

Distributed I/O device - AXL E EC DI16 M12 6P - 2701521

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Axioline E, Digital input device, EtherCAT®, 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 EtherCAT® network. It is used to acquire digital signals.

Your advantages

- ✓ Connection to EtherCAT® network using M12connectors (D-coded)
- ✓ Transmission speed of 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



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 763714
GTIN	4046356763714
Weight per Piece (excluding packing)	540.000 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

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

System limits of the bus coupler

Designation	EtherCAT®
Equipment type	EtherCAT® slave
System-specific protocols	Mailbox protocols CANopen® over EtherCAT®
	Mailbox protocols File access over EtherCAT®
Type of addressing	Auto-increment addressing
	Fixed position addressing

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System limits of the bus coupler

	Logical addressing
Specification	ETG.1000 V1.02

Supply

Designation	Module electronics and sensors (U_S)
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 $\pm$ 15 % (at 24 V DC)
Designation	Actuators (U_A) 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 $\pm$ 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 μ s
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_{IN}	typ. 3 A

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"

Classifications

eCl@ss

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

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Classifications

UNSPSC

UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EtherCAT / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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EtherCAT			0x84_001
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cULus Listed			
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Accessories

Accessories

Circular connector (cable-side)

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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

Data cable preassembled

Network cable - NBC-MSD-FSD SCO-PN/.../... - 1408617



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, 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-PN/.../... - 1408634



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, 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-PN/.../... - 1408639



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® 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

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Accessories

Power cable

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- 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/ 1,0-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

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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

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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 EC DI16 M12 6P - 2701521

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

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

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)

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)

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)

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-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)

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Accessories

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)

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)

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Accessories

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)

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

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Accessories

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

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

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