

## Distributed I/O device - AXL E EIP DIO16 M12 6M - 2701489

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Axioline E, Digital I/O device, EtherNet/IP™, M12 fast connection technology, Digital inputs: 16, 24 V DC, connection method: 4-wire, Digital outputs: 16, 24 V DC, 500 mA, connection method: 3-wire, Metal housing, degree of protection: IP65/IP67

### Product Description


The Axioline E device is designed for use within an EtherNet/IP™ network. It is used to acquire and output digital signals. The device is designed for use in systems manufacturing. It is suitable for use without a control cabinet under harsh industrial conditions. The Axioline E device can be used on tool platforms, directly on welding robots or in conveying technology, for example.

### Your advantages

- ✓ Connection to EtherNet/IP™ network using M12connectors (D-coded)
- ✓ Transmission speed of 10 Mbps and 100 Mbps
- ✓ Connection of digital sensors and actuators using M12connectors (A-coded)
- ✓ Diagnostic and status indicators
- ✓ Short-circuit and overload protection of the sensor supply
- ✓ IP65/IP67 degree of protection



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 762830
GTIN	4046356762830
Weight per Piece (excluding packing)	720.000 g
Custom tariff number	85176200
Country of origin	Germany

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## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### Dimensions

Width	60 mm
Height	185 mm
Depth	38 mm
Note on dimensions	The height is 194.5 mm including the mounting plate. With fixing clips pulled out, the height is 212 mm. The depth is 38 mm including the mounting plate (30.5 mm without the mounting plate).
Drill hole spacing	198.5 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 %
Permissible humidity (storage/transport)	5 % ... 95 %
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Degree of protection	IP65/IP67

### General

Housing material	Zinc die-cast
Mounting type	Wall mounting or DIN rail mounting; both with mounting plate.
Net weight	713.8 g

### Interfaces

Designation	EtherNet/IP™
No. of channels	2
Connection method	M12 fast connection technology
Note on the connection method	D-coded
Designation connection point	Copper cable
Transmission speed	10/100 Mbps (with auto negotiation)
Number of positions	4

### System limits of the bus coupler

Designation	EtherNet/IP™
Equipment type	EtherNet/IP™ slave
System-specific protocols	EtherNet/IP™ protocols ACD
	EtherNet/IP™ protocols DLR

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### Technical data

#### System limits of the bus coupler

	EtherNet/IP™ protocols IGMP v2
Protocols supported	SNMP v1
	HTTP
	TFTP
	FTP
	BootP
	DHCP
Specification	CIP Edition 3.11 EIP adaptation of CIP 1.12

#### Supply

Designation	Actuators (U <sub>A</sub> ) for additional devices
Connection method	M12 connector (T-coded)
Number of positions	4
Supply voltage	24 V DC
Supply voltage range	18 V DC ... 31.2 V DC (including all tolerances, including ripple)
Current consumption	typ. 3 mA ±15 % (at 24 V DC)

#### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Connection method	M12 connector, double occupancy
Connection technology	4-wire
Number of inputs	16
Type of protection	Overload protection, short-circuit protection of sensor supply
Input filter time	< 1000 μs
Input voltage range "0" signal	0 V ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input current at U <sub>IN</sub>	typ. 3 mA

#### Digital outputs

Output name	Digital outputs
Connection method	M12 connector, double occupancy
Connection technology	3-wire
Number of outputs	16
Type of protection	Overload protection, short-circuit protection of outputs
Output voltage	24 V DC
Nominal output voltage	24 V DC (from voltage U <sub>S</sub> )
Maximum output current per channel	500 mA

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### Technical data

#### Digital outputs

Nominal load, inductive	12 VA (1.2 H, 48 Ω, with nominal voltage)
Nominal load, ohmic	12 W (48 Ω, with nominal voltage)

#### Electrical isolation

Test section	24 V supply (communications power/sensor supply, digital inputs/outputs)/ bus connection (Ethernet 1) 500 V AC 50 Hz 1 min.
	24 V supply (communications power/sensor supply, digital inputs/outputs)/ bus connection (Ethernet 2) 500 V AC 50 Hz 1 min.
	24 V supply (communications power/sensor supply, digital inputs/outputs)/ FE 500 V AC 50 Hz 1 min.
	Bus connection (Ethernet 1)/FE 500 V AC 50 Hz 1 min.
	Bus connection (Ethernet 2)/FE 500 V AC 50 Hz 1 min.
	Bus connection (Ethernet 1)/bus connection (Ethernet 2) 500 V AC 50 Hz 1 min.
	24 V supply (actuator supply)/24 V supply (communications power and sensor supply, digital inputs/outputs) 500 V AC 50 Hz 1 min.
	24 V supply (actuator supply)/bus connection (Ethernet 1) 500 V AC 50 Hz 1 min.
	24 V supply (actuator supply)/bus connection (Ethernet 2) 500 V AC 50 Hz 1 min.
	24 V supply (actuator supply)/FE 500 V AC 50 Hz 1 min.

#### Standards and Regulations

Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g, 11 ms period, half-sine shock pulse
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

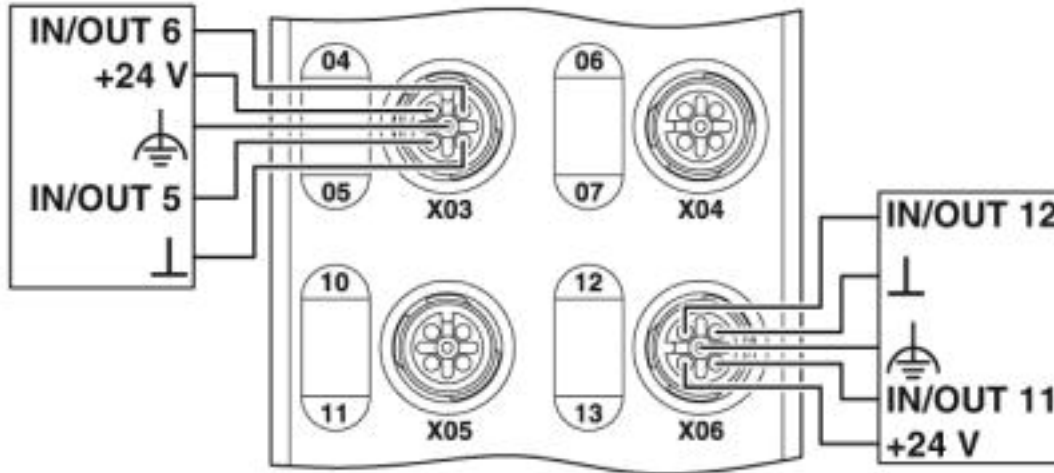
#### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

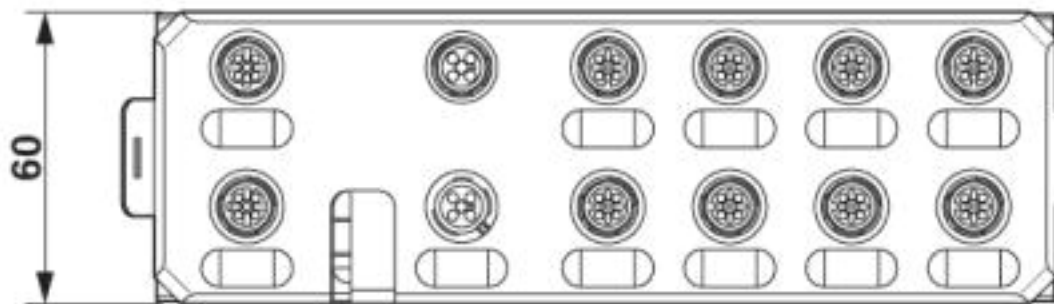
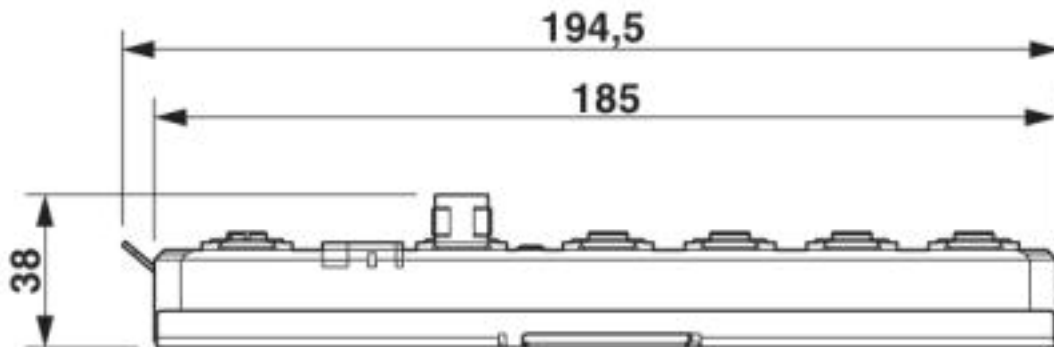
### Drawings

# Distributed I/O device - AXL E EIP DIO16 M12 6M - 2701489

Connection diagram



Dimensional drawing



## Distributed I/O device - AXL E EIP DIO16 M12 6M - 2701489

### Classifications

#### eCl@ss

eCl@ss 4.0	27240400
eCl@ss 4.1	27240400
eCl@ss 5.0	27242200
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

#### ETIM

ETIM 2.0	EC001433
ETIM 3.0	EC001599
ETIM 4.0	EC001599
ETIM 5.0	EC001599
ETIM 6.0	EC001599
ETIM 7.0	EC001599

#### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

### Approvals

#### Approvals

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##### Approvals

EtherNet/IP CONFORMANCE TESTED TM / UL Listed / cUL Listed / cULus Listed

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##### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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#### Approval details

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### Approvals

EtherNet/IP CONFORMANCE TESTED TM	11145
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UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cULus Listed			
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### Accessories

#### Accessories

#### Assembly element

Mounting plate - AXL E MP 60 - 2701761



Mounting plate for Axioline E metal devices

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#### Circular connector (cable-side)

Bus system connector - SACC-M12MSD-4CON-PG 9-SH - 1521261



Bus system connector, Ethernet/PROFINET CAT5 (100 Mbps), 4-position, shielded, Plug straight M12, D-coded, Screw connection, knurl material: Zinc die-cast, nickel-plated, cable gland Pg9, external cable diameter 6 mm ... 8 mm

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#### Data cable preassembled

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### Accessories

Network cable - NBC-MSD SCO/.../... - 1408713



Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on free cable end, cable length: Free input (0.2 ... 40.0 m)

Network cable - NBC-MSD-FSD SCO/.../... - 1408692



Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Socket straight M12 SPEEDCON / IP67, coding: D, cable length: Free input (0.2 ... 40.0 m)

Network cable - NBC-MSD-MSD SCO/.../... - 1408706



Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight M12 SPEEDCON / IP67, coding: D, cable length: Free input (0.2 ... 40.0 m)

Network cable - NBC-MSD-R4AC SCO/.../... - 1408712



Network cable, Ethernet CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

### Device marking

Snap-in markers - UCT-EM (7X10) - 0830765



Snap-in markers, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped into marker carrier, lettering field size: 7 x 10 mm, Number of individual labels: 30

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### Accessories

#### Power cable

Power cable - SAC-4P- 1,5-PUR/M12FRT SH - 1424116



Power cable, 4-position, PUR halogen-free, black RAL 9005, shielded (Advanced Shielding Technology), free cable end, on Socket angled M12, T-coded, cable length: 1.5 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MST/ 1,5-PUR SH - 1424120



Power cable, 4-position, PUR halogen-free, black RAL 9005, shielded (Advanced Shielding Technology), Plug straight M12, T-coded, on free cable end, cable length: 1.5 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MST/ 1,0-PUR - 1408812



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on free cable end, cable length: 1 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MST/ 2,0-PUR - 1408813



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on free cable end, cable length: 2 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MST/ 5,0-PUR - 1408814



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on free cable end, cable length: 5 m, For direct current up to 12 A/63 V

## Distributed I/O device - AXL E EIP DIO16 M12 6M - 2701489

### Accessories

Power cable - SAC-4P-M12MST/10,0-PUR - 1408815



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on free cable end, cable length: 10 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MRT/ 1,0-PUR - 1408816



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, T-coded, on free cable end, cable length: 1 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MRT/ 2,0-PUR - 1408819



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, T-coded, on free cable end, cable length: 2 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MRT/ 5,0-PUR - 1408820



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, T-coded, on free cable end, cable length: 5 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MRT/10,0-PUR - 1408822



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, T-coded, on free cable end, cable length: 10 m, For direct current up to 12 A/63 V

## Distributed I/O device - AXL E EIP DIO16 M12 6M - 2701489

### Accessories

Power cable - SAC-4P- 1,0-PUR/M12FST - 1408823



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, T-coded, cable length: 1 m, For direct current up to 12 A/63 V

Power cable - SAC-4P- 2,0-PUR/M12FST - 1408824



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, T-coded, cable length: 2 m, For direct current up to 12 A/63 V

Power cable - SAC-4P- 5,0-PUR/M12FST - 1408825



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, T-coded, cable length: 5 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-10,0-PUR/M12FST - 1408826



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, T-coded, cable length: 10 m, For direct current up to 12 A/63 V

Power cable - SAC-4P- 1,0-PUR/M12FRT - 1408827



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, T-coded, cable length: 1 m, For direct current up to 12 A/63 V

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### Accessories

Power cable - SAC-4P- 2,0-PUR/M12FRT - 1408828



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Socket angled M12, on free cable end, cable length: 2 m, For direct current up to 12 A/63 V

Power cable - SAC-4P- 5,0-PUR/M12FRT - 1408829



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Socket angled M12, on free cable end, cable length: 5 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-10,0-PUR/M12FRT - 1408830



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Socket angled M12, on free cable end, cable length: 10 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MST/ 0,3-PUR/M12FST - 1408806



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on Socket straight M12, T-coded, cable length: 0.3 m, For direct current up to 12 A/63 V

Power cable - SAC-4P-M12MST/ 0,6-PUR/M12FST - 1408807



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on Socket straight M12, T-coded, cable length: 0.6 m, For direct current up to 12 A/63 V

## Distributed I/O device - AXL E EIP DIO16 M12 6M - 2701489

### Accessories

Power cable - SAC-4P-M12MST/ 1,0-PUR/M12FST - 1408808



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on Socket straight M12, T-coded, cable length: 1 m, For direct current up to 12 A/63 V

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Power cable - SAC-4P-M12MST/ 2,0-PUR/M12FST - 1408809



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on Socket straight M12, T-coded, cable length: 2 m, For direct current up to 12 A/63 V

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Power cable - SAC-4P-M12MST/ 5,0-PUR/M12FST - 1408810



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on Socket straight M12, T-coded, cable length: 5 m, For direct current up to 12 A/63 V

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Power cable - SAC-4P-M12MST/10,0-PUR/M12FST - 1408811



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, T-coded, on Socket straight M12, T-coded, cable length: 10 m, For direct current up to 12 A/63 V

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### Protective cap

Screw plug - PROT-M12 - 1680539



An M12 screw plug for the unoccupied M12 sockets of the sensor/actuator cable, boxes and flush-type connectors

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### Accessories

#### Sensor/actuator cable

Sensor/actuator cable - SAC-3P-M12MS/.../... - 1696662



Sensor/actuator cable, 3-position, Variable cable type, Plug straight M12, A-coded, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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Sensor/actuator cable - SAC-3P-M12MS-M12FS/.../... - 1696756



Sensor/actuator cable, 3-position, Variable cable type, Plug straight M12, A-coded, on Socket straight M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

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Sensor/actuator cable - SAC-3P-M12MS-M12FS/.../... - 1696756



Sensor/actuator cable, 3-position, Variable cable type, Plug straight M12, A-coded, on Socket straight M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

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Sensor/actuator cable - SAC-4P-MS SCO/.../... - 1523560



Sensor/actuator cable, 4-position, Variable cable type, Plug straight M12 SPEEDCON, A-coded, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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Sensor/actuator cable - SAC-4P-MR SCO/.../... - 1523573



Sensor/actuator cable, 4-position, Variable cable type, Plug angled M12 SPEEDCON, A-coded, on free cable end, cable length: Free input (0.2 ... 40.0 m)

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### Accessories

Sensor/actuator cable - SAC-4P-MS-FS SCO/.../... - 1523586



Sensor/actuator cable, 4-position, Variable cable type, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded, cable length: Free input (0.2 ... 40.0 m)

Sensor/actuator cable - SAC-4P-M12MR-M12FS/.../... - 1697030



Sensor/actuator cable, 4-position, Variable cable type, Plug angled M12, A-coded, on Socket straight M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

Sensor/actuator cable - SAC-4P-M12MR-M12FR/.../... - 1697043



Sensor/actuator cable, 4-position, Variable cable type, Plug angled M12, A-coded, on Socket angled M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

Sensor/actuator cable - SAC-5P-M12MR/.../... - 1697108



Sensor/actuator cable, 5-position, Variable cable type, Plug angled M12, A-coded, on free cable end, cable length: Free input (0.2 ... 40.0 m)

Sensor/actuator cable - SAC-3P-M12MR-M12FS/.../... - 1513428



Sensor/actuator cable, 3-position, Variable cable type, Plug angled M12, A-coded, on Socket straight M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

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### Accessories

Sensor/actuator cable - SAC-5P-MS-FS SCO/.../... - 1523625



Sensor/actuator cable, 5-position, Variable cable type, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded, cable length: Free input (0.2 ... 40.0 m)

Sensor/actuator cable - SAC-5P-M12MR-M12FS/.../... - 1508734



Sensor/actuator cable, 5-position, Variable cable type, Plug angled M12, A-coded, on Socket straight M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

Sensor/actuator cable - SAC-5P-M12MR-M12FR/.../... - 1529506



Sensor/actuator cable, 5-position, Variable cable type, Plug angled M12, A-coded, on Socket angled M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

### Y-distributor

Y distributor - SAC-3P-Y/2XM 8FS SCO - 1523984



Y distributor, 4-position, Plug straight M12 SPEEDCON, A-coded, on Socket straight M8, A-coded and Socket straight M8, A-coded

Y distributor - SAC-3P-Y/2XFS PE SCO - 1523971



Y distributor, 4-position, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded and Socket straight M12 SPEEDCON, A-coded

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### Accessories

Y distributor - SAC-3P-Y/2XFS B PE SCO - 1523968



Y distributor, 4-position, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded, PIN 2+4 bridged and Socket straight M12 SPEEDCON, A-coded, PIN 2+4 bridged, Thread M12 socket not rotatable

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Y distributor - SAC-5P-Y/2XFS VP SCO - 1546068



Y distributor, 5-position, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded and Socket straight M12 SPEEDCON, A-coded, Parallel distributor, Thread M12 socket not rotatable

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