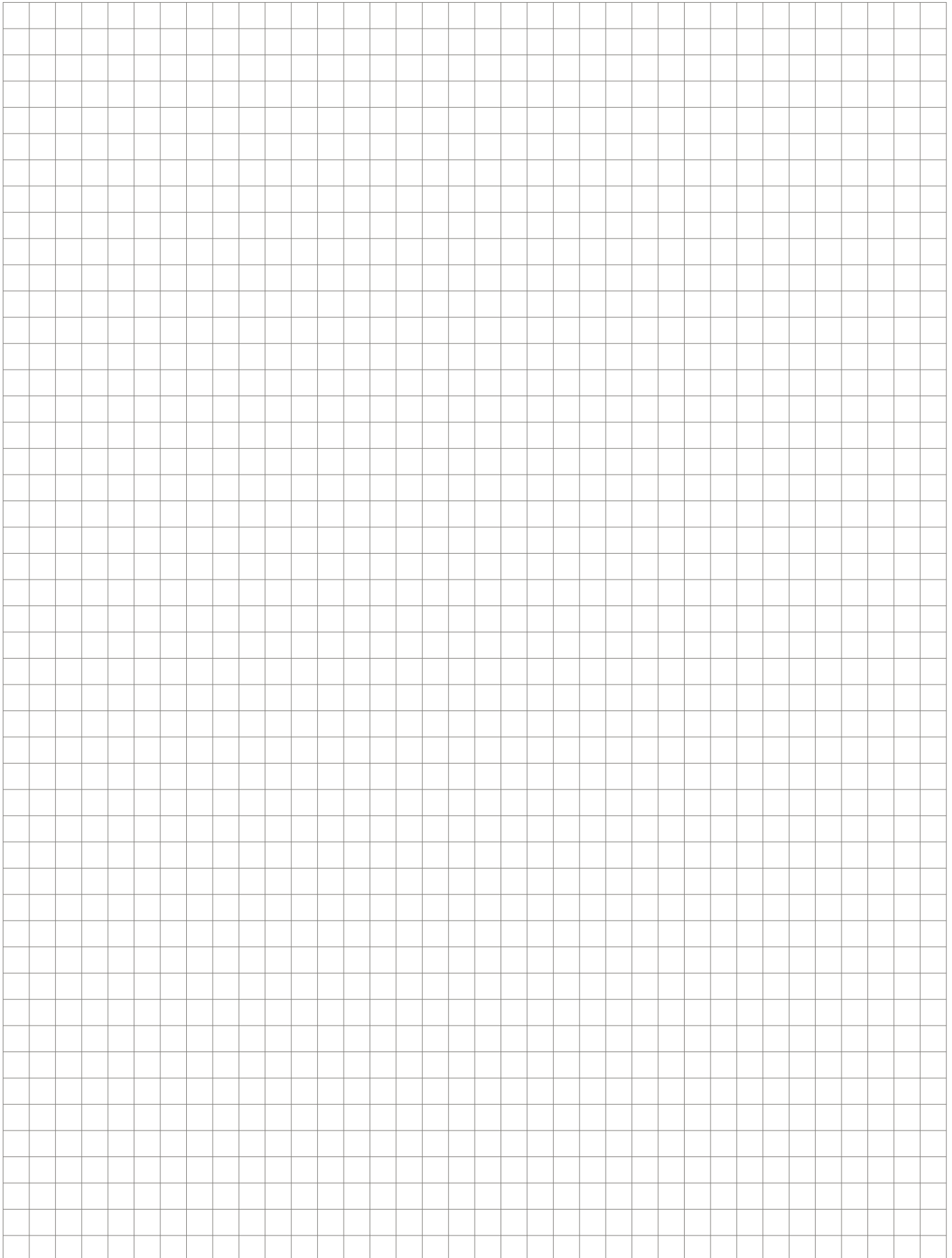
Notes

A large grid of graph paper for taking notes. The grid consists of 25 columns and 45 rows of small squares, providing a structured area for writing or drawing.

Notes



Notes

A large rectangular grid of graph paper, consisting of small squares, intended for taking notes. The grid covers most of the page area.

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