

Sonder Sensor



M12 Automatisierungstechnik - Sonder - US-Kodierung

M12 Automation Technology - Special - US-Coding

Kabelsteckverbinder

- Schraubverriegelung nach DIN EN 61076-2-101
- Schutzart IP67/IP68 ¹⁾
- Am Kabel angespritzte Ausführungen
- Einfache Montage
- Winkelsteckverbinder in 4 Positionen einstellbar

Cable Connectors

- Screw locking according to DIN EN 61076-2-101
- Degree of protection IP67/IP68 ¹⁾
- Moulded versions
- Easy assembly
- Angled connector adjustable in 4 positions

¹⁾ Erläuterung der Schutzarten siehe technische Informationen. / ¹⁾ Explanation of protection standards see technical information.

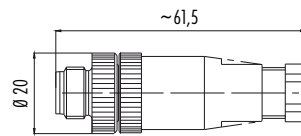
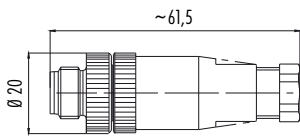
电缆连接器，针 M12 x 1
Male cable connector M12 x 1

电缆连接器，针 1/2" UNF
Male cable connector 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2529 14 03

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2429 14 03
	6-8 mm	99 2429 12 03

技术参数 / Specifications

芯数	2+PE	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF	Connector locking system
接线方式	螺钉接线 / screw	Termination
导线截面	max. 0,75 mm ² (max. AWG 20)	Wire gauge
电缆出口直径	4-6 mm, 6-8 mm	Cable outlet
防护等级	IP67	Degree of protection
插拔周期	>50插拔周期 / > 50 mating cycles	Mechanical operation
最高工作温度	+ 85 °C	Upper temperature
最低工作温度	- 25 °C	Lower temperature
额定电压	250 V	Rated voltage
额定冲击电压	2500 V	Rated impulse voltage
污染等级	3	Pollution degree
过电压等级	II	Overvoltage categorie
绝缘等级	II	Material group
额定电流 (40 °C)	4 A	Rated current (40 °C)
触点电阻	≤ 8 mΩ	Contact resistance
插针材料	CuZn (黄铜 / brass)	Material of contact
插针表面材料	CuSnZn (锡锌铜 / optalloy)	Contact plating
插头主体材料	PA	Material of contact body
外壳材料	PA	Material of housing

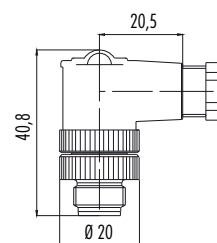
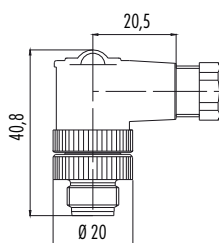
弯角电缆连接器，针 M12 x 1
Male angled connector M12 x 1

弯角电缆连接器，针 1/2" UNF
Male angled connector 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2529 24 03

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2429 24 03
	6-8 mm	99 2429 52 03

技术参数 / Specifications

芯数	2+PE	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF	Connector locking system
接线方式	螺钉接线 / screw	Termination
导线截面	max. 0,75 mm ² (max. AWG 20)	Wire gauge
电缆出口直径	4-6 mm, 6-8 mm	Cable outlet
防护等级	IP67	Degree of protection
插拔周期	>50插拔周期 / > 50 mating cycles	Mechanical operation
最高工作温度	+ 85 °C	Upper temperature
最低工作温度	- 25 °C	Lower temperature
额定电压	250 V	Rated voltage
额定冲击电压	2500 V	Rated impulse voltage
污染等级	3	Pollution degree
过电压等级	II	Overvoltage categorie
绝缘等级	II	Material group
额定电流 (40 °C)	4 A	Rated current (40 °C)
触点电阻	≤ 8 mΩ	Contact resistance
插针材料	CuZn (黄铜 / brass)	Material of contact
插针表面材料	CuSnZn (锡锌铜 / optalloy)	Contact plating
插头主体材料	PA	Material of contact body
外壳材料	PA	Material of housing

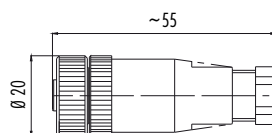
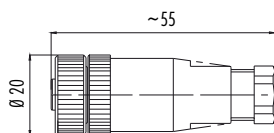
电缆连接器，孔 M12 x 1
Female cable connector M12 x 1

电缆连接器，孔 1/2" UNF
Female cable connector 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2530 14 03

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2430 14 03
	6-8 mm	99 2430 12 03

技术参数 / Specifications

芯数	2+PE	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF	Connector locking system
接线方式	螺钉接线 / screw	Termination
导线截面	max. 0,75 mm ² (max. AWG 20)	Wire gauge
电缆出口直径	4-6 mm, 6-8 mm	Cable outlet
防护等级	IP67	Degree of protection
插拔周期	>50插拔周期 / > 50 mating cycles	Mechanical operation
最高工作温度	+ 85 °C	Upper temperature
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额定电压	250 V	Rated voltage
额定冲击电压	2500 V	Rated impulse voltage
污染等级	3	Pollution degree
过电压等级	II	Overvoltage categorie
绝缘等级	II	Material group
额定电流 (40 °C)	4 A	Rated current (40 °C)
触点电阻	≤ 8 mΩ	Contact resistance
插针材料	CuSn (青铜 / bronze)	Material of contact
插针表面材料	CuSnZn (锡锌铜 / optalloy)	Contact plating
插头主体材料	PA	Material of contact body
外壳材料	PA	Material of housing

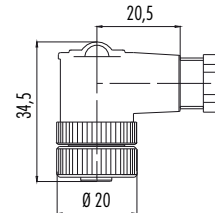
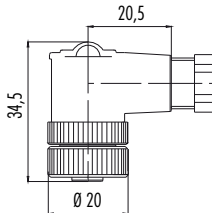
弯角电缆连接器，孔 M12 x 1
Female angled connector M12 x 1

弯角电缆连接器，孔 1/2" UNF
Female angled connector 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2530 24 03

芯数 Contacts	电缆出口直径 Cable outlet	订货号 Ordering-No.
2+PE	4-6 mm	99 2430 24 03
	6-8 mm	99 2430 52 03

技术参数 / Specifications

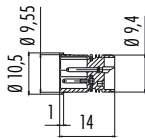
芯数	2+PE	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF	Connector locking system
接线方式	螺钉接线 / screw	Termination
导线截面	max. 0,75 mm ² (max. AWG 20)	Wire gauge
电缆出口直径	4-6 mm, 6-8 mm	Cable outlet
防护等级	IP67	Degree of protection
插拔周期	>50插拔周期 / > 50 mating cycles	Mechanical operation
最高工作温度	+ 85 °C	Upper temperature
最低工作温度	- 25 °C	Lower temperature
额定电压	250 V	Rated voltage
额定冲击电压	2500 V	Rated impulse voltage
污染等级	3	Pollution degree
过电压等级	II	Overvoltage categorie
绝缘等级	II	Material group
额定电流 (40 °C)	4 A	Rated current (40 °C)
触点电阻	≤ 8 mΩ	Contact resistance
插针材料	CuSn (青铜/bronze)	Material of contact
插针表面材料	CuSnZn (锡锌铜/optalloy)	Contact plating
插头主体材料	PA	Material of contact body
外壳材料	PA	Material of housing

电缆连接器，带接地环，针，焊接，金触点
Male receptacle with ground ring, solder, contact surface gold

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	订货号 Ordering-No.
2+PE	09 2431 09 03

芯数 Contacts	订货号 Ordering-No.

技术参数 / Specifications

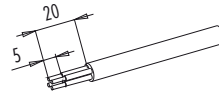
芯数	2+PE	Number of contacts
锁紧方式	M12 x 1 1/2 " UNF 螺母锁紧 / screw	Connector locking system
接线方式	焊接 / solder	Termination
导线截面	max. 0,5 mm ² (max. AWG 20)	Wire gauge
电缆出口直径	—	Cable outlet
防护等级	IP67	Degree of protection
插拔周期	>50插拔周期 / > 100 mating cycles	Mechanical operation
最高工作温度	+ 85 °C	Upper temperature
最低工作温度	- 25 °C	Lower temperature
额定电压	250 V	Rated voltage
额定冲击电压	2500 V	Rated impulse voltage
污染等级	3	Pollution degree
过电压等级	II	Overvoltage categorie
绝缘等级	II	Material group
额定电流 (40 °C)	4 A	Rated current (40 °C)
触点电阻	≤ 3 mΩ	Contact resistance
插针材料	CuZn (黄铜 / brass)	Material of contact
插针表面材料	Au (金 / gold)	Contact plating
插头主体材料	PA	Material of contact body
外壳材料	PA	Material of housing

安装指南

Assembly instruction

裸线长度

Strip measures

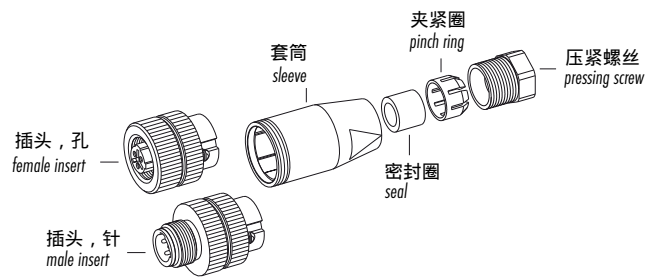


零件图样

Component part drawing

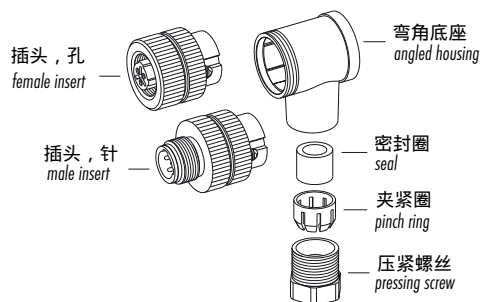
电缆连接器

Cable connectors



弯角连接器

Angled connectors



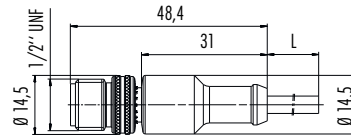
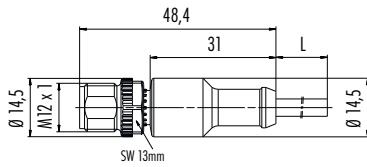
浇铸电缆连接器，针 M12 x 1
Male cable connector moulded, M12 x 1

浇铸电缆连接器，针 1/2" UNF
Male cable connector moulded, 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4729 0000 50003-0200
		5 m	77 4729 0000 50003-0500
4	PUR	2 m	77 4729 0000 50004-0200
		5 m	77 4729 0000 50004-0500

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4705 0000 50003-0200
		5 m	77 4705 0000 50003-0500
4	PUR	2 m	77 4705 0000 50004-0200
		5 m	77 4705 0000 50004-0500

技术参数 / Specifications

芯数	3	4	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF		Connector locking system
接线方式	压接，浇铸电缆 / crimp, moulded		Termination
导线截面	0,34 mm ² (AWG 22)		Wire gauge
电缆出口直径	—		Cable outlet
防护等级	IP68		Degree of protection
插拔周期	>100插拔周期 / > 100 mating cycles		Mechanical operation
最高工作温度	+ 85 °C		Upper temperature
最低工作温度	- 25 °C		Lower temperature
额定电压	250 V		Rated voltage
额定冲击电压	2500 V		Rated impulse voltage
污染等级	3		Pollution degree
过电压等级	II		Overvoltage categorie
绝缘等级	II		Material group
额定电流 (40 °C)	4 A		Rated current (40 °C)
触点电阻	≤ 3 mΩ		Contact resistance
插针材料	CuZn (黄铜 / brass)		Material of contact
插针表面材料	Au (金 / gold)		Contact plating
插头主体材料	PUR		Material of contact body
外壳材料	PUR		Material of housing

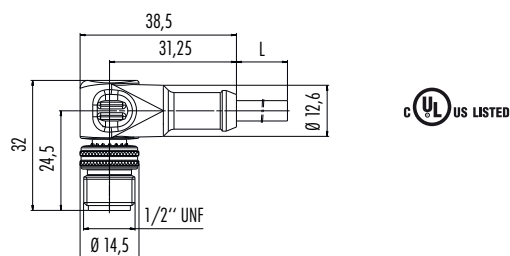
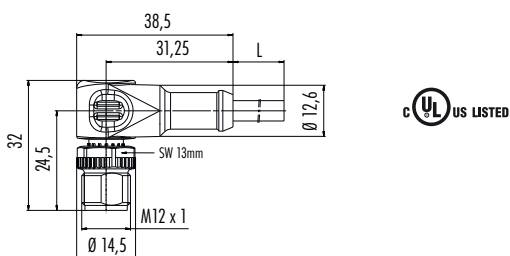
浇铸弯角电缆连接器，针 M12 x 1
Male angled connector moulded, M12 x 1

浇铸弯角电缆连接器，针 1/2" UNF
Male angled connector moulded, 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4727 0000 50003-0200
		5 m	77 4727 0000 50003-0500
4	PUR	2 m	77 4727 0000 50004-0200
		5 m	77 4727 0000 50004-0500

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4703 0000 50003-0200
		5 m	77 4703 0000 50003-0500
4	PUR	2 m	77 4703 0000 50004-0200
		5 m	77 4703 0000 50004-0500

技术参数 / Specifications

芯数	3	4	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF		Connector locking system
接线方式	压接，浇铸电缆 / crimp, moulded		Termination
导线截面	0,34 mm ² (AWG 22)		Wire gauge
电缆出口直径	—		Cable outlet
防护等级	IP68		Degree of protection
插拔周期	>100插拔周期 / > 100 mating cycles		Mechanical operation
最高工作温度	+ 85 °C		Upper temperature
最低工作温度	- 25 °C		Lower temperature
额定电压	250 V		Rated voltage
额定冲击电压	2500 V		Rated impulse voltage
污染等级	3		Pollution degree
过电压等级	II		Overvoltage categorie
绝缘等级	II		Material group
额定电流 (40 °C)	4 A		Rated current (40 °C)
触点电阻	≤ 3 mΩ		Contact resistance
插针材料	CuZn (黄铜 / brass)		Material of contact
插针表面材料	Au (金 / gold)		Contact plating
插头主体材料	PUR		Material of contact body
外壳材料	PUR		Material of housing

¹⁾ 标准电缆长度2米和5米，其他电缆长度可以定制。¹⁾ Standard cable length is 2 m/5 m. Other length upon request.

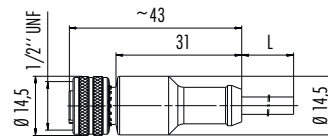
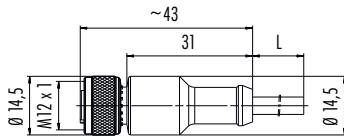
浇铸电缆连接器，孔 M12 x 1
Female cable connector moulded, M12 x 1

浇铸电缆连接器，孔 1/2" UNF
Female cable connector moulded, 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4730 0000 50003-0200
		5 m	77 4730 0000 50003-0500
4	PUR	2 m	77 4730 0000 50004-0200
		5 m	77 4730 0000 50004-0500

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4706 0000 50003-0200
		5 m	77 4706 0000 50003-0500
4	PUR	2 m	77 4706 0000 50004-0200
		5 m	77 4706 0000 50004-0500

技术参数 / Specifications

芯数	3	4	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 / screw M12 x 1, 1/2" UNF		Connector locking system
接线方式	压接，浇铸电缆 / crimp, moulded		Termination
导线截面	0,34 mm ² (AWG 22)		Wire gauge
电缆出口直径	—		Cable outlet
防护等级	IP68		Degree of protection
插拔周期	>100插拔周期 / > 100 mating cycles		Mechanical operation
最高工作温度	+ 85 °C		Upper temperature
最低工作温度	- 25 °C		Lower temperature
额定电压	250 V		Rated voltage
额定冲击电压	2500 V		Rated impulse voltage
污染等级	3		Pollution degree
过电压等级	II		Overvoltage categorie
绝缘等级	II		Material group
额定电流 (40 °C)	4 A		Rated current (40 °C)
触点电阻	≤ 3 mΩ		Contact resistance
插针材料	CuSn (青铜 / bronze)		Material of contact
插针表面材料	Au (金 / gold)		Contact plating
插头主体材料	PUR		Material of contact body
外壳材料	PUR		Material of housing

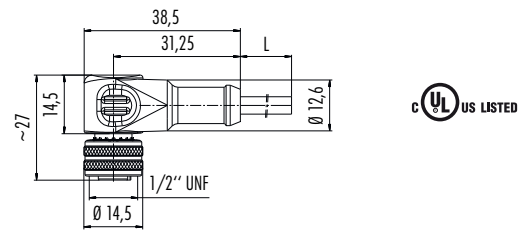
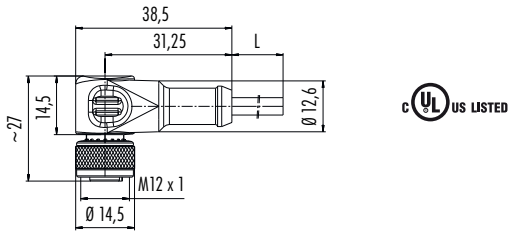
浇铸弯角电缆连接器，孔 M12 x 1
Female angled connector moulded, M12 x 1

浇铸弯角电缆连接器，孔 1/2" UNF
Female angled connector moulded, 1/2" UNF

图例 / Figure



尺寸图 / Drawing



订货信息 / Order Data

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4734 0000 50003-0200
		5 m	77 4734 0000 50003-0500
4	PUR	2 m	77 4734 0000 50004-0200
		5 m	77 4734 0000 50004-0500

芯数 Contacts	电缆护套 Cable jacket	电缆长度 Cable length	订货号 ¹⁾ Ordering-No. ¹⁾
3	PUR	2 m	77 4708 0000 50003-0200
		5 m	77 4708 0000 50003-0500
4	PUR	2 m	77 4708 0000 50004-0200
		5 m	77 4708 0000 50004-0500

技术参数 / Specifications

芯数	3	4	Number of contacts
锁紧方式	M12 x 1 1/2" UNF 螺母锁紧 screw M12 x 1, 1/2" UNF		Connector locking system
接线方式	压接，浇铸电缆 / crimp, moulded		Termination
导线截面	0,34 mm ² (AWG 22)		Wire gauge
电缆出口直径	—		Cable outlet
防护等级	IP68		Degree of protection
插拔周期	>100插拔周期 / > 100 mating cycles		Mechanical operation
最高工作温度	+ 85 °C		Upper temperature
最低工作温度	- 25 °C		Lower temperature
额定电压	250 V		Rated voltage
额定冲击电压	2500 V		Rated impulse voltage
污染等级	3		Pollution degree
过电压等级	II		Overvoltage categorie
绝缘等级	II		Material group
额定电流 (40 °C)	4 A		Rated current (40 °C)
触点电阻	≤ 3 mΩ		Contact resistance
插针材料	CuSn (青铜 / bronze)		Material of contact
插针表面材料	Au (金 / gold)		Contact plating
插头主体材料	PUR		Material of contact body
外壳材料	PUR		Material of housing

¹⁾ 标准电缆长度2米和5米，其他电缆长度可以定制。¹⁾ Standard cable length is 2 m/5 m. Other length upon request.

电缆技术参数
Specifications

标准电缆
Standard cable

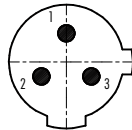
芯数	3	4	Number of contacts
导线截面mm ² ¹⁾	3 x 0,34 mm ² (AWG 22)	4 x 0,34 mm ² (AWG 22)	Wire gauge mm ² ¹⁾
电缆护套材料	PUR	PUR	Material jacket
导线绝缘层	PP	PP	Insulation wire
导线规格 (mm)			Design of wire (mm)
电缆外壳 (mm)	4,3	4,7	Cable jacket (mm)
导线电阻	60 Ω/Km (20 °C)	60 Ω/Km (20 °C)	Resistance of wire
工作温度范围 (电缆运动)		- 25 °C /+ 90 °C	Temperature range (cable in move)
工作温度范围 (电缆静止)		- 50 °C /+ 90 °C	Temperature range (cable not in move)
弯曲半径 (电缆运动)		min. 10 x D	Bending radius (cable in move)
弯曲半径 (电缆静止)		min. 5 x D	Bending radius (cable not in move)
弯曲周期		5 Mio.	Bending cycles (at 10 x D)
允许加速度		5 m/s ²	Permitted acceleration
水平移动 5 m/s		5 m	Traverse path horizontal 5 m/s ²
垂直移动 5 m/s		5 m	Traverse path vertical 5 m/s ²
移动速度	Bei 5 m horizontalem Weg bis 200 m/min./At 5 m horizontal traverse up to 200 m/min.		Traverse speed
备注	In der Schleppkette oder bei mechanischer Beanspruchung +60 °C./In chain flex application or when stressed mechanically +60 °C.		Remark
认证	UL/CSA		Approval
UL 类型	AWM 20549		UL-style

针位图
Contact arrangements

插孔，针 (接触面)
Male insert (mating side)

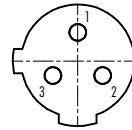
插孔，孔 (接触面)
Female insert (mating side)

3 芯
3 contacts



	X	Y
1	0,00	1,90
2	-1,65	-0,95
3	1,65	-0,95

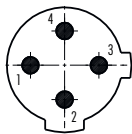
- 1 棕 / brown
- 2 蓝 / blue
- 3 黑 / black



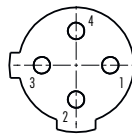
	X	Y
1	0,00	1,90
2	1,65	-0,95
3	-1,65	-0,95

- 1 棕 / brown
- 2 蓝 / blue
- 3 黑 / black

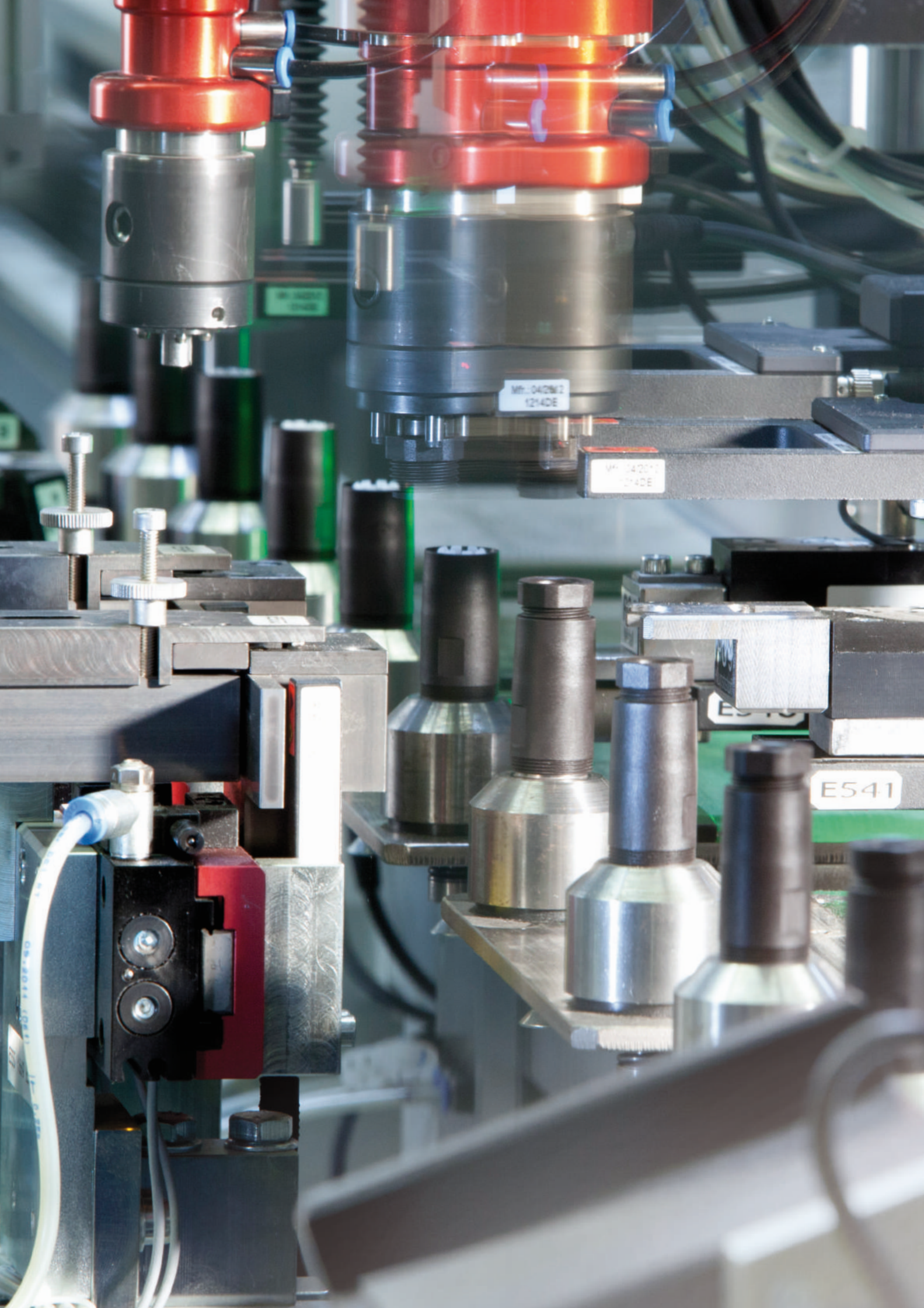
4 芯
4 contacts



- 1 棕 / brown
- 2 白 / white
- 3 蓝 / blue
- 4 黑 / black



- 1 棕 / brown
- 2 白 / white
- 3 蓝 / blue
- 4 黑 / black



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