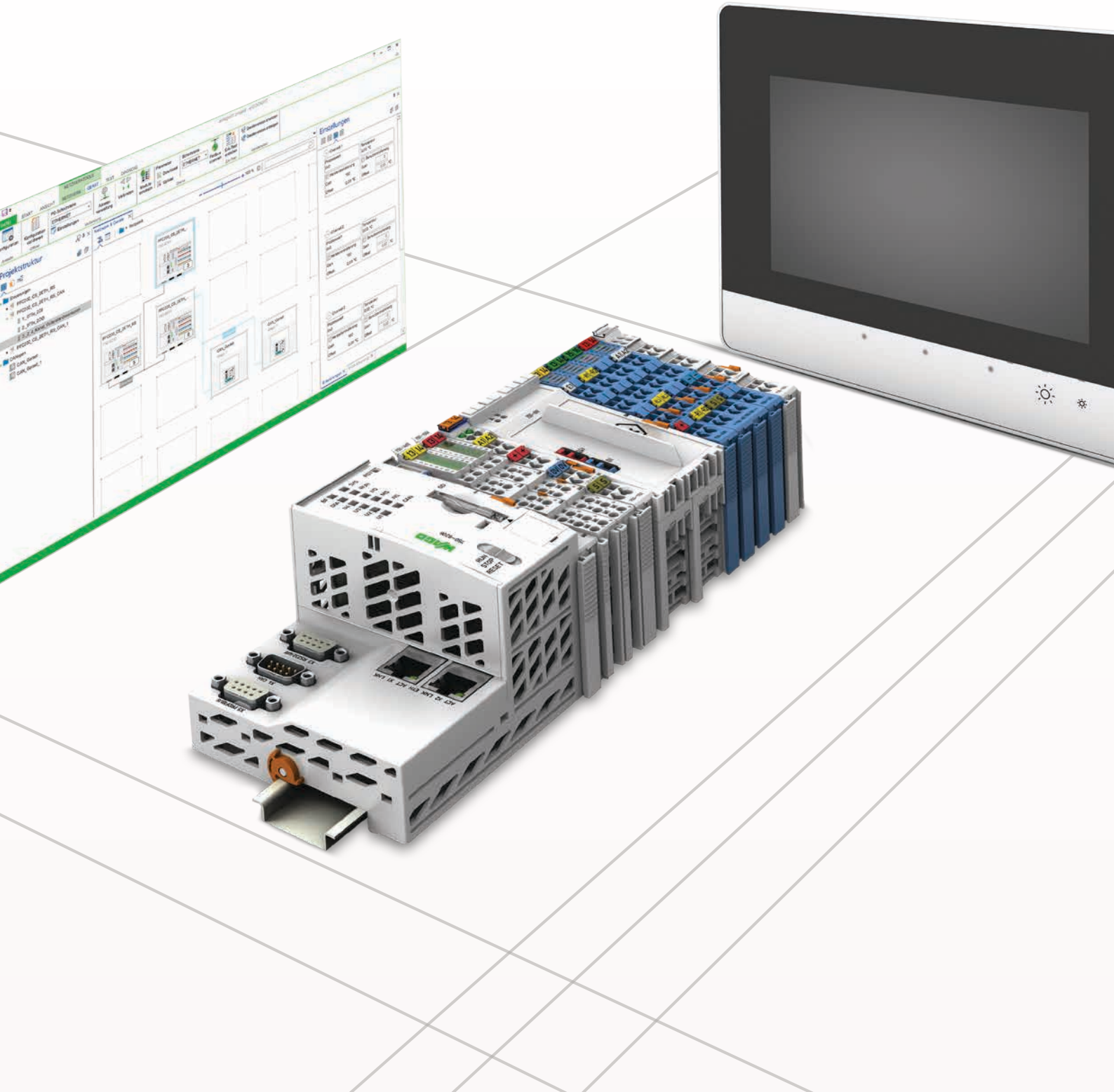
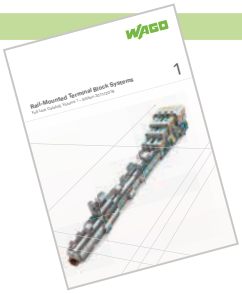
Automation Technology

Full Line Catalog, Volume 3 – Edition 2017/2018

3



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

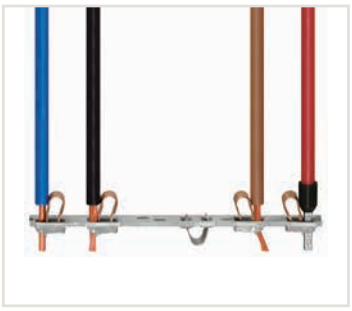
Volume 6, Marking

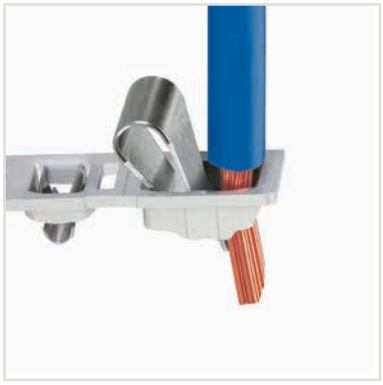
- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Printer
- Software
- Marker Carriers

Volume 3, Automation Technology

Operating WAGO Connection Technologies
Please follow the applicable product-specific termination instructions:

PUSH-IN CAGE CLAMP®





The universal connection with an additional advantage: Push-in connection
Terminate solid and stranded, as well as ferruled conductors, by simply pushing them in – no operating tool needed.

Termination for all conductor types:
- Open clamping unit
- Insert the conductor
- Release clamp – done!

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

stranded

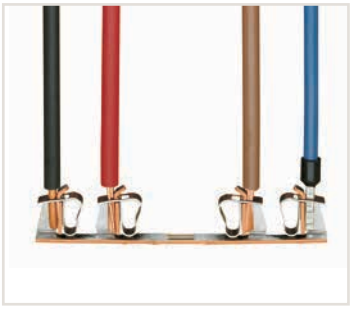
fine-stranded, also with tinned single strands

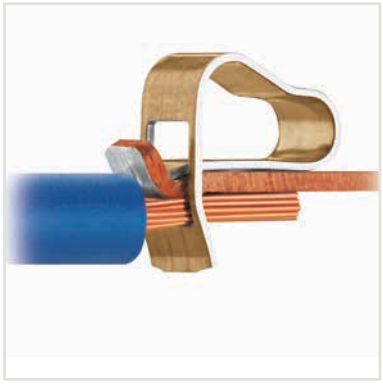
fine-stranded, tip-bonded

fine-stranded, with ferrule (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)

CAGE CLAMP®





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

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

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)

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

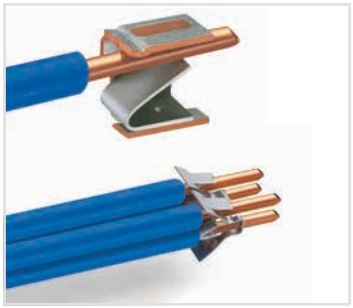
fine-stranded, also with tinned single strands

fine-stranded, with ferrule (gastight crimped)

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

Termination:
- Open clamp by turning an Allen 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 unit

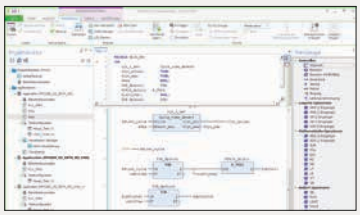
WAGO Automation Technology

Software

Engineering Software

- PC-based software
- Customized tools for every automation task

Runtime Software



- Standard machine component
- Comprehensive, fully tested software modules for controlling, regulating, operating & monitoring

Mobile Software (Apps)

- Machine operation and monitoring on tablet and smartphone

Operation & Monitoring

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

2

e!DISPLAY 7300T – Web Panels

- High-performance HMI display for Web-based visualization
- 10.9–25.7 cm (4.3–10.1")
- Visualization from CODESYS 2 and *e!COCKPIT* (based on CODESYS 3)

Controllers

PFC100/PFC200 Controllers

3.1

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

PFC200 XTR Controllers

3.2

The advantages of the PFC Controller combined with the characteristics for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

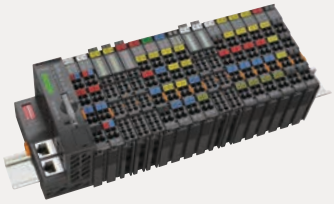
I/O-Systems

I/O-System – 750 and 753 Series

4

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

I/O-System – 750 XTR Series



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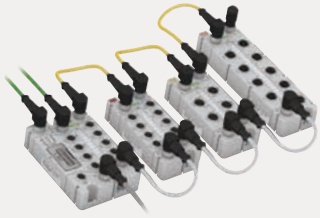
For demanding applications where the following are critical:
- Extreme temperature stability
- Immunity to interference and impulse-voltage withstand
- Vibration and shock resistance

I/O-System – *SPEEDWAY*



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- Uncompromising protection, even in the harshest environments outside the control cabinet
- Degree of protection: IP67
- Fully encapsulated

Infrastructure

Industrial Switches

7

- Copper cables
- Fiber optic cables
- Ring redundancy

Radio Technology

8

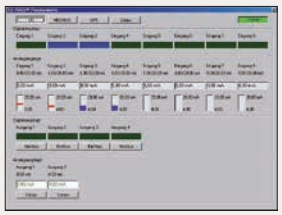
- *Bluetooth*®
- WLAN
- EnOcean®

TO-PASS® Telecontrol Technology

9

For applications that go beyond site boundaries
- Telecontrol technology based on GSM/GPRS

Software Solutions (Applications)



- Reusable, customizable solutions

1

1 – Software

2

2 – Operating & Monitoring

750 Controllers

3.3

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideally combination with the WAGO 750 I/O-SYSTEM modules

750 XTR Controllers

3.4

For demanding applications in which the following are critical:
- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

3

3 – Controllers

I/O-Systems

Sensor/Actuator Boxes

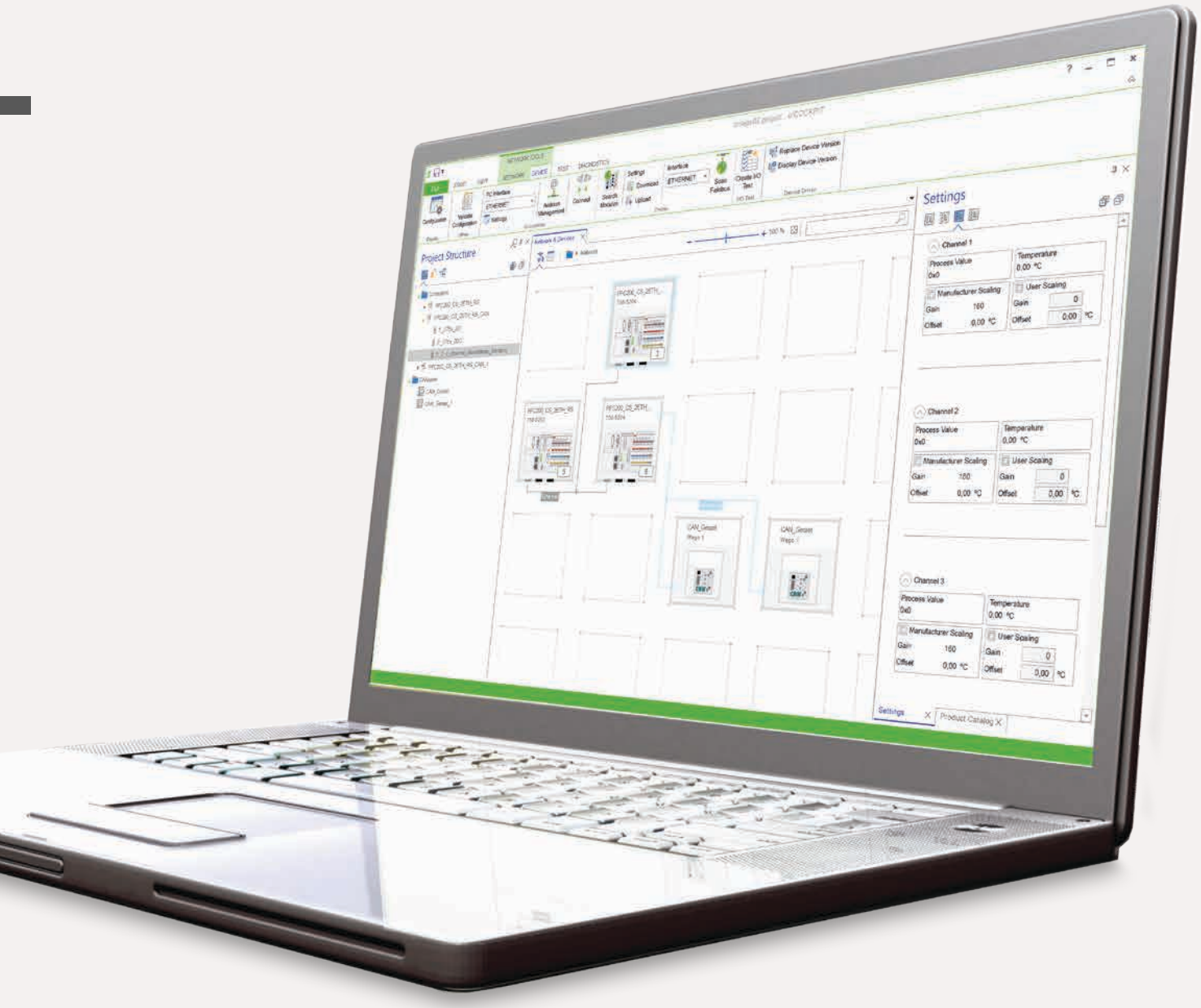
10

- M8 and M12 sensor/actuator boxes
- Machine-mounted passive signal recording and output
- Fully encapsulated

Accessories Tools

11

Infrastructure



Software

Engineering Software

- PC-based software
- Customized tools for every automation task

Runtime Software

- Standard machine component
- Comprehensive, tested software modules for control, regulation, operation & monitoring

Mobile Software (Apps)

- Machine operation and monitoring via tablet and smartphone

Software Solutions (Applications)

- Reusable, customizable solutions

Software
Engineering Software, Runtime Software, Mobile Software and Software Solutions

Software
General Product Information

1

Software Factors into Success

Projects in production, process and building automation are characterized by increasingly short implementation times, ever more complex structures and the increasing role of software as part of the overall solution. In fact, software is becoming an essential factor that influences the success of a project.

Engineering software is used for both machine and system development, as well as the implementation of building automation projects. Runtime software controls the devices at operating time.

Customized Software Tools

Significant challenges must be overcome to develop, operate and maintain modern machines and systems, as well as program, configure and commission applications for building automation. Customized software tools are available as needed for every task — embedded in integrated engineering or as a stand-alone tool for a set of dedicated functions.

CODESYS as an Integrated Environment

All WAGO controllers are equipped with the high-performing CODESYS industry standard. This allows software development in IEC 61131-3 PLC programming languages (ST, FBD, LD, IL, SFC and CFC). As a trusted programming environment, CODESYS guides developers, allowing them to reuse and further develop existing projects without relearning software. This means that modern paradigms, such as Object-Oriented Programming (OOP), or modern visualization technologies are available.

Pre-made Software Solutions

Pre-made software solutions or applications simplify automation. Such solutions involve reusable software that can be used for the specific application by making simple adjustments. This approach saves time and money.

Open to Proven Standards

The software is open to well-established standards, making it an investment in the future. The software supports all prominent fieldbuses, for example. Thus, WAGO components can be seamlessly integrated into engineering software via standardized device description files. In addition, connecting controllers to fieldbus systems via WAGO engineering software is an easy task — opening up all the advantages of existing field devices.
Ultimately, WAGO software is based on modern IT standards and development methods — guaranteeing long-term viability.

Extensive Import and Export Functionality

The software tools are impressive with their ability to exchange project data with external software tools involved in the development process, which prevents costly, error-prone double entry.

Industry-Specific Configurators

Whether industry, process or building automation, every sector and industry has specific requirements. Therefore, plug-ins specifically customized for the needs of individual industries are available in addition to the common software base. These plug-ins can be used, for example, to measure energy or easily configure a DALI network.

Advantages:

- Customized software for every automation task
- Extensive import functions from external design tools
- Plug-ins for industry-specific development environments
- Comprehensive software solutions for various industries
- Simple and secure licensing

Software
General Product Information

Software for Mechanical Engineering

Software is used in every phase of machine and system automation — from design to successful machine operation.

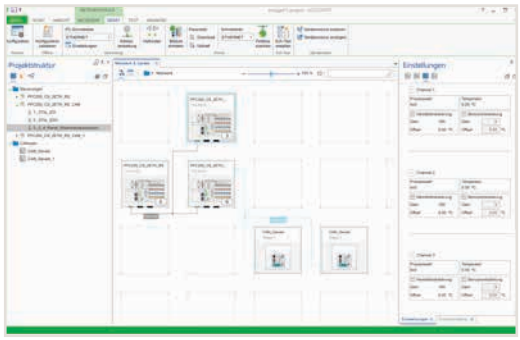
Design	Software Development	Commissioning	Machine Operation
• CAD and ECAD • Component selection	• Configuration • Parameterization • Programming • Simulation • Visualization	• Testing • Diagnostics	• Updating • (Remote) maintenance • Monitoring • Controlling, regulating, operating and monitoring

Engineering Software

Quickly implementing complex machine functions is critical in modern mechanical engineering applications. PC-based engineering software supports all development activities. The focus is on simple configuration, timely programming and efficient commissioning of automation network components.

Engineering tools are typically not permanently linked to the machine — they only communicate with the machine during startup and maintenance.

Design | Software Development | Commissioning | Machine Operation

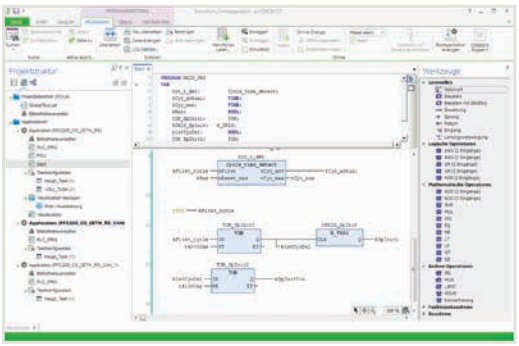


Runtime Software

The machine is controlled by runtime software that determines behavior, while enabling both operation and current status monitoring for the user. It also transmits operating data to higher-level systems. With comprehensive, tried-and-tested software function blocks (IEC libraries), development goals are reached more quickly.

Unlike engineering software, runtime software operates continuously — it is a part of the machine and ensures correct operation.

Design | Software Development | Commissioning | Machine Operation



Mobile Software (Apps)

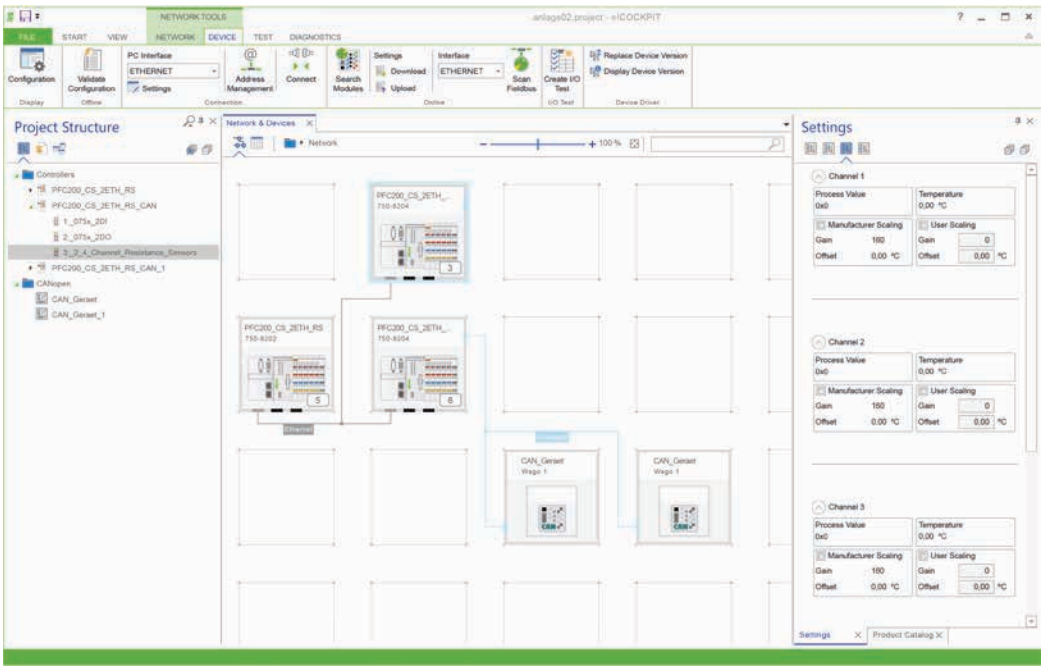
Software on mobile devices can also be productive in the industrial environment. The software allows users, for example, to quickly and easily operate and monitor automation processes from a smartphone or tablet — from anywhere.

Mobile software typically communicates only with the machine's controller for a specific application.

Design | Software Development | Commissioning | Machine Operation

1

e!COCKPIT
Engieneering Software, based on CODESYS 3



Preparing machines and systems for faster startup: *e!COCKPIT* the new engineering software shortens development time for automation projects while impressing with a modern and clearly laid out user interface. At the software's core is CODESYS 3, which provides the simple and versatile creation of applications.

Ensuring a project's long-term viability through sustainable cost savings hinges on a user's ability to quickly adapt to new software that offers a high degree of reusability. This sharpens your competitive edge by reducing your time to market.

WAGO set out to fulfill these exact requirements by developing its own engineering software: *e!COCKPIT*. This integrated development environment supports every automation task from hardware configuration, programming, simulation and visualization up to commissioning — all in one software package.

Use the programming tool to cover all important automation bases while simultaneously engineering particularly complex projects quickly and easily.

e!COCKPIT		
License type	Number PCs	Item No.
Workstation license	2	2759-0101/1110-2002
Multi-user license	5	2759-0101/1110-2005
Multi-user license	10	2759-0101/1110-2010
Multi-user license	15	2759-0101/1110-2015
Multi-user license	20	2759-0101/1110-2020
Site license	unlimited	2759-0101/1110-3000
Buy-out license	unlimited	2759-0101/1110-4000

Workstation license:
Can be installed on up to two PCs (e.g., notebook & desktop)

Multi-user license:
Can be installed up to the number specified

Site license:
Allows the installation of an unlimited number of licenses at one location

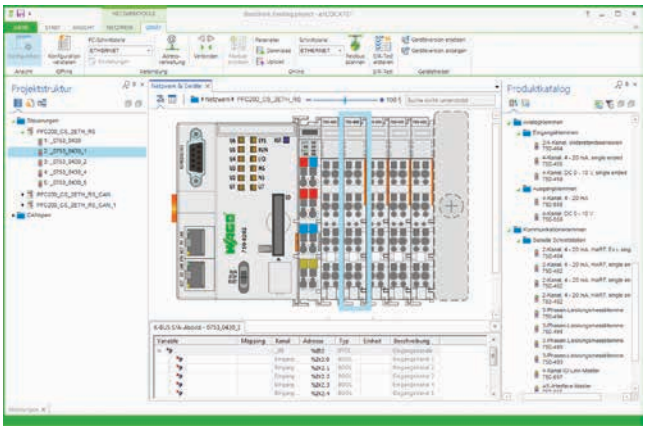
Buy-out license:
Allows the installation of an unlimited number of licenses in one company at all company sites in that country. In addition the software may be used in all products produces by the company that contain WAGO automation technology and therefore form a functional unit.

Supported operating systems	Windows 7 (32- and 64-bit), Windows 8, Windows 8.1 (32- and 64-bit)
System requirements	
Processor	Core2Duo
Memory	2 GB
Hard disk storage	1024 MB (min.)
Graphics resolution	1,366 x 768 px
Supported devices	Controllers based on CODESYS 3,; I/O modules (750/753)
Supported fieldbuses	CANopen, MODBUS TCP/UDP, MODBUS RTU, PROFIBUS
Supported device descriptions	DTP, EDS, GSD
Connectivity	TCP, USB, OPC, CODESYS network variables, CODESYS DataServer
Programming languages acc. to IEC 61131-3	ST, KOP, FBS, AWL, AS, CFC
Import/export formats	CODESYS 3 project files (*.project)
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/ecockpit

Internet connection may be required for license activation.

Windows® is a registered trademark of Microsoft Corporation.

USB communication cable
see Page 30



Configuration and Parameterization

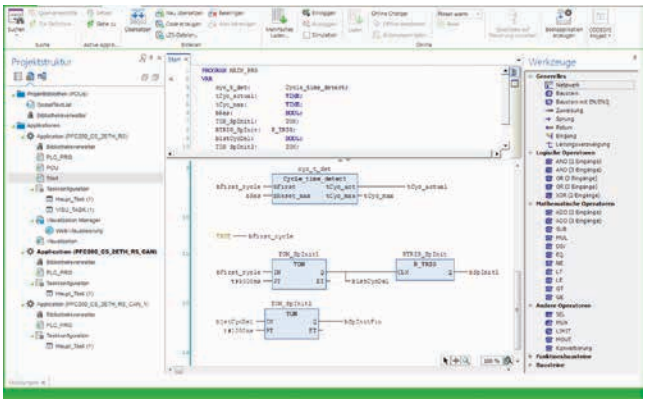
The integrated *e!COCKPIT* configurators provide modern operating tools and workspaces, such as:

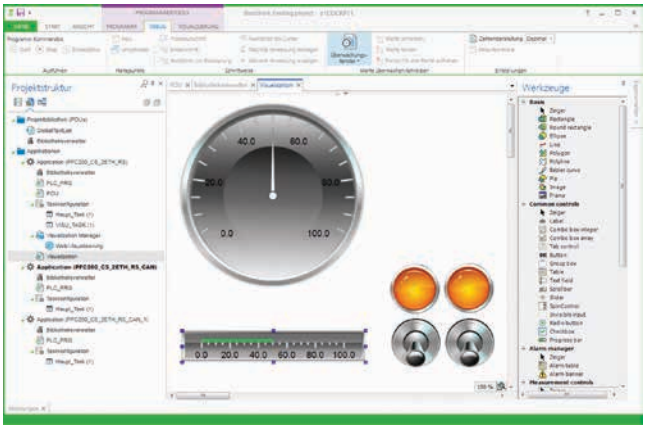
- Graphical network topology: Complex dependencies between network participants and their current states are easily and intuitively accessed.
- Drag & Drop: Simplifies interaction with devices.
- Copy & Paste: Individual devices or whole network branches can be duplicated quickly.
- Batch processing: Parameter values are set simultaneously for several devices.

Programming

e!COCKPIT offers multiple software development options:

- IEC 61131-3 PLC programming languages: Structured Text (ST), Ladder Diagram (LD), Function Block Diagram (FBD), Instruction List (IL), Sequential Function Chart (SFC), Continuous Function Chart (CFC).
- For flexibility, all programming languages can be combined with one another.
- Created programs can be easily debugged on the engineering PC via simulation.
- New paradigms such as object-oriented programming are included.





Visualization

Advanced user interfaces for operating and monitoring machines are standard. Today, HMI-based design is a critical factor that influences the purchase of an entire automation line. e!COCKPIT employs Drag & Drop to streamline the design of modern user interfaces. The integrated visualization editor provides:

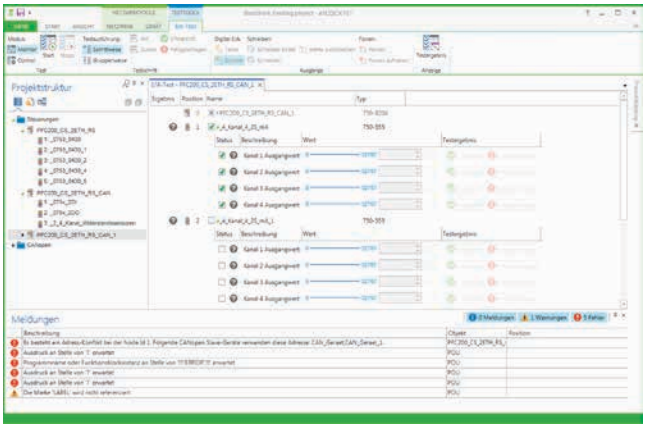
- Access to IEC program variables.
- Closed simulation of HMI and PLC program on the engineering PC.
- Guaranteed language independence via Unicode character set.
- Current standards such as HTML 5 or CSS.

Diagnostics

Being acutely aware of the automation network's current status is an absolute must for the rapid detection and elimination of errors — be it during development in the office or directly on the machine during commissioning.

e!COCKPIT provides comprehensive diagnostic capabilities:

- Individual views always display the controllers' status information, for example, both graphically and in tabular form.
- To keep project on time, error messages are transmitted directly and clearly.
- The structured wiring test function systematically identifies wiring errors.



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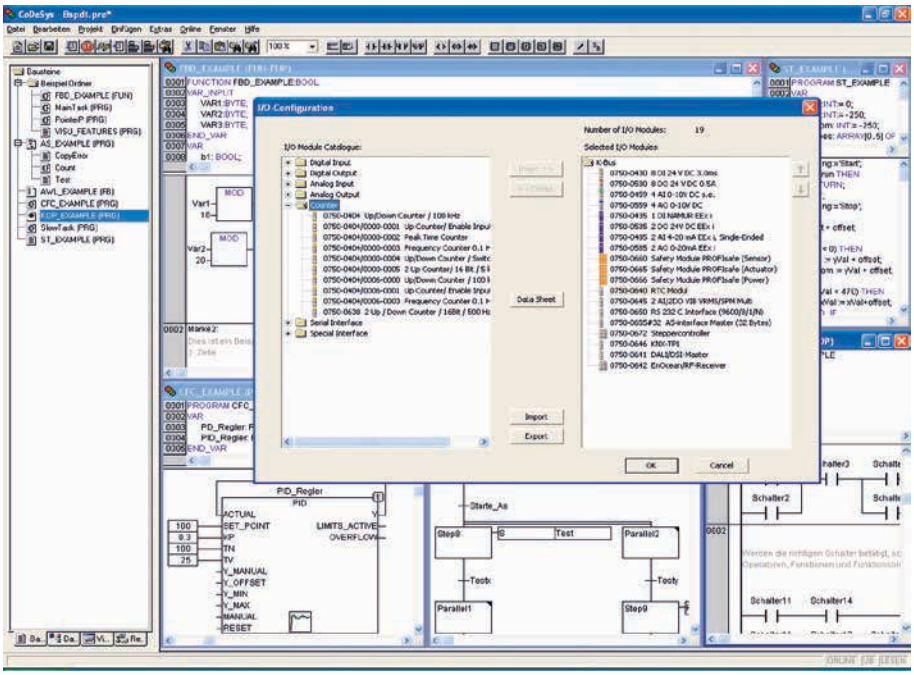
WAGO-I/O-*PRO*
Engieneering Software, based on CODESYS 2



WAGO-I/O-*PRO* is a programming and visualization tool for control programs. This software is used to develop PLC applications for WAGO-I/O-SYSTEM 750 Programmable Fieldbus Controllers.

WAGO-I/O-*PRO* runs in line with the IEC 61131-3 standard. This standard describes the requirements of a programming system. The IL, SFC, LD, FBD and ST programming languages are supported. The optimal programming language can be chosen for each application.

With extensive programming functions, the software readily meets the increasing requirements of control program development (e.g., reusability and modularization).

- Highly efficient translation between programming languages
- Automatic declaration of variables
- Library management

Integrated test and diagnostic functions also streamline and accelerate the implementation of processes for PLC projects.
- Online status indication in program code
- Offline simulation
- Integrated process visualization
- Recording and graphical presentation of project variables

WAGO-I/O-*PRO* also offers the option of programming products from other manufacturers within the CODESYS automation alliance in addition to the standard programmable CODESYS automation alliance products from WAGO.

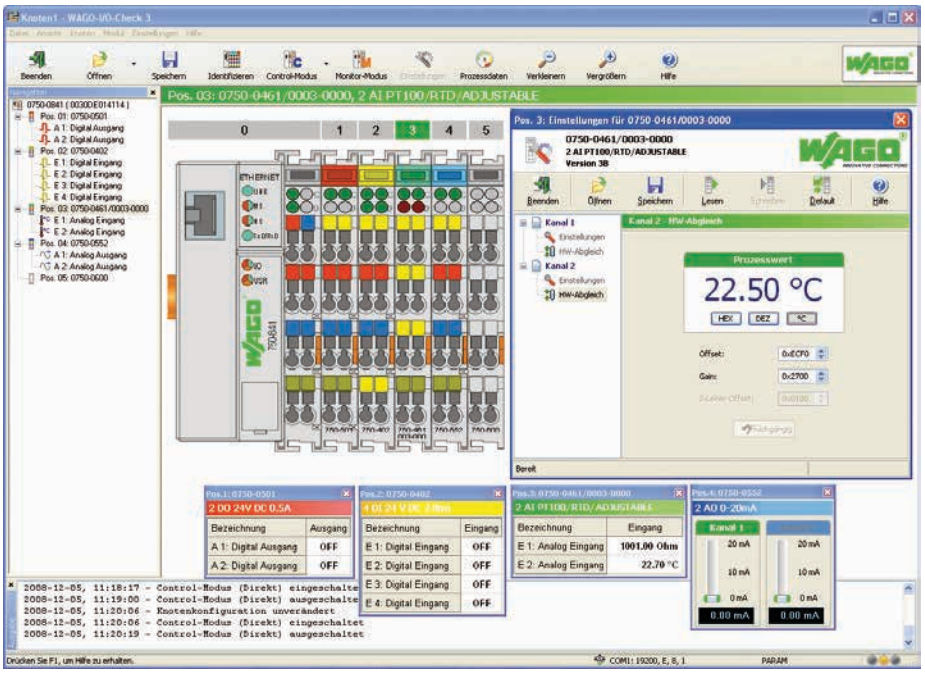
WAGO-I/O-*PRO*		
Version	Delivery type	Item No.
RS-232 Set	CD-ROM and serial Communication Cable	759-333
USB Set	CD-ROM and USB Communication Cable	759-333/000-923
CD	CD-ROM	759-911

Supported operating systems	Windows XP (SP3 or later), Windows 7
System requirements	
Processor	1-GHz or higher, with 32-bit (x86) or 64-bit (x64)
Memory	min. 1 GB RAM
Hard disk storage	min. 300 MB
Graphics resolution	min. 1024 x 786
Other system requirements	Open serial interface; CD-ROM and Mouse required
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/759-333

Windows® is a registered trademark of Microsoft Corporation.

Serial/USB Communication Cable
see Page 30

WAGO-I/O-*CHECK*



WAGO-I/O-CHECK is an easy-to-use Windows application for operating and displaying a WAGO-I/O-SYSTEM 750 node without connecting the node to a fieldbus system.
The software reads the configuration from the node and displays it as an on-screen graphic. The graphic can be printed together with a configuration list as documentation.

With WAGO-I/O-CHECK, it is possible to display and determine the process data of the bus modules. The field wiring, including all sensors and actuators, can thus be checked before startup.

Application-specific settings, such as the baud rate or sensor types, can be made with select interface, Pt100 and thermocouple modules.

For communicating between WAGO-I/O-CHECK and the node, the coupler must be connected at a PC's vacant serial or USB port using the communication cable supplied in the kit with the system.

WAGO-I/O-*CHECK*		
Version	Delivery type	Item No.
RS-232 Set	CD-ROM and serial Communication Cable	759-302
USB Set	CD-ROM and USB Communication Cable	759-302/000-923
CD	CD-ROM	759-920

Supported operating systems	Windows XP (SP3 or later), Windows 7
System requirements	
Processor	1-GHz or higher, with 32-bit (x86) or 64-bit (x64)
Memory	min. 1 GB RAM
Hard disk storage	min. 150 MB
Graphics resolution	min. 1024 x 786
Other system requirements	CD-ROM and Mouse required
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/759-302

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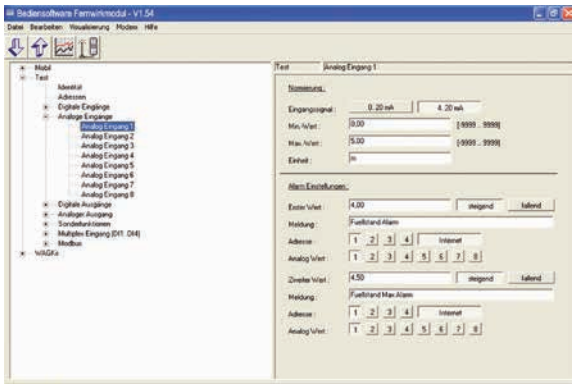
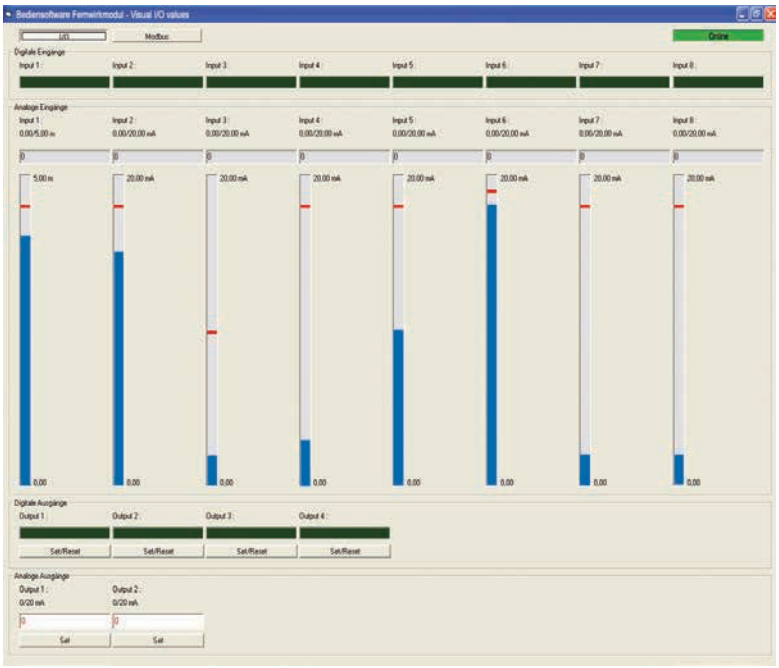
TO-PASS® Configurator





Software for configuring *TO-PASS*® Telecontrol Modules.

Compatible with Windows XP and Windows 7.
Communication with modules via RS-232 port, USB port (via USB adapter, included in accessories) or external GSM modem.

- Easy module parameterization without programming experience
- Display current process values
- Line diagram for both data and event loggers
- Test module's GSM signal strength
- Documentation and archival of configuration data
- "Fast Copy" function for the multiplication of configuration data
- German and English language interfaces

TO-PASS® Configurator		
Version	Delivery type	Item No.
CD	CD-ROM	759-930

Supported operating systems	Windows XP Professional, Windows 7
System requirements	
Processor	Pentium mind. 500 MHz or faster
Memory	min. 512 MB (Windows XP); min. 1 GB (Windows 7)
Hard disk storage	min. 5 MB
Graphics resolution	min. 1024 x 768
Other system requirements	Open serial or USB interface; Configuration cable, CD-ROM and Mouse required
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/759-930

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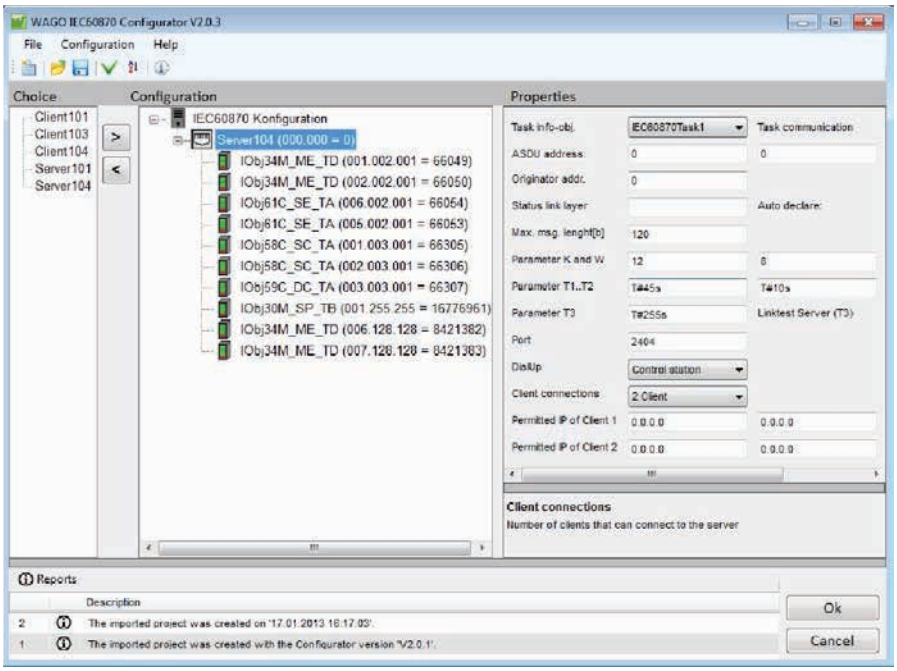
USB Adapter
see Page 30

IEC 60870 Configurator

Configuration dialog integrated in WAGO-I/O-PRO v2.3 for IEC 60870-5-101/103/104 communication parameterization



IEC 60870 configuration dialog

The IEC 60870 Configurator is part of the WAGO-I/O-PRO v2.3 software. The configurator fully supports the IEC 60870-5-101/103/104 specific functions of all WAGO telecontrollers.

The configurator sets up IEC 60870 objects, while configuring data exchange to the PLC application or I/O modules. Import and export functions in CSV format allow configured data to be transmitted to other engineering tools.

The IEC 60870-5-101 and 104 protocols are supported on both client and server sides, while the IEC 60870-5-103 protocol is exclusively supported on the client side. This permits the creation of gateways that convert one protocol into another, e.g., allowing protection devices to be read out via IEC 60870-5-103 and data to be transmitted to the network control system via IEC 60870-5-104.

Various options are available for the time synchronization of telecontrol substations (server). Time synchronization can be performed either via the IEC 60870 protocol with object 103 or via (S)NTP. Using the WAGO 750-640 Module, clock time can also be synchronized via DCF77 or GPS.

IEC-60870-5-101/104 information objects can be used to monitor the direction of single, double and step messages. Bit patterns, counter values, as well as normalized, scaled and floating-point measurement values can also be used. All information objects can be transmitted with or without a time stamp. This also applies to information objects in control direction.

An IEC 60870-5-104 server can simultaneously maintain up to four connections to the control system (client).

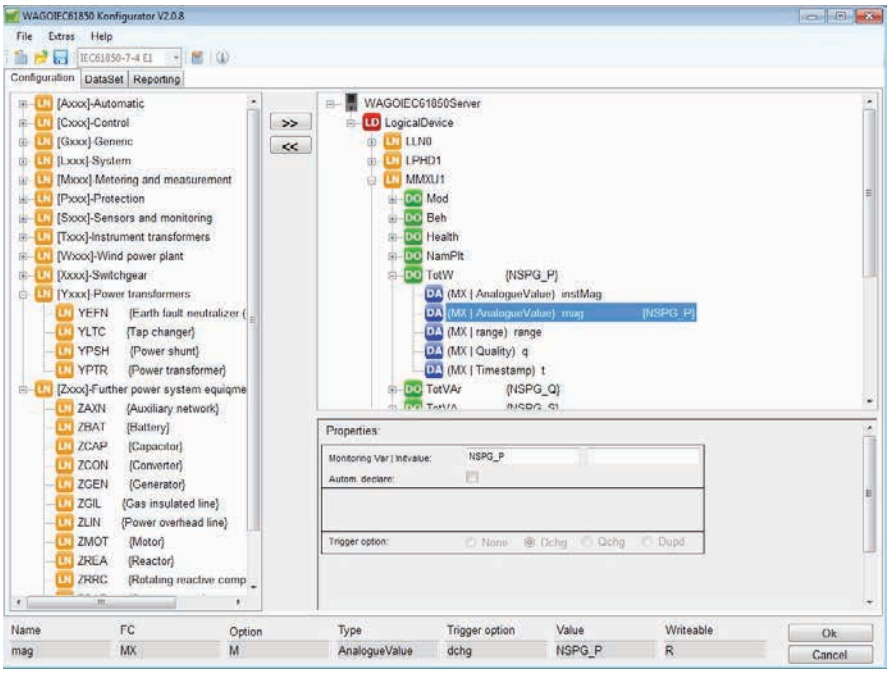
IEC 60870 Configurator
Integrated in WAGO-I/O-*PRO* v2.3

System requirements	WAGO-I/O-*PRO* Version 2.3.9.40 or higher
Function	IEC 60870-5-101 Server and Client IEC 60870-5-103 Client IEC 60870-5-104 Server and Client
Supported controllers	
PFC200 Controller	750-8202/025-001 750-8206/025-001
PFC200 XTR Controller	750-8202/040-001 750-8206/040-001
750 Controller	750-872 750-880/025-001 750-880/025-002
750 XTR Controller	750-880/040-001

Software WAGO-I/O-*PRO* V2.3
see Page 12

IEC 61850 Configurator

Configuration dialog integrated in WAGO-I/O-PRO v2.3 for IEC 61850 communication parameterization



IEC 61850 configuration dialog

The IEC 61850 Configurator is part of the WAGO-I/O-PRO v2.3 software. The configurator fully supports the IEC 61850-specific functions of the WAGO tele-controllers.

The configurator sets up IEC 61850 objects, while configuring data exchange to the PLC application or I/O modules. Import and export functions in IEC 61850 SCL exchange format allow configured data to be transmitted to other engineering tools.

On the server side, the IEC 61850 Protocol is supported for MMS* communication to the control system. The controllers can also be operated as a GOOSE publisher or subscriber. This permits the creation of gateways that convert one protocol into another, e.g., allowing data from protection devices to be received via IEC 61850 Client and transmitted to the network control system via IEC 60870-5-104 Protocol.

Time synchronization is performed via SNTP, NTP, DCF77 and GPS (750-640 Module is also required for GPS).
Various options are available for the time synchronization of telecontrol substations (server). Synchronization can be performed via (S)NTP or clock time can be synchronized via DCF77 or GPS using the WAGO 750-640 Module.

The IEC 61850 MMS server can simultaneously maintain up to five connections to the control system (client).

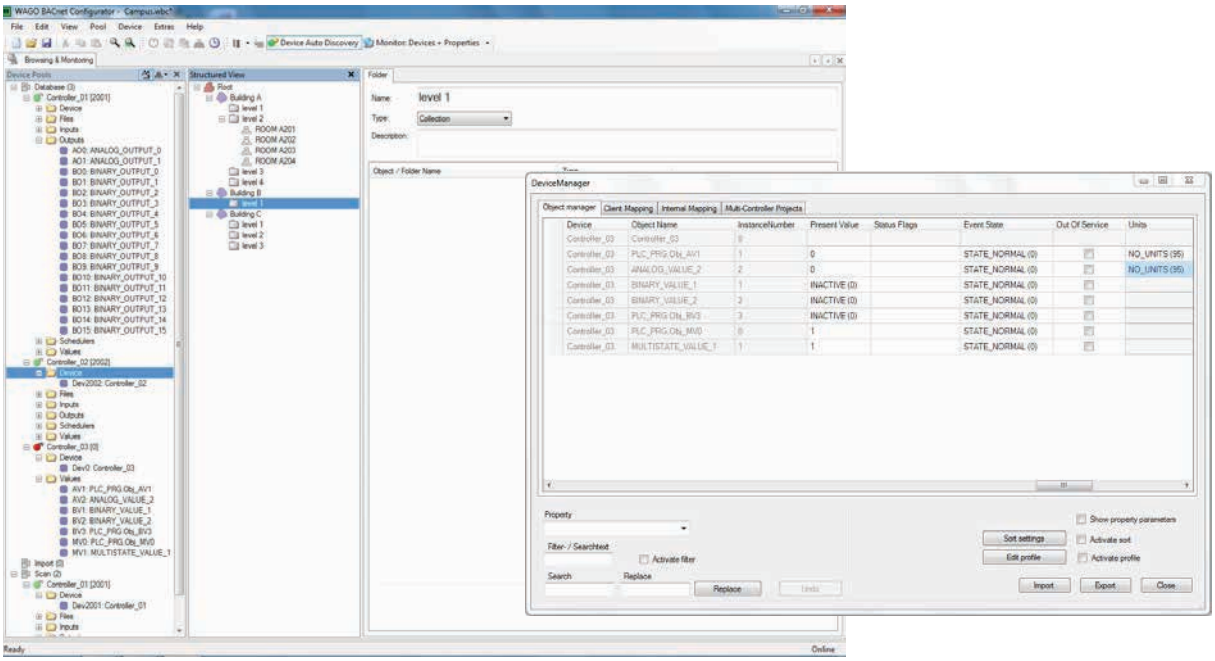
The IEC 61850 Client processes data from up to 10 servers with each 32 requests.

*MMS = Manufacturing Messaging Specification

IEC 61850 Configurator
Integrated in WAGO-I/O-*PRO* v2.3

System requirements	WAGO-I/O-*PRO* Version 2.3.9.47 or higher
Function	IEC 61850 Server and Client
Object types	IEC 61850-7-4 and IEC 61400-25
Data sets	static and dynamic
Reporting	buffered and unbuffered
Supported controllers IEC 61850 Server	
750 Controller	750-872
Supported controllers IEC 61850 Server and Client	
PFC200 Controller	750-8202/025-001 750-8202/025-002 750-8206/025-001 750-8207/025-001
PFC200 XTR Controller	750-8202/040-001 750-8206/040-001
750 Controller	750-880/025-001 750-880/025-002
750 XTR Controller	750-880/040-001

WAGO BACnet Configurator



WAGO's BACnet Configurator is an independent commissioning, configuration and management software.
The configurator fully supports the BACnet-specific functions of WAGO's 750-829, 750-830 and 750-831 BACnet Controllers.

The configurator creates and configures WAGO BACnet Controllers and sets up data exchange between the IEC application and BACnet objects. Import and export functions allow further processing of the configuration data.

For integration into existing BACnet networks, the BACnet devices available can be scanned, displayed in a browser and data exchange can be implemented for WAGO devices.

Among the configurator's capabilities are the logical structuring of the project and network, addressing of the controller and client/server configuration in every WAGO BACnet Controller.

The devices, objects and configuration data are displayed in a logical, structured network and browser view.
Depending on the function used, both online and offline operation is possible.

The configurator displays all configuration data. To edit BACnet objects, the configurator offers specific table views in which the corresponding properties of the object can be modified. Typical table editing functions, e.g., search/replace, sort, filter and show/hide, are available. The user can upload the updated configuration data to one or more controllers and save as a project.

The configurator provides a browser to view the BACnet object properties and modify current parameters (communicate value changes, write property values, utilize BACnet services, etc.).
Additionally, a Transaction Log window is available for client services.

WAGO BACnet Configurator
The WAGO BACnet Configurator can be downloaded for free at: www.wago.com

Supported operating systems	Windows XP (SP3 or later), Windows 7

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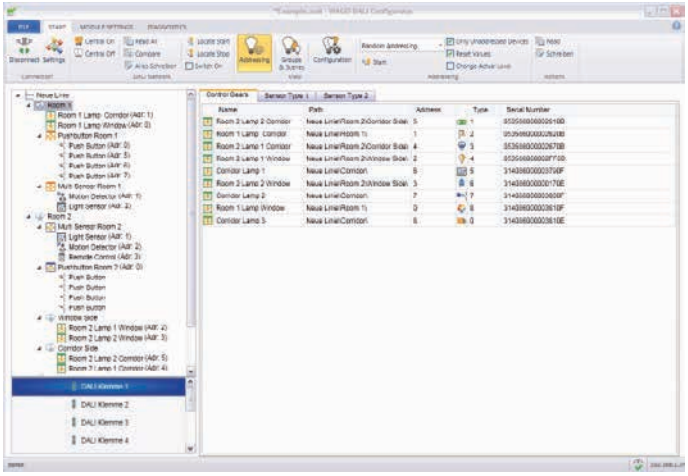
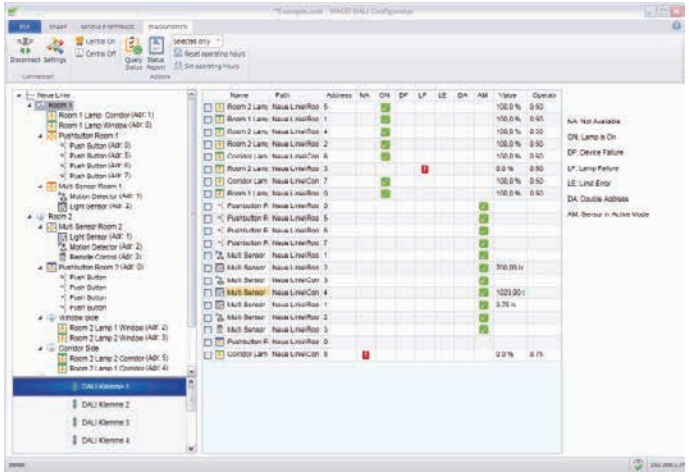
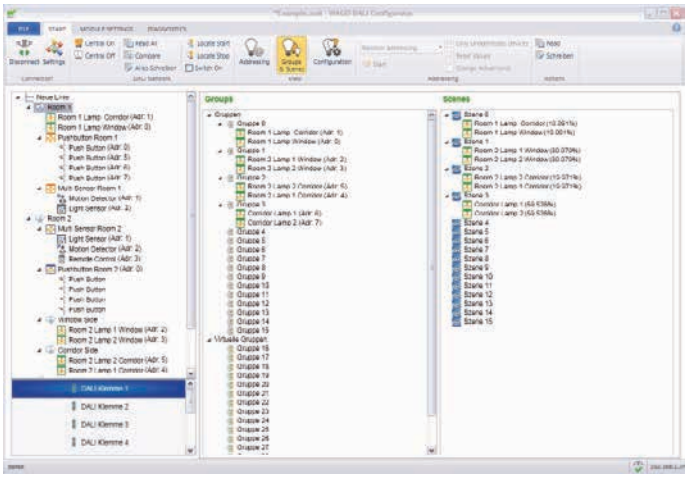
Software WAGO-I/O-*CHECK*
see Page 13

Software WAGO-I/O-*PRO* V2.3
see Page 12

DALI Configurator







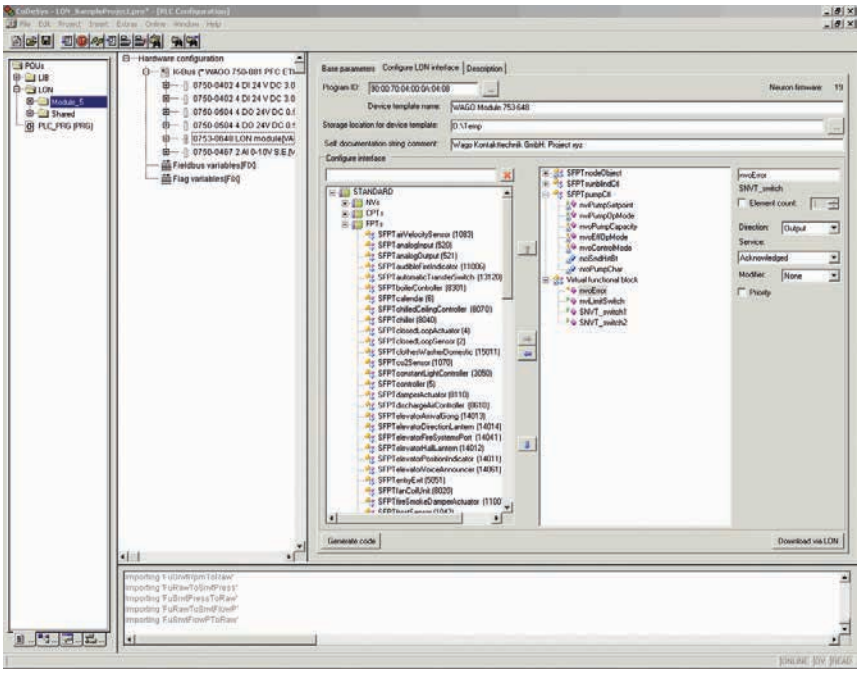
The DALI Configurator simplifies commissioning of a DALI network via 753-647 DALI Multi-Master Module. The configurator is available as a stand-alone Windows application or for use with WAGO-I/O-CHECK software.

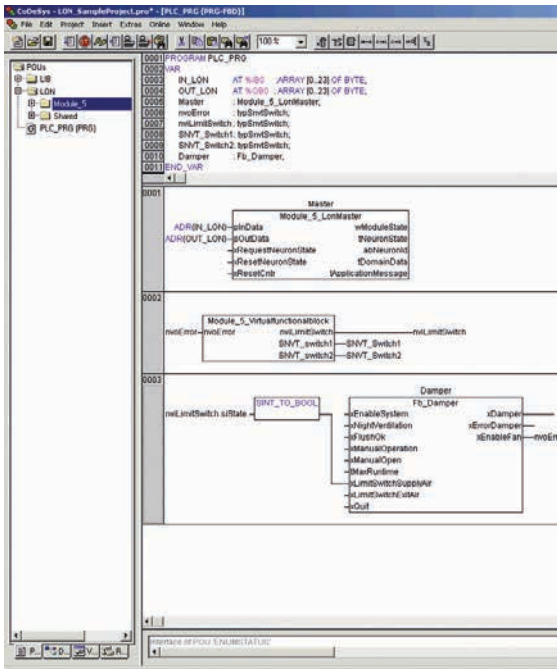
It provides the following functions: easy commissioning, configuration, service, support and maintenance of a DALI network. Comprehensive backup & restore features, as well as an offline configuration option for the entire DALI network (including ECGs and sensors) are available.

DALI Configurator
The DALI Configurator is available as part of WAGO-I/O-CHECK (Version 3.5.1 or higher) or as a stand-alone application (www.wago.com).

Features	Stand-alone software or for use with WAGO-I/O-*CHECK*
Commissioning function	Addressing, Scene and group formation, Control gear configuration, Offline configuration (option), Import and export functions, Project documentation
Service, support and maintenance functions	Backup & Restore, Status messages from defective ECGs/lamps, Double-address identification, Operating hours display, Diagnostics report
Windows-compliant user interface	Multiple selection for time-optimized configuration, Provides clear network view in a tree-like structure, Supports different commissioning workflows

LON® Configurator





The LON® Configurator is an integral part of the WAGO-I/O-PRO IEC 61131-3 programming environment. The configurator supports both the 753-648 LON® Module's LonWorks® network interface configuration and WAGO-I/O-PRO project integration.

Network variables of any type can be defined. In addition to standard network variable types (SNVTs) and standard configuration property types (SCPTs), user-defined types (UNVTs/UCPTs) and LonMark® functional profiles (FPTs) are also supported. Network variables are defined using the types and objects of the LonMark® resources installed on your computer.

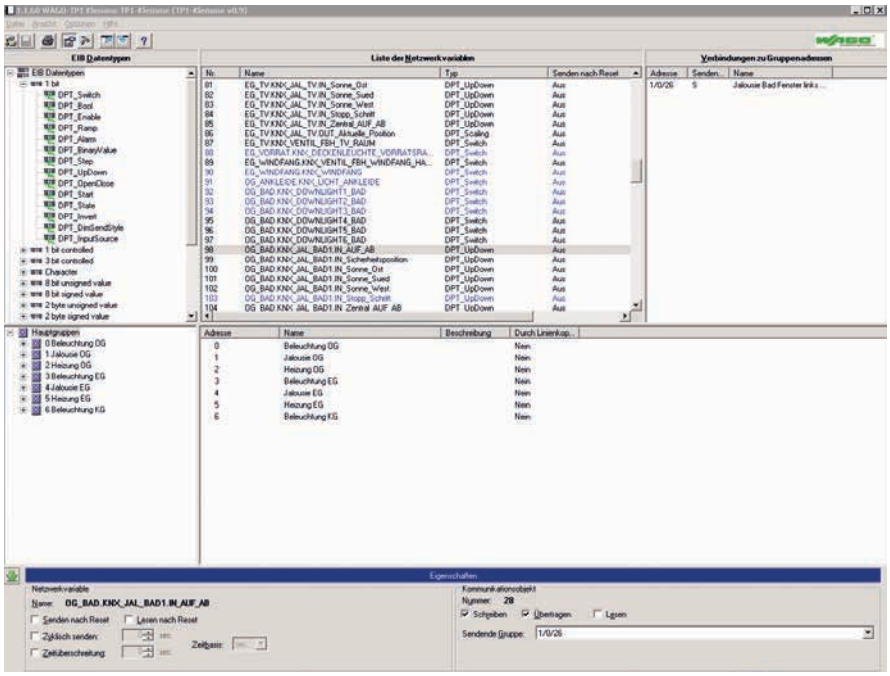
IEC 61131-3 function blocks are automatically created in the IEC application, simplifying operation. The function blocks represent the LON® network interface in the IEC application. When starting the control unit, both the network variable interface and configuration data are automatically downloaded into the I/O module.
An external interface file (XIF) is created for offline configuration in a network management tool.

LON® Configurator
The LON® Configurator is available as part of WAGO-I/O-PRO (Version 2.3.9.34 or higher)

- Integral part of the WAGO-I/O-PRO programming software
- Defines and implements a LON® network interface
- Automatically generates IEC 61131-3 function blocks to represent the LON® network interface within an IEC application
- Downloads both network interfaces and configuration data when starting the control unit
- Checks configuration
- Generates XIF files

Software WAGO-I/O-*PRO* V2.3
see Page 12

WAGO ETS Plug-in



The WAGO ETS Plug-In is a WAGO ETS product database extension that allows the use of WAGO devices, such as the 753-646 KNX/EIB/TP1 Module, 750-889 KNX IP Controller and KNXnet/IP Router (consisting of KNX/EIB/TP1 Module and KNX IP Controller).

The software's enhanced structure offers intuitive navigation, providing both new and experienced ETS users with exceptional usability.

The WAGO ETS Plug-In provides three clear user interfaces for various devices. Depending on the mode selected, either the KNX/EIB/TP1 Module, KNX IP Controller or the KNXnet/IP Router (IP Controller with KNX/EIB/TP1 Module in first position) are supported.

In the graphical interfaces, device parameters are easy to configure and only the options pertaining to the selected device are displayed.

During software development, creating a convenient and time-saving graphical user interface was heavily emphasized — and this is beneficial when assigning communication objects to group addresses.
Two different Drag & Drop options and a context menu with an automatic filter function are available, enabling users to select their preferred method.

WAGO ETS Plug-in
The WAGO ETS Plug-In can be downloaded for free at: www.wago.com

Supported operating systems	Windows XP, Windows 7
Miscellaneous	The plug-in requires the ETS product database.
Configuration	
KNX/EIB/TP1 Module	Loading/assignment of IEC variables (communication objects) Creation/configuration of group addresses
Controller KNX IP	Assigning IP addresses Downloading the IEC application into the controller Loading/assignment of IEC variables (communication objects) Creation/configuration of group addresses
KNXnet/IP Router	Assigning IP addresses Setting a routing multicast address Filtering/transmitting telegrams

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Runtime Software — Libraries
e!COCKPIT (based on CODESYS 3)

1

Runtime Software Controls the Machine
Machines and systems are controlled by runtime software that determines behavior, while enabling both operation and current status monitoring for the user. It also transmits operating data to higher-level systems.
Unlike engineering software, runtime software operates continuously — it is a part of the machine and ensures correct operation.

Ready-to-Use Function Blocks Save Development Time
Comprehensive, tried-and-tested software function blocks (IEC libraries) expedite development. Thus, e!COCKPIT is supplemented with comprehensive IEC libraries.

Essentially, the libraries are divided into three abstraction layers:
- The solution layer primarily contains complete, easy-to-use software solutions for production, building and process automation.
- The application layer contains technology functions, e.g., communication, that are ideal for convenient application.
- The system layer provides experts with complete system access.

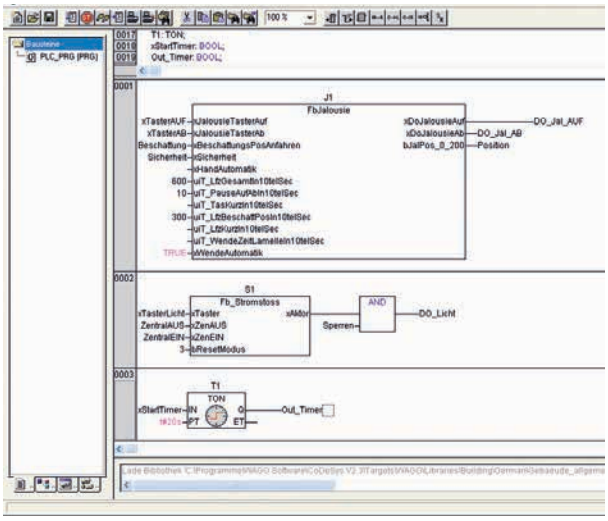
The upper layers are separated by compatibility levels. Essentially, this enables software to be developed independently of the hardware it will be used on. This provides the greatest degree of flexibility in selecting the right device for the right application, while retaining a uniform software base. It also provides investment security.

Function modules and libraries
Integrated in ***e!COCKPIT***

Software ***e!COCKPIT***
see Page 10

Software WAGO-I/O-*PRO* V2.3
see Page 12

Runtime-Software — Libraries
WAGO-I/O-*PRO* (based on CODESYS 2)

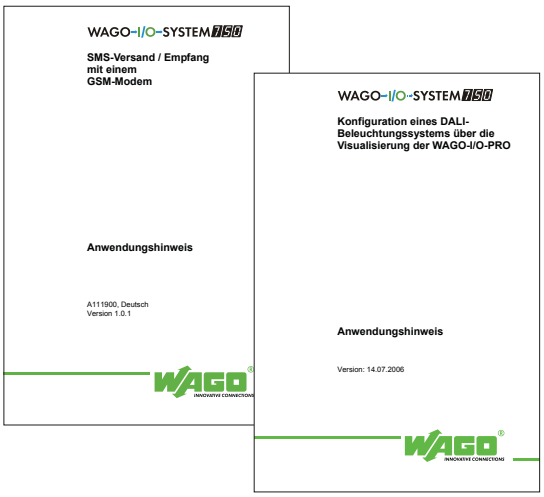


Room applications

Integrated in WAGO-I/O-*PRO*

The library contains custom function blocks for building automation; these accelerate the programming of building applications.

- Lighting
- Dimmers
- Lighting scenes
- Lighting control
- Sun protection
- Shading
- And other applications



Application Notes

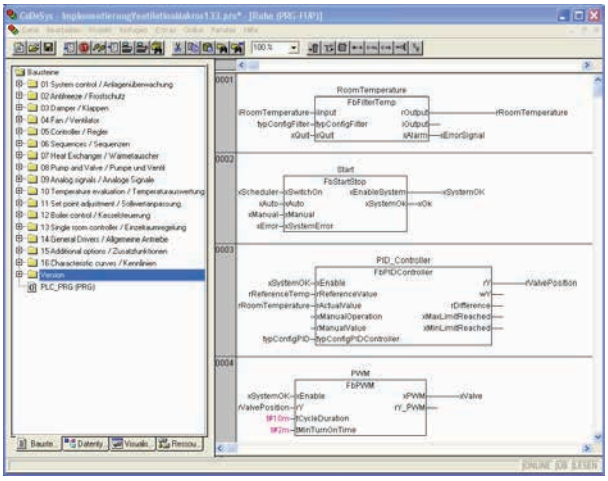
Download: Current application notes can be downloaded at: www.wago.com

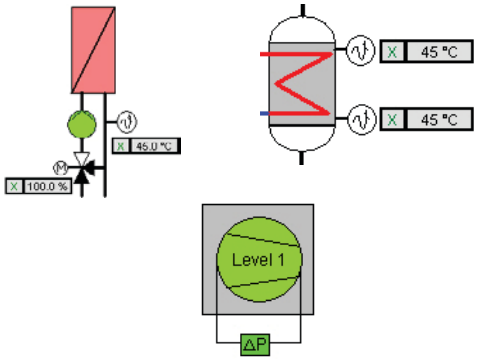
The application notes contain function blocks (FB) for communication applications.

- KNX/EIB
- DALI
- EnOcean radio technology
- MODBUS
- M-Bus
- MP-Bus
- SMI
- LonWorks®
- Email
- SMS
- And other applications

Runtime-Software — Libraries
WAGO-I/O-*PRO* (based on CODESYS 2)

1





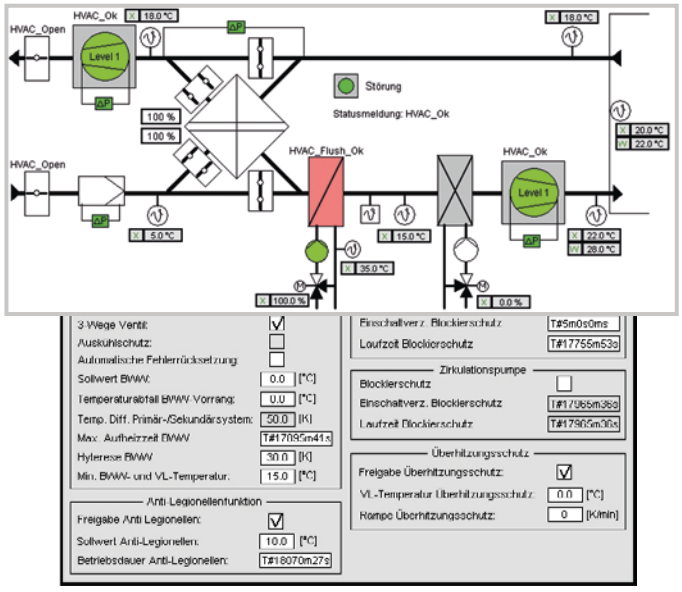
Graphical elements for HVAC applications

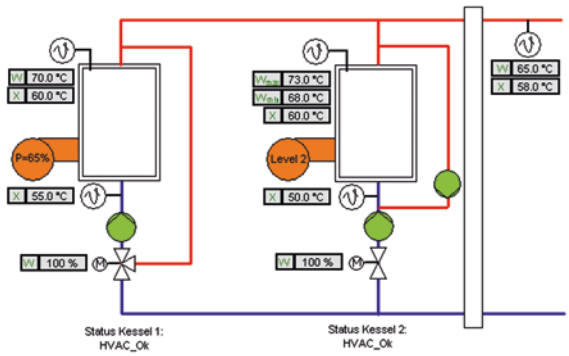
HVAC

Integrated in WAGO-I/O-*PRO*

The library contains function blocks (FB) to create automation applications for complex heating, ventilation and air-conditioning systems (HVAC).

These include: fault monitoring, starter circuits, monitoring frost protection systems, fan control (stepped/continuous), air mixture valve control, air heater/cooler control, cascade control of room/feed air temperature, free night cooling, summer/winter compensators, enthalpy calculations, PID controllers, filter monitoring, blockage protection, heating circuit control, heat recovery control, boiler control (stepped/continuous), boiler sequence, domestic hot water control, start/stop optimization, humidification and dehumidification (climate) and more.





Kesselfolgesteuerung

System macros

Download: Current application notes can be downloaded at:
www.wago.com

- District heating transfer station macros
- Boiler macros
- Heating circuit macros
- Drinking water heating macros
- Ventilation macros

Software WAGO-I/O-*PRO* V2.3
see Page 12

WAGO WebVisu App
for mobile system operation/monitoring

1

Using the WAGO WebVisu App, you can access CODESYS 2 WebVisu websites on mobile devices. The desired system or machine can then be operated and monitored at any time. Up to 100 controllers can be predefined for direct and quick access via the URL.

WAGO WebVisu App is available for free as an iOS version for iPhones and iPads in the Apple “App Store”, and as an Android version for smartphones and tablets in the “Google Play” store.

Note: An overview of the supported WAGO controllers, operating manuals and application notes can be found on our website or at www.wago.com/webvisu.

QR Code for WebVisu App

Simply scan the QR code with your mobile device and you are automatically directed to the WebVisu App in the “App Store” or “Google Play”.

Download on the App Store

GET IT ON Google play

Trademarks

Apple, the Apple logo, iPhone, iPad and iPod touch are registered trademarks of Apple Inc. registered in the USA and other countries. “App Store” is a service mark of Apple Inc.

Google PlayTM is a registered trademark of Google Inc.

WAGO WebVisu App
Download: Apple-Store or Google-Store

System requirements	
Operating system	iOS Version 4.3 or higher Android Version 2.2 or higher
Compatibility	iPhone, iPad and iPod touch Android smartphones and tablets
Further information see:	wago.com/webvisu

1

TO-PASS® Web Portal

WEB portal for visualizing and archiving measured values and messages

The TO-PASS® product family is designed for wireless communication of signals and messages. Connection is established via the GSM global mobile radio network. Beyond other communication channels (e.g., email, SMS or fax), the devices can also transmit data to a Web server. This allows the creation of a permanent GPRS connection that's similar to a dedicated line.

The process image (i.e., states and values of all digital and analog inputs of a TO-PASS® telecontrol module) is transmitted to the Web server with a time stamp at a configurable interval and then stored in the database. Standard data loggers and the cumbersome process of reading out data are no longer necessary. Controlling and managing data is simplified by using an Internet browser via: http://www.to-pass.com.
With the base module, a user receives a designated area on the Web portal. Access is protected with a username and password. Depending on the expansion level (starter, standard, unlimited), a varying number of devices can log into the portal.

The data recorder function allows digital, analog and MODBUS data from connected devices to be recorded and displayed from 90 minutes to 512 days. Data can also be exported in CSV format.

The "Admin" option is an addition to the base module. It allows the user to assign additional usernames with passwords, as well as customers and devices with different access authorizations.
The "Alarm" option is an addition to the base module. It allows the module to display and administer alarms generated from analog, digital and MODBUS values. Using analog values, up to four limit values can be configured for each measurement. An alarm list allows all alarms to be displayed and acknowledged.
This option also allows the user to configure the recipients and the time that an alarm will be sent to them via SMS or e-mail.

The usage rights for the base module with "Admin" and "Alarm" options must be purchased once. Afterward, just a low flat-rate fee will be charged monthly.

TO-PASS® Web Portal	
Version	Item No.
Basic Unlimited (unlimited number of devices)	761-700
Basic Starter (max. 5 devices)	761-700/000-005
Basic Standard (max. 20 devices)	761-700/000-020
Monthly User Fees	761-701
Admin Unlimited (unlimited number of devices)	761-702
Admin. Starter (max. 5 devices)	761-702/000-005
Admin. Standard (max. 20 devices)	761-702/000-020
Alarm Unlimited (unlimited number of devices)	761-703
Alarm Starter (max. 5 devices)	761-703/000-005
Alarm Standard (max. 20 devices)	761-703/000-020
Individual	761-704

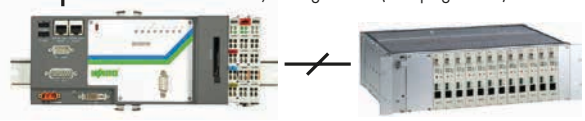
Software functionality	User administration via user name and password; Device activation via Internet; Configuration of measured values via Internet; History of measured values: unlimited number of data sets; Display of measured values: Table and graphical display; Evaluation of measured values: Graphical evaluation of measured values; Export of measured values: CSV format (MS Excel compatible)
Topology	No. of devices unlimited
Other required software	Microsoft® Internet Explorer with Internet access
Data sheet and further information, see:	wago.com/761-700

Internet Explorer is a registered trademark of Microsoft Corporation

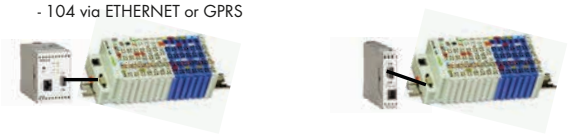
WAGO Telecontrol Gateway

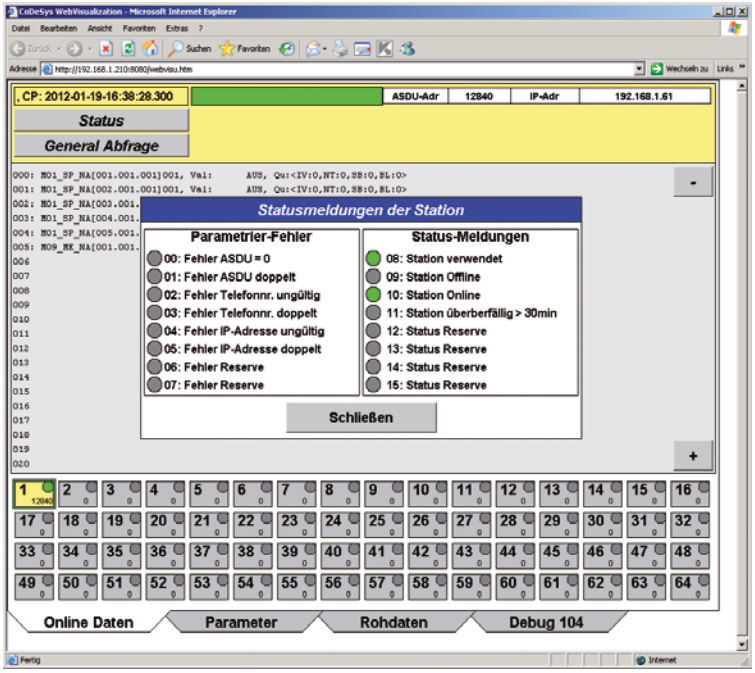
Connection to control system acc. to IEC 60870-5-101/-104

Max. 12 RS-232/-485 I/O modules and ISDN/analog modem (19'' plug-in card)



Max. 64 substations can be connected via fieldbus controller acc. to IEC 60870-5:
- 101 via analog, GSM or ISDN dial-up connections
- 103 via RS-485 I/O module
- 104 via ETHERNET or GPRS





Parameter setting and diagnostics via Web server

WAGO Telecontrol Gateway (WTG), in connection with the controllers mentioned below, is a gateway software for communication between a maximum of 64 telecontrol substations (IEC 60870-5-101/-103/-104) and a control system equipped with an interface (IEC 60870-5-101/-104).

This gateway is ideal for connecting both telecontrol substations and for control system applications restricted by a transmission protocol or the number of connections.
In addition to data transfer bundling, the WAGO Telecontrol Gateway also supports coordination of incoming and outgoing analog, GSM or ISDN dial-up connections to substations.

Accessories for WAGO Telecontrol Gateway:
I/O-IPC-C10 Telecontrol: 758-874/000-130 or Controller 750-8202/025-001
RS-232/485 Module, WAGO-I/O-SYSTEM: 750-652
End Module, WAGO-I/O-SYSTEM: 750-600
19" rack, INSYS: 11-02-05-01-01.006
19" plug-in card (ISDN modem), INSYS: 11-02-05-03-01.003
Alternative: 19" plug-in card (analog modem), INSYS: 11-02-05-02-03.003

Telecontrol substation with ISDN dial-up modem:
WAGO Telecontroller: 750-872; additional 750/753 Series I/O Modules, if necessary
End Module, WAGO-I/O-SYSTEM: 750-600
RS-232 Null Modem Cable: 761-9011
ISDN modem (DIN-rail mount), INSYS ISDN-TA 4.0: 11-02-01-02-00.018

Telecontrol substation with an analog dial-up modem
WAGO Telecontroller: 750-872; additional 750/753 Series I/O Modules, if necessary
End Module, WAGO-I/O-SYSTEM: 750-600
RS-232 Null Modem Cable: 761-9011
Analog modem (DIN-rail mount), INSYS modem 56k 4.2: 11-02-01-01-40.039

Telecontrol substation with GSM connection
WAGO Telecontroller: 750-872; additional 750/753 Series I/O Modules, if necessary
End Module, WAGO-I/O-SYSTEM: 750-600
RS-232 Null Modem Cable: 761-9011
GSM modem (DIN-rail mount), INSYS GSM 4.3: 11-02-01-03-01.042
Magnetic foot antenna for INSYS GSM 4.3: 31-01-01.007

Telecontrol substation with DSL/ETHERNET connection:
WAGO Telecontroller: 750-872
Alternative: WAGO Telecontroller: 750-880/025-001
Additional 750/753 Series I/O Modules, if necessary
End Module, WAGO-I/O-SYSTEM: 750-600

WAGO Telecontrol Gateway Software	
Version	Item No.
for 758-874/000-130	759-200
for 750-8202/025-001	759-200/000-002

Number of I/O modules	
for 758-874/000-130	max. 12 x 750-652 Modules
for 750-8202/025-001	max. 4 x 750-652 Modules
Number of connectable telecontrol substations	
for 758-874/000-130	max. 64
for 750-8202/025-001	max. 16
Data sheet and further information, see:	wago.com/759-200

Accessories

USB communication cable, USB-A, Service interface I/O-System 750		
Length	Item No.	Pack. Unit
2.5 m	750-923	1
5 m	750-923/000-001	1

USB communication cable, M8 plug straight, USB-A		
Length	Item No.	Pack. Unit
3 m	756-4101/042-030	1

USB Adapter, USB-A, RS-232 (SUB-D 9/25 pole)		
Length	Item No.	Pack. Unit
1 m	761-9005	1

RS-232 communication cable, RS-232 (SUB-D 9 pole), Service interface I/O-System 750		
Length	Item No.	Pack. Unit
1 m	750-920	1

Bluetooth® Adapter, Service interface I/O-System 750		
	Item No.	Pack. Unit
	750-921	1

Operation and Monitoring

e!DISPLAY 7300T Web Panels

- High-performance HMI display for Web-based visualization
- 10.9–25.7 cm (4.3–10.1")
- Visualization from CODESYS 2 and *e!COCKPIT* (based on CODESYS 3)

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

PFC100/PFC200 Controllers

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

Section 3.1 ►

PFC200 XTR Controllers

The advantages of the PFC Controller combined with the characteristics for extreme environments:

- High processing speed
- Multiple interfaces
- eXTReme robust and maintenance-free

Section 3.2 ►►

750 Series Controllers

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideally combinable with the WAGO 750 I/O-SYSTEM modules

Section 3.3 ►►►

750 XTR Controllers

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 3.4 ►►►►

Operation and Monitoring
Contents

M: Master, S: Slave

Operation and Monitoring
General Product Information

Operate, observe, visualize, diagnose in production and process industry: WAGO Web and control panels for small to medium-sized control and visualization tasks feature perfect usability and with the quickly created visualizations, set the focus on time savings.

Web Visualization

Displaying a visualization in a Web browser makes flexible options available. In addition to the Web Panels, visualizations can be displayed on nearly any device with a browser including smartphones and tablets; where needed, by using the WebVisu app.

Web Panels with an Aesthetic Design and Extra Performance

The *e!DISPLAY* HMI panel merges a sleek design and some of the industry's most powerful software: With *e!DISPLAY*, you can shape the high-tech image of your machine or system by displaying high-quality visualizations from both *e!COCKPIT* (CODESYS 3) and CODESYS 2 engineering software. The Web-based management feature of WAGO's controllers may also be operated using the stylish Web Panels. The modern design also packs new technology, such as HTML5, for programming via e!COCKPIT. A Java runtime for CODESYS 2 WebVisu is also on board.

Easy To Use — Set Brightness Directly on the Display

WAGO's *e!DISPLAY* Web Panel has a resistive touch screen, flanked by three status LEDs that indicate operating status and provide operational feedback. For Web Panel configuration and commissioning, an easy-to-customize configuration interface is available: All important settings are quickly and intuitively performed via Web-based management, like connecting to one or more WAGO controllers.
Furthermore, sensors can automatically adjust the brightness of *e!DISPLAY* based on a room's ambient lighting conditions. For quick and easy custom settings, the display brightness can also be manually adjusted via a front-mount button.

Energy-Saving Sensors on the Web Panel Ensure Safety

e!DISPLAY has an integrated proximity sensor. This allows the visualization to be automatically re-displayed from the energy-saving standby function and screensaver. A motion sensor simultaneously detects ambient lighting levels for brightness control.

Quick installation via unique mounting design

The *e!DISPLAY* Web Panel directly latches onto the switch cabinet via mounting clips for quick and easy tool-free installation. With special clamping elements, the IP65 degree of protection can be achieved for the front of the display. This design flexibility makes *e!DISPLAY* extremely versatile and suitable for a wide variety of applications. The VESA mount allows installation on a swivel arm or stand outside of the control panel.

Seamless Integration into the WAGO Product Range

The more harmonious component integration is, the better performance and reliability will be. *e!DISPLAY* provides visualizations via the e!COCKPIT engineering software (CODESYS V3) and CODESYS V2. A high-performance solution when combined with the PFC100 and PFC200 controllers

Control Panel with Target Visualization

In addition to visualization, the control panel also offers a PLC runtime. The result is a full-fledged automation device. It provides configurable functions for operation and monitoring, and can independently process control tasks.

The control panel's PLC function is based on the IEC-61131 compatible CODESYS environment and can be programmed in five different languages. In addition to pure programming, the programming system built on the CODESYS international standard allows offline simulation, fieldbus configuration, recipe management and much more. There is also a Webserver.

Fully Integrated Visualization

Complete integration of the visualization system in a control system allows direct integration of variables.
In addition, created masks can easily be reused in various controller configurations.

Advantages:

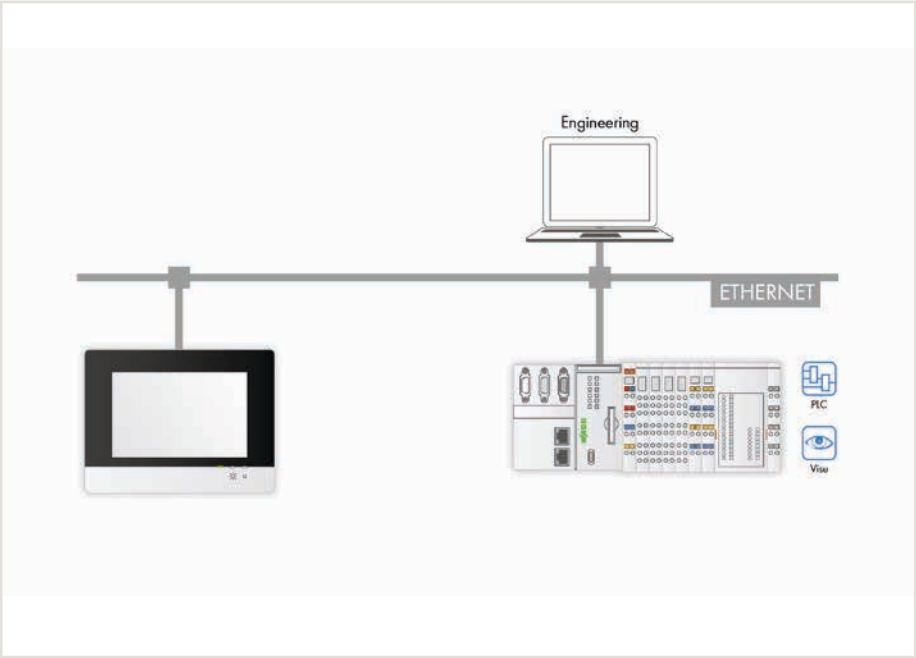
e!DISPLAY
- Aesthetic design with enhanced performance
- Easy to use — set brightness directly on the device
- Energy-saving sensors ensure safety.
- Quick installation via unique mounting design

PERSPECTO®
- Multiple interfaces
- IEC-61131-compatible control functionality

Operation and Monitoring
Versions

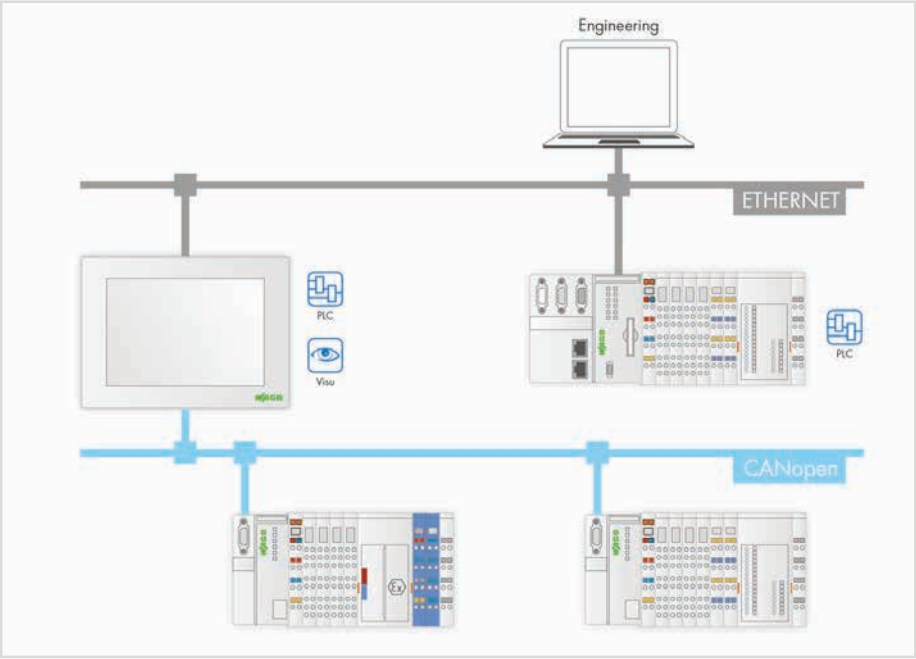
e!DISPLAY 7300T,
Web Panel

Specifically configured as a Web browser, the Web Panel directly connects to controllers with integrated Web visualization. The *e!COCKPIT* (CODESYS 3) and CODESYS 2.3 Web visualizations have been specifically optimized for the Web Panel.



PERSPECTO® CP,
Control Panel CP with Target Visualization

The Control Panel (CP) with Target Visu (TV) features full CODESYS runtime. With the WAGO-I/O-PRO development environment (based on CODESYS-2), applications and visualizations can be created and completely programmed. Existing CODESYS projects can be almost entirely converted and upgraded.



Item Number Key

Explanation of the components of an item number key

Item No.: 762-xxx

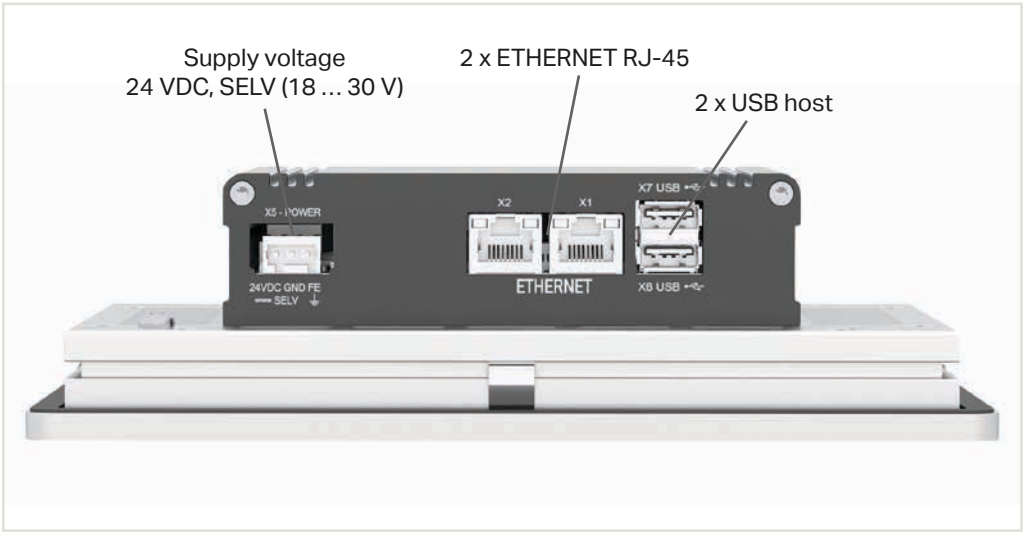
Series

***e!DISPLAY* Web Panel = 300y**
y = Screen size
0 = 10.9 cm (4.3"); 1 = 14.5 cm (5.7");
2 = 18 cm (7.0"); 3 = 25.7 cm (10.1")

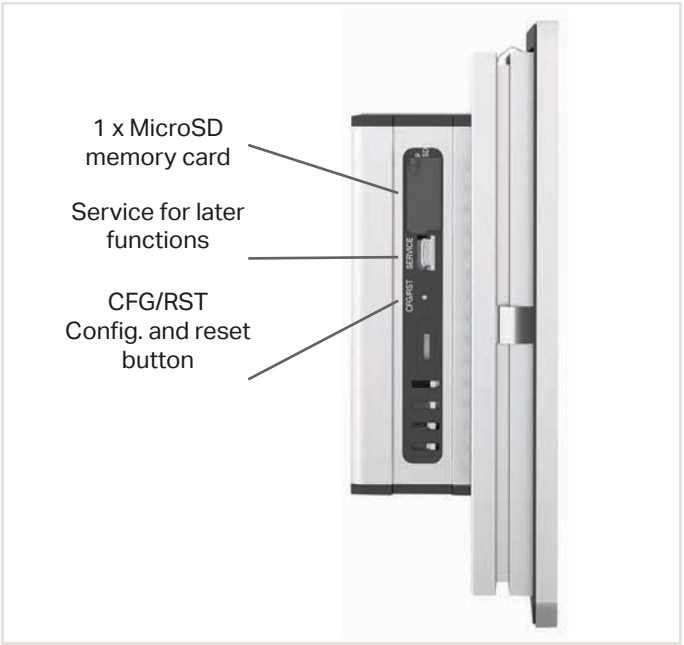
***PERSPECTO®* Control Panel = 3yyy**
yyy = Screen size (035–150 = 3.5"–15")

Operation and Monitoring
e!DISPLAY 7300T Interfaces and Types

Two ETHERNET interfaces connect the Web Panel to the controller on which the Web visualization will be displayed via a Web server.
A mouse and keyboard can be connected to the two USB interfaces, or an external USB memory.



The interface and control element features are not dependent on screen diagonals; they are the same for all devices.

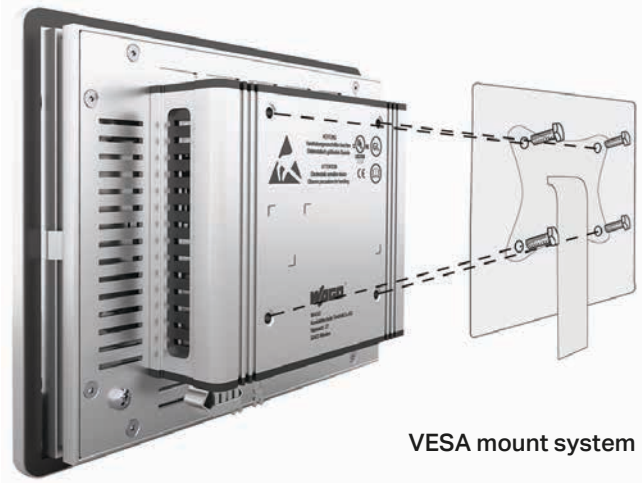


Operation and Monitoring
e!DISPLAY 7300T Application and Installation Instructions

Two brightness adjustment keys are located directly on the front of the device, along with three diagnostics LEDs.

Mounting

e!DISPLAY directly latches onto the switch cabinet via mounting spring clips for quick and easy tool-free installation. Achieve the IP65 degree of protection for the front of the display with additional clamping screws. This design flexibility makes *e!DISPLAY* extremely versatile and suitable for a wide variety of applications. The VESA mount (VESA 75 standard, 75 mm hole spacing) allows universal mounting accessories to be conveniently used outside of the switch cabinet.



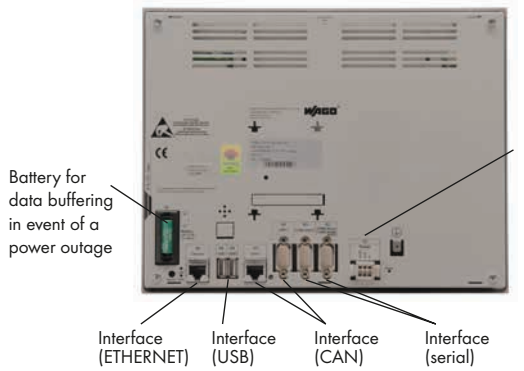
VESA mount system

Operation and Monitoring
PERSPECTO® Interfaces and Types

Out of sight, but always in reach!

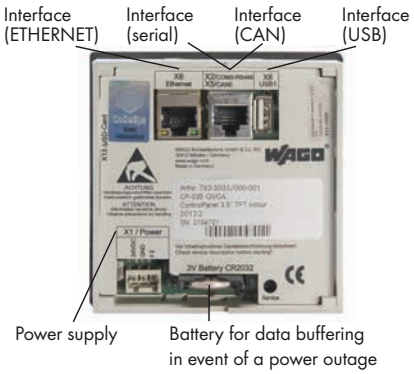
PERSPECTO® offers multiple interfaces, connection ports and other important function elements on the back side for maximized connectivity with minimized clutter.

10.4" version



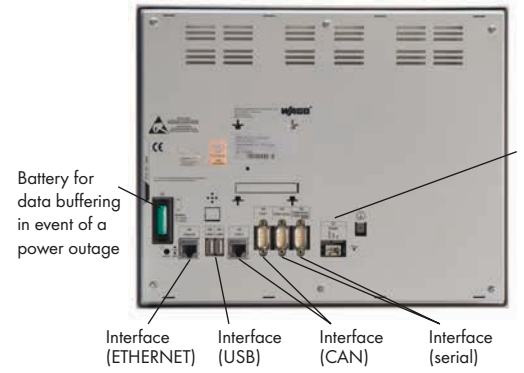
Interface (USB)	2 x USB 2.0 host (type A)
Interface (ETHERNET)	1 x 10/100 Mbit, RJ-45
Interface (CAN)	1 x CAN0 RJ-45, 1 x CAN1 D-Sub 9
Interface (serial)	1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485/-422 D-Sub 9

3.5" version



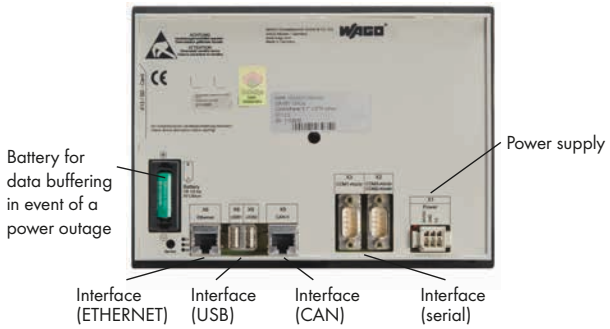
Interface (USB)	1 x USB 2.0 host (type A)
Interface (ETHERNET)	1 x 10/100 Mbit, RJ-45
Interface (CAN)	1 x CANopen RJ-45
Interface (serial)	RS-485 integrated into CAN

12.1" version



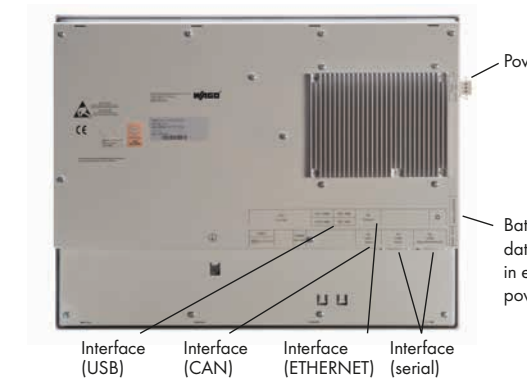
Interface (USB)	2 x USB 2.0 host (type A)
Interface (ETHERNET)	1 x 10/100 Mbit, RJ-45
Interface (CAN)	1 x CAN0 RJ-45, 1 x CAN1 D-Sub 9
Interface (serial)	1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485/-422 D-Sub 9

5.7" version



Interface (USB)	2 x USB 2.0 host (type A)
Interface (ETHERNET)	1 x 10/100 Mbit, RJ-45
Interface (CAN)	1 x CANopen RJ-45
Interface (serial)	1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485 D-Sub 9

15" version



Interface (USB)	4 x USB 2.0 host (type A)
Interface (ETHERNET)	1 x 10/100 Mbit, RJ-45
Interface (CAN)	Option (RJ-45)
Interface (serial)	1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485/-422 D-Sub 9

Operation and Monitoring
PERSPECTO® Application and Installation Instructions

Degree of protection: Front IP65, back IP20

Standards and Rated Conditions
e!DISPLAY 7300T

General Specifications	
Operating system	Linux® 3.6.11
Control elements	Resistive touch panel, two capacitive keys, proximity switch
Durability	100,000 activations with touch pen
Supply voltage	24 VDC, SELV (−25 … +30 %) with reverse voltage protection
Indicators	Diagnostics display, three color LEDs (red, green, blue)
Ambient temperature (operation)	0 … +55 °C
Ambient temperature (storage)	−20 … +80 °C
Relative humidity	10–90 %, non-condensing
Degree of protection	Front side IP65, back IP20

Standards and Rated Conditions
PERSPECTO®

General Specifications	
Operating system	Windows CE
Control elements	Touch, analog, resistive
Supply voltage	24 VDC (18–30 V)
Ambient temperature (operation)	0 … +50 °C
Ambient temperature (storage)	−10 … +60 °C
Relative humidity	10–85 %, non-condensing
Degree of protection	Front side IP65, back IP20

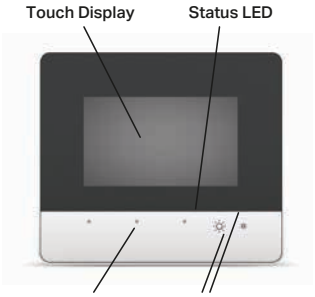
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

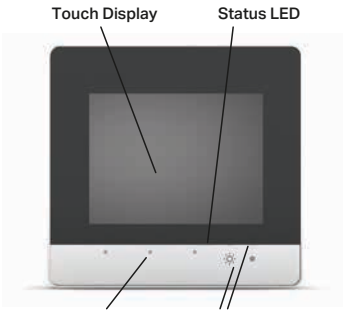
2

e!DISPLAY 7300T, Web Panels

Web panel, 10.9 cm (4.3“),
480 x 272 pixels, 2 x USB, 2 x ETHERNET



Web panel, 14.5 cm (5.7“),
640 x 480 pixels, 2 x USB, 2 x ETHERNET



Item Description	WP	WP
Version	4.3 480x272 PIO1	5.7 640x480 PIO1
Item No.	**762-3000**	**762-3001**

Technical Data

Display	TFT, wide viewing angle	TFT, wide viewing angle
Screen size (diagonal)	10.9 cm (4.3“)	14.5 cm (5.7“)
Aspect	16:9	4:3
Display colors	16 million	262.000
Graphics resolution	480 x 272	640 x 480
Operating system	Linux®	Linux® 3.6.11
Processor	ARM® Cortex™ A8 600 MHz	ARM® Cortex™ A8 600 MHz
RAM/flash	512 Mb / 1024 Mb	512 Mb / 1024 Mb
Memory expansion	microSD (max. 2 Gb), microSDHC (max. 32 Gb)	microSD (max. 2 Gb), microSDHC (max. 32 Gb)
Control elements	Resistive touch panel, 2 capacitive keys, proximity sensor	Resistive touch panel, 2 capacitive keys, proximity sensor
Diagnostic LEDs	3-color LED (red, green, blue)	3-color LED (red, green, blue)
Interfaces (USB)	2 x USB 2.0 host (type A)	2 x USB 2.0 host (type A)
Interface (ETHERNET)	2 ports 10/100Base-T (RJ-45), switch functionality	2 ports 10/100Base-T (RJ-45), switch functionality
Dimensions (W x H x D)	155 x 135 x 58 mm	172 x 163 x 58 mm
Panel cutout (W x H)	140 x 120 mm	157 x 148 mm
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)	Clamping elements (included) or VESA mount (4 x M4x8)
Supply voltage	24 VDC, SELV (−25 … +30 %) with reverse voltage protection	24 VDC, SELV (−25 … +30 %) with reverse voltage protection
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Approvals	CE, cULus UL 508*	CE, cULus UL 508*
Data sheet and further information, see:	wago.com/762-3000	wago.com/762-3001

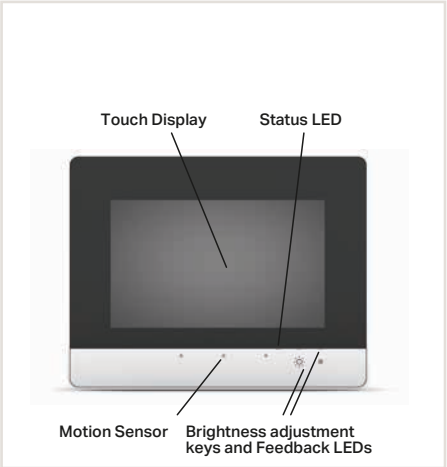
Accessories	**Item no.**	**Page**	**Item no.**	**Page**
Memory Card	758-879/000-3102	44	758-879/000-3102	44
Clamping elements	762-9001	45	762-9001	45

* pending

* pending

Approvals and corresponding ratings, see Page 514 or www.wago.com

Web panel, 17.8 cm (7.0“), 800 x 480 pixels, 2 x USB, 2 x ETHERNET



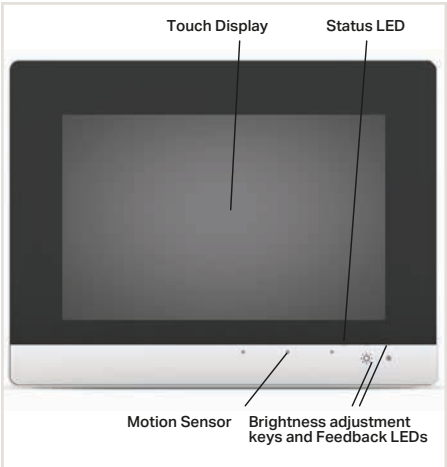
WP
7.0 800x480 PIO1
762-3002

TFT, wide viewing angle
18 cm (7.0“)
16:9
16 million
800 x 480
Linux® 3.6.11
ARM® Cortex™ A8 600 MHz
512 Mb / 1024 Mb
microSD (max. 2 Gb), microSDHC (max. 32 Gb)
Resistive touch panel, 2 capacitive keys, proximity sensor
3-color LED (red, green, blue)
2 x USB 2.0 host (type A)
2 ports 10/100Base-T (RJ-45), switch functionality
213 x 167 x 58 mm
198 x 152 mm
Clamping elements (included) or VESA mount (4 x M4x8)
24 VDC, SELV (−25 … +30 %) with reverse voltage protection
0 … +55 °C
CE, cULus UL 508*
wago.com/762-3002

Item no.	Page
758-879/000-3102	44
762-9001	45

* pending

Web panel, 25.7 cm (10.1“), 1280 x 800 pixels, 2 x USB, 2 x ETHERNET



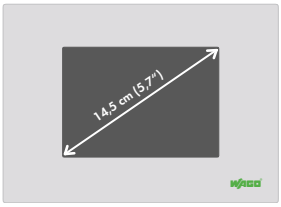
WP
10.1 1280x800 PIO1
762-3003

TFT, wide viewing angle
25.7 cm (10.1“)
16:9
16 million
1280 x 800
Linux® 3.6.11
ARM® Cortex™ A8 600 MHz
512 Mb / 1024 Mb
microSD (max. 2 Gb), microSDHC (max. 32 Gb)
Resistive touch panel, 2 capacitive keys, proximity sensor
3-color LED (red, green, blue)
2 x USB 2.0 host (type A)
2 ports 10/100Base-T (RJ-45), switch functionality
293 x 223 x 58 mm
278 x 208 mm
Clamping elements (included) or VESA mount (4 x M4x8)
24 VDC, SELV (−25 … +30 %) with reverse voltage protection
0 … +50 °C, 0 … +55 °C (vertical mounting position)
CE, cULus UL 508*
wago.com/762-3003

Item no.	Page
758-879/000-3102	44
762-9001	45

* pending

PERSPECTO®, Control Panels

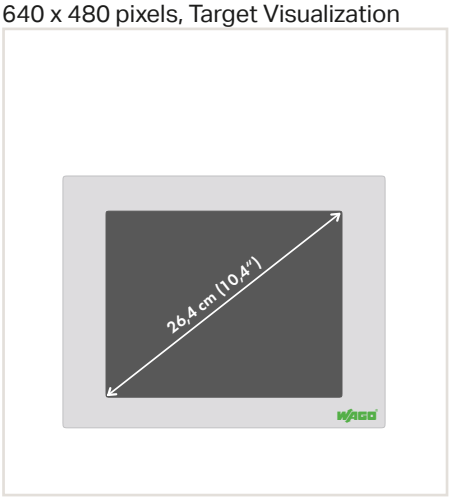


	Control panel, 8.9 cm (3.5"), 320 x 240 pixels, Target Visualization	Control panel, 14.5 cm (5.7"), 320 x 240 pixels, Target Visualization
Item Description	CP	CP
Version	35 QVGA TV	57 QVGA
Item No.	**762-3035/000-001**	**762-3057/000-001**
Technical Data		
Display	TFT	TFT
Screen size (diagonal)	8.9 cm (3.5")	14.5 cm (5.7")
Display colors	32768 colors	4096 colors
Graphics resolution	320 x 240 pixels	320 x 240 pixels
Operating system	Windows CE 6.0	Windows CE 6.0
Processor	32-bit ARM9 200 MHz	32-bit ARM9 200 MHz
RAM/flash/SRAM	64 Mb / 64 Mb / 1 Mb	64 Mb / 64 Mb / 1 Mb
Program memory / data memory / non-volatile memory (retain)	1024 KB / 1024 KB / 128 KB	1024 KB / 1024 KB / 128 KB
Memory expansion	microSD (max. 2 Gb)	SD card (max. 2 Gb)
Control elements	Touch, analog, resistive	Touch, analog, resistive
Interfaces (USB)	1 x USB 2.0 host (type A)	2 x USB 2.0 host (type A)
Interface (ETHERNET)	1 x 10/100 Mbit, RJ-45	1 x 10/100 Mbit, RJ-45
Interface (CAN)	1 x CAN RJ-45	1 x CAN RJ-45
Interface (serial)	RS-485 integrated into CAN	1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485 D-Sub 9
Dimensions (W x H x D)	96 x 96 x 29 mm	208 x 150 x 42 mm
Panel cutout (W x H)	91 x 91 mm	198 x 140 mm
Mounting	4 x clamping elements	4 x clamping elements
Supply voltage	24 VDC (18–30 V)	24 VDC (18–30 V)
Ambient temperature (operation)	0 … +50 °C	0 … +50 °C
Approvals	CE, KC, cULus UL 508	CE, KC, cULus UL 508
Data sheet and further information, see:	wago.com/762-3035/000-001	wago.com/762-3057/000-001

Accessories	Item no.	Page	Item no.	Page
Memory Card	758-879/000-3102	44	758-879/000-001	44
Mounting set	758-879/000-300	45	758-879/000-301	45

Approvals and corresponding ratings, see Page 514 or www.wago.com

Control panel, 26.4 cm (10.4“), 640 x 480 pixels, Target Visualization

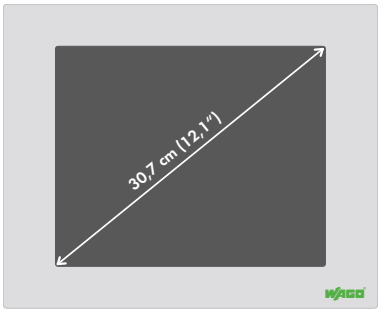


CP
104 VGA TV
762-3104/000-001

TFT
26.4 cm (10.4“)
65536 colors
640 x 480 pixels
Windows CE 5.0
32-bit XScale 520 MHz
64 Mb / 32 Mb / 1 Mb
1024 KB / 1024 KB / 128 KB
CF card (max. 2 Gb)
Touch, analog, resistive
2 x USB 2.0 host (type A)
1 x 10/100 Mbit, RJ-45
1 x CAN0 RJ-45, 1 x CAN1 D-Sub 9
1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485/-422 D-Sub
284 x 222 x 46 mm
268 x 206 mm
6 x clamping elements
24 VDC (18–30 V)
0 … +50 °C
CE, KC
wago.com/762-3104/000-001

Item no.	Page
758-879/000-000	44
758-879/000-302	45

Control panel, 30.7 cm (12.1“), 800 x 600 pixels, Target Visualization

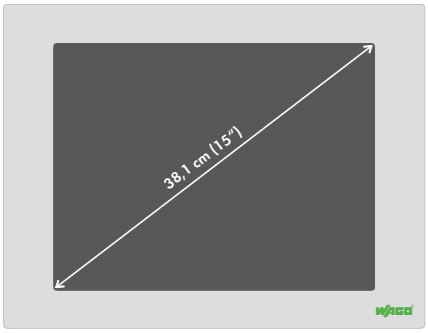


CP
121 SVGA TV
762-3121/000-001

TFT
30.7 cm (12.1“)
65536 colors
800 x 600 pixels
Windows CE 5.0
32-bit XScale 520 MHz
64 Mb / 32 Mb / 1 Mb
1024 KB / 1024 KB / 128 KB
CF card (max. 2 Gb)
Touch, analog, resistive
2 x USB 2.0 host (type A)
1 x 10/100 Mbit, RJ-45
1 x CAN0 RJ-45, 1 x CAN1 D-Sub 9
1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485/-422 D-Sub
330 x 268 x 47 mm
312 x 250 mm
6 x clamping elements
24 VDC (18–30 V)
0 … +50 °C
CE, KC
wago.com/762-3121/000-001

Item no.	Page
758-879/000-000	44
758-879/000-303	45

Control panel, 38.1 cm (15.0“), 1024 x 768 pixels, Target Visualization, optional: CAN



CP	
150 XGA TV	150 XGA CAN TV
762-3150/000-001	762-3150/000-003

TFT	
38.1 cm (15“)	
16 million colors	
1024 x 768 pixels	
Windows CE 6.0	
Intel Atom® N270; 1.6 GHz	
256 Mb / 128 Mb	
1024 KB / 1024 KB / 128 KB	
CF card (max. 2 Gb)	
Touch, analog, resistive	
4 x USB 2.0 host (type A)	
1 x 10/100/1000 Mbit RJ-45	
	1 x CAN RJ-45
1 x RS-232 D-Sub 9, 1 x RS-232 + RS-485/-422 D-Sub	
398 x 306 x 77 mm	
383 x 291 mm	
6 x clamping elements	
24 VDC (18–30 V)	
0 … +45 °C	
CE, KC	
wago.com/762-3150/000-001	wago.com/762-3150/000-003

Item no.	Page
758-879/000-000	44
758-879/000-304	45

Accessories

MicroSD memory card, SLC-NAND, 2 GB, temperature range −40 … 90 °C

Item Description	Memory Card microSD
Version	SLC-NAND 2GB T85°C
Item No.	**758-879/000-3102**
Technical Data	
Memory	2 Gb (SLC)
Write/read cycles max.	17 Mb/s / 20 Mb/s
MTBF	4,000,000 hrs.
Service life	2,000,000 program/operating cycles
Ambient temperature (operation)	−40 … +60 °C
Ambient temperature (storage)	−40 … +60 °C
Relative humidity	95 % non-condensing
Dimensions W x H x D	15 x 11 x 1 mm
Vibration resistance	15 G
Shock resistance	50 G
Data transmission rate	Up to 20 Mb/s

SD memory card, SLC-NAND, 2 Gb, temperature range −40 … 85 °C

Item Description	Memory Card SD
Version	SLC-NAND 2GB T85°C
Item No.	**758-879/000-001**
Technical Data	
Memory	2 Gb (SLC)
Write/read cycles max.	16 Mb/s / 22 Mb/s
MTBF	4,000,000 hrs.
Service life	2,000,000 program/operating cycles
Ambient temperature (operation)	-45 … +90 °C
Ambient temperature (storage)	-45 … +90 °C
Relative humidity	95 % non-condensing
Dimensions W x H x D	24 x 32 x 2.1 mm
Vibration resistance	15 G
Shock resistance	50 g operating, 1000 g not operating
Data transmission rate	Up to 22 Mb/s

CF memory card, SLC-NAND

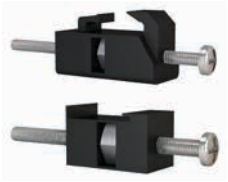
Item Description	Memory Card CF
Version	SLC-NAND
Item No.	**758-879/000-000**
Technical Data	
Memory	1 Gb (SLC)
Write/read cycles max.	Single: 20 Mbytes/s (max) / 10 Mbytes/s (max), Dual: 40 Mbytes/s (max) / 20 Mbytes/s (max)
MTBF	300,000 hrs.
Service life	2,000,000 program/operating cycles
Ambient temperature (operation)	−40 … +85 °C
Ambient temperature (storage)	-55 … +95 °C
Relative humidity	95 % non-condensing
Dimensions W x H x D	42.8 x 36.4 x 3.3 mm
Vibration resistance	Per IEC 60068-2-6
Shock resistance	Per IEC 60068-2-27
Data transmission rate	

Accessories

Connecting cable		
DVI-D	Item no.	Pack. Unit
3 m	758-879/000-100	1

Connecting cable		
USB A-B	Item no.	Pack. Unit
3 m	758-879/000-101	1

Clamping elements, for *e!DISPLAY 7300T*		
	Item no.	Pack. Unit
4 pieces	762-9001	1



Mounting set, for *PERSPECTO* Control Panels		
	Item no.	Pack. Unit
CP35	758-879/000-300	1
CP57	758-879/000-301	1
CP104	758-879/000-302	1
CP121	758-879/000-303	1
CP150	758-879/000-304	1

Controller

PFC100/PFC200 Controller

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

Section 3.1 ►

750 Series Controllers

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideal combination with the WAGO 750 I/O-SYSTEM modules

Section 3.3 ►►►

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

◄ Section 2

PFC200 XTR Controllers

The advantages of the PFC Controller combined with the characteristics for extreme environments:

- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

Section 3.2 ►►

750 XTR Controllers

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 3.4 ►►►►

Controller
Overview

3

Advantages:

- Fieldbus-independent — Supports all standard fieldbus protocols and ETHERNET standards
- Scalable performance — Fieldbus controllers, control panels, PFC100 and PFC200
- Programming per IEC 61131-3
- Flexible platform adapts to diverse applications and environments
- Combinable with the WAGO 750 I/O-SYSTEM — modular, compact, versatile

PFC100/PFC200 Controller

PFC100/PFC200 Controller

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

750 Series Controllers

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideal combination with the WAGO 750 I/O-SYSTEM modules

Section 3.3 ►►

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

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PFC200 XTR Controllers

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750 XTR Controllers

- For demanding applications in which the following are critical:
- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 3.4 ►►►

PFC100/PFC200 Controller
Contents

	CPU	ETHERNET Modbus TCP	PROFIBUS	CANopen	Modbus RTU	Telecontrol protocols: IEC 60870, IEC 61850/61400, DNP3	Description	Item No. Standard	Item No. T ext. temperature	Page
	Cortex A8, 600 MHz	x					PFC100 2ETH ECO	750-8100		54
	Cortex A8, 600 MHz	x					PFC100 2ETH	750-8101	750-8101/025-000	55
	Cortex A8, 600 MHz	x			x		PFC100 2ETH RS	750-8102	750-8102/025-000	55
	Cortex A8, 600 MHz	x			x		PFC200 2ETH RS	750-8202	750-8202/025-000	56
		x			x	x	PFC200 2ETH RS Tele T PFC200 2ETH RS Tele T ECO		750-8202/025-001 750-8202/025-002	56
	Cortex A8, 600 MHz	x		M/S			PFC200 2ETH CAN	750-8203	750-8203/025-000	57
	Cortex A8, 600 MHz	x		M/S	x		PFC200 2ETH RS CAN	750-8204	750-8204/025-000	57
	Cortex A8, 600 MHz	x	S	M/S	x		PFC200 2ETH RS CAN DPS	750-8206	750-8206/025-000	57
		x	S	M/S	x	x	PFC200 2ETH RS CAN DPS Tele T		750-8206/025-001	57
	Cortex A8, 600 MHz	x			x		PFC200 2ETH RS 3G	750-8207	750-8207/025-000	58
		x			x	x	PFC200 2ETH RS 3G Tele T		750-8207/025-001	58
	Cortex A8, 600 MHz	x	M		x		PFC200 CS 2ETH RS CAN DPM	750-8208	750-8208/025-000	59

M: Master, S: Slave

PFC100/PFC200 Controller
General Product Information

PFC100/PFC200: Maximum Performance in a Minimum Space

As a member of the WAGO control family, the PFC100 and PFC200 Controllers with e!RUNTIME excel with high processing speed and multiple interfaces for parallel communication. All versions feature two ETHERNET ports and — depending on the model — additional interfaces. The CANopen, PROFIBUS DP and MODBUS TCP/UDP/RTU protocols provide a flexible connection to fieldbus systems and external input/output devices. These fieldbus systems can be easily configured directly in WAGO's easy-to-use *e!COCKPIT* development environment.
The ETHERNET interfaces with an integrated switch also support all major IT protocols. In addition to multiple interfaces, the PFC100/PFC200 offers ample memory for your applications thanks to the internal flash memory and an integrated interface for memory cards.

Telecontrol technology

Standardized telecontrol protocols according to IEC 60870-5, IEC 61850, IEC 61400-25 or DNP3 ensure use of the PFC Controllers in telecontrol technology.

Link between Process Data and IT Application

The PFC100/PFC200 ideally combines real-time requirements with IT functionality. It supports both MODBUS/TCP and ETHERNET/IP for use in industrial environments. HTTP, SNTP, SNMP, FTP, BootP, DHCP, DNS, telnet, SSH and other protocols simplify integration into IT environments.
Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the PLC incorporates library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Security on Board

The topics of ETHERNET communication and security are closely linked. To provide PFC Controller users with a high level of security, mechanisms for secure connections such as VPN, integrated firewall, HTTPS, FTPS, SSH and SSL/TLS are standard.

Modular Expandability

With the WAGO 750 I/O-SYSTEM, the PFC100/PFC200 can be expanded to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O module without tools. The straightforward design prevents installation errors. In addition, proven CAGE CLAMP® technology offers fast, vibration-proof and maintenance-free connections that are independent of operator skill. Depending on the I/O module's granularity, field peripherals can be directly wired using 1-, 2-, 3- or 4-wire technology.

Maximum Reliability and Ruggedness

The PFC100/PFC200 is engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD, etc.) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100 % function testing ensure consistent quality.

Open-Source Software

The firmware used in the controllers was created based on open-source software.
The software packages used and their licenses are available from the download area under www.wago.com; please observe the rules stated there.
The controller firmware itself is available as a Board Support Package (BSP). If you are interested, simply contact our Technical Support AUTOMATION unit.

Advantages:

- Programming per IEC 61131-3
- Applications with higher-level languages
- Linux® real-time operating system
- Robust and maintenance-free
- Integrated Cyber-Security Packages

PFC100/PFC200 Controller
Versions

Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0 … 55 °C. However, there are applications like telecontrol technology that require an extended temperature range. These version are available in an extended temperature range of −20 … +60 °C.

ECO

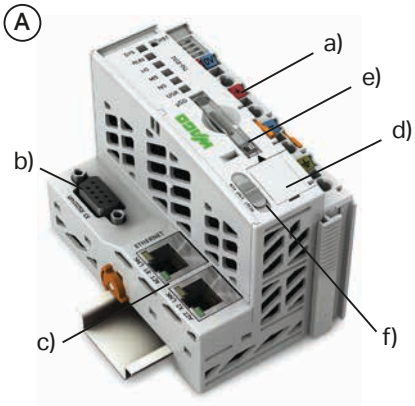
The ECO version of the PFC200 limits the number of stackable I/O modules to four.

Telecontrol Technology

The telecontrol technology versions of the PFC200 are distinguished by the integrated, standardized telecontrol technology:

- IEC 60870-5
- IEC 61850
- IEC 61400-25
- DNP3

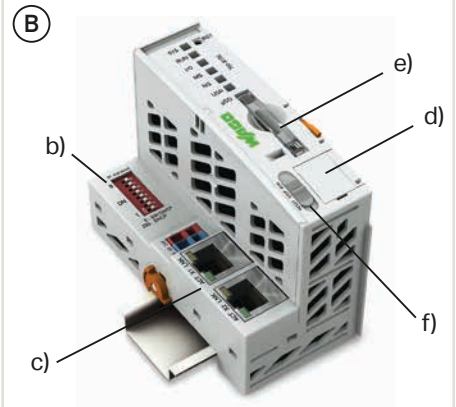
Interfaces and Types



- Includes supply module (a)
- Technical differences on the connection level (b)
- ETHERNET 2 x RJ-45 (c)
- Service interface (d)

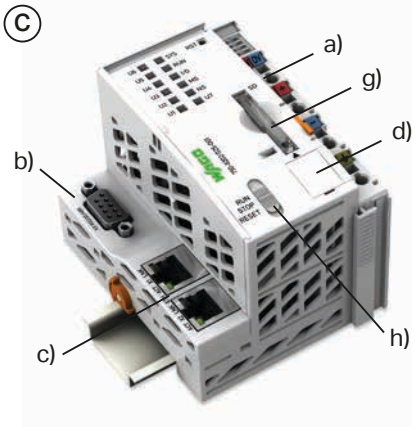
Housing Design (A)

- microSD card slot for external storage media (e)
- Stop/start switch (f)
- W x H x D (mm) 61.5 x 71.9 x 100



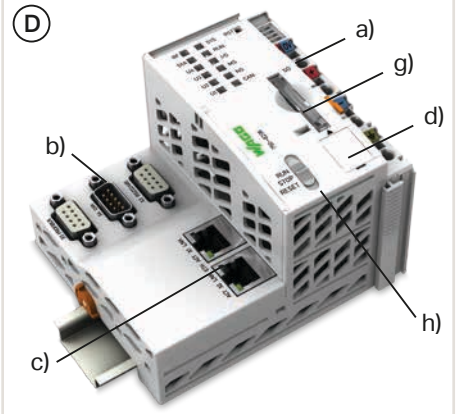
Housing Design (B)

- microSD card slot for external storage media (e)
- Stop/start switch (f)
- W x H x D (mm) 49.5 x 71.9 x 96.8



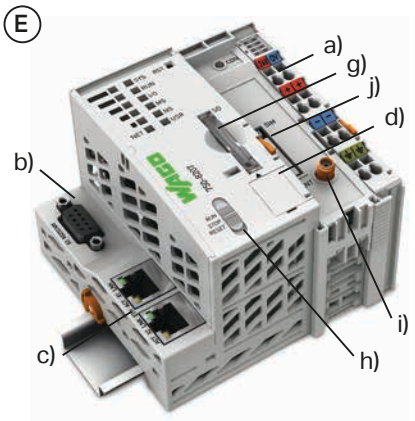
Housing Design (C)

- SD card slot for external storage media (g)
- Stop/start switch (h)
- W x H x D (mm) 78.6 x 71.9 x 100



Housing Design (D)

- SD card slot for external storage media (g)
- Stop/start switch (h)
- W x H x D (mm) 112 x 71.9 x 100



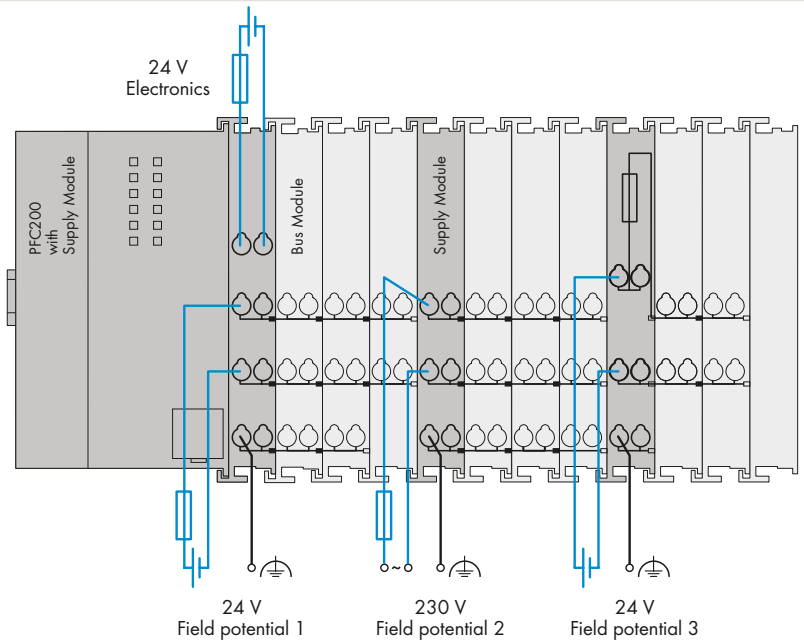
Housing Design (E)

- SD card slot for external storage media (g)
- Stop/start switch (h)
- GSM antenna connection (i)
- SIM card slot (j)
- W x H x D (mm) 102.5 x 71.9 x 100

PFC100/PFC200 Controller
Installation Instructions

Supply Modules

Power is always channeled to the internal electronics power supply via the controller. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. The I/O modules' connections automatically lead to transferring the supply voltages. Bus supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station. The current supply to the electronics is limited by a maximum value. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional bus supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different bus supply modules allow a new power supply, formation of potential groups and the implementation of emergency stop concepts.



Notes

Additional steps must be implemented specifically for the location the I/O-System is installed:

- Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.
- A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.
- Additionally, both a bus supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.
- As part of operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. In addition, specific power and field-side power supply filters must be provided (750-626).

Please refer to the manual for details about the power supply's design.

Item Number Key

Explanation of the components of an item number key

Item No.: 750-81xx = PFC100
- 00: 2 x ETHERNET, ECO
- 01: 2 x ETHERNET
- 02: 2 x ETHERNET, RS-232/-485

Item No.: 750-82xx = PFC200
- 02: 2 x ETHERNET, RS-232/-485
- 03: 2 x ETHERNET, CAN
- 04: 2 x ETHERNET, RS-232/-485, CAN
- 06: 2 x ETHERNET, RS-232/-485, CAN, PROFIBUS-DP slave
- 07: 2 x ETHERNET, RS-232/-485, mobile radio module
- 08: 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS master

.../025-yyy: Extended temperature range of −20 ... +60 °C
- 000: Standard
- 001: Telecontrol standard
- 002: Telecontrol ECO

PFC100/PFC200 Controller
Standards and Rated Conditions

General Specifications	
System supply voltage	24 VDC (−25 … +30 %)*; *For all shipbuilding certified couplers
Input current typ. at rated load (24 V)	550 mA, 750-8100: 300 mA
Ambient temperature (operation)	0 … +55 °C
Ambient temperature (operation) for versions with an extended temperature range	−20 … +60 °C
Ambient temperature (storage)	−25 … +85 °C
Ambient temperature (storage) for versions with an extended temperature range	−40 … +85 °C
Relative humidity	95 % non-condensing
Relative humidity for versions with an extended temperature range	Max. 95 %, short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of −20 … +60 °C into consideration (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0–2000 m; with temperature derating: 2000–5000 m (0.5 K / 100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	0.5 g (4 g for all shipbuilding certified controllers) per IEC 60068-2-6
Shock resistance	15 g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2 / shipbuilding applications
EMC emission of interference	Per EN 61000-6-3 / shipbuilding applications
Protection type	IP20
Mounting position	Any
Mounting type	35 mm DIN rail
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO2 contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H2S contaminant concentration at a relative humidity < 75 %	10 ppm
Wire connection	CAGE CLAMP®
Conductor sizes strip lengths	0.08–2.5 mm² / 28–14 AWG 8–9 mm / 0.31–0.35 inch
Current carrying capacity of the power jumper contacts	10 A

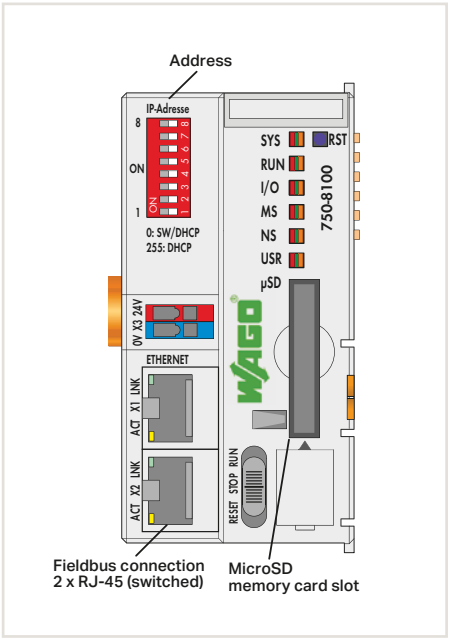
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

Controller PFC100

Figure: 750-8100

2 x ETHERNET, ECO



Item description	PFC100
Version	2ETH ECO
Item no.	**750-8100**

Technical Data	
Fieldbus	MODBUS/TCP
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP)
Visualization	Web Visu, Webserver
Programming	***e!COCKPIT*** (based on CODESYS 3)
CPU	Cortex A8, 600 MHz
Operating system	Real-time Linux (with RT-Preempt patch)
Non-volatile memory (hardware)	64 kB
Program memory / data memory / non-volatile memory (software)	10 MB* / 10 MB* / 64 kB
Number of I/O modules per node max.	250
Input and output process image (internal) max.	1000 words
Input and output process image (MODBUS) max.	32000 words
System supply voltage	24 VDC (−25 … +30 %)
Total current for system supply	700 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Approvals	CE, Marine**, UL 508**, ANSI/ISA**, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-8100

Accessories	**Item no.**	**Page**
microSD memory card, 2 GB	758-879/000-3102	44

*Program and data memory (dynamically distributed)
**pending

e!COCKPIT Software
see Section 1

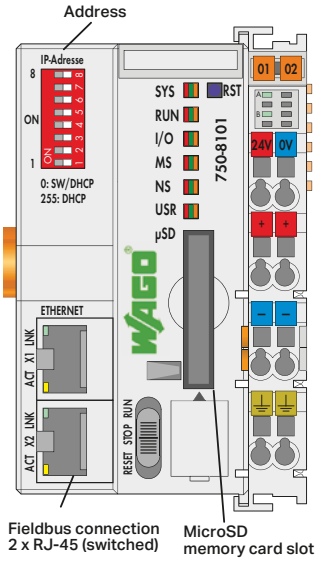
Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

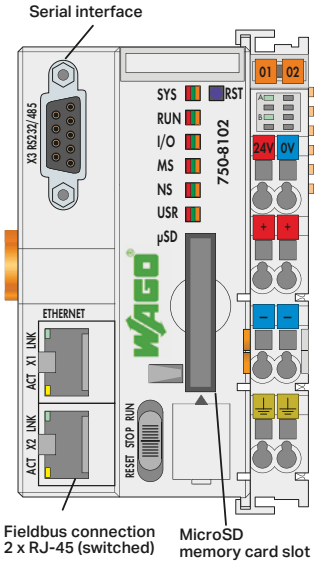
Controller PFC100

Figure: 750-8102

2 x ETHERNET,
optional: ext. temperature



2 x ETHERNET, RS-232/-485,
optional: ext. temperature



Item description	PFC100		PFC100	
Version	2ETH	2ETH T	2ETH RS	2ETH RS T
Item no.	**750-8101**	**750-8101/025-000**	**750-8102**	**750-8102/025-000**
Technical Data				
Fieldbus	MODBUS/TCP		MODBUS/TCP	
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP)		DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP)	
Communication			RS-232/-485 serial interface (switchable)	
Visualization	Web Visu, Webserver		Web Visu, Webserver	
Programming	***e!COCKPIT*** (based on CODESYS 3)		***e!COCKPIT*** (based on CODESYS 3)	
CPU	Cortex A8, 600 MHz		Cortex A8, 600 MHz	
Operating system	Real-time Linux 3.18 (with RT-Preempt patch)		Real-time Linux 3.18 (with RT-Preempt patch)	
Non-volatile memory (hardware)	64 kB		128 kB	
Program memory / data memory / non-volatile memory (software)	12 MB* / 12 MB* / 64 kB		12 MB* / 12 MB* / 128 kB	
Number of I/O modules per node max.	250		250	
Input and output process image (internal) (max.)	1000 words		1000 words	
Input and output process image (MODBUS) max.	32000 words		32000 words	
System supply voltage	24 VDC (−25 … +30 %)		24 VDC (−25 … +30 %)	
Total current for system supply	1700 mA		1700 mA	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm		61.5 x 71.9 x 100 mm	
Approvals (*pending)	CE, Marine**, UL 508**, ANSI/ISA**, ATEX/IECEx		CE, Marine**, UL 508**, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-8101		wago.com/750-8102	

Accessories	Item no.	Page	Item no.	Page
microSD memory card, 2 GB	758-879/000-3102	44	758-879/000-3102	44

*Program and data memory (dynamically distributed)
**pending

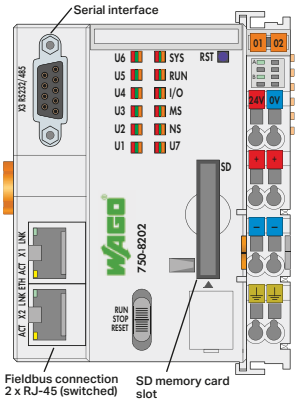
*Program and data memory (dynamically distributed)
**pending

Controller PFC200

2 x ETHERNET, RS-232/-485,
optional: telecontrol, ext. temperature, ECO

Figure: 750-8203

Figure: 750-8206



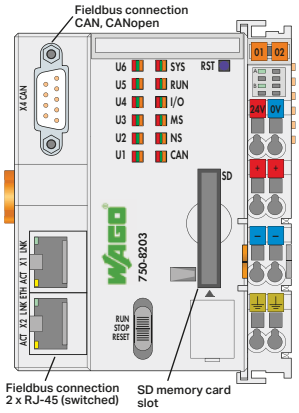
Item description	PFC200			
Version	2ETH RS	2ETH RS T	2ETH RS Tele T	2ETH RS Tele T ECO
Item no.	**750-8202**	**750-8202/025-000**	**750-8202/025-001**	**750-8202/025-002**
Technical Data				
Fieldbus	MODBUS/TCP			
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)			
			IEC 60870-5-101/-103/-104, IEC 61850-7-4, IEC 61400-25, DNP3	
Communication	RS-232/-485 serial interface (switchable)			
Visualization	Web Visu, Webserver			
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)		WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	
CPU	Cortex A8, 600 MHz			
Operating system	Real-time Linux (with RT-Preempt patch)			
Main memory (RAM) / internal memory (flash) / non-volatile memory (hardware)	256 MB / 256 MB / 128 kB			
Program memory / data memory / non-volatile memory (software)	CODESYS 2:	16 MB / 64 MB / 128 kB	16 MB / 64 MB / 128 kB	
	e!RUNTIME:	60 MB* / 60 MB* / 128 kB		
Number of I/O modules per node max.	250			4
Input and output process image (internal) (max.)	1000 words			
Input and output process image (MODBUS)/ (PROFIBUS)/(CAN) max.	CODESYS 2:	1000 words / - / -	1000 words / - / -	
	e!RUNTIME:	32000 words / - / -		
System supply voltage	24 VDC (−25 … +30 %)			
Total current for system supply	1700 mA			
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C		
Dimensions W x H x D	78.6 x 71.9 x 100 mm			
Approvals	CE, Marine, UL 508, ANSI/ISA			
	ATEX/IECEx			
Data sheet and further information, see:	wago.com/750-8202			

Accessories	Item no.	Page
SD memory card, 2 GB	758-879/000-001	44

e!COCKPIT, WAGO-I/O-*PRO* Software V2.3
see Section 1

*Program and data memory (dynamically distributed)

2 x ETHERNET, CAN, CANopen, optional: ext. temperature

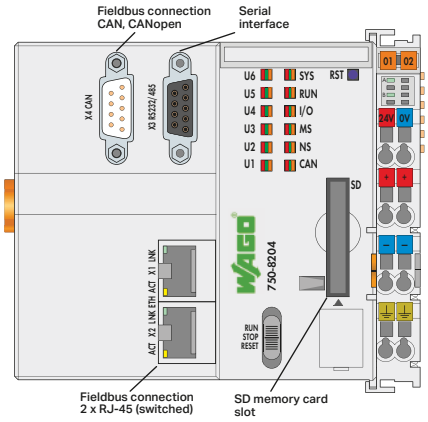


PFC200	
2ETH CAN	2ETH CAN T
750-8203	750-8203/025-000
CAN, CANopen, MODBUS/TCP	
DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP)	
Web Visu, Webserver	
WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)	
Cortex A8, 600 MHz	
Real-time Linux (with RT-Preempt patch)	
256 MB / 256 MB / 128 kB	
16 MB / 64 MB / 128 kB	
60 MB* / 60 MB* / 128 kB	
250	
1000 words	
1000 words / - / 2000 words	
32000 words / - / 2000 words	
24 VDC (−25 … +30 %)	
1700 mA	
0 … +55 °C	−20 … +60 °C
78.6 x 71.9 x 100 mm	
CE, Marine, UL 508, ANSI/ISA	
ATEX/IECEx	
wago.com/750-8203	

Item no.	Page
758-879/000-001	44

*Program and data memory (dynamically distributed)

2 x ETHERNET, RS-232/-485, CAN, CANopen, optional: ext. temperature

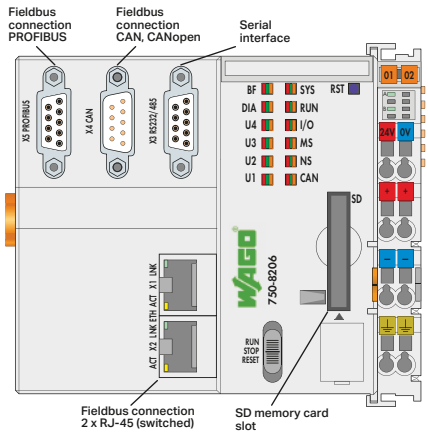


PFC200	
2ETH RS CAN	2ETH RS CAN T
750-8204	750-8204/025-000
CAN, CANopen, MODBUS/TCP	
DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)	
RS-232/-485 serial interface (switchable)	
Web Visu, Webserver	
WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)	
Cortex A8, 600 MHz	
Real-time Linux (with RT-Preempt patch)	
256 MB / 256 MB / 128 kB	
16 MB / 64 MB / 128 kB	
60 MB* / 60 MB* / 128 kB	
250	
1000 words	
1000 words / - / 2000 words	
32000 words / - / 2000 words	
24 VDC (−25 … +30 %)	
1700 mA	
0 … +55 °C	−20 … +60 °C
112 x 71.9 x 100 mm	
CE, Marine, UL 508, ANSI/ISA	
ATEX/IECEx	
wago.com/750-8204	

Item no.	Page
758-879/000-001	44

*Program and data memory (dynamically distributed)

2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS slave, optional: telecontrol, ext. temperature



PFC200		
2ETH RS CAN DPS	2ETH RS CAN DPS T	2ETH RS CAN DPS Tele T
750-8206	750-8206/025-000	750-8206/025-001
PROFIBUS, CAN, CANopen, MODBUS/TCP		
DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)		
		IEC 60870-5-101/-103/-104, IEC 61850-7-4, IEC 61400-25, DNP3
RS-232/-485 serial interface (switchable)		
Web Visu, Webserver		
WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)		WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Cortex A8, 600 MHz		
Real-time Linux (with RT-Preempt patch)		
256 MB / 256 MB / 128 kB		
16 MB / 64 MB / 128 kB		16 MB / 64 MB / 128 kB
60 MB* / 60 MB* / 128 kB		
250		
1000 words		
1000 words / 244 bytes / 2000 words		1000 words / 244 bytes / 2000 words
32000 words / 244 bytes / 2000 words		
24 VDC (−25 … +30 %)		
1700 mA		
0 … +55 °C	−20 … +60 °C	
112 x 71.9 x 100 mm		
CE, Marine, UL 508, ANSI/ISA		
ATEX/IECEx		
wago.com/750-8206		

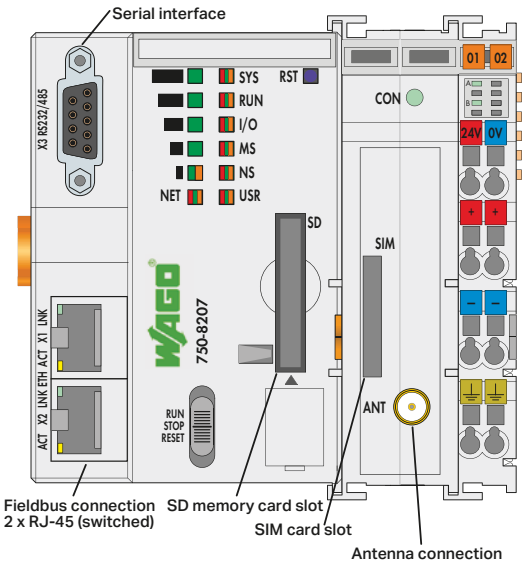
Item no.	Page
758-879/000-001	44

*Program and data memory (dynamically distributed)

Controller PFC200

2 x ETHERNET, RS-232/-485, mobile radio module,
optional: telecontrol, ext. temperature

Figure: 750-8207



Item description	PFC200		
Version	2ETH RS 3G	2ETH RS 3G T	2ETH RS 3G Tele T
Item no.	**750-8207**	**750-8207/025-000**	**750-8207/025-001**
Technical Data			
Fieldbus	MODBUS/TCP		
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)		
			IEC 60870-5-101/-103/-104, IEC 61850-7-4, IEC 61400-25, DNP3
Communication	RS-232/-485 serial interface (switchable)		
Radio technology	GSM/Edge/UMTS/HSPA+		
Frequency band	GSM quad-band		
Services	SMS (bidirectional), GPRS connection to Internet		
Security encryption	OpenVPN, IPsec, firewall		
Visualization	Web Visu, Webserver		
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)		WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
CPU	Cortex A8, 600 MHz		
Operating system	Real-time Linux (with RT-Preempt patch)		
Main memory (RAM) / internal memory (flash) / non-volatile memory (hardware)	256 MB / 256 MB / 128 kB		
Program memory / data memory / non-volatile memory (software)	CODESYS 2:	16 MB / 64 MB / 128 kB	16 MB / 64 MB / 128 kB
	e!RUNTIME:	60 MB* / 60 MB* / 128 kB	
Number of I/O modules per node max.	250		
Input and output process image (internal) (max.)	1000 words		
Input and output process image (MODBUS) max.	CODESYS 2:	1000 words	1000 words
	e!RUNTIME:	32000 words	
System supply voltage	24 VDC (−25 … +30 %)		
Total current for system supply	700 mA		
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	
Dimensions W x H x D	102.5 x 71.9 x 100 mm		
Approvals	CE, Marine**, UL 508**		
Data sheet and further information, see:	wago.com/750-8207		

Accessories	Item no.	Page
SD memory card, 2 GB	**758-879/000-001**	44
Antenna, GSM	see Accessories in Section 9	420

*Program and data memory (dynamically distributed)
**pending

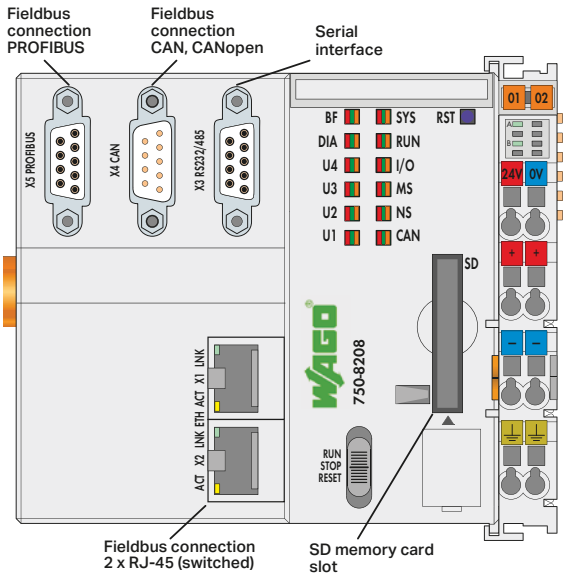
e!COCKPIT, WAGO-I/O-*PRO* Software V2.3
see Section 1

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller PFC200

2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS master, optional: ext. temperature

Figure: 750-8208



Item description	PFC200	
Version	CS 2ETH RS CAN DPM	CS 2ETH RS CAN DPM T
Item no.	**750-8208**	**750-8208/025-000**

Technical Data		
Feldbus	PROFIBUS-DP Master, CAN, CANopen, MODBUS/TCP	
Protokolle	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)	
Communication	RS-232/-485 serial interface (switchable)	
Visualization	Web Visu, Webserver	
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	
CPU	Cortex A8, 600 MHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM) / internal memory (flash) / non-volatile memory (hardware)	256 MB / 256 MB / 128 kB	
Program memory / data memory / non-volatile memory (software)	16 MB / 64 MB / 128 kB	
Number of I/O modules per node max.	250	
Input and output process image (internal) (max.)	1000 words	
Input and output process image (MODBUS)/ (PROFIBUS)/(CAN) max.	1000 words / 5000 bytes / 2000 words	
System supply voltage	24 VDC (−25 … +30 %)	
Total current for system supply	1700 mA	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C
Dimensions (W x H x D) (mm)	112 x 71.9 x 100 mm	
Approvals	CE, Marine**, cULus UL 508**	
Data sheet and further information, see:	wago.com/750-8208	

Accessories	Item no.	Page
SD memory card, 2 GB	758-879/000-001	44

*Input and output process image (PROFIBUS) max.: 5000 bytes (a maximum 125 slaves are supported, because a slave's process image can have up to 244 bytes/244 bytes)
**pending

PFC200 XTR Controllers

PFC100/PFC200 Controller

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

◄ Section 3.1

750 Series Controllers

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideal combination with the WAGO 750 I/O-SYSTEM modules

Section 3.3 ►

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

◄◄ Section 2

PFC200 XTR Controllers

The advantages of the PFC Controller combined with the characteristics for extreme environments:

- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

750 XTR Controllers

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 3.4 ►►

PFC200 XTR Controllers
Contents

	CPU	ETHERNET Modbus TCP	PROFIBUS	CANopen	Modbus RTU	Telecontrol protocols: IEC 60870, IEC 61850/61400, DNP3	Description	Item No.	
	Cortex A8, 600 MHz	x			x		PFC200 2ETH RS XTR	750-8202/040-000	66
	Cortex A8, 600 MHz	x			x	x	PFC200 2ETH RS XTR Tele	750-8202/040-001	66
	Cortex A8, 600 MHz	x	S	M/S	x		PFC200 2ETH RS CAN DPS XTR	750-8206/040-000	67
	Cortex A8, 600 MHz	x	S	M/S	x	x	PFC200 2ETH RS CAN DPS XTR Tele	750-8206/040-001	67

M: Master, S: Slave

PFC200 XTR Controllers
General Product Information

PFC200 XTR:

Taking it to the eXTReme — The Standard for 750 XTR

With the dark gray XTR version of the PFC200 Controller, you profit from the unique added value featured by this fast and highly communicative multi-talent for applications under extreme environmental conditions.

The PFC200 XTR Controller excels with high processing speed and multiple interfaces for parallel communication. All versions feature two ETHERNET ports and — depending on the model — additional interfaces. The CANopen, PROFIBUS DP and MODBUS TCP/UDP/RTU protocols provide a flexible connection to fieldbus systems and external input/output devices. These fieldbus systems can be easily configured directly in WAGO's easy-to-use *e!COCKPIT* development environment. The ETHERNET interfaces with an integrated switch also support all major IT protocols. In addition to multiple interfaces, the PFC200 XTR offers ample memory for your applications, provided by the internal flash memory and an integrated interface for SD/SDHC cards.

The WAGO 750 XTR I/O-SYSTEM features outstanding characteristics: It is extremely temperature-resistant, immune to interference, as well as insensitive to vibrations and impulse voltages.
This is what makes it the first choice for demanding applications.

Marine Systems and Onshore/Offshore Industry

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements specific to industry and operating environment has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference and mechanical performance in these sensitive areas, the system can readily meet the needs of other industries.

Link between Process Data and IT Application — Even under eXTReme Conditions

The PFC200 XTR ideally combines real-time requirements with IT functionality. It supports both MODBUS/TCP and ETHERNET/IP for use in industrial environments. HTTP, SNTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the PLC incorporates library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Security on Board

The topics of ETHERNET communication and security are closely linked. To provide PFC Controller users with a high level of security, mechanisms for secure connections such as HTTPS, FTPS, SSH and SSL/TLS are standard.

Worldwide Approvals

International approvals for industrial automation, building technology, shipbuilding and onshore/offshore applications guarantee worldwide use even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.

Superior Reliability in Extreme Climates

Regardless of freezing cold, extreme heat and high humidity, the WAGO 750 XTR I/O-SYSTEM is engineered for absolute dependability in virtually any weather. The XTR version of the PFC200 is unfazed by both freezing cold down to −40 °C and scorching heat up to +70 °C. And this applies equally to both start-up and continual operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

Additional Protection against Interference Pulses

The WAGO 750 XTR I/O-SYSTEM provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths add up to trouble-free operation.

High Mechanical Performance

Automation systems must be particularly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples from a wide range of applications. The WAGO 750 XTR I/O-SYSTEM continues to set new standards here. Count on long-lasting, trouble-free operation and industry-topping levels of safety — even in the most severe applications, such as tunnel boring machines.

Modular Expandability

With the WAGO 750 XTR I/O-SYSTEM, the PFC200 can be expanded to almost any input/output interface. Using the same standard platform has given the XTR the same proven advantages.

Open-Source Software

The firmware used in the controllers was created based on open-source software. The software packages used and their licenses are available from the download area under www.wago.com; please observe the rules stated there.
The controller firmware itself is available as a Board Support Package (BSP).
If you are interested, simply contact our Technical Support AUTOMATION unit.

Advantages:

- Controls for eXTReme environmental conditions
  - Needs no climate control
  - Application in unshielded areas
  - Application in vibration- or shock-generating system parts
- Programming per IEC 61131-3
- Can be combined with high-level languages
- Linux® real-time operating system
- Robust and maintenance-free
- Integrated IT security standards

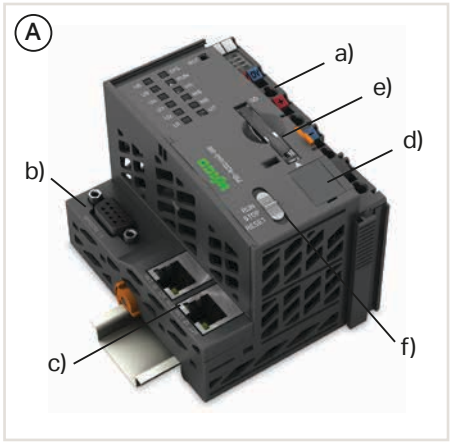
PFC200 XTR Controllers
Versions

Telecontrol Technology

The telecontrol technology versions of the PFC200 are distinguished by the integrated, standardized telecontrol technology:
- IEC 60870-5
- IEC 61850
- IEC 61400-25
- DNP3

The increased requirements for dielectric strength and interference immunity according to EN 60870-2-1 are also completely fulfilled.

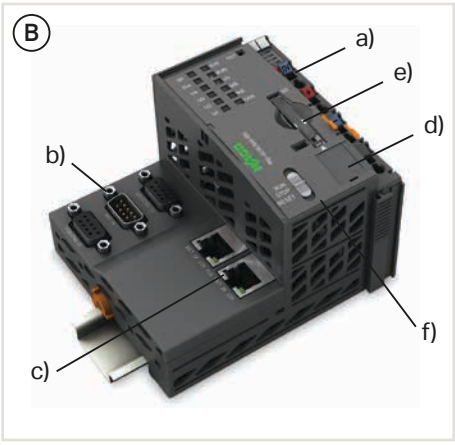
Interfaces and Types



- Includes supply module (a)
- Technical differences on the connection level (b)
- ETHERNET 2 x RJ-45 (c)
- Service interface (d)
- SD card slot for external storage media (e)
- Stop/start switch (f)

Housing Design (A)
- W x H x D (mm) 78.6 x 71.9 x 100

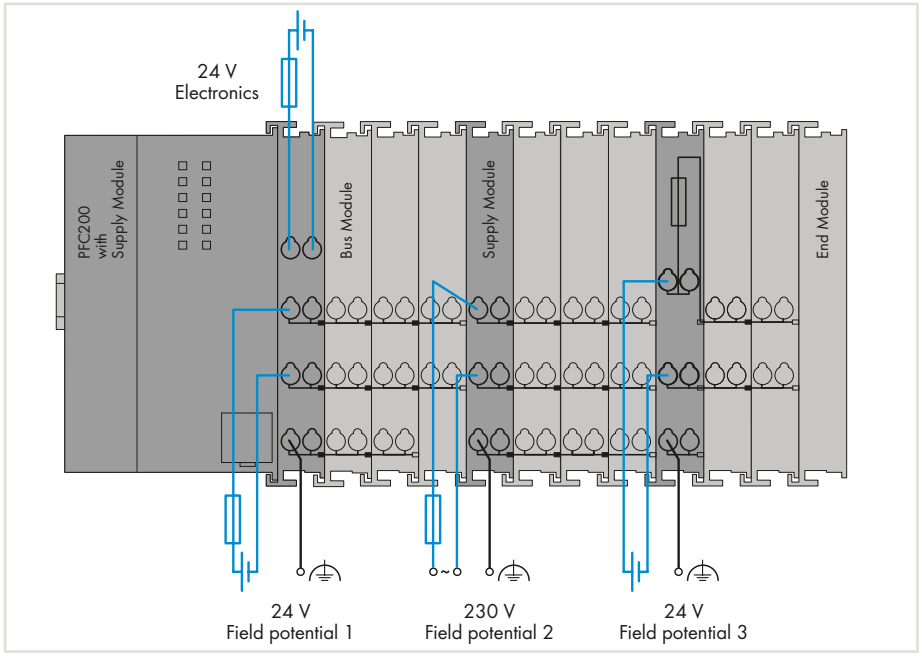
Housing Design (B)
- W x H x D (mm) 112 x 71.9 x 100



PFC200 XTR Controllers
Installation Instructions

Supply Modules

Power is always channeled to the internal electronics power supply via the controller. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. The I/O modules' connections automatically lead to transferring the supply voltages. Bus supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station. The current supply to the electronics is limited by a maximum value. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional bus supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different bus supply modules allow a new power supply, formation of potential groups and the implementation of emergency stop concepts.



Notes

Additional steps must be implemented specifically for the location the I/O-System is installed:

- Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are ready for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

Mixed Operation

Mixed operation (standard/XTR I/O modules) within a node is possible when groups of modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the ambient temperature is not critical.

Item Number Key

Explanation of the components of an item number key

Item No. : 750-82xx/040-000

02: 2 x ETHERNET, RS-232/-485
06: 2 x ETHERNET, RS-232/-485, CAN, PROFIBUS-DP slave

.../040-000: Standard
.../040-001: Telecontrol

PFC200 XTR Controllers
Standards and Rated Conditions

General Specifications	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperature under laboratory conditions +15 °C… +35 °C Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*. *Including 15 % residual ripple (lower limit −27.5 %)
Input current typ. at rated load (24 V)	550 mA
Ambient temperature (operation)	−40 … +70 °C
Ambient temperature (storage)	−40 … +85 °C
Relative humidity	Max. 95 %, short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0–2000 m; with temperature derating: 2000–5000 m (0.5 K / 100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	Per IEC 60068-2-6 (acceleration: 5 g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155, EN 61373
Shock resistance	Per IEC 60068-2-27 (15 g/11 ms/half-sine/1,000 shocks; 25 g/6 ms/1,000 shocks), EN 50155, EN 61373
EMC immunity to interference	Per EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	Per EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, -4, -5
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	35 mm DIN rail
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO2 contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H2S contaminant concentration at a relative humidity < 75 %	10 ppm
Wire connection	CAGE CLAMP®
Conductor sizes strip lengths	0.08–2.5 mm² / 28–14 AWG 8–9 mm / 0.31–0.35 inch
Current carrying capacity of the power jumper contacts	10 A

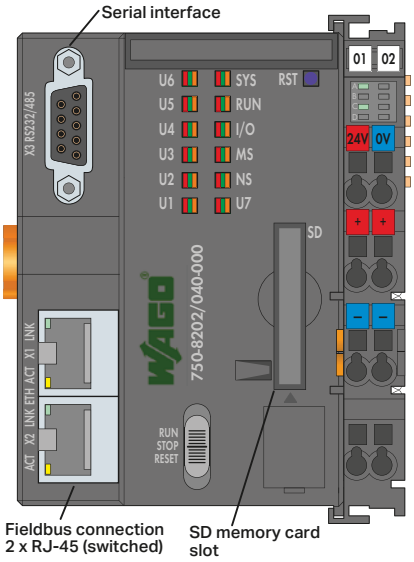
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

Controller PFC200 XTR

Figure: 750-8202/040-000

2 x ETHERNET, RS-232/-485, extreme, optional: Telecontrol technology



Item description	PFC200	
Version	2ETH RS XTR	2ETH RS Tele XTR
Item no.	**750-8202/040-000**	**750-8202/040-001**

Technical Data

Fieldbus	MODBUS/TCP		
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)		
			IEC 60870-5-101/-103/-104, IEC 61850-7-4, IEC 61400-25, DNP3
Communication	RS-232/-485 serial interface (switchable)		
Visualization	Web Visu, Webserver		
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)		WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
CPU	Cortex A8, 600 MHz		
Operating system	Real-time Linux (with RT-Preempt patch)		
Main memory (RAM) / internal memory (flash) / non-volatile memory (hardware)	256 MB / 256 MB / 128 KB		
Program memory / data memory / non-volatile memory (software)	CODESYS 2:	16 MB / 64 MB / 128 KB	16 MB / 64 MB / 128 KB
	e!RUNTIME:	60 MB* / 60 MB* / 128 kB	
Number of I/O modules per node max.	64		
Input and output process image (internal) max.	1000 words		
Input and output process image (MODBUS) max.	CODESYS 2:	1000 words	1000 words
	e!RUNTIME:	32000 words	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions: +15 … +35 °C Derating for −40 … +55 °C: 24 V (−25 … +20 %)** Derating for +55 … +70 °C: 24 V (−25 … +10 %)**		
Total current for system supply	1700 mA		
Ambient temperature (operation)	−40 … +70 °C		
Dimensions W x H x D	78.6 x 71.9 x 100 mm		
Approvals	CE, Marine, UL 508, ANSI/ISA		
Data sheet and further information, see:	wago.com/750-8202/040-000		

Accessories	Item no.	Page
SD memory card, 2 GB	758-879/000-001	44

*Program and data memory (dynamically distributed)
**Including 15 % ripple (lower limit −27.5 %)

e!COCKPIT, WAGO-I/O-*PRO* Software V2.3 see Section 1

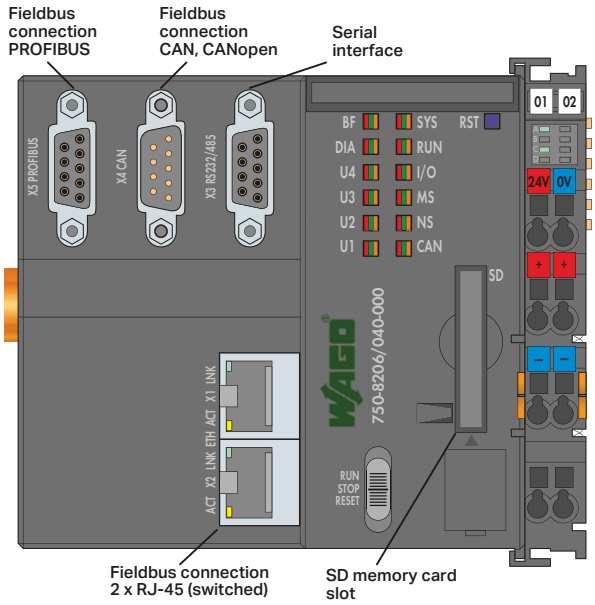
Mini-WSB Quick marking system see Full Line Catalog, Volume 6

Approvals and corresponding ratings, see Page 515 or www.wago.com

Controller PFC200 XTR

2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS slave, extreme, optional: Telecontrol technology

Figure: 750-8206/040-000



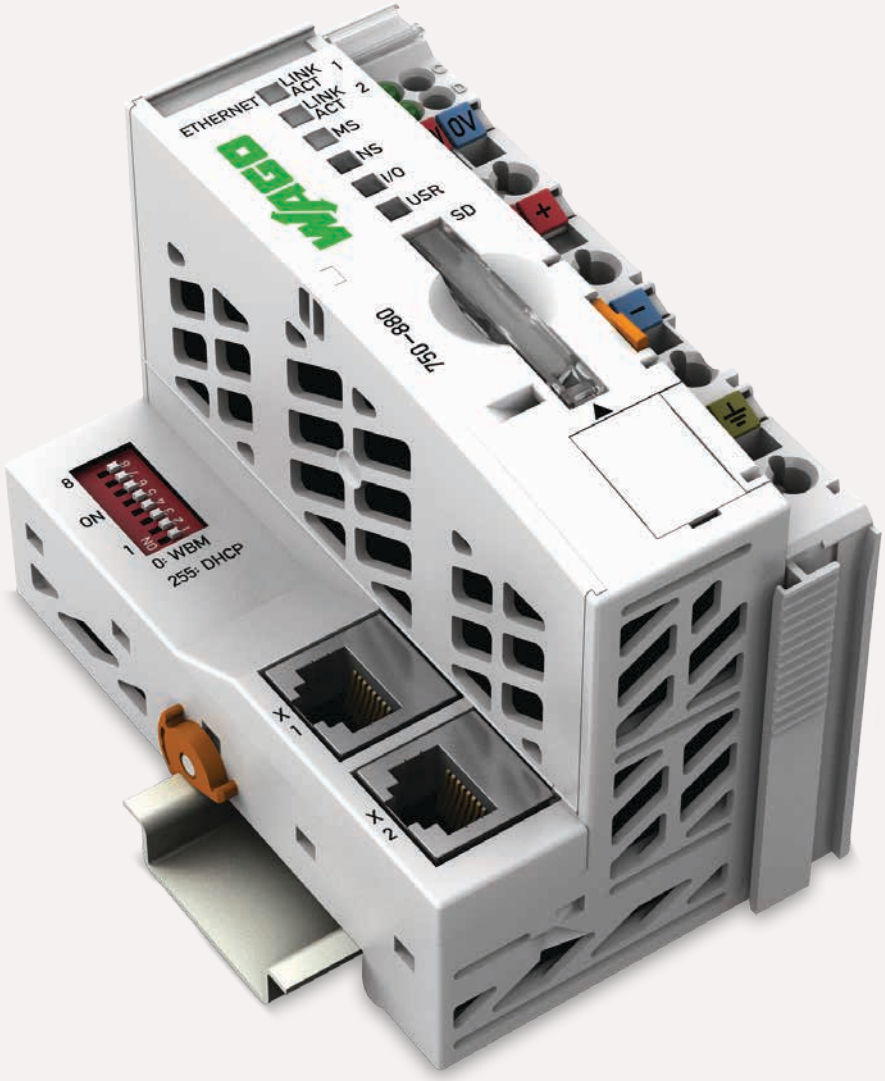
Item description	PFC200	
Version	2ETH RS CAN DPS XTR	2ETH RS CAN DPS Tele XTR
Item no.	**750-8206/040-000**	**750-8206/040-001**

Technical Data

Fieldbus	PROFIBUS, CAN, CANopen, MODBUS/TCP	
Protocols	DHCP, DNS, NTP, FTP, FTPS, SNMP, HTTP, HTTPS, SSH, MODBUS (TCP, UDP, RTU)	
		IEC 60870-5-101/-103/-104, IEC 61850-7-4, IEC 61400-25, DNP3
Communication	RS-232/-485 serial interface (switchable)	
Visualization	Web Visu, Webserver	
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3), *e!COCKPIT* (based on CODESYS 3)	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
CPU	Cortex A8, 600 MHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM) / internal memory (flash) / non-volatile memory (hardware)	256 MB / 256 MB / 128 KB	
Program memory / data memory / non-volatile memory (software)	CODESYS 2: 16 MB / 64 MB / 128 KB	16 MB / 64 MB / 128 KB
	e!RUNTIME: 60 MB* / 60 MB* / 128 kB	
Number of I/O modules per node max.	64	
Input and output process image (internal) max.	1000 words	
Input and output process image (MODBUS)/ (PROFIBUS)/(CAN) max.	CODESYS 2: 1000 words / 244 bytes / 2000 words	1000 words / 244 bytes / 2000 words
	e!RUNTIME: 32000 words / 244 bytes / 2000 words	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions: +15 … +35 °C Derating for −40 … +55 °C: 24 V (−25 … +20 %)** Derating for +55 … +70 °C: 24 V (−25 … +10 %)**	
Total current for system supply	1700 mA	
Ambient temperature (operation)	−40 … +70 °C	
Dimensions W x H x D	112 x 71.9 x 100 mm	
Approvals	CE, Marine, UL 508, ANSI/ISA	
Data sheet and further information, see:	wago.com/750-8206/040-000	

Accessories	Item no.	Page
SD memory card, 2 GB	**758-879/000-001**	44

*Program and data memory (dynamically distributed)
**Including 15 % ripple (lower limit −27.5 %)



750 Series Controllers

PFC100/PFC200 Controller

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

◄◄ Section 3.1

750 Series Controllers

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideal combination with the WAGO 750 I/O-SYSTEM modules

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

◄◄◄ Section 2

PFC200 XTR Controllers

The advantages of the PFC Controller combined with the characteristics for extreme environments:

- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◄ Section 3.2

750 XTR Controllers

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 3.4 ►

750 Series Controllers
Contents

	CPU	ETHERNET: Modbus TCP	ETHERNET: EtherNet/IP	ETHERNET: BACnet/IP	ETHERNET: KNX IP	Modbus RTU	Telecontrol protocols: IEC 60870, IEC 61850/61400, DNP3	BACnet MS/TP	DeviceNet	PROFIBUS	CANopen	INTERBUS	Description	Item No. Standard	Item No. T ext. temperature	
	32 Bit	x	x										Controller ETHERNET G3 SD	750-880	750-880/025-000	74
		x	x				x						Controller ETHERNET G3 SD Tele T		750-880/025-001	74
		x	x				x						Controller ETHERNET G3 SD Tele T ECO		750-880/025-002	74
		x	x										Controller ETHERNET G3	750-881		75
		x	x										Controller ETHERNET G3 SD MR	750-885	750-885/025-000	75
		x	x										Controller ETHERNET G3 MR	750-882		75
	32 Bit	x	x										Controller ETHERNET G3 ECO	750-852		76
	32 Bit	x			x								Controller KNX/IP	750-889		77
	32 Bit	x		x									Controller BACnet/IP	750-831		78
		x		x									Controller BACnet/IP ECO	750-831/000-002		78
	32 Bit	x						x					Controller BACnet MS/TP	750-829		79
	16 Bit	x											Controller ETHERNET G1	750-842		80
		x											Controller ETHERNET G1 ECO	750-843		80
	16 Bit								x				Controller DeviceNet	750-806		81
	16 Bit					x							Controller MODBUS RS485 115.2kBd	750-815/300-000	750-815/325-000	82
						x							Controller MODBUS RS232 115.2kBd	750-816/300-000		82
	16 Bit									S			Controller PROFIBUS Slave	750-833	750-833/025-000	83
	16 Bit										M/S		Controller CANopen M1 MCS	750-837		84
											M/S		Controller CANopen M2 MCS	750-837/020-000		84
											M/S		Controller CANopen M3 MCS	750-837/021-000		84
											M/S		Controller CANopen M1 DSub	750-838		84
											M/S		Controller CANopen M2 DSub	750-838/020-000		84
											M/S		Controller CANopen M3 DSub	750-838/021-000		84
												x	Controller INTERBUS	750-804		85

M: Master, S: Slave

750 Series Controllers
General Product Information

750 Series Controllers: Open — Flexible — Compact

WAGO controllers are suitable for various tasks in industry or process and building automation, e.g., measurement and production data acquisition. Based on the fieldbus couplers for all standard fieldbus systems, they are programmable to IEC 61131-3. Direct connection to a wide range of I/O modules from the WAGO 750 I/O-SYSTEM Series optimizes adaptation to the application.

Building Automation

Thanks to specific characteristics, the controllers for the BACnet/IP and KNX IP bus systems are optimized for building automation. The diverse portfolio of stackable I/O modules allows the integration of external systems such as lighting control (DALI), sun protection (SMI), wireless switches (EnOcean) and much more.

Marine Systems and Onshore/Offshore Industry

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements specific to industry and operating environment has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference and mechanical performance in these sensitive areas, the system can readily meet the needs of other industries.

Telecontrol Technology

Standardized telecontrol protocols according to IEC 60870-5, IEC 61850 or
IEC 61400-25 and DNP3 ensure use of the 750 Series Controller in telecontrol technology.

Link between Process Data and IT Application

The controllers ideally combine real-time requirements with IT functionality. They support both MODBUS/TCP and ETHERNET/IP for use in industrial environments. HTTP, HTTPS, SNTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the PLC incorporates library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use — even under harsh operating conditions, including ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA and ship construction.

Modular Expandability

With the WAGO 750 XTR I/O-SYSTEM, the 750 Series Controllers can be expanded to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O module without tools.
The straightforward design prevents installation errors. Field-side connection with the proven CAGE CLAMP® technology offers fast, vibration-proof and maintenance-free connections that are independent of operator skill. Depending on the I/O module's granularity, field peripherals can be directly wired using 1-, 2-, 3- or 4-wire technology.

Maximum Reliability and Ruggedness

The WAGO-I/O-SYSTEM is engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD, etc.) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100 % function testing ensure consistent quality.

Advantages:

- Controllers for all prominent fieldbus systems
- Include industry-specific features
- Programmable via CODESYS per IEC 61131-3
- Expandable with the comprehensive WAGO 750 I/O-SYSTEM product range
- Extensive IT integration possibilities
- Tested and approved worldwide
- Maintenance-free

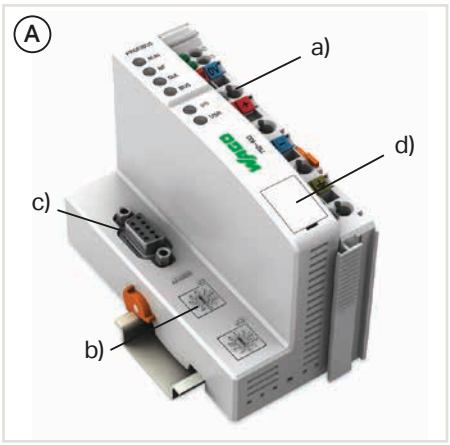
750 Series Controllers
Versions

Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0 … 55 °C. However, there are applications that require an extended temperature range. Select fieldbus controllers are available in an extended temperature range of −20 … +60 °C.

For extreme cases — when even the extended temperature range is not sufficient — the WAGO 750 XTR I/O-SYSTEM is available.

Interfaces and Types



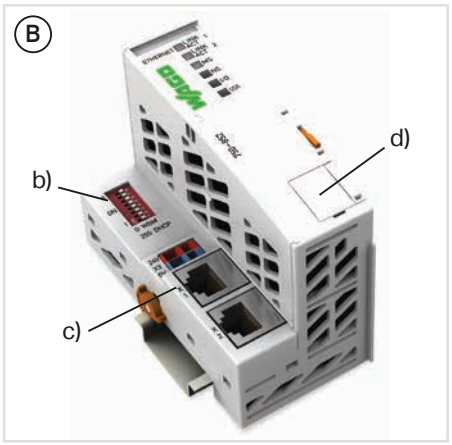
- Technical differences on the connection level; optional addressing switch (b) and fieldbus interface (c)
- Service interface (d)

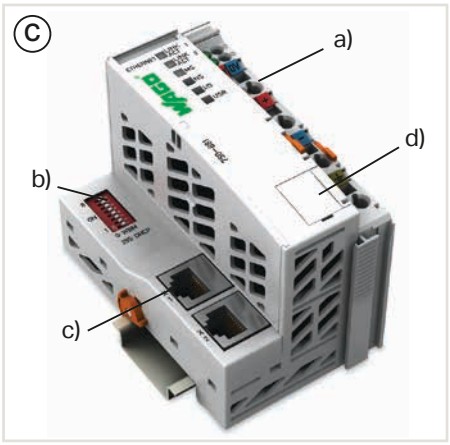
Housing Design (A)

- Includes supply module (a)
- W x H x D (mm) 50.5 x 71.1 x 100

Housing Design ECO (B)

- W x H x D (mm) 49.5 x 71.9 x 96.8



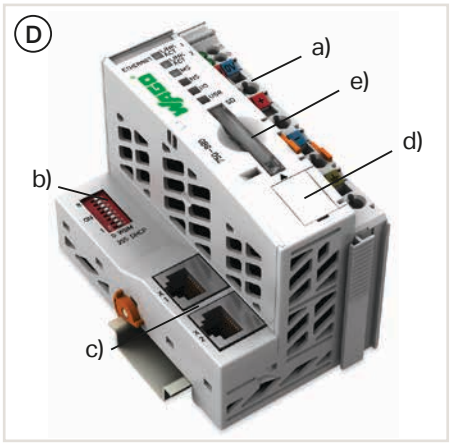


Housing Design (C)

- Includes supply module (a)
- W x H x D (mm) 61.5 x 71.9 x 100

Housing Design (D)

- Includes supply module (a)
- SD card slot for external storage media (e)
- W x H x D (mm) 61.5 x 71.9 x 100



Item Number Key

Explanation of the components of an item number key

Item No. : 750-8xx

0x, 1x:	16-bit CPU	INTERBUS, DeviceNet, MODBUS
2x, 3x:		BACnet, PROFIBUS, CANopen
4x:		ETHERNET
5x:	32 Bit	ETHERNET ECO
7x, 8x:	32-bit multitasking	ETHERNET, telecontrol protocols, media redundancy, KNX IP

.../025−000: Extended temperature range of −20 … +60 °C

750 Series Controllers
Installation Instructions

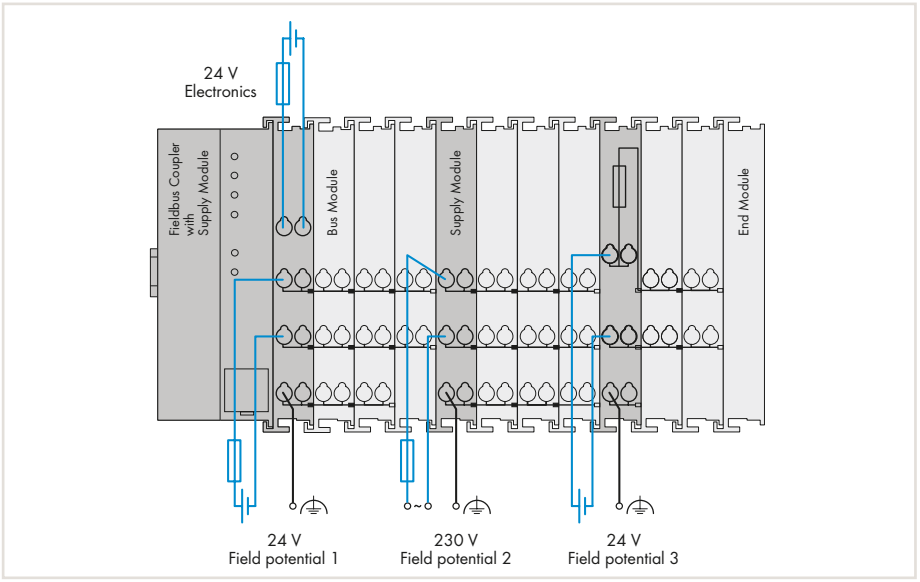
Supply Modules

Power is always channeled to the internal electronics power supply via the controller. The field-side power supply is electrically isolated via the bus supply module on the controller or a separate internal system supply module. The division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Bus supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station.
The current supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional bus supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different bus supply modules allow a new power supply, formation of potential groups and realization of emergency stop concepts.

Interference-Free in Safety-Related Applications

To safely and easily perform cost-effective, centralized deactivation of complete actuator groups safely, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs.
In the event of failure, ensure that no interference from other current or power circuits occurs — even when the control voltage is switched off — so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



Notice:

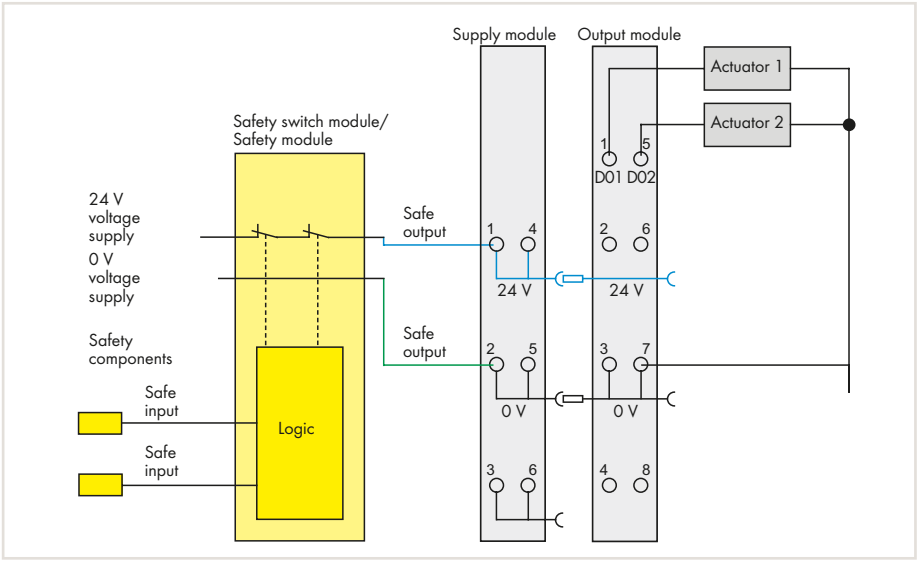
Interference-free WAGO I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Notes

Additional steps must be implemented specifically for the location the I/O-System is installed:

- Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.
- A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.
- Additionally, both a bus supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.
- As part of operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. In addition, specific power and field-side power supply filters must be provided (750-626).

Please refer to the manual for details about the power supply's design.



Example: 2-channel, double-pole power supply disconnection

750 Series Controllers
Standards and Rated Conditions

General Specifications	
System supply voltage	24 VDC (−25 … +30 %)*; *For all shipbuilding certified couplers
Ambient temperature (operation)	0 … +55 °C
Ambient temperature (operation) for versions with an extended temperature range	−20 … +60 °C
Ambient temperature (storage)	−25 … +85 °C
Ambient temperature (storage) for versions with an extended temperature range	−40 … +85 °C
Relative humidity	95 % non-condensing
Relative humidity for versions with an extended temperature range	Max. 95 %, short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of −20 … +60 °C into consideration (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0–2000 m; with temperature derating: 2000–5000 m (0.5 K / 100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	0.5 g (4 g for all shipbuilding certified controllers) per IEC 60068-2-6
Shock resistance	15 g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2 / shipbuilding applications
EMC emission of interference	Per EN 61000-6-3, EN 61000-6-4, marine applications
Protection type	IP20
Mounting position	Any
Mounting type	On 35 mm DIN rail
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO2 contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H2S contaminant concentration at a relative humidity < 75 %	10 ppm
Wire connection	CAGE CLAMP®
Conductor sizes; strip lengths for standard controllers: ECO controllers:	 0.08–2.5 mm²/28–14 AWG; 8–9 mm / 0.31–0.35 inch 0.08–1.5 mm² / 28–16 AWG; 5–6 mm / 0.2–0.24 inch
Current carrying capacity of the power jumper contacts	10 A

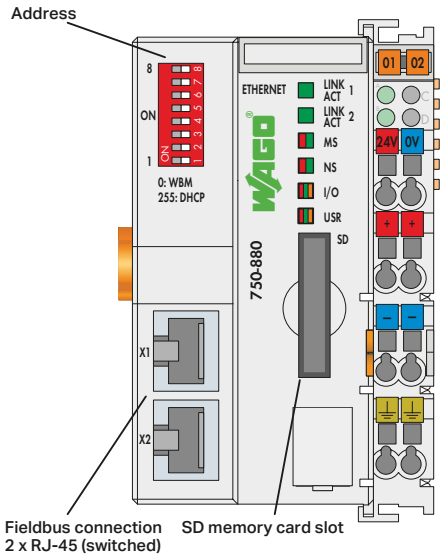
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

Controller ETHERNET

3rd Generation, SD card slot, optional: telecontrol, ext. temperature, ECO

Figure: 750-880



3.3

Item description	Controller ETHERNET			
Version	G3 SD	G3 SD T	G3 SD Tele T	G3 SD Tele T ECO
Item no.	**750-880**	**750-880/025-000**	**750-880/025-001**	**750-880/025-002**
Technical Data				
Fieldbus	EtherNet/IP, MODBUS/TCP			
Protocols	EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP			
			IEC 60870-5-101/-103/-104, IEC 61850-7-4, IEC 61400-25, DNP3	
Connection technology: Fieldbus input/output	2 x RJ-45			
Baud rate	10/100 Mbit/s			
Redundancy function				
Visualization	Web Visu, Webserver			
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)			
Type of memory card	SD and SDHC to 8 GB*			
Program memory / data memory / non-volatile memory (software)	1024 KB / 1024 KB / 32 KB			
Number of I/O modules per node max.	250			4
Input and output process image (internal) max.	1020 words			
System supply voltage	24 VDC (−25 … +30 %)			
Input current (typ.) at rated load (24 V)	500 mA			
Total current for system supply	1700 mA			
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C		
Dimensions W x H x D	61.5 x 71.9 x 100 mm			
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx			
Data sheet and further information, see:	wago.com/750-880			

Accessories	Item no.	Page
SD memory card, 2 GB	758-879/000-001	44

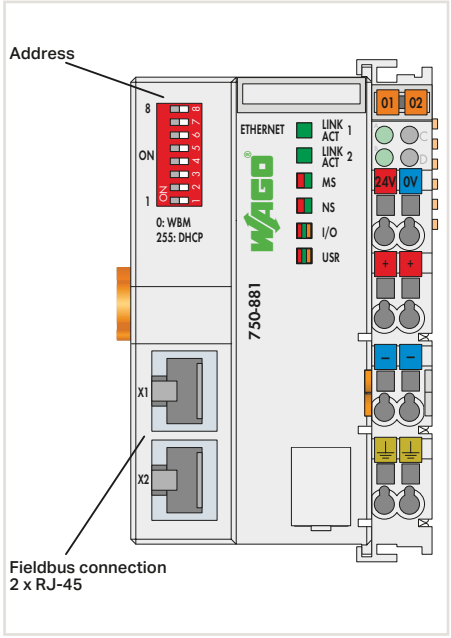
*All guaranteed properties only valid with the WAGO memory card listed as an accessory.

WAGO-I/O-*PRO* Software V2.3
see Section 1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

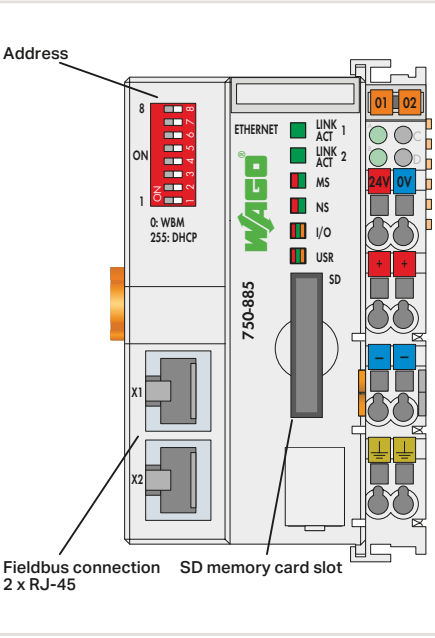
Approvals and corresponding ratings,
see Page 515 or www.wago.com

3rd Generation



Controller ETHERNET
G3
750-881
EtherNet/IP, MODBUS/TCP
EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP
2 x RJ-45
10/100 Mbit/s
Web Visu, Webserver
WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
1024 KB / 512 KB / 32 KB
250
1020 words
24 VDC (−25 … +30 %)
500 mA
1700 mA
0 … +55 °C
61.5 x 71.9 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-881

3rd Generation, SD card slot, media redundancy, optional: ext. temperature

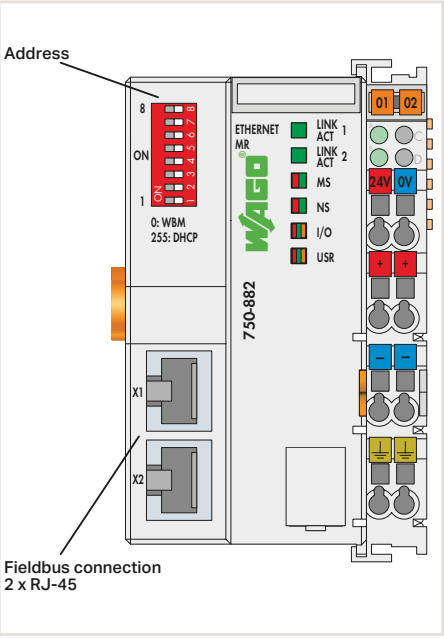


Controller ETHERNET	
G3 SD MR	G3 SD MR T
750-885	750-885/025-000
EtherNet/IP, MODBUS/TCP	
EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP	
2 x RJ-45	
10/100 Mbit/s	
Application-based communication redundancy	
Web Visu, Webserver	
WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	
SD and SDHC to 8 GB*	
1024 KB / 1024 KB / 32 KB	
250	
1020 words	
24 VDC (−25 … +30 %)	
500 mA	
1700 mA	
0 … +55 °C	−20 … +60 °C
61.5 x 71.9 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-885	

Item no.	Page
758-879/000-001	44

*All guaranteed properties only valid with the WAGO memory card listed as an accessory.

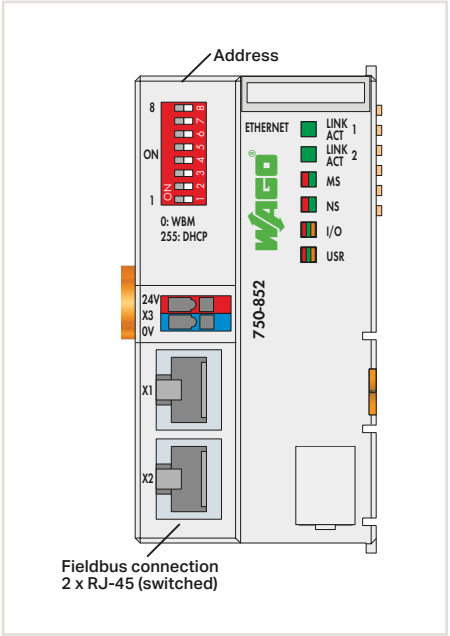
3rd Generation, media redundancy



Controller ETHERNET
G3 MR
750-882
EtherNet/IP, MODBUS/TCP
EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP
2 x RJ-45
10/100 Mbit/s
Application-based communication redundancy
Web Visu, Webserver
WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
1024 KB / 512 KB / 32 KB
250
1020 words
24 VDC (−25 … +30 %)
500 mA
1700 mA
0 … +55 °C
61.5 x 71.9 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-882

Controller ETHERNET

3rd Generation, ECO



Item description	Controller ETHERNET
Version	G3 ECO
Item no.	750-852

Technical Data

Fieldbus	EtherNet/IP, MODBUS/TCP
Protocols	EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP
Connection technology: Fieldbus input/output	2 x RJ-45
Baud rate	10/100 Mbit/s
Visualization	Webserver
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Program memory / data memory / non-volatile memory (software)	512 KB / 256 KB / 8 KB
Number of I/O modules per node max.	250
Input and output process image (internal) max.	1020 words
System supply voltage	24 VDC (–25 … +30 %)
Input current (typ.) at rated load (24 V)	300 mA
Total current for system supply	700 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-852

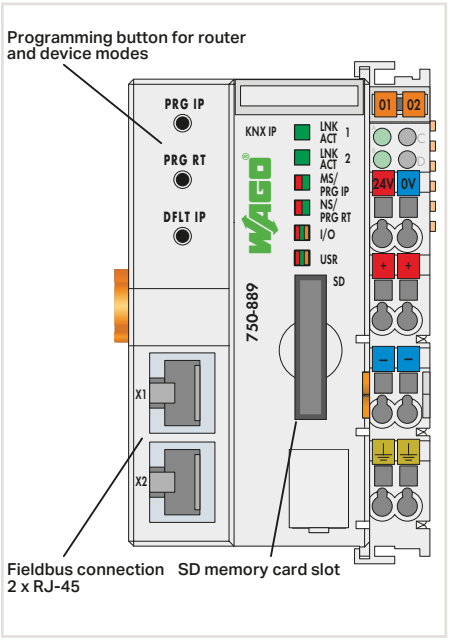
WAGO-I/O-*PRO* Software V2.3
see Section 1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller KNX/IP

SD card slot



Item description	Controller KNX/IP
Version	SD
Item no.	750-889

Technical Data

Fieldbus	KNX/IP, MODBUS/TCP
Protocols	KNXnet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, AutoIP, SNTP, FTP, SNMP V3, SMTP
Connection technology: Fieldbus input/output	2 x RJ-45
Bus segment length max.	100 m
Baud rate	10/100 Mbit/s
Visualization	Web Visu, Webserver
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Type of memory card	SD and SDHC to 8 GB*
KNX/TP1 bus specification	1.0
Number of group addresses	254
Number of communication objects	253
Program memory / data memory / non-volatile memory (software)	1024 KB / 1024 KB / 32 KB
Number of I/O modules per node max.	250
Input and output process image (internal) max.	2 kB
Memory for fieldbus input and output variables max.	512 bytes
System supply voltage	24 VDC (−25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA
Total current for system supply	1700 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm
Approvals	CE, Marine**, UL 508**, ANSI/ISA**
KNX certified	IP controller: 61/8316/08, IP router: 61/8317/08
Data sheet and further information, see:	wago.com/750-889

Accessories

Item no.	Page
SD memory card, 2 GB	758-879/000-001	44
WAGO-ETS 3/4-plug-in	see Section 1	21

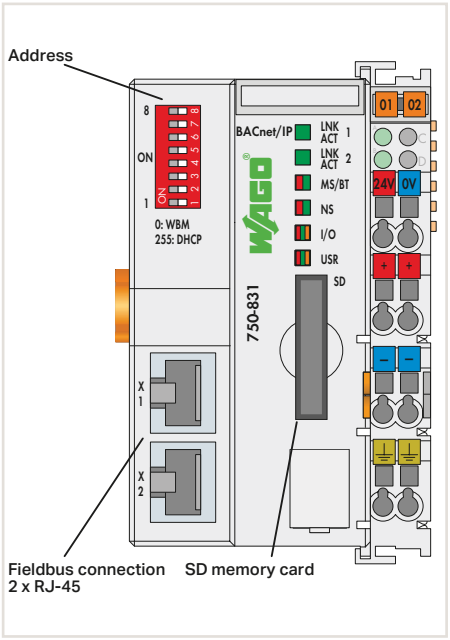
*All guaranteed properties only valid with the WAGO memory card listed as an accessory.
**pending

Max. number of KNX logic devices, simultaneous: 2 (1st device, 2nd router with 1st KNX/EIB/TP1 module)

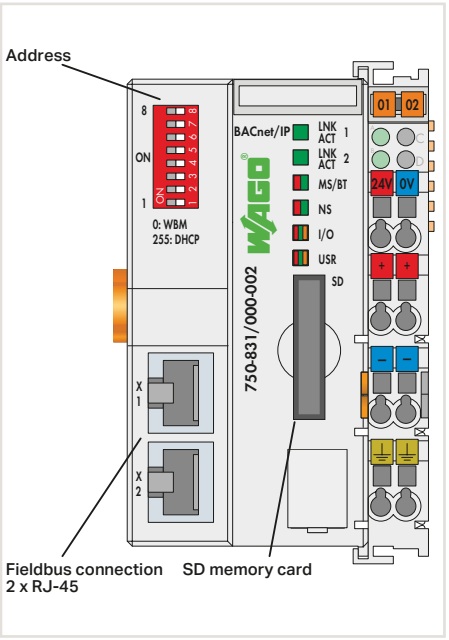
Commissioning (KNX-side):
With ETS3 plug-in, 2 programming buttons

Controller BACnet/IP

Figure: 750-831



ECO



3.3

Item description	Controller BACnet/IP	Controller BACnet/IP
Version		ECO
Item no.	750-831	750-831/000-002
		Type 750-831/000-002 controllers support a maximum 256 BACnet objects
Technical Data		
Fieldbus	BACnet/IP, MODBUS/TCP	BACnet/IP, MODBUS/TCP
Protocols	BACnet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP	BACnet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP
Connection technology: Fieldbus input/output	2 x RJ-45	2 x RJ-45
Baud rate	10/100 Mbit/s	10/100 Mbit/s
Visualization	Web Visu, Webserver	Web Visu, Webserver
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Type of memory card	SD and SDHC to 8 GB*	SD and SDHC to 8 GB*
BACnet device profile	B-BC (BACnet Building Controller)	B-BC (BACnet Building Controller)
BACnet revision	1.7	1.7
Program memory / data memory / non-volatile memory (software)	1024 KB / 1024 KB / 28 KB	1024 KB / 1024 KB / 28 KB
Number of I/O modules per node max.	99	99
Input and output process image (internal) max.	1020 words	1020 words
System supply voltage	24 VDC (–25 … +30 %)	24 VDC (–25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA	500 mA
Total current for system supply	1700 mA	1700 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm	61.5 x 71.9 x 100 mm
Approvals	CE, Marine**, UL 508	CE, Marine**, UL 508
BACnet approvals	WSPCert-Zertifizierung: ISO 16484-5:2012 BTL-Listing: BTL (BACnet® Testing Labs Product Listing) AMEV-Testat: AMEV-Profil AS-A	
Data sheet and further information, see:	wago.com/750-831	wago.com/750-831/000-002

Accessories	Item no.	Page	Item no.	Page
SD memory card, 2 GB	758-879/000-001	44	758-879/000-001	44
BACnet Configurator	see Section 1	18	see Section 1	18

*All guaranteed properties only valid with the WAGO memory card listed as an accessory.
**pending

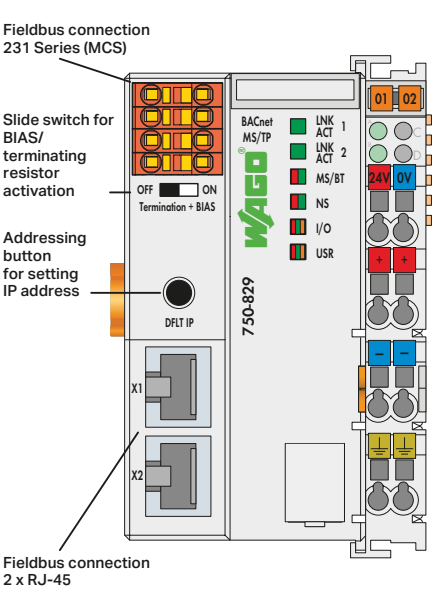
*All guaranteed properties only valid with the WAGO memory card listed as an accessory.
**pending

WAGO-I/O-*PRO* Software V2.3
see Section 1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller BACnet MS/TP



Item description	Controller BACnet MS/TP
Item no.	**750-829**
Technical Data	
Fieldbus	BACnet MS/TP, MODBUS/TCP
Protocols	BACnet MS/TP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP, SMTP
Connection technology: Fieldbus input/output	4-pole male connector
Baud rate	9600, 19200, 38400*, 57600, 76800, 115200 Bd (per BACnet standard), *Factory setting
Connection technology: Fieldbus input/output (2)	2 x RJ-45
Baud rate (2)	10/100 Mbit/s
Visualization	Web Visu, Webserver
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
BACnet device profile	B-BC (BACnet Building Controller)
BACnet revision	1.7
Program memory / data memory / non-volatile memory (software)	1024 KB / 1024 KB / 32 KB
Number of I/O modules per node max.	99
Input and output process image (internal) max.	2 kB
Memory for fieldbus input and output variables max.	512 bytes
System supply voltage	24 VDC (−25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA
Total current for system supply	1700 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm
Approvals	CE, cULus UL 508*, ANSI/ISA*
BACnet approvals	WSPCert-Zertifizierung: Pending BTL-Listing: Pending
Data sheet and further information, see:	wago.com/750-829

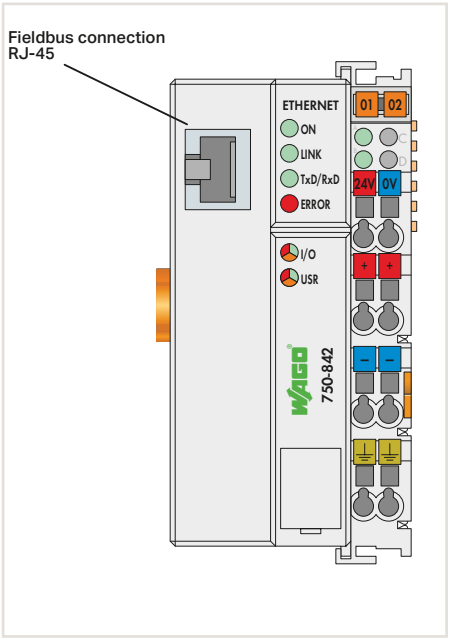
Accessories	Item no.	Page
BACnet Configurator	see Section 1	18

*pending

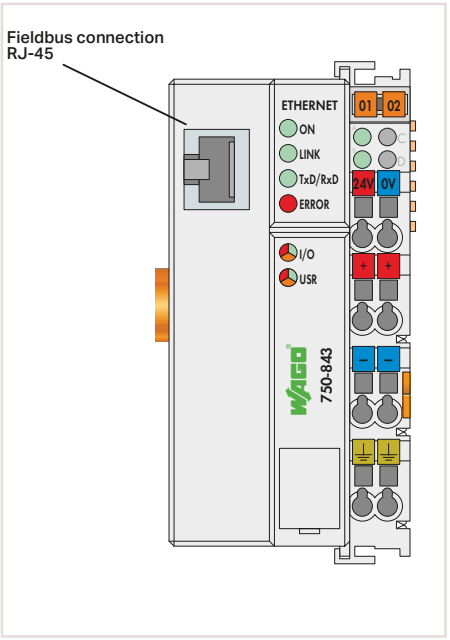
Controller ETHERNET

Figure: 750-842

1st Generation



1st Generation, ECO



3.3

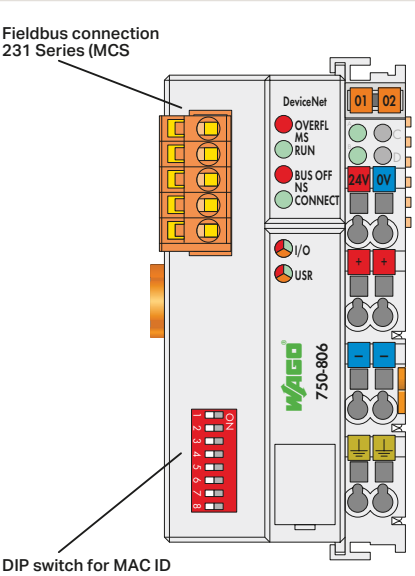
Item description	Controller ETHERNET	Controller ETHERNET
	G1	G1 ECO
Item no.	**750-842**	**750-843**
Technical Data		
Fieldbus	MODBUS/TCP	MODBUS/TCP
Protocols	MODBUS/TCP, HTTP, BootP, MODBUS/UDP	MODBUS/TCP, HTTP, BootP, MODBUS/UDP
Connection technology: Fieldbus input/output	RJ-45	RJ-45
Baud rate	10 Mbit/s	10 Mbit/s
Visualization	Without	Without
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Program memory / data memory / non-volatile memory (software)	128 KB / 64 KB / 8 KB	64 KB / 64 KB / 8 KB
Number of I/O modules per node max.	64	64
Input and output process image (internal) max.	512 bytes	512 bytes
Memory for fieldbus input and output variables max.	512 bytes	512 bytes
System supply voltage	24 VDC (−25 … +30 %)	24 VDC (−25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA	500 mA
Total current for system supply	1800 mA	1800 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-842	wago.com/750-843

WAGO-I/O-*PRO* Software V2.3
see Section 1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller DeviceNet

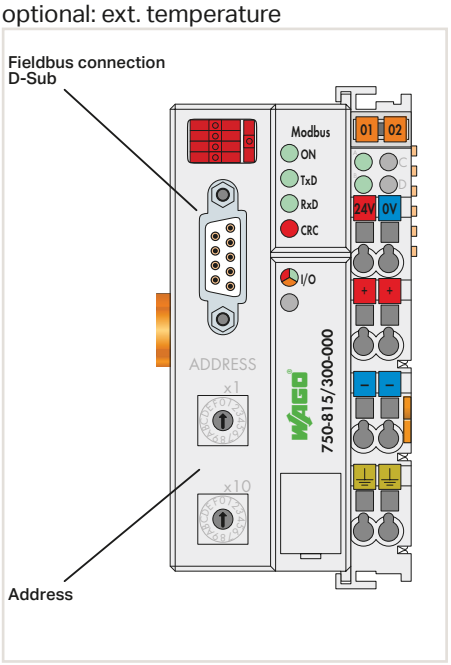


Item description	Controller DeviceNet
Item no.	**750-806**
Technical Data	
Fieldbus	DeviceNet
Connection technology: Fieldbus input/output	5-pole male connector
Baud rate	125 kBd, 250 kBd, 500 kBd
Number of fieldbus nodes on master max.	64
Visualization	Without
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Program memory / data memory / non-volatile memory (software)	128 KB / 64 KB / 8 KB
Number of I/O modules per node max.	64
Input and output process image (internal) max.	1024 bytes
Memory for fieldbus input and output variables max.	512 bytes
System supply voltage	24 VDC (–25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA
Input current via DeviceNet interface at 11 V	120 mA
Total current for system supply	1650 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-806

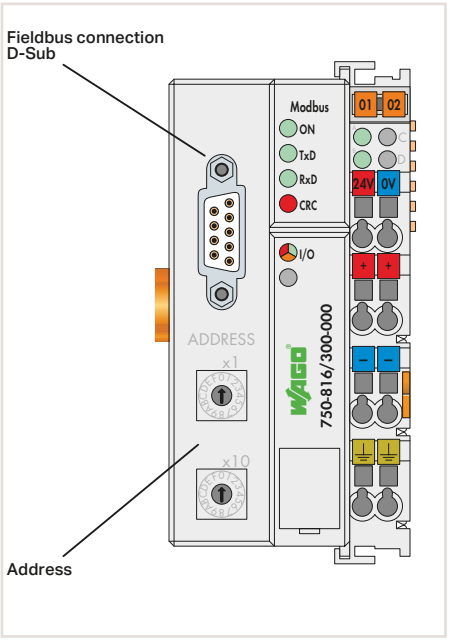
Controller MODBUS

Figure: 750-815/300-000

RS-485, 115.2 kBd,
optional: ext. temperature



RS-232, 115.2 kBd



3.3

Item description	Controller MODBUS		Controller MODBUS
Version	RS-485 115.2 kBd	RS-485 115.2 kBd T	RS-232 115.2 kBd
Item no.	**750-815/300-000**	**750-815/325-000**	**750-816/300-000**
Technical Data			
Fieldbus	MODBUS		MODBUS
Connection technology: Fieldbus input/output	D-Sub 9 socket		D-Sub 9 socket
Bus segment length max.	1200 m		1200 m
Baud rate	150 Bd … 115.2 kBd		150 Bd … 115.2 kBd
Number of fieldbus nodes on master max.	247		247
Visualization	Without		Without
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)		WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Program memory / data memory / non-volatile memory (software)	32 KB / 32 KB / 8 KB		32 KB / 32 KB / 8 KB
Number of I/O modules per node max.	64		64
Input and output process image (internal) max.	1024 bytes		1024 bytes
Memory for fieldbus input and output variables max.	512 bytes		512 bytes
System supply voltage	24 VDC (−25 … +30 %)		24 VDC (−25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA		500 mA
Total current for system supply	1650 mA		1650 mA
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm		50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-815/300-000		wago.com/750-816/300-000

WAGO-I/O-*PRO* Software V2.3
see Section 1

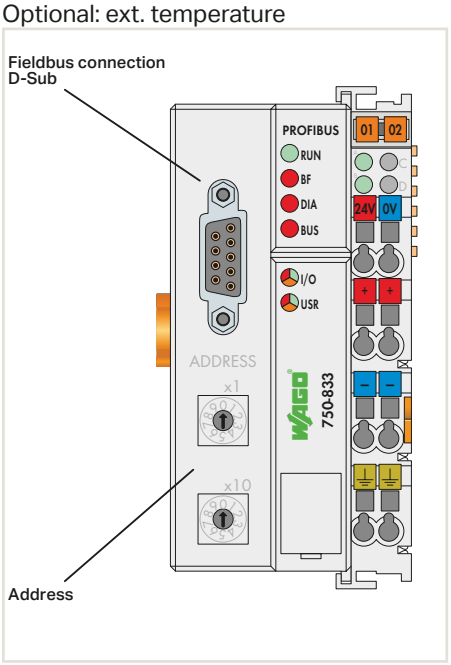
Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller PROFIBUS Slave

Figure: 750-833

Optional: ext. temperature



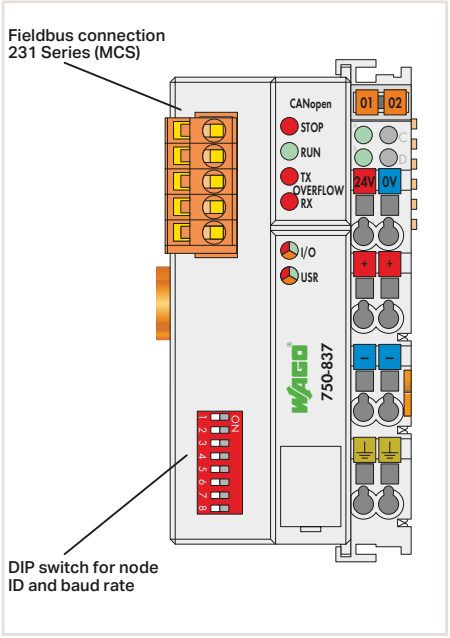
Item description	Controller PROFIBUS Slave	
Version		T
Item no.	750-833	750-833/025-000
Technical Data		
Fieldbus	PROFIBUS	
Connection technology: Fieldbus input/output	D-Sub 9 socket	
Bus segment length max.	1200 m	
Baud rate	9.6 kBd … 12 MBd	
Number of fieldbus nodes on master max.	99	
Visualization	Without	
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	
Program memory / data memory / non-volatile memory (software)	128 KB / 64 KB / 8 KB	
Number of I/O modules per node max.	63	
Input and output process image (internal) max.	244 bytes	
Memory for fieldbus input and output variables max.	244 bytes	
System supply voltage	24 VDC (–25 … +30 %)	
Input current (typ.) at rated load (24 V)	500 mA	
Total current for system supply	1800 mA	
Ambient temperature (operation)	0 … +55 °C	–20 … +60 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-833	

Controller CANopen

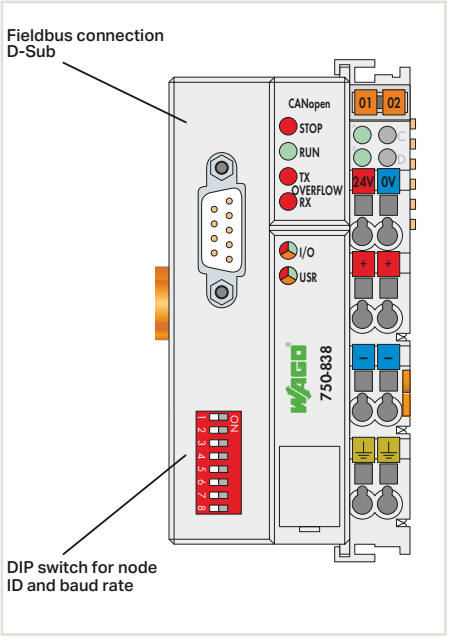
Figure: 750-837

Figure: 750-838

128/64 kB program / RAM, MCS, optional: 256/192 kB or 640/832 kB



128/64 kB program / RAM, D-Sub, optional: 256/192 kB or 640/832 kB



3.3

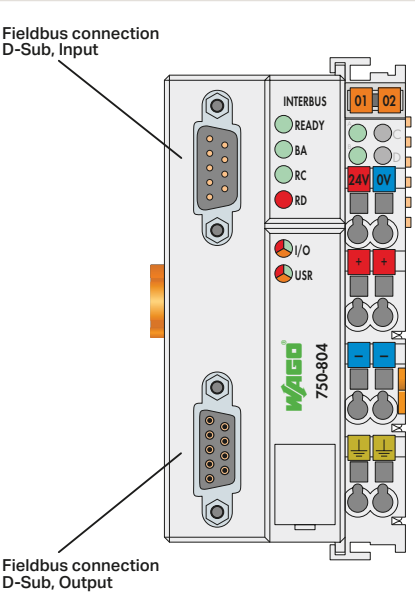
Item description	Controller CANopen			Controller CANopen		
Version	M1 MCS	M2 MCS	M3 MCS	M1 D-Sub	M2 D-Sub	M3 D-Sub
Item no.	750-837	750-837/020-000	750-837/021-000	750-838	750-838/020-000	750-838/021-000
Technical Data						
Fieldbus	CANopen			CANopen		
Connection technology: Fieldbus input/output	5-pole male connector			D-Sub 9 connector		
Bus segment length max.	1000 m			1000 m		
Baud rate	10 kBd … 1 MBd			10 kBd … 1 MBd		
Number of fieldbus nodes on master max.	110			110		
Visualization	Without			Without		
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)			WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)		
Program memory	128 kB	256 kB	640 kB	128 kB	256 kB	640 kB
Data memory	64 kB	192 kB	832 kB	64 kB	192 kB	832 kB
Non-volatile memory (software)	8 kB			8 kB		
Number of I/O modules per node max.	64			64		
Input and output process image (internal) max.	512 bytes			512 bytes		
Memory for fieldbus input and output variables max.	512 bytes			512 bytes		
Communication profile	DS-301 V4.01			DS-301 V4.01		
Device profile	DS-401 V2.0			DS-401 V2.0		
Number of PDOs	32 Tx / 32 Rx			32 Tx / 32 Rx		
Number of SDOs	2 servers SDO / 16 clients SDO			2 servers SDO / 16 clients SDO		
System supply voltage	24 VDC (−25 … +30 %)			24 VDC (−25 … +30 %)		
Input current (typ.) at rated load (24 V)	500 mA			500 mA		
Total current for system supply	1650 mA			1650 mA		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C		
Dimensions W x H x D	50.5 x 71.1 x 100 mm			50.5 x 71.1 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-837			wago.com/750-838		

WAGO-I/O-*PRO* Software V2.3
see Section 1

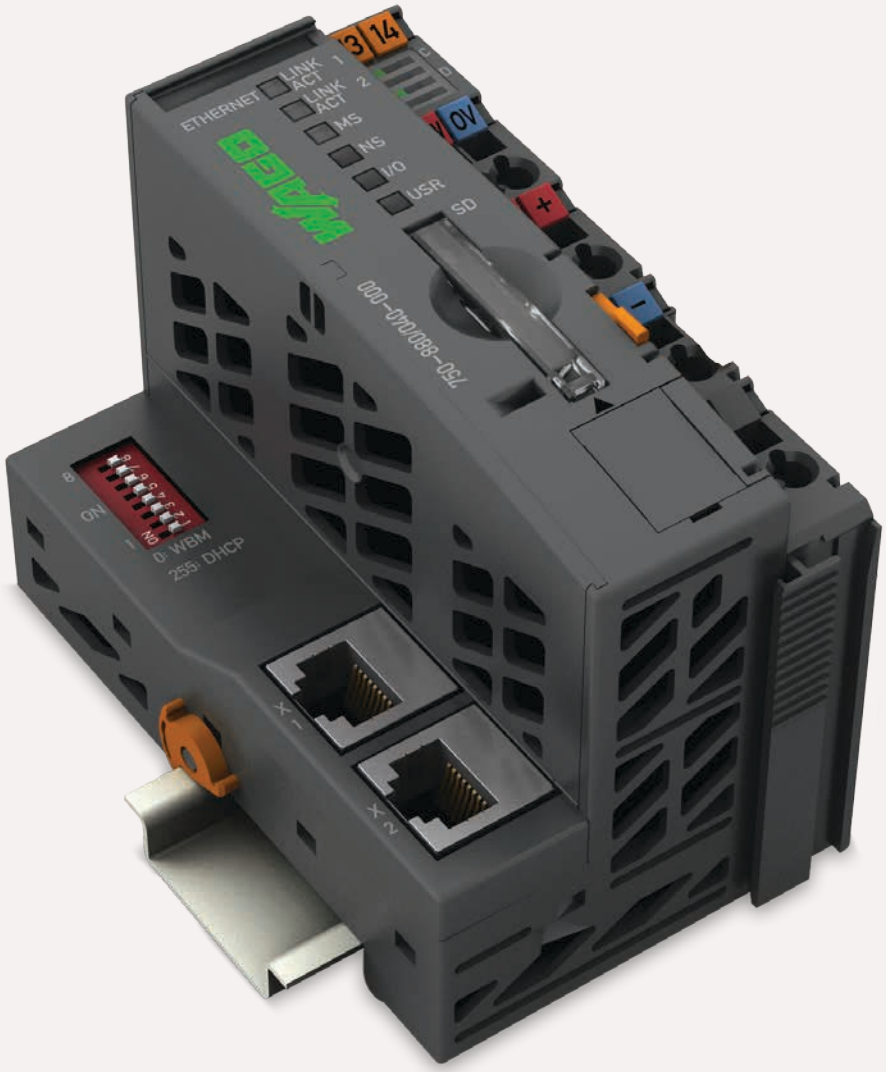
Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller INTERBUS



Item description	Controller INTERBUS
Item no.	**750-804**
Technical Data	
Fieldbus	INTERBUS
Connection technology: Fieldbus input/output	D-Sub 9 plug / D-Sub 9 socket
Bus segment length max.	400 m
Baud rate	500 kBd
Number of fieldbus nodes on master max.	256
Visualization	Without
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Program memory / data memory / non-volatile memory (software)	128 KB / 64 KB / 8 KB
Number of I/O modules per node max.	64
Input and output process image (internal) max.	64 bytes
Memory for fieldbus input and output variables max.	64 bytes
System supply voltage	24 VDC (–25 … +30 %)
Input current (typ.) at rated load (24 V)	500 mA
Total current for system supply	1600 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-804



750 XTR Controllers

PFC100/PFC200 Controller

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS 2 (only PFC200) and 3

◄◄◄ Section 3.1

750 Series Controllers

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Ideal combination with the WAGO 750 I/O-SYSTEM modules

◄ Section 3.3

PERSPECTO® Control Panels

- Merging of control and visualization
- 8.9–38.1 cm (3.5–15")

◄◄◄◄ Section 2

PFC200 XTR Controllers

The advantages of the PFC Controller combined with the characteristics for extreme environments:

- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◄◄ Section 3.2

750 XTR Controllers

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

750 XTR Controllers
Contents

	CPU	ETHERNET: Modbus TCP	ETHERNET: EtherNet/IP	PROFIBUS	CANopen	Telecontrol protocols: IEC 60870, IEC 61850/61400, DNP3	Description	Item No.	
	32 Bit	x	x				Controller ETHERNET G3 SD XTR	750-880/040-000	92
	32 Bit	x	x			x	Controller ETHERNET G3 SD Tele XTR	750-880/040-001	92
	32 Bit				M/S		Controller CANopen M3 DSub XTR	750-838/040-000	93

M: Master, S: Slave

750 XTR Controllers
General Product Information

750 XTR Controllers:
From Standard to eXTReme — Standard for 750 XTR

The 750 XTR Controllers are easily recognized by their dark gray housings. Profit from the unique added value this system brings to extreme environments or applications.

The WAGO 750 XTR I/O-SYSTEM features outstanding characteristics: It is extremely temperature-resistant, immune to interference, as well as insensitive to vibrations and impulse voltages.
This is what makes it the first choice for demanding applications including:

- Marine systems and onshore/offshore industry
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical industry
- Water and wastewater industry
- Custom machines
- Railway applications

3.4

Marine Systems and Onshore/Offshore Industry

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements specific to industry and operating environment has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference and mechanical performance in these sensitive areas, the system can readily meet the needs of other industries.

Telecontrol Technology

Standardized telecontrol protocols according to IEC 60870-5, IEC 61850 or
IEC 61400-25 and DNP3 ensure use of the 750 XTR Controller in telecontrol technology. In addition, increased requirements for dielectric strength according to EN 60870-2-1 are met.
The result is a tailor-made solution for demanding telecontrol applications that readily meets all requirements.

Link between Process Data and IT Application — Even under eXTReme Conditions

The controllers ideally combine real-time requirements with IT functionality. They support both MODBUS/TCP and ETHERNET/IP for use in industrial environments. HTTP, SNTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the PLC incorporates library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Modular Expandability

With the WAGO 750 XTR I/O-SYSTEM, the controllers can be expanded to almost any input/output interface. Using the same standard platform has given the XTR the same proven advantages.

Worldwide Approvals

International approvals for industrial automation, building technology, shipbuilding and onshore/offshore applications guarantee worldwide use even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.

Superior Reliability in Extreme Climates

Regardless of freezing cold, extreme heat and high humidity, the WAGO 750 XTR I/O-SYSTEM is engineered for absolute dependability in virtually any weather. The XTR version of the 750 Series Controller is unfazed by both freezing cold down to −40 °C and scorching heat up to +70 °C. And this applies equally to both start-up and continual operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

Additional Protection against Interference Pulses

The WAGO 750 XTR I/O-SYSTEM provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference.
These strengths add up to trouble-free operation.

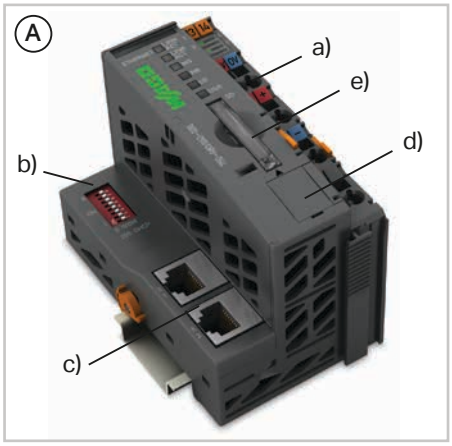
High Mechanical Performance

Automation systems must be particularly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples from a wide range of applications. The WAGO 750 XTR I/O-SYSTEM continues to set new standards here. Count on long-lasting, trouble-free operation and industry-topping levels of safety — even in the most severe applications, such as tunnel boring machines.

Advantages:

- Controls for eXTReme environmental conditions
  - Needs no climate control
  - Application in unshielded areas
  - Application in vibration- or shock-generating system part
- Extensive IT integration possibilities
- Expandable with the comprehensive WAGO 750 XTR I/O-SYSTEM product range
- Maintenance-free
- Vibration-proof, fast and maintenance-free CAGE CLAMP® spring connections

750 XTR Controllers
Interfaces and Types



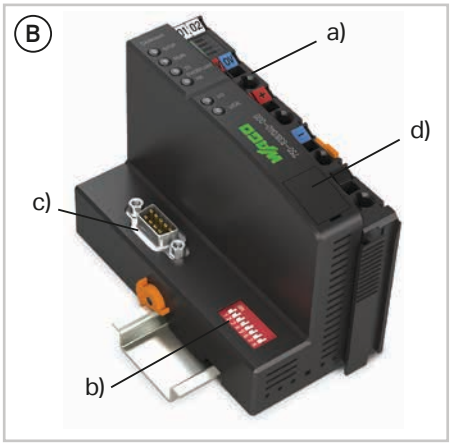
- Includes supply module (a)
- Technical differences on the connection level; addressing switch (b) and fieldbus interface (c)
- Service interface (d)

Housing design (A)

- SD card slot for external storage media (e)
- W x H x D (mm) 61.5 x 71.9 x 100

Housing design ECO (B)

- W x H x D (mm) 50.5 x 71.1 x 100



Item Number Key

Explanation of the components of an item number key

Item No. : 750-8xx/040-00y

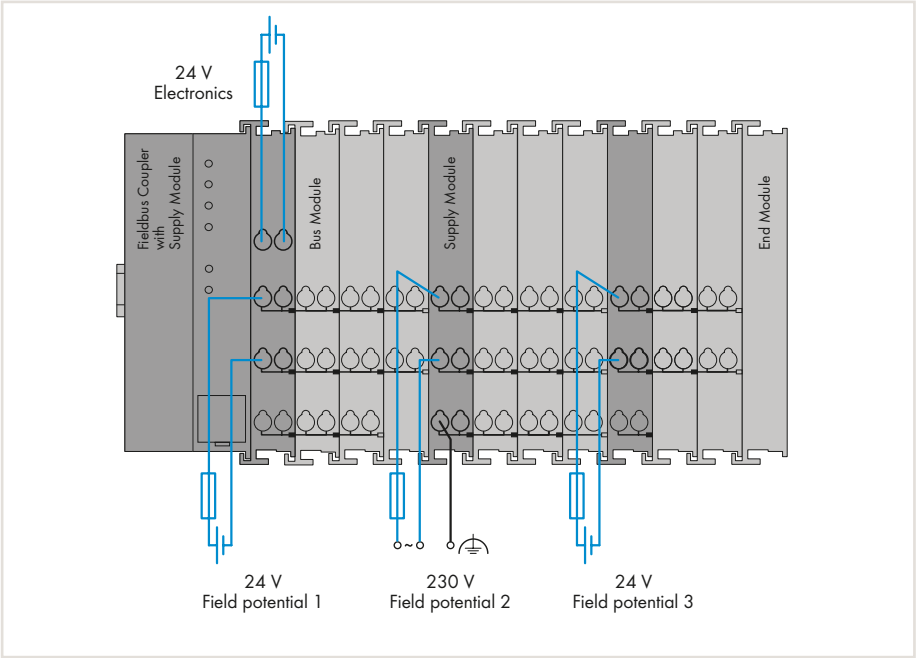
3x: 16-bit	CANopen
8x: 32-bit multitasking	ETHERNET
001:	Telecontrol technology

3.4

750 XTR Controllers
Installation Instructions

Supply Modules

Power is always channeled to the internal electronics power supply via the controller. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. The I/O modules' connections automatically lead to transferring the supply voltages. Bus supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station.
The current supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional bus supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different bus supply modules allow a new power supply, formation of potential groups and the implementation of emergency stop concepts.



Interference-Free in Safety-Related Applications

To safely and easily perform cost-effective, centralized deactivation of complete actuator groups safely, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs.
In the event of failure, ensure that no interference from other current or power circuits occurs — even when the control voltage is switched off — so the defined safety function properties (logic and time response) remain unchanged.

All modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.

Notice:

Interference-free WAGO I/O modules have no active influence on the safety function, they are not an active part of the safety application and are not a substitute for the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Notes

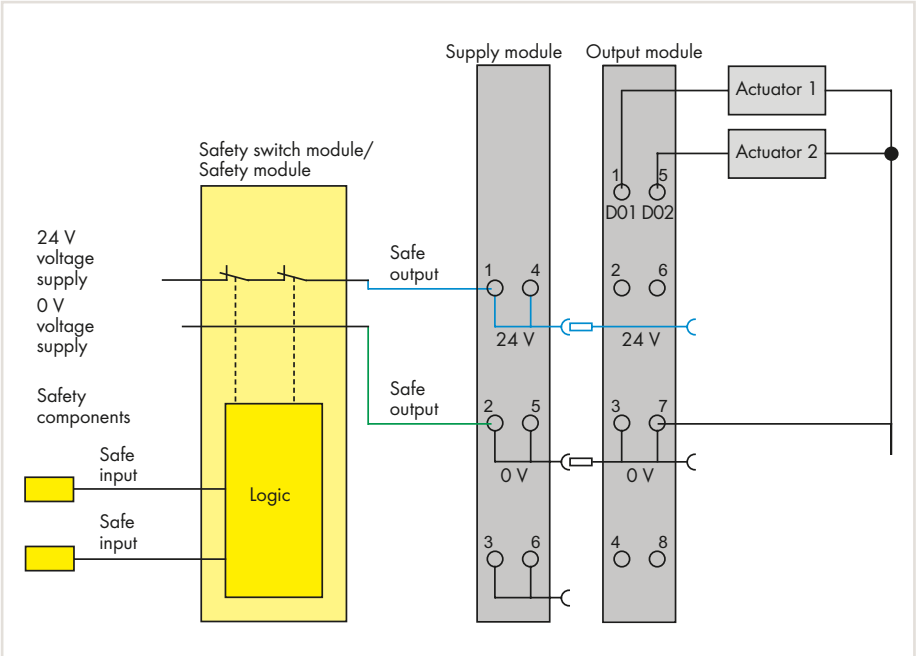
Additional steps must be implemented specifically for the location the I/O-System is installed:

- Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are required for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

Mixed Operation

Mixed operation (standard/XTR I/O modules) within a node is possible when groups of modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the ambient temperature is not critical.



750 XTR Controllers
Standards and Rated Conditions

General Specifications	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperature under laboratory conditions +15 °C… +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*. *Including 15 % residual ripple (lower limit −27.5 %)
Ambient temperature (operation)	−40 … +70 °C
Ambient temperature (storage)	−40 … +85 °C
Relative humidity	Max. 95 %, short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0–2000 m; with temperature derating: 2000–5000 m (0.5 K / 100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Dielectric strength	Per (EN 60870-2-1) Modules ≤ 50 V: 510 VAC / 775 VDC; Modules > 50 V: 2.5 kVAC / 3.5 kVDC Isolation: Rated impulse voltage Modules ≤ 50 V: 1 kV (Class VW1 per EN 60870-2-1) Modules > 50 V: 5 kV (Class VW3 per EN 60870-2-1) Surge: Modules ≤ 50 V: 1 kV (L – L) / 2 kV (L – E) Module > 50 V: 2 kV (L - L) / 4 kV (L – E)
Vibration resistance	Per IEC 60068-2-6 (acceleration: 5 g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155, EN 61373
Shock resistance	Per IEC 60068-2-27 (15 g/11 ms/half-sine/1,000 shocks; 25 g/6 ms/1,000 shocks), EN 50155, EN 61373
EMC immunity to interference	EN 61000-6-1, EN 61000-6-2, EN 61131-2 Marine applications, EN 50121-3-2, EN 50121-4 EN 50121-5, EN 60255-26, EN 60870-2-1 EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	EN 61000-6-3 and EN 61000-6-4, EN 61131-2 EN 60255-26, marine applications EN 60870-2-1 (industrial and residential areas) EN 61850-3 (industrial and residential areas) EN 50121-3-2, EN 50121-4, EN 50121-5
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	On 35 mm DIN rail
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO_2 contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H_2S contaminant concentration at a relative humidity < 75 %	10 ppm
Wire connection	CAGE CLAMP®
Conductor sizes; strip lengths	0.25–2.5 mm² / AWG 24–14; 8–9 mm / 0.31–0.35 inch
Current carrying capacity of the power jumper contacts	10 A

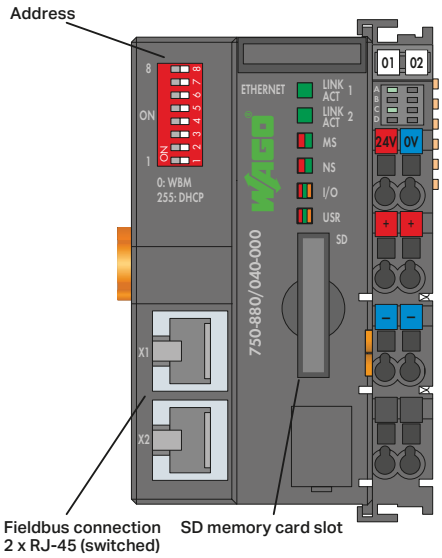
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

Controller ETHERNET

Figure: 750-880/040-000

3rd Generation, SD card slot, extreme, optional: telecontrol



Item description	Controller ETHERNET	
Version	G3 SD XTR	G3 SD Tele XTR
Item No.	**750-880/040-000**	**750-880/040-001**

Technical Data

Fieldbus	EtherNet/IP, MODBUS/TCP	
Protocols	EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP	
		IEC 60870-5-101/-103/-104, IEC 61850-7, IEC 61400-25, DNP3
Connection technology: Fieldbus input/output	2 x RJ-45	
Baud rate	10/100 Mbit/s	
Visualization	Web Visu, Webserver	
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)	
Type of memory card	SD and SDHC to 8 GB*	
Program memory / data memory / non-volatile memory (software)	1024 KB / 1024 KB / 32 KB	
Number of I/O modules per node max.	64	
Input and output process image (internal) max.	1020 words	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	
Input current (typ.) at rated load (24 V)	500 mA	
Total current for system supply	1700 mA (ambient temperature (operation) < 60 °C), 1500 mA (ambient temperature (operation) 60–70 °C)	
Ambient temperature (operation)	−40 … +70 °C	
Dimensions W x H x D	61.5 x 71.9 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	
Data sheet and further information, see:	wago.com/750-880/040-000	wago.com/750-880/040-001

Accessories	**Item No.**	**Page**
SD memory card, 2 GB	**758-879/000-001**	44

*All guaranteed properties only valid with the WAGO memory card listed as an accessory.
**Including 15 % residual ripple (lower limit −27.5 %)

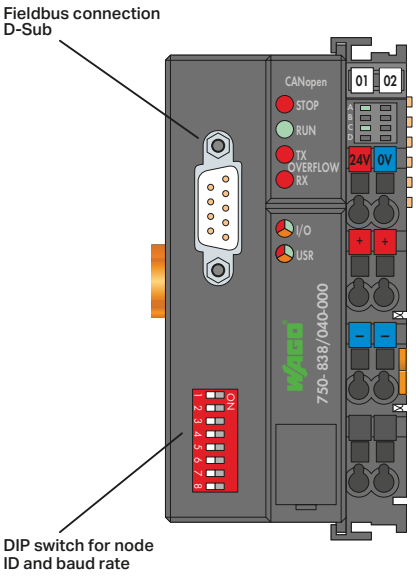
WAGO-I/O-*PRO* Software V2.3
see Section 1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

Approvals and corresponding ratings,
see Page 515 or www.wago.com

Controller CANopen

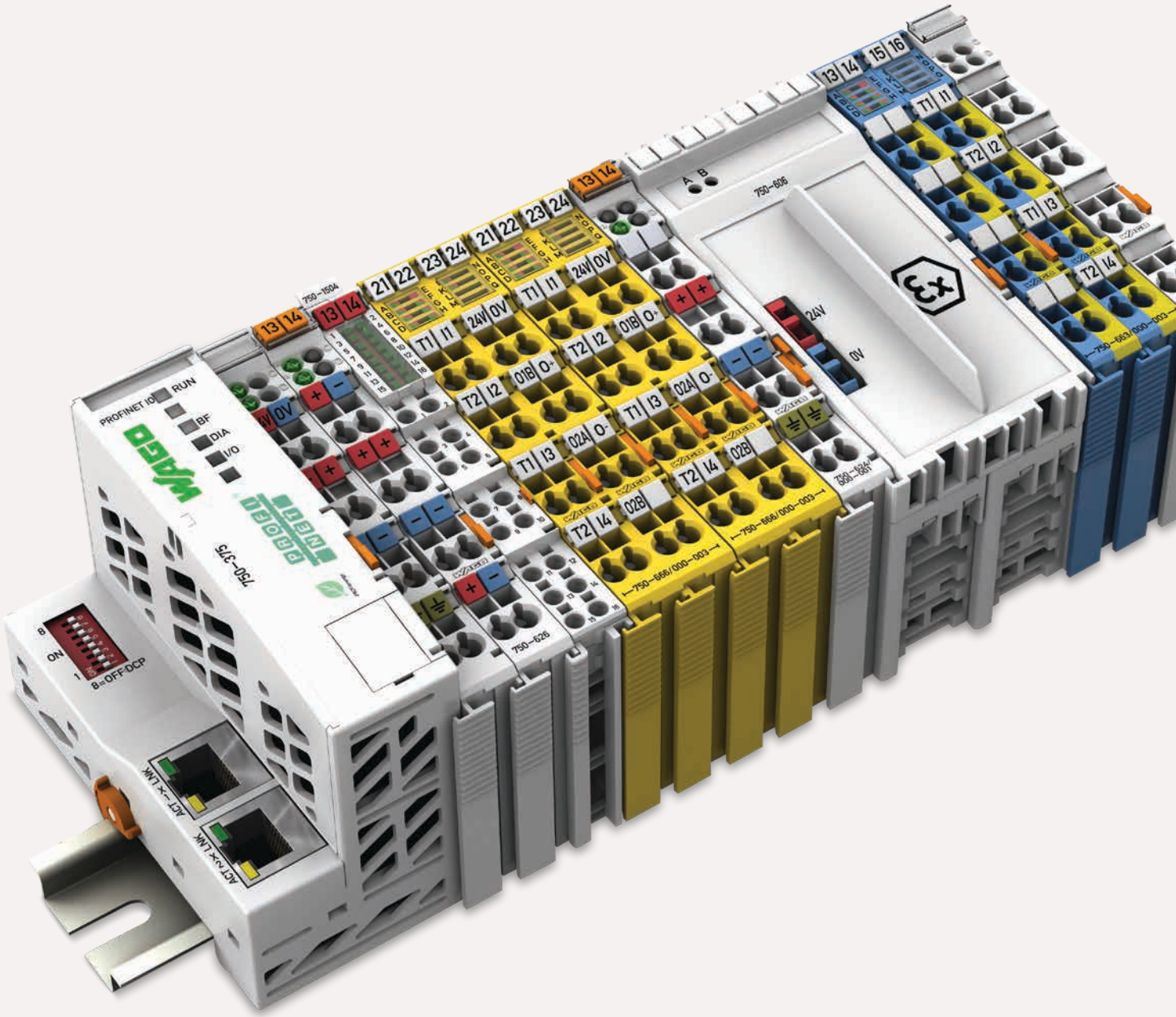
640/832 KB program/RAM, D-Sub, extreme



Item description	Controller CANopen
Version	M3 DSub XTR
Item No.	**750-838/040-000**

Technical Data	
Fieldbus	CANopen
Connection technology: Fieldbus input/output	D-Sub 9 connector
Bus segment length max	1000 m
Baud rate	10 kBd … 1 MBd
Number of fieldbus nodes on master max.	110
Visualization	Without
Programming	WAGO-I/O-*PRO* V2.3 (based on CODESYS 2.3)
Program memory / data memory / non-volatile memory (software)	640 KB / 832 KB / 8 KB
Number of I/O modules per node max.	64
Input and output process image (internal) max.	512 bytes
Memory for fieldbus input and output variables max.	512 bytes
Communication profile	DS-301 V4.01
Device profile	DS-401 V2.0
Number of PDOs	32 Tx / 32 Rx
Number of SDOs	2 servers SDO / 16 clients SDO
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Input current (typ.) at rated load (24 V)	500 mA
Total current for system supply	1650 mA (ambient temperature (operation) < 60 °C), 1250 mA (ambient temperature (operation) 60–70 °C)
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-838/040-000

*Including 15 % residual ripple (lower limit −27.5 %)



750 and 753 I/O-System

750 and 753 I/O-System

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

I/O-System – 750 XTR Series

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 5 ►

SPEEDWAY I/O-System

- Uncompromising protection, even in the harshest environments outside the switch cabinet
- Degree of protection: IP67
- Fully encapsulated

Section 6 ► ►

750 and 753 I/O-System
Contents

I/O-System — 750 and 753 Series — One System for Every Application
General Product Information

One System for Every Application

The WAGO 750/753 I/O-SYSTEM is characterized by its universal application scope and extensive product portfolio. With more than 500 different modules, the versatility and flexibility is so great that virtually every requirement in a wide range of industries is covered.

Industrial Automation

The wide selection of I/O modules for various potential and signal types, as well as special functions, makes it possible to economically wire sensors/actuators — even in safety-related applications.

Building automation

The broad portfolio allows for flexible, cellar-to-ceiling solutions with conventional I/O modules, standardized industry-specific fieldbus protocols and subsystems for typical applications in lighting, shading, heating, ventilating and air conditioning (HVAC) and much more.

Marine and Onshore/Offshore Automation

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements specific to industry and operating environment has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference and mechanical performance in these sensitive areas, the system can readily meet the needs of other industries.

Process automation

Even under the harshest environmental conditions, use is possible with special approvals. Potential hazardous area applications include oil and gas production, the chemical industry and power generation. The I/O-System can be installed in Zone 2/22 with its intrinsically safe I/O modules, making it possible to connect sensors/actuators in Zones 1/21 and 0/20.

Maximum Fieldbus Independence

The system's modularity is also reflected in its support for numerous fieldbus systems and ETHERNET standards. Depending on the application, it is possible to choose between fieldbus couplers and communication modules for different protocols.

Easy to Use

A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O module without tools. The streamlined design prevents installation errors. In addition, proven CAGE CLAMP® technology offers fast, vibration-proof and maintenance-free connections that are independent of operator skill. Depending on the I/O module's granularity, field peripherals can be directly wired using 1-, 2-, 3- or 4-wire technology.

Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use, even under more rigorous operating conditions including ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA and ship construction.

Extremely Compact

WAGO's patented mechanical design leads to extremely compact I/O nodes. In fact, select I/O modules can accommodate up to 16 channels in a 12 mm (1/2") wide housing.

- Finely granular I/O modules for node customization.
- Space-saving design permits high integration density and direct connection.

Maximum Reliability and Ruggedness

The WAGO-I/O-SYSTEM is engineered and tested for use in the most demanding environments in accordance with the highest standards, e.g., those required in marine applications. The system is distinguished from other products that are solely intended for industrial use because of:

- Greatly increased vibration rating.
- Significantly greater immunity to interference (ESD).
- Lower emission of interference.
- Larger voltage fluctuation range.
- Greater strength for continuous operation in upper temperature ranges.

In addition, CAGE CLAMP® spring pressure connections ensure superior reliability.
Integrated QA measures in the production process and 100 % function testing ensure consistent quality.

Clear Identification

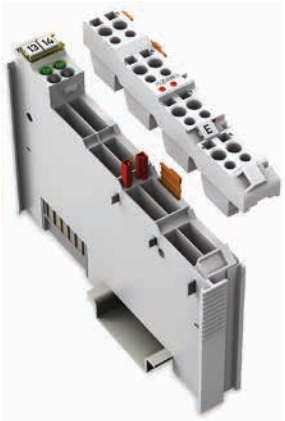
I/O module functionality is identified via marker carriers (integrated or as option). Terminal assignment and technical data are printed onto the side of the I/O module. The WAGO WSB marker system also allows module- and channel-related identification.

Advantages:

- Fieldbus-independent — Support all standard fieldbus protocols & ETHERNET standards
- Flexible platform adapts to diverse applications and environments
- Tested and approved worldwide
- Wide range of accessories for marking system and connection technology
- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections

750 and 753 I/O-System
Versions

Pluggable Connector



The pluggable connections of the WAGO 753 I/O-SYSTEM allow quick and safe replacement. Optional coding pins prevent inserting the pluggable connector in the wrong I/O module. Replacing and connecting the I/O module requires no further action and eliminates possible errors — permanent wiring.
Alternatively, field wiring is possible via interface modules that can be connected to the I/O-System using a ribbon cable (see “Types”).

Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0 … 55 °C. However, there are applications that require an extended temperature range.
For these applications, WAGO offers a line of WAGO 750 I/O-SYSTEM products for temperatures ranging from
−20 … +60 °C.
For extreme applications, where even this extended temperature range is not sufficient, the WAGO 750 XTR I/O-SYSTEM is available.

Functional Safety

In the European Union, the machinery directive defines the requirements for machine and system safety. This ensures a uniform standard for the protection of “life and limb” for people within a machine’s operating area.

The required risk assessment is based on harmonized standards (e.g., EN 13849) that identify existing risks and required risk reduction (SIL or PL quality). Based on the risk assessment, safety functionality can be implemented, e.g., by presence detection or protection zone violations using secure switches or light arrays to immediately shutdown the “risk”. For this purpose, the safety signals are detected by the “yellow” safety modules and transmitted via “PROFIsafe” to the fail-safe PLC for further processing. The result is then executed via a safe actuator (output module, controller, etc.).

The unique safety characteristic values of the WAGO modules facilitate calculation of the final safety function up to Cat. 4/PLe according to EN 13849, or SIL3 according to EN 62061 or IEC 61511.

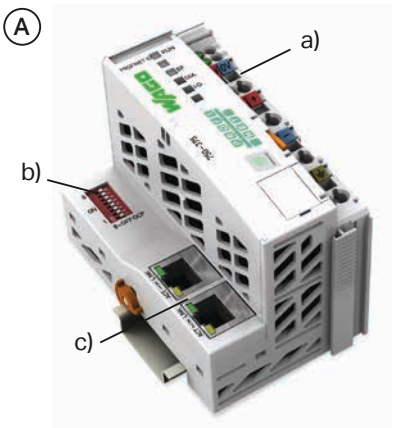
The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased EMC immunity required according to the standard, WAGO offers compact filter modules for the power supply. Specific power supply features must be considered, which are described in detail in the corresponding manuals.

Use in Hazardous Areas

In many plants across the chemical and petrochemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. For this reason, electrical equipment must be explosion-proof in order to avoid injuries to personnel and equipment damages.
The modules within the WAGO 750 I/O-SYSTEM are designed for use in both non-hazardous and hazardous areas. The direct application of fieldbus technology in hazardous areas is typically resource-intensive. When used in hazardous areas of Zone 2/22, the WAGO-I/O-SYSTEM 750 offers a safe, easy and economical connection to the sensors and actuators of Zones 0/20 and 1/21. The “blue” Ex i I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard fieldbus node, offering all the advantages of a state-of-the-art fieldbus technology. The WAGO 750 I/O-SYSTEM is also approved for mining applications.

750 and 753 I/O-System
Interfaces and Types

A



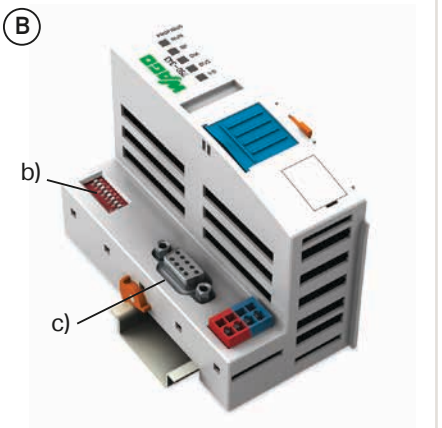
Housing Design Fieldbus Coupler (A)

- Including supply module (a) to power downstream I/O modules
- Technical differences on the connection level.
  Optional address switch (b) and fieldbus interface (c)
- W x H x D (mm) 50.5 x 71.1 x 100 or
- W x H x D (mm) 61.5 x 71.9 x 100

Housing Design Fieldbus Coupler ECO (B)

- Restriction on power supply and data width
- W x H x D (mm) 49.5 x 71.9 x 96.8

B



C

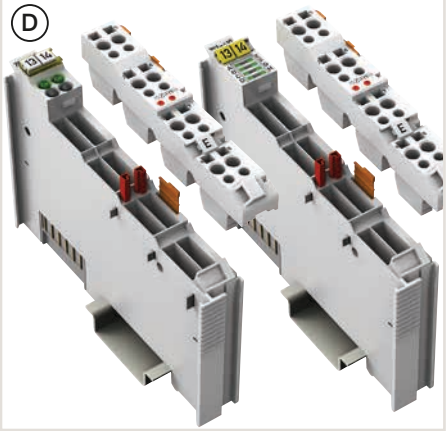
Housing Design 750 (C)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 69.8 x 100 (4 LEDs)
- W x H x D (mm) 12 x 67.8 x 100 (8 LEDs)

Housing Design 753 (D)

- Pluggable connector
- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 69.8 x 100 (4 LEDs)
- W x H x D (mm) 12 x 69 x 100 (8 LEDs)

D



E

Housing Design 750 (E)

- 16 connection points (push-in CAGE CLAMP®)
- W x H x D (mm) 12 x 69 x 100

Housing Design (F)

- For time-saving wiring between I/O-System and interface modules
- Ribbon cable connector for connection to 289 Series Interface Modules and JUMPFLEX® Interface Adapter
- W x H x D (mm) 12 x 74.1 x 100

F

G

Housing Design Double Width (G)

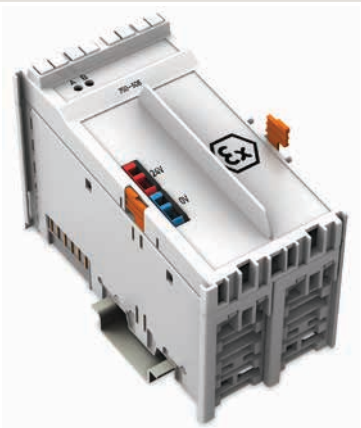
Some modules are integrated into a double housing to address specific technological needs. Despite utilizing the same standardized housing, these modules are twice as wide.

- W x H x D (mm) 24 x 69.8 x 100

Special Housing Design (H)

Some modules are integrated into a specialized housing with a specific width and pluggable connectors. The dimensions are specified on the respective catalog page.

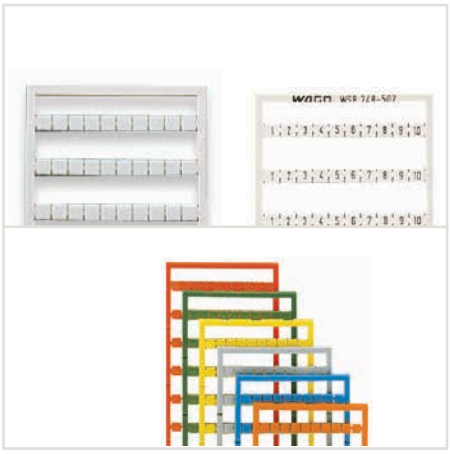
H



750 and 753 I/O-System
Markings and Mounting Accessories

Transparent group marker carriers indicate module type by color.

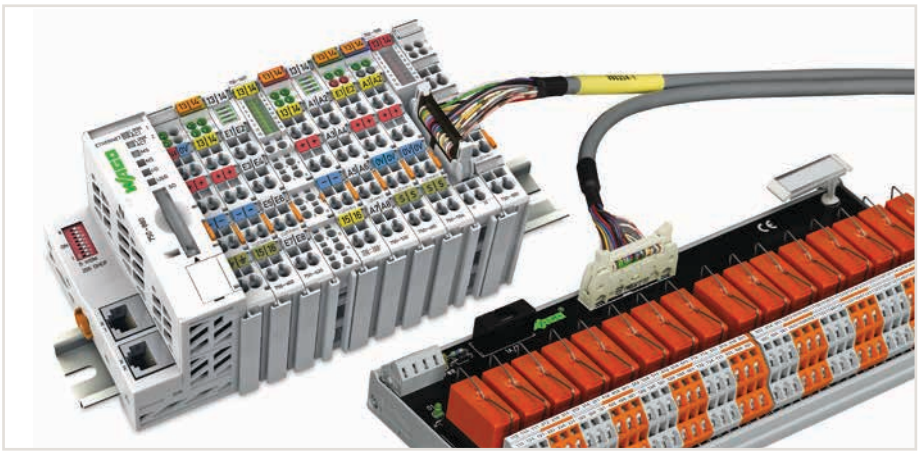
Removable group marker carriers are available for all 750 and 753 I/O modules with a maximum of four LEDs, as well as all fieldbus couplers with a supply module.



Mini-WSB quick marking system, blank, pre-marked and colored; suitable for all 750 and 753 I/O modules.

Marker carrier for one single I/O module, suitable for all 750 and 753 I/O modules; the marker carrier can be placed in the upper, Mini-WSB carrier plate.

Marker carrier for one I/O node; both versions (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.



Interface modules for system wiring

Interface cables

750 and 753 I/O-System
Application and Installation Instructions

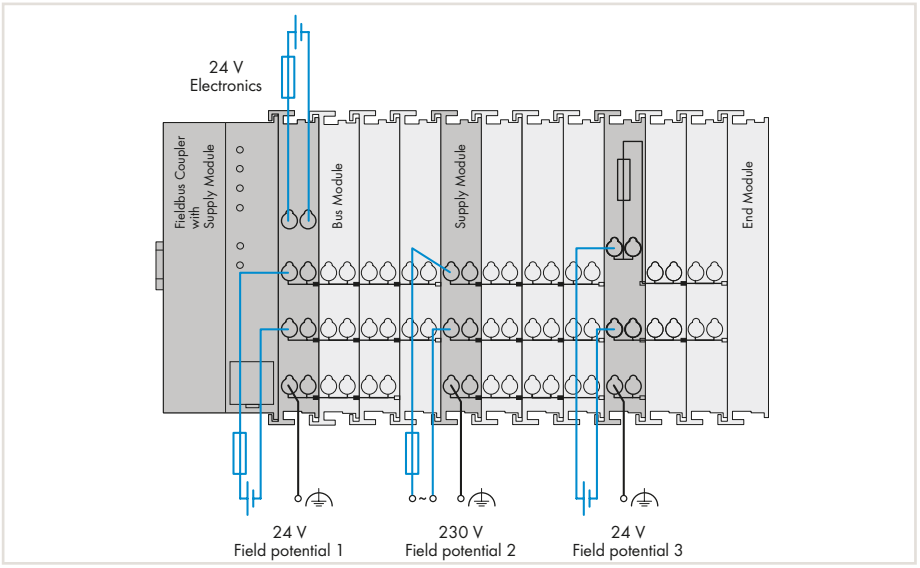
Supply Modules

Power is normally channeled to the internal electronics power supply by the fieldbus coupler. The field-side power supply is electrically isolated via the bus supply module on the fieldbus coupler or a separate internal system supply module. The division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Bus supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station. The current supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional bus supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different bus supply modules allow a new power supply, formation of potential groups and realization of emergency stop concepts.

Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups safely, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs — even when the control voltage is switched off — so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



Notice:

Interference-free WAGO I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

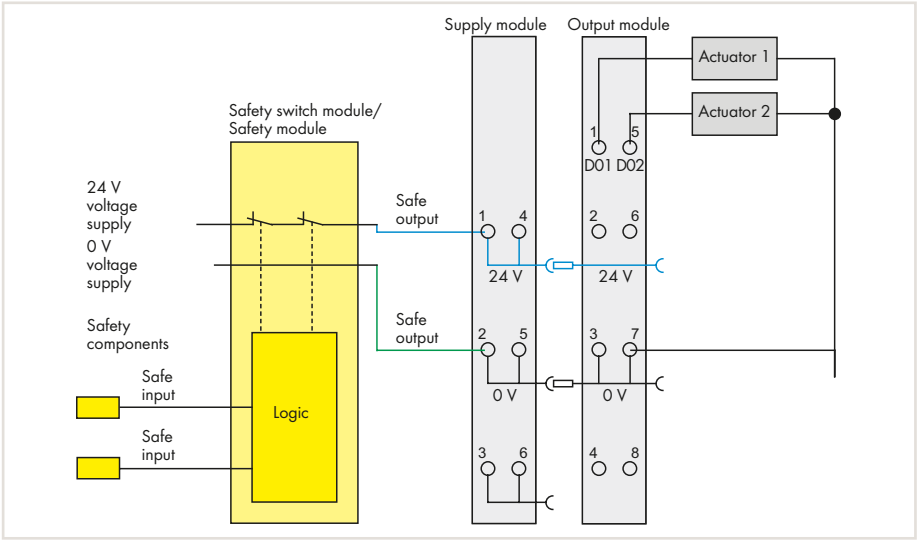
Notes

Additional steps must be implemented specifically for the location the I/O-System is installed:

- Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.
- A specific bus supply module (750-606) is required to operate intrinsically safe Ex i modules.

- Additionally, both a bus supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.
- For the 24 VDC power supply of electronics and field, PELV/SELV power supply units are recommended. As part of safety-related applications, they are mandatory. The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased EMC immunity required according to the standard, WAGO offers compact filter modules for the power supply.

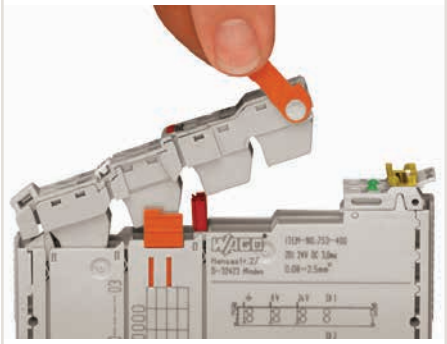
Please refer to the manual for details about the power supply's design.



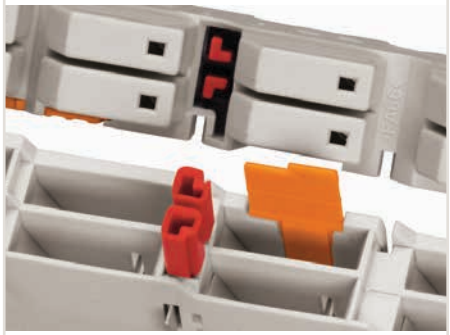
Example: Two-channel, double-pole power supply disconnection

750 and 753 I/O-System
Application and Installation Instructions

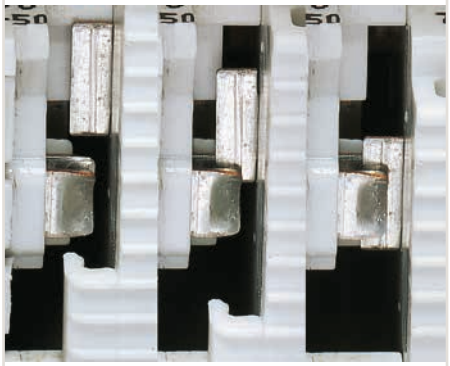
Attachment/release on the mounting rail



Releasing the pluggable connector



Optional protection against mismating pluggable connectors via coding elements



Secure, automatic connection of the power supply by self-cleaning power jumper contacts

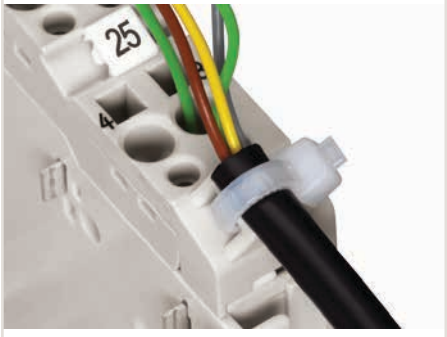
Notice:

For some I/O modules, not all power jumper contacts are made! An I/O module with three power jumper contacts (e.g., 2-channel digital input) cannot be snapped into place behind an I/O module in which not every contact is made.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail by a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.

Wide range of accessories available for EMC-compliant installation, including shield connection

Secure, automatic connection of the data and electronics power supply by gold-plated pressure contacts



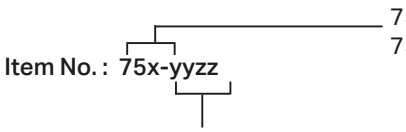
Securing the cable to the connector

Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter

4

750 and 753 I/O-System
Item Number Key

Explanation of the components of an item number key



01zz: Marker
03zz: Fieldbus couplers
zz: Consecutive number

1yzz: 16 connection points or ribbon cables
y4zz: Input
00 ... 49 = Digital input
50 ... 99 = Analog input
04: Counter
y5zz: Output
00 ... 49 = Digital output
50 ... 99 = Analog input
11: PWM
y6zz: Function / technology / communication / system module
0z: Power supply, potential duplication, end module
1z: Power supply, potential duplication, separation modules
2z: Power supply, bus extension, filter, separation modules
3z: Distance and angle measurement, DC drive controller, counter
4z: Communication (building), radio, RTC, vibration monitoring
5z: Serial interfaces, communication
6z: Functional safety
.../000-001: PROFIsafe V1.3
.../000-002: PROFIsafe V2
.../000-003: PROFIsafe V2 iPar
7z: Stepper

09zz: Accessories

.../025-000: Extended temperature range of −20 ... +60 °C
.../000-800: Interference-free
.../040-000: 750 XTR Series, see Section 5

750 and 753 I/O-System
Standards and Rated Conditions

General Specifications	
System supply voltage	24 VDC (−25 … +30 %)*; * For all marine-certified fieldbus couplers and I/O modules
Ambient temperature (operation)	0 … +55 °C
Ambient temperature (operation) for versions with an extended temperature range	−20 … +60 °C
Ambient temperature (storage)	−25 … +85 °C
Ambient temperature (storage) for versions with an extended temperature range	−40 … +85 °C
Relative humidity	95 % non-condensing
Relative humidity for versions with an extended temperature range	Max. 95 %, short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of −20 … +60 °C into consideration (except wind-driven precipitation, water and ice formation) %
Operating altitude	Without temperature derating: 0 … 2000 m; with temperature derating: 2000 … 5000 m (0.5 K/100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	0.5 g (4 g for all shipbuilding-certified fieldbus couplers and I/O modules) per IEC 60068-2-6
Shock resistance	15 g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2 / shipbuilding applications
EMC emission of interference	Per EN 61000-6-3, EN 61000-6-4, marine applications
Protection type	IP20
Mounting position	Any
Mounting type	On 35 mm DIN-rail
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO2 contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H2S contaminant concentration at a relative humidity < 75 %	10 ppm
Wire connection	CAGE CLAMP® Termination
Conductor size; strip length for standard I/O modules and couplers 753 I/O modules: ECO Fieldbus Couplers:	 0.08–2.5 mm² / 28–14 AWG; 8–9 mm / 0.31–0.35 inch 0.08–2.5 mm² / 28–14 AWG; 9–10 mm / 0.35–0.39 inch 0.08–1.5 mm² / 28–16 AWG; 5–6 mm / 0.2–0.24 inch
Wire connection	Push-in CAGE CLAMP®
Conductor size; strip length for I/O modules with 16 connection points:	Solid: 0.08–1.5 mm² / 28–16 AWG, Fine-stranded: 0.25–1.5 mm² / 22–16 AWG; 8–9 mm / 0.31–0.35 inch
Current carrying capacity of the power jumper contacts	10 A

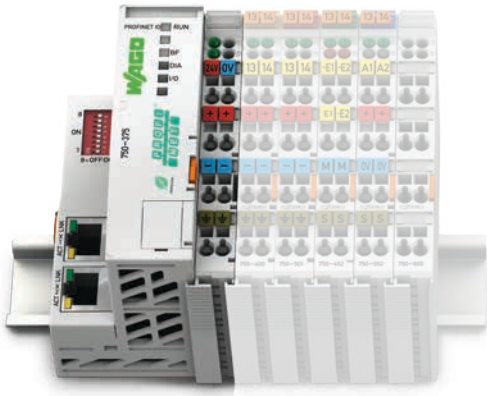
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

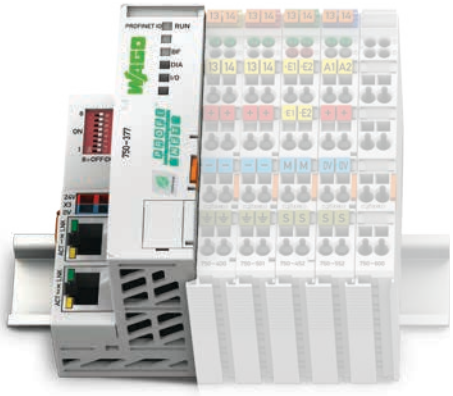
Fieldbus Couplers

Housing design I with field suppl	
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Height from upper edge of DIN rail	63.9 mm
Connection technology: System supply and field supply	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 in

Housing design II with field suppl	
Dimensions W x H x D	6.,5 x 71.9 x 100 mm
Height from upper edge of DIN rail	64.7 mm
Connection technology: System supply and field supply	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 in



Housing design without field supply	
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Height from upper edge of DIN rail	64.7 mm
Connection technology: System supply	CAGE CLAMP®
Conductor size	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.22 in



ECO housing design (without field supply)	
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Height from upper edge of DIN rail	64.7 mm
Connection technology: System supply	CAGE CLAMP®
Conductor size	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.22 in

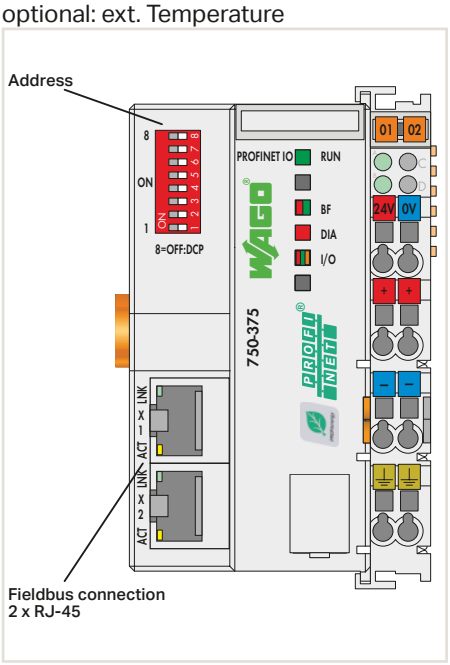
750 and 753 I/O-System, Fieldbus Couplers
Contents

Fieldbus Coupler PROFINET IO

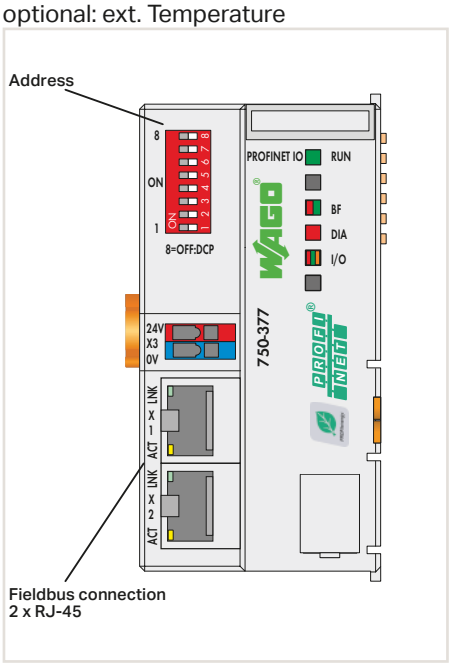
Figure: 750-375

Figure: 750-377

3rd Generation,
optional: ext. Temperature



3rd Generation, ECO,
optional: ext. Temperature



Item Description	FC PROFINET		FC PROFINET	
Version	G3	G3 T	G3 ECO	G3 ECO T
Item No.	**750-375**	**750-375/025-000**	**750-377**	**750-377/025-000**
Technical Data				
Fieldbus	PROFINET IO		PROFINET IO	
Protocols	PROFINET IO V2.2 (conformity class C), topology detection / LLDP, network diagnostics / SNMP / MIB-2, media redundancy / MRP (pending), Webserver / HTTP shared device		PROFINET IO V2.2 (conformity class C), topology detection / LLDP, network diagnostics / SNMP / MIB-2, media redundancy / MRP (pending), Webserver / HTTP	
Profiles supported	PROFIsafe V2, PROFIenergy V1.0		PROFIsafe V2, PROFIenergy V1.0	
PROFINET IO features	Integrated 2-port switch; auto-negotiation, auto-MDIX; isochronous real-time communication, transmission clock: 1 ms (RT), 1, 2, 4 ms (IRT), device replacement without programming tool		Integrated 2-port switch; auto-negotiation, auto-MDIX; isochronous real-time communication, transmission clock: 1 ms (RT), 1, 2, 4 ms (IRT), device replacement without programming tool	
Connection technology: Fieldbus input/output	2 x RJ-45		2 x RJ-45	
Baud rate	10 Mbit/s (ETHERNET protocols), 100 Mbit/s full duplex (PROFINET IO)		10 Mbit/s (ETHERNET protocols), 100 Mbit/s full duplex (PROFINET IO)	
Number of I/O modules per node max.	250		64	
Input and output process image (internal) max.	512 bytes		256 bytes	
System supply voltage	24 VDC (−25 … +30 %)		24 VDC (−25 … +30 %)	
Input current typ. at rated load (24 V)	500 mA		280 mA	
Total current for system supply	1700 mA		700 mA	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm		49.5 x 71.9 x 96.8 mm	
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx		CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-375		wago.com/750-377	

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

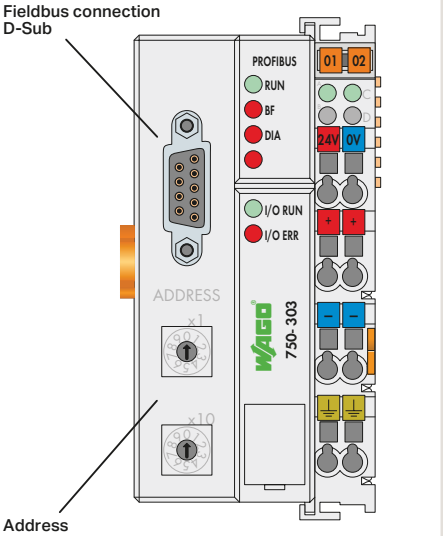
Approvals and corresponding ratings,
see Page 516 or www.wago.com

Fieldbus Coupler PROFIBUS DP

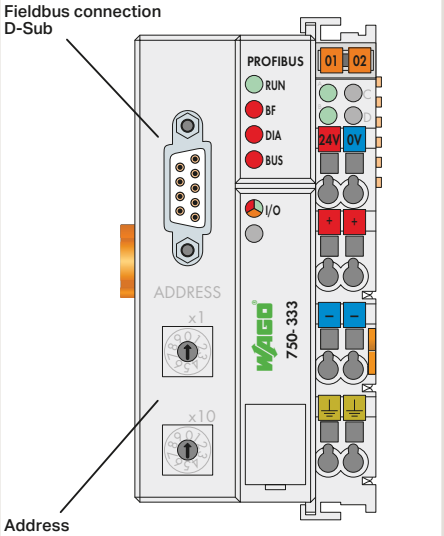
Figure: 750-303

Figure: 750-333

1st Generation, 12 MBd



2. Generation, 12 MBd, optional: ext. Temperature



Item Description	FC PROFIBUS	FC PROFIBUS	
Version	G1 12MBd	G2 12MBd	G2 12MBd T
Item No.	**750-303**	**750-333**	**750-333/025-000**
Technical Data			
Fieldbus	PROFIBUS	PROFIBUS	
Protocols	PROFIBUS DP/FMS	PROFIBUS DP/V1	
Connection technology: Fieldbus input/output	D-Sub 9 socket	D-Sub 9 socket	
Number of fieldbus nodes on master max.	96 with repeater	96 with repeater	
Baud rate	9.6 kBd … 12 MBd	9.6 kBd … 12 MBd	
Number of I/O modules per node max.	64	63	
Input and output process image (internal) max.	128 bytes	244 bytes	
System supply voltage	24 VDC (−25 … +30 %)	24 VDC (−25 … +30 %)	
Input current typ. at rated load (24 V)	500 mA	500 mA	
Total current for system supply	1650 mA	1800 mA	
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-303	wago.com/750-333	
Accessories	**Item No.**	**Item No.**	
GSD files	Download: www.wago.com	Download: www.wago.com	

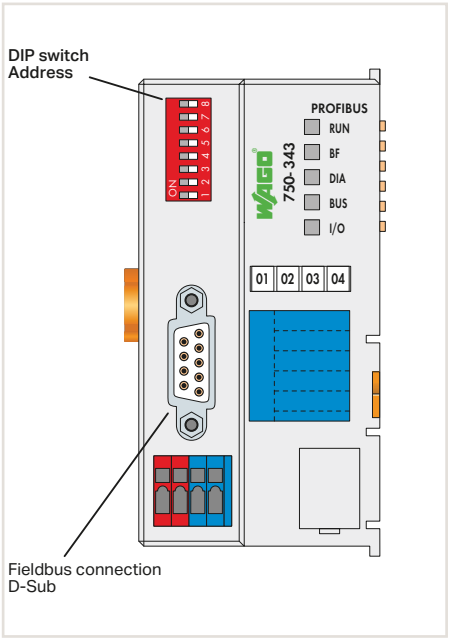
4.1

Fieldbus Coupler PROFIBUS DP

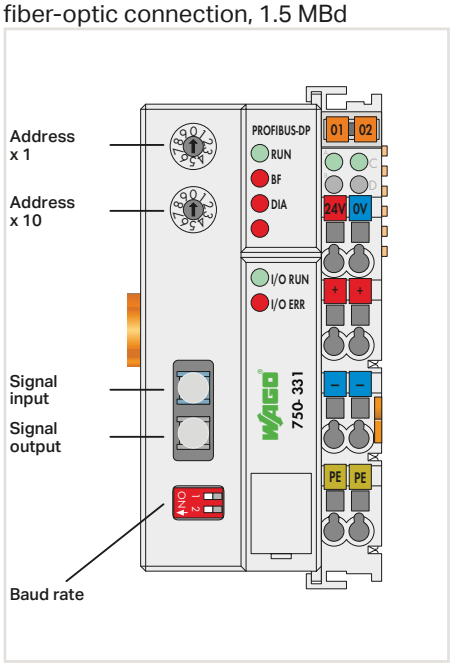
Figure: 750-343

Figure: 750-331

12 MBd, ECO



fiber-optic connection, 1.5 MBd



Item Description	FC PROFIBUS	FC PROFIBUS
Version	12MBd ECO	FOC 1.5MBd
Item No.	**750-343**	**750-331**
Technical Data		
Fieldbus	PROFIBUS	PROFIBUS
Protocols	PROFIBUS DP	PROFIBUS DP
Connection technology: Fieldbus input/output	D-Sub 9 socket	HP Simplex, FOC plug included with delivery
Number of fieldbus nodes on master max.	125 with repeater	10 in subring
Transmission medium	Copper cable per EN 50170	Fiber optic cable (APF fiber)
Baud rate	9.6 kBd … 12 MBd	93.75–1500 kBd
Number of I/O modules per node max.	63	64
Input and output process image (internal) max.	32 bytes	128 bytes
System supply voltage	24 VDC (–25 … +30 %)	24 VDC (–15 … +20 %)
Input current typ. at rated load (24 V)	260 mA	500 mA
Total current for system supply	650 mA	1650 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, UL 508
Data sheet and further information, see:	wago.com/750-343	wago.com/750-331
Accessories	**Item No.**	**Item No.**
GSD files	Download: www.wago.com	Download: www.wago.com

4.1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

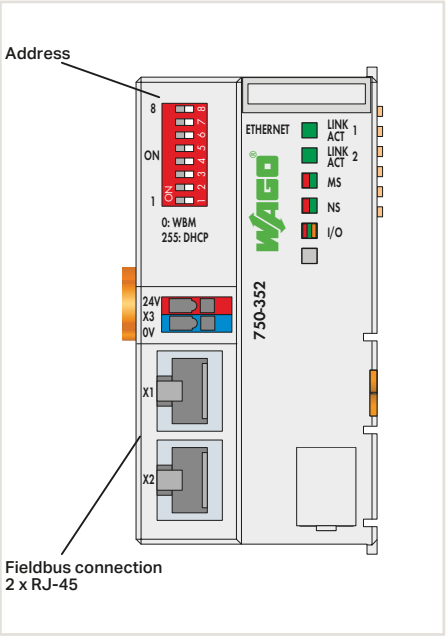
Approvals and corresponding ratings,
see Page 516 or www.wago.com

Fieldbus Coupler ETHERNET

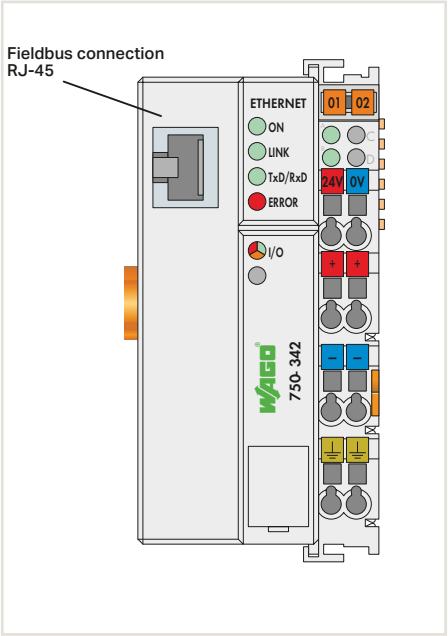
Figure: 750-352

Figure: 750-342

3rd Generation



1st Generation



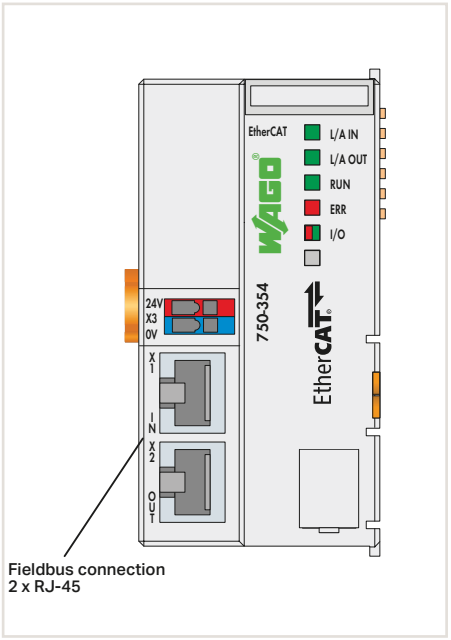
Item Description	FC ETHERNET		FC ETHERNET
Version	G3	G3	G1
Item No.	**750-352**	**750-352/000-001**	**750-342**
Technical Data			
Fieldbus	EtherNet/IP, MODBUS/TCP		MODBUS/TCP
Protocols	EtherNet/IP*, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, FTP, SNMP		MODBUS/TCP, HTTP, BootP, MODBUS/UDP
Connection technology: Fieldbus input/output	2 x RJ-45		RJ-45
Bus segment length max.	100 m		100 m
Baud rate	10/100 Mbit/s		10 Mbit/s
Number of I/O modules per node max.	250		64
Input and output process image (internal) max.	1020 words		512 bytes
System supply voltage	24 VDC (−25 … +30 %)		24 VDC (−25 … +30 %)
Input current typ. at rated load (24 V)	280 mA		500 mA
Total current for system supply	700 mA		1800 mA
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm		50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-352		wago.com/750-342

*On variants 750-352/000-001, ETHERNET/IP is activated as standard protocol.

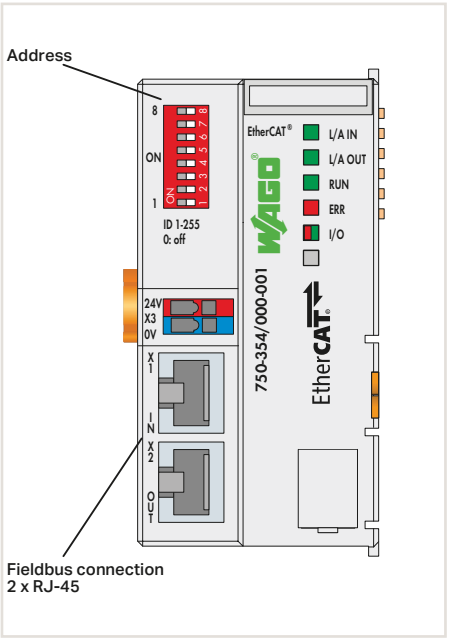
Fieldbus Coupler EtherCAT

Figure: 750-354

Figure: 750-354/000-001



ID Switch



Item Description	FC EtherCAT	FC EtherCAT
Version		ID-Switch
Item No.	**750-354**	**750-354/000-001**
Technical Data		
Fieldbus	EtherCAT	EtherCAT
Protocols	EtherCAT (direct mode)	EtherCAT (direct mode)
Connection technology: Fieldbus input/output	2 x RJ-45	2 x RJ-45
Baud rate	100 Mbit/s	100 Mbit/s
Number of I/O modules per node max.	64	64
Input and output process image (internal) max.	1024 bytes	1024 bytes
System supply voltage	24 VDC (−25 … +30 %)	24 VDC (−25 … +30 %)
Input current typ. at rated load (24 V)	250 mA	250 mA
Total current for system supply	700 mA	700 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm	49.5 x 71.9 x 96.8 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-354	wago.com/750-354/000-001

EtherCAT® is a registered trademark and patented technology of Beckhoff Automation GmbH.

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

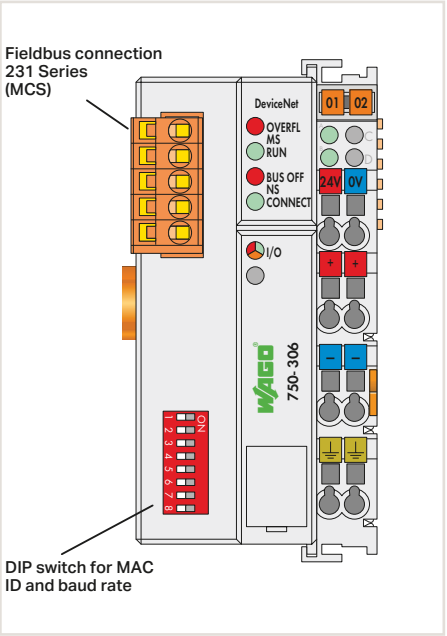
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 516 or www.wago.com

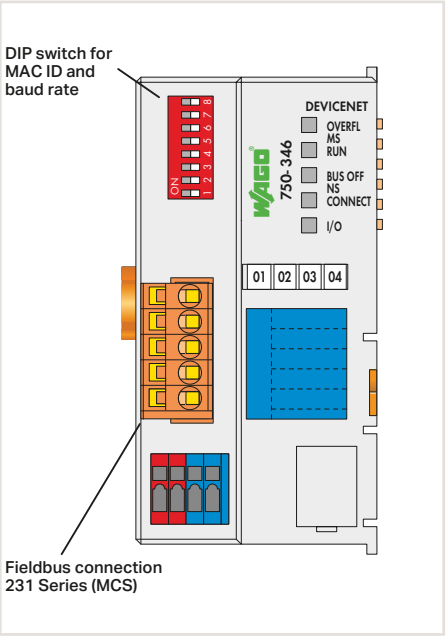
Fieldbus Coupler DeviceNet

Figure: 750-306

Figure: 750-346



ECO

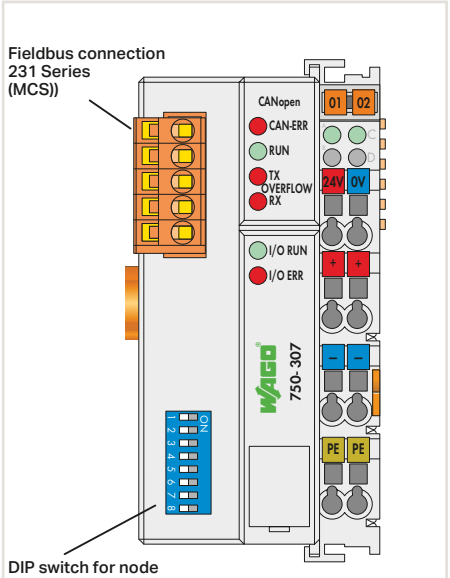


Item Description	FC DeviceNet	FC DeviceNet
Version		ECO
Item No.	**750-306**	**750-346**
Technical Data		
Fieldbus	DeviceNet™	DeviceNet™
Connection technology: Fieldbus input/output	5-pole male connector	5-pole male connector
Number of fieldbus nodes on master max.	64 with scanner	64 with scanner
Number of I/O points	Approx. 6000 (dependent on master)	Approx. 6000 (dependent on master)
Baud rate	125 kBd, 250 kBd, 500 kBd	125 kBd, 250 kBd, 500 kBd
Number of I/O modules per node max.	64	64
Input and output process image (internal) max.	512 bytes	32 bytes
System supply voltage	24 VDC (−25 … +30 %)	24 VDC (−15 … +20 %)
Input current typ. at rated load (24 V)	500 mA	260 mA
Input current via DeviceNet interface at 11 V	120 mA	120 mA
Total current for system supply	1650 mA	650 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	49.5 x 71.9 x 96.8 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Certification	ODVA	
Data sheet and further information, see:	wago.com/750-306	wago.com/750-346
Accessories	**Item No.**	**Item No.**
EDS files	Download: www.wago.com	Download: www.wago.com

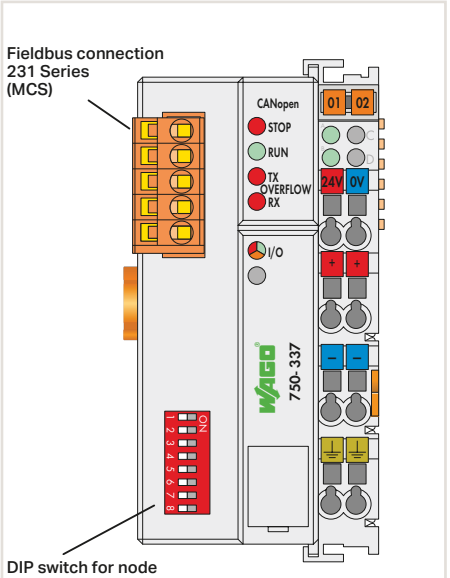
Fieldbus Coupler CANopen

Figure: 750-337

Figure: 750-347



MCS, optional: ext. Temperature



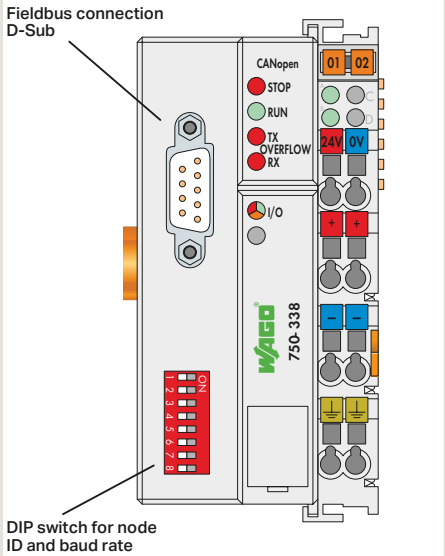
Item Description	FC CANopen	FC CANopen	
Version		MCS	MCS T
Item No.	**750-307**	**750-337**	**750-337/025-000**
Technical Data			
Fieldbus	CANopen	CANopen	
Connection technology: Fieldbus input/output	5-pole male connector	5-pole male connector	
Number of fieldbus nodes on master max.	110	110	
Bus segment length max.	30–1000 m (depending on baud rate / cable)	30–1000 m (depending on baud rate / cable)	
Transmission medium	Shielded Cu cable 3 x 0.25 mm²	Shielded Cu cable 3 x 0.25 mm²	
Baud rate	10 kBd … 1 MBd	10 kBd … 1 MBd	
Number of I/O modules per node max.	64	64	
Input and output process image (internal) max.	512 bytes	512 bytes	
Number of PDOs	5 Tx / 5 Rx	32 Tx / 32 Rx	
Number of SDOs	2 SDO servers	2 SDO servers	
Communication profile	DS-301 V3.0	DS-301 V4.01	
Device profile	DS-401 V1.4	DS-401 V2.0, Additional functions: Limit monitoring, flank-triggered PDOs, configurable response in the event of an error	
System supply voltage	24 VDC (−15 … +20 %)	24 VDC (−25 … +30 %)	
Input current typ. at rated load (24 V)	500 mA	500 mA	
Total current for system supply	1650 mA	1650 mA	
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm	
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-307	wago.com/750-337	
Accessories	**Item No.**	**Item No.**	
EDS files	Download: www.wago.com	Download: www.wago.com	

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 516 or www.wago.com

D-Sub

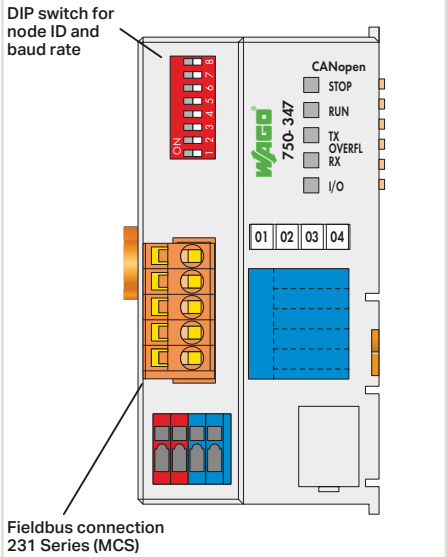


FC CANopen
DSub
750-338

CANopen
D-Sub 9 connector
110
30–1000 m (depending on baud rate / cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd … 1 MBd
64
512 bytes
32 Tx / 32 Rx
2 SDO servers
DS-301 V4.01
DS-401 V2.0, Additional functions: Limit monitoring, flank-triggered PDOs, configurable response in the event of an error
24 VDC (−25 … +30 %)
500 mA
1650 mA
0 … +55 °C
50.5 x 71.1 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
wago.com/750-338

Item No.
Download: www.wago.com

MCS, ECO

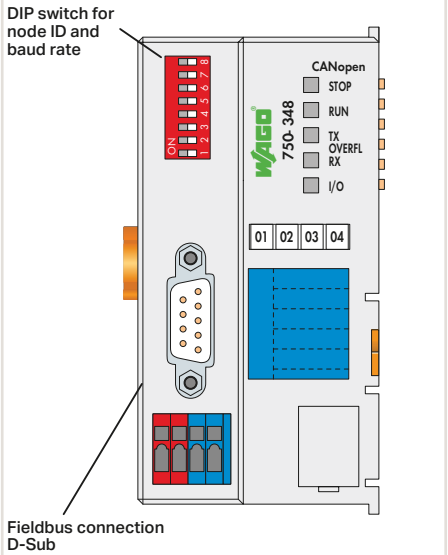


FC CANopen
MCS ECO
750-347

CANopen
5-pole male connector
110
30–1000 m (depending on baud rate / cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd … 1 MBd
64
32 bytes
5 Tx / 5 Rx
1 SDO servers
DS-301 V4.01
DS-401 V2.0, Additional functions: configurable response in the event of an error
24 VDC (−25 … +30 %)
260 mA
650 mA
0 … +55 °C
49.5 x 71.9 x 96.8 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
wago.com/750-347

Item No.
Download: www.wago.com

D-Sub, ECO

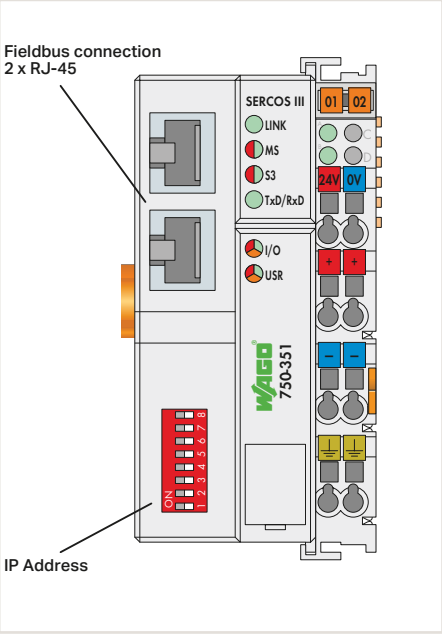


FC CANopen
DSub ECO
750-348

CANopen
D-Sub 9 connector
110
30–1000 m (depending on baud rate / cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd … 1 MBd
64
32 bytes
5 Tx / 5 Rx
1 SDO servers
DS-301 V4.01
DS-401 V2.0, Additional functions: configurable response in the event of an error
24 VDC (−25 … +30 %)
260 mA
650 mA
0 … +55 °C
49.5 x 71.9 x 96.8 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
wago.com/750-348

Item No.
Download: www.wago.com

Fieldbus Coupler sercos



Item Description	FC sercos
Bestellnr.	**750-351**
Technical Data	
Fieldbus	sercos
Protocols	sercos, FSP-IO, TCP/IP, FTP, HTTP, BootP, DHCP, SNTP
Supported services	SVC, RTC, CC, IP, Ring break (GDP_Basic, SCP_VarCFG, SCP_Sync)
Connection technology: Fieldbus input/output	2 x RJ-45
SERCOS version	V1.1.1
IO profile	V1.1.1
Number of couplers (slaves) in sercos ring	512
Baud rate	100 Mbit/s, full duplex
Number of I/O modules per node max.	250
Input and output process image (internal) max.	2 KB (RTC and SVC)
System supply voltage	24 VDC (–25 … +30 %)
Input current typ. at rated load (24 V)	500 mA
Total current for system supply	1700 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	50,5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-351

4.1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

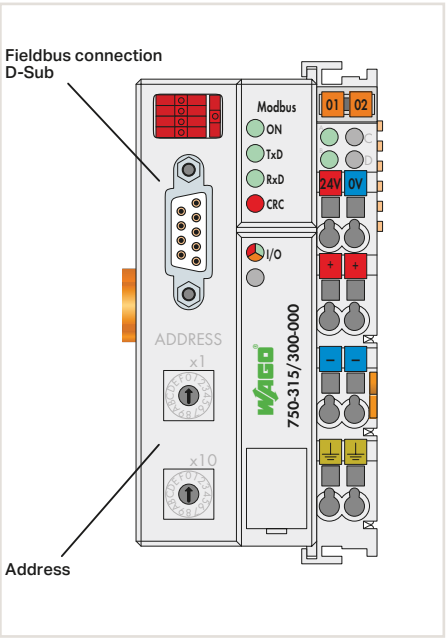
Approvals and corresponding ratings,
see Page 516 or www.wago.com

Fieldbus Coupler MODBUS

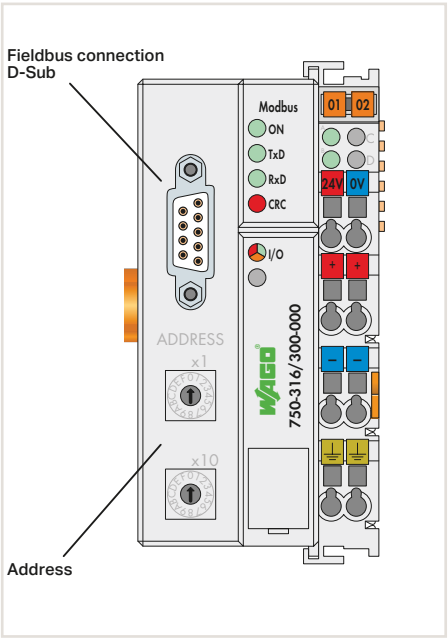
Figure: 750-315/300-000

Figure: 750-316/300-000

RS-485, 115.2 kBd



RS-232, 115.2 kBd

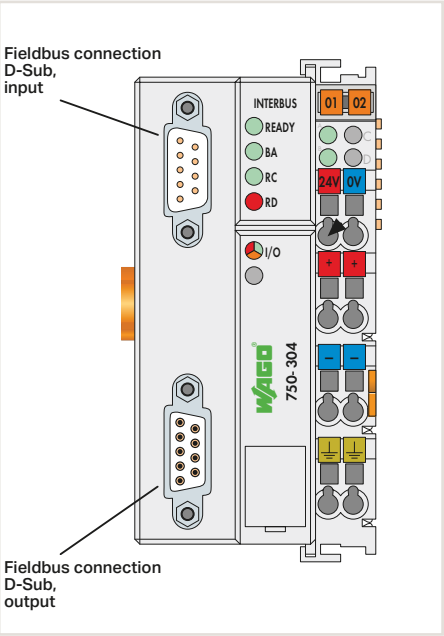


Item Description	FC MODBUS	FC MODBUS
Version	RS485 115.2kBd	RS232 115.2kBd
Item No.	**750-315/300-000**	**750-316/300-000**
Technical Data		
Fieldbus	MODBUS	MODBUS
Connection technology: Fieldbus input/output	D-Sub 9 socket	D-Sub 9 socket
Number of fieldbus nodes on master max.	247 with repeater	247 with repeater
Interface standard	RS-485	RS-232
Baud rate	150 Bd ... 115.2 kBd	150 Bd ... 115.2 kBd
Number of I/O modules per node max.	64	64
Input and output process image (internal) max.	512 bytes	512 bytes
System supply voltage	24 VDC (−25 ... +30 %)	24 VDC (−25 ... +30 %)
Input current typ. at rated load (24 V)	500 mA	500 mA
Total current for system supply	1650 mA	1650 mA
Ambient temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-315/300-000	wago.com/750-316/300-000

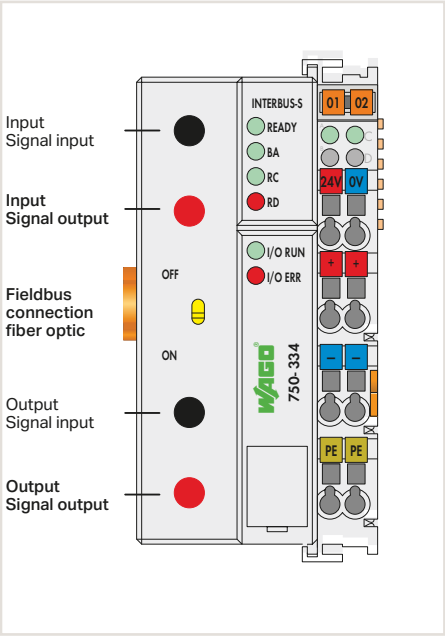
Fieldbus Coupler INTERBUS

Figure: 750-304

Figure: 750-334



fiber-optic connection



Item Description	FC INTERBUS	FC INTERBUS
Version		FOC
Item No.	**750-304**	**750-334**

Technical Data		
Fieldbus	INTERBUS	INTERBUS
Connection technology: Fieldbus input/output	D-Sub 9 plug / D-Sub 9 socket	F-SMA
Number of fieldbus nodes on master max.	256	256
Bus segment length max.	400 m	1–40 m
Transmission medium	Copper cables	Fiber optic cable (API fiber)
Baud rate	500 kBd	500 kBd
Number of I/O modules per node max.	64	64
Input and output process image (internal) max.	64 bytes	64 bytes
System supply voltage	24 VDC (−15 … +20 %)	24 VDC (−15 … +20 %)
Input current typ. at rated load (24 V)	500 mA	500 mA
Total current for system supply	1700 mA	1650 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm
Approvals	CE, KC, cULus, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, cULus, UL 508, ANSI/ISA
Standard	EN 50254	EN 50254
Certification	INTERBUS CLUB	INTERBUS CLUB
Data sheet and further information, see:	wago.com/750-304	wago.com/750-334

Accessories	**Item No.**	**Item No.**
INTERBUS Files	Download: www.wago.com	Download: www.wago.com

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

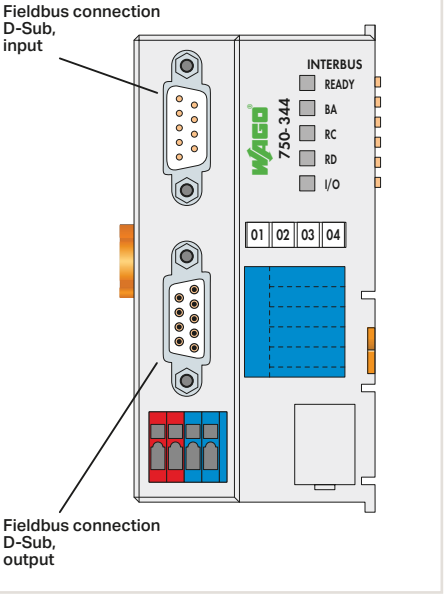
Approvals and corresponding ratings,
see Page 516 or www.wago.com

Fieldbus Coupler INTERBUS

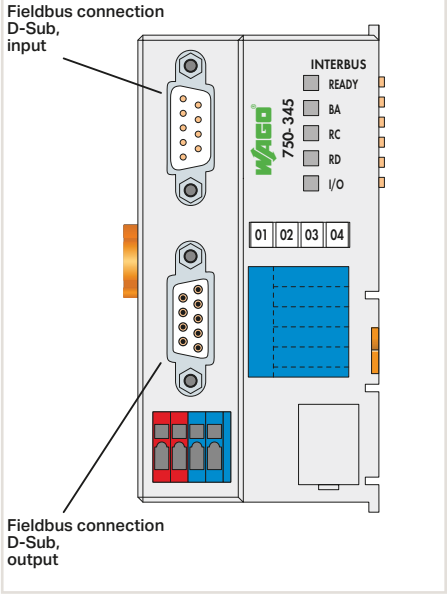
Figure: 750-344

Figure: 750-345

500 kBit/s, ECO

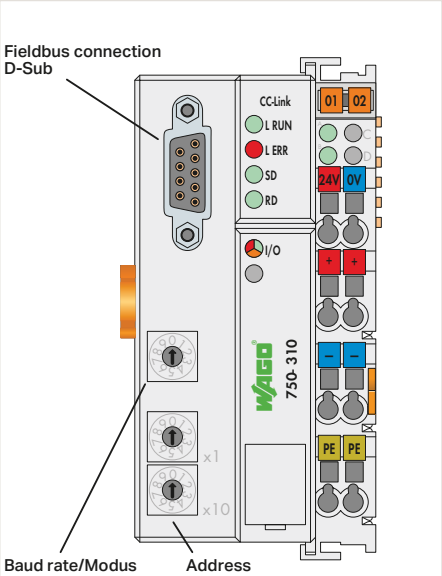


2 Mbit/s, ECO



Item Description	FC INTERBUS	FC INTERBUS
Version	500kbit/s ECO	2 Mbit/s ECO
Item No.	**750-344**	**750-345**
Technical Data		
Fieldbus	INTERBUS	INTERBUS
Connection technology: Fieldbus input/output	D-Sub 9 plug / D-Sub 9 socket	D-Sub 9 plug / D-Sub 9 socket
Number of fieldbus nodes on master max.	256	256
Bus segment length max.	400 m	150 m
Transmission medium	Copper cables	Copper cables
Baud rate	500 kBd	2 MBd
Number of I/O modules per node max.	64	64
Input and output process image (internal) max.	20 bytes	20 bytes
System supply voltage	24 VDC (−15 … +20 %)	24 VDC (−15 … +20 %)
Input current typ. at rated load (24 V)	260 mA	260 mA
Total current for system supply	650 mA	650 mA
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm	49.5 x 71.9 x 96.8 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Standard	EN 50254	EN 50254
Data sheet and further information, see:	wago.com/750-344	wago.com/750-345
Accessories	**Item No.**	**Item No.**
INTERBUS Files	Download: www.wago.com	Download: www.wago.com

Fieldbus Coupler CC-Link



Item Description	FC CC-Link
Item No.	**750-310**

Technical Data	
Fieldbus	CC-Link
Connection technology: Fieldbus input/output	D-Sub 9 socket
Number of fieldbus nodes on master max.	64
Baud rate	156 kBd … 10 MBd
Number of I/O modules per node max.	64
Station addresses	4/1–4
Input and output process image (internal) max.	14 bytes digital, 2 bytes system, 32 bytes analog
System supply voltage	24 VDC (−25 … +30 %)
Input current typ. at rated load (24 V)	500 mA
Total current for system supply	1700 mA
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-310

4.1

Mini-WSB Quick marking system
see Full Line Catalog, Volume 6

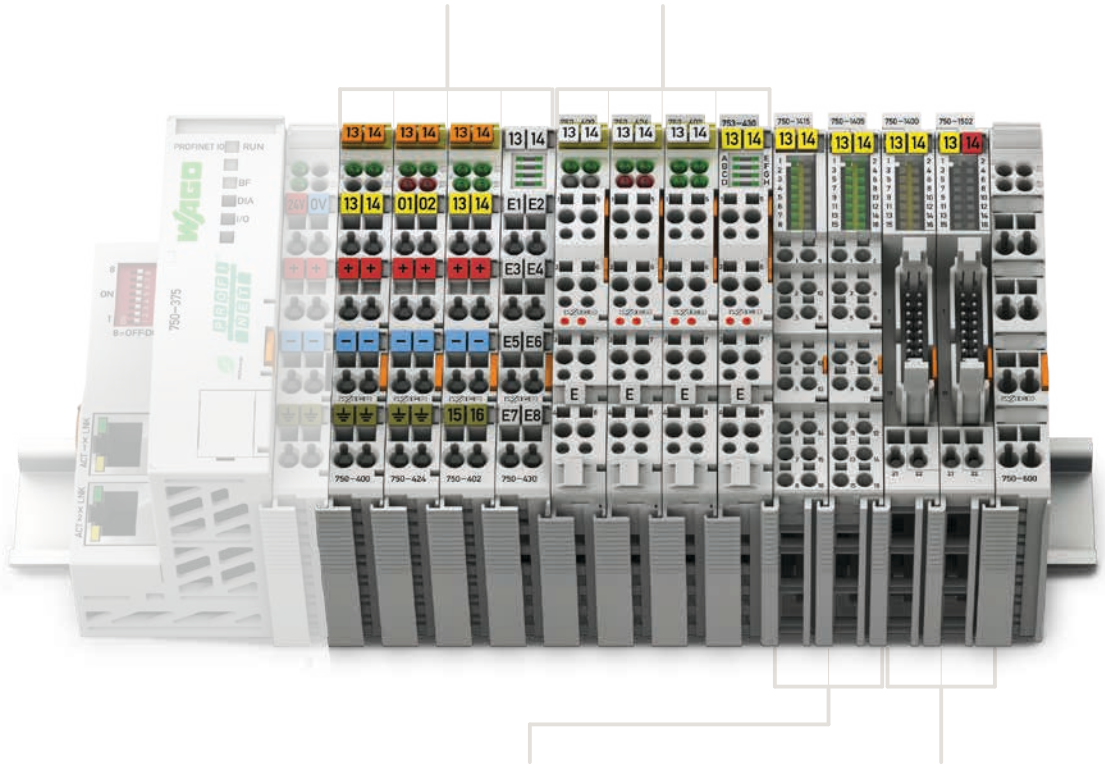
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 516 or www.wago.com

Digital Input Modules

750 Series housing design	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

753 Series housing design	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.37 inch



750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)	
Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch

750 Series housing design, with ribbon cable connector	
Dimensions W x H x D	12 x 74.1 x 100 mm
Height from upper edge of DIN rail	66.9 mm
Connection technology	20-pole male connector + 2 x CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

PROFIsafe

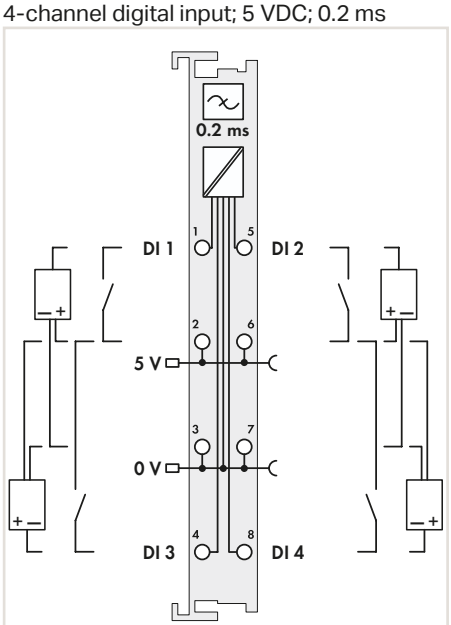
750 and 753 Series I/O-System, digital input modules
Contents

Digital input, 5 (12) VDC, 0.2 ms

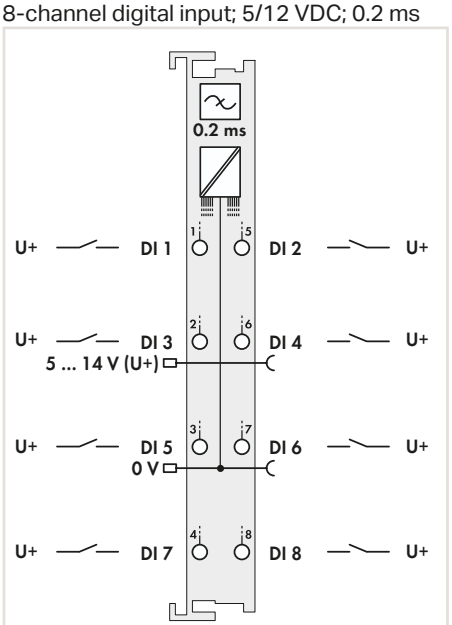
Figure: 750-414

Figure: 753-434

4-channel digital input; 5 VDC; 0.2 ms



8-channel digital input; 5/12 VDC; 0.2 ms



Item description	4DI	8DI
Version	5 VDC 0.2ms	5/12 VDC 0.2ms
Item no.	**750-414**	**753-434**
Technical Data		
Pluggable connector		•
Number of digital inputs	4	8
Type of signal	5 VDC	5 … 14 VDC
Voltage range for signal (0)	0 … 0.8 VDC	−3 VDC … 0.2 x U_V
Voltage range for signal (1)	2.4 … 5 VDC	0.5 DC U_V … 1.1 U_V
Sensor connection	2 x (2-conductor, 3-conductor)*	1-conductor
Input characteristic	High-side switching	High-side switching
Input filter (digital)	0.2 ms	0.2 ms
Input current per channel for signal (1) typ.	0.05 mA	0.06 mA
Sensor supply voltage	5 VDC	
Field supply voltage	5 VDC via power jumper contacts	5 … 14 VDC (−15 … +20 %), via power jumper contacts
Internal data width	4 bits	8 bits
Isolation	500 V system/field	500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA	CE, KC, Marine, cULus UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-414	wago.com/753-434

Accessories		Item no.
Plug		753-110
753 Series coding elements		753-150

Notice:
An additional bus supply module must be added for operation with 5 VDC!

*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

Notice:
An additional bus supply module must be added for 5 … 14 VDC supply!

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

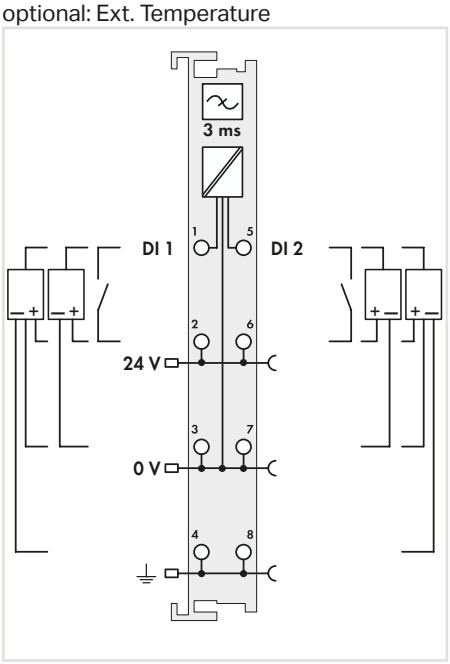
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 VDC, 3 ms

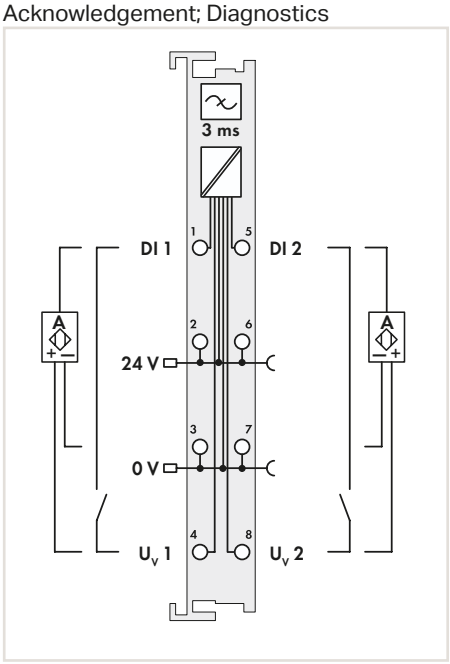
Figure: 750-400

Figure: 753-400

2-channel digital input; 24 VDC; 3 ms; optional: Ext. Temperature



2-channel digital input; 24 VDC; 3 ms; Acknowledgement; Diagnostics



Item description	2DI			2DI	
Version	24 VDC 3ms	24 VDC 3ms T	24 VDC 3ms	24 VDC 3ms Acknol Diagn	24 VDC 3ms Acknol Diagn
Item no.	**750-400**	**750-400/025-000**	**753-400**	**750-418**	**753-418**
Technical Data					
Pluggable connector			•		•
Number of digital inputs	2			2	
Type of signal	24 VDC			24 VDC	
Voltage range for signal (0)	−3 … +5 VDC			−3 … +5 VDC	
Voltage range for signal (1)	15 … 30 VDC			15 … 30 VDC	
Sensor connection	2-conductor, 3-conductor, 4-conductor			2-conductor, 3-conductor	
Input characteristic	High-side switching			High-side switching	
Input filter (digital)	3 ms			3 ms	
Input current per channel for signal (1) typ.	4.5 mA			3.7 mA	
Sensor supply voltage	24 VDC			24 VDC, short-circuit-protected, isolated channels	
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts			24 VDC (−25 … +30 %), via power jumper contacts	
Internal data width	2 bits			4 bits	
Diagnostics				Short circuit, active acknowledgement after error rectified	
Isolation	500 V system/field			500 V system/field	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-400		wago.com /753-400	wago.com/750-418	wago.com/753-418

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

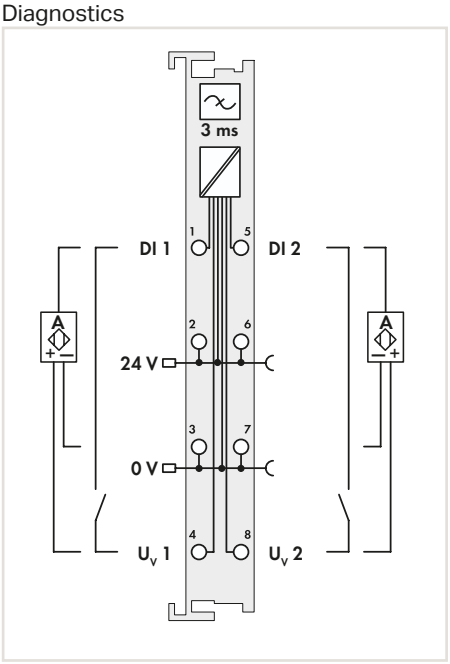
4.2

Digital Input, 24 VDC, 3 ms

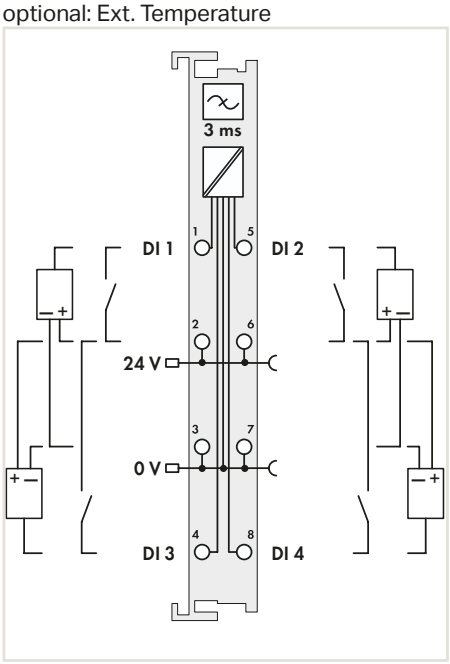
Figure: 750-421

Figure: 750-402

2-channel digital input; 24 VDC; 3 ms; Diagnostics



4-channel digital input; 24 VDC; 3 ms; optional: Ext. Temperature



Item description	2DI		4DI		
Version	24 VDC 3ms Diagn	24 VDC 3ms Diagn	24 VDC 3ms	24 VDC 3ms T	24 VDC 3ms
Item no.	**750-421**	**753-421**	**750-402**	**750-402/025-000**	**753-402**
Technical Data					
Pluggable connector		•			•
Number of digital inputs	2		4		
Type of signal	24 VDC		24 VDC		
Voltage range for signal (0)	−3 … +5 VDC		−3 … +5 VDC		
Voltage range for signal (1)	15 … 30 VDC		15 … 30 VDC		
Sensor connection	2-conductor, 3-conductor		2 x (2-conductor, 3-conductor)*		
Input characteristic	High-side switching		High-side switching		
Input filter (digital)	3 ms		3 ms		
Input current per channel for signal (1) typ.	3.7 mA		4.5 mA		
Sensor supply voltage	24 VDC, short-circuit-protected, isolated channels		24 VDC		
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−25 … +30 %), via power jumper contacts		
Internal data width	4 bits		4 bits		
Diagnostics	Short circuit, automatic acknowledgement after error rectified				
Isolation	500 V system/field		500 V system/field		
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	−20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-421	wago.com/753-421	wago.com/750-402		wago.com /753-402

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

Mini-WSB Quick Marking System see Full Line Catalog, Volume 6

DIN rails and tool see Section 11

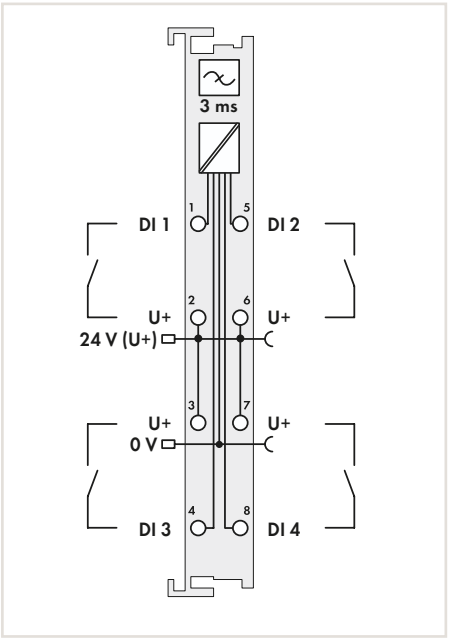
Approvals and corresponding ratings, see Page 517 or www.wago.com

Digital Input, 24 VDC, 3 ms

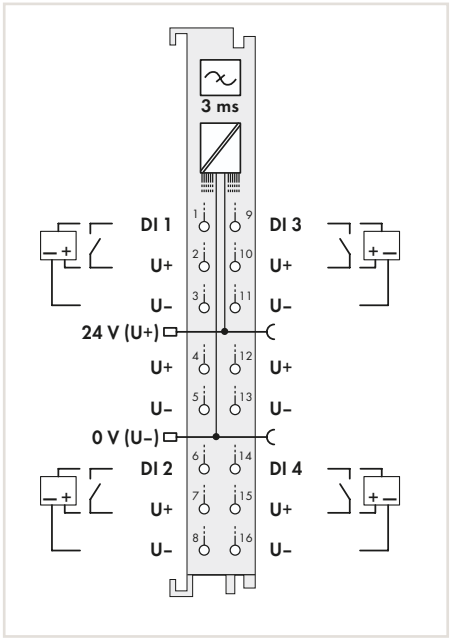
Figure: 750-432

Figure: 750-1420

4-channel digital input; 24 VDC; 3 ms; 2-conductor connection



4-channel digital input; 24 VDC; 3 ms; 3-conductor connection



Item description	4DI		4DI
Version	24 VDC 3ms 2-wire	24 VDC 3ms 2-wire	24 VDC 3ms 3-wire
Item no.	**750-432**	**753-432**	**750-1420**
Technical Data			
Pluggable connector		•	
Number of digital inputs	4		4
Type of signal	24 VDC		24 VDC
Voltage range for signal (0)	−3 … +5 VDC		−3 … +5 VDC
Voltage range for signal (1)	15 … 30 VDC		11 … 30 VDC
Sensor connection	2-conductor		3-conductor
Input characteristic	High-side switching		High-side switching
Input filter (digital)	3 ms		3 ms
Input current per channel for signal (1) typ.	4.5 mA		4.5 mA
Sensor supply voltage	24 VDC		24 VDC
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	4 bits		4 bits
Isolation	500 V system/field		500 V system/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69,8 x 100 mm		12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-432	wago.com/753-432	wago.com/750-1420

Accessories		**Item no.**	
Plug		**753-110**	
753 Series coding elements		**753-150**	

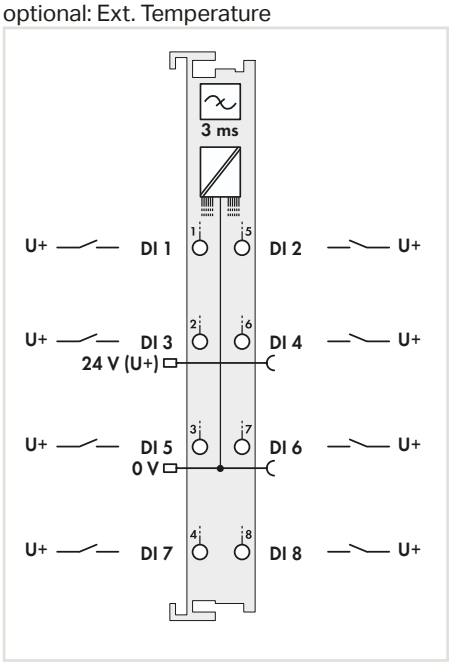
4.2

Digital Input, 24 VDC, 3 ms

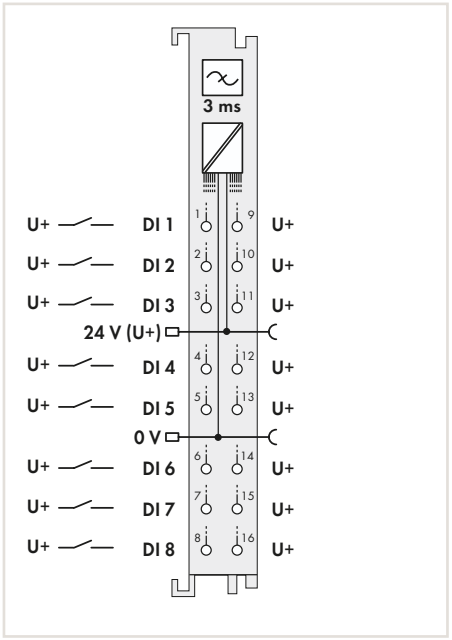
Figure: 750-430

Figure: 750-1415

8-channel digital input; 24 VDC; 3 ms; optional: Ext. Temperature



8-channel digital input; 24 VDC; 3 ms; 2-conductor connection



Item description	8DI			8DI
Version	24 VDC 3ms	24 VDC 3ms T	24 VDC 3ms	24 VDC 3ms 2-wire
Item no.	**750-430**	**750-430/025-000**	**753-430**	**750-1415**
Technical Data				
Pluggable connector			•	
Number of digital inputs	8			8
Type of signal	24 VDC			24 VDC
Voltage range for signal (0)	−3 … +5 VDC			−3 … +5 VDC
Voltage range for signal (1)	15 … 30 VDC			11 … 30 VDC
Sensor connection	1-conductor			2-conductor
Input characteristic	High-side switching			High-side switching
Input filter (digital)	3 ms			3 ms
Input current per channel for signal (1) typ.	2.8 mA			4.5 mA
Sensor supply voltage				24 VDC
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts			24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	8 bits			8 bits
Isolation	500 V system/field			500 V system/field
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm		12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-430		wago.com /753-430	wago.com/750-1415

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

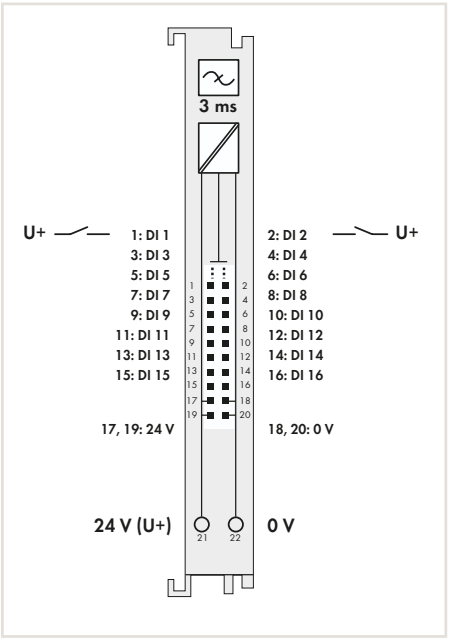
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 VDC, 3 ms

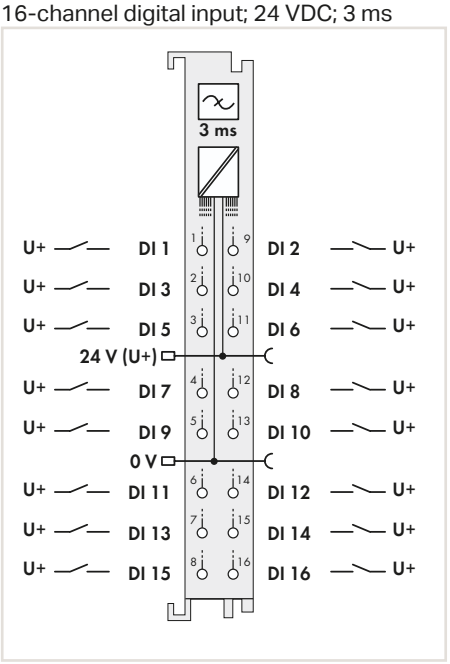
Figure: 750-1400

Figure: 750-1405

16-channel digital input; 24 VDC; 3 ms; Ribbon cable



16-channel digital input; 24 VDC; 3 ms



Item description	16DI	16DI
Version	24 VDC 3ms Ribbon Cable	24 VDC 3ms
Item no.	**750-1400**	**750-1405**
Technical Data		
Number of digital inputs	16	16
Type of signal	24 VDC	24 VDC
Voltage range for signal (0)	−3 … +5 VDC	−3 … +5 VDC
Voltage range for signal (1)	15 … 30 VDC	11 … 30 VDC
Sensor connection	1-conductor	1-conductor
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.3 mA	2.3 mA
Sensor supply voltage	24 VDC	
Field supply voltage	24 VDC (−25 … +30 %), via wiring level (CAGE CLAMP® connection)	24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	16 bits	16 bits
Isolation	500 V system/field	500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 74,1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1400	wago.com/750-1405

Accessories	**Item no.**
Interface modules for system wiring and interface cable	see Section 11

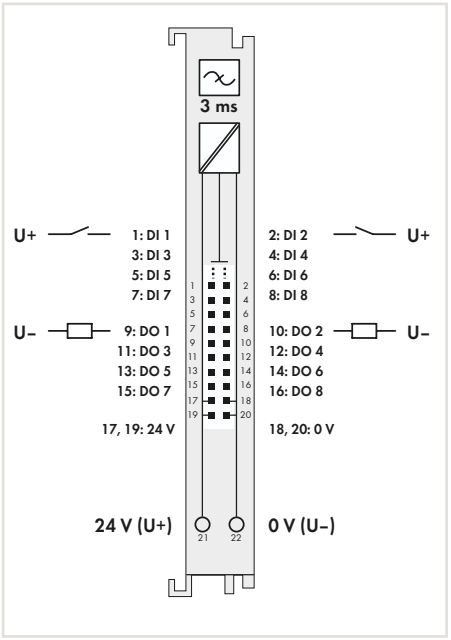
4.2

Digital Input/Output, 24 VDC

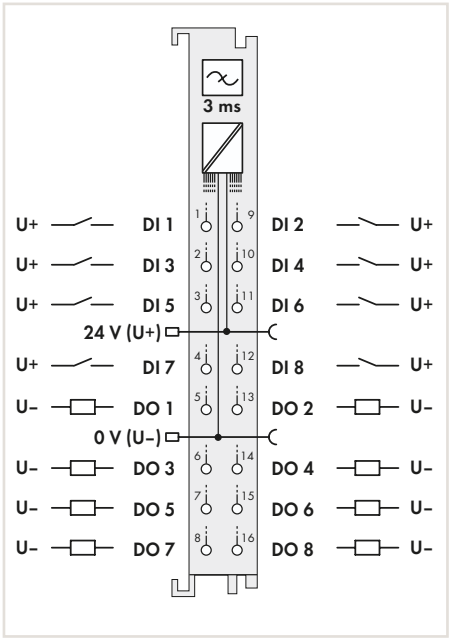
Figure: 750-1502

Figure: 750-1506

8-channel digital input/output; 24 VDC; 0.5 A; Ribbon cable



8-channel digital input/output; 24 VDC; 0.5 A



Item description	8DIO	8DIO
Version	24 VDC 0.5A Ribbon Cable	24 VDC 0.5A
Item no.	**750-1502**	**750-1506**
Technical Data		
Number of digital inputs	8	8
Type of signal	24 VDC	24 VDC
Voltage range for signal (0)	−3 … +5 VDC	−3 … +5 VDC
Voltage range for signal (1)	15 … 30 VDC	15 … 30 VDC
Sensor connection	1-conductor	1-conductor
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.4 mA	2.4 mA
Number of digital outputs	8	8
Output characteristic	High-side switching	High-side switching
Output current per channel	0.5 A, short-circuit-protected	0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	1-conductor	1-conductor
Switching frequency max.	1 kHz	1 kHz
Actuator supply voltage	24 VDC	
Current consumption, field supply (module with no external load)	16 mA	16 mA
Field supply voltage	24 VDC (−25 … +30 %), via wiring level (CAGE CLAMP® connection)	24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	8 bits In and 8 bits Out	8 bits In and 8 bits Out
Isolation	500 V system/field	500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1502	wago.com/750-1506

Accessories	Item no.	
Interface modules for system wiring and interface cable	see Section 11	

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

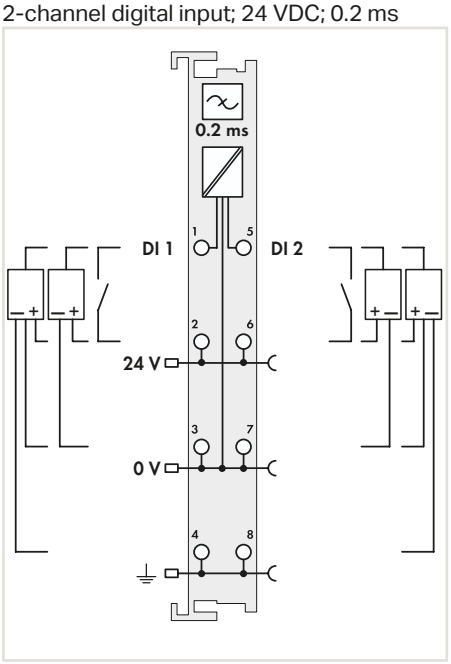
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 VDC, 0.2 ms

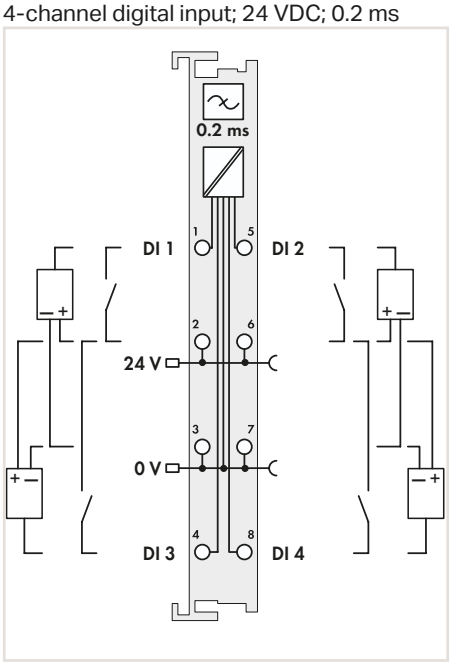
Figure: 750-401

Figure: 753-401

2-channel digital input; 24 VDC; 0.2 ms



4-channel digital input; 24 VDC; 0.2 ms



Item description	2DI		4DI	
Version	24 VDC 0.2ms	24 VDC 0.2ms	24 VDC 0.2ms	24VDC 0.2ms
Item no.	**750-401**	**753-401**	**750-403**	**753-403**
Technical Data				
Pluggable connector		•		•
Number of digital inputs	2		4	
Type of signal	24 VDC		24 VDC	
Voltage range for signal (0)	−3 … +5 VDC		−3 … +5 VDC	
Voltage range for signal (1)	15 … 30 VDC		15 … 30 VDC	
Sensor connection	2-conductor, 3-conductor, 4-conductor		2 x (2-conductor, 3-conductor)*	
Input characteristic	High-side switching		High-side switching	
Input filter (digital)	0.2 ms		0.2 ms	
Input current per channel for signal (1) typ.	4.5 mA		4.5 mA	
Sensor supply voltage	24 VDC		24 VDC	
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−25 … +30 %), via power jumper contacts	
Internal data width	2 bits		4 bits	
Isolation	500 V system/field		500 V system/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-401	wago.com/753-401	wago.com/750-403	wago.com/753-403

Accessories	**Item no.**	**Item no.**
Plug	**753-110**	**753-110**
753 Series coding elements	**753-150**	**753-150**

*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

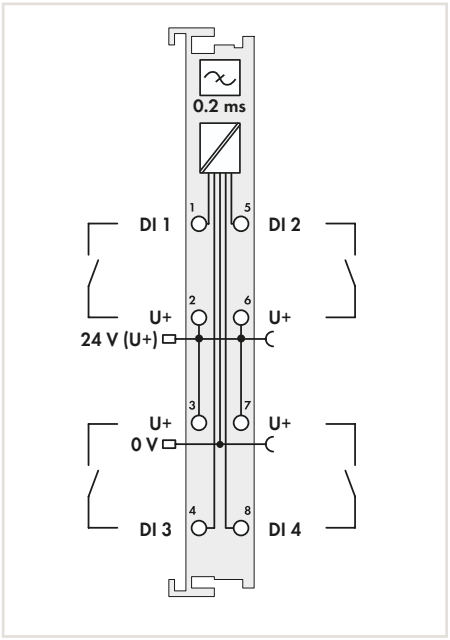
4.2

Digital Input, 24 VDC, 0.2 ms

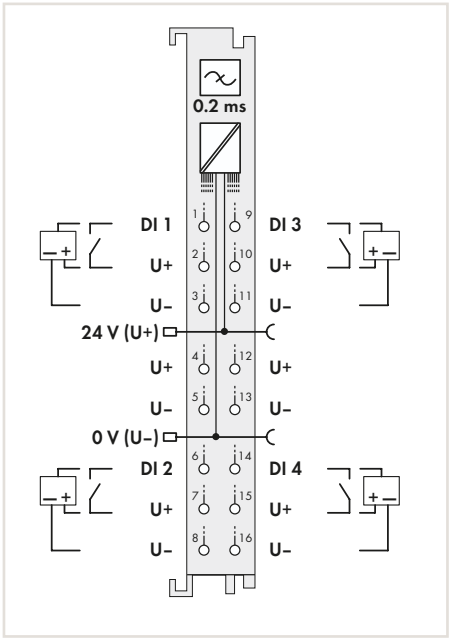
Figure: 750-433

Figure: 750-1421

4-channel digital input; 24 VDC; 0.2 ms; 2-conductor connection



4-channel digital input; 24 VDC; 0.2 ms; 3-conductor connection



Item description	4DI		4DI
Version	24 VDC 0.2ms 2-wire	24 VDC 0.2ms 2-wire	24 VDC 0.2ms 3-wire
Item no.	**750-433**	**753-433**	**750-1421**
Technical Data			
Pluggable connector		•	
Number of digital inputs	4		4
Type of signal	24 VDC		24 VDC
Voltage range for signal (0)	−3 … +5 VDC		−3 … +5 VDC
Voltage range for signal (1)	15 … 30 VDC		11 … 30 VDC
Sensor connection	2-conductor		3-conductor
Input characteristic	High-side switching		High-side switching
Input filter (digital)	0.2 ms		0.2 ms
Input current per channel for signal (1) typ.	4.5 mA		4.5 mA
Sensor supply voltage	24 VDC		24 VDC
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	4 bits		4 bits
Isolation	500 V system/field		500 V system/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-433	wago.com/753-433	wago.com/750-1421
Accessories		**Item no.**	
Plug		**753-110**	
753 Series coding elements		**753-150**	

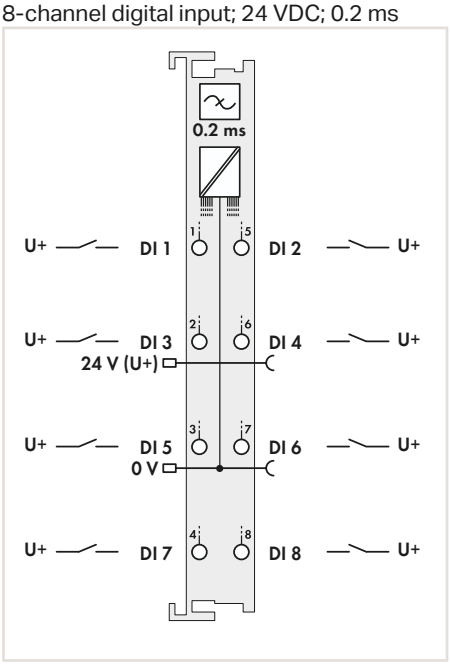
4.2

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 517 or www.wago.com

8-channel digital input; 24 VDC; 0.2 ms

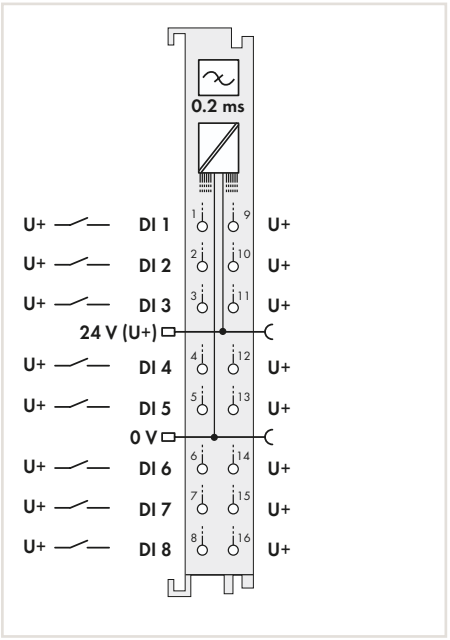


8DI	
24 VDC 0.2ms	24 VDC 0.2ms
750-431	753-431

	•
8	
24 VDC	
−3 … +5 VDC	
15 … 30 VDC	
1-conductor	
High-side switching	
0.2 ms	
2.8 mA	
24 VDC (−25 … +30 %), via power jumper contacts	
8 bits	
500 V system/field	
0 … +55 °C	
12 x 67.8 x 100 mm	12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-431	wago.com/753-431

	Item no.
	753-110
	753-150

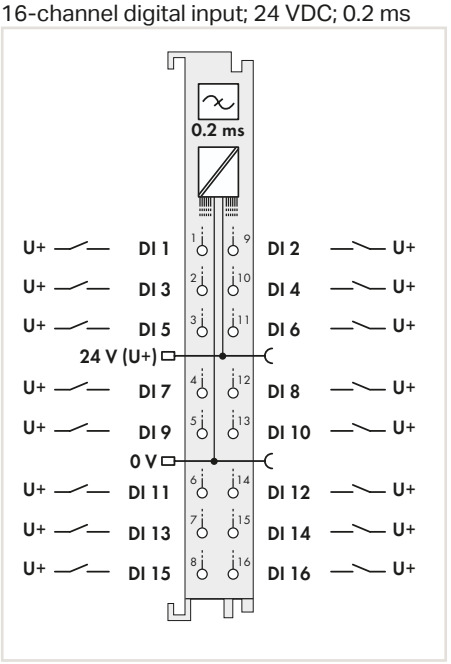
8-channel digital input; 24 VDC; 0.2 ms; 2-conductor connection



8DI
24 VDC 0.2ms 2-wire
750-1416

8
24 VDC
−3 … +5 VDC
11 … 30 VDC
2-conductor
High-side switching
0.2 ms
4.5 mA
24 VDC
24 VDC (−25 … +30 %), via power jumper contacts
8 bits
500 V system/field
0 … +55 °C
12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-1416

16-channel digital input; 24 VDC; 0.2 ms



16DI
24 VDC 0.2ms
750-1406

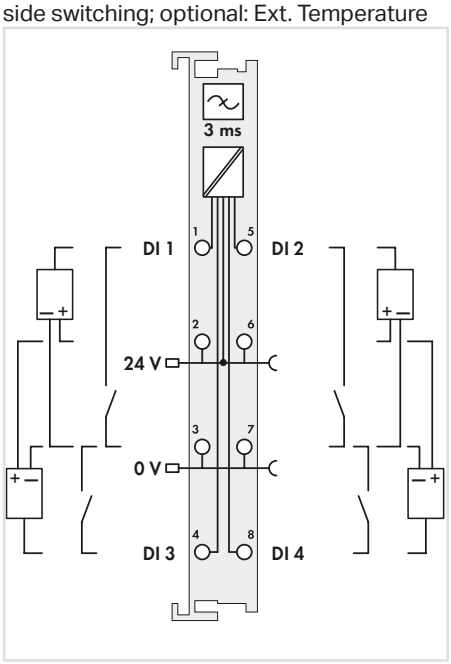
16
24 VDC
−3 … +5 VDC
15 … 30 VDC
1-conductor
High-side switching
0.2 ms
2.3 mA
24 VDC (−25 … +30 %), via power jumper contacts
16 bits
500 V system/field
0 … +55 °C
12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-1406

Digital Input, 24 VDC 3 ms, Low-Side Switching

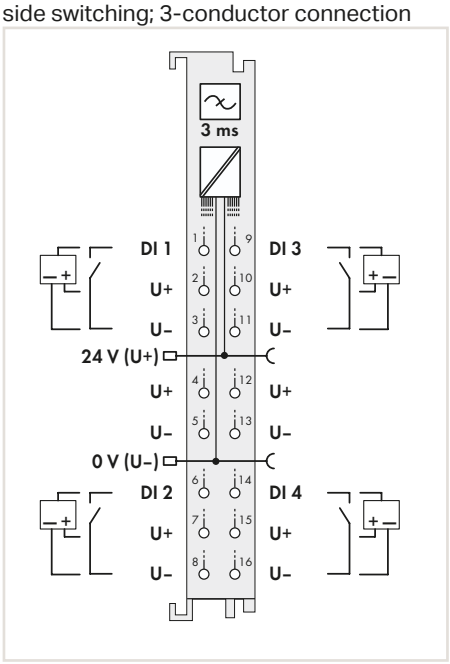
Figure: 750-408

Figure: 750-1422

4-channel digital input; 24 VDC; 3 ms; Low-side switching; optional: Ext. Temperature



4-channel digital input; 24 VDC; 3 ms; Low-side switching; 3-conductor connection



Item description	4DI			4DI
Version	24 VDC 3ms LSS	24 VDC 3ms LSS T	24 VDC 3ms LSS	24 VDC 3ms LSS 3-wire
Item no.	**750-408**	**750-408/025-000**	**753-408**	**750-1422**
Technical Data				
Pluggable connector			•	
Number of digital inputs	4			4
Type of signal	24 VDC			24 VDC
Voltage range for signal (0)	DC (U_V - 5 V) ... U_V			DC (U_V - 5 V) ... U_V
Voltage range for signal (1)	DC -3 V (U_V - 15 V)			DC -3 V (U_V - 15 V)
Sensor connection	2 x (2-conductor, 3-conductor)*			3-conductor
Input characteristic	Low-side switching			Low-side switching
Input filter (digital)	3 ms			3 ms
Input current per channel for signal (1) typ.	7 mA			2.5 mA
Sensor supply voltage	24 VDC			24 VDC
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts			24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	4 bits			4 bits
Isolation	500 V system/field			500 V system/field
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-408		wago.com /753-408	wago.com/750-1422

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

Mini-WSB Quick Marking System see Full Line Catalog, Volume 6

DIN rails and tool see Section 11

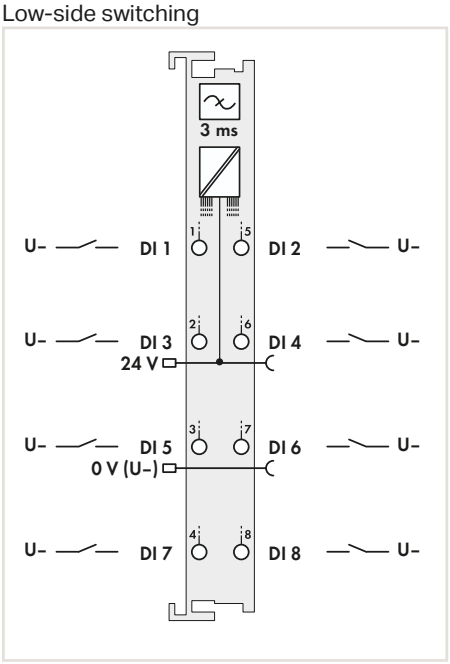
Approvals and corresponding ratings, see Page 517 or www.wago.com

Digital Input, 24 VDC 3 ms, Low-Side Switching

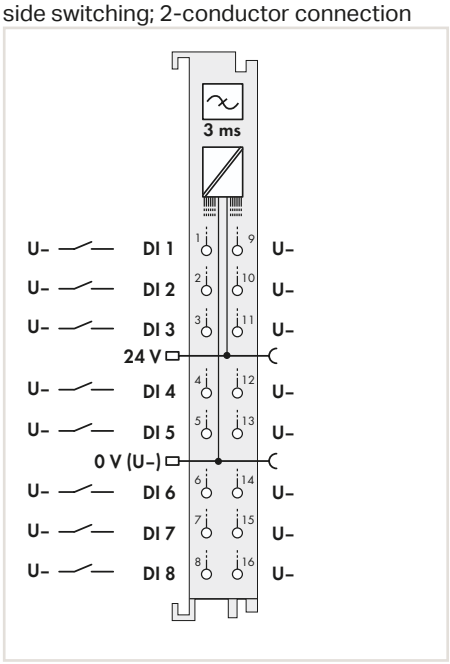
Figure: 750-436

Figure: 750-1417

8-channel digital input; 24 VDC; 3 ms; Low-side switching



8-channel digital input; 24 VDC; 3 ms; Low-side switching; 2-conductor connection



Item description	8DI		8DI
Version	24 VDC 3ms LSS	24 VDC 3ms LSS	24 VDC 3ms LSS 2-wire
Item no.	**750-436**	**753-436**	**750-1417**
Technical Data			
Pluggable connector		•	
Number of digital inputs	8		8
Type of signal	24 VDC		24 VDC
Voltage range for signal (0)	15 … 30 VDC		DC (U_V - 5 V) … U_V
Voltage range for signal (1)	−3 … +5 VDC		DC -3 V (U_V - 15 V)
Sensor connection	1-conductor		2-conductor
Input characteristic	Low-side switching		Low-side switching
Input filter (digital)	3 ms		3 ms
Input current per channel for signal (1) typ.	2.8 mA		2.4 mA
Sensor supply voltage			24 VDC
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−25 … +30 %), via power jumper contacts
Internal data width	8 bits		8 bits
Isolation	500 V system/field		500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-436	wago.com/753-436	wago.com/750-1417

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

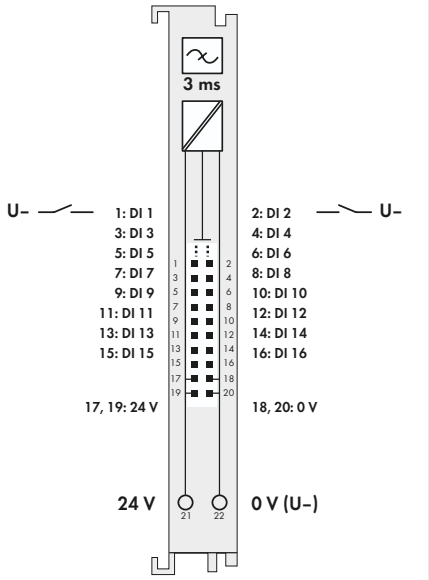
4.2

Digital Input, 24 VDC 3 ms, Low-Side Switching

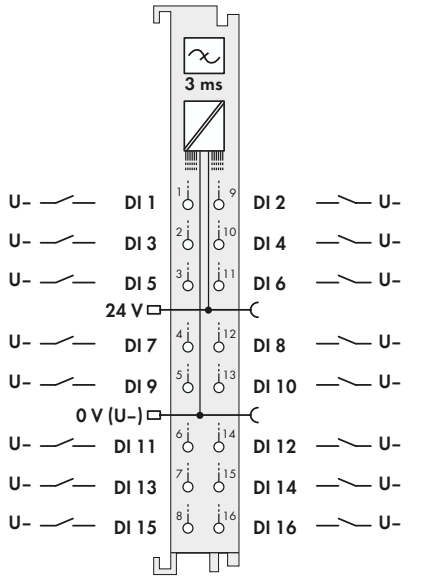
Figure: 750-1402

Figure: 750-1407

16-channel digital input; 24 VDC; 3 ms; Low-side switching; Ribbon cable



16-channel digital input; 24 VDC; 3 ms; Low-side switching



Item description	16DI	16DI
Version	24 VDC 3ms LSS Ribbon Cable	24 VDC 3ms LSS
Item no.	**750-1402**	**750-1407**

Technical Data		
Number of digital inputs	16	16
Type of signal	24 VDC	24 VDC
Voltage range for signal (0)	DC (U_V - 5 V) ... U_V	DC (U_V - 5 V) ... U_V
Voltage range for signal (1)	DC -3 V ... (U_V - 15 V)	DC -3 V ... (U_V - 15 V)
Sensor connection	1-conductor	1-conductor
Input characteristic	Low-side switching	Low-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.3 mA	2.3 mA
Sensor supply voltage	24 VDC	
Field supply voltage	24 VDC (–25 … +30 %), via wiring level (CAGE CLAMP® connection)	24 VDC (–25 … +30 %), via power jumper contacts
Internal data width	16 bits	16 bits
Isolation	500 V system/field	500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 74,1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1402	wago.com/750-1407

Accessories	Item no.	
Interface modules for system wiring and interface cable	see Section 11	

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

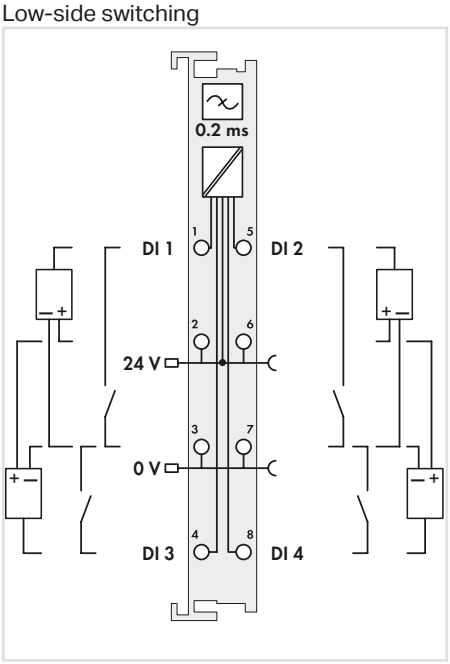
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 VDC, 0.2 ms, Low-Side Switching

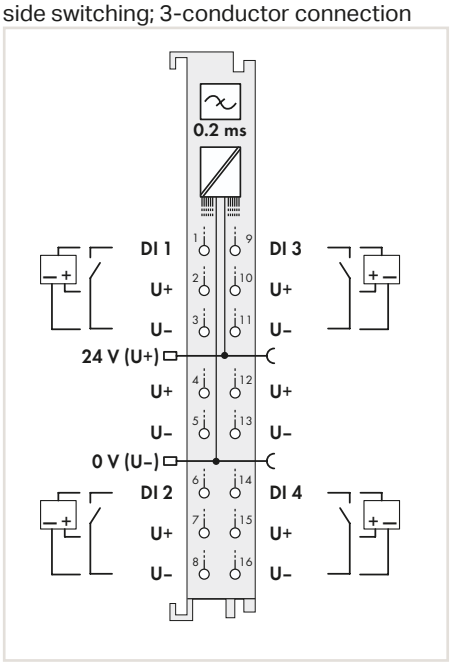
Figure: 750-409

Figure: 750-1423

4-channel digital input; 24 VDC; 0.2 ms; Low-side switching



4-channel digital input; 24 VDC; 0.2 ms; Low-side switching; 3-conductor connection



Item description	4DI		8DI
Version	24 VDC 0.2ms LSS	24 VDC 0.2ms LSS	24 VDC 0.2ms LSS 3-wire
Item no.	**750-409**	**753-409**	**750-1423**
Technical Data			
Pluggable connector		•	
Number of digital inputs	4		4
Type of signal	DC 24 V		DC 24 V
Voltage range for signal (0)	DC (U_V - 5 V) ... U_V		DC (U_V - 5 V) ... U_V
Voltage range for signal (1)	DC -3 V (U_V - 15 V)		DC -3 V (U_V - 15 V)
Sensor connection	2 x (2-conductor, 3-conductor)*		3-conductor
Input characteristic	Low-side switching		Low-side switching
Input filter (digital)	0.2 ms		0.2 ms
Input current per channel for signal (1) typ.	7 mA		2.5 mA
Sensor supply voltage	24 VDC		24 VDC
Field supply voltage	24 VDC (–25 … +30 %), via power jumper contacts		24 VDC (–25 … +30 %), via power jumper contacts
Internal data width	4 bits		4 bits
Isolation	500 V system/field		500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-409	wago.com/753-409	wago.com/750-1423

Accessories	**Item no.**
Plug	**753-110**
753 Series coding elements	**753-150**

*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

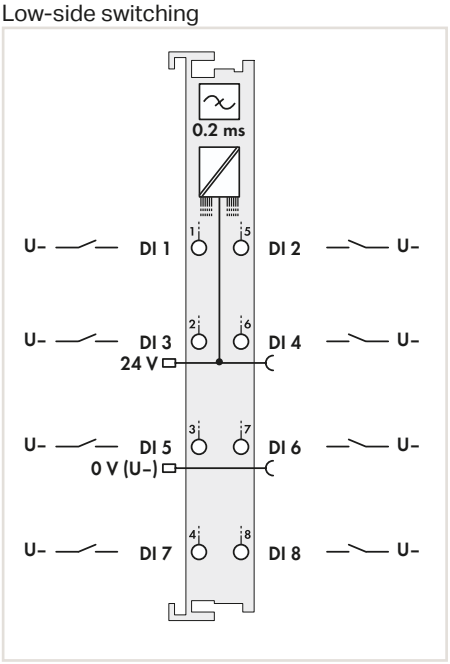
4.2

Digital Input, 24 VDC, 0.2 ms, Low-Side Switching

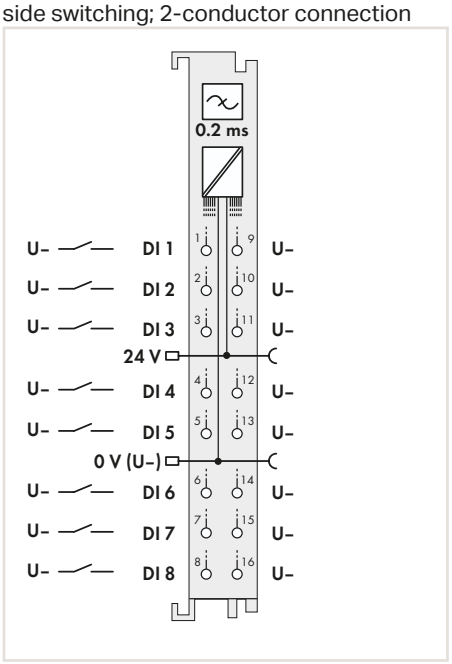
Figure: 750-437

Figure: 750-1418

8-channel digital input; 24 VDC; 0.2 ms; Low-side switching



8-channel digital input; 24 VDC; 0.2 ms; Low-side switching; 2-conductor connection



Item description	8DI		8DI
Version	24 VDC 0.2ms LSS	24 VDC 0.2ms LSS	24 VDC 0.2ms LSS 2-wire
Item no.	**750-437**	**753-437**	**750-1418**
Technical Data			
Pluggable connector		•	
Number of digital inputs	8		8
Type of signal	24 VDC		24 VDC
Voltage range for signal (0)	DC 15 … 30 V		DC (U_V - 5 V) … U_V
Voltage range for signal (1)	DC -3 … +5 V		DC -3 V (U_V - 15 V)
Sensor connection	1-conductor		2-conductor
Input characteristic	Low-side switching		Low-side switching
Input filter (digital)	0.2 ms		0.2 ms
Input current per channel for signal (1) typ.	2.8 mA		2.4 mA
Sensor supply voltage			24 VDC
Field supply voltage	24 VDC (–25 … +30 %), via power jumper contacts		24 VDC (–25 … +30 %), via power jumper contacts
Internal data width	8 bits		8 bits
Isolation	500 V system/field		500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 67,8 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-437	wago.com/753-437	wago.com/750-1418
Accessories		**Item no.**	
Plug		753-110	
753 Series coding elements		753-150	

4.2

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

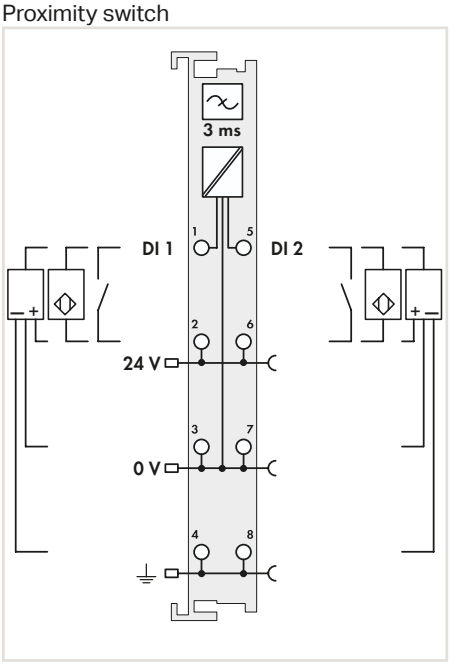
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 VDC, Proximity Switch

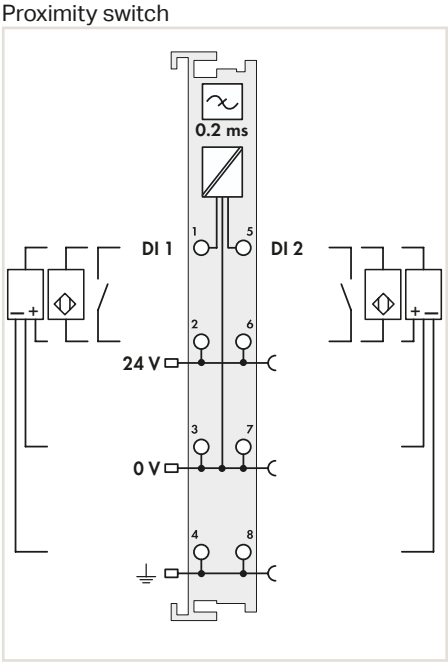
Figure: 750-410

Figure: 753-410

2-channel digital input; 24 VDC; 3 ms; Proximity switch



2-channel digital input; 24 VDC; 0.2 ms; Proximity switch



Item description	2DI		2DI	
Version	24 VDC 3ms Proxi Sensor	24 VDC 3ms Proxi Sensor	24 VDC 0.2ms Proxi Sensor	24 VDC 0.2ms Proxi Sensor
Item no.	**750-410**	**753-410**	**750-411**	**753-411**
Technical Data				
Pluggable connector		•		•
Number of digital inputs	2		2	
Type of signal	24 VDC		24 VDC	
Voltage range for signal (0)	−3 … +5 VDC		−3 … +5 VDC	
Voltage range for signal (1)	15 … 30 VDC		15 … 30 VDC	
Sensor connection	2-conductor, 3-conductor, 4-conductor		2-conductor, 3-conductor, 4-conductor	
Input characteristic	High-side switching		High-side switching	
Input filter (digital)	3 ms		0.2 ms	
Input current per channel for signal (1) typ.	8 mA		8 mA	
Sensor supply voltage	24 VDC		24 VDC	
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−25 … +30 %), via power jumper contacts	
Internal data width	2 bits		2 bits	
Isolation	500 V system/field		500 V system/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-410	wago.com/753-410	wago.com/750-411	wago.com/753-411

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

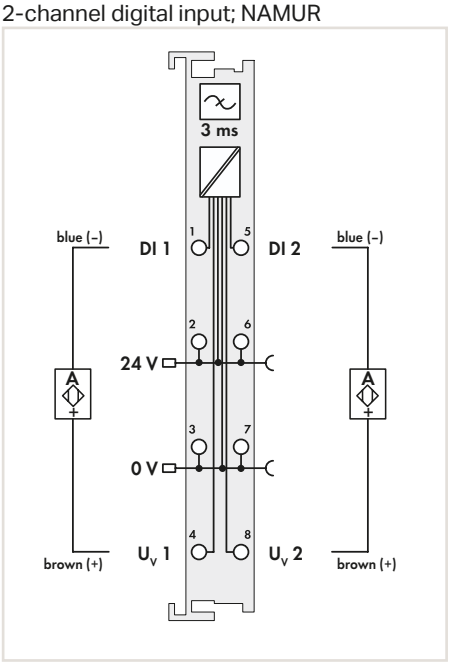
4.2

Digital Input, 24 VDC, NAMUR

Figure: 750-425

Figure: 753-425

2-channel digital input; NAMUR



Item description	2DI	
Version	NAMUR	NAMUR
Item no.	**750-425**	**753-425**

Technical Data		
Pluggable connector		•
Number of digital inputs	2	
Type of signal	NAMUR	
Signal current (0) NAMUR	≤ 1.2 mA	
Signal current (1) NAMUR	≥ 2.1 mA	
Sensor connection	2-conductor	
Input characteristic	High-side switching	
Input filter (digital)	3 ms	
Open-circuit voltage	8.2 VDC	
Diagnostics	Short circuit, wire break	
Sensor supply voltage	8.2 VDC, short-circuit-protected, isolated channels	
Field supply voltage	24 VDC (–25 … +30 %), via power jumper contacts	
Internal data width	8 bits	
Isolation	500 V system/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69,8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-425	wago.com/753-425

Accessories		**Item no.**
Plug		**753-110**
753 Series coding elements		**753-150**

The digital input module receives control signals from NAMUR proximity switches (per DIN EN 60947-5-6) from the field side.
Each channel of the sensors is supplied with a short-circuit-protected voltage of 8.2 V. A short circuit or a wire break is indicated by an error message via 1 bit in the processor image and a red LED.
The green LED indicates the input status:
• Signal current (0) LED off
• Signal current (1) LED on
Electrically isolated field and system levels

4.2

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

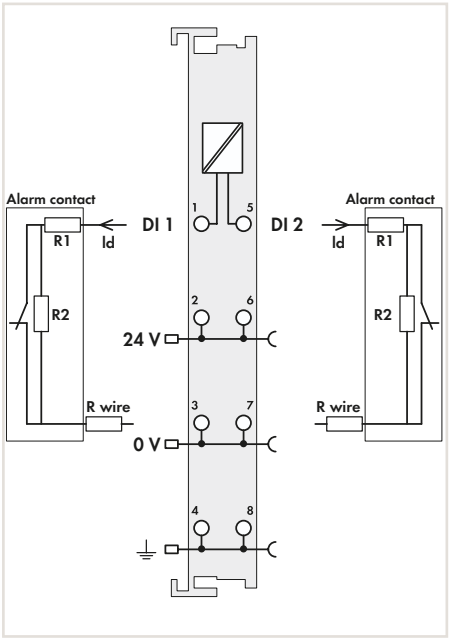
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 VDC, Intruder Detection

Figure: 750-424

Figure: 753-424

2-channel digital input; 24 VDC;
Intruder detection



Item description	2DI	
Version	24 VDC Intruder Detection	24 VDC Intruder Detection
Item no.	**750-424**	**753-424**
Technical Data		
Pluggable connector		•
Number of digital inputs	2	
Type of signal	Current loop (intruder detection)	
Sensor connection	2-conductor	
Specific properties of the sensor	Alarm contact: R1 = 1.5 kΩ (±5 %); R2 = 2.2 kΩ (±5 %), Conductor resistance (R wire) max. 200 Ω	
Sensor supply voltage	24 VDC	
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts	
Current consumption, field supply (module with no external load)	16 mA	
Internal data width	4 bits	
Isolation	500 V system/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69,8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-424	wago.com/753-424

Accessories	Item no.
Plug	**753-110**
753 Series coding elements	**753-150**

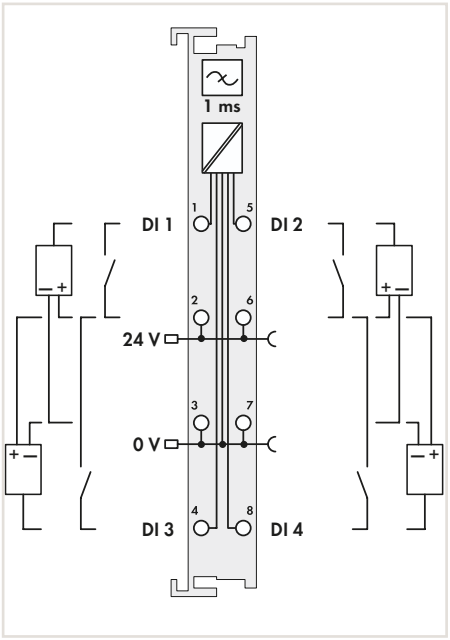
This I/O module incorporates a current loop, which makes it possible to monitor alarm contacts (window contacts) with a fixed resistance ratio (R1, R2), for intruder detection.
The I/O module indicates the status of the connected contact via LEDs and status bits in the processor image.

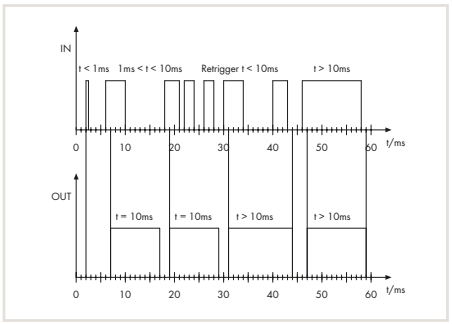
Digital Input, 24 VDC, Pulse Extension

4-channel digital input; 24 VDC;
Pulse extension

Figure: 750-422

Figure: 753-422





This I/O module extends input signals to at least 10 ms. Only signals ≥ 1 ms will be acquired. Input signals with a pulse duration > 10 ms are not extended (without dropoff delay).
Electrically isolated field and system levels

Item description	4DI	
Version	24 VDC Pulse Extention	24 VDC Pulse Extention
Item no.	**750-422**	**753-422**
Technical Data		
Pluggable connector		●
Number of digital inputs	4	
Type of signal	24 VDC	
Voltage range for signal (0)	−3 … +5 VDC	
Voltage range for signal (1)	15 … 30 VDC	
Sensor connection	2 x (2-conductor, 3-conductor)*	
Input characteristic	High-side switching	
Input filter (digital)	1 ms	
Input current per channel for signal (1) typ.	4 mA	
Signal frequency max.	80 Hz	
Sensor supply voltage	24 VDC	
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts	
Internal data width	4 bits	
Isolation	500 V system/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-422	wago.com/753-422

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

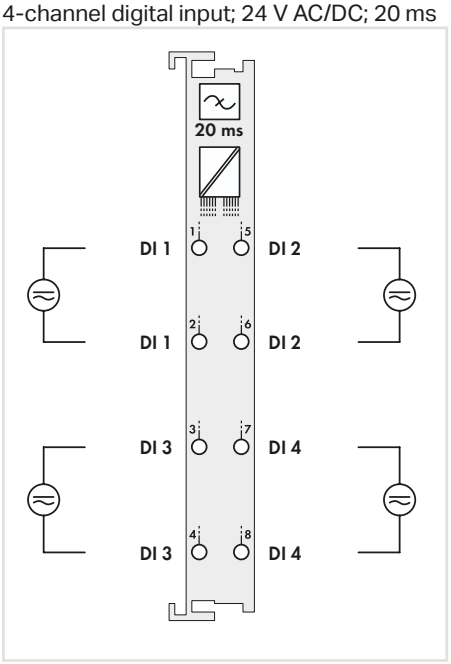
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 24 V AC/DC

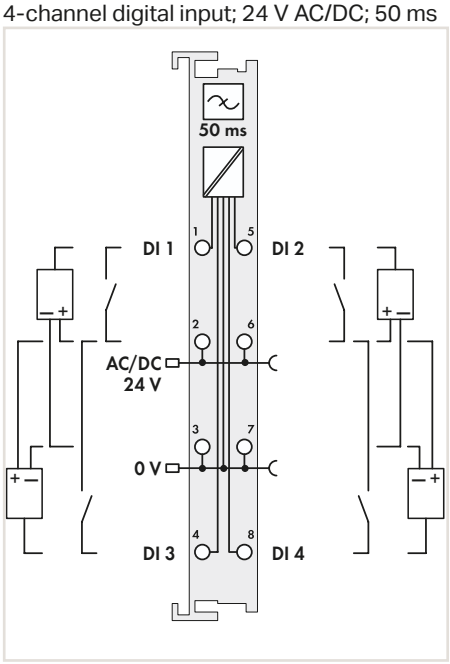
Figure: 750-415

Figure: 753-415

4-channel digital input; 24 V AC/DC; 20 ms



4-channel digital input; 24 V AC/DC; 50 ms



Item description	4DI		4DI	
Version	24 VAC/VDC 20ms	24 VAC/VDC 20ms	24 VAC/VDC 50ms	24 VAC/VDC 50ms
Item no.	**750-415**	**753-415**	**750-423**	**753-423**
Technical Data				
Pluggable connector		•		•
Number of digital inputs	4		2	
Type of signal	24 VAC/DC		24 VDC	
Voltage range for signal (0)	−3 … +5 VDC; 0 … 5 VAC		−3 … +5 VDC; 0 … 5 VAC	
Voltage range for signal (1)	11 … 30 VDC; 10 … 27 VAC		11 … 30 VDC; 10 … 27 VAC	
Sensor connection	2-conductor		2 x (2-conductor, 3-conductor)*	
Input characteristic	High-side switching		High-side switching	
Input filter (digital)	20 ms		50 ms	
Current supply, typ. for 24 VDC	7.5 mA		7.5 mA	
Current supply, typ. for 24 VAC	9.5 mA		9.5 mA	
Sensor supply voltage			24 VAC/DC	
Field supply voltage			24 VAC/VDC (−15 … +20 %), via power jumper contacts	
Internal data width	4 bits		4 bits	
Isolation	500 V system/field		500 V system/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69,8 x 100 mm		12 x 69,8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-415	wago.com/753-415	wago.com/750-423	wago.com/753-423

Accessories	**Item no.**	**Item no.**
Plug	**753-110**	**753-110**
753 Series coding elements	**753-150**	**753-150**

Notice:
An additional bus supply module must be added for operation with 24 VAC!

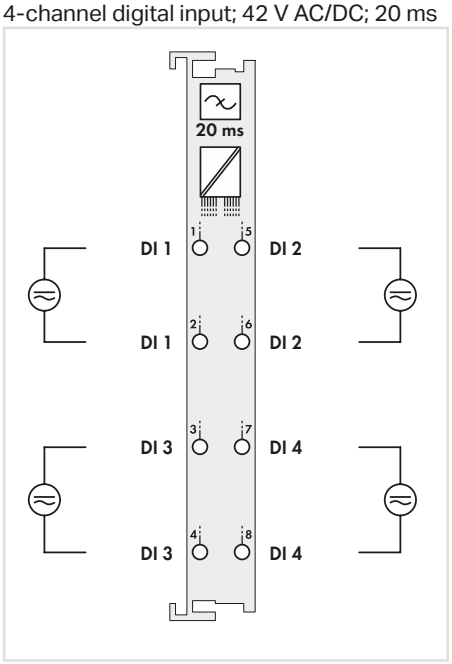
*To connect other sensors, a suitable field side connection module (e.g., 750-614) must also be used.

Digital Input, 42 V AC/DC

Figure: 750-428

Figure: 753-428

4-channel digital input; 42 V AC/DC; 20 ms



Item description	4DI	
Version	42 VAC/VDC 20ms	42 VAC/VDC 20ms
Item no.	**750-428**	**753-428**
Technical Data		
Pluggable connector		•
Number of digital inputs	4	
Type of signal	42 VAC/DC	
Voltage range for signal (0)	−3 … +10 VDC; 0 … 10 VAC	
Voltage range for signal (1)	30 … 53 VDC; 30 … 53 VAC	
Sensor connection	2-conductor	
Input characteristic	High-side switching	
Input filter (digital)	20 ms	
Current supply, typ. for 42 VDC	3.6 mA	
Current supply, typ. for 42 VAC	6 mA	
Internal data width	4 bits	
Isolation	500 V system/field; 500 V channel/channel	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-428	wago.com/753-428

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

4.2

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

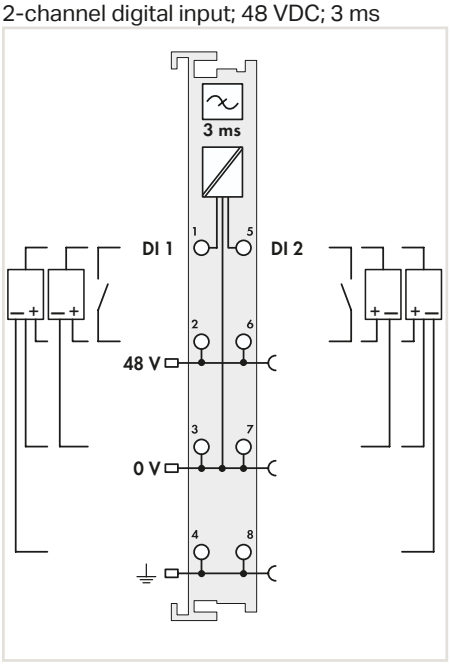
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 48 VDC

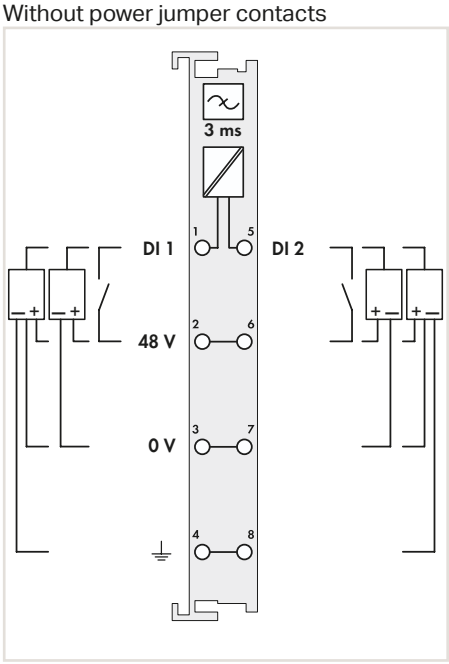
Figure: 750-412

Figure: 753-412

2-channel digital input; 48 VDC; 3 ms



2-channel digital input; 48 VDC; 3 ms; Without power jumper contacts

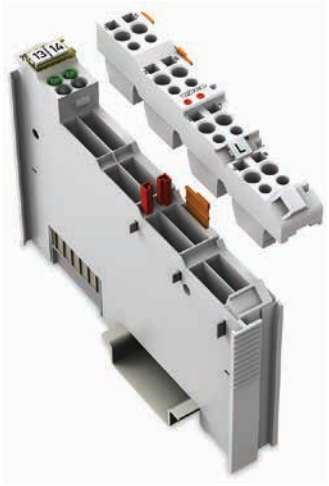


Item description	2DI		2DI
Version	48 VDC 3ms	48 VDC 3ms	48 VDC 3ms NC
Item no.	**750-412**	**753-412**	**750-412/000-001**
Technical Data			
Pluggable connector		•	
Number of digital inputs	2		2
Type of signal	48 VDC		48 VDC
Voltage range for signal (0)	−6 … +10 VDC		−6 … +10 VDC
Voltage range for signal (1)	34 … 60 VDC		34 … 60 VDC
Sensor connection	2-conductor, 3-conductor, 4-conductor		2-conductor, 3-conductor, 4-conductor
Input characteristic	High-side switching		High-side switching
Input filter (digital)	3 ms		3 ms
Input current per channel for signal (1) typ.	3.8 mA		3.8 mA
Sensor supply voltage	48 VDC		48 VDC
Field supply voltage	48 VDC (−15 … +20 %), via power jumper contacts		
Internal data width	2 bits		2 bits
Isolation	500 V system/field		500 V system/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69,8 x 100 mm		12 x 69,8 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-412	wago.com/753-412	wago.com/750-412/000-001

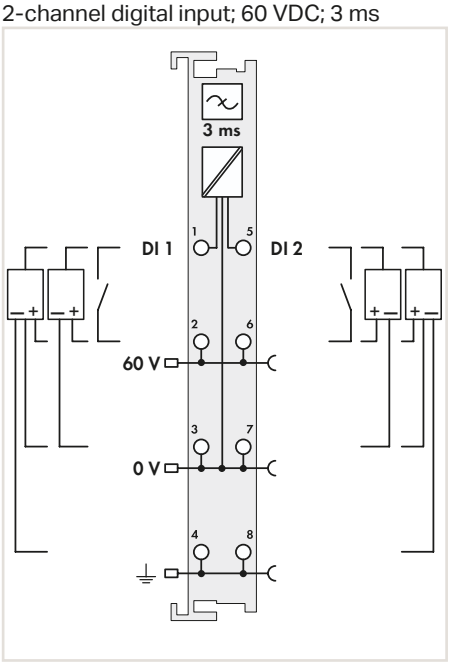
Accessories		**Item no.**	
Plug		**753-110**	
753 Series coding elements		**753-150**	

Notice:
An additional supply module must be added for operation with 48 VDC!

Digital Input, 60 VDC



2-channel digital input; 60 VDC; 3 ms



Item description	2DI
Version	60 VDC 3ms
Item no.	**753-429**

Technical Data	
Pluggable connector	•
Number of digital inputs	2
Type of signal	60 VDC
Voltage range for signal (0)	−7.5 … +12 VDC
Voltage range for signal (1)	44 … 75 VDC
Sensor connection	2-conductor, 3-conductor, 4-conductor
Input characteristic	High-side switching
Input filter (digital)	3 ms
Input current per channel for signal (1) typ.	2.9 mA
Sensor supply voltage	60 VDC
Field supply voltage	60 VDC (−20 … +25 %), via power jumper contacts
Internal data width	2 bits
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69,8 x 100 mm
Approvals	CE, KC, UL UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/753-429

Accessories	**Item no.**
Plug	**753-110**
753 Series coding elements	**753-150**

Notice:
An additional supply module must be added for operation with 60 VDC!

4.2

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

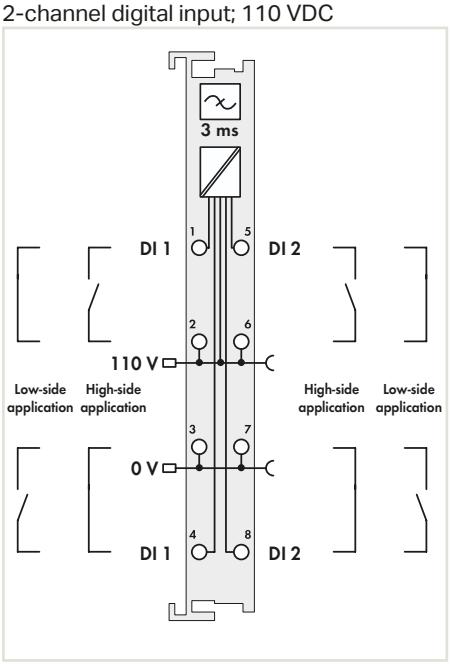
Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 110 or 220 VDC

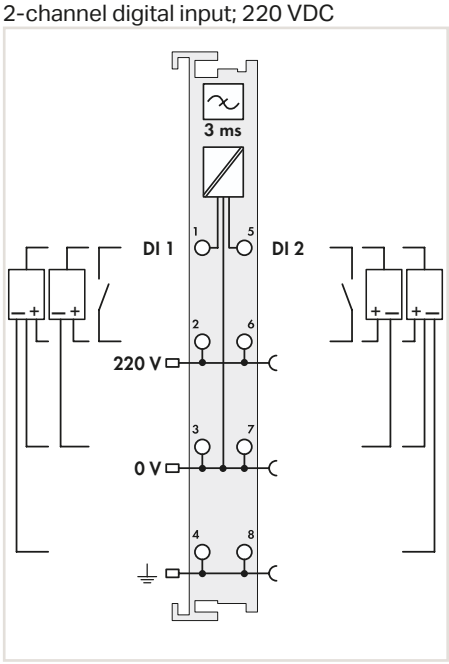
Figure: 750-427

Figure: 750-407

2-channel digital input; 110 VDC



2-channel digital input; 220 VDC



Item description	2DI		2DI
Version	110 VDC	110 VDC	220 VDC
Item no.	**750-427**	**753-427**	**750-407**
Technical Data			
Pluggable connector		•	
Number of digital inputs	2		2
Type of signal	110 VDC		220 VDC
Voltage range for signal (0)	< 50 V		−3 VDC … +100 V
Voltage range for signal (1)	> 70 V		160 … 286 VDC
Sensor connection	2-conductor		2-conductor, 3-conductor, 4-conductor
Input characteristic	High-side/low-side switching, configurable		High-side switching
Input filter (digital)	3 ms		3 ms
Input current per channel for signal (1) typ.	2.5 mA		1.2 mA
Sensor supply voltage	110 VDC		220 VDC
Field supply voltage	110 VDC (−20 … +25 %), via power jumper contacts		220 VDC (−20 … +25 %), via power jumper contacts
Internal data width	2 bits		2 bits
Isolation	1500 V system/field		2500 V system/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx		CE, KC, cULus UL 508
Data sheet and further information, see:	wago.com/750-427	wago.com/753-427	wago.com/750-407

Accessories	Item no.	
Plug	753-110	
753 Series coding elements	753-150	

Notice:
An additional bus supply module must be added for operation with 110 VDC!

Notice:
An additional supply module must be added for operation with 220 VDC!

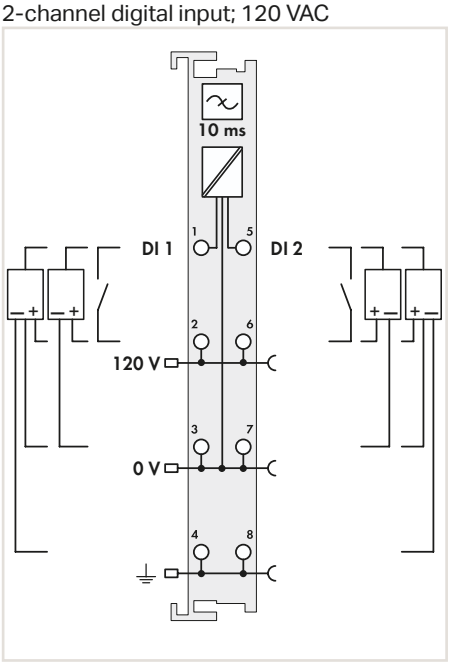
4.2

Digital Input, 120 or 230 VAC

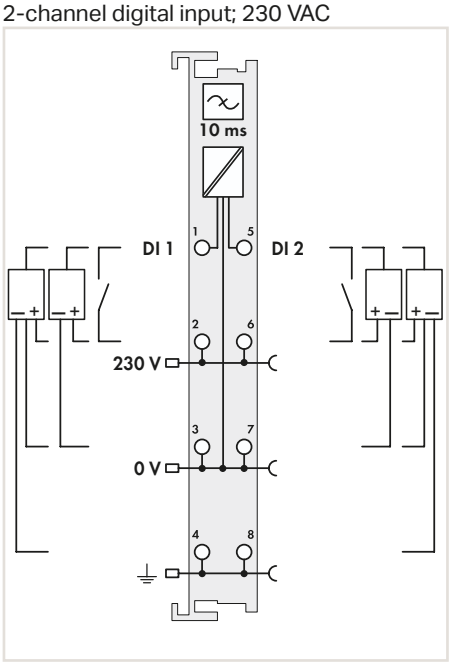
Figure: 750-406

Figure: 753-406

2-channel digital input; 120 VAC



2-channel digital input; 230 VAC



Item description	2DI		2DI	
Version	120 VAC	120 VAC	230 VAC	230 VAC
Item no.	**750-406**	**753-406**	**750-405**	**753-405**
Technical Data				
Pluggable connector		•		•
Number of digital inputs	2		2	
Type of signal	120 VAC		230 VAC	
Voltage range for signal (0)	0 … 20 V		0 … 40 VAC	
Voltage range for signal (1)	79 … 1.1 UN		164 VAC … 1.1 UN	
Sensor connection	2-conductor, 3-conductor, 4-conductor		2-conductor, 3-conductor, 4-conductor	
Input characteristic	High-side switching		High-side switching	
Input filter (digital)	10 ms		10 ms	
Signal frequency min./max.	45 Hz/65 Hz		45 Hz/65 Hz	
Input current per channel for signal (1) typ.	4.5 mA		6.5 mA	
Sensor supply voltage	120 VAC		230 VAC	
Field supply voltage	120 VAC (−15 … +20 %); via power jumper contacts		230 VAC (−15 … +20 %); via power jumper contacts	
Internal data width	2 bits		2 bits	
Isolation	1500 V system/field		1500 V system/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-406	wago.com/753-406	wago.com/750-405	wago.com/753-405

Accessories	**Item no.**	**Item no.**
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

Notice:
An additional supply module must be added for operation with 120 VAC!

Notice:
An additional bus supply module must be added for operation with 230 VAC!

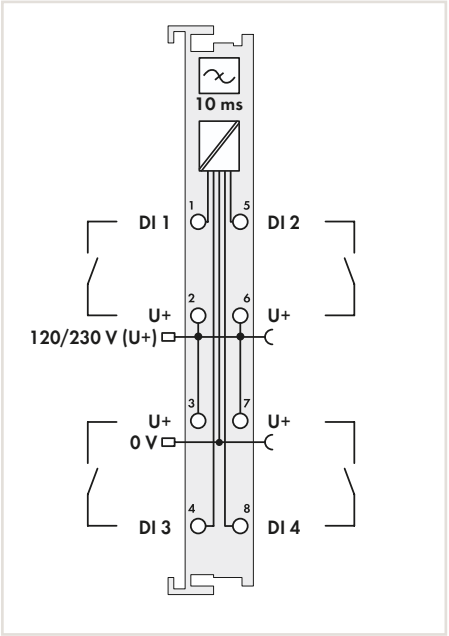
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Input, 120/230 VAC

4-channel digital input; 120/230 VAC



Item description	4DI
Version	120/230 VAC
Item no.	**753-440**

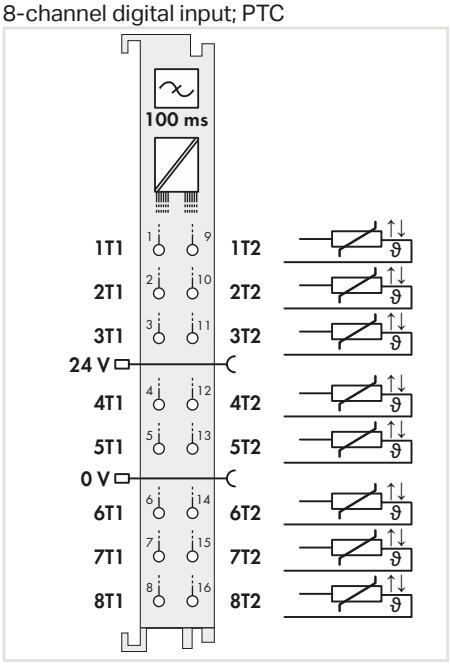
Technical Data	
Pluggable connector	●
Number of digital inputs	4
Type of signal	120 (230) VAC
Voltage range for signal (0)	0 … 40 VAC
Voltage range for signal (1)	79 … 230 VAC (−15 … +10 %)
Sensor connection	2-conductor
Input characteristic	High-side switching
Input filter (digital)	10 ms
Signal frequency min./max.	45 Hz/65 Hz
Overvoltage protection	275 VAC (varistor)
Current supply, typ. for 120 VAC	2.3 mA
Current supply, typ. for 230 VAC	4.7 mA
Sensor supply voltage	230 VAC
Field supply voltage	90 … 230 VAC (−15 … +10 %); via power jumper contacts
Internal data width	4 bits
Isolation	1500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/753-440

Accessories	**Item no.**
Plug	**753-110**
753 Series coding elements	**753-150**

Notice:
An additional bus supply module must be added for operation with 120/230 VAC!

Digital Input, PTC

8-channel digital input; PTC



Item description	8DI
Version	PTC
Item no.	**750-1425**

Technical Data

Number of digital inputs	8
Type of signal	PTC, thermistor per DIN 44081/44082
Sensor	Sensor voltage: ≤ 2.5 V / ≤ 7.5 V (dependent on resistance value); Number of PTCs per channel: Max. 6 in a series; Operating value (status bit "1" to "0"): R ≥ 3 kΩ; Return value (status bit "0" to "1"): ≤ 1.5 kΩ; Hysteresis: R = 1.5 kΩ; Wire break value: R ≥ 8 kΩ; Short circuit value: R ≤ 20 Ω
Input filter (digital)	100 ms
Output current max.	0.001 A
Field supply voltage	24 VDC (–25 … +30 %), via power jumper contacts
Internal data width	8 bits
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, Marine, UL 508*, ANSI/ISA*, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1425

*pending

The PTC module is used to connect PTC thermistors according to DIN 44081 and DIN 44082 for thermal monitoring (overload protection) of motors, machinery, bearings, etc. Up to six PTC thermistors can be connected in series per channel. If the nominal response temperature (ϑnat) is exceeded, a bit in the input processor image of the I/O module is set. In addition, wire breaks and short circuits are monitored for each channel; if an error occurs, a bit is also set in the input processor image. The I/O module is equipped with one green and one red status LED per channel to indicate excessive temperature or wiring errors.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 517 or www.wago.com

Digital Output Modules

750 Series housing design

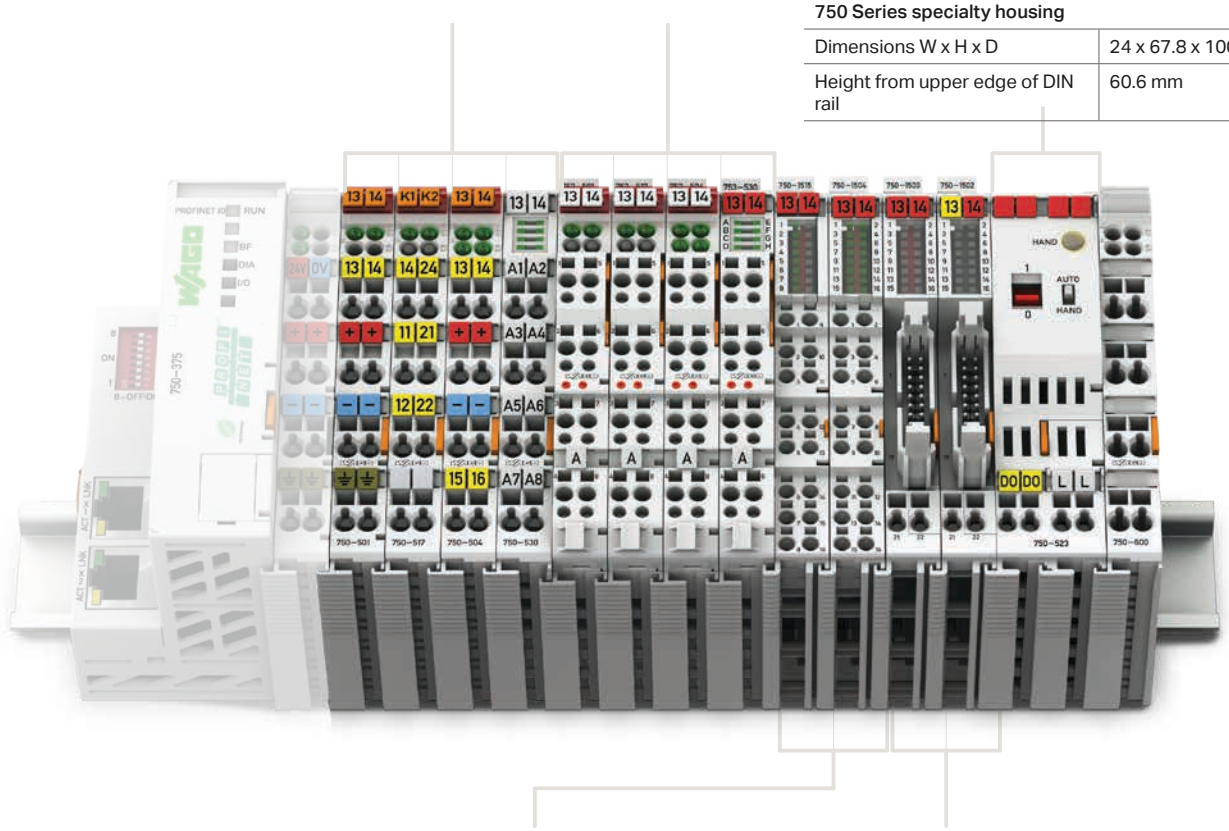
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

753 Series housing design

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.37 inch

750 Series specialty housing

Dimensions W x H x D	24 x 67.8 x 100 mm
Height from upper edge of DIN rail	60.6 mm



750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch

750 Series housing design, with ribbon cable connector

Dimensions W x H x D	12 x 74.1 x 100 mm
Height from upper edge of DIN rail	66.9 mm
Connection technology	20-pole male connector + 2 x CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

PROFIsafe

750 and 753 I/O-System, Digital Output Modules
Contents

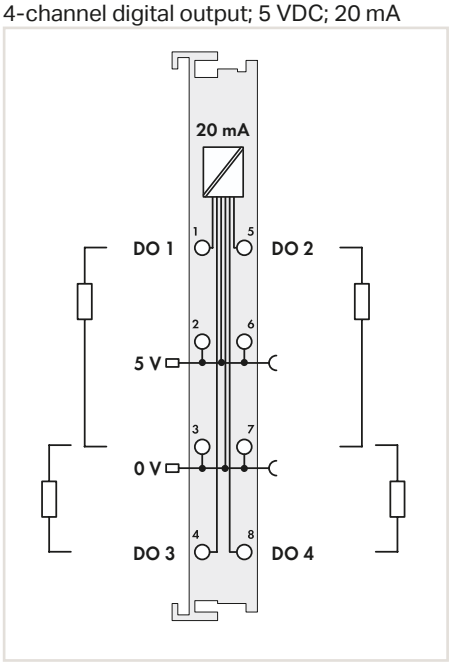
4.3 DO

Digital Output, 5 or 12 VDC

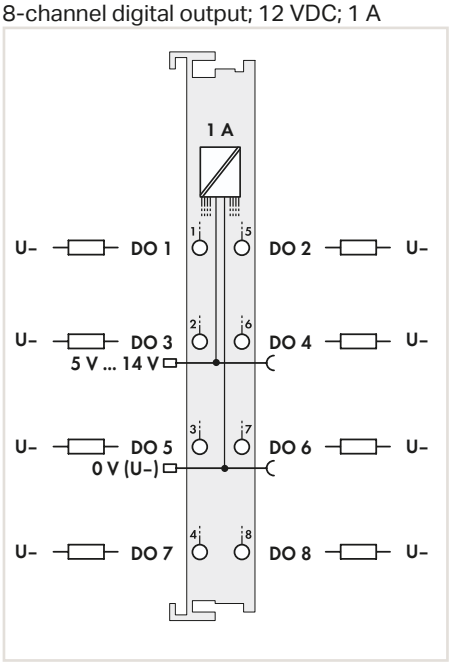
Figure: 750-519

Figure: 753-534

4-channel digital output; 5 VDC; 20 mA



8-channel digital output; 12 VDC; 1 A



Item description	4DO	8DO	
Version	5 VDC 20mA	12 VDC 1A	12 VDC 1A
Item no.	**750-519**	**750-534**	**753-534**
Technical Data			
Pluggable connector			•
Number of digital outputs	4	8	
Type of signal	5 VDC	5 … 14 VDC	
Output characteristic	high-side switching	high-side switching	
Output current per channel	20 mA, short-circuit-protected	1 A, short-circuit-protected	
Load type	Resistive, inductive, lamps	Resistive, inductive	
Actuator connection	2 x (2-conductor)*	1-conductor	
Switching frequency max.	5 kHz	2 kHz	
Field supply voltage	5 VDC, via power jumper contacts	5 … 14 VDC (-15 … +20 %), via power jumper contacts	
Internal data width	4 bits	8 bits	
Isolation	500 V System/field	500 V System/field	
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 67.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-519	wago.com/750-534	wago.com/753-534

Accessories			**Item no.**
Plug			**753-110**
753 Series coding elements			**753-150**

Notice:
An additional bus supply module must be added for operation with 5 VDC!

*A suitable field side connection module (e.g., 750-614) must be also be used to connect other actuators.

Notice:
An additional bus supply module must be added for 5–14 VDC supply!

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

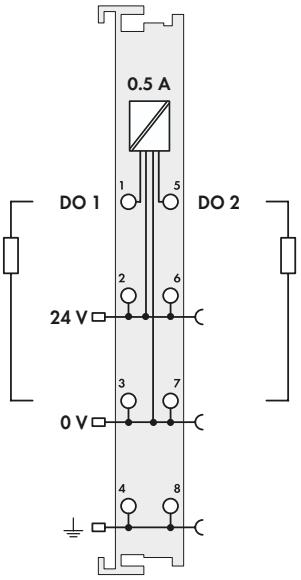
Approvals and corresponding ratings,
see Page 518 or www.wago.com

Digital Output, 24 VDC

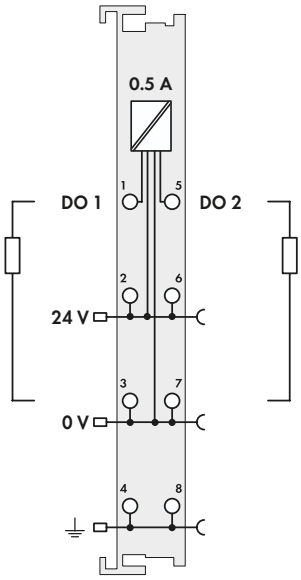
Figure: 750-501

Figure: 753-501

2-channel digital output; 24 VDC; 0.5 A; optional: Interference-free



2-channel digital output; 24 VDC; 0.5 A; optional: Interference-free



Item description	2DO		2DO	
Version	24 VDC 0.5A	24 VDC 0.5A IF	24 VDC 0.5A	24 VDC 0.5A IF
Item no.	**750-501**	**750-501/000-800**	**753-501**	**753-501/000-800**
Technical Data				
Pluggable connector			•	•
Interference-free		•		•
Number of digital outputs	2		2	
Type of signal	24 VDC		24 VDC	
Output characteristic	high-side switching		high-side switching	
Output current per channel	0.5 A, short-circuit-protected		0.5 A, short-circuit-protected	
Load type	Resistive, inductive, lamps		Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor, 4-conductor		2-conductor, 3-conductor, 4-conductor	
Switching frequency max.	5 kHz		5 kHz	
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts	
Internal data width	2 bits		2 bits	
Isolation	500 V System/field		500 V System/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-501		wago.com/753-501	

Accessories		**Item no.**
Plug		753-110
753 Series coding elements		753-150

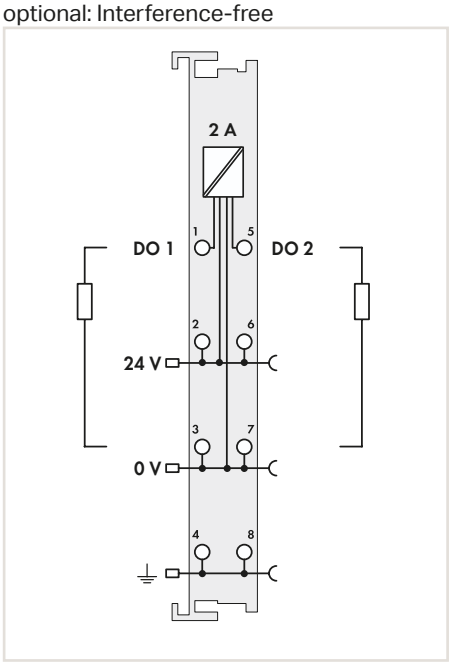
4.3

Digital Output, 24 VDC

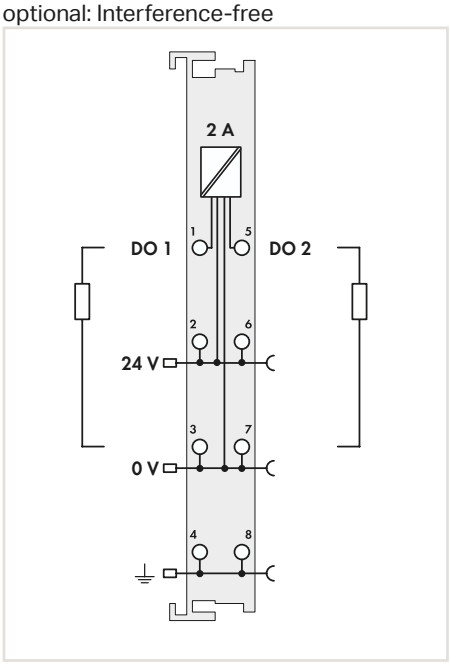
Figure: 750-502

Figure: 753-502

2-channel digital output; 24 VDC; 2.0 A; optional: Interference-free



2-channel digital output; 24 VDC; 2.0 A; optional: Interference-free



Item description	2DO		2DO	
Version	24 VDC 2A	24 VDC 2A IF	24 VDC 2A	24 VDC 2A IF
Item no.	**750-502**	**750-502/000-800**	**753-502**	**753-502/000-800**
Technical Data				
Pluggable connector			•	•
Interference-free		•		•
Number of digital outputs	2		2	
Type of signal	24 VDC		24 VDC	
Output characteristic	high-side switching		high-side switching	
Output current per channel	2 A, short-circuit-protected		2 A, short-circuit-protected	
Load type	Resistive, inductive, lamps		Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor, 4-conductor		2-conductor, 3-conductor, 4-conductor	
Switching frequency max.	2.5 kHz		2.5 kHz	
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts	
Internal data width	2 bits		2 bits	
Isolation	500 V System/field		500 V System/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-502		wago.com/753-502	

Accessories		**Item no.**
Plug		753-110
753 Series coding elements		753-150

4.3

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

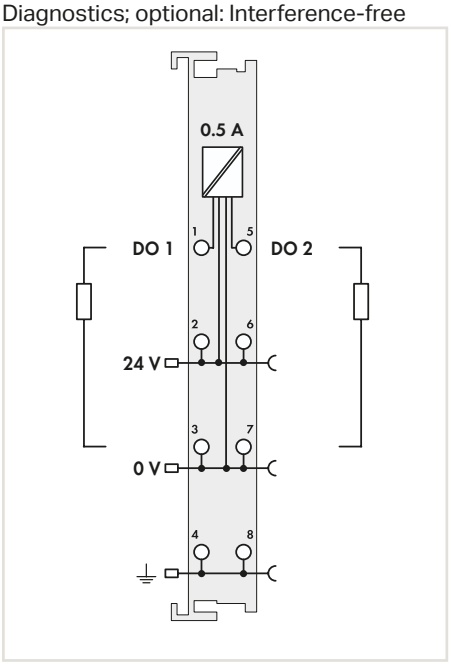
Approvals and corresponding ratings,
see Page 518 or www.wago.com

Digital Output, 24 VDC

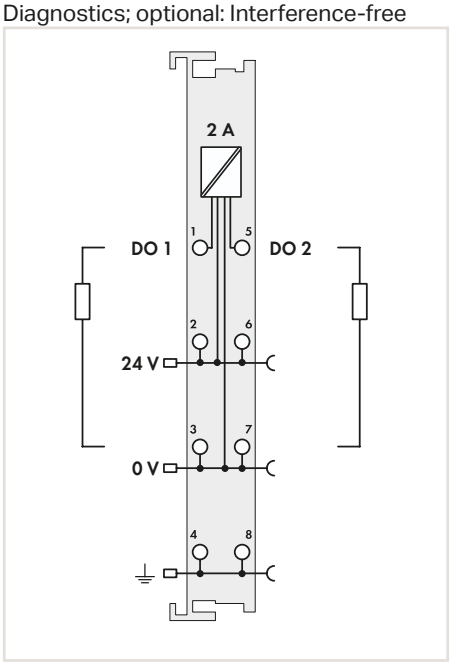
Figure: 750-506

Figure: 753-506

2-channel digital output; 24 VDC; 0.5 A; Diagnostics; optional: Interference-free



2-channel digital output; 24 VDC; 2.0 A; Diagnostics; optional: Interference-free



Item description	2DO			2DO		
Version	24 VDC 0.5A Diagn	24 VDC 0.5A IF Diagn	24 VDC 0.5A Diagn	24 VDC 2A Diagn	24 VDC 2A IF Diagn	24 VDC 2A Diagn
Item no.	**750-506**	**750-506/000-800**	**753-506**	**750-508**	**750-508/000-800**	**753-508**
Technical Data						
Pluggable connector			•			•
Interference-free		•			•	
Number of digital outputs	2			2		
Type of signal	24 VDC			24 VDC		
Output characteristic	high-side switching			high-side switching		
Output current per channel	0.5 A, short-circuit-protected			2 A, short-circuit-protected		
Load type	Resistive, inductive, lamps			Resistive, inductive, lamps		
Actuator connection	2-conductor, 3-conductor, 4-conductor			2-conductor, 3-conductor, 4-conductor		
Switching frequency max.	5 kHz			1 kHz		
Diagnostics	Open circuit, overload and short circuit			Open circuit, overload and short circuit		
Field supply voltage	24 VDC (-15 … +20 %), via power jumper contacts			24 VDC (-25 … +30 %), via power jumper contacts		
Internal data width	4 bits In, 4 bits Out			2 bits In, 2 bits Out		
Isolation	500 V System/field			500 V System/field		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-506		wago.com/753-506	wago.com/750-508		wago.com/753-508

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

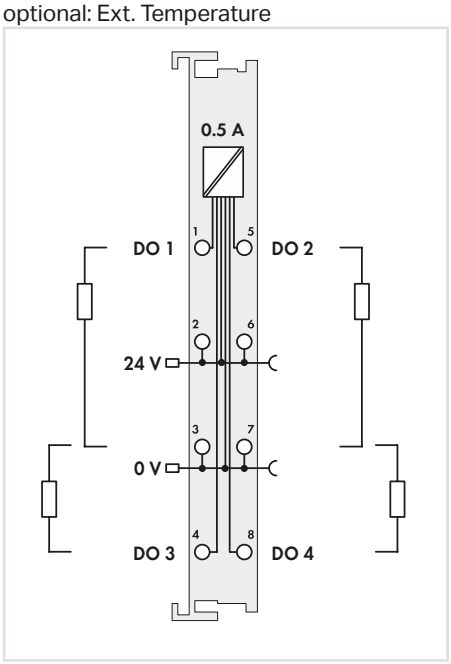
4.3

Digital Output, 24 VDC

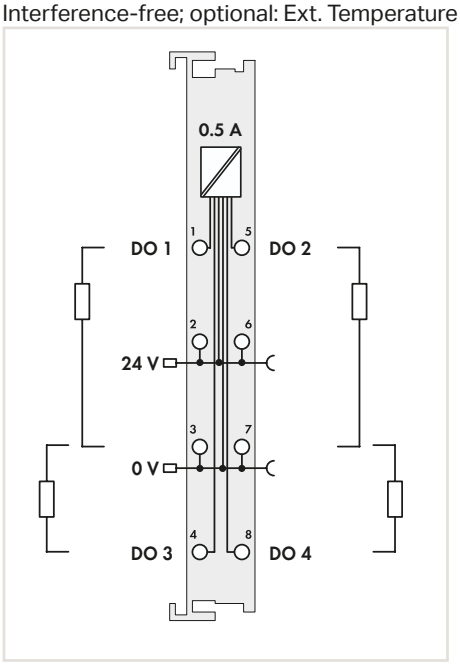
Figure: 750-504

Figure: 753-504

4-channel digital output; 24 VDC; 0.5 A; optional: Ext. Temperature



4-channel digital output; 24 VDC; 0.5 A; Interference-free; optional: Ext. Temperature



Item description	4DO			4DO	
Version	24 VDC 0.5A	24 VDC 0.5A T	24 VDC 0.5A	24 VDC 0.5A IF	24 VDC 0.5A IF T
Item no.	**750-504**	**750-504/025-000**	**753-504**	**750-504/000-800**	**750-504/025-800**
Technical Data					
Pluggable connector			•		
Interference-free					•
Number of digital outputs	4			4	
Type of signal	24 VDC			24 VDC	
Output characteristic	high-side switching			high-side switching	
Output current per channel	0.5 A, short-circuit-protected			0.5 A, short-circuit-protected	
Load type	Resistive, inductive, lamps			Resistive, inductive, lamps	
Actuator connection	2 x (2-conductor, 3-conductor)*			2 x (2-conductor, 3-conductor)*	
Switching frequency max.	1 kHz			1 kHz	
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts			24 VDC (-25 … +30 %), via power jumper contacts	
Internal data width	4 bits			4 bits	
Isolation	500 V System/field			500 V System/field	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-504		wago.com/753-504	wago.com/750-504	

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

*A suitable field side connection module (e.g., 750-614) must be also be used to connect other actuators.

*A suitable field side connection module (e.g., 750-614) must be also be used to connect other actuators.

Mini-WSB Quick Marking System see Full Line Catalog, Volume 6

DIN rails and tool see Section 11

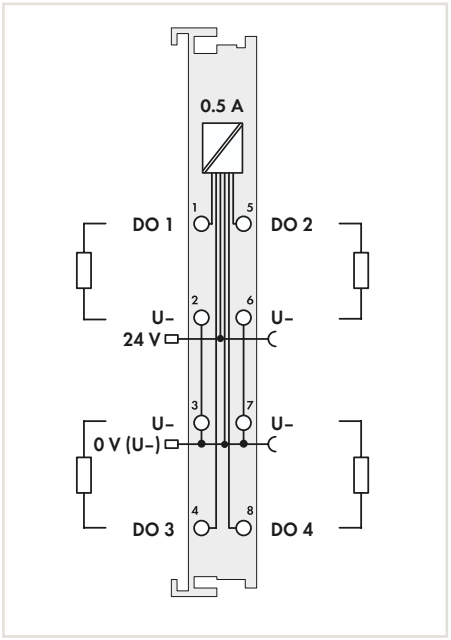
Approvals and corresponding ratings, see Page 518 or www.wago.com

Digital Output, 24 VDC

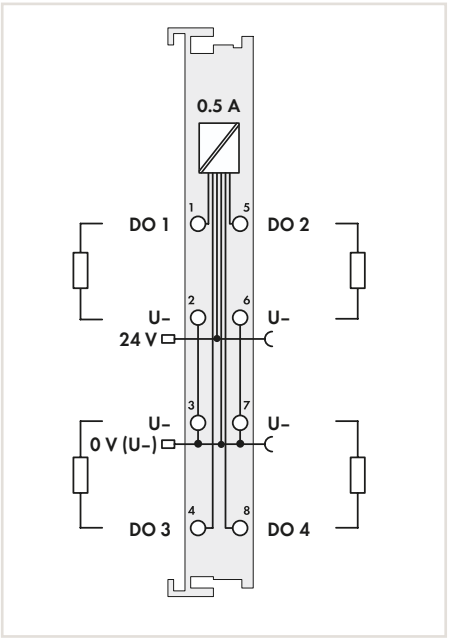
Figure: 750-531

Figure: 753-531

4-channel digital output module; 24 VDC; 0.5 A; 2-conductor connection; optional: Interference-free



4-channel digital output module; 24 VDC; 0.5 A; 2-conductor connection; optional: Interference-free



Item description	4DO		4DO	
Version	24 VDC 0.5A 2-wire	24 VDC 0.5A IF 2-wire	24 VDC 0.5A 2-wire	24 VDC 0.5A IF 2-wire
Item no.	**750-531**	**750-531/000-800**	**753-531**	**753-531/000-800**
Technical Data				
Pluggable connector			•	•
Interference-free		•		•
Number of digital outputs	4		4	
Type of signal	24 VDC		24 VDC	
Output characteristic	high-side switching		high-side switching	
Output current per channel	0.5 A, short-circuit-protected		0.5 A, short-circuit-protected	
Load type	Resistive, inductive, lamps		Resistive, inductive, lamps	
Actuator connection	2-conductor		2-conductor	
Switching frequency max.	1 kHz		1 kHz	
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts	
Internal data width	4 bits		4 bits	
Isolation	500 V System/field		500 V System/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-531		wago.com/753-531	

Accessories		**Item no.**
Plug		753-110
753 Series coding elements		753-150

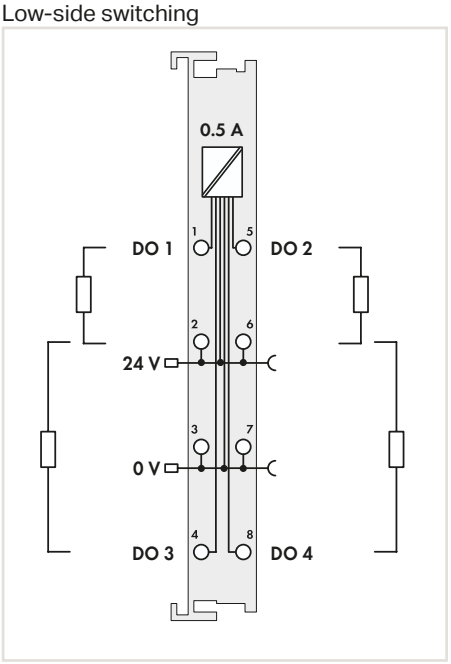
4.3

Digital Output, 24 VDC

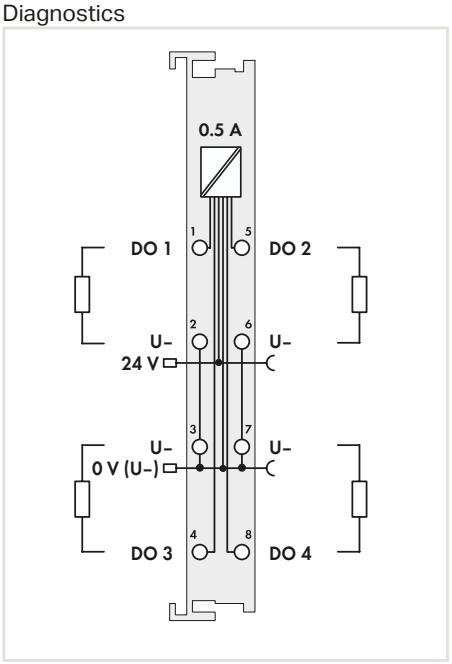
Figure: 750-516

Figure: 750-532

4-channel digital output; 24 VDC; 0.5 A; Low-side switching



4-channel digital output; 24 VDC; 0.5 A; Diagnostics



Item description	4DO		4DO
Version	24 VDC 0.5A LSS	24 VDC 0.5A LSS	24 VDC 0.5A Diagn
Item no.	**750-516**	**753-516**	**750-532**
Technical Data			
Pluggable connector		•	
Number of digital outputs	4		4
Type of signal	24 VDC		24 VDC
Output characteristic	Low-side switching		high-side switching
Output current per channel	0.5 A, short-circuit-protected		0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps		Resistive, inductive, lamps
Actuator connection	2 x (2-conductor)*		2-conductor
Switching frequency max.	5 kHz		2 kHz
Diagnostics			Open circuit, overload and short circuit
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts
Internal data width	4 bits		4 bits In 4 bits Out
Isolation	500 V System/field		500 V System/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 67.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-516	wago.com/753-516	wago.com/750-532

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

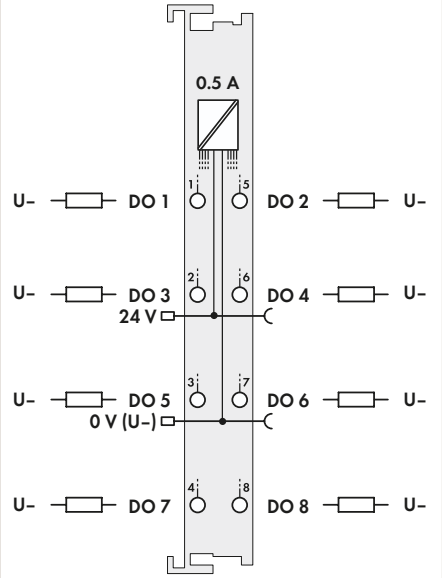
*A suitable field side connection module (e.g., 750-614) must be also be used to connect other actuators.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

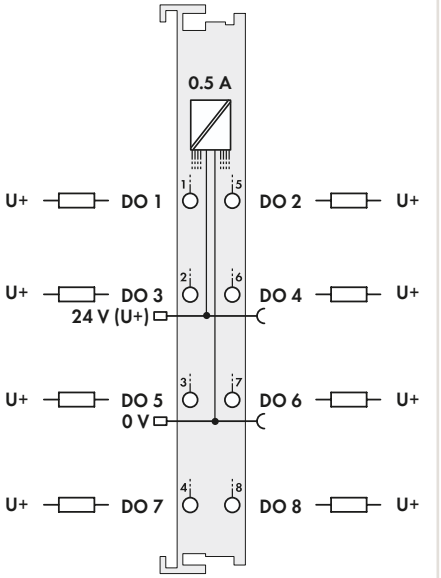
Approvals and corresponding ratings,
see Page 518 or www.wago.com

8-channel digital output; 24 VDC; 0.5 A; optional: Ext. Temperature



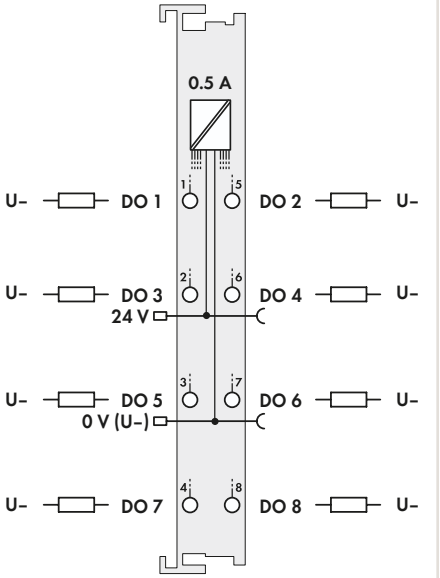
8DO		
24 VDC 0.5A	24 VDC 0.5A T	24 VDC 0.5A
750-530	750-530/025-000	753-530
		•
8		
24 VDC		
high-side switching		
0.5 A, short-circuit-protected		
Resistive, inductive, lamps		
1-conductor		
2 kHz		
24 VDC (-25 … +30 %), via power jumper contacts		
8 bits		
500 V System/field		
0 … +55 °C	–20 … +60 °C	0 … +55 °C
12 x 67.8 x 100 mm		12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-530		wago.com/753-530
		Item no.
		753-110
		753-150

8-channel digital output; 24 VDC; 0.5 A; Low-side switching



8DO	
24 VDC 0.5A LSS	24 VDC 0.5A LSS
750-536	753-536
	•
8	
24 VDC	
Low-side switching	
0.5 A, short-circuit-protected	
Resistive, inductive, lamps	
1-conductor	
2 kHz	
24 VDC (-25 … +30 %), via power jumper contacts	
8 bits	
500 V System/field	
0 … +55 °C	
12 x 67.8 x 100 mm	12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-536	wago.com/753-536
	Item no.
	753-110
	753-150

8-channel digital output; 24 VDC; 0.5 A; Diagnostics

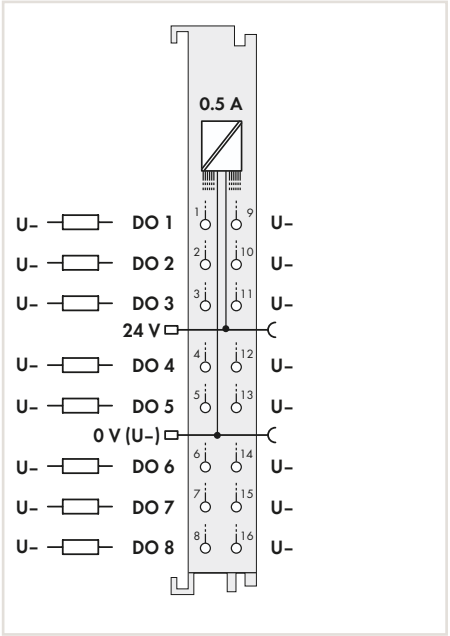


8DO	
24 VDC 0.5A Diagn	24 VDC 0.5A Diagn
750-537	753-537
	•
8	
24 VDC	
high-side switching	
0.5 A, short-circuit-protected	
Resistive, inductive, lamps	
1-conductor	
1 kHz	
Leerlauf, Kurzschluss, Überlast	
24 VDC (-25 … +30 %), via power jumper contacts	
8 bits out, 8 bits in	
500 V System/field	
0 … +55 °C	
12 x 67.8 x 100 mm	12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-537	wago.com/753-537
	Item no.
	753-110
	753-150

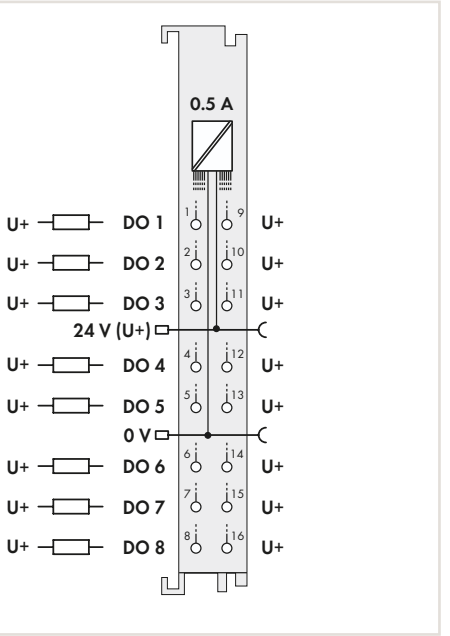
Digital Output, 24 VDC

Figure: 750-1515

8-channel digital output; 24 VDC; 0.5 A; 2-conductor connection



8-channel digital output; 24 VDC; 0.5 A; Low-side switching; 2-conductor connection



Item description	8DO	8DO
Version	24 VDC 0.5A 2-wire	24 VDC 0.5A LSS 2-wire
Item no.	**750-1515**	**750-1516**

Technical Data

Number of digital outputs	8	8
Type of signal	24 VDC	24 VDC
Output characteristic	high-side switching	Low-side switching
Output current per channel	0.5 A, short-circuit-protected	0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	2-conductor	2-conductor
Switching frequency max.	1 kHz	1 kHz
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts	24 VDC (-25 … +30 %), via power jumper contacts
Internal data width	8 bits	8 bits
Isolation	500 V System/field	500 V System/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1515	wago.com/750-1516

4.3

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

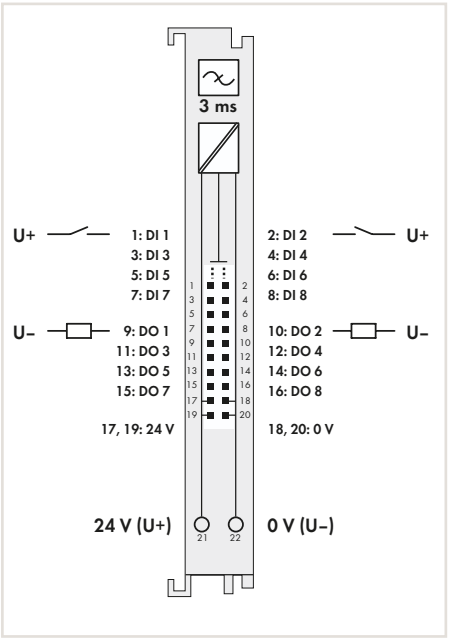
Approvals and corresponding ratings,
see Page 518 or www.wago.com

Digital Input/Output, 24 VDC

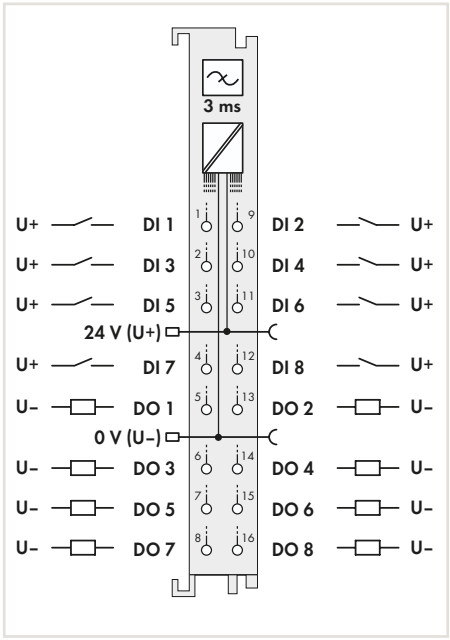
Figure: 750-1502

Figure: 750-1506

8-channel digital input/output; 24 VDC; 0.5 A; Ribbon cable



8-channel digital input/output; 24 VDC; 0.5 A



Item description	8DIO	8DIO
Version	24 VDC 0.5A Ribbon Cable	24 VDC 0.5A
Item no.	**750-1502**	**750-1506**
Technical Data		
Number of digital inputs	8	8
Type of signal	24 VDC	24 VDC
Voltage range for signal (0)	–3 … +5 VDC	–3 … +5 VDC
Voltage range for signal (1)	15 … 30 VDC	15 … 30 VDC
Sensor connection	1-conductor	1-conductor
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.4 mA	2.4 mA
Number of digital outputs	8	8
Output characteristic	High-side switching	High-side switching
Output current per channel	0.5 A, short-circuit-protected	0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	1-conductor	1-conductor
Switching frequency max.	1 kHz	1 kHz
Actuator supply voltage	24 VDC	
Current consumption, field supply (module with no external load)	16 mA	16 mA
Field supply voltage	24 VDC (–25 … +30 %), via wiring level (CAGE CLAMP® connection)	24 VDC (–25 … +30 %), via power jumper contacts
Internal data width	8 bits In and 8 bits Out	8 bits In and 8 bits Out
Isolation	500 V system/field	500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1502	wago.com/750-1506

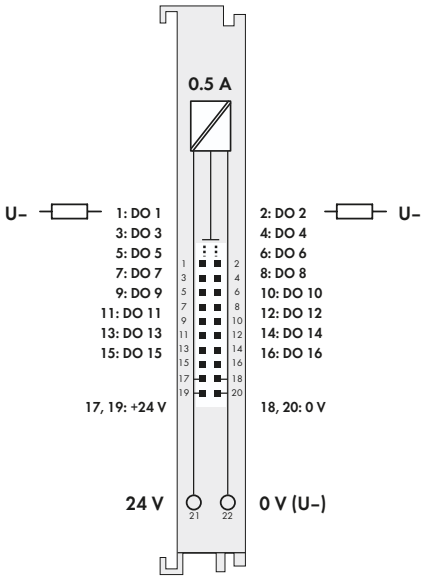
Accessories	**Item no.**
Interface modules for system wiring and interface cable	see Section 11

Digital Output, 24 VDC

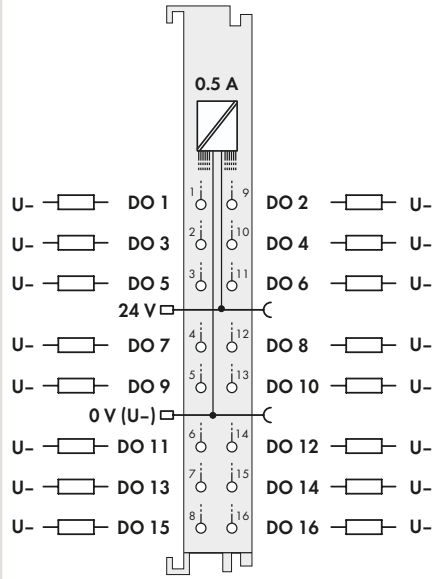
Figure: 750-1500

Figure: 750-1504

16-channel digital output; 24 VDC; 0.5 A; Ribbon cable



16-channel digital output; 24 VDC; 0.5 A



Item description	16DO	16DO
Version	24 VDC 0.5A Ribbon Cable	24 VDC 0.5A
Item no.	**750-1500**	**750-1504**

Technical Data		
Number of digital outputs	16	16
Type of signal	24 VDC	24 VDC
Output characteristic	high-side switching	high-side switching
Output current per channel	0.5 A, short-circuit-protected	0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	1-conductor	1-conductor
Switching frequency max.	1 kHz	1 kHz
Field supply voltage	24 VDC (−25 … +30 %), via wiring level (CAGE CLAMP® connection)	24 VDC (-25 … +30 %), via power jumper contacts
Internal data width	16 bits	16 bits
Isolation	500 V System/field	500 V System/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1500	wago.com/750-1504

Accessories	**Item no.**
Interface modules for system wiring and interface cable	see Section 11

4.3

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

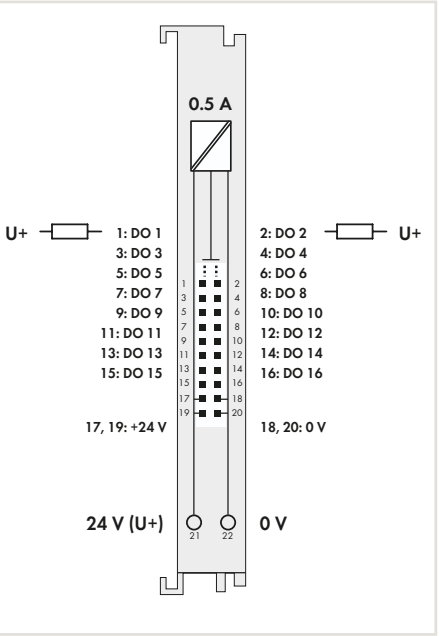
Approvals and corresponding ratings,
see Page 518 or www.wago.com

Digital Output, 24 VDC

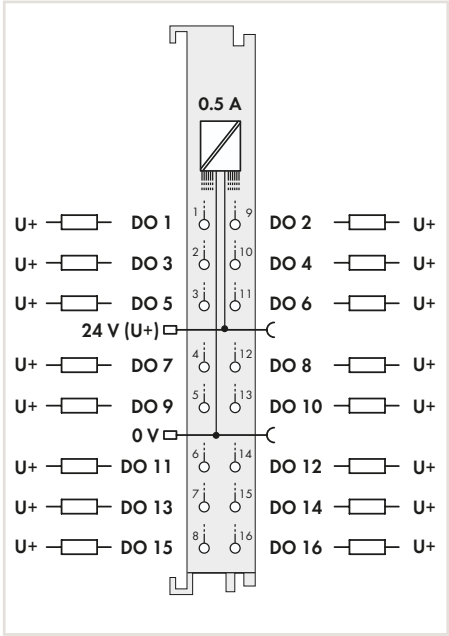
Figure: 750-1501

Figure: 750-1505

16-channel digital output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable



16-channel digital output; 24 VDC; 0.5 A; Low-side switching



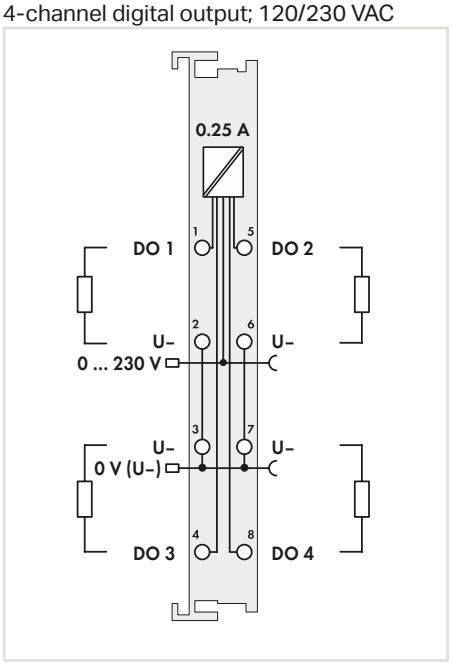
Item description	16DO	16DO
Version	24 VDC 0.5A LSS Ribbon Cable	24 VDC 0.5A LSS
Item no.	**750-1501**	**750-1505**
Technical Data		
Number of digital outputs	16	16
Type of signal	24 VDC	24 VDC
Output characteristic	Low-side switching	Low-side switching
Output current per channel	0.5 A, short-circuit-protected	0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	1-conductor	1-conductor
Switching frequency max.	1 kHz	1 kHz
Field supply voltage	24 VDC (−25 … +30 %), via wiring level (CAGE CLAMP® connection)	24 VDC (-25 … +30 %), via power jumper contacts
Internal data width	16 bits	16 bits
Isolation	500 V System/field	500 V System/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-1501	wago.com/750-1505
Accessories	**Item no.**	
Interface modules for system wiring and interface cable	see Section 11	

Digital Output, 120 / 230 VAC or 230 VAC

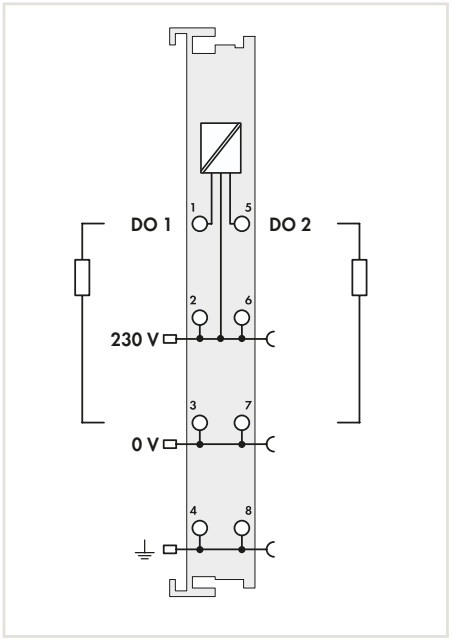
Figure: 753-540

Figure: 750-509

4-channel digital output; 120/230 VAC



2-channel digital output; 230 VAC; 0.3 A; Solid-state



Item description	4DO	2DO	
Version	120/230 VAC	230 VAC 0.3A SSR	230 VAC 0.3A SSR
Item no.	**753-540**	**750-509**	**753-509**
Technical Data			
Pluggable connector	•		•
Number of digital outputs	4	2	
Type of signal	0 … 250 VAC	0 … 230 VAC/DC	
Output characteristic		solid-state load relay	
Output current per channel	high-side switching		
Load type	0.25 A, short-circuit-protected	0.3 A	
Actuator connection	Resistive, inductive	Resistive, inductive	
Switching frequency max.	2-conductor	2-conductor, 3-conductor, 4-conductor	
Field supply voltage	0 … 250 VAC; via power jumper contacts	0 … 230 VAC/DC, via power jumper contacts	
Internal data width	4 bits	2 bits	
Isolation	1500 V System/field	1500 V System/field	
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm	
Approvals	CE, UL 508, ANSI/ISA, ATEX/IECEx	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/753-540	wago.com/750-509	wago.com/753-509

Accessories	Item no.		Item no.
Plug	753-110		753-110
753 Series coding elements	753-150		753-150

Notice:
An additional bus supply module must be added for operation with 0 … 250 VAC!

Notice:
An additional bus supply module must be added for operation with 0 … 230 VAC/DC!

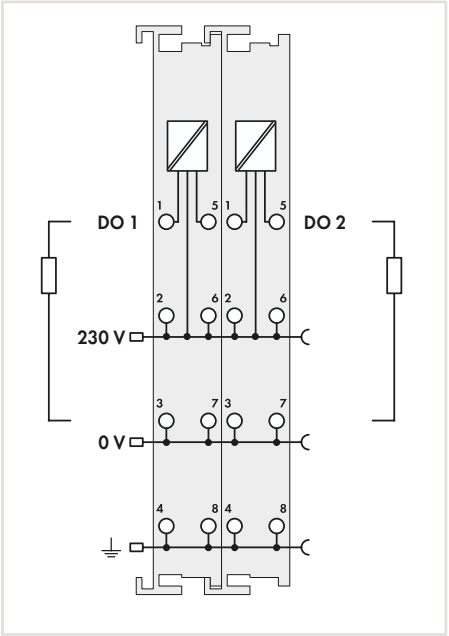
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 518 or www.wago.com

Digital Output, 230 VAC

2-channel digital output; 230 VAC;
Solid-state



Item description	2DO
Version	230 VAC SSR
Item no.	**750-522**

Technical Data	
Number of digital outputs	2
Type of signal	35 … 230 VAC
Output switching design	2 make contacts, solid-state load relay
Output current per channel	0,5 A
Actuator connection	2-conductor, 3-conductor, 4-conductor
Diagnostics	Overload
Field supply voltage	35 … 230 VAC, via power jumper contacts
Internal data width	2 bits in , 2 bits out
Isolation	3000 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-522

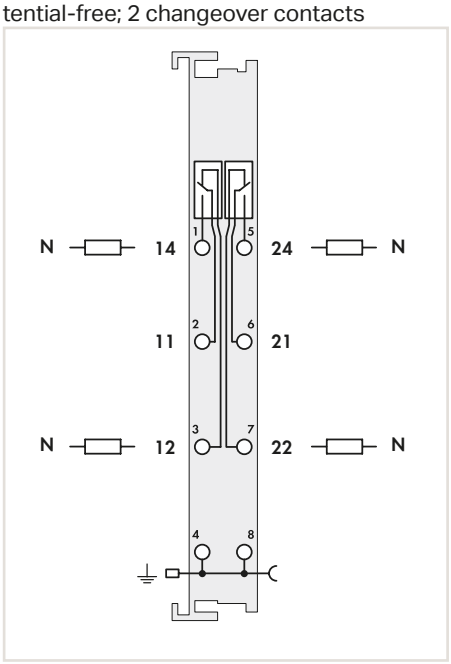
Notice:
An additional bus supply module must be added for operation with 35 … 230 VAC!

Relay Output, 125 VAC or 250 VAC

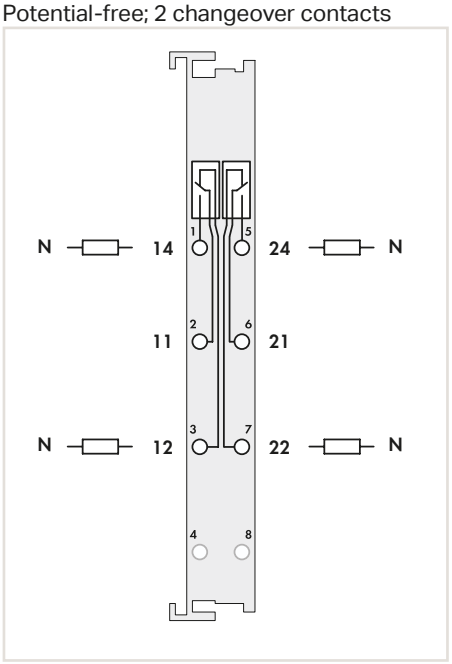
Figure: 750-514

Figure: 753-514

2-channel relay output; 125 VAC; 0.5 A; Potential-free; 2 changeover contacts



2-channel relay output; 250 VAC; 1.0 A; Potential-free; 2 changeover contacts



Item description	2RO		2RO	
Version	125 VAC 0.5A Pot-free Relay2CO	125 VAC 0.5A Pot-free Relay2CO	250 VAC 1A Pot-free Relay2CO	250 VAC 1A Pot-free Relay2CO
Item no.	**750-514**	**753-514**	**750-517**	**753-517**
Technical Data				
Pluggable connector		•		•
Number of digital outputs	2		2	
Switching power max.	125 VAC, 30 VDC		250 VAC, 300 VDC	
Output switching design	2 changeover contacts, relay		2 changeover contacts, relay	
Output characteristic	Potential-free		Potential-free	
Switching current	0.5 A at AC; 1 A at DC		1 A at 250 VAC / 40 VDC; 0.15 A at 300 VDC	
Actuator connection	1-conductor		1-conductor	
Switching frequency max.	0,33 Hz		0,1 Hz	
Field supply voltage				
Internal data width	2 bits		2 bits	
Isolation	1500 V System/field		1500 V System/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-514	wago.com/753-514	wago.com/750-517	wago.com/753-517

Accessories		**Item no.**		**Item no.**
Plug		**753-110**		**753-110**
753 Series coding elements		**753-150**		**753-150**

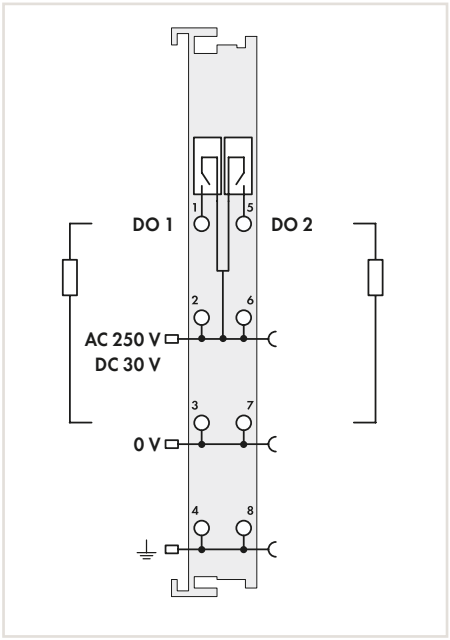
4.3

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 518 or www.wago.com

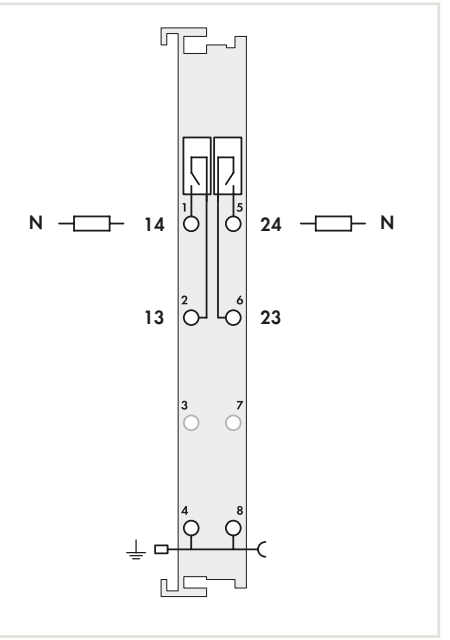
2-channel relay output; 250 VAC; 2.0 A; 2 make contacts



2RO	
250 VAC 2A Relay2NO	250 VAC 2A Relay2NO
750-512	753-512
	•
2	
250 VAC, 30 VDC	
2 make contact, relay	
Non-floating	
2 A	
2-conductor, 3-conductor	
0.5 Hz	
0 … 250 VAC, 0 … 30 VDC, via power jumper contacts	
2 bits	
1500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
wago.com/750-512	wago.com/753-512

	Item no.
	753-110
	753-150

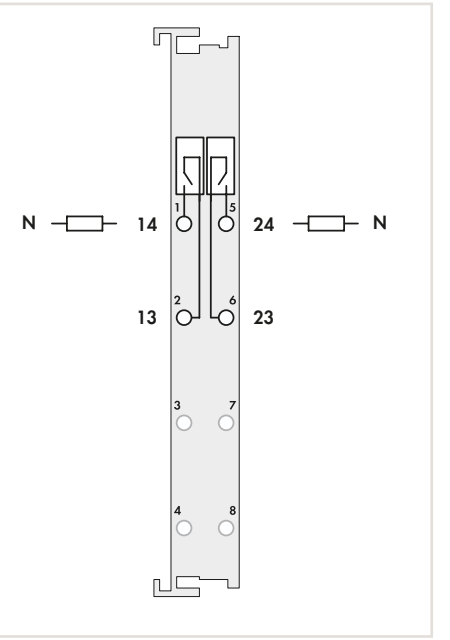
2-channel relay output; 250 VAC; 2.0 A; Potential-free; 2 make contacts



2RO	
250 VAC 2A Pot-free Relay2NO	250 VAC 2A Pot-free Relay2NO
750-513	753-513
	•
2	
250 VAC, 30 VDC	
2 make contact, relay	
Potential-free	
2 A	
1-conductor	
0.5 Hz	
2 bits	
1500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
wago.com/750-513	wago.com/753-513

	Item no.
	753-110
	753-150

2-channel relay output; 250 VAC; 2.0 A; Potential-free; 2 make contacts, without power jumper contacts



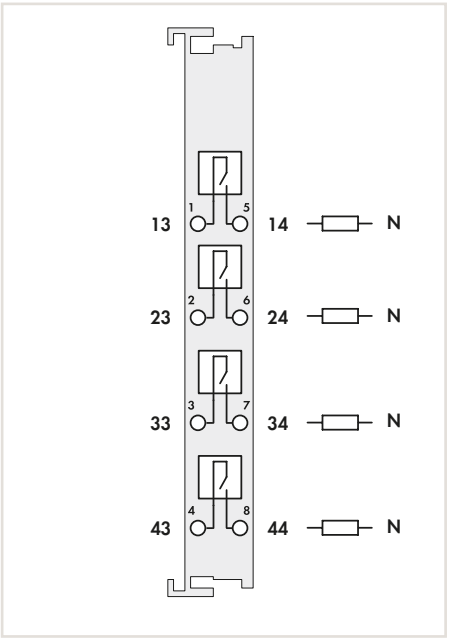
2RO	
250 VAC 2A Pot-free NC Relay2NO	250 VAC 2A Pot-free NC Relay2NO
750-513/000-001	753-513/000-001
	•
2	
250 VAC, 30 VDC	
2 make contact, relay	
Potential-free	
2 A	
1-conductor	
0.5 Hz	
2 bits	
1500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
wago.com/750-513/000-001	wago.com/753-513/000-001

	Item no.
	753-110
	753-150

Notice:
An additional bus supply module must be added for operation with 0 … 250 VAC/0 … 30 VDC!

Relay Output, 250 VAC

4-channel relay output; 250 VAC; 2.0 A;
Potential-free; 4 make contacts



Item description	4RO
Version	250 VAC 2A Pot-free Relay4NO
Item no.	**750-515**

Technical Data	
Number of digital outputs	4
Switching power max.	250 VAC, 30 VDC; 110 VDC at 0.4 A
Output switching design	4 make contact, relay
Output characteristic	Potential-free
Switching current	2 A (5 A at 1-channel operation)
Actuator connection	1-conductor
Switching frequency max.	0.33 Hz; 0.1 Hz at 5 A
Internal data width	4 bits
Isolation	1500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE
Data sheet and further information, see:	wago.com/750-515

4.3

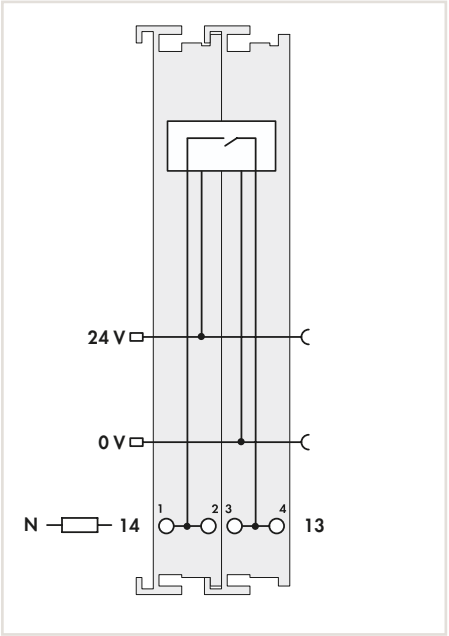
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 518 or www.wago.com

Relay Output, 250 VAC

1-channel relay output; 250 VAC; 16 A;
Potential-free; 1 make contact



Item description	1RO
Version	250 VAC 16A Pot-free Relay1NO
Item no.	**750-523**

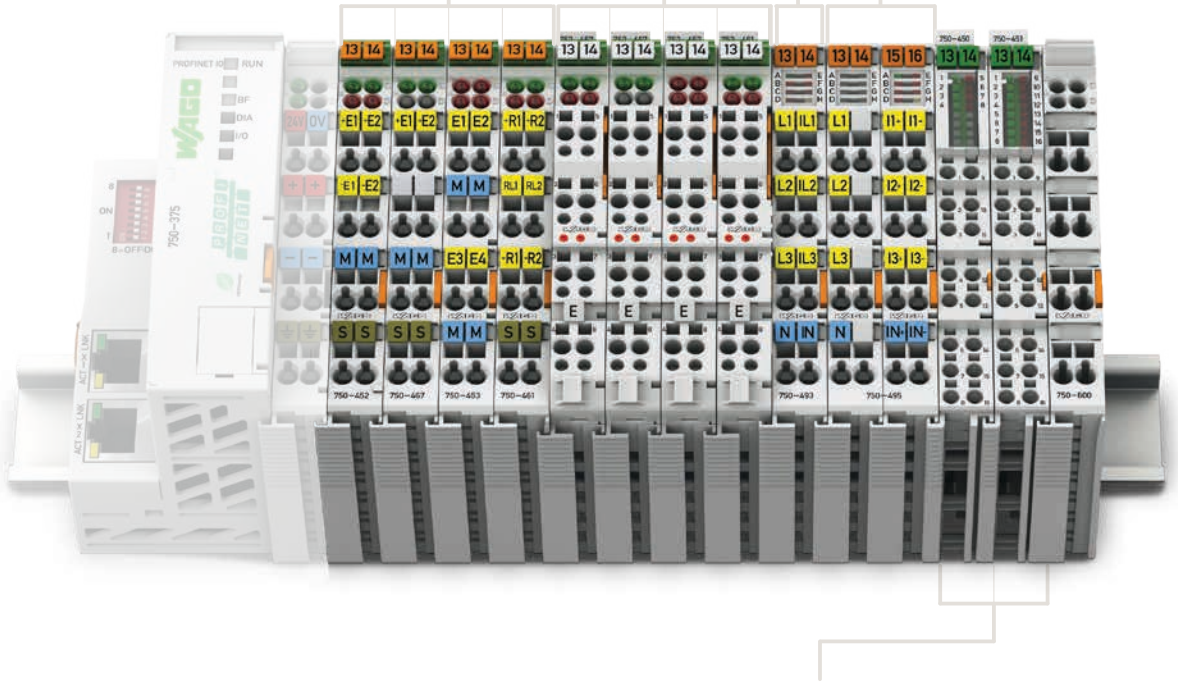
Technical Data	
Number of digital outputs	1
Switching power max.	440 VAC
Output switching design	1 make contact, relay
Output characteristic	Potential-free
Switching current	16 A
Actuator connection	1-conductor
Field supply voltage	0 … 440 VAC
Internal data width	2 bits
Isolation	1500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Approvals	CE, KC, Marine, UL 508
Data sheet and further information, see:	wago.com/750-523

Analog Input Modules

750 Series housing design	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

753 Series housing design	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.37 inch

750 Series housing design, double width	
Dimensions W x H x D	24 x 67.8 x 100 mm
Height from upper edge of DIN rail	60.6 mm



750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)	
Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch

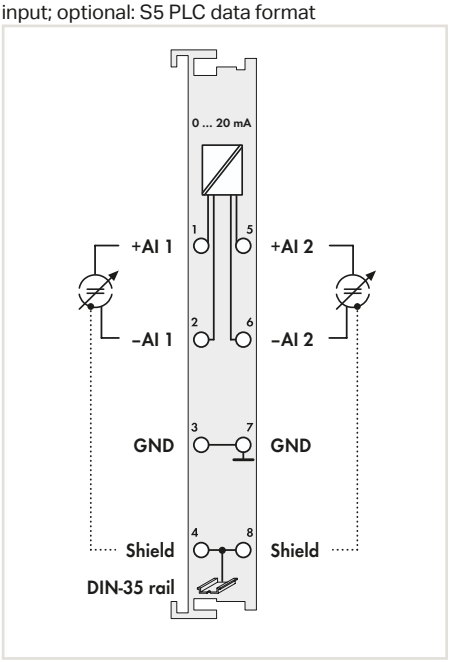
750 and 753 Series I/O-System, Analog Input Modules
Contents

Analog Input, 0 … 20 mA

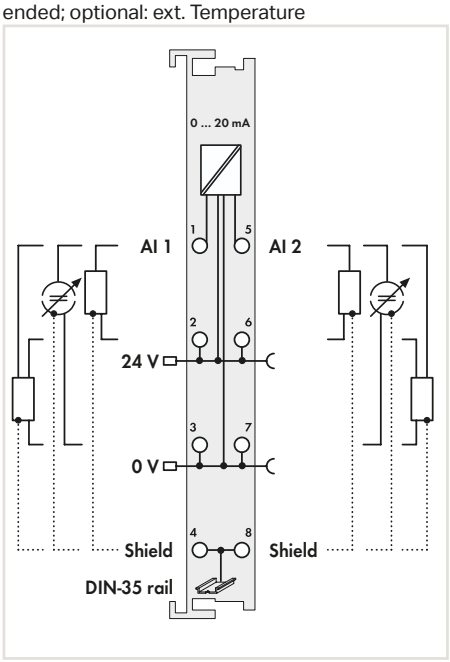
Figure: 750-452

Figure: 753-452

2-channel analog input; 0 … 20 mA; Differential input; optional: S5 PLC data format



2-channel analog input; 0 … 20 mA; Single-ended; optional: ext. Temperature



Item description	2AI			2AI		
Version	0-20mA Diff	0-20mA Diff S5	0-20mA Diff	0-20mA SE	0-20mA SE T	0-20mA SE
Item no.	**750-452**	**750-452/000-200**	**753-452**	**750-465**	**750-465/025-000**	**753-465**
Technical Data						
Advanced functionality						
Pluggable connector			•			•
Customized data format for S5 control		•				
Number of analog inputs	2			2		
Type of signal	0 … 20 mA			0 … 20 mA		
Signal characteristic	differential			single-ended		
Resolution	12 bits			12 bits		
Conversion time	2 ms			2 ms		
Input filter (analog)						
Measuring error (25 °C)	< ± 0.2 % of the largest measurement range			< ± 0.2 % of the largest measurement range		
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range		
System supply voltage	5VDC via data contacts			5VDC via data contacts		
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)		
Isolation	500 V System/field			500 V System/field		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C	–20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx			CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-452		wago.com/753-452	wago.com/750-465		wago.com/753-465

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

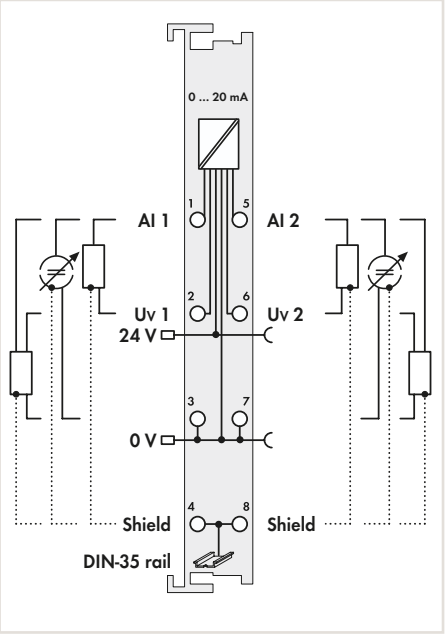
4.4

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

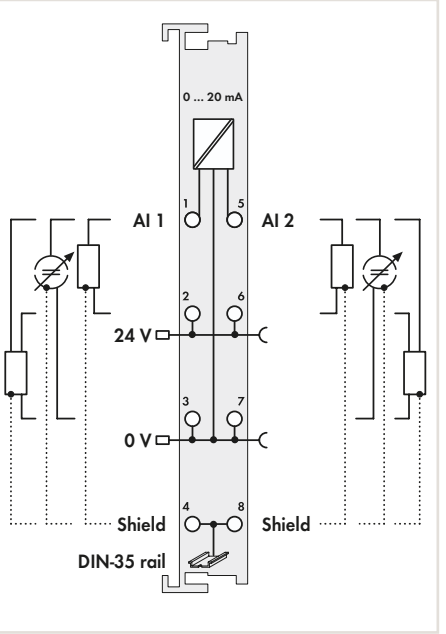
2-channel analog input; 0 … 20 mA; Single-ended; short circuit protected sensor supply; optional: 60 Hz



2AI	
0-20mA SE	0-20mA SE 60Hz
750-470	750-470/005-000

short circuit protected sensor supply	
2	
0 … 20 mA	
single-ended	
12 bits	
80 ms	
50 Hz	60 Hz
< ± 0.1 % of the largest measurement range	
< ± 0.01 % /K of the largest measurement range	
5VDC via data contacts	
2 x 16 bits data, 2 x 8 bits control/status (optional)	
500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-470	

2-channel analog input; 0 … 20 mA; Single-ended; 16 bits; optional: 60 Hz

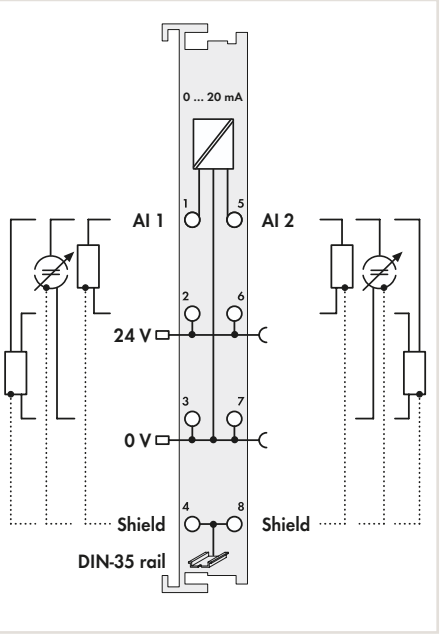


2AI		
0-20mA SE 16Bit	0-20mA SE 16Bit 60Hz	0-20mA SE 16Bit
750-472	750-472/005-000	753-472

overload protection		
		•
2		
0 … 20 mA		
single-ended		
15 bits		
80 ms		
50 Hz	60 Hz	50 Hz
< ± 0.1 % of the largest measurement range		
< ± 0.01 % /K of the largest measurement range		
5VDC via data contacts		
2 x 16 bits data, 2 x 8 bits control/status (optional)		
500 V System/field		
0 … +55 °C		
12 x 69.8 x 100 mm		
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-472		wago.com/753-472

Item no.
753-110
753-150

2-channel analog input; 0 … 20 mA; Single-ended; 16 bits; S5 PLC data format



2AI
0-20mA SE 16Bit S5
750-472/000-200

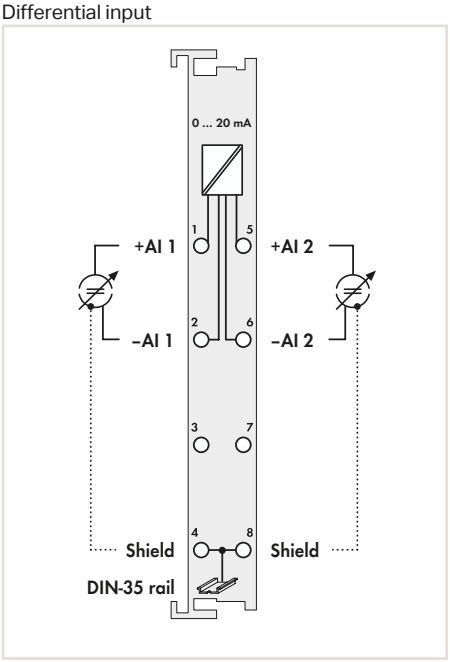
overload protection
•
2
0 … 20 mA
single-ended
15 bits
80 ms
50 Hz
< ± 0.1 % of the largest measurement range
< ± 0.01 % /K of the largest measurement range
5VDC via data contacts
2 x 16 bits data, 2 x 8 bits control/status (optional)
500 V System/field
0 … +55 °C
12 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-472/000-200

Analog Input, 0 … 20 mA or 4 … 20 mA

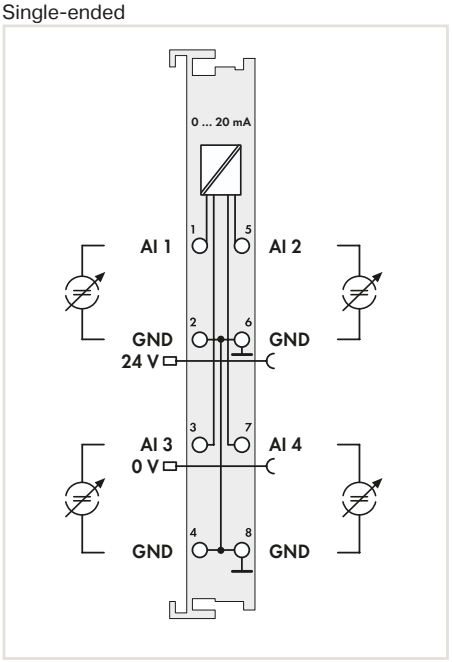
Figure: 750-480

Figure: 753-480

2-channel analog input; 0 … 20 mA; Differential input



4-channel analog input; 0 … 20 mA; Single-ended



Item description	2AI		4AI	
Version	0-20mA Diff	0-20mA Diff	0-20mA SE	0-20mA SE
Item no.	**750-480**	**753-480**	**750-453**	**753-453**
Technical Data				
Advanced functionality	time-synchronous measured-value acquisition within the modules			
Pluggable connector		•		•
Customized data format for S5 control				
Number of analog inputs	2		2	
Type of signal	0 … 20 mA		0 … 20 mA	
Signal characteristic	differential		single-ended	
Resolution	13 bits		12 bits	
Conversion time	1 ms		10 ms	
Measuring error (25 °C)	< ± 0.05 % of the largest measurement range		< ± 0.1 % of the largest measurement range	
Temperature coefficient	< ± 0.01 % /K of the largest measurement range		< ± 0.01 % /K of the largest measurement range	
System supply voltage	5VDC via data contacts		5VDC via data contacts	
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)		4 x 16 bits data, 4 x 8 bits control/status (optional)	
Isolation	500 V System/field		500 V System/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-480	wago.com/753-480	wago.com/750-453	wago.com/753-453

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

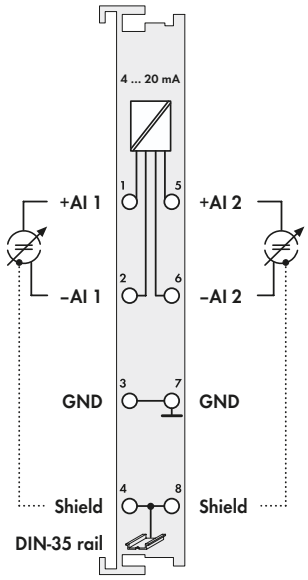
4.4

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

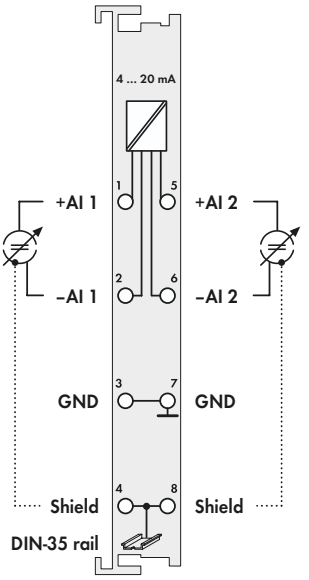
2-channel analog input; 4 … 20 mA; Differential input; optional: ext. Temperature



2AI		
4-20mA Diff	4-20mA Diff T	4-20mA Diff
750-454	750-454/025-000	753-454
	•	
2		
4 … 20 mA		
differential		
12 bits		
2 ms		
< ± 0.2 % of the largest measurement range		
< ± 0.01 % /K of the largest measurement range		
5VDC via data contacts		
2 x 16 bits data, 2 x 8 bits control/status (optional)		
500 V System/field		
0 … +55 °C	–20 … +60 °C	0 … +55 °C
12 x 69.8 x 100 mm		
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-454		wago.com/753-454

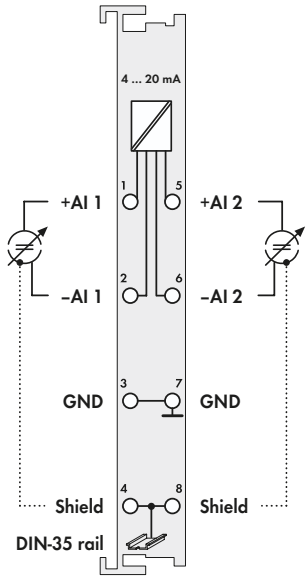
Item no.
753-110
753-150

2-channel analog input; 4 … 20 mA; Differential input; Extend. measurement range; optional: ext. Temperature



2AI	
4-20mA Diff EM	4-20mA Diff EM T
750-454/000-003	750-454/025-003
2	
3.8 … 20.5 mA	
differential	
12 bits	
2 ms	
< ± 0.2 % of the largest measurement range	
< ± 0.01 % /K of the largest measurement range	
5VDC via data contacts	
2 x 16 bits data, 2 x 8 bits control/status (optional)	
500 V System/field	
0 … +55 °C	–20 … +60 °C
12 x 69.8 x 100 mm	
CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
wago.com/750-454	

2-channel analog input; 4 … 20 mA; Differential input; S5 PLC data format



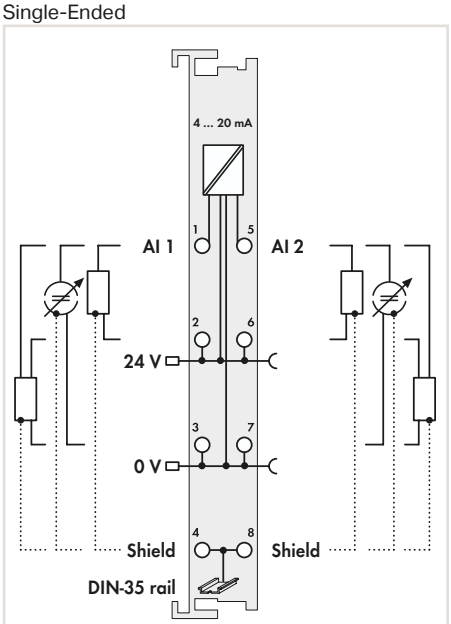
2AI
4-20mA Diff S5
750-454/000-200
•
2
4 … 20 mA
differential
12 bits
2 ms
< ± 0.2 % of the largest measurement range
< ± 0.01 % /K of the largest measurement range
5VDC via data contacts
2 x 16 bits data, 2 x 8 bits control/status (optional)
500 V System/field
0 … +55 °C
12 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-454/000-200

Analog Input, 4 … 20 mA

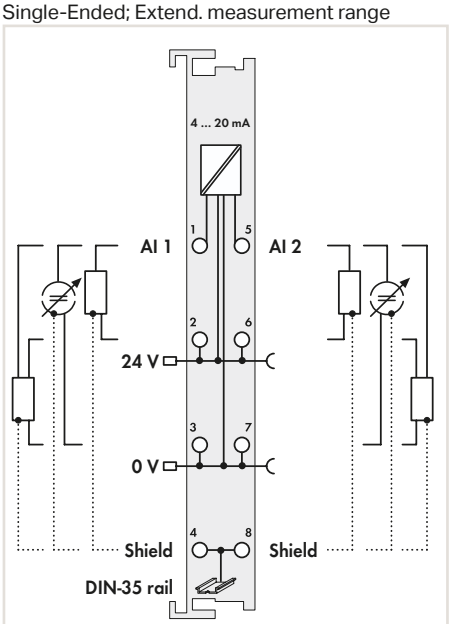
Figure: 750-466

Figure: 753-466

2-channel analog input; 4 … 20 mA; Single-Ended



2-channel analog input; 4 … 20 mA; Single-Ended; Extend. measurement range



Item description	2AI			2AI
Version	4-20mA SE	4-20mA SE T	4-20mA SE	4-20mA SE EM
Item no.	**750-466**	**750-466/025-000**	**753-466**	**750-466/000-003**
Technical Data				
Advanced functionality				
Pluggable connector			•	
Customized data format for S5 control				
Number of analog inputs	2			2
Type of signal	4 … 20 mA			3.8 … 20.5 mA
Signal characteristic	single-ended			single-ended
Resolution	12 bits			12 bits
Conversion time	2 ms			2 ms
Input filter (analog)				
Measuring error (25 °C)	< ± 0.2 % of the largest measurement range			< ± 0.2 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range
System supply voltage	5VDC via data contacts			5VDC via data contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field			500 V System/field
Ambient temperature (operation)	0 … +55 °C	–20 … +60 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA, ATEX/IECEx			CE, cULus UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-466		wago.com/753-466	wago.com/750-466/000-003

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

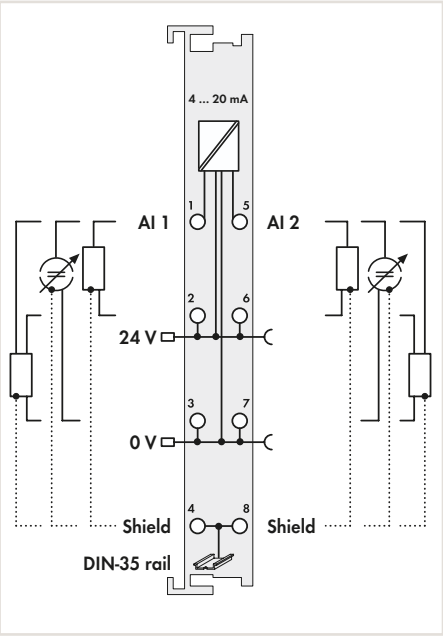
4.4

Mini-WSB Quick Marking System see Full Line Catalog, Volume 6

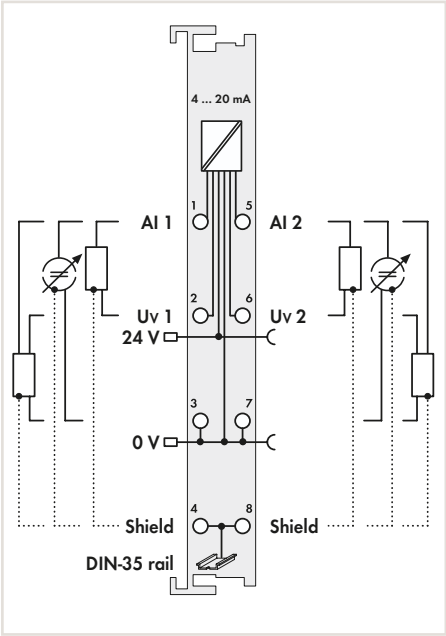
DIN rails and tool see Section 11

Approvals and corresponding ratings, see Page 519 or www.wago.com

2-channel analog input; 4 … 20 mA; Single-Ended; S5 PLC data format



2-channel analog input; 4 … 20 mA; Single-Ended; short circuit protected sensor supply; optional: 60 Hz



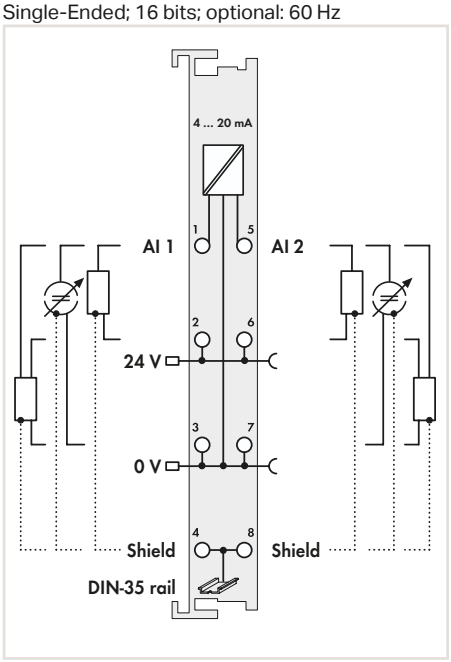
2AI		
4-20mA SE S5	4-20mA SE	4-20mA SE 60Hz
750-466/000-200	750-473	750-473/005-000
	short circuit protected sensor supply	
•		
2	2	
4 … 20 mA	4 … 20 mA	
single-ended	single-ended	
12 bits	12 bits	
2 ms	80 ms	
	50 Hz	60 Hz
< ± 0.2 % of the largest measurement range	< ± 0.1 % of the largest measurement range	
< ± 0.01 % /K of the largest measurement range	< ± 0.01 % /K of the largest measurement range	
5VDC via data contacts	5VDC via data contacts	
2 x 16 bits data, 2 x 8 bits control/status (optional)	2 x 16 bits data, 2 x 8 bits control/status (optional)	
500 V System/field	500 V System/field	
0 … +55 °C	0 … +55 °C	
12 x 69.8 x 100 mm	12 x 69.8 x 100 mm	
CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
wago.com/750-466/000-200	wago.com/750-473	

Analog Input, 4 … 20 mA

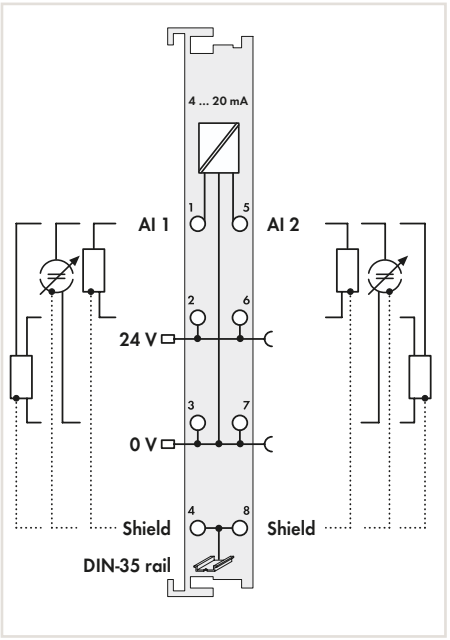
Figure: 750-474

Figure: 753-474

2-channel analog input; 4 … 20 mA; Single-Ended; 16 bits; optional: 60 Hz



2-channel analog input; 4 … 20 mA; Single-Ended; 16 bits; S5 PLC data format



Item description	2AI			2AI
Version	4-20mA SE 16Bit	4-20mA SE 16Bit 60Hz	4-20mA SE 16Bit	4-20mA SE 16Bit S5
Item no.	**750-474**	**750-474/005-000**	**753-474**	**750-474/000-200**
Technical Data				
Advanced functionality				
Pluggable connector			•	
Customized data format for S5/S7 control				•
Number of analog inputs	2			2
Type of signal	4 … 20 mA			4 … 20 mA
Signal characteristic	single-ended			single-ended
Resolution	15 bits			15 bits
Conversion time	80 ms			80 ms
Input filter (analog)	50 Hz	60 Hz	50 Hz	50 Hz
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range			< ± 0.1 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range
System supply voltage	5VDC via data contacts			5VDC via data contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field			500 V System/field
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-474		wago.com/753-474	wago.com/750-474/000-200

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

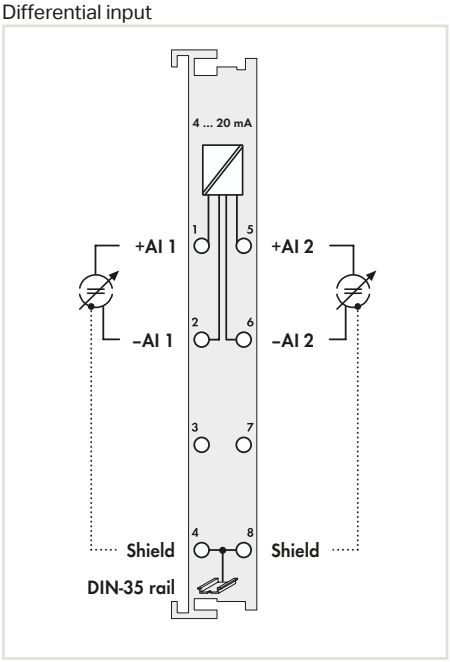
4.4

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

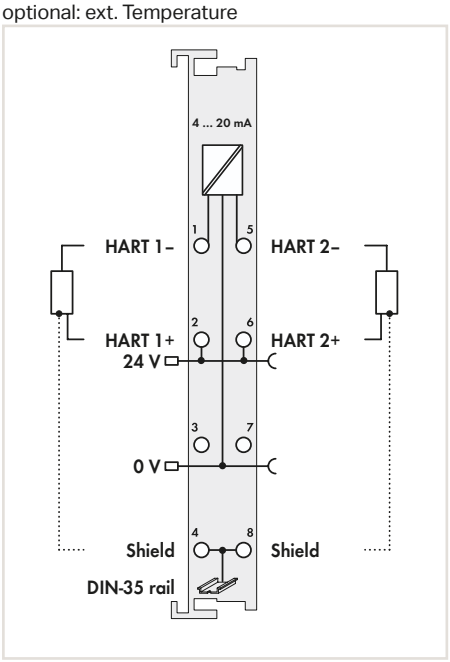
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

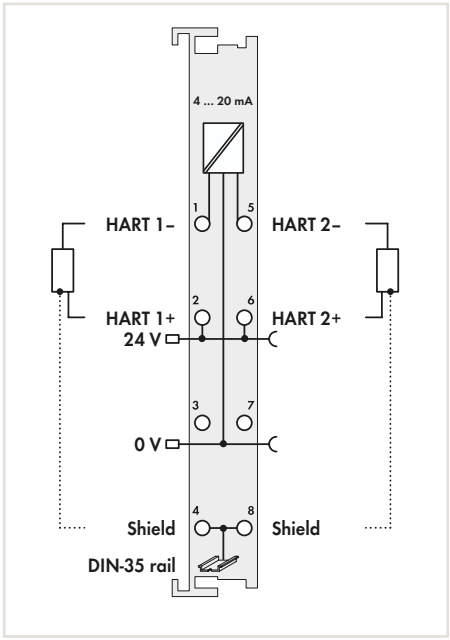
2-channel analog input; 4 … 20 mA; Differential input



2-channel analog input; 4 … 20 mA; HART; optional: ext. Temperature



2-channel analog input; 4 … 20 mA; HART; S7 PLC data format



2AI								
4-20mA Diff	4-20mA Diff	4-20mA HART	4-20mA HART T	4-20mA HART	4-20mA HART S7			
750-492	753-492	750-482	750-482/025-000	753-482	750-482/000-300			
time-synchronous measured-value acquisition within the modules								
	•			•				
					•			
2		2			2			
4 … 20 mA		4 … 20 mA			4 … 20 mA			
differential		single-ended			single-ended			
13 bits		12 bits			12 bits			
		10 ms			10 ms			
< ± 0.05 % of the largest measurement range		< ± 0.1 % of the largest measurement range			< ± 0.1 % of the largest measurement range			
< ± 0.01 % /K of the largest measurement range		< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range			
5VDC via data contacts		5VDC via data contacts			5VDC via data contacts			
2 x 16 bits data, 2 x 8 bits control/status (optional)		2 x 2 bytes data, 2 x 2 bytes data + 2n x 4 bytes data (n = number of dynamic variables), 2 x 2 bytes data + 6 bytes mailbox			2 x 2 bytes data, 2 x 2 bytes data + 2n x 4 bytes data (n = number of dynamic variables), 2 x 2 bytes data + 6 bytes mailbox			
500 V System/field		500 V System/field			500 V System/field			
0 … +55 °C		0 … +55 °C	–20 … +60 °C	0 … +55 °C	0 … +55 °C			
12 x 69.8 x 100 mm		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm			
CE, KC, cULus UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, cULus UL 508, ANSI/ISA, ATEX/IECEx			CE, cULus UL 508, ANSI/ISA, ATEX/IECEx			
wago.com/750-492	wago.com/753-492	wago.com/750-482		wago.com/753-482	wago.com/750-482/000-300			

	Item no.		Item no.	
	753-110		753-110	
	753-150		753-150	

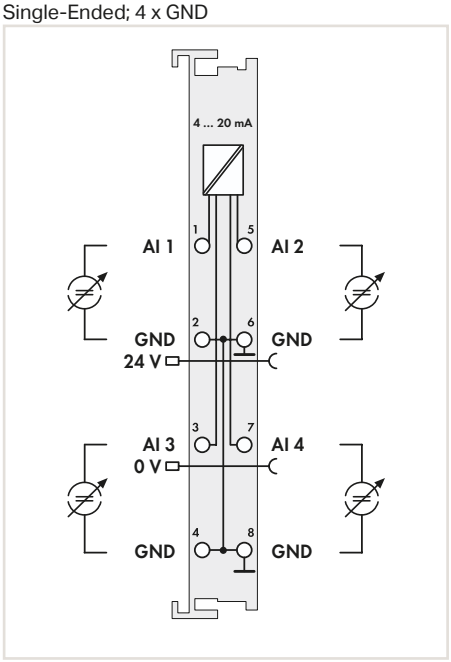
4.4

Analog Input, 4 … 20 mA

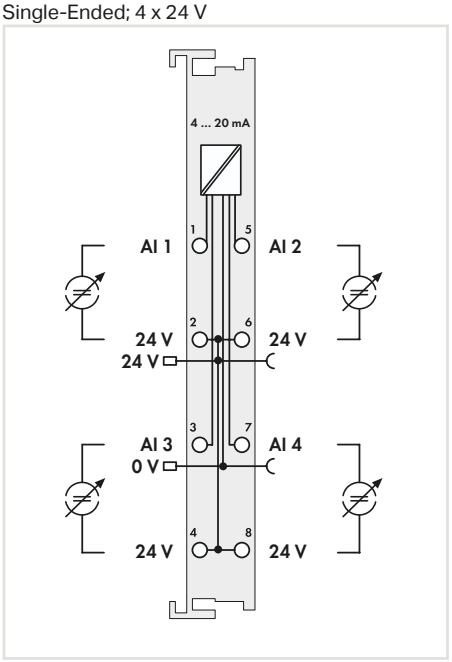
Figure: 750-455

Figure: 753-455

4-channel analog input; 4 … 20 mA; Single-Ended; 4 x GND



4-channel analog input; 0 … 20 mA; Single-Ended; 4 x 24 V



Item description	4AI			4AI
Version	4-20mA SE	4-20mA SE T	4-20mA SE	4-20mA SE 4x24V
Item no.	**750-455**	**750-455/025-000**	**753-455**	**750-455/020-000**
Technical Data				
Pluggable connector			•	
Number of analog inputs	4			4
Type of signal	4 … 20 mA			4 … 20 mA
Signal characteristic	single-ended			single-ended
Resolution	12 bits			12 bits
Conversion time	10 ms			10 ms
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range			< ± 0.1 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range
System supply voltage	5VDC via data contacts			5VDC via data contacts
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)			4 x 16 bits data, 4 x 8 bits control/status (optional)
Isolation	500 V System/field			500 V System/field
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-455		wago.com/753-455	wago.com/750-455/020-000

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

4.4

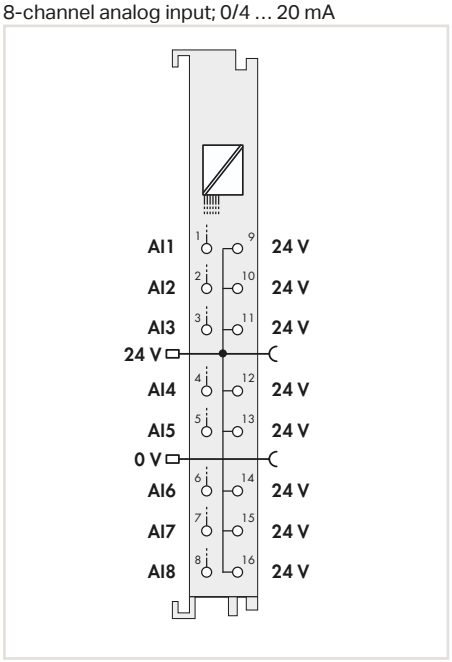
Mini-WSB Quick Marking System see Full Line Catalog, Volume 6

DIN rails and tool see Section 11

Approvals and corresponding ratings, see Page 519 or www.wago.com

Analog Input, adjustable 0/4 … 20 mA

8-channel analog input; 0/4 … 20 mA



Item description	8AI
Version	0/4-20mA
Item no.	**750-496**

Technical Data	
Number of analog inputs	8
Type of signal	adjustable: 0 … 20 mA, 4 … 20 mA, 3.6 … 21 mA
Resolution	12 bits
Conversion time	10 ms
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range
System supply voltage	5VDC via data contacts
Data width	8 x 16 bits data, 8 x 8 bits control/status (optional)
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, Marine*, UL 508*, ANSI/ISA*
Data sheet and further information, see:	wago.com/750-496

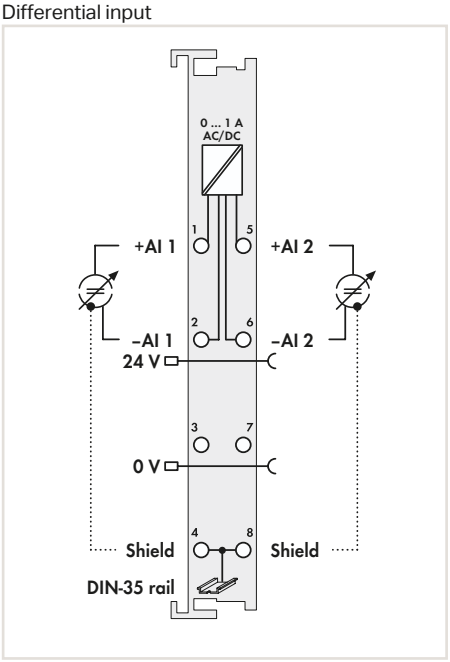
*pending

Analog Input, 0 … 1 A or 0 … 5 A AC/DC

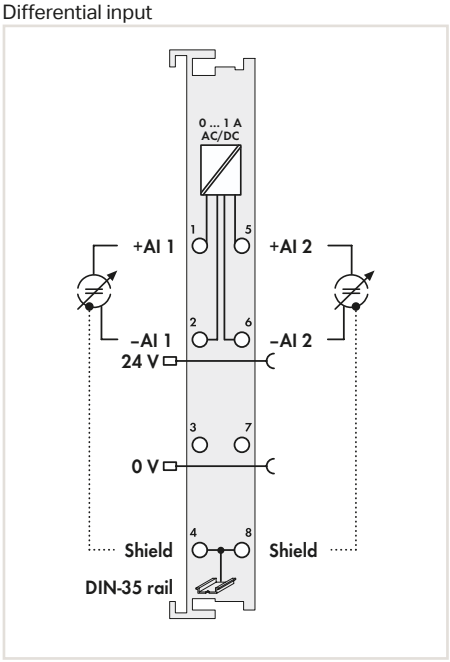
Figure: 750-475

Figure: 753-475

2-channel analog input; 0 … 1 A AC/DC; Differential input



2-channel analog input; 0 … 5 A AC/DC; Differential input



Item description	2AI		2AI
Version	0-1A AC/DC Diff	0-1A AC/DC Diff	0-5A AC/DC Diff
Item no.	**750-475**	**753-475**	**750-475/020-000**
Technical Data			
Pluggable connector		•	
Number of analog inputs	2		2
Type of signal	0 … 1 A eff. (peak value 2.0 A)		0 … 5 A eff. (peak value 6.0 A)
Signal characteristic	differential		differential
Input voltage max.	24 V AC/DC (–20 … +20 %)		24 V AC/DC (–20 … +20 %)
Resolution	15 bits		15 bits
Conversion time	200 ms		200 ms
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range		< ± 0.1 % of the largest measurement range
Temperature coefficient	< ± 110 ppm/K of the largest measurement range		< ± 110 ppm/K of the largest measurement range
System supply voltage	5VDC via data contacts		5VDC via data contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)		2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field		500 V System/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-475	wago.com/753-475	wago.com/750-475/020-000

Accessories	Item no.	
Plug	753-110	
753 Series coding elements	753-150	

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

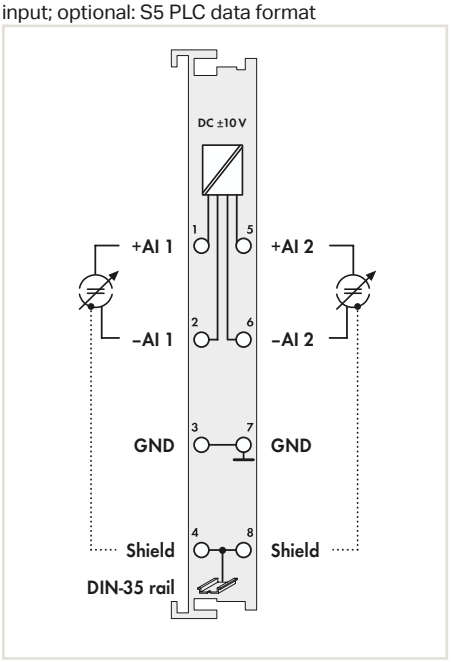
Approvals and corresponding ratings,
see Page 519 or www.wago.com

Analog Input, ±10 VDC

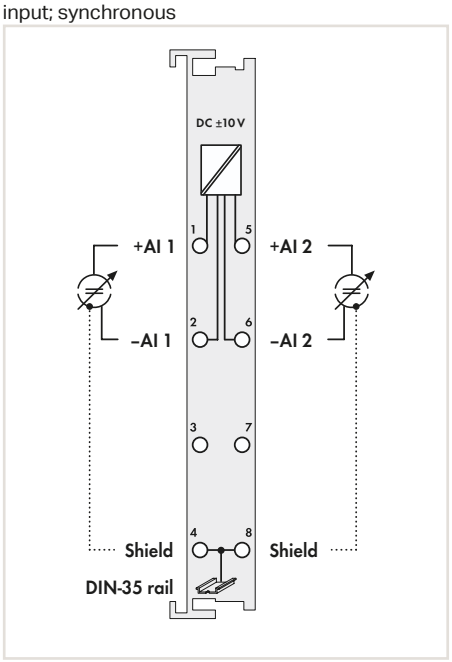
Figure: 750-456

Figure: 750-479

2-channel analog input; ±10 VDC; Differential input; optional: S5 PLC data format



2-channel analog input; ±10 VDC; Differential input; synchronous



Item description	2AI			2AI		
Version	±10 VDC Diff	±10 VDC Diff S5	±10 VDC Diff	±10 VDC Diff	±10 VDC Diff Sync	±10 VDC Diff
Item no.	**750-456**	**750-456/000-200**	**753-456**	**750-479**	**750-479/000-001**	**753-479**
Technical Data						
Advanced functionality				time-synchronous measured-value acquisition within the modules	time-synchronous measured-value acquisition within the modules and the KBUS	time-synchronous measured-value acquisition within the modules
Pluggable connector			•			•
Customized data format for S5 control	•					
Number of analog inputs	2			2		
Type of signal	±10 V			±10 V		
Signal characteristic	differential			differential		
Resolution	12 bits			12 bits		
Conversion time	2 ms			1 ms		
Measuring error (25 °C)	< ± 0.2 % of the largest measurement range			< ± 0.05 % of the largest measurement range		
Temperature coefficient	< ± 0.015 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range		
System supply voltage	5VDC via data contacts			5VDC via data contacts		
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)		
Isolation	500 V System/field			500 V System/field		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-456		wago.com/753-456	wago.com/750-479		wago.com/753-479

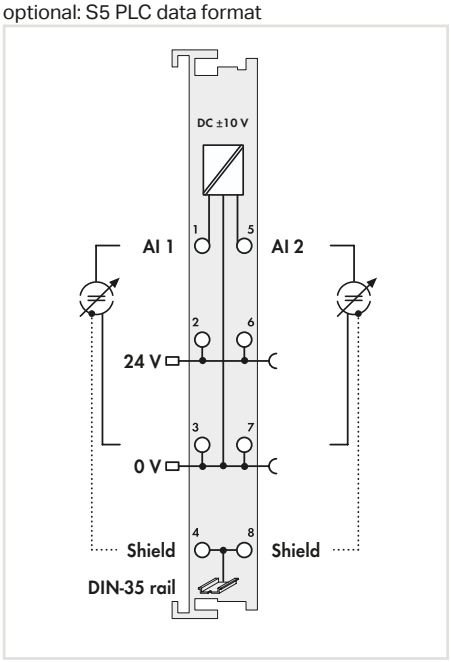
Accessories		Item no.		Item no.
Plug		753-110		753-110
753 Series coding elements		753-150		753-150

Analog Input, ±10 VDC

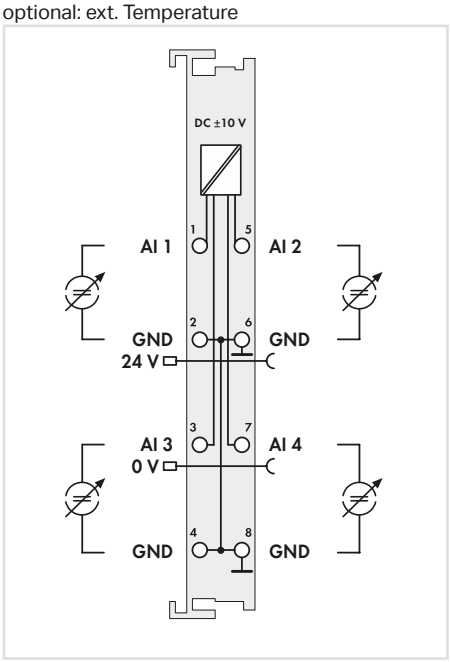
Figure: 750-476

Figure: 750-457

2-channel analog input; ±10 VDC; Single-Ended; optional: S5 PLC data format



4-channel analog input; ±10 VDC; Single-Ended; optional: ext. Temperature



Item description	2AI			4AI		
Version	±10 VDC SE 16Bit	±10 VDC SE 16Bit S5	±10 VDC SE 16Bit	±10 VDC SE	±10 VDC SE T	±10 VDC SE
Item no.	**750-476**	**750-476/000-200**	**753-476**	**750-457**	**750-457/025-000**	**753-457**
Technical Data						
Pluggable connector			•			•
Customized data format for S5 control		•				
Number of analog inputs	2			4		
Type of signal	±10 V			±10 V		
Signal characteristic	single-ended			single-ended		
Resolution	15 bits			12 bits		
Conversion time	80 ms			10 ms		
Input filter (analog)	50 Hz	60 Hz	50 Hz			
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range			< ± 0.1 % of the largest measurement range		
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range		
System supply voltage	5VDC via data contacts			5VDC via data contacts		
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			4 x 16 bits data, 4 x 8 bits control/status (optional)		
Isolation	500 V System/field			500 V System/field		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C	−20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-476		wago.com/753-476	wago.com/750-457		wago.com/753-457

Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

4.4

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

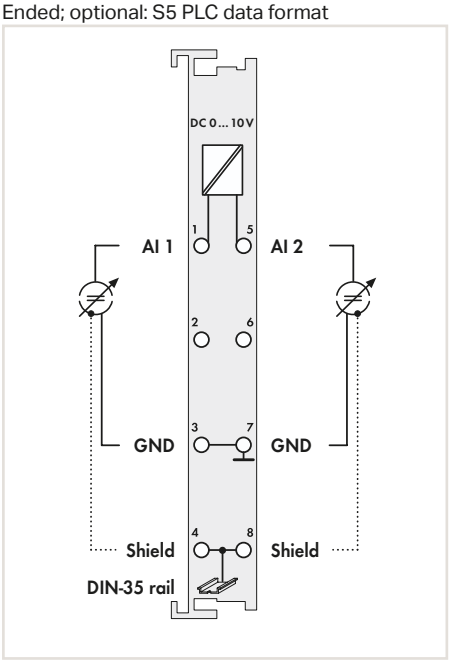
Approvals and corresponding ratings,
see Page 519 or www.wago.com

Analog Input, 0 … 10 VDC

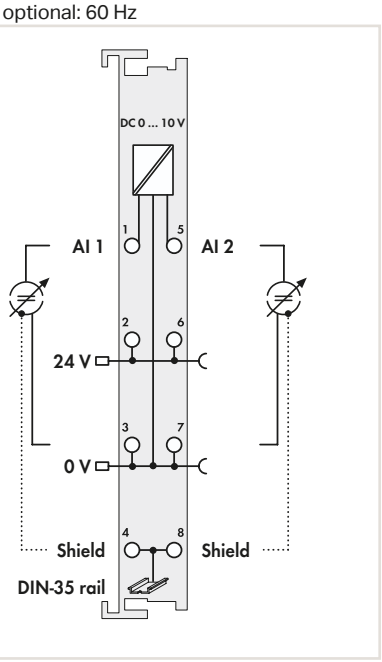
Figure: 750-467

Figure: 750-478

2-channel analog input; 0 … 10 VDC; Single-Ended; optional: S5 PLC data format



2-channel analog input, 0 … 10 VDC, Single-Ended, optional: 60 Hz



Item description	2AI			2AI		
Version	0-10 VDC SE	0-10 VDC SE S5	0-10 VDC SE	0-10 VDC SE 16Bit	0-10 VDC SE 16Bit T	0-10 VDC SE 16Bit
Item no.	**750-467**	**750-467/000-200**	**753-467**	**750-478**	**750-478/005-000**	**753-478**
Technical Data						
Pluggable connector			•			•
Customized data format for S5 control		•				
Number of analog inputs	2			2		
Type of signal	0 … 10 V			0 … 10 V		
Signal characteristic	single-ended			single-ended		
Resolution	12 bits			16 bits		
Conversion time	2 ms			2 ms		
Input filter (analog)				50 Hz	60 Hz	50 Hz
Measuring error (25 °C)	< ± 0.2 % of the largest measurement range			< ± 0.1 % of the largest measurement range		
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range		
System supply voltage	5VDC via data contacts			5VDC via data contacts		
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)		
Isolation	500 V System/field			500 V System/field		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, cULus UL 508, ANSI/ISA, ATEX/IECEx			CE, KC, Marine, cULus UL 508, ANSI/ISA, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-467		wago.com/753-467	wago.com/750-478		wago.com/753-478

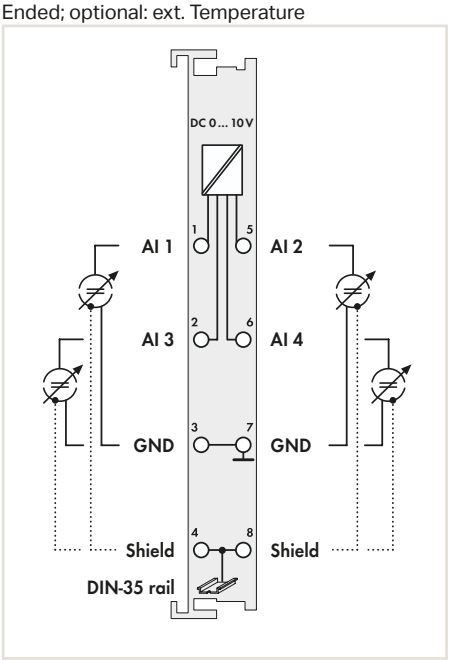
Accessories	Item no.	Item no.
Plug	753-110	753-110
753 Series coding elements	753-150	753-150

4.4

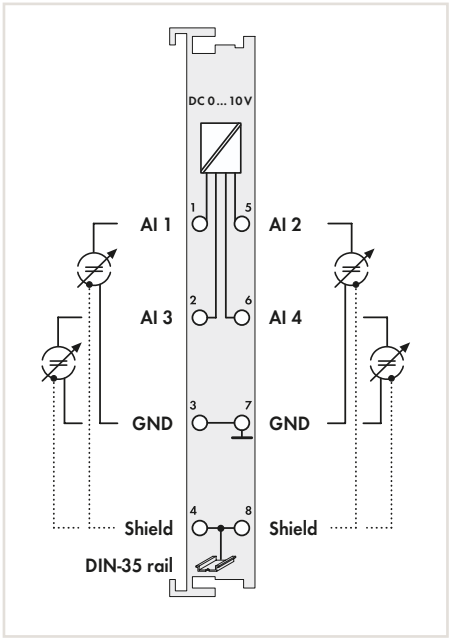
Analog Input, 0 … 10 VDC

Figure: 750-468

4-channel analog input; 0 … 10 VDC; Single-Ended; optional: ext. Temperature



4-channel analog input; 0 … 10 VDC; Single-Ended; S5 PLC data format



Item description	4AI		4AI
Version	0-10 VDC SE	0-10 VDC SE T	0-10 VDC SE S5
Item no.	**750-468**	**750-468/025-000**	**750-468/000-200**
Technical Data			
Customized data format for S5 control			•
Number of analog inputs	4		4
Type of signal	0 … 10 V		0 … 10 V
Signal characteristic	single-ended		single-ended
Resolution	12 bits		12 bits
Conversion time	4 ms		4 ms
Measuring error (25 °C)	< ± 0.2 % of the largest measurement range		< ± 0.2 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range		< ± 0.01 % /K of the largest measurement range
System supply voltage	5VDC via data contacts		5VDC via data contacts
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)		4 x 16 bits data, 4 x 8 bits control/status (optional)
Isolation	500 V System/field		500 V System/field
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-468		wago.com/750-468/000-200

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

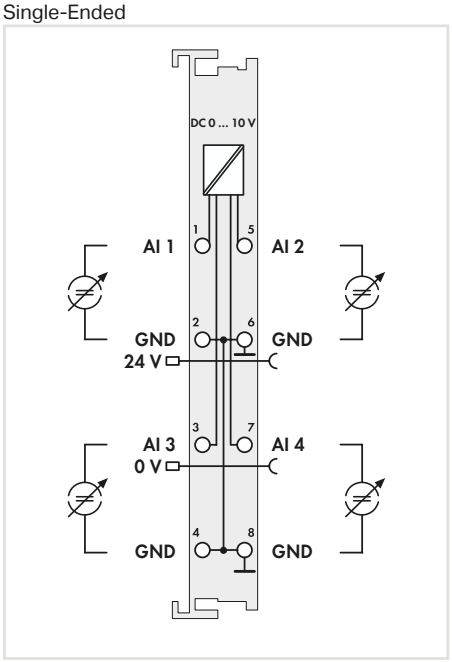
Approvals and corresponding ratings,
see Page 519 or www.wago.com

Analog Input, 0 … 10 VDC

Figure: 750-459

Figure: 753-459

4-channel analog input; 0 … 10 VDC; Single-Ended

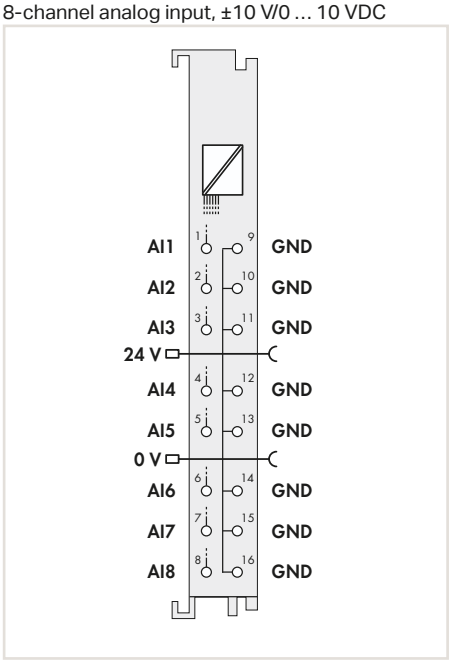


Item description	4AI	
Version	0-10 VDC SE	0-10 VDC SE
Item no.	**750-459**	**753-459**
Technical Data		
Pluggable connector		•
Number of analog inputs	4	
Type of signal	0 … 10 V	
Signal characteristic	single-ended	
Resolution	12 bits	
Conversion time	10 ms	
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range	
Temperature coefficient	< ± 0.01 % /K of the largest measurement range	
System supply voltage	5VDC via data contacts	
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)	
Isolation	500 V System/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-459	wago.com/753-459

Accessories	**Item no.**
Plug	**753-110**
753 Series coding elements	**753-150**

Analog Input, adjustable ±10 VDC/0 … 10 VDC

8-channel analog input, ±10 V/0 … 10 VDC



Item description	8AI
Version	±10 V/0-10 VDC
Item no.	**750-497**

Technical Data	
Number of analog inputs	8
Type of signal	adjustable: 0 … 10 V / ±10 V
Resolution	12 bits
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range
System supply voltage	5VDC via data contacts
Data width	8 x 16 bits data, 8 x 8 bits control/status (optional)
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, Marine*, UL 508*, ANSI/ISA*
Data sheet and further information, see:	wago.com/750-497

*pending

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

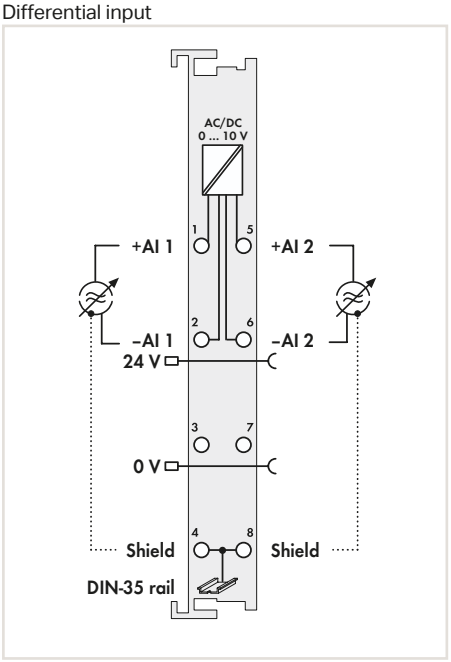
Approvals and corresponding ratings,
see Page 519 or www.wago.com

Analog Input, 0 … 10 VAC/DC or 0 … 30 VDC

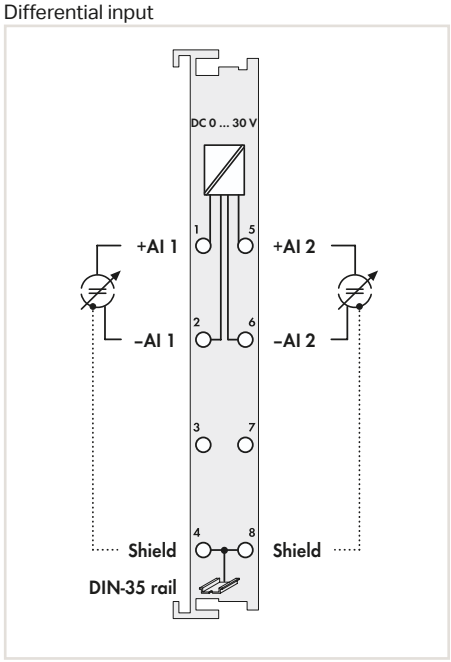
Figure: 750-477

Figure: 753-477

4-channel analog input; 0 … 10 VAC/DC; Differential input



4-channel analog input; 0 … 30 VDC; Differential input



Item description	2AI		2AI	
Version	0-10 V AC/DC	0-10 V AC/DC	0-30 VDC	0-30 VDC
Item no.	**750-477**	**753-477**	**750-483**	**753-483**
Technical Data				
Advanced functionality			time-synchronous measured-value acquisition within the modules	
Pluggable connector		•		•
Number of analog inputs	2		2	
Type of signal	0 … 10 V eff. (peak value 20 V)		0 … 30 V	
Signal characteristic	differential		differential	
Resolution	15 bits		14 bits	
Conversion time	200 ms		1 ms	
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range		< ± 0.05 % of the largest measurement range	
Temperature coefficient	< ± 110 ppm/K of the largest measurement range		< ± 0.01 % /K of the largest measurement range	
System supply voltage	5VDC via data contacts		5VDC via data contacts	
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)		2 x 16 bits data, 2 x 8 bits control/status (optional)	
Isolation	500 V System/field		500 V System/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-477	wago.com/753-477	wago.com/750-483	wago.com/753-483

Accessories	**Item no.**	**Item no.**
Plug	**753-110**	**753-110**
753 Series coding elements	**753-150**	**753-150**

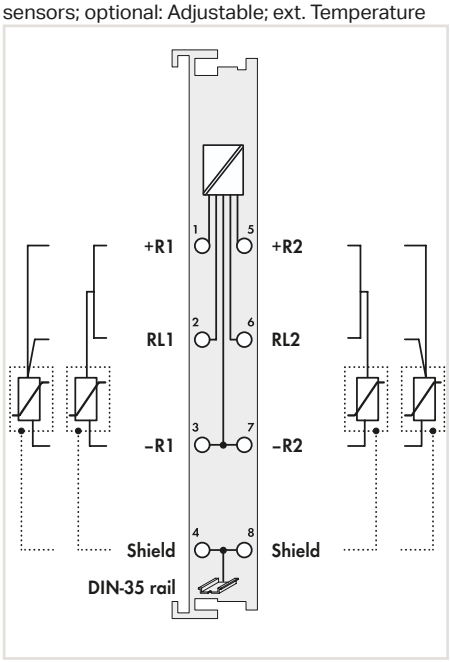
4.4

Analog Input, for Resistance Sensors

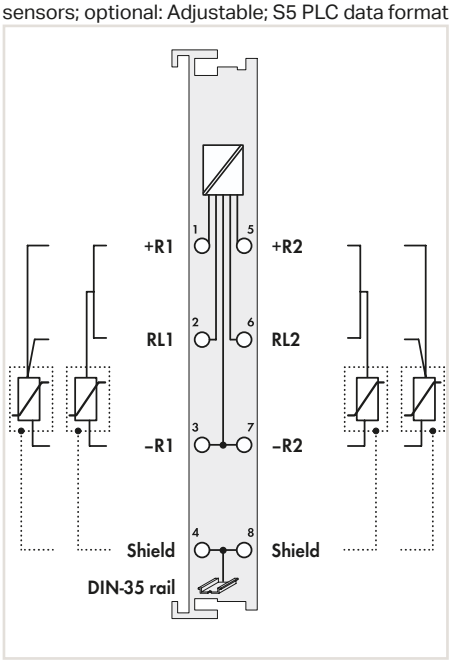
Figure: 750-461

Figure: 753-461

2-channel analog input; for Pt100/ RTD resistance sensors; optional: Adjustable; ext. Temperature



2-channel analog input; for Pt100/ RTD resistance sensors; optional: Adjustable; S5 PLC data format



Item description	2AI			2AI		
Version	Pt100/RTD	Pt100/RTD Adjust	Pt100/RTD T	Pt100/RTD	Pt100/RTD Adjust	Pt100/RTD S5
Item no.	**750-461**	**750-461/003-000**	**750-461/025-000**	**753-461**	**753-461/003-000**	**750-461/000-200**
Technical Data						
Pluggable connector				•	•	
Customized data format for S5 control						•
Number of analog inputs	2			2		
Type of signal	Pt100	Pt, Ni, Ohm, configurable	Pt100	Pt100	Pt, Ni, Ohm, configurable	Pt100
Sensor connection	2-conductor, 3-conductor			2-conductor, 3-conductor		
Temperature range	-200 … +850 °C			-200 … +850 °C		
Resolution	0.1 °C			0.1 °C		
Conversion time	320 ms (per channel)			320 ms (per channel)		
Measuring current typ.	0.5 mA			0.5 mA		
Measuring error (25 °C)	< ± 0.2 % of the largest measurement range			< ± 0.2 % of the largest measurement range		
Temperature coefficient	< ± 0.01 % /K of the largest measurement range			< ± 0.01 % /K of the largest measurement range		
System supply voltage	5VDC via data contacts			5VDC via data contacts		
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)		
Isolation	500 V System/field			500 V System/field		
Ambient temperature (operation)	0 … +55 °C		–20 … +60 °C	0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-461			wago.com/753-461		wago.com/750-461

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

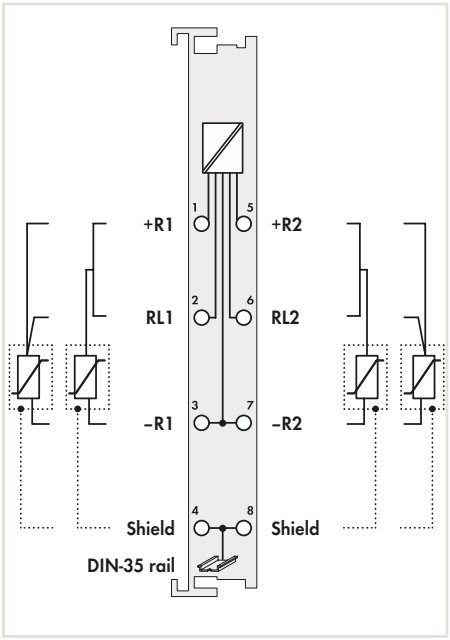
4.4

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

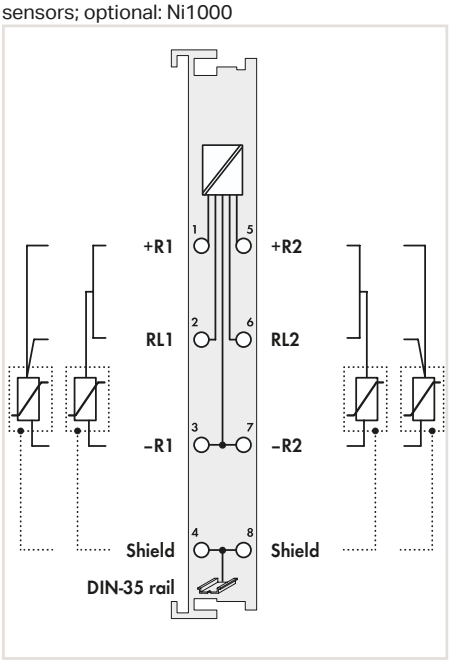
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

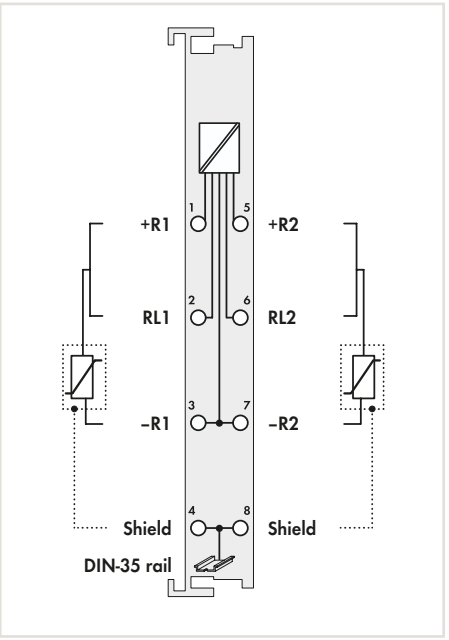
2-channel analog input; for Pt1000/ RTD resistance sensors; optional: Resistance measurement



2-channel analog input; for Ni100/RTD resistance sensors; optional: Ni1000



2-channel analog input; for NTC 20k resistance sensors



2AI		
Pt1000/RTD	10R-1k2	10R-5k0
750-461/000-003	**750-461/000-002**	**750-461/000-007**

2AI		
Ni100/RTD	Ni1000/RTD	Ni1000/RTD
750-461/000-004	**750-461/000-005**	**750-461/000-009**

2AI
NTC 20k
750-461/020-000

2		
Pt1000	10R ... 1k2	10R ... 5k0
2-/3-conductor	2-conductor	
-200 ... +850 °C		
0.1 °C	0.1 Ohm	0,5 Ohm
320 ms (per channel)		
0,5 mA		
< ± 0.2 % of the largest measurement range		
< ± 0.01 % /K of the largest measurement range		
5VDC via data contacts		
2 x 16 bits data, 2 x 8 bits control/status (optional)		
500 V System/field		
0 ... +55 °C		
12 x 69.8 x 100 mm		
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-461		

2		
Ni100	Ni1000 TK6180	Ni1000 TK5000
2-conductor, 3-conductor		
-60 ... +250 °C		-30 ... +122 °C
0.1 °C		
320 ms (per channel)		
0,5 mA		
< ± 0.2 % of the largest measurement range		
< ± 0.01 % /K of the largest measurement range		
5VDC via data contacts		
2 x 16 bits data, 2 x 8 bits control/status (optional)		
500 V System/field		
0 ... +55 °C		
12 x 69.8 x 100 mm		
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-461		

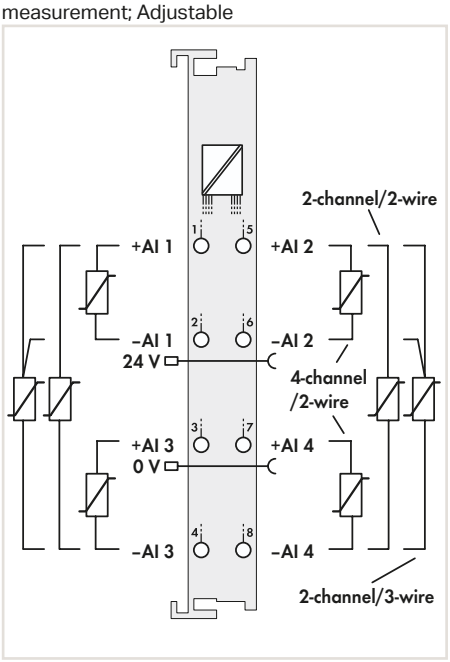
2
NTC 20k
2-conductor
-30 ... +130 °C
0.1 °C
320 ms (per channel)
0.05 mA
0,5 ... 3 K (dependent on temperature)
< ± 0.002 % /K of the largest measurement range
5VDC via data contacts
2 x 16 bits data, 2 x 8 bits control/status (optional)
500 V System/field
0 ... +55 °C
12 x 69.8 x 100 mm
CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx
wago.com/750-461

Analog Input, for Resistance Sensors

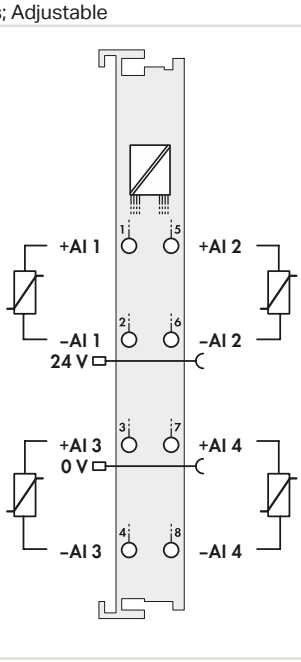
Figure: 750-464

Figure: 750-450

2/4-channel analog input; Resistance measurement; Adjustable



4-channel analog input; for NTC resistance sensors; Adjustable



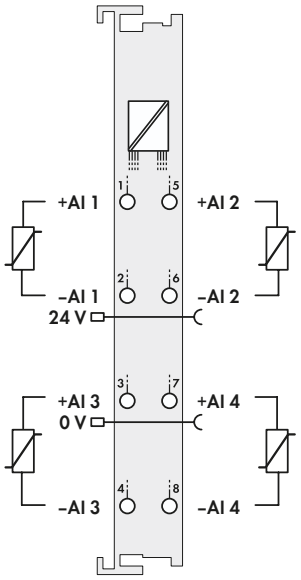
Item description	2/4AI	4AI
Version	RTD Adjust	NTC Adjust
Item no.	**750-464**	**750-464/020-000**
Technical Data		
Number of analog inputs	2/4	4
Type of signal	Pt100, Pt200, Pt500, Pt1000, Ni 100, Ni 120, Ni 1000, Potentiometer (only 2-channel operation), 10 Ohm … 1,2 kOhm, 10 Ohm … 5 kOhm	NTC 10 kOhm, NTC 10 kOhm Thermokon, NTC 20 kOhm
Sensor connection	2-conductor, 3-conductor	2-conductor
Temperature range	-200 … +850 °C (Pt100 … Pt1000), -60 … +300 °C (Ni 100, Ni 1000), -60 … +250 °C (Ni 1000 TK5000), -80 … +260 °C (Ni 120)	-50 … +150 °C
Resolution	0.1 °C	0.1 °C
Conversion time	320 ms (per channel)	320 ms (per channel)
Measuring current typ.	≤ 350 µA	≤ 350 µA
Measuring error (25 °C)	≤ 1 K in the entire temp. range, ≤ 0,5 K in the restricted temp. range (-30 … +120 °C, Pt 1000)	≤ 2 K in the entire temp. range
Temperature coefficient	≤ 20 ppm/K	≤ 20 ppm/K
System supply voltage	5VDC via data contacts	5VDC via data contacts
Data width	4 (2) x 16 bits data, 4 (2) x 8 bits control/status (optional)	4 x 16 bits data, 4 x 8 bits control/status (optional)
Isolation	500 V System/field	500 V System/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-464	wago.com/750-464/020-000

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

4-channel analog input; for Pt1000/ RTD resistance sensors; Adjustable



4AI

RTD -30°C...+150°C

750-463

4

Pt1000, Ni1000, KTY 81, adjustable

2-conductor

-30 … +150 °C

0.1 °C

≤ 350 µA

≤ 0.5 K in temperature range -30 … +150 °C

≤ 20 ppm/K

5VDC via data contacts

4 x 16 bits data, 4 x 8 bits control/status (optional)

500 V System/field

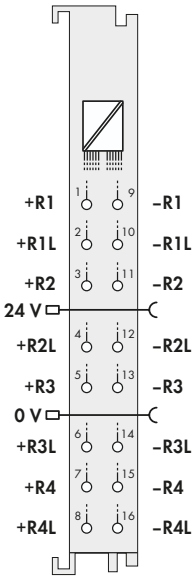
0 … +55 °C

12 x 69.8 x 100 mm

CE, KC, UL 508, ANSI/ISA, ATEX/IECEx

wago.com/750-463

4-channel analog input; Resistance measurement; Adjustable



4AI

RTD Adjust

750-450

4

Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000 (TK6180 + TK5000), Potentiometer 0 Ohm … 1,2 kOhm, 0 Ohm … 5 kOhm

2-conductor, 3-conductor, 4-conductor

-200 … +850 °C (Pt100, Pt200, Pt500, Pt1000), -60 … +250 °C (Ni100, Ni1000), -80 … +260 °C (Ni120)

0.1 °C

per channel: ≤ 100 ms (2-/4-conductor), ≤ 200 ms (3-conductor)

≤ 350 µA

≤ ±0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120), ≤ ±0.2 K (Pt1000, Ni1000), ≤ ±0.3 … 0,7 Ω at resistance measurement

≤± 5 ppm/K

5VDC via data contacts

4 x 16 bits data, 4 x 8 bits control/status (optional)

500 V System/field

0 … +55 °C

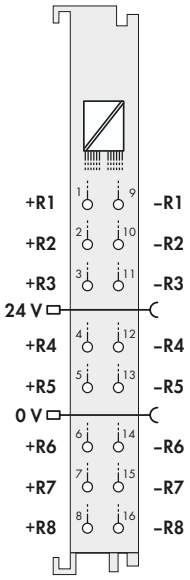
12 x 69.8 x 100 mm

CE, Marine*, UL 508*, ANSI/ISA*, ATEX/IECEx

wago.com/750-450

*pending

8-channel analog input; Resistance measurement; Adjustable



8AI

RTD Adjust

750-451

8

Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000 (TK6180 + TK5000), Potentiometer 0 Ohm … 1,2 kOhm, 0 Ohm … 5 kOhm

2-conductor

-200 … +850 °C (Pt100, Pt200, Pt500, Pt1000), -60 … +250 °C (Ni100, Ni1000), -80 … +260 °C (Ni120)

0.1 °C

per channel: ≤ 100 ms

≤ 350 µA

≤ ±0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120), ≤ ±0.2 K (Pt1000, Ni1000), ≤ ±0.3 Ω at resistance measurement

≤± 5 ppm/K

5VDC via data contacts

8 x 16 bits data, 8 x 8 bits control/status (optional)

500 V System/field

0 … +55 °C

12 x 69.8 x 100 mm

CE, Marine*, UL 508*, ANSI/ISA*, ATEX/IECEx

wago.com/750-451

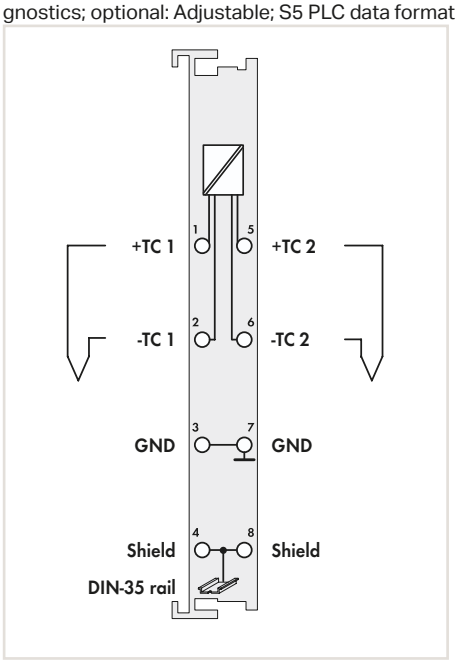
*pending

Analog Input, for Thermocouple

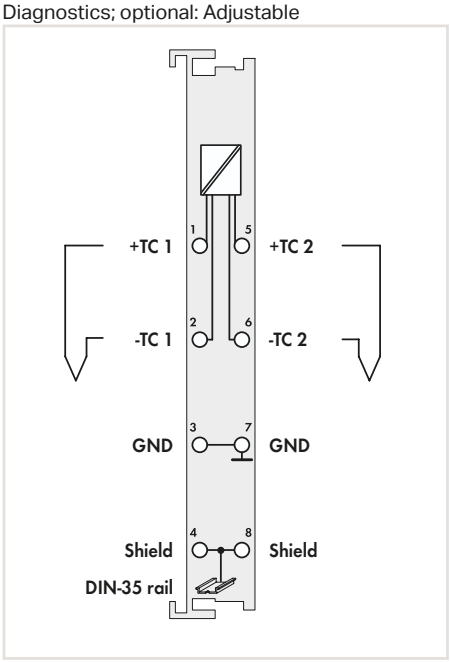
Figure: 750-469

Figure: 750-458

2-channel analog input; Thermocouple K; Diagnostics; optional: Adjustable; S5 PLC data format



2-channel analog input; Thermocouple K; Diagnostics; optional: Adjustable



Item description	2AI			2AI	
Version	TC K Diagn	TC K Diagn Adjust	TC K Diagn S5	TC K Diagn	TC K Diagn Adjust
Item no.	**750-469**	**750-469/003-000**	**750-469/000-200**	**753-469**	**753-469/003-000**
Technical Data					
Pluggable connector				•	•
Customized data format for S5 control					
Number of analog inputs	2			2	
Type of signal	Thermocouple K	configurable: K, L, J, E, T, N, U, B, R, S, mV	Thermocouple K	Thermocouple K	configurable: K, L, J, E, T, N, U, B, R, S, mV
Temperature range	-100 … +1370 °C	depending on sensor	-100 … +1370 °C	-100 … +1370 °C	depending on sensor
Resolution	0.1 °C			0.1 °C	
Conversion time	320 ms			320 ms	
Measuring error (25 °C)	<± 6 K (voltage input <± 2 K, cold junction compensation <± 4 K)			<± 6 K (voltage input <± 2 K, cold junction compensation <± 4 K)	
Temperature coefficient	<± 0.2 K/K			<± 0.2 K/K	
Cold junction compensation	integrated or external			integrated or external	
System supply voltage	5VDC via data contacts			5VDC via data contacts	
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)	
Isolation	500 V System/field			500 V System/field	
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-469			wago.com/753-469	

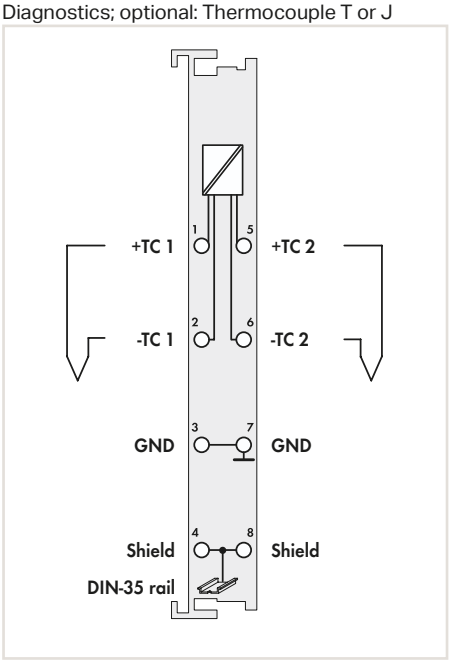
Accessories	**Item no.**
Plug	753-110
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

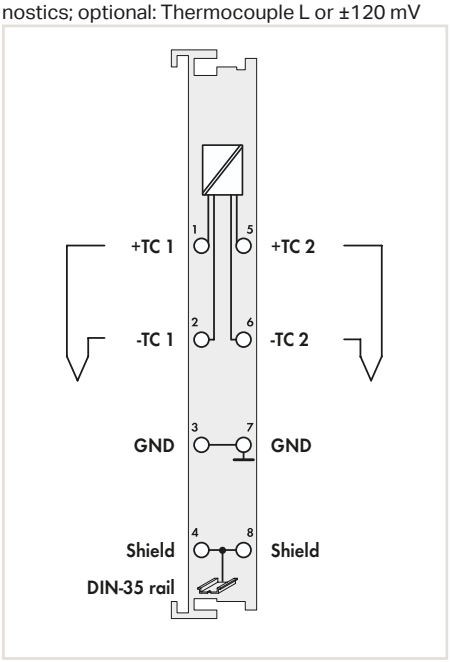
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

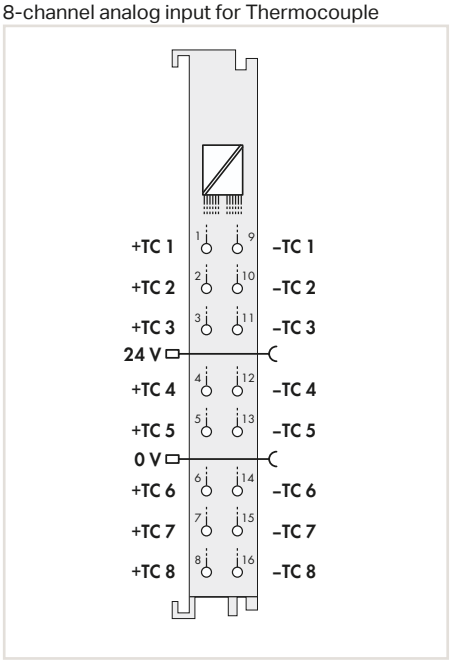
2-channel analog input; Thermocouple S; Diagnostics; optional: Thermocouple T or J



2-channel analog input; Thermocouple E; Diagnostics; optional: Thermocouple L or ±120 mV



8-channel analog input for Thermocouple



2AI		
TC S Diagn	TC T Diagn	TC J Diagn
750-469/000-001	750-469/000-002	750-469/000-006

2AI		
TC E Diagn	TC L Diagn	TC ±120mV Diagn
750-469/000-008	750-469/000-012	750-469/000-003

8AI
TC Adjust
750-458

2		
Thermocouple S	Thermocouple T	Thermocouple J
-50 … +1700 °C	-100 … +400 °C	-100 … +1200 °C
0.1 °C		
320 ms		
<± 6 K (voltage input <± 2 K, cold junction compensation <± 4 K)		
<± 0.2 K/K		
integrated or external		
5VDC via data contacts		
2 x 16 bits data, 2 x 8 bits control/status (optional)		
500 V System/field		
0 … +55 °C		
12 x 69.8 x 100 mm		
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-469		

2		
Thermocouple E	Thermocouple L	±120mV
-100 … +1000 °C	-100 … +900 °C	
0.1 °C		
320 ms		
<± 6 K (voltage input <± 2 K, cold junction compensation <± 4 K)		
<± 0.2 K/K		
integrated or external		
5VDC via data contacts		
2 x 16 bits data, 2 x 8 bits control/status (optional)		
500 V System/field		
0 … +55 °C		
12 x 69.8 x 100 mm		
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
wago.com/750-469		

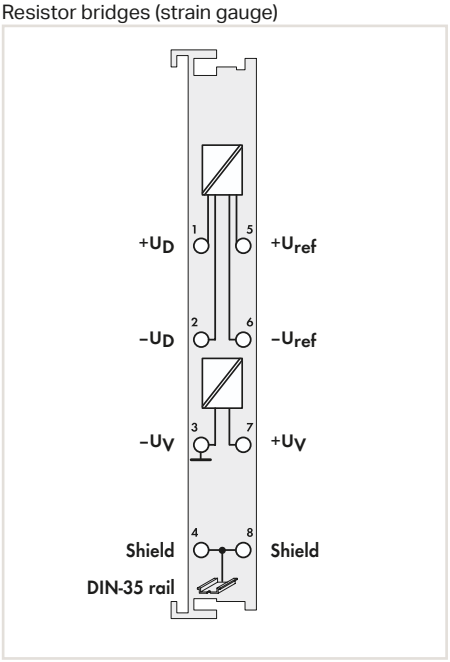
8
Typ K, J, B, E, N, R, S, T, U, C; Voltage measurement -30 … +30 mV, -60 … +60 mV, -120 … +120 mV, -240 … +240 mV
depending on sensor
0.1 °C
per channel: ≤ 100 ms
without cold junction compensation: ≤ ±1 K (Type E, N, K, T, J, C); ≤ ±2 K (Type S, R); ≤ ±3 K (Type B); Cold-junction compensation measurement error: ≤ ±4 K
≤± 0.05 K/K
integrated or external
5VDC via data contacts
8 x 16 bits data, 8 x 8 bits control/status (optional)
500 V System/field
0 … +55 °C
12 x 69.8 x 100 mm
CE, Marine*, UL 508*, ANSI/ISA*, ATEX/ IECEx
wago.com/750-458

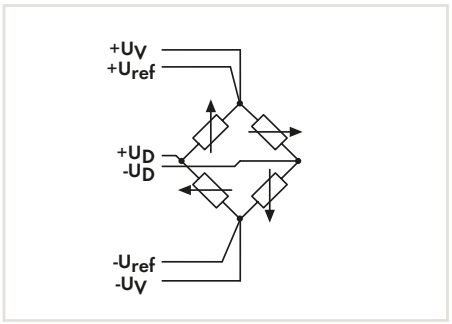
*pending

Analog Input, for Resistor bridges (strain gauge)

1-channel analog input;
Resistor bridges (strain gauge)

Figure: 750-491





Item description	1AI	
Version	DMS	DMS 125ms
Item no.	**750-491**	**750-491/000-001**

Technical Data		
Number of analog inputs	1	
Type of signal	Resistor bridges (strain gauge)	
Signal voltage U_D	-15 … +15 mV	
Signal voltage U_{ref}	+2 … +6 V	
Internal resistance	> 200 kΩ (U_{ref}), > 1 MΩ (U_D)	
Voltage supply U_v	5 VDC, 20 mA	
Resolution	16 bits	
Conversion time	500 ms	125 ms
Measuring errors	UD: ± 30 µV, Uref: ± 10 mV	
Filter	50 Hz	200 Hz
System supply voltage	5VDC via data contacts	
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)	
Isolation	500 V System/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, cULus UL 508*, ANSI/ISA*	
Data sheet and further information, see:	wago.com/750-491	

*pending

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

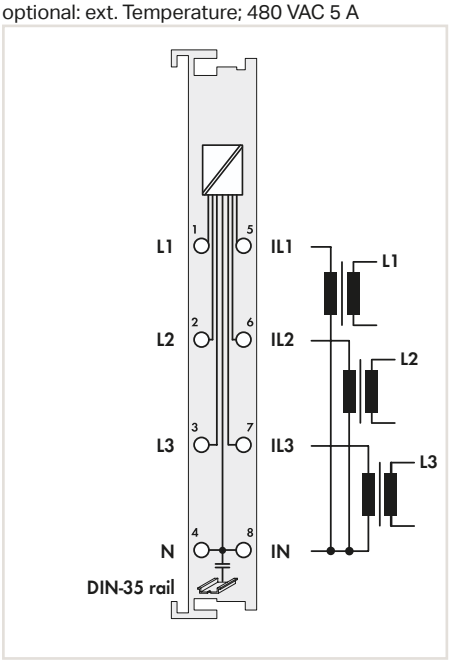
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

Analog Input, for 3-Phase Power Measurement

Figure: 750-493

3-Phase Power Measurement; 480 VAC 1 A;
optional: ext. Temperature; 480 VAC 5 A



Item description	3-PHASE POM		
Version	480VAC 1A	480VAC 1A T	480VAC 5A
Item no.	**750-493**	**750-493/025-000**	**750-493/000-001**

Technical Data

Type of signal	3-Phase Power Measurement		
Measured values	current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi		
Number of measurement inputs	6 (3 voltage measurement inputs, 3 current measurement inputs)		
Rated surge voltage	U_{LN} = 277 V AC/DC, U_{LL} = 480 V AC		
Input resistance voltage path typ.	1071 kΩ		
Measuring current max.	1 A		5 A
Input resistance current path typ.	22 mΩ		5 mΩ
Resolution	16 bits		
Measuring error (25 °C)	AC current/voltage:		
	± 0,5 % of the largest measurement range	± 0,6 % of the largest measurement range	± 0,5 % of the largest measurement range
Frequency range, power supply frequency	45 … 65 Hz		
Max. operating frequency	7.2 kHz		
System supply voltage	5VDC via data contacts		
Data width	2 x 48 bits data, 2 x 24 bits control/status (optional)		
Isolation	4 kV System/field		
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-493		

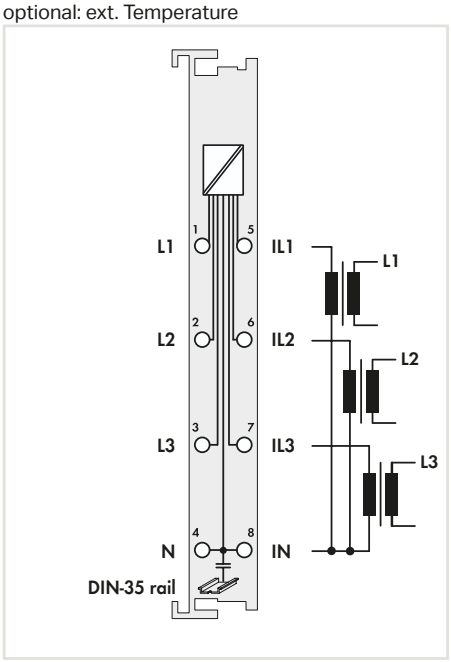
Accessories	**Item no.**
Plug-In and Split-Core Current Transformers	see Full Line Catalog, Volume 4

4.4

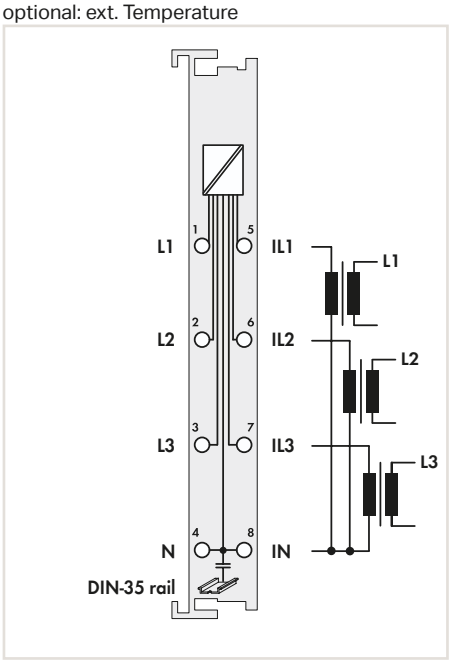
Analog Input, for 3-Phase Power Measurement

Figure: 750-494

3-Phase Power Measurement; 480 VAC 1 A; optional: ext. Temperature



3-Phase Power Measurement; 480 VAC 5 A; optional: ext. Temperature



Item description	3-PHASE POM		3-PHASE POM	
Version	480VAC 1A	480VAC 1A T	480VAC 5A	480VAC 5A T
Item no.	**750-494**	**750-494/025-000**	**750-494/000-001**	**750-494/025-001**
Technical Data				
Type of signal	3-Phase Power Measurement		3-Phase Power Measurement	
Measured values	current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi, harmonic analysis (up to the 41st harmonic), THD and other		current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi, harmonic analysis (up to the 41st harmonic), THD and other	
Number of measurement inputs	6 (3 voltage measurement inputs, 3 current measurement inputs)		6 (3 voltage measurement inputs, 3 current measurement inputs)	
Rated surge voltage	U_{LN} = 277 V AC/DC, U_{LL} = 480 V AC		U_{LN} = 277 V AC/DC, U_{LL} = 480 V AC	
Input resistance voltage path typ.	1072 kΩ		1072 kΩ	
Measuring current max.	1 A		5 A	
Input resistance current path typ.	22 mΩ		5 mΩ	
Resolution	24 bits		24 bits	
Measuring error (25 °C)	AC current/voltage: ± 0,5 % of the largest measurement range		AC current/voltage: ± 0,5 % of the largest measurement range	
Frequency range, power supply frequency	45 … 65 Hz		45 … 65 Hz	
Frequency range, harmonics analysis	0 … 3300 Hz		0 … 3300 Hz	
Max. operating frequency	15.9 kHz		15.9 kHz	
System supply voltage	5VDC via data contacts		5VDC via data contacts	
Data width	2 x 128 bits data, 2 x 64 bits control/status		2 x 128 bits data, 2 x 64 bits control/status	
Isolation	4 kV System/field		4 kV System/field	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, Marine*, UL 508, ANSI/ISA, ATEX/IECEx		CE, Marine*, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-494		wago.com/750-494/000-001	
Accessories	**Item no.**		**Item no.**	
Plug-In and Split-Core Current Transformers	see Full Line Catalog, Volume 4		see Full Line Catalog, Volume 4	

*pending

*pending

4.4

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

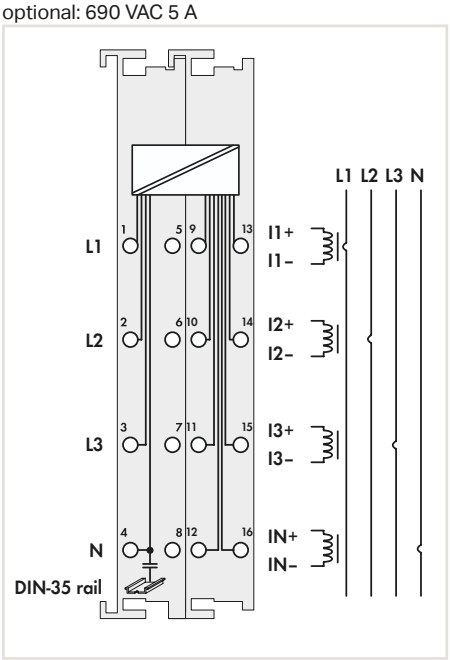
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

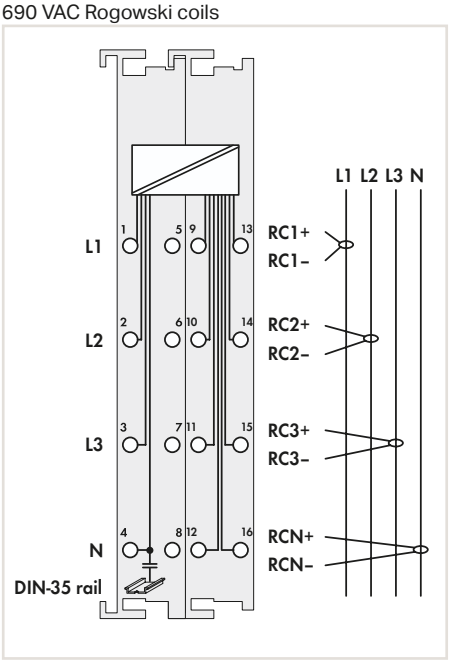
Analog Input, for 3-Phase Power Measurement

Figure: 750-495

3-Phase Power Measurement; 690 VAC 1 A; optional: 690 VAC 5 A



3-Phase Power Measurement, 690 VAC Rogowski coils



Item description	3-PHASE POM		3-PHASE POM
Version	690VAC 1A	690VAC 5A	690VAC R.C.
Item no.	**750-495**	**750-495/000-001**	**750-495/000-002**
Technical Data			
Type of signal	3-Phase Power Measurement		3-Phase Power Measurement
Measured values	current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi, harmonic analysis (up to the 41st harmonic), THD, current measurement in the neutral conductor and other		current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi, harmonic analysis (up to the 41st harmonic), THD, current measurement in the neutral conductor and other
Number of measurement inputs	7 (3 voltage measurement inputs, 4 differential current measurement inputs)		7 (3 voltage measurement inputs, 4 differential current measurement inputs)
Rated surge voltage	U_{LN} = 400 V AC, U_{LL} = 690 V AC		U_{LN} = 277 V AC, U_{LL} = 480 V AC
Input resistance voltage path typ.	1429 kΩ		1429 kΩ
Measuring current max.	1 A	5 A	Rogowski coils RT500/RT2000
Input resistance current path typ.	22 mΩ	5 mΩ	44 kΩ
Resolution	24 bits		24 bits
Measuring error (25 °C)	AC current/voltage: ± 0,5 % of the largest measurement range		AC current/voltage: ± 0,5 % of the largest measurement range
Frequency range, power supply frequency	45 … 65 Hz		45 … 65 Hz
Frequency range, harmonics analysis	0 … 3300 Hz		0 … 3300 Hz
Max. operating frequency	15.9 kHz		15.9 kHz
System supply voltage	5VDC via data contacts		5VDC via data contacts
Data width	2 x 128 bits data, 2 x 64 bits control/status		2 x 128 bits data, 2 x 64 bits control/status
Isolation	6 kV System/field		6 kV System/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm		24 x 69.8 x 100 mm
Approvals	CE, Marine*		CE, Marine*
Data sheet and further information, see:	wago.com/750-495		wago.com/750-495/000-002
Accessories	**Item no.**		**Item no.**
Plug-In and Split-Core Current Transformers	see Full Line Catalog, Volume 4		
Rogowski Coils RT500/RT2000			see Full Line Catalog, Volume 4

*pending

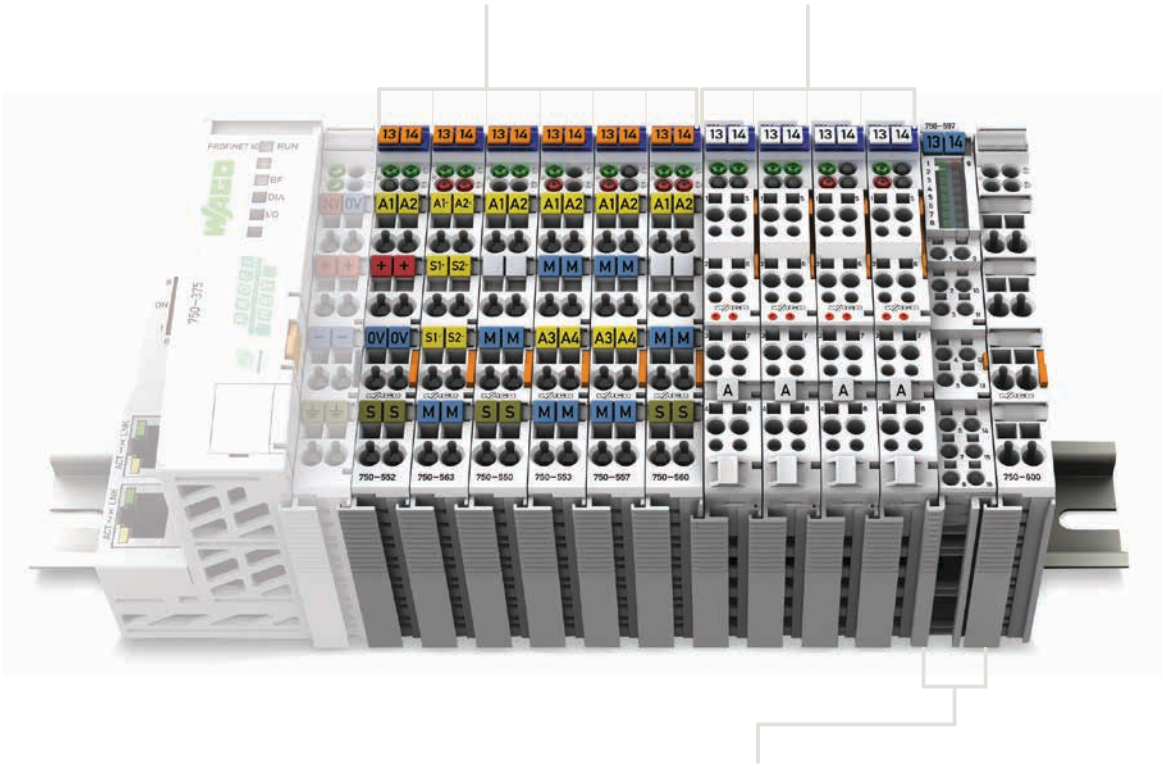
*pending

4.4

Analog Output Modules

750 Series housing design	
Dimensions W x H x D	12 x 69.8 x 100 mm
Height from upper edge of DIN rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

753 Series housing design	
Dimensions W x H x D	12 x 69.8 x 100 mm
Height from upper edge of DIN rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.37 inch



750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)	
Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch

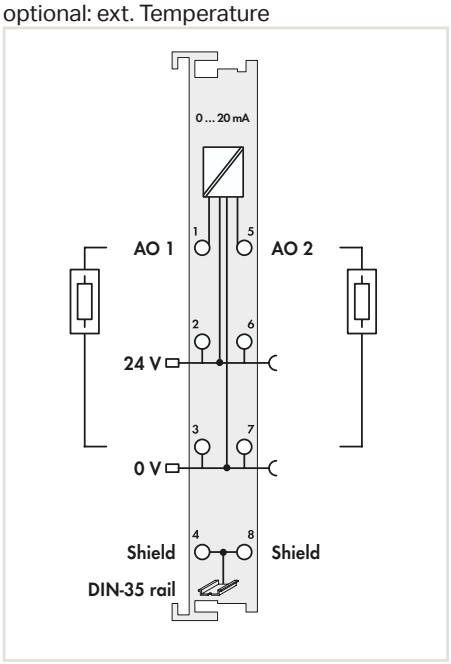
750 and 753 Series Analog Output Modules
Contents

Analog Output, 0 … 20 mA

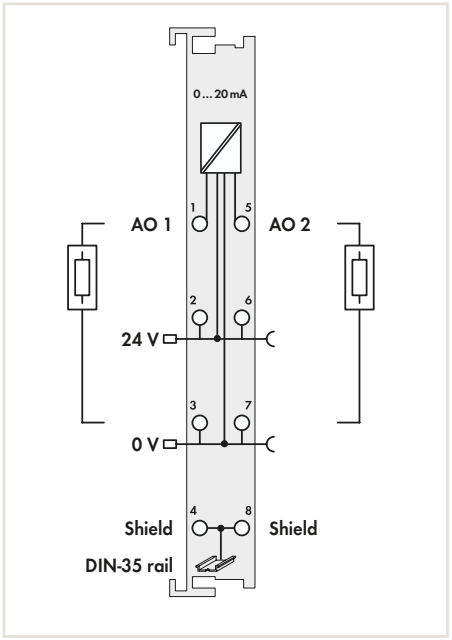
Figure: 750-552

Figure: 753-552

2-channel analog output; 0 … 20 mA, optional: ext. Temperature



2-channel analog output; 0 … 20 mA; S5 PLC data format



Item description	2AO			2AO
Version	0-20mA	0-20mA T	0-20mA	0-20mA S5
Item no.	**750-552**	**750-552/025-000**	**753-552**	**750-552/000-200**
Technical Data				
Pluggable connector			•	
Customized data format for S5 control				•
Number of analog outputs	2			2
Type of signal	0 … 20 mA			0 … 20 mA
Load impedance	< 600 Ω			< 600 Ω
Resolution	12 bits			12 bits
Conversion time	approx. 2 ms			approx. 2 ms
Measuring error (25 °C)	< ± 0.1 % of largest measurement range			< ± 0.1 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range			< ± 0.01 % /K of largest measurement range
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts			24 VDC (−25 … +30 %), via power jumper contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field			500 V System/field
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-552		wago.com/753-552	wago.com/750-552

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

4.5

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

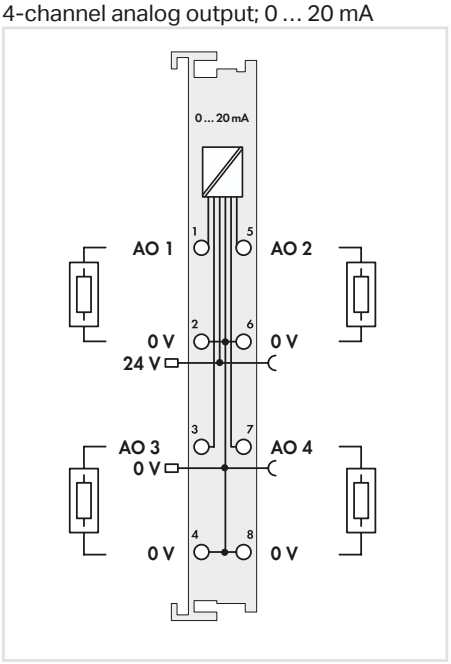
Approvals and corresponding ratings,
see Page 520 or www.wago.com

Analog Output, 0 … 20 mA

Figure: 750-553

Figure: 753-553

4-channel analog output; 0 … 20 mA



Item description	4AO	
Version	0-20mA	0-20mA
Item no.	**750-553**	**753-553**
Technical Data		
Pluggable connector		•
Number of analog outputs	4	
Type of signal	0 … 20 mA	
Load impedance	either 0 … 300 Ω or 300 … 600 Ω (same resistance for all load impedances)	
Resolution	12 bits	
Conversion time	10 ms	
Measuring error (25 °C)	< ± 0.1 % of largest measurement range	
Temperature coefficient	< ± 0.01 % /K of largest measurement range	
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts	
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)	
Isolation	500 V System/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-553	wago.com/753-553

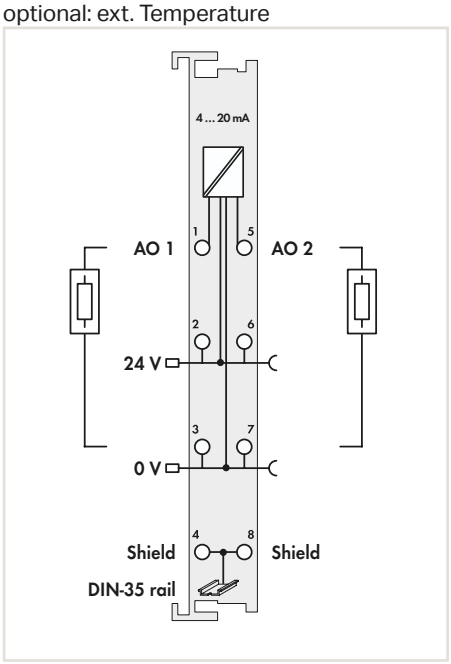
Accessories	**Item no.**
Plug	**753-110**
753 Series coding elements	**753-150**

Analog Output, 4 … 20 mA

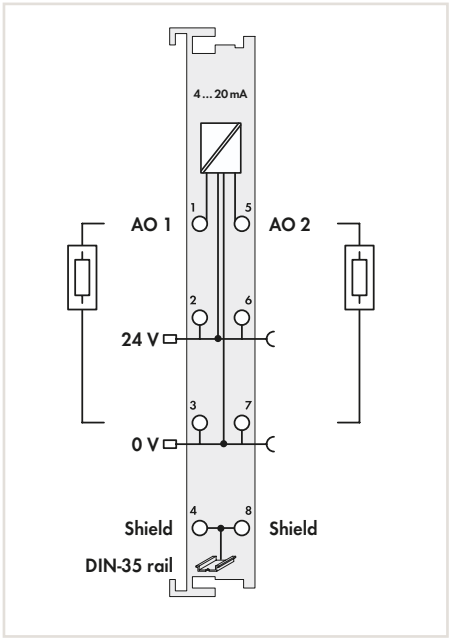
Figure: 750-554

Figure: 753-554

2-channel analog output; 4 … 20 mA, optional: ext. Temperature



2-channel analog output; 4 … 20 mA; S5 PLC data format



Item description	2AO			2AO
Version	4-20mA	4-20mA T	4-20mA	4-20mA S5
Item no.	**750-554**	**750-554/025-000**	**753-554**	**750-554/000-200**
Technical Data				
Pluggable connector			•	
Customized data format for S5 control				•
Number of analog outputs	2			2
Type of signal	4 … 20 mA			4 … 20 mA
Load impedance	< 600 Ω			< 600 Ω
Resolution	12 bits			12 bits
Conversion time	approx. 2 ms			approx. 2 ms
Measuring error (25 °C)	< ± 0.1 % of largest measurement range			< ± 0.1 % of largest measurement range
Temperature coefficient	< ± 0.015 % /K of largest measurement range			< ± 0.015 % /K of largest measurement range
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts			24 VDC (−25 … +30 %), via power jumper contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field			500 V System/field
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-554		wago.com/753-554	wago.com/750-554

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

4.5

Mini-WSB Quick Marking System see Full Line Catalog, Volume 6

DIN rails and tool see Section 11

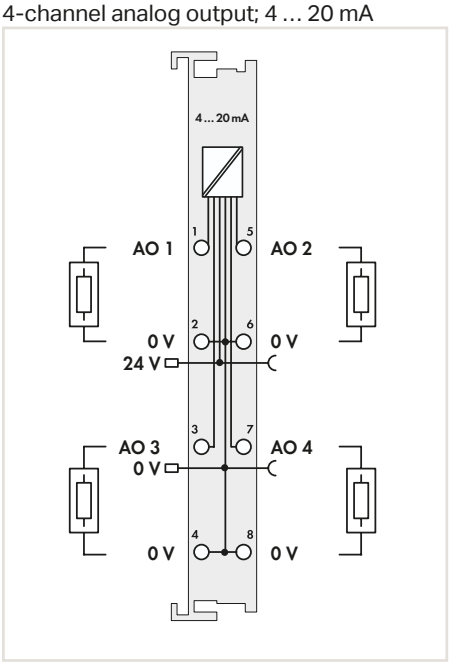
Approvals and corresponding ratings, see Page 520 or www.wago.com

Analog Output, 4 … 20 mA or adjustable 0/4 … 20 mA, 6 … 18 VDC

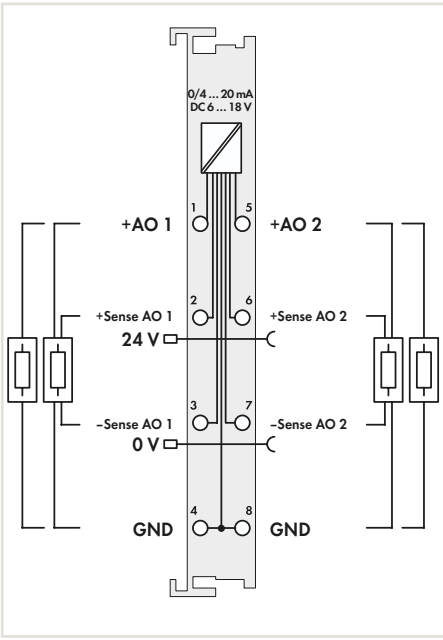
Figure: 750-555

Figure: 753-555

4-channel analog output; 4 … 20 mA



2-channel analog output; 0/4 … 20 mA; 16 bits; 6 … 18 VDC



Item description	4AO		2AO
Version	4-20mA	4-20mA	0/4-20mA 16Bit 6-18 VDC
Item no.	**750-555**	**753-555**	**750-563**
Technical Data			
Pluggable connector		•	
Number of analog outputs	4		2
Type of signal	4 … 20 mA		0 … 20 mA; 4 … 20 mA; 6 … 18 V
Load impedance	either 0 … 300 Ω or 300 … 600 Ω (same resistance for all load impedances)		> 1.8 kΩ (voltage output), < 500 Ω (current output)
Resolution	12 bits		16 bits
Conversion time	10 ms		5 ms
Measuring error (25 °C)	< ± 0.1 % of largest measurement range		< ± 0.05 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range		< ± 100 ppm
Field supply voltage	24 VDC (−25 … +30 %), via power jumper contacts		24 VDC (−15 … +20 %), via power jumper contacts
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)		2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field		500 V System/field
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, cULus UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, cULus UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-555	wago.com/753-555	wago.com/750-563

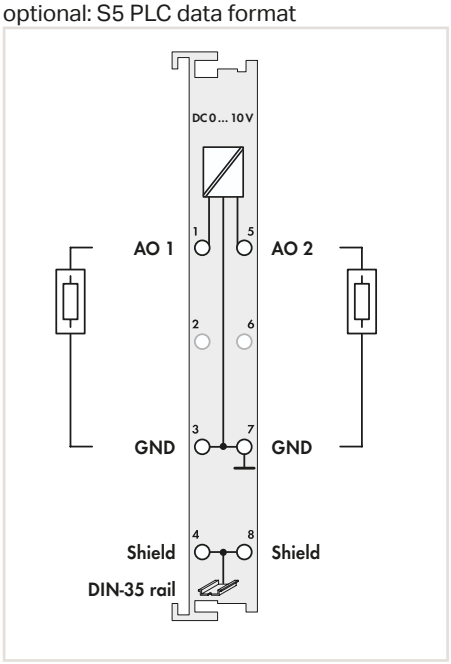
Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Analog Output, 0 … 10 VDC

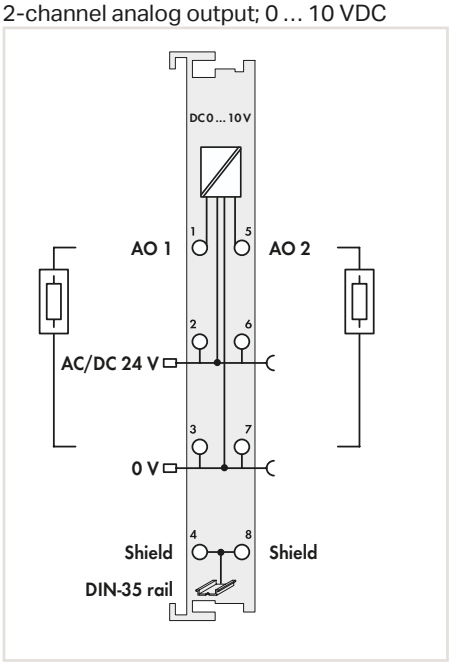
Figure: 750-550

Figure: 753-550

2-channel analog output; 0 … 10 VDC; optional: S5 PLC data format



2-channel analog output; 0 … 10 VDC



Item description	2AO			2AO
Version	0-10V DC	0-10V DC S5	0-10V DC	0-10V DC
Item no.	**750-550**	**750-550/000-200**	**753-550**	**750-560**
Technical Data				
Pluggable connector			•	
Customized data format for S5 control		•		
Number of analog outputs	2			2
Type of signal	0 … 10 V			0 … 10 V
Load impedance	> 5 kΩ			≥ 1 kΩ
Resolution	12 bits			10 bits
Conversion time	approx. 2 ms			approx. 10 ms
Measuring error (25 °C)	< ± 0.1 % of largest measurement range			< ± 0.2 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range			< ± 0.02 % /K of largest measurement range
Field supply voltage				24 V AC/DC, via power jumper contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	500 V System/field			500 V System/field
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-550		wago.com/753-550	wago.com/750-560

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

4.5

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

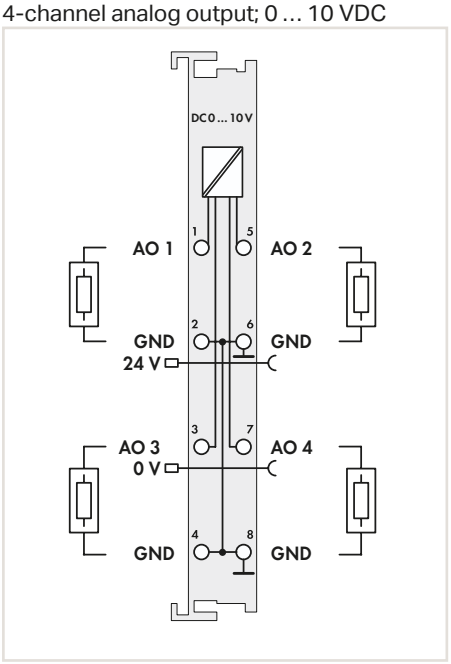
Approvals and corresponding ratings,
see Page 520 or www.wago.com

Analog Output, 0 … 10 VDC

Figure: 750-559

Figure: 753-559

4-channel analog output; 0 … 10 VDC



Item description	4AO		
Version	0-10V DC	0-10V DC T	0-10V DC
Item no.	**750-559**	**750-559/025-000**	**753-559**
Technical Data			
Pluggable connector			•
Number of analog outputs	4		
Type of signal	0 … 10 V		
Load impedance	> 5 kΩ		
Resolution	12 bits		
Conversion time	10 ms		
Measuring error (25 °C)	< ± 0.1 % of largest measurement range		
Temperature coefficient	< ± 0.01 % /K of largest measurement range		
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)		
Isolation	500 V System/field		
Ambient temperature (operation)	0 … +55 °C	–20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-559		wago.com/753-559

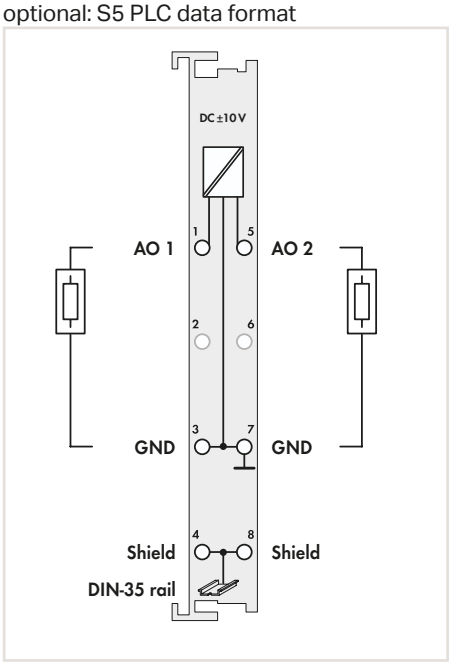
Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Analog Output, ±10 VDC

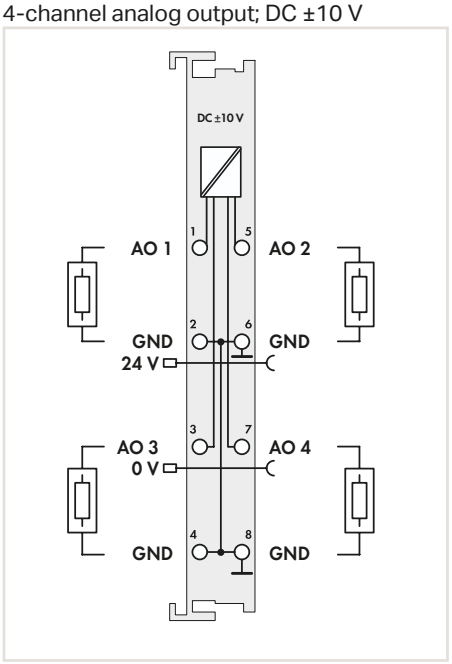
Figure: 750-556

Figure: 753-556

2-channel analog output; ±10 VDC;
optional: S5 PLC data format



4-channel analog output; DC ±10 V



Item description	2AO			4AO	
Version	±10V DC	±10V DC S5	±10V DC	±10V DC	±10V DC
Item no.	**750-556**	**750-556/000-200**	**753-556**	**750-557**	**753-557**
Technical Data					
Pluggable connector			•		•
Customized data format for S5 control		•			
Number of analog outputs	2			4	
Type of signal	±10 V			±10 V	
Load impedance	> 5 kΩ			> 5 kΩ	
Resolution	12 bits			12 bits	
Conversion time	approx. 2 ms			10 ms	
Measuring error (25 °C)	< ± 0.1 % of largest measurement range			< ± 0.1 % of largest measurement range	
Temperature coefficient	< ± 0.01 % /K of largest measurement range			< ± 0.01 % /K of largest measurement range	
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)			4 x 16 bits data, 4 x 8 bits control/status (optional)	
Isolation	500 V System/field			500 V System/field	
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-556		wago.com/753-556	wago.com/750-557	wago.com/753-557

Accessories		**Item no.**		**Item no.**
Plug		**753-110**		**753-110**
753 Series coding elements		**753-150**		**753-150**

4.5

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

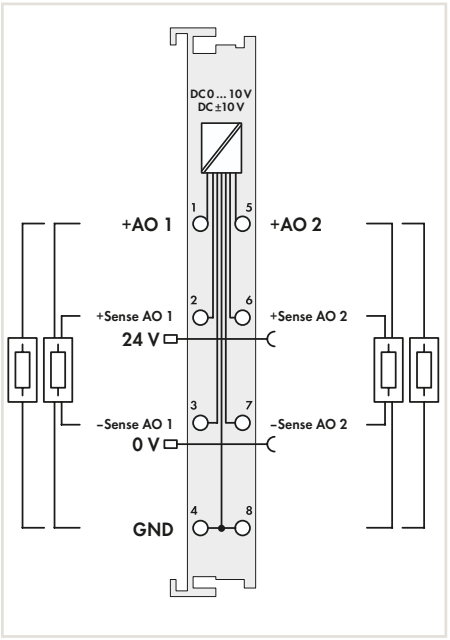
Approvals and corresponding ratings,
see Page 520 or www.wago.com

Analog Output, adjustable 0 … 10 VDC, ±10 VDC

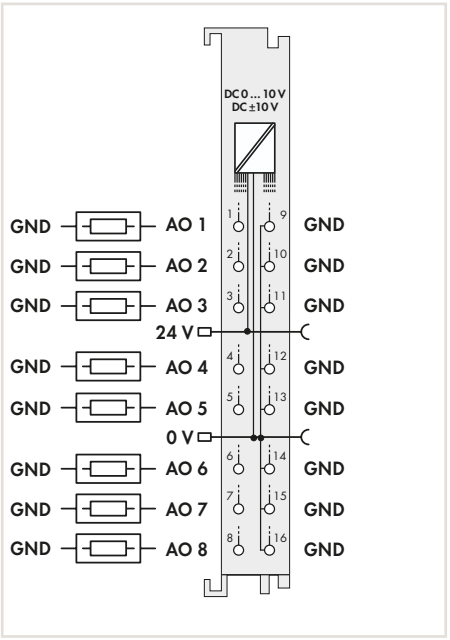
Figure: 750-562

Figure: 750-597

2-channel analog output;
0 … 10 VDC; ±10 VDC



8-channel analog output;
0 … 10 VDC; ±10 VDC



Item description	2AO	8AO
Version	0-10V/±10 VDC 16Bit	0-10V/±10 VDC
Item no.	**750-562**	**750-597**
Technical Data		
Number of analog outputs	2	8
Type of signal	0 … 10 V, ±10 V	0 … 10 V, ±10 V
Load impedance	> 5 kΩ	≥ 2 kΩ
Resolution	16 bits	12 bits
Conversion time	5 ms	13 ms
Measuring error (25 °C)	< ± 0.05 % of largest measurement range	≤ ± 0.1 % of largest measurement range
Temperature coefficient	< ± 100 ppm	≤ ± 10 ppm/K of largest measurement range
Field supply voltage		24 VDC (–15 … +30 %), via power jumper contacts
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)	8 x 16 bits data, 8 x 8 bits control/status (optional)
Isolation	500 V System/field	500 V System/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	CE, Marine*
Data sheet and further information, see:	wago.com/750-562	wago.com/750-597

*pending

Function and Technology Modules

750 Series housing design

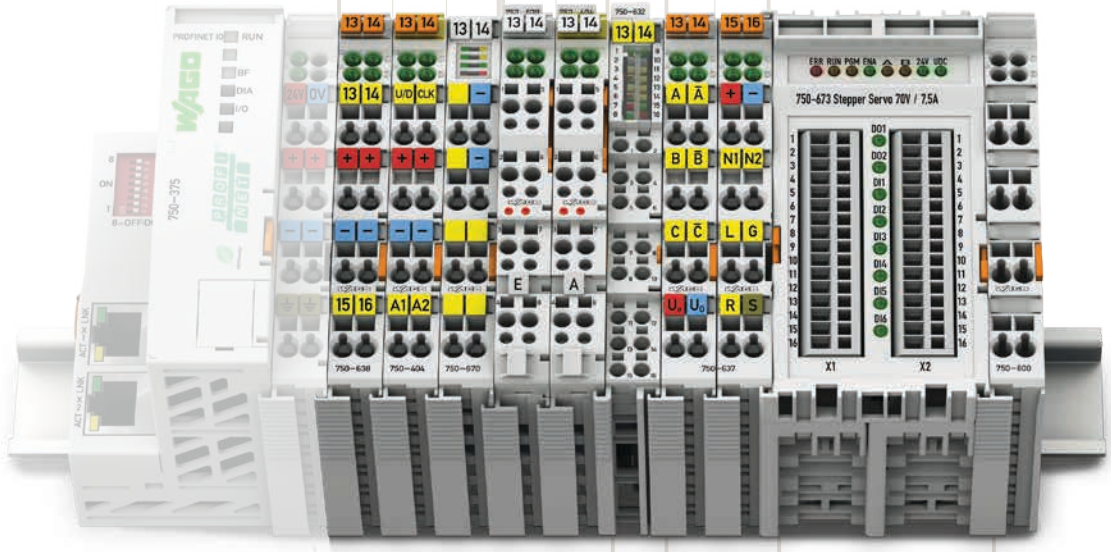
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

753 Series housing design

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.37 inch

750 Series housing design, double width

Dimensions W x H x D	24 x 69.8 x 100 mm
Height from upper edge of DIN rail	6.,6 mm



750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch

Specialty Housing

Dimensions W x H x D	51 x 69.8 x 100 mm
Height from upper edge of DIN rail	62,6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 1.5 mm² /28 … 14 AWG
Strip length	5 … 6 mm / 0.22 in

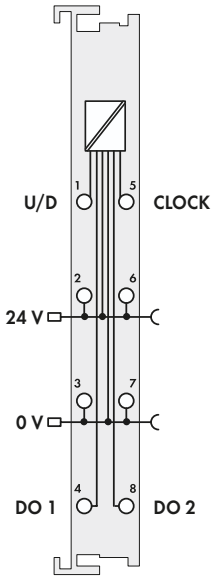
750 and 753 Series I/O-System Function and Technology Modules
Contents

Counter, Up/Down Counter 100 kHz or 500 Hz

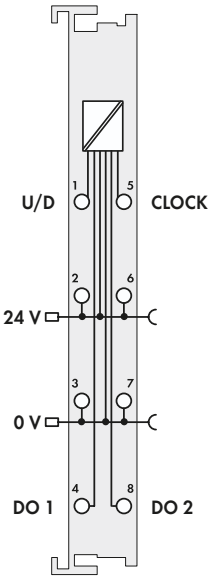
Figure: 750-404

Figure: 753-404

Up/Down Counter;
optional: Switching Output



Up Counter; Release Input or
Peak Time Counter



Item description	Up/Down Counter			Up Counter	Peak Time Counter
Version		Switch Output		Release Input	
Item no.	**750-404**	**750-404/000-004**	**753-404**	**750-404/000-001**	**750-404/000-002**
Technical Data					
Pluggable connector			•		
No. of outputs	2			2	
No. of counters	1			1	
Voltage range for signal (0)	−3 … +5 VDC			−3 … +5 VDC	
Voltage range for signal (1)	15 … 30 VDC			15 … 30 VDC	
Output current	0.5 A, short-circuit-protected			0.5 A, short-circuit-protected	
Switching frequency (max.)	100 kHz			100 kHz	10 kHz
Minimum pulse width					
Input current (typ.)	6 mA			6 mA	
Counter depth	32 bits			32 bits	
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts			24 VDC (−15 … +20 %), via power jumper contacts	
Internal data width	32 bits data, 8 bits control/status			32 bits data, 8 bits control/status	
Isolation	500 V system/field			500 V system/field	
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-404		wago.com/753-404	wago.com/750-404	

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

When the U/D input is switched with +24 V, the counting direction is upward. When an input is not switched or is 0 V, the counting direction is downward.

Up counter: The counting is locked when the GATE input is open or 0 V is present. Counting is enabled with +24 V at the GATE input.

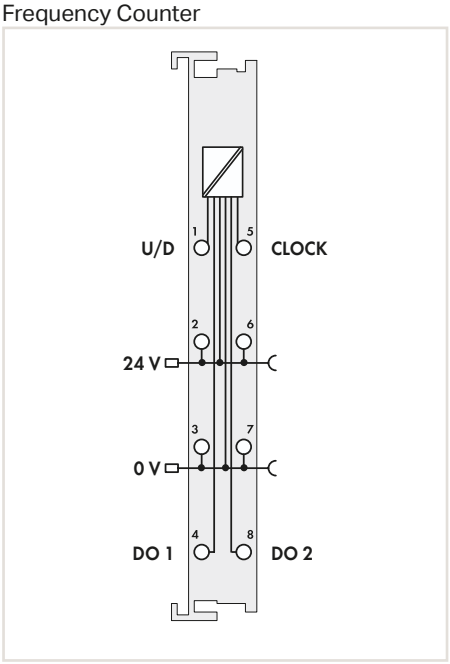
Peak-time counter: The count pulses at the CLOCK input are recorded over a pr–set period of 10 seconds.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

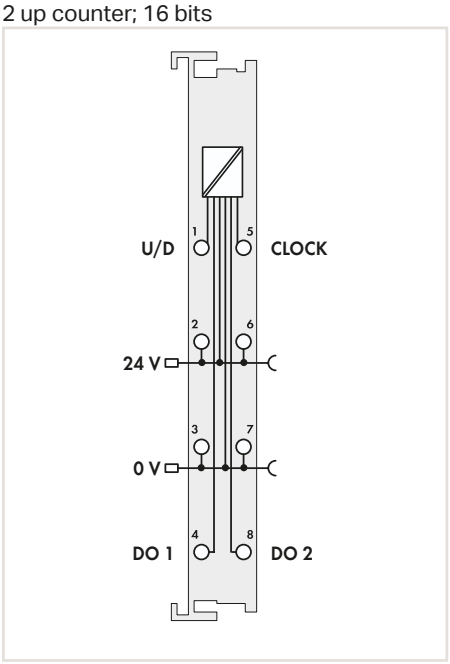
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

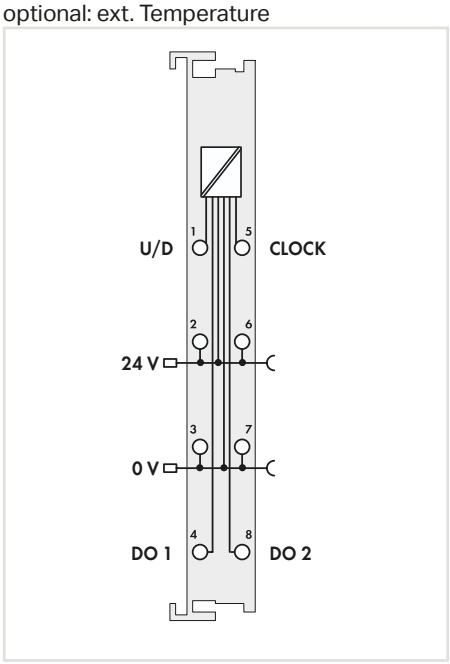
Frequency Counter



2 up counter; 16 bits



2 up/down counter; 16 bits; 500 Hz; optional: ext. Temperature



Frequency Counter	
750-404/000-003	753-404/000-003
	•
2	
1	
−3 … +5 VDC	
15 … 30 VDC	
0.5 A, short-circuit-protected	
100 kHz	
10 µs	
5 mA	
32 bits	
24 VDC (−15 … +20 %), via power jumper contacts	
32 bits data, 8 bits control/status	
500 V system/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/ 750-404/000-003	wago.com/ 753-404/000-003

	Item no.
	753-110
	753-150

The counter module measures the 24 V signal pulse period at the CLOCK input and converts it to a frequency value. The measurement is enabled when the GATE input is open or 0 V is present. Measurement is disabled when 24 V are present at the GATE input.

2Up Counter	
16Bit	16Bit
750-404/000-005	753-404/000-005
	•
2	
2	
−3 … +5 VDC	
15 … 30 VDC	
0.5 A, short-circuit-protected	
5 kHz (pulse width > 100 µs)	
5 mA	
2 x 16 bits data	
24 VDC (−15 … +20 %), via power jumper contacts	
32 bits data, 8 bits control/status	
500 V system/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/ 750-404/000-005	wago.com/ 753-404/000-005

	Item no.
	753-110
	753-150

The I/O module is equipped with two 16-bit up counters. Thus, the count pulses at the CLOCK 1 und CLOCK 2 inputs are recorded

2Up/Down Counter		
16Bit 500Hz	16Bit 500Hz T	16Bit 500Hz
750-638	750-638/025-000	753-638
		•
2		
2		
−3 … +5 VDC		
15 … 30 VDC		
500 Hz		
1 ms		
16 bits		
24 VDC (−15 … +20 %), via power jumper contacts		
2 x 16 bits data, 8 bits control/status		
500 V system/field		
0 … +55 °C	−20 … +60 °C	0 … +55 °C
12 x 69.8 x 100 mm		
CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		
wago.com/750-638		wago.com/753-638

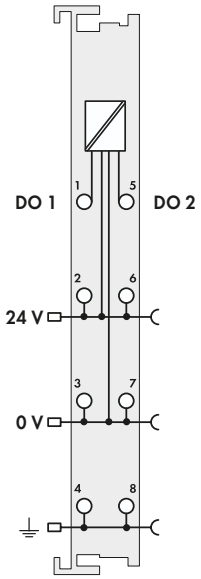
	Item no.
	753-110
	753-150

Pulse width outputs

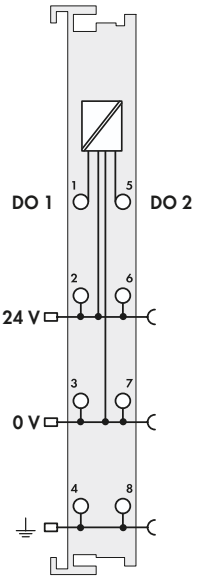
Figure: 750-511

Figure: 753-511

2 pulse width outputs; 24 VDC; 0.1 A; 250 kHz



2 pulse width outputs; 24 VDC; 0.1 A; 2 kHz; Frequency Counter; optional: 100 Hz



Item description	2PWM		2PWM	
Version	24 VDC 0.1A 250Hz	24 VDC 0.1A 250Hz	24 VDC 0.1A 2kHz Frequency Counter	24 VDC 0.1A 100Hz
Item no.	**750-511**	**753-511**	**750-511/000-001**	**750-511/000-002**
Technical Data				
Pluggable connector		•		
No. of outputs	2		2	
Load type	Resistive, inductive		Resistive, inductive	
Pulse frequency	250 Hz		2 Hz … 2 kHz	100 Hz
Duty cycle	0 … 100 %		50 %	0 … 100 %
Output current	0.1 A, short-circuit-protected		0.1 A, short-circuit-protected	
Resolution	10 bits		10 bits	
Field supply voltage	24 VDC (–15 … +20 %), via power jumper contacts		24 VDC (–15 … +20 %), via power jumper contacts	
Internal data width	2 x 16 bits data, 8 bits control/status		2 x 16 bits data, 8 bits control/status	
Isolation	500 V system/field		500 V system/field	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-511	wago.com/753-511	wago.com/750-511/000-001	wago.com/750-511/000-002

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

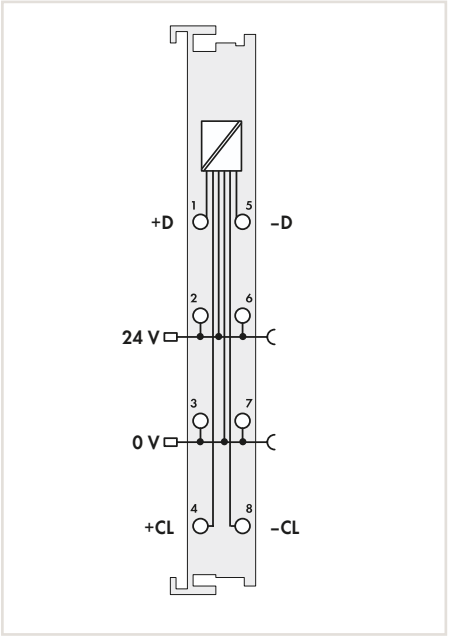
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

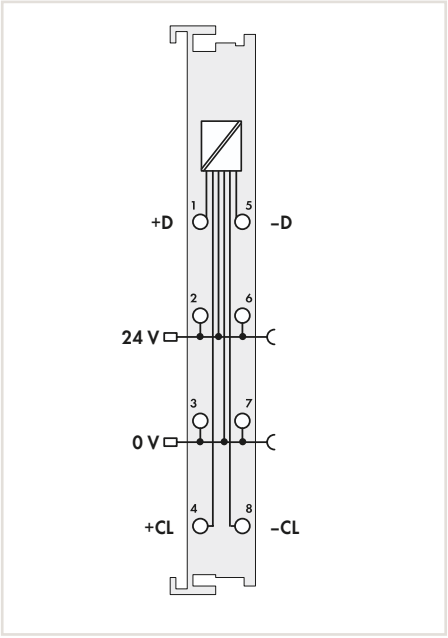
SSI transmitter interface

Figure: 750-630

SSI transmitter interface; adjustable



SSI transmitter interface; 24 bits; 125 kHz; Gray code; optional: 15 bits; Status bit

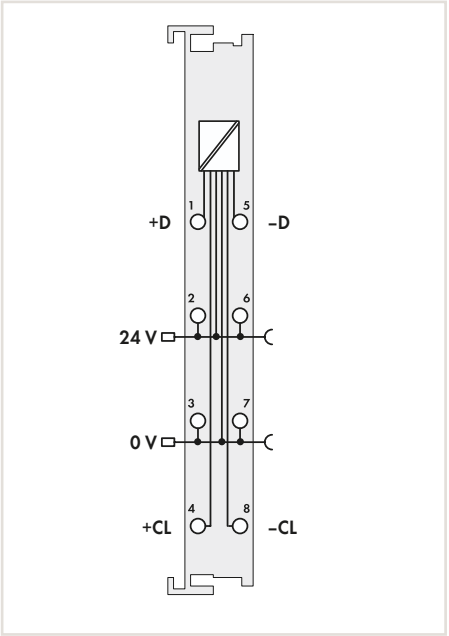


Item description	SSI Interface	SSI Interface		
Version	Adjust	24Bit 125kHz Gray	24Bit 125kHz Gray Status	15Bit 125kHz Gray Status
Item no.	**750-630/003-000**	**750-630**	**750-630/000-004**	**750-630/000-005**
Technical Data				
Transmitter connection	On + D, -D / Off + Cl, - Cl	On + D, -D / Off + Cl, - Cl		
Transmitter supply	24 VDC, via power jumper contacts	24 VDC, via power jumper contacts		
Baud rate	62.5 kHz … 250 kHz	125 kHz		
Serial input	Data width 1 … 32 bits	Data width 24 bits		Data width 15 bits
Signal output	Differential signal (RS-422)	Differential signal (RS-422)		
Signal input	Differential signal (RS-422)	Differential signal (RS-422)		
Code	Gray code/Bin code	Gray code		
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts	24 VDC (−15 … +20 %), via power jumper contacts		
Internal data width	1 x 32 bits	1 x 32 bits, 1 x 8 bits control/status (optional)		
Isolation	500 V system/field	500 V system/field		
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-630	wago.com/750-630		

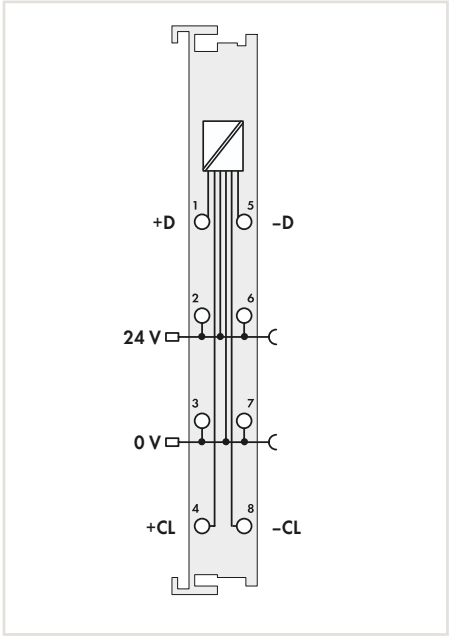
SSI transmitter interface

Figure: 750-630

SSI transmitter interface; 24 bits; 250 kHz; Gray code; optional: 25 bits; 13 bits; 125 kHz



SSI transmitter interface; 24 bits; 125 kHz; Bin code; optional: 25 bits; 29 bits



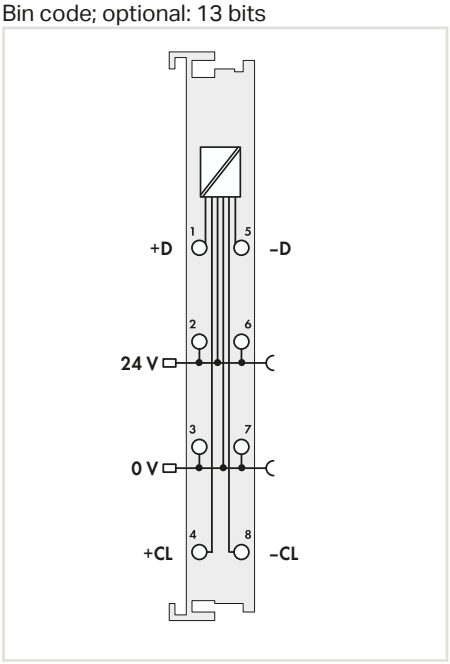
Item description	SSI Interface			SSI Interface		
Version	24Bit 250kHz Gray	25Bit 125kHz Gray	13Bit 125kHz Gray	24Bit 125kHz Bin	25Bit 125kHz Bin	29Bit 125kHz Bin
Item no.	**750-630/000-006**	**750-630/000-008**	**750-630/000-012**	**750-630/000-001**	**750-630/000-011**	**750-630/000-013**
Technical Data						
Transmitter connection	On + D, -D / Off + CI, - CI			On + D, -D / Off + CI, - CI		
Transmitter supply	24 VDC via power jumper contacts			24 VDC via power jumper contacts		
Baud rate	250 kHz	125 kHz		125 kHz		
Serial input	Data width 24 bits	Data width 25 bits	Data width 13 bits	Data width 24 bits	Data width 25 bits	Data width 29 bits
Signal output	Differential signal (RS-422)			Differential signal (RS-422)		
Signal input	Differential signal (RS-422)			Differential signal (RS-422)		
Code	Gray code			Bin code		
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts			24 VDC (−15 … +20 %), via power jumper contacts		
Internal data width	1 x 32 bits			1 x 32 bits		
Isolation	500 V system/field			500 V system/field		
Ambient temperature (operation)	0 … +55 °C			0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx			CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-630			wago.com/750-630		

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

SSI transmitter interface; 24 bits; 250 kHz; Bin code; optional: 13 bits



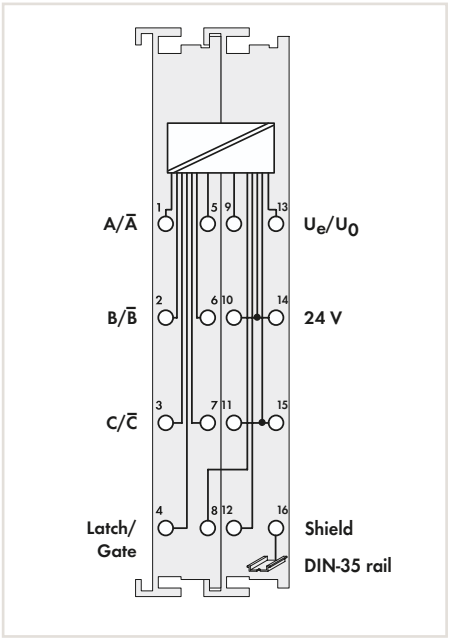
SSI Interface	
24Bit 250kHz Bin	13Bit 250kHz Bin
750-630/000-002	**750-630/000-009**

On + D, -D / Off + Cl, - Cl	
24 VDC via power jumper contacts	
250 kHz	
Data width 24 bits	Data width 13 bits
Differential signal (RS-422)	
Differential signal (RS-422)	
Bin code	
24 VDC (−15 … +20 %), via power jumper contacts	
1 x 32 bits	
500 V system/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, cULus UL 508, ANSI/ISA, Ex ATEX/ IECEx	
wago.com/750-630	

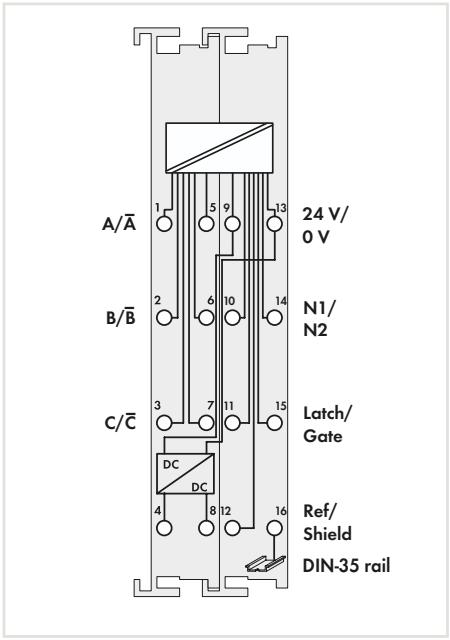
Incremental encoder interface

Figure: 750-631/000-004

Incremental encoder interface; RS-422; 16 bits



Incremental encoder interface; RS-422; 32 bits



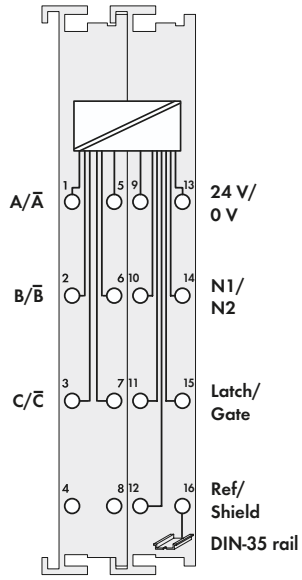
Item description	Inc. Encoder	Inc. Encoder
Version	RS422 16Bit	RS422 32Bit
Item no.	**750-631/000-004**	**750-637**
Technical Data		
Transmitter connection	A, /A, B, /B, C, /C (RS-422 inputs)	A, /A, B, /B, C, /C
Counter modules	16 bits binary	32 bits binary
Limit frequency	1000 kHz	250 kHz
Quadrature decoder	4x evaluation	4x evaluation
Zero impulse latch	16 bits	32 bits
Commands	Reading, setting, activating	Reading, setting, activating
Current consumption typ.	10 mA without transmitter	35 mA without transmitter
Encoder operating voltage	5 VDC	5 VDC
Encoder output current max.	200 mA	300 mA
Output voltage		24 VDC
Output current (max.)		0.5 A, short-circuit-protected
Signal voltage (0)	U_{ABC} = 0 V, $U_{ABC/}$ = 5 V, Latch, Gate ≤ 5.0 V, external error U ≥ 5,0 V or open input	-3 … +5 VDC
Signal voltage (1)	U_{ABC} = 5 V, $U_{ABC/}$ = 0 V, Latch, Gate ≥ 15.0 V, external error U < 0.5 V	15 … 30 VDC
Input current (typ.)		Latch 5 mA, Gate 7 mA, Ref. 7 mA
Internal data width	2 Byte Out, 5 Byte In 2x 8 bits control/status (optional) + 3 Byte Out reserved	1 x 32 bits data; 2 x 8 bits control/status
Isolation	500 V system/field	500 V system/feld
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm
Approvals	CE, UL 508, ANSI/ISA	CE, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-631/000-004	wago.com/750-637

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

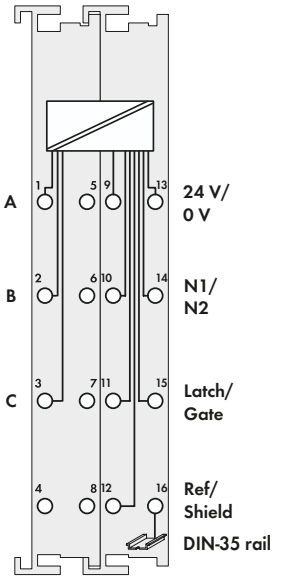
Incremental encoder interface; 24 VDC; Differential input; 32 bits



Inc. Encoder
24 VDC Diff 32Bit
750-637/000-001

A, /A, B, /B, C, /C (differential inputs)
32 bits binary
250 kHz
4x evaluation
32 bits
Reading, setting, activating
35 mA without transmitter
5 VDC
300 mA
24 VDC
0.5 A, short-circuit-protected
−3 … +5 VDC
15 … 30 VDC
Latch 5 mA, Gate 7 mA, Ref. 7 mA
1 x 32 bits data; 2 x 8 bits control/status
500 V system/field
0 … +55 °C
24 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-637

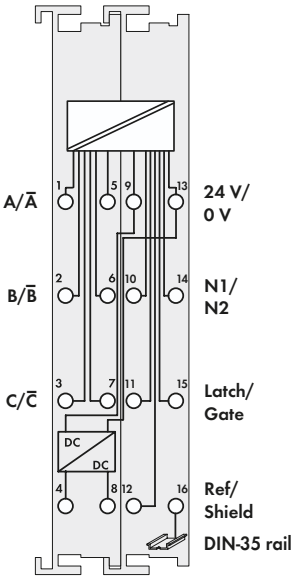
Incremental encoder interface; 24 VDC; Single-Ended; 32 bits; opt.: Cam



Inc. Encoder	
24 VDC SE 32Bit	24 VDC SE 32Bit Cam
750-637/000-002	750-637/000-004

A, B, C (single-ended inputs)
32 bits binary
250 kHz
4x evaluation
32 bits
Reading, setting, activating
35 mA without transmitter
5 VDC
300 mA
24 VDC
0.5 A, short-circuit-protected
−3 … +5 VDC
15 … 30 VDC
Latch 5 mA, Gate 7 mA, Ref. 7 mA
1 x 32 bits data; 2 x 8 bits control/status
500 V system/field
0 … +55 °C
24 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-637

Incremental encoder interface; RS-422; 32 bits; Single Interpreter



Inc. Encoder
RS422 32Bit Single Interp.
750-637/000-003

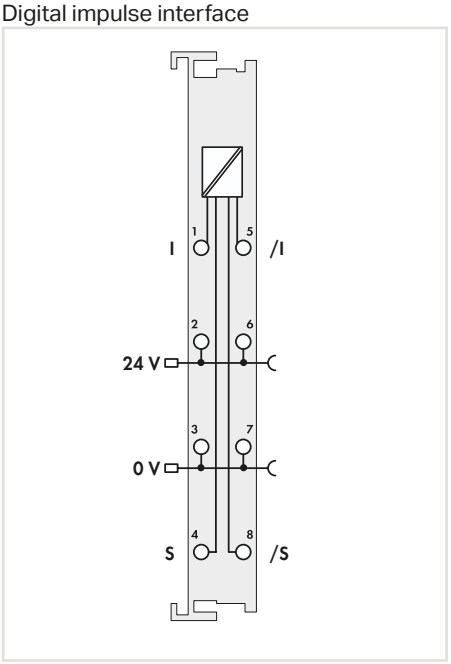
A, /A, B, /B, C, /C (RS-422 inputs)
32 bits binary
250 kHz
1x report
32 bits
Reading, setting, activating
35 mA without transmitter
5 VDC
300 mA
5 VDC
0.5 A, short-circuit-protected
−3 … +5 VDC
15 … 30 VDC
Latch 5 mA, Gate 7 mA, Ref. 7 mA
1 x 32 bits data; 2 x 8 bits control/status
500 V system/field
0 … +55 °C
24 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-637

Digital impulse interface

Figure: 750-635

Figure: 753-635

Digital impulse interface



Item description	Digital Impulse Interface	
Version		
Item no.	**750-635**	**753-635**
Technical Data		
Pluggable connector		•
Transmitter connection	Start/stop, initialization, Uv, ground, shield connection via encoder housing	
Number of inputs	1	
Data transmission	RS-422	
Signal output	Differential signal (RS-422)	
Signal input	Differential signal (RS-422)	
Resolution	1 µm	
Update time	2 ms	
Distance sensor length	≤ 4 m	
Line length (max)	500 m	
Field supply voltage	24 VDC (−15 % ... +20 %), via power jumper contacts	
Internal data width	1 x 24 bits data; 1 x 8 bits control/status	
Isolation	500 V system/field	
Ambient temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-635	wago.com/753-635

Accessories	Item no.
Plug	**753-110**
753 Series coding elements	**753-150**

The digital impulse interface is suitable for connecting magnetostrictive distance measurement sensors with a start/stop interface. After receiving a read pulse, these sensors deliver a time-delayed reply impulse. The time delay is proportional to the sensor distance.
Each sensor may have up to four position transmitters (permanent magnets). Their position data can be accessed serially by the control and are stored in the process image of the fieldbus coupler as a 24-bit value.
Distance sensors with the following features can be used:

- Start/stop interface with RS-422 differential signals
- 24 V sensor supply
- Manufacturer, e.g., Balluff

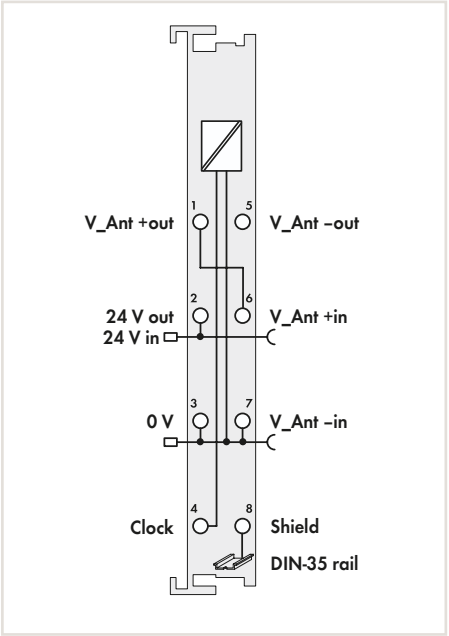
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Real time clock Module

Real time clock Module

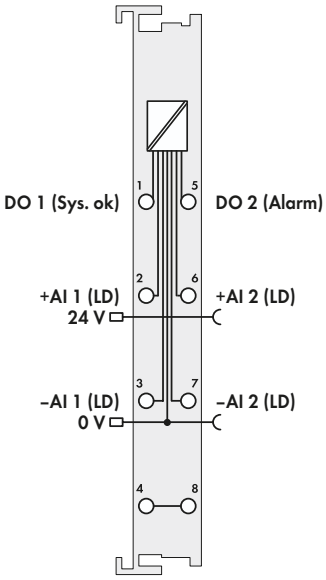


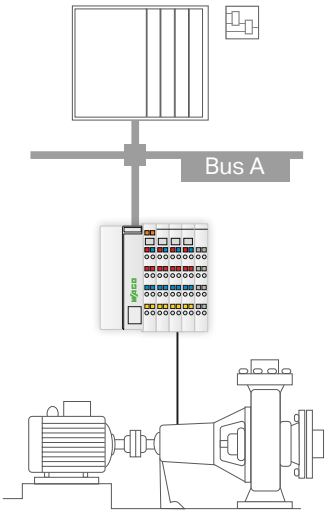
Item description	RTC Module
Item no.	**750-640**
Technical Data	
Drift (clock)	< 2 min./year
Buffer length	> 6 days
Timer	32 channels and switch points (32 x on/off)
Input filter	10 ms
Field supply voltage	24 VDC (–15 % ... +20 %), via power jumper contacts
Internal data width	1 x 40 bits data (in/out) (5 bytes user data); 1 x 8 bits control/status (optional)
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-640

The RTC module provides the higher-level control system with the actual time. The time is buffered and continues to run in the event of a power failure. When an external receiver is connected, the clock can be set using the time signal from DCF77, WWVB, or MSF.
By default, the module is set to receive DCF77 signals. The receiver can be supplied directly via the module.
Connecting an external receiver to operate the RTC module is not absolutely necessary.

2-channel vibration velocity/bearing condition monitoring VIB I/O

2-channel vibration velocity/bearing condition monitoring VIB I/O





Item description	2VIB VRMS/SPM Multi
Version	
Item no.	**750-645**

Technical Data

Encoder inputs	+AI1, -AI1, +AI2, -AI2
Number of inputs	2
Oscillating velocity (RMS)	0–100 mm/s
Shock impulse (SPM)	-10 … +80 dbSV
No. of outputs	2 (alarm and system OK)
Configuration	The alarm and warning threshold can be set in the process image or the engineering software.
Outputs	24 VDC, 0.5 A, short-circuit protected
Field supply voltage	24 VDC (–15 % … +20 %), via power jumper contacts
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-645

Accessories	**Item no.**
Tandem-Piezo acceleration sensor	750-925

This product is used for online monitoring of the machine vibration level. It records the two most important parameters required for condition analysis: vibration severity and roller bearing condition.
The severity of vibration is a measurement of the machine vibration energy and therefore, a suitable indicator for the vibration forces acting on the machine.
The roller bearing condition is evaluated on the basis of high-frequency shock impulse signals. Shock impulses are momentary impulses arising from mechanical damage to roller bearings or the bearing surfaces.
By recording the measurement results and evaluation in a trend curve, bearing damage can be detected at an early stage. A special Tandem-Piezo® acceleration sensor serves as encoder to facilitate simultaneous measurement of machine vibrations and high-frequency shock impulse signals.

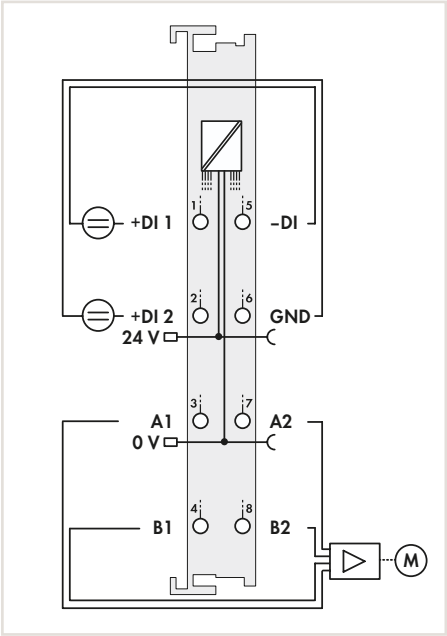
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

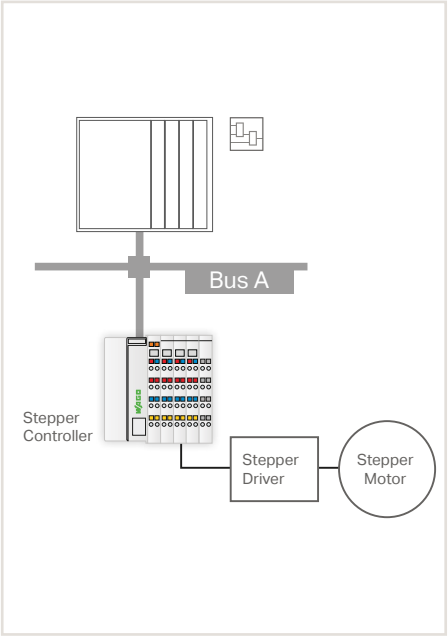
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Stepper Controller

Stepper Controller; RS-422/24 VDC; 20 mA





Item description	Stepper Controller
Version	RS422/24 VDC 20mA
Item no.	**750-670**
Technical Data	
No. of outputs	1 channel (2 differential outputs A1, A2, B1, B2)
Signal voltage	5 VDC internal, 5– 24 VDC external
Load type	RS-422, TTL, optocoupler
Output current (max.)	30 mA, short-circuit-protected
Output frequency	200– 500 kHz
Number of inputs	2 x 24 VDC
Resolution	Path: 23 bits + sign bit; speed: 15 bits + 16 bits prescaler; acceleration: 15 bits + 16 bits prescaler
Field supply voltage	24 VDC (–25 % ... +30 %), via power jumper contacts
Internal data width	12 bytes in/out
Isolation	500 V system/field
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-670

The stepper controller is used to control different drive power sections with pulse/direction interface or incremental encoder input.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Two configurable inputs for Start/Stop, limit switches, reference cams, Jog/Tip, etc., are evaluated directly and without any further delay by the internal software.

Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

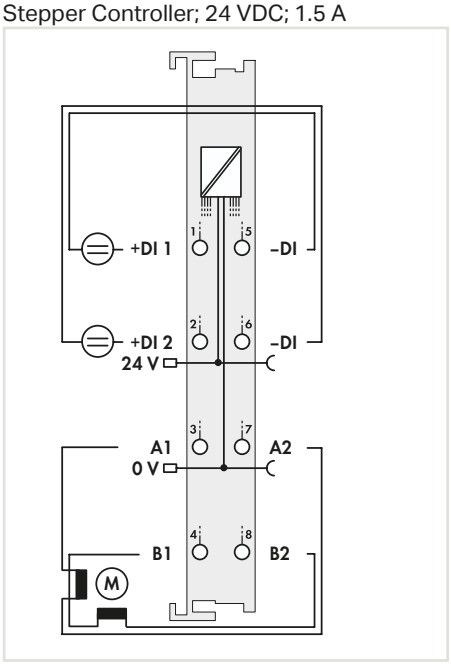
Operating modes:
Single positioning
Reference motion
Jog
Tip
Command table
Cam switch

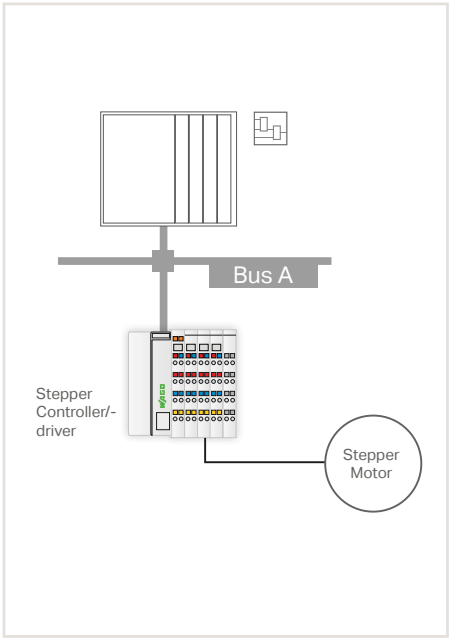
Functions, e.g.,:
Absolute/relative positioning
Setpoint change on the fly
Rotary axis

Additional operating modes:
Pulse width modulation
Frequency generator
Single-shot mode

Stepper Controller

Stepper Controller; 24 VDC; 1.5 A





Item description	Stepper Controller
Version	24 VDC 1.5A
Item no.	**750-671**

Technical Data	
No. of outputs	1 stepper motor (2 phases/bipolar)
Signal voltage	
Load type	
Output current (max.)	Up to 2 x 1.5 A peak value; 1 A eff.
Output frequency	7812 Hz
Duty cycle	
Number of inputs	2 x 24 VDC
Resolution	Path: 23 bits + sign bit; speed: 15 bits + 16 bits prescaler; acceleration: 15 bits + 16 bits prescaler
Field supply voltage	24 VDC (−25 % ... +30 %), via power jumper contacts
Internal data width	12 bytes in/out
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE, cULus ANSI/ISA, Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-671

The stepper controller has an on-board power driver designed to control 2-phase stepper motors up to 24 V / 1.5 A.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Two configurable inputs for Start/Stop, limit switches, reference cams, Jog/Tip, etc., are evaluated directly and without any further delay by the internal software.

Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

Operating modes:
Single positioning
Reference motion
Jog
Tip
Command table
Cam switch

Functions, e.g.,:
Absolute/relative positioning
Setpoint change on the fly
Rotary axis

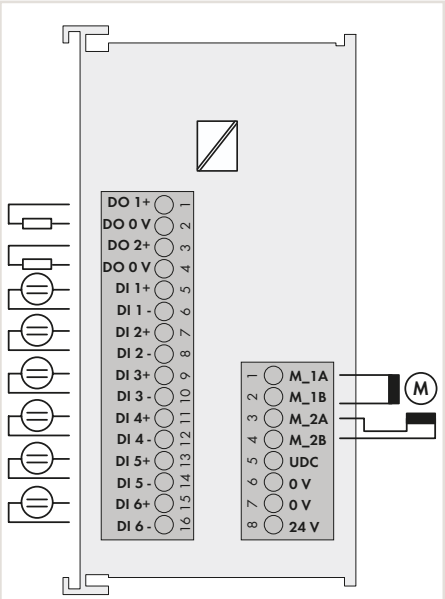
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

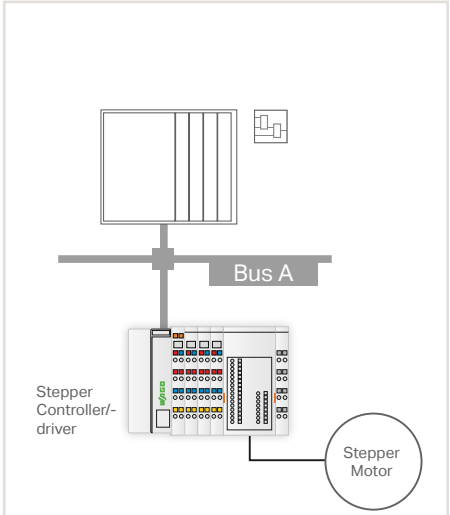
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Stepper Controller

Stepper Controller; 70 VDC; 7.5 A





Item description	Stepper Controller
Version	70 VDC 7.5A
Item no.	**750-672**

Technical Data	
No. of outputs	1 stepper motor (2 phases)
Motor voltage	55 VDC, absolute upper limit: 71.5 V, absolute lower limit: 18 V
Output current (max.)	2 x 5.0 A (2 x 7.5 A transient)
Stepper frequency	7812 Hz
Number of digital outputs	2
Control voltage	24 VDC (−25 % ... +30 %)
Output current	0.5 A, short-circuit-protected
Output frequency	5 Hz
Number of digital inputs	2 x 24 VDC
Input filter	100 µs, software filter can be installed
Resolution	Path: 23 bits + sign bit; speed: 15 bits + 16 bits prescaler; acceleration: 15 bits + 16 bits prescaler
Internal data width	12 bytes in/out
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	48 x 69.8 x 100 mm
Approvals	CE, KC
Data sheet and further information, see:	wago.com/750-672

The stepper controller has an on-board power driver designed to control 2-phase stepper motors.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation.

Six configurable inputs are directly processed by the internal software without delay. Two outputs can be linked with internal functions or freely allocated. Versatile functions enable a wide application range.

Inputs:
Start/stop
Limit switch (positive und negative direction)
Reference cam
Jog/tip (positive und negative direction)

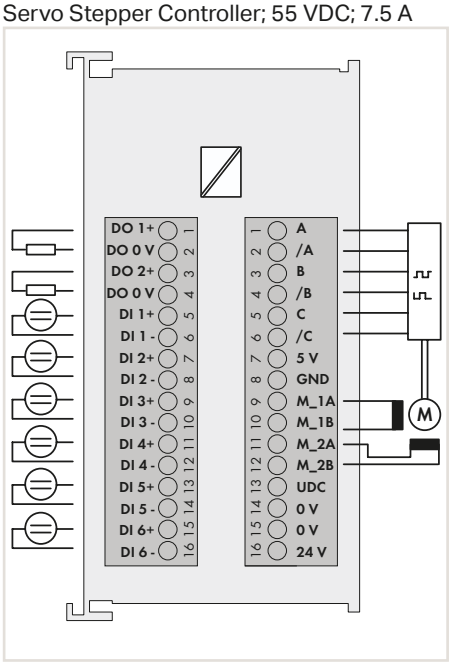
Outputs (default setting):
Target reached
Error

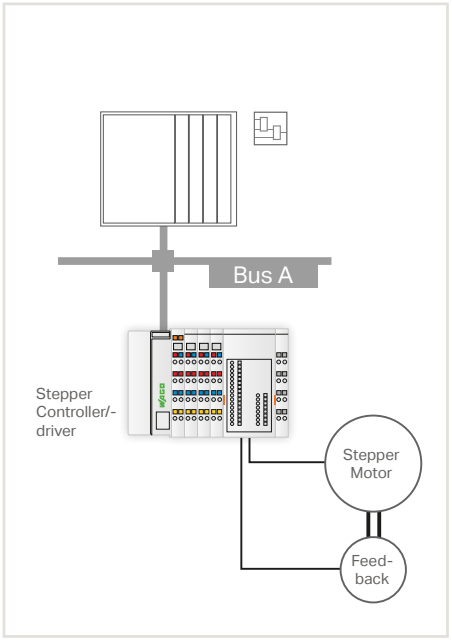
Operating modes:
Single positioning with different acceleration ramps
Reference motion
Jog
Tip
Command table
Cam switch

Functions, e.g.,:
Absolute/relative positioning
Setpoint change on the fly
Rotary axis

Servo Stepper Controller

Servo Stepper Controller; 55 VDC; 7.5 A





Item description	Servo Stepper Controller
Version	55 VDC 7.5A
Item no.	**750-673**

Technical Data

No. of outputs	1 stepper motor (2 phases)
Motor voltage	55 VDC, absolute upper limit: 71.5 V, absolute lower limit: 18 V
Output current (max.)	2 x 5.0 A (2 x 7.5 A transient)
Stepper frequency	7812 Hz
Number of digital outputs	2
Control voltage	24 VDC (–25 % ... +30 %)
Output current	0.5 A, short-circuit-protected
Output frequency	5 Hz
Number of digital inputs	2 x 24 VDC
Input filter	100 µs, software filter can be installed
Signal voltage	RS-485/-422 compatible
Sensor frequency	1 MHz
Sensor supply	5 VDC, 300 mA, short-circuit-protected
Quadrature decoder	4x evaluation
Counter modules	32 bits binary
Resolution	Path: 23 bits + sign bit; speed: 15 bits + 16 bits prescaler; acceleration: 15 bits + 16 bits prescaler
Internal data width	12 bytes in/out
Isolation	500 V system/field
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	48 x 69.8 x 100 mm
Approvals	CE, KC
Data sheet and further information, see:	wago.com/750-673

The stepper servo has its own power stage and an incremental encoder evaluation for controlling 2-phase stepper motors.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Together with the incremental encoder, the integrated vector control contributes to efficient, dynamic rotation speed characteristics.

Six configurable inputs are directly processed by the internal software without delay. Two outputs can be linked with internal functions or freely allocated. Versatile functions enable a wide application range.

Inputs:
Start/stop
Limit switch (positive und negative direction)
Reference cam
Jog/tip (positive und negative direction)

Outputs (default setting):
Target reached
Error

Operating modes:
Single positioning with different acceleration ramps
Reference motion
Jog
Tip
Command table
Cam switch

Functions, e.g.,:
Absolute/relative positioning
Setpoint change on the fly
Rotary axis

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

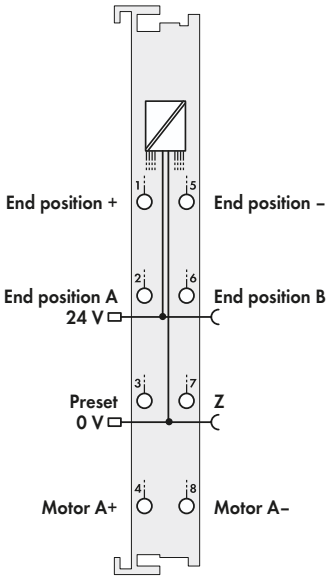
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

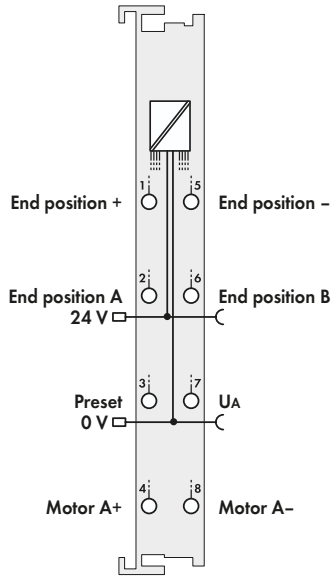
DC Drive Controller

Figure: 750-636

DC Drive Controller; 24 VDC; 5 A, optional: ext. Temperature



DC Drive Controller; 24 VDC; 5 A; optional: Separate motor power supply; Interference-free



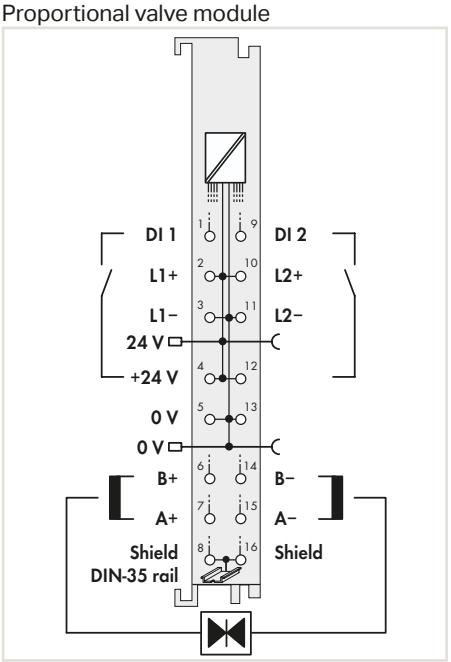
Item description	DC-Drive Controller		DC-Drive Controller	
Version	24 VDC 5A	24 VDC 5A T	24 VDC 5A UA	24 VDC 5A IF
Item no.	**750-636**	**750-636/025-000**	**750-636/000-700**	**750-636/000-800**
Technical Data				
Interference-free:				•
No. of outputs	1 (A+, A-, H-bridge output)		1 (A+, A-, H-bridge output)	
Motor voltage	24 VDC (−20 … +15 %)		24 VDC (−20 … +15 %)	
Separate motor voltage			24 VDC (−20 … +30 %)	
Output current (max.)	5 A (15 A / 500 ms), short-circuit-protected		5 A (15 A / 500 ms), short-circuit-protected	
PWM typical frequency	20 kHz		20 kHz	
Number of digital inputs	3 (E+, E-, preset), type 1, high-side switching		3 (E+, E-, preset), type 1, high-side switching	
Signal voltage (0)	−3 … +1.5 VDC		−3 … +1.5 VDC	
Signal voltage (1)	2.4 … 30 VDC		2.4 … 30 VDC	
Transmitter connection	A, B, Zero low-side switching		A, B, Zero low-side switching	
Signal voltage	5 … 24 VDC, open collector		5 … 24 VDC, open collector	
Limit frequency	50 kHz		50 kHz	
Quadrature decoder	1x, 2x, 4x evaluation		1x, 2x, 4x evaluation	
Internal data width	32 bits set/actual value; 16 bits control or status		32 bits set/actual value; 16 bits control or status	
Isolation	500 V system/field		500 V system/field	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	
Dimensions W x H x D	12 x 67.8 x 100 mm		12 x 67.8 x 100 mm	
Approvals	CE, KC	CE	CE	
Data sheet and further information, see:	wago.com/750-636		wago.com/750-636	

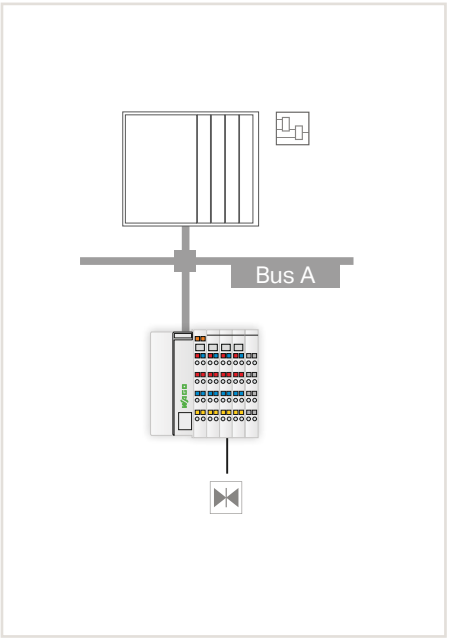
The DC Drive Controller is a single-channel, intelligent positioning controller for 24 VDC motors up to 5 A with incremental position feedback.
Three 24 V inputs record the limit switches and a preset signal.
An incremental encoder interface evaluates signals from the position transmitter and determines actual value.

As an option, the motor voltage can be supplied separately.

Proportional valve module

Proportional valve module





Item description	Proportional Valve Module
Item no.	**750-632**
Technical Data	
No. of outputs	2 bipolar outputs (A+, A- and B+, B-)
Output current (max.)	1-channel operation: 2 A (derating must be observed); 2-channel operation: 1.6 A per channel (derating must be observed)
Output type	H-bridge output with current-regulated PWM output (short-circuit-proof and thermal overload-proof for each channel)
Dither frequency	250 Hz, 125 Hz, 62.5–1 Hz (parameterizable)
PWM typical frequency	50 kHz
Nominal output voltage	24 VDC (–25 % ... +30 %)
Load type	Operating range: inductive (1– 600 mH), Internal load resistance (> 8 Ohm)
Number of digital inputs	2 (DI 1, DI 2), type 1 per IEC 61131, high-side switching
Field supply voltage	24 VDC (–25 % ... +30 %), via power jumper contacts
Internal data width	6 bytes (single-channel operating mode), 12 bytes (dual-channel operating mode)
Isolation	500 V system/field
Ambient temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-632

The proportional valve module controls two single-coil valves or one valve.
It features two current-controlled PWM outputs with adjustable dither. Both unipolar and bipolar valve control are possible. Yet another operating mode involves controlling a valve with two unipolar coils. The module is single-channel in this operating mode! Characteristic curve adaptations, such as zero offset, dual gain compensation or range limitations, can be adjusted via parameters. The module functions can be internally triggered via digital outputs without any detours.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

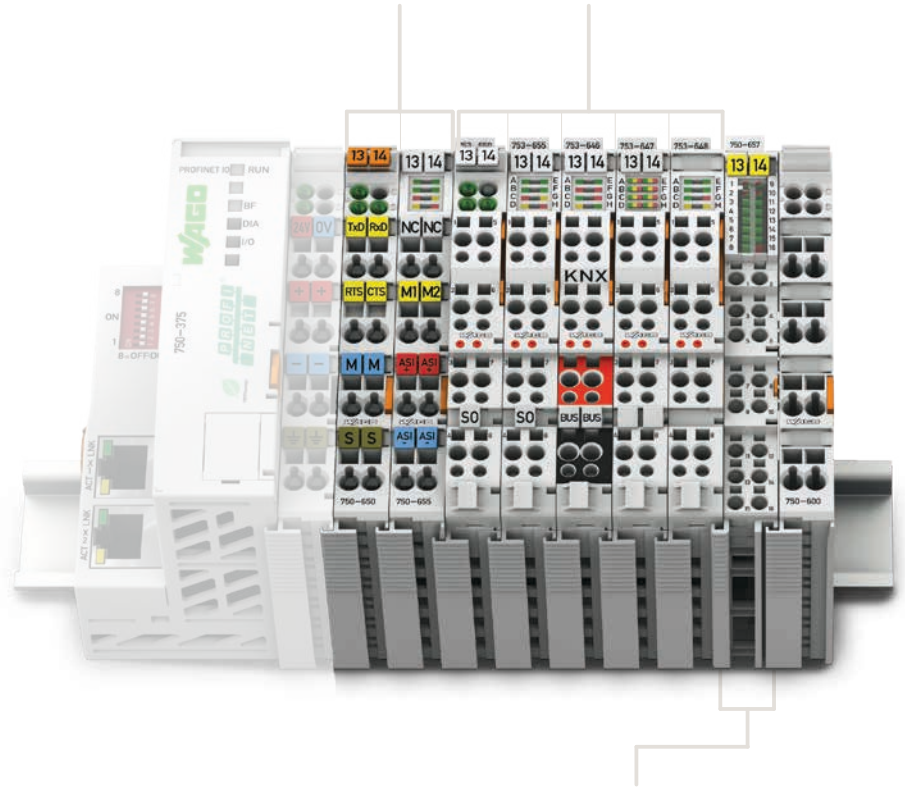
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Communication Modules

750 Series housing design	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch

753 Series housing design	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper edge of DIN rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.37 inch



750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)	
Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch

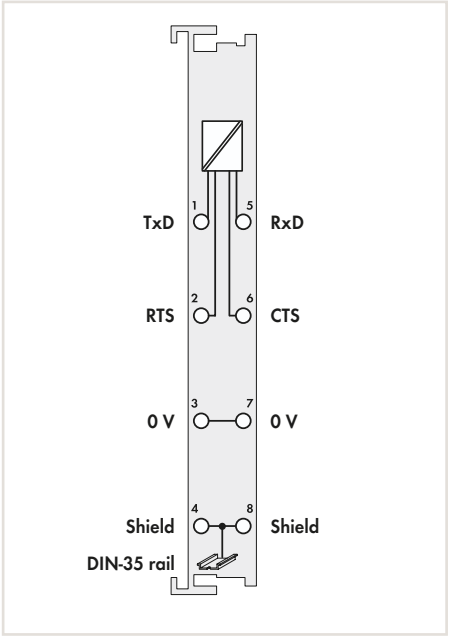
750 and 753 Series I/O-System, Communication Modules
Contents

RS-232 C Serial Interface

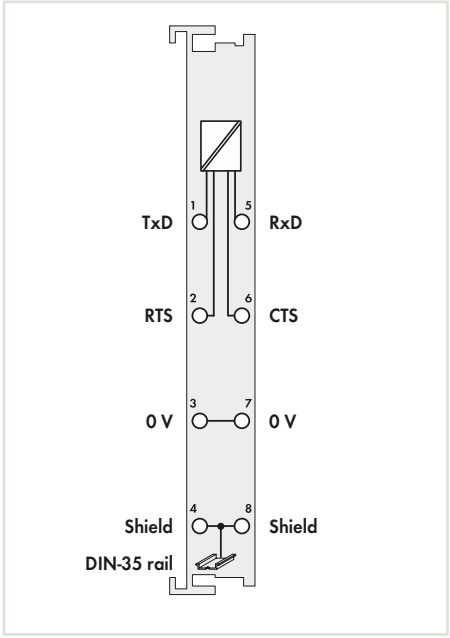
Figure: 750-650

Figure: 753-650

RS-232 C Serial Interface;
9600 baud



RS-232 C Serial Interface;
9600 baud



Item description	RS232 C Interface		RS232 C Interface		
Version	9600Bd	9600Bd	9600Bd N 8/1 5byte	9600Bd E 7/2	9600Bd E 8/1
Item no.	**750-650**	**753-650**	**750-650/000-001**	**750-650/000-002**	**750-650/000-006**
Technical Data					
Pluggable connector		•			
Type of signal	RS-232		RS-232		
Transmission channels	1 TxD / 1 RxD, full-duplex		1 TxD / 1 RxD, full-duplex		
Baud rate	9600 baud		9600 baud		
Parity	None		None	Even	Even
Number of data bits	8		8	7	8
Number of stop bits	1		1	2	1
Buffer	120 bytes in/16 bytes out		120 bytes in/16 bytes out		
System supply voltage	5 VDC via data contacts		5 VDC via data contacts		
Internal data width	1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status		1 x 24 bits in/out (5 bytes user data), 1 x 8 bits control/status	1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status	
Isolation	500 V System/field		500 V System/field		
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		
Data sheet and further information, see:	wago.com/750-650	wago.com/753-650	wago.com/750-650		

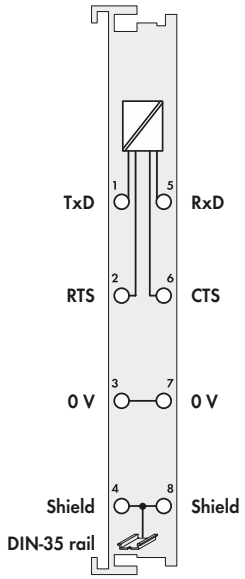
Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

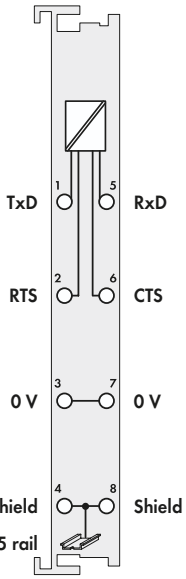
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

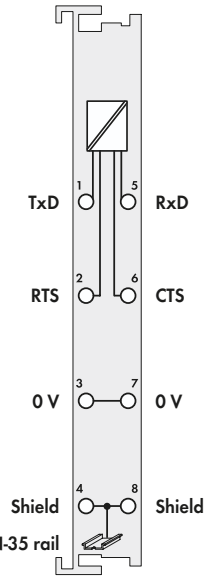
RS-232 C Serial Interface;
4800 baud; optional: 2400 baud



RS-232 C Serial Interface;
19200 baud



RS-232 C Serial Interface;
adjustable



RS232 C Interface	
4800Bd E 8/1 5byte	2400Bd N 8/1
750-650/000-015	750-650/000-012

RS232 C Interface	
19200Bd N 8/1	19200Bd E 8/1
750-650/000-010	750-650/000-011

RS232 C Interface	
Adjust	Adjust
750-650/003-000	753-650/003-000

RS-232	
1 TxD / 1 RxD, full-duplex	
4800 baud	2400 baud
Even	None
8	
1	
120 bytes in/16 bytes out	
5 VDC via data contacts	
1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status	
500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-650	

RS-232	
1 TxD / 1 RxD, full-duplex	
19200 baud	
None	Even
8	
1	
120 bytes in/16 bytes out	
5 VDC via data contacts	
1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status	
500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
wago.com/750-650	

	•
RS-232	
1 TxD / 1 RxD, full-duplex	
1200 … 57600 baud	
None/Even, adjustable	
7/8, adjustable	
1/2, adjustable	
120 bytes in/16 bytes out	
5 VDC via data contacts	
1 x 24 bits in/out (3/5 bytes user data), 1 x 8 bits control/status	
500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
	KC
wago.com/ 750-650/003-000	wago.com/ 753-650/003-000

Item no.
753-110
753-150

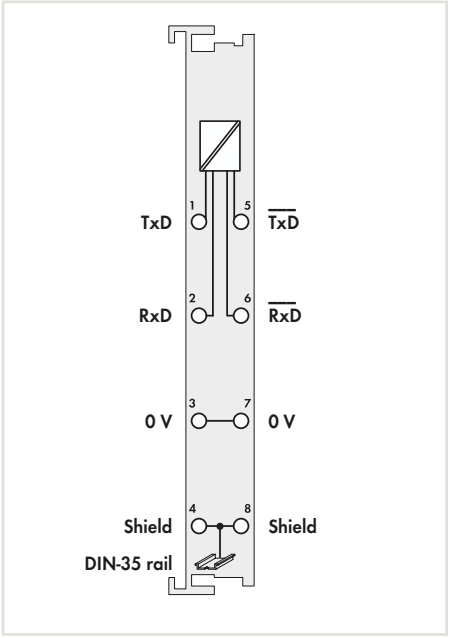
RS-485 Serial Interface

4.7

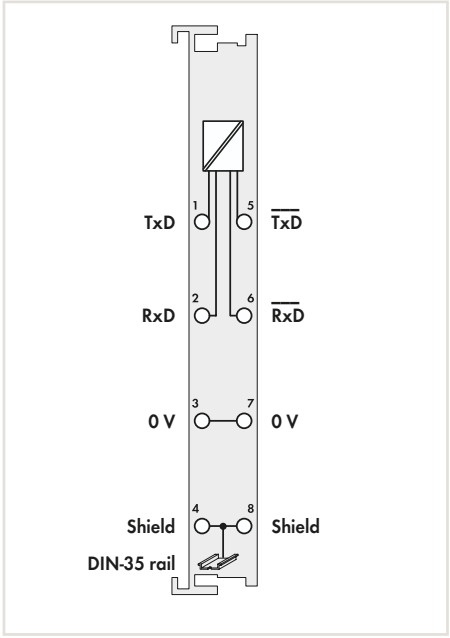
Figure: 750-653

Figure: 753-653

RS-485 Serial Interface;
9600 baud



RS-485 Serial Interface;
9600 baud



Item description	RS485 Interface		RS485 Interface		
Version	9600Bd	9600Bd	9600Bd E 7/2	9600Bd E 8/1	9600Bd N 8/1 5byte T
Item no.	**750-653**	**753-653**	**750-653/000-001**	**750-653/000-002**	**750-653/025-018**
Technical Data					
Pluggable connector		•			
Type of signal	RS-422 / RS-485		RS-422 / RS-485		
Transmission channels	1 TxD / 1 RxD, full-duplex		1 TxD / 1 RxD, full-duplex		
Baud rate	9600 baud		9600 baud		
Parity	None		Even		None
Number of data bits	8		7	8	
Number of stop bits	1		2	1	
Buffer	120 bytes in/16 bytes out		120 bytes in/16 bytes out		
System supply voltage	5 VDC via data contacts		5 VDC via data contacts		
Internal data width	1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status		1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status		1 x 24 bits in/out (5 bytes user data), 1 x 8 bits control/status
Isolation	500 V System/field		500 V System/field		
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C		−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm		
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx		CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx		
			KC		
Data sheet and further information, see:	wago.com/750-653	wago.com/753-653	wago.com/750-653		

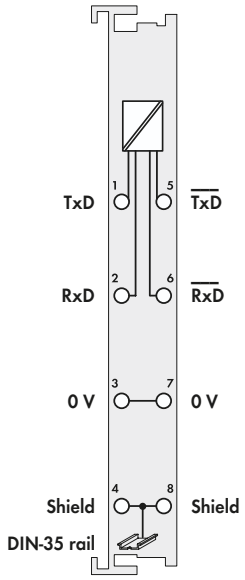
Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

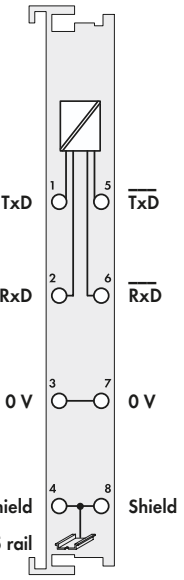
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

RS-485 Serial Interface;
19200 baud; optional: 2400 baud



RS-485 Serial Interface;
adjustable



RS485 Interface	
19200Bd N 8/1 5byte	2400Bd N 8/1
750-653/000-006	**750-653/000-007**

RS485 Interface		
Adjust	Adjust T	Adjust
750-653/003-000	**750-653/025-000**	**753-653/003-000**

RS-422 / RS-485	
1 TxD / 1 RxD, full-duplex	
19200 baud	2400 baud
None	
8	
1	
120 bytes in/16 bytes out	
5 VDC via data contacts	
1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status	1 x 24 bits in/out (5 bytes user data), 1 x 8 bits control/status
500 V System/field	
0 … +55 °C	
12 x 69.8 x 100 mm	
CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
wago.com/750-653	

			•
RS-422 / RS-485			
1 TxD / 1 RxD, full-duplex			
1200 … 19200 baud			
None/Even, adjustable			
7/8, adjustable			
1/2, adjustable			
120 bytes in/16 bytes out			
5 VDC via data contacts			
1 x 24 bits in/out (3/5 bytes user data), 1 x 8 bits control/status			
500 V System/field			
0 … +55 °C	−20 … +60 °C	0 … +55 °C	
12 x 69.8 x 100 mm			
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx			
wago.com/750-653			wago.com/753-653

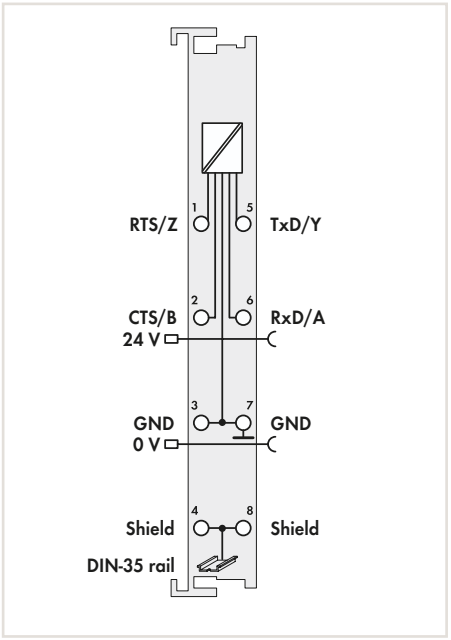
	Item no.
	753-110
	753-150

RS-232/485 Serial Interface

Figure: 750-652

Figure: 753-652

RS-232/485 Serial Interface



Item description	RS232/485 Interface		
Version		T	
Item no.	**750-652**	**750-652/025-000**	**753-652**
Technical Data			
Pluggable connector			•
Type of signal	RS-232 / RS-422 / RS-485		
Transmission channels	1 TxD / 1 RxD, full-duplex, half-duplex		
Baud rate	9600 baud (default setting), 300 baud ... 115200 baud		
Parity	None/Odd/Even		
Number of data bits	7/8, adjustable		
Number of stop bits	1/2, adjustable		
Buffer	2560 bytes for reception / 512 bytes for transmission		
System supply voltage	5 VDC via data contacts		
Internal data width	8, 24 or 48 bytes (parametrizable)		
Isolation	500 V System/field		
Ambient temperature (operation)	0 … +55 °C		
Dimensions W x H x D	12 x 67.8 x 100 mm		12 x 69 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-652		wago.com/753-652

Accessories	Item no.
Plug	753-110
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

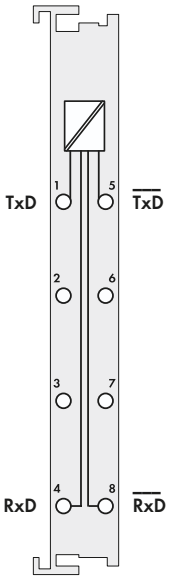
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Serial TTY Interface

Figure: 750-651

Serial TTY Interface; 9600 baud

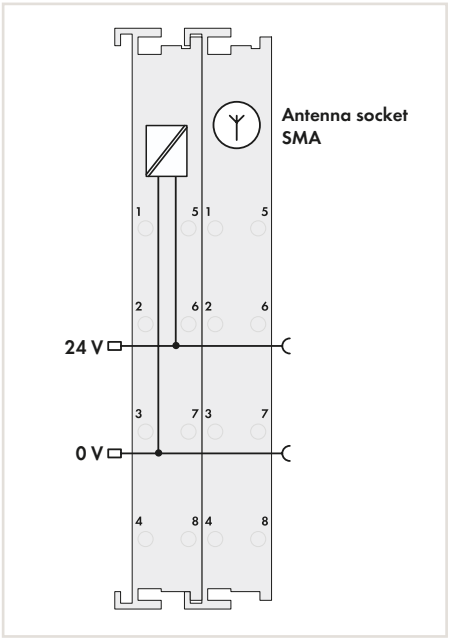


Item description	TTY Interface	
Version	9600Bd N 8/1	9600Bd E 8/1
Item no.	**750-651**	**750-651/000-002**

Technical Data		
Type of signal	TTY, 20 mA	
Transmission channels	1 TxD / 1 RxD, full-duplex	
Baud rate	9600 baud (default setting), 1200 baud ... 19200 baud	
Parity	None	Even
Number of data bits	8	
Number of stop bits	1	
Buffer	128 bytes in/16 bytes out	
System supply voltage	5 VDC via data contacts	
Internal data width	1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status	
Isolation	500 V System/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	
Data sheet and further information, see:	wago.com/750-651	

Bluetooth® RF Transceiver

Bluetooth® RF Transceiver



Item description	*Bluetooth*® RF-Transceiver
Item no.	**750-644**
Technical Data	
Antenna	External via SMA socket
Radio technology	*Bluetooth*® 2.0 + EDR
Topology	Piconet (1 master, max. 7 slaves)
Profiles	SPP, PAN
Frequency band	ISM band, 2402 … 2480 MHz
Transmitter power	Up to 20 dBm (*Bluetooth*® Class 1)
Receiver sensitivity	−94 dBm
Transmission range	Max. 1000 m free field, 100 m within buildings*
Power supply (*Bluetooth*®)	24 VDC via power jumper contacts
System supply voltage	5 VDC via data contacts
Internal data width	Configurable to 12, 24, 48 bytes, including 1 control/status byte
Diagnostics (via visual indicator)	Device status, connection status (radio connection quality, signal strength, interference)
Diagnostics (via process image)	Device status, connection status (radio connection quality, signal strength, interference), time monitoring
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 72 x 100 mm
Approvals	FCC approval (this device complies with Part 15 of FCC rules), *Bluetooth*® approval, CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-644

Accessories	**Item no.**	Page
External antenna	**758-912**	405

The *Bluetooth*® Transceiver enables wireless exchange of process data with up to seven other devices using *Bluetooth*® 2.0 radio technology. Interoperability with *Bluetooth*® devices is provided via the *Bluetooth*® PAN and SPP profiles and is not restricted to any one manufacturer.
The module's extended diagnostic functions include cyclic and acyclic state information. For quick on-site diagnostics, main information on operational status and radio connection is also displayed via 8 LEDs.

* The specifications only apply when the antenna listed as an accessory is used.
The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

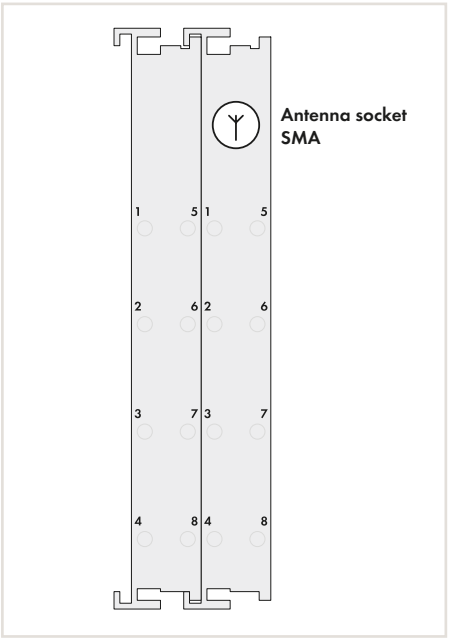
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Radio Receiver EnOcean

Radio Receiver EnOcean



Item description	Radio Receiver EnOcean
Item no.	**750-642**
Technical Data	
Antenna	External via SMA socket
Frequency band	868.3 MHz
Transmission range	Up to 300 m in open field (30 m typical in buildings, see manual)*
Transmission protocol (radio telegram)	EnOcean
System supply voltage	5 VDC via data contacts
Internal data width	1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 72 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-642

Accessories	Item no.	Page
External antenna	758-910	405

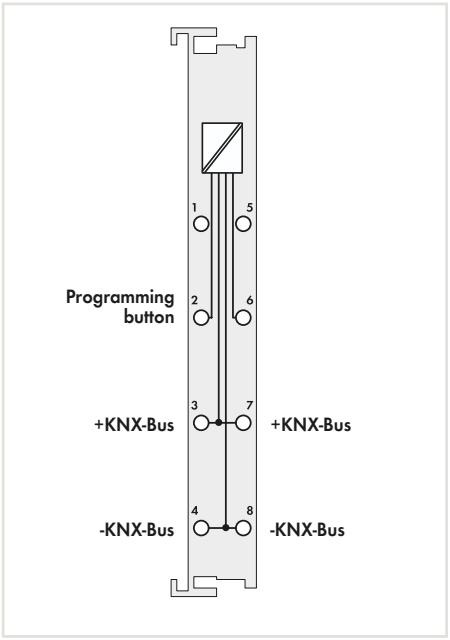
* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

This radio receiver receives radio telegrams from maintenance-free, battery-less and wireless switches and sensors based on EnOcean radio technology.
The energy required for switch or sensor operation is produced by converting one type of energy (heat, solar or mechanical energy) into usable electrical energy.
The LED (RSSI) indicates a sufficient input level.

Preprogrammed function blocks for WAGO Controllers make integration easy.

KNX/EIB/TP1 Interface

KNX/EIB/TP1 Interface



Item description	KNX/EIB/TP1 Interface
Item no.	**753-646**
Technical Data	
Pluggable connector	•
Specification	KNX/TP1-Bus: 1.0
Number of communication objects	253
Number of group addresses	254
Number of associations	254
Baud rate	9.6 kBd
Additional connections	Programming button
Applicability	On programmable fieldbus controller
Internal data width	24 bytes
Isolation	2500 V rms
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508
Data sheet and further information, see:	wago.com/753-646

Accessories	Item no.
Plug	part of the delivery
753 Series coding elements	**753-150**

The KNX/EIB/TP1 I/O module connects to a KNX/EIB/TP1 network. The module supports two different functions:

1. Device mode:
With this module, all programmable fieldbus controllers relevant for building automation can be connected to a KNX/TP1 network. The module is a standard KNX device and is linked via ETS3/4 Professional Commissioning Tool.

An ETS3/4 plug-in is required so that data from the application program can be allocated to group addresses for the programming software.

2. Router mode:
When connected to a KNX/IP Controller (e.g., 750-849), the combination becomes a KNXnet/IPRouter. The module is switched to router mode automatically. An application program is not required for operation in router mode. Additional modules that are connected to a KNX IP controller are addressed in the device mode by the application.

The bus connections are internally bridged inside the plug, so the bus is not interrupted when the plug is pulled from the module. The plug is included with delivery.

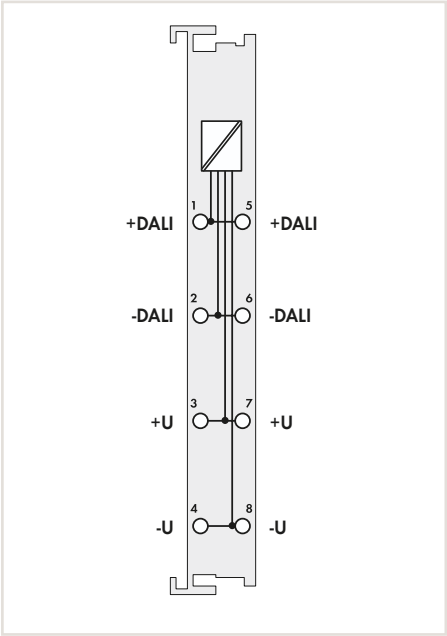
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

DALI Multi-Master

DALI Multi-Master



Item description	DALI Multi-Master
Item no.	**753-647**
Technical Data	
Pluggable connector	•
Number of participants	64 controll gears (ECGs) + 16 Multi sensor (max. 64 addresses for control devcies)
Baud rate	1200 bit/s
Max. bus length	300 m
Bus topology	Star/line/combination
DALI power supply	18 V (external)
Number of groups	16 (+ 16 virtual groups)
Number of scenes	16
Applicability	On programmable fieldbus controllers
Internal data width	24 bytes
Isolation	1500 V DALI bus/Internal data bus
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, Marine*, UL 508
Data sheet and further information, see:	wago.com/753-647

Accessories	Item no.	Page
DALI Multi-Master DC/DC Converter (used to supply one single module)	**753-620**	278
EPSITRON®, Power Supply (used to supply several 753-647 DALI Multi-Master modules)	**787-1007**	487
Plug	part of the delivery	
753 Series coding elements	**753-150**	

*pending

This manufacturer-independent DALI standard (IEC 62386) ensures interoperability of DALI devices in lighting applications. This new standard replaces the analog 1– 10 V dimmer interface.

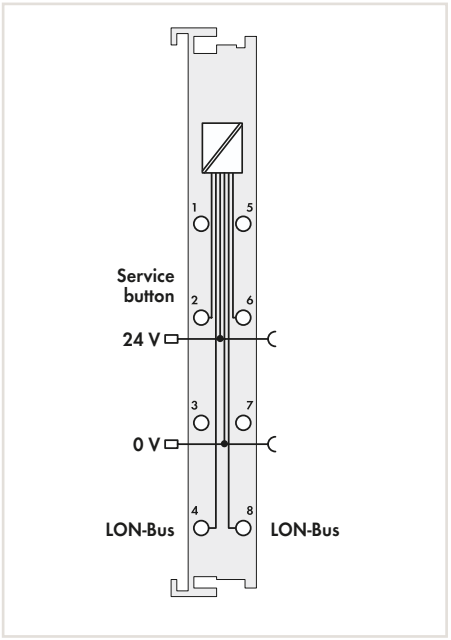
Each DALI Multi-Master module supports 64 addresses for electronic control gears (ECGs) and 64 addresses for DALI sensors. Each DALI ECG can be assigned to 16 groups and 16 scenes. The module also offers 16 additional virtual groups on the DALI bus.

DALI control devices can be seamlessly integrated with all other building systems. Several DALI masters can be connected to a single fieldbus node. The maximum number of modules within a controller depends on the memory requirements of the application. Function blocks prepared for DALI are available for programming fieldbus nodes.

Alternatively, an Easy Mode allows lighting functions to be easily controlled without any complicated PLC programming.

LON®-FTT Interface

LON®-FTT Interface



Item description	LON FTT Interface
Item no.	**753-648**
Technical Data	
Pluggable connector	•
Number of network variables	249
Number of aliases	127
Baud rate	78 kbit/s
Max. bus length	500 m (free topology) / 2700 m (bus)
Transmission medium	Twisted Pair – FTT
Additional connections	Service button
Applicability	On programmable fieldbus controller; max. 2 per controller
Internal data width	24 bytes
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/753-648

Accessories	Item no.
Plug	part of the delivery
753 Series coding elements	**753-150**

The LON FTT Module complies with the ISO/IEC 14908 standard. It is a full-fledged and flexible LON device within LonWorks FT or LP networks. The module's network variable interface defines 249 network variables of any type and supports both LonMark objects and configuration properties.

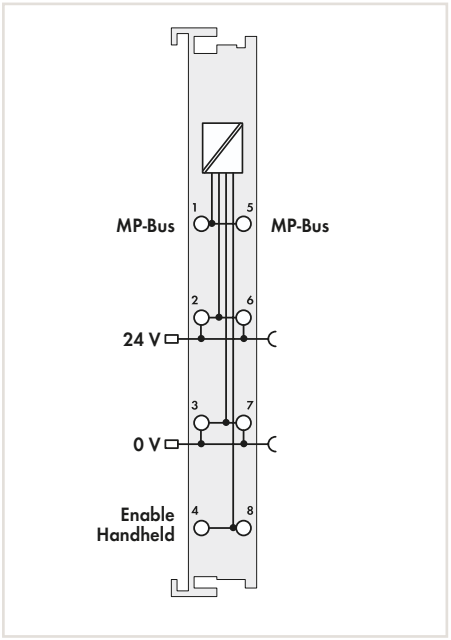
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

MP-Bus Master

MP-Bus Master



Item description	MP-Bus Master
Item no.	**750-643**
Technical Data	
Number of participants	Max. 8 slaves
Power supply (mp-bus)	24 VDC via power jumper contacts
Max. bus length	800 m
Applicability	On programmable fieldbus controller
Internal data width	8 bytes
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, cULus UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-643

The module acts as a master for the MP bus (Multi-Point bus from Belimo/Switzerland) and allows the bus to be integrated into a higher level bus network such as ETHERNET or LONWORKS®. The MP bus controls HVAC actuators for dampers, regulator valves or VAV air volume controls.

Devices that are equipped with an MP bus connection can communicate with a higher-level control system via bus cable. The actuators have connections for active and passive sensors (temperature, humidity, ON/OF switch, etc.), and are accessible via MP-Bus. An MP bus master can manage up to 8 slaves (actuators) + 8 sensors (1 sensor per slave) via a common bus line, which considerably reduces the wiring effort involved for actuators and sensors.

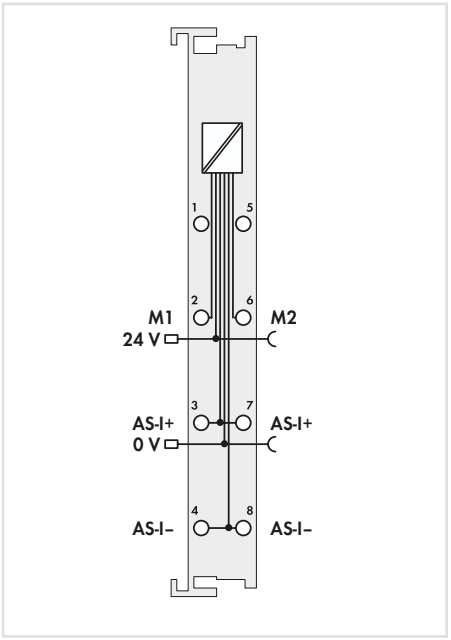
AS Interface Master

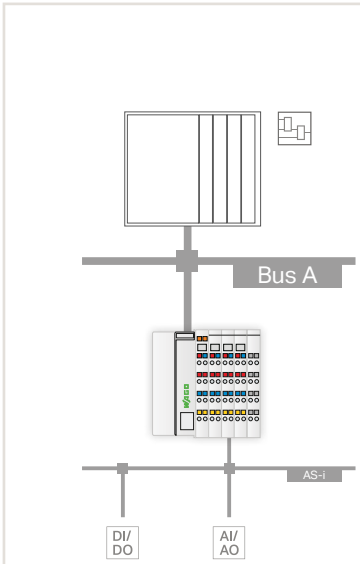
4.7

Figure: 750-655

Figure: 753-655

AS Interface Master





Item description	AS-Interface Master	
Item no.	**750-655**	**753-655**
Technical Data		
Pluggable connector		•
Number of slaves	62	
Slave profiles	V3.0 with transaction types 1–5	
Cable length	100 m (with repeater 300 m)	
AS-i cycle time	0,3 … 10 ms	
System supply voltage	24 VDC via power jumper contacts	
Internal data width	12 … 48 bytes max., configurable, including 1 byte control/status	
Isolation	500 V System/field	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-655	wago.com/753-655

Accessories	**Item no.**
Plug	**753-110**
753 Series coding elements	**753-150**

The 75x-655 AS-I Master Module connects AS-Interface systems to a higher-level fieldbus.
It acts as a master for the AS-Interface and via the fieldbus coupler, as a slave for the fieldbus. The AS-I functions are provided both cyclically and acyclically via the fieldbus.

Diagnostics, which go far beyond the AS-I specifications, simplify detection of both sporadic configuration errors and AS-I communication interference sources. An auto-installation mode allows an AS-Interface network to be created via sequential slave installation, with no addressing tool required.

Both signal transmission and operating status, as well as trouble-free internal data bus communication, are indicated via LEDs.

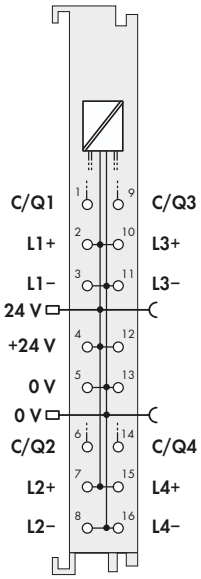
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

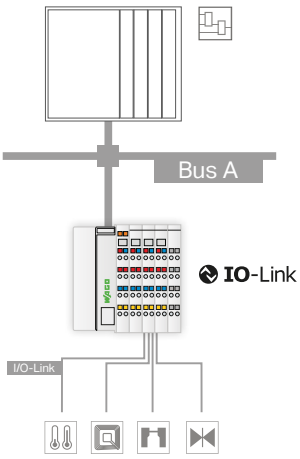
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

IO-Link Master

IO-Link Master

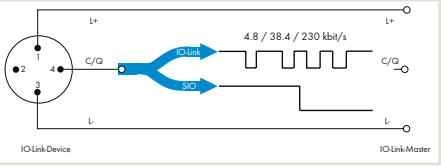




Item description	IO-Link Master
Item no.	**750-657**
Technical Data	
Number of I/O link ports	4
Baud rate	4.8 kbit/s, 38.4 kbit/s, 230.4 kbit/s
Cable length	20 m
System supply voltage	24 VDC via power jumper contacts
Internal data width	4 … 24 bytes
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-657

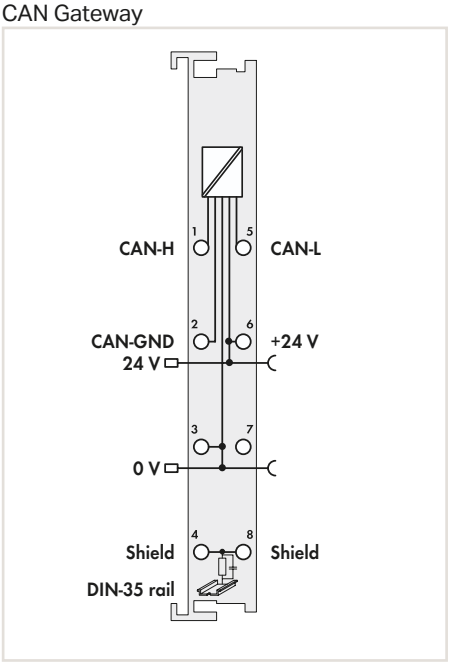
This product is used to simultaneously connect four different I/O-link devices or standard digital sensors/actuators. Process data and data blocks, as well as acyclic data for identification, configuration, parameterization and diagnostics can be communicated to the respective device via a 3-wire connection.

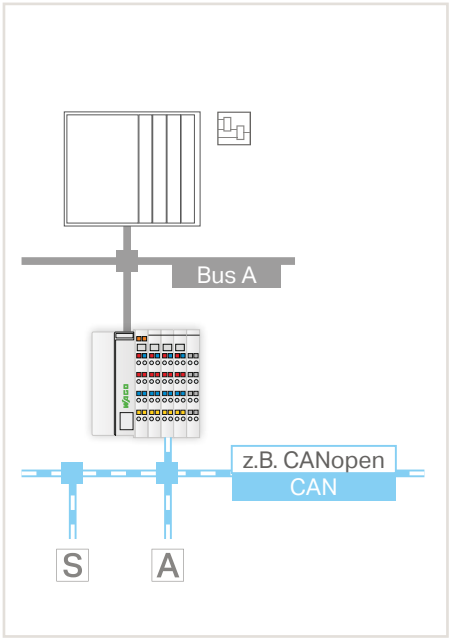
The functions and performance data are defined in device description files for master and devices; these are easy to customize via the engineering. If a device must be replaced, the configuration and parameterization can be automatically restored without maintenance personnel. Project design, installation and operation are simplified!



CAN Gateway

CAN Gateway





Item description	CAN Gateway
Item no.	**750-658**
Technical Data	
Number of CAN interfaces	1
Baud rate	10 kbit/s, 20 kbit/s, 50 kbit/s, 125 kbit/s, 250 kbit/s, 500 kbit/s, 800 kbit/s, (automatic baud rate)
Data formats	Per 2.0 A standard (11-bit ID, per 2.0 B extended (29-bit ID)
System supply voltage	24 VDC via power jumper contacts
Data transfer time	5 ms (at 32 bit I/O)
Internal data width	4 … 24 Byte
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 67,8 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-658

With a CAN Gateway, a CAN bus can be installed as a sub-bus beneath a fieldbus coupler or fieldbus controller. It enables special sensors/actuators that are only available with the widely spread CAN bus to also be integrated under other bus systems. Function blocks allow the gateway to read and write higher-protocol telegrams (e.g., CANopen).

You can select from three different operating modes:

- Sniffer mode: Detailed analysis of the CAN bus through passive “snooping”
- Transparent mode: Active CAN subscriber that can send and receive any type of CAN telegram
- Mapped mode: Enables direct generation of CAN telegrams from the process image, or selective copying of process values from received CAN telegrams into the input process image (cyclic or event-based).

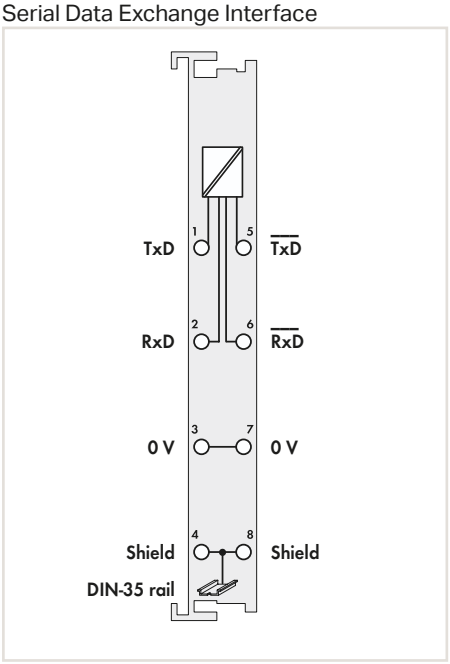
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

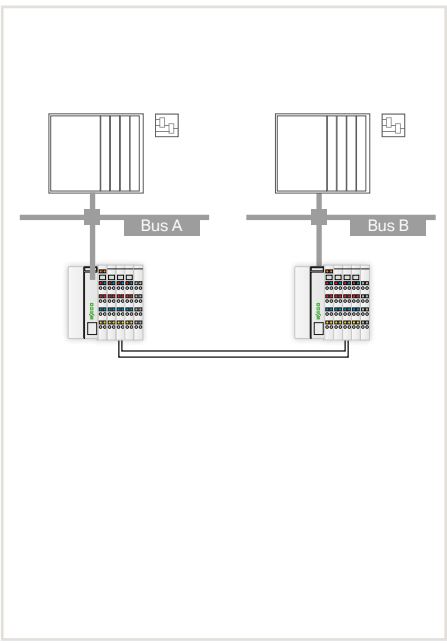
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Serial Data Exchange Interface

Serial Data Exchange Interface





Item description	Data Exchange Interface
Item no.	750-654
Technical Data	
Transmission channels	1 TxD / 1 RxD, full-duplex
Baud rate	62500 baud (8 N 1)
Bit transfer	Via 2 twisted pairs with differential signals
Line impedance	120 Ω
Line length (max)	1000 m
Internal data width	1 x 32 bits in/out, 1 x 8 bits control/status
Isolation	500 V System/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508
Data sheet and further information, see:	wago.com/750-654

The data exchange module allows the exchange of data between different fieldbus systems.
Two modules are a communication pair that is connected by means of two twisted wire pairs. Each module is part of a fieldbus node.
The data exchange is done in full duplex operation, independent of the fieldbus system used. The data of the output process image of the fieldbus coupler is transmitted to the communication partner. This module then transmits the data to the input process image of its fieldbus coupler and vice versa.
The LED "function" indicates a data exchange with the buscoupler. The status of the data transmission is indicated by the TxD and RxD LEDs.

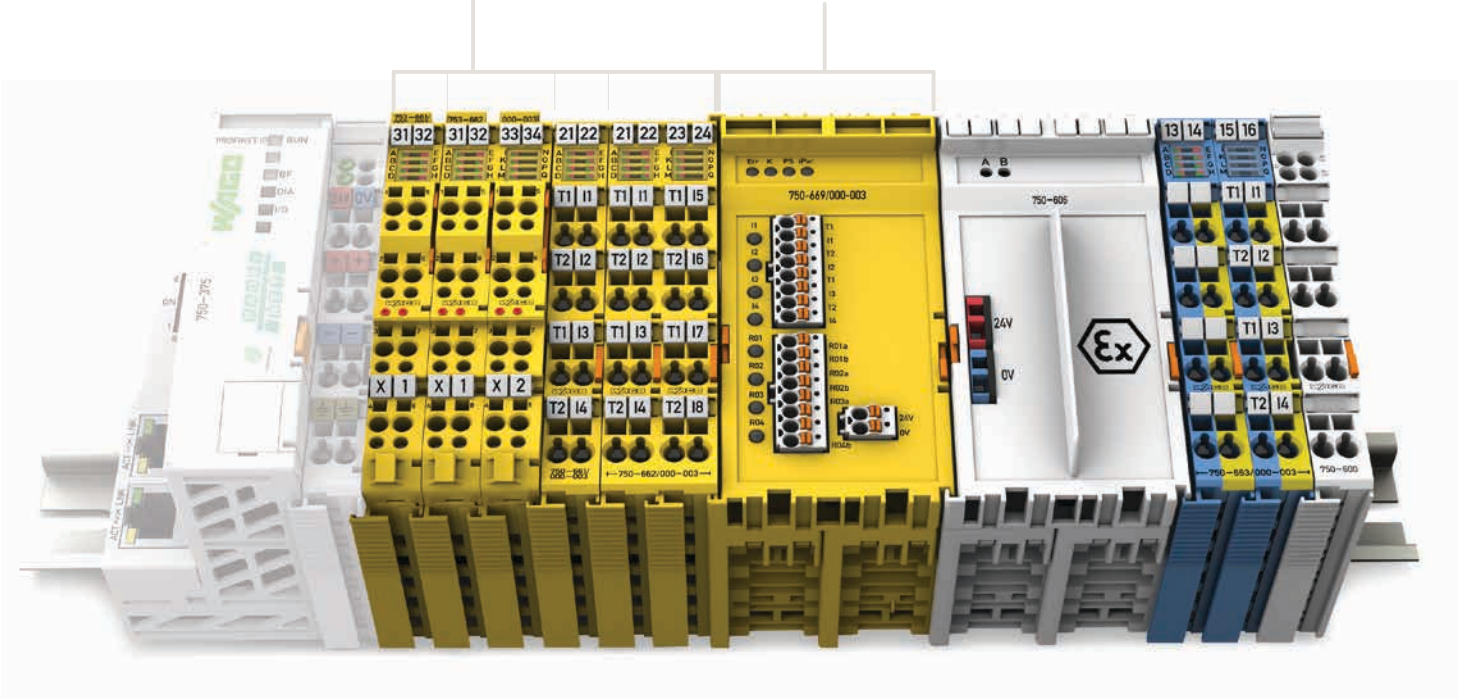
Functional Safety

750/753 Series housing design

Dimensions W x H x D	750 series: 12 or 24 x 67.8 x 100 mm 753 series: 12 or 24 x 69 x 100 mm
Height from upper edge of DIN rail	750 series: 60.6 mm; 753 series: 61.8 mm
Wire connection	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	750 series: 8 … 9 mm / 0.33 inch 753 series: 9 … 10 mm / 0.37 inch

Specialty housing

Dimensions W x H x D	48 x 69.8 x 100
Height from upper edge of DIN rail	62.6 mm
Wire connection	Push-in CAGE CLAMP®
Conductor size	0.05 … 1.5 mm² / 20 … 14 AWG
Strip length	8 … 9 mm / 0.33 in

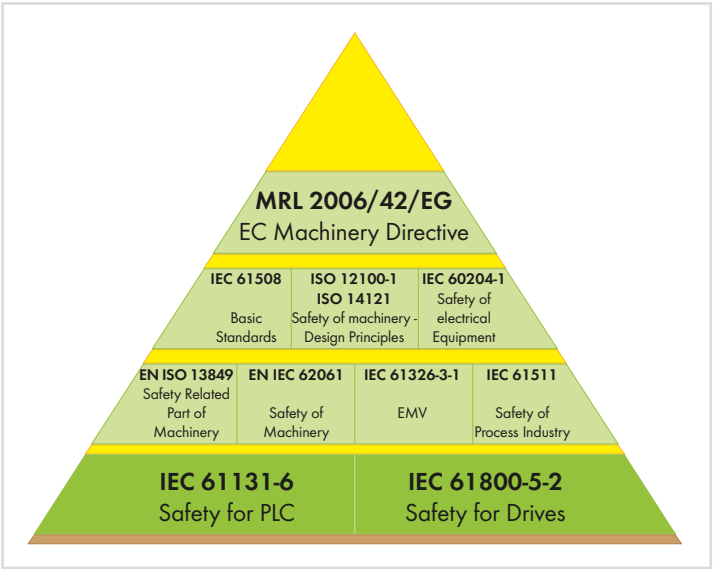


Functional Safety

In the European Union, the machinery directive defines the requirements for machine and system safety. This ensures a uniform standard for the protection of “life and limb” for people within a machine’s operating area.

The required risk assessment is based on harmonized standards (e.g., EN 13849) that identify existing risks and required risk reduction (SIL or PL quality). Based on the risk assessment, safety functionality can be implemented, e.g., by presence detection or protection zone violations using secure switches or light arrays to immediately shut down the “risk”. For this purpose, the safety signals are detected by the “yellow” safety modules and transmitted via “PROFIsafe” to the fail-safe PLC for further processing. The result is then executed via a safe actuator (output module, controller, etc.).

The unique safety characteristic values of the WAGO modules facilitate calculation of the final safety function up to Cat. 4/PLe according to EN 13849, or SIL3 according to EN 62061 or IEC 61511.



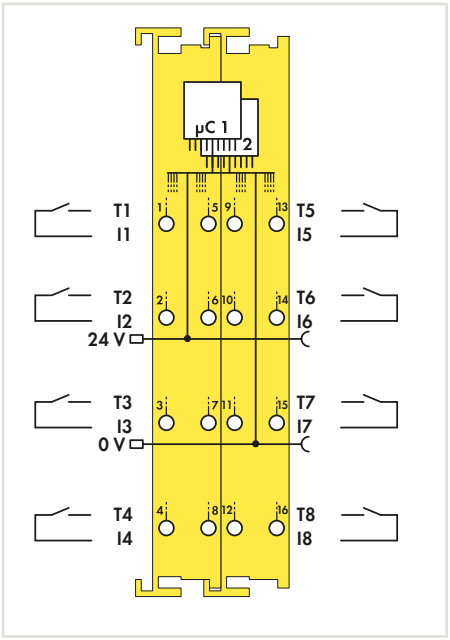
750 and 753 Series I/O-System, Functional Safety
Contents

Fail-safe digital input or digital input/output, 24 VDC, PROFIsafe

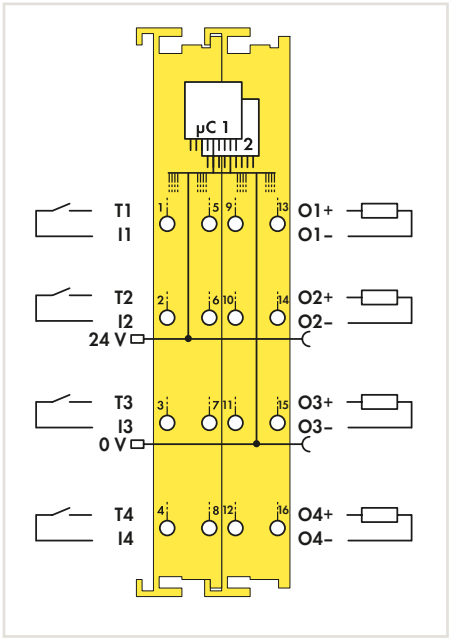
Figure: 750-660/000-001

Figure: 750-665/000-001

Fail-safe 8 channel digital input; 24 VDC; PROFIsafe



Fail-safe 4/4 channel digital input/output; 24 VDC; 0.5 A; PROFIsafe



Item description	8FDI	4FDI/4FDO
Version	24 VDC PROFIsafe	24 VDC 0.5A PROFIsafe
Item no.	**750-660/000-001**	**750-665/000-001**
Technical Data		
Number of digital inputs	8	4
Achievable safety classes	8 x Cat. 2/SIL 2 or 4 x Cat. 4/SIL 3	4 x Cat. 2/SIL 2 or 2 x Cat. 4/SIL 3
Protocol	PROFIsafe V1.3	PROFIsafe V1.3
Sensor connection	fail-safe input with test pulse	fail-safe input with test pulse
Input characteristic	clock sensitive	clock sensitive
Input current per channel for signal (1) typ.	2.2 mA	2.2 mA
Number of digital outputs		4
Output switching design		Power outputs
Actuator connection		fail-safe output with test pulse
Switching frequency (max.) with load type		5 Hz, resistive load, 0.1 Hz, inductive load acc. to IEC 947-5-1, DC 13, 5 Hz, inductive load acc. to IEC 947-5-1, DC 13, with free-wheeling diodes
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts	24 VDC (−15 … +20 %), via power jumper contacts
Proof test interval	10 years	10 years
System supply voltage	5 VDC; via data contacts	5 VDC; via data contacts
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm	24 x 7.,9 x 100 mm
Safety standards	IEC 61508, parts 1-7, 1998 and 2000, EN 954-1 Cat. 4	IEC 61508, parts 1-7, 1998 and 2000, EN 954-1 Cat. 4
Approvals	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx	CE, KC, cULus UL 508, ANSI/ISA, Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-660/000-001	wago.com/750-665/000-001

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

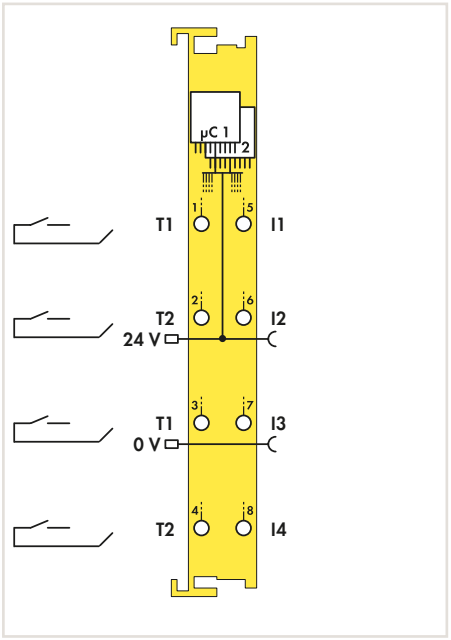
Approvals and corresponding ratings,
see Page 521 or www.wago.com

Fail-safe digital input, 24 VDC, PROFIsafe V 2.0 iPar

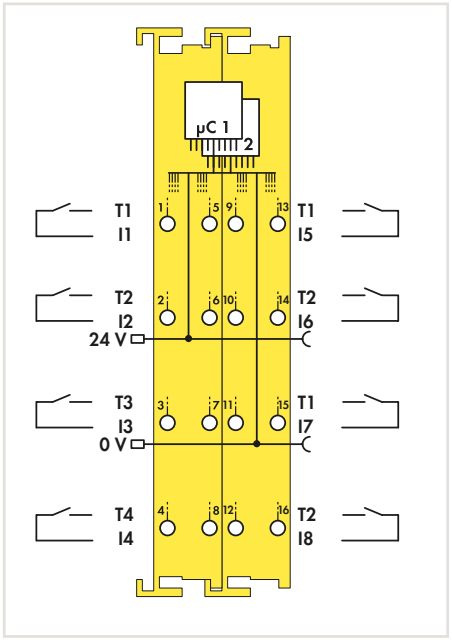
Figure: 750-661/000-003

Figure: 750-662/000-003

Fail-safe 4 channel digital input; 24 VDC; PROFIsafe V 2.0 iPar



Fail-safe 8 channel digital input; 24 VDC; PROFIsafe V 2.0 iPar



Item description	4FDI		8FDI	
Version	24 VDC PROFIsafe V2 iPar	24 VDC PROFIsafe V2 iPar	24 VDC PROFIsafe V2 iPar	24 VDC PROFIsafe V2 iPar
Item no.	**750-661/000-003**	**753-661/000-003**	**750-662/000-003**	**753-662/000-003**
Technical Data				
Pluggable connector		•		•
Number of digital inputs	4		8	
Achievable safety classes	SIL 3, Cat. 4, PL e		SIL 3, Cat. 4, PL e	
Protocol	PROFIsafe V2		PROFIsafe V2	
Sensor connection	fail-safe input with test pulse		fail-safe input with test pulse	
Input characteristic	clock sensitive		clock sensitive	
Input current per channel for signal (1) typ.	2.2 mA		2.2 mA	
Input characteristic	Type 1		Type 1	
Signal frequency max.	50 Hz		50 Hz	
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts		24 VDC (−15 … +20 %), via power jumper contacts	
System supply voltage	5 VDC; via data contacts		5 VDC; via data contacts	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	24 x 70,9 x 100 mm		24 x 70,9 x 100 mm	
Safety standards	IEC 61508, parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061		IEC 61508, parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/ 750-661/000-003	wago.com/ 753-661/000-003	wago.com/ 750-662/000-003	wago.com/ 753-662/000-003

Accessories		Item no.		Item no.
Plug, Safety		753-120		753-120
753 Series coding elements		753-150		753-150

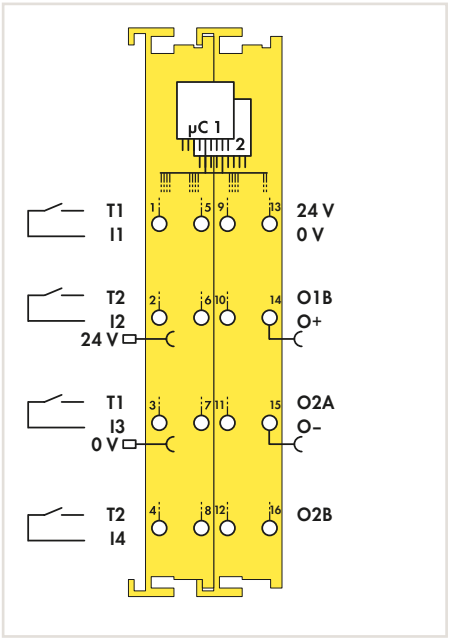
Fail-safe digital input/output, 24 VDC, 10 A, PROFIsafe V 2.0 iPar

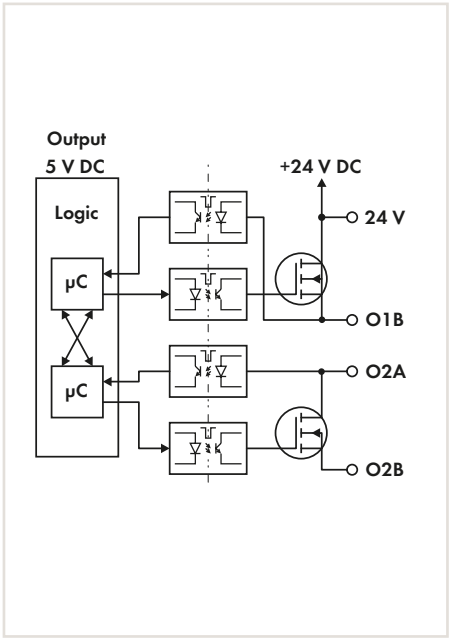
4.8

Figure: 750-666/000-003

Figure: 753-666/000-003

Fail-safe 4/2 channel digital input/output;
24 VDC; 10 A; PROFIsafe V 2.0 iPar





This module enables a secure 2-channel switch-off (single fault protection) when the power outputs are used in a bipolar configuration. If a secure 1-channel switch-off is adequate, two independent switching channels are available.
The module is capable of safely shutting off the supply voltage of entire actuator groups which are connected to the conventional modules arranged to the right.
The 2-channel circuit types P-M and P-P as well as the 1-channel circuit types P, P or P, M are available.

Item description	4FDI/2FDO	
Version	24 VDC 10A PROFIsafe V2 iPar	24 VDC 10A PROFIsafe V2 iPar
Item no.	**750-666/000-003**	**753-666/000-003**
Technical Data		
Pluggable connector		•
Number of digital inputs	4	
Achievable safety classes	SIL 3, Cat. 4, PL e	
Protocol	PROFIsafe V2	
Sensor connection	fail-safe input with test pulse	
Input characteristic	clock sensitive	
Input current per channel for signal (1) typ.	2.2 mA	
Signal frequency max.	50 Hz	
Number of digital outputs	2	
Output switching design	Power outputs	
Actuator connection	2 x (fail-safe output with test pulse)	
Output current (per channel)	10 A	
Output current (module) max.	20 A (Single output operation))	
Protection against incorrect wiring	Short-circuit-protected	
Switching frequency (max.) with load type	50 Hz, Resistive load; 0.1 Hz, Inductive load	
Field supply voltage	24 VDC (–15 … +20 %), via power jumper contacts	
System supply voltage	5 VDC; via data contacts	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	24 x 70.9 x 100 mm	
Safety standards	IEC 61508, parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/ 750-666/000-003	wago.com/ 753-666/000-003

Accessories	Item no.
Plug, Safety	753-120
753 Series coding elements	753-150

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

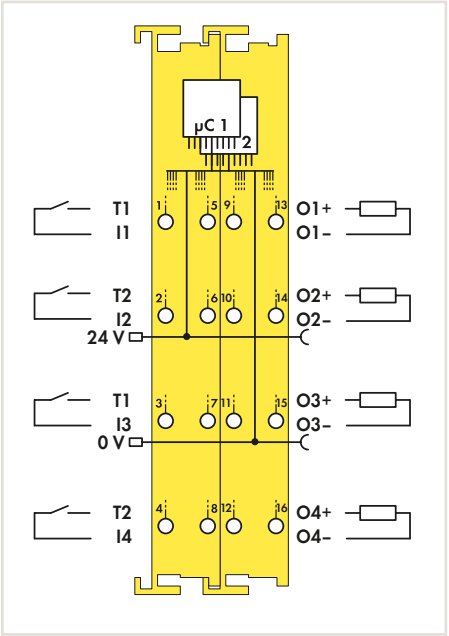
Approvals and corresponding ratings,
see Page 521 or www.wago.com

Fail-safe digital input/output, 24 VDC, 2 A, PROFIsafe V 2.0 iPar

Figure: 750-667/000-003

Figure: 753-667/000-003

Fail-safe 4/4 channel digital input/output;
24 VDC; 2 A, PROFIsafe V 2.0 iPar



Item description	4FDI/4FDO	
Version	24 VDC 2A PROFIsafe V2 iPar	24 VDC 2A PROFIsafe V2 iPar
Item no.	**750-667/000-003**	**753-667/000-003**

Technical Data

Pluggable connector		•
Number of digital inputs	4	
Achievable safety classes	SIL 3, Cat. 4, PL e	
Protocol	PROFIsafe V2	
Sensor connection	fail-safe input with test pulse	
Input characteristic	clock sensitive	
Input current per channel for signal (1) typ.	2.2 mA	
Signal frequency max.	50 Hz	
Number of digital outputs	4	
Output switching design	Power outputs	
Actuator connection	4 x (fail-safe output with test pulse)	
Output current (per channel)	2 A	
Output current (module) max.	8 A	
Protection against incorrect wiring	Short-circuit-protected	
Switching frequency (max.) with load type	50 Hz, Resistive load; 0.1 Hz, Inductive load	
Field supply voltage	24 VDC (−15 … +20 %), via power jumper contacts	
System supply voltage	5 VDC; via data contacts	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	24 x 70.9 x 100 mm	
Safety standards	IEC 61508, parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/ 750-667/000-003	wago.com/ 753-667/000-003

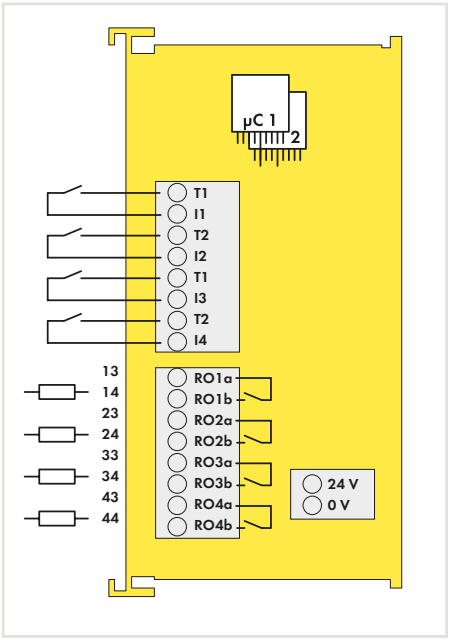
Accessories	Item no.
Plug, Safety	753-120
753 Series coding elements	753-150

The 2-channel circuit types P-M and P-P as well as the 1-channel circuit types P, P or P, M are available at each output. When two 1-channel P circuits are use, Categories 4/PLe or SIL3 are possible.

Fail-safe digital input and relay output, 48 VAC/60 VDC, 6 A, PROFIsafe V 2.0 iPar

4.8

Fail-Safe 4/4-Channel Digital Input and Relay Output
48 VAC/60 VDC, 6 A, PROFIsafe V 2.0 iPar



Item description	4FDI/4FRO
Version	48 VAC/60 VDC 6A PROFIsafe V2 iPar
Item no.	**750-669/000-003**

Technical Data	
Number of digital inputs	4
Achievable safety classes	SIL 3, Cat. 4, PL e
Protocol	PROFIsafe V2
Sensor connection	4 x (fail-safe input with test pulse)
Input characteristic	clock sensitive
Input current per channel for signal (1) typ.	2,2 mA
Input characteristic	Type 1
Signal frequency max.	50 Hz
Number of digital outputs	4
Output switching design	Relay Output
Actuator connection	4 x (fail-safe output with test pulse)
Load switching voltage range	5 V … 60 VDC (SELV/PELV), 5 V … 48 VAC
Isolation voltage	Relay Output: 48 VAC, 60 VDC
Switching current min.	3 mA
Output current (per channel)	6 A
Output current (module) max.	24 A
Switching delay	50 ms
Field supply voltage	24 VDC via wiring level (push-in CAGE CLAMP® connector)
System supply voltage	5 VDC; via data contacts
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Safety standards	IEC 61508, parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061
Approvals	CE
Data sheet and further information, see:	wago.com/750-669/000-003

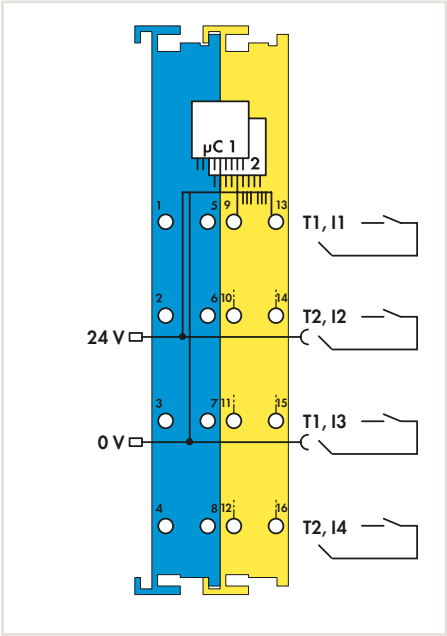
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Digital input, PROFIsafe V2 iPar

4-Channel Digital Input, PROFIsafe V 2.0 iPar



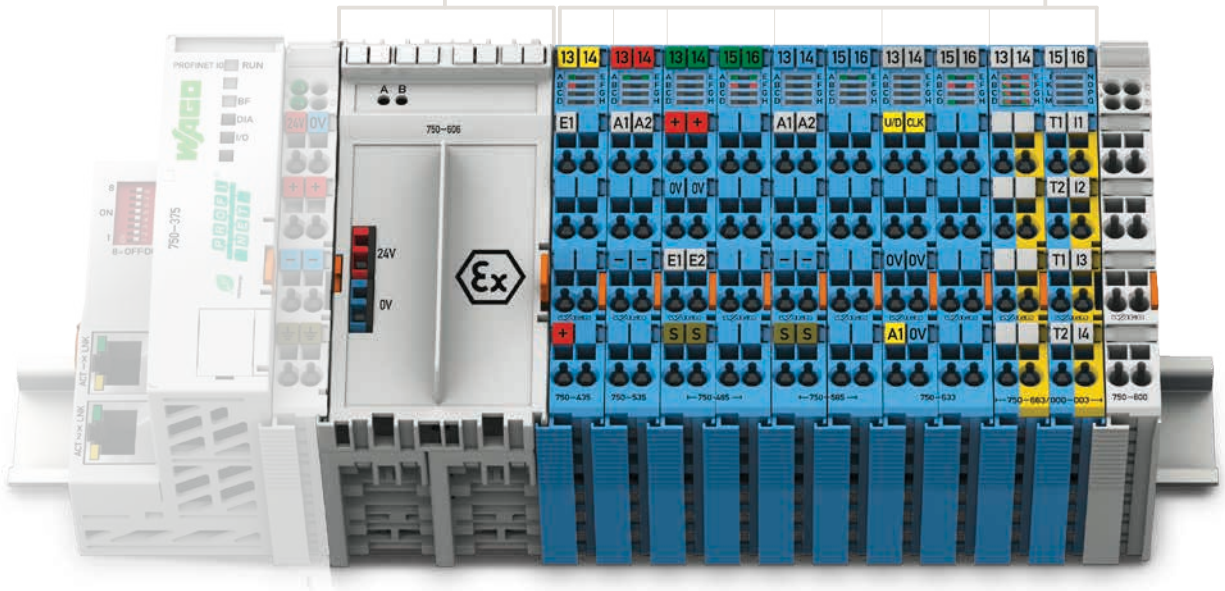
Item description	4F-Ex i DI
Version	24 VDC PROFIsafe V2 iPar
Item no.	**750-663/000-003**
Technical Data	
Protocol	PROFIsafe V2
Sensor inputs	4, clock sensitive to T1 ... T2
Input current typ.	3 mA
Input frequency max.	50 Hz
Input filter (digital)	0 ms ... 200 ms configurable in steps
Clock outputs	2
System supply voltage	5 VDC; via data contacts
Field supply voltage	24 VDC via power jumper contacts (provided via Ex-i supply U_O = max. 27,3 V)
Isolation (peak value)	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Functional Safety	
Achievable risk reduction	SIL 3 acc. to IEC 61508:2010; SIL 3 acc. to IEC 61511:2005; SIL 3 acc. to IEC 62061:2005; Cat. 4, PL e acc. to EN ISO 13849:2008
Safety standards	IEC 61508, IEC 62061, EN ISO 13849, IEC 61511
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-663/000-003

This product combines intrinsic safety with functional safety and is specially conceived for reliable acquisition from potential-free, contact-based emergency stop switches, safety interlock switches, mode selectors, as well as safe sensors, that are located in hazardous environments. Thus, safety functions with safe sensors from Ex Zones 0 and 1 are attainable.

Intrinsically Safe Ex i modules

Specialty housings	
Dimensions W x H x D	48 x 70.9 x 100
Height from upper edge of DIN rail	63.7 mm
Wire connection	CAGE CLAMP®
Conductor size	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.22 in

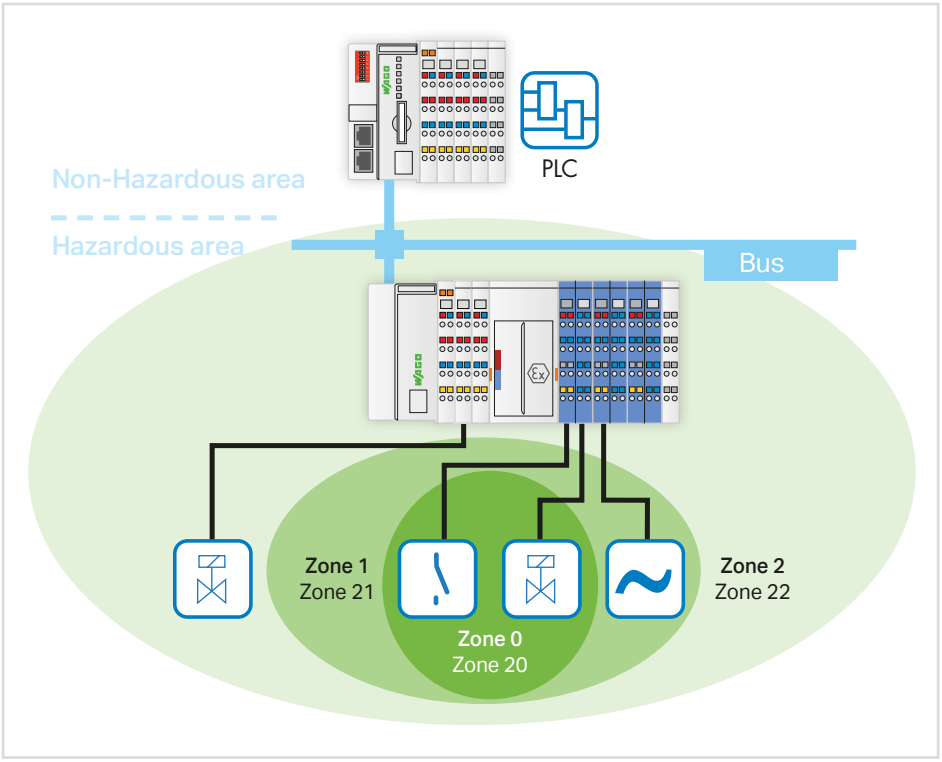
750 Series housing design	
Dimensions W x H x D	12 or 24 x 67.8 x 100 mm
Height from upper edge of DIN rail	60.6 mm
Wire connection	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch



Use in Hazardous Areas

In many plants across the chemical and petrochemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. For this reason, electrical equipment must be explosion-proof in order to avoid injuries to personnel and equipment damages.

The modules within the WAGO 750 I/O-SYSTEM are designed for use in both non-potentially explosive and potentially explosive hazardous areas. The direct application of fieldbus technology in potentially explosive areas is typically resource-intensive. When used in hazardous areas of Zone 2/22, the WAGO-I/O-SYSTEM 750 offers a safe, easy and economical connection to the sensors and actuators of Zones 0/20 and 1/21. The “blue“ Ex i I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard fieldbus node, offering all the advantages of a state-of-the-art fieldbus technology. The WAGO 750 I/O-SYSTEM is also approved for mining applications.



Series 750 and 753 I/O-System, Intrinsically Safe Ex i Modules
Contents

Bus supply module, Intrinsically Safe

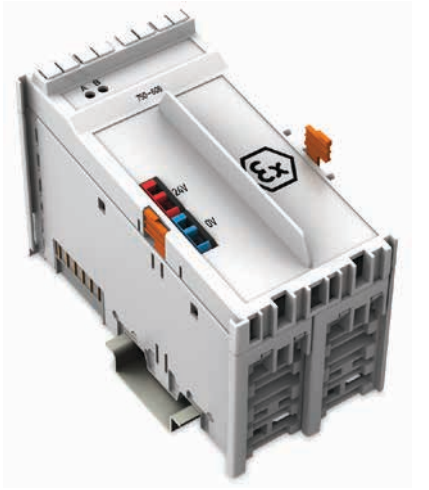
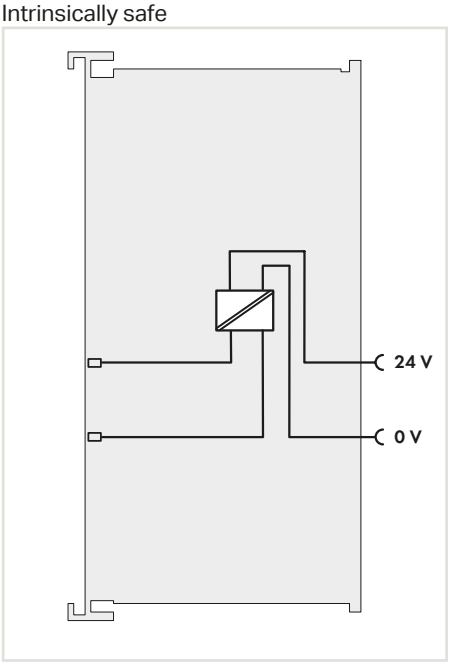
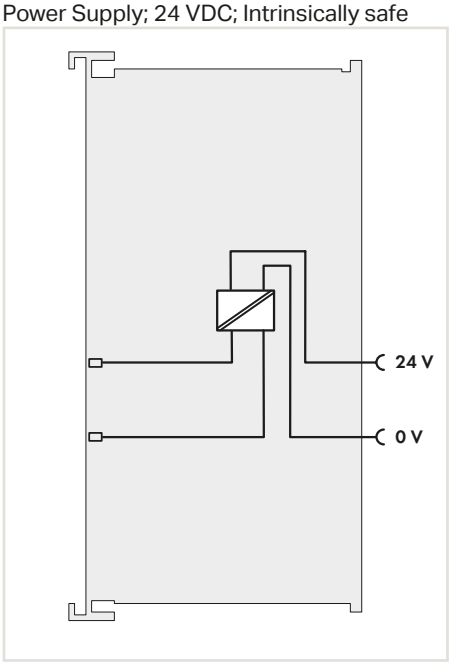


Figure: 750-606

Power Supply; 24 VDC; with diagnostics; Intrinsically safe



Power Supply; 24 VDC; Intrinsically safe



Item description	Power Supply	Power Supply
Version	24 VDC Diag Ex i	24 VDC Ex i
Item no.	**750-606**	**750-625/000-001**
Technical Data		
Current consumption, system supply	7.5 mA	7.5 mA
Field supply voltage	24 VDC via power jumper contacts	24 VDC via power jumper contacts
Current carrying capacity of the power jumper contacts	1 A (DC)	1 A (DC)
Input voltage	24 VDC (−25 … +30 %)	24 VDC (−25 … +30 %)
Fuse	electronic	electronic
Data width	2 bits (input voltage failure, fuse triggered)	
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm	24 x 70.9 x 100 mm
Explosion Protection		
Power supply (input)	Un = 24 VDC (-25 % … +30 %); Pmax = 29 W; Um = 253 V	Un = 24 VDC (-25 % … +30 %); Pmax = 29 W; Um = 253 V
Power supply (output)	U_o = 27.3 V (intrinsically safe output voltage per type of protection ia); In = 1 A	U_o = 27.3 V (intrinsically safe output voltage per type of protection ia); In = 1 A
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-606	wago.com/750-625/000-001

The supply modules monitors power supply to the downstream Ex i segment and separates the intrinsically safe from the non-intrinsically safe section of the WAGO-I/O-SYSTEM 750. Input and output sides are electrically isolated from each other.
General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 manuals!

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

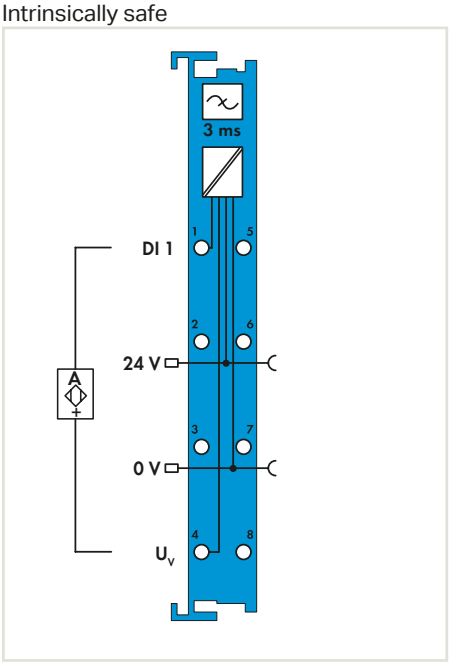
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or 517 or www.wago.com

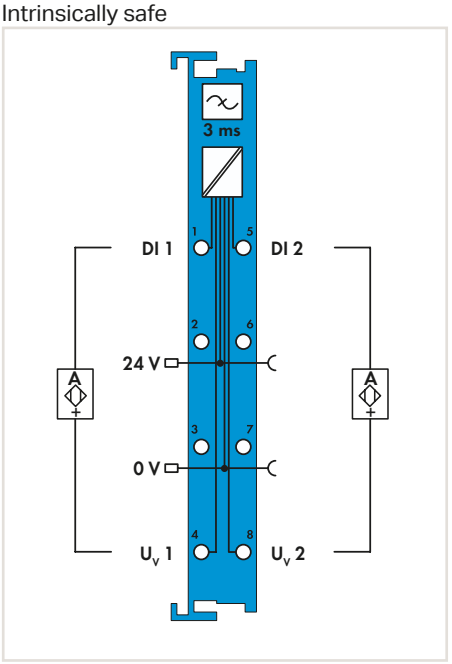
Digital input, NAMUR, Intrinsically safe

Figure: 750-435

1-channel digital input; NAMUR; Intrinsically safe



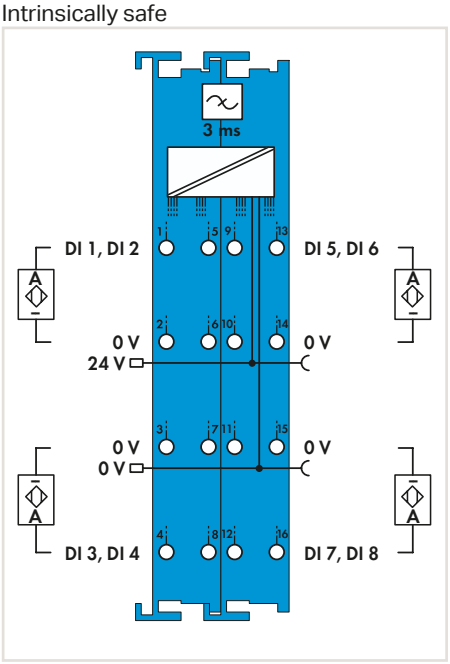
2-channel digital input; NAMUR; Intrinsically safe



Item description	1DI	2DI
Version	NAMUR Ex i	NAMUR Ex i
Item no.	**750-435**	**750-438**
Technical Data		
Number of digital inputs	1	2
Type of signal	NAMUR	NAMUR
Sensor connection	2-conductor	2-conductor
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Open-circuit voltage	8.2 VDC	8.2 VDC
Diagnostics	Short circuit, wire break	
Sensor supply voltage	8.2 VDC, short-circuit-protected, isolated channels	8.2 VDC, short-circuit-protected, isolated channels
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Internal data width	2 bits	2 bits
Isolation	U_M = 375 V system/supply	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-435	wago.com/750-438

Digital input, NAMUR, Intrinsically safe

8-channel digital input; NAMUR; Intrinsically safe



Item description	8DI
Version	NAMUR Ex i
Item no.	**750-439**

Technical Data	
Number of digital inputs	8
Type of signal	NAMUR
Sensor connection	2-conductor
Input characteristic	High-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 VDC
Diagnostics	Short circuit, wire break
Sensor supply voltage	8.2 VDC, short-circuit-protected, isolated channels
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Internal data width	16 bits
Isolation	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-439

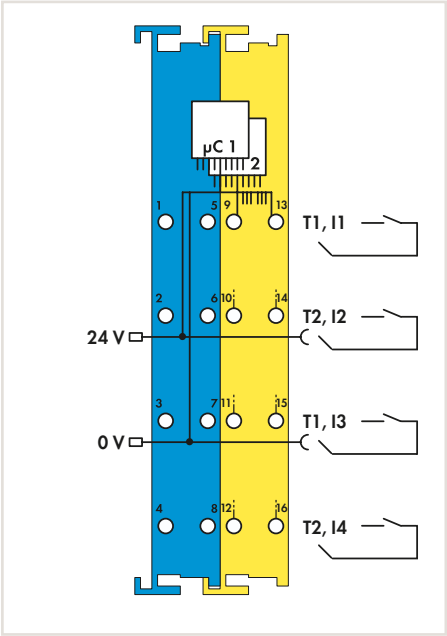
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 517 or 521 or www.wago.com

Digital input, PROFIsafe V2 iPar

4-channel digital input, PROFIsafe V 2.0 iPar



Item description	4F-Ex i DI
Version	24 VDC PROFIsafe V2 iPar
Item no.	**750-663/000-003**

Technical Data

Protocol	PROFIsafe V2
Sensor inputs	4, clock sensitive to T1 ... T2
Input current typ.	3 mA
Input frequency max.	50 Hz
Input filter (digital)	0 ms ... 200 ms configurable in steps
Clock outputs	2
System supply voltage	5 VDC; via data contacts
Field supply voltage	24 VDC via power jumper contacts (provided via Ex-i supply U_O = max. 27.3 V)
Isolation (peak value)	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Functional Safety	
Achievable risk reduction	SIL 3 acc. to IEC 61508:2010; SIL 3 acc. to IEC 61511:2005; SIL 3 acc. to IEC 62061:2005; Cat. 4, PL e acc. to EN ISO 13849:2008
Safety standards	IEC 61508, IEC 62061, EN ISO 13849, IEC 61511
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-663/000-003

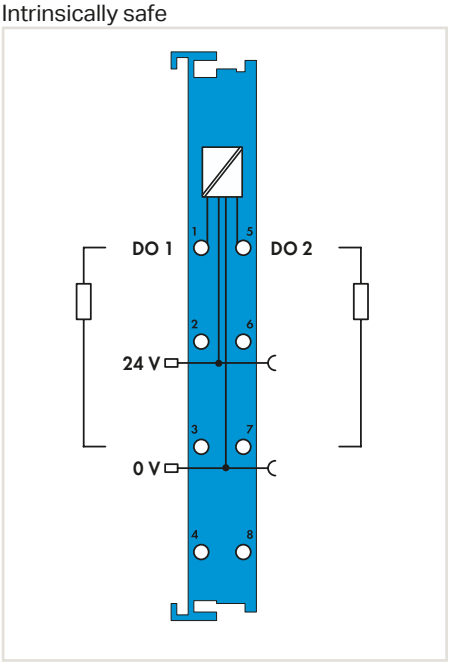
This product combines intrinsic safety with functional safety and is specially conceived for reliable acquisition from potential-free, contact-based emergency stop switches, safety interlock switches, mode selectors, as well as safe sensors, that are located in hazardous environments. Thus, safety functions with safe sensors from Ex Zones 0 and 1 are attainable.

Digital output, 24 VDC, Intrinsically safe

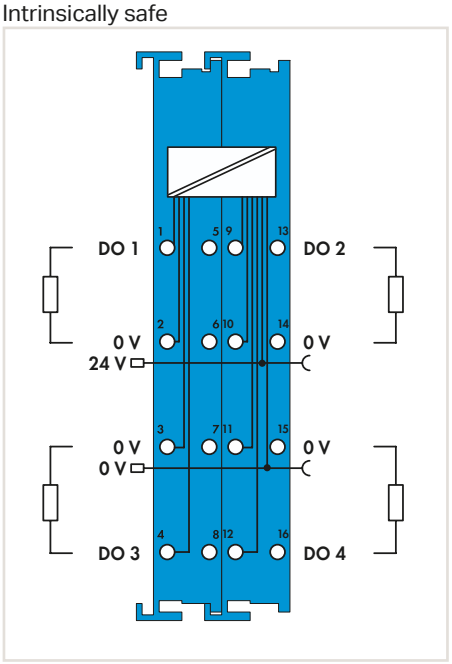
Figure: 750-535

Figure: 750-539

2-channel digital output; 24 VDC; Intrinsically safe



4-channel digital output; 24 VDC; valve; Intrinsically safe



Item description	2DO	4DO
Version	24 VDC Ex i	24 VDC Valve Ex i
Item no.	**750-535**	**750-539**

Technical Data

Number of digital outputs	2	4
Type of signal	24 VDC	24 VDC
Output characteristic	High-side switching	High-side switching
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	2-conductor	2-conductor
Switching frequency (max.)	1 kHz	100 Hz
Actuator supply voltage	24 VDC	24 VDC
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Internal data width	2 bits	4 bits in, 4 bits out (diagnostics)
Isolation	U_M = 375 V system/supply	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	CE, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-535	wago.com/750-539

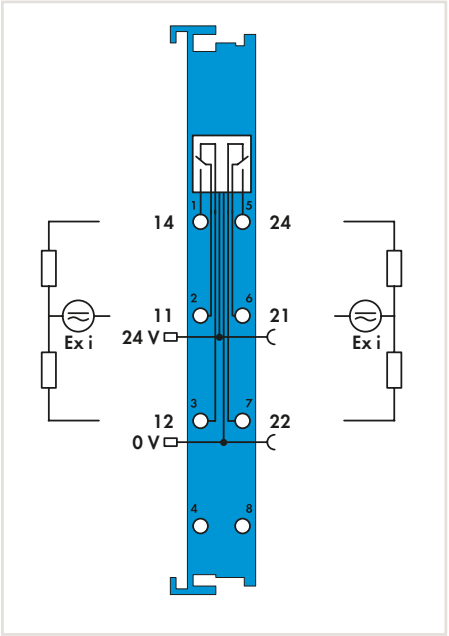
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 518 or www.wago.com

Relay output, Intrinsically Safe

2-channel relay output; 2 changeover contacts; Intrinsically Safe



Item description	2RO
Version	Relay 2CO Ex i
Item no.	**750-538**

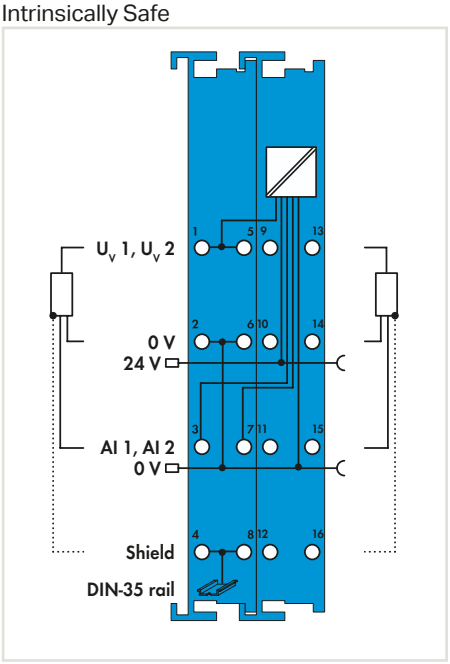
Technical Data	
Number of digital outputs	2
Type of signal	100 VAC, 30 VDC*
Output switching design	2 changeover contacts, relay
Output characteristic	Potential-free
Output current per channel	0.5 A AC / 1 A DC*
Actuator connection	2 conductor
Switching frequency (max.)	0.33 Hz
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Current consumption, system supply	26 mA
Internal data width	2 Bit
Isolation	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-538

*Both maximum switching current and voltage must comply with EN 60079-11.

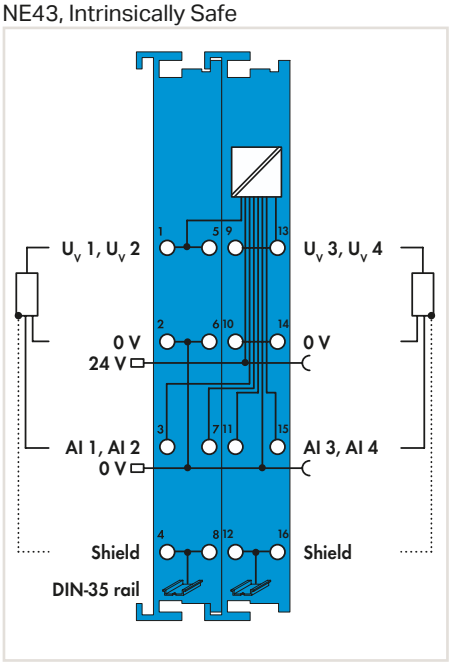
Analog Input, 4 … 20 mA or 0/4 … 20 mA, Intrinsically Safe

Figure: 750-486

2-channel analog input, 4 … 20 mA, Intrinsically Safe



4-channel analog input, 0/4 … 20 mA, NE43, Intrinsically Safe



Item description	2AI	4AI
Version	4-20mA Ex i	0/4-20mA NE43 Ex i
Item no.	**750-485**	**750-486**
Technical Data		
Number of analog inputs	2	4
Type of signal	4 … 20 mA	0 mA … 20 mA, 4 mA … 20 mA, 3.6 mA … 21 mA
Signal characteristic	single-ended	single-ended
Input resistance	< 100 Ω	< 200 Ω
Resolution	12 bits	12 bits + sign bit
Conversion time	< 2 ms	< 10 ms
Measuring error (25 °C)	< ± 0.2 % of largest measurement range	< ± 0.1 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range	< ± 0.01 % /K of largest measurement range
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U$_O$ = max. 27.3 V)	24 VDC via power jumper contacts (provided via Ex i supply U$_O$ = max. 27.3 V)
Transmitter supply	U$_V$ = 16 V at 20 mA	U$_V$ = 15 V at 20 mA
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)	4 x 16 bits data, 4 x 8 bits control/status (optional)
Isolation	U$_M$ = 375 V system/supply	U$_M$ = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	CE, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-485	wago.com/750-486

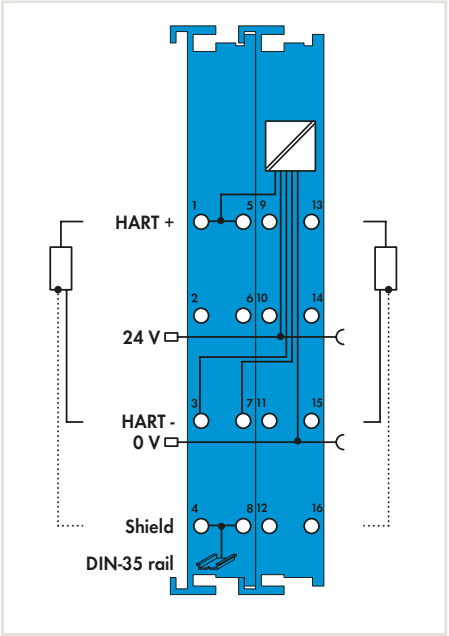
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 or www.wago.com

Analog input, 4 … 20 mA HART, Intrinsically Safe

2-channel analog input, 4 … 20 mA HART, Intrinsically Safe



Item description	2AI
Version	4-20mA HART Ex i
Item no.	**750-484**

Technical Data

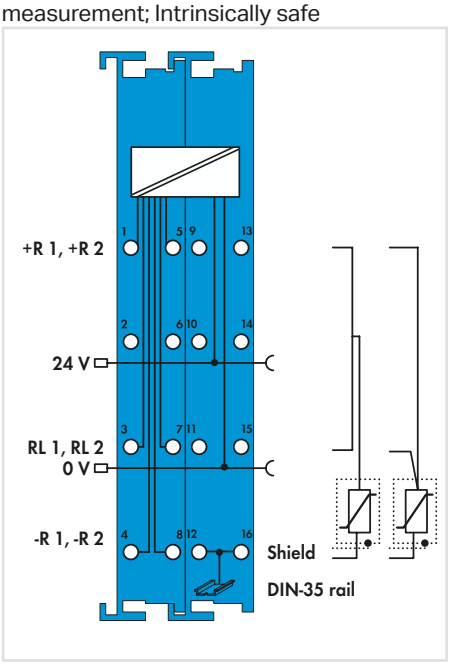
Number of analog inputs	2
Type of signal	4 … 20 mA
Signal characteristic	single-ended
Resolution	12 bits
Conversion time	10 ms
Measuring error (25 °C)	0.2 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Transmitter supply	U_V = 16.5 V at 20 mA
Data width	2 x 2 bytes data, 2 x 2 bytes data + 2n x 4 bytes data (n = number of dynamic variables), 2 x 2 bytes data + 6 bytes mailbox
Isolation	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-484

In addition to the analog signal processing, this product offers the option of HART communication for parameterizing or recording side variables.

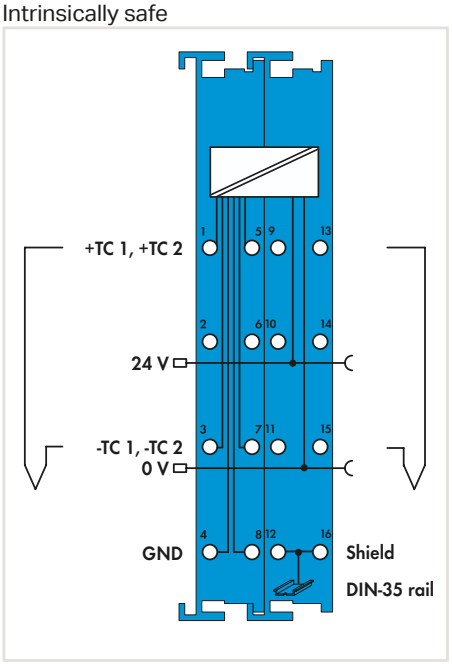
Analog input, Resistance measurement or Thermocouple, Intrinsically Safe

Figure: 750-481/003-000

2-channel analog input; Resistance measurement; Intrinsically safe



2-channel analog input; Thermocouple; Intrinsically safe



Item description	2AI	2AI
Version	RTD Ex i	TC Ex i
Item no.	**750-481/003-000**	**750-487/003-000**

Technical Data

Number of analog inputs	2	2
Type of signal	Resistance thermometer: Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000; Resistors: 1.2 kΩ, 5 kΩ; Potentiometer setting: 0 … 100 % (1.2 kΩ, 5 kΩ)	Thermocouple: Type B, E, J, K, L, N, R, S, T, U; voltage encoder: ± 30 mV, ± 60 mV, ± 120 mV
Sensor connection	2-conductor, 3-conductor	2-conductor
Temperature range	-200 … + 850 °C (Pt), -60 … +250 °C (Ni), -80 … +320 °C (Ni 120)	depending on sensor -100 … +1800 °C
Resolution	0.1 °C, 0.1 Ω, 0.0049 %	0.1 °C or 0.01 mV for voltage measurement
Conversion time	150 … 500 ms (per channel)	≤ 320 ms (both channels)
Measuring error (25 °C)	< ± 0,2 % of largest measurement range	< ±6 K (type K); voltage input < ±2 K; cold junction compensation < ±4 K
Temperature coefficient	< ± 0,01 % /K of largest measurement range	< ± 0,2 K/K of largest measurement range (type K)
Cold junction compensation		integrated or external
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)	2 x 16 bits data, 2 x 8 bits control/status (optional)
Isolation	U_M = 375 V system/supply	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-481/003-000	wago.com/750-487/003-000

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

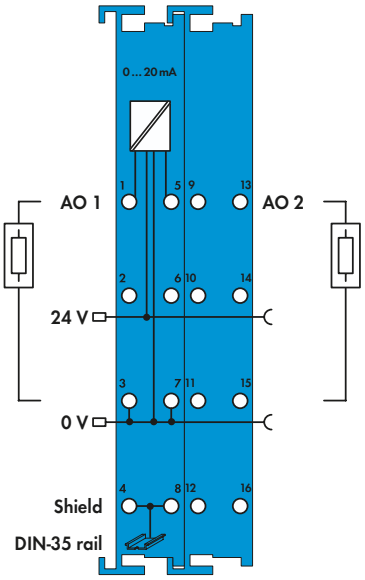
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 519 … 520 or www.wago.com

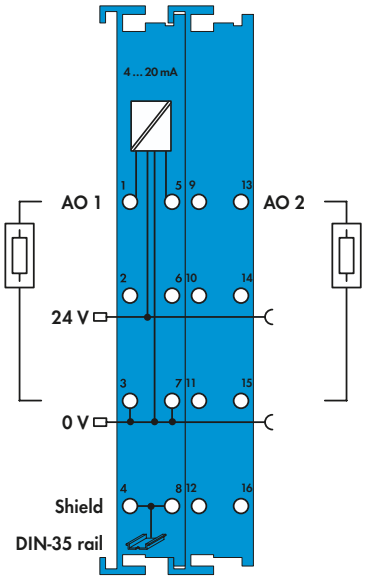
Analog output, 0 … 20 mA or 4 … 20 mA, Intrinsically Safe

Figure: 750-585

2-channel analog output; 0 … 20 mA; Intrinsically safe



2-channel analog output; 4 … 20 mA; Intrinsically safe



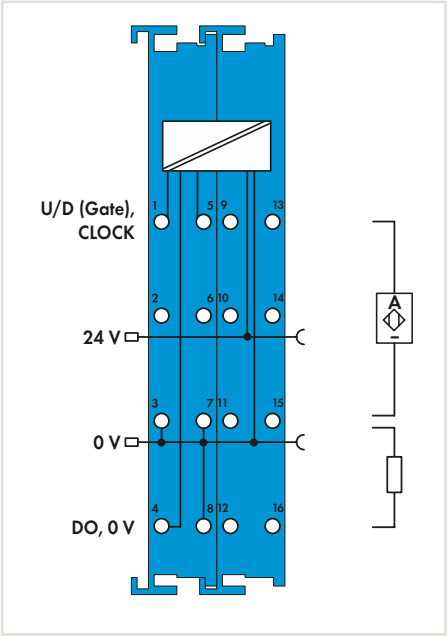
Item description	2AO	2AO
Version	0-20mA Ex i	4-20mA Ex i
Item no.	**750-585**	**750-586**

Technical Data

Number of analog outputs	2	2
Type of signal	0 … 20 mA	4 … 20 mA
Signal characteristic	single-ended	single-ended
Load impedance	< 500 Ω	< 500 Ω
Resolution	12 bits	12 bits
Conversion time	< 2 ms	< 2 ms
Measuring error (25 °C)	< ± 0.2 % of largest measurement range	< ± 0.2 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range	< ± 0.01 % /K of largest measurement range
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Data width	2 x 16 bits data	2 x 16 bits data
Isolation	U_M = 375 V system/supply	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-585	wago.com/750-586

Up/Down Counter, Intrinsically safe

Up/Down Counter; Intrinsically safe



Item description	Up/Down Counter
Version	Ex i
Item no.	**750-633**

Technical Data

No. of counters	1
No. of outputs	1
Sensor supply U_V	8.2 VDC
Input filter	10 µs
Switching frequency	20 Hz ... 50 kHz
Counter depth	32 bits
Output voltage	24 VDC
Field supply voltage	24 VDC via power jumper contacts (provided via Ex i supply U_O = max. 27.3 V)
Data width	1 x 32-bit data, 1 x 8-bit status/diagnostics
Isolation	U_M = 375 V system/supply
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm
Ex Guideline	EN/IEC 60079-0, -7, -11, -26, -31
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-633

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

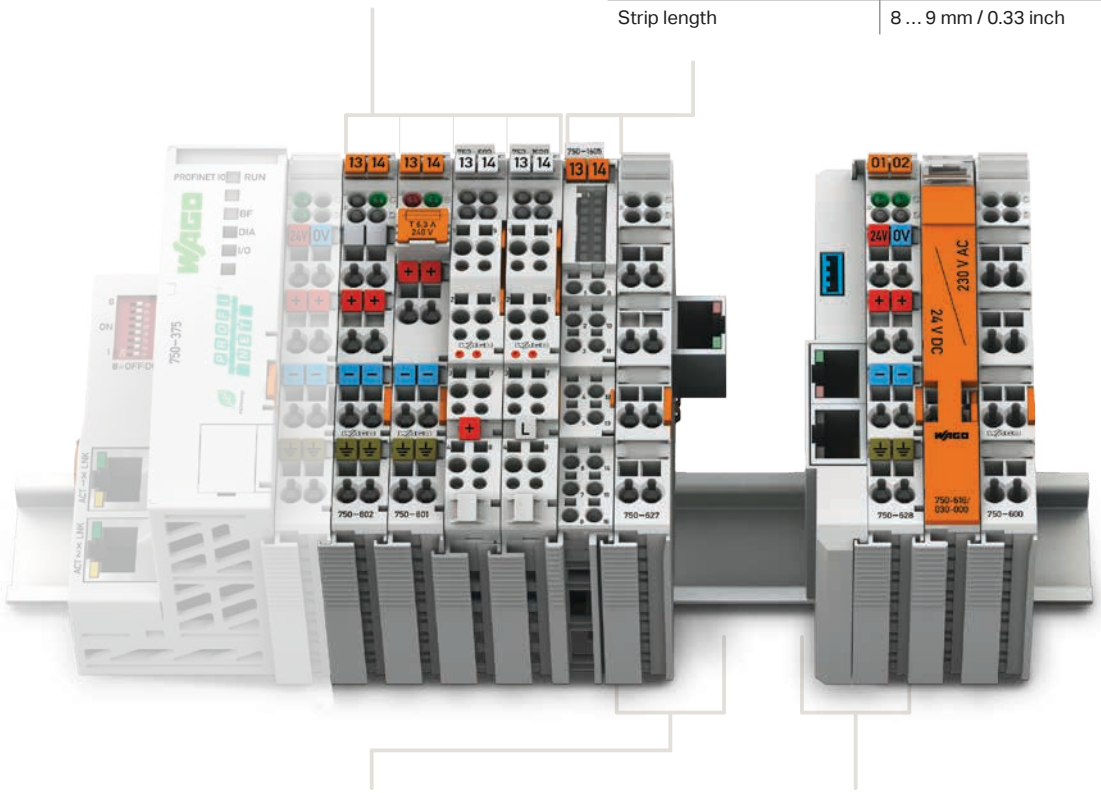
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 521 or www.wago.com

Supply and Segment Modules

750/753 Series housing design	
Dimensions W x H x D	12 x 69.8 x 100 mm
Height from upper edge of DIN rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor size	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	750 series: 8 … 9 mm / 0.33 inch 753 series: 9 … 10 mm / 0.37 inch

750 Series housing design with push-in CAGE CLAMP® connectors (up to 16 connector points)	
Dimensions W x H x D	12 x 69 x 100 mm
Height from upper edge of DIN rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor size	Solid: 0.08 … 1.5 mm² / 28 … 16 AWG Fine-stranded: 0.25 … 1.5 mm² / 22 … 16 AWG
Strip length	8 … 9 mm / 0.33 inch



Specialty Housing for Internal Data Bus Extension End Module	
Dimensions W x H x D	24 x 69.8 x 100
Height from upper edge of DIN rail	62.6 mm

Special Housing Design for Internal Data Bus Extension, Coupler Module	
Dimensions W x H x D	24 x 69.8 x 100
Height from upper edge of DIN rail	62.6 mm

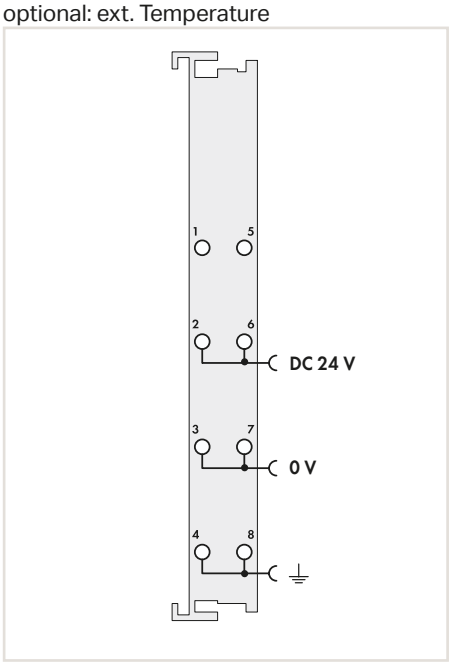
750 and 753 I/O-System, Supply and Segment Modules
Contents

Power Supply, 24 VDC

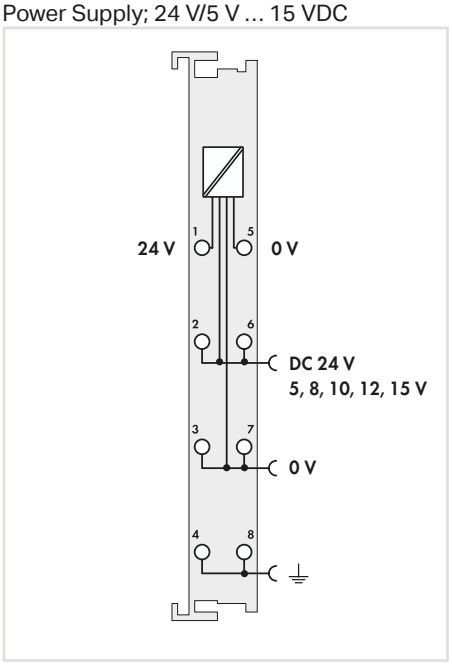
Figure: 750-602

Figure: 750-623

Power Supply; 24 VDC;
optional: ext. Temperature



Power Supply; 24 V/5 V … 15 VDC



Item description	Power Supply		
Version	24 VDC	24 VDC T	24 VDC
Item no.	**750-602**	**750-602/025-000**	**753-602**

Item description	Power Supply
Version	24/5-15 VDC
Item no.	**750-623**

Technical Data

Pluggable connector			•
System supply voltage			24 VDC (-15 … +20 %)
Field supply voltage	24 VDC, via power jumper contacts		5 V, 8 V, 10 V, 12 V, 15 VDC
Total current for system supply			0.5 A (1 A at 5 V)
Power jumper contact current carrying capacity	10 A		
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-602	wago.com/ 753-602	wago.com/750-623

Accessories	**Item no.**
Plug	753-110
753 Series coding elements	753-150

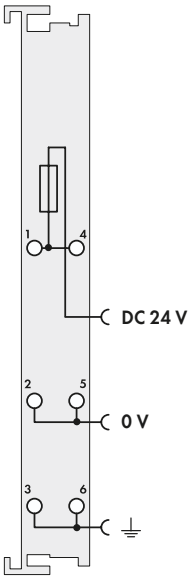
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

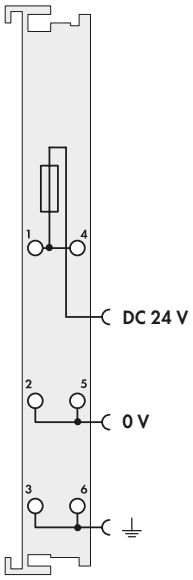
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 522 or www.wago.com

Power Supply, 24 VDC

Figure: 750-601

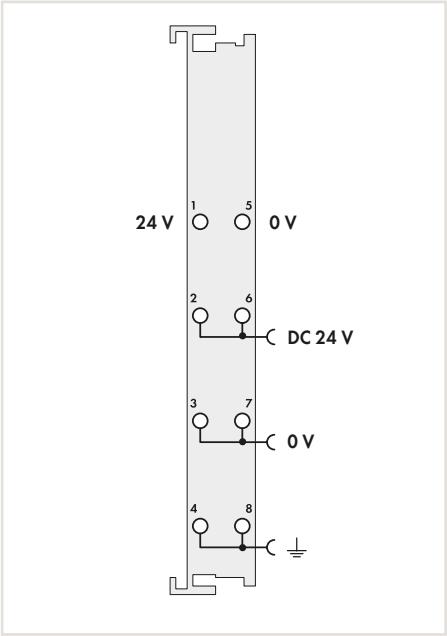




Item description	Power Supply; 24 VDC; fuse holder	Power Supply; 24 VDC; fuse holder; Diagnostics
Version	24 VDC Fuse	24 VDC Fuse Diagn
Item no.	**750-601**	**750-610**
Technical Data		
Field supply voltage	24 VDC, via power jumper contacts	24 VDC, via power jumper contacts
Power jumper contact current carrying capacity	6.3 A	6.3 A
Fuse	5 x 20; T max. 6.3 A (Fuse not included)	5 x 20; T max. 6.3 A (Fuse not included)
Diagnostics		Supply voltage detection level on > DC 15 V, Supply voltage detection level off < DC 5 V
Internal data width		2 bits
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-601	wago.com/750-610

System Power Supply, 24 VDC

System Power Supply; 24 VDC



Item description	System Power Supply
Version	24 VDC
Item no.	**750-613**

Technical Data	
System supply voltage	24 VDC (-25 … +30 %)
Input current typ. at rated load (24 V)	500 mA
Efficiency of the power supply typ. at rated load (24 V)	90 %
Total current for system supply	2000 mA
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts
Power jumper contact current carrying capacity	10 A
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-613

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

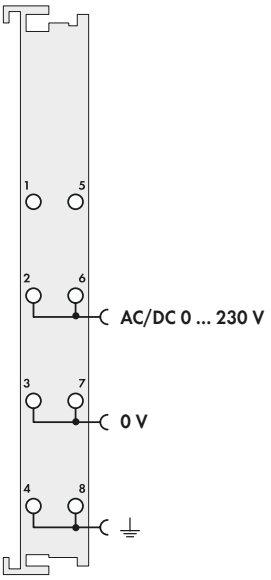
Approvals and corresponding ratings,
see Page 522 or www.wago.com

Power Supply, 0 … 230 V AC/DC

Figure: 750-612

Figure: 753-612

Power Supply; 0 … 230 V AC/DC



Item description	Power Supply	
Version	0-230 VAC/DC	0-230 VAC/DC
Item no.	**750-612**	**753-612**
Technical Data		
Pluggable connector		•
Field supply voltage	0 … 230 V AC/DC, via power jumper contacts	
Power jumper contact current carrying capacity	10 A	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-612	wago.com/753-612

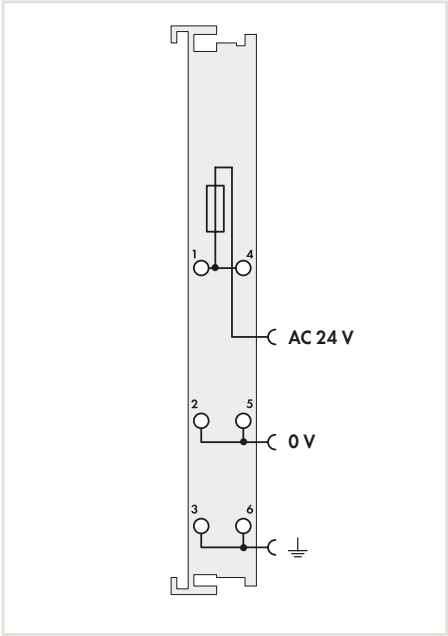
Accessories	Item no.
Plug	**753-110**
753 Series coding elements	**753-150**

4.10

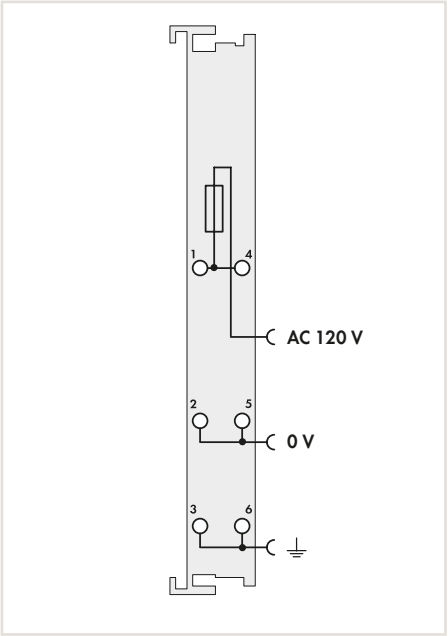
Power Supply, 24 VAC or 120 VAC

Figure: 750-617

Power Supply; 24 VAC; fuse holder



Power Supply; 120 VAC; fuse holder



Item description	Power Supply	Power Supply
Version	24 VAC Fuse	120 VAC Fuse
Item no.	**750-617**	**750-615**
Technical Data		
Field supply voltage	24 VAC, via power jumper contacts	120 VAC, via power jumper contacts
Power jumper contact current carrying capacity	6.3 A	6.3 A
Fuse	5 x 20; T max. 6.3 A (Fuse not included)	5 x 20; T max. 6.3 A (Fuse not included)
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, UL 508	CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-617	wago.com/750-615

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

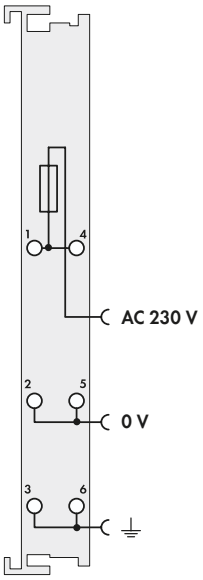
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 522 or www.wago.com

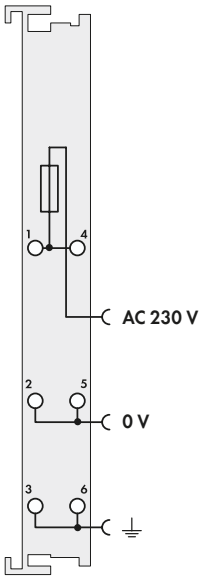
Power Supply, 230 VAC

Figure: 750-609

Power Supply; 230 VAC; fuse holder

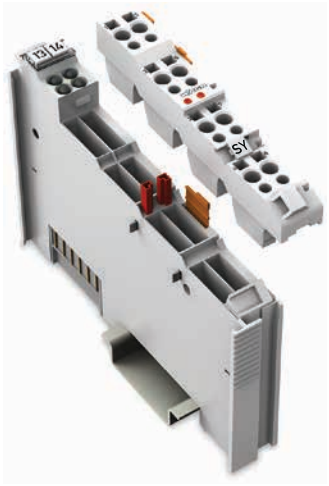


Power Supply; 230 VAC; fuse holder, Diagnostics

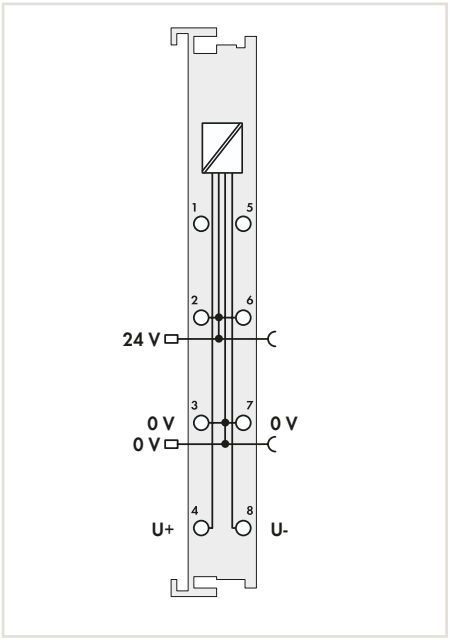


Item description	Power Supply	Power Supply
Version	230 VAC Fuse	230 VAC Fuse Diagn
Item no.	**750-609**	**750-611**
Technical Data		
Field supply voltage	230 VAC, via power jumper contacts	230 VAC, via power jumper contacts
Power jumper contact current carrying capacity	6.3 A	6.3 A
Fuse	5 x 20; T max. 6.3 A (Fuse not included)	5 x 20; T max. 6.3 A (Fuse not included)
Diagnostics		Supply voltage detection level on > AC 164 V, Supply voltage detection level off < AC 40 V
Internal data width		2 bits
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-609	wago.com/750-611

DALI Multi-Master DC/DC converter



DALI Multi-Master DC/DC converter



Item description	DALI Multi-Master DC/DC-Converter
Item no.	**753-620**
Technical Data	
Pluggable connector	•
System supply voltage	24 VDC (-25 … +30 %)
Power jumper contact current carrying capacity	10 A
Field supply voltage	18 VDC (at +U and -U)
Total current for system supply	200 mA, short circuit protection
Test voltage input / output	1.5 kV
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	UL 508
Data sheet and further information, see:	wago.com/753-620

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

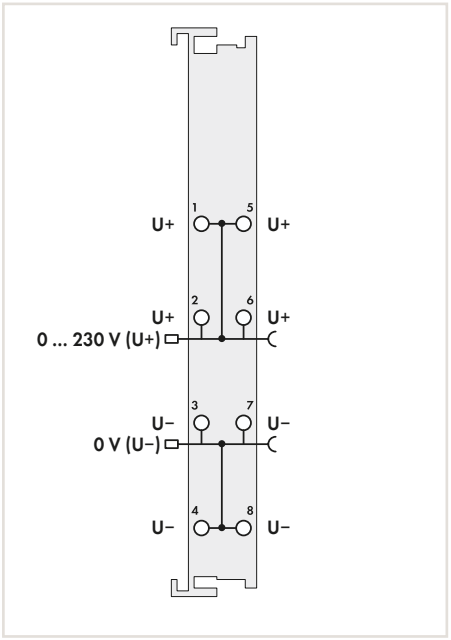
Approvals and corresponding ratings,
see Page 522 or www.wago.com

Potential Distribution

Figure: 750-614

Figure: 753-614

Potential Distribution



Item description	Potential Distribution	
Item no.	**750-614**	**753-614**
Technical Data		
Pluggable connector		•
Field supply voltage	0 … 230 V AC/DC, via power jumper contacts	
Power jumper contact current carrying capacity	10 A	
Ambient temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-614	wago.com/753-614

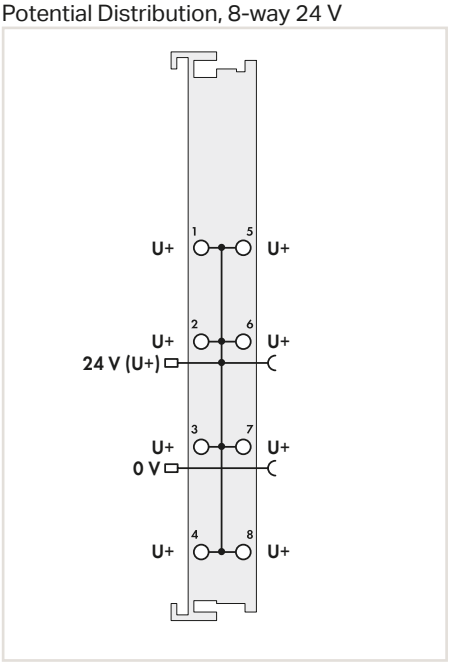
Accessories		Item no.
Plug		**753-110**
753 Series coding elements		**753-150**

Potential Distribution

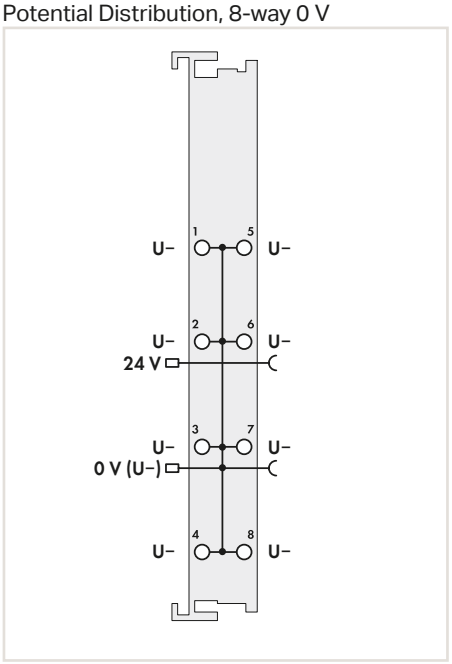
Figure: 750-603

Figure: 750-1605

Potential Distribution, 8-way 24 V



Potential Distribution, 8-way 0 V



Item description	Potential Distribution		Potential Distribution	
Version	8*24V	8*24V	8*0V	8*0V
Item no.	**750-603**	**753-603**	**750-604**	**753-604**
Technical Data				
Pluggable connector		•		•
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts	
Power jumper contact current carrying capacity	10 A		10 A	
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-603	wago.com/753-603	wago.com/750-604	wago.com/753-604

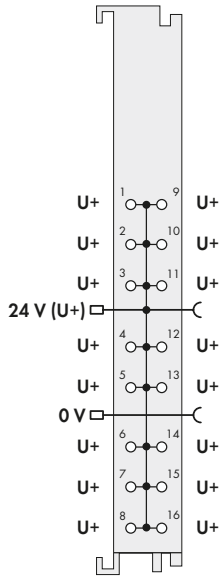
Accessories	**Item no.**	**Item no.**
Plug	**753-110**	**753-110**
753 Series coding elements	**753-150**	**753-150**

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

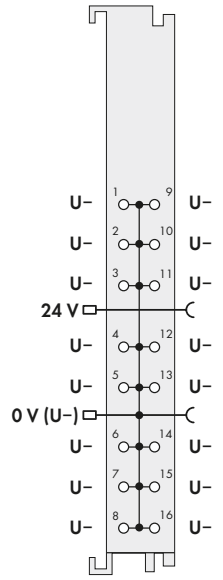
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 522 or www.wago.com

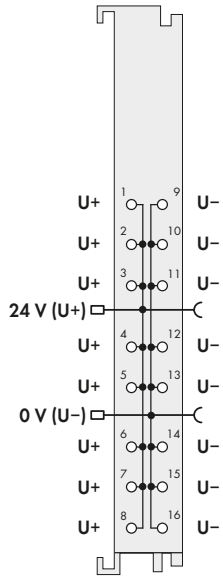
Potential Distribution, 16-way 24 V



Potential Distribution, 16-way 0 V



Potential Distribution, 8-way 24 V / 8-way 0 V



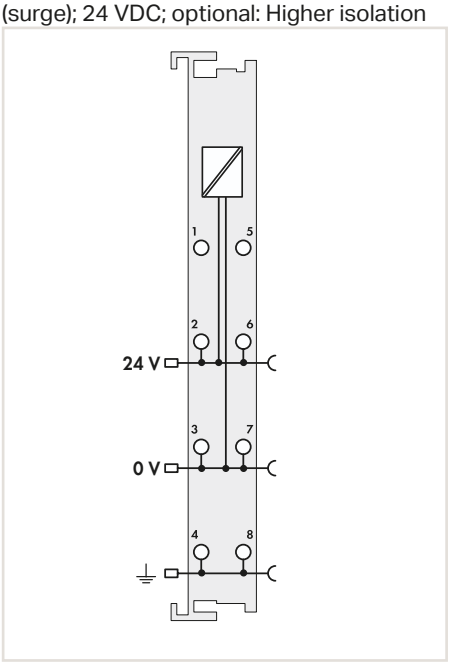
Potential Distribution	Potential Distribution	Potential Distribution
16*24V	16*0V	8*24V/8*0V
750-1605	**750-1606**	**750-1607**
24 VDC (-25 … +30 %), via power jumper contacts	24 VDC (-25 … +30 %), via power jumper contacts	24 VDC (-25 … +30 %), via power jumper contacts
10 A	10 A	10 A
0 … +55 °C	0 … +55 °C	0 … +55 °C
12 x 69 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
wago.com/750-1605	wago.com/750-1606	wago.com/750-1607

Filter module for field-side power supply (surge)

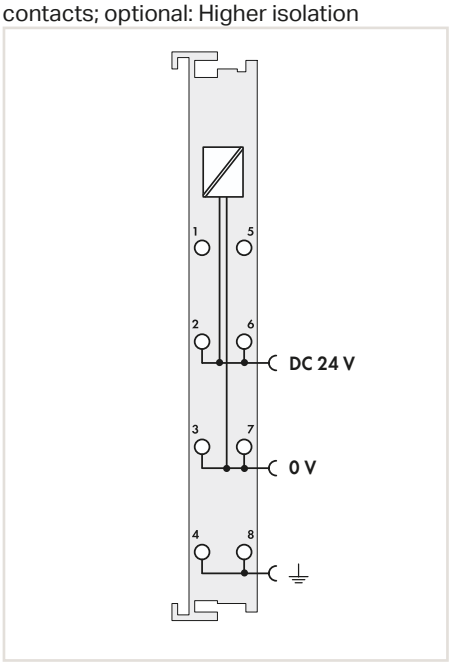
Figure: 750-624/020-000

Figure: 750-624/020-001

Filter module for field-side power supply (surge); 24 VDC; optional: Higher isolation



Filter module for field-side power supply (surge); 24 VDC; without power jumper contacts; optional: Higher isolation



Item description	Field Supply Filter		Field Supply Filter	
Version	24 VDC	24 VDC HI	24 VDC NC	24 VDC HI NC
Item no.	**750-624**	**750-624/020-000**	**750-624/000-001**	**750-624/020-001**
Technical Data				
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts	
Power jumper contact current carrying capacity	10 A		10 A	
Usage	shipbuilding certified operation with 750-625 Ex i supply module and for the use of 750 Series PROFIsafe modules	shipbuilding certified operation with 750 Series I/O modules	shipbuilding certified operation with 750-625 Ex i supply module and for the use of 750 Series PROFIsafe modules	shipbuilding certified operation with 750 Series I/O modules
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	
Data sheet and further information, see:	wago.com/750-624	wago.com/ 750-624/020-000	wago.com/ 750-624/000-001	wago.com/ 750-624/020-001

Use in systems with isolation monitoring requires the high isolation variants.

Use in systems with isolation monitoring requires the high isolation variants.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

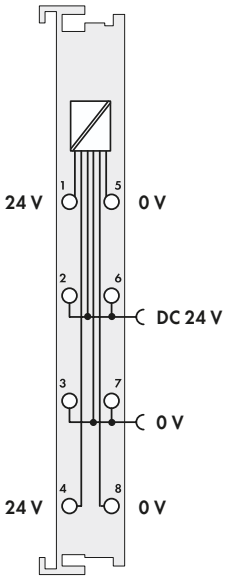
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 522 or www.wago.com

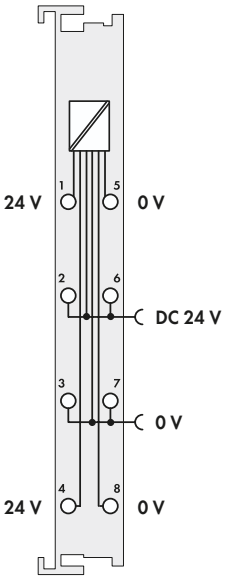
Supply Filter

Figure: 750-626/020-000

Supply Filter; 24 VDC; Higher isolation; optional: ext. Temperature



Supply Filter; 24 VDC; optional: ext. Temperature



Item description	Supply Filter		Supply Filter	
Version	24 VDC HI	24 VDC HI T	24 VDC	24 VDC T
Item no.	**750-626/020-000**	**750-626/025-001**	**750-626**	**750-626/025-000**
Technical Data				
Field supply voltage	24 VDC (-25 … +30 %), via power jumper contacts		24 VDC (-25 … +30 %), via power jumper contacts	
Current via system voltage max.	1.5 A		1.5 A	
Power jumper contact current carrying capacity	10 A		10 A	
Usage	shipbuilding certified operation with both 750 Series couplers and programmable controllers		shipbuilding certified operation with 750-625 Ex i supply module and for the use of 750 Series PROFIsafe modules	
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx		CE, KC, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
	KC			
Data sheet and further information, see:	wago.com/750-626/020-000		wago.com/750-626	

Use in systems with isolation monitoring requires the high isolation variants.

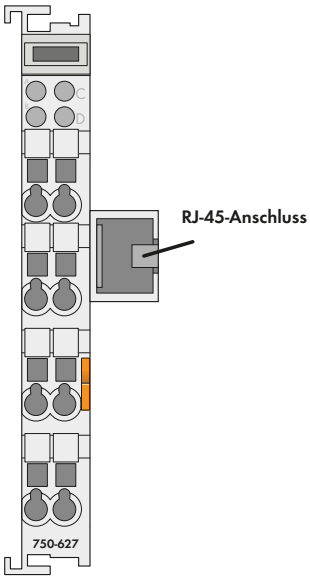
Use in systems with isolation monitoring requires the high isolation variants.

Bus Extension End Module or Coupler Module

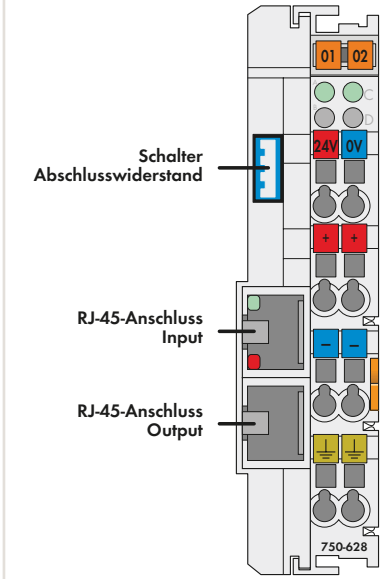
Figure: 750-627

Figure: 750-628

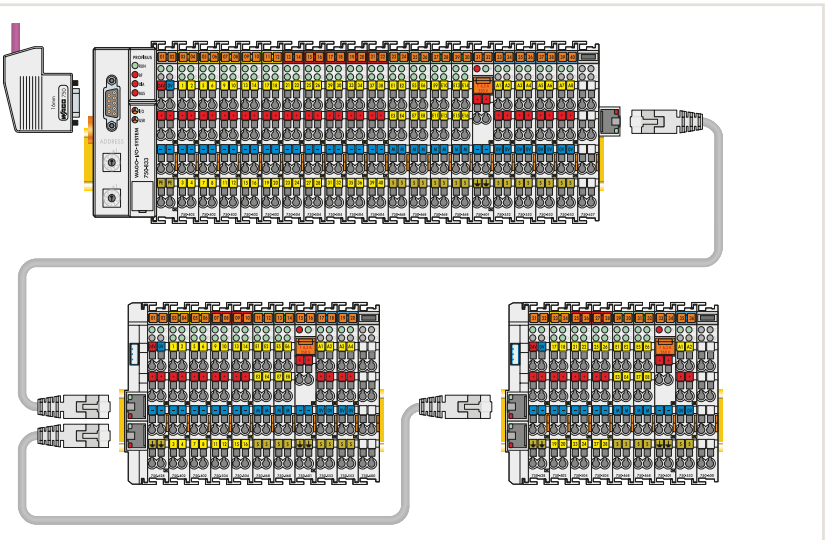
Bus Extension End Module



Bus Extension Coupler Module



Item description	Bus Extension End Module	Bus Extension Coupler Module
Item no.	**750-627**	**750-628**
Technical Data		
Max. no. of coupler modules	up to 10	
Max. no. of I/O modules		64 (in the whole system)
Buscoupler connection	1 x RJ-45 socket	2 x RJ-45 socket (Input + Output)
Distance max.	5 m (10 m see manual), (end module and coupler or coupler and coupler)	5 m (10 m see manual), (end module and coupler or coupler and coupler)
System supply voltage		24 VDC (−15 … +20 %)
Field supply voltage		24 VDC (-15 % … +20 %), via power jumper contacts
Power jumper contact current carrying capacity		10 A
Isolation	500 V system/field	500 V system/field
Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508	CE, KC, Marine, UL 508
Data sheet and further information, see:	wago.com/750-627	wago.com/750-628



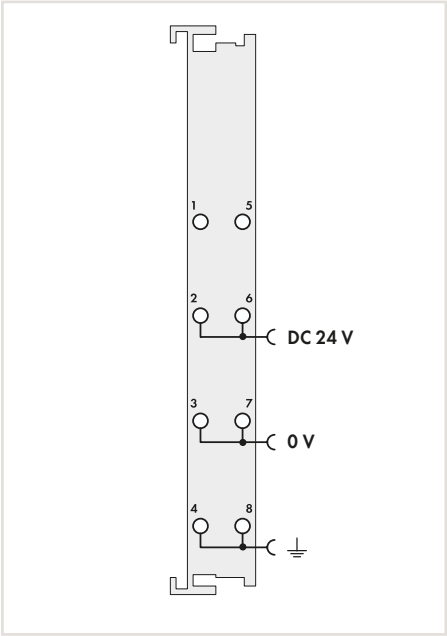
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 522 or www.wago.com

Binary Spacer Module

Binary Spacer Module



Item description	Binary Spacer Module
Item no.	**750-622**
Technical Data	
Field supply voltage	24 VDC (-15 % ... +20 %), via power jumper contacts
Power jumper contact current carrying capacity	10 A
Internal data width	2, 4, 6 or 8 bits (adjustable via dip switch)
Operating mode	Inputs/Outputs (adjustable via dip switch)
Isolation	500 V system/field
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-622

The binary spacer module reserves bit addresses in the process image of a fieldbus node.

Spacer Module

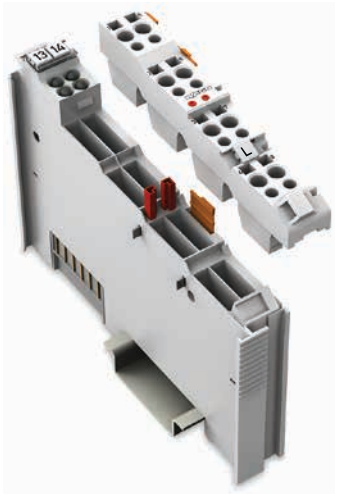
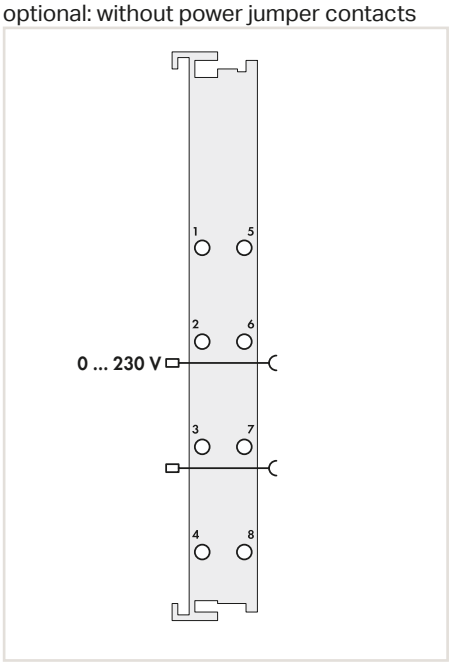
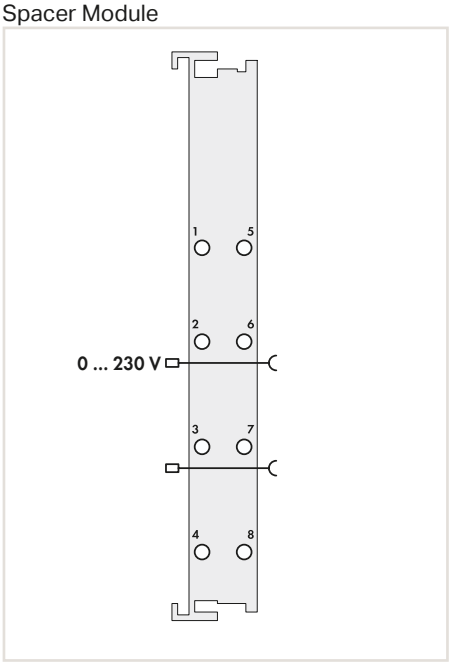


Figure: 753-1629

Spacer Module; active;
optional: without power jumper contacts



Spacer Module



Item description	Spacer Module		Spacer Module
Version	Active	Active NC	
Item no.	**753-1629**	**753-1629/000-001**	**753-629**
Technical Data			
Field supply voltage	0 … 230 V AC/DC, via power jumper contacts		0 … 230 V AC/DC, via power jumper contacts
Ambient temperature (operation)	0 … +55 °C		0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE, UL 508		CE, UL 508
Data sheet and further information, see:	wago.com/753-1629		wago.com/753-629

Active spacer modules provide both hardware and software space reservation for standard function modules (digital/analog) in PROFIBUS/PROFINET networks (only in connection with 750-333, 750-375, 750-377 coupler).

Passive spacer modules provide hardware place reservation for standard function modules (digital/analog).

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

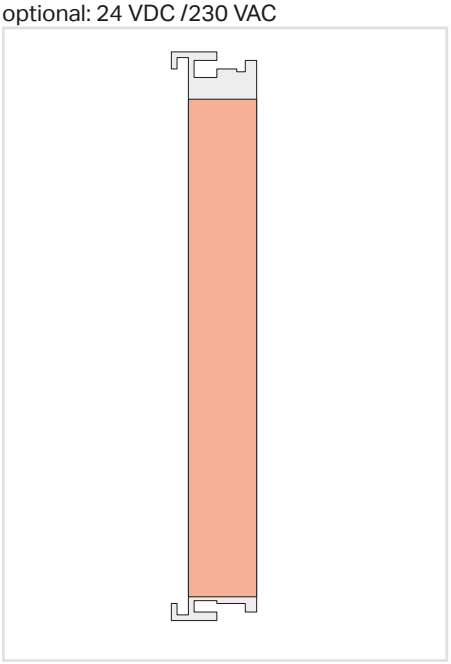
Approvals and corresponding ratings,
see Page 522 or www.wago.com

Distance Module

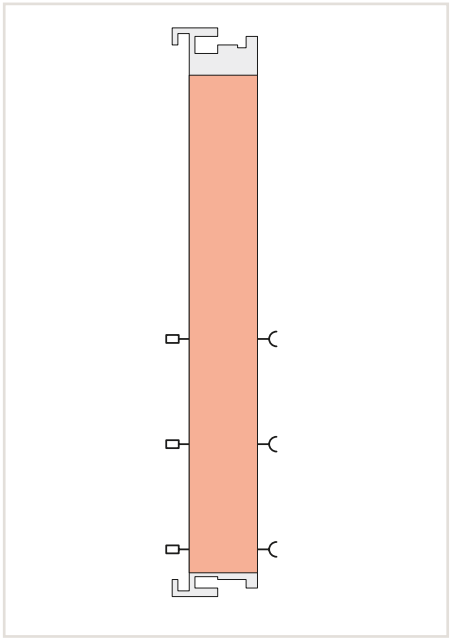
Figure: 750-616

Figure: 750-616/030-000

Distance Module;
optional: 24 VDC /230 VAC



Distance Module



Item description	Distance Module	
Version		24 VDC/230 VAC
Item no.	**750-616**	**750-616/030-000**

Item description	Distance Module
Version	
Item no.	**750-621**

Technical Data

Ambient temperature (operation)	0 … +55 °C	0 … +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-616	wago.com/750-621

The 750-616 Separation Module has no power jumper contacts. A separation module with printing on its face has got the item no. 750-616/030-000.

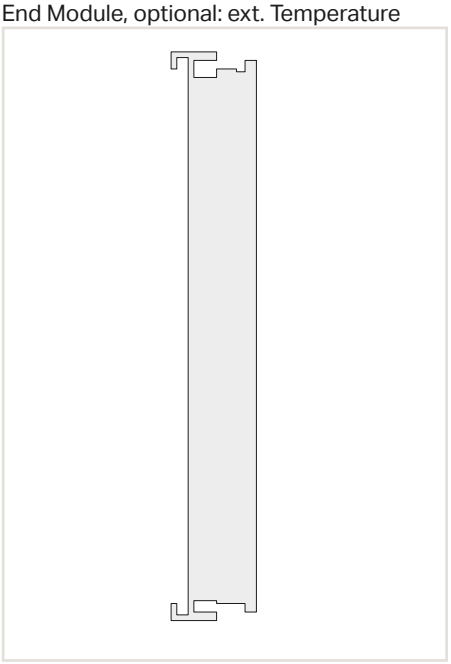
Note:
Operation of the adjacent I/O modules requires a supply module.

The 750-621 Separation Module has power jumper contacts that can supply the power to adjacent bus modules.

End Module

Figure: 750-600

End Module, optional: ext. Temperature



Item description	End Module	
Version		T
Item no.	**750-600**	**750-600/025-000**
Technical Data		
Ambient temperature (operation)	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, Marine, UL 508, ANSI/ISA, ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-600	

After the fieldbus node is assembled with the correct buscoupler and selected I/O modules, the end module is snapped onto the assembly.
It completes the internal data circuit and ensures correct data flow.

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 522 or www.wago.com

750 XTR I/O-System

750 and 753 I/O-System

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

750 XTR I/O-System

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

SPEEDWAY I/O-System

- Uncompromising protection, even in the harshest environments outside the switch cabinet
- Degree of protection: IP67
- Fully encapsulated

◂ Section 4

Section 6 ▸

750 XTR I/O-System
Contents

5

750 XTR I/O-System
General Product Information

5

Taking it to the eXTReme — The Standard for 750 XTR

The WAGO 750 XTR I/O-SYSTEM is instantly recognizable by its dark gray modules, Profit from the unique added value this system brings to extreme environments or applications.

The WAGO 750 XTR I/O-SYSTEM features outstanding characteristics: It is extremely temperature-resistant, immune to interference, as well as insensitive to vibrations and impulse voltages.
This is what makes it the first choice for demanding applications including:

- Marine systems and onshore/offshore industry
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical industry
- Water and wastewater industry
- Custom machines
- Railway applications

Superior reliability in extreme climates

Automation systems are increasingly being located in outdoor and remote locations where components are directly affected by widely fluctuating temperature conditions such as wind turbines or transformer stations.
Regardless of freezing cold, extreme heat or high humidity, the WAGO 750 XTR I/O-SYSTEM is engineered for absolute dependability in virtually any weather. The XTR version of the WAGO 750 I/O-SYSTEM is unfazed by both freezing cold down to −40 °C and scorching heat up to +70 °C. And this applies equally to both start-up and continual operation.
The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

eXTReme Evolution of the Tried and Tested

Using an industry-leading platform, the WAGO 750 XTR I/O-SYSTEM boasts the same proven benefits:

- Compact design: up to 16 channels on one terminal block width of 12 mm
- Easy to use
- CAGE CLAMP® spring pressure connection technology for vibration-proof, fast and maintenance-free connections
- Fieldbus independence due to its modular structure
- Clear identification with the WAGO WSB marking system

Additional Protection Against Interference Pulses

The WAGO 750 XTR I/O-SYSTEM provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths add up to trouble-free operation.

High Mechanical Performance

Automation systems must be particularly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples from a wide range of applications. The WAGO 750 XTR I/O-SYSTEM also sets new standards here: With 5 g vibration resistance per DIN EN 60068-2-6 (acceleration: 50 m/s²) and 15 g (150 m/s²) shock resistance, as well as 25 g (250 m/s²) continuous shock resistance per IEC 60068-2-27, the system is engineered for dependability — no matter what.
Count on long-lasting, trouble-free operation and industry-topping levels of safety — even in the most severe applications, such as tunnel boring machines!

Worldwide Approvals

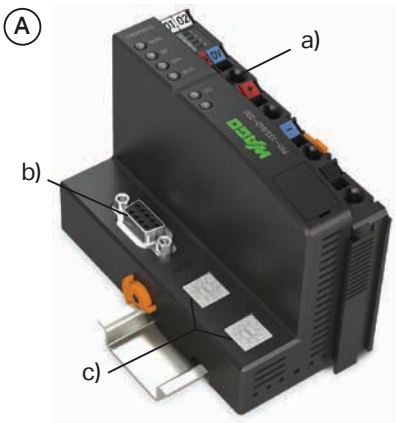
International approvals for industrial automation, shipbuilding and onshore/offshore applications guarantee worldwide use even under the harshest operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale, Polski Rejestr Stratkow.

Advantages:

- No need for air conditioning
  - Takes less space
  - Lower energy and maintenance costs
- Can be used in unshielded areas
- Maximum system uptime
- Install close to vibrating and shock-generating system components
- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections

750 XTR I/O-System
Interfaces and Types

Ⓐ



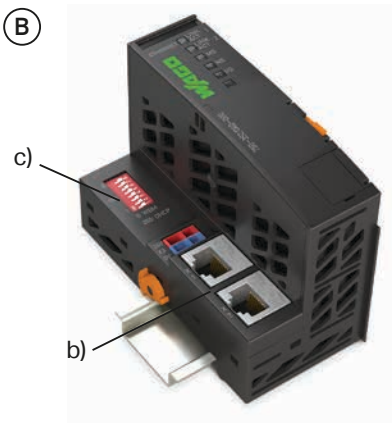
Housing Design Fieldbus Coupler (A)

- Including supply module (a) to power downstream I/O modules
- Technical differences on the connection level; fieldbus interface (b) and optional addressing switch (c)
- W x H x D (mm) 50.5 x 71.1 x 100

Housing Design Fieldbus Coupler ECO (B)

- Restriction on power supply and data width
- W x H x D (mm) 49.5 x 71.9 x 96.8

Ⓑ



Ⓒ

Housing Design 750 (C)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 67.8 x 100

Housing Design 750 (D)

- 16 connection points (push-in CAGE CLAMP®)
- W x H x D (mm) 12 x 69 x 100

Ⓓ

Ⓔ

Double-Width Housing Design (E)

Some modules are integrated into a double housing to address specific technological needs. Despite utilizing the same standardized housing, these modules are twice as wide.

- W x H x D (mm) 24 x 67.8 x 100

5

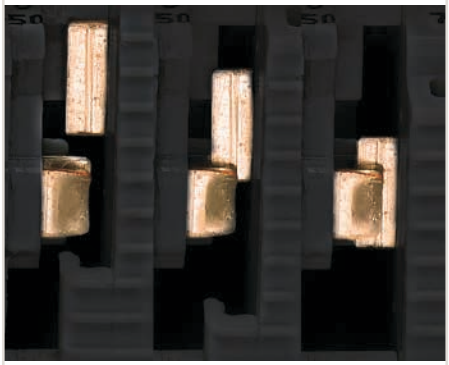
750 XTR I/O-System
Application and Installation Instructions

Attachment/release on the mounting rail

Secure, automatic connection of the data and electronics power supply by gold-plated pressure contacts

Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter

5



Secure, automatic connection of the power supply by self-cleaning blade contacts

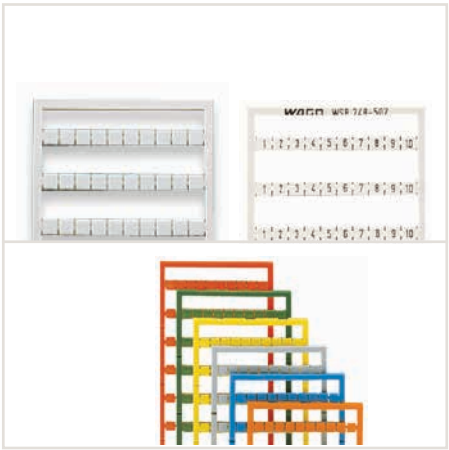
Notice:

For some I/O modules, not all power jumper contacts are made! An I/O module with three power jumper contacts (e.g., 2-channel digital input) cannot be snapped into place behind an I/O module in which not every contact is made.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail by a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.

Wide range of accessories available for EMC-compliant installation, including shield connection

Marking Accessories



Mini-WSB quick marking system, blank, pre-marked and colored; suitable for all 750 I/O modules.

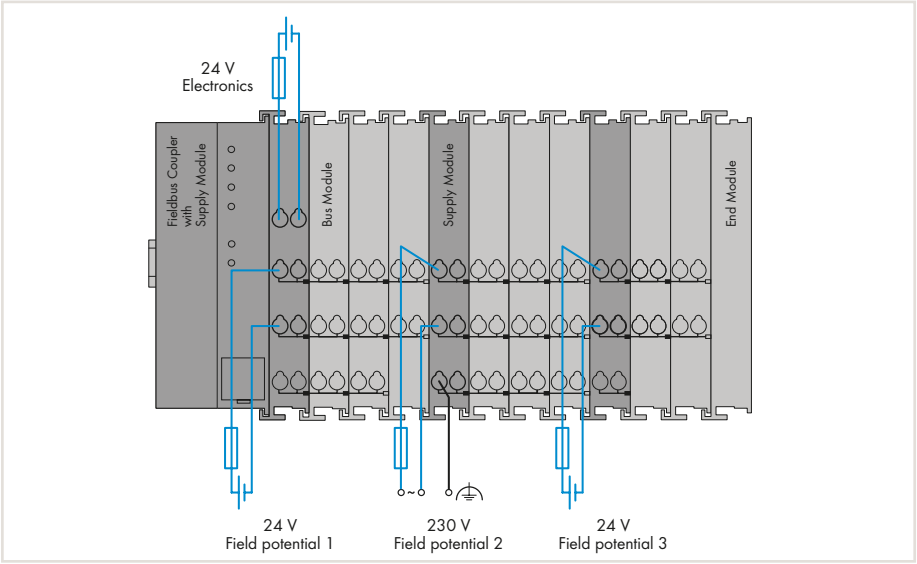
Marker carrier for one single I/O module, suitable for all 750 and 753 I/O modules; the marker carrier can be placed in the upper, Mini-WSB carrier plate.

Marker carrier for one I/O node; both versions (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.

750 XTR I/O-System
Application and Installation Instructions

Supply Modules

Power is always channeled to the internal electronics power supply by the fieldbus coupler. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. The I/O modules' connections automatically lead to transferring the supply voltages. Bus supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station.
The current supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional bus supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stop concepts.



Notice:

Interference-free WAGO I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Notes

Additional steps must be implemented based on where the I/O-System is installed:

- Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are required for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

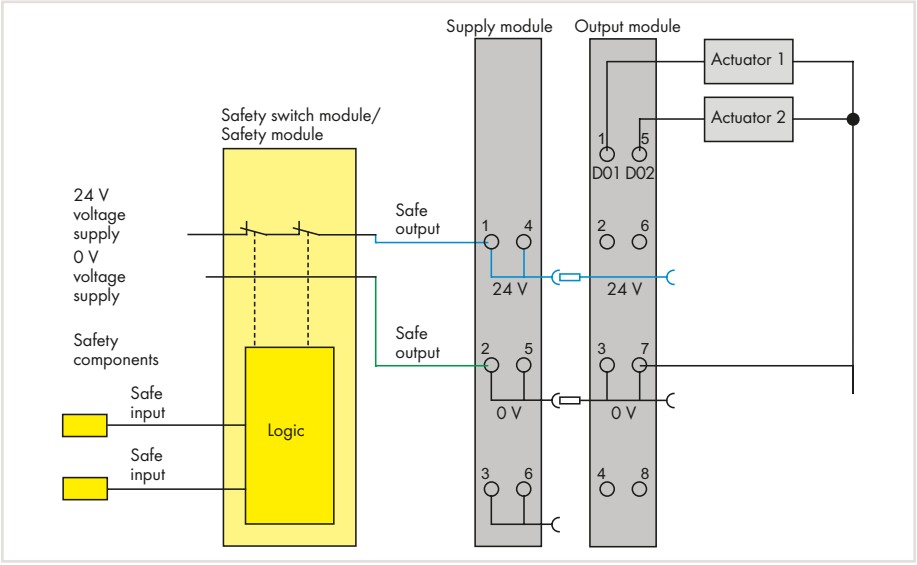
Mixed Operation:

Mixed operation (standard/XTR I/O modules) within a node is possible when groups of modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the ambient temperature is not critical.

Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups safely, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs.
In the event of failure, ensure that no interference from other current or power circuits occurs — even when the control voltage is switched off — so the defined safety function properties (logic and time response) remain unchanged.

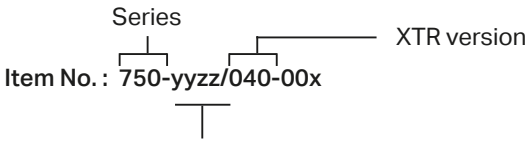
All modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. The safety category and performance level depend solely on the safety components and their wiring.



Example: Two-channel, double-pole power supply disconnection

750 XTR I/O-System
Item Number Key

Explanation of the components of an item number key



01zz: Marker
03zz: Fieldbus couplers
zz: Consecutive number

1yzz: 16 connection points or ribbon cables
y4zz: Input
00 ... 49 = Digital input
50 ... 99 = Analog input

y5zz: Output
00 ... 49 = Digital output
50 ... 99 = Analog input

y6zz: Communication/system modules
0z: Power supply, potential duplication, end module
1z: Power supply, separation module
2z: Filter
5z: Serial interface

09zz: Accessories

5

Approvals

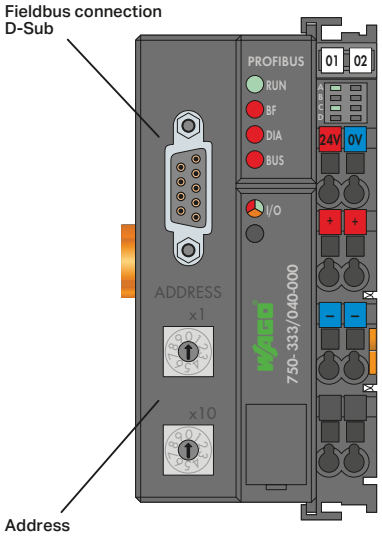
Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

750 XTR I/O-System
Standards and Rated Conditions

General Specifications	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperature under laboratory conditions +15 °C… +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*. * Including 15 % residual ripple (lower limit −27.5 %)
Ambient temperature (operation)	−40 … +70 °C
Ambient temperature (storage)	−40 … +85 °C
Relative humidity	Max. 95 %, short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0–2000 m; with temperature derating: 2000–5000 m (0.5 K/100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Dielectric strength	Per (EN 60870-2-1) Modules ≤ 50 V: 510 VAC / 775 VDC; Modules > 50 V: 2.5 kVAC / 3.5 kVDC Isolation: Rated impulse voltage Modules ≤ 50 V: 1 kV (Class VW1 per EN 60870-2-1) Modules > 50 V: 5 kV (Class VW3 per EN 60870-2-1) Surge: Modules ≤ 50 V: 1 kV (L–L) / 2 kV (L–E) Modules > 50 V: 2 kV (L–L) / 4 kV (L–E)
Vibration resistance	Per IEC 60068-2-6 (acceleration: 5 g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155, EN 61373
Shock resistance	Per IEC 60068-2-27 (15 g/11 ms/half-sine/1,000 shocks; 25 g/6 ms/1,000 shocks), EN 50155, EN 61373
EMC immunity to interference	EN 61000-6-1, EN 61000-6-2, EN 61131-2 Marine applications, EN 50121-3-2, EN 50121-4 EN 50121-5, EN 60255-26, EN 60870-2-1 EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	EN 61000-6-3 and EN 61000-6-4, EN 61131-2 EN 60255-26, marine applications EN 60870-2-1 (industrial and residential areas) EN 61850-3 (industrial and residential areas) EN 50121-3-2, EN 50121-4, EN 50121-5
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	On 35 mm DIN-rail
Housing material	Polycarbonate, polyamide 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO2 contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H2S contaminant concentration at a relative humidity < 75 %	10 ppm
Wire connection	CAGE CLAMP® (for standard I/O modules and fieldbus couplers)
Conductor size; strip length for standard I/O modules and couplers: ECO fieldbus couplers:	0.08–2.5 mm² / 28–14 AWG; 8–9 mm / 0.31–0.35 inch 0.08–1.5 mm² / 28–16 AWG; 5–6 mm / 0.2–0.24 inch
Wire connection	Push-in CAGE CLAMP® (for I/O modules with 16 connection points)
Conductor size; strip length for I/O modules with 16 connection points:	0.25–1.5 mm² / 24–16 AWG; 8–9 mm / 0.31–0.35 inch
Current carrying capacity of the power jumper contacts	10 A

Fieldbus Coupler PROFIBUS DP

2nd Generation, 12 MBd, extreme



Item description	FC PROFIBUS
Version	G2 12 MBd XTR
Item no.	**750-333/040-000**

Technical Data

Fieldbus	PROFIBUS
Protocols	PROFIBUS DP/V1
Connection technology: Fieldbus input/output	D-Sub 9 socket
Number of fieldbus nodes on master max.	96 with repeater
Baud rate	9.6 kBd … 12 MBd
Number of I/O modules per node max.	63
Input and output process image (internal) max.	244 bytes
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Input current typ. at rated load (24 V)	500 mA
Total current for system supply	1800 mA
Rated surge voltage	1 kV
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, cULus UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-333/040-000

Accessories	**Item no.**
GSD files	Download: www.wago.com

*Including 15 % residual ripple (lower limit −27.5 %)

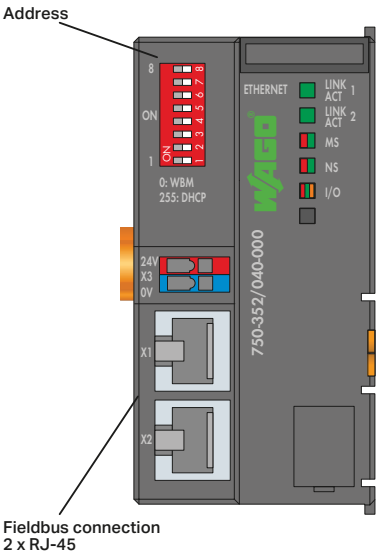
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 523 or www.wago.com

Fieldbus Coupler ETHERNET

3rd Generation, extreme

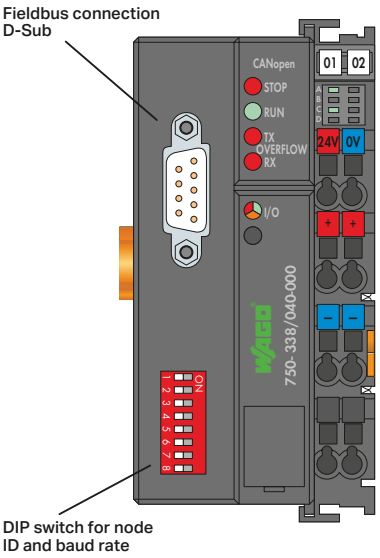


Item description	FC ETHERNET
Version	G3 XTR
Item no.	**750-352/040-000**

Technical Data	
Fieldbus	EtherNet/IP, MODBUS/TCP
Protocols	EtherNet/IP, MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, FTP, SNMP
Connection technology: Fieldbus input/output	2 x RJ-45
Bus segment length max.	100 m
Baud rate	10/100 Mbit/s
Number of I/O modules per node max.	64
Input and output process image (internal) max.	1020 words
System supply voltage	24 VDC (−25 … +30 %)
Input current typ. at rated load (24 V)	280 mA
Total current for system supply	700 mA
Rated surge voltage	1 kV
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	49,5 x 71,9 x 96,8 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-352/040-000

Fieldbus Coupler CANopen

D-Sub, extreme



Item description	FC CANopen
Version	DSub XTR
Item no.	**750-338/040-000**

Technical Data	
Fieldbus	CANopen
Connection technology: Fieldbus input/output	D-Sub 9 connector
Number of fieldbus nodes on master max.	110
Bus segment length max.	30–1000 m (depending on baud rate / cable)
Baud rate	10 kBd … 1 MBd
Number of I/O modules per node max.	64
Input and output process image (internal) max.	512 bytes
Number of PDOs	32 Tx / 32 Rx
Number of SDOs	2 SDO servers
Communication profile	DS-301 V4.01
Device profile	DS-401 V2.0, Additional functions: Limit monitoring, flank-triggered PDOs, configurable response in the event of an error
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Input current typ. at rated load (24 V)	500 mA
Total current for system supply	1650 mA
Rated surge voltage	1 kV
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, KC, Marine, cULus UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-338/040-000

Accessories	**Item no.**
EDS files	Download: www.wago.com

*Including 15 % residual ripple (lower limit −27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

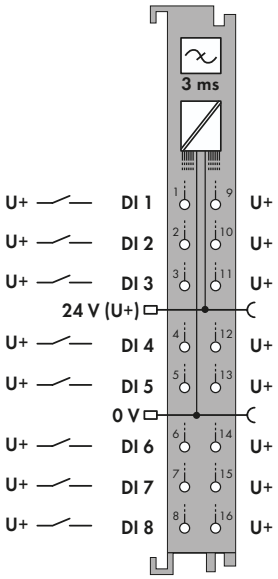
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 523 or www.wago.com

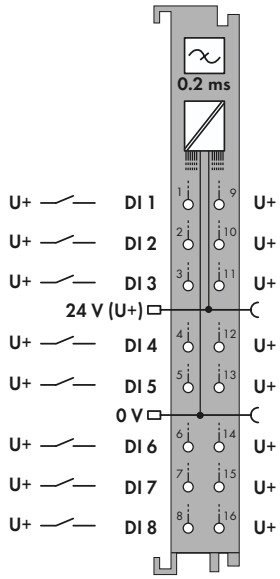
Digital Input, 24 VDC

Figure: 750-1415/040-000

8-channel digital input; 24 VDC; 3 ms; 2-conductor connection; extreme



8-channel digital input; 24 VDC; 0.2 ms; 2-conductor connection; extreme



Item description	8DI	8DI
Version	24 VDC 3ms 2-wire XTR	24 VDC 0.2ms 2-wire XTR
Item no.	**750-1415/040-000**	**750-1416/040-000**
Technical Data		
Number of digital inputs	8	8
Type of signal	24 VDC	24 VDC
Voltage range for signal (0)	−3 … +5 VDC	−3 … +5 VDC
Voltage range for signal (1)	11 … 30 VDC	11 … 30 VDC
Sensor connection	2-conductor	2-conductor
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	0.2 ms
Input current per channel for signal (1) typ.	4.5 mA	4.5 mA
Sensor supply voltage	24 VDC	24 VDC
Field supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Rated surge voltage	1 kV	1 kV
Internal data width	8 bits	8 bits
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-1415/040-000	wago.com/750-1416/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

*Including 15 % residual ripple (lower limit −27.5 %)

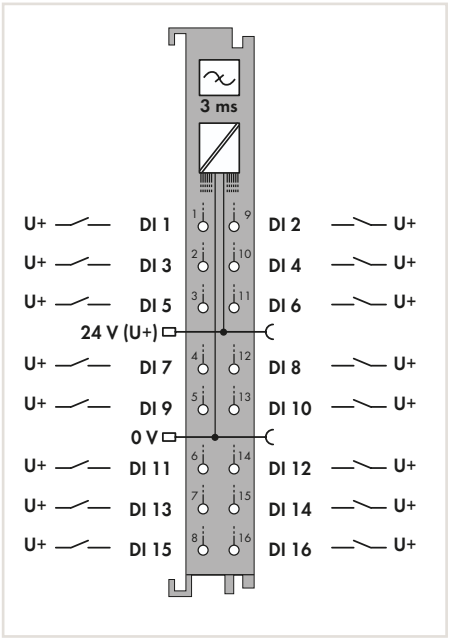
5

Digital Input, 24 VDC, 60 VDC or 220 VDC

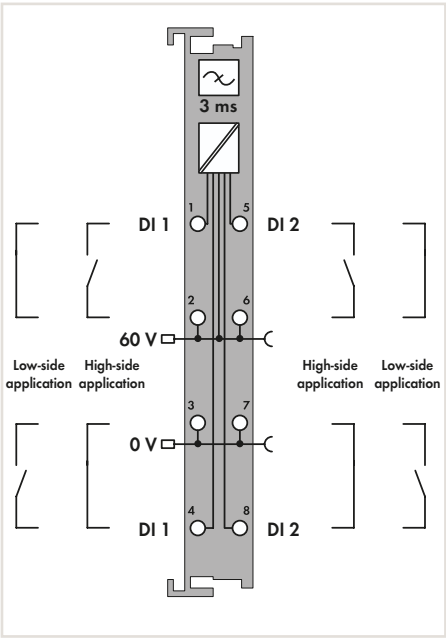
Figure: 750-1405/040-000

Figure: 750-429/040-001

16-channel digital input; 24 VDC; 3 ms; extreme



2-channel digital input; 60 VDC; 3 ms; extreme



Item description	16DI	2DI
Version	24 VDC 3ms XTR	60 VDC 3ms XTR
Item no.	**750-1405/040-000**	**750-429/040-001**

Technical Data

Number of digital inputs	16	2
Type of signal	24 VDC	60 VDC
Voltage range for signal (0)	−3 … +5 VDC	−7.5 … +12 VDC
Voltage range for signal (1)	11 … 30 VDC	44 … 75 VDC
Sensor connection	1-conductor	2-conductor
Input characteristic	High-side switching	High-side/low-side switching, configurable
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.3 mA	2.9 mA
Sensor supply voltage		60 VDC
Field supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	60 VDC (-20 % … +25 %); via power jumper contacts
Rated surge voltage	1 kV	5.0 kV (EN 60870-2-1 / Class VW3); 2.5 kV (UL 508); 2.5 kV (EN 60664-1 / up to 5,000 m above sea level)
Overvoltage category		Nominal voltage 60 V: IV (EN 60664-1 / 5,000 m above sea level)
Internal data width	16 bits	2 bits
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-1405/040-000	wago.com/750-429/040-001

*Including 15 % residual ripple (lower limit −27.5 %)

Notice:

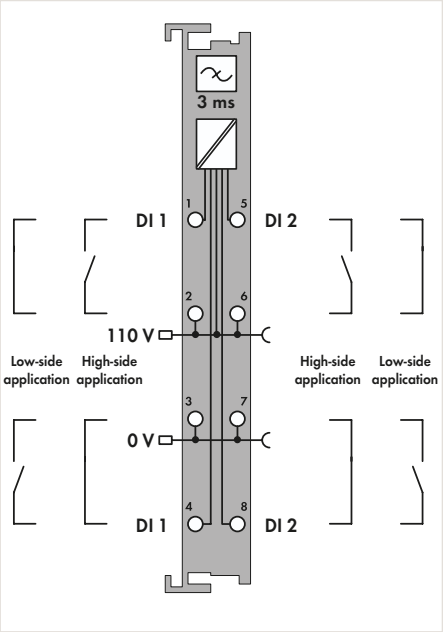
An additional bus supply module must be added for operation with 60 VDC!

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 523 or www.wago.com

2-channel digital input; 110 VDC, extreme



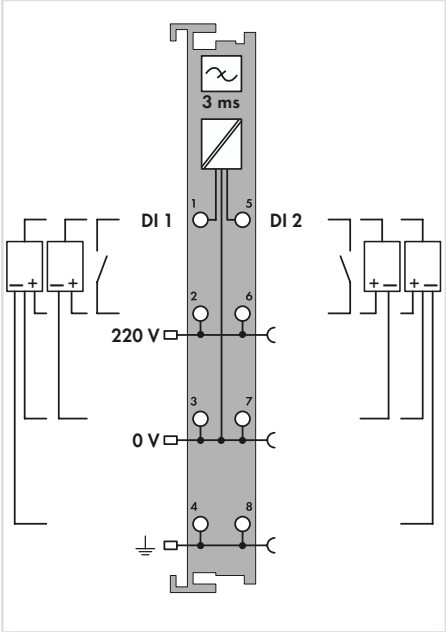
2DI
110 VDC XTR
750-427/040-000

2
110 VDC
-14 V ... +50 VDC
+70 V ... +143 VDC
2-conductor
High-side/low-side switching, configurable
3 ms
2.5 mA
110 VDC
110 VDC (-20 % ... +25 %); via power jumper contacts

5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 60664-1 / up to 2,000 m above sea level); 2.5 kV (EN 60664-1 / > 2,000 m up to 5,000 m above sea level)
Nominal voltage 110 V: IV (EN 60664-1 / up to 2,000 m above sea level); III (EN 60664-1 / > 2,000 m up to 5,000 m above sea level)
2 bits
−40 ... +70 °C
12 x 69.8 x 100 mm
CE, Marine, UL 508, ANSI/ISA
wago.com/750-427/040-000

Notice:
An additional bus supply module must be added for operation with 110 VDC!

2-channel digital input; 220 VDC, extreme



2DI
220 VDC XTR
750-407/040-000

2
220 VDC
-3 V ... +100 VDC
160 V ... 286 VDC
2-conductor, 3-conductor, 4-conductor
High-side switching
3 ms
1.2 mA
220 VDC
220 VDC (-20 % ... +25 %); via power jumper contacts

5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 60664-1 / up to 4,000 m above sea level); 2.5 kV (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Nominal voltage 220 V: III (EN 60664-1 / up to 4,000 m above sea level); II (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
2 bits
−40 ... +70 °C
12 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA
wago.com/750-407/040-000

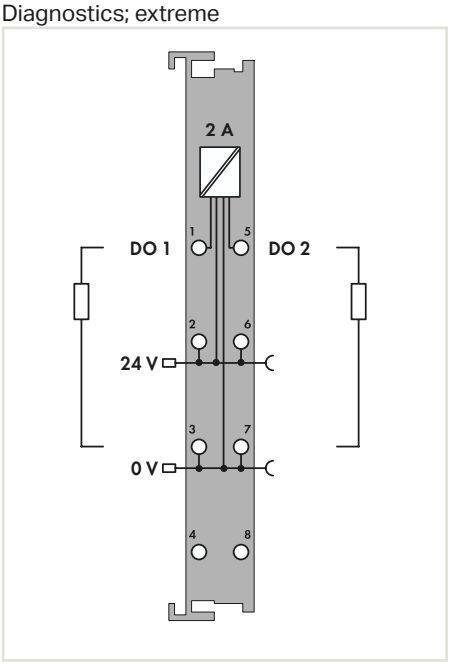
Notice:
An additional bus supply module must be added for operation with 220 VDC!

Digital Output, 24 VDC

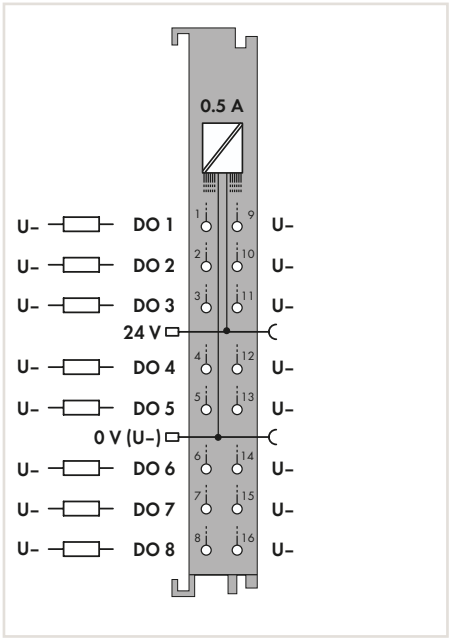
Figure: 750-508/040-000

Figure: 750-1515/040-000

2-channel digital output; 24 VDC; 2.0 A; Diagnostics; extreme



8-channel digital output; 24 VDC; 0.5 A; 2-conductor connection; extreme



Item description	2DO	8DO
Version	24 VDC 2A Diagn XTR	24 VDC 0.5A 2-wire XTR
Item no.	**750-508/040-000**	**750-1515/040-000**
Technical Data		
Number of digital outputs	2	8
Type of signal	24 VDC	24 VDC
Output characteristic	high-side switching	high-side switching
Output current per channel	2 A, short-circuit-protected	0.5 A, short-circuit-protected
Load type	Resistive, inductive, lamps	Resistive, inductive, lamps
Actuator connection	2-conductor, 3-conductor, 4-conductor	2-conductor
Switching frequency max.	1 kHz	1 kHz
Diagnostics	Open circuit, overload and short circuit	
Field supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Rated surge voltage	1 kV	1 kV
Internal data width	2 bits in, 2 bits out	8 bits
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-508/040-000	wago.com/750-1515/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

*Including 15 % residual ripple (lower limit −27.5 %)

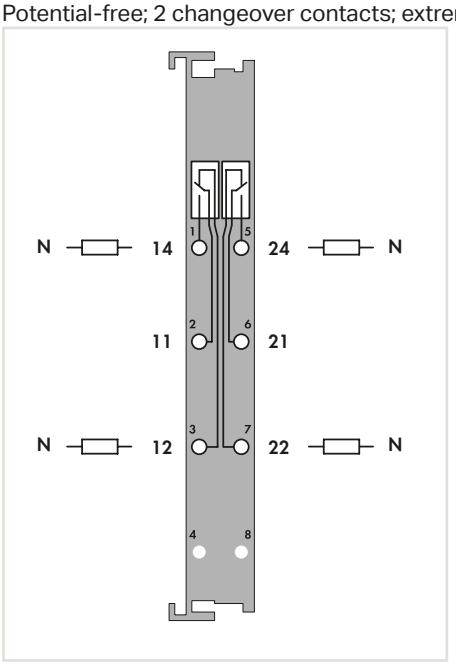
Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 523 or www.wago.com

Relay Output, 230 VAC

2-channel relay output; 230 VAC; 1.0 A;
Potential-free; 2 changeover contacts; extreme



Item description	2RO
Version	230 VAC 1A Relay2CO XTR
Item no.	**750-517/040-000**

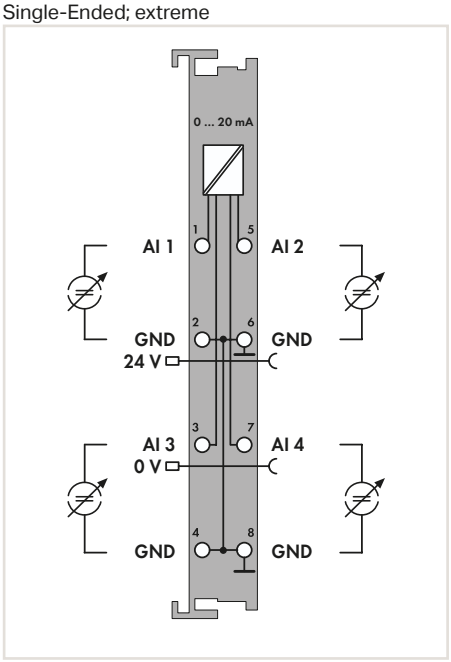
Technical Data	
Number of digital outputs	2
Switching power max.	250 VAC, 300 VDC
Output switching design	2 changeover contacts, relay
Output characteristic	Potential-free
Switching current	1 A at 250 VAC / 40 VDC; 0.15 A at 300 VDC
Actuator connection	1-conductor
Switching frequency max.	0.1 Hz
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / up to 4,000 m above sea level); 4.0 kV (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Overvoltage category	Nominal voltage 230 V: IV (EN 60664-1 / up to 4,000 m above sea level); III (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Internal data width	2 bits
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-517/040-000

Analog Input, 0 … 20 mA, 4 … 20 mA, 0 … 10 VDC or ±10 VDC

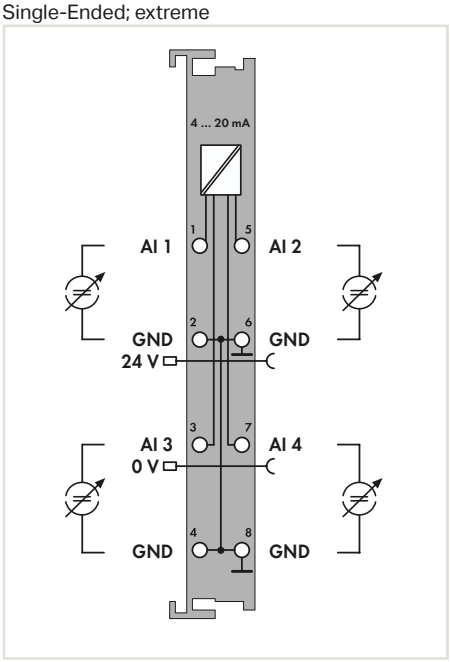
Figure: 750-453/040-000

Figure: 750-468/040-000

4-channel analog input; 0 … 20 mA; Single-Ended; extreme



4-channel analog input; 4 … 20 mA; Single-Ended; extreme



Item description	4AI	4AI
Version	0-20mA SE XTR	4-20mA SE XTR
Item no.	**750-453/040-000**	**750-455/040-000**
Technical Data		
Number of analog inputs	4	4
Type of signal	0 … 20 mA	4 … 20 mA
Signal characteristic	single-ended	single-ended
Resolution	12 bits	12 bits
Conversion time	10 ms	10 ms
Measuring error (25 °C)	< ± 0.1 % of the largest measurement range	< ± 0.1 % of the largest measurement range
Temperature coefficient	< ± 0.01 % /K of the largest measurement range	< ± 0.01 % /K of the largest measurement range
System supply voltage	5 VDC via data contacts	5 VDC via data contacts
Field supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Rated surge voltage	1 kV	1 kV
Data width	4 x 16 bits data, 4 x 8 bits control/status (optional)	4 x 16 bits data, 4 x 8 bits control/status (optional)
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-453/040-000	wago.com/750-455/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

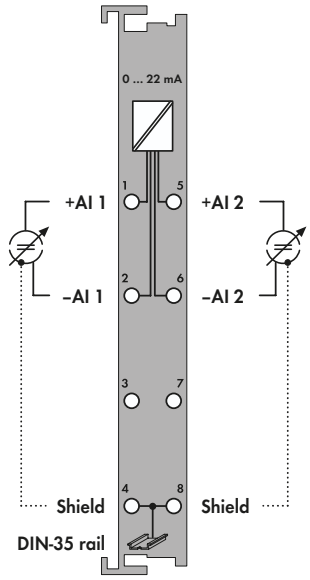
*Including 15 % residual ripple (lower limit −27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

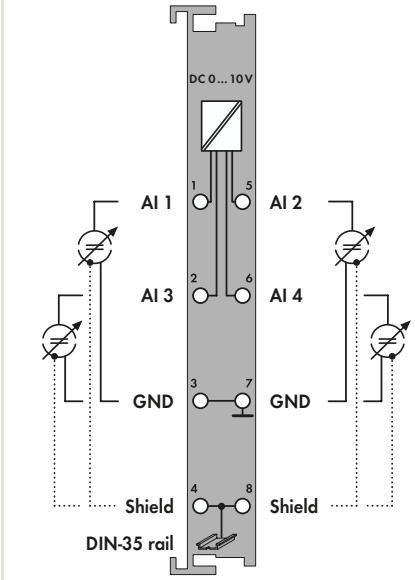
Approvals and corresponding ratings,
see Page 523 or www.wago.com

2-channel analog input; 4 … 20 mA; Differential input; NE43; extreme



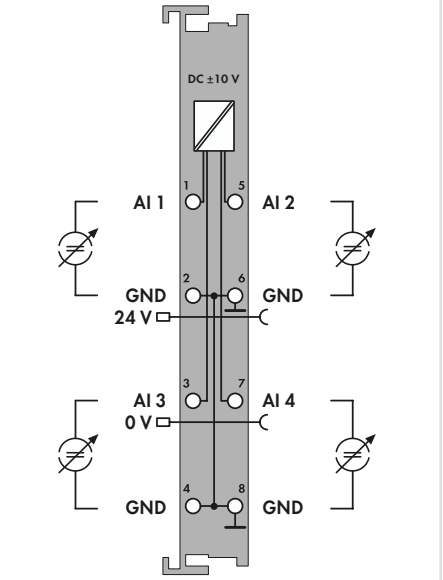
2AI
4-20mA Diff NE43 XTR
750-492/040-001
2
3.8 mA … 20.5 mA (NE43)
differential
13 bits
< ± 0.1 % of the largest measurement range
< ± 0.01 % /K of the largest measurement range
5 VDC via data contacts
1 kV
2 x 16 bits data, 2 x 8 bits control/status (optional)
–40 … +70 °C
12 x 69.8 x 100 mm
CE, Marine, UL 508, ANSI/ISA
wago.com/750-492/040-001

4-channel analog input; 0 … 10 VDC; Single-Ended; extreme



4AI
0-10 VDC SE XTR
750-468/040-000
4
0 … 10 V
single-ended
12 bits
4 ms
< ± 0.2 % of the largest measurement range
< ± 0.01 % /K of the largest measurement range
5 VDC via data contacts
1 kV
4 x 16 bits data, 4 x 8 bits control/status (optional)
–40 … +70 °C
12 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA
wago.com/750-468/040-000

4-channel analog input; ±10 VDC; Single-Ended; extreme



4AI
±10 VDC SE XTR
750-457/040-000
4
±10 V
single-ended
12 bits
10 ms
< ± 0.1 % of the largest measurement range
< ± 0.01 % /K of the largest measurement range
5 VDC via data contacts
24 VDC (–25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for –40 … +55 °C: 24 V (–25 … +20 %)*. Derating for +55 … +70 °C: 24 V (–25 … +10 %)*.
1 kV
4 x 16 bits data, 4 x 8 bits control/status (optional)
–40 … +70 °C
12 x 69.8 x 100 mm
CE, KC, Marine, UL 508, ANSI/ISA
wago.com/750-457/040-000

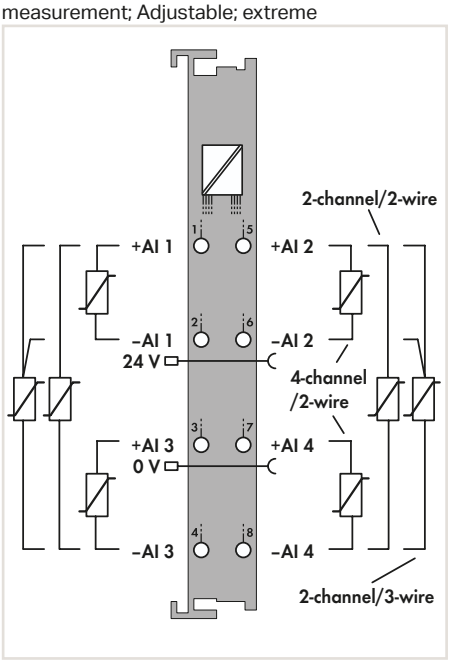
*Including 15 % residual ripple (lower limit –27.5 %)

Analog Input, for Resistance Sensors or Thermocouple

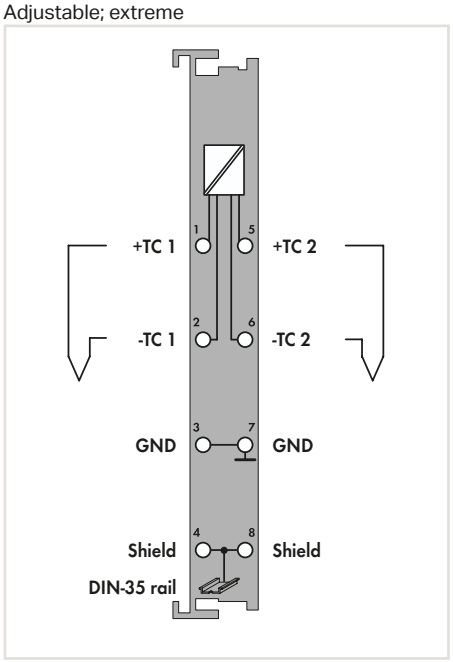
Figure: 750-464/040-000

Figure: 750-469/040-000

2/4-channel analog input; Resistance measurement; Adjustable; extreme



2-channel analog input; Thermocouple; Adjustable; extreme



Item description	2/4AI	2AI
Version	RTD Adjust XTR	TC Adjust XTR
Item no.	**750-464/040-000**	**750-469/040-000**
Technical Data		
Number of analog inputs	2/4	2
Type of signal	Pt100 (Default), Pt200, Pt500, Pt1000 (IEC 751), Ni100, Ni1000 (DIN 43760), Ni120 (Minco), Ni1000 (TK 5000), 2-channel operation: Potentiometer, Resistance measurement 10 … 5000 Ω, 10 … 1200 Ω	configurable: Type K, J, E, S, T, L, N, U, B, R; -30 … +30 mV, -60 … +60 mV, -120 … +120 mV
Sensor connection	2-conductor, 3-conductor	2-conductor
Temperature range	-200 … +850 °C (Pt100 … Pt1000), -60 … +300 °C (Ni 100, Ni 1000), -60 … +250 °C (Ni 1000 TK5000), -80 … +260 °C (Ni 120)	depending on sensor
Resolution	0.1 °C	0.1 °C
Conversion time	320 ms	320 ms
Measuring current typ.	≤ 350 µA	
Measuring error (25 °C)	≤ 1 K in the entire temp. range, ≤ 0,5 K in the restricted temp. range (-30 … +120 °C, Pt 1000)	<± 6 K (voltage input <± 2 K, cold junction compensation <± 4 K)
Temperature coefficient	≤ 20 ppm/K, typ. ≤ 15 ppm/K	<± 0.2 K/K
Cold junction compensation		integrated or external
System supply voltage	5 VDC via data contacts	5 VDC via data contacts
Field supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	
Rated surge voltage	1 kV	1 kV
Data width	4 (2) x 16 bits data, 4 (2) x 8 bits control/status (optional)	2 x 16 bits data, 2 x 8 bits control/status (optional)
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-464/040-000	wago.com/750-469/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

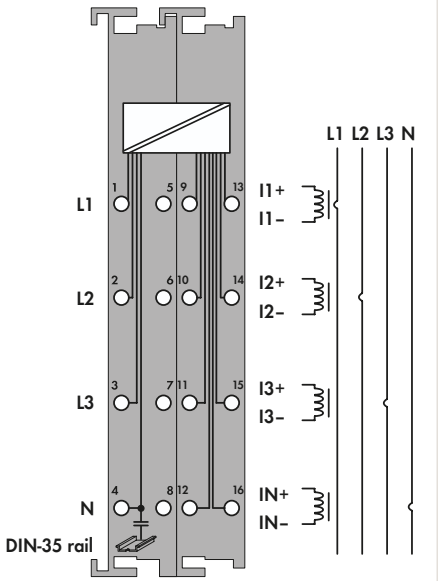
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 523 or www.wago.com

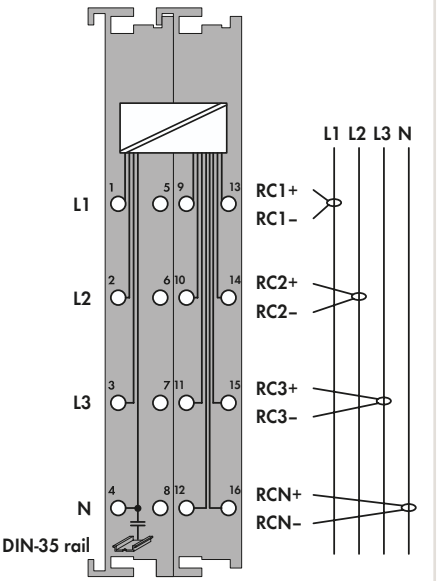
Analog Input, for 3-Phase Power Measurement

Figure: 750-495/040-000

3-Phase Power Measurement; 690 VAC 1 A; extreme; optional: 690 VAC 5 A



3-Phase Power Measurement; 690 VAC Rogowski coils; extreme



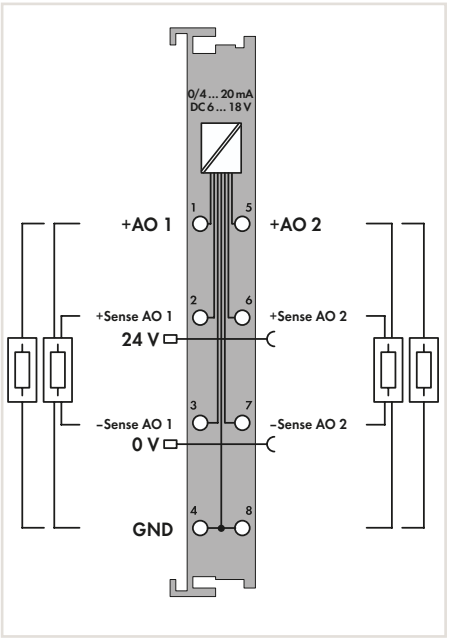
Item description	3-PHASE POM		3-PHASE POM
Version	690VAC 1A XTR	690VAC 5A XTR	690VAC R.C. XTR
Item no.	**750-495/040-000**	**750-495/040-001**	**750-495/040-002**
Technical Data			
Type of signal	3-Phase Power Measurement		3-Phase Power Measurement
Measured values	current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi, harmonic analysis (up to the 41st harmonic), THD, current measurement in the neutral conductor and other		current, voltage, active power, apparent power, reactive power, energy, frequency, cos phi, harmonic analysis (up to the 41st harmonic), THD, current measurement in the neutral conductor and other
Number of measurement inputs	7 (3 voltage measurement inputs, 4 differential current measurement inputs)		7 (3 voltage measurement inputs, 4 differential current measurement inputs)
Rated surge voltage	U_{LN} = 400 V AC, U_{LL} = 690 V AC		U_{LN} = 277 V AC, U_{LL} = 480 V AC
Input resistance voltage path typ.	1429 kΩ		1429 kΩ
Measuring current max.	1 A	5 A	Rogowski coils RT500/RT2000
Input resistance current path typ.	22 mΩ	5 mΩ	44 kΩ
Resolution	24 bits		24 bits
Measuring error (25 °C)	AC current/voltage: ± 0,5 % of the largest measurement range		AC current/voltage: ± 0,5 % of the largest measurement range
Frequency range, power supply frequency	45 … 65 Hz		45 … 65 Hz
Frequency range, harmonics analysis	0 … 3300 Hz		0 … 3300 Hz
Max. operating frequency	15.9 kHz		15.9 kHz
System supply voltage	5 VDC via data contacts		5 VDC via data contacts
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / up to 4,000 m above sea level); 4.0 kV (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)		5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / up to 4,000 m above sea level); 4.0 kV (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Overvoltage category	Nominal voltage 400 V/690 V in a 3-phase system: III (EN 60664-1 / up to 4,000 m above sea level); II (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)		Nominal voltage 400 V/690 V in a 3-phase system: III (EN 60664-1 / up to 4,000 m above sea level); II (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Data width	2 x 128 bits data, 2 x 64 bits control/status		2 x 128 bits data, 2 x 64 bits control/status
Ambient temperature (operation)	−40 … +70 °C		−40 … +70 °C
Dimensions W x H x D	24 x 69.8 x 100 mm		24 x 69.8 x 100 mm
Approvals	CE, Marine		CE, Marine
Data sheet and further information, see:	wago.com/750-495/040-000	wago.com/750-495/040-001	wago.com/750-495/040-002

Accessories	Item no.	Item no.
Plug-In and Split-Core Current Transformers	see Full Line Catalog, Volume 4	
Rogowski Coils RT500/RT2000		see Full Line Catalog, Volume 4

5

Analog Output, adjustable 0/4 … 20 mA, 6 … 18 VDC

2-channel analog output; 0/4 … 20 mA; 16 bits; 6 … 18 VDC; extreme



Item description	2AO
Version	0/4-20mA 16Bit 6-18 VDC XTR
Item no.	**750-563/040-000**

Technical Data	
Number of analog outputs	2
Type of signal	0 … 20 mA, 4 … 20 mA, 6 … 18 V
Load impedance	> 1.8 kΩ (voltage output), < 500 Ω (current output)
Resolution	16 bits
Conversion time	5 ms
Measuring error (25 °C)	< ± 0.05 % of largest measurement range
Temperature coefficient	< ± 100 ppm
System supply voltage	24 VDC (min. … +30 %), via power jumper contacts. Specified values for ambient temperatures under laboratory conditions: +15 … +35 °C. Derating for –40 … +55 °C: 24 V (min. … +20 %)*; Derating for +55 … +70 °C: 24 V (min. … +10 %)*; min. voltage range: 21.6 V; min. current range: 20.4 V
Rated surge voltage	1 kV
Data width	2 x 16 bits data, 2 x 8 bits control/status (optional)
Ambient temperature (operation)	–40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, cULus UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-563/040-000

*Including 15 % residual ripple (lower limit –27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

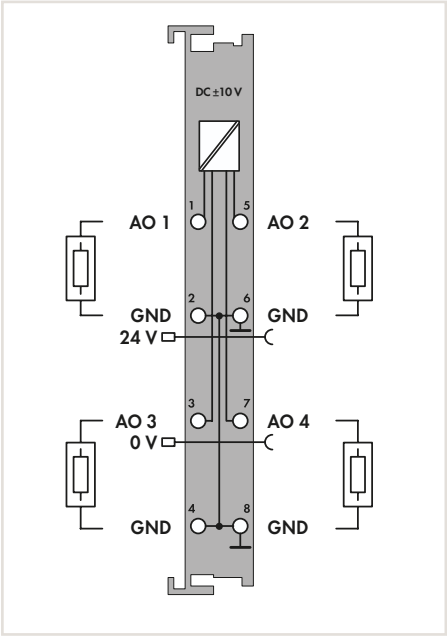
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 523 or www.wago.com

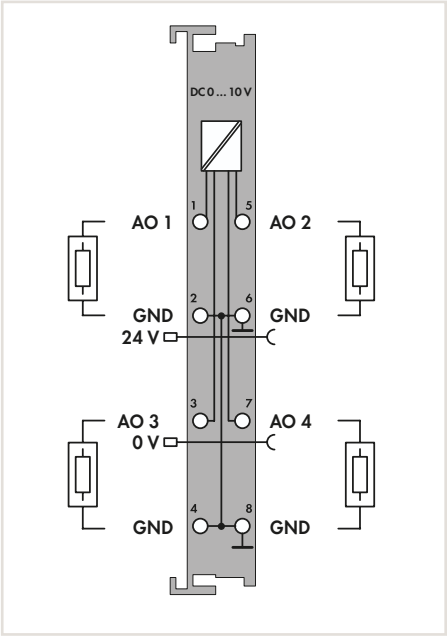
Analog Output, ±10 VDC or 0 … 10 VDC

Figure: 750-557/040-000

2-channel analog output; ±10 VDC; extreme



2-channel analog output; 0 … 10 VDC; extreme



Item description	4AO	4AO
Version	±10V DC XTR	0-10V DC XTR
Item no.	**750-557/040-000**	**750-559/040-000**
Technical Data		
Number of analog outputs	4	4
Type of signal	±10 V	0 … 10 V
Load impedance	> 5 kΩ	> 5 kΩ
Resolution	12 bits	12 bits
Conversion time	10 ms	10 ms
Measuring error (25 °C)	< ± 0.1 % of largest measurement range	< ± 0.1 % of largest measurement range
Temperature coefficient	< ± 0.01 % /K of largest measurement range	< ± 0.01 % /K of largest measurement range
System supply voltage	5 VDC via data contacts	5 VDC via data contacts
Field supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Rated surge voltage	1 kV	1 kV
Datenbreite	4 x 16 bits data, 4 x 8 bits control/status (optional)	4 x 16 bits data, 4 x 8 bits control/status (optional)
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-557/040-000	wago.com/750-559/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

*Including 15 % residual ripple (lower limit −27.5 %)

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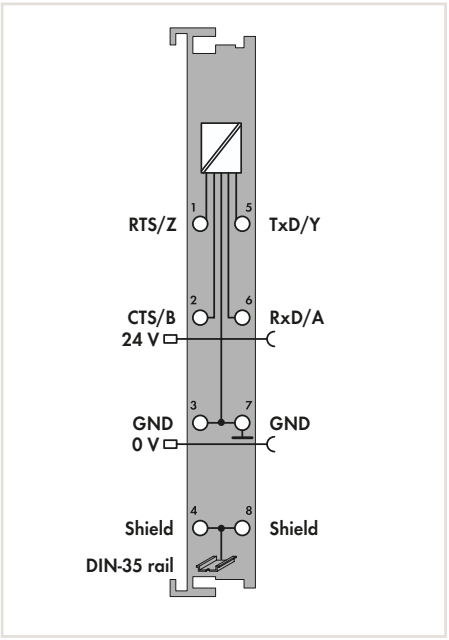
RS-232/485 Serial Interface

RS-232/485 Serial Interface; extreme



Item description	RS232/485 Interface
Version	XTR
Item no.	**750-652/040-000**

Technical Data	
Type of signal	RS-232 / RS-422 / RS-485
Transmission channels	1 TxD / 1 RxD, full-duplex, half-duplex
Baud rate	9600 baud (default setting), 300 baud ... 115200 baud
Parity	None/Odd/Even
Number of data bits	7/8, adjustable
Number of stop bits	1/2, adjustable
Buffer	2560 bytes for reception / 512 bytes for transmission
System supply voltage	24 VDC (−25 ... +30 %) Specified values for ambient temperatures under laboratory conditions +15 ... +35 °C. Derating for −40 ... +55 °C: 24 V (−25 ... +20 %)*. Derating for +55 ... +70 °C: 24 V (−25 ... +10 %)*.
Rated surge voltage	1 kV
Internal data width	8, 24 or 48 bytes (parametrizable)
Ambient temperature (operation)	−40 ... +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-652/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

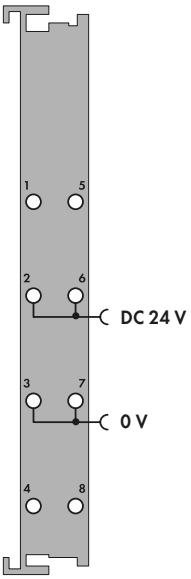
Approvals and corresponding ratings,
see Page 523 or www.wago.com

Power Supply, 24 VDC or 0 … 230 V AC/DC

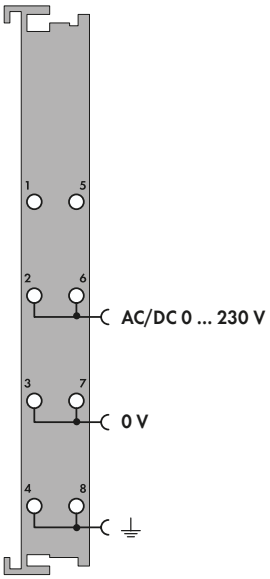
Figure: 750-602/040-000

Figure: 750-612/040-000

Power Supply; 24 VDC; extreme



Power Supply; 0 … 230 V AC/DC; extreme



Item description	Power Supply	Power Supply
Version	24 VDC XTR	0-230 VAC/VDC XTR
Item no.	**750-602/040-000**	**750-612/040-000**
Technical Data		
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	
Field supply voltage	24 VDC, via power jumper contacts	0 … 230 V AC/DC (-20 … +25 %), via power jumper contacts
Power jumper contact current carrying capacity	10 A	10 A
Rated surge voltage	1 kV	5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / up to 4,000 m above sea level); 4.0 kV (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Overvoltage category		Nominal voltage 230 V: IV (EN 60664-1 / up to 4,000 m above sea level); III (EN 60664-1 / > 4,000 m up to 5,000 m above sea level)
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-602/040-000	wago.com/750-612/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

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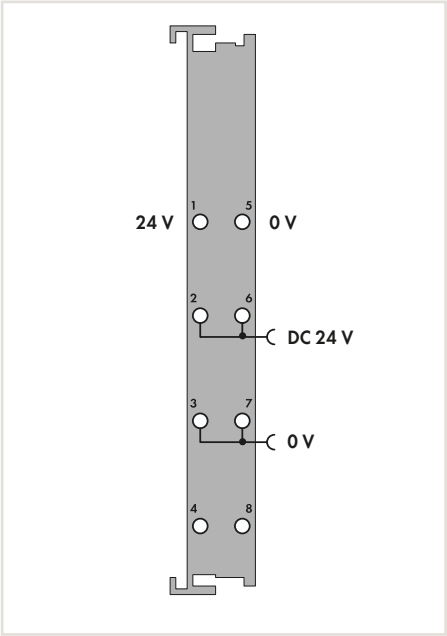
System Power Supply, 24 VDC

System Power Supply; 24 VDC; extreme



Item description	System Power Supply
Version	24 VDC XTR
Item no.	**750-613/040-000**

Technical Data	
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Input current typ. at rated load (24 V)	500 mA
Total current for system supply	2000 mA
Field supply voltage	24 VDC, via power jumper contacts
Power jumper contact current carrying capacity	10 A
Rated surge voltage	1 kV
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-613/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

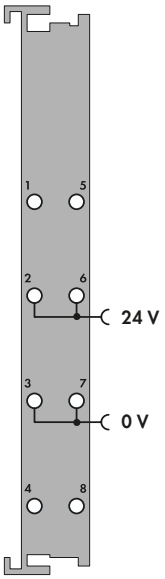
Approvals and corresponding ratings,
see Page 523 or www.wago.com

Filter module for field-side power supply (surge) bzw. Netzteilfilter

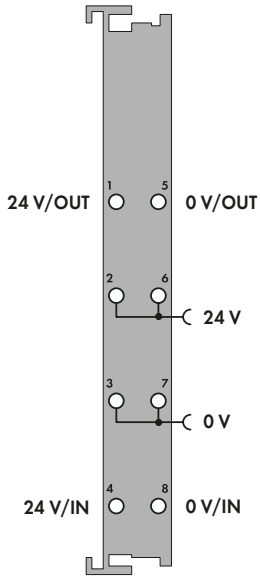
Figure: 750-624/040-001

Figure: 750-626/040-000

Filter module for field-side power supply (surge); 24 VDC; extreme



Netzteilfilter, DC 24 V, Höhere Isolation, extrem



Item description	Field Supply Filter	Supply Filter
Version	24 VDC XTR	24 VDC HI XTR
Item no.	**750-624/040-001**	**750-626/040-000**
Technical Data		
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Current via system voltage max.		1,5 A
Field supply voltage	24 VDC, via power jumper contacts	24 VDC, via power jumper contacts
Power jumper contact current carrying capacity	10 A	10 A
Rated surge voltage	1 kV	1 kV
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-624/040-001	wago.com/750-626/040-000

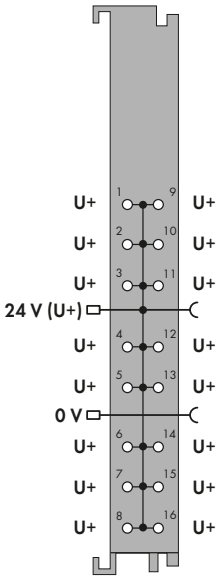
*Including 15 % residual ripple (lower limit −27.5 %)

5

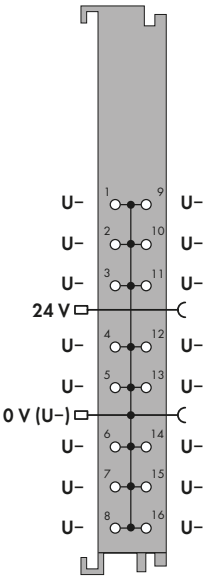
Potential Distribution

Figure: 750-1605/040-000

Potential Distribution, 16-way 24 V, extreme



Potential Distribution, 16-way 0 V, extreme



Item description	Potential Distribution	Potential Distribution
Version	16*24V XTR	16*0V XTR
Item no.	**750-1605/040-000**	**750-1606/040-000**
Technical Data		
System supply voltage	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.	24 VDC (−25 … +30 %) Specified values for ambient temperatures under laboratory conditions +15 … +35 °C. Derating for −40 … +55 °C: 24 V (−25 … +20 %)*. Derating for +55 … +70 °C: 24 V (−25 … +10 %)*.
Power jumper contact current carrying capacity	10 A	10 A
Rated surge voltage	1 kV	1 kV
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA	CE, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-1605/040-000	wago.com/750-1606/040-000

*Including 15 % residual ripple (lower limit −27.5 %)

*Including 15 % residual ripple (lower limit −27.5 %)

Mini-WSB Quick Marking System
see Full Line Catalog, Volume 6

DIN rails and tool
see Section 11

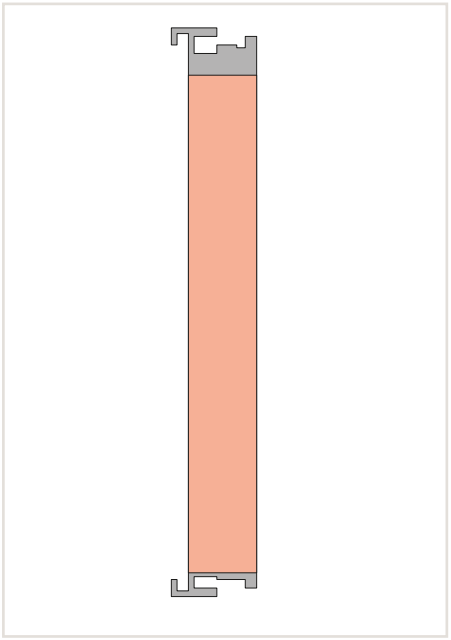
Approvals and corresponding ratings,
see Page 523 or www.wago.com

Distance Module or End Module

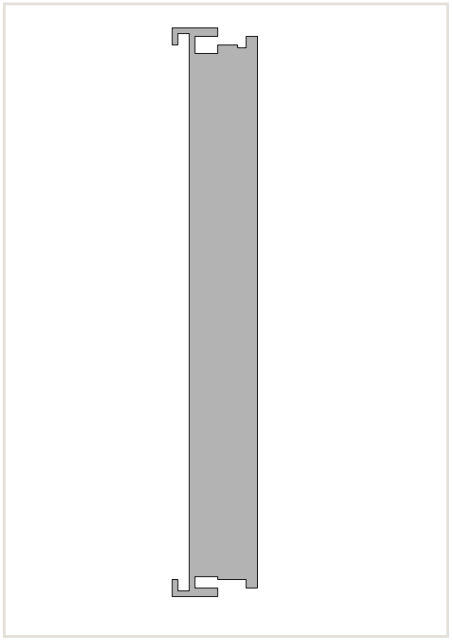
Figure: 750-616/040-000

Figure: 750-600/040-000

Distance Module, extreme



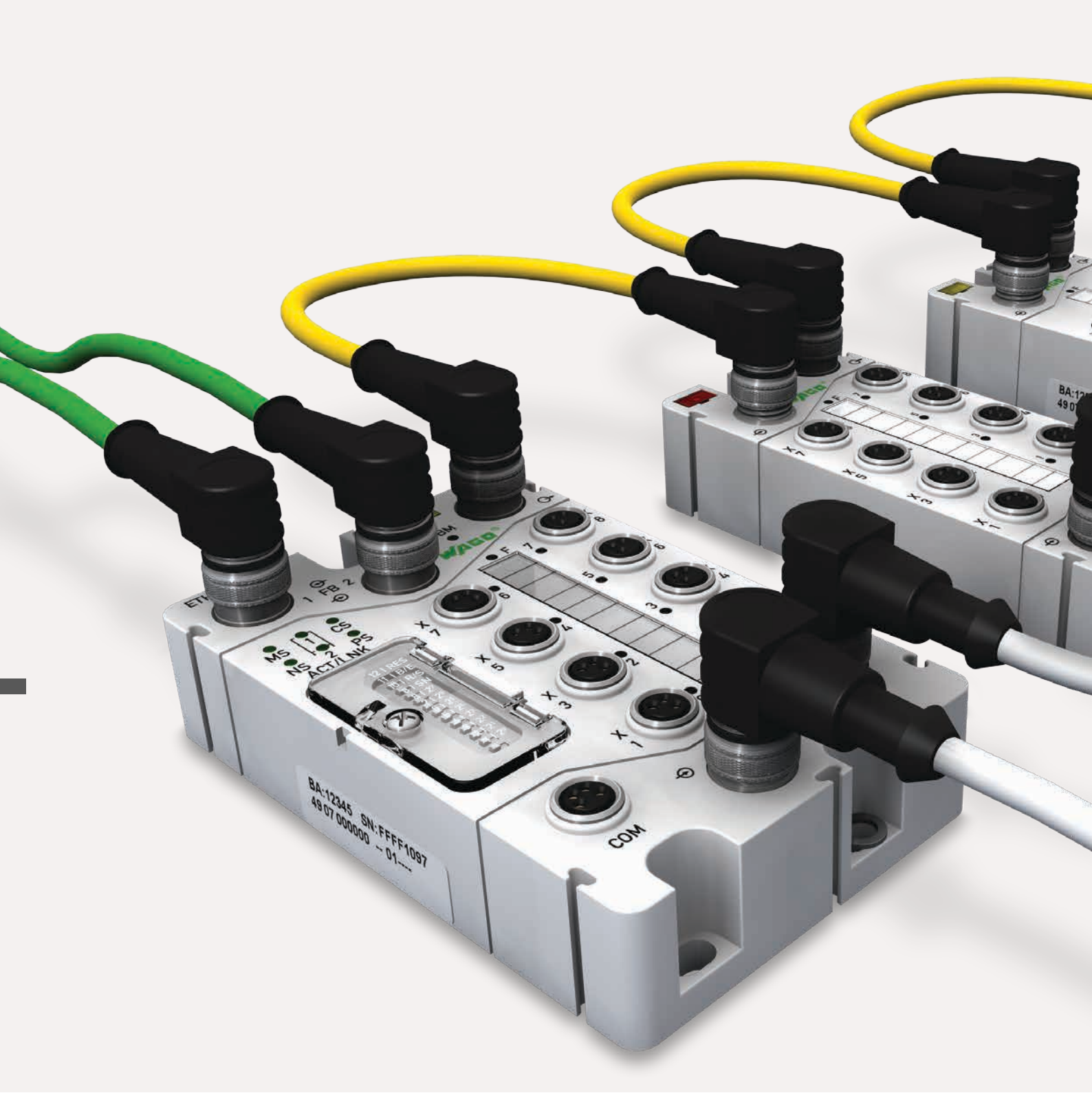
End Module, extreme



Item description	Distance Module	End Module
Version	XTR	XTR
Item no.	**750-616/040-000**	**750-600/040-000**
Technical Data		
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE, Marine, UL 508, ANSI/ISA	CE, KC, Marine, UL 508, ANSI/ISA
Data sheet and further information, see:	wago.com/750-616/040-000	wago.com/750-600/040-000

Note:
Operation of the adjacent I/O modules requires a supply module.

After the fieldbus node is assembled with the correct buscoupler and selected I/O modules, the end module is snapped onto the assembly.
It completes the internal data circuit and ensures correct data flow.



SPEEDWAY I/O-System

750 and 753 I/O-System

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

◄◄ Section 4

750 XTR I/O-System

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

◄ Section 5

SPEEDWAY I/O-System

- Uncompromising protection, even in the harshest environments outside the switch cabinet
- Degree of protection: IP67
- Fully encapsulated

SPEEDWAY I/O-System
Contents

SPEEDWAY I/O-System
General Product Information

For Cabinet-Free Data Acquisition

Where discrete wiring was previously required, fieldbuses now communicate between controller, system and machine.
Depending on the application, cabinet-free automation systems help minimize costs for planning, start-up and maintenance.

In addition to requiring a high degree of protection, a robust design and standardized connection technology, there is an increasing demand for advanced IP67 features that were once reserved only for IP20 systems, including:

- Real-time capable (isochronous data acquisition/output)
- Parameterizable
- Diagnostic capable
- Upgradable

Connect the switch cabinet directly to the field level without sacrificing functionality — SPEEDWAY perfectly tailors machines to meet specific, decentralized needs. Configuration is both easy and flexible, with changes made safely and quickly (plug & play).

6

Uncompromising Protection, Even in the Harshest Environments

Every module utilizes IP67-grade protection and robust construction. These fully encapsulated modules safeguard system operation, even when subjected to temperature extremes and prolonged periods of vibration. When combined, these robust design elements ensure long-term electronic circuit protection. Additionally, moisture cannot penetrate the units to cause damage (e.g., hairline cracks).
Segmented electromagnetic shielding consisting of a metalized housing and shield plating guarantees optimal electromagnetic compatibility within the housing. Potential interferences are directly discharged via the modules' attachments to the machine or system. Even in sub-zero temperatures, the WAGO SPEEDWAY I/O SYSTEM performs reliably.

Modular Design

WAGO 767 SPEEDWAY is a fieldbus-independent modular IP67 I/O system. It is linked via a fieldbus coupler with a higher-level controller. The fieldbus coupler already has digital inputs. An integrated system bus interface connects to other I/O modules.
Fieldbus couplers and I/O modules can be extensively parameterized, allowing direct field-side acquisition and transmission of signals depending on the application needs.

Up to:

- 64 I/O modules per station
- 8 channels per module
- 520 channels per station
- 50 m between two modules
- 500 m total extension per station

Ergonomic Design

Standardized M8, M12 and M23 connections (metal design) ensure easy and safe wiring. The fieldbus, system bus, power supply and sensors/actuators are connected via several coded connectors. This streamlined approach prevents wiring errors.
To accommodate custom marking, the modules have marking strips and a WMB plate. Both the LEDs and marking field are uniquely assigned to the connection.

Flexible Assembly

The modules can be directly mounted on machines. Extensive engineering ensures compliance with standardized specifications from CNOMO guidelines regarding the spacing of assembly drill holes that are often used in passive distributor or sensor/actuator boxes. Adapters for both rail- and machine-mount brackets are also available.

Exceptional Degrees of Freedom

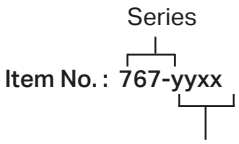
Featuring update capability, the SPEEDWAY I/O-System makes it easy to update fieldbus couplers and I/O module firmware to incorporate new functions. Integrated system parameter handling stores and loads parameter settings and checks that the replacement module is correct when installed.
With option handling, variable I/O station configurations, which can occur when tools are changed in a machining center, can be implemented without engineering via PROFIBUS.

Advantages:

- Fully encapsulated for harsh environmental conditions
- Fieldbus-independent — Support all standard fieldbus protocols & ETHERNET standards
- Real-time capability up to isochronous mode for selected ETHERNET-based fieldbuses
- Exclusive use of standard pluggable connectors
- Flexible mounting options

SPEEDWAY I/O-System
Item Number Key

Explanation of the components of an item number key



1yxx: Fieldbus Coupler (FC)
- 1xx: PROFIBUS
- 2xx: PROFINET
- 3xx: ETHERNET, sercos
- 4xx: DeviceNet
- 5xx: CANopen
  - xx: Consec. number

3yxx: Digital Input Modules (DI)
- 8xx: 8 channels
  - 01: 8 x M8 connector, high-side switching
  - 02: 4 x M12 connector, high-side switching
  - 03: 8 x M8 connector, low-side switching
  - 04: 4 x M12 connector, low-side switching
  - 05: 8 x M12 connector, high-side switching
  - 06: 4 x M12 connector, high speed

4yxx: Digital Output Modules (DO)
- 8xx: 8 channels
  - 01: 8 x M8 connector, 0.5 A, high-side switching
  - 02: 4 x M12 connector, 0.5 A, high-side switching
  - 03: 8 x M8 connector, 2 A, high-side switching
  - 04: 4 x M12 connector, 2 A, high-side switching
  - 05: 8 x M8 connector, 0.5 A, low-side switching
  - 06: 4 x M12 connector, 0.5 A, low-side switching
  - 07: 8 x M12 connector, 0.5 A, low-side switching
  - 08: 4 x M12 connector, 0.1 A, high speed

5yxx: Digital Input/Output Modules (DIO) DI/DO
- 4xx: 4 channels
  - 01: 4 x M12, 0.2 A connector, high speed
- 8xx: 8 channels
  - 01: 8 x M8 connector, 0.5 A, high-side switching
  - 02: 4 x M12 connector, 0.5 A, high-side switching
  - 03: 8 x M12 connector, 0.5 A, low-side switching

5yxx: Function and Technology Modules
- 2xx: 2 channels + 4 DIO
  - 01: TTL incremental encoder/SSI encoder
  - 02: HTL incremental encoder/counter

5yxx: Communication Modules
- 2xx: 2 channels + 4 DIO
  - 03: RS-232, RS-422/-485 serial interface
  - 04: RS-232, RS-485 MOVILINK® interface

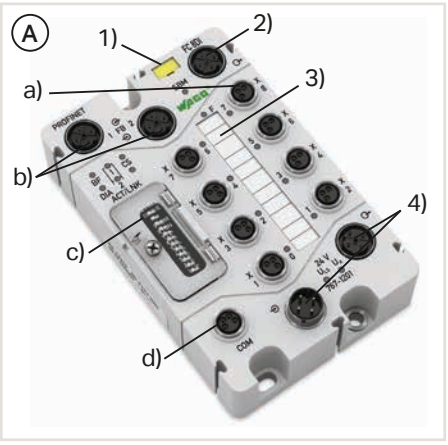
6yxx: Analog Input Modules (AI)
- 4xx: 4 channels
  - 01: Voltage/current (U/I)
  - 02: Resistance measurement (RTD)
  - 03: Thermocouple (TC)

7yxx: Analog Output Modules (AO)
- 4xx: 4 channels
  - 01: Voltage/current (U/I)

9yxx: Supply Module
- 1xx: M23 connector
  - 01: Power divider

.../0000-0800: Modules with interference-free outputs

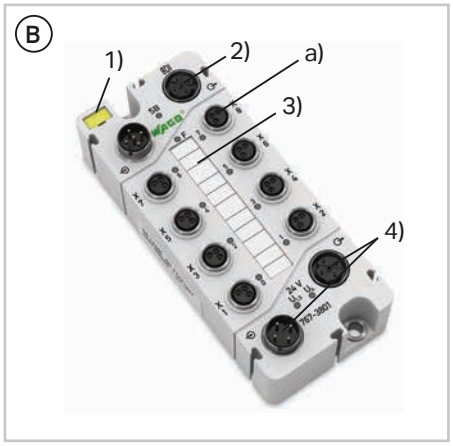
SPEEDWAY I/O-System
Interfaces and Types



(1) WMB module marking
(2) M12 system bus connection
(3) Sensor/actuator marking
(4) M12 supply connections

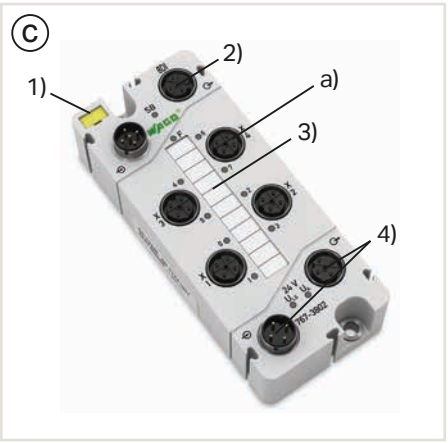
Housing Design Fieldbus Coupler (A)

- M8 sensor/actuator connections (a)
- M12 fieldbus connections (b)
- Control panel (c)
- Service connection M8 (d)
- W x H x D (mm) 75 x 35.7 x 117



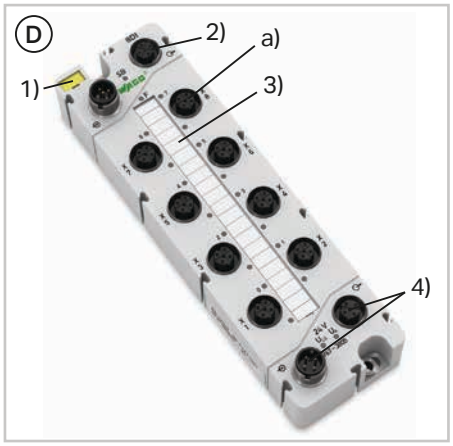
Housing Design 8 x M8 I/O Module (B)

- M8 sensor/actuator connections (a)
- W x H x D (mm) 50 x 35.7 x 117



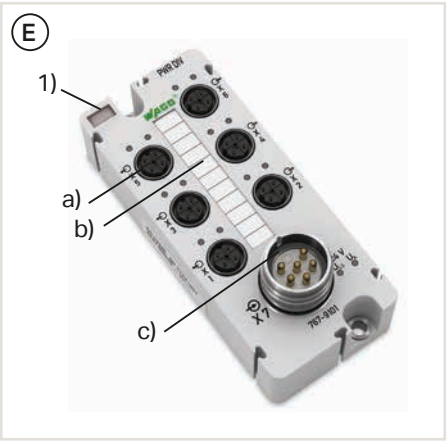
Housing Design 4 x M12 I/O Module (C)

- Sensor/actuator connections M12 (a)
- W x H x D (mm) 50 x 35.7 x 117



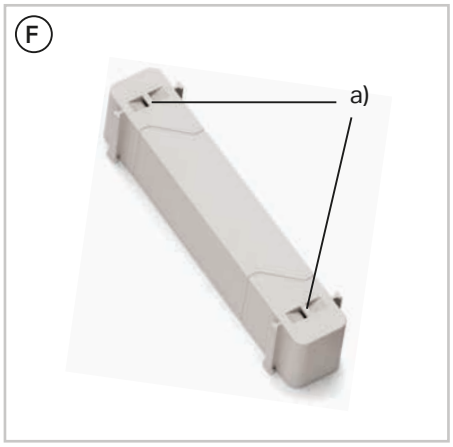
Housing Design 8 x M12 I/O Module (D)

- Sensor/actuator connections M12 (a)
- W x H x D (mm) 50 x 35.7 x 170



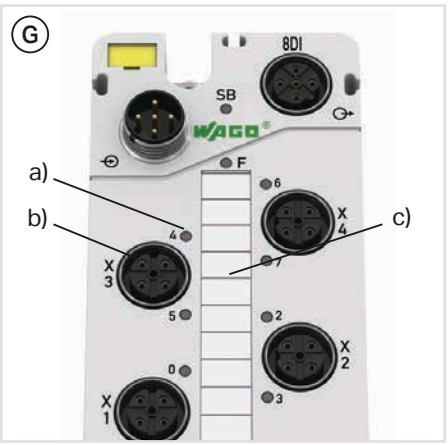
Power Divider Housing Design (E)

- Supply outputs M12 (a)
- Supply output marking (b)
- Supply input M23 (c)
- W x H x D (mm) 50 x 35.7 x 117



Spacer Module (F)

- Cable tie mounts (a)
- W x H x D (mm) 20 x 25 x 117



Signaling (G)

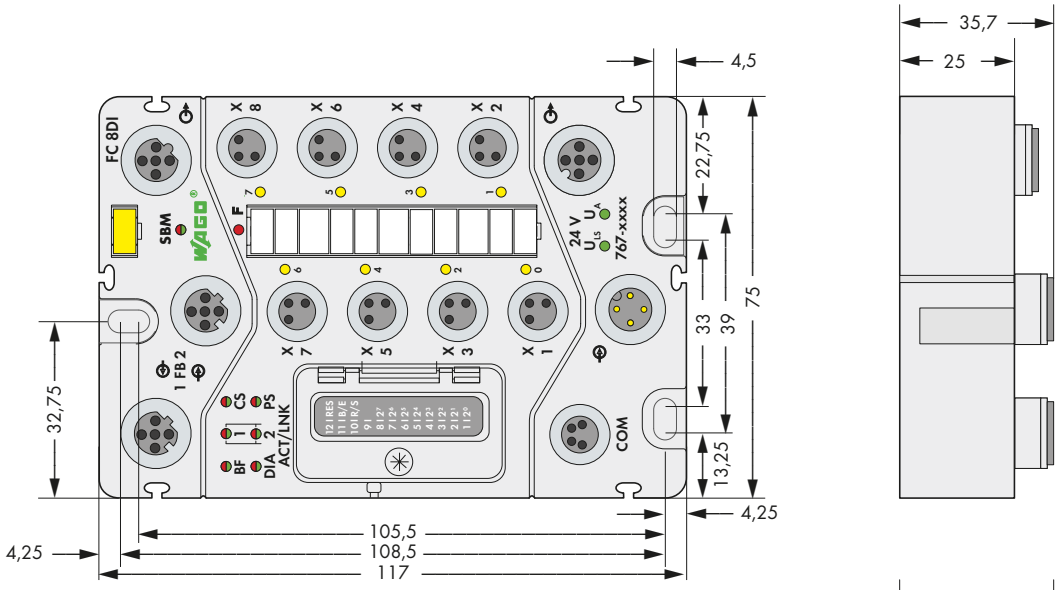
- Per channel 1–2 LEDs (a)
- Unique assignment to the connector (b)
- Unique assignment to the marking (c)

Degree of Protection (H)

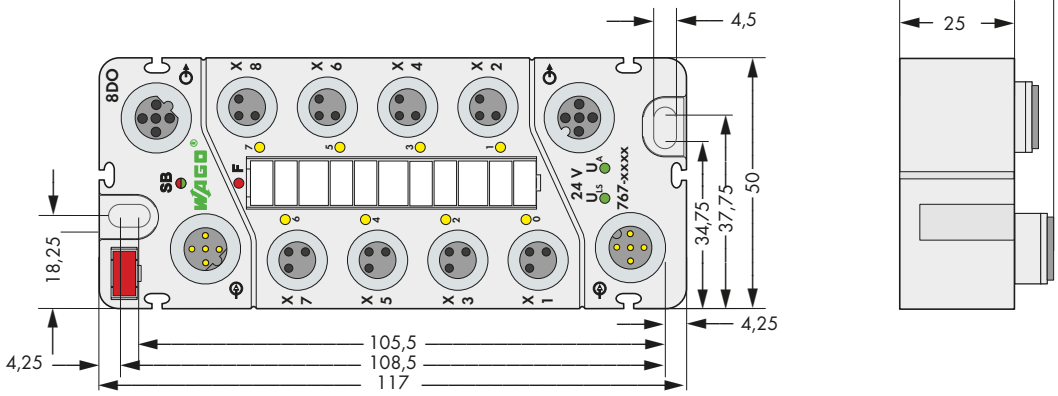
- All modules are fully encapsulated
- Degree of protection: IP67
- Printing on back of module details pin assignment

SPEEDWAY I/O-System
Interfaces and Types

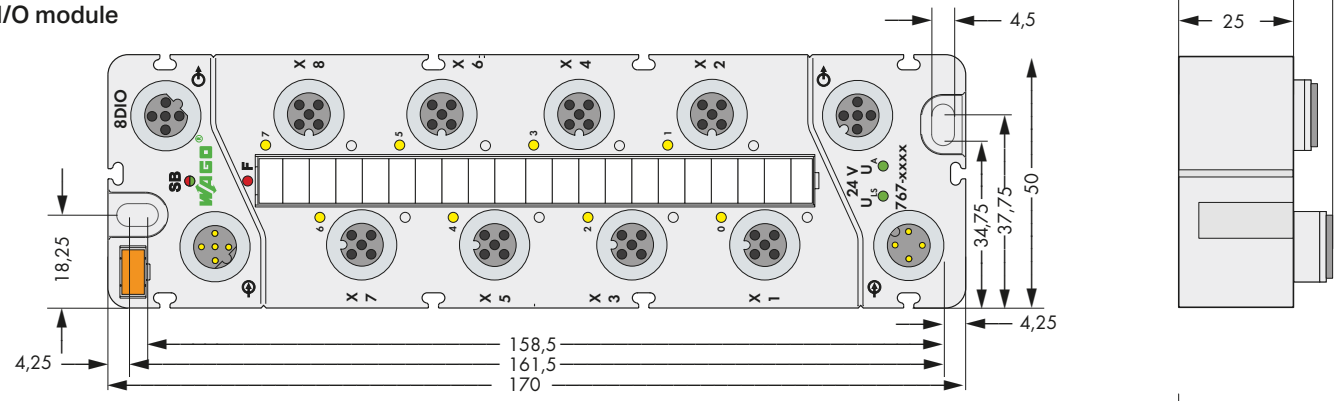
Fieldbus couplers



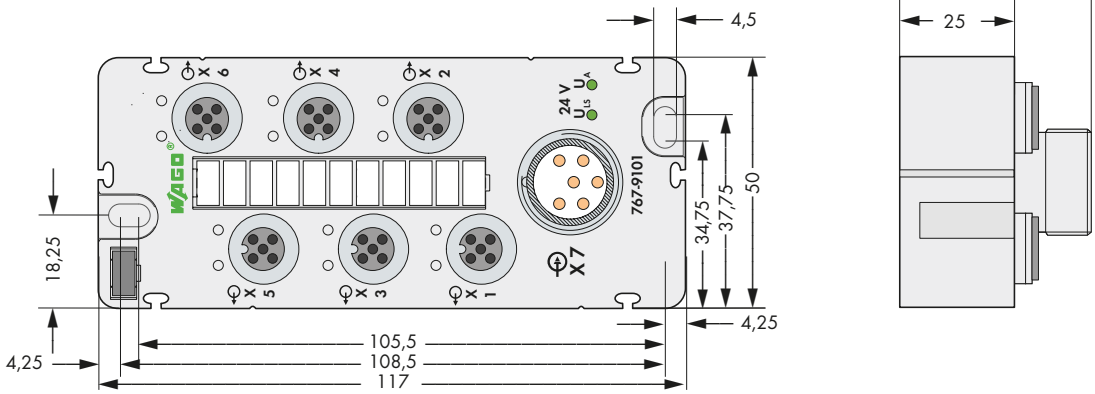
I/O module



I/O module



Power divider



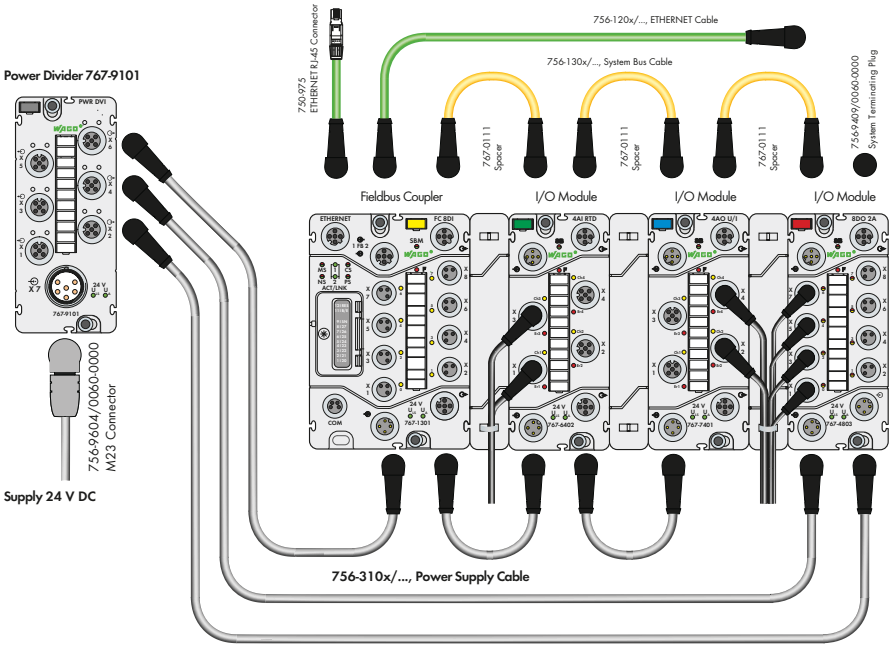
SPEEDWAY I/O-System
Application and Installation Instructions

Supply Modules

The WAGO SPEEDWAY system's modular structure allows both individual I/O modules and groups of modules to be supplied (e.g., emergency stop groups). Thus, different power supplies can be used at the same potential to operate each individual module and group of modules. Two supply lines are routed within the supply cables (gray). The logic and sensor supply (ULS) is always electrically isolated from the actuator supply (UA).

Additional I/O modules can be connected until the highest permissible current load of 4 A for one supply line (ULS and/or UA) is reached. The power supply must be re-established to connect additional SPEEDWAY modules. However, using 2 A output modules, power supply will not be transmitted in the event of an increased power demand.

WAGO's SPEEDWAY Power Divider permits ULS and UA power supply distribution via six M12 connectors. The combination of point-to-point and linear power distribution/distribution routing offers the greatest flexibility to optimize the supply lines for the respective application and to supply power over large distances.



Notice:

Interference-free WAGO I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

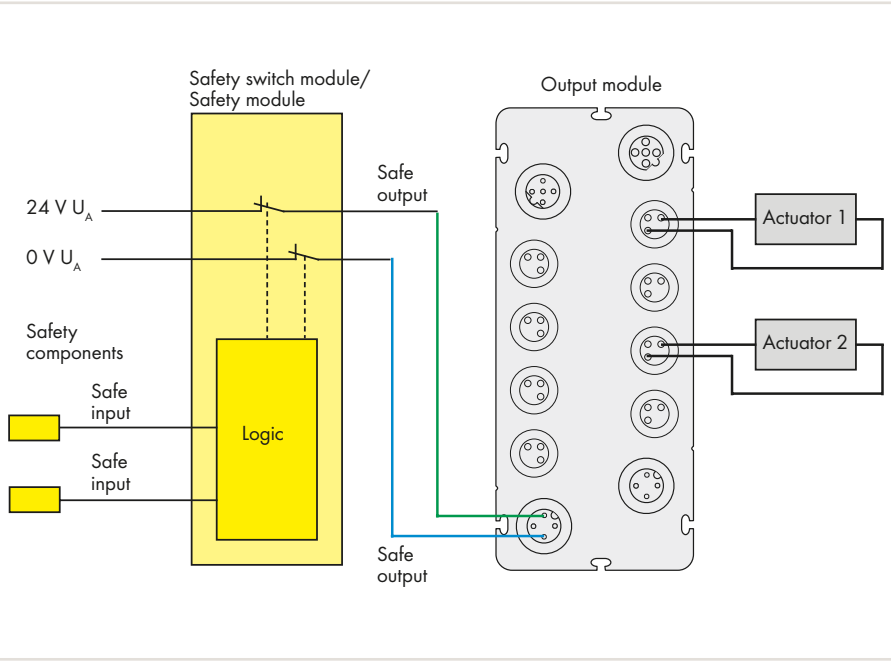
Notice:

For interference-free operation, it is necessary to lay the power cables separately or to use shielded supplied lines. Please observe the notes in the manual!

Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups safely, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs.
In the event of failure, ensure that no interference from other current or power circuits occurs — even when the control voltage is switched off — so the defined safety function properties (logic and time response) remain unchanged.

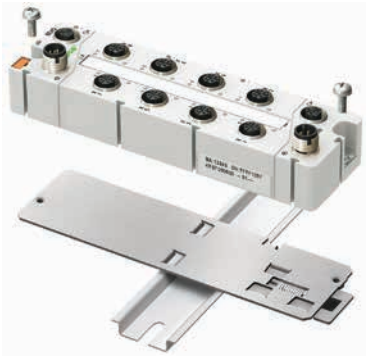
Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



Example: Two-pin shutdown of the power supply of all digital outputs

SPEEDWAY I/O-System
Application and Installation Instructions

A

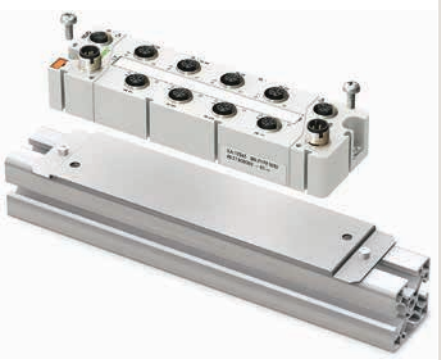


(A) Carrier rail adapter

(B) Profile rail adapter

Available for fieldbus couplers and I/O modules as accessories

B

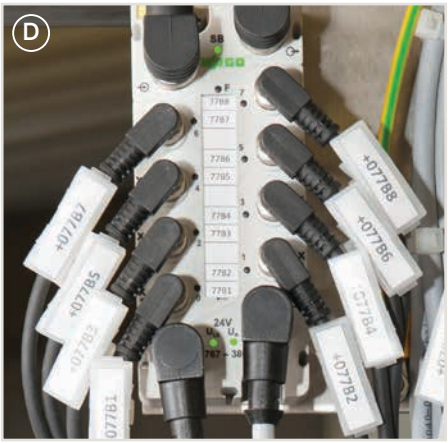


C

(C) Various versions of drag chain compatible, pre-assembled cables for power supply, system bus, fieldbus and separate pluggable connectors available as accessories!

(D) Cable marking via marker sleeves in different lengths for various core diameters
(211 Series)

D



SPEEDWAY I/O-System
Standards and Rated Conditions

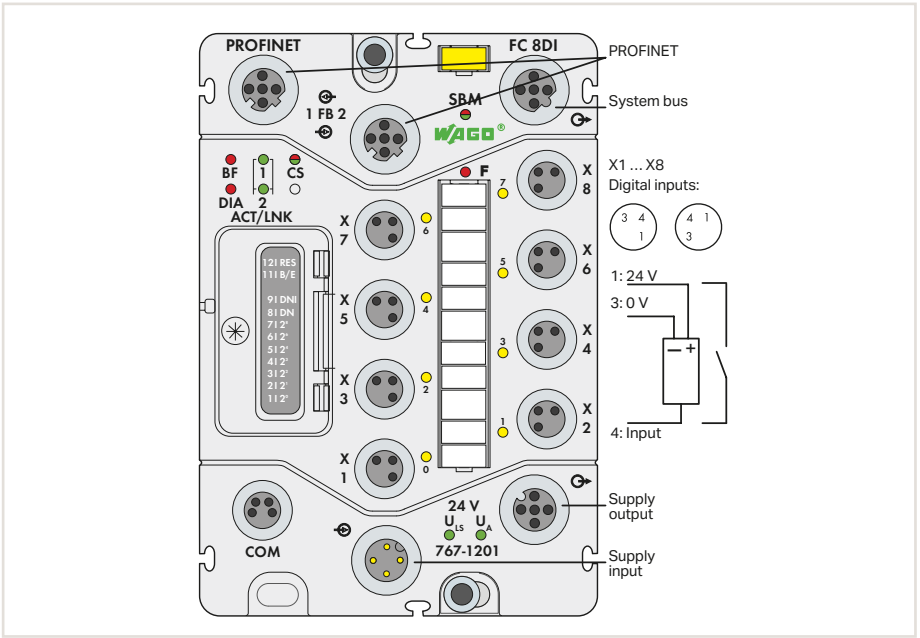
General Specifications	
System supply voltage	24 VDC (−25 … +30 %)
Ambient temperature (operation)	−25 °C … +60 °C; temperature change 3 K/s
Storage temperature	−40 … +85 °C
Relative humidity	5 … 95 %, without condensation
Operating altitude	−1000 … 2000 m; air pressure 1080 … 795 hPa
Altitude at storage/transport	−1000 … 3500 m; air pressure 1080 … 660 hPa
Free fall	≤ 1 m per EN 61131-2
Pollution degree	3 per IEC 60664 (IEC 61131)
Protection class	III per IEC 60536 (VDE 0106, Part 1)
Vibration resistance	5 g acc. IEC 60068-2-6
Shock resistance	Short-term: 50 g/11 ms/half-sine acc. IEC 60068-2-27 Long-term: 30 g/6 ms/half-sine acc. IEC 60068-2-29
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Protection type	IP67 (NEMA 6&6P) per DIN 40050 (EN 60529)
Mounting position	Any
Housing material	Polyamide (PA), light gray (RAL7035); Makrolon (address switch cover), transparent; Flammability per UL94-V0; halogen, silicon-free Potting: Polyurethane (PUR), halogen/silicon-free
UV resistance	1,000 h UV continuous light per DIN EN ISO 4892-2B
Maximum contaminant concentration	SO2 < 0.5 ppm; H2S < 0.1 ppm
Current carrying capacity (supply connections)	Max. 8 A (ULS: 4 A; UA: 4 A)

SPEEDWAY I/O-System
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

Fieldbus Coupler PROFINET IO

8DI 24 VDC



Item description	FC PROFINET
Version	8DI 24VDC
Item no.	**767-1201**

Technical Data

Fieldbus	PROFINET IO
PROFINET IO features	Integrated Switch
Protocols	PROFINET IO (conformity class B), DCP, LLDP, SNMP, Shared Device
Connection technology: Fieldbus input/output	Socket M12, 4 poles, D coded
Input and output process image (internal) max.	1024 bytes
System supply voltage	24 VDC (−25 … +30 %), Logic and sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0,1/ 0,5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M8, 3 poles
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Number of expendable modules	64
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	75 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-1201

Accessories	**Item no.**	**Page**
GSDML file	Download: www.wago.com	
DTM (Device Type Manager)	Download: www.wago.com	
Carrier rail adapter	**767-121**	356
Profile adapter	**767-123**	356
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357
Spacer module	**767-111**	356

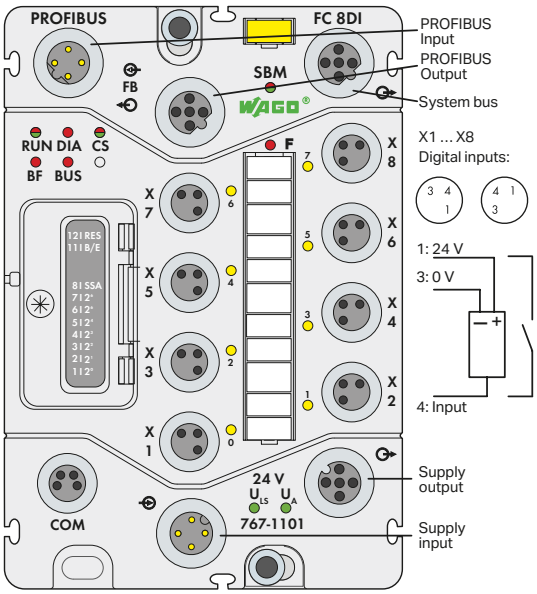
Fieldbus/system bus/power supply cable see Page 358 … 375

IP67 Cables and Connectors see Section 11

Approvals and corresponding ratings, see Page 524 or www.wago.com

Fieldbus Coupler PROFIBUS DP

8DI 24 VDC



Item description	FC PROFIBUS
Version	8DI 24VDC
Item no.	**767-1101**

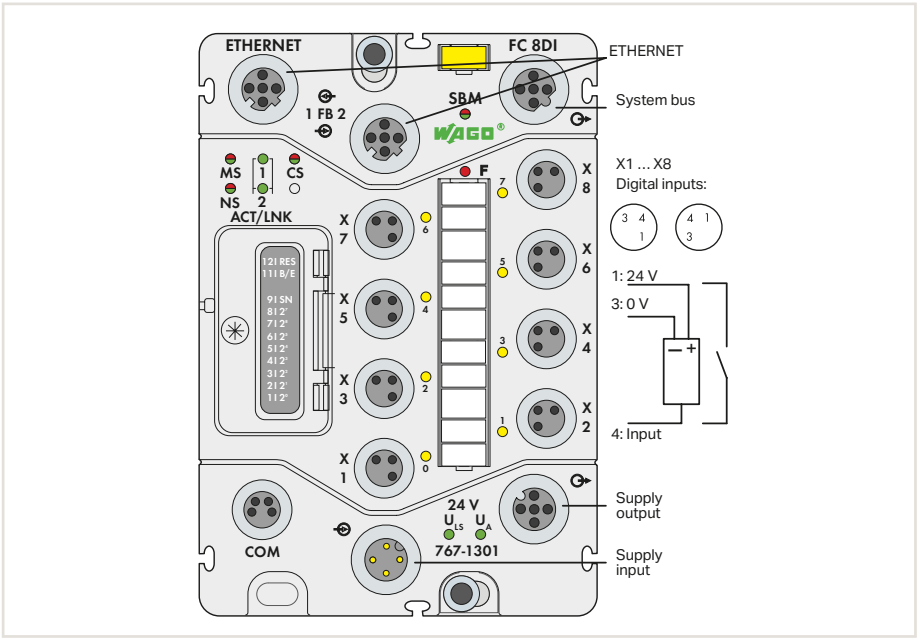
Technical Data

Fieldbus	PROFIBUS
Protocols	PROFIBUS DP/V1
Connection technology: Fieldbus input/output	Socket M12, 4 poles, B coded
Baud rate	9.6 kBd ... 12 MBd
Input and output process image (internal) max.	244 bytes
System supply voltage	24 VDC (−25 ... +30 %), Logic and sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0,1/ 0,5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M8, 3 poles
Field supply voltage	24 VDC (−25 ... +30 %); Actuators (U_A), only for power supply transmission
Number of expendable modules	63
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	75 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-1101

Accessories	**Item no.**	**Page**
GSD file	Download: www.wago.com	
DTM (Device Type Manager)	Download: www.wago.com	
Carrier rail adapter	**767-121**	356
Profile adapter	**767-123**	356
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357
Spacer module	**767-111**	356

Fieldbus Coupler ETHERNET

8DI 24 VDC



Item description	FC ETHERNET
Version	8DI 24VDC
Item no.	**767-1301**

Technical Data

Fieldbus	EtherNet/IP, MODBUS/TCP
Protocols	MODBUS/TCP (UDP), EtherNet/IP
Connection technology: Fieldbus input/output	Socket M12, 4 poles, D coded
Baud rate	10/100 Mbit/s
Input and output process image (internal) max.	2048 bytes
System supply voltage	24 VDC (−25 … +30 %), Logic and sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0,1/ 0,5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M8, 3 poles
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Number of expendable modules	64
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	75 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-1301

Accessories	**Item no.**	**Page**
DTM (Device Type Manager)	Download: www.wago.com	
Carrier rail adapter	**767-121**	356
Profile adapter	**767-123**	356
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357
Spacer module	**767-111**	356

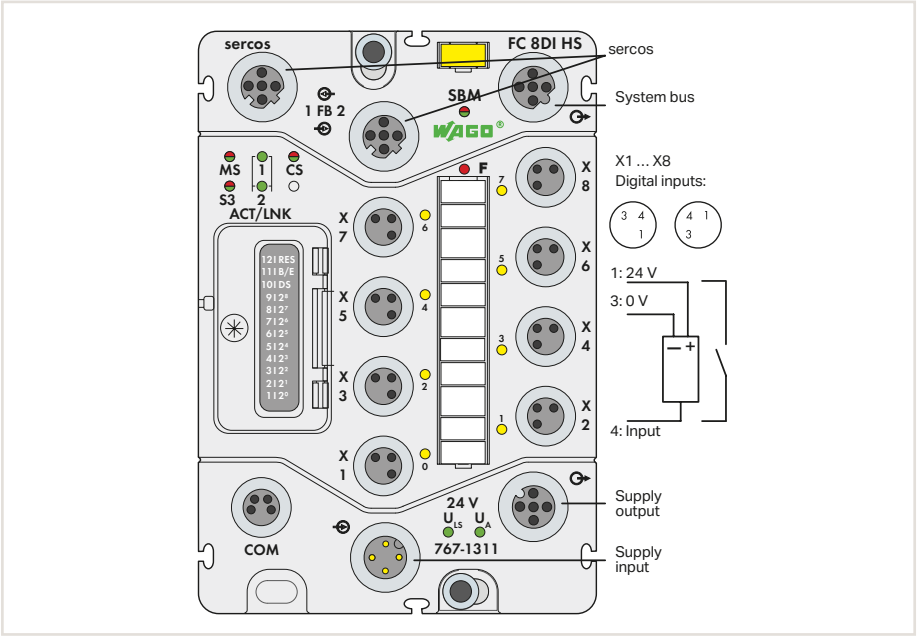
Fieldbus/system bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

Fieldbus Coupler sercos

8DI 24 VDC



Item description	FC sercos
Version	8DI 24VDC
Item no.	**767-1311**

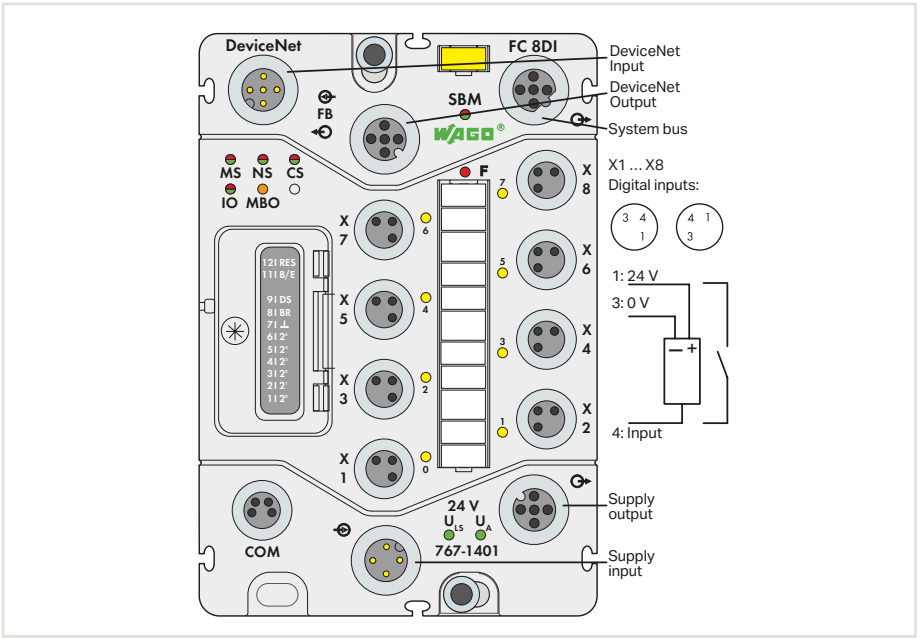
Technical Data

Fieldbus	sercos
Protocols	sercos v1.1.2, TCP/IP, FTP, HTTP
Connection technology: Fieldbus input/output	Socket M12, 4 poles, D coded
Baud rate	100 Mbit/s, full-duplex
Input and output process image (internal) max.	2048 bytes
System supply voltage	24 VDC (−25 … +30 %), Logic and sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0,1/ 0,5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M8, 3 poles
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Number of expendable modules	64
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	75 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-1311

Accessories	**Item no.**	**Page**
SDDML file	Download: www.wago.com	
DTM (Device Type Manager)	Download: www.wago.com	
Carrier rail adapter	**767-121**	356
Profile adapter	**767-123**	356
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357
Spacer module	**767-111**	356

Fieldbus Coupler DeviceNet

8DI 24 VDC



Item description	FC DeviceNet
Version	8DI 24VDC
Item no.	**767-1401**

Technical Data

Fieldbus	DeviceNet
Connection technology: Fieldbus input/output	Socket M12, 5 poles, A coded
Baud rate	125/ 250/ 500 kbit/s
Input and output process image (internal) max.	2048 bytes
System supply voltage	24 VDC (–25 … +30 %), Logic and sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0,1/ 0,5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M8, 3 poles
Field supply voltage	24 VDC (–25 … +30 %); Actuators (U_A), only for power supply transmission
Number of expendable modules	64
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	75 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-1401

Accessories	**Item no.**	**Page**
EDS file	Download: www.wago.com	
DTM (Device Type Manager)	Download: www.wago.com	
Carrier rail adapter	**767-121**	356
Profile adapter	**767-123**	356
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357
Spacer module	**767-111**	356

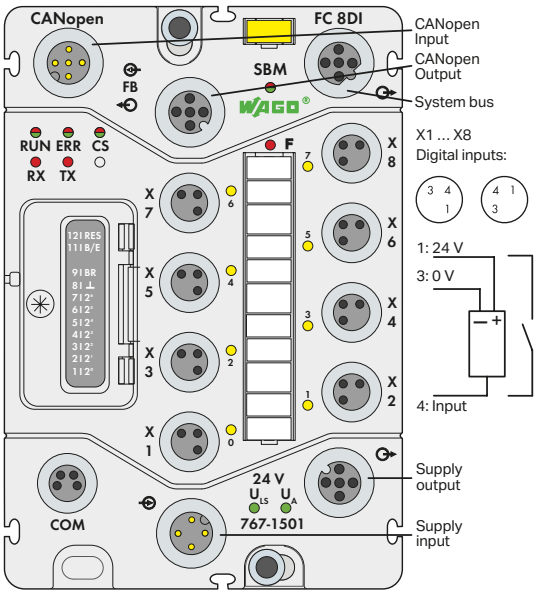
Fieldbus/system bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

Fieldbus Coupler CANopen

8DI 24 VDC



Item description	FC CANopen
Version	8DI 24VDC
Item no.	**767-1501**

Technical Data

Fieldbus	CANopen
Device profile	DS 401 V2.0
Protocols	CANopen acc. to DS-301 V4.01
Connection technology: Fieldbus input/output	Socket M12, 5 poles, A coded
Baud rate	125/ 250/ 500 kbit/s
Input and output process image (internal) max.	512 bytes
System supply voltage	24 VDC (−25 … +30 %), Logic and sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0,1/ 0,5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M8, 3 poles
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Number of expendable modules	64
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	75 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-1501

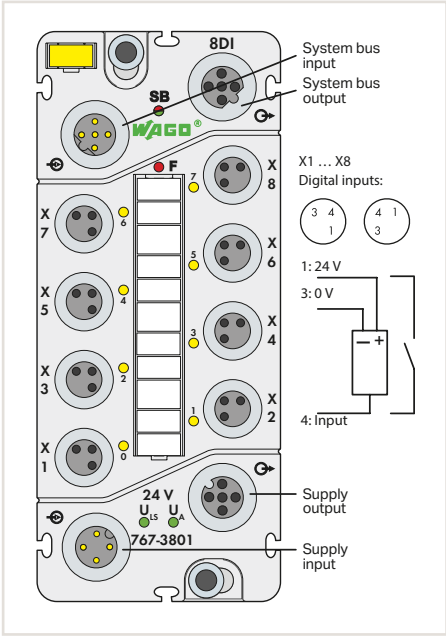
Accessories

Item no.	Page
EDS file	Download: www.wago.com	
DTM (Device Type Manager)	Download: www.wago.com	
Carrier rail adapter	**767-121**	356
Profile adapter	**767-123**	356
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357
Spacer module	**767-111**	356

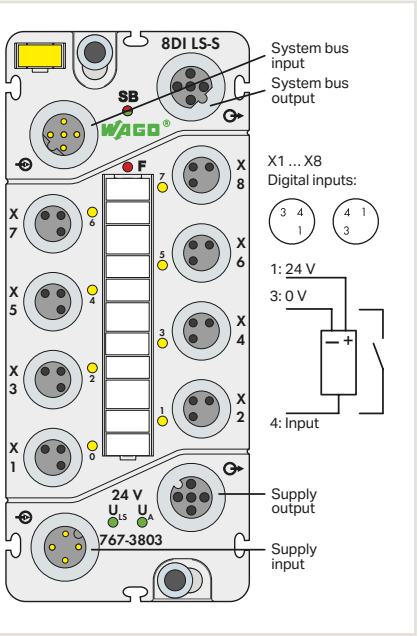
8-channel digital input, 8 x M8

Figure: 767-3801

24 VDC, 8 x M8



24 VDC, Low-side switching, 8 x M8



Item description	8DI	8DI
Version	24 VDC 8xM8	24 VDC LSS 8xM8
Item no.	**767-3801**	**767-3803**
Technical Data		
Number of digital inputs	8	8
Type of signal	24 VDC	24 VDC
Input characteristic	Type 2, acc. to IEC 61131-2	"0": (U_{LS} - 5 V) ... U_{LS}; "1": -3 V ... (U_{LS} - 11 V)
Sensor connection	2-conductor, 3-conductor	2-conductor, 3-conductor
Input wiring	High-side switching	Low-side switching
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	7.3 mA	7 mA
Connection technology: Inputs	Socket M8, 3 poles	Socket M8, 3 poles
System supply voltage	24 VDC (−25 ... +30 %), Logic und sensors (U_{LS})	24 VDC (−25 ... +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 ... +30 %); Actuators (U_A), only for power supply transmission	24 VDC (−25 ... +30 %); Actuators (U_A), only for power supply transmission
Connection technology: System bus	Socket M12, 5 poles, B coded	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm	50 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-3801	wago.com/767-3803

Accessories	Item no.	Page	Item no.	Page
Marking strip	767-101	357	767-101	357
Marking pen	210-110	357	210-110	357
Spacer module	767-111	356	767-111	356
Carrier rail adapter	767-122	356	767-122	356
Profile adapter	767-124	356	767-124	356
M8 protective cap	756-8101	357	756-8101	357
M12 protective cap	767-8102	357	767-8102	357
M12 protective cap (plug)	767-8103	357	767-8103	357

System bus/power supply cable
see Page 358 ... 375

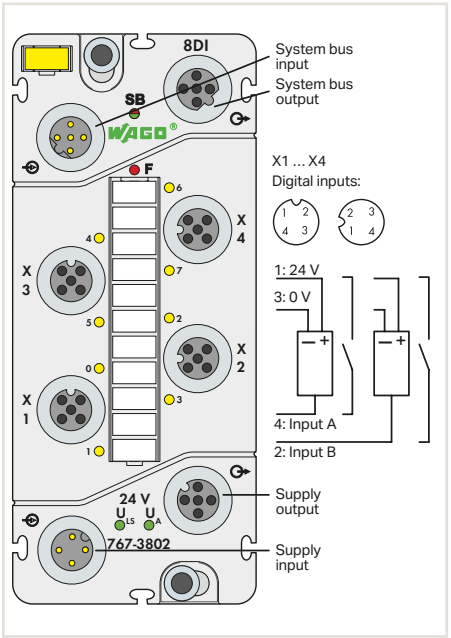
IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

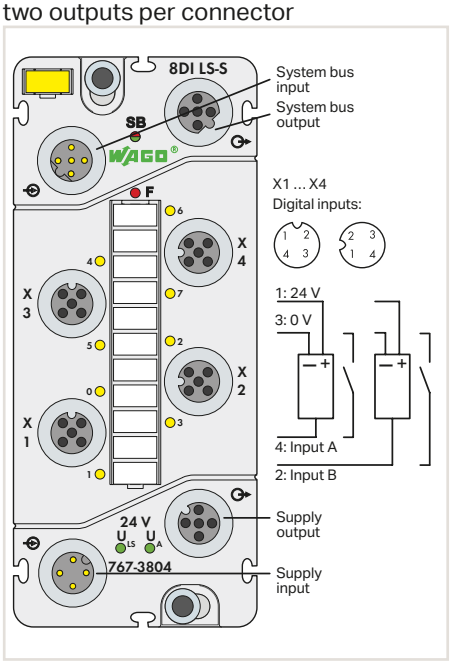
8-channel digital input, 4 x M12

Figure: 767-3802

24 VDC, 4 x M12, two outputs per connector



24 VDC, Low-side switching, 4 x M12, two outputs per connector



Item description	8DI	8DI
Version	24 VDC 4xM12	24 VDC LSS 4xM12
Item no.	**767-3802**	**767-3804**

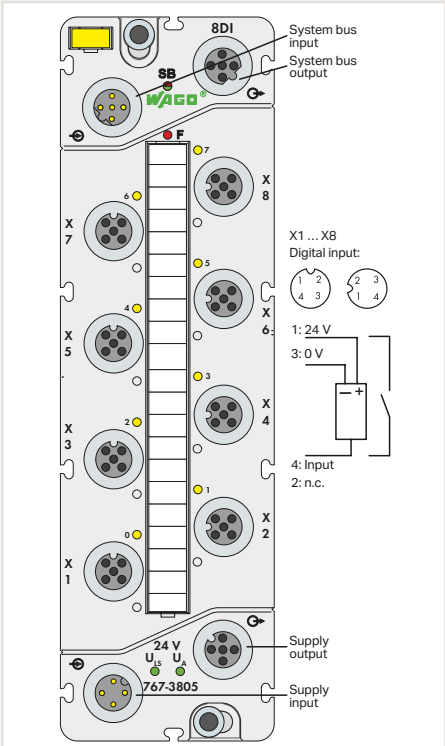
Technical Data

Number of digital inputs	8	8
Type of signal	24 VDC	24 VDC
Input characteristic	Type 2, acc. to IEC 61131-2	"0": (U_{LS} - 5 V) ... U_{LS}; "1": -3 V ... (U_{LS} - 11 V)
Sensor connection	2-conductor, 3-conductor	2-conductor, 3-conductor
Input wiring	High-side switching	Low-side switching
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	7.3 mA	7 mA
Connection technology: Inputs	Socket M12, 4 poles, A coded	Socket M12, 4 poles, A coded
System supply voltage	24 VDC (−25 ... +30 %), Logic und sensors (U_{LS})	24 VDC (−25 ... +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 ... +30 %); Actuators (U_A), only for power supply transmission	24 VDC (−25 ... +30 %); Actuators (U_A), only for power supply transmission
Connection technology: System bus	Socket M12, 5 poles, B coded	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm	50 x 35.7 x 117 mm
Approvals	CE, KC, cULus UL 508, ATEX/IECEx	CE, KC, cULus UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-3802	wago.com/767-3804

Accessories	**Item no.**	**Page**	**Item no.**	**Page**
Marking strip	**767-102**	357	**767-102**	357
Marking pen	**210-110**	357	**210-110**	357
Spacer module	**767-111**	356	**767-111**	356
Carrier rail adapter	**767-122**	356	**767-122**	356
Profile adapter	**767-124**	356	**767-124**	356
M12 protective cap	**756-8102**	357	**756-8102**	357
M12 protective cap (plug)	**767-8103**	357	**767-8103**	357

8-channel digital input, 8 x M12

24 VDC, 8 x M12



Item description	8DI
Version	24 VDC 8xM12
Item no.	**767-3805**

Technical Data	
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 2, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	7.3 mA
Connection technology: Inputs	Socket M12, 4 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 170 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-3805

Accessories	**Item no.**	**Page**
Marking strip	**767-104**	357
Marking pen	**210-110**	357
Carrier rail adapter	**767-125**	356
Profile adapter	**767-126**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**767-8103**	357

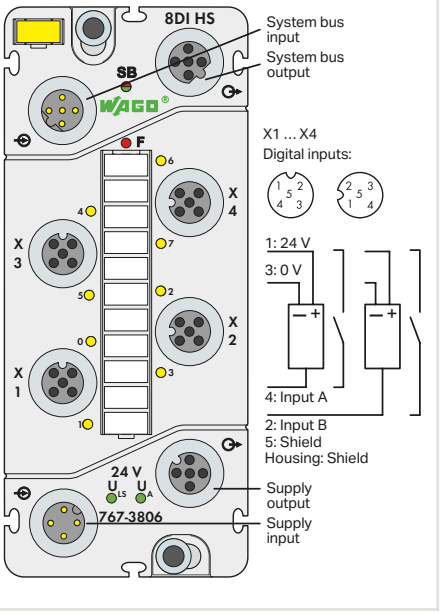
System bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

8-channel digital input, High-speed

24 VDC, High-Speed, 4 x M12,
two outputs per connector



Item description	8DI
Version	24 VDC HS 4xM12
Item no.	**767-3806**

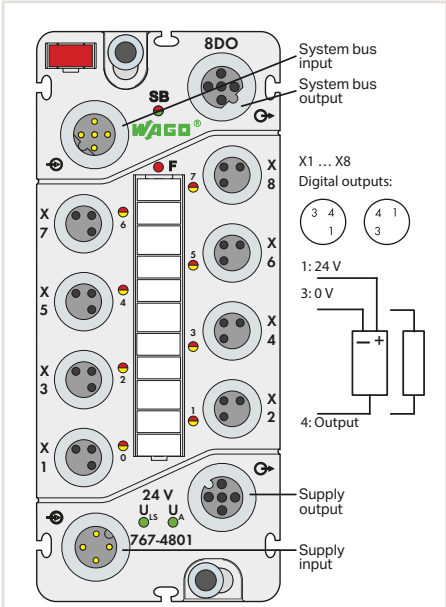
Technical Data	
Number of digital inputs	8
Type of signal	24 VDC
Input characteristic	Type 2, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input wiring	High-side switching
Input filter (digital)	10/ 25/ 50/ 100/ 200 µs/ 1/ 3 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.8 mA
Connection technology: Inputs	Socket M12, 5 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-3806

Accessories	**Item no.**	**Page**
Marking strip	**767-102**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**767-8103**	357

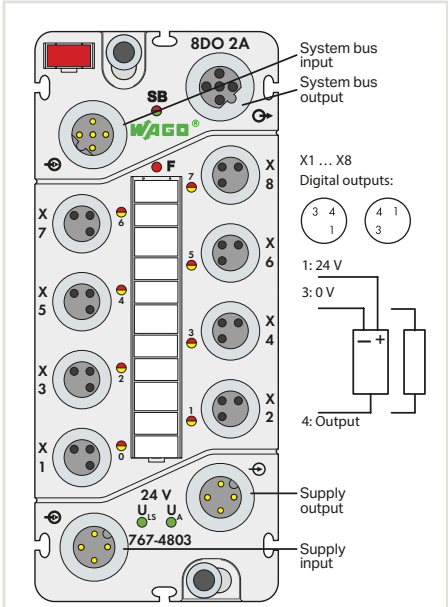
8-channel digital output, 8 x M8

Figure: 767-4801

24 VDC, 0.5 A, 8 x M8,
optional: Interference-free



24 VDC, 2.0 A, 8 x M8,
optional: Interference-free



Item description	8DO		8DO	
Version	24 VDC 0.5A 8xM8	24 VDC 0.5A IF 8xM8	24 VDC 2.0A 8xM8	24 VDC 2.0A IF 8xM8
Item no.	**767-4801**	**767-4801/000-800**	**767-4803**	**767-4803/000-800**
Technical Data				
Interference-free		•		•
Number of digital outputs	8		8	
Type of signal	24 VDC		24 VDC	
Output characteristic	High-side switching		High-side switching	
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof		2.0 A (max. 2.4 A), short-circuit/overload proof	
Load type	Resistive, inductive, lamps		Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor		2-conductor, 3-conductor	
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz		Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz	
Connection technology: Outputs	Socket M8, 3 poles		Socket M8, 3 poles	
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})		24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	
Connection technology: System supply	Socket M12, 4 poles, A coded		Socket M12, 4 poles, A coded	
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)		24 VDC (−25 … +30 %), Actuators (U_A)	
Connection technology: System bus	Socket M12, 5 poles, B coded		Socket M12, 5 poles, B coded	
Dimensions W x H x D	50 x 35.7 x 117 mm		50 x 35.7 x 117 mm	
Approvals	CE, KC, UL 508, ATEX/IECEx		CE, KC, UL 508, ATEX/IECEx	
Data sheet and further information, see:	wago.com/767-4801		wago.com/767-4803	

Accessories	Item no.	Page	Item no.	Page
Marking strip	767-101	357	767-101	357
Marking pen	210-110	357	210-110	357
Spacer module	767-111	356	767-111	356
Carrier rail adapter	767-122	356	767-122	356
Profile adapter	767-124	356	767-124	356
M8 protective cap	756-8101	357	756-8101	357
M12 protective cap	767-8102	357	767-8102	357
M12 protective cap (plug)	767-8103	357	767-8103	357

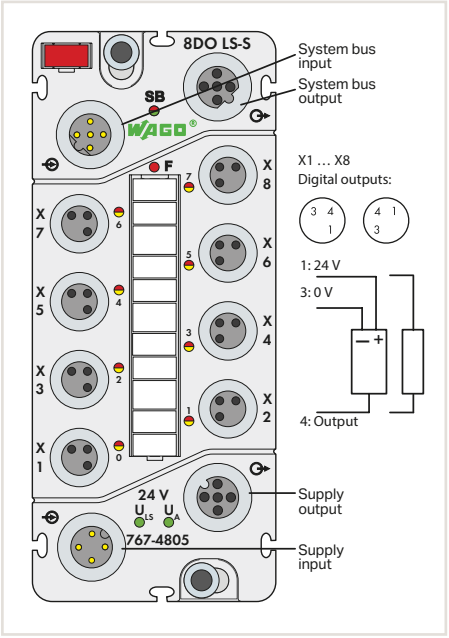
System bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

8-channel digital output, Low-side switching, 8 x M8

24 VDC, 0.5 A, Low-side switching,
8 x M8



Item description	8DO
Version	24 VDC 0.5A LSS 8xM8
Item no.	**767-4805**

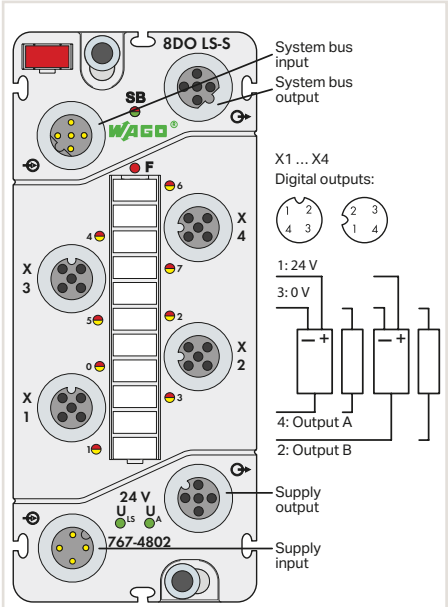
Technical Data	
Number of digital outputs	8
Type of signal	24 VDC
Output characteristic	Low-side switching
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof
Load type	Resistive, inductive, lamps
Actuator connection	2-conductor, 3-conductor
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz
Connection technology: Outputs	Socket M8, 3 poles
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-4805

Accessories	**Item no.**	**Page**
Marking strip	**767-101**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M8 protective cap	**756-8101**	357
M12 protective cap	**767-8102**	357
M12 protective cap (plug)	**767-8103**	357

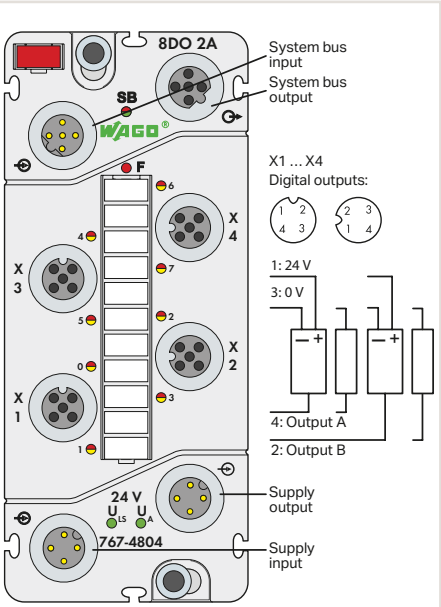
8-channel digital output, 4 x M12

Figure: 767-4802

24 VDC, 0.5 A, 4 x M12, two outputs per connector, optional: Interference-free



24 VDC, 2.0 A, 4 x M12, two outputs per connector, optional: Interference-free



Item description	8DO		8DO	
Version	24 VDC 0.5A 4xM12	24 VDC 0.5A IF 4xM12	24 VDC 2.0A 4xM12	24 VDC 2.0A IF 4xM12
Item no.	**767-4802**	**767-4802/000-800**	**767-4804**	**767-4804/000-800**
Technical Data				
Interference-free		•		•
Number of digital outputs	8		8	
Type of signal	24 VDC		24 VDC	
Output characteristic	High-side switching		High-side switching	
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof		2.0 A (max. 2.4 A), short-circuit/overload proof	
Load type	Resistive, inductive, lamps		Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor		2-conductor, 3-conductor	
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz		Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz	
Connection technology: Outputs	Socket M12, 4 poles, A coded		Socket M12, 4 poles, A coded	
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})		24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	
Connection technology: System supply	Socket M12, 4 poles, A coded		Socket M12, 4 poles, A coded	
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)		24 VDC (−25 … +30 %), Actuators (U_A)	
Connection technology: System bus	Socket M12, 5 poles, B coded		Socket M12, 5 poles, B coded	
Dimensions W x H x D	50 x 35.7 x 117 mm		50 x 35.7 x 117 mm	
Approvals	CE, KC, UL 508, ATEX/IECEx		CE, KC, UL 508, ATEX/IECEx	
Data sheet and further information, see:	wago.com/767-4802		wago.com/767-4804	

Accessories	Item no.	Page	Item no.	Page
Marking strip	767-102	357	767-102	357
Marking pen	210-110	357	210-110	357
Spacer module	767-111	356	767-111	356
Carrier rail adapter	767-122	356	767-122	356
Profile adapter	767-124	356	767-124	356
M12 protective cap	756-8102	357	756-8102	357
M12 protective cap (plug)	767-8103	357	767-8103	357

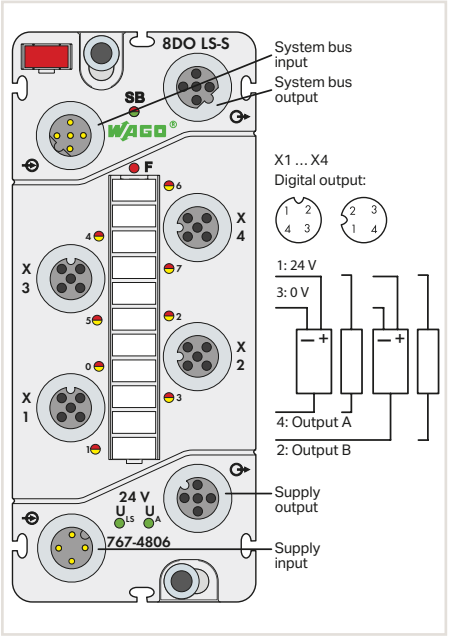
System bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

8-channel digital output, Low-side switching, 4 x M12

24 VDC, 0.5 A, Low-side switching,
4 x M12, two outputs per connector



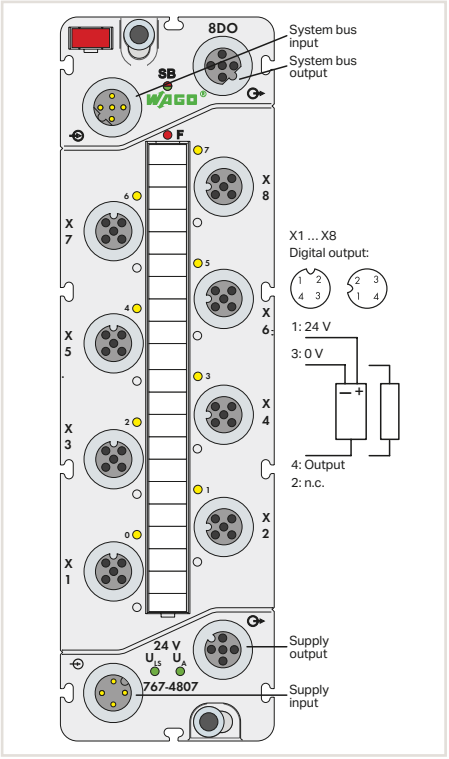
Item description	8DO
Version	24 VDC 0.5A LSS 4xM12
Item no.	**767-4806**

Technical Data	
Number of digital outputs	8
Type of signal	24 VDC
Output characteristic	Low-side switching
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof
Load type	Resistive, inductive, lamps
Actuator connection	2-conductor, 3-conductor
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz
Connection technology: Outputs	Socket M12, 4 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-4806

Accessories	**Item no.**	**Page**
Marking strip	**767-102**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**767-8103**	357

8-channel digital output, 8 x M12

24 VDC, 0.5 A, 8 x M12,
optional: Interference-free



Item description	8DO	
Version	24 VDC 0.5A 8xM12	24 VDC 0.5A IF 8xM12
Item no.	**767-4807**	**767-4807/000-800**

Technical Data		
Interference-free		•
Number of digital outputs	8	
Type of signal	24 VDC	
Output characteristic	High-side switching	
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof	
Load type	Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor	
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz	
Connection technology: Outputs	Socket M12, 4 poles, A coded	
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	
Connection technology: System supply	Socket M12, 4 poles, A coded	
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)	
Connection technology: System bus	Socket M12, 5 poles, B coded	
Dimensions W x H x D	50 x 35.7 x 170 mm	
Approvals	CE, KC, UL 508, ATEX/IECEx	
Data sheet and further information, see:	wago.com/767-4807	

Accessories	**Item no.**	**Page**
Marking strip	767-104	357
Marking pen	210-110	357
Carrier rail adapter	767-125	356
Profile adapter	767-126	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

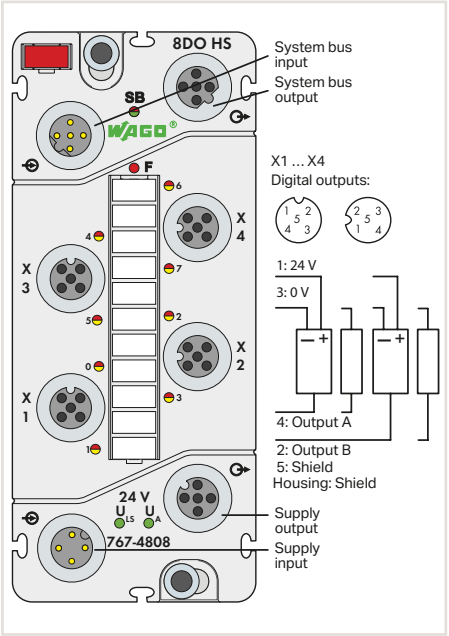
System bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

8-channel digital output, High-Speed

24 VDC, 0,1 A, High-Speed, 4 x M12,
two outputs per connector



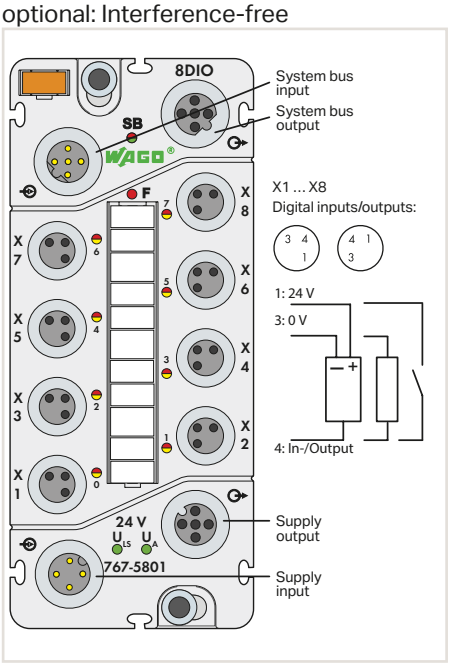
Item description	8DO
Version	24 VDC 0.1A HS 4xM12
Item no.	**767-4808**

Technical Data	
Number of digital outputs	8
Type of signal	24 VDC
Output characteristic	High-side switching
Output current per channel	0.1 A, short-circuit/overload proof
Load type	Resistive, inductive, lamps
Actuator connection	2-conductor, 3-conductor
Switching frequency max.	≤ 1 µs
Connection technology: Outputs	Socket M12, 5 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-4808

Accessories	**Item no.**	**Page**
Marking strip	**767-102**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**756-8103**	357

8-channel digital input/output, 8 x M8

24 VDC, 0.5 A, 8 x M8,
optional: Interference-free



Item description	8DIO	
Version	24 VDC 0.5A 8xM8	24 VDC 0.5A IF 8xM8
Item no.	**767-5801**	**767-5801/000-800**

Technical Data

Interference-free		•
Number of digital inputs	8	
Type of signal	24 VDC	
Input characteristic	Type 2, acc. to IEC 61131-2	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor	
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable	
Input current per channel for signal (1) typ.	7.0 mA	3.0 mA
Number of digital outputs	8	
Output characteristic	High-side switching	
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof	
Load type	Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor	
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz	
Connection technology: Inputs/Outputs	Socket M8, 3 poles	
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	
Connection technology: System supply	Socket M12, 4 poles, A coded	
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)	
Connection technology: System bus	Socket M12, 5 poles, B coded	
Dimensions W x H x D	50 x 35.7 x 117 mm	
Approvals	CE, KC, cULus UL 508, ATEX/IECEx	
Data sheet and further information, see:	wago.com/767-5801	

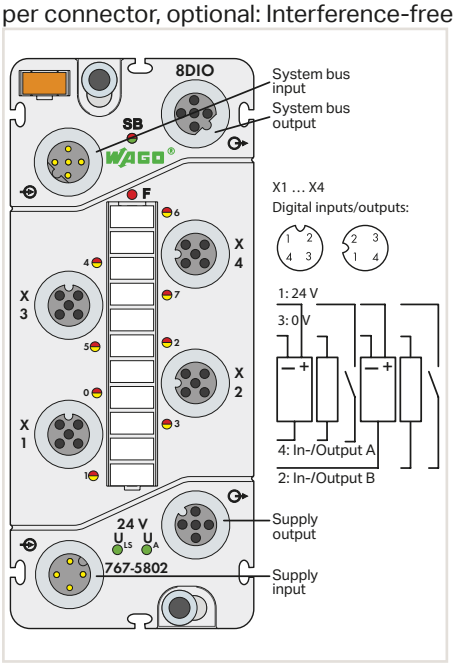
Accessories	Item no.	Page
Marking strip	767-101	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M8 protective cap	756-8101	357
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

System bus/power supply cable
see Page 358 … 375

Approvals and corresponding ratings,
see Page 524 or www.wago.com

8-channel digital input/output, 4 x M12

24 VDC, 0,5 A, 4 x M12, two inputs/outputs per connector, optional: Interference-free

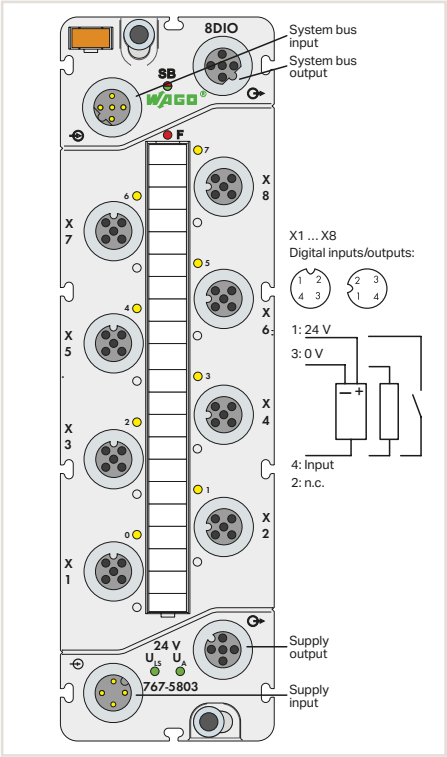


Item description	8DIO	
Version	24 VDC 0.5A 4xM12	24 VDC 0.5A IF 4xM12
Item no.	**767-5802**	**767-5802/000-800**
Technical Data		
Interference-free		•
Number of digital inputs	8	
Type of signal	24 VDC	
Input characteristic	Type 2, acc. to IEC 61131-2	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor	
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable	
Input current per channel for signal (1) typ.	7.0 mA	3.0 mA
Number of digital outputs	8	
Output characteristic	High-side switching	
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof	
Load type	Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor	
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz	
Connection technology: Inputs/Outputs	Socket M12, 4 poles, A coded	
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	
Connection technology: System supply	Socket M12, 4 poles, A coded	
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)	
Connection technology: System bus	Socket M12, 5 poles, B coded	
Dimensions W x H x D	50 x 35.7 x 117 mm	
Approvals	CE, KC, UL 508, ATEX/IECEx	
Data sheet and further information, see:	wago.com/767-5802	

Accessories	Item no.	Page
Marking strip	767-102	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

8-channel digital input/output, 8 x M12

24 VDC, 0,5 A, 8 x M12,
optional: Interference-free



6

Item description	8DIO	
Version	24 VDC 0.5A 8xM12	24 VDC 0.5A IF 8xM12
Item no.	**767-5803**	**767-5803/000-800**

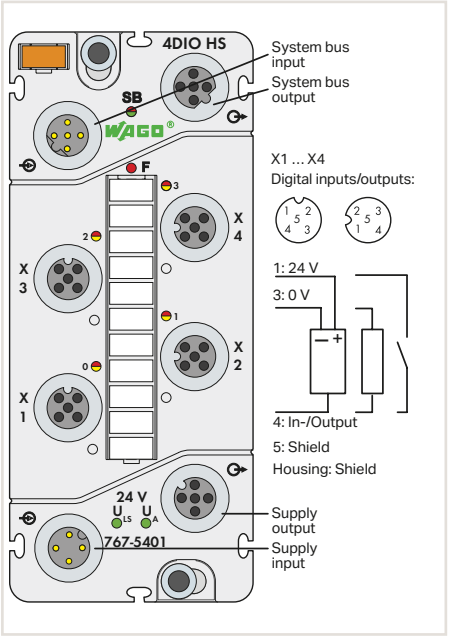
Technical Data		
Interference-free		•
Number of digital inputs	8	
Type of signal	24 VDC	
Input characteristic	Type 2, acc. to IEC 61131-2	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor	
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable	
Input current per channel for signal (1) typ.	7.0 mA	3.0 mA
Number of digital outputs	8	
Output characteristic	High-side switching	
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof	
Load type	Resistive, inductive, lamps	
Actuator connection	2-conductor, 3-conductor	
Switching frequency max.	Inductive load approx. 20 Hz, resistive load approx. 500 Hz, lamp load approx. 500 Hz	
Connection technology: Inputs/Outputs	Socket M12, 4 poles, A coded	
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	
Connection technology: System supply	Socket M12, 4 poles, A coded	
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)	
Connection technology: System bus	Socket M12, 5 poles, B coded	
Dimensions W x H x D	50 x 35.7 x 117 mm	
Approvals	CE, KC, UL UL 508, ATEX/IECEx	
Data sheet and further information, see:	wago.com/767-5803	

Accessories	**Item no.**	**Page**
Marking strip	**767-104**	357
Marking pen	**210-110**	357
Carrier rail adapter	**767-125**	356
Profile adapter	**767-126**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**756-8103**	357

Approvals and corresponding ratings, see Page 524 or www.wago.com

4-channel digital input/output, High-speed

24 VDC, 0,2 A, 4 x M12



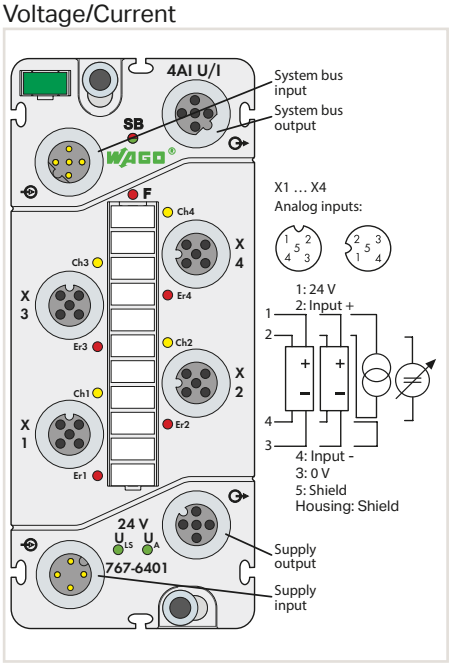
Item description	4DIO
Version	24 VDC 0.5A 4xM12
Item no.	**767-5401**

Technical Data	
Number of digital inputs	4
Type of signal	24 VDC
Input characteristic	Type 1, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input filter (digital)	10/ 25/ 50/ 100/ 200 µs/ 1/ 3 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	2.9 mA
Number of digital outputs	4
Output characteristic	High-side switching
Output current per channel	0.2 A, short-circuit/overload proof
Load type	Resistive, inductive, lamps
Actuator connection	2-conductor, 3-conductor
Switching frequency max.	≤ 1 µs
Connection technology: Inputs/Outputs	Socket M12, 5 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-5401

Accessories	**Item no.**	**Page**
Marking strip	**767-102**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**756-8103**	357

4-channel analog input

Voltage/Current



Item description	4AI
Version	U/I
Item no.	**767-6401**

Technical Data

Number of analog inputs	4
Type of signal	0 … 20 mA, 0 … 22 mA (NE43), 4 … 20 mA, ±20 mA, 0 … 10 V, ±10 V
Signal characteristic	Differential inputs
Input impedance	AI(U) ≥ 100 kΩ, AI(I) ≤ 200 Ω at 20 mA
Resolution	2-conductor, 3-conductor, 4-conductor
Conversion time	1 ms
Measuring error (25 °C)	≤ ± 0.2 % of the largest measurement range
Temperature coefficient	≤ 100 ppm/K of the largest measurement range
Connection technology: Inputs	Socket M12, 5 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, KS, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-6401

Accessories	**Item no.**	**Page**
Marking strip	767-102	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

System bus/power supply cable
see Page 358 … 375

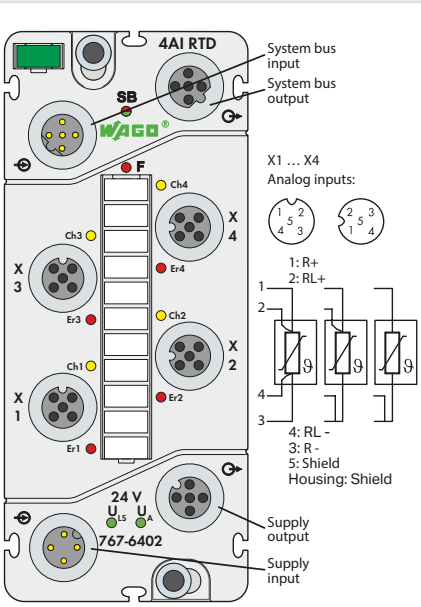
IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

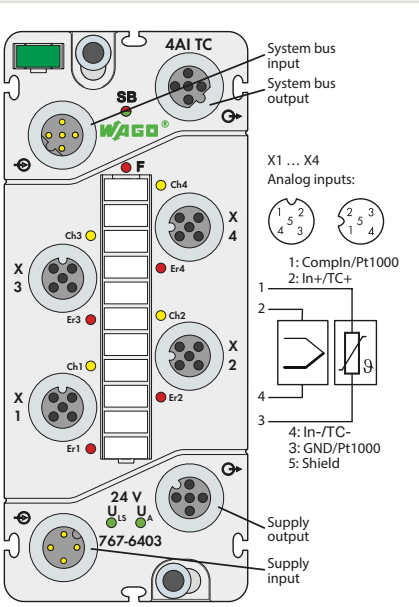
4-channel analog input

Figure: 767-6402

Resistance Sensors



Thermocouple



Item description	4AI	4AI
Version	RTD	TC
Item no.	**767-6402**	**767-6403**

Technical Data

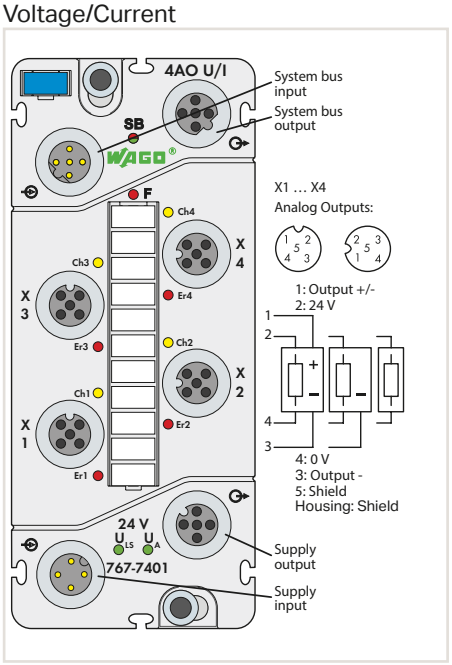
Number of analog inputs	4	4
Type of signal	Resistance thermometer: Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000; Resistors: 1 kΩ, 4 kΩ; Potentiometer: 0 … 100 % (1 kΩ, 4 kΩ)	Thermocouples: Type B, C, E, J, K, N, R, S, T; Voltage sensors: ± 36 mV, ± 72 mV, ± 145 mV, ± 290 mV
Sensor connection	2-conductor, 3-conductor, 4-conductor	2-conductor
Temperature range	-200 … + 850 °C (Pt), -60 … +250 °C (Ni)	depending on sensor; -100 … +1.800 °C
Resolution	0.05 °C, 0.05 Ω, 0.25 Ω, 0.005 %	0.1 °C or 0.01 mV (voltage sensor)
Conversion time	1 / Input sampling frequency (s)	6 … 360 ms
Measuring error (25 °C)	± 0,1 % of the largest measurement range	< ± 1 K (Type K); cold junction compensation* < ± 1 K
Temperature coefficient	± 0,001 % of the largest measurement range/ K	± 0.05 K/K (Type K)
Connection technology: Inputs	Socket M12, 5 poles, A coded	Socket M12, 5 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission	24 VDC (−25 … +30 %); Actuators (U_A), only for power supply transmission
Connection technology: System bus	Socket M12, 5 poles, B coded	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm	50 x 35.7 x 117 mm
Approvals	CE, KC, cULus UL 508, ATEX/IECEx	CE, KC, cULus UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-6402	wago.com/767-6403

Accessories	Item no.	Page	Item no.	Page
Compensation connector			756-9207/050-000	374
Marking strip	767-102	357	767-102	357
Marking pen	210-110	357	210-110	357
Spacer module	767-111	356	767-111	356
Carrier rail adapter	767-122	356	767-122	356
Profile adapter	767-124	356	767-124	356
M12 protective cap	756-8102	357	756-8102	357
M12 protective cap (plug)	756-8103	357	756-8103	357

*Cold-junction compensation via a pre-assembled connector

4-channel analog output

Voltage/Current



Item description	4AO
Version	U/I
Item no.	**767-7401**

Technical Data

Number of analog outputs	4
Type of signal	0 … 20 mA, 4 … 20 mA, ±20 mA, 0 … 10 V, ±10 V
Load impedance	≤ 500 Ω (current), ≥ 5 kΩ (voltage)
Resolution	15-bit unipolar, 16-bit bipolar
Conversion time	1 ms
Measuring error (25 °C)	≤ ± 0.2 % of largest measurement range
Temperature coefficient	≤ 100 ppm/K of largest measurement range
Connection technology: Outputs	Socket M12, 5 poles, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-7401

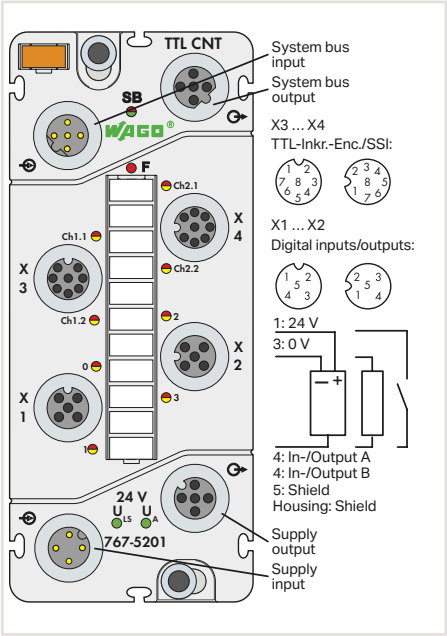
Accessories	**Item no.**	**Page**
Marking strip	**767-102**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M12 protective cap	**756-8102**	357
M12 protective cap (plug)	**756-8103**	357

System bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

TTL Incremental Encoder/SSI Transmitter

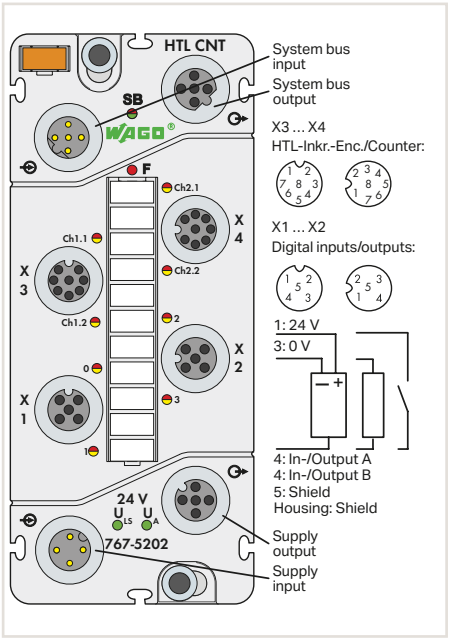


Item description	TTL Inc. Encoder/ SSI
Item no.	**767-5201**
Technical Data	
Number of inputs	2
Encoder connection	A, A\, B, B\, C, C\ (Incremental encoder); D+, D-, CL+, CL (SSI encoder)
Sensor supply	5 V/24 V, max. 300 mA
Signal input/output	Differential signal RS-422
Method of conversion (SSI)	Binary/Gray
Counter resolution (Inc.)	32 bits
Operating frequency (Inc.)/ Baud rate (SSI)	1 MHz / up to 2 MHz
Connection technology: Incr. Encoder/SSI Encoder	Socket M12, 8 poles, shielded, A coded
Number of digital inputs	4
Type of signal	24 VDC
Input characteristic	Type 3, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Number of digital outputs	4
Output current per channel	0,1 A, short-circuit/overload proof (thermal shutdown)
Actuator connection	2-conductor, 3-conductor
Connection technology: Inputs/Outputs	Socket M12, 5 poles, shielded, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-5201

Accessories	Item no.	Page
Marking strip	767-102	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

Configurable functions:
Online simulation, diagnostics
- Incremental encoder: Evaluation, filter
- SSI encoder: Data width/length, transmission rate
- Cam: Upper/lower value, output
- Pulse-width modulation: Pulse duty factor, frequency
- Digital I/Os: Operating mode, filter, substitute value strategy

HTL Incremental Encoder/Counter Interface



Item description	HTL-Inc. Encoder/ Counter
Item no.	**767-5202**
Technical Data	
Number of inputs	2
Encoder connection	A, A\, B, B\, C, C\ (Incremental encoder)
Sensor supply	5 V/24 V, max. 300 mA
Signal input	HTL, differential/single-ended
Counter resolution (Inc.)	32 bits
Operating frequency (Inc.)/Counter frequency	250 kHz
Counter input	24 VDC
Power supply (Counter)	max. 300 mA
Connection technology: Incr. encoder/Counter	Socket M12, 8 poles, shielded, A coded
Number of digital inputs	4
Type of signal	24 VDC
Input characteristic	Type 3, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Number of digital outputs	4
Output current per channel	0,1 A, short-circuit/overload proof
Actuator connection	2-conductor, 3-conductor
Connection technology: Inputs/Outputs	Socket M12, 5 poles, shielded, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-5202

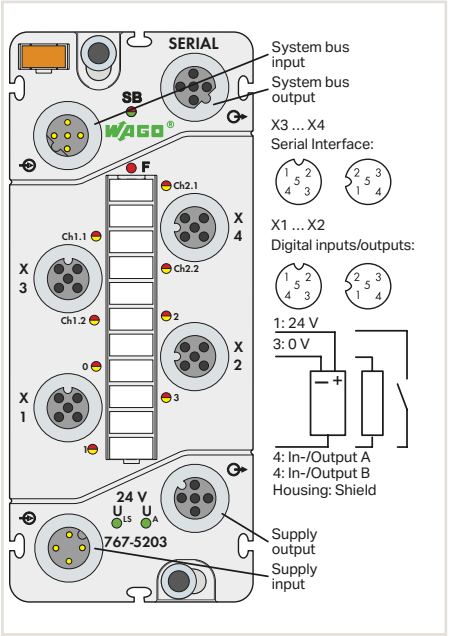
Configurable functions:
Online simulation, diagnostics
- Incremental encoder: Evaluation, filter
- Counter: Gate, direction, gate time, preset
- Cam: Upper/lower value, output
- Pulse-width modulation: Pulse duty factor, frequency
- Digital I/Os: Operating mode, filter, substitute value strategy

Accessories	Item no.	Page
Marking strip	767-102	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

System bus/power supply cable
see Page 358 … 375

Approvals and corresponding ratings,
see Page 524 or www.wago.com

RS-232/422/485 Serial Interface

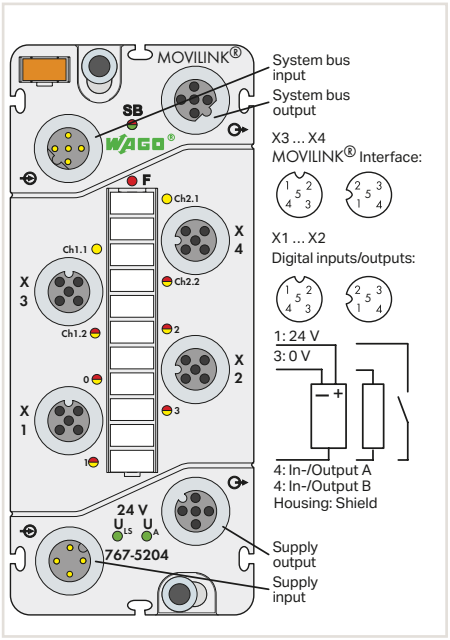


Item description	RS232/422/485 Interface
Item no.	**767-5203**
Technical Data	
Type of signal	RS-232/422/485
Transmission channels	1 RxD / 1 TxD (full-/half-duplex)
Baud rate	300 … 115.200 Baud
Parity	None/Odd/Even
Number of data bits	7/8, adjustable
Number of stop bits	1/2, adjustable
Buffer	4 KB (In); 4 KB (Out)
Connection technology: Interface	Socket M12, 5 poles, shielded, A coded
Number of digital inputs	4
Type of signal	24 VDC
Input characteristic	Type 2, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	7.3 mA
Number of digital outputs	4
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof
Actuator connection	2-conductor, 3-conductor
Connection technology: Inputs/Outputs	Socket M12, 5 poles, shielded, A coded
System supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 … +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, KC, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-5203

Configurable functions:
Online simulation, diagnostics
- Serial interface: Operating mode, baud rate, data bits, parity, stop bits, flow-Control
- Digital I/Os: Operating mode, input filter, inversion, substitute value strategy, manual mode

Accessories	Item no.	Page
RS-422/-485 Termination M12	756-9218/050-000	374
Marking strip	767-102	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

MOVILINK® Interface (RS-232, RS-485)



Item description	RS232/485 Movilink Interface
Item no.	**767-5204**

Technical Data

Type of signal	RS-232/485
Transmission channels	1 RxD / 1 TxD (full-/half-duplex)
Baud rate	9.600 Bd ... 57.600 Bd
Protocols	MOVILINK®
MOVILINK operating mode	Easy Modus/Mailbox Modus
Connection technology: Interface	Socket M12, 5 poles, shielded, A coded
Number of digital inputs	4
Type of signal	24 VDC
Input characteristic	Type 2, acc. to IEC 61131-2
Sensor connection	2-conductor, 3-conductor
Input filter (digital)	0.1/ 0.5/ 3 /15 /20 ms/Filter off; adjustable
Input current per channel for signal (1) typ.	7.3 mA
Number of digital outputs	4
Output current per channel	0.5 A (max. 0.6 A), short-circuit/overload proof (thermal disconnection)
Actuator connection	2-conductor, 3-conductor
Connection technology: Inputs/Outputs	Socket M12, 5 poles, shielded, A coded
System supply voltage	24 VDC (−25 ... +30 %), Logic und sensors (U_{LS})
Connection technology: System supply	Socket M12, 4 poles, A coded
Field supply voltage	24 VDC (−25 ... +30 %), Actuators (U_A)
Connection technology: System bus	Socket M12, 5 poles, B coded
Dimensions W x H x D	50 x 35.7 x 117 mm
Approvals	CE, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/767-5204

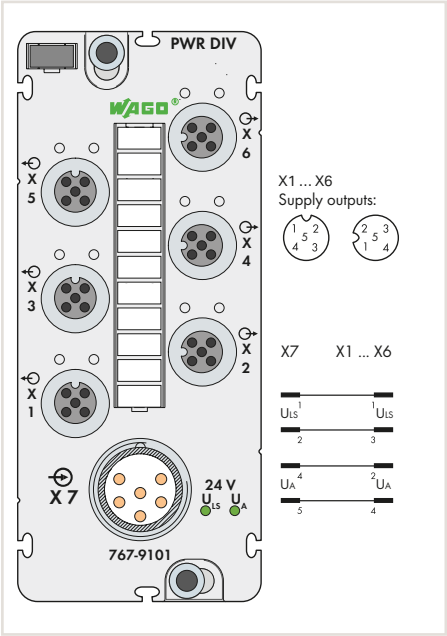
Accessories	Item no.	Page
RS-422/-485 Termination M12	756-9218/050-000	374
Marking strip	767-102	357
Marking pen	210-110	357
Spacer module	767-111	356
Carrier rail adapter	767-122	356
Profile adapter	767-124	356
M12 protective cap	756-8102	357
M12 protective cap (plug)	756-8103	357

The module is used to actuate drives from SEW Eurodrive via the serial MOVILINK® interface.

Configurable functions:
Online simulation, diagnostics
- MOVILINK® interface: Operating mode, Type, Braud rate
- Digitale I/Os: Operating mode, input filter, inversion, substitute value strategy, manual mode

MOVILINK is a registered trademark of SEW Eurodrive GmbH & Co KG

Power Divider



Item description	Power Divider
Item no.	**767-9101**

The power distribution connector is used to distribute supply voltage to several modules.

Technical Data	
System supply voltage	24 VDC (−25 … +30 %)
Field supply voltage	24 VDC (−25 … +30 %), Logic und sensors (U_{LS})
Connection technology: Supply	Plug M23, 6 poles*
Current carrying capacity module	max. 24 A (U_{LS} max. 8 A, U_A max. 16 A)*
No. of outputs	6
Current carrying capacity connector	max. 8 A (U_{LS}: 4 A, U_A: 4 A)*
Connection technology: System supply	Socket M12, 4 poles, A coded*
Isolation	500 VDC U_{LS}/U_A
Dimensions W x H x D	50 x 43.3 x 117 mm
Approvals	CE, KS, UL 508
Data sheet and further information, see:	wago.com/767-9101

Accessories	**Item no.**	**Page**
Marking strip	**767-103**	357
Marking pen	**210-110**	357
Spacer module	**767-111**	356
Carrier rail adapter	**767-122**	356
Profile adapter	**767-124**	356
M12 protective cap	**756-8102**	357
M23 protective cap	**756-8104**	357

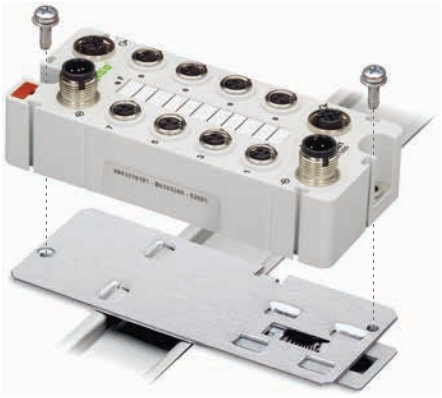
*Derating must be observed!

System bus/power supply cable
see Page 358 … 375

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 524 or www.wago.com

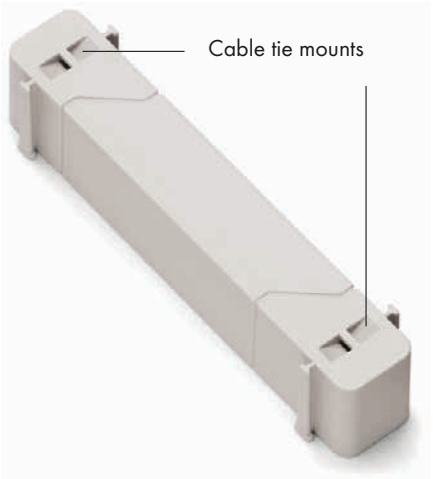
Accessories

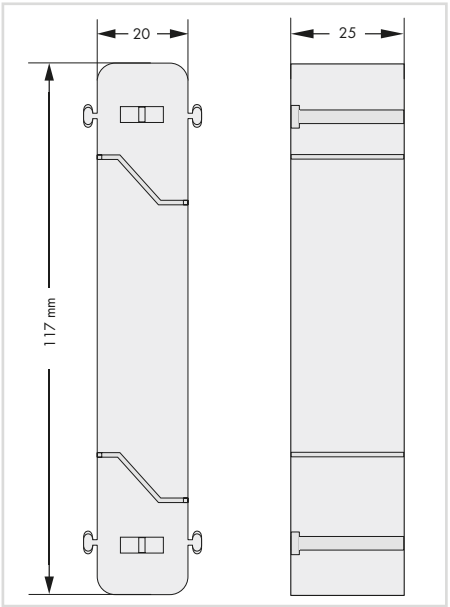


Carrier rail adapter		
	Item No.	Pack. Unit
Carrier rail adapter, for couplers/progr. couplers	767-121	1
Carrier rail adapter, for I/O and power distribution modules	767-122	1
Carrier rail adapter, for I/O module 8 x M12	767-125	1

Profile adapter		
	Item No.	Pack. Unit
Profile adapter, for couplers/progr. couplers	767-123	1
Profile adapter, for I/O and power distribution modules	767-124	1
Profile adapter, for I/O module 8 x M12	767-126	1

6





Spacer module		
	Item No.	Pack. Unit
	767-111	1

Accessories

Marking strip		
	Item No.	Pack. Unit
Marking strip, 8xM8	767-101	100
Marking strip, 4xM12	767-102	100
Marking strip, for power distribution modules	767-103	100
Marking strip, 8 x M12	767-104	100
Marking strip, 9.9 mm wide, 50 m roll	757-901/000-050	1

Marking pen		
	Item No.	Pack. Unit
for permanent marking	210-110	1

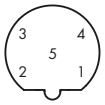
Protective caps (for unused sockets)		
	Item No.	Pack. Unit
M8 protective cap	756-8101	10
M12 protective cap	756-8102	10

Protective caps (for unused plugs)		
	Item No.	Pack. Unit
M12 protective cap	756-8103	1

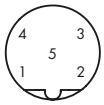
Protective caps (for unused plugs)		
	Item No.	Pack. Unit
M23 protective cap	756-8104	1

Locking clip (protects pre-assembled connectors from tool-free disconnection)		
	Item No.	Pack. Unit
Locking clip, M8	756-8301	10
Locking clip, M12	756-8302	10

System bus cable for drag chain



M12 socket

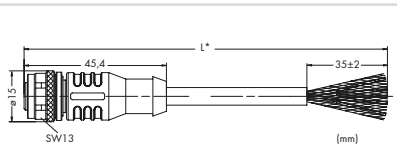


M12 plug

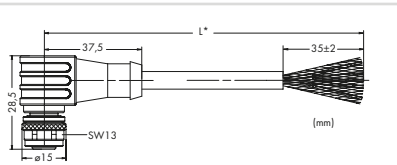
Pin 1 - 5: 0.14 mm²

1 red
2 black
3 blue
4 brown
5 yellow, green, orange, gray

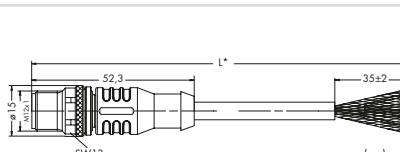
Connection technology	M12 socket/plug, B coded
Operating voltage	≤ 60 V
Operating current	4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 5 Mio. bending cycles
Ambient temperature (operation) moved	0 … +50 °C
Protection type	IP67
Cable diameter	6.8 mm



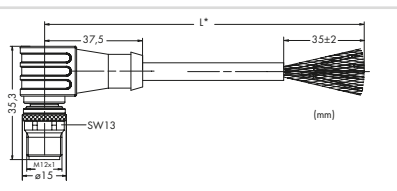
System bus cable for drag chain, M12 socket, straight, B coded	Item No.	Pack. Unit
M12 socket, straight, 2 m	756-1501/060-020	1
M12 socket, straight, 5 m	756-1501/060-050	1
M12 socket, straight, 10 m	756-1501/060-100	1
M12 socket, straight, 20 m	756-1501/060-200	1



System bus cable for drag chain, M12 socket, right angle, B coded	Item No.	Pack. Unit
M12 socket, right angle, 2 m	756-1502/060-020	1
M12 socket, right angle, 5 m	756-1502/060-050	1
M12 socket, right angle, 10 m	756-1502/060-100	1
M12 socket, right angle, 20 m	756-1502/060-200	1

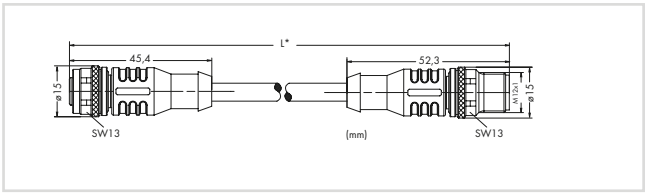


System bus cable for drag chain, M12 plug, straight, B coded	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-1503/060-020	1
M12 plug, straight, 5 m	756-1503/060-050	1
M12 plug, straight, 10 m	756-1503/060-100	1
M12 plug, straight, 20 m	756-1503/060-200	1

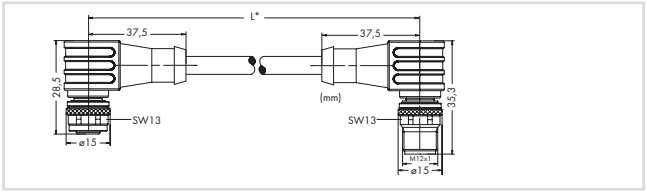


System bus cable for drag chain, M12 plug, right angle, B coded	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-1504/060-020	1
M12 plug, right angle, 5 m	756-1504/060-050	1
M12 plug, right angle, 10 m	756-1504/060-100	1
M12 plug, right angle, 20 m	756-1504/060-200	1

System bus cable for drag chain



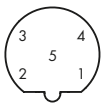
System bus cable for drag chain, M12 socket – M12 plug, straight, B coded		
	Item No.	Pack. Unit
M12 socket, straight, M12 plug, straight, 0.2 m	756-1505/060-002	1
M12 socket, straight, M12 plug, straight, 0.3 m	756-1505/060-003	1
M12 socket, straight, M12 plug, straight, 0.5 m	756-1505/060-005	1
M12 socket, straight, M12 plug, straight, 1 m	756-1505/060-010	1
M12 socket, straight, M12 plug, straight, 2 m	756-1505/060-020	1
M12 socket, straight, M12 plug, straight, 5 m	756-1505/060-050	1
M12 socket, straight, M12 plug, straight, 10 m	756-1505/060-100	1
M12 socket, straight, M12 plug, straight, 20 m	756-1505/060-200	1
M12 socket, straight, M12 plug, straight, 50 m	756-1505/060-500	1



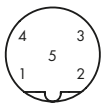
System bus cable for drag chain, M12 socket – M12 plug, right angle, B coded		
	Item No.	Pack. Unit
M12 socket, right angle, M12 plug, right angle, 0.2 m	756-1506/060-002	1
M12 socket, right angle, M12 plug, right angle, 0.3 m	756-1506/060-003	1
M12 socket, right angle, M12 plug, right angle, 0.5 m	756-1506/060-005	1
M12 socket, right angle, M12 plug, right angle, 1 m	756-1506/060-010	1
M12 socket, right angle, M12 plug, right angle, 2 m	756-1506/060-020	1
M12 socket, right angle, M12 plug, right angle, 5 m	756-1506/060-050	1
M12 socket, right angle, M12 plug, right angle, 10 m	756-1506/060-100	1
M12 socket, right angle, M12 plug, right angle, 20 m	756-1506/060-200	1
M12 socket, right angle, M12 plug, right angle, 50 m	756-1506/060-500	1

System bus cable for drag chain		
	Item No.	Pack. Unit
25 m	756-1500/000-250	1
50 m	756-1500/000-500	1
100 m	756-1500/000-1000	1

System bus cable



M12 socket

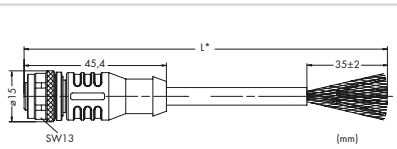


M12 plug

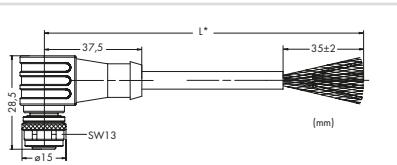
Pin 1 - 5: 0.14 mm²

1 white/blue
2 blue
3 white/orange
4 orange
5 white/green, green, white/brown, brown

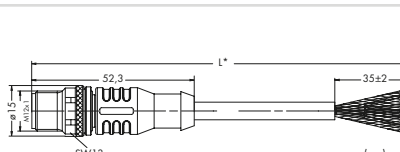
Connection technology	M12 socket/plug, B coded
Operating voltage	≤ 60 V
Operating current	4 A
Rated surge voltage	1.5 kV
Ambient temperature (operation)	–25 … +60 °C
Protection type	IP67
Cable diameter	6 mm



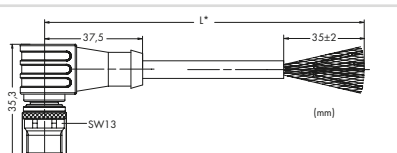
System bus cable, M12 socket, straight, B coded		
	Item No.	Pack. Unit
M12 socket, straight, 2 m	756-1301/060-020	1
M12 socket, straight, 5 m	756-1301/060-050	1
M12 socket, straight, 10 m	756-1301/060-100	1
M12 socket, straight, 20 m	756-1301/060-200	1



System bus cable, M12 socket, right angle, B coded		
	Item No.	Pack. Unit
M12 socket, right angle, 2 m	756-1302/060-020	1
M12 socket, right angle, 5 m	756-1302/060-050	1
M12 socket, right angle, 10 m	756-1302/060-100	1
M12 socket, right angle, 20 m	756-1302/060-200	1

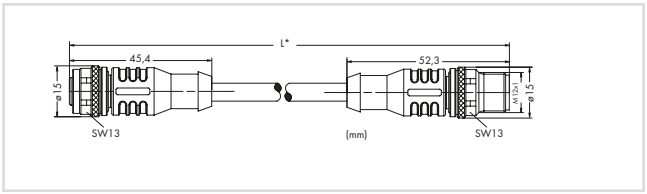


System bus cable, M12 plug, straight, B coded		
	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-1303/060-020	1
M12 plug, straight, 5 m	756-1303/060-050	1
M12 plug, straight, 10 m	756-1303/060-100	1
M12 plug, straight, 20 m	756-1303/060-200	1

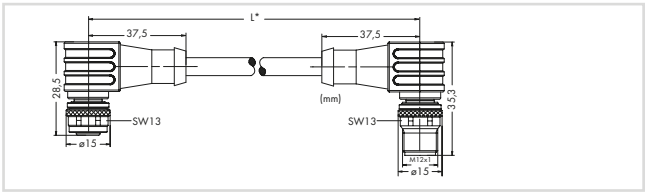


System bus cable, M12 plug, right angle, B coded		
	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-1304/060-020	1
M12 plug, right angle, 5 m	756-1304/060-050	1
M12 plug, right angle, 10 m	756-1304/060-100	1
M12 plug, right angle, 20 m	756-1304/060-200	1

System bus cable



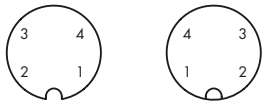
System bus cable, M12 socket – M12 plug, straight, B coded		
	Item No.	Pack. Unit
M12 socket, straight, M12 plug, straight, 0.2 m	756-1305/060-002	1
M12 socket, straight, M12 plug, straight, 0.3 m	756-1305/060-003	1
M12 socket, straight, M12 plug, straight, 0.5 m	756-1305/060-005	1
M12 socket, straight, M12 plug, straight, 1 m	756-1305/060-010	1
M12 socket, straight, M12 plug, straight, 2 m	756-1305/060-020	1
M12 socket, straight, M12 plug, straight, 3 m	756-1305/060-030	1
M12 socket, straight, M12 plug, straight, 5 m	756-1305/060-050	1
M12 socket, straight, M12 plug, straight, 7 m	756-1305/060-070	1
M12 socket, straight, M12 plug, straight, 10 m	756-1305/060-100	1
M12 socket, straight, M12 plug, straight, 20 m	756-1305/060-200	1
M12 socket, straight, M12 plug, straight, 50 m	756-1305/060-500	1



System bus cable, M12 socket – M12 plug, right angle, B coded		
	Item No.	Pack. Unit
M12 socket, right angle, M12 plug, right angle, 0.2 m	756-1306/060-002	1
M12 socket, right angle, M12 plug, right angle, 0.3 m	756-1306/060-003	1
M12 socket, right angle, M12 plug, right angle, 0.5 m	756-1306/060-005	1
M12 socket, right angle, M12 plug, right angle, 1 m	756-1306/060-010	1
M12 socket, right angle, M12 plug, right angle, 2 m	756-1306/060-020	1
M12 socket, right angle, M12 plug, right angle, 3 m	756-1306/060-030	1
M12 socket, right angle, M12 plug, right angle, 5 m	756-1306/060-050	1
M12 socket, right angle, M12 plug, right angle, 7 m	756-1306/060-070	1
M12 socket, right angle, M12 plug, right angle, 10 m	756-1306/060-100	1
M12 socket, right angle, M12 plug, right angle, 20 m	756-1306/060-200	1
M12 socket, right angle, M12 plug, right angle, 50 m	756-1306/060-500	1

System bus cable		
	Item No.	Pack. Unit
25 m	756-1300/000-250	1
50 m	756-1300/000-500	1
100 m	756-1300/000-1000	1

Power cable

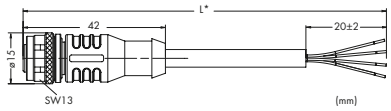


M12 socket M12 plug

Pin 1 - 4: 0.75 mm²

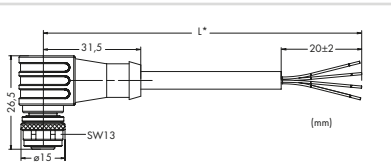
1 brown
2 white
3 blue
4 black

Connection technology	M12 socket/plug, A coded
Operating voltage	250 V AC/DC
Operating current	4 A
Rated surge voltage	2.5 kV
Suitable for drag chain applications	≥ 4 Mio. bending cycles
Ambient temperature (operation) moved	−30 … +80 °C
Protection type	IP67
Cable diameter	6.2 mm ±0.2



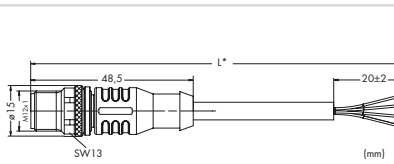
Power cable, M12 socket, straight, A coded

	Item No.	Pack. Unit
M12 socket, straight, 2 m	756-3101/040-020	1
M12 socket, straight, 5 m	756-3101/040-050	1
M12 socket, straight, 10 m	756-3101/040-100	1
M12 socket, straight, 20 m	756-3101/040-200	1



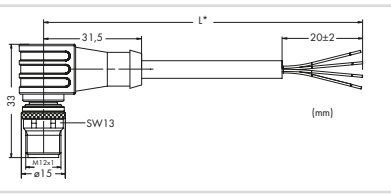
Power cable, M12 socket, right angle, A coded

	Item No.	Pack. Unit
M12 socket, right angle, 2 m	756-3102/040-020	1
M12 socket, right angle, 5 m	756-3102/040-050	1
M12 socket, right angle, 10 m	756-3102/040-100	1
M12 socket, right angle, 20 m	756-3102/040-200	1



Power cable, M12 plug, straight, A coded

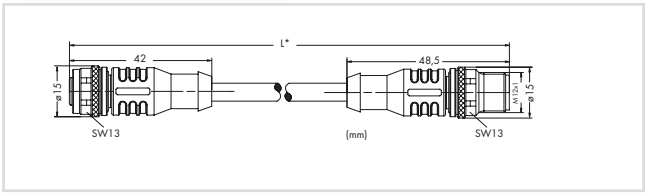
	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-3103/040-020	1
M12 plug, straight, 5 m	756-3103/040-050	1
M12 plug, straight, 10 m	756-3103/040-100	1
M12 plug, straight, 20 m	756-3103/040-200	1



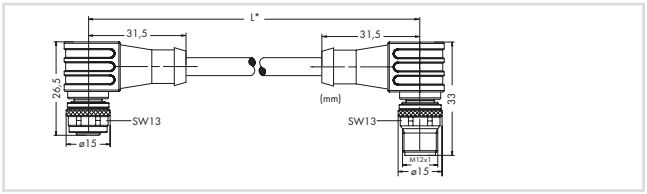
Power cable, M12 plug, right angle, A coded

	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-3104/040-020	1
M12 plug, right angle, 5 m	756-3104/040-050	1
M12 plug, right angle, 10 m	756-3104/040-100	1
M12 plug, right angle, 20 m	756-3104/040-200	1

Power cable



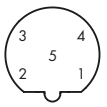
Power cable, M12 socket – M12 plug, straight, A coded		
	Item No.	Pack. Unit
M12 socket, straight, M12 plug, straight, 0.2 m	756-3105/040-002	1
M12 socket, straight, M12 plug, straight, 0.3 m	756-3105/040-003	1
M12 socket, straight, M12 plug, straight, 0.5 m	756-3105/040-005	1
M12 socket, straight, M12 plug, straight, 1 m	756-3105/040-010	1
M12 socket, straight, M12 plug, straight, 2 m	756-3105/040-020	1
M12 socket, straight, M12 plug, straight, 3 m	756-3105/040-030	1
M12 socket, straight, M12 plug, straight, 5 m	756-3105/040-050	1
M12 socket, straight, M12 plug, straight, 7 m	756-3105/040-070	1
M12 socket, straight, M12 plug, straight, 10 m	756-3105/040-100	1
M12 socket, straight, M12 plug, straight, 20 m	756-3105/040-200	1



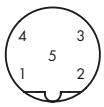
Power cable, M12 socket – M12 plug, right angle, A coded		
	Item No.	Pack. Unit
M12 socket, right angle, M12 plug, right angle, 0.2 m	756-3106/040-002	1
M12 socket, right angle, M12 plug, right angle, 0.3 m	756-3106/040-003	1
M12 socket, right angle, M12 plug, right angle, 0.5 m	756-3106/040-005	1
M12 socket, right angle, M12 plug, right angle, 1 m	756-3106/040-010	1
M12 socket, right angle, M12 plug, right angle, 2 m	756-3106/040-020	1
M12 socket, right angle, M12 plug, right angle, 3 m	756-3106/040-030	1
M12 socket, right angle, M12 plug, right angle, 5 m	756-3106/040-050	1
M12 socket, right angle, M12 plug, right angle, 7 m	756-3106/040-070	1
M12 socket, right angle, M12 plug, right angle, 10 m	756-3106/040-100	1
M12 socket, right angle, M12 plug, right angle, 20 m	756-3106/040-200	1

Power cable		
	Item No.	Pack. Unit
25 m	756-3100/000-250	1
50 m	756-3100/000-500	1
100 m	756-3100/000-1000	1

PROFIBUS cable



M12 socket

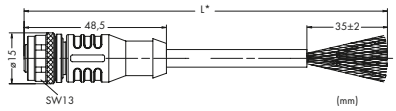


M12 plug

Pin 2 and 4: 0.34 mm²

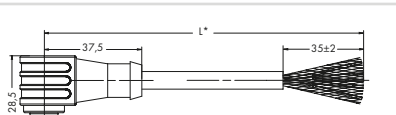
1 n.c.
2 green
3 n.c.
4 red
5 n.c.

Connection technology	M12 socket/plug, B coded
Operating voltage	≤ 300 V
Operating current	4 A
Rated surge voltage	≥ 2 kV
Suitable for drag chain applications	≥ 1 Mio. bending cycles
Ambient temperature (operation) moved	−25 … +60 °C
Protection type	IP67
Cable diameter	7.6 mm ±0.3



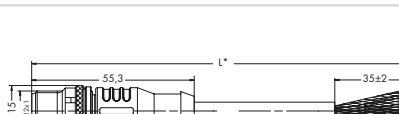
PROFIBUS cable, M12 socket, straight, B coded

	Item No.	Pack. Unit
M12 socket, straight, 2 m	756-1101/060-020	1
M12 socket, straight, 5 m	756-1101/060-050	1
M12 socket, straight, 10 m	756-1101/060-100	1
M12 socket, straight, 20 m	756-1101/060-200	1



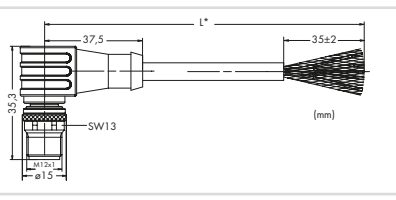
PROFIBUS cable, M12 socket, right angle, B coded

	Item No.	Pack. Unit
M12 socket, right angle, 2 m	756-1102/060-020	1
M12 socket, right angle, 5 m	756-1102/060-050	1
M12 socket, right angle, 10 m	756-1102/060-100	1
M12 socket, right angle, 20 m	756-1102/060-200	1



PROFIBUS cable, M12 plug, straight, B coded

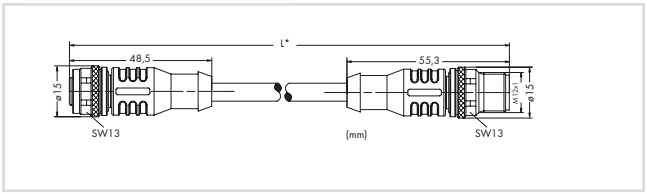
	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-1103/060-020	1
M12 plug, straight, 5 m	756-1103/060-050	1
M12 plug, straight, 10 m	756-1103/060-100	1
M12 plug, straight, 20 m	756-1103/060-200	1



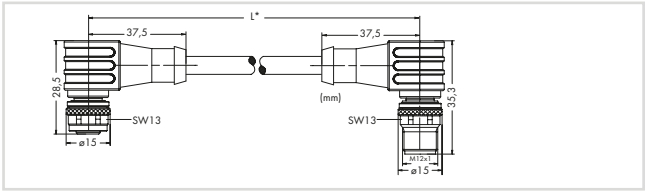
PROFIBUS cable, M12 plug, right angle, B coded

	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-1104/060-020	1
M12 plug, right angle, 5 m	756-1104/060-050	1
M12 plug, right angle, 10 m	756-1104/060-100	1
M12 plug, right angle, 20 m	756-1104/060-200	1

PROFIBUS cable

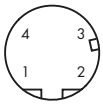


PROFIBUS cable, M12 socket – M12 plug, straight, B coded		
	Item No.	Pack. Unit
M12 socket, straight, M12 plug, straight, 2 m	756-1105/060-020	1
M12 socket, straight, M12 plug, straight, 5 m	756-1105/060-050	1
M12 socket, straight, M12 plug, straight, 10 m	756-1105/060-100	1
M12 socket, straight, M12 plug, straight, 20 m	756-1105/060-200	1



PROFIBUS cable, M12 socket – M12 plug, right angle, B coded		
	Item No.	Pack. Unit
M12 socket, right angle, M12 plug, right angle, 2 m	756-1106/060-020	1
M12 socket, right angle, M12 plug, right angle, 5 m	756-1106/060-050	1
M12 socket, right angle, M12 plug, right angle, 10 m	756-1106/060-100	1
M12 socket, right angle, M12 plug, right angle, 20 m	756-1106/060-200	1

ETHERNET/PROFINET cable

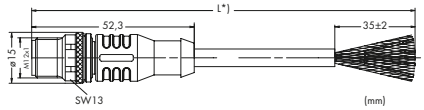


M12 plug

Pin 1 - 4: 0.34 mm²

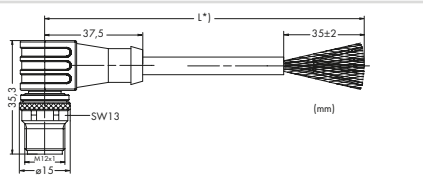
1 yellow
2 white
3 orange
4 blue

Connection technology	M12 plug, D coded
Operating voltage	250 V
Operating current	4 A
Rated surge voltage	2 kV
Suitable for drag chain applications	≥ 3 Mio. bending cycles
Ambient temperature (operation) moved	−40 … +70 °C
Protection type	IP67
Cable diameter	6.5 mm ±0.2



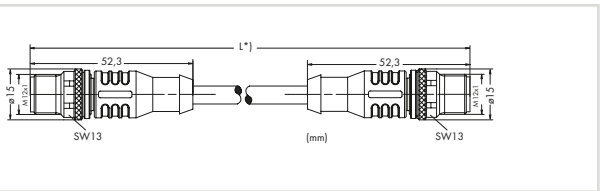
ETHERNET/PROFINET cable, M12 plug, straight, D coded

	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-1201/060-020	1
M12 plug, straight, 5 m	756-1201/060-050	1
M12 plug, straight, 10 m	756-1201/060-100	1
M12 plug, straight, 20 m	756-1201/060-200	1



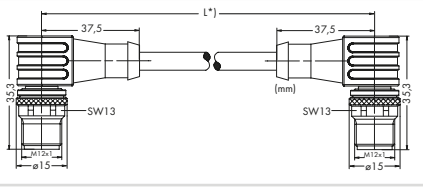
ETHERNET/PROFINET cable, M12 plug, right angle, D coded

	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-1202/060-020	1
M12 plug, right angle, 5 m	756-1202/060-050	1
M12 plug, right angle, 10 m	756-1202/060-100	1
M12 plug, right angle, 20 m	756-1202/060-200	1



ETHERNET/PROFINET cable, M12 plug – M12 plug, straight, D coded

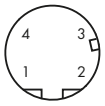
	Item No.	Pack. Unit
M12 plug, straight, M12 plug, straight, 2 m	756-1203/060-020	1
M12 plug, straight, M12 plug, straight, 5 m	756-1203/060-050	1
M12 plug, straight, M12 plug, straight, 10 m	756-1203/060-100	1
M12 plug, straight, M12 plug, straight, 20 m	756-1203/060-200	1



ETHERNET/PROFINET cable, M12 plug – M12 plug, right angle, D coded

	Item No.	Pack. Unit
M12 plug, right angle, M12 plug, right angle, 2 m	756-1204/060-020	1
M12 plug, right angle, M12 plug, right angle, 5 m	756-1204/060-050	1
M12 plug, right angle, M12 plug, right angle, 10 m	756-1204/060-100	1
M12 plug, right angle, M12 plug, right angle, 20 m	756-1204/060-200	1

sercos cable

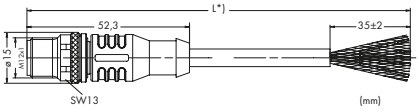


M12 plug

Pin 1 - 4: 0.34 mm²

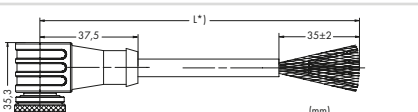
1 yellow
2 white
3 orange
4 blue

Connection technology	M12 plug, D coded
Operating voltage	250 V
Operating current	4 A
Rated surge voltage	2 kV
Suitable for drag chain applications	≥ 3 Mio. bending cycles
Ambient temperature (operation) moved	−40 … +70 °C
Protection type	IP67
Cable diameter	6.5 mm ±0.2



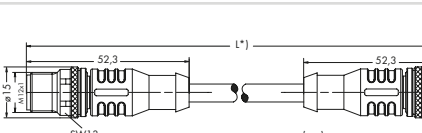
sercos cable, M12 plug, straight, D coded

	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-1601/060-020	1
M12 plug, straight, 5 m	756-1601/060-050	1
M12 plug, straight, 10 m	756-1601/060-100	1
M12 plug, straight, 20 m	756-1601/060-200	1



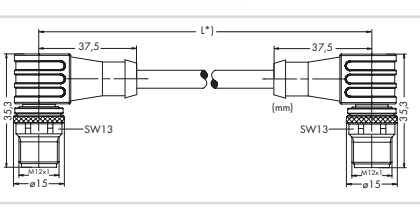
sercos cable, M12 plug, right angle, D coded

	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-1602/060-020	1
M12 plug, right angle, 5 m	756-1602/060-050	1
M12 plug, right angle, 10 m	756-1602/060-100	1
M12 plug, right angle, 20 m	756-1602/060-200	1



sercos cable, M12 plug – M12 plug, straight, D coded

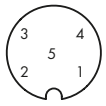
	Item No.	Pack. Unit
M12 plug, straight, M12 plug, straight, 2 m	756-1603/060-020	1
M12 plug, straight, M12 plug, straight, 5 m	756-1603/060-050	1
M12 plug, straight, M12 plug, straight, 10 m	756-1603/060-100	1
M12 plug, straight, M12 plug, straight, 20 m	756-1603/060-200	1



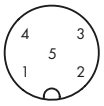
sercos cable, M12 plug – M12 plug, right angle, D coded

	Item No.	Pack. Unit
M12 plug, right angle, M12 plug, right angle, 2 m	756-1604/060-020	1
M12 plug, right angle, M12 plug, right angle, 5 m	756-1604/060-050	1
M12 plug, right angle, M12 plug, right angle, 10 m	756-1604/060-100	1
M12 plug, right angle, M12 plug, right angle, 20 m	756-1604/060-200	1

CANopen/DeviceNet cable



M12 socket

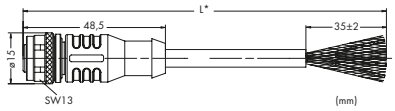


M12 plug

Pin 2 and 3: 0.38 mm²
Pin 4 and 5: 0.67 mm²

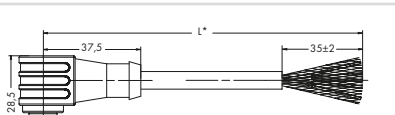
1 Shield
2 red
3 black
4 white
5 blue

Connection technology	M12 socket/ plug, A coded
Operating voltage	≤ 300 V
Operating current	4 A
Rated surge voltage	2 kV
Suitable for drag chain applications	≥ 5 Mio. bending cycles
Ambient temperature (operation) moved	−40 … +80 °C
Protection type	IP67
Cable diameter	6.9 mm ±0.3



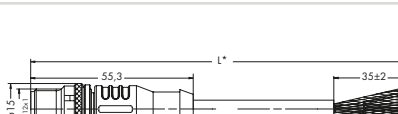
CANopen/DeviceNet cable, M12 socket, straight, A coded

	Item No.	Pack. Unit
M12 socket, straight, 2 m	756-1401/060-020	1
M12 socket, straight, 5 m	756-1401/060-050	1
M12 socket, straight, 10 m	756-1401/060-100	1
M12 socket, straight, 20 m	756-1401/060-200	1



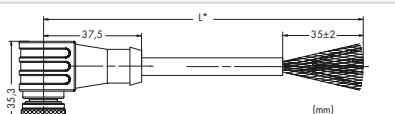
CANopen/DeviceNet cable, M12 socket, right angle, A coded

	Item No.	Pack. Unit
M12 socket, right angle, 2 m	756-1402/060-020	1
M12 socket, right angle, 5 m	756-1402/060-050	1
M12 socket, right angle, 10 m	756-1402/060-100	1
M12 socket, right angle, 20 m	756-1402/060-200	1



CANopen/DeviceNet cable, M12 plug, straight, A coded

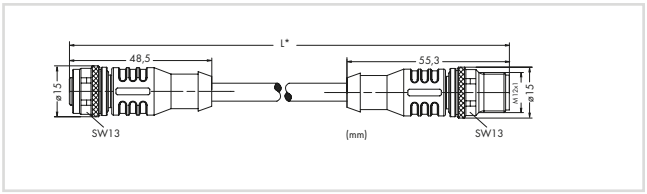
	Item No.	Pack. Unit
M12 plug, straight, 2 m	756-1403/060-020	1
M12 plug, straight, 5 m	756-1403/060-050	1
M12 plug, straight, 10 m	756-1403/060-100	1
M12 plug, straight, 20 m	756-1403/060-200	1



CANopen/DeviceNet cable, M12 plug, right angle, A coded

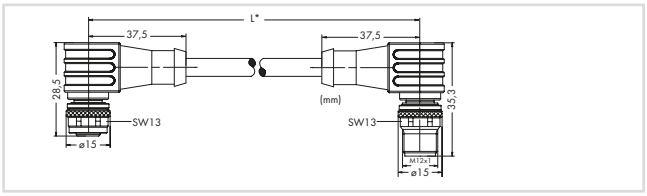
	Item No.	Pack. Unit
M12 plug, right angle, 2 m	756-1404/060-020	1
M12 plug, right angle, 5 m	756-1404/060-050	1
M12 plug, right angle, 10 m	756-1404/060-100	1
M12 plug, right angle, 20 m	756-1404/060-200	1

CANopen/DeviceNet cable



CANopen/DeviceNet cable, M12 socket – M12 plug, straight, A coded

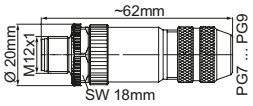
	Item No.	Pack. Unit
M12 socket, straight, M12 plug, straight, 2 m	**756-1405/060-020**	1
M12 socket, straight, M12 plug, straight, 5 m	**756-1405/060-050**	1
M12 socket, straight, M12 plug, straight, 10 m	**756-1405/060-100**	1
M12 socket, straight, M12 plug, straight, 20 m	**756-1405/060-200**	1

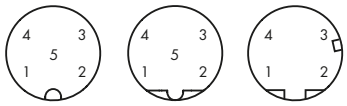


CANopen/DeviceNet cable, M12 socket – M12 plug, right angle, A coded

	Item No.	Pack. Unit
M12 socket, right angle, M12 plug, right angle, 2 m	**756-1406/060-020**	1
M12 socket, right angle, M12 plug, right angle, 5 m	**756-1406/060-050**	1
M12 socket, right angle, M12 plug, right angle, 10 m	**756-1406/060-100**	1
M12 socket, right angle, M12 plug, right angle, 20 m	**756-1406/060-200**	1

Configurable shielded connectors

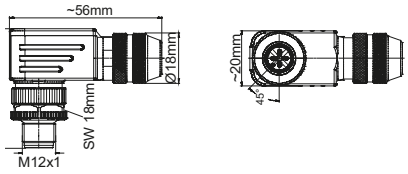


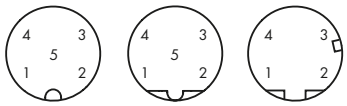


Conductor size
Ø 6 ... 8 mm
screw clamp connection:
0.14 ... 0.75 mm²
spring clamp connection:
0.14 ... 0.5 mm²

M12 plug, straight

	Item No.	Pack. Unit
Fitted pluggable connector, 5-pole shielded, M12 plug, straight A coded, Spring	756-9207/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 plug, straight B coded, Spring	756-9401/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 plug, straight B coded, Screw	756-9411/060-000	1
Fitted pluggable connector, 4-pole shielded, M12 plug, straight D coded, Spring	756-9501/060-000	1

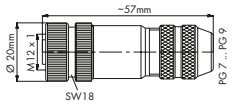


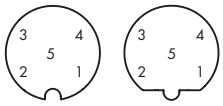


Conductor size
Ø 6 ... 8 mm
screw clamp connection:
0.14 ... 0.75 mm²
spring clamp connection:
0.14 ... 0.5 mm²

M12 plug, right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 5-pole shielded, M12 plug, right angle A coded, Spring	756-9211/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 plug, right angle B coded, Spring	756-9403/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 plug, right angle B coded, Screw	756-9413/060-000	1
Fitted pluggable connector, 4-pole shielded, M12 plug, right angle D coded, Spring	756-9501/040-000	1

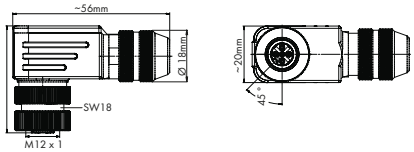


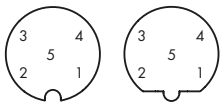


Conductor size
Ø 6 ... 8 mm
screw clamp connection:
0.14 ... 0.75 mm²
spring clamp connection:
0.14 ... 0.5 mm²

M12 socket, straight

	Item No.	Pack. Unit
Fitted pluggable connector, 5-pole shielded, M12 socket, straight A coded, Spring	756-9208/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 socket, straight B coded, Spring	756-9402/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 socket, straight B coded, Screw	756-9412/060-000	1

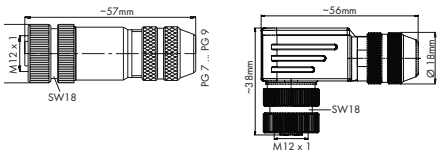




Conductor size
Ø 6 ... 8 mm
screw clamp connection:
0.14 ... 0.75 mm²
spring clamp connection:
0.14 ... 0.5 mm²

M12 socket, right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 5-pole shielded, M12 socket, right angle A coded, Spring	756-9210/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 socket, right angle B coded, Spring	756-9404/060-000	1
Fitted pluggable connector, 5-pole shielded, M12 socket, right angle B coded, Screw	756-9414/060-000	1

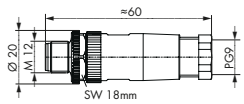


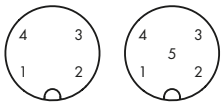
Conductor size
Ø 6 ... 8 mm/
0.14 ... 0.50 mm²

M12 socket, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 8-pole shielded, M12 socket, straight, Screw	756-9211/090-000	1
Fitted pluggable connector, 8-pole shielded, M12 socket, right angle, Screw	756-9214/090-000	1

Configurable connectors with PG9 thread

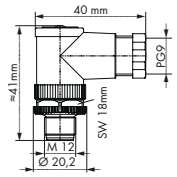


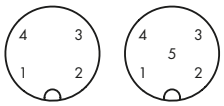


Conductor size
Ø 6 … 8 mm
screw clamp connection:
0.25 … 0.75 mm²
spring clamp connection:
0.14 … 0.5 mm²

M12 plug, straight

	Item No.	Pack. Unit
Fitted pluggable connector, 4-pole, M12 plug, straight A coded, Screw	756-9203/040-000	1
Fitted pluggable connector, 5-pole, M12 plug, straight A coded, Spring	756-9203/050-000	1

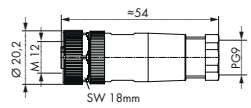


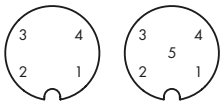


Conductor size
Ø 6 … 8 mm
screw clamp connection:
0.25 … 0.75 mm²
spring clamp connection:
0.14 … 0.5 mm²

M12 plug, right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 4-pole, M12 plug, right angle A coded, Screw	756-9206/040-000	1
Fitted pluggable connector, 5-pole, M12 plug, right angle A coded, Spring	756-9206/050-000	1

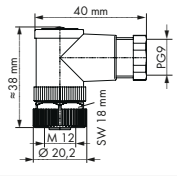


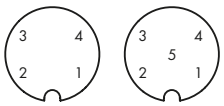


Conductor size
Ø 6 … 8 mm
screw clamp connection:
0.25 … 0.75 mm²
spring clamp connection:
0.14 … 0.5 mm²

M12 socket, straight

	Item No.	Pack. Unit
Fitted pluggable connector, 4-pole, M12 socket, straight A coded, Screw	756-9213/040-000	1
Fitted pluggable connector, 5-pole, M12 socket, straight A coded, Spring	756-9213/050-000	1



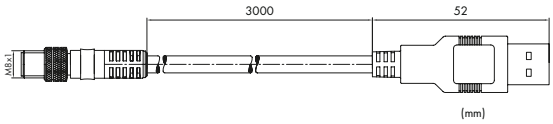


Conductor size
Ø 6 … 8 mm
screw clamp connection:
0.25 … 0.75 mm²
spring clamp connection:
0.14 … 0.5 mm²

M12 socket, right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 4-pole, M12 socket, right angle A coded, Screw	756-9216/040-000	1
Fitted pluggable connector, 5-pole, M12 socket, right angle A coded, Spring	756-9216/050-000	1

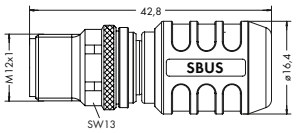
USB communication cable, terminating resistors, T-piece

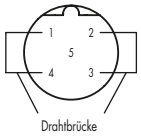


Pin 1 = red
Pin 2 = white
Pin 3 = green
Pin 4 = black

USB communication cable

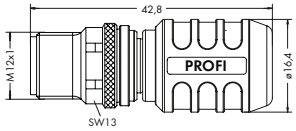
	Item No.	Pack. Unit
USB communication cable, M8 plug, straight, USB Typ A plug, straight, 3 m	756-4101/042-030	1

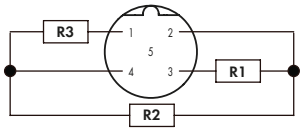




System bus terminating plug

	Item No.	Pack. Unit
M12 system bus terminating plug, B coded, straight	756-9409/060-000	1

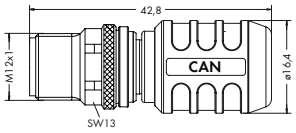


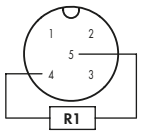


R3=390 Ω 0.4 W
R2=220 Ω 0.4 W
R1=390 Ω 0.4 W

PROFIBUS terminating plug

	Item No.	Pack. Unit
M12 PROFIBUS terminating plug, B coded, straight	756-9405/060-000	1

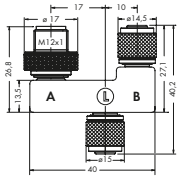


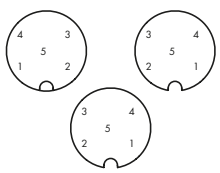


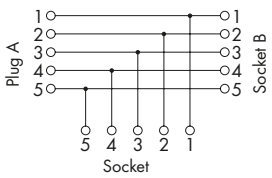
R1=120 Ω 0.25 W

CANopen, DeviceNet terminating plug

	Item No.	Pack. Unit
M12 CANopen, DeviceNet terminating plug, A coded, straight	756-9209/060-000	1





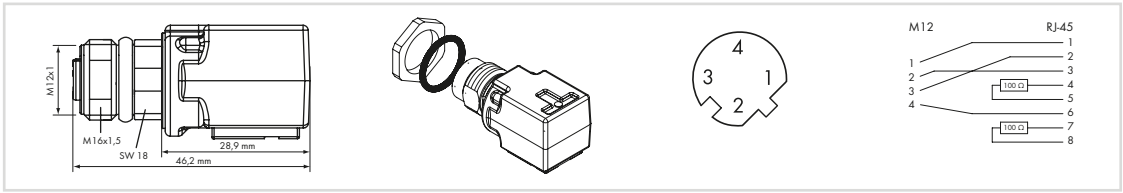


1 = Drain
2 = +24 V
3 = GND (0 V)
4 = CAN_H
5 = CAN_L

DeviceNet drop T-piece

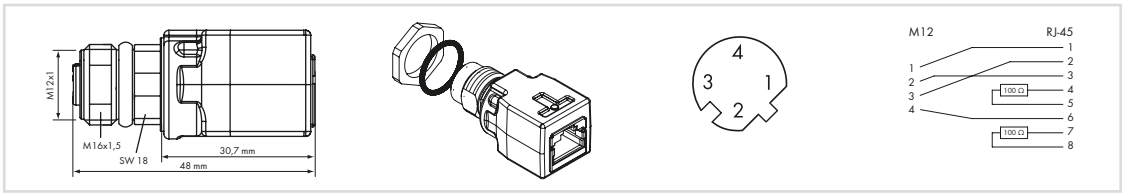
	Item No.	Pack. Unit
M12 DeviceNet drop T-piece	756-9303/050-000	1

ETHERNET, PROFINET accessories



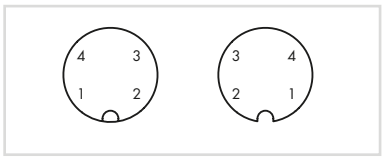
Adapter, right angle, M12 socket, D coded/RJ-45 socket

	Item No.	Pack. Unit
Adapter, right angle, M12 socket, D coded/RJ-45 socket (also ideally suited for control cabinet feedthrough applications or connecting IP67/IP20 components)	756-9503/040-000	1



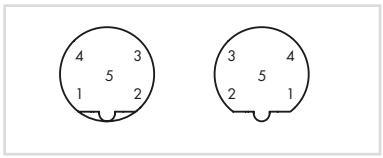
Adapter, straight, M12 socket, D coded/RJ-45 socket

	Item No.	Pack. Unit
Adapter, straight, M12 socket, D coded/RJ-45 socket (also ideally suited for control cabinet feed-through applications) or connecting IP67/IP20 components)	756-9504/040-000	1



M12 socket / M12 plug, A coded

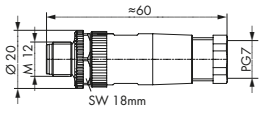
	Item No.	Pack. Unit
M12 panel feed-through connectors, A coded	756-9217/050-000	1

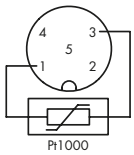


M12 socket / M12 plug, B coded

	Item No.	Pack. Unit
M12 panel feed-through connectors, B coded	756-9406/050-000	1

M12 termination and M23 configurable connectors

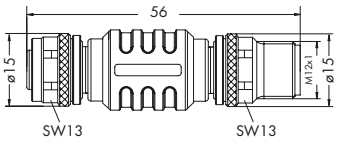


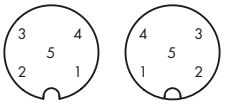


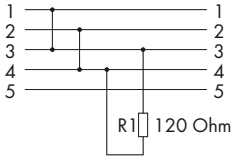
Conductor size
Ø 6 ... 8 mm /
0.14 - 0.5 mm²

Compensation connector, M12 plug, for 767-6403 Thermocoupler Module (Pt1000 sensor integrated)

	Item No.	Pack. Unit
Compensation connector, M12 plug, straight, 5 poles, spring clamp technology	756-9207/050-000	1

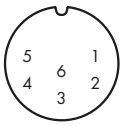






Termination M12

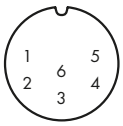
	Item No.	Pack. Unit
RS-422/-485 Termination M12	756-9218/050-000	1



Conductor size
Ø 6.5 ... 10.5 mm / max. 2.5 mm²

M23 plug

	Item No.	Pack. Unit
Fitted pluggable connector, 6-pole, M23 plug, straight, Solder	756-9601/060-000	1
Fitted pluggable connector, 6-pole, M23 plug, right angle, Solder	756-9602/060-000	1



Conductor size
Ø 6.5 ... 10.5 mm / max. 2.5 mm²

M23 socket

	Item No.	Pack. Unit
Fitted pluggable connector, 6-pole, M23 socket, straight, Solder	756-9603/060-000	1
Fitted pluggable connector, 6-pole, M23 socket, right angle, Solder	756-9604/060-000	1

M23 assembly key

	Item No.	Pack. Unit
M23 assembly key	756-8201	1

Torque Wrench M8 and M12, Assembly kit

Assembly kit for 756 Series IP67 cable assemblies and pluggable connectors with hex nut, consists of:

- Tool kit
- Torque screwdriver with adjustable torque (window scale)
- Adjustment tool for changing the torque
- Socket wrench SW9 (for M8 cable assemblies)
- Socket wrench SW13 (for M12 cable assemblies)

A torque specification of 0.6 Nm for M8 connectors and 1.0 Nm for M12 connectors is required for 756 Series cables and connectors.

6

Torque Wrench M8 and M12		
	Item No.	Pack. Unit
	206-701	1

Torque range	0.4 … 1 Nm ±6 %
Material	
Handle	Polypropylene (PP) for hard zone, thermoplastic elastomers (TPE) for soft zone
Allen key	Polyamide (PA), fiber-glassreinforced; chromium-vanadiummolybdenum steel (CrMoV) (1.2381)
Adjustment tools	Cellulose acetate; chromiumvanadium-molybdenum steel (CrMoV) (1.2381)
Color	black
Standards/specifications	EN ISO 6789; BS EN 26789; ASME B107.14.M

Industrial Switches

Industrial switches

- Copper cables
- Fiber optic cables
- Ring redundancy

Industrial switches
Contents

Industrial switches
General Product Information

Always the Right Solution

WAGO's range of switches ensures the scalability of your ETHERNET network infrastructure, while providing outstanding electrical and mechanical characteristics. These robust devices are designed for industrial use and they are fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab.

Combinable with Fiber Optic Conductors

ETHERNET via fiber-optic cables offers a multitude of advantages for industrial applications.
High immunity to interference, electrical isolation and long ranges up to 80 km are extremely beneficial characteristics — and all are compatible with the IT world!

Scaled Offering

Unmanaged and managed switches in various designs are available for high-end applications. Our ECO switches are ideal for cost-sensitive applications that do not require technical features such as redundancy. They are ideally suited for small- to medium-sized networks.

Modular Expandability

Exchangeable SPF modules can be used to adapt WAGO switches for various fiber optic cables and the necessary distances and fibers.
There are SFP modules for multimode and single mode fiber optic cables for ranges up to 80 km. With the optimum combination of copper and fiber optic cables, you are equipped for a multitude of requirements.

Web-Based Management

WAGO's fully managed switches have integrated Web-based management. Any Web browser can be used to configure the switch.

Integrated Function Monitoring

For monitoring and error reporting, the managed switch has configurable functions such as e-mail alarm and SNMP traps. In addition, all switches except for ECO versions can monitor individual ports or the power supply via a potential-free alarm contact. A DIP switch is used to configure this function.

Availability, Redundancy

Select industrial switches have several options to build redundant network structures and to guarantee secure communication even when connections are faulty:
- "Rapid Spanning Tree" per IEEE 802.1w compatible with IT standard
- Jetring — a simple ring protocol with a switching time of < 300 ms
- Xpress Ring — fast ring protocol switching time < 20 ms
- ERPSv2 per ITU-T standard switching time < 50 ms

In addition to redundancy of the communication link, a redundant power supply is integrated into the switches that can be monitored using an alarm relay. Thus, if the power supply fails, communication is not interrupted.

Different Operating Modes

The unmanaged switches are ideally suited for direct plug-and-play use. Managed switches are available for applications where IP filtering or further interpretation of telegrams is required for the application.

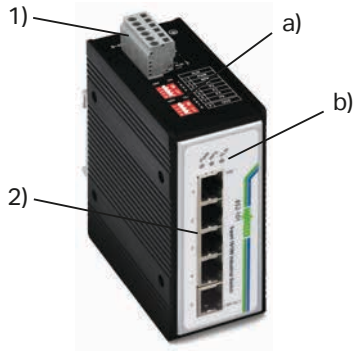
Advantages:

- Adaptable to different transmission media
- Automatic adaptation to
  - Speed (auto-negotiation)
  - Wiring (auto-crossover, MDI/MDIX)
- Optional redundancy
- Larger supply voltage range

Industrial switches
Interfaces and Types

Power Supply (1)
Technologically related differences on the connection level (2)

Ⓐ



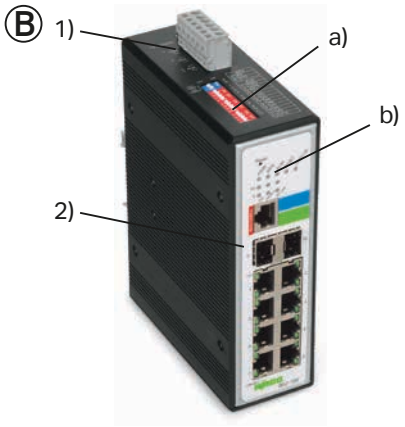
Housing Design (A)

- DIP switch for configuration (a)
- Diagnostic LEDs (b)
- W x H* x D (mm) 50 x 120 x 105

Housing Design (B)

- DIP switch for configuration (a)
- Diagnostic LEDs (b)
- W x H* x D (mm) 50 x 120 x 162

Ⓑ



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Housing Design ECO (C)

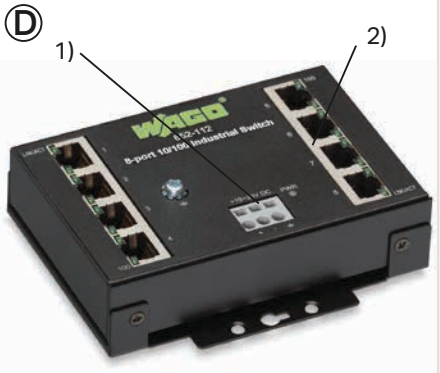
- W x H* x D (mm) 23.4 x 73.8 x 109.2
- 35 mm DIN-rail or wall-mount

Housing Design ECO (D)

- W x H* x D (mm) 109.2 x 23.4 x 73.8
- 35 mm DIN-rail or wall-mount

* Height from upper edge of DIN-rail

Ⓓ



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Housing Design (E)

- SFP module for connecting fiber optic cables
- LC connector
- W x H x D (mm) 13.4 x 13.3 x 56.6

Versions

Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0 … 55 °C. However, there are applications that require an extended temperature range. Nearly all switches and SFP modules are available for an extended temperature range of -40 °C … +70 °C.

Industrial switches
Application and Installation Instructions

Increasing Availability through Media Redundancy

A primary reason for the success of ETHERNET communication in automation technology is that redundant mechanisms exist and uptime can be increased. This is accomplished by duplicating components and lines so that defects, such as a broken cable, no longer cause communication to fail. However, this requires complex algorithms that detect errors and determine alternative paths without causing loops or rings in the network — and this is performed with the shortest possible downtime. WAGO provides select switches with corresponding features.

Rapid Spanning Tree

- Is a standardized protocol for determining the shortest path.
- Is used in any complex topologies to disable redundant paths.
- Determines the best alternative paths during a connection interruption and activates the required paths.
- Typically requires one to three seconds to switch.

Jetring

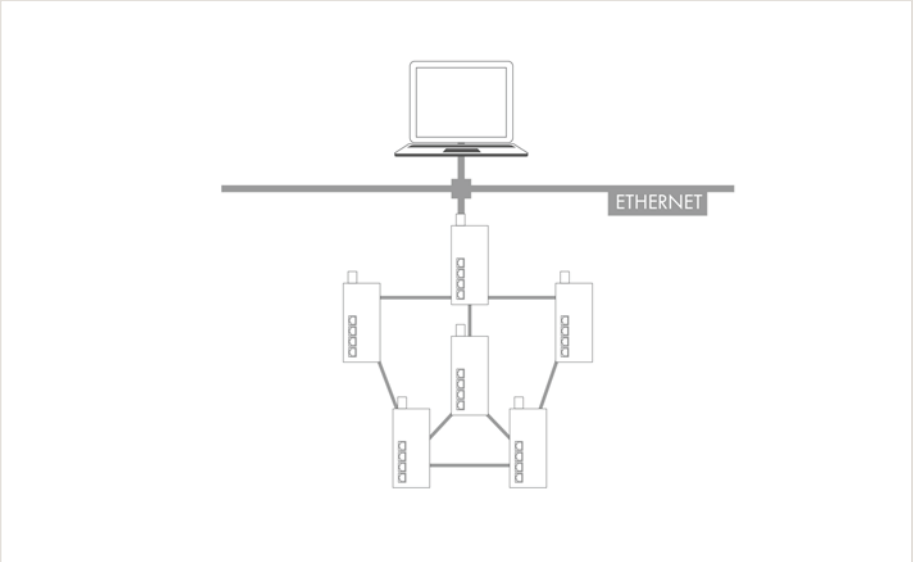
- Is a special ring protocol which does not need any special configuration.
- Automatically assigns a switch as the “master”; disables those network connections that would lead to loop and automatically switches over in case of failure.
- Typically requires approx. 300 ms to switch.
- Can be operated in “Fast Aging Mode” in connection with specific ETHERNET couplers/controllers for fast switching.

Xpress Ring

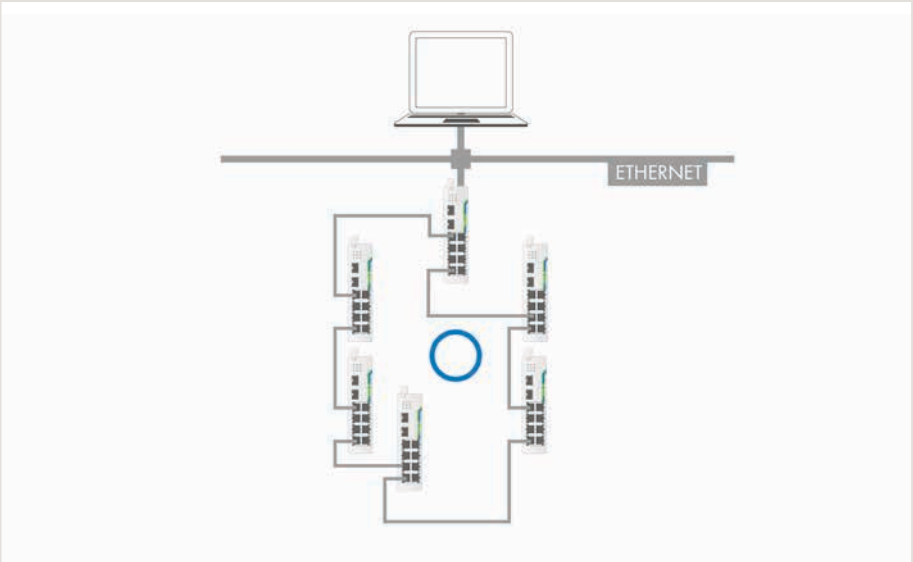
- Requires that all nodes in the ring support the protocol.
- Requires an explicit configuration of the connections.
- Requires less than 20 ms to switch.
- Is suitable as a protocol in redundant coupled ring systems (coupling ring).

ERPSv2 Ring

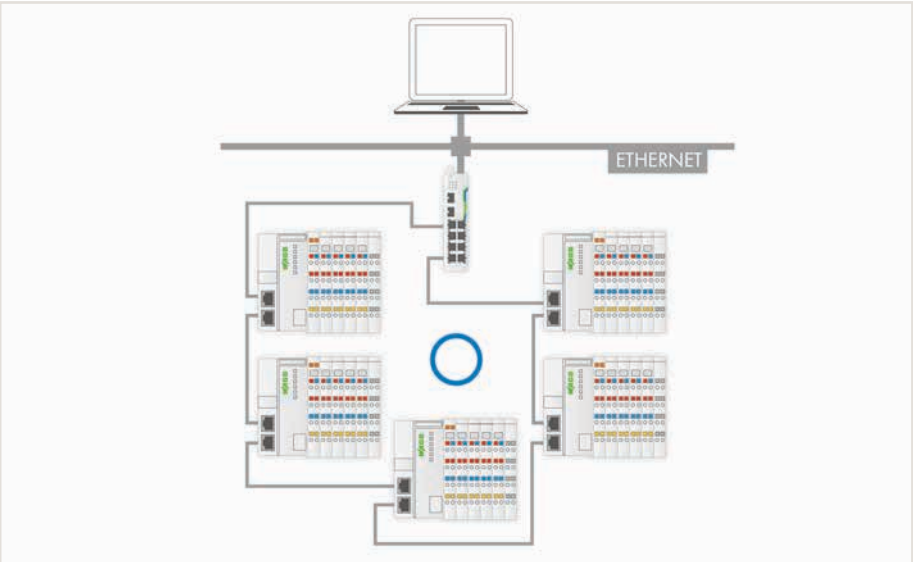
- Enables complex network structures, each with 6 rings per switch.
- Requires < 50 ms to switch.



Example: Complex topology



Example: Simple ring topology



Example: Simple ring topology with 750-881 in “Fast Aging Mode”

Industrial switches
Item Number Key

Explanation of the components of an item number key

Series

Item No.: 852-xxxx

0xxx: 100 Mbit/s
1xxx: 1 Gbit/s
x1xx: Unmanaged switch
x2xx: SFP module
x3xx: Managed switch
x4xx: Unmanaged switch, PoE
xx0x: Industrial switch (redundant power supply)
xx1x: Industrial ECO switch
xxx1: 5 ports
xxx2: 8 ports
xxx3: 8 ports + 2 FOC ports
xxx5: 8 ports + 4 FOC ports
xxx6: 16 ports

Standards and Rated Conditions

General Specifications	
Packet throughput per port	10 Mbps port: 14,880 packages per second (pps) 100 Mbps port: 148,800 packages per second (pps) 1000 Mbps port: 1,488,000 packages per second (pps)
Ambient temperature (operation)	–40 … +70 °C
Ambient temperature (storage)	–40 … +80 °C
Relative humidity	95 % non-condensing
Vibration resistance	4 g per IEC 60068-2-6
Shock resistance	15 g per IEC 60068-2-27
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Degree of protection	IP30
Mounting type	On 35 mm DIN-rail, ECO version also for wall mounting
Mounting position	Any

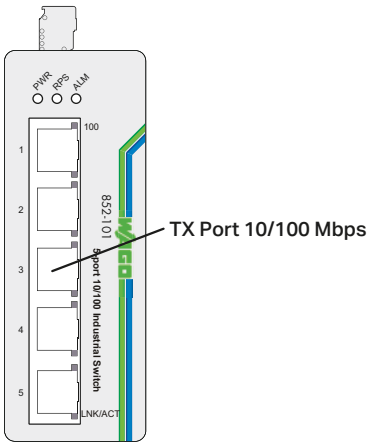
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

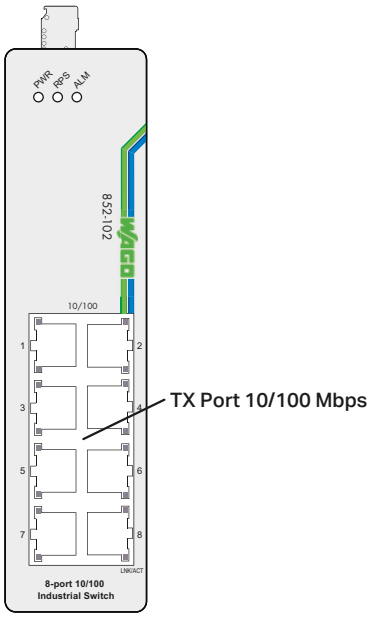
Industrial Switches

Figure: 852-101

5-port 100Base-TX, ext. Temperature



8-port 100Base-TX, ext. Temperature



Item description	Switch	Switch
Version	5Port T	8Port T
Item no.	**852-101**	**852-102**
Technical Data		
Switching mode	Store-and-Forward, non-blocking	Store-and-Forward, non-blocking
No. of ports, copper	5 x 100Base-TX	8 x 100Base-TX
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x Flow Control	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x Flow Control
Redundancy functions	Redundant DC power supply	Redundant DC power supply
Configuration	DIP switch for signal contact	DIP switch for signal contact
Diagnostics	Signal contact	Signal contact
MAC table (large)	2000 addresses	2000 addresses
Jumbo frame size	1536 bytes	1516 bytes
Supply voltage	9 … 48 VDC	9 … 48 VDC
Power consumption	4 W	5.3 W
ESD (contact/air discharge)	8 KV / 15 KV	8 KV / 15 KV
Connection technology: Communication	5 x RJ-45	8 x RJ-45
Ambient temperature (operation)	–40 … +70 °C	–40 … +70 °C
Dimensions W x H x D	50 x 120 x 105 mm	50 x 120 x 162 mm
Approvals	CE, KC, cULus UL 508	CE, KC, cULus UL 508
Data sheet and further information, see:	wago.com/852-101	wago.com/852-102

SFP Modules
see Page 388

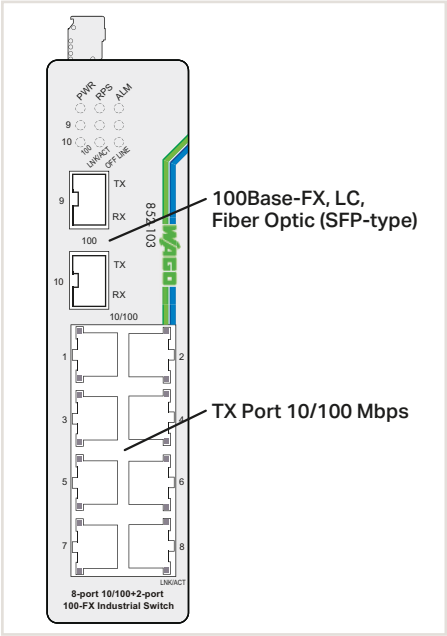
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

Industrial Switches

Figure: 852-103

8-port 100Base-TX, 2 x 100Base-FX, ext. Temperature



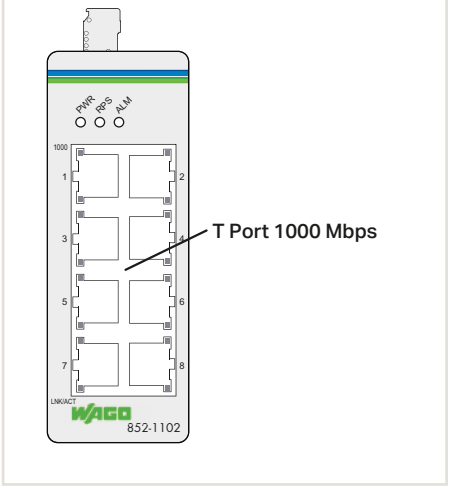
Item description	Switch
Version	8Port 2FOC T
Item no.	**852-103**

Technical Data	
Switching mode	Store-and-Forward, non-blocking
No. of ports, copper	8 x 100Base-TX
No. of ports, FOC	2 x 100Base-FX
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/FX IEEE 802.3x Flow Control
Redundancy functions	Redundant DC power supply
Configuration	DIP switch for signal contact
Diagnostics	Signal contact
MAC table (large)	2000 addresses
Jumbo frame size	1536 bytes
Supply voltage	9 … 48 VDC
Power consumption	6.1 W
ESD (contact/air discharge)	8 KV / 15 KV
Connection technology: Communication	8 x RJ-45, 2 x SFP
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	50 x 120 x 162 mm
Approvals	CE, KC, UL 508
Data sheet and further information, see:	wago.com/852-103

Industrial Switches

8-port 1000Base-T, ext. Temperature

Figure: 852-1102



Item description	Switch
Version	8Port Gb T
Item no.	**852-1102**

Technical Data

Switching mode	Store-and-Forward, non-blocking
No. of ports, copper	8 x 1000Base-T
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control IEEE 802.3az Energy Efficient Ethernet IEEE 802.1p Class of Service Profinet CC-A
Redundancy functions	Redundant DC power supply
Configuration	DIP switch for signal contact
Diagnostics	Signal contact
MAC table (large)	8000 addresses
Jumbo frame size	9 kB
Supply voltage	9 … 57 VDC
Power consumption	6 W
ESD (contact/air discharge)	8 KV / 15 KV
Connection technology: Communication	8 x RJ-45
Ambient temperature (operation)	−40 … +70 °C
Dimensions W x H x D	50 x 120 x 105 mm
Approvals	CE, cULus UL 508*
Data sheet and further information, see:	wago.com/852-1102

*pending

SFP Modules
see Page 388

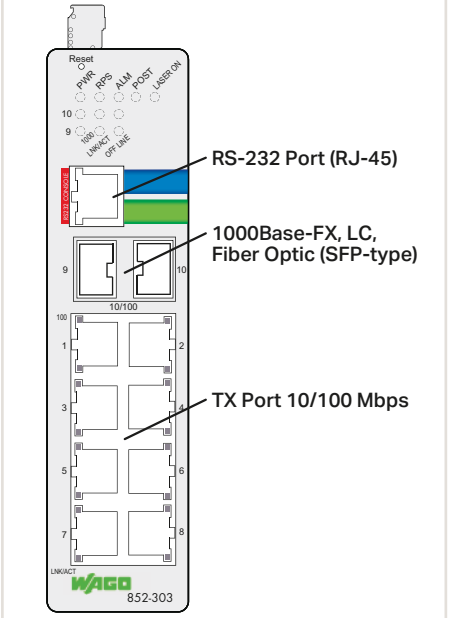
DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

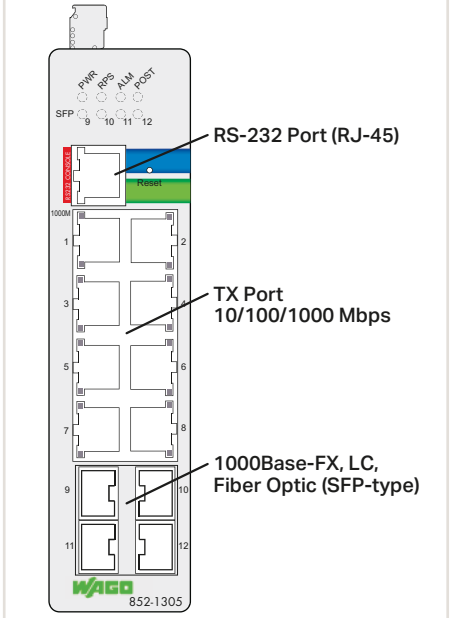
Industrial Managed Switches

Figure: 852-303

8-port 100Base-TX, 2 x 1000Base-FX, ext. Temperature



8-port 1000Base-T, 4 x 1000Base-FX, ext. Temperature

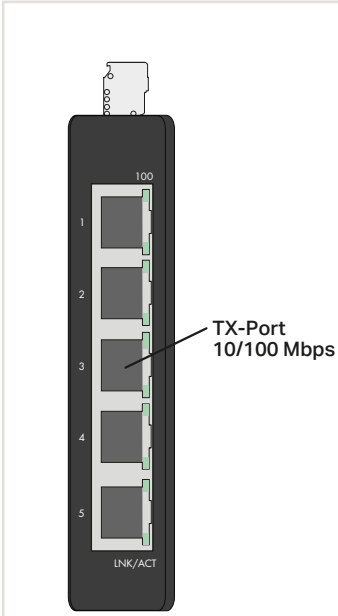


Item description	Managed Switch	Managed Switch
Version	8Port 2FOC Gb T	8Port Gb 4FOC Gb T
Item no.	**852-303**	**852-1305**
Technical Data		
Switching mode	Store-and-Forward, non-blocking	Store-and-Forward, non-blocking
No. of ports, copper	8 x 100Base-TX	8 x 1000Base-T
No. of ports, FOC	2 x 100Base-FX / 1000Base-SX/LX	4 x 1000Base-SX/LX
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/FX IEEE 802.3z 1000Base-SX/LX IEEE 802.3x Flow Control IEEE 802.3w RSTP IEEE 802.1q VLAN Tagging IEEE 802.1ab LLDP IEEE 802.1p Class of Service IEEE 802.1x Port Authentication ITU-T G.8032 ERPSv2	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-SX/LX IEEE 802.3x Flow Control IEEE 802.3w RSTP IEEE 802.1q VLAN Tagging IEEE 802.1ab LLDP IEEE 802.1p Class of Service IEEE 802.1x Port Authentication ITU-T G.8032 ERPSv2
Redundancy functions	Redundant DC power supply, STP, RSTP, MSTP, Jetring < 300 ms, XPRESS ring < 20 ms, Dual homing < 20 ms, Dual ring, ERPSv2 < 50 ms, LCAP	Redundant DC power supply, STP, RSTP, MSTP, Jetring < 300 ms, XPRESS ring < 20 ms, Dual homing < 20 ms, Dual ring, ERPSv2 < 50 ms, LCAP
Configuration	DIP switch for signal contact, Web-based CLI, SNMPv1/v2/v3	DIP switch for signal contact, Web-based CLI, SNMPv1/v2/v3
Diagnostics	Signal contact, MODBUS/TCP, port status, port statistics, port load, traffic monitor, SFP information, syslog, mail alarm, SNMP traps	Signal contact, MODBUS/TCP, port status, port statistics, port load, traffic monitor, SFP information, syslog, mail alarm, SNMP traps
MAC table (large)	16000 addresses	16000 addresses
Jumbo frame size	10 kB	10 kB
Supply voltage	12 … 60 VDC	12 … 60 VDC
Power consumption	12 W	12 W
ESD (contact/air discharge)	8 KV / 15 KV	8 KV / 15 KV
Connection technology: Communication	8 x RJ-45, 2 x SFP, 1 x RJ-45 (RS-232)	8 x RJ-45, 4 x SFP, 1 x RJ-45 (RS-232)
Communication standards	IEEE802.3x (in full duplex mode)	IEEE802.3x (in full duplex mode)
Ambient temperature (operation)	–40 … +70 °C	–40 … +70 °C
Dimensions W x H x D	50 x 120 x 162 mm	50 x 120 x 162 mm
Approvals	CE, DNV	CE, DNV
Data sheet and further information, see:	wago.com/852-303	wago.com/852-1305

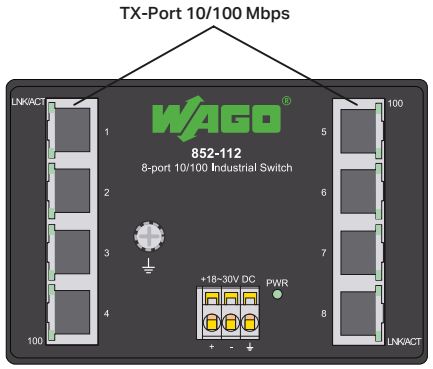
Industrial Switches (ECO)

Figure: 852-111

5-port 100Base-TX, ext. Temperature, ECO



8-port 100Base-TX, ext. Temperature, ECO



Item description	Switch	Switch
Version	5Port T ECO	8Port T ECO
Item no.	**852-111**	**852-112**
Technical Data		
Switching mode	Store-and-Forward, non-blocking	Store-and-Forward, non-blocking
No. of ports, copper	5 x 100Base-TX	8 x 100Base-TX
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x Flow Control	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x Flow Control
MAC table (large)	2000 addresses	2000 addresses
Jumbo frame size	1536 bytes	1536 bytes
Supply voltage	18 … 30 VDC	18 … 30 VDC
Power consumption	3 W	3 W
ESD (contact/air discharge)	4 KV / 8 KV	4 KV / 8 KV
Connection technology: Communication	5 x RJ-45	8 x RJ-45
Ambient temperature (operation)	−40 … +70 °C	−40 … +70 °C
Dimensions W x H x D	24 x 74 x 110 mm	110 x 24 x 74 mm
Approvals	CE, KC, DNV (only with DNV attachment adapter), UL 508	CE, KC, UL 508
Data sheet and further information, see:	wago.com/852-111	wago.com/852-112

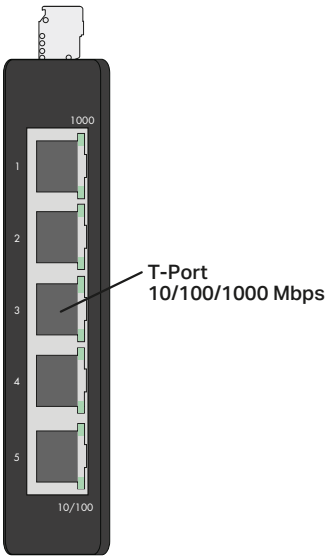
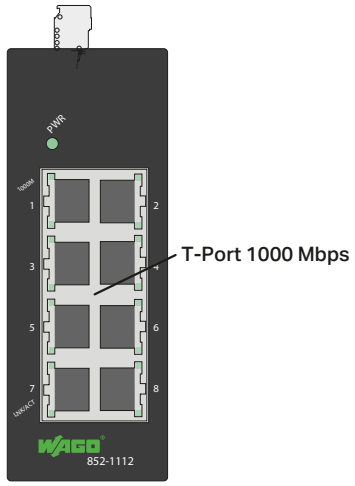
Accessories	Item no.	Page
DNV mounting adapter	852-9101	389

DIN rails and tool
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

Industrial Switches (ECO)

Figure: 852-1112

	5-port 1000Base-T, ext. Temperature, ECO	8-port 1000Base-T, ECO
		
Item description	Switch	Switch
Version	5Port Gb T ECO	8Port Gb ECO
Item no.	**852-1111**	**852-1112**
Technical Data		
Switching mode	Store-and-Forward, non-blocking	Store-and-Forward, non-blocking
No. of ports, copper	5 x 1000Base-T	8 x 1000Base-T
Profiles supported	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control IEEE 802.1p Class of Service Profinet CC-A	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control IEEE 802.3az Energy Efficient Ethernet IEEE 802.1p Class of Service Profinet CC-A
MAC table (large)	8000 addresses	8000 addresses
Jumbo frame size	9 kB	9 kB
Supply voltage	9 … 48 VDC	9 … 57 VDC
Power consumption	3 W	6 W
ESD (contact/air discharge)	4 KV / 8 KV	8 KV / 15 KV
Connection technology: Communication	5 x RJ-45	8 x RJ-45
Ambient temperature (operation)	−40 … +70 °C	0 … +60 °C
Dimensions W x H x D	24 x 74 x 110 mm	50 x 100 x 116 mm
Approvals	CE, DNV (only with DNV attachment adapter), UL 508*	CE, UL 508*
Data sheet and further information, see:	wago.com/852-1111	wago.com/852-1112

Accessories	Item no.	Page
DNV mounting adapter	852-9101	389

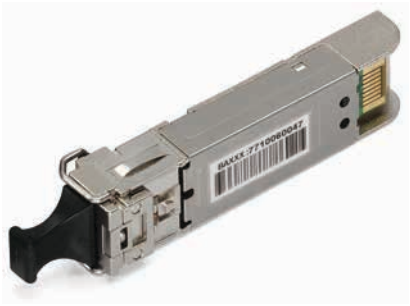
*pending

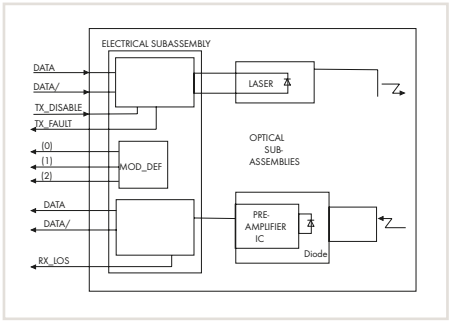
*pending

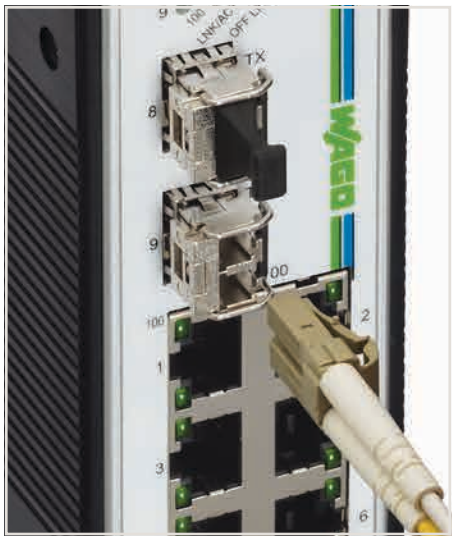
7

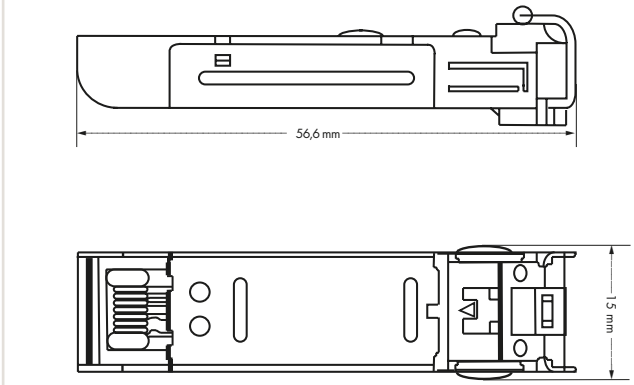
Industrial Switches – Accessories
SFP Modules

Features:
- Duplex LC optical connector
- Small Form-Factor Pluggable (SFP) industry-standard design
- Compliant with Fast ETHERNET standard and Gigabit ETHERNET standard IEEE802.3z
- Differential LVPECL inputs and outputs
- Power supply: 3.3 V
- TTL signal detect indicator
- Hot-pluggable capability









7

SFP Module 100BASE, FX Multi-mode 1310 nm LC, 2 km, optional: ext. Temperature

Item description	SFP-Module 100BASE	
Version	FX 2km	FX 2km T
Item no.	**852-201/107-002**	**852-201/040-002**
Technical Data		
Wavelength	1310 nm	
Multimode fiber	62.5/125 µm, 50/125 µm	
Maximum lengths	2000 m	
Laser type	Laser class 1 per EN 60825-1	
Other		
Ambient temperature (operation)	0 … +60 °C	−40 … +70°C
Dimensions W x H x D	13.4 x 13.3 x 56.6 mm	
Data sheet and further information, see:	wago.com/852-201	

SFP Module 1000BASE, SX Multi-mode 850 nm LC, 0.55 km, ext. Temperature, Digital Diagnostics Monitoring

SFP-Module 1000BASE
SX 0.55km T DDM
852-1200
850 nm
62.5/125 µm, 50/125 µm
300 m, 550 m
Laser class 1 per EN 60825-1
Supports Digital Diagnostics Monitoring
−40 … +85 °C
13.4 x 13.3 x 56.6 mm
wago.com/852-1200

SFP Module 100BASE, LX Single-mode 1310 nm LC, 30 km

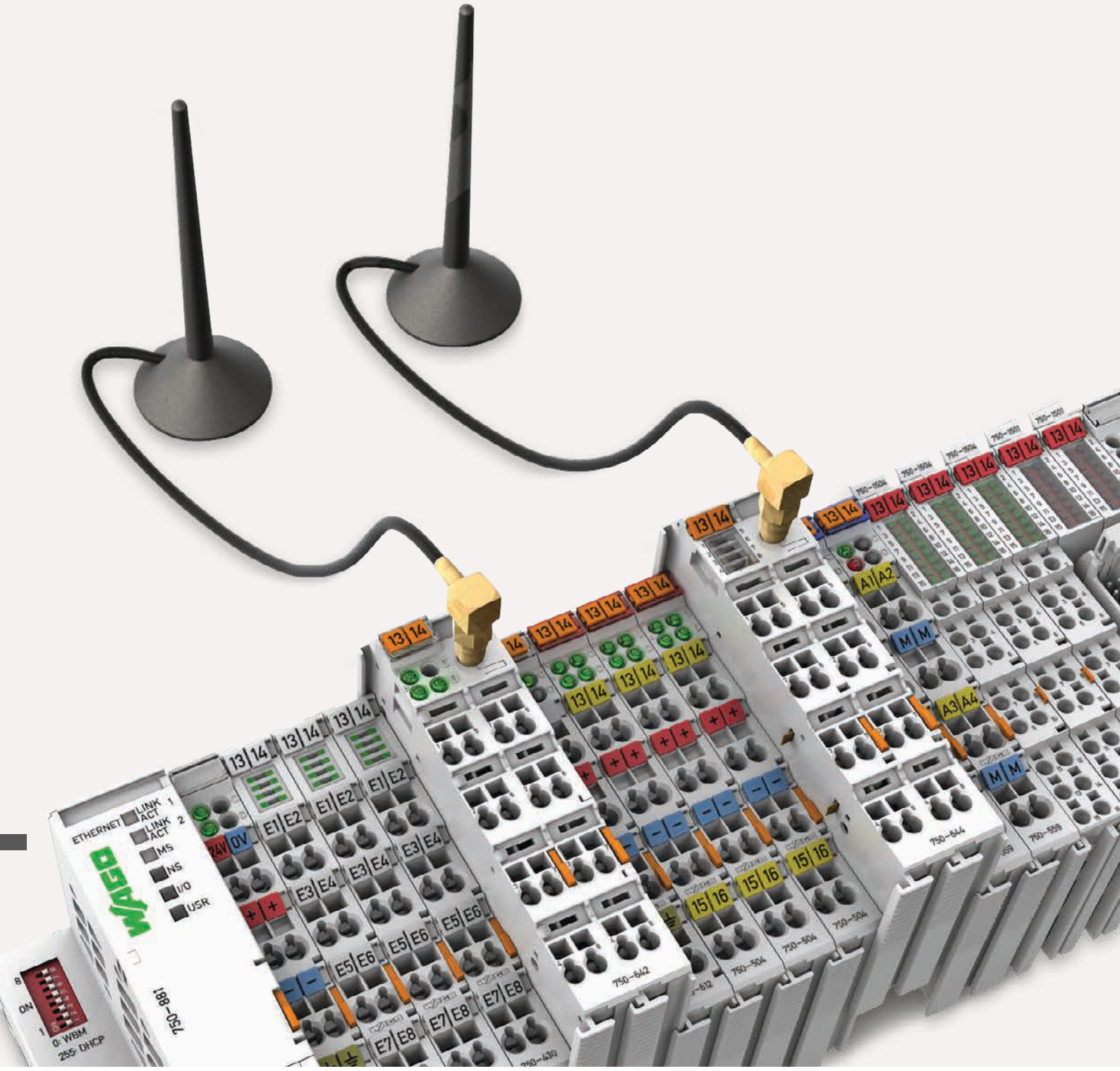
Item description	SFP-Module 100BASE
Version	LX 30km
Item no.	**852-201/107-030**
Technical Data	
Wavelength	1310 nm
Single-mode fiber	9/125 µm
Maximum lengths	30000 m
Laser type	Laser class 1 per EN 60825-1
Other	
Ambient temperature (operation)	0 °C … +60 °C
Dimensions W x H x D	13.4 x 13.3 x 56.6 mm
Data sheet and further information, see:	wago.com/852-201

SFP Module 1000BASE, LX Single-mode 1310 nm LC, 10 km, optional: 80 km, ext. Temperature, Digital Diagnostics Monitoring

SFP-Module 1000BASE	
LX 10km T DDM	ZX 80km T DDM
852-1210	**852-1280**
1310 nm	1550 nm
9/125 µm	
10000 m	80000 m
Laser class 1 per EN 60825-1	
Supports Digital Diagnostics Monitoring	
−40 … +85 °C	
13.4 x 13.3 x 56.6 mm	
wago.com/852-1210	wago.com/852-1280

Industrial Switches – Accessories
DNV DNV mounting adapter, ship approval

Item description	DNV Carrier Rail Adapter Switches
Item no.	**852-9101**
Technical Data	
Dimensions W x H x D	20 x 9.6 x 102.2 mm
Weight	32.8 g
Datenblatt bzw. weitere Informationen siehe:	wago.com/852-9101



Radio Technology

Radio Technology

- *Bluetooth*®
- WLAN
- EnOcean®

TO-PASS® Telecontrol Technology

For applications that go beyond site boundaries

- Telecontrol technology based on GSM/GPRS

Section 9 ▸

Wireless Technology – *Bluetooth*®, WLAN and EnOcean® Components

Contents

8

Radio Technology
General Product Information

Wireless Technology in the Industrial Environment

Wireless technology can support wired applications or enable completely new applications.
In mobile or movable systems, wireless technology is the first choice when greater distances or obstacles must be overcome. It is an alternative for applications in which wired solutions are not economical or technically feasible.

Various wireless technologies can be used depending on the application.

Bluetooth® — Robust, Flexible, High-Performance

Well-known in consumer electronics, *Bluetooth*® technology is also well-suited to industrial use with its internationally approved frequency range, a very robust transmission technology (frequency hopping), real-time response and a range of up to 1000 m. It makes wireless process data communication between two stations possible (point-to-point communication), and also enables the setup of a piconet in which a *Bluetooth*® master can communicate with up to seven slaves, e.g., decentralized mobile sensors.
In addition, *Bluetooth*® can be used as the radio system for commissioning.

Features:

- Secure transmission (encrypted)
- AFH (Adaptive Frequency Hopping)
- Adaptive transmission power
- Uses the license-free 2.4 GHz frequency band

GPRS for Remote Connections

For applications that go beyond site boundaries, *TO-PASS*® telecontrol technology provides the right solution. More detailed information on *TO-PASS*® is available in Section 9.

WLAN — Full IT Integration

WLAN makes it easy to set up a wireless transmission link for ETHERNET protocols. This can be standard ETHERNET protocols, e.g., for communication between a smartphone and automation components. Industrial fieldbus protocols such as PROFINET, MODBUS/TCP or Ethernet/IP can also be used to link mobile equipment with stationary equipment. Ranges up to 400 m are possible depending on the transmission technology used.

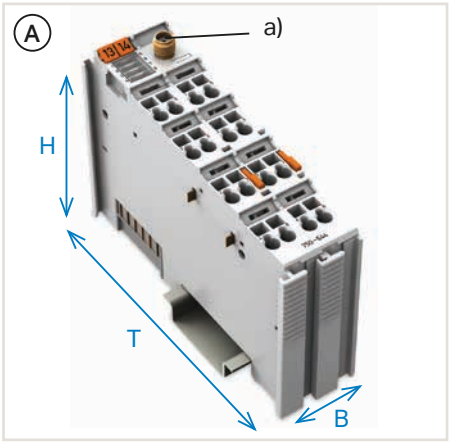
EnOcean® — The Radio Standard in Building Automation

Wireless switches and sensors based on EnOcean® technology harvest available energy to power themselves, e.g., kinetic energy from actuating a switch or sensors powered by ambient light. This energy harvesting completely eliminates maintenance of the radio transmitter at a range of up to 300 m in open air (30 m in buildings).

Advantages:

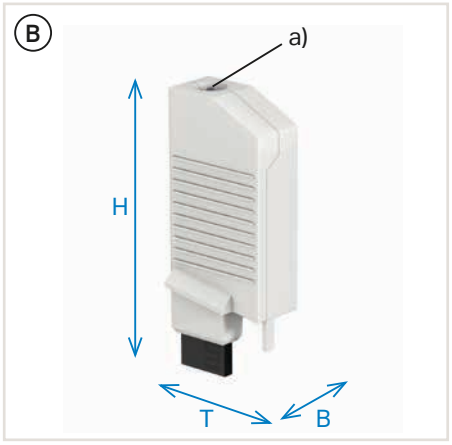
- Branch and application-specific — always the right radio system
- Industrial design: High-performance, rugged and safe
- Tightly integrated into WAGO automation technology

Radio Technology
Interfaces and Types



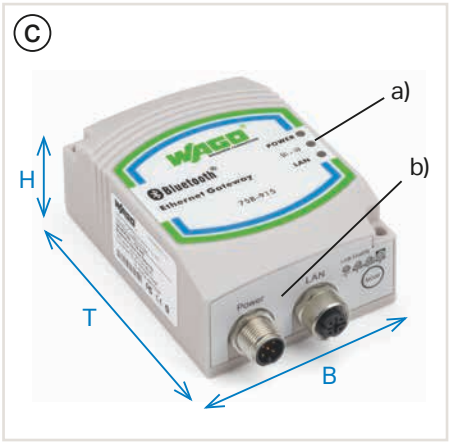
Communication Module for I/O-System (A)

- Can be used with the products:
  - Programmable fieldbus controllers (PFC)
  - Fieldbus couplers (FC) 750 I/O-System
- Antenna connection (a)
- W x H x D (mm) 24 x 72 x 100, approx. 6.5 mm of excess length with antenna socket



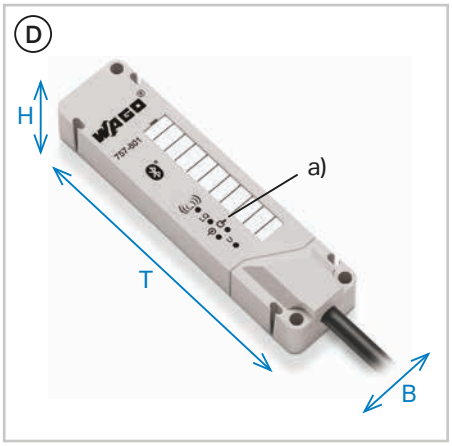
Radio Adapter (B)

- Can be used with the products:
  - PFC, PFC 750 XTR Series, FC, FC 750 XTR Series
  - *JUMPFLEX*® Signal Conditioners, 2857 + 857 Series
- Integrated antenna
- Diagnostic LED (a)
- W x H x D (mm) 15 x 50 x 19



ETHERNET Gateway (C)

- Integrated converter from ETHERNET protocols to radio technology
- Integrated antenna
- Diagnostic LEDs (a)
- Connections with M12 pluggable connectors (b)
- Degree of protection: IP65
- W x H x D (mm) 66 x 36.2 x 91



RS-232, IP67 Module (D)

- *Bluetooth*® / RS-232 converter
- Diagnostic LEDs (a)
- Connecting cable
- Degree of protection: IP67
- W x H x D (mm) 30 x 20 x 117

Contact Units (GE

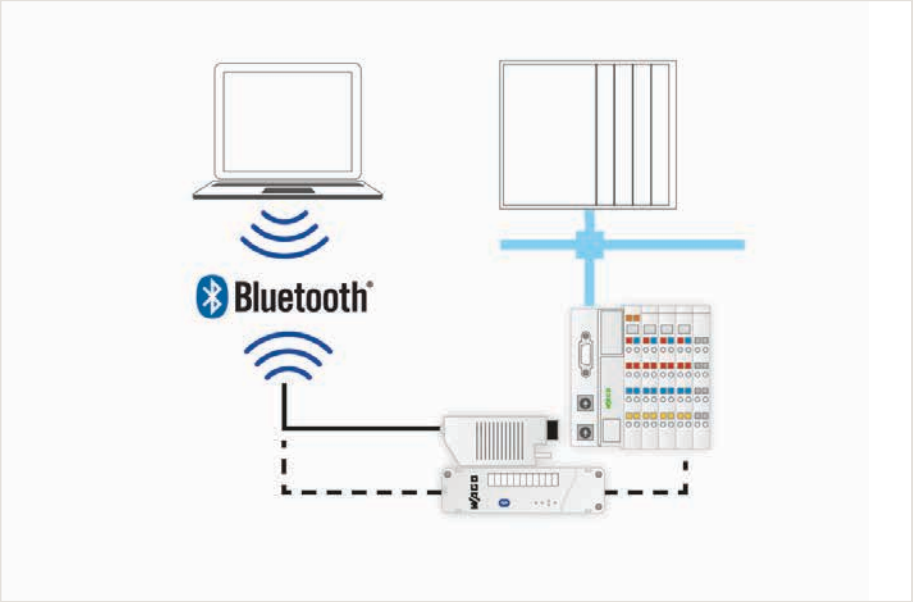
- Universal contact units for standard switch series in building automation
- Compatible with manufacturer programs from BERKER, GIRA, JUNG, MERTEN

8

Bluetooth® Wireless Technology
Application and Installation Instructions

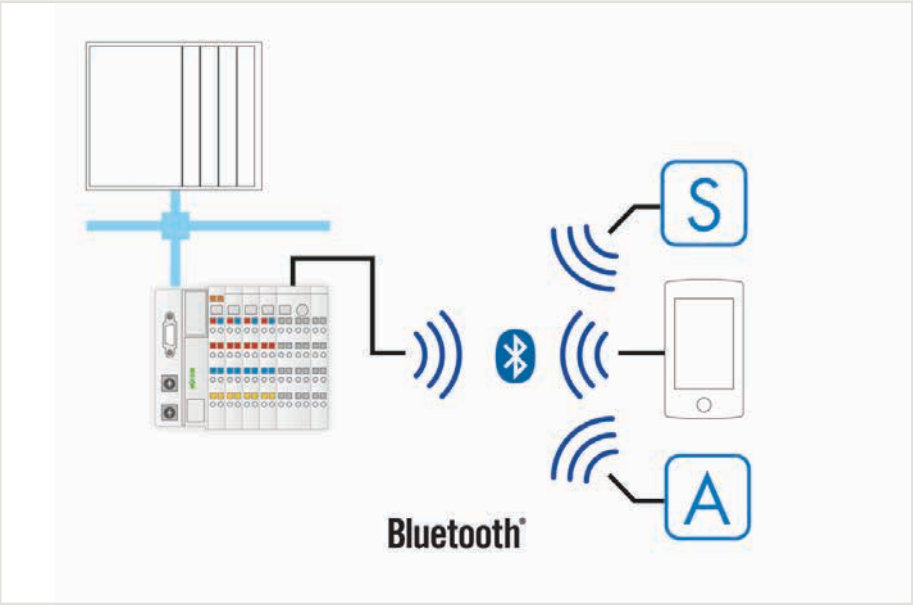
Wireless engineering

- Commissioning, maintenance
- For connecting WAGO software on a PC/notebook to a product's service interface
- Programmable fieldbus controllers
- Programmable XTR Fieldbus Controller
- 750 I/O-System Fieldbus Coupler
- 750 XTR I/O-System Fieldbus Coupler
- Temporary installation via compact *Bluetooth*® adapter
- Permanent installation with high degree of protection



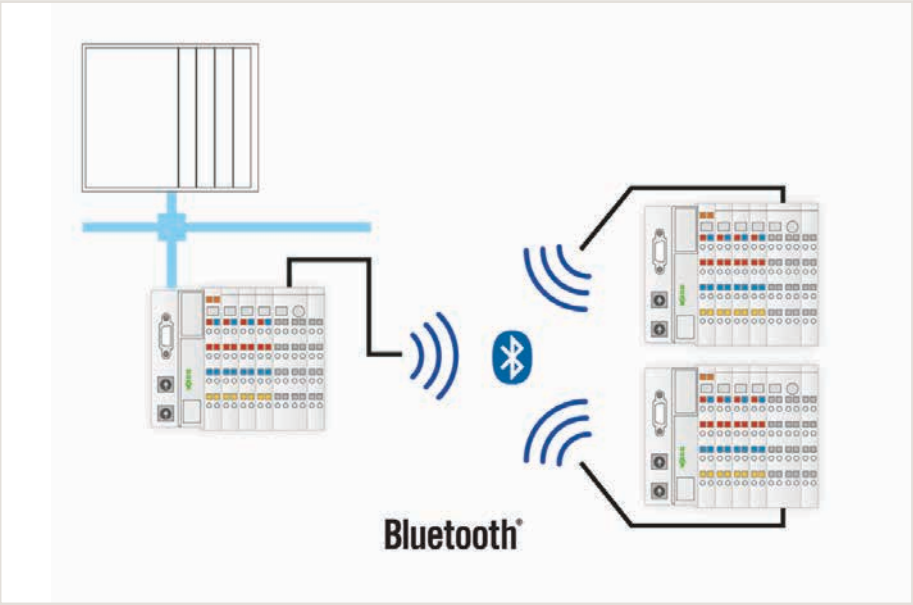
Integration of Mobile Sensors/Actuators

- Data exchange between up to eight modules
- Radio transmitter/receiver in the I/O module
- Operation on
  - Programmable fieldbus controllers
  - Fieldbus couplers
- Range: Up to 1000 m in open air



Connect Mobile Systems and Exchange Data Between Two or More Stations

- Fieldbus-independent coupling of I/O stations (up to eight) or programmable fieldbus controllers
- E.g., for coupling a mobile unit with a stationary basic system
- Or for wireless data exchange between several stations over long distances
- Process data coupling
- Range: Up to 1000 m in open air

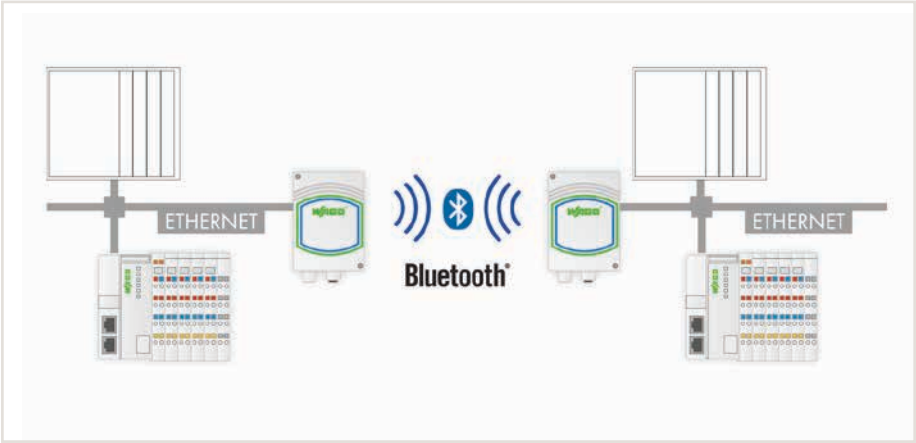


8

Bluetooth® Wireless Technology
Application and Installation Instructions

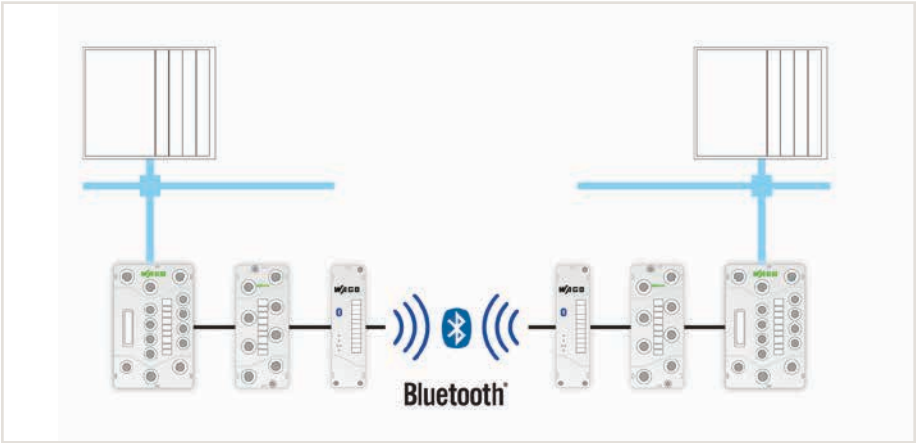
Tunneling ETHERNET Fieldbuses

- Point-to-point connection (between two nodes), e.g., for connecting mobile units to a central controller or for connecting stationary stations
- Tunneling PROFINET, MODBUS/TCP, ETHERNET/IP, etc., via Bluetooth® wireless technology
- Process data coupling
- Range: Up to 300 m in open air



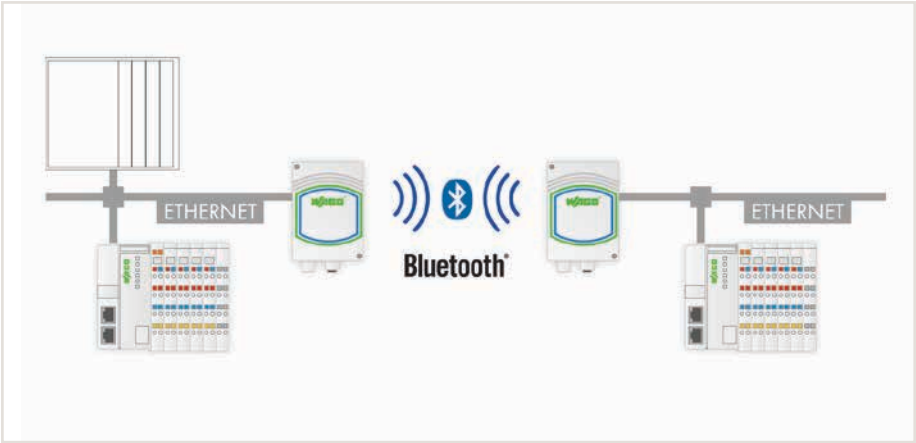
Connect Mobile Systems (IP67)

- Fieldbus-independent coupling of I/O stations or programmable fieldbus controllers
- E.g., for coupling a mobile unit with a stationary basic system
- Process data coupling
- Range: Up to 100 m in open air



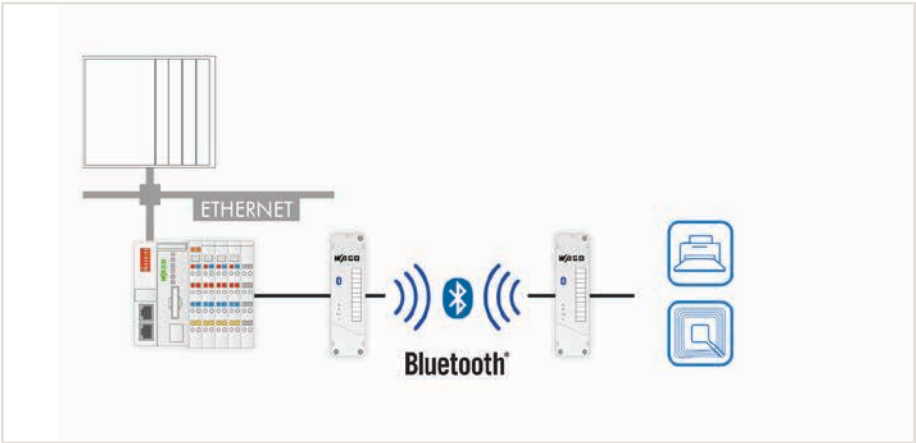
Coupling Mobile Systems

- Tunneling ETHERNET telegrams via Bluetooth® wireless technology
- Point-to-point connection, e.g., for coupling a mobile unit with a stationary basic system
- Process data coupling
- Range: Up to 300 m in open air



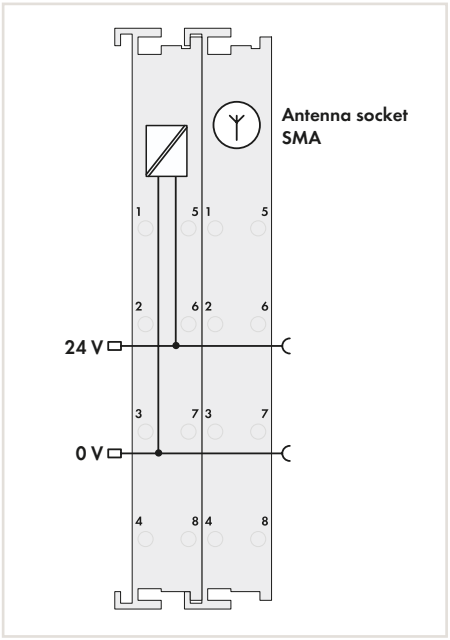
Wirelessly connect to serial devices

- Coupling of standard devices with RS-232 interface
- E.g., a printer to a mobile unit controlled by a stationary basic system
- Or to a portable RFID reader
- Range: Up to 100 m in open air



Bluetooth® RF Transceiver

Bluetooth® RF Transceiver



Item description	*Bluetooth*® RF-Transceiver
Item no.	**750-644**
Technical Data	
Antenna	External via SMA socket
Radio technology	*Bluetooth*® 2.0 + EDR
Topology	Piconet (1 master, max. 7 slaves)
Profiles	SPP, PAN
Frequency band	ISM band, 2402 … 2480 MHz
Transmitter power	Up to 20 dBm (*Bluetooth*® Class 1)
Receiver sensitivity	−94 dBm
Transmission range	Max. 1000 m free field, 100 m within buildings*
Power supply (*Bluetooth*®)	24 VDC via power jumper contacts
System supply voltage	5 VDC via data contacts
Internal data width	Configurable to 12, 24, 48 bytes, including 1 control/status byte
Diagnostics (via visual indicator)	Device status, connection status (radio connection quality, signal strength, interference)
Diagnostics (via process image)	Device status, connection status (radio connection quality, signal strength, interference), time monitoring
EMC immunity to interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 72 x 100 mm
Approvals	FCC approval (this device complies with Part 15 of FCC rules), *Bluetooth*® approval, CE, KC, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-644

Accessories	**Item no.**	Page
External antenna	**758-912**	405

The *Bluetooth*® Transceiver enables wireless exchange of process data with up to seven other devices using *Bluetooth*® 2.0 radio technology. Interoperability with *Bluetooth*® devices is provided via the *Bluetooth*® PAN and SPP profiles and is not restricted to any one manufacturer.
The module's extended diagnostic functions include cyclic and acyclic state information. For quick on-site diagnostics, main information on operational status and radio connection is also displayed via 8 LEDs.

* The specifications only apply when the antenna listed as an accessory is used.
The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

Software WAGO-I/O-*PRO* V2.3, WAGO-I/O-*CHECK*, see Section 1

Approvals and corresponding ratings, see Page 521 or www.wago.com

Bluetooth® ETHERNET Gateway

Power connector:
M12 plug, A-coded

1: Vin + (DC 9 ... 30 V)
2: External Trigger Ground
3: Vin GND (0 V)
4: External Trigger + (DC 9 ... 30 V)
5: n.c.

ETHERNET connector:
M12 socket, D-coded

1: Transmit +
2: Receive +
3: Transmit -
4: Receive -

Item description	*Bluetooth*® ETHERNET Gateway
Item no.	**758-915**
Technical Data	
Radio technology	*Bluetooth*® 2.0
Topology	Peer-to-peer connection
Profiles supported	Generic Access Profile (GAP), Personal Area Networking Profile (PANU, NAP)
Frequency band	ISM band, 2402–2480 MHz
Transmission range	Up to 400 m (Class 1)*
Antenna	Integrated
Power supply	24 VDC
Voltage range	9–30 VDC
Connections	- ETHERNET: M12 connector, D-coded; - Supply: M12 connector, A-coded
Configuration	Simple, push-button operation and Web-based management
Number of inputs	1 (trigger input)
Ambient temperature (operation)	–30 … +65 °C
Dimensions W x H x D	66 x 36.2 x 91 mm
Protection type	IP65
EMC immunity to interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3
Approvals	R&TTE (Europe), FCC/CFR 47 part 15, IC (Industrie Canada), CE
Data sheet and further information, see:	wago.com/758-915

* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

The *Bluetooth*® ETHERNET gateway simplifies creation of a wireless transmission link for ETHERNET protocols (e.g., PROFINET, MODBUS/TCP, Ethernet/IP).
The gateway is used as a cable substitute to create a robust, industry-proven *Bluetooth*® 2.0 link between two automation devices.
IP65 degree of protection and an internal circularly polarized antenna allow it to be used even in harsh industrial environments. Simple, push-button operation provides very fast connection between two *Bluetooth*® ETHERNET gateways.
Additional settings can be made via Web-based management.
Bluetooth® Adaptive Frequency Hopping (AFH) and "Low Emission ModeTM" provide excellent coexistence with other wireless systems, such as WLAN.

Note:
Two *Bluetooth*® ETHERNET gateways are required to establish a peer-to-peer connection.

IP67 cables and connectors
see Section 11

Bluetooth® Module

Item description	*Bluetooth*® Module
Version	RS-232, IP67
Item no.	**757-801**
Technical Data	
Version	*Bluetooth*® 2.1
Radio	Class 1 / max. 100 m*
Antenna	Integrated
Frequency range	ISM band, 2402 … 2483 MHz
Type of communication	Peer-to-peer connection
Profiles supported	Serial Port Profile (SPP)
Security encryption	*Bluetooth*® security mode 4 "Secure Simple Pairing" 128-bit encryption
Baud rate	9600 … 115200 bit/s
Power supply	+24 VDC
Display	Five LEDs
Mounting	Screw mount
Connections	RS-232
Ambient temperature (operation)	–20 … +60 °C (static); –5 … +60 °C (moving)
Dimensions W x H x D	30 x 20 x 117 mm
Protection type	IP67
EMC immunity to interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3
Connecting cable	Cable length: 5 m
Approvals	*Bluetooth*® approval, CE
Data sheet and further information, see:	wago.com/757-801

* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

WAGO's 757-801 *Bluetooth*® Module wirelessly connects a serial interface to external *Bluetooth*® devices (e.g., PCs/notebooks with *Bluetooth*®). Data is exchanged via *Bluetooth*® SPP (Serial Port Profile).
Substitute cabling between two serial devices by automatically restoring the outgoing wireless connection (e.g., to a second *Bluetooth*® module).
High protection class provides enhanced, wireless *Bluetooth*® module's installation outside of control cabinets.
Diagnostic LEDs signal the quality of the wireless connection and communication via the RS232 interface.

Marking strips, felt-tip pen
see Accessories, Section 10

Bluetooth® Adapter

Item description	*Bluetooth*® Adapter
Item no.	**750-921**
Technical Data	
Range:	30 m free field (Class 2)*
Data transfer rate	9600 … 115000 bit/s
Frequency range	ISM band, 2402 … 2483 MHz
Type of communication	Peer-to-peer connection
Profiles supported	Serial Port Profile (SPP)
Version	*Bluetooth*® 2.1
Radio	Class 2
Antenna	Integrated
Connections	4-pole service connector
Configuration	AT commands, e.g., via hyperterminal
Function	Master or slave
LED	Operating mode
Security encryption	128-bit encryption
Ambient temperature (operation)	–20 … +60 °C
Dimensions W x H x D	15 x 50 x 19 mm
Approvals	*Bluetooth*® approval, CE
Data sheet and further information, see:	wago.com/750-921

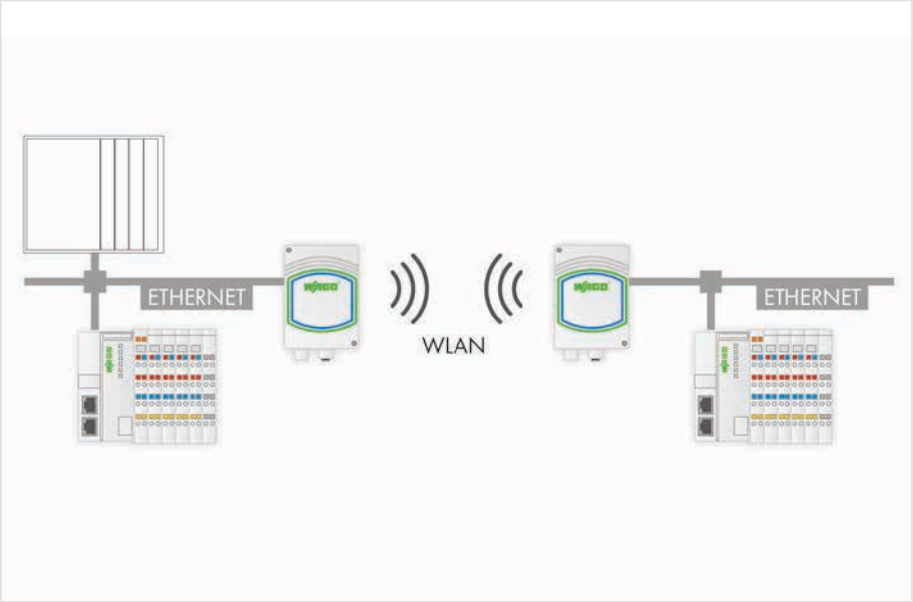
* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

The *Bluetooth*® Adapter wirelessly connects a notebook computer with *Bluetooth*® functionality to the service interface of the fieldbus coupler/controller. It also provides an active connection to a programmable fieldbus controller.
As a cable substitute, the *Bluetooth*® Adapter allows communication between two controllers, as well as between fieldbus couplers/controllers via WAGO software tools.
The adapter is supplied via the service interface and, therefore, via the power supply of the fieldbus coupler/controller.

WLAN Wireless Technology
Application and Installation Instructions

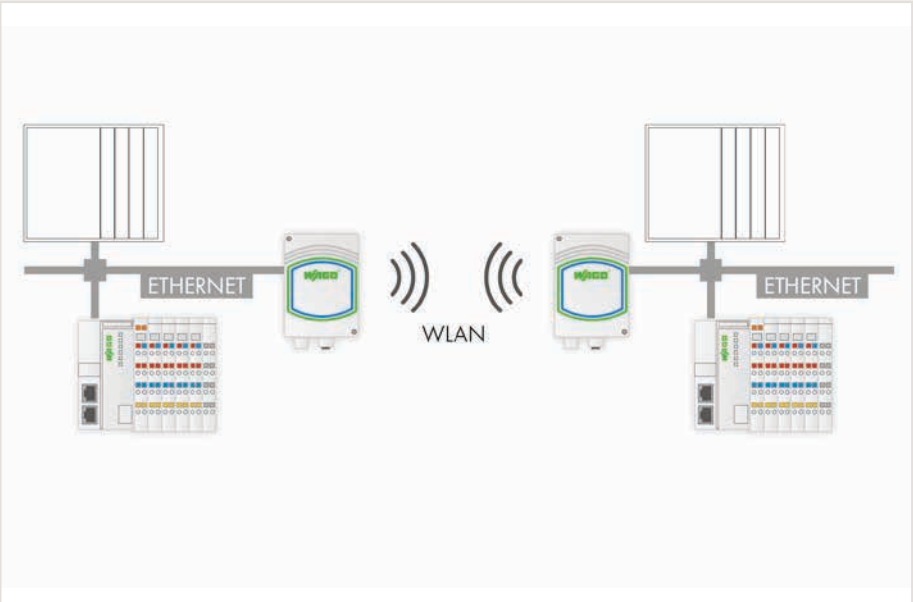
Connect Mobile Systems

- Peer-to-peer connection (between two nodes), e.g., for coupling a mobile unit with a stationary basic system
- Tunneling ETHERNET telegrams via WLAN wireless technology
- Process data coupling
- Range: Up to 400 m in open air (2.4 GHz frequency band)
- Range: Up to 200 m in open air (5 GHz frequency band)



Tunneling ETHERNET Fieldbuses

- Peer-to-peer connection (between two nodes), e.g., for connecting mobile units to a central controller
- Tunneling PROFINET, MODBUS/TCP, Ethernet/IP, etc., via WLAN wireless technology
- Process data coupling
- Range: Up to 400 m in open air (2.4 GHz frequency band)
- Range: Up to 200 m in open air (5 GHz frequency band)



WLAN ETHERNET Gateway

Power connector:
M12 plug, A-coded

1: Vin + (DC 9 ... 30 V)
2: External Trigger Ground
3: Vin GND (0 V)
4: External Trigger + (DC 9 ... 30 V)
5: n.c.

ETHERNET connector:
M12 socket, D-coded

1: Transmit +
2: Receive +
3: Transmit -
4: Receive -

Item description	WLAN ETHERNET Gateway	
Version	2.4 GHz IP65	5 GHz IP65
Item no.	**758-916**	**758-917**
Technical Data		
Radio technology	IEEE 802.11 bgn	IEEE 802.11 an
Topology	Peer-to-peer connection	
Security authentification	Open, shared, WPA/WPA2 PSK, LEAP, PEAP	
Security encryption	None, WEP64, WEP128, TKIP, AES/CCMP	
Frequency band	ISM band, 2.4 GHz	ISM band, 5 GHz
Transmission range	Up to 400 m*	Up to 200 m*
Antenna	Inside	
Power supply	24 VDC	
Connections	- ETHERNET: M12 connector, D-coded, - Supply: M12 connector, A-coded	
Configuration	Simple, push-button operation and Web-based management	
Number of inputs	1 (trigger input 9–30 VDC)	
Ambient operating temperature (operation)	–30 … +65 °C	
Dimensions W x H x D	66 x 36.2 x 91 mm	
Protection type	IP65	
EMC immunity to interference	Per EN 61000-6-2	
EMC emission of interference	Per EN 61000-6-3	
Approvals	R&TTE (Europe), FCC/CFR 47 part 15, IC (Industry Canada), CE	
Data sheet and further information, see:	wago.com/758-916	wago.com/758-917

* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

WAGO WLAN ETHERNET Gateways simplify creation of a wireless transmission link for ETHERNET protocols (e.g., PROFINET, MODBUS/TCP, Ethernet/IP).
The gateway is used as a cable substitute to create a robust, industry-proven WLAN link between two automation devices.
IP65 degree of protection and an internal circularly polarized antenna allow it to be used even in harsh industrial environments. Simple, push-button operation provides very fast connection between two WLAN ETHERNET Gateways.
Additional settings can be made via Web-based management.

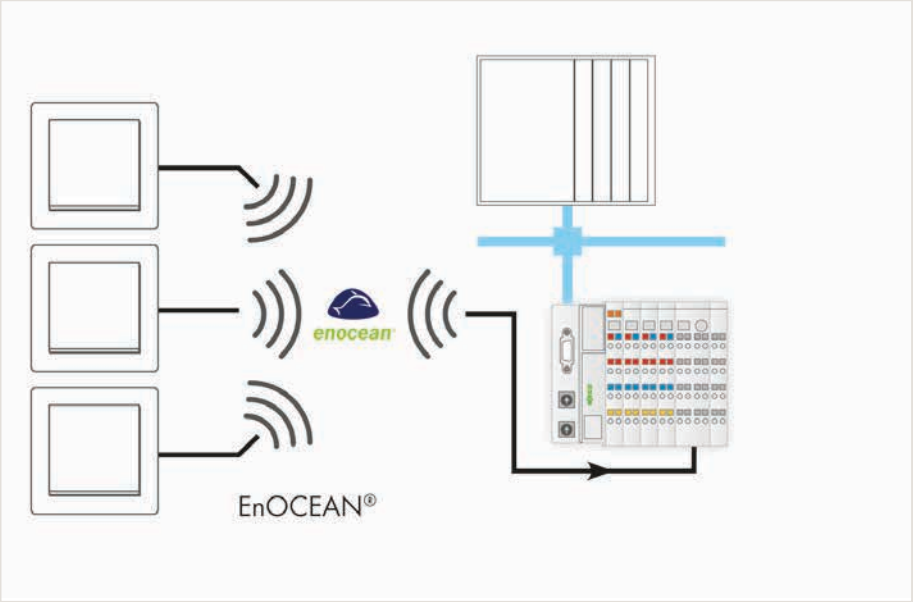
Note:
Two WLAN ETHERNET Gateways of the same type are required to establish a peer-to-peer connection.

IP67 cables and connectors
see Section 11

EnOcean® Radio Technology
Application and Installation Instructions

Integration into the WAGO-I/O-SYSTEM

- Receiver in the I/O module
- Operation on
  - Programmable fieldbus controllers
  - Fieldbus couplers
- Range: Up to 300 m in open air, approx. 30 m in buildings



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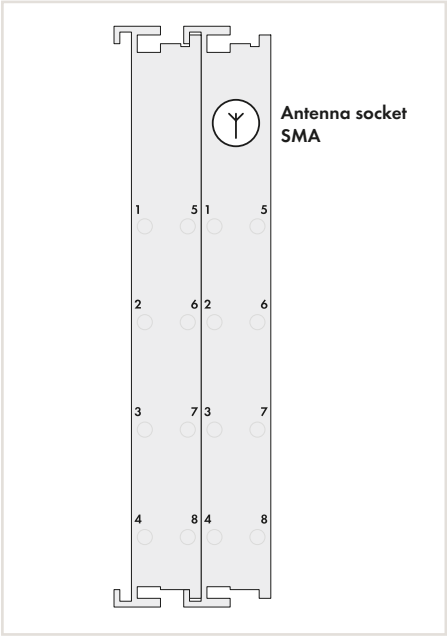
Radio Receiver EnOcean

Radio Receiver EnOcean



Item description	Radio Receiver EnOcean
Item no.	**750-642**
Technical Data	
Antenna	External via SMA socket
Frequency band	868.3 MHz
Transmission range	Up to 300 m in open field (30 m typical in buildings, see manual)*
Transmission protocol (radio telegram)	EnOcean
System supply voltage	5 VDC via data contacts
Internal data width	1 x 24 bits in/out (3 bytes user data), 1 x 8 bits control/status
EMC immunity to interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3
Ambient temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 72 x 100 mm
Approvals	CE, KC, Marine, UL 508, ANSI/ISA, ATEX/ IECEx
Data sheet and further information, see:	wago.com/750-642

Accessories	**Item no.**	Page
External antenna	**758-910**	405

* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

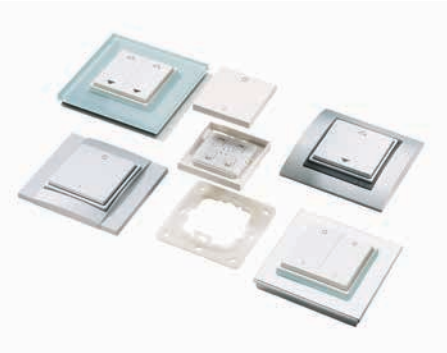
This radio receiver receives radio telegrams from maintenance-free, battery-less and wireless switches and sensors based on EnOcean radio technology.
The energy required for switch or sensor operation is produced by converting one type of energy (heat, solar or mechanical energy) into usable electrical energy.
The LED (RSSI) indicates a sufficient input level.

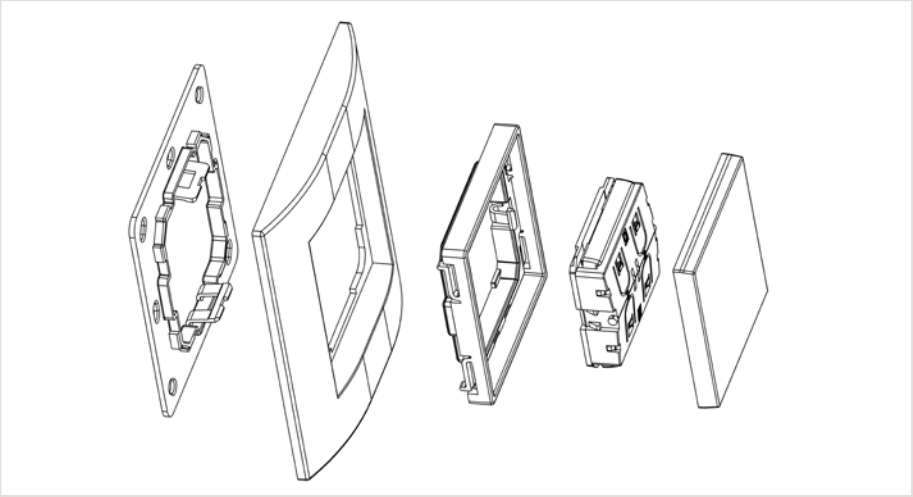
Preprogrammed function blocks for WAGO Controllers make integration easy.

8

Approvals and corresponding ratings, see Page 521 or www.wago.com

EnOcean® easyfit PTM 250 Radio Transmitter





Item description	EnOcean easyfit PTM 250			
Version	2-channel light	4-channel light	2-channel roller blind	4-channel roller blind
Item no.	**758-940/001-000**	**758-940/003-000**	**758-940/002-000**	**758-940/004-000**

Technical Data				
Integrated radio transmitter	EnOcean PTM 200			
Radio technology	EnOcean 868 MHz, RPS type 2			
Range:	300 m free field, 30 m typical within buildings*			
Antenna	Integrated			
Total installation height	14 mm (frame lies directly on surface)			
Dimensions of rocker / frame cut-out / center plate	50 x 50 mm / 55 x 55 mm / 71 x 71 m			
Assembly	Flat on surface, glued (double-sided mounting film enclosed) or screwed			
Color	Pure white			
Rocker switch variant	Rocker switch with neutral middle position	Series rocker switches	Rocker switch with neutral middle position	Series rocker switches
Relative humidity	95 % non condensing			
Ambient temperature (operation)	–25 … + 65 °C			
Compatibility	BERKER, GIRA, JUNG, MERTEN			
Approvals	R&TTE, CE			
Data sheet and further information, see:	wago.com/758-940			

PTM 250 is a universal, extremely flat function switch insert with maintenance-free energy generator. The universal switch insert fits in numerous frame programs from various installation material suppliers. The base plate can be glued or screwed into position for easy attachment to glass as well as plaster. Integration into the frame is similar to universal inserts for antenna sockets.

Delivered without frame; frames must be ordered separately from the desired manufacturer program

* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

External Antenna

Item description	External Antenna	External Antenna
Version	GSM 900/1800	WLAN/*Bluetooth*® 2.4 GHz
Item no.	**758-910**	**758-912**
Technical Data		
Frequency band	870 … 960 MHz; 1710 … 1880 MHz	2400 … 2485 MHz
VSWR	< 1.5	
Gain	0 dB	2 dBi
Max. power	20 W	
Cable length	250 cm	250 cm
Connector	SMA right angle plug + ferrite bead	SMA angled plug
Data sheet and further information, see:	wago.com/758-910	wago.com/758-912

Notes on operating the antenna with WAGO EnOcean radio receivers:
The antenna is to be mounted on a plate measuring at least 25 x 25 cm.
The distance of interfering sources to the antenna and antenna line must be at least 30 cm and the free space between the antenna and the next wall must be at least 35 cm.
The antenna cable should, under no circumstances, be bent sharply, since irreversible damage may result to the antenna line (RG174 bending radius > 15 mm).

TO-PASS® Telecontrol Technology

Controller

- Fieldbus controllers for telecontrol technology

◄◄ Section 3

Radio Technology

- *Bluetooth*®
- WLAN
- EnOcean®

◄ Section 8

***TO-PASS*® Telecontrol Technology**

For applications that go beyond site boundaries

- Telecontrol technology based on GSM/GPRS

TO-PASS® Telecontrol Technology
Contents

9

TO-PASS® Telecontrol Technology
General Product Information

From Fault Detector to Intelligent Telecontrol PLC

The *TO-PASS*® product series makes it possible to monitor remote objects even in harsh environmental conditions at any time. The devices use the GSM mobile radio network and can communicate wirelessly without data lines or radio links.

Data can be sent to a user-selected destination, e.g., the WAGO Web portal, and easily accessed from any browser. Remote access ensures a high degree of system uptime, while simultaneously relieving service personnel from the burden of performing time-consuming, on-site inspections. With an appropriate GSM service provider contract, wireless connection is more efficient and cost-effective than a standard wired connection. *TO-PASS*® Compact modules can be commissioned via configuration tool without programming knowledge, serving as a convenient gateway into wireless communication and telecontrol technology.

Application: Error Message Monitoring

Error messages are recorded locally and reported via SMS, e-mail or fax. Conversely, outputs can be connected via SMS.

Application: Cyclic Monitoring

Process data is recorded cyclically, transmitted over the Web via GPRS and saved centrally. All options for analysis and further processing including engagement in the process are available.

Application: Detection and Object Tracking

Using GPS, *TO-PASS*® Mobile makes it possible to capture position and process values. This permits tracking of personnel and vehicles, trip monitoring, fleet management and much more.

Application: Intelligent Telecontrol PLC

The combination of intelligent data preprocessing with integration into the central *TO-PASS*® data storage provides optimal scalability for comprehensive support of even the most complex applications.

Data Collection/Distribution via Web Portal

The *TO-PASS*® Web Portal is an adaptive portal capable of identifying, saving in its own databank and independently visualizing values from the *TO-PASS*® Compact modules — no programming required. It makes it easy to view and manage data in a Web browser on the Internet.

Remote Parameterization

All *TO-PASS*® devices can also be configured remotely using the CSD service of the GSM network.

Integrated Position Determination

An integrated GPS receiver allows *TO-PASS*® Mobile devices to detect position within 20 meters and to manage this together with the actual process values. This can be helpful, for example, to record compliance of a cold chain for food transport on land and at sea without interruption.

High Degree of Protection

TO-PASS® Outdoor makes it possible to use the telecontrol modules even under difficult environmental conditions. The enclosure protects against moisture. An integrated UPS bridges power failures and can also, for example, send an error message. The option of integrating enclosure heating extends the unit's operating temperature range, opening it up to additional applications, such as wind power plants. Solar operation also ensures stand-alone use.

Approvals

TO-PASS® devices have a have a broad range of approvals for worldwide telephone networks. That means unrestricted applicability throughout the European Union. There are also approvals for Croatia, Turkey, Singapore, USA, Canada and Mexico. Approvals for other countries are available on request.

Advantages:

- Very easy to use
- Versions for different requirements
- Parameterization without programming knowledge
- Great coverage and availability of the GSM network
- Data collection/distribution via Web portal
- Low ongoing mobile radio costs
- Optional: High degree of protection

TO-PASS® Telecontrol Technology
Versions

TO-PASS® Compact (A)

- Compact telecontrol modules
- With integrated GSM modem
- With integrated I/Os in different configurations
- Message dispatch via SMS, e-mail, fax or over the phone
- Switching of outputs via SMS

TO-PASS® Compact, Event/Process Memory Option (A)

- Same as above
- Also local storage of all status changes
- Also local storage of all process values (cyclic, settable)

TO-PASS® Compact, Web Option (B)

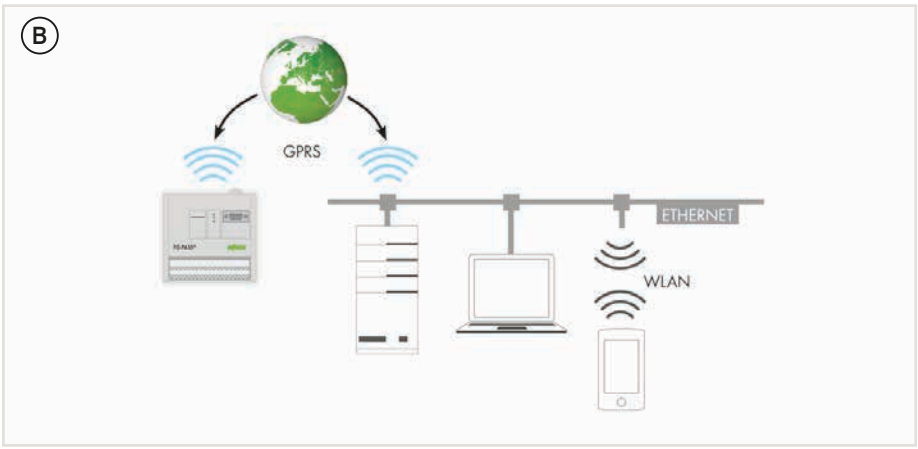
- Same as above
- Additional GPRS: Permanent online connection to the process
- Allows cyclic data transmission to the *TO-PASS*® Web Portal
- Allows cyclic data transmission to a controller with a fixed IP address that receives and further processes the data using the *TO-PASS*® Web Connector (see Application Notes)
- Allows cyclic data transmission to any PC with a fixed IP address equipped with the *TO-PASS*® communication protocol.

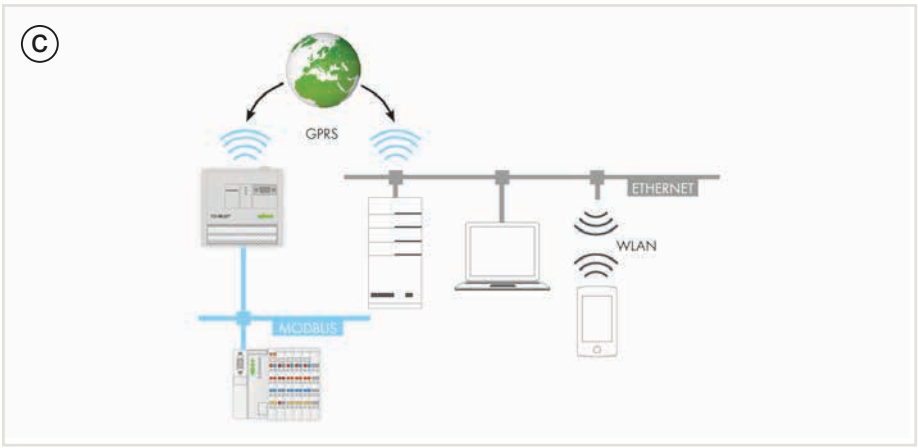
TO-PASS® Compact, MODBUS option (C)

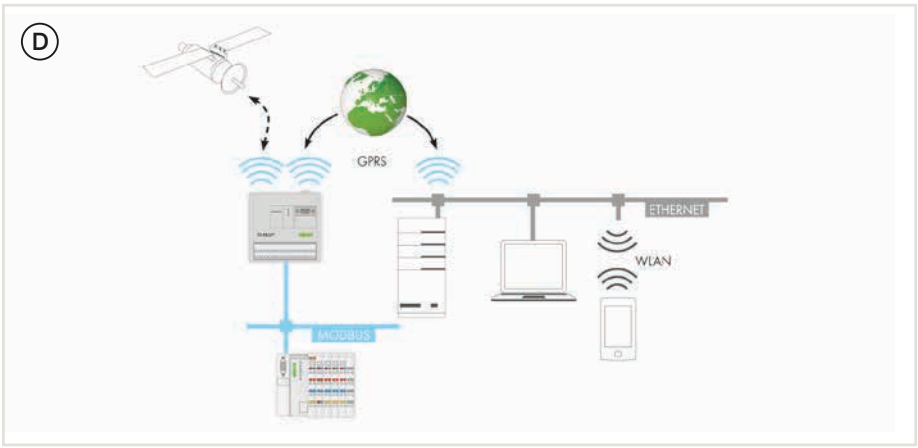
- Same as above
- Additional option for reading in data via MODBUS, e.g., from the WAGO 750 I/O-SYSTEM
- Connection via RS-232 or RS-485 depending on the version

TO-PASS® Mobile (D)

- Like *TO-PASS*® Compact
- Additional option for position determination via GPS

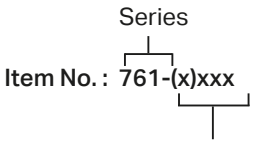






TO-PASS® Telecontrol Technology
Item Number Key

Explanation of the components of an item number key

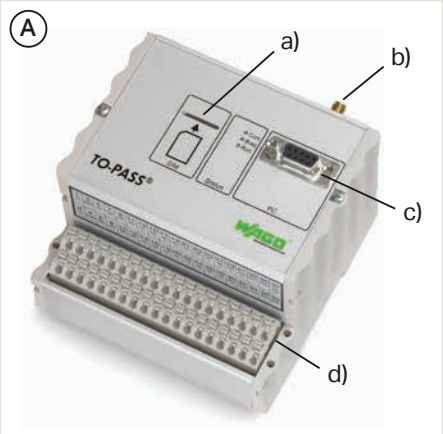


1xx: Compact telecontrol module with 4DI, 4DO
2xx: Compact telecontrol module with 8DI, 4DO, 8AI, 2AO
3xx: Mobile telecontrol module with 4AI

x10: standard
x11: Additional 2 AI
x12: Additional Web option
x13: Additional 2 AI + Web option
114: Additional 2 AI + Web option + MODBUS RS-485
214: Additional event logger, data logger option
x16: Additional Web option + MODBUS RS-232
x17: Additional Web option + MODBUS RS-232

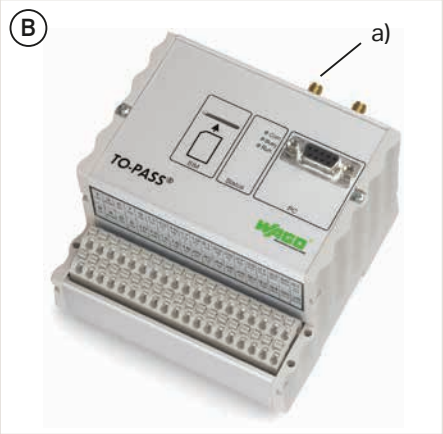
9009: Outdoor unit (without telecontrol module)

TO-PASS® Telecontrol Technology
Interfaces and Types



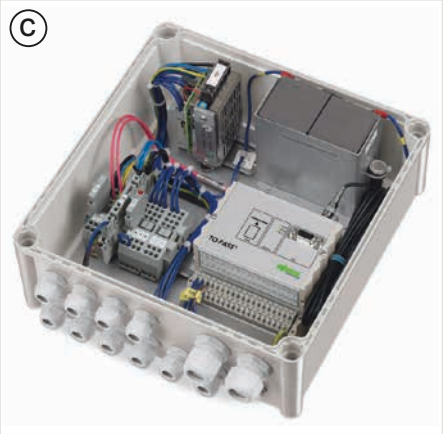
TO-PASS® Compact (A)

- Slot for SIM card (a)
- Antenna connection (b)
- RS-232/-485 serial interface (c)
- I/O connection level (d)
- W x H x D (mm) 109 x 105 x 78
  Height from upper edge of DIN-rail



TO-PASS® Mobile (B)

- Like *TO-PASS*® Compact
- Additional antenna connection for GPS receivers (a)



TO-PASS® Outdoor (C)

- Compact unit for mounting telecontrol modules in an IP66 enclosure
- Integrated GSM antenna
- 230 VAC supply voltage
- Power failure protection by batteries
- Option: Temperatures down to −4 °C are possible with built-in heater
- Also available for self-sustaining solar operation
- W x H x D (mm) 280 x 130 x 310
  incl. cable grips

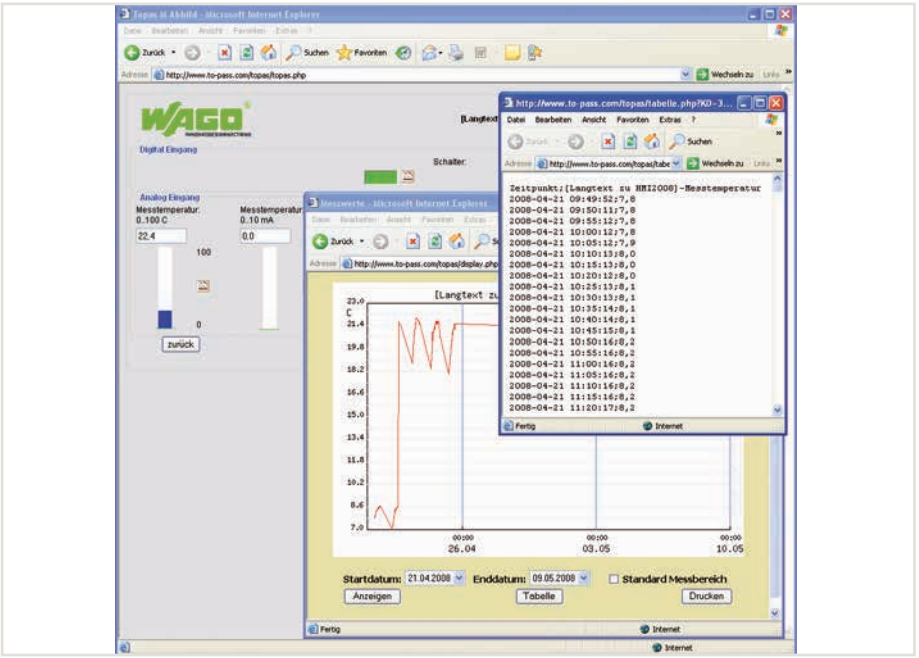
TO-PASS® Telecontrol Technology
Application and Installation Instructions

Manage Data with *TO-PASS*® Web Portal

The *TO-PASS*® Compact and *TO-PASS*® Mobile device versions with Web functionality are able to transmit data cyclically to a central Webserver. The process image (i.e., states and values of all digital and analog inputs) is transmitted to the Webserver with a time stamp at a variably configurable interval and then stored in a database. Standard data loggers and the cumbersome process of reading out data are no longer necessary.

The *TO-PASS*® Web Portal can be used as a Webserver.

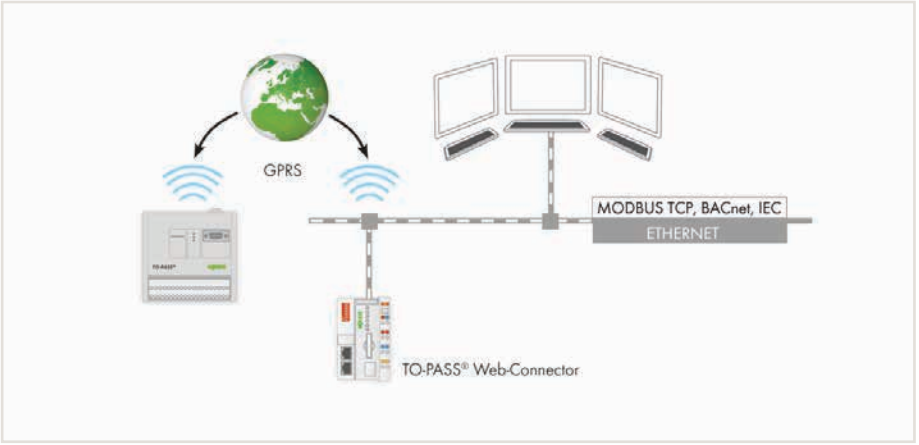
In addition to simple data storage, it provides password-protected visualization with current process data representation and chart recorder for measured value history. Controlling and managing your data is simplified by using an Internet browser via www.to-pass.com. More information on the *TO-PASS*® Web Portal is available in Section 1.



Application: *TO-PASS*® Web Portal as a central Webserver with evaluation function

Forward Data with *TO-PASS*® Web Connector

The *TO-PASS*® Web Connector function block is available for easy integration of fault detectors in the control system. Error and event messages are transmitted by GPRS data string via HTTP to a WAGO controller with a fixed IP address. These in turn are capable of passing the data to a central control system via different communication protocols (e.g., MODBUS TCP, BACnet, IEC telecontrol protocols).
Refer to Section 3 for suitable controllers.

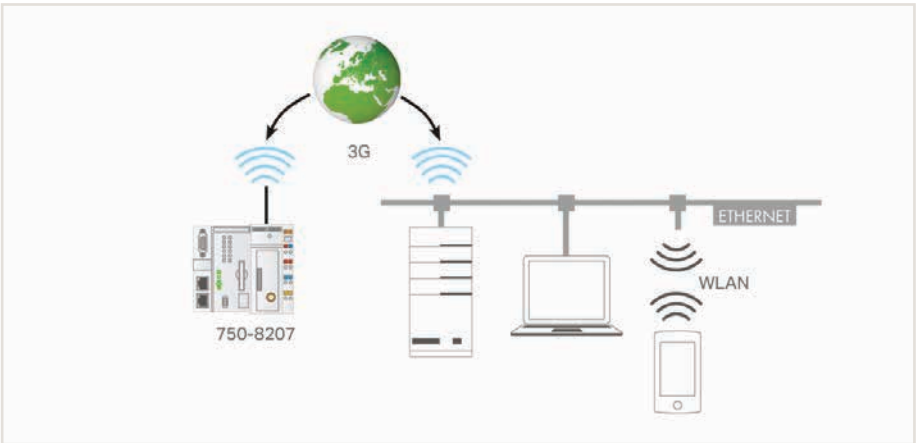


Application: *TO-PASS*® Web Connector as a link between local data and control system

Intelligent, Decentral Data Preprocessing

The controller with integrated mobile modem is recommended for telecontrol tasks requiring on-site control. Prepared function blocks are available for communication with the *TO-PASS*® Web Portal. These intelligent telecontrol stations can also be fully integrated in the *TO-PASS*® infrastructure for seamlessly adapting into the application environment.

Information on WAGO 750 I/O-SYSTEM controllers is available in Section 3.



Application: Controller with WAGO 750 I/O-SYSTEM as a data logger and data preprocessor for *TO-PASS*®

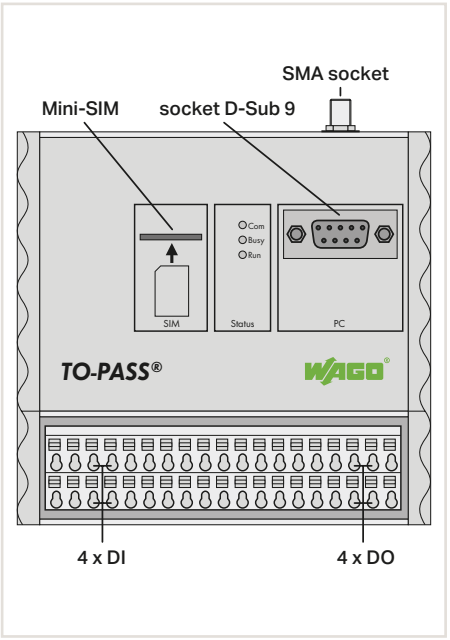
TO-PASS® Telecontrol Technology
Standards and Rated Conditions

General Specifications	
Supply voltage	10–30 VDC
Ambient temperature (operation)	–20 … +70 °C°C
Ambient temperature (storage)	–40 … +85 °C
Relative humidity	95 %, without condensation
Operating altitude	0–2000 m
Altitude at storage/transport	0–15000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	4 g acc. IEC 60068-2-6
Shock resistance	15 g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2
EMC emission of interference	Per EN 61000-6-3
Protection type	IP20
Mounting type	On 35 mm DIN-rail
Mounting position	Any
Connection technology: Antenna	SMA socket
Connection technology: Inputs/outputs	250 Series Terminal Blocks with PUSH WIRE® connection
Conductor size; strip length	0.5–1.5 mm² / 22–14 AWG; 9–10 mm / 0.35–0.39 inch

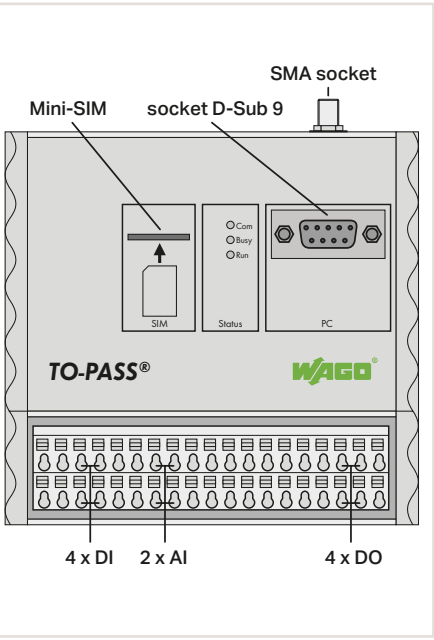
Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

TO-PASS® Telecontrol Module for Fault Detection/Indication, Monitoring



2 AI



Item description	*TO-PASS*® Compact	*TO-PASS*® Compact
Version		2AI
Item no.	**761-110**	**761-111**
Technical Data		
Interfaces	Antenna connection (SMA socket), communication (D-Sub 9 socket)	Antenna connection (SMA socket), communication (D-Sub 9 socket)
Radio technology	Mobile communications	Mobile communications
SIM card type	Mini-SIM	Mini-SIM
Frequency band	GSM quad-band	GSM quad-band
Services	SMS (bidirectional), e-mail, fax, CSD data transmission	SMS (bidirectional), e-mail, fax, CSD data transmission
Fieldbus		
Baud rate		
Number of digital inputs	4 (Type 3)	4 (Type 3)
Voltage range for signal (0)	0 … 5 VDC	0 … 5 VDC
Voltage range for signal (1)	7 … 30 VDC	7 … 30 VDC
Number of digital outputs	4 (contacts)	4 (contacts)
Output current per channel	0.5 A (short-circuit-protected)	0.5 A (short-circuit-protected)
Number of analog inputs		2
Type of signal		0 … 20 mA, 4 … 20 mA
Supply voltage	10 … 30 VDC	10 … 30 VDC
Indicators	LED (Com, Busy, Run) green: Communication status, GSM modem, module	LED (Com, Busy, Run) green: Communication status, GSM modem, module
Dimensions W x H x D	109 x 78 x 105 mm	109 x 78 x 105 mm
Approvals	Country approvals: All EU countries (approvals for other countries upon request), UL 508	Country approvals: All EU countries (approvals for other countries upon request), UL 508
Data sheet and further information, see:	wago.com/761-110	wago.com/761-111

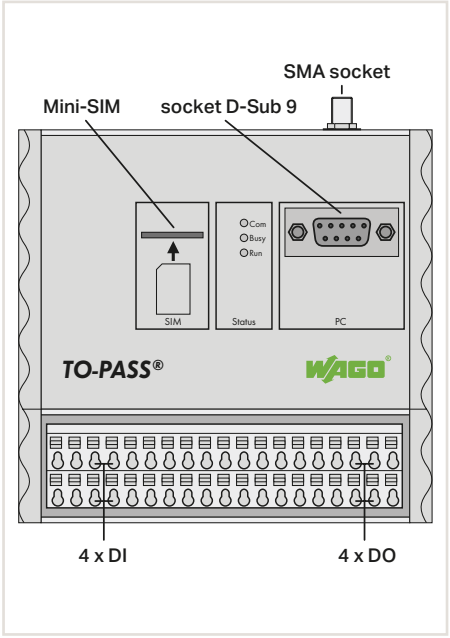
9

TO-PASS® Configuration Software and *TO-PASS*® Web portal, see Section 1

TO-PASS® Outdoor, antenna, USB adapter and power supply, see Pages 419 … 421

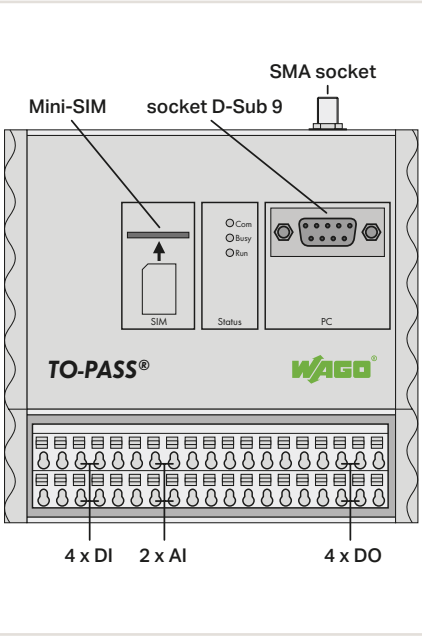
Approvals and corresponding ratings, see Page 525 or www.wago.com

Web



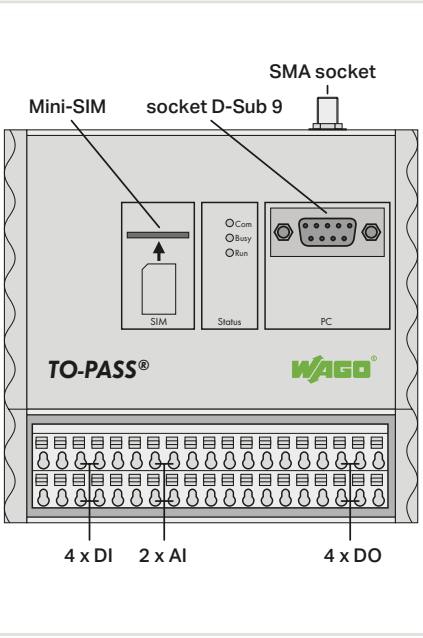
TO-PASS® Compact
Web
761-112
Antenna connection (SMA socket), communication (D-Sub 9 socket)
Mobile communications
Mini-SIM
GSM quad-band
SMS (bidirectional), e-mail, fax, CSD data transmission, GPRS connection to Internet
4 (Type 3)
0 … 5 VDC
7 … 30 VDC
4 (contacts)
0.5 A (short-circuit-protected)
10 … 30 VDC
LED (Com, Busy, Run) green: Communication status, GSM modem, module
109 x 78 x 105 mm
Country approvals: All EU countries (approvals for other countries upon request), UL 508
wago.com/761-112

2 AI, Web



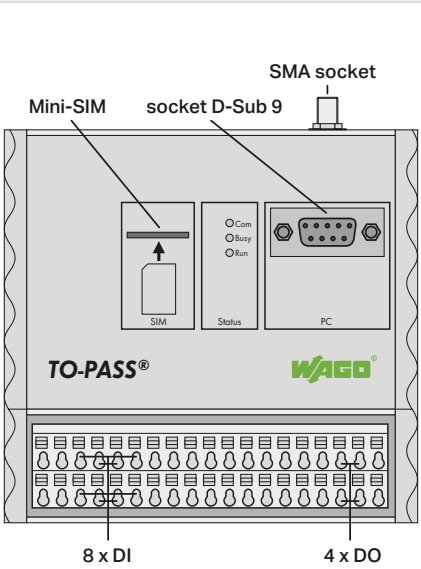
TO-PASS® Compact
2AI Web
761-113
Antenna connection (SMA socket), communication (D-Sub 9 socket)
Mobile communications
Mini-SIM
GSM quad-band
SMS (bidirectional), e-mail, fax, CSD data transmission, GPRS connection to Internet
4 (Type 3)
0 … 5 VDC
7 … 30 VDC
4 (contacts)
0.5 A (short-circuit-protected)
2
0 … 20 mA, 4 … 20 mA
10 … 30 VDC
LED (Com, Busy, Run) green: Communication status, GSM modem, module
109 x 78 x 105 mm
Country approvals: All EU countries (approvals for other countries upon request), UL 508
wago.com/761-113

2 AI, Web, MODBUS RS-485

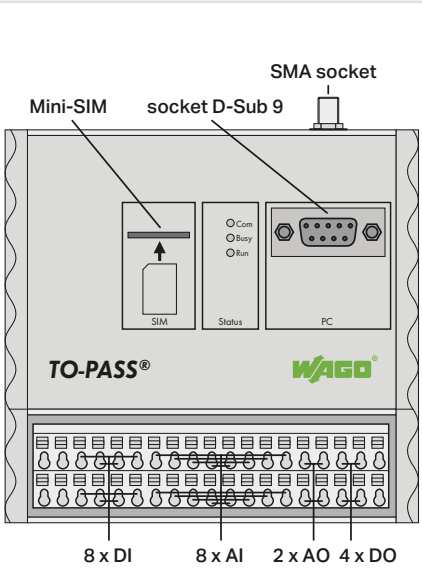


TO-PASS® Compact
2AI Web MODBUS RS485
761-114
Antenna connection (SMA socket), fieldbus (D-Sub 9 socket) communication (D-Sub 9 socket)
Mobile communications
Mini-SIM
GSM quad-band
SMS (bidirectional), e-mail, fax, CSD data transmission, GPRS connection to Internet
MODBUS RTU, RS-485 (2-wire)
9.6 kBd, 19.2 kBd
4 (Type 3)
0 … 5 VDC
7 … 30 VDC
4 (contacts)
0.5 A (short-circuit-protected)
2
0 … 20 mA, 4 … 20 mA
10 … 30 VDC
LED (Com, Busy, Run) green: Communication status, GSM modem, module
109 x 78 x 105 mm
Country approvals: All EU countries (approvals for other countries upon request), UL 508
wago.com/761-114

TO-PASS® Telecontrol Module for Fault Detection/Indication, Monitoring



8AI, event/data memory



Item description	*TO-PASS*® Compact	*TO-PASS*® Compact
Version		8 AI Elog/Dlog
Item no.	**761-210**	**761-214**
Technical Data		
Interfaces	Antenna connection (SMA socket), communication (D-Sub 9 socket)	Antenna connection (SMA socket), communication (D-Sub 9 socket)
Radio technology	Mobile communications	Mobile communications
SIM card type	Mini-SIM	Mini-SIM
Frequency band	GSM quad-band	GSM quad-band
Services	SMS (bidirectional), e-mail, fax, CSD data transmission	SMS (bidirectional), e-mail, fax, CSD data transmission
Number of digital inputs	8 (Type 3)	8 (Type 3)
Voltage range for signal (0)	0 … 5 VDC	0 … 5 VDC
Voltage range for signal (1)	7 … 30 VDC	7 … 30 VDC
Number of digital outputs	4 (contacts)	4 (contacts)
Output current per channel	0.5 A (short-circuit-protected)	0.5 A (short-circuit-protected)
Number of analog inputs		8
Number of analog outputs		2
Type of signal		0 … 20 mA, 4 … 20 mA
Supply voltage	10 … 30 VDC	10 … 30 VDC
Indicators	LED (Com, Busy, Run) green: Communication status, GSM modem, module	LED (Com, Busy, Run) green: Communication status, GSM modem, module
Dimensions W x H x D	109 x 78 x 105 mm	109 x 78 x 105 mm
Approvals	Country approvals: All EU countries (approvals for other countries upon request), UL 508	Country approvals: All EU countries (approvals for other countries upon request), UL 508
Data sheet and further information, see:	wago.com/761-210	wago.com/761-214

9

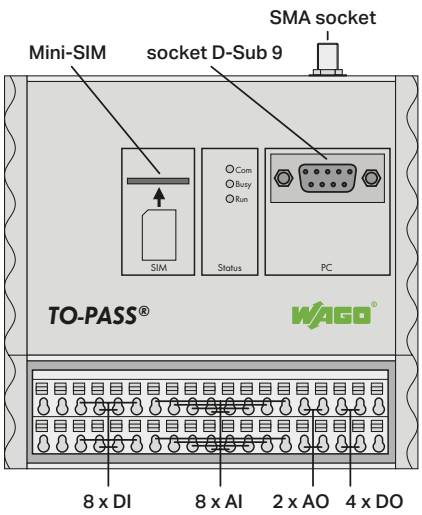
TO-PASS® Configuration Software and *TO-PASS*® Web portal, see Section 1

TO-PASS® Outdoor, antenna, USB adapter and power supply, see Pages 419 … 421

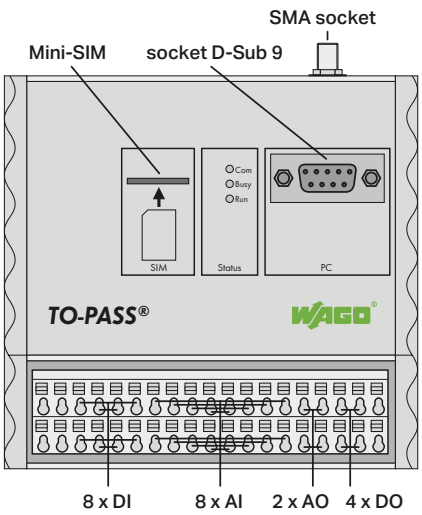
Approvals and corresponding ratings, see Page 525 or www.wago.com

TO-PASS® Telecontrol Module for Fault Detection/Indication, Monitoring

8AI, Web, MODBUS RS-232

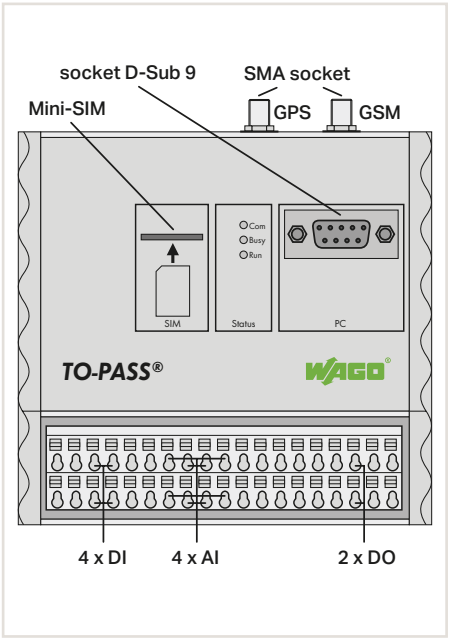


8AI, Web, MODBUS RS-485

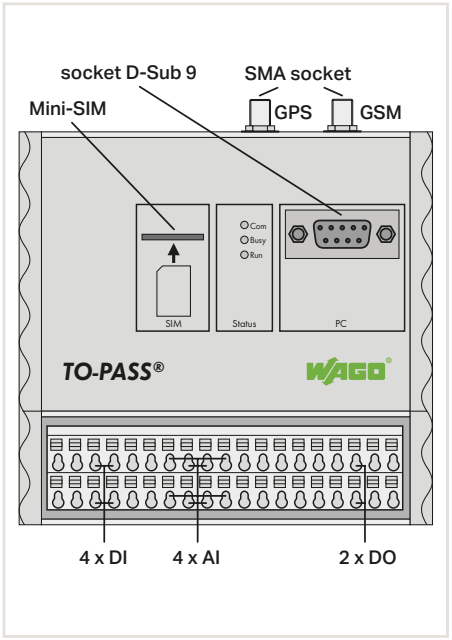


Item description	*TO-PASS*® Compact	*TO-PASS*® Compact
Version	8AI Web MODBUS RS232	8AI Web MODBUS RS485
Item no.	**761-216**	**761-217**
Technical Data		
Interfaces	Antenna connection (SMA socket), fieldbus (D-Sub 9 socket) communication (D-Sub 9 socket)	Antenna connection (SMA socket), Fieldbus (D-Sub 9 socket) communication (D-Sub 9 socket)
Radio technology	Mobile communications	Mobile communications
SIM card type	Mini-SIM	Mini-SIM
Frequency band	GSM quad-band	GSM quad-band
Services	SMS (bidirectional), e-mail, fax, CSD data transmission, GPRS connection to Internet	SMS (bidirectional), e-mail, fax, CSD data transmission, GPRS connection to Internet
Fieldbus	MODBUS RTU, RS-232 (2-wire)	MODBUS RTU, RS-485 (2-wire)
Baud rate	9.6 kBd, 19.2 kBd	9.6 kBd, 19.2 kBd
Number of digital inputs	8 (Type 3)	8 (Type 3)
Voltage range for signal (0)	0 … 5 VDC	0 … 5 VDC
Voltage range for signal (1)	7 … 30 VDC	7 … 30 VDC
Number of digital outputs	4 (contacts)	4 (contacts)
Output current per channel	0.5 A (short-circuit-protected)	0.5 A (short-circuit-protected)
Number of analog inputs	8	8
Number of analog outputs	2	2
Type of signal	0 … 20 mA, 4 … 20 mA	0 … 20 mA, 4 … 20 mA
Supply voltage	10 … 30 VDC	10 … 30 VDC
Indicators	LED (Com, Busy, Run) green: Communication status, GSM modem, module	LED (Com, Busy, Run) green: Communication status, GSM modem, module
Dimensions W x H x D	109 x 78 x 105 mm	109 x 78 x 105 mm
Approvals	Country approvals: All EU countries (approvals for other countries upon request), cULus UL 508	Country approvals: All EU countries (approvals for other countries upon request), cULus UL 508
Data sheet and further information, see:	wago.com/761-216	wago.com/761-217

TO-PASS® Telecontrol Module for Fault Detection/Indication, Position Monitoring



Web, MODBUS RS-232



Item description	*TO-PASS*® Mobile	*TO-PASS*® Mobile
Version		Web MODBUS RS232
Item no.	**761-314**	**761-316**
Technical Data		
Interfaces	2 x antenna connections (SMA socket), Communication (D-Sub 9 socket)	2 x antenna connections (SMA socket), Communication (D-Sub 9 socket)
Radio technology	Mobile communications	Mobile communications
SIM card type	Mini-SIM	Mini-SIM
Frequency band	GSM quad-band	GSM quad-band
Services	SMS (bidirectional), e-mail, fax, CSD data transmission	SMS (bidirectional), e-mail, fax, CSD data transmission, GPRS connection to Internet
Fieldbus		MODBUS RTU, RS-232 (2-wire)
Baud rate		9.6 kBd, 19.2 kBd
Number of digital inputs	4 (Type 3)	4 (Type 3)
Voltage range for signal (0)	0 … 5 VDC	0 … 5 VDC
Voltage range for signal (1)	7 … 30 VDC	7 … 30 VDC
Number of digital outputs	2 (contacts)	2 (contacts)
Output current per channel	0.5 A (short-circuit-protected)	0.5 A (short-circuit-protected)
Number of analog inputs	4	4
Type of signal	0 … 20 mA, 4 … 20 mA	0 … 20 mA, 4 … 20 mA
Supply voltage	10 … 30 VDC	10 … 30 VDC
Indicators	LED (Com, Busy, Run) green: Communication status, GSM modem, module	LED (Com, Busy, Run) green: Communication status, GSM modem, module
Dimensions W x H x D	109 x 78 x 105 mm	109 x 78 x 105 mm
Approvals	Country approvals: All EU countries (approvals for other countries upon request)	Country approvals: All EU countries (approvals for other countries upon request)
Data sheet and further information, see:	wago.com/761-314	wago.com/761-316

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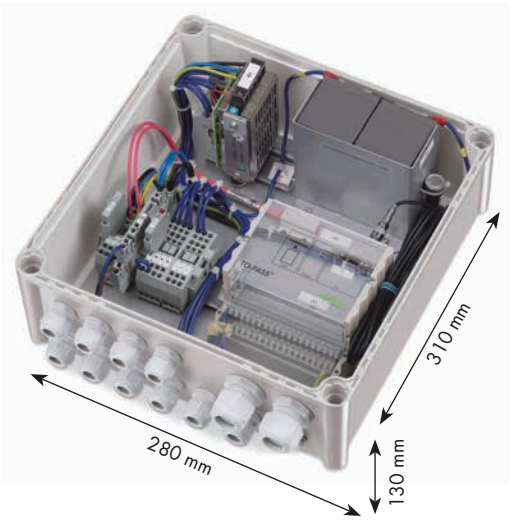
TO-PASS® Configuration Software and *TO-PASS*® Web portal, see Section 1

TO-PASS® Outdoor, antenna, USB adapter and power supply, see Pages 419 … 421

Approvals and corresponding ratings, see Page 525 or www.wago.com

TO-PASS® Outdoor Housing



Item description	*TO-PASS*® Outdoor
Item no.	**761-9009**
Technical Data	
Supply voltage	230 VAC, recommended pre-fuse: B 16 A, C 10 A
Power consumption	42 W
Sensor supply voltage	30 VDC, max. 150 mA
Self consumption	Approx. 1.5 W at 230 VAC (for charged batteries and a TO-PASS® module without sensors and heating): Heating: 8 W; heating switch: ON at 5 °C, OFF at 15 °C
Battery capacity	24 V / 1.2 Ah / annual maintenance required; battery runtimes: approx. 24 hours at a 5-minute transmission cycle not including the supply of decentralized peripheral devices
Mounting type	Protected wall-mount (no direct sunlight)
Mounting	4 x drilled holes, 7 mm
Housing material	Polycarbonate
Cable bushings	10 x M16, 2 x M25
Protection type	IP66
Ambient temperature (operation)	−4 … +32 °C
Dimensions W x H x D	280 x 130 x 310 mm
Included:	IP66 housing with integrated GSM antenna; power supply unit 230 VAC to 30 VDC; 2 batteries; terminal block connections; cables; heater
Data sheet and further information, see:	wago.com/761-9009

TO-PASS® Accessories

Antenna, GSM UMTS Bluetooth® WLAN, self-adhesive	
Item no.	**758-961**
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 / 2400 MHz
Dimensions W x H	117 x 12 mm
Cable length	2.5 m
Cable type	RG174
Profit	2.15 dBi
VSWR	< 1.5
Connector	SMA straight plug

Antenna, GSM UMTS, theft-proof	
Item no.	**758-962**
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions W x H	29 x 52 mm
Cable length	1 m
Cable type	RG174
Profit	2 dBi
VSWR	< 2
Connector	SMA straight plug

Antenna, GSM UMTS, rod	
Item no.	**758-963**
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions, height	298 mm
Cable length	1 m
Cable type	RG58
Profit	2.2 dBi
VSWR	< 1.6
Connector	SMA straight plug

Antenna, GSM UMTS, magnetic base	
Item no.	**758-965**
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions, height	88 mm
Cable length	2.5 m
Cable type	RG174
Profit	2.2 dBi
VSWR	< 2
Connector	SMA straight plug

Antenna, GPS GSM UMTS, theft-proof	
Item no.	**758-966**
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions W x H	29 x 52 mm
Cable length	2.5 m
Cable type	RG174
Profit	2 dBi
VSWR	< 2
Connector	SMA straight plug

TO-PASS® Accessories

Adapters		
FME plug / SMA plug	Item no.	Pack. Unit
GSM UMTS *Bluetooth*® WLAN	758-964	1

Adapters		
FME socket / SMA socket	Item no.	Pack. Unit
GSM UMTS *Bluetooth*® WLAN	758-967	1

Adapters		
SMA plug / SMA plug	Item no.	Pack. Unit
GSM UMTS *Bluetooth*® WLAN	758-968	1

Antenna connection cable		
SMA plug / SMA plug	Item no.	Pack. Unit
Cable length 1 m, cable type H155	758-970/000-100	1
Cable length 3 m, cable type H155	758-970/000-300	1
Cable length 5 m, cable type H155	758-970/000-500	1
Cable length 10 m, cable type H155	758-970/000-1000	1

Antenna splitter		
3 x SMA socket	Item no.	Pack. Unit
GSM UMTS *Bluetooth*® WLAN	758-971	1

RF lighting protection		
SMA socket / SMA socket	Item no.	Pack. Unit
GSM UMTS *Bluetooth*® WLAN	758-969	1

USB Adapter, USB-A, RS-232 (SUB-D 9/25 pol.)		
Length	Item no.	Pack. Unit
1 m	761-9005	1

Sensor/Actuator Boxes

SPEEDWAY I/O-System

- Uncompromising protection, even in the harshest environments outside the switch cabinet
- Degree of protection: IP67
- Fully encapsulated

Sensor/Actuator Boxes

- M8 and M12 sensor/actuator boxes
- Machine-mounted passive signal recording and output
- Fully encapsulated

◂ Section 6

Sensor/Actuator Boxes
Contents

10

Sensor/Actuator Boxes
General Product Information

For Signal Acquisition at the Machine Level

Passive M8/M12 sensor/actuator boxes are placed close to the process and acquire signals at the machine level. They can be used in very harsh environmental conditions and establish the connection from sensors and actuators to the controller across molded or detachable cables. Use of standardized pluggable connections supports sensor and actuator plug & play, while the use of trunk cables replaces the individual wiring of I/O signals to automation components in the switch cabinet. Cabling is well-arranged and minimized.

Signal Acquisition in Exceptionally Harsh Conditions

The sensor/actuator boxes are very robust and comply with degree of protection IP67 or IP68 with molded cabling (72 hours at 1 m water depth). Therefore, they are the ideal solution for applications where signals must be recorded under extreme environments (temperature, shock, vibration) without a switch cabinet. They are also excellent alternatives when the use of an active IP67 I/O system would not be cost-effective due to a low signal count or simple signal conditions (digital signal acquisition/output).

Plug-&-Play Connector Technology

The IP67 sensor/actuator boxes with a removable connecting cable (M16 or M23 pluggable connection) are well-suited to areas where frequent easy release and reconnection is required (transport, modification, service, etc.).

Fixed Trunk Cable

The IP68 sensor/actuator boxes with molded cables are preferred when challenging cable paths do not allow the use of preassembled M16/M23 cables.

Extreme Mechanical Performance

A system/machine is exposed to severe mechanical and thermal influences. It is important to process its signals despite strong vibration and shock. The sensor/actuator boxes are used at the machine level.
Full encapsulation safeguards system operation, mitigating the effects of extreme vibration and temperature loads when collecting signals and supplying power via the connecting cable of the controller or other automation components in the uncritically positioned area of the switch cabinet.

Flexible Assembly

The sensor/actuator boxes can be directly mounted on the machine. Extensive engineering ensures compliance with standardized specifications from CNOMO guidelines regarding the spacing of assembly drill holes that are often used in passive distributor or sensor/actuator boxes. An optional adapter is available that can be used to seamlessly mount two modules side by side. This has the advantage of maintaining a defined distance for proper routing of the sensor/actuator cables and of avoiding contamination points.

10

Advantages:

- Rugged, simple and compact extension for IP20 automation components
  - Meets increased requirements for environmental conditions
  - For plug & play connector technology when needed
  - For simpler cable installation in the form of trunk cables
- High-quality PUR connecting cables (drag chain compatible, halogen free)
- Fully encapsulated (resistance and leak-proof)
- Flange sockets (metal design)
- Ambient temperature (operation) −25 … +80 °C
- Status LEDs

Sensor/Actuator Boxes
Item Number Key

Explanation of the components of an item number key

Series

Item No. : 757-abc/x00-0yy

a: Design
- 1: M12 sensor/actuator box with M23 connector
- 2: M12 sensor/actuator box with cable connection
- 3: M8 sensor/actuator box with M16 connection
- 4: M8 sensor/actuator box with cable connection

b: Number of M8/M12 connectors
- 4: 4 ea.
- 6: 6 ea.
- 8: 8 ea.
- 0: 10 ea.

c: Pole number
- 3: 3-pole
- 4: 4-pole
- 5: 5-pole

x00: Status LEDs
- 100: Without status LEDs

0yy: Connection cable length
- 002: 2 m
- 005: 5 m
- 010: 10 m
- 025: 25 m

Standards and Rated Conditions

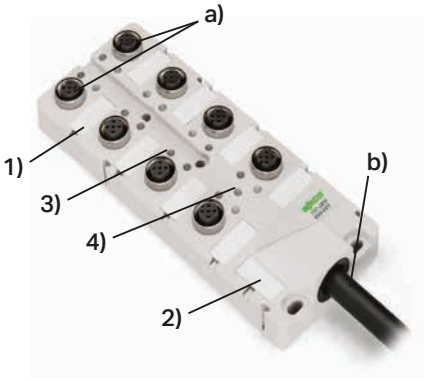
General Specifications	
Electrical Data	
Max. contact resistance	10 mΩ
Supply voltage	10–30 VDC
Current carrying capacity of the signal connections	2 A
Current carrying capacity of the supply connections	9 A (M12) or 6 A (M8)
Signal characteristic	PNP
Mechanical Data	
Degree of protection	
Sensor/actuator boxes with cable connection	IP68 (72 hours at 1 m water depth)
Sensor/actuator boxes with M16/M23 connector	IP67
Ambient operating temperature (operation)	–25 … +80 °C
Mounting	Screw mount
Mounting position	Any
Vibration resistance	5 g acc. IEC 60068-2-6
Shock resistance	49 g per IEC 60068-2-27
Material Data	
Housing material	PA 66 (UL 94 V0); RAL 7035; silicon and halogen free
Encapsulation	Fully encapsulated with conformal coating (UL 94 V0)
Connecting cable	Suitable for drag chains

Approvals

Overview of the approvals in the article comparison in Section 12, Technical Appendix, or online under www.wago.com

Sensor/Actuator Boxes
Interfaces and Types

(A)

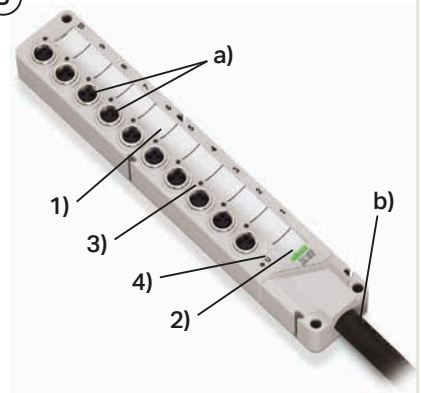


(1) Sensor/actuator marking
(2) Module marking
(3) LED status indicator (by channel), yellow
(4) LED operating indicator module, green

Housing Design (A)

- M12 sensor/actuator box with cable connection
- Sensor/actuator connections M12 (a)
- Connecting cable (b)

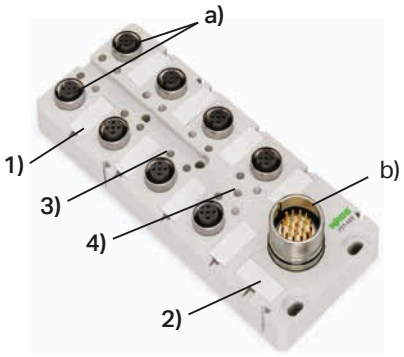
(B)



Housing Design (B)

- M8 sensor/actuator box with cable connection
- Sensor/actuator connections M8 (a)
- Connecting cable (b)

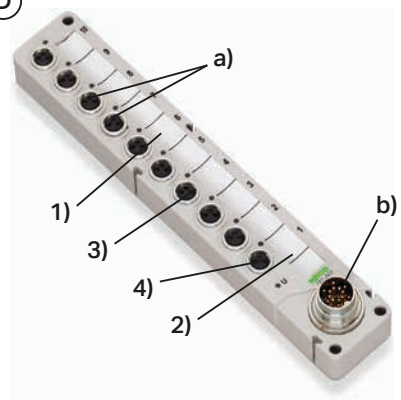
(C)



Housing Design (C)

- M12 sensor/actuator box with M23 connector
- Sensor/actuator connections M12 (a)
- Supply input M23 (b)

(D)



Housing Design (D)

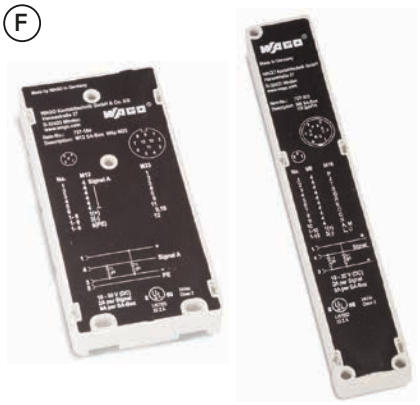
- M8 sensor/actuator box with M16 connector
- Sensor/actuator connections M8 (a)
- Supply input M16 (b)

(E)

Adapter (E)

- Optional accessory
- For seamless assembly of two side-by-side sensor/actuator boxes
- Defined distance for proper cable connection
- Covers contamination points
- W x H x D (mm):
  10-way: 20 x 16 x 175
  8-way: 20 x 16 x 152
  6-way: 20 x 16 x 123
  4-way: 20 x 16 x 117

(F)



Degree of Protection (F)

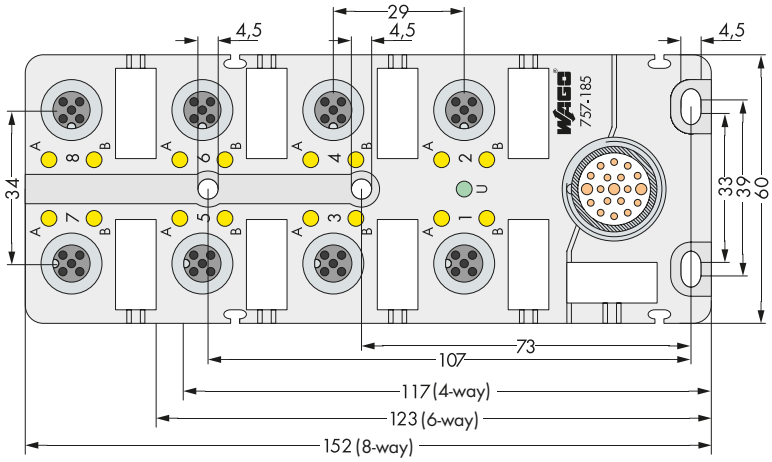
- All modules are fully encapsulated
- Degree of protection: IP67/68
- Printing on back of module details pin assignment

10

Sensor/Actuator Boxes
Interfaces and Types

Dimensions and Mounting Dimensions of M12 Sensor/Actuator Boxes

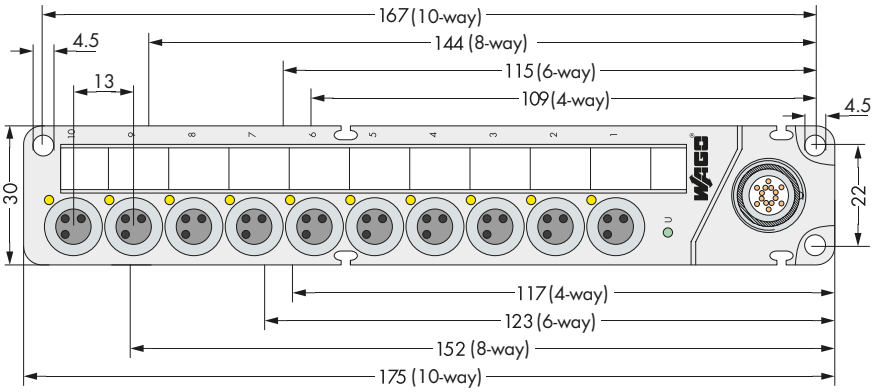
The dimensions also apply to M12 sensor/actuator boxes with cable connection.



Dimensions in mm

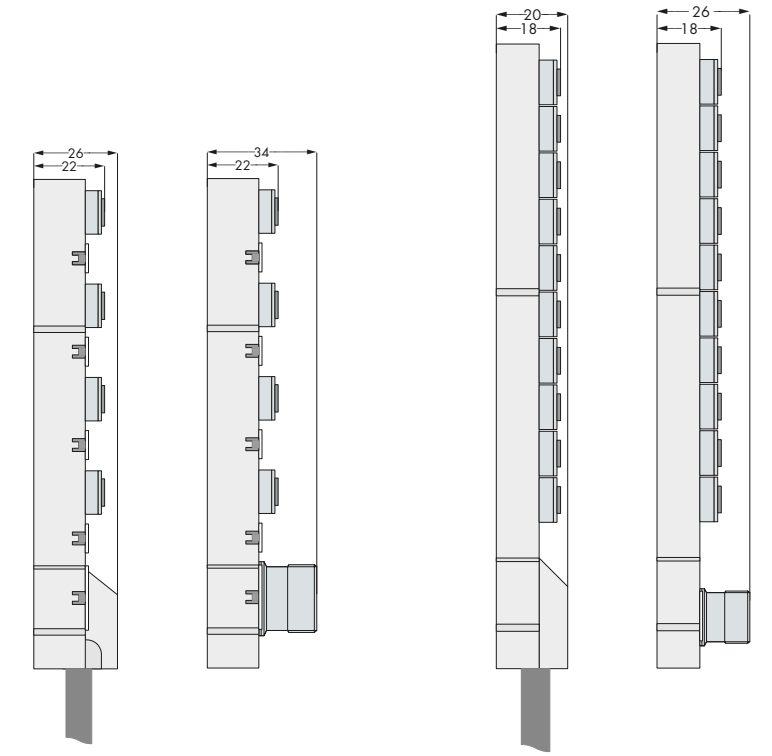
Dimensions and Mounting Dimensions of M8 Sensor/Actuator Boxes

The dimensions also apply to M8 sensor/actuator boxes with cable connection.



Dimensions in mm

Dimensions: Depth of M12 sensor/actuator boxes or M8 sensor/actuator boxes

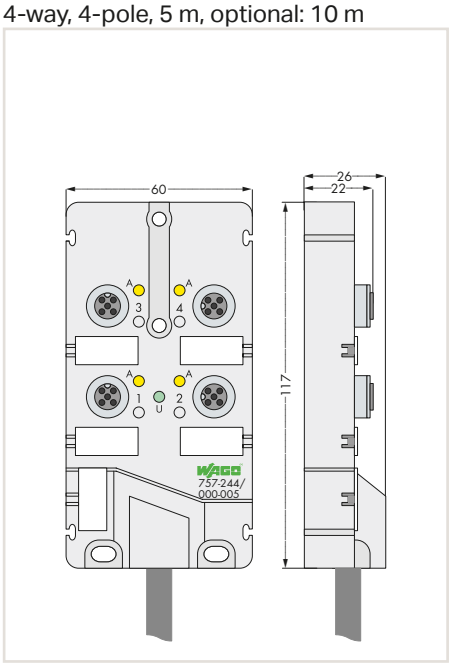


10

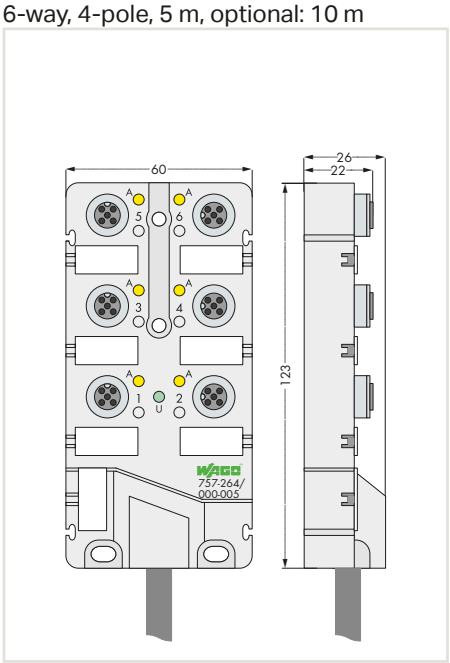
M12 Sensor/Actuator Box

Figure: 757-284/000-005

4-way, 4-pole, 5 m, optional: 10 m



6-way, 4-pole, 5 m, optional: 10 m



Item description	M12 S/A-Box		M12 S/A-Box	
Version	4port 4pole 5m	4port 4pole 10m	6port 4pole 5m	6port 4pole 10m
Item No.	**757-244/000-005**	**757-244/000-010**	**757-264/000-005**	**757-264/000-010**
Technical Data				
Connection technology: Inputs/outputs	4 x M12 connectors, 4-pole, incl. PE		6 x M12 connectors, 4-pole, incl. PE	
Number of poles	4 (1 signal per contact)		4 (1 signal per contact)	
Connection technology: Communication	Fixed connecting cable		Fixed connecting cable	
Connecting cable length	5 m	10 m	5 m	10 m
Dimensions W x H x D	60 x 26 x 117 mm		60 x 26 x 123 mm	
Approvals	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585		E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	
Data sheet and further information, see:	wago.com/757-244		wago.com/757-264	

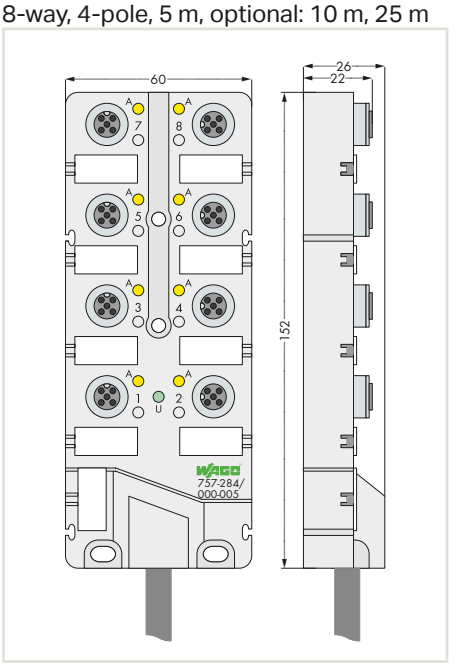
Accessories	Item No.	Page	Item No.	Page
Marking card	**757-011**	440	**757-011**	440
Marking pen	**210-110**	440	**210-110**	440
Spacer module	**757-040**	440	**757-060**	440
M12 protective cap	**756-8102**	440	**756-8102**	440

10

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

8-way, 4-pole, 5 m, optional: 10 m, 25 m



M12 S/A-Box		
8port 4pole 5m	8port 4pole 10m	8port 4pole 25m
757-284/000-005	**757-284/000-010**	**757-284/000-025**

8 x M12 connectors, 4-pole, incl. PE		
4 (1 signal per contact)		
Fixed connecting cable		
5 m	10 m	25 m
60 x 26 x 152 mm		
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585		
wago.com/757-284		

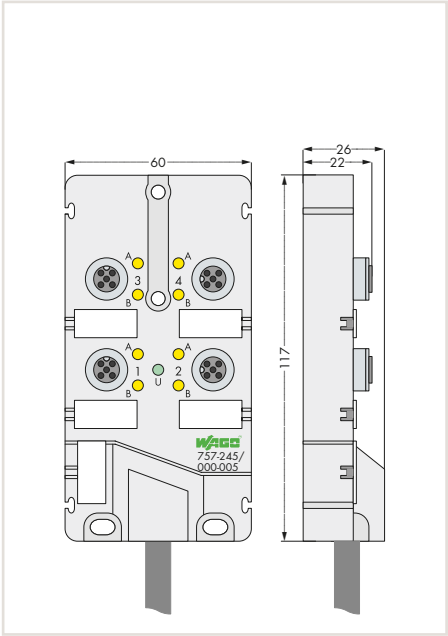
Item No.	Page
757-011	440
210-110	440
757-080	440
756-8102	440

10

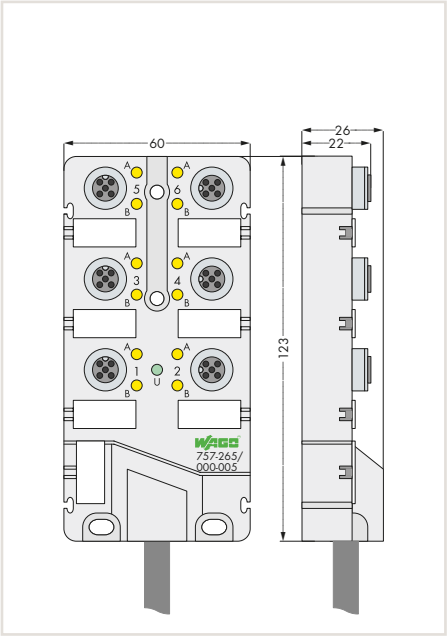
M12 Sensor/Actuator Box

Figure: 757-285/000-005

4-way, 5-pole, 5 m, optional: 10 m



6-way, 5-pole, 5 m, optional: 10 m



Item description	M12 S/A-Box		M12 S/A-Box	
Version	4port 5pole 5m	4port 5pole 10m	6port 5pole 5m	6port 5pole 10m
Item No.	**757-245/000-005**	**757-245/000-010**	**757-265/000-005**	**757-265/000-010**
Technical Data				
Connection technology: Inputs/outputs	4 x M12 connectors, 5-pole, incl. PE		6 x M12 connectors, 5-pole, incl. PE	
Number of poles	5 (2 signals per contact)		5 (2 signals per contact)	
Connection technology: Communication	Fixed connecting cable		Fixed connecting cable	
Connecting cable length	5 m	10 m	5 m	10 m
Dimensions W x H x D	60 x 26 x 117 mm		60 x 26 x 123 mm	
Approvals	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585		E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	
Data sheet and further information, see:	wago.com/757-245		wago.com/757-265	

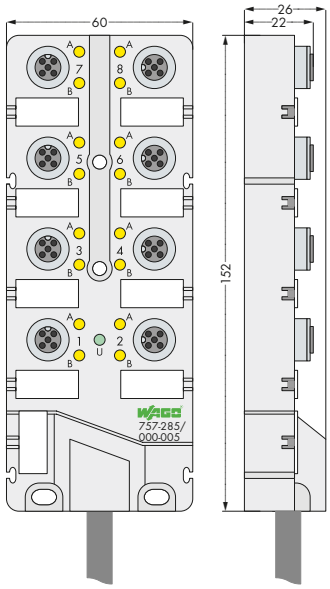
Accessories	**Item No.**	**Page**	**Item No.**	**Page**
Marking card	**757-011**	440	**757-011**	440
Marking pen	**210-110**	440	**210-110**	440
Spacer module	**757-040**	440	**757-060**	440
M12 protective cap	**756-8102**	440	**756-8102**	440

10

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

8-way, 5-pole, 5 m, optional: 10 m, 25 m



M12 S/A-Box		
8port 5pole 5m	8port 5pole 10m	8port 5pole 25m
757-285/000-005	757-285/000-010	757-285/000-025

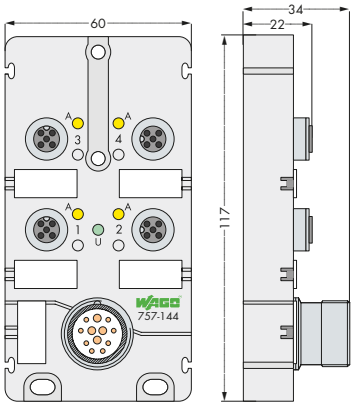
8 x M12 connectors, 5-pole, incl. PE		
5 (2 signals per contact)		
Fixed connecting cable		
5 m	10 m	25 m
60 x 26 x 152 mm		
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585		
wago.com/757-285		

Item No.	Page
757-011	440
210-110	440
757-080	440
756-8102	440

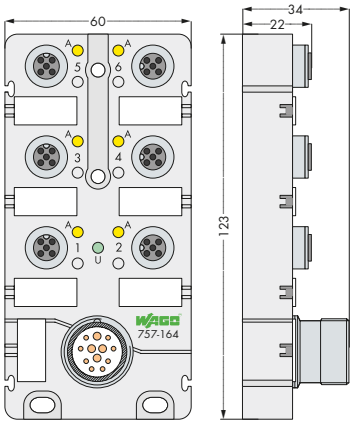
M12 Sensor/Actuator Box

Figure: 757-184

4-way, 4-pole, M23 connector



6-way, 4-pole, M23 connector



Item description	M12 S/A-Box	M12 S/A-Box
Version	4port 4pole M23	6port 4pole M23
Item No.	**757-144**	**757-164**
Technical Data		
Connection technology: Inputs/outputs	4 x M12 connectors, 4-pole, incl. PE	6 x M12 connectors, 4-pole, incl. PE
Number of poles	4 (1 signal per contact)	4 (1 signal per contact)
Connection technology: Communication	M23 connectors, 12-pole	M23 connectors, 12-pole
Dimensions W x H x D	60 x 34 x 117 mm	60 x 34 x 123 mm
Approvals	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585
Data sheet and further information, see:	wago.com/757-144	wago.com/757-164

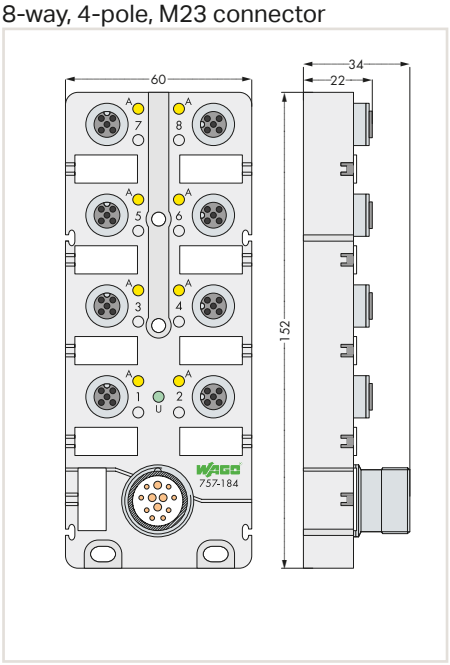
Accessories	**Item No.**	**Page**	**Item No.**	**Page**
Marking card	**757-011**	440	**757-011**	440
Marking pen	**210-110**	440	**210-110**	440
Spacer module	**757-040**	440	**757-060**	440
M12 protective cap	**756-8102**	440	**756-8102**	440

Connection cables, M23 socket
see Page 441

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

8-way, 4-pole, M23 connector



M12 S/A-Box
8port 4pole M23
757-184

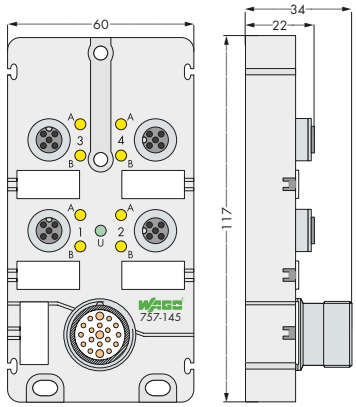
8 x M12 connectors, 4-pole, incl. PE
4 (1 signal per contact)
M23 connectors, 12-pole
60 x 34 x 152 mm
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585
wago.com/757-184

Item No.	Page
757-011	440
210-110	440
757-080	440
756-8102	440

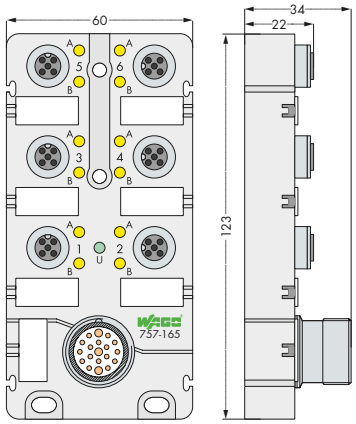
M12 Sensor/Actuator Box

Figure: 757-185

4-way, 5-pole, M23 connector



6-way, 5-pole, M23 connector



Item description	M12 S/A-Box	M12 S/A-Box
Version	4port 5pole M23	6port 5pole M23
Item No.	**757-145**	**757-165**
Technical Data		
Connection technology: Inputs/outputs	4 x M12 connectors, 5-pole, incl. PE	6 x M12 connectors, 5-pole, incl. PE
Number of poles	5 (2 signals per contact)	5 (2 signals per contact)
Connection technology: Communication	M23 connectors, 19-pole	M23 connectors, 19-pole
Dimensions W x H x D	60 x 34 x 117 mm	60 x 34 x 123 mm
Approvals	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585
Data sheet and further information, see:	wago.com/757-145	wago.com/757-165

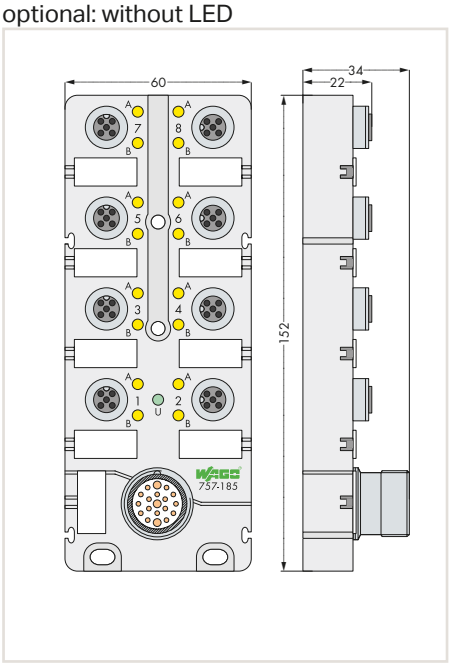
Accessories	Item No.	Page	Item No.	Page
Marking card	**757-011**	440	**757-011**	440
Marking pen	**210-110**	440	**210-110**	440
Spacer module	**757-040**	440	**757-060**	440
M12 protective cap	**756-8102**	440	**756-8102**	440

Connection cables, M23 socket
see Page 441

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

8-way, 5-pole, M23 connector,
optional: without LED



M12 S/A-Box	
8port 5pole M23	8port 5pole M23 NL
757-185	**757-185/100-000**

8 x M12 connectors, 5-pole, incl. PE
5 (2 signals per contact)
M23 connectors, 19-pole
60 x 34 x 152 mm
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585

wago.com/757-185	wago.com/ 757-185/100-000

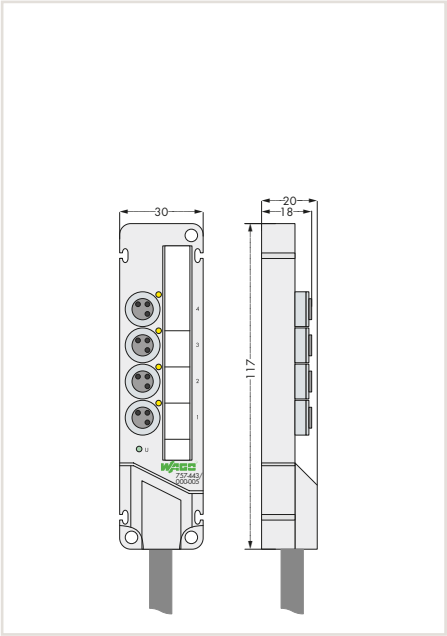
Item No.	Page
757-011	440
210-110	440
757-080	440
756-8102	440

Module 757-185/100-000 has no status LEDs; therefore, can also transmit analog signals!

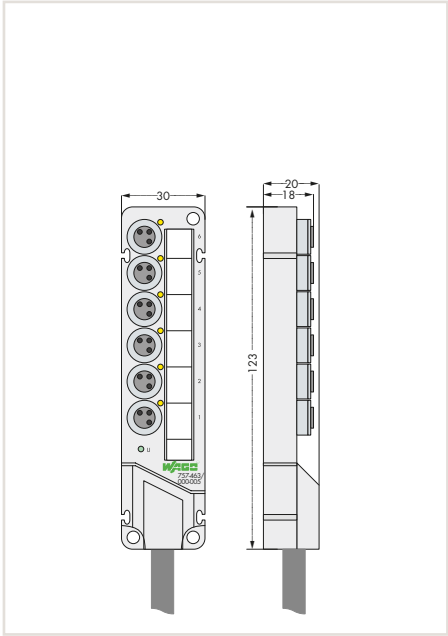
M8 Sensor/Actuator Box

Figure: 757-403/000-005

4-way, 3-pole, 2 m, optional: 5 m, 10 m



6-way, 3-pole, 5 m, optional: 10 m



Item description	M8 S/A-Box			M8 S/A-Box	
Version	4port 3pole 2m	4port 3pole 5m	4port 3pole 10m	6port 3pole 5m	6port 3pole 10m
Item No.	**757-443/000-002**	**757-443/000-005**	**757-443/000-010**	**757-463/000-005**	**757-463/000-010**
Technical Data					
Connection technology: Inputs/outputs	4 x M8 connectors, 3-pole			6 x M8 connectors, 3-pole	
Number of poles	3 (1 signal per contact)			3 (1 signal per contact)	
Connection technology: Communication	Fixed connecting cable			Fixed connecting cable	
Connecting cable length	2 m	5 m	10 m	5 m	10 m
Dimensions W x H x D	30 x 20 x 117 mm			30 x 20 x 123 mm	
Approvals	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585			E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	
Data sheet and further information, see:	wago.com/757-443			wago.com/757-463	

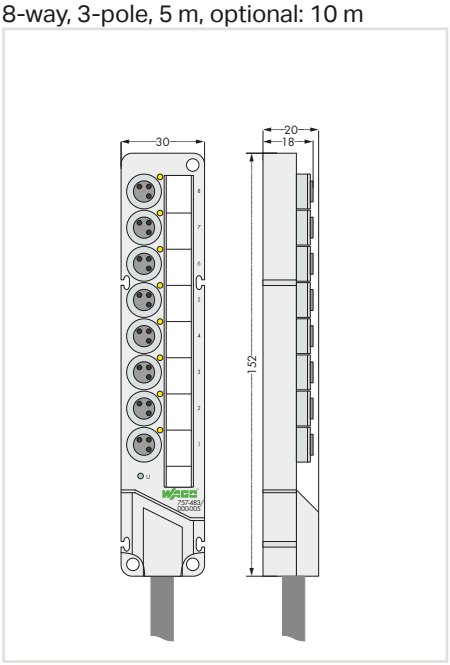
Accessories	**Item No.**	**Page**	**Item No.**	**Page**
Marking strips	**757-041**	440	**757-061**	440
Marking pen	**210-110**	440	**210-110**	440
Spacer module	**757-040**	440	**757-060**	440
M8 protective cap	**756-8101**	440	**756-8101**	440

10

IP67 Cables and Connectors see Section 11

Approvals and corresponding ratings, see Page 525 or www.wago.com

8-way, 3-pole, 5 m, optional: 10 m

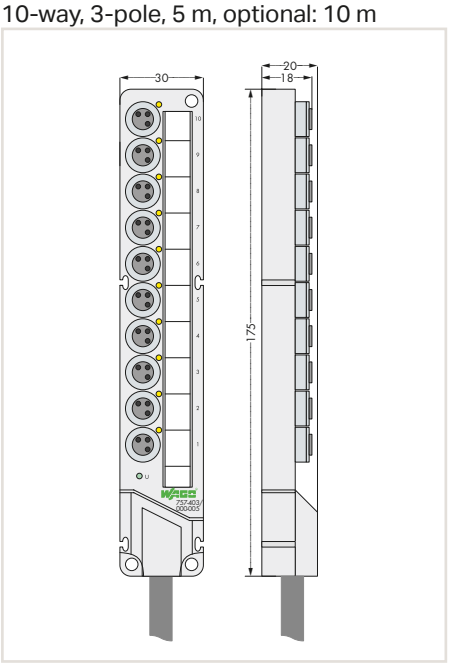


M8 S/A-Box	
8port 3pole 5m	8port 3pole 10m
757-483/000-005	**757-483/000-010**

8 x M8 connectors, 3-pole	
3 (1 signal per contact)	
Fixed connecting cable	
5 m	10 m
30 x 20 x 152 mm	
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	
wago.com/757-483	

Item No.	Page
757-081	440
210-110	440
757-080	440
756-8101	440

10-way, 3-pole, 5 m, optional: 10 m



M8 S/A-Box	
10port 3pole 5m	10port 3pole 10m
757-403/000-005	**757-403/000-010**

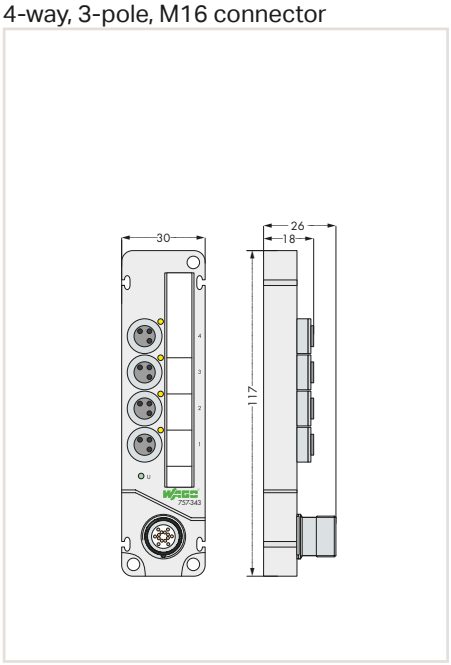
10 x M8 connectors, 3-pole	
3 (1 signal per contact)	
Fixed connecting cable	
5 m	10 m
30 x 20 x 175 mm	
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	
wago.com/757-403	

Item No.	Page
757-001	440
210-110	440
757-000	440
756-8101	440

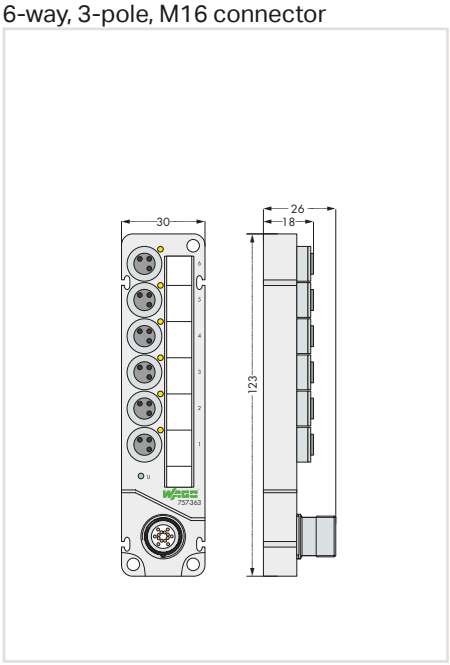
M8 Sensor/Actuator Box

Figure: 757-303

4-way, 3-pole, M16 connector



6-way, 3-pole, M16 connector



Item description	M8 S/A-Box	M8 S/A-Box
Version	4port 3pole M16	6port 3pole M16
Item No.	**757-343**	**757-363**
Technical Data		
Connection technology: Inputs/outputs	4 x M8 connectors, 3-pole	6 x M8 connectors, 3-pole
Number of poles	3 (1 signal per contact)	3 (1 signal per contact)
Connection technology: Communication	M16 connectors, 14-pole	M16 connectors, 14-pole
Dimensions W x H x D	30 x 26 x 117 mm	30 x 26 x 123 mm
Approvals	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585	E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585
Data sheet and further information, see:	wago.com/757-343	wago.com/757-363

Accessories	**Item No.**	**Page**	**Item No.**	**Page**
Marking strips	**757-041**	440	**757-061**	440
Marking pen	**210-110**	440	**210-110**	440
Spacer module	**757-040**	440	**757-060**	440
M8 protective cap	**756-8101**	440	**756-8101**	440

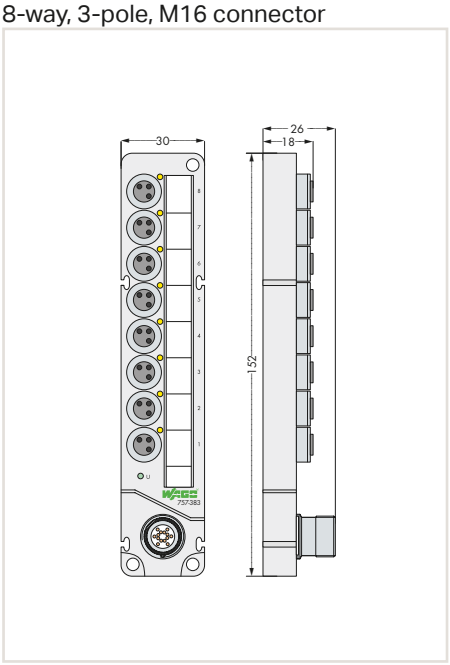
10

Connection cables, M16 socket
see Page 441

IP67 Cables and Connectors
see Section 11

Approvals and corresponding ratings,
see Page 525 or www.wago.com

8-way, 3-pole, M16 connector

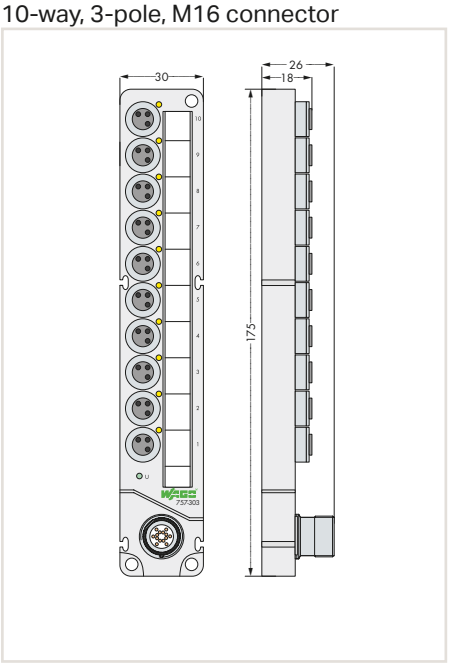


M12 S/A-Box
8port 4pole M23
757-383

8 x M8 connectors, 3-pole
3 (1 signal per contact)
M16 connectors, 14-pole
30 x 26 x 152 mm
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585
wago.com/757-383

Item No.	Page
757-081	440
210-110	440
757-080	440
756-8101	440

10-way, 3-pole, M16 connector



M12 S/A-Box
10port 4pole M23
757-303

10 x M8 connectors, 3-pole
3 (1 signal per contact)
M16 connectors, 14-pole
30 x 26 x 175 mm
E 175199, UL 508, Class 2 Equipment These components are designed to be supplied through Class 2 power supplies in accordance with UL 1310 or Class 2 transformers in accordance with UL 1585
wago.com/757-303

Item No.	Page
757-001	440
210-110	440
757-000	440
756-8101	440

Sensor/Actuator Boxes, Accessories

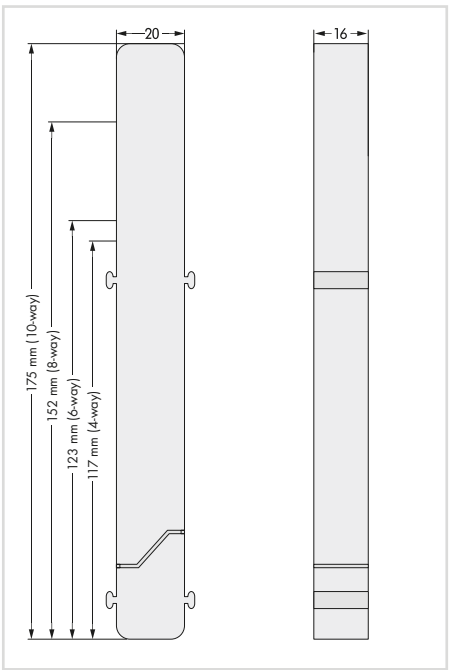
Marking card (40 markings)		
	Item No.	Pack. Unit
for M12 sensor/actuator box	757-011	1

Marking strips for M8 sensor/actuator box		
	Item No.	Pack. Unit
4-way	757-041	100
6-way	757-061	100
8-way	757-081	100
10-way	757-001	100

Marking pen		
	Item No.	Pack. Unit
for permanent marking	210-110	1

Protective caps (for covering unused sensor/actuator ports)		
	Item No.	Pack. Unit
M8 protective cap	756-8101	10
M12 protective cap	756-8102	10

Spacer module for sensor/actuator box		
	Item No.	Pack. Unit
4-way	757-040	10
6-way	757-060	10
8-way	757-080	10
10-way	757-000	10



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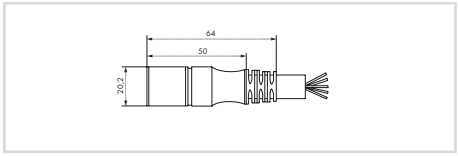
14-pole

Pin A, L: 0.75 mm²
Pin C - J, N - T: 0.34 mm²

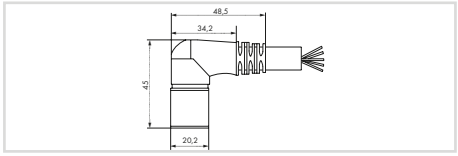
A brown	N pink-brown
C white-pink	O violet
E black	P white
G pink	R red
J green	S gray
L blue	T yellow
M commoned with A	U commoned with L

Operating voltage	150 V
Operating current	6 A (0.75 mm²); 4 A (0.34 mm²)
Rated surge voltage	1.2 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	−30 … +90 °C
Protection type	IP67
Cable diameter	9.1 mm ± 0.2



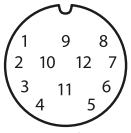
Interconnecting cable,14-pole, M16 socket straight

Cable length	Item No.	Pack. Unit
5 m	756-3205/140-050	1
10 m	756-3205/140-100	1
15 m	756-3205/140-150	1



Interconnecting cable,14-pole, M16 socket right angle

Cable length	Item No.	Pack. Unit
5 m	756-3206/140-050	1
10 m	756-3206/140-100	1
15 m	756-3206/140-150	1

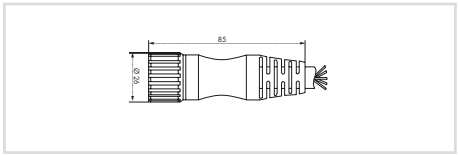


12-pole

Pin 9, 11, 12: 1.00 mm²; Pin 1 - 8: 0.34 mm²

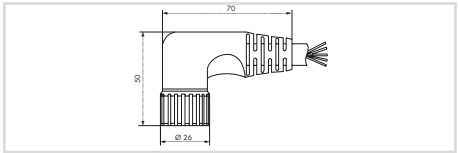
1 white	7 black
2 green	8 violet
3 yellow	9 blue
4 gray	10 commoned with 9
5 pink	11 brown
6 red	12 green-yellow

Operating voltage	300 V
Operating current	8 A
Rated surge voltage	AC 2.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	−5 … +80 °C
Protection type	IP67
Cable diameter	8.6 mm ± 0.3



Interconnecting cable,12-pole, M23 socket straight

Cable length	Item No.	Pack. Unit
5 m	756-3201/120-050	1
10 m	756-3201/120-100	1
15 m	756-3201/120-150	1



Interconnecting cable,12-pole, M23 socket right angle

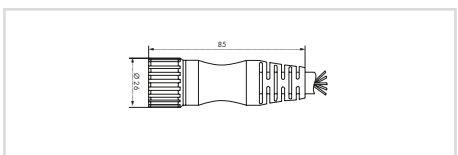
Cable length	Item No.	Pack. Unit
5 m	756-3202/120-050	1
10 m	756-3202/120-100	1
15 m	756-3202/120-150	1

19-pole

Pin 6, 12, 19: 1.00 mm²;
Pin 1 - 5, 7 - 11, 13 - 19: 0.34 mm²

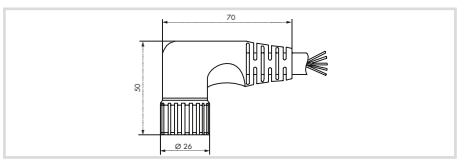
1 violet	8 white-green	15 white
2 red	9 white-yellow	16 yellow
3 gray	10 white-gray	17 pink
4 red-blue	11 black	18 gray-brown
5 green	12 green-yellow	19 brown
6 blue	13 yellow-brown	
7 gray-pink	14 brown-green	

Operating voltage	300 V
Operating current	10 A (Contacts 6, 12, 19); 8 A (other contacts)
Rated surge voltage	AC 2.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	−5 … +80 °C
Protection type	IP67
Cable diameter	9.7 mm ± 0.3



Interconnecting cable,19-pole, M23 socket straight

Cable length	Item No.	Pack. Unit
5 m	756-3203/190-050	1
10 m	756-3203/190-100	1
15 m	756-3203/190-150	1



Interconnecting cable,19-pole, M23 socket right angle

Cable length	Item No.	Pack. Unit
5 m	756-3204/190-050	1
10 m	756-3204/190-100	1
15 m	756-3204/190-150	1

Accessories and Tools

Accessories and Tools
Contents

11

EPSITRON® Power Supply System
additional technical data visit www.wago.com/epsitron

	Item Number	Output	Input Voltage Range	Functional Description
***EPSITRON*® PRO Power – Professional and Efficient Power Supplies with Extra Power**				
	787-819	12 VDC (11 … 18 V) / 6 A	1 x 85 … 264 VAC 120 … 373 VDC	• TopBoost provides up to 60 A of additional output for 50 ms • PowerBoost offers up to 200 % of output power for four seconds • DC OK contact and stand-by input • Clear operating status indication via LED • Up to 94 % efficiency • Ambient operating temperature: −25 °C … +70 °C (device start at −40 °C, type-tested) • Slim design and versatile mounting options • Pluggable CAGE CLAMP® connection technology • UL 508, UL 60950 approvals • LineMonitor provides configuration and monitoring of signal inputs and outputs [a]
	787-821	12 VDC (11 … 18 V) / 10 A		
	787-831	12 VDC (11 … 18 V) / 15 A		
	787-818	24 VDC (22 … 29.5 V) / 3 A		
	787-822	24 VDC (22 … 29.5 V) / 5 A		
	787-832	24 VDC (22 … 29.5 V) / 10 A		
	787-834	24 VDC (22 … 29.5 V) / 20 A		
	787-833	48 VDC (33 … 52 V) / 5 A		
	787-835	48 VDC (33 … 52 V) / 10 A		
	787-840	24 VDC (22.8 … 28.8 V) / 10 A	2/3 x 340 … 550 VAC 480 … 780 VDC	
	787-842	24 VDC (22.8 … 28.8 V) / 20 A		
	787-844	24 VDC (22.8 … 28.8 V) / 40 A		
	787-850 [a]	24 VDC (22.8 … 28.8 V) / 10 A		
	787-852 [a]	24 VDC (22.8 … 28.8 V) / 20 A		
	787-854 [a]	24 VDC (22.8 … 28.8 V) / 40 A		
	787-845	48 VDC (39 … 53 V) / 10 A		
	787-847	48 VDC (39 … 53 V) / 20 A		
***EPSITRON*® CLASSIC Power – Robust Power Supplies with Integrated TopBoost (Optional)**				
	787-1601 [b]	12 VDC (11.5 … 14.5 V) / 2 A	1/2 x 85 … 264 VAC 120 … 372 VDC	• Slim design • Integrated TopBoost (787-16xx with ≥ 120 W) • DC OK signal/contact • Clear operating status indication via LED • Marking field for device identification • Up to 93 % efficiency • Ambient operating temperature: −25 °C … +70 °C (device start at −40 °C type-tested) • Pluggable CAGE CLAMP® connection technology • UL 508, UL 60950, GL approvals • EN 60335-1 approval [b]
	787-1611 [b]	12 VDC (11.5 … 14.5 V) / 4 A		
	787-1621 [b]	12 VDC (11.5 … 14.5 V) / 7 A		
	787-1631	12 VDC (11.5 … 15 V) / 15 A		
	787-1602 [b]	24 VDC (23 … 28.5 V) / 1 A		
	787-1606 [b]	24 VDC (23 … 28.5 V) / 2 A		
	787-1616 [b]	24 VDC (23 … 28.5 V) / 4 A		
	787-1616/0000-1000 [b]	24 VDC (23 … 28.5 V) / 3.8 A LPS		
	787-1622 [b]	24 VDC (23 … 28.5 V) / 5 A		
	787-1632	24 VDC (23 … 28.5 V) / 10 A		
	787-1634	24 VDC (23 … 28.5 V) / 20 A		
	787-1623 [b]	48 VDC (40 … 56 V) / 2 A		
	787-1633	48 VDC (40 … 56 V) / 5 A		
	787-1635	48 VDC (40 … 56 V) / 10 A		
	787-1628	24 VDC (23 … 28.5 V) / 5 A	1/2 x 180 … 500 VAC 254 … 780 VDC	
	787-1638	24 VDC (23 … 28.5 V) / 10 A		
	787-1640	24 VDC (23 … 28.5 V) / 10 A	2/3 x 320 … 575 VAC 450 … 800 VDC	
	787-1642	24 VDC (23 … 28.5 V) / 20 A		
	787-1644	24 VDC (23 … 28.5 V) / 40 A		
***EPSITRON*® ECO Power – Economical Power Supplies for Standard Applications**				
	787-712 [c]	24 VDC (22 … 28 V) / 2.5 A	1 x 85 … 264 VAC 130 … 373 VDC	• Economically priced and robustly packaged in a metal housing • Clear operating status LED indication and optional DC OK contact • Up to 90 % efficiency • Ambient operating temperature: −25 °C … +70 °C • Overhead mounting possible • UL 508, UL 60950 approvals • ATEX/IEC Ex approval, Zone 2 or Class I Div. 2 [c] • Tool-free connection technology [d]
	787-722 [c]	24 VDC (22 … 28 V) / 5 A		
	787-732 [c]	24 VDC (22 … 28 V) / 10 A		
	787-734 [d]	24 VDC (22 … 28 V) / 20 A	1 x 90 … 264 VAC 130 … 373 VDC	
	787-736 [d]	24 VDC (22 … 28 V) / 40 A		
	787-738 [d]	24 VDC (22 … 28 V) / 6.25 A	2/3 x 325 … 575 VAC 460 … 800 VDC	
	787-740 [d]	24 VDC (22 … 28 V) / 10 A		
	787-742 [d]	24 VDC (22 … 28 V) / 20 A		
	787-1702	24 VDC (22 … 26 V) / 1.25 A	1 x 90 … 264 VAC 125 … 375 VDC	• Economically supports basic applications • Flexible mounting via carrier rail adapter • Installation flexibility thanks to screw-mount clips • Up to 84 % efficiency • UL 508, UL 60950, EN 60335-1 approvals
	787-1712	24 VDC (22 … 26 V) / 2.5 A		
	787-1722	24 VDC (22 … 26 V) / 5 A		
	787-1732	24 VDC (22 … 26 V) / 10 A		

EPSITRON® Power Supply System
additional technical data visit www.wago.com/epsitron

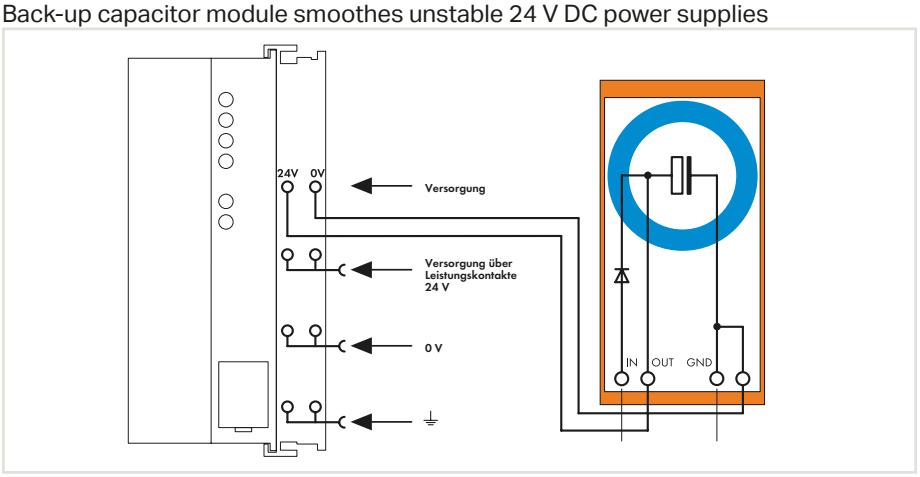
	Item Number	Output	Input Voltage Range	Functional Description
***EPSITRON*® COMPACT Power – Compact, High-Performance Power Supplies**				
	787-1102 [a]	24 VDC (22.8 … 26.4 V) / 1.3 A	1 x 85 … 264 VAC 120 … 373 VDC	• Compact, low-profile design • Stepped profile for installation in standard distribution boards • Pluggable picoMAX® connection technology (tool-free) • Ambient operating temperature: -25 … +70°C • Approvals: UL 60950, UL 508, GL[a], EN60335-1[b] • Suitable for both parallel and series operation
	787-1112 [a]	24 VDC (22.8 … 26.4 V) / 2.5 A		
	787-1122 [a]	24 VDC (22.8 … 26.4 V) / 4 A		
	787-1202 [b]	24 VDC (22 … 26 V) / 1.3 A	1 x 85 … 264 VAC 125 … 375 VDC	
	787-1212 [b]	24 VDC (22 … 26 V) / 2.5 A		
	787-1216 [b]	24 VDC (22 … 26 V) / 4.2 A		
	787-1226 [b]	24 VDC (22 … 26 V) / 6 A	1 x 90 … 132 VAC 180 … 264 VDC	
	787-1001	12 VDC (10.8 … 18 V) / 2 A	1 x 85 … 264 VAC 120 … 373 VDC	• Compact, low-profile design • Ideal for decentralized applications • Clear operating status indication via LED • Up to 88 % efficiency • Ambient operating temperature: −25 °C … +60 °C (device start at −40 °C, type-tested) • Overhead mounting permitted • UL 508, UL 60950, GL approvals
	787-1011	12 VDC (10.5 … 15.5 V) / 4 A		
	787-1021	12 VDC (10.5 … 15.5 V) / 6.5 A		
	787-1017	18 VDC (15 … 28 V) / 2.5 A		
	787-1002	24 VDC (22.8 … 26.4 V) / 1.3 A		
	787-1012	24 VDC (22.8 … 26.4 V) / 2.5 A		
	787-1022	24 VDC (22.8 … 26.4 V) / 4 A		
	787-1020	5 VDC (4.5 … 8.5 V) / 5.5 A		
***EPSITRON*®-DC/DC Converters – Dependable Power Supply for Specialty Voltages**				
	787-2801 [a]	5 VDC / 0.5 A	24 VDC (10 … 30 V)	· Full commoning of the supply voltage with both 857 and 2857 Series • DC OK contact • UL 508, UL 60950, GL[a] approval
	787-2802 [a]	10 VDC / 0.5 A	24 VDC (15 … 30 V)	
	787-2803	24 VDC / 0.5 A	48 VDC (40 … 55 V)	
	787-2805 [a]	12 VDC / 0.5 A	24 VDC (15 … 30 V)	
	787-2810 [a]	5 / 10 / 12 VDC, adjustable / 0.5 A	24 VDC (10 … 30 V)	
	787-1014	24 VDC / 2 A	110 VDC (77 … 140 V)	• Suitable for railway applications per EN 50155 • UL 508, UL 60950 approvals
	787-1014/0072-0000	24 VDC / 2 A	72 VDC (40 … 90 V)	
***EPSITRON*® – Uninterruptible Power Supplies (UPS) — Reliably Compensate for Long Power Outages**				
	787-870	24 VDC (20 … 25,5 V) / 10 A	24 VDC	• Slim UPS charger and controller with convenient visualization and configuration • Optional power supply with integrated UPS charger and controller (787-1675) • Battery control technology for predictive maintenance that extends battery life • Pluggable CAGE CLAMP® connection technology • UL 508, UL 60950 approvals
	787-875	24 VDC (20 … 25,5 V) / 20 A		
	787-1675	23 … 28.5 VDC (mains operation)/5 A; 18.5 … 27.5 VDC (battery operation)/5 A	1/2 x 85 … 264 VAC 110 … 370 VDC	
	787-876	24 VDC / max. 7.5 A / 1.2 Ah	24 VDC	
	787-871	24 VDC / max. 20 A / 3.2 Ah		
	787-872	24 VDC / max. 40 A / 7 Ah		
	787-873	24 VDC / max. 40 A / 12 Ah		
	787-1671	24 VDC / max. 5 A / 0.8 Ah		
***EPSITRON*® – Capacitive Buffer Modules — Short-Term Power Reserves for Mains Failures and Load Changes**				
	787-880	24 VDC (20.4 … 24 V) / 10 A	24 VDC	• Maintenance-free, high-energy gold caps • Integrated diodes for decoupling buffered loads from unbuffered loads • Parallel-connections possible • Indication via LED and contact • Configurable switch-on threshold • Ambient operating temperature: −10 °C … +50 °C • Pluggable CAGE CLAMP® connection technology • UL 508 approval
	787-881	24 VDC (20.4 … 24 V) / 20 A		
***EPSITRON*® – Redundancy Modules — Reliably Increase a Power Supply's Stability**				
	787-885 [b]	24 VDC / 2 x 20 A, max. 40 A	2 x 24 VDC	• Integrated power diodes with overload capability • Redundancy module with low-loss MOSFET decouples two power supplies [a] • Solutions for 12/24/48 VDC supply, up to 76 A • Parallel-connections possible, reverse voltage protection • Clear operating status LED indication and optional signal contact [b] • Ambient operating temperature: −25 °C … +70 °C • UL 508, UL 60950 approvals
	787-1685 [a], [b]	24 VDC / 2 x 40 A, max. 40 A, signal contact		
	787-886 [b]	48 VDC / 2 x 20 A, max. 40 A	2 x 48 VDC	
	787-783	9 … 54 VDC / 2 x 12.5 A, max. 25 A	2 x 9 … 54 VDC	
	787-785	9 … 54 VDC / 2 x 40 A, max. 76 A		

EPSITRON® Power Supply System
additional technical data visit www.wago.com/epsitron

	Item Number	Output	Input Voltage Range	Functional Description
EPSITRON® – Electronic Circuit Breakers — Compact and Precise ECBs for DC Circuits				
	787-1662	2 x 24 VDC / 2 … 10 A		• Two, four or eight channels with a 6-stage adjustable nominal current • Slim design, communication capability • High switch-on capacity reduces false tripping • Ambient operating temperature: −25 °C … +70 °C • Pluggable CAGE CLAMP® connection technology • Active current limitation [e] • UL 2367, GL approvals • With potential-free signal contact [g] • Specialty configuration [h]
	787-1662/0106-0000	2 x 24 VDC / 1 … 6 A		
	787-1662/0000-0004 [h]	2 x 24 VDC / 2 … 10 A		
	787-1662/0000-0054 [g, h]	2 x 24 VDC / 2 … 10 A		
	787-1662/0004-1000 [e]	2 x 24 VDC / 3.8 A		
	787-1662/0006-1000 [e]	2 x 24 VDC / 0.5 … 6 A		
	787-1662/0212-1000 [e]	2 x 24 VDC / 2 … 12 A		
	787-1664	4 x 24 VDC / 2 … 10 A		
	787-1664/0106-0000	4 x 24 VDC / 1 … 6 A		
	787-1664/0000-0004 [h]	4 x 24 VDC / 2 … 10 A		
	787-1664/0000-0054 [g, h]	4 x 24 VDC / 2 … 10 A		
	787-1664/0004-1000 [e]	4 x 24 VDC / 3.8 A		
	787-1664/0006-1000 [e]	4 x 24 VDC / 0.5 … 6 A		
	787-1664/0212-1000 [e]	4 x 24 VDC / 2 … 12 A		
	787-1664/0006-1054 [e, g, h]	4 x 24 VDC / 0.5 … 6 A		
	787-1668	8 x 24 VDC / 2 … 10 A		
	787-1668/0106-0000	8 x 24 VDC / 1 … 6 A		
	787-1668/0000-0004 [h]	8 x 24 VDC / 2 … 10 A		
	787-1668/0000-0054 [g, h]	8 x 24 VDC / 2 … 10 A		
	787-1668/0106-0054 [g]	8 x 24 VDC / 1 … 6 A		
	787-1668/0006-1000 [e]	8 x 24 VDC / 0.5 … 6 A		
	787-1668/0006-1054 [e, g, h]	8 x 24 VDC / 0.5 … 6 A		
	787-1662/0000-0100	2 x 12 VDC / 2 … 10 A	12 VDC	
	787-1664/0000-0100	4 x 12 VDC / 2 … 10 A		
	787-1662/0000-0200	2 x 48 VDC / 2 … 10 A	48 VDC	
	787-1662/0000-0250 [g]	2 x 48 VDC / 2 … 10 A		
	787-1664/0000-0200	4 x 48 VDC / 2 … 10 A		
	787-1664/0000-0250 [g]	4 x 48 VDC / 2 … 10 A		
	787-1668/0000-0200	8 x 48 VDC / 2 … 10 A		
	787-1668/0000-0250 [g]	8 x 48 VDC / 2 … 10 A		

Back-up capacitor module, DC/DC Converter

Back-up capacitor module smoothes unstable 24 V DC power supplies



Item description	Stützelko-Modul, zur Glättung instabiler 24 VDC
Item No.	**288-824**

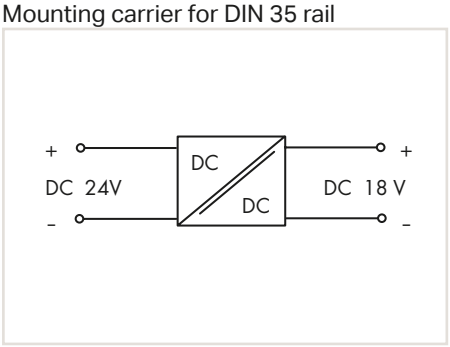
Technical Data

Nominal voltage	24 VDC (+25 %)
Nominal current	1 A
Nominal capacity	10000 µF
Weight	104.4 g
Dimensions W x H x L	38 x 81 x 85 mm, Height from upper-edge of DIN 35 rail
Wire connection	CAGE CLAMP® (236 Series)
Cross sections	0.08 … 2.5 mm² / 28 … 14 AWG
Strip lengths	5 … 6 mm / 0.22 in
Data sheet and further information, see:	wago.com/288-824

This module is equipped with a capacitor which smoothes unstable 24VDC power supplies in case the voltage tolerances mentioned in our data sheets cannot be ensured.
Reasons for voltage transients could be:
- Voltage disconnections (switching transients) on primary side
- Overloads on secondary side
- Switching of inductive or capacitive loads

The back-up capacitor module is connected between the 24V power supply and the electronic device which has to be protected.
Notice:
If using a non-filtered single-phase power supply, the capacitor causes a voltage increase.

DC/DC Converter,
Mounting carrier for DIN 35 rail

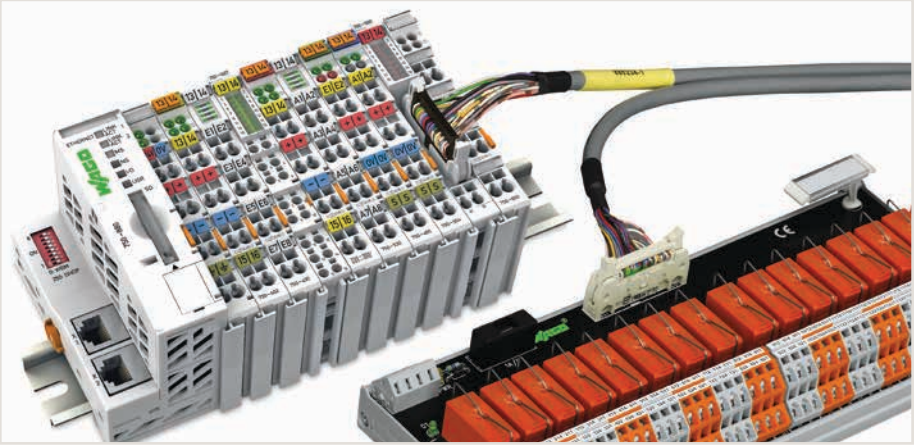


Item description	DC/DC Converter, Mounting carrier for DIN 35 rail
Item No.	**288-895**

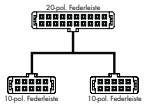
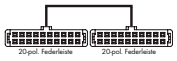
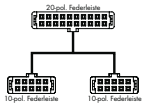
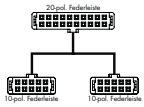
Technical Data

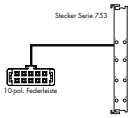
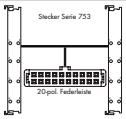
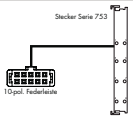
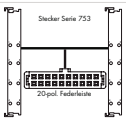
Input voltage	24 VDC
Input voltage range	18 V … 36 VDC
Output voltage	18 VDC (± 1 %)
Nominal output current	400 mA
Efficiency	82 %
Test voltage input/output	1500 VDC
Short circuit protection	permanent
Ambient temperature (operation)	-25 … +70 °C
Weight	76 g
Dimensions W x H x L	50 x 25 x 85 mm, Height from upper-edge of DIN 35 rail
Wire connection	CAGE CLAMP® (256 Series)
Cross sections	0,08 … 2,5 mm² / 28 … 12 AWG (THHN, THWN)
Strip lengths	5 … 6 mm / 0.22 in
Data sheet and further information, see:	wago.com/288-895

Interface Modules for System Wiring



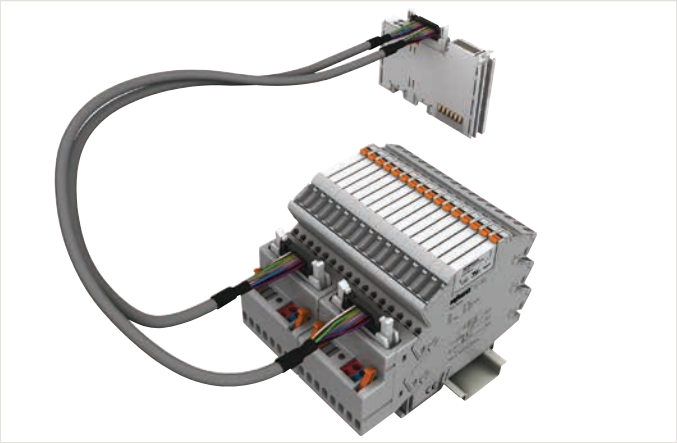
Digital input and output modules with ribbon cable connector provide easy and fast connection of WAGO interface modules to the WAGO-I/O-SYSTEM.
WAGO pre-assembled ribbon cables eliminate discrete wiring, while reducing costs for system wiring applications. Furthermore, modules can be pre-wired, also allowing the connection level to be relocated.

WAGO-I/O-SYSTEM 750				WAGO Ribbon Cable		WAGO Interface Modules	
	I/O Modules	Item No.		Ribbon Cable	Item No.	Interface Modules	Item No.
DI		750-1400	16 DI 24V DC 3.0 ms ribbon cable,		**706-3057/300-xxx** (see Page 450)		Input module, 20-pole T16ES: 289-614, 704-2004, 704-2024, 704-2044, 704-2054*
					**706-7753/302-xxx** (see Page 450)		Input module, 10-pole T8ES: 289-611, 704-2003*
DO		750-1500	16 DO 24V DC 0.5 A ribbon cable,		**706-3057/300-xxx** (see Page 450)		Input module, 20-pole T16S: 704-5004, 704-5014, 704-5024, 704-5034, 704-5044, 704-5054, 704-5064, 704-5074* or T16ES
					**706-7753/302-xxx** (see Page 450)		Relay module, 8-channel T8S: 704-5003, 704-5013* oder T8ES
DI/DO		750-1502	8DI 8DO 24V DC 0.5 A ribbon cable,		**706-7753/302-xxx** (see Page 450)		Input module, 10-pole T8ES: 289-611, 704-2003*
							Relay module, 8-channel T8S: 704-5003, 704-5013* or T8ES

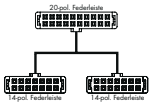
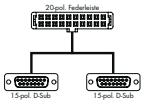
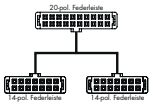
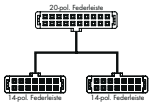
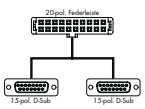
WAGO-I/O-SYSTEM 753				WAGO Ribbon Cable		WAGO Interface Modules	
	I/O Modules	Item No.		Ribbon Cable	Item No.	Interface Modules	Item No.
DI		753-430 753-431 753-436 753-437	8 DI 8 DI 8 DI 8 DI		**706-7753/300-100** (see Page 451)		Input module, 10-pole T8ES: 289-611, 704-2003*
		753-430 (x2) 753-431 (x2) 753-436 (x2) 753-437 (x2)	2 x 8 DI 2 x 8 DI 2 x 8 DI 2 x 8 DI		**706-7753/301-200** (see Page 451)		Input module, 20-pole T16ES: 289-614, 704-2004, 704-2024, 704-2044, 704-2054*
DO		753-530	8 DO		**706-7753/300-100** (see Page 451)		Relay module, 8-channel T8S: 704-5003, 704-5013* or T8ES
		753-530 (x2)	2 x 8 DO		**706-7753/301-200** (see Page 451)		Relay module, 16-channel T16S: 704-5004, 704-5014, 704-5024, 704-5034, 704-5044, 704-5054, 704-5064, 704-5074* or T16ES

*additional technical data visit www.wago.com/Item No.

Interface Adapter for System Wiring

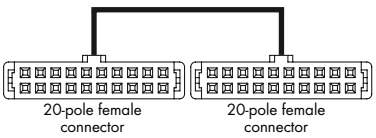


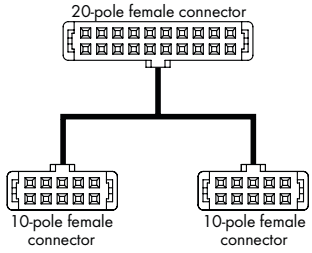
WAGO Interface Adapter, 857 Series
WAGO's Interface Adapter provides a fast wiring solution for relay and optocoupler modules within the JUMPFLEX® 857 Series. On the module side, pre-assembled WAGO Ribbon Cables (706 Series) connect to the WAGO-I/O-SYSTEM (PLC).
This eliminates cumbersome discrete wiring between 750 Series I/O modules and 857 Series relays/optocouplers.
As a result, both installation time and costs are reduced.
Depending on the application, the WAGO interface adapters can be used with D-sub or ribbon cable connectors.
WAGO's interface adapters are equipped with status indicator.
They also feature integrated test ports for each channel.
The interface adapters are simply plugged into the 857 Series relay/optocoupler modules via jumper slot.
Furthermore, WAGO's interface adapter features locking devices for secure connection.

WAGO-I/O-SYSTEM 750				WAGO Ribbon Cable		WAGO Interface Modules	
	I/O Modules	Item No.		Ribbon Cable	Item No.	Interface Modules	Item No.
DI		750-1400	16 DI 24V DC 3.0 ms ribbon cable		706-7753/304-xxx*		Item No.: 857-982*; Output, positive switching 8-channel adapter with 14-pin ribbon cable connector acc. to DIN 41651
		750-1402	16 DI 24V DC 3.0 ms ribbon cable, low-side switch		706-7753/306-xxx*		Item No.: 857-986*; Input, positive switching 8-channel adapter with SUB-D male connector
DO		750-1500	16 DO 24V DC 0.5 A ribbon cable		706-7753/304-xxx*		Item No.: 857-981*; Input, positive switching 8-channel adapter with 14-pin ribbon cable connector acc. to DIN 41651
							Item No.: 857-982*; Output, positive switching 8-channel adapter with 14-pin ribbon cable connector acc. to DIN 41651
DI/DO		750-1502	8DI 8DO 24V DC 0.5 A ribbon cable				Item No.: 857-981*; Input, positive switching 8-channel adapter with 14-pin ribbon cable connector acc. to DIN 41651
					706-7753/306-xxx*		Item No.: 857-986*; Input, positive switching 8-channel adapter with SUB-D male connector

*additional technical data visit www.wago.com/Item No.

WAGO Interface Cables
for 289, 704 Series, in Connection with WAGO-I/O-SYSTEM 750
706 Series





WAGO Interface Cable, 20/20		
Length	**Item No.**	Pack. Unit
1 m	**706-3057/300-100**	1
2 m	**706-3057/300-200**	1
3 m	**706-3057/300-300**	1

WAGO Interface Cables provide fast and easy connection of WAGO I/O modules equipped with a HE 10 connector (750-1400, -1402, -1500, -1501, -1502) to appropriate interface or relay modules (16-channel) featuring a 20-pole HE 10 connector.

WAGO Interface Cable, 20/2x10		
Length	**Item No.**	Pack. Unit
1 m	**706-7753/302-100**	1
2 m	**706-7753/302-200**	1

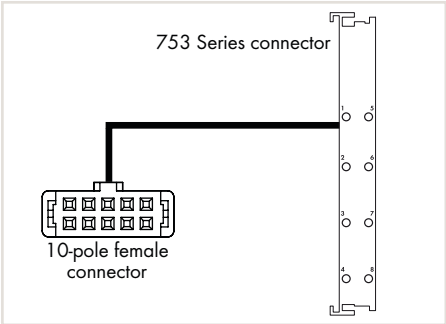
WAGO Interface Cables provide fast and easy connection of WAGO I/O modules equipped with a HE 10 connector (750-1400, -1402, -1500, -1501, -1502) to appropriate interface or relay modules featuring a 10-pole HE 10 connector. For example, this cable connects 2 relay modules (8-channel) to a WAGO I/O module.

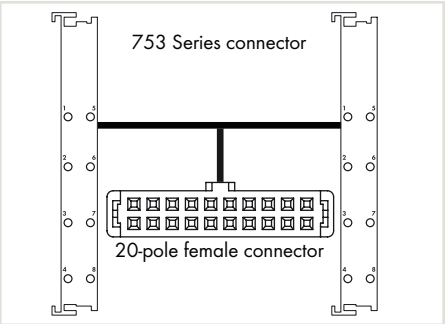
Technical Data

Ports	2 x 20-pole connector acc. to DIN 41651	1 x 20-pole / 2 x 10-pole connector acc. to DIN 41651
Wire cross-section	0.14 mm² LiYY	0.14 mm² LiYY
Color code	acc. to DIN VDE 47100	acc. to DIN VDE 47100
Current per channel	1 A (max.)	1 A (max.)
Operating temperature	-25 … +70 °C	-25 … +70 °C
Protection type	IP20	IP20

11

WAGO Interface Cables
for 289, 704 Series, in Connection with WAGO-I/O-SYSTEM 753
706 Series





WAGO Interface Cable, 753 Series pluggable connector/10-pole		
Length	Item No.	Pack Unit
1 m	706-7753/300-100	1

WAGO Interface Cable, 2 x 753 Series pluggable connector/20-pole		
Length	Item No.	Pack Unit
2 m	706-7753/301-200	1

WAGO Interface Cables provide fast and easy connection of WAGO I/O modules equipped with pluggable connectors (e.g., 753-430, -431, -530) to appropriate interface or relay modules featuring a 10-pole female connector.

WAGO Interface Cables provide fast and easy connection of WAGO I/O modules equipped with pluggable connectors (e.g., 753-430, -431, -530) to appropriate interface or relay modules featuring a 20-pole female connector
For example, this cable connects two WAGO I/O modules to one relay output module (16-channel).

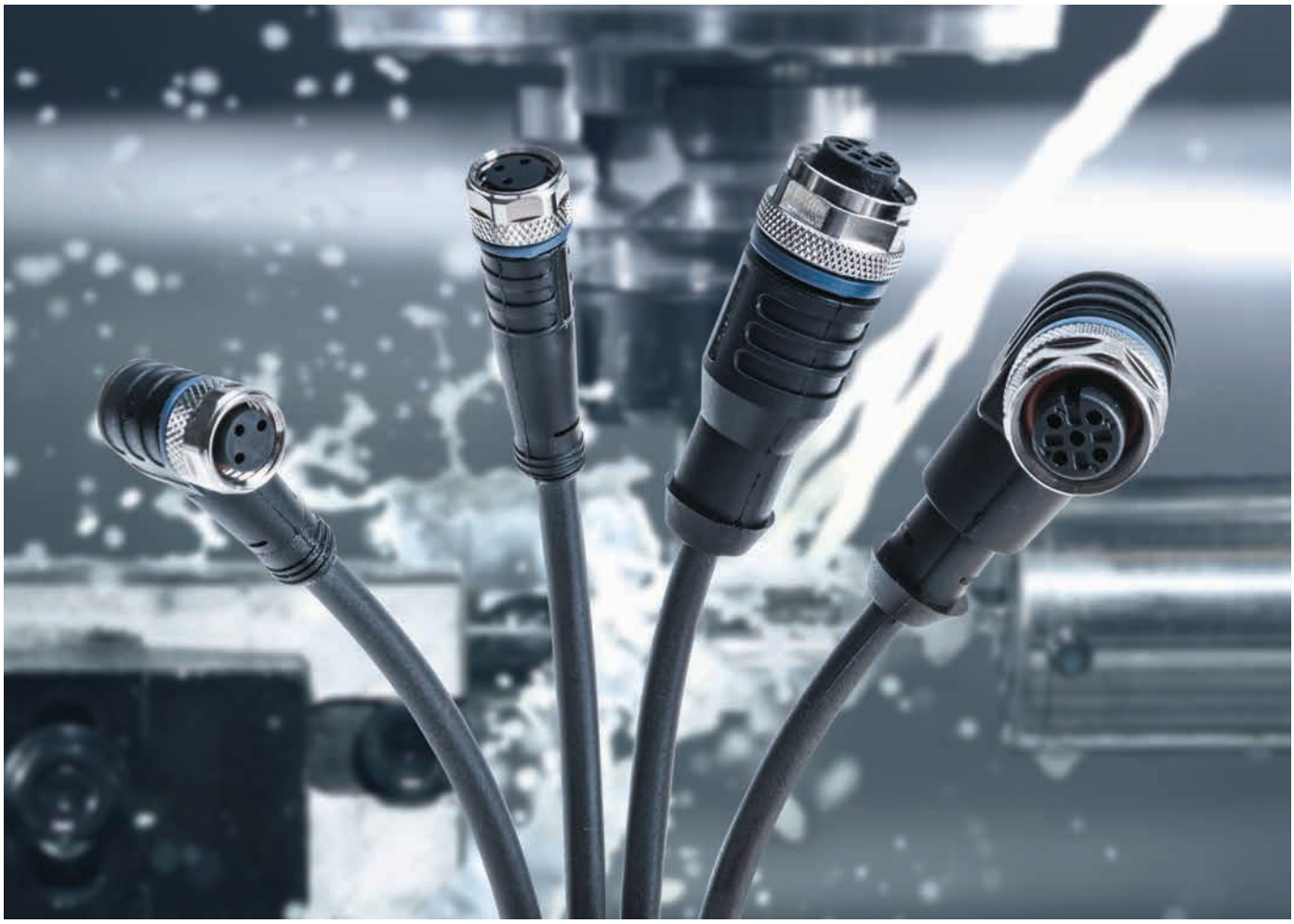
Technical Data

Ports	753 Series pluggable connector/10-pole acc. to DIN 41651	2 x 753 Series pluggable connector/20-pole acc. to DIN 41651
Wire cross-section	0.14 mm² LiYY	0.14 mm² LiYY
Color coding	acc. to DIN VDE 47100	acc to DIN VDE 47100
Current per channel	max. 1 A	max. 1 A
Ambient temperature (operation)	-25 … +70 °C*	-25 … +70 °C*
Degree of protection	IP20	IP20

*Observe maximum operating temperature of the WAGO I/O modules used.

11

IP67 Cables and Connectors, 756 Series



Series 756 offers a wide range of accessories for the connection of inductive or capacitive proximity switches, light barriers, flow control devices, push buttons etc. to the WAGO-I/O-SYSTEM 757 (IP67 sensor/actuator boxes) and WAGO-Speedway 767 (modular IO system IP67). The cables are not only a protection against dust and water, the design of their coupling nuts also provides protectionagainst mechanical loosening when exposed to vibrations.
In addition to that, fixed cables offer bend protection.

Cables with one or two preassembled wire ends are used. Cables with one preassembled wire end are often used when the length of the cable cannot be predetermined exactly or when the cable assembly with connectors proves to be difficult. Cables with one free wire end can therefore be adapted to individual prerequisites. Cables with two preassembled wire ends drastically reduce assembly and installation time.

Sensor/actuator cables, with one end of cable fitted

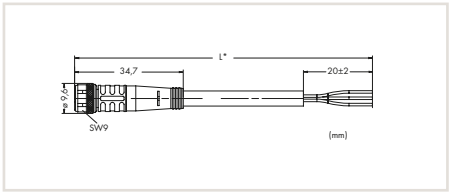
M8 socket

3-pole

Pin 1 - 4: 0.34 mm²

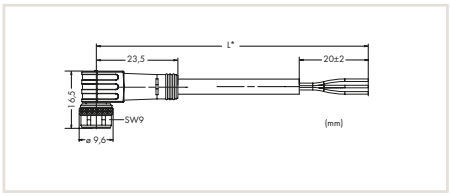
1 brown (+)
3 blue (-)
4 black (S)

Operating voltage	60 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2



Sensor/actuator cables, M8 socket, straight

	Item No.	Pack. Unit
3-pol., M8 socket, straight, 1.5 m	756-5101/030-015	10
3-pol., M8 socket, straight, 5 m	756-5101/030-050	10
3-pol., M8 socket, straight, 10 m	756-5101/030-100	10



Sensor/actuator cables, M8 socket, right angle

	Item No.	Pack. Unit
3-pol., M8 socket, right angle, 1.5 m	756-5102/030-015	10
3-pol., M8 socket, right angle, 5 m	756-5102/030-050	10
3-pol., M8 socket, right angle, 10 m	756-5102/030-100	10

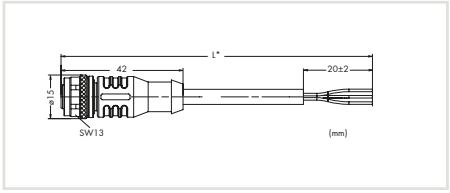
M12 socket

3-pole 4-pole 5-pole

Pin 1 - 5: 0.34 mm²

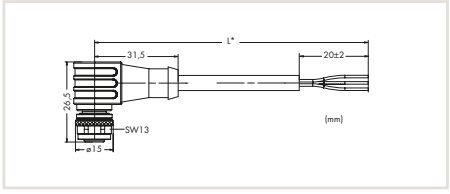
1 brown (+)
2 white (Ö)
3 blue (-)
4 black (S)
5 gray

Operating voltage	250 V AC/DC
Operating current	max. 4 A
Rated surge voltage	2.5 kV (3-, 4-pole); 1.5 kV (5-pole)
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.3 mm ±0.2 (3-pole); 4.7 mm ±0.2 (4-pole); 5.0 mm ±0.2 (5-pole); 6.5 mm ±0.2 (5-pole, shielded)



Sensor/actuator cables, M12 socket, straight

	Item No.	Pack. Unit
3-pol., M12 socket, straight, 1.5 m	756-5301/030-015	10
3-pol., M12 socket, straight, 5 m	756-5301/030-050	10
3-pol., M12 socket, straight, 10 m	756-5301/030-100	10
4-pol., M12 socket, straight, 1.5 m	756-5301/040-015	10
4-pol., M12 socket, straight, 5 m	756-5301/040-050	10
4-pol., M12 socket, straight, 10 m	756-5301/040-100	10
5-pol., M12 socket, straight, 1.5 m	756-5301/050-015	10
5-pol., M12 socket, straight, 5 m	756-5301/050-050	10
5-pol., M12 socket, straight, 10 m	756-5301/050-100	10
shielded, 5-pol., M12 socket, straight, 1.5 m	756-5301/060-015	10
shielded, 5-pol., M12 socket, straight, 5 m	756-5301/060-050	10
shielded, 5-pol., M12 socket, straight, 10 m	756-5301/060-100	10



Sensor/actuator cables, M8 socket, right angle

	Item No.	Pack. Unit
3-pol., M12 socket, right angle, 1.5 m	756-5302/030-015	10
3-pol., M12 socket, right angle, 5 m	756-5302/030-050	10
3-pol., M12 socket, right angle, 10 m	756-5302/030-100	10
4-pol., M12 socket, right angle, 1.5 m	756-5302/040-015	10
4-pol., M12 socket, right angle, 5 m	756-5302/040-050	10
4-pol., M12 socket, right angle, 10 m	756-5302/040-100	10
5-pol., M12 socket, right angle, 1.5 m	756-5302/050-015	10
5-pol., M12 socket, right angle, 5 m	756-5302/050-050	10
5-pol., M12 socket, right angle, 10 m	756-5302/050-100	10
shielded, 5-pol., M12 socket, right angle, 1.5 m	756-5302/060-015	10
shielded, 5-pol., M12 socket, right angle, 5 m	756-5302/060-050	10
shielded, 5-pol., M12 socket, right angle, 10 m	756-5302/060-100	10

Sensor/actuator cables, with one end of cable fitted

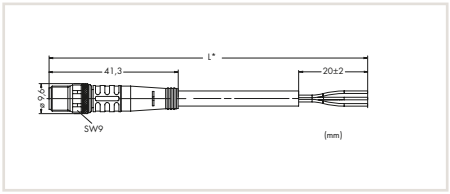
M8 plug

3-pole

Pin 1 - 4: 0.34 mm²

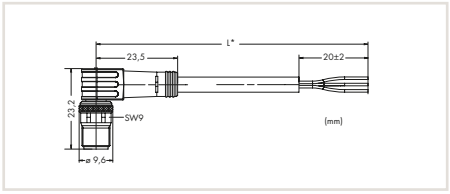
1 brown (+)
3 blue (-)
4 black (S)

Operating voltage	60 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2



Sensor/actuator cables, M8 plug, straight

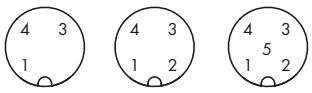
	Item No.	Pack. Unit
3-pol., M8 plug, straight, 1.5 m	756-5111/030-015	10
3-pol., M8 plug, straight, 5 m	756-5111/030-050	10
3-pol., M8 plug, straight, 10 m	756-5111/030-100	10



Sensor/actuator cables, M8 plug, right angle

	Item No.	Pack. Unit
3-pol., M8 plug, right angle, 1.5 m	756-5112/030-015	10
3-pol., M8 plug, right angle, 5 m	756-5112/030-050	10
3-pol., M8 plug, right angle, 10 m	756-5112/030-100	10

M12 plug

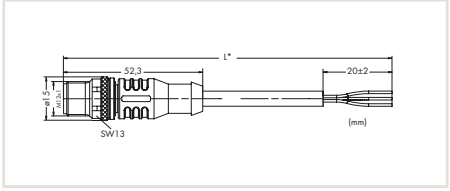


3-pole 4-pole 5-pole

Pin 1 - 5: 0.34 mm²

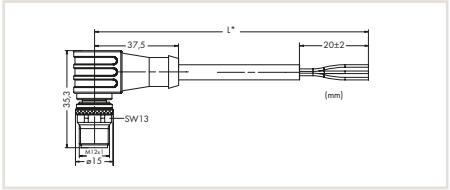
1 brown (+)
2 white (Ö)
3 blue (-)
4 black (S)
5 gray

Operating voltage	250 V AC/DC
Operating current	max. 4 A
Rated surge voltage	2.5 kV (3-, 4-pole); 1.5 kV (5-pole)
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.3 mm ±0.2 (3-pole); 4.7 mm ±0.2 (4-pole); 5.0 mm ±0.2 (5-pole); 6.5 mm ±0.2 (5-pole, shielded)



Sensor/actuator cables, M12 plug, straight

	Item No.	Pack. Unit
3-pol., M12 plug, straight, 1.5 m	756-5311/030-015	10
3-pol., M12 plug, straight, 5 m	756-5311/030-050	10
3-pol., M12 plug, straight, 10 m	756-5311/030-100	10
4-pol., M12 plug, straight, 1.5 m	756-5311/040-015	10
4-pol., M12 plug, straight, 5 m	756-5311/040-050	10
4-pol., M12 plug, straight, 10 m	756-5311/040-100	10
5-pol., M12 plug, straight, 1.5 m	756-5311/050-015	10
5-pol., M12 plug, straight, 5 m	756-5311/050-050	10
5-pol., M12 plug, straight, 10 m	756-5311/050-100	10
shielded, 5-pol., M12 plug, straight, 1.5 m	756-5311/060-015	10
shielded, 5-pol., M12 plug, straight, 5 m	756-5311/060-050	10
shielded, 5-pol., M12 plug, straight, 10 m	756-5311/060-100	10



Sensor/actuator cables, M8 plug, right angle

	Item No.	Pack. Unit
3-pol., M12 plug, right angle, 1.5 m	756-5312/030-015	10
3-pol., M12 plug, right angle, 5 m	756-5312/030-050	10
3-pol., M12 plug, right angle, 10 m	756-5312/030-100	10
4-pol., M12 plug, right angle, 1.5 m	756-5312/040-015	10
4-pol., M12 plug, right angle, 5 m	756-5312/040-050	10
4-pol., M12 plug, right angle, 10 m	756-5312/040-100	10
5-pol., M12 plug, right angle, 1.5 m	756-5312/050-015	10
5-pol., M12 plug, right angle, 5 m	756-5312/050-050	10
5-pol., M12 plug, right angle, 10 m	756-5312/050-100	10
shielded, 5-pol., M12 plug, right angle, 1.5 m	756-5312/060-015	10
shielded, 5-pol., M12 plug, right angle, 5 m	756-5312/060-050	10
shielded, 5-pol., M12 plug, right angle, 10 m	756-5312/060-100	10

Sensor/actuator cables, with one end of cable fitted

M12 plug

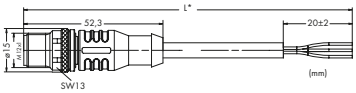
8-pole, shielded

Pin 1 - 8: 0.25 mm²

1 white	5 gray
2 brown	6 pink
3 green	7 blue
4 yellow	8 red

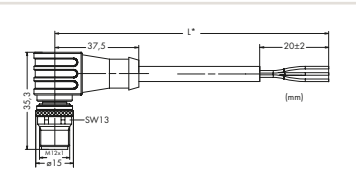
Shield (screen)

Operating voltage	250 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	6.3 mm ±0.2



Sensor/actuator cables, M12 plug, straight

	Item No.	Pack. Unit
shielded, 8-pol., M12 plug, straight, 1.5 m	756-5311/090-015	10
shielded, 8-pol., M12 plug, straight, 5 m	756-5311/090-050	10
shielded, 8-pol., M12 plug, straight, 10 m	756-5311/090-100	10



Sensor/actuator cables, M12 plug, right angle

	Item No.	Pack. Unit
shielded, 8-pol., M12 plug, right angle, 1.5 m	756-5312/090-015	10
shielded, 8-pol., M12 plug, right angle, 5 m	756-5312/090-050	10
shielded, 8-pol., M12 plug, right angle, 10 m	756-5312/090-100	10

Sensor/actuator cables, both ends of the cable are fitted with plug/socket

M8 socket

3-pole

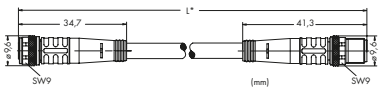
M8 plug

3-pole

Pin 1 - 4: 0.34 mm²

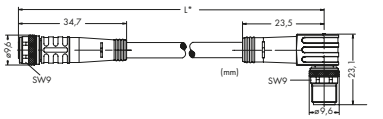
1 brown (+)
3 blue (-)
4 black (S)

Operating voltage	60 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2



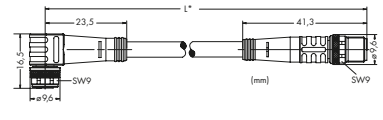
Sensor/actuator cables, M8 socket, straight – M8 plug, straight

	Item No.	Pack. Unit
3-pol., M8 socket, straight, M8 plug, straight, 1 m	756-5201/030-010	10
3-pol., M8 socket, straight, M8 plug, straight, 2 m	756-5201/030-020	10



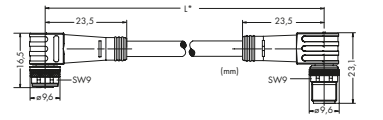
Sensor/actuator cables, M8 socket, straight – M8 plug, right angle

	Item No.	Pack. Unit
3-pol., M8 socket, straight, M8 plug, right angle, 1 m	756-5202/030-010	10
3-pol., M8 socket, straight, M8 plug, right angle, 2 m	756-5202/030-020	10



Sensor/actuator cables, M8 socket, right angle – M8 plug, straight

	Item No.	Pack. Unit
3-pol., M8 socket, right angle, M8 plug, straight, 1 m	756-5203/030-010	10
3-pol., M8 socket, right angle, M8 plug, straight, 2 m	756-5203/030-020	10



Sensor/actuator cables, M8 socket, right angle – M8 plug, right angle

	Item No.	Pack. Unit
3-pol., M8 socket, right angle, M8 plug, right angle, 1 m	756-5204/030-010	10
3-pol., M8 socket, right angle, M8 plug, right angle, 2 m	756-5204/030-020	10

M8 socket

3-pole

M12 plug

3-pole

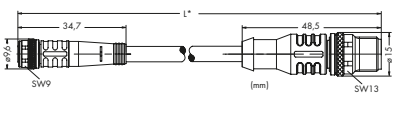
4-pole

4-pole

Pin 1 - 4: 0.34 mm²

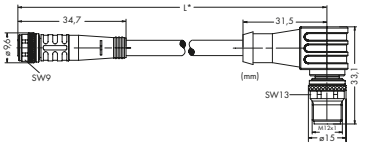
1 brown (+)
2 white (Ö)
3 blue (-)
4 black (S)

Operating voltage	60 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2



Sensor/actuator cables, M8 socket, straight – M12 plug, straight

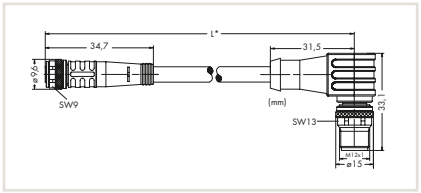
	Item No.	Pack. Unit
3-pol., M8 socket, straight, M12 plug, straight, 1 m	756-5507/030-010	10
3-pol., M8 socket, straight, M12 plug, straight, 2 m	756-5507/030-020	10
4-pol., M8 socket, straight, M12 plug, straight, 1 m	756-5507/040-010	10
4-pol., M8 socket, straight, M12 plug, straight, 2 m	756-5507/040-020	10



Sensor/actuator cables, M8 socket, straight – M12 plug, right angle

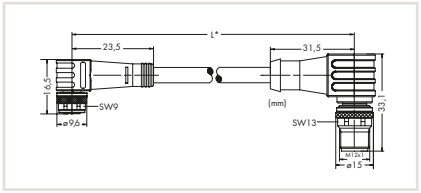
	Item No.	Pack. Unit
3-pol., M8 socket, straight, M12 plug, right angle, 1 m	756-5508/030-010	10
3-pol., M8 socket, straight, M12 plug, right angle, 2 m	756-5508/030-020	10
4-pol., M8 socket, straight, M12 plug, right angle, 1 m	756-5508/040-010	10
4-pol., M8 socket, straight, M12 plug, right angle, 2 m	756-5508/040-020	10

Sensor/actuator cables, both ends of the cable are fitted with plug/socket



Sensor/actuator cables, M8 socket, right angle – M12 plug, straight

	Item No.	Pack. Unit
3-pol., M8 socket, right angle, M12 plug, straight, 1 m	756-5509/030-010	10
3-pol., M8 socket, right angle, M12 plug, straight, 2 m	756-5509/030-020	10
4-pol., M8 socket, right angle, M12 plug, straight, 1 m	756-5509/040-010	10
4-pol., M8 socket, right angle, M12 plug, straight, 2 m	756-5509/040-020	10



Sensor/actuator cables, M8 socket, right angle – M12 plug, right angle

	Item No.	Pack. Unit
3-pol., M8 socket, right angle, M12 plug, right angle, 1 m	756-5510/030-010	10
3-pol., M8 socket, right angle, M12 plug, right angle, 2 m	756-5510/030-020	10
4-pol., M8 socket, right angle, M12 plug, right angle, 1 m	756-5510/040-010	10
4-pol., M8 socket, right angle, M12 plug, right angle, 2 m	756-5510/040-020	10

M12 socket

3-pole

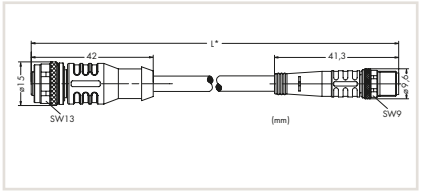
M8 plug

3-pole

Pin 1 - 4: 0.34 mm²

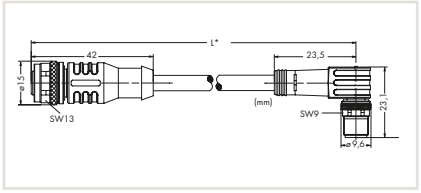
1 brown (+)
3 blue (-)
4 black (S)

Operating voltage	60 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2



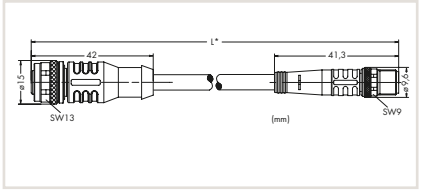
Sensor/actuator cables, M12 socket, straight – M8 plug, straight

	Item No.	Pack. Unit
3-pol., M12 socket, straight, M8 plug, straight, 1 m	756-5501/030-010	10
3-pol., M12 socket, straight, M8 plug, straight, 2 m	756-5501/030-020	10



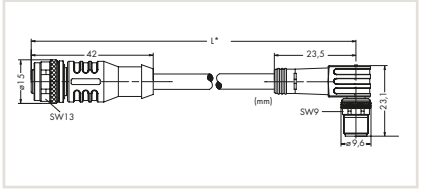
Sensor/actuator cables, M12 socket, straight – M8 plug, right angle

	Item No.	Pack. Unit
3-pol., M12 socket, straight, M8 plug, right angle, 1 m	756-5502/030-010	10
3-pol., M12 socket, straight, M8 plug, right angle, 2 m	756-5502/030-020	10



Sensor/actuator cables, M12 socket, right angle – M8 plug, straight

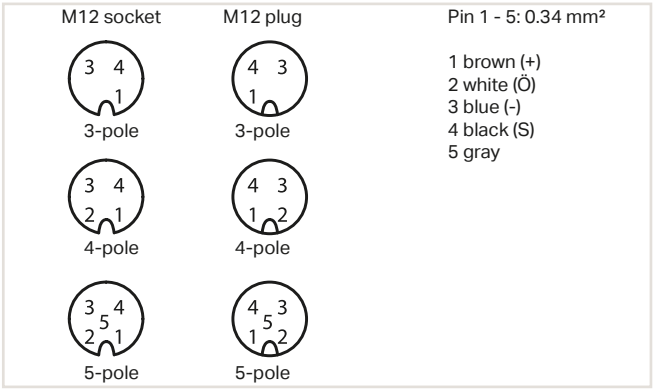
	Item No.	Pack. Unit
3-pol., M12 socket, right angle, M8 plug, straight, 1 m	756-5503/030-010	10
3-pol., M12 socket, right angle, M8 plug, straight, 2 m	756-5503/030-020	10



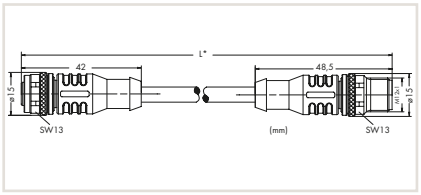
Sensor/actuator cables, M12 socket, right angle – M8 plug, right angle

	Item No.	Pack. Unit
3-pol., M12 socket, right angle, M8 plug, right angle, 1 m	756-5504/030-010	10
3-pol., M12 socket, right angle, M8 plug, right angle, 2 m	756-5504/030-020	10

Sensor/actuator cables, both ends of the cable are fitted with plug/socket

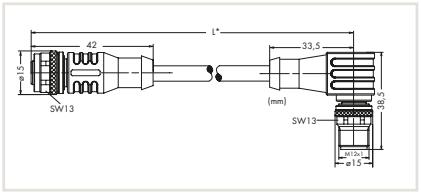


Operating voltage	250 V AC/DC
Operating current	max. 4 A
Rated surge voltage	2.5 kV (3-, 4-pole); 1.5 kV (5-pole)
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.3 mm ±0.2 (3-pole); 4.7 mm ±0.2 (4-pole); 5.0 mm ±0.2 (5-pole); 6.5 mm ±0.2 (5-pole, shielded)



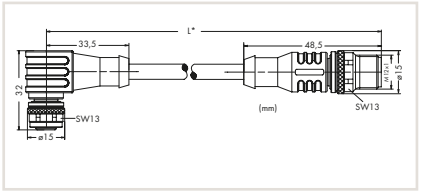
Sensor/actuator cables, M12 socket, straight – M12 plug, straight

	Item No.	Pack. Unit
3-pol., M12 socket, straight, M12 plug, straight, 1 m	756-5401/030-010	10
3-pol., M12 socket, straight, M12 plug, straight, 2 m	756-5401/030-020	10
4-pol., M12 socket, straight, M12 plug, straight, 1 m	756-5401/040-010	10
4-pol., M12 socket, straight, M12 plug, straight, 2 m	756-5401/040-020	10
5-pol., M12 socket, straight, M12 plug, straight, 1 m	756-5401/050-010	10
5-pol., M12 socket, straight, M12 plug, straight, 2 m	756-5401/050-020	10
shield., 5-pol., M12 socket, straight, M12 plug, strai., 1 m	756-5401/060-010	10
shield., 5-pol., M12 socket, straight, M12 plug, strai., 2 m	756-5401/060-020	10



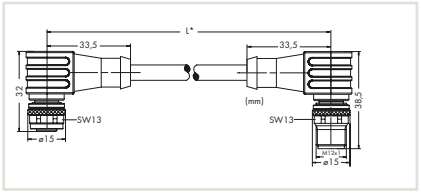
Sensor/actuator cables, M12 socket, straight – M12 plug, right angle

	Item No.	Pack. Unit
3-pol., M12 socket, straight, M12 plug, right angle, 1 m	756-5402/030-010	10
3-pol., M12 socket, straight, M12 plug, right angle, 2 m	756-5402/030-020	10
4-pol., M12 socket, straight, M12 plug, right angle, 1 m	756-5402/040-010	10
4-pol., M12 socket, straight, M12 plug, right angle, 2 m	756-5402/040-020	10
5-pol., M12 socket, straight, M12 plug, right angle, 1 m	756-5402/050-010	10
5-pol., M12 socket, straight, M12 plug, right angle, 2 m	756-5402/050-020	10
shielded, 5-pol., M12 socket, straight, M12 plug, right angle, 1 m	756-5402/060-010	10
shielded, 5-pol., M12 socket, straight, M12 plug, right angle, 2 m	756-5402/060-020	10



Sensor/actuator cables, M12 socket, right angle – M12 plug, straight

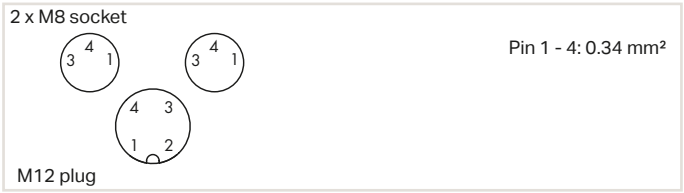
	Item No.	Pack. Unit
3-pol., M12 socket, right angle, M12 plug, straight, 1 m	756-5403/030-010	10
3-pol., M12 socket, right angle, M12 plug, straight, 2 m	756-5403/030-020	10
4-pol., M12 socket, right angle, M12 plug, straight, 1 m	756-5403/040-010	10
4-pol., M12 socket, right angle, M12 plug, straight, 2 m	756-5403/040-020	10
5-pol., M12 socket, right angle, M12 plug, straight, 1 m	756-5403/050-010	10
5-pol., M12 socket, right angle, M12 plug, straight, 2 m	756-5403/050-020	10
shielded, 5-pol., M12 socket, right angle, M12 plug, straight, 1 m	756-5403/060-010	10
shielded, 5-pol., M12 socket, right angle, M12 plug, straight, 2 m	756-5403/060-020	10



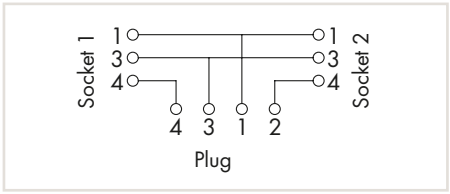
Sensor/actuator cables, M12 socket, right angle – M12 plug, right angle

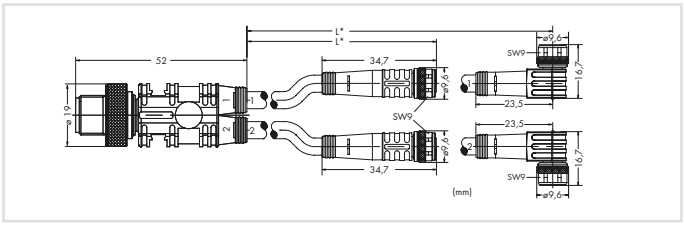
	Item No.	Pack. Unit
3-pol., M12 socket, right angle, M12 plug, right angle, 1 m	756-5404/030-010	10
3-pol., M12 socket, right angle, M12 plug, right angle, 2 m	756-5404/030-020	10
4-pol., M12 socket, right angle, M12 plug, right angle, 1 m	756-5404/040-010	10
4-pol., M12 socket, right angle, M12 plug, right angle, 2 m	756-5404/040-020	10
5-pol., M12 socket, right angle, M12 plug, right angle, 1 m	756-5404/050-010	10
5-pol., M12 socket, right angle, M12 plug, right angle, 2 m	756-5404/050-020	10
shielded, 5-pol., M12 socket, right angle, M12 plug, right angle, 1 m	756-5404/060-010	10
shielded, 5-pol., M12 socket, right angle, M12 plug, right angle, 2 m	756-5404/060-020	10

Sensor/actuator cables, both ends of the cable are fitted with plug/socket



Operating voltage	60 V AC/DC
Operating current	max. 4 A
Rated surge voltage	1.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

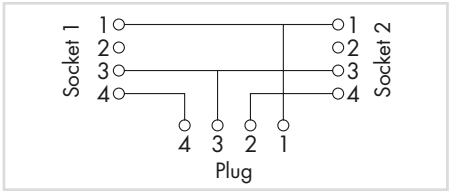


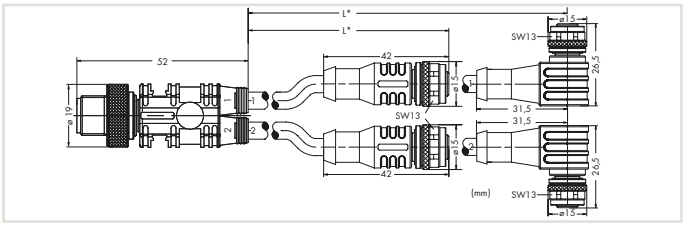


Sensor/actuator cables, 2 x M8 socket – M12 plug

	Item No.	Pack. Unit
4-pol., 2xM12 plug, straight, M8 socket, straight, 1 m	756-5513/040-010	10
4-pol., 2xM12 plug, straight, M8 socket, straight, 2 m	756-5513/040-020	10
4-pol., 2xM12 plug, straight, M8 socket, right angle, 1 m	756-5514/040-010	10
4-pol., 2xM12 plug, straight, M8 socket, right angle, 2 m	756-5514/040-020	10

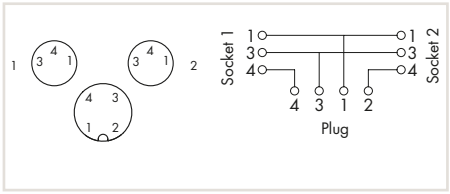
Operating voltage	250 V AC/DC
Operating current	max. 4 A
Rated surge voltage	2.5 kV
Suitable for drag chain applications	≥ 2 Mio. bending cycles
Ambient temperature (operation) moved	-25 … +90 °C
Protection type	IP67
Cable diameter	4.7 mm ±0.2





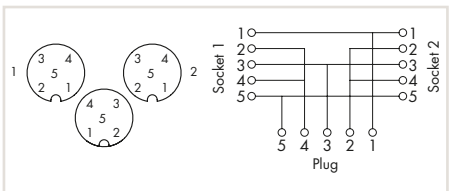
Sensor/actuator cables, 2 x M8 socket – M12 plug

	Item No.	Pack. Unit
4-pol., 2xM12 plug, straight, M12 socket, straight, 1 m	756-5516/040-010	10
4-pol., 2xM12 plug, straight, M12 socket, straight, 2 m	756-5516/040-020	10
4-pol., 2xM12 plug, straight, M12 socket, right angle, 1 m	756-5517/040-010	10
4-pol., 2xM12 plug, straight, M12 socket, right angle, 2 m	756-5517/040-020	10



M8/M12 twin distribution connector

	Item No.	Pack. Unit
M12/M8 twin distribution connector	756-9301/040-000	1

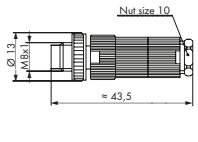


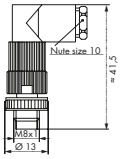
M12/M12 twin distribution connector

	Item No.	Pack. Unit
M12/M12 twin distribution connector	756-9301/050-000	1

11

Configurable connectors



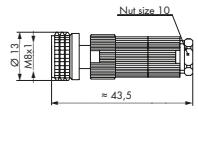


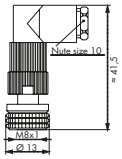
3-pole

Conductor sizes
Ø 4 … 5 mm/
0.14 … 0.34 mm²

M8 plug, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 3-pol., M8 plug, straight, Pin penetration	756-9102/030-000	5
Fitted pluggable connector, 3-pol., M8 plug, right angle, Pin penetration	756-9105/030-000	5



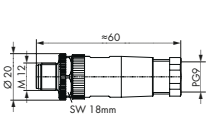


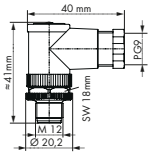
3-pole

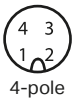
Conductor sizes
Ø 4 … 5 mm/
0.14 … 0.34 mm²

M8 socket, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 3-pol., M8 socket, straight, Pin penetration	756-9112/030-000	5
Fitted pluggable connector, 3-pol., M8 socket, right angle, Pin penetration	756-9115/030-000	5







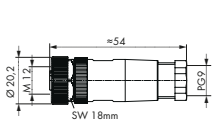
4-pole

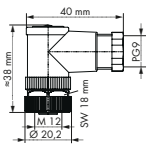
5-pole

Conductor sizes
Ø 4 … 6 mm/0.25 … 0.75 mm²
(screw clamp connection)
Ø 4 … 6 mm/0.14 … 0.50 mm²
(spring clamp connection)

M12 plug, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 4-pol., M12 plug, straight, Screw	756-9201/040-000	5
Fitted pluggable connector, 4-pol., M12 plug, right angle, Screw	756-9204/040-000	5
Fitted pluggable connector, 4-pol., M12 plug, straight, Spring	756-9202/040-000	5
Fitted pluggable connector, 4-pol., M12 plug, right angle, Spring	756-9205/040-000	5
Fitted pluggable connector, 5-pol., M12 plug, straight, Screw	756-9201/050-000	5
Fitted pluggable connector, 5-pol., M12 plug, right angle, Screw	756-9204/050-000	5
Fitted pluggable connector, 5-pol., M12 plug, straight, Spring	756-9202/050-000	5
Fitted pluggable connector, 5-pol., M12 plug, right angle, Spring	756-9205/050-000	5





4-pole

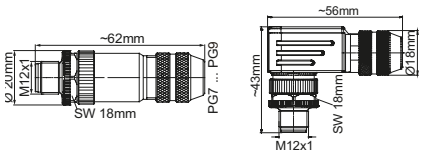
5-pole

Conductor sizes
Ø 4 … 6 mm/0.25 … 0.75 mm²
(screw clamp connection)
Ø 4 … 6 mm/0.14 … 0.50 mm²
(spring clamp connection)

M12 socket, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 4-pol., M12 socket, straight, Screw	756-9211/040-000	5
Fitted pluggable connector, 4-pol., M12 socket, right angle, Screw	756-9214/040-000	5
Fitted pluggable connector, 4-pol., M12 socket, straight, Spring	756-9212/040-000	5
Fitted pluggable connector, 4-pol., M12 socket, right angle, Spring	756-9215/040-000	5
Fitted pluggable connector, 5-pol., M12 socket, straight, Spring	756-9212/050-000	5
Fitted pluggable connector, 5-pol., M12 socket, right angle, Spring	756-9215/050-000	5

Configurable shielded connectors

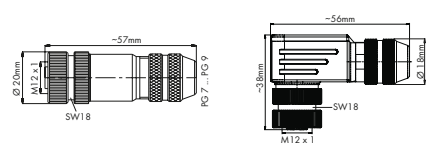


5-pole

Conductor size
Ø 6 ... 8 mm/
0.14 ... 0.50 mm²

M12 plug, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 5-pol. shielded, M12 plug, straight, Spring	756-9207/060-000	1
Fitted pluggable connector, 5-pol. shielded, M12 plug, right angle, Spring	756-9211/060-000	1

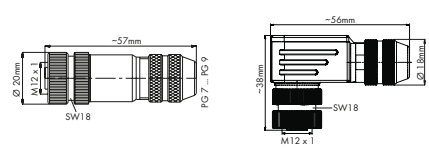


5-pole

Conductor size
Ø 6 ... 8 mm/
0.14 ... 0.50 mm²

M12 socket, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 5-pol. shielded, M12 socket, straight, Spring	756-9208/060-000	1
Fitted pluggable connector, 5-pol. shielded, M12 socket, right angle, Spring	756-9210/060-000	1



8-pole

Conductor size
Ø 6 ... 8 mm/
0.14 ... 0.50 mm²

M12 socket, straight and right angle

	Item No.	Pack. Unit
Fitted pluggable connector, 8-pol. shielded, M12 socket, straight, Screw	756-9211/090-000	1
Fitted pluggable connector, 8-pol. shielded, M12 socket, right angle, Screw	756-9214/090-000	1

Torque Wrench M8 and M12, Assembly kit

Assembly kit for 756 Series IP67 cable assemblies and pluggable connectors with hex nut, consists of:

- Tool kit
- Torque screwdriver with adjustable torque (window scale)
- Adjustment tool for changing the torque
- Socket wrench SW9 (for M8 cable assemblies)
- Socket wrench SW13 (for M12 cable assemblies)

A torque specification of 0.6 Nm for M8 connectors and 1.0 Nm for M12 connectors is required for 756 Series cables and connectors.

Torque Wrench M8 and M12		
	Item No.	Pack. Unit
	206-701	1

Torque range	0.4 … 1 Nm ±6 %
Material	
Handle	Polypropylene (PP) for hard zone, thermoplastic elastomers (TPE) for soft zone
Allen key	Polyamide (PA), fiber-glassreinforced; chromium-vanadiummolybdenum steel (CrMoV) (1.2381)
Adjustment tools	Cellulose acetate; chromiumvanadium-molybdenum steel (CrMoV) (1.2381)
Color	black
Standards/specifications	EN ISO 6789; BS EN 26789; ASME B107.14.M

Bluetooth® Adapter

Item description	*Bluetooth*® Adapter
Item No.	**750-921**
Technical Data	
Range	20 m free field (Class 2)*
Data transfer rate	9600 … 115000 bit/s
Frequency range	ISM band, 2402 … 2483 MHz
Type of communication	Peer-to-peer connection
Profiles supported	Serial Port Profile (SPP)
Version	*Bluetooth*® 2.1
Radio	Class 2
Antenna	Integrated
Connections	4-pole service connector
Configuration	AT commands, e.g., via hyperterminal
Function	Master or slave
LED	Operating mode
Security encryption	128-bit encryption
Ambient temperature (operation)	–20 … +60 °C
Dimensions W x H x D	15 x 50 x 19 mm
Approvals	*Bluetooth*® approval, CE
Data sheet and further information, see:	wago.com/750-921

* The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore range specifications within buildings can only represent typical values which can normally be reached. More detailed information is available in the manual.

The *Bluetooth*® Adapter wirelessly connects a notebook computer with *Bluetooth*® functionality to the service interface of the fieldbus coupler/controller. It also provides an active connection to a programmable fieldbus controller.
As a cable substitute, the *Bluetooth*® Adapter allows communication between two controllers, as well as between fieldbus couplers/controllers via WAGO software tools.
The adapter is supplied via the service interface and, therefore, via the power supply of the fieldbus coupler/controller.

WAGO Communication Cable

RS232 communication cable, RS-232 (SUB-D 9 pol.), Service Interface I/O-System 750

Item description	Communication cable
Item No.	**750-920**
Technical Data	
Ports	4-pole Service Interface
Length	2,5 m
Ambient temperature (operation)	0 … +55 °C
Degree of protection	IP20
Data sheet and further information, see:	wago.com/750-920

The WAGO Communication Cable provides a simple option for communication with WAGO software tools (WAGO-I/O-*CHECK*, WAGO-I/O-*PRO*, ...).

Notice: The communication cable shall not be connected or removed when energized.

USB communication cable, USB-A, Service Interface I/O-System 750

Item description	Communication cable USB-C STA-M-AX	
Version	USB 2.5m	USB 5m
Item No.	**750-923**	**750-923/000-001**
Technical Data		
USB specification	2.0 compatible/ full-speed-device	
Operating system	Microsoft® Windows® 2000; Microsoft® Windows® XP Professional; Microsoft® Windows® Vista®; Microsoft® Windows® 7	
Interface USB	Type A/m	
Length	2.5 m	5 m
Ambient temperature (operation)	-25 … +70 °C	
Approvals	CE	
Data sheet and further information, see:	wago.com/750-923	

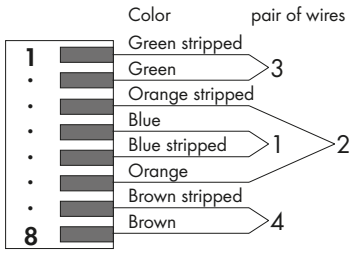
The WAGO USB Communication Cable connects a PC (notebook) to either the service interface of the 857 Series Signal Conditioners and Relay Modules (JUMPFLEX), or to WAGO-I/O-SYSTEM buscouplers/controllers.

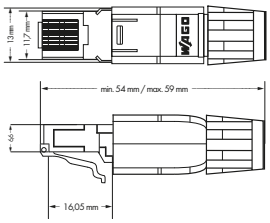
Notice:
Using the WAGO 759-923 USB Communication Cable in combination with select programmable fieldbus controllers requires the specific firmware versions

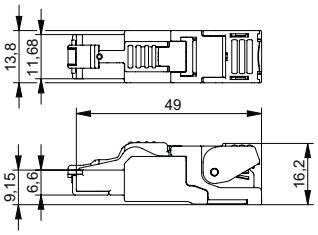
ETHERNET Connector, Code T568A

ETHERNET Connector, RJ-45, Cat 5, straight, Code T568A, AWG22

ETHERNET Connector, RJ-45, Cat 6A, straight, Code T568A, AWG22, optional: AWG 24



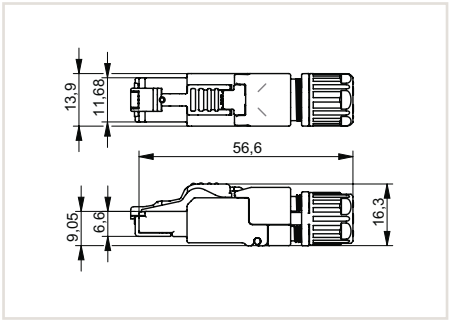




Item description	Connector ETHERNET RJ45	Connector ETHERNET RJ45	
Version	Cat.5 180° T568A AWG22	Cat.6A 180° T568A AWG22	Cat.6A 180° T568A AWG24
Item No.	**750-975**	**750-977/000-011**	**750-977/000-021**
Technical Data			
Category	Cat. 5e	Cat. 6A	
Data transmission rate max.	1 GBit/s	10 GBit/s	
Code	TiA-568A	TiA-568A	
Cable outlet	180°	180°	
No. of Poles	8	8	
Housing material	Plastic	Zinc die-cast	
Mating cycles	> 1000	> 750	
Wire connection	IDC (Insulation Displacement Contact)	IDC (Insulation Displacement Contact)	
Cross sections	solid: 0.13 … 0.24 mm² / AWG 26/1 … 23/1; stranded: 0.14 … 0.36 mm² / AWG 26/7 … 22/7	solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7	solid: 0.13 … 0.21 mm² / AWG 26/1 … 24/1; stranded: 0.11 … 0.23 mm² / AWG 27/7 … 24/7
Cable jacket Ø	4.5 … 8 mm	5.5 … 9 mm	
Cable strain relief	Screw-clamp connection		
Shield contacting	>180°	360°	
Ambient temperature (operation)	-20 … +70 °C	-40 … +85 °C	
Ambient temperature (storage)	-40 … +70 °C	-40 … +85 °C	
Relative humidity	95 %, non-condensing	95 %, non-condensing	
Degree of protection	IP20	IP20	
Standards/specifications	- Basic standard: IEC 60603-7 RJ-45 Category 5; - CD ISO/IEC 11801: 2002; - EN 50173: 2002; - EIA/TIA 568A: 2002; UL 1863	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	
Approvals	Marine		
Data sheet and further information, see:	wago.com/750-975	wago.com/750-977/000-011	wago.com/750-977/000-021

11

ETHERNET Connector, RJ-45, Cat 6A, straight, Code T568A, AWG22, with strain relief, optional: AWG 24

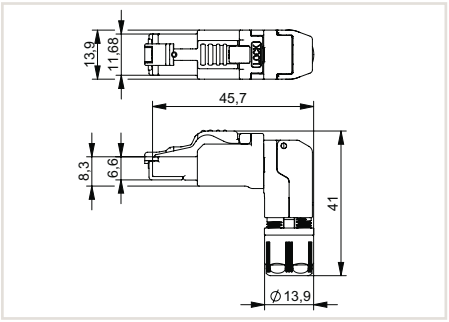


Connector ETHERNET RJ45	
Cat.6A 180° T568A AWG22	Cat.6A 180° T568A AWG24
750-978/000-011	**750-978/000-021**

Cat. 6A	
10 GBit/s	
TiA-568A	
180°	
8	
Zinc die-cast	
> 750	
IDC (Insulation Displacement Contact)	
solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7	solid: 0.13 … 0.21 mm² / AWG 26/1 … 24/1; stranded: 0.11 … 0.23 mm² / AWG 27/7 … 24/7
5.5 … 10 mm	
Screw-clamp connection	
360°	
-40 … +85 °C	
-40 … +85 °C	
95 %, non-condensing	
IP20	
IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	

wago.com/ 750-978/000-011	wago.com/ 750-978/000-021

ETHERNET Connector, RJ-45, Cat 6A, right angle, Code T568A, AWG22, with strain relief, optional: AWG 24



Connector ETHERNET RJ45	
Cat.6A 90° T568A AWG22	Cat.6A 90° T568A AWG24
750-979/000-011	**750-979/000-021**

Cat. 6A	
10 GBit/s	
TiA-568A	
90°, position selectable	
8	
Zinc die-cast	
> 750	
IDC (Insulation Displacement Contact)	
solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7	solid: 0.13 … 0.21 mm² / AWG 26/1 … 24/1; stranded: 0.11 … 0.23 mm² / AWG 27/7 … 24/7
5.5 … 10 mm	
Screw-clamp connection	
360°	
-40 … +85 °C	
-40 … +85 °C	
95 %, non-condensing	
IP20	
IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	

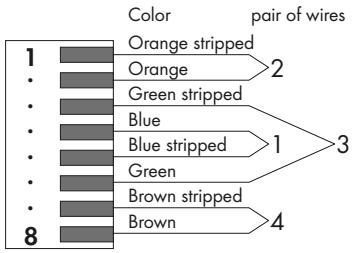
wago.com/ 750-979/000-011	wago.com/ 750-979/000-021

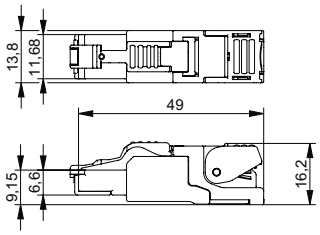
ETHERNET Connector, Code T568B

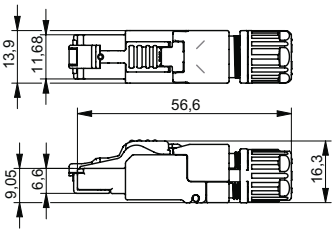
ETHERNET Connector, RJ-45, Cat 6A, straight, Code T568B, AWG22, opt.: AWG 24

ETHERNET Connector, RJ-45, Cat 6A, straight, Code T568B, AWG22, with strain relief, optional: AWG 24

Pin assignment TIA-568B



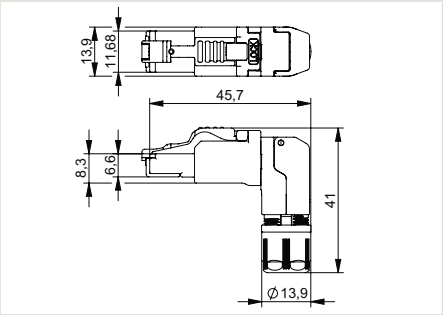




Item description	Connector ETHERNET RJ45		Connector ETHERNET RJ45	
Version	Cat.6A 180° T568B AWG22	Cat.6A 180° T568B AWG24	Cat.6A 180° T568B AWG22	Cat.6A 180° T568B AWG24
Item No.	**750-977/000-012**	**750-977/000-022**	**750-978/000-012**	**750-978/000-022**
Technical Data				
Category	Cat. 6A		Cat. 6A	
Data transmission rate max.	10 GBit/s		10 GBit/s	
Code	TiA-568B		TiA-568B	
Cable outlet	180°		180°	
No. of Poles	8		8	
Housing material	Zinc die-cast		Zinc die-cast	
Mating cycles	> 750		> 750	
Wire connection	IDC (Insulation Displacement Contact)		IDC (Insulation Displacement Contact)	
Cross sections	solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7	solid: 0.13 … 0.21 mm² / AWG 26/1 … 24/1; stranded: 0.11 … 0.23 mm² / AWG 27/7 … 24/7	solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7	solid: 0.13 … 0.21 mm² / AWG 26/1 … 24/1; stranded: 0.11 … 0.23 mm² / AWG 27/7 … 24/7
Cable jacket Ø	5.5 … 9 mm		5.5 … 10 mm	
Cable strain relief			Screw-clamp connection	
Shield contacting	360°		360°	
Ambient temperature (operation)	-40 … +85 °C		-40 … +85 °C	
Ambient temperature (storage)	-40 … +85 °C		-40 … +85 °C	
Relative humidity	95 %, non-condensing		95 %, non-condensing	
Degree of protection	IP20		IP20	
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043		IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	
Approvals				
Data sheet and further information, see:	wago.com/750-977/000-012	wago.com/750-977/000-022	wago.com/750-978/000-012	wago.com/750-978/000-022

11

ETHERNET Connector, RJ-45, Cat 6A, right angle, Code T568B, AWG22, with strain relief, optional: AWG 24

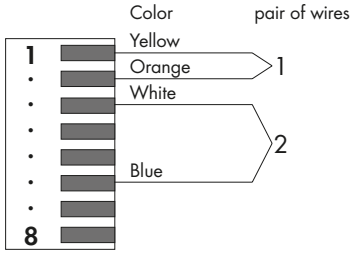
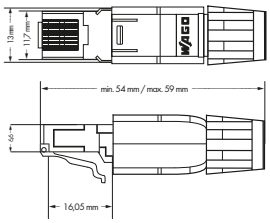
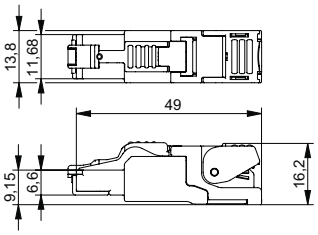


Connector ETHERNET RJ45	
Cat.6A 90° T568B AWG22	Cat.6A 90° T568B AWG24
750-979/000-012	**750-979/000-022**

Cat. 6A	
10 GBit/s	
TiA-568B	
90°, position selectable	
8	
Zinc die-cast	
> 750	
IDC (Insulation Displacement Contact)	
solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7	solid: 0.13 … 0.21 mm² / AWG 26/1 … 24/1; stranded: 0.11 … 0.23 mm² / AWG 27/7 … 24/7
5.5 … 10 mm	
Screw-clamp connection	
360°	
-40 … +85 °C	
-40 … +85 °C	
95 %, non-condensing	
IP20	
IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	

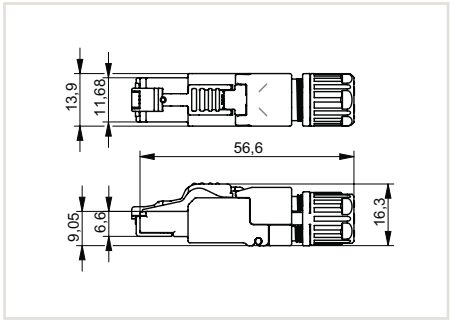
wago.com/ 750-979/000-012	wago.com/ 750-979/000-022

PROFINET Connector

	PROFINET Connector, RJ-45, Cat 5, straight, AWG22	PROFINET Connector, RJ-45, Cat 6A, straight, AWG22
		
Pin assignment PROFINET 		
Item description	Connector PROFINET RJ45	Connector PROFINET RJ45
Version	Cat.5 180° AWG22	Cat.6A 180° AWG22
Item No.	**750-976**	**750-977/000-013**
Technical Data		
Category	Cat. 5e	Cat. 6A
Data transmission rate max.	100 MBit/s	100 MBit/s
Code	PROFINET	PROFINET
Cable outlet	180°	180°
No. of Poles	8	8
Housing material	Plastic	Zinc die-cast
Mating cycles	> 1000	> 750
Wire connection	IDC (Insulation Displacement Contact)	IDC (Insulation Displacement Contact)
Cross sections	solid: 0.13 … 0.24 mm² / AWG 26/1 … 23/1; stranded: 0.14 … 0.36 mm² / AWG 26/7 … 22/7	solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7
Cable jacket Ø	4.5 … 8 mm	5.5 … 9 mm
Cable strain relief	Screw-clamp connection	
Shield contacting	>180°	360°
Ambient temperature (operation)	-20 … +70 °C	-40 … +85 °C
Ambient temperature (storage)	-40 … +70 °C	-40 … +85 °C
Relative humidity	95 %, non-condensing	95 %, non-condensing
Degree of protection	IP20	IP20
Standards/specifications	- Basic standard: IEC 60603-7 RJ-45 Category 5; - CD ISO/IEC 11801: 2002; - EN 50173: 2002; - EIA/TIA 568A: 2002; UL 1863	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043
Approvals	Marine	
Data sheet and further information, see:	wago.com/750-976	wago.com/750-977/000-013

11

PROFINET Connector, RJ-45, Cat 6A, straight, AWG22, with strain relief

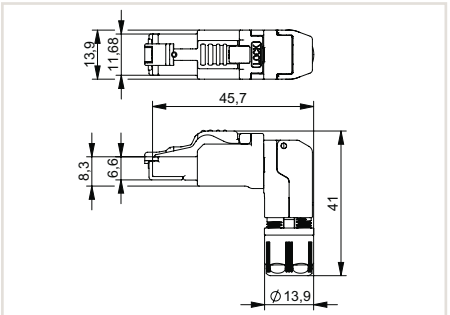


Connector PROFINET RJ45
Cat.6A 180° AWG22
750-978/000-013

Cat. 6A
100 MBit/s
PROFINET
180°
8
Zinc die-cast
> 750
IDC (Insulation Displacement Contact)
solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7
5.5 … 10 mm
Screw-clamp connection
360°
-40 … +85 °C
-40 … +85 °C
95 %, non-condensing
IP20
IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

wago.com/750-978/000-013

PROFINET Connector, RJ-45, Cat 6A, right angle, AWG22, with strain relief



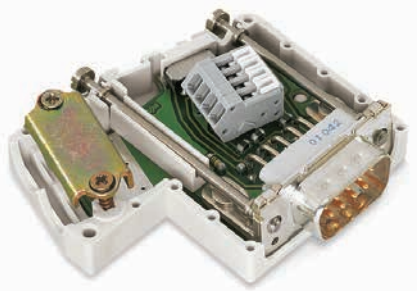
Connector PROFINET RJ45
Cat.6A 90° AWG22
750-979/000-013

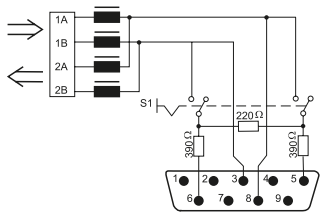
Cat. 6A
100 MBit/s
PROFINET
90°, position selectable
8
Zinc die-cast
> 750
IDC (Insulation Displacement Contact)
solid: 0.21 … 0.32 mm² / AWG 24/1 … 22/1; stranded: 0.11 … 0.36 mm² / AWG 27/7 … 22/7
5.5 … 10 mm
Screw-clamp connection
360°
-40 … +85 °C
-40 … +85 °C
95 %, non-condensing
IP20
IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

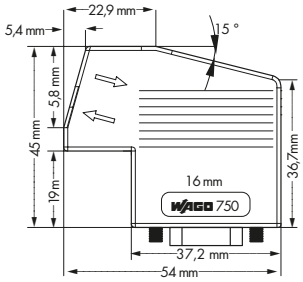
wago.com/750-979/000-013

PROFIBUS Fieldbus Connector

PROFIBUS Fieldbus Connector,
with D-Sub plug, 9-pol.







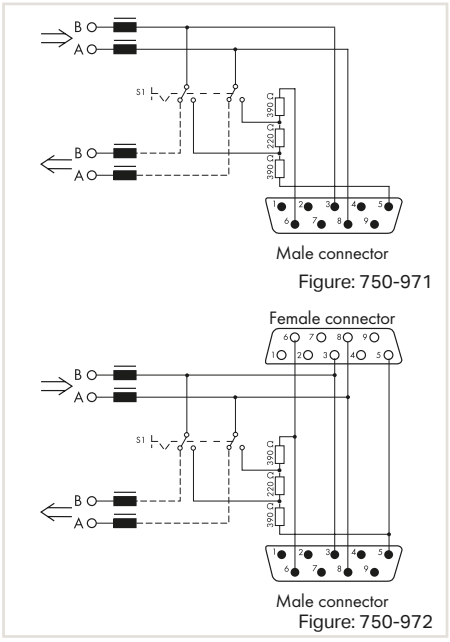
Item description	Connector PROFIBUS DSub-M 9P
Item No.	**750-960**

Technical Data	
Double cable input	min. Ø 4.5 mm / max. Ø 9.5 mm
Data transmission rate max.	12 Mbit/s
Terminating resistor	externally operable switch
Housing color	light gray
Degree of protection	IP20
Ambient temperature (operation)	0 … +60 °C
Ambient temperature (storage)	-25 … +85 °C
Relative humidity	95 % non-condensing
Wire connection	CAGE CLAMP® terminal strips with locking slide (218 Series)
Cross sections	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible
Approvals	Marine, UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-960

Accessories	**Item No.**	Page
Operating tool, type 1, blade 2.5 x 0.4 mm	**210-719**	504
Operating tool, type 2, blade 3.5 x 0.5 mm	**210-720**	504

11

PROFIBUS Fieldbus Connector



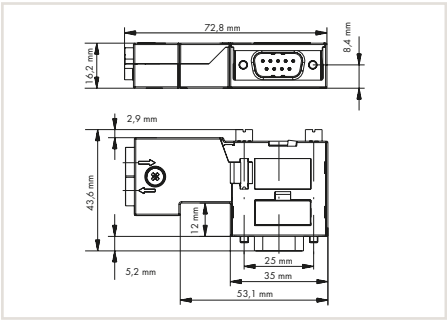
Male connector

Figure: 750-971

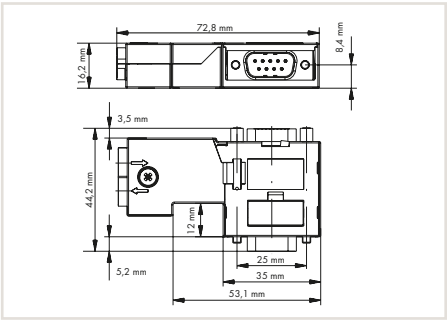
Male connector

Figure: 750-972

PROFIBUS Fieldbus Connector, with D-Sub plug, 9-pol.



PROFIBUS Fieldbus Connector, with D-Sub plug, 9-pol., PG interface



Item description	Connector PROFIBUS DSub-M 9P	Connector PROFIBUS DSub-M 9P PG-Int
Item No.	**750-971**	**750-972**
Technical Data		
Double cable input	Ø 8.5 mm	Ø 8.5 mm
Data transmission rate max.	12 Mbit/s	12 Mbit/s
Terminating resistor	externally operable switch	externally operable switch
Housing color	light gray	light gray
Degree of protection	IP20	IP20
Ambient temperature (operation)	0 … +60 °C	0 … +60 °C
Ambient temperature (storage)	-25 … +85 °C	-25 … +85 °C
Relative humidity	95 % non-condensing	95 % non-condensing
Wire connection	CAGE CLAMP® terminal strips with locking slide (218 Series)	CAGE CLAMP® terminal strips with locking slide (218 Series)
Cross sections	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible
Data sheet and further information, see:	wago.com/750-971	wago.com/750-972

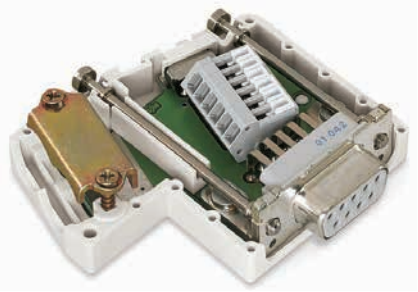
Accessories	Item No.	Page	Item No.	Page
Operating tool, type 1, blade 2.5 x 0.4 mm	210-719	504	210-719	504

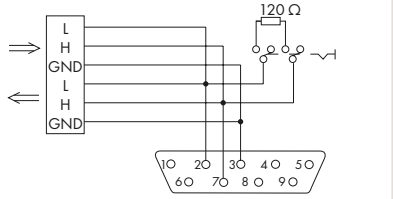
The fieldbus connector has a connection option for a programming device without the connection to the PROFIBUS device being interrupted.

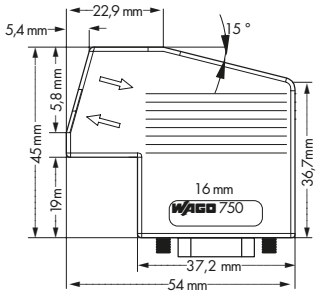
11

CANopen Fieldbus Connector

CANopen Fieldbus Connector,
with D-Sub socket, 9-pol.







Item description	Connector CANopen DSub-F 9P
Item No.	**750-963**

Technical Data	
Double cable input	min. Ø 4,5 mm / max. Ø 9,5 mm
Data transmission rate max.	1 Mbd
Terminating resistor	externally operable switch
Housing color	light gray
Degree of protection	IP20
Ambient temperature (operation)	0 … +60 °C
Ambient temperature (storage)	-25 … +85 °C
Relative humidity	95 % non-condensing
Wire connection	CAGE CLAMP® terminal strips with locking slide (218 Series)
Cross sections	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible
Approvals	Marine, UL 508, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-963

Accessories	**Item No.**	Page
Operating tool, type 1, blade 2.5 x 0.4 mm	**210-719**	504
Operating tool, type 2, blade 3.5 x 0.5 mm	**210-720**	504

11

INTERBUS Fieldbus Connector

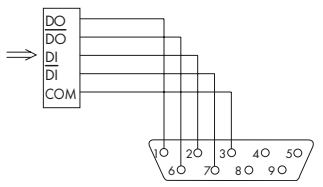


Figure: 750-961

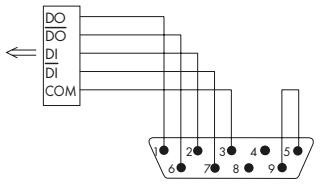
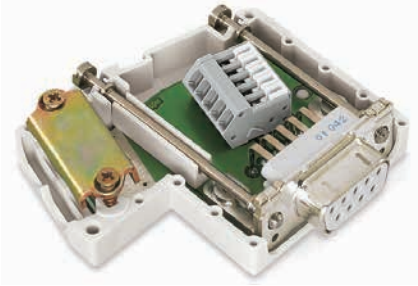
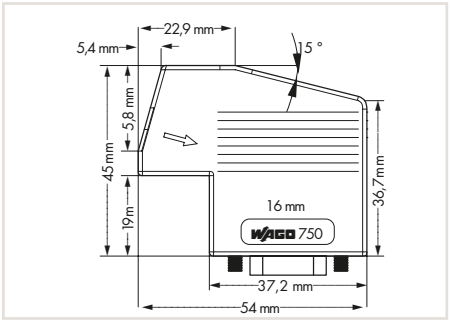


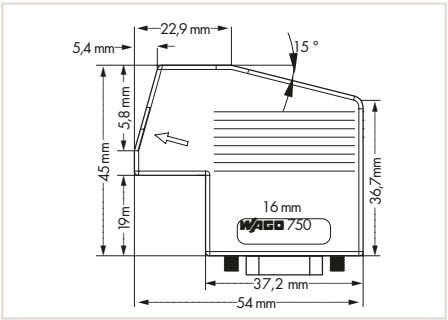
Figure: 750-962

INTERBUS Fieldbus Connector, with D-Sub socket, 9-pol.





INTERBUS Fieldbus Connector, with D-Sub plug, 9-pol.

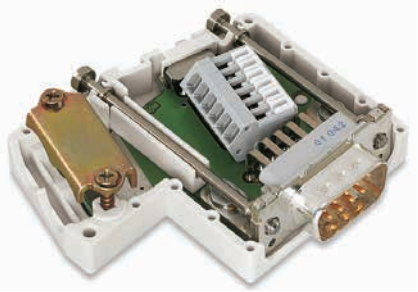


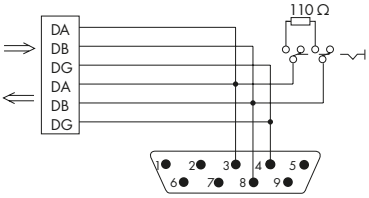
Item description	Connector INTERBUS DSub-F 9P	Connector INTERBUS DSub-M 9P
Item No.	**750-961**	**750-962**
Technical Data		
Double cable input	min. Ø 4.5 mm / max. Ø 9.5 mm	min. Ø 4.5 mm / max. Ø 9.5 mm
Data transmission rate max.	2 Mbd	2 Mbd
Housing color	light gray	light gray
Degree of protection	IP20	IP20
Ambient temperature (operation)	0 … +60 °C	0 … +60 °C
Ambient temperature (storage)	-25 … +85 °C	-25 … +85 °C
Relative humidity	95 % non-condensing	95 % non-condensing
Wire connection	CAGE CLAMP® terminal strips with locking slide (218 Series)	CAGE CLAMP® terminal strips with locking slide (218 Series)
Cross sections	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible
Approvals	UL 508, ANSI/ISA, ATEX/IECEx	UL 508, ANSI/ISA, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-961	wago.com/750-962

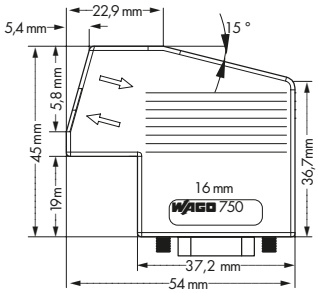
Accessories	Item No.	Page	Item No.	Page
Operating tool, type 1, blade 2.5 x 0.4 mm	**210-719**	504	**210-719**	504
Operating tool, type 2, blade 3.5 x 0.5 mm	**210-720**	504	**210-720**	504

CC-Link Fieldbus Connector

CC-Link Fieldbus Connector,
with D-Sub plug, 9-pol.







Item description	Connector CC-Link DSub-M 9P
Item No.	**750-965**

Technical Data	
Double cable input	min. Ø 4.5 mm / max. Ø 9.5 mm
Terminating resistor	externally operable switch
Housing color	light gray
Degree of protection	IP20
Ambient temperature (operation)	0 … +60 °C
Ambient temperature (storage)	-25 … +85 °C
Relative humidity	95 % non-condensing
Wire connection	CAGE CLAMP® terminal strips with locking slide (218 Series)
Cross sections	0.08 mm² … 0.5 mm² / AWG 28 … 20 sep. connection 0.75 mm² / AWG 18 possible
Approvals	UL 508
Data sheet and further information, see:	wago.com/750-965

Accessories	**Item No.**	Page
Operating tool, type 1, blade 2.5 x 0.4 mm	**210-719**	504
Operating tool, type 2, blade 3.5 x 0.5 mm	**210-720**	504

11

IP65 System housing

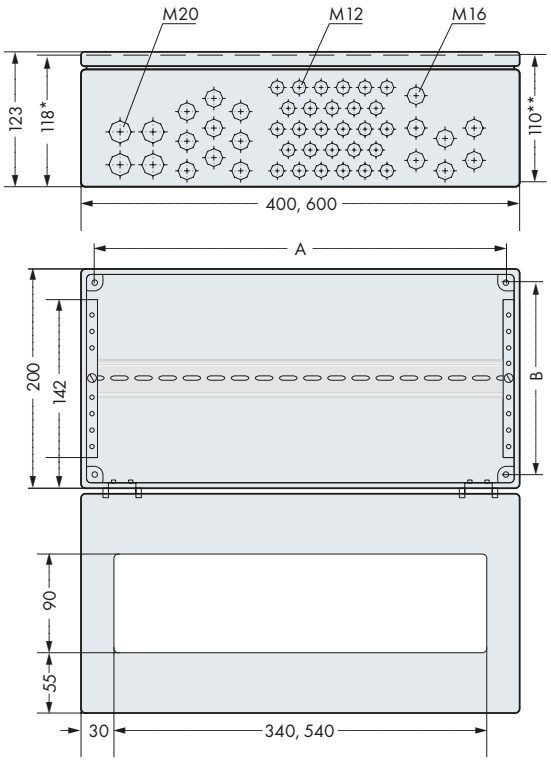
1 Stainless steel
2 Sheet steel
3 Die-cast aluminum
4 Polyester
5 Sheet steel with cable entry plates

The growing importance of industrial fieldbus systems in the field of process engineering, for example the chemical industry or food industry, demands enclosures that protect both the system equipment and the products.
WAGO offers enclosures that allow the use of the WAGO-I/O-SYSTEM 750 in installations where severe conditions exist.

The IP65 enclosures come equipped with the WAGO-I/O-SYSTEM 750, meeting these requirements.
They have the appropriate number of cable grips with metric or cable entry plates.
Each enclosure is available in four different sizes.
Delivery time and other types of enclosures are available upon request!

Stainless-steel system housing

Stainless-steel system housing



Dimensions in mm
* internal dimension
** from upper-edge of DIN 35 rail

Item description	SST Enclosure		
Version	14301 400mm CG5	14301 400mm CG1	14301 600mm CG6
Item no.	**850-804**	**850-804/000-001**	**850-805**
Technical Data			
Number of M12 screw connections	28	32*	67
Number of M16 screw connections	16	13*	19
Number of M20 screw connections	4	2*	4
Mounting dimension A x B	376 x 176 mm		576 x 176 mm
Dimensions W x H x D	400 x 123 x 200 mm		600 x 123 x 200 mm
No. of I/O modules	≤ 24**		≤ 40**
Data sheet and further information, see:	wago.com/850-804		wago.com/850-805

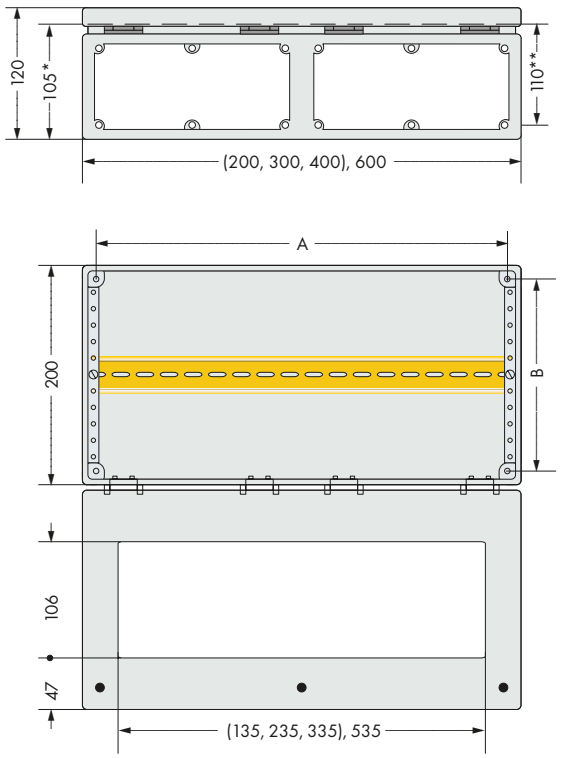
Accessories	Item no.
Pole mounting	850-903

* Arrangement of the cable grips differs from standard enclosures
**The „number of I/O modules“ also takes fieldbus couplers and bus end modules into account. This applies to 12mm-wide I/O modules. I/O modules with a width of 24mm count as two I/O modules.

Included:
- Stainless steel enclosure 1.4301 streak finish
- With hinged cover 90°, (850-804/000-001: 180°), with cellular rubber gasket made of natural rubber, 2 to 3 quick disconnects
- Hinges made of chromed GdZn (Gadulinium Zinc) with M5 countersunk screws
- Macrolon inspection glass
- Metric cable grips (brass, nickel-plated), incl. filler plugs;
  M12 cable grip, cable diameter 3–6mm;
  M16 cable grip, cable diameter 5–9mm;
  M20 cable grip, cable diameter 9–13mm
- 1 DIN 35/7.5 rail

Sheet-steel system housing

Sheet-steel system housing



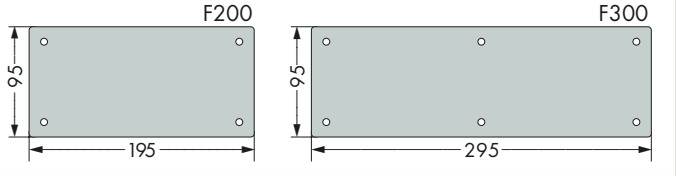
Dimensions in mm
* internal dimension
** from upper-edge of DIN 35 rail

Item description	STE Enclosure			
Version	RAL7035 200mm	RAL7035 300mm	RAL7035 400mm	RAL7035 600mm
Item no.	**850-814/002-000**	**850-815/002-000**	**850-816/002-000**	**850-817/002-000**
Technical Data				
Mounting dimension A x B	160 x 160	260 x 160	360 x 160	560 x 160
Dimensions W x H x D	200 x 120 x 200 mm	300 x 120 x 200 mm	400 x 120 x 200 mm	600 x 120 x 200 mm
No. of I/O modules	≤ 8*	≤ 16*	≤ 24*	≤ 40*
Data sheet and further information, see:	wago.com/ 850-814/002-000	wago.com/ 850-815/002-000	wago.com/ 850-816/002-000	wago.com/ 850-817/002-000
Accessories Flange plates	**No. of Flange plates**			
Size195 x 95 mm: F200; F200-1; F200-2; F204	1	-	2	-
Size 295 x 95 mm: F300; F300-1; F300-2; F304	-	1	-	2
Accessories	**Item no.**			
Wall mounting system	**850-904**			

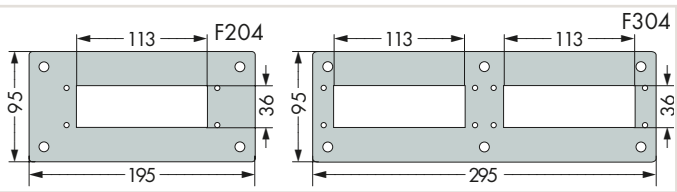
*The „number of I/O modules“ also takes fieldbus couplers and bus end modules into account. This applies to 12mm-wide I/O modules. I/O modules with a width of 24mm count as two I/O modules.

Included:
- Powder-coated, sheet steel enclosure
- Box with narrow beveled edge, sturdy gutter profile
- With hinged cover 180° (PA), with foam PU seal, 2 to 3 quick disconnects
- Quick-release fasteners in plastic bushes
- Mounting holes (incl. sealing plugs)
- Large Macrolon inspection glass
- Removable, yellow-chromized interior profiles
- Galvanized carrier rail (contact with enclosure) DIN 35/7.5, adjustable in 12.5mm/0.49in. spacing
- Grounding lug for cover and flanges with quick-release ribbon cable connectors
- Light gray, RAL 7035

Flange Plates and Cable Entry Plates



Flange plate, RAL7035, without cut-out		
	Width x Height	Item no.
F200 Flange Plate RAL7035 WCO	195 x 95 mm	850-818/002-000
F300 Flange Plate RAL7035 WCO	295 x 95 mm	850-819/002-000

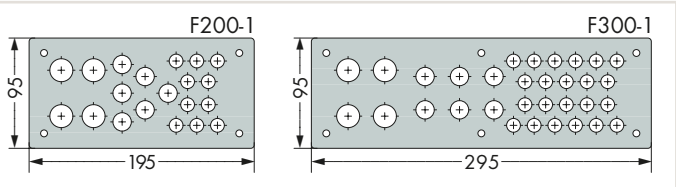


Flange plate, RAL7035, with cut-out		
	Width x Height	Item no.
F204 Flange Plate RAL7035 1CO	195 x 95 mm	850-818/002-005
F304 Flange Plate RAL7035 2CO	295 x 95 mm	850-819/002-005

Figure: F204 with KDF 22 (tool-less cable entry technique in IP65)

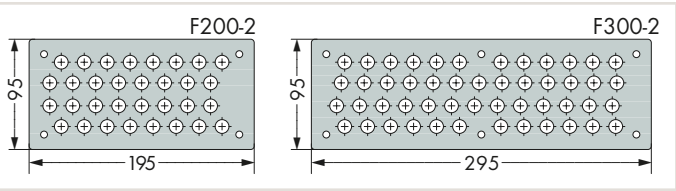
Cable entry plate	
	Item no.
KDP 22 Cable Entry Plate; 16 x Gr. 1, 4 x Gr. 2, 2 x Gr. 3	850-820/000-001
KDP 29 Cable Entry Plate; 29 x Gr. 1	850-820/000-002

Cable entry plate, polyamide
Size 1: Cable Ø 3.0 … 6.5 mm
Size 2: Cable Ø 5.0 … 9.2 mm
Size 3: Cable Ø 8.0 … 12.5 mm



Flange plate, RAL7035, M20-, M16-, M12 drilled holes		
	Width x Height	Item no.
F200-1 Flange Plate RAL7035 HO1; 4 x M20, 6 x M16, 10 x M12	195 x 95 mm	850-818/002-001
F300-1 Flange Plate RAL7035 HO5; 4 x M20, 6 x M16, 22 x M12	295 x 95 mm	850-819/002-001

Flange plate, RAL7035, M20-, M16-, M12 cable grip		
	Width x Height	Item no.
F200-1 Flange Plate RAL7035 CG8; 4 x M20, 6 x M16, 10 x M12	195 x 95 mm	850-818/002-002
F300-1 Flange Plate RAL7035 CG9; 4 x M20, 6 x M16, 22 x M12	295 x 95 mm	850-819/002-002



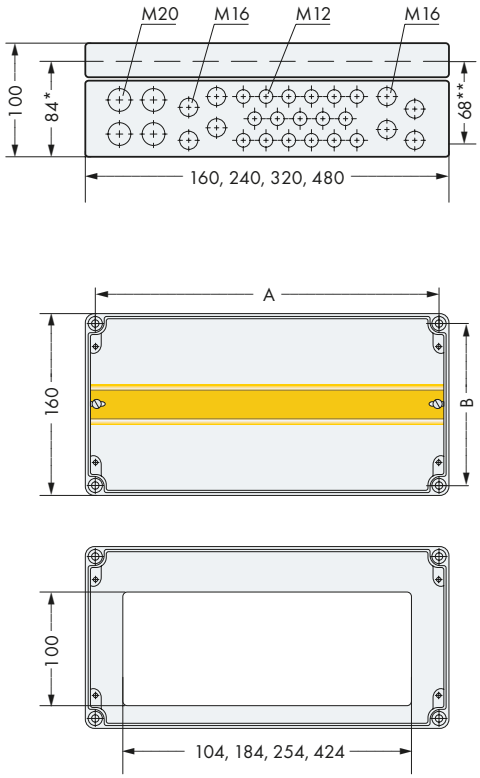
Flange plate, RAL7035, M12 drilled holes		
	Width x Height	Item no.
F200-2 Flange Plate RAL7035 HO4; 32 x M12	195 x 95 mm	850-818/002-003
F300-2 Flange Plate RAL7035 HO6; 50 x M12	295 x 95 mm	850-819/002-003

Illustration similar

Flange plate, RAL7035, M12 cable grip		
	Width x Height	Item no.
F200-2 Flange Plate RAL7035 HO2; 32 x M12	195 x 95 mm	850-818/002-004
F300-2 Flange Plate RAL7035 CG12; 50 x M12	295 x 95 mm	850-819/002-004

Aluminum system housing

Aluminum system housing



Dimensions in mm
* internal dimension
** from upper-edge of DIN 35 rail

Item description	ALU Enclosure			
Version: Enclosure type in RAL 7032	RAL7032 160mm CG11	RAL7032 240mm CG7	RAL7032 320mm CG10	RAL7032 480mm CG4
Item no.	**850-825**	**850-826**	**850-827**	**850-828**
Version: Enclosure type in RAL 7035		RAL7035 240mm CG7	RAL7035 320mm CG10	RAL7035 480mm CG4
Item no.		**850-826/002-000**	**850-827/002-000**	**850-828/002-000**

Technical Data				
Number of M12 screw connections	9	14	17	35
Number of M16 screw connections	-	4	8	10
Number of M20 screw connections	4			
Mounting dimension A x B	142 x 142 mm	222 x 142 mm	302 x 142 mm	462 x 142 mm
Dimensions W x H x D	160 x 100 x 160 mm	240 x 100 x 160 mm	320 x 100 x 160 mm	480 x 100 x 160 mm
No. of I/O modules	≤ 4*	≤ 11*	≤ 18*	≤ 31*
Data sheet and further information, see:	wago.com/850-825	wago.com/850-826	wago.com/850-827	wago.com/850-828

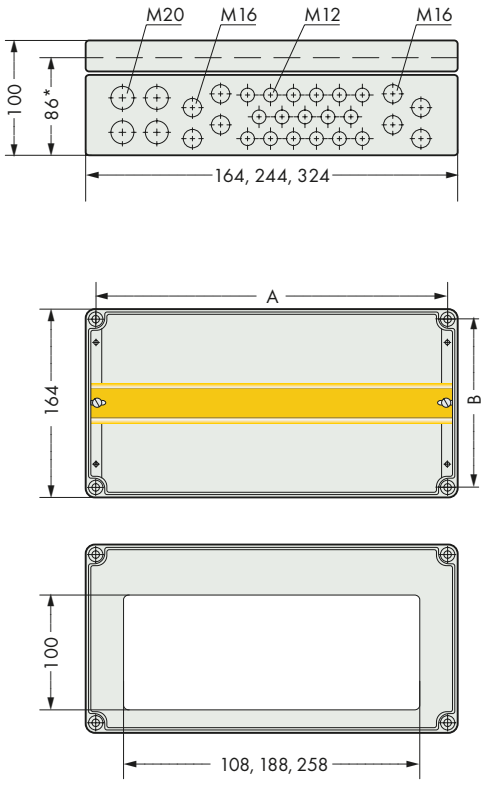
Accessories	Item no.
Pole mounting	**850-903**

*The „number of I/O modules" also takes fieldbus couplers and bus end modules into account.
This applies to 12mm-wide I/O modules. I/O modules with a width of 24mm count as two I/O modules.

Included:
- Aluminum enclosure, G AL Si 12 alloy / DIN 1725
- Stainless steel cover screws, captive
- Inspection glass, incl. attachment panel for customer marking (marking not included in scope of supply)
- Mounting holes (4 mounting channels located outside the sealed enclosure)
- Metric cable grips (brass, nickel-plated), incl. filler plugs;
  M12 cable grip, cable diameter 3–6mm;
  M16 cable grip, cable diameter 5–9mm;
  M20 cable grip, cable diameter 9–13mm
- 1 DIN 35/7.5 rail
- Tongue and groove system, seal with groove in enclosure cover
- Oil and petroleum-resistant neoprene round chord seal
- Grounding link in enclosure
- Pebble gray, RAL 7032 or light gray RAL 7035

Polyester system housing

Polyester system housing



Dimensions in mm
* internal dimension
** from upper-edge of DIN 35 rail

Item description	POL Enclosure		
Version	RAL7032 164mm CG11	RAL7032 244mm CG7	RAL7032 324mm CG10
Item no.	**850-834**	**850-835**	**850-836**

Technical Data			
Number of M12 screw connections	9	14	17
Number of M16 screw connections	-	4	8
Number of M20 screw connections	4		
Mounting dimension A x B	142 x 142 mm	222 x 142 mm	302 x 142 mm
Dimensions W x H x D	164 x 100 x 164 mm	244 x 100 x 164 mm	324 x 100 x 164 mm
No. of I/O modules	≤ 4*	≤ 11*	≤ 18*
Data sheet and further information, see:	wago.com/850-834	wago.com/850-835	wago.com/850-836

Accessories	**Item no.**
Pole mounting	**850-903**

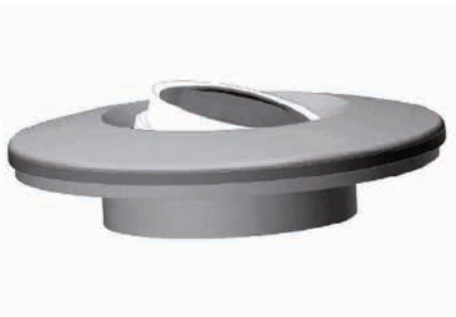
*The „number of I/O modules“ also takes fieldbus couplers and bus end modules into account.
This applies to 12mm-wide I/O modules. I/O modules with a width of 24mm count as two I/O modules.

Included:
- Polyester enclosure, glass fiber-reinforced, halogen-free, as V0 version (self-extinguishing)
- Polyamide cover screws, captive
- Inspection glass, incl. attachment panel for customer marking (marking not included in scope of supply)
- Mounting holes (4 mounting channels located outside the sealed enclosure)
- Metric cable grips (polyamide PA 6), incl. filler plugs;
  M12 cable grip, 3–6 mm cable diameter ;
  M16 cable grip, 5–9 mm cable diameter;
  M20 cable grip, 9–13 mm cable diameter
- 1 x DIN 35/7.5 rail
- Oil and petroleum-resistant neoprene round chord seal
- Pebble gray, RAL 7032

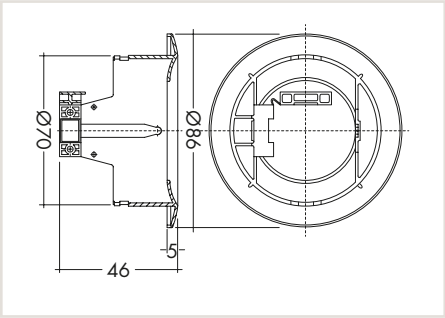
DALI Multi-Sensors

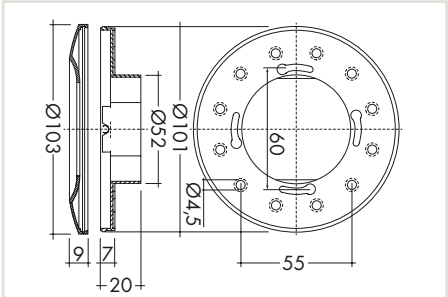
Ceiling Installation

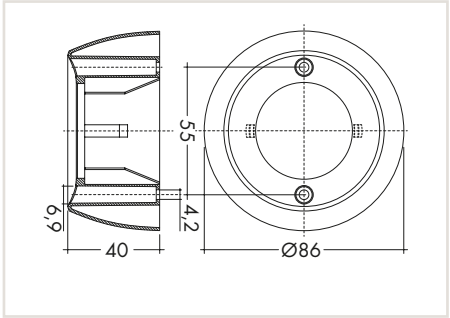
Box Installation



Surface Mounting







The WAGO DALI MSensor 02 is used with WAGO DALI Modules (753-647 DALI Multi-Master Module or 750-641DALI/DSI Module).
It has been designed for the following principal applications:
- Individual offices
- Open-plan offices
- Training/presentation rooms
- Corridors, passageways and garages

The Multi-Sensor features both motion and light detection. As an option, the sensor can be operated via remote control (from Tridonic). The sensor enables both motion detection and daylight-dependent lighting control; both of which can also be deactivated.
Addressing is performed via rotary switch or WAGO DALI Configurator.
Parameters can be adjusted individually via WAGO DALI Configurator.
Power supply is provided via DALI line.
The number of sensors, which can be operated on a DALI line, depends on the total power consumption of the specific devices and address range for the actuators and sensors. Due to the capacity of the DALI bus, a maximum of 16 DALI sensor couplers must be operated on the DALI Multi-Master Module (753-647).

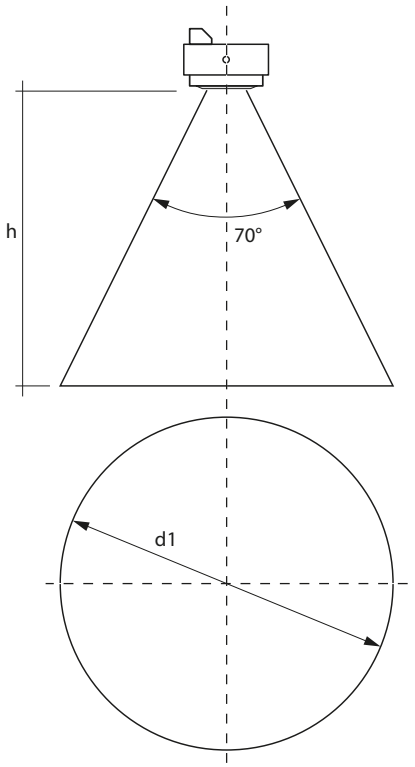
Installation notes:
- The DALI MSensor 02 is supplied directly via DALI line.
- DALI is not SELV (Safety Extra Low Voltage). The installation instructions for mains voltage therefore apply.
- The detection range of the sensor must be within the lighting area of the controlled luminaires.
- The detection ranges of the sensors must not overlap as this may influence the lighting control.
- When installed at a height other than the recommended installation height (2.5 m), the presence and light sensor might show different characteristics. When mounted at a higher level, its sensitivity is reduced. If mounted at a lower level, its range is diminished.
- Heaters, fans, printers and copiers located in the detection range may cause incorrect presence detection.

Item description	DALI-MSensor		
Version	02 5DPI 41rc (Ceiling Installation)	02 5DPI 41w (Box Installation)	02 5DPI 41rs (Surface Mounting)
Item No.	**2851-8301**	**2851-8302**	**2851-8303**
Technical Data			
Ø of detection range, mounted at a height of 2.5 m	5 m		
Extension of the detection range	2 m (if mounted at a height of 2.5 m and swivelled through 15°)		-
Swivel design	yes		no
Swivel range	± 15°		-
Detection angle	360°		
Light measurement at the sensor head	10 ... 650 lx (The measured value at the sensor head corresponds to approx. 15 to 2,000 lux on the surface measured.)		
Remote control range	5 m		
Data sheet and further information, see:	wago.com/2851-8301	wago.com/2851-8302	wago.com/2851-8303

Technical Data	
Power supply	via DALI line
Current consumption	6 mA from DALI line
Operating temperature	0 °C … +50 °C
Storage temperature	-25 °C … +55 °C
Degree of protection	IP20
Wire type and cross-section	Solid or fine-stranded wires ranging from 0.5 mm² to 1.5 mm² (AWG 20–16)

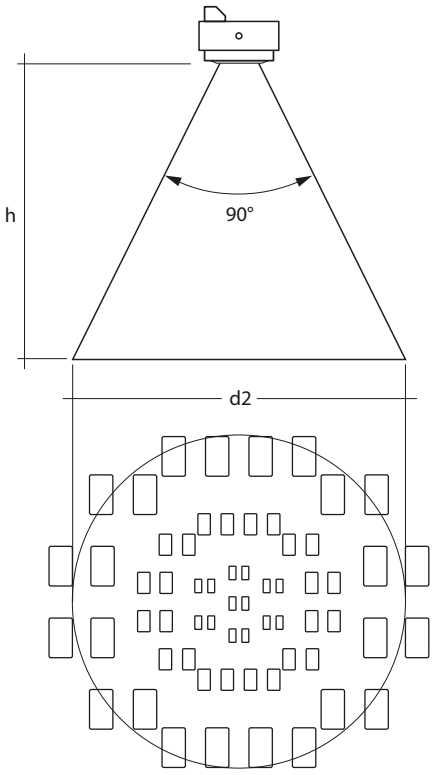
Technical Data	
General settings:	
Motion detection	enabled, on/off
Lighting control	enabled
Setpoint, lighting control	150 lx
Power-on setting	no action
Bright-out timeout	10 min.
Bright-out threshold	150 %
Control speed	4
Switch-on value	auto (calculated)
Rotary switch	0, broadcast
Motion detector settings:	
Fade-in time	< 0.7 s
Presence value	regulated
Run-on time	20 min.
Fade time	5.6 s
Absence value	3 %
Switch-off delay	10 min.
Fade-off time	5.6 s
Manual-off	10 min.

Light detection



h *	d1	d2
1,7 m	2,4 m	3,4 m
2,0 m	2,8 m	4,0 m
2,3 m	3,2 m	4,6 m
2,5 m	3,5 m	5,0 m
2,7 m	3,8 m	5,4 m
3,0 m	4,2 m	6,0 m
3,5 m	4,9 m	7,0 m
4,0 m	5,6 m	8,0 m

Motion detection

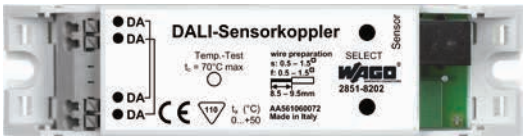


* The recommended maximum room height for office applications is 3 m and for corridor applications 4 m, for example.
Calculation of the diameter:
d = 2 x tan (0.5 x a) x h

11

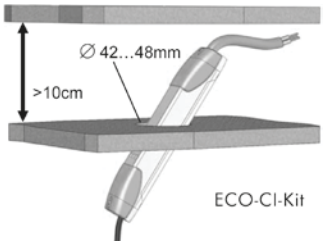
WAGO DALI Multi-Sensor Kit

DALI Sensor Coupler



MULTI 3 CI Sensor

ECO CI Kit



The WAGO DALI Multi-Sensor Kit is paired with the WAGO 753-647 DALI Multi-Master Module and includes the following three components:
- DALI Sensor Coupler (also available individually)
- ECO CI Kit
- MULTI 3 CI Sensor

The DALI Sensor Coupler connects the MULTI 3 CI Sensor to a DALI bus system. For this, the MULTI 3 CI Sensor is connected to the DALI Sensor Coupler via RJ-10 socket. DALI terminals connect the DALI Sensor Coupler to both the DALI network and WAGO DALI Module.
The ECO CI Kit contains two covers, which can be used as touch guards and strain relief for cables within the ceiling installation of the DALI Sensor Coupler.
The MULTI 3 CI Sensor has a motion and light sensor, enabling both motion detection and daylight-dependent lighting control. Power supply to the DALI Sensor Coupler is provided via DALI line. The DALI Sensor Coupler transmits measured values from the connected sensor channels as telegrams to the WAGO DALI Module via DALI line. Parameters can be adjusted individually via WAGO DALI Configurator.

The number of sensors, which can be operated on a DALI line, depends on the total power consumption of the specific devices and the address range for the actuators and sensors. Due to the capacity of the DALI bus, a maximum of 16 DALI sensor couplers must be operated on the DALI Multi-Master Module (753-647).

Assembly

Sensor connection
The MULTI 3 CI Sensor is connected to a 4-pole RJ-10 socket (4P4C), which is marked as “Sensor” on the housing cover.
For easy connection, the sensor plug is equipped with a quick-connect latch.
Only one MULTI 3 CI Sensor must be connected to sensor coupler.

Ceiling installation
For installation outside of a lighting fixture (e.g., suspended ceiling), the ECO CI Kit must also be attached to both sides of the unit to ensure strain relief and touch protection. The DALI Sensor Coupler can also be installed in lighting fixtures. The installation spaces available in lighting fixtures can be used, as the dimensions correspond to those of an electronic ballast.

Note:
The DALI Sensor Coupler is also available individually, allowing the unit to be combined with other multi-sensor models from Osram.

	Delivery type	Item No.
WAGO DALI Multi-Sensor Kit	Set incl. DALI Sensor Coupler, MULTI 3 CI Sensor, ECO CI Kit	2851-8201
DALI Sensor Coupler		2851-8202

DALI Sensor Coupler	
Power supply	via DALI line
Current consumption	5 mA (from the DALI line)
Input signal voltage/current:	according to MULTI 3 CI Sensor
Connections	Inputs: for MULTI 3 CI Sensor’s modular plug 4P4C (RJ-10), sensor cable length, max. 5 m; DALI connection: Push-wire connectors, 8.5 – 9.5 mm strip length
Cross sections	0.5 … 1.5 mm² (e + f)
Dimensions (mm) W x H x D	118 x 21 x 30 mm
Weight	35 g
Ambient temperature (operation)	0 … +50 °C
Ambient temperature (storage)	-25 … +70 °C
Relative humidity	5 … 93 %, non-condensing
Degree of protection	IP20
Approvals	CE

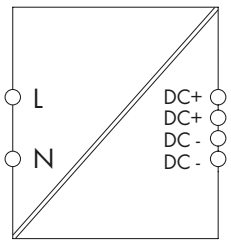
ECO CI Kit:
Installation opening diameter: 42 … 48 mm
Minimum suspended ceiling distance: 25 mm

MULTI 3 CI Sensor:
Maximum total length of signal line (incl. all connections to the control units): 100 m
Dimensions (Diameter x H): 50 x 25 mm
Light sensor detection area: 20 … 600 lx (measured on the sensor), opening angle approx. 90°
Recommended installation height: 2 … 4 m
Motion detection area: Conical, opening angle approx. 80°, depending on installation height 4 – 8 m

Power Supply for 753-647 DALI Multi-Master Module
EPSITRON® COMPACT Power
787 Series

- Supplies up to five 753-647 DALI Multi-Master Modules*
- Prepared for class II equipment
- Natural convection cooling when horizontally mounted
- Stage profile, ideal for distribution boards or distribution boxes

*Note: The 787-1007 Power Supply must be operated in a DALI network with interconnected 753-647 DALI Multi-Master Module. Otherwise the connected DALI devices will be destroyed.



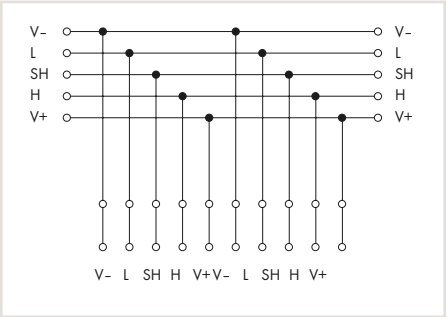
EPSITRON® – Primary Switch Mode Power Supply, COMPACT Power, 1-phase, Output 18 VDC / 1.1 A

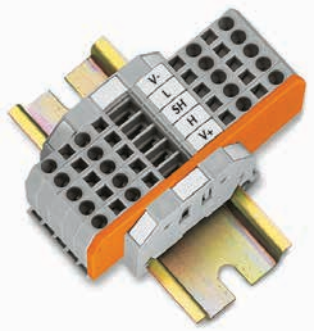
Item No.	Pack. Unit
787-1007	1

Technical Data	
Input:	
Nominal input voltage Vi nom	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Frequency	44 … 66 Hz; 0 Hz
Input current Ii	0.6 A at 110 VAC / 0.4 A at 230 VAC
Inrush current	< 30 A, NTC
Mains failure hold-up time	> 10 ms at 110 VAC / > 80 ms at 230 VAC
Output:	
Nominal output voltage Vo nom	18 VDC
Output current Io	1.1 A at 18 VDC max. 0.8 A (18 VDC) in any mounting position
Factory preset	18 VDC
Adjustment accuracy	2 %
Residual ripple	< 150 mV (peak-peak)
Current limitation	1.1 x Io typ.
Overload behavior	Constant current
Operational indication	LED green (U_a)
Efficiency	80 % typ.
Power loss PV	3 W (no load) / 6 W (rated load)
Fuse protection:	
Internal fuse	2 AT
External fuse	Wire breaking 10 A, 16 A, Characteristic B, C; An external DC fuse is required for the DC input voltage

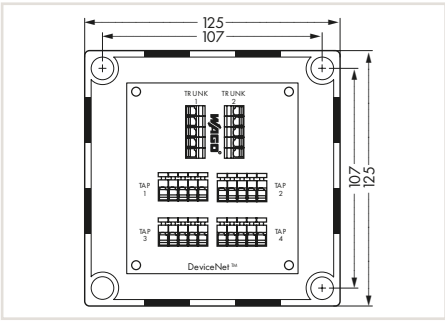
Technical Data	
Environmental requirements:	
Ambient operating temperature	-25 … +60 °C
Storage temperature	-25 … +80 °C
Rel. humidity	5 … 96 % (no condensation)
Degree of pollution	2 (acc. to EN 50178)
Climatic category	3K3 (acc. to EN 60721)
Safety and protection:	
Enclosure	Plastic, light gray, Flammability class V0 acc. to UL94
Test voltage pri. - sec.	4.2 kV DC
Protection class	II
Degree of protection	IP20 (acc. to EN 60529)
No-load proof	yes
Feedback voltage	max. 20 VDC
Short circuit protection	yes
MTBF	500000 h
Connection and type of mounting:	
Wire connection	Input/Output: WAGO 740 Series
Cross sections	Input/Output: 0.08 mm² … 2.5 mm² / AWG 28 … 12
Stripped lengths	Input/Output: 6 … 7 mm / 0.24 … 0.28 in
Type of mounting	DIN-rail mount (EN 60715)
Dimensions and weight:	
Dimensions (mm) W x H x L	54 x 89 x 59, Length: 55 mm, from upper-edge of DIN 35 rail
Weight	170 g
Standards and approvals:	
Standards/Specifications	EN 60950-1, EN 61204-3, UL 508, GL

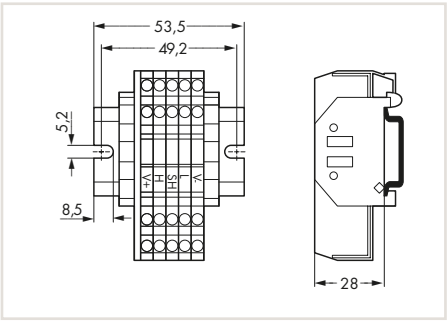
Multi-Port Device Taps





DeviceNet requires a terminating resistor to be installed at each end of the trunk. The resistor (metal fim resistor) requirements are: 121 Ohm ± 1 %, ¼ W. Termination resistor should not be installed at the end of a drop; only at the two ends of the main trunk, as required.



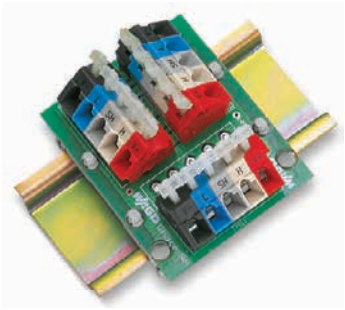


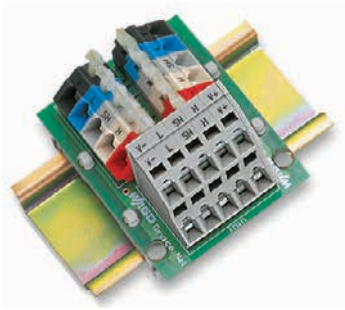
Item description	Multi-port device tap 2 trunk cables (input, output) 4 drop cables IP 65/NEMA 4 enclosure	Multi-port device tap 2 trunk cables (input, output) 2 drop cables „open-style“
Item No.	**810-900/000-001**	**810-901/000-001**
Technical Data		
CAGE CLAMP® connections for trunk cable	2 x 256-405 (PCB terminal strips)	
CAGE CLAMP® connections for drop cable	4 x 255-405 (PCB terminal strips)	
Enclosure	with knockouts for cable grips	
Terminal blocks		5 x 280-633
End stops		2 x 249-116
Mounting rail		DIN 35, slotted as shown
Cross sections	0.08 … 2.5 mm² / 28 … 12 AWG	0.08 … 2.5 mm² / 28 … 12 AWG
Cable diameter trunk cable*	Ø 10 … 14 mm	
Cable diameter drop cable*	Ø 6 … 12 mm	
Degree of protection (enclosure)	IP65/NEMA 4	
Data sheet and further information, see:	wago.com/810-900/000-001	wago.com/810-901/000-001

Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Grips for - trunk cable Ø 10 …14 mm	**810-900/001-000**	1		
Grips for - drop cable Ø 6 … 12 mm	**810-900/002-000**	1		
Termination resistor	**810-900/003-000**	200	**810-900/003-000**	200
Test adapter for mini banana plug	**810-900/004-000**	1	**810-901/001-000**	1

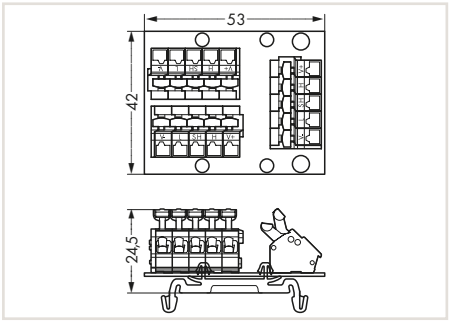
*when using cable grips

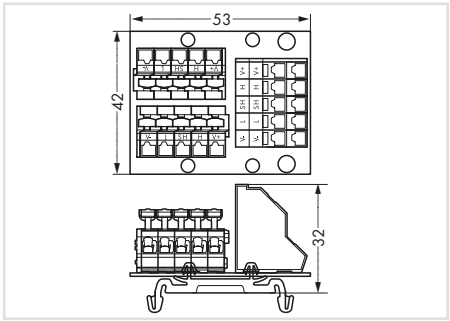
Multi-Port Device Taps





DeviceNet requires a terminating resistor to be installed at each end of the trunk. The resistor (metal fim resistor) requirements are: 121 Ohm ± 1 %, ¼ W. Termination resistor should not be installed at the end of a drop; only at the two ends of the main trunk, as required.

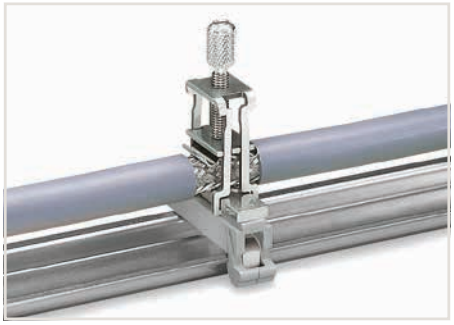




Item description	Multi-port device tap 2 trunk cables (input, output) 1 drop cables „open-style“	Multi-port device tap 2 trunk cables (input, output) 2 drop cables „open-style“
Item No.	**810-902/000-001**	**810-902/000-002**
Technical Data		
CAGE CLAMP® connections for trunk cable	2 x 5 x 256 Series (PCB terminal strips)	2 x 5 x 256 Series (PCB terminal strips)
CAGE CLAMP® connections for drop cable	1 x 5 x 256 Series (PCB terminal strips)	1 x 5 x 736 Series (PCB terminal strips)
Cross sections	0.08 … 2.5 mm² / 28 … 12 AWG	0.08 … 2.5 mm² / 28 … 12 AWG
Data sheet and further information, see:	wago.com/810-902/000-001	wago.com/810-902/000-002

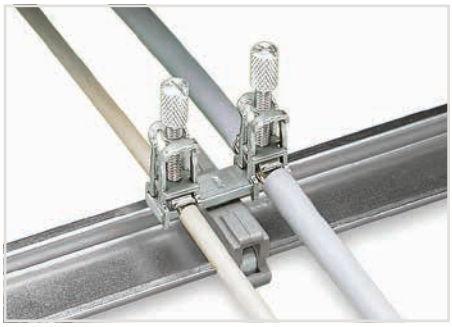
Accessories	**Item No.**	Pack. Unit	**Item No.**	Pack. Unit
Termination resistor	**810-900/003-000**	200	**810-900/003-000**	200
Test adapter for mini banana plug	**810-901/001-000**	1	**810-901/001-000**	1

790 Series, Shield Connection System
– Description and Handling –



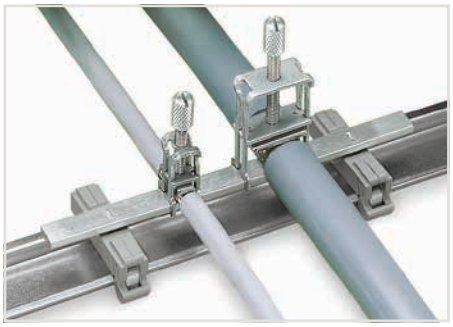
Carrier with grounding foot* (790-113)
45 mm long, busbar 90° to the rail

* for all sizes of shield clamping saddles



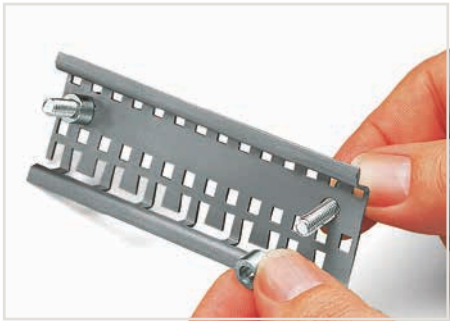
Carrier with grounding foot* (790-114)
45 mm long, busbar parallel to the rail

* for all sizes of shield clamping saddles

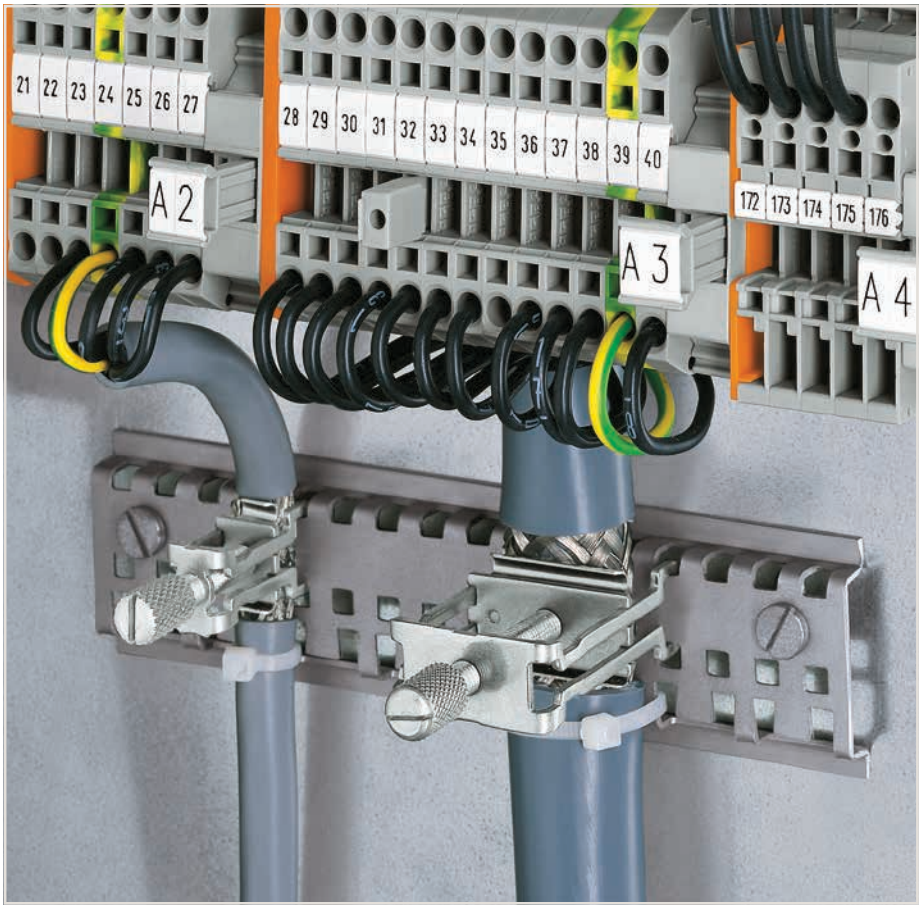


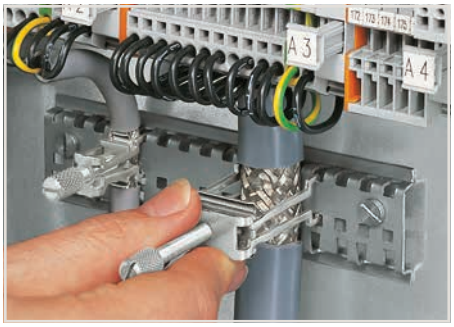
Carrier with grounding foot* (790-115),
125 mm long, busbar parallel to the rail

* for all sizes of shield clamping saddles

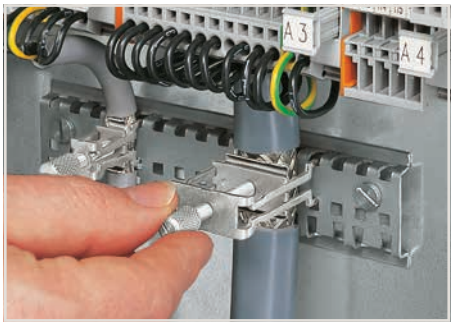


Fitting spacer sleeve to a specialty slotted carrier rail

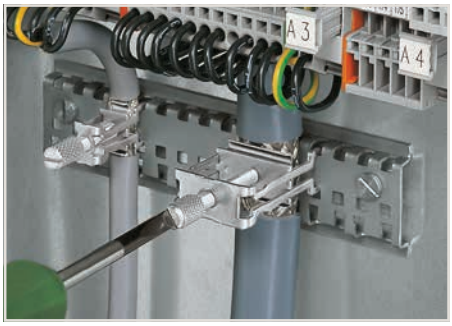




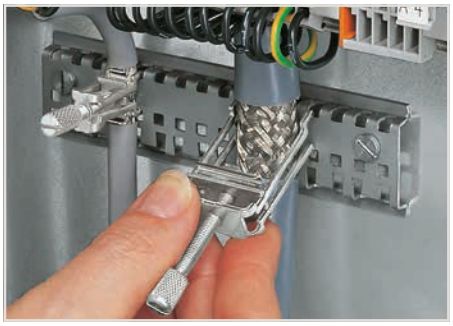
Fitting an additional clamping saddle



Tightening/removing a shield clamping saddle



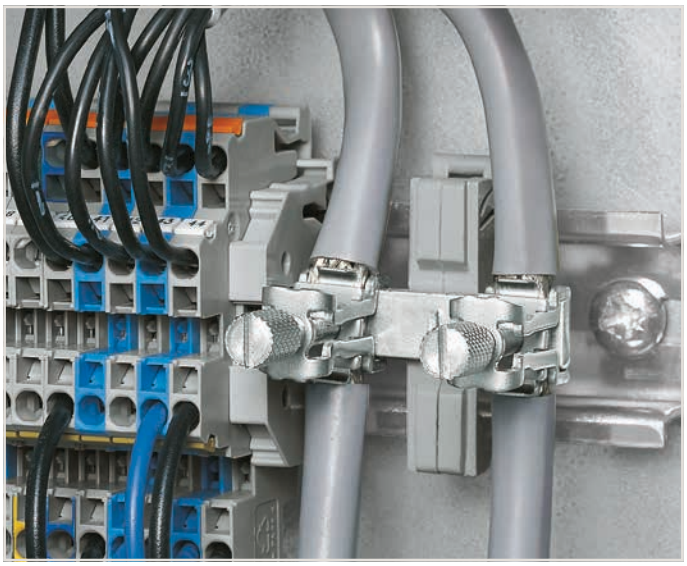
After connection, tighten the knurled screw to complete the installation.
Recommended tightening torque: 0.5 Nm



To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.

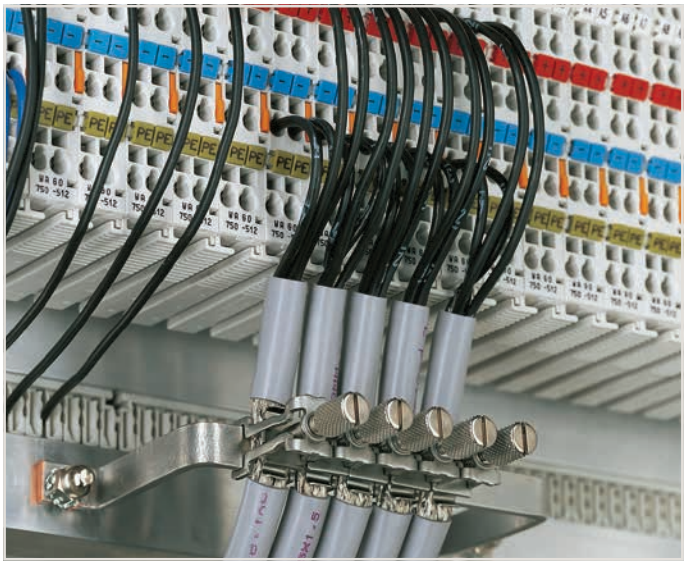
11

790 Series, Shield Connection System
Installation

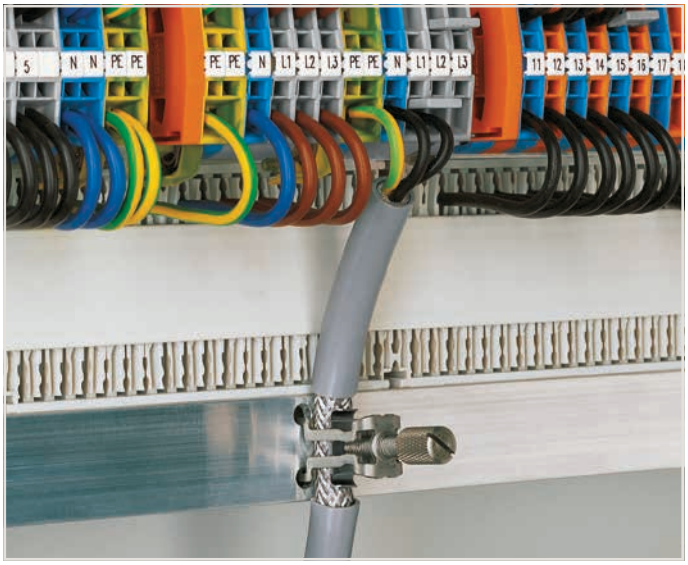


Carrier with grounding foot, busbar parallel to the rail

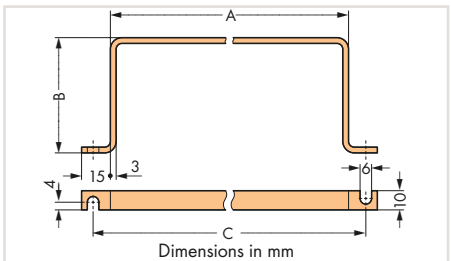
Insulated mounting carriers for a common shield reference potential, independent of housing potential



U-shaped copper busbar 10 mm x 3 mm



Snap into any metal plate up to max. thickness 3 mm.



Dimensions in mm

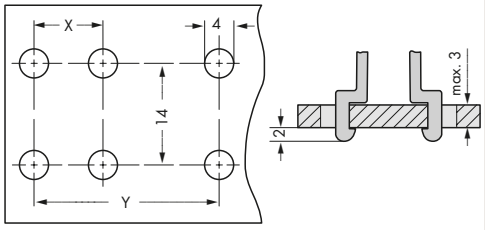
Item No.	A	B	C	Item No.	A	B	C
for I/O module series 750 (5 E/A)							
790-190	63	60	83	**790-192**	63	35	83
for I/O module series 750 (8 E/A)							
790-191	100	60	118	**790-193**	100	35	118

Dimensions in mm

Hole dimensions for panel mounting

Shield (screen) clamping saddle size

Distance	X
11 mm	9.5 mm
Distance	Y
19 mm	17.5 mm
27 mm	25.5 mm
43 mm	41.5 mm



Additionally, the spring material is part of the clamping saddle, providing a good electrical connection (the system also acts as a partial strain relief). The spring element integrated in the shield clamping saddle compensates deformation and settling that results from a connected shield.

Shield Clamping Saddles
790 Series

Shield clamping saddle, 11 mm, diameter of compatible conductor up to 8 mm
Note: Cannot be used for connecting ground conductors

Item No.	Pack. Unit
790-108	50 (10)

Shield clamping saddle, 19 mm, diameter of compatible conductor, 7 … 16 mm
Note: Cannot be used for connecting ground conductors

Item No.	Pack. Unit
790-116	50 (10)

Shield clamping saddle, 27 mm, diameter of compatible conductor, 6 … 24 mm
Note: Cannot be used for connecting ground conductors

Item No.	Pack. Unit
790-124	50 (10)

Shield clamping saddle, 43 mm, diameter of compatible conductor, 22 … 40 mm
Note: Cannot be used for connecting ground conductors

Item No.	Pack. Unit
790-140	50 (10)

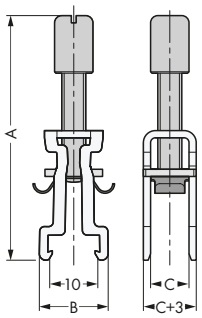
Assembly

The shield clamping saddle is shipped ready for direct connection to the busbar 10 mm x 3 mm or to a drilled mounting plate. After connection, tighten the knurled screw to complete the installation.
Max. tightening torque 0.5 Nm

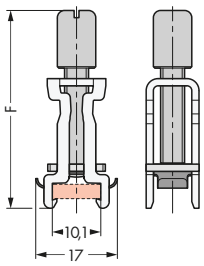
Removal

To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.

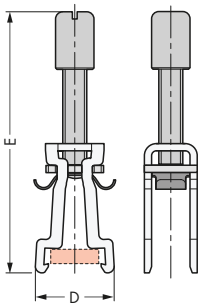
Installation position (delivery state)



Closed position



Removal position



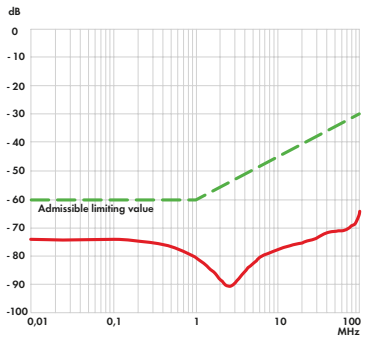
Dimensions in mm

Item No.	A	B	C	D	E	F
790-108	51	15	8	16	55	42
790-116	53	15	16	16	57	45
790-124	78	15	24	16	83	58
790-140	97	15	40	16	100	73

Dimensions in mm

11

Negative Shield Attenuation



WAGO's shield connecting system is highly effective because the clamping unit can be brought very close to the unshielded part of the cable.

Shield Clamping Saddle with Latching Spring
790 Series

Shield clamping saddle, 12.4 mm, diameter of compatible conductor, 3 … 8 mm
Note: Cannot be used for connecting ground conductors and strain relief

Item No.	Pack. Unit
790-208	50

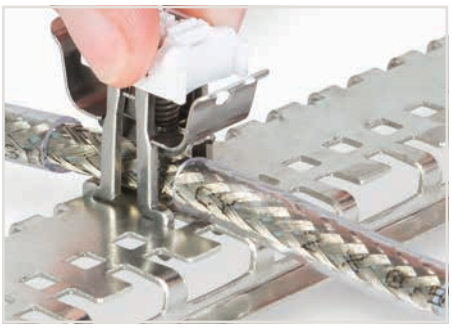
Shield clamping saddle, 21.8 mm, diameter of compatible conductor, 6 … 16 mm
Note: Cannot be used for connecting ground conductors and strain relief

Item No.	Pack. Unit
790-216	25

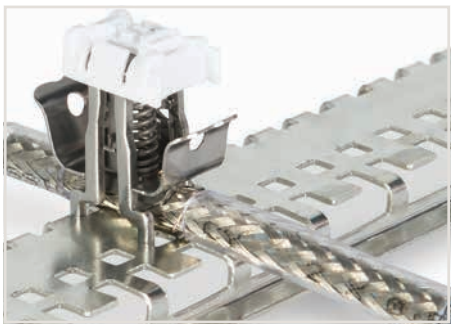
Shield clamping saddle, 27 mm, diameter of compatible conductor, 6 … 20 mm
Note: Cannot be used for connecting ground conductors and strain relief

Item No.	Pack. Unit
790-220	25

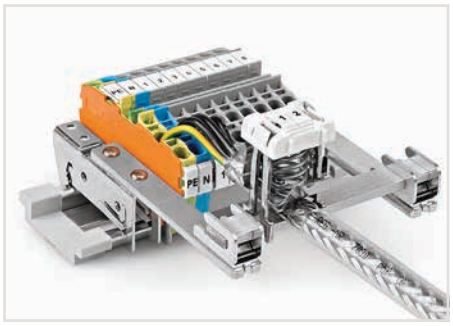
Mounting on specialty slotted carrier rail (790-145)
When releasing the saddle, do not place your finger under the clamping spring!



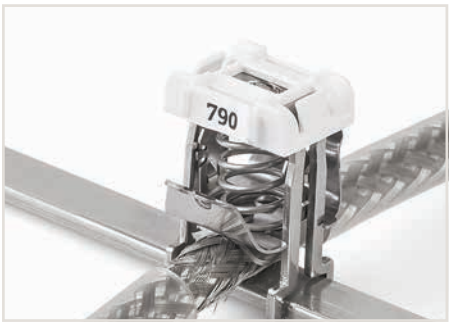
Removing the shield clamping saddle.



Shield clamping saddle contacts shield conductor and specialty slotted carrier rail (790-145).



Application example

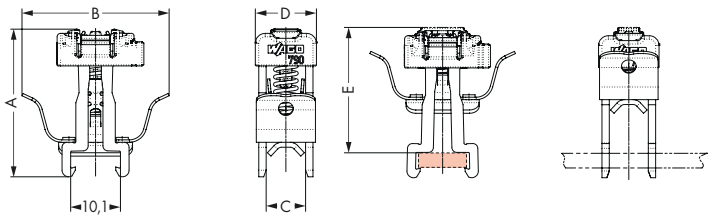


Marking – here with marking strip

Marking – here with WMB markers

Delivery position

Mounting position



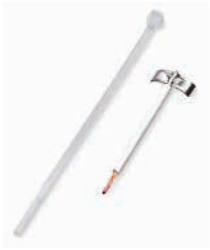
Dimensions in mm

Item No.	A	B	C	D	E*
790-208	30	29.9	8	12.4	25.8
790-216	34.6	28.3	16	21.8	30.2
790-220	45.6	28.3	24	30	41.2

*Height with WMB marker

11

Shield Clamps and Shield Termination
791 and 709 Series



Insert the shield termination in the female connector using the operating tool

Shield clamp, diameter of compatible conductor 10 … 17 mm, height max. 63 mm, 23 mm wide
Note: Cannot be used for connecting ground conductors

	Item No.	Pack. Unit
	791-117	50

Shield termination, including cable ties for conductor diameter 5 … 10 mm

	Item No.	Pack. Unit
	709-350	100 (25)

Shield clamp, diameter of compatible conductor 1.5 … 6.5 mm, height max. 40 mm, 10 mm wide
Note: Cannot be used for connecting ground conductors

	Item No.	Pack. Unit
	791-107	50

Shield termination, including cable ties for conductor diameter 5 … 10 mm

	Item No.	Pack. Unit
	709-352	100 (25)

Fit the shield termination on the conductor.

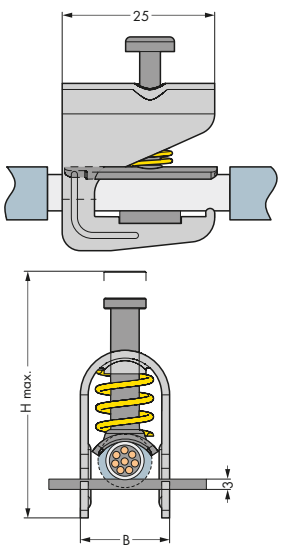
Shield clamp, diameter of compatible conductor 5 … 11 mm, height max. 47 mm, 17 mm wide
Note: Cannot be used for connecting ground conductors

	Item No.	Pack. Unit
	791-111	50

Shield clamp, diameter of compatible conductor 16 … 24 mm, height max. 78 mm, 30 mm wide
Note: Cannot be used for connecting ground conductors

	Item No.	Pack. Unit
	791-124	50

Fasten the shield conductor and the shield termination to the strain relief plate using cable ties.



Dimensions in mm

Shield termination, here with the example of an X-COM® female connector

11

Accessories for Shield Connection Systems

Carrier with grounding foot, parallel to the rail, 15 mm long, Cu 10 mm x 3 mm, suitable for 790-108 shield clamping saddle

Item No.	Pack. Unit
790-110	25

Carrier with grounding foot, parallel to the rail, 25 mm long, Cu 10 x 3 mm, suitable for 790-108 and 790-116 shield clamping saddles, as well as for 791-111 and 791-117 shield clamps 790-112

Item No.	Pack. Unit
790-112	25

Carrier with grounding foot, 90 ° to carrier rail, 45 mm long, Cu 10 mm x 3 mm, suitable for 790 Series shield clamping saddle

Item No.	Pack. Unit
790-113	25

Carrier with grounding foot, parallel to the rail, 45 mm long, Cu 10 x 3 mm, suitable for 790 Series shield clamping saddles and 791 Series shield clamps

Item No.	Pack. Unit
790-114	25

Carrier with 2 grounding feet, parallel to the rail, 125 mm long, Cu 10 mm x 3 mm

Item No.	Pack. Unit
790-115	25

Busbar, tin-plated, 1000 mm long, Cu 10 mm x 3 mm, I_N 140 A

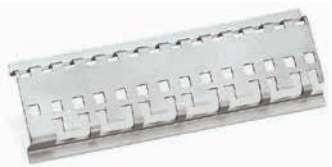
Item No.	Pack. Unit
210-133	1

Busbar, tin-plated, 30 mm long, Cu 10 mm x 3 mm

Item No.	Pack. Unit
790-133	20

Busbar, tin-plated, 50 mm long, Cu 10 mm x 3 mm

Item No.	Pack. Unit
790-134	20



Carrier rail, with special perforations, 1000 mm long, tin-plated

Item No.	Pack. Unit
790-145	1

Spacer sleeve, for specialty slotted carrier rail, use M5 size screw

Item No.	Pack. Unit
790-144	200 (100)

Accessories for Shield Connection Systems

Insulated mounting foot, for busbar with screw M4 x 8 mm		
Color	Item No.	Pack. Unit
gray	790-100	50 (25)

Insulated mounting foot, for busbar with sheet metal screw (3.5 x 9) mm		
Color	Item No.	Pack. Unit
gray	790-101	50 (25)

U-shaped busbar, Cu 10 mm x 3 mm, suitable for 750 Series I/O modules		
	Item No.	Pack. Unit
for 5 I/O	790-190	25 (5)

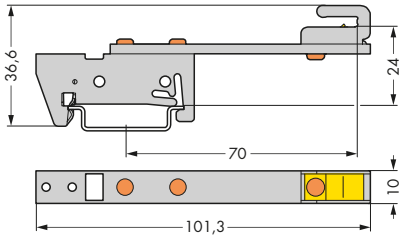
U-shaped busbar, Cu 10 mm x 3 mm, suitable for 750 Series I/O modules		
	Item No.	Pack. Unit
for 8 I/O	790-191	25

U-shaped busbar, Cu 10 mm x 3 mm, suitable for 750 Series I/O modules		
	Item No.	Pack. Unit
for 5 I/O	790-192	25

U-shaped busbar, Cu 10 mm x 3 mm, suitable for 750 Series I/O modules		
	Item No.	Pack. Unit
for 8 I/O	790-193	25

Busbar Carriers
790 Series

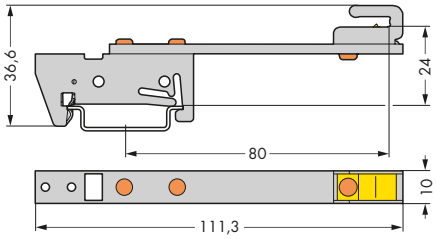
Dimensions in mm



Busbar carrier, for busbars Cu 10 mm x 3 mm, single side, straight, distance between center of DIN-rail and busbar carrier: 70 mm

Item No.	Pack. Unit
790-300	10

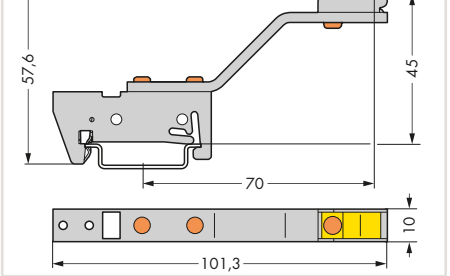
Dimensions in mm



Busbar carrier, for busbars Cu 10 mm x 3 mm, single side, straight, distance between center of DIN-rail and busbar carrier: 80 mm

Item No.	Pack. Unit
790-302	10

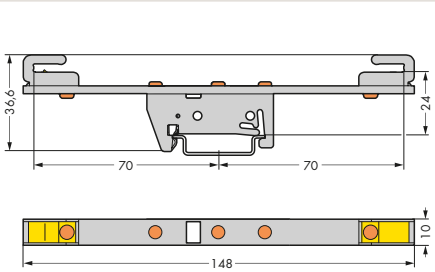
Dimensions in mm



Busbar carrier, for busbars Cu 10 mm x 3 mm, single side, angled, distance between center of DIN-rail and busbar carrier: 70 mm

Item No.	Pack. Unit
790-301	10

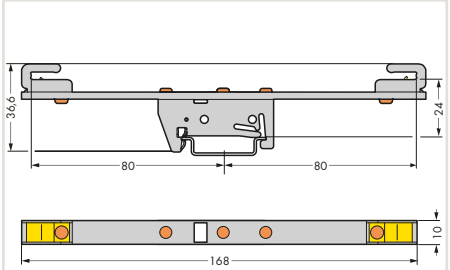
Dimensions in mm



Busbar carrier, for busbars Cu 10 mm x 3 mm, both sides, straight, distance between center of DIN-rail and busbar carrier: 70 mm

Item No.	Pack. Unit
790-310	10

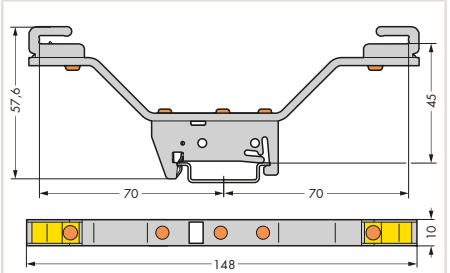
Dimensions in mm



Busbar carrier, for busbars Cu 10 mm x 3 mm, both sides, straight, distance between center of DIN-rail and busbar carrier: 80 mm

Item No.	Pack. Unit
790-312	10

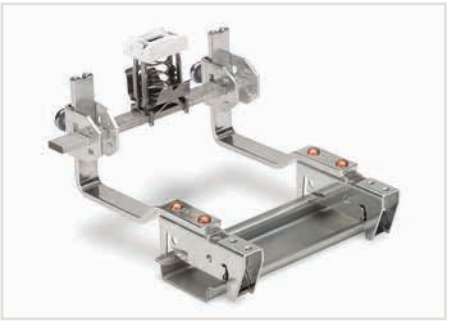
Dimensions in mm



Busbar carrier, for busbars Cu 10 mm x 3 mm, both sides, angled, distance between center of DIN-rail and busbar carrier: 70 mm

Item No.	Pack. Unit
790-311	10

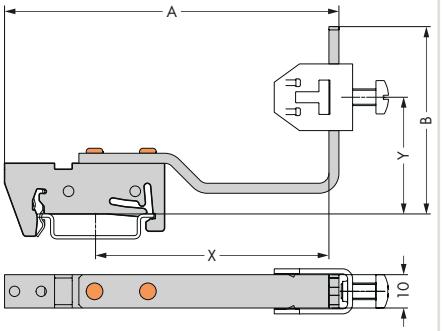
Busbar carrier, flexible with T-connector and T-connector
790 Series



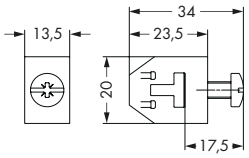
Horizontal mounting position of the busbar

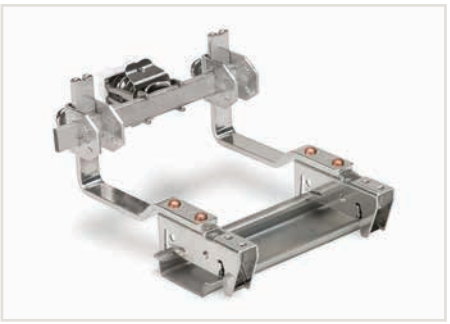
Dimensions in mm

	A	B	X	Y
790-350/790-398	100	56	70	15 ... 52
790-352/790-398	100	99	70	15 ... 92
790-360/790-398	115	56	85	15 ... 52
790-362/790-398	115	99	85	15 ... 92



Dimensions in mm





Vertical mounting position of the busbar

Busbar carrier with T-connector, flexible, for busbars Cu 10 mm x 3 mm, distance between center of DIN-rail and busbar carrier: 70 mm, height: 56 mm

	Item No.	Pack. Unit
	790-350/790-398	12

Busbar carrier with T-connector, flexible, for busbars Cu 10 mm x 3 mm, distance between center of DIN-rail and busbar carrier: 70 mm, height: 99 mm

	Item No.	Pack. Unit
	790-352/790-398	12

Busbar carrier with T-connector, flexible, for busbars Cu 10 mm x 3 mm, distance between center of DIN-rail and busbar carrier: 85 mm, height: 56 mm

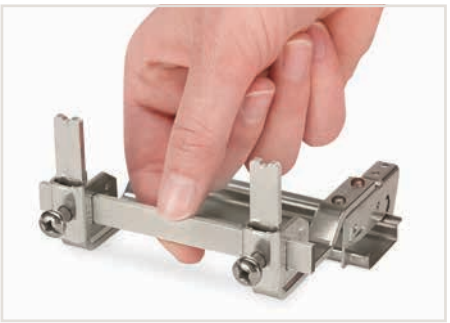
	Item No.	Pack. Unit
	790-360/790-398	12

Busbar carrier with T-connector, flexible, for busbars Cu 10 mm x 3 mm, distance between center of DIN-rail and busbar carrier: 85 mm, height: 99 mm

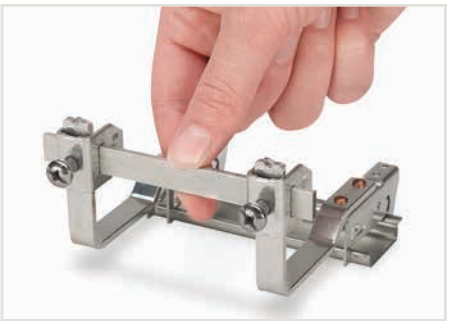
	Item No.	Pack. Unit
	790-362/790-398	25

T-connector, for connecting two busbars Cu 10 mm x 3 mm

	Item No.	Pack. Unit
	790-398	10

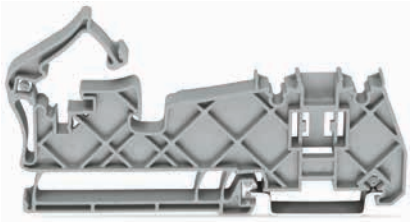


The height of the busbar can be adjusted.

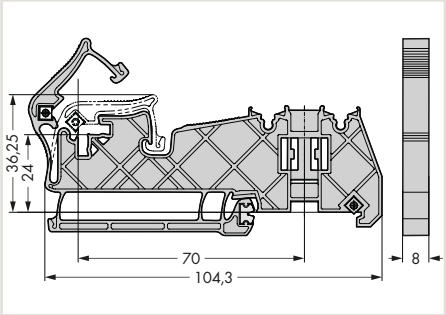


Fix the busbar by tightening the screws at the required position.

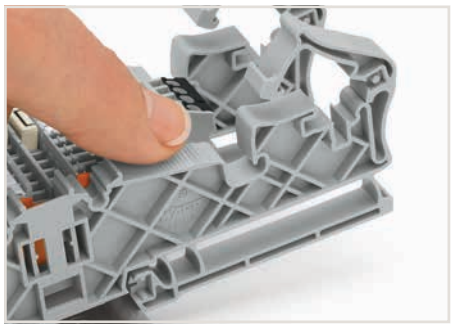
Busbar Carriers
790 Series



Dimensions in mm

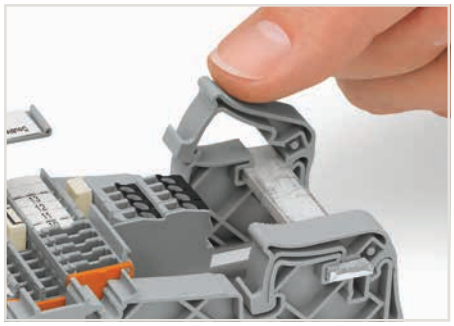


Busbar carrier, for busbars Cu 10 mm x 3 mm, no contact to DIN-rail, insulated		
Color	**Item No.**	Pack. Unit
gray	**790-400**	20

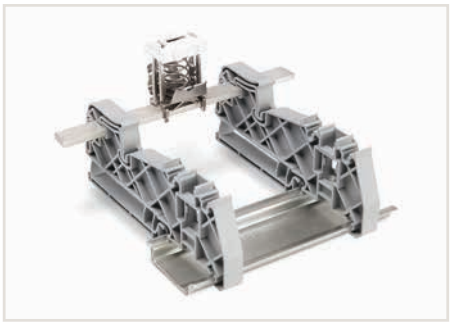


Snapping the busbar carrier onto DIN 35 rail.

Vertical mounting position of the busbar

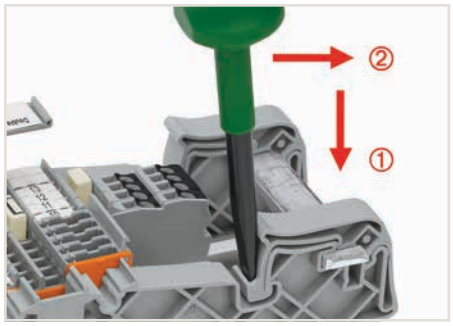


Placing the busbar in the carrier holder.



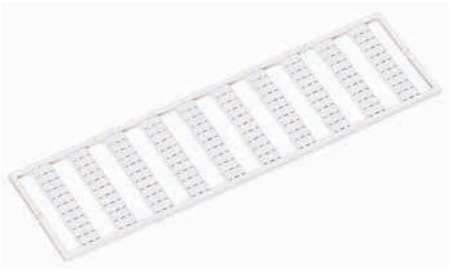
Horizontal mounting position of the busbar

Insert the fixing bracket.



Release the fixing bracket by pushing the operating tool down ① and then forward ②.

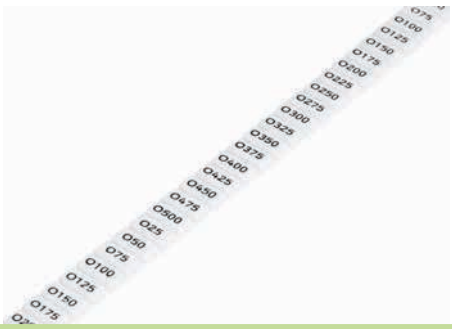
WMB Multi marking systems for terminal widths 3.5 mm, 4 … 4.2 mm and from 5 mm



- Marker width 5 mm: For continuous marking of 270, 280, 780, 869, 870, 880 and individual marking of 281 … 285, 781 … 785, 2002, 2003, 2022, 2004, 2006, 2010 and 2016 Series terminal blocks
- Marker width 5 … 5.2 mm: For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks and individual marking of terminal blocks larger than 5 / 5.2 mm
- Marker width 4 … 4.2 mm: For continuous marking of 279 and 2001 Series terminal blocks
- Marker width 3.5 mm: For continuous marking of 2000 and 2020 Series terminal blocks

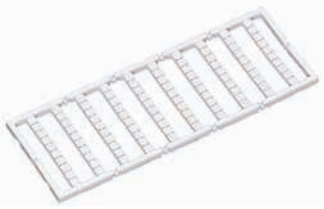
WMB Multi marking system, 10 strips with 10 markers per card, plain					
Marking	5 mm Item No.	5 … 5.2 mm Item No.	4 … 4.2 mm Item No.	3.5 mm Item No.	Pack. Unit
white	793-501	793-5501	793-4501	793-3501	5
yellow	793-501/000-002	793-5501/000-002	793-4501/000-002		5
red	793-501/000-005	793-5501/000-005	793-4501/000-005		5
blue	793-501/000-006	793-5501/000-006	793-4501/000-006		5
gray	793-501/000-007	793-5501/000-007	793-4501/000-007		5
orange	793-501/000-012	793-5501/000-012	793-4501/000-012		5
brown		793-5501/000-014	793-4501/000-014		5
light green	793-501/000-017	793-5501/000-017	793-4501/000-017		5
green	793-501/000-023	793-5501/000-023	793-4501/000-023		5
violet	793-501/000-024	793-5501/000-024	793-4501/000-024		5

WMB Inline, plain, 2,000 WMB markers (4 mm) on roll, stretchable 4 … 4.2 mm		
Color	Item No.	Pack. Unit
white	2009-114	1

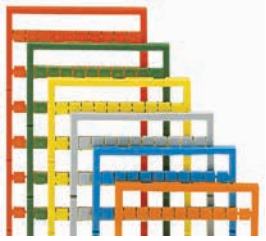


WMB Inline, plain, 1,500 WMB markers (5 mm) on roll, stretchable 5 … 5.2 mm		
Color	Item No.	Pack. Unit
white	2009-115	1

Mini-WSB Quick Marking System

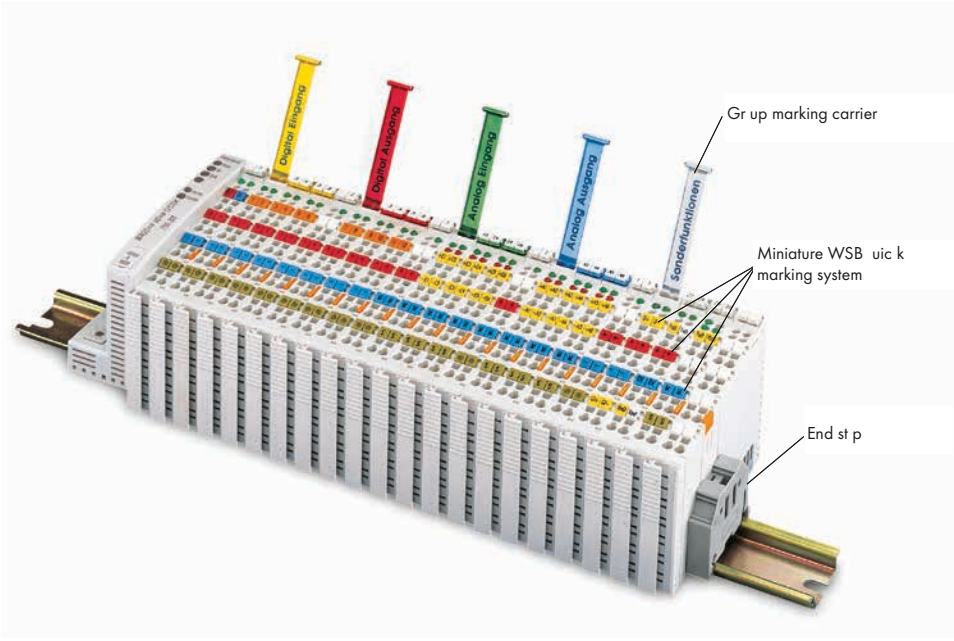


Mini-WSB Quick marking system, white, 10 strips with 10 markers per card, marker width 5 mm		
Marking	Item No.	Pack. Unit
plain	248-501	5



Mini-WSB Quick marking system, 10 strips with 10 markers per card, marker width 5 mm, plain		
Color	Item No.	Pack. Unit
yellow	248-501/000-002	5
red	248-501/000-005	5
blue	248-501/000-006	5
gray	248-501/000-007	5
orange	248-501/000-012	5
light green	248-501/000-017	5
green	248-501/000-023	5
violet	248-501/000-024	5

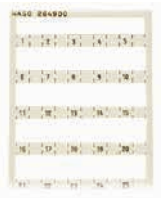
Mini-WSB Inline, plain, 1,700 Mini-WSB markers, on roll, marker width 5 mm		
Color	Item No.	Pack. Unit
white	2009-145	1



Marking strips, 46.6 x 7 mm		
	Item No.	Pack. unit
Markers for group marker carrier, DIN A4 sheet (160 markers)	750-100	1

11

Miniature WSB Quick Marking System, printed



Mini-WSB Quick Marking System, 10 strips with 10 markers per card, 5 mm wide markers			
Marking		Item No.	Pack. unit
0 V	100 x blue	247-506/000-006	5
0 V	100 x white	247-506	5
-	100 x blue	247-507/000-006	5
-	100 x white	247-507	5
24 V	100 x red	247-508/000-005	5
24 V	100 x white	247-508	5
+	100 x red	247-509/000-005	5
+	100 x white	247-509	5
⏚	100 x light green	247-552/000-017	5
⏚	100 x white	247-552	5
PE	100 x light green	248-578/000-017	5
PE	100 x white	248-578	5
A0 A1 ... A8 A9	10 x white	247-510	5
E0 E1 ... E8 E9	10 x white	247-511	5
X0 X1 ... X8 X9	10 x white	247-512	5
0 to 09	10 x white	247-513	5
10 to 19	10 x white	247-514	5
20 to 29	10 x white	247-515	5
30 to 39	10 x white	247-516	5
40 to 49	10 x white	247-517	5
50 to 59	10 x white	247-518	5
60 to 69	10 x white	247-519	5
70 to 79	10 x white	247-520	5
80 to 89	10 x white	247-521	5
90 to 99	10 x white	247-522	5
00 to 49	2 x white	247-523	5
50 to 99	2 x white	247-524	5
100 to 149	2 x white	247-525	5
150 to 199	2 x white	247-526	5
200 to 249	2 x white	247-527	5
250 to 299	2 x white	247-528	5
300 to 349	2 x white	247-529	5
350 to 399	2 x white	247-530	5
400 to 449	2 x white	247-531	5
450 to 499	2 x white	247-532	5
500 to 549	2 x white	247-533	5
550 to 599	2 x white	247-534	5
600 to 649	2 x white	247-535	5
650 to 699	2 x white	247-536	5
700 to 749	2 x white	247-537	5
750 to 799	2 x white	247-538	5
800 to 849	2 x white	247-539	5
850 to 899	2 x white	247-540	5
900 to 949	2 x white	247-541	5
950 to 999	2 x white	247-542	5
.0 to .7 / free	10 x / 20 x white	247-543	5
.0 to .7 /-	10 x / 20 x white	247-544	5
.0 to .7 /-	10 x / 20 x blue	247-544/000-006	5
.0 to .7 /+	10 x / 20 x white	247-545	5
.0 to .7 /+	10 x / 20 x red	247-545/000-005	5
.0 to .7 /N	10 x / 20 x white	247-546	5
.0 to .7 /N	10 x / 20 x blue	247-546/000-006	5
.0 to .7 /L	10 x / 20 x white	247-547	5

Marker carrier and marker adapter

Figure: 750-103

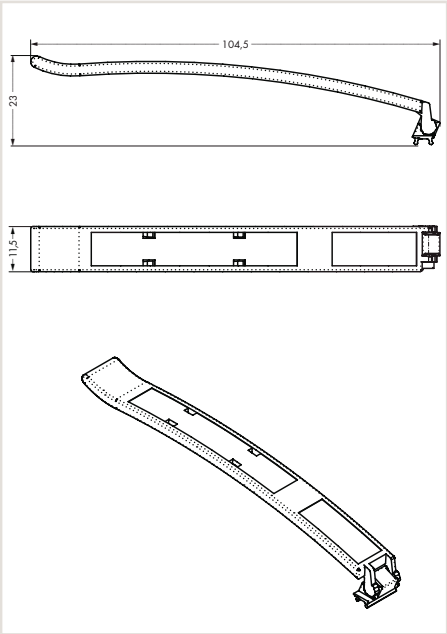
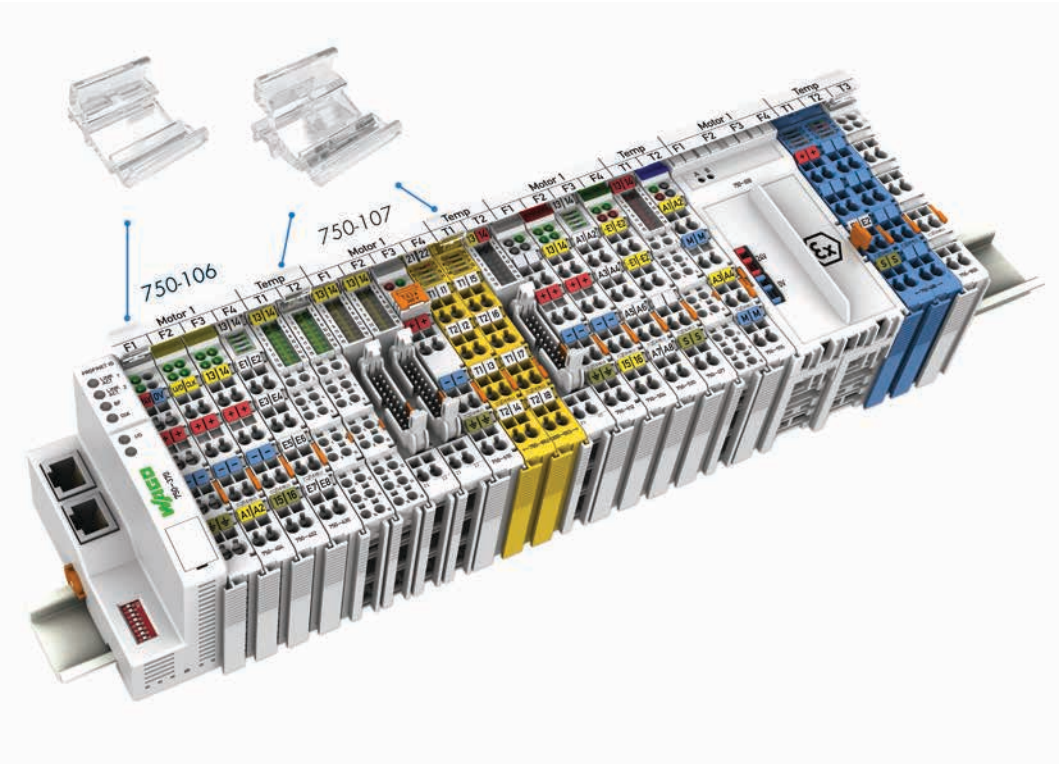


Figure: 750-106

Figure: 750-107

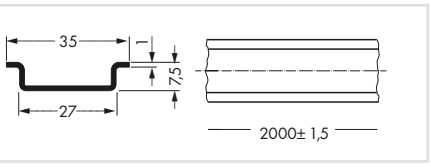
Item description	Marker carriers	Marker carrier	
Version		Max. 4 LEDs	Max. 8/16 LEDs
Item No.	**750-103**	**750-106**	**750-107**
Technical Data			
Dimensions W x H	11.5 x 104.5 mm		
Components	Polycarbonate	Polycarbonate	
Weight	2.84 g	0.4 g	
Data sheet and further information, see:	wago.com/750-103	wago.com/750-106	wago.com/750-107

Accessories	Item No.	Item No.
Marking strips, plain, 7.5 mm wide, 50 m reel	709-178	
Marking strips, 52.0 x 8.5 mm	750-105	
Marking strip, plains, 11 mm wide, 50 m reel		2009-110
WMB Inline, plain, 1,500 WMB markers (5 mm) per reel, stretchable 5– 5.2 mm		2009-115



Carrier Rails, Rail End Cap, Angled Support Brackets

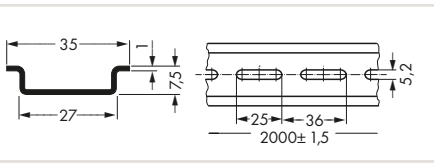
Dimensions in mm



Steel carrier rail, I_N 76 A (reference length of 1m/3'3"), 35 x 7.5 mm, 1 mm, 2 m/6'6" long, according to EN 60715, unslotted

	Item No.	Pack. Unit
galvanized	210-113	10
continuously galvanized	210-505	1

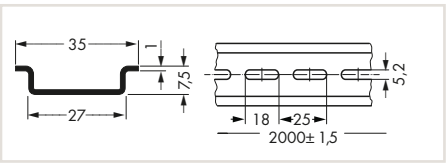
Dimensions in mm



Steel carrier rail, I_N 76 A (reference length of 1m/3'3"), 35 x 7.5 mm, 1 mm, 2 m/6'6" long, hole width 25 mm; hole spacing 36 mm, according to EN 60715, slotted

	Item No.	Pack. Unit
galvanized	210-112	10 (1)
continuously galvanized	210-504	1

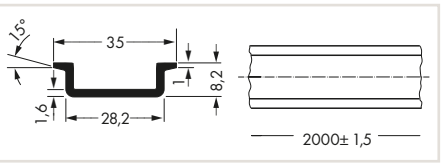
Dimensions in mm



Steel carrier rail, I_N 76 A (reference length of 1m/3'3"), 35 x 7.5 mm, 1 mm, 2 m/6'6" long, hole width 18 mm; hole spacing 25 mm, according to EN 60715, slotted

	Item No.	Pack. Unit
slotted	210-115	1

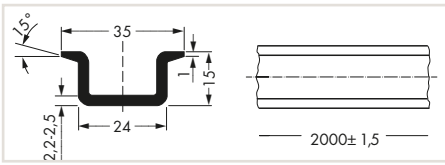
Dimensions in mm



Aluminum carrier rail, I_N 76 A (reference length of 1m/3'3"), 35 x 8.2 mm, 1.6 mm, 2 m/6'6" long, similar EN 60715

	Item No.	Pack. Unit
unslotted	210-196	10

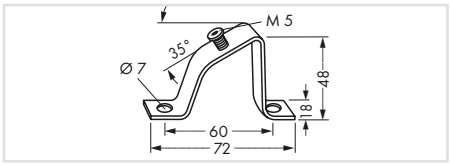
Dimensions in mm



Copper carrier rail, I_N 309 A (reference length of 1m/3'3"), 35 x 15 mm, 2.3 mm, 2 m/6'6" long, according to EN 60175

	Item No.	Pack. Unit
unslotted	210-198	10

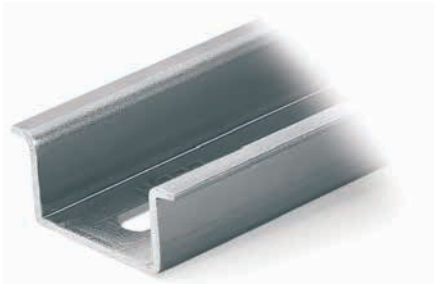
Dimensions in mm



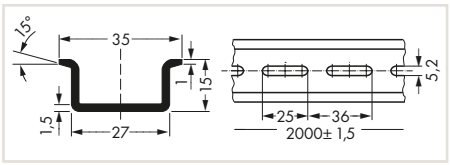
Angled support bracket, without screw

	Item No.	Pack. Unit
	210-148	10
	210-149	100 (20)

11

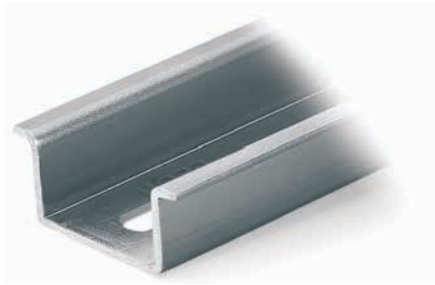


Dimensions in mm

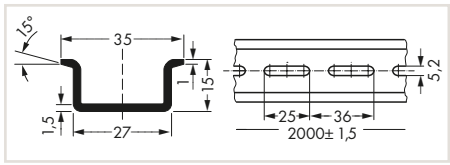


Steel carrier rail, I_N 125 A (reference length of 1m/3'3"), 35 x 15 mm, 1.5 mm, 2 m/6'6" long, similar to EN 60715

	Item No.	Pack. Unit
slotted	210-197	10
unslotted	210-114	10



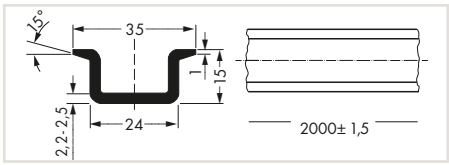
Dimensions in mm



Steel carrier rail, I_N 125 A (reference length of 1m/3'3"), 35 x 15 mm, 1.5 mm, 2 m/6'6" long, continuously galvanized, similar to EN 60715

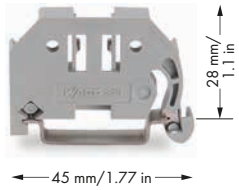
	Item No.	Pack. Unit
slotted	210-508	1
unslotted	210-506	1

Dimensions in mm



Steel carrier rail, I_N 125 A (reference length of 1m/3'3"), 35 x 15 mm, 2.3 mm, 2 m/6'6" long, according to EN 60715

	Item No.	Pack. Unit
slotted	210-118	10

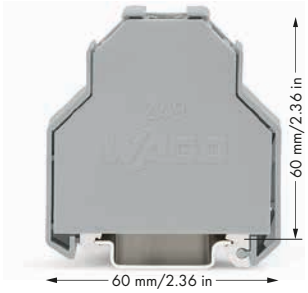


Screwless end stop, for DIN 35 rail, 6 mm wide

Color	Item No.	Pack. Unit
gray	249-116	100 (25)

Screwless end stop, for DIN 35 rail, 10 mm wide

Color	Item No.	Pack. Unit
gray	249-117	50 (25)



Screwless end stop, for DIN 35 rail, 14 mm wide

Color	Item No.	Pack. Unit
gray	249-197	10

Rail end cap, for DIN 35 rail (7.5 mm high)

Color	Item No.	Pack. Unit
gray	209-109	50 (25)

Mounting carrier, for isolated mounting on DIN 35 rails

Color	Item No.	Pack. Unit
gray	209-106	25

Operating tools

Operating tool with a partially insulated shaft, type 1, (2.5 x 0.4) mm blade, for 279, 726, 727, 2000, 2001 and 2020 Series

	Item No.	Pack. Unit
	210-719	1

Operating tool set with a partially insulated shaft, 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 set with a partially insulated shaft, (2.5 x 0.4) mm blade, short for 279, 726, 727, 2000, 2001, 2020 Series

	Item No.	Pack. Unit
	210-647	1

Operating tool with a partially insulated shaft, type 2, (3.5 x 0.5) mm blade, for 260, 261, 262, 264, 270, 280, 281, 290, 775, 776, 777, 769, 780, 781, 869, 870, 880, 2002, 2003, 2004, 2005, 2022 Series

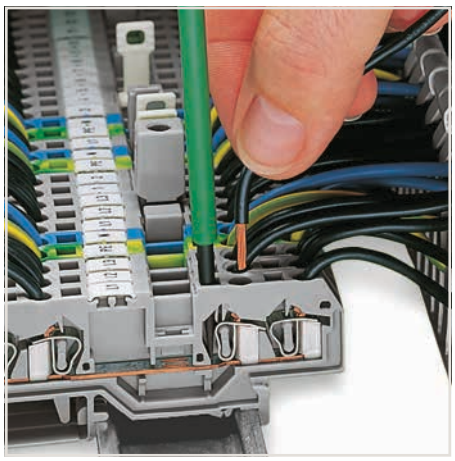
	Item No.	Pack. Unit
	210-720	1

Operating tool with a partially insulated shaft, (2.5 x 0.4) mm blade, short, angled, for 279, 2000, 2001 and 2020 Series

	Item No.	Pack. Unit
	210-648	1

Operating tool with a partially insulated shaft, type 3, (5.5 x 0.8) mm blade, for 282, 283, 284, 285, 782, 783, 784, 785, 2006, 2010, 2016 Series

	Item No.	Pack. Unit
	210-721	1



The blade dimensions of the above-listed operating tools with a partially insulated shaft are ideal for easy operation of front-entry terminal blocks.

Set of operating tools

11

Cable strippers

Cable stripper, for round cables with an outer Ø 2.5 mm … 11 mm

Item No.	Pack. Unit
206-171	1

Cable stripper, for round cables with an outer Ø 4.5 mm … 45 mm

Item No.	Pack. Unit
206-174	1

Replacement blade, for Ø 2.5 … Ø 11 mm, for cable stripper (206-171)

Item No.	Pack. Unit
206-170	1

Replacement blade, for Ø 4.5 … Ø 45 mm, for cable stripper (206-174)

Item No.	Pack. Unit
206-173	1

Set the cable diameter.

Strip the cable.

Stripping Tools

„Quickstrip" 10, 0.02 mm² ... 10 mm² "f-st" (6 mm² "s"), Cutter for conductors up to 10 mm² "f-st" 1.5 mm² "s")

Item No.	Pack. Unit
206-124	1

„Quickstrip" 16, 4 mm² ... 16 mm², Cutter for conductors 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)

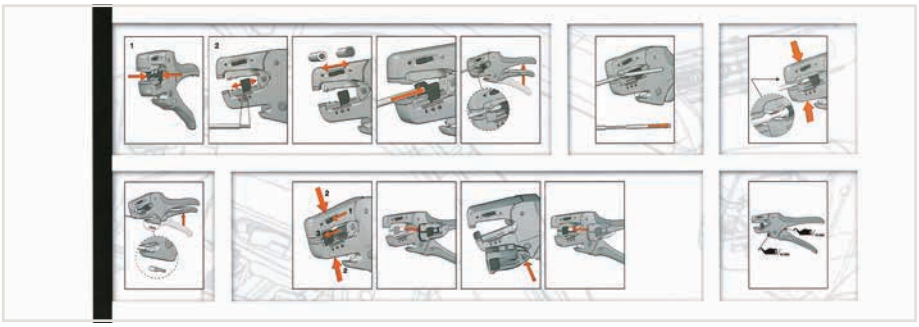
Item No.	Pack. Unit
206-126	1

„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



Handling description included.

Stripping tools:
- Automatically adjusts to conductor size
- No damage to conductor strands
- Gripping pressure of jaws automatically adjusts conductor insulation diameter
- Clamping jaws and stripping blades open automatically once the stripping process is completed, ensuring no damage to the conductor strands
- Exact strip length may be set by sliding red setting stop
- Stripping blades can be replaced
- Self-sharpening, fully protected cutter, also replaceable.*
- The complete body is made of glass fiber-reinforced polyamide.

* applies to Microstrip

Cutting

Stripping

Crimping Tools

Variocrimp 4 crimping tool, for insulated and uninsulated ferrules, 0.25 mm² … 4 mm²/AWG 24 … 12

Item No.	Pack. Unit
206-204	1

Variocrimp 16 crimping tool, for insulated and uninsulated ferrules, 6 … 16 mm²/AWG 10 … 6

Item No.	Pack. Unit
206-216	1

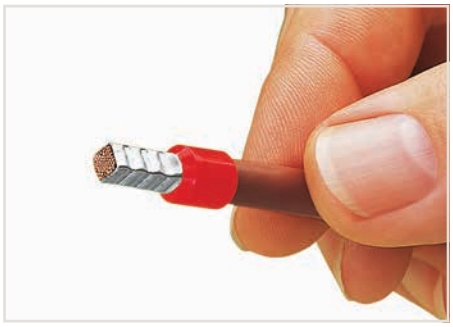
Cable cutter, cutting Cu and Al conductors up to 35 mm²

Item No.	Pack. Unit
206-118	1

Insert ferruled conductor into crimping station.

Squeeze handles until ratchet mechanism is released.

Cutting a cable.



A perfect gastight crimp, both electrically and mechanically reliable.

Only for “Variocrimp 16”:
Adjust conductor cross section with crimping tool in open position.

Application notes:

- The built-in crimping pressure control of “Variocrimp 4” automatically adjusts the crimping force to the conductor cross-section. Select the wire gauge on “Variocrimp 16” before crimping.
- Only one crimping station is needed to handle the specified conductor sizes
- Uniform, compact crimping on all four sides for high conductor retention
- No need to center the conductor into the ferrule.
- Conductor and ferrule insertion possible from both sides (for left- and right-handers)
- Built-in ratchet mechanism ensures gas-tight crimp connection
- Crimping tools open automatically after crimping operation is complete
- Comfortable handles for operator

Test and Measurement Devices

Profi LED+, 2-pole voltage tester with LED display, removable test probes, 4 mm Ø

Item No.	Pack. Unit
206-707	1

Profi LED+, 2-pole voltage tester with LED display, removable test probes, 4 mm Ø

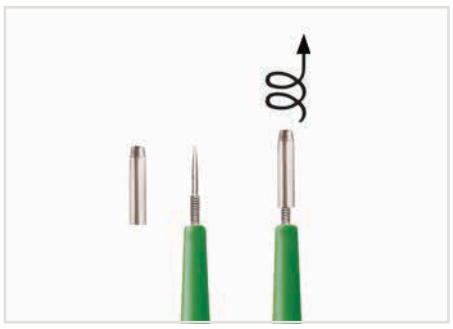
Item No.	Pack. Unit
206-706	1

Spare test probes, 4 mm Ø (2 pieces)

Item No.	Pack. Unit
206-808	25

Additional product features for Profi LED+
- 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 product features for Profi LED+:
- 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-LED+:
- 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
206 Series

Multi-Tester, Digital multimeter with contactless voltage tester

Item No.	Pack. Unit
206-810	1

Clamp-Multi-Tester

Item No.	Pack. Unit
206-816	1

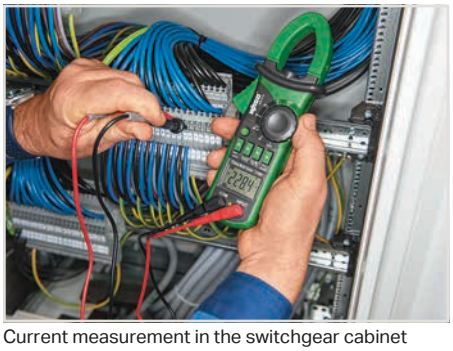
Testboy, with integrated flashlight, contactless voltage tester

Item No.	Pack. Unit
206-804	1

Additional product features for Multi Tester:
- Contact-less voltage test AC >100 V (optical and acoustical)
- Resistance measurement up to 20 MΩ
- Acoustical continuity test
- 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)

Voltage testing in switchgear cabinet
Additional Clamp-Multi-Tester features:
- DC and AC current up to 600 A
- True RMS and min./max. value measurement
- DC and AC voltage up to 600 V
- Manual or automatic measurement range selection
- Resistance up to 60 MΩ
- Capacitance measurement
  Acoustical continuity test
- 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

A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets, etc.
Testboy can detect the following:
- Live conductors
- Cable breaks
- blown fuses (in cartridge or holder)
- Defective switches
- Defective lamps



Current measurement in the switchgear cabinet

Technical Section

Technical Section Contents

Approvals Overview
Operation and Monitoring – *e!DISPLAY 7300T*, Web Panels

	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	Marine Approvals									UL	See Page
			RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS		
***e!DISPLAY 7300T*, Web Panels**													
762-3000	WP 4.3 480x272 PIO1											□	40
762-3001	WP 5.7 640x480 PIO1											□	40
762-3002	WP 7.0 800x480 PIO1											□	41
762-3003	WP 10.1 1280x800 PIO1											□	41

■ Approval is available □ Approval is pending

12

Approvals Overview
Controllers – PFC100/200, PFC200 XTR, Controller 750, Controller 750 XTR
Variants upon Request (Item No. with Suffix /…-…)

cULus LISTED	cULus	E175199 Sec. 1, UL 508
ABS	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
BV	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
DNV GL	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
KR	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
LR	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
NK	NK (Nippon Kaiji Kyokai)	TA12716M
PRS	Polski Rejestr Statkow	TE/1989/880590/13
RINA	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
Ex	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
Ex	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
PFC100/PFC200 [1]													
750-8100	PFC100 2ETH ECO	■							□			□	54
750-8101	PFC100 2ETH	■							□			□	55
750-8102	PFC100 2ETH RS	■							□			□	55
750-8202	PFC200 2ETH RS	■						■				■	56
750-8203	PFC200 2ETH CAN	■						■				■	57
750-8204	PFC200 2ETH RS CAN	■						■		■		■	57
750-8206	PFC200 2ETH RS CAN DPS	■						■				■	57
750-8207	PFC200 2ETH RS 3G								□			□	58
750-8208	PFC200 CS 2ETH RS CAN DPM								□			□	59
PFC200 XTR [1]													
750-8202/040-000	PFC200 2ETH RS XTR								■			■	66
750-8202/040-001	PFC200 2ETH RS XTR Tele								■			■	66
750-8206/040-000	PFC200 2ETH RS CAN DPS XTR								■			■	67
750-8206/040-001	PFC200 2ETH RS CAN DPS XTR Tele								■			■	67
Controller 750 [1]													
750-804	Controller INTERBUS	■										■	85
750-806	Controller DeviceNet	■	■	■	■	■	■		■	■	■	■	81
750-815/300-000	Controller MODBUS RS485 115.2kBd		■	■	■		■		■	■		■	82
750-816/300-000	Controller MODBUS RS232 115.2kBd		■	■	■		■		■	■		■	82
750-829	Controller BACnet MS/TP											□	79
750-831	Controller BACnet/IP								□			■	78
750-833	Controller PROFIBUS Slave	■	■	■	■	■	■		■	■	■	■	83
750-837	Controller CANopen M1 MCS	■	■	■	■	■	■		■	■	■	■	84
750-838	Controller CANopen M1 Dsub		■	■	■	■			■	■		■	84
750-842	Controller ETHERNET G1	■	■	■	■	■	■		■	■	■	■	80
750-843	Controller ETHERNET G1 ECO		■	■	■	■	■		■	■	■	■	80
750-852	Controller ETHERNET G3 ECO								■			■	76
750-880	Controller ETHERNET G3 SD		■	■	■	■	■		■	■	■	■	74
750-881	Controller ETHERNET G3		■	■	■	■	■		■	■	■	■	75
750-882	Controller ETHERNET G3 MR		■	■	■	■	■		■	■	■	■	75
750-885	Controller ETHERNET G3 SD MR								■			■	75
750-889	Controller KNX/IP								□			□	77
Controller 750 XTR [1]													
750-838/040-000	Controller CANopen M3 DSub XTR							■				■	93
750-880/040-000	Controller ETHERNET G3 SD XTR							■				■	92
750-880/040-001	Controller ETHERNET G3 SD Tele XTR							■				■	92

[1] Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available □ Approval is pending

12

Approvals Overview
Fieldbus Couplers – I/O-System 750; Fieldbus Connector
Variants upon Request (Item No. with Suffix /…-…)

cULus	cULus	E175199 Sec. 1, UL 508
ABS	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
BV	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
DNV GL	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
KR	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
LR	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
NK	NK (Nippon Kaiji Kyokai)	TA12716M
PRS	Polski Rejestr Statkow	TE/1989/880590/13
RINA	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
Ex	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
Ex	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
Fieldbus Couplers I/O-System 750 [1]													
750-303	FC PROFIBUS G1 12 Mbd	■	■	■	■	■	■		■	■	■	■	107
750-304	FC INTERBUS	■										■	116
750-306	FC DeviceNet	■	■	■	■	■	■		■	■	■	■	111
750-307	FC CANopen	■										■	112
750-310	FC CC-Link	■										■	118
750-315/300-000	FC MODBUS RS485 115.2kBd	■	■	■	■		■		■	■		■	115
750-316/300-000	FC MODBUS RS232 115.2kBd	■	■	■	■		■		■	■		■	115
750-331	FC PROFIBUS FOC 1.5 Mbd											■	108
750-333	FC PROFIBUS G2 12 Mbd	■	■	■	■	■	■		■	■	■	■	107
750-334	FC INTERBUS FOC	■										■	116
750-337	FC CANopen MCS	■	■	■	■	■	■		■	■	■	■	112
750-338	FC CANopen Dsub	■	■	■	■				■	■		■	113
750-342	FC ETHERNET G1	■	■	■	■	■	■		■	■	■	■	109
750-343	FC PROFIBUS 12 Mbd ECO	■	■	■	■	■	■	■	■	■	■	■	108
750-344	FC INTERBUS 500kbit/s ECO	■										■	117
750-345	FC INTERBUS 2Mbit/s ECO	■										■	117
750-346	FC DeviceNet ECO	■										■	111
750-347	FC CANopen MCS ECO	■	■	■	■	■	■	■	■	■	■	■	113
750-348	FC CANopen Dsub ECO	■	■	■	■	■	■	■	■	■	■	■	113
750-351	FC sercos	■	■	■		■	■	■	■	■	■	■	114
750-352	FC ETHERNET G3	■	■	■	■	■	■		■	■	■	■	109
750-354	FC EtherCAT	■										■	110
750-375	FC PROFINET G3	■							■			■	106
750-377	FC PROFINET G3 ECO	■							■			■	106
Fieldbus Connector													
750-960	Connector PROFIBUS DSub-M 9P	■	■	■	■	■	■		■	■	■	■	472
750-961	Connector INTERBUS DSub-F 9P	■										■	475
750-962	Connector INTERBUS DSub-M 9P	■										■	475
750-963	Connector CANopen DSub-F 9P	■	■	■	■	■	■		■	■	■	■	474
750-965	Connector CC-Link DSub-M 9P											■	476
750-975	Connector ETHERNET RJ45 Cat.5 180° T568A		■	■	■	■	■		■	■	■		466
750-976	Connector PROFINET RJ45 Cat.5 180° AWG22								■				470

[1] Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available ☐ Approval is pending

Approvals Overview
Digital Input – I/O-System 750/753
Variants upon Request (Item No. with Suffix /…-…)

cULus	E175199 Sec. 1, UL 508
ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
NK (Nippon Kaiji Kyokai)	TA12716M
Polski Rejestr Statkow	TE/1989/880590/13
RINA (Registro Italiano Navale)	ELE134212XG
cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	Marine Approvals									UL	See Page
			RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS		
Digital Input													
750-400	2DI 24 VDC 3ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	123
750-401	2DI 24 VDC 0.2ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	129
750-402	4DI 24 VDC 3ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	124
750-403	4DI 24 VDC 0.2ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	129
750-405	2DI 230 VAC	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	146
750-406	2DI 120 VAC	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	146
750-407	2DI 220 VDC											■*	145
750-408	4DI 24 VDC 3ms LSS	■*	■*	■*	■*	■*			■*	■*		■*	132
750-409	4DI 24 VDC 0.2ms LSS	■*	■*									■*	135
750-410	2DI 24 VDC 3ms Proxi Sensor	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	137
750-411	2DI 24 VDC 0.2ms Proxi Sensor	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	137
750-412	2DI 48 VDC 3ms	■*	■*									■*	143
750-414	4DI 5 VDC 0.2ms		■									■	122
750-415	4DI 24 VAC/VDC 20ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	141
750-418	2DI 24 VDC 3ms Acknol Diagn	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	123
750-421	2DI 24 VDC 3ms Diagn	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	124
750-422	4DI 24 VDC Pulse Extention	■*	■*									■*	140
750-423	4DI 24 VAC/VDC 50ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	141
750-424	2DI 24 VDC Intruder Detection	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	139
750-425	2DI NAMUR	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	138
750-427	2DI 110 VDC	■*	■*									■*	145
750-428	4DI 42 VAC/VDC 20ms	■*	■*									■*	142
750-430	8DI 24 VDC 3ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	126
750-431	8DI 24 VDC 0.2ms	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	131
750-432	4DI 24 VDC 3ms 2-wire	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	125
750-433	4DI 24 VDC 0.2ms 2-wire	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	130
750-435 [2]	1DI NAMUR Ex i	■	■	■	■	■	■		■	■	■	■	259
750-436	8DI 24 VDC 3ms LSS	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	133
750-437	8DI 24 VDC 0.2ms LSS	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	136
750-438 [2]	2DI NAMUR Ex i	■	■	■	■	■	■		■	■	■	■	259
750-439 [2]	8DI NAMUR Ex i	■	■	■ [2]	■	■	■		■	■	■	■	260
750-1400	16DI 24 VDC 3ms Ribbon Cable	■	■	■	■	■	■	■	■	■	■	■	127
750-1402	16DI 24 VDC 3ms LSS Ribbon Cable	■	■	■	■	■	■	■	■	■	■	■	134
750-1405	16DI 24 VDC 3ms	■	■	■	■	■	■	■	■	■	■	■	127
750-1406	16DI 24 VDC 0.2ms	■	■	■	■	■	■	■	■	■	■	■	131
750-1407	16DI 24 VDC 3ms LSS	■	■	■	■	■	■	■	■	■	■	■	134
750-1415	8DI 24 VDC 3ms 2-wire	■	■	■	■	■	■	■	■	■	■	■	126
750-1416	8DI 24 VDC 0.2ms 2-wire	■	■	■	■	■	■	■	■	■	■	■	131
750-1417	8DI 24 VDC 3ms LSS 2-wire	■	■	■	■	■	■	■	■	■	■	■	133
750-1418	8DI 24 VDC 0.2ms LSS 2-wire	■	■	■	■	■	■	■	■	■	■	■	136
750-1420	4DI 24 VDC 3ms 3-wire	■	■	■	■	■	■	■	■	■	■	■	125
750-1421	4DI 24 VDC 0.2ms 3-wire	■	■	■	■	■	■	■	■	■	■	■	130
750-1422	4DI 24 VDC 3ms LSS 3-wire	■	■	■	■	■	■	■	■	■	■	■	132
750-1423	8DI 24 VDC 0.2ms LSS 3-wire	■	■	■	■	■	■	■	■	■	■	■	135
750-1425	8DI PTC	■	□						■			□	148
753-429	2DI 60 VDC 3ms	■	■									■	144
753-434	8DI 5/12 VDC 0.2ms	■	■						■			■	122
753-440	4DI 120/230 VAC	■	■									■	147

*Approval also applies for WAGO's 753 Series I/O Module variant with pluggable connector.
[2] This module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!
■ Approval is available □ Approval is pending

Approvals Overview
Digital Output – I/O-System 750/753
Variants upon Request (Item No. with Suffix /…-…)

	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
			Marine Approvals										
Digital Output													
750-501	2DO 24 VDC 0.5A		*	*	*	*	*	*	*	*	*	*	153
750-502	2DO 24 VDC 2A		*	*	*	*	*	*	*	*	*	*	154
750-504	4DO 24 VDC 0.5A		*	*	*	*	*	*	*	*	*	*	156
750-506	2DO 24 VDC 0.5A Diagn		*									*	155
750-508	2DO 24 VDC 2A Diagn		*	*	*	*	*	*	*	*	*	*	155
750-509	2DO 230 VAC 0.3A SSR		*	*	*	*	*	*	*	*	*	*	164
750-512	2RO 250 VAC 2A Relay2NO		*	*	*	*	*	*	*	*	*	*	167
750-513	2RO 250 VAC 2A Pot-free Relay2NO		*	*	*	*	*	*	*	*	*	*	167
750-514	2RO 125 VAC 0.5A Pot-free Relay2CO			*	*	*	*	*	*	*	*	*	166
750-516	4DO 24 VDC 0.5A LSS		*	*	*	*	*	*	*	*	*	*	158
750-517	2RO 250 VAC 1A Pot-free Relay2CO		*	*	*	*	*	*	*	*	*	*	166
750-519	4DO 5 VDC 20mA												152
750-522	2DO 230 VAC SSR												165
750-523	1RO 250 VAC 16A Pot-free Relay1NO												169
750-530	8DO 24 VDC 0.5A		*	*	*	*	*	*	*	*	*	*	159
750-531	4DO 24 VDC 0.5A 2-wire		*	*	*	*	*	*	*	*	*	*	157
750-532	4DO 24 VDC 0.5A Diagn												158
750-534	8DO 12 VDC 1A		*									*	152
750-535 [2]	2DO 24 VDC Ex i												262
750-536	8DO 24 VDC 0.5A LSS		*	*	*	*	*	*	*	*	*	*	159
750-537	8DO 24 VDC 0.5A Diagn		*	*	*	*	*	*	*	*	*	*	159
750-538 [2]	2RO Relay 2CO Ex i												263
750-539 [2]	4DO 24 VDC Valve Ex i												262
750-1500	16DO 24 VDC 0.5A Ribbon Cable												162
750-1501	16DO 24 VDC 0.5A LSS Ribbon Cable												163
750-1502	8DIO 24 VDC 0.5A Ribbon Cable												161
750-1504	16DO 24 VDC 0.5A												162
750-1505	16DO 24 VDC 0.5A LSS												163
750-1506	8DIO 24 VDC 0.5A												161
750-1515	8DO 24 VDC 0.5A 2-wire												160
750-1516	8DO 24 VDC 0.5A LSS 2-wire												160
753-540	4DO 120/230 VAC												164

*Approval also applies for WAGO's 753 Series I/O Module variant with pluggable connector.
[2] This module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!
■ Approval is available □ Approval is pending

Approvals Overview
Analog Input – I/O-System 750/753
Variants upon Request (Item No. with Suffix /…-…)

cULus LISTED	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
Analog Input													
750-450	4AI RTD Adjust											□	193
750-451	8AI RTD Adjust											□	193
750-452	2AI 0-20mA Diff	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	172
750-453	4AI 0-20mA SE	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	174
750-454	2AI 4-20mA Diff	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	175
750-455	4AI 4-20mA SE	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	180
750-456	2AI ±10 VDC	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	183
750-457	4AI ±10 VDC SE	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	184
750-458	8AI TC Adjust	■	□						□			□	195
750-459	4AI 0-10 VDC SE	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	187
750-461	2AI Pt100/RTD	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	190
750-463	4AI RTD -30°C…+150°C	■	■									■	193
750-464	2/4AI RTD Adjust	■	■	■	■	■	■	■	■	■	■	■	192
750-465	2AI 0-20mA SE	■*	■*									■*	172
750-466	2AI 4-20mA SE	■*	■*									■*	176
750-467	2AI 0-10 VDC SE	■*	■*									■*	185
750-468	4AI 0-10 VDC SE	■	■	■	■	■	■	■	■	■	■	■	186
750-469	2AI TC K Diagn	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	194
750-470	2AI 0-20mA SE	■	■	■	■	■	■	■	■	■	■	■	173
750-472	2AI 0-20mA SE 16Bit	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	173
750-473	2AI 4-20mA SE	■	■	■	■	■	■	■	■	■	■	■	177
750-474	2AI 4-20mA SE 16Bit	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	178
750-475	2AI 0-1A AC/DC Diff	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	182
750-476	2AI ±10 VDC SE	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	184
750-477	2AI 0-10 V AC/DC	■*		■*								■*	189
750-478	2AI 0-10 VDC SE 16Bit	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	185
750-479	2AI ±10 VDC Diff	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	183
750-480	2AI 0-20mA Diff	■*	■*	■*								■*	174
750-481/003-000 [2]	2AI RTD Ex i	■	■	■	■	■	■	■	■	■	■	■	266
750-482	2AI 4-20mA HART	■*	■*									■*	179
750-483	2AI 0-30 VDC	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	■*	189
750-484 [2]	2AI 4-20mA HART Ex i	■	■	■	■	■	■	■	■	■	■	■	265
750-485 [2]	2AI 4-20mA Ex i	■	■	■	■	■	■	■	■	■	■	■	264
750-486 [2]	4AI 0/4-20mA NE43 Ex i	■											264
750-487/003-000 [2]	1AI TC Exi	■	■	■	■	■				■		■	266
750-491	1AI DMS		□									□	196
750-492	2AI 4-20mA Diff	■*	■*									■*	179
750-493	3-PHASE POM 480VAC 1A	■	■									■	197
750-494	3-PHASE POM 480VAC 1A	■	■						□			■	198
750-495	3-PHASE POM 690VAC 1A								□				199
750-496	8AI 0/4-20mA		□						□			□	181
750-497	8AI ±10 V/0-10 VDC		□						□			□	188

*Approval also applies for WAGO's 753 Series I/O Module variant with pluggable connector.
[2] This module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!
■ Approval is available □ Approval is pending

12

Approvals Overview
Analog Output – I/O-System 750/753
Variants upon Request (Item No. with Suffix /…-…)

cULus LISTED	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
Ex	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
Ex	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
Analog Output													
750-550	2AO 0-10V DC		*	*	*	*	*	*	*	*	*	*	206
750-552	2AO 0-20mA		*	*	*	*	*	*	*	*	*	*	202
750-553	4AO 0-20mA		*	*	*	*	*	*	*	*	*	*	203
750-554	2AO 4-20mA		*	*	*	*	*	*	*	*	*	*	204
750-555	4AO 4-20mA		*	*	*	*	*	*	*	*	*	*	205
750-556	2AO ±10 VDC		*	*	*	*	*	*	*	*	*	*	208
750-557	4AO ±10 VDC		*	*	*	*	*	*	*	*	*	*	208
750-559	4AO 0-10V DC		*	*	*	*	*	*	*	*	*	*	207
750-560	2AO 0-10V DC												206
750-562	2AO 0-10V/±10 VDC 16Bit												209
750-563	2AO 0/4-20mA 16Bit 6-18 VDC												205
750-585 [2]	2AO 0-20mA Ex i												267
750-586 [2]	2AO 4-20mA Ex i												267
750-597	8AO 0-10V/±10 VDC								□				209

*Approval also applies for WAGO's 753 Series I/O Module variant with pluggable connector.
[2] This module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!
■ Approval is available □ Approval is pending

12

Approvals Overview
Function, Technology, Communication Modules – I/O-System 750/753
Variants upon Request (Item No. with Suffix /…-…)

cULus LISTED	cULus	E175199 Sec. 1, UL 508
ABS	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
BV	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
DNV GL	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
KR	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
LR	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
NK	NK (Nippon Kaiji Kyokai)	TA12716M
PRS	Polski Rejestr Statkow	TE/1989/880590/13
RINA	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
Ex	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
Ex	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
Function, Technology, Communication Modules													
750-404	Up/Down Counter												212
750-511	2PWM 24 VDC 0.1A 250Hz												214
750-630	SSI Interface												215
750-631/000-004	Inc. Encoder RS-422 16Bit												218
750-632	Proportional Valve Module												228
750-633 [2]	Up/Down Counter Ex i												268
750-635	Digital Impulse Interface												220
750-637	Inc. Encoder RS-422 32Bit												218
750-638	2Up/Down Counter												213
750-640	RTC Module												221
750-642	Radio Receiver EnOcean												239
750-643	MP-Bus Master												243
750-644	*Bluetooth® RF-Transceiver*												238
750-645	2VIB VRMS/SPM Multi												222
750-650	RS232 C Interface												232
750-651	TTY Interface 9600Bd N 8/1												237
750-652	RS232/485 Interface												236
750-653	RS485 Interface 9600Bd												234
750-654	Data Exchange Interface												247
750-655	AS-Interface Master												244
750-657	IO-Link Master												245
750-658	CAN Gateway												246
750-660/000-001	8FDI 24 VDC PROFIsafe												250
750-661/000-003	4FDI 24 VDC PROFIsafe V2 iPar												251
750-662/000-003	8FDI 24 VDC PROFIsafe V2 iPar												251
750-663/000-003	4F-Ex i DI 24 VDC PROFIsafe V2 iPar												255
750-665/000-001	4FDI/4FDO 24 VDC 0.5A PROFIsafe												250
750-666/000-003	4FDI/2FDO 24 VDC 10A PROFIsafe V2 iPar												253
750-667/000-003	4FDI/4FDO 24 VDC 2A PROFIsafe V2 iPar												254
750-670	Stepper Controller RS422/24 VDC 20mA												223
750-671	Stepper Controller 24 VDC 1.5A												224
753-646	KNX/EIB/TP1 Interface												240
753-647	DALI Multi-Master								□				241
753-648	LON FTT Interface												242

*Approval also applies for WAGO's 753 Series I/O Module variant with pluggable connector.
[2] This module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!
■ Approval is available □ Approval is pending

12

Approvals Overview
Supply and Segment Modules – I/O-System 750/753
Variants upon Request (Item No. with Suffix /...-...)

cULus LISTED	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
Ex	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
Ex	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS	UL	See Page
		Marine Approvals											
Supply and Segment Modules													
750-600	End Module		■	■	■	■	■		■	■	■	■	288
750-601 [3]	Power Supply 24 VDC Fuse		■	■	■	■	■		■	■	■	■	273
750-602 [3]	Power Supply 24VDC		■*	■*	■*	■*	■*		■*	■*	■*	■*	272
750-603	Potential Distribution 8*24V		■*	■*	■*		■*	■*	■*	■*	■*	■*	280
750-604	Potential Distribution 8*0V		■*	■*	■*		■*	■*	■*	■*	■*	■*	280
750-606	Power Supply 24 VDC Diag Ex i	■	■	■	■	■	■		■	■	■	■	258
750-609	Power Supply 230 VAC Fuse		■	■	■	■	■		■	■	■	■	277
750-610 [3]	Power Supply 24 VDC Fuse Diagn		■	■	■	■	■		■	■	■	■	273
750-611	Power Supply 230 VAC Fuse Diagn		■	■	■	■	■		■	■	■	■	277
750-612 [4]	Power Supply 0-230 VAC/DC		■*	■*	■*	■*	■*		■*	■*	■*	■*	275
750-613 [1]	System Power Supply 24 VDC		■	■	■	■	■		■	■	■	■	274
750-614	Potential Distribution		■*	■*	■*	■*	■*		■*	■*	■*	■*	279
750-615	Power Supply 120 VAC Fuse		■									■	276
750-616	Distance Module		■	■	■	■	■		■	■	■	■	287
750-617	Power Supply 24 VAC Fuse											■	276
750-621	Distance Module		■									■	287
750-622	Binary Spacer Module		■									■	285
750-623	Power Supply 24/5-15 VDC		■	■	■	■			■	■		■	272
750-624	Field Supply Filter 24 VDC		■	■	■	■	■		■	■	■	■	282
750-625/000-001	Power Supply 24 VDC Ex i	■	■	■	■	■	■		■	■	■	■	258
750-626	Supply Filter 24 VDC		■	■	■	■	■		■	■	■	■	283
750-627	Bus Extension End Module		■						■	■		■	284
750-628	Bus Extension Coupler Module		■						■	■		■	284
750-1605	Potential Distribution 16*24V		■	■	■	■	■		■	■	■	■	281
750-1606	Potential Distribution 16*0V		■	■	■	■	■		■	■	■	■	281
750-1607	Potential Distribution 8*24V/8*0V		■	■	■	■	■		■	■	■	■	281
753-620	DALI Multi-Master DC/DC-Converter											■	278
753-629/020-000	Spacer Module											■	286
753-1629	Spacer Module Active											■	286

*Approval also applies for WAGO's 753 Series I/O Module variant with pluggable connector.
[1] Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!
[3] Notice: WAGO's 750-624 Filter Module is mandatory for marine approval (observe power supply instructions)!
[4] Notice: WAGO's 750-626 Filter Module is mandatory for marine approval at 24 VDC power supply (observe power supply instructions)!

■ Approval is available □ Approval is pending

Approvals Overview
I/O-Systems – 750 XTR Series

cULus LISTED	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
Ex	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
Ex	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	Marine Approvals									UL	See Page
			RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS		
Fieldbus Couplers I/O-System 750 XTR [1]													
750-333/040-000	FC PROFIBUS G2 12 MBd XTR	■						■				■	298
750-338/040-000	FC CANopen DSub XTR	■						■				■	300
750-352/040-000	FC ETHERNET G3 XTR	■						■				■	299
Digital Input XTR													
750-407/040-000	2DI 220 VDC XTR	■						■				■	303
750-427/040-000	2DI 110 VDC XTR	■							■			■	303
750-429/040-001	2DI 60 VDC 3ms XTR	■							■			■	303
750-1405/040-000	16DI 24 VDC 3ms XTR	■						■				■	302
750-1415/040-000	8DI 24 VDC 3ms 2-wire XTR	■						■				■	301
750-1416/040-000	8DI 24 VDC 0.2ms 2-wire XTR	■							■			■	301
Digital Output XTR													
750-508/040-000	2DO 24 VDC 2A Diagn XTR	■						■				■	304
750-517/040-000	2DO 2DO 230 VAC 1A Relay2CO XTR	■						■				■	305
750-1515/040-000	8DO 24 VDC 0.5A 2-wire XTR	■						■				■	304
Analog Input XTR													
750-453/040-000	4AI 0-20mA SE XTR	■						■				■	306
750-455/040-000	4AI 4-20mA SE XTR	■						■				■	306
750-457/040-000	4AI ±10 VDC SE XTR	■						■				■	307
750-464/040-000	2/4AI RTD Adjust XTR	■						■				■	308
750-468/040-000	4AI 0-10 VDC SE XTR	■						■				■	307
750-469/040-000	2AI TC Adjust XTR	■						■				■	308
750-492/040-001	2AI 0-22mA Diff XTR	■							■			■	307
750-495/040-xxx	3-PHASE POM 690VAC								■				309
Analog Output XTR													
750-557/040-000	4AO ±10V DC XTR	■						■				■	311
750-559/040-000	4AO 0-10V DC XTR	■						■				■	311
750-563/040-000	2AO 0/4-20mA 16Bit 6-18 VDC XTR	■						■				■	310
Communication Modules XTR													
750-652/040-000	RS232/485 Interface XTR	■						■				■	312
Supply and Segment Modules XTR													
750-600/040-000	End Module XTR	■						■				■	317
750-602/040-000	Power Supply 24 VDC XTR	■						■				■	313
750-612/040-000	Power Supply 0-230 VAC/VDC XTR	■						■				■	313
750-613/040-000	System Power Supply 24 VDC XTR	■						■				■	314
750-624/040-001	Field Supply Filter 24 VDC XTR	■						■				■	315
750-626/040-000	Supply Filter 24 VDC HI XTR	■						■				■	315
750-1605/040-000	Potential Distribution 16*24V XTR	■						■				■	316
750-1606/040-000	Potential Distribution 16*0V XTR	■						■				■	316
750-616/040-000	Distance Module XTR	■							■			■	317

[1] Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available □ Approval is pending

Approvals Overview
I/O-System *SPEEDWAY*
Variants upon Request (Item No. with Suffix /...-...)

cULus LISTED	cULus	E175199 Sec. 1, UL 508
	ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
	BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL	GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
	KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
	LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
	NK (Nippon Kaiji Kyokai)	TA12716M
	Polski Rejestr Statkow	TE/1989/880590/13
	RINA (Registro Italiano Navale)	ELE134212XG
Ex	cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	BVS	BVS 15 ATEX E 098 X; IECEx BVS 15.0083X

Item No.	Item Description	Ex	Marine Approvals									UL	See Page
			RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS		
Fieldbus Couplers													
767-1101	FC PROFIBUS 8DI 24VDC	■										■	329
767-1201	FC PROFINET 8DI 24VDC	■										■	328
767-1301	FC ETHERNET 8DI 24VDC	■										■	330
767-1311	FC sercos 8DI 24VDC	■										■	331
767-1401	FC DeviceNet 8DI 24VDC	■										■	332
767-1501	FC CANopen 8DI 24VDC	■										■	333
Digital Input/Output Modules													
767-3801	8DI 24 VDC 8xM8	■										■	334
767-3802	8DI 24 VDC 4xM12	■										■	335
767-3803	8DI 24 VDC LSS 8xM8	■										■	334
767-3804	8DI 24 VDC LSS 4xM12	■										■	335
767-3805	8DI 24 VDC 8xM12	■										■	336
767-3806	8DI 24 VDC HS 4xM12	■										■	337
767-4801	8DO 24 VDC 0.5A 8xM8	■										■	338
767-4802	8DO 24 VDC 0.5A 4xM12	■										■	340
767-4803	8DO 24 VDC 2A 8xM8	■										■	339
767-4804	8DO 24 VDC 2A 4xM12	■										■	340
767-4805	8DO 24 VDC 0.5A LSS 8xM8	■										■	339
767-4806	8DO 24 VDC 0.5A LSS 4xM12	■										■	341
767-4807	8DO 24 VDC 0.5A 8xM12	■										■	342
767-4808	8DO 24 VDC 0.1A HS 4xM12	■										■	343
767-5401	4DIO 24 VDC 0.2A HS 4xM12	■										■	347
767-5801	8DIO 24 VDC 0.5A 8xM8	■										■	344
767-5802	8DIO 24 VDC 0.5A 4xM12	■										■	345
767-5803	8DIO 24 VDC 0.5A 8xM12	■										■	346
Analog Input/Output Modules													
767-6401	4AI U/I 4xM12	■										■	348
767-6402	4AI RTD 4xM12	■										■	349
767-6403	4AI TC 4xM12	■										■	349
767-7401	4AO U/I 4xM12	■										■	350
Function, Technology and Communication Modules													
767-5201	TTL Inc. Encoder/ SSI 4xM12	■										■	351
767-5202	HTL-Inc. Encoder/ Counter 4xM12	■										■	352
767-5203	RS232/422/485 Interface 4xM12	■										■	353
767-5204	RS232/485 Movilink Interface 4xM12	■										■	354
Supply Modules													
767-9101	Power Divider 1xM23 + 6xM12											■	355

■ Approval is available □ Approval is pending

Approvals Overview; Infrastructure – Industrial Switches, *TO-PASS*® Telecontrol Technology, Sensor/Actuator Boxes

Variants upon Request (Item No. with Suffix /…-…)

cULus	E175199 Sec. 1, UL 508
ABS (American Bureau of Shipping)	03-HG374860/4-PDA; 10-HN17750340X
BV (Bureau Veritas)	13453/C0 BV, 30389/A1 BV
DNV (Det Norske Veritas) GL (Germanischer Lloyd)	A-14093, A-14050; 11 631-10 HH; 19 741-11 HH; 26 898-05 HH
GL (Germanischer Lloyd)	59 627-08 HH; 61 626-13 HH; 95 043-14 HH; Cat. A, B, C, D (EMC 1)
KR (Korean Register of Shipping)	HMB05880-AC001, -AC002, -AC003, -AC004
LR (Lloyd's Register)	02/20026 (E4); Env. 1, 2, 3, 4
NK (Nippon Kaiji Kyokai)	TA12716M
Polski Rejestr Statkow	TE/1989/880590/13
RINA (Registro Italiano Navale)	ELE134212XG
cULus	E198726 Sec. 1, ANSI/ISA 12.12.01
INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X

Item No.	Item Description	Ex	Marine Approvals									UL	See Page
			RINA	PRS	NK	LR	KR	GL	DNV GL	BV	ABS		
Industrial Switches													
852-101	Switch 5Port T											■	382
852-102	Switch 8Port T											■	382
852-103	Switch 8Port 2FOC T											■	383
852-111	Switch 5Port T ECO								■ [5]			■	386
852-112	Switch 8Port T ECO											■	386
852-303	Managed Switch 8Port 2FOC Gb T								■				385
852-1102	Switch 8Port Gb T											□	384
852-1111	Switch 5Port Gb T ECO								■ [5]				387
852-1112	Switch 8Port Gb ECO											□	387
852-1305	Managed Switch 8Port Gb 4FOC Gb T								■				385
***TO-PASS*® Telecontrol Technology**													
761-110	Compact											■	414
761-111	Compact 2AI											■	414
761-112	Compact Web											■	415
761-113	Compact 2AI Web											■	415
761-114	Compact 2AI Web MODBUS RS485											■	415
761-210	Compact											■	416
761-214	Compact 8AI Elog/Dlog											■	417
761-216	Compact 8AI Web MODBUS RS232											■	417
761-217	Compact 8AI Web MODBUS RS485											■	417
Sensor/Actuator Boxes													
757-144	M12 S/A-Box 4port 4pole M23											■	432
757-145	M12 S/A-Box 4port 5pole M23											■	434
757-164	M12 S/A-Box 6port 4pole M23											■	432
757-165	M12 S/A-Box 6port 5pole M23											■	434
757-184	M12 S/A-Box 8port 4pole M23											■	433
757-185	M12 S/A-Box 8port 5pole M23											■	435
757-244/000-xxx	M12 S/A-Box 4port 4pole											■	428
757-245/000-xxx	M12 S/A-Box 4port 5pole											■	430
757-264/000-xxx	M12 S/A-Box 6port 4pole											■	428
757-265/000-xxx	M12 S/A-Box 6port 5pole											■	430
757-284/000-xxx	M12 S/A-Box 8port 4pole											■	429
757-285/000-xxx	M12 S/A-Box 8port 5pole											■	431
757-303	M8 S/A-Box 10port 3pole M16											■	439
757-343	M8 S/A-Box 4port 3pole M16											■	438
757-363	M8 S/A-Box 6port 3pole M16											■	438
757-383	M8 S/A-Box 8port 3pole M16											■	439
757-403/000-xxx	M8 S/A-Box 10port 3pole											■	437
757-443/000-xxx	M8 S/A-Box 4port 3pole											■	436
757-463/000-xxx	M8 S/A-Box 6port 3pole											■	436
757-483/000-xxx	M8 S/A-Box 8port 3pole											■	437

[5] DNV approval is only granted in combination with WAGO's 852-9101 Carrier Rail Adapter

■ Approval is available □ Approval is pending

Product Support From

Consulting Services

- Selection of the fieldbus
- Use of components
- Combination of components
- Cooperation with other suppliers

Contact

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The Very Beginning...

Experienced

- Trained staff
- PLC & PC control
- Multiple fieldbuses
- Projects:
  - Automotive industry
  - Machine building
  - Chemical industry
  - Food processing
  - Building automation
  - Process engineering
  - Process control
  - and many more

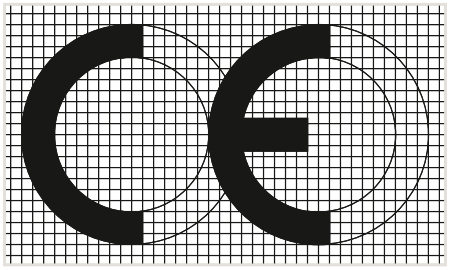
We will help you

- Product documentation
- Manuals
- Application notes
- By telephone
- On-site

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)

The CE marking shall be affixed to the electrical equipment, or if that is not possible, to the smallest packing unit. With the CE marking, manufacturers attest conformity of their products to the relevant directives.

In addition to the CE marking, the manufacturer provides an EC "Declaration of Conformity" for the product. This EC "Declaration of Conformity" must be retained and submitted to a national surveillance authority upon request.

The **EC directives** are legally binding specifications of the European Union. Their goal is the harmonization of legal and administrative regulations in the various EU member states, in order to prevent trade obstructions.

In order to "market" a product, it must comply with the relevant directives. The product may be subject to several directives, e.g. the EMC and the low voltage directives.

Low Voltage Directive
The safety of electrical equipment is guaranteed by the Low Voltage Directive. This directive covers 'complete' electrical equipment designed for use with a voltage rating of between 50 and 1000V for alternating current and between 75 and 1500V for direct current. Products falling within the scope of the Low Voltage Directive that are designed in such a way that they can be used in other electrical devices and whose safety, for the most part, is dependent on how these components were built into the end product and what features the end product has are defined as basic components in accordance with the Low Voltage Directive. The Low Voltage Directive doesn't apply to basic components.

EMC Directive
The EMC Directive implies that a product must meet the limits of the radiated electromagnetic disturbance and also requires that a product must be immune to electromagnetic interference. Electromagnetic passive components or components with no direct function, like resistors, diodes, capacitors, switching relays or cables (in the form of passive printed circuit boards) are not considered as apparatus within the meaning of the EMC Directive.

Machinery Directive
The Machinery Directive does not apply to WAGO products.

Explosive Atmospheres Directive (ATEX)
Directive for devices and protective systems intended for use in hazardous locations.

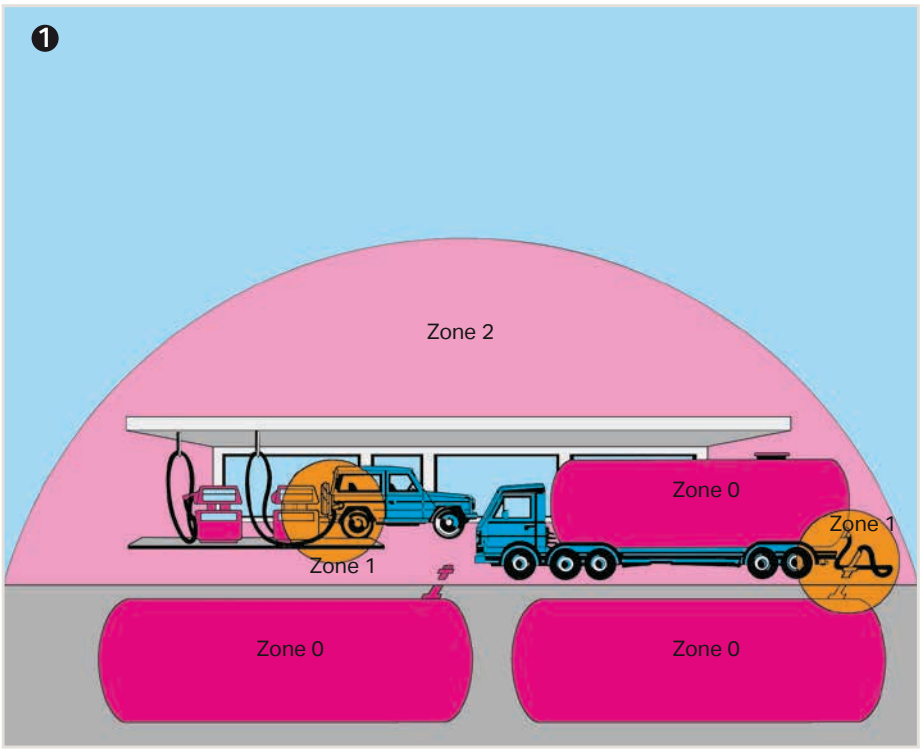
Radio Equipment Directive
A device or relevant component thereof, capable of communication by emitting and/or receiving radio waves utilizing the spectrum allocated to terrestrial/space radio communication, falls within the scope of the Radio Equipment Directive. As such, these devices and components are tested and labeled accordingly. This label implicitly includes both Low Voltage and EMC Directives, since the Radio Equipment Directive also encompasses the safety targets for both of these directives.

General Technical Information
for Electrical Equipment in Hazardous Environments

Harzardous Environments

Hazardous environments are areas in which the atmosphere may become explosive. Explosive atmosphere is defined as a mixture of ignitable 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 commonly known divide up hazardous areas according to the likelihood of the occurrence of an explosive atmosphere into the following zones:



❶ Hazardous environments as a result of combustible gases, vapors or mist.

Zone 0

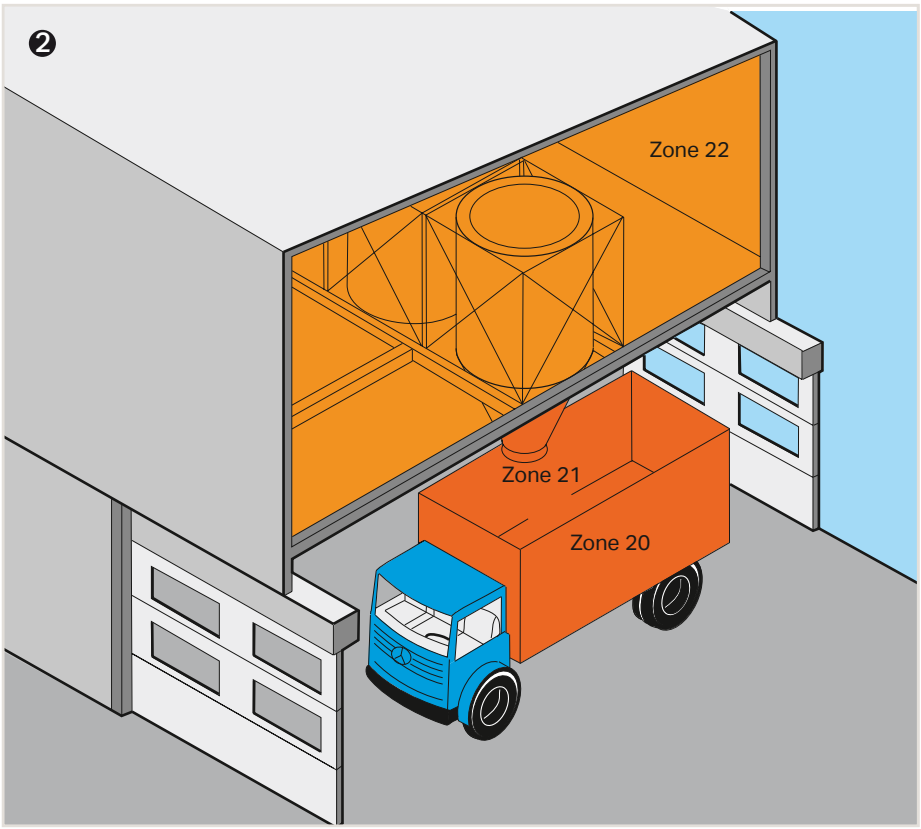
Area in which an explosive gas/air mixture is continuously present or present for long periods.

Zone 1

Area in which an explosive atmosphere can occur during normal operation

Zone 2

Area in which an explosive atmosphere is unlikely to occur under normal operation and if it does it will be for a short period.



❷ Hazardous areas caused by combustible dust

Zone 20

Area in which an explosive dusty atmosphere is present "permanently", for "long periods" or "frequently" and in which deposits of combustible dust of unknown or excessive thickness may be formed. Dust deposits alone are not grounds for classification as Zone 20.

Zone 21

Area in which an explosive dusty atmosphere is present "occasionally" under normal operating conditions and in which deposits or layers of combustible dust can generally be present.

Zone 22

Area in which an explosive dusty atmosphere 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.

Please refer to the manuals for more information on explosion protection.

Electromagnetic Compatibility and Mechanical Strength
(Industrial- and Residential Areas)

Immunity to interference for industrial areas acc. to EN 61000-6-2

Test Specification		Test Values	Evaluation Criteria *)
EN 61000-4-2	ESD	4 kV/8 kV (contact/air)	B
EN 61000-4-3	Electromagnetic fields	10 V/m: 80 MHz ... 1 GHz	A
		3V/m: 1.4 ... 2.0 GHz	A
		1V/m: 2.0 ... 2.7 GHz	A
EN 61000-4-4	Burst	1 kV/2 kV (data/supply)	B
EN 61000-4-5	Surge	Data: - / 1 kV (line: line – line : ground)	B
		DC supply: 0.5 kV / 0.5 kV (line : line – line : ground)	B
		AC supply: 1 kV / 2 kV (line : line – line : ground)	B
EN 61000-4-6	RF disturbances	10 V/m, 80 % AM (0.15 ... 80 MHz)	A
EN 61000-4-8	Magnetic field	30 A/m, 50/60Hz	A
*)	Criteria A: The device must work in accordance with the regulations during and after the test. Criteria B: The device must work in accordance with the regulations after the test.		

Emission of interference for residential areas acc. to EN 61000-6-3

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
EN 55016-2-1	AC supply, conducted	66 ... 56 dB(µV)	150 ... 500 kHz	
		56 dB(µV)	500 kHz ... 5 MHz	
		60 dB(µV)	5 ... 30 MHz	
EN 55016-2-1	DC supply/data line	79 dB(µV)	150 ... 500 kHz	
	conducted	73 dB(µV)	500 kHz ... 30 MHz	
EN 55016-2-3	radiated	30 dB(µV/m)	30 ... 230 MHz	10 m
		37 dB(µV/m)	230 MHz ... 1 GHz	10 m
EN 55022	Telecommunications/	84 ... 74 dB(µV)	150 ... 500 kHz	
	Mains connection, conducted	74 dB(µV)	500 kHz ... 30 MHz	

Emission of interference for industrial areas acc. to EN 61000-6-4

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
EN 55016-2-1	AC supply, conducted	79 dB(µV)	150 ... 500 kHz	
		73 dB(µV)	500 kHz ... 30 MHz	
EN 55016-2-3	radiated	40 dB(µV/m)	30 ... 230 MHz	10 m
		47 dB(µV/m)	230 MHz ... 1 GHz	10 m
EN 55022	Telecommunications/	97 ... 87 dB(µV)	150 ... 500 kHz	
	Mains connection, conducted	87 dB(µV)	500 kHz ... 30 MHz	

Mechanical strength acc. to EN 61131-2

Test Specification		Frequency Range	Limit Values
IEC 60068-2-6	Vibration	5 Hz ≤ f < 9 Hz	1.75 mm amplitude (permanently)
			3.5 mm amplitude (short term)
		9 Hz ≤ f < 150 Hz	0.5 g (permanent)
			1 g (short term)
		Note on vibration test:	
		a) Frequency change: max. 1 octave/minute	
		b) Vibration direction: 3 axes	
IEC 60068-2-27	shock		15 g
		Note on shock test:	
		a) Type of shock: half sine	
		b) Shock duration: 11 ms	
		c) Shock direction: 3x in positive and 3x in negative direction for each of the three mutually perpendicular axes of the test specimen	

Electromagnetic Compatibility and Mechanical Strength (shipping)

Immunity to interference in the shipping industry acc. to Germanischer Lloyd

Test Specification		Test Values	Evaluation Criteria *)
IEC 61000-4-2	ESD	6 kV / 8 kV (contact – air)	B
IEC 61000-4-3	Electromagnetic fields	10 V/m 80 MHz ... 2 GHz	A
IEC 61000-4-4	Burst	1 kV / 2 kV (data – supply)	A
IEC 61000-4-5	Surge	0.5 kV / 1 kV (line: line – line : ground)	A
IEC 61000-4-6	RF disturbances	10 V, 80 % AM (0.15 ... 80 MHz)	A
Type Test	AF disturbances (harmonics)	3 V, 2 W	A
Type Test	high voltage	755 V DC	-
		1500 V AC	-
*)	Criteria A: The device must work in accordance with the regulations during and after the test. Criteria B: The device must work in accordance with the regulations after the test.		

Immunity to interference in the shipping industry acc. to Germanischer Lloyd

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
Type Test	EMC 1, conducted (allows for ship bridge control applications)	96 ... 50 dB(µV)	10 ... 150 kHz	
		60 ... 50 dB(µV)	150 ... 350 kHz	
		50 dB(µV)	350 kHz ... 30 MHz	
Type Test	EMC 1, radiated	80 ... 52 dB(µV/m)	150 ... 300 kHz	3 m
	(allows for ship bridge control applications)	52 ... 34 dB(µV/m)	300 kHz ... 30 MHz	3 m
		54 dB(µV/m)	30 MHz ... 2 GHz	3 m
	except for:	24 dB(µV/m)	156 ... 165 MHz	3 m
Type Test	EMC 2, conducted (allows for machine room applications)	120 ... 69 dB(µV)	10 ... 150 kHz	
		79 dB(µV)	150 ... 500 kHz	
		73 dB(µV)	500 kHz ... 30 MHz	
Type Test	EMC 2, radiated	80 ... 50 dB(µV/m)	150 kHz ... 30 MHz	3 m
	(allows for machine room applications)	60 ... 54 dB(µV/m)	30 ... 100 MHz	3 m
		54 dB(µV/m)	100 MHz ... 2 GHz	3 m
	except for:	24 dB(µV/m)	156 ... 165 MHz	3 m

Mechanical strength acc. to Germanischer Lloyd

Test Specification		Frequency Range	Limit Values
IEC 60068-2-6	Vibration (category A, C)	2 Hz ≤ f < 13.2 Hz	±1.0 mm amplitude (permanent)
		13.2 Hz ≤ f < 100 Hz	0.7 g (permanent)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	
IEC 60068-2-6	Vibration (category A-D)	2 Hz ≤ f < 25 Hz	±1.6 mm amplitude (permanent)
		25 Hz ≤ f < 100 Hz	4 g (permanent)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	

Specifications and Test Results

In particular the following standards apply to the design and the application of the terminal blocks and connectors contained in this catalog:

DIN VDE 0100
Construction of high current installations with nominal voltages up to 1000V

EN 50110-1
VDE 0105-1
Operation of electrical installations

IEC 61140
EN 61140
VDE 0140-1
Protection against electric shock - Common
aspects for installation and equipment

IEC 60664-1
EN 60664-1
VDE 0110-1
Insulation coordination for equipment within
low-voltage systems - Part 1: Principles, requirements and tests

IEC 60204-1
EN 60204-1
VDE 0113-1
Safety of machinery - Electrical equipment
of machines - Part 1: General requirements

EN 50178
VDE 0160
Electronic equipment for use in power installations

IEC 62305-1
EN 62305-1
VDE 0185-305-1
Protection against lightning - Part 1: General principles

IEC 60060-1
HD 588.1 S1
VDE 0432-1
High voltage test techniques; Part 1: general specifications and test requirements

IEC 60085
EN 60085
VDE 0301-1
Electrical insulation - Thermal evaluation and designation

IEC 60529
EN 60529
VDE 0470-1
Degrees of protection provided by enclosures (IP code)

IEC 60603-1
EN 60603-1
Connectors for frequencies below 3 MHz for use with printed boards - Part 1: Generic specification: General requirements and guide for the preparation of detail specifications, with assessed quality

IEC 61984
EN 61984
VDE 0627
Connectors - Safety requirements and tests

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 0.2 mm² up to 35 mm²

IEC 60617-2
EN 60617-2
Graphical symbols for diagrams - Part 2: Symbol elements, qualifying symbols and other symbols having general application

IEC 61558-1
EN 61558-1
VDE 0570-1
Safety of power transformers, power supplies, reactors and similar products Part 1: General requirements and tests

IEC 60669-2-1
EN 60669-2-1
VDE 0632-2-1
Switches for household and similar fixed electrical installations - Part 2-1: Particular requirements - Electronic switches

IEC 60947-7-1
EN 60947-7-1
VDE 0611-1
Low-voltage switchgear and controlgear - Part 7-1: Ancillary equipment - Terminal blocks for copper conductors

IEC 60998-2-2
EN 60998-2-2
VDE 0613-2-2
Connecting devices for low-voltage circuits for household and similar purposes - Part 2-2: Particular requirements for connecting devices as separate entities with screwless type clamping units

IEC 60947-1
EN 60947-1
VDE 0660-100
Low-voltage switchgear and controlgear Part 1: General rules

IEC 60947-5-6
EN 60947-5-6
VDE 0660-212
Low-voltage switchgear and controlgear Part 5-6: Control circuit devices and switching elements, DC interface for proximity sensors and switching amplifiers (NAMUR)

IEC 60439-1
EN 60439-1
VDE 0660-500
Low-voltage switchgear and controlgear assemblies - Part 1: Type-tested and partially type-tested assemblies

IEC 60555-1
EN 60555 Part 1
VDE 0838-1
Disturbances in supply systems caused by household appliances and similar electrical equipment; Part 1: definitions

IEC 60715
EN 60715
Dimensions of low-voltage switchgear and controlgear - Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations

IEC 60950-1
EN 60950-1
VDE 0805-1
Information technology equipment - Safety Part 1: General requirements

IEC 60127-6
EN 60127-6
VDE 0820-6
Miniature fuses – Part 6: Fuse-holders for miniature fuse-links

EN 50155
VDE 0115-200
Railway applications – Electronic equipment
used on rolling stock

EN 50090-2-2
VDE 0829-2-2
Home and Building Electronic Systems (HBES) – Part 2-2: System overview – General technical requirements; German version

IEC 60099-1
EN 60099-1
VDE 0675-1
Surge arresters - Part 1: Non-linear resistor type gapped surge arresters for a.c. systems

IEC 61643-1
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 tests

IEC 61643-21
EN 61643-21
VDE 0845-3-1
Low voltage surge protective devices - Part 21: Surge protective devices connected to telecommunications and signalling networks; Performance requirements and testing methods

IEC 61508-1
EN 61508-1
VDE 0803-1
Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements

IEC 62061
EN 62061
VDE 0113-50
Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems

Interfaces - Fieldbuses

DIN 66259-1
Electrical characteristics for unbalanced double-current interchange circuits

EN 50325-1
Industrial communications subsystem based ISO 11898 (CAN) for controller-device interfaces - Part 1: General requirements

IEC 61784-1
EN 61784-1
Industrial communication networks – Profiles Part 1: Fieldbus profiles

IEC 61158-2
EN 61158-2
Industrial communication networks - Fieldbus specifications - Part 2: Physical layer
specification and service definition

IEC 61158-6-x
EN 61158-6-x
DIN EN 61158-6-x
Industrial communication networks - Fieldbus specifications - Part 6-x

Explosion Protection

IEC 60079-0
EN 60079-0
VDE 0170-1
Electrical apparatus for explosive gas atmospheres - Part 0: General requirements

IEC 60079-7
EN 60079-7
VDE 0170-6
Explosive atmospheres - Part 7: Equipment
protection by increased safety "e"

IEC 60079-11
EN 60079-11
VDE 0170-7
Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

IEC 60079-14
EN 60079-14
VDE 0165-1
Explosive atmospheres - Part 14: Electrical installations design, selection and erection

IEC 60079-15
EN 60079-15
VDE 0170-16
Electrical apparatus for explosive gas atmospheres - Part 15:
Construction, test and marking of type of protection "n" electrical apparatus

IEC 61241-0
EN 61241-0
VDE 0170-15-0
Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements

IEC 61241-1
EN 61241-1
VDE 0170-15-1
Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

IEC 61241-11
EN 61241-11
VDE 0170-15-11
Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety "iD"

Specifications and Test Results
(continued)

Environmental Testing

IEC 60068-2-6
EN 60068-2-6
VDE 0468-2-6
Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)

IEC 60068-2-27
EN 60068-2-27
Basic environmental testing procedures -
Part 2: Tests; test Ea and guidance: Shock

IEC 60068-2-42
EN 60068-2-42
Environmental testing - Part 2-42: Tests - Test Kc: Sulphur dioxide test for contacts and connections

IEC 60068-2-43
EN 60068-2-43
Environmental testing - Part 2-43: Tests - Test Kd: Hydrogen sulphide test for contacts
and connections

EMC Requirements

IEC 61000-6-1
EN 61000-6-1
VDE 0839-6-1
Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

IEC 61000-6-2
EN 61000-6-2
VDE 0839-6-2
Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments

IEC 61000-6-3
EN 61000-6-3
VDE 0839-6-3
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

IEC 61000-6-4
EN 61000-6-4
VDE 0839-6-4
Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

IEC 61000-3-2
EN 61000-3-2
VDE 0838-2
Electromagnetic compatibility (EMC) - Part 3-2: Limits
- Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

IEC/CISPR 11
EN 55011
VDE 0875-11
Industrial scientific and medical (ISM) radiofrequency
equipment - Electromagnetic disturbance characteristics -
Limits and methods of measurement

IEC/CISPR 22
EN 55022
VDE 0878-22
Information technology equipment - Radio
disturbance characteristics
- Limits and methods of measurement

IEC/CISPR 24
EN 55024
VDE 0878-24
Information technology equipment
– Immunity characteristics
– Limits and methods of measurement

IEC 61326-3-1
EN 61326-3-1
VDE 0843-20-3-1
Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications

PLC & PC control

IEC 61131-1
EN 61131-1
Programmable controllers - Part 1: General information

IEC 61131-2
EN 61131-2
VDE 0411-500
Programmable controllers - Part 2: Equipment requirements and tests

IEC 61131-3
EN 61131-3
Programmable controllers - Part 3: Programming languages

Relay

IEC 61810-1
EN 61810-1
VDE 0435-201
Electromechanical elementary relays - Part 1: General requirements

IEC 61810-2
EN 61810-2
VDE 0435-120
Electromechanical elementary relays - Part 2: Reliability

IEC 61810-5
EN 50205
VDE 0435-2022
Electromechanical non-specified time all-or-nothing relays - Part 5: Insulation coordination

IEC 60255-5
EN 60255-5
VDE 0435-130
Electrical relays - Part 5: Insulation coordination for measuring relays and protection equipment - Requirements and tests

UL Directives

UL 1059; ANSI 1059
Terminal blocks

UL 486E
Equipment wiring terminals for use with aluminum and/or copper conductors

UL 508
Industrial control equipment

ANSI/ISA12.12.01
Non-incendive electrical equipment for use in Class I and Class II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified)
locations

Ship Classifications

ABS (American Bureau of Shipping)
Steel Vessels
Part 4: Vessel Systems and Machinery

BV (Bureau Veritas)
Rules for the classification of steel ships and offshore units

DNV (Det Norsk Veritas)
Det Norsk Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norsk Veritas' Offshore Standards: 2007

GL (Germanischer Lloyd)
Rules for Classification and Construction
VI Additional Rules and Guidelines
7 Guidelines for the Performance of Type Test
2 Test Requirements for Electrical/Electronic
Devices and Systems

LR (Lloyds Register)
Type Approval System
Test Specification Number1

RINA (Registro Italiano Navale)
Rules for the classification of ships
Part C – Machinery, systems and fire protection Ch.3, Sect.6, Table1

BSH (Federal Maritime and Hydrographic Agency)
Certificate on measurement of safe distance
to the standard magnetic and steering magnetic compass in accordance with ISO
R 695 and DIN EN 60945 Section 11.2

KR (Korean Register of Shipping)
List of approved Manufacturers And Type Approval Equipment; Pt.6, Ch.1, Sec.3 of the Rules for Classification, Steel Ships

NKK (Nippon Kaiji Kyokai)
Guidance for the approval and type approval of materials and equipment for marine use

PRS (Polski Rejestr Statkow)
Publication No.11/P
Enviromental Tests on Marine Equipment

Electrical Engineering Laboratory:
Product Safety for Our Customers

The WAGO laboratory in Minden 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.

Through obtaining the accreditation, the following objectives were achieved:

- 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

High-voltage test

Visitor center

Conductor retention force testing

Vibration- and shock-resistance testing

DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
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.

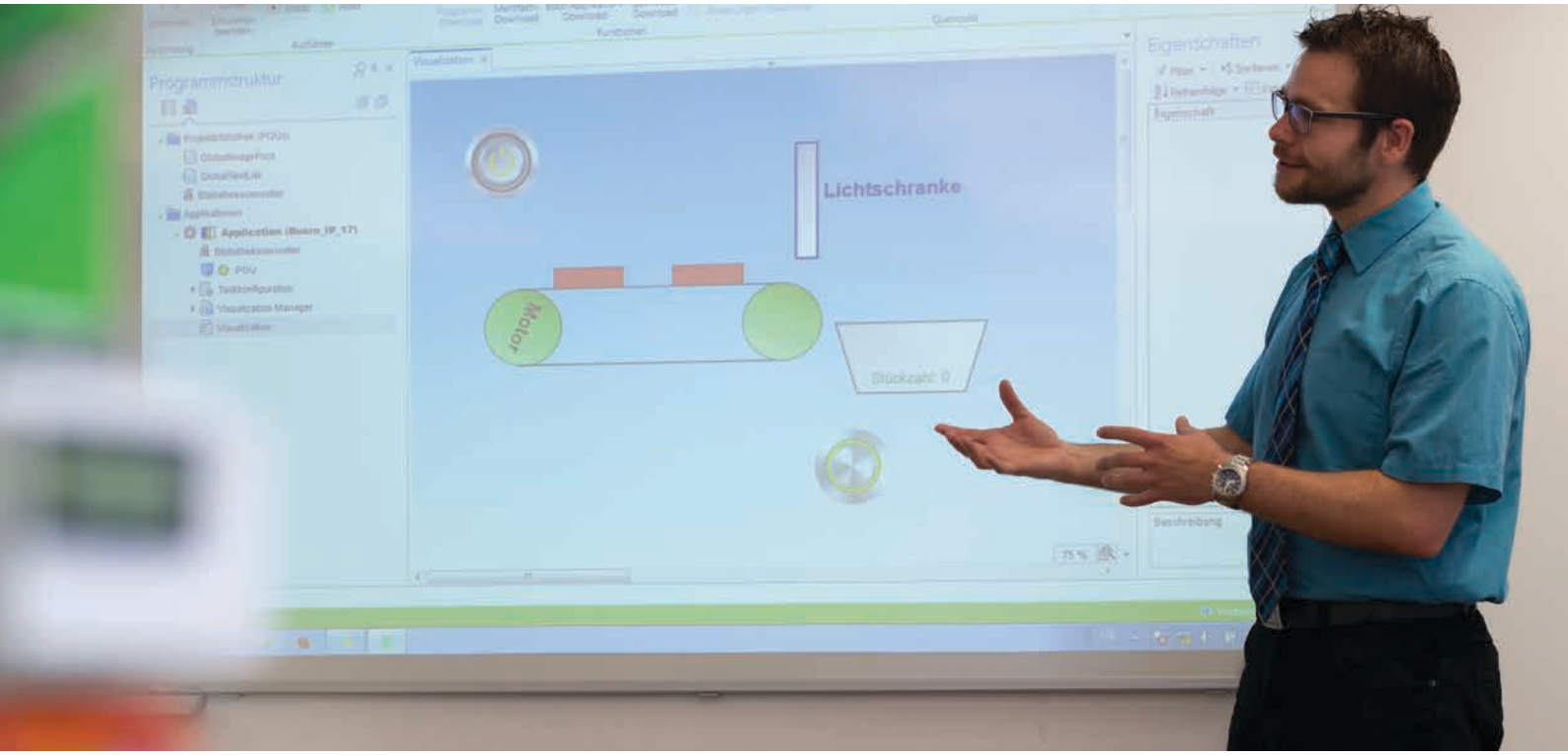
Registrierungsnummer der Urkunde: **D-PL-19704-01-00**

Frankfurt am Main, 18.12.2014

Im Auftrag Dipl.-Ing. (FH) Ralf Egner
Abteilungsleiter

Siehe Hinweise auf der Rückseite

WAGO Seminars
Learn Today. Benefit Tomorrow



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Product-related and customer-specific training seminars

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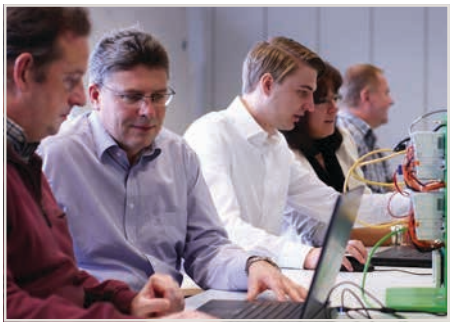
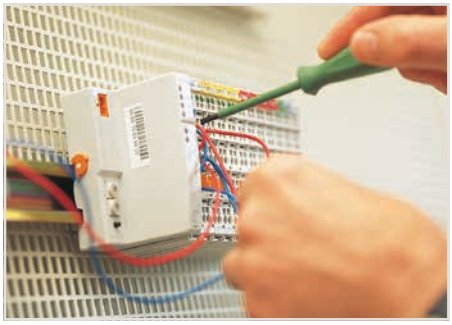
No question goes unanswered and no one is overlooked in WAGO training courses made up of small groups.



Teamwork

Learning is effective in a group. Ideas can be discussed and exchanged while experiences can be shared – all for the benefit of the participants.



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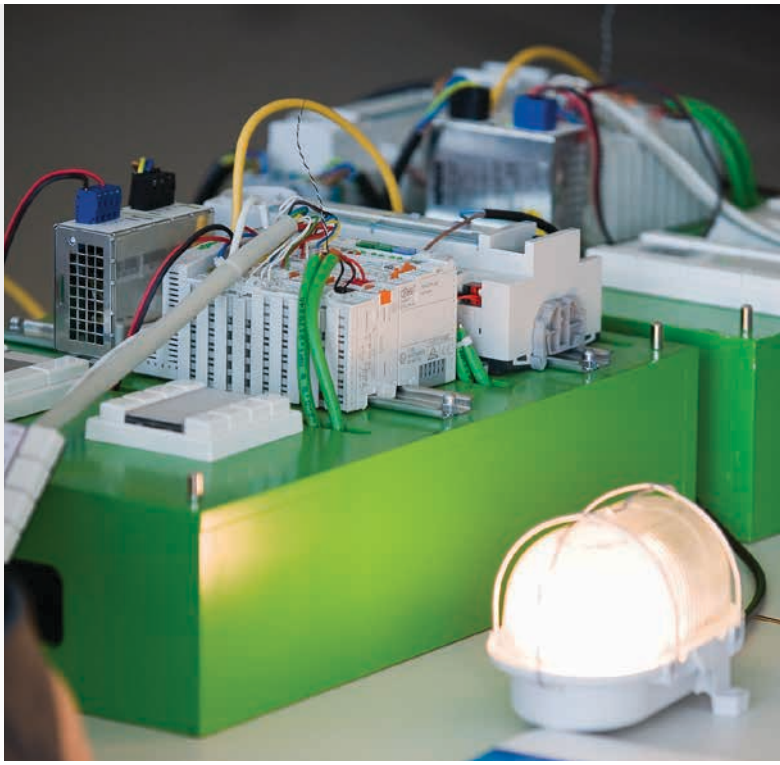

Product-Related Seminars

We regularly offer product-related training courses on the following:

- Building and industrial automation
- Programming of automation components
- Fieldbus systems

Current seminars at:

www.wago.com

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In addition to these "open" seminars, we also offer customer-specific courses as company seminars to address your company's particular needs.

Upon request, we can also conduct these courses at your location.

Special company seminars

Indexes and Addresses

Indexes and Addresses
Contents

Product Index

Item Number Index

Item Number Index

757 Series

758 Series

Item Number Index

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