

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

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Axioline E, Digital input device, Ethernet, M12 fast connection technology, Digital inputs: 16, 24 V DC, connection method: 4-wire, Plastic housing, degree of protection: IP65/IP67

### Product Description

The Axioline E device is designed for use within an Ethernet network (Modbus/TCP). It is used to acquire digital signals.

### Your advantages

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

Modbus/TCP (UDP)

### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356763813
Weight per Piece (excluding packing)	540.000 g
Custom tariff number	85176200
Country of origin	Germany

### Technical data

#### Note

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

#### Dimensions

Width	60 mm
Height	185 mm
Depth	30.5 mm
Note on dimensions	The height is 212 mm including fixing clips.
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	Pocan®
Mounting type	Wall mounting
Net weight	480 g

#### Interfaces

Designation	Ethernet
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	Modbus/TCP
Equipment type	Modbus slave (server)
System-specific protocols	Modbus protocols Modbus/TCP
Protocols supported	SNMP v1
	HTTP
	TFTP
	FTP
	BootP
	DHCP

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### Technical data

#### System limits of the bus coupler

Specification	Modbus application protocol V1.1b
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#### Supply

Designation	Module electronics and sensors (U <sub>S</sub> )
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. 190 mA ±15 % (at 24 V DC)
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

#### Electrical isolation

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

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### Technical data

#### Electrical isolation

	24 V supply (actuator supply)/24 V supply (communications power and sensor supply, digital inputs) 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

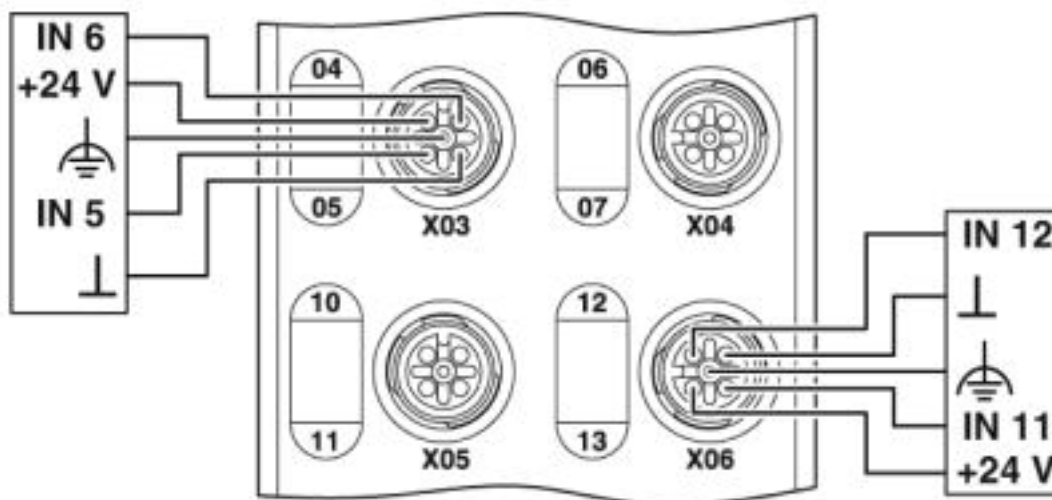
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g, 11 ms period, half-sine shock pulse
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

#### Environmental Product Compliance

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

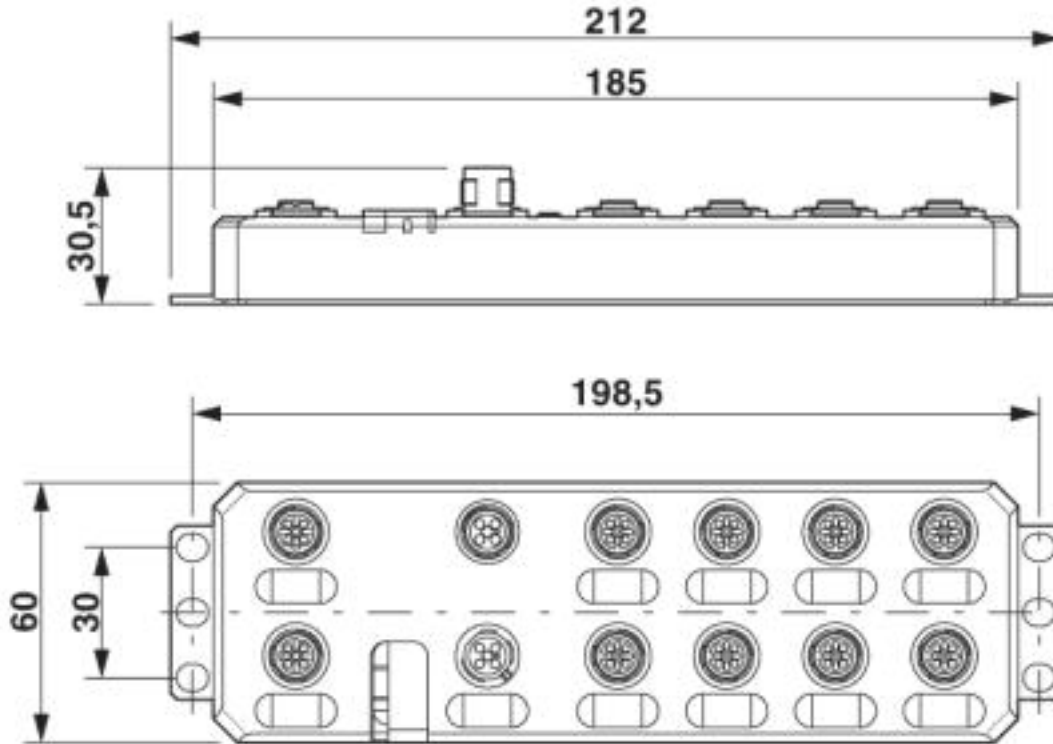
### Drawings

Connection diagram



## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

Dimensional drawing



### 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

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## Classifications

### ETIM

ETIM 7.0	EC001599
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### UNSPSC

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

## Approvals

### Approvals

#### Approvals

UL Listed / cUL Listed / cULus Listed

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cULus Listed			
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## Accessories

### Accessories

Circular connector (cable-side)

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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

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)

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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)

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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)

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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)

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### Accessories

#### 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

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#### 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

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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

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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

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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

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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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

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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

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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

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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

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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

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## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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

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

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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

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

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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

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

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

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

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

Protective cap

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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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### 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-M12MR/.../... - 1696675



Sensor/actuator cable, 3-position, Variable cable type, Plug angled 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-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-3P-M12MR-M12FR/.../... - 1513318



Sensor/actuator cable, 3-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-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)

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)

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)

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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-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)

Sensor/actuator cable - SAC-5P-M12MS/.../... - 1697098



Sensor/actuator cable, 5-position, Variable cable type, Plug straight M12, A-coded, on free cable end, 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-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)

## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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)

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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)

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### 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

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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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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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## Distributed I/O device - AXL E ETH DI16 M12 6P - 2701533

### Accessories

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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