

AXL E EC IOL8 DI4 M12 6M - Distributed I/O device



2701531

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Axioline E, EtherCAT®, M12 connector, IO-Link ports Class A: 4, connection method: M12 connector, connection technology: 3-conductor, IO-Link ports Class B: 4, connection method: M12 connector, connection technology: 3-conductor, Digital inputs at pin 2 for class A ports: 4, 24 V DC, connection technology: 3-conductor, Metal housing, degree of protection: IP65/IP67

Product description

The Axioline E device is designed for use within an EtherCAT® network. It enables the operation of up to eight IO-Link sensors/actuators and is also used to acquire digital signals.

Your advantages

- Connection to EtherCAT® network using M12 connectors (D-coded)
- Transmission speed of 100 Mbps
- Connection of four IO-Link devices with additional digital input
- Connection of four IO-Link actuators with additional power supply
- Connection of IO-Link ports using M12connectors (A-coded, 5-pos.)
- IO-Link specification V1.1.2
- Diagnostic and status indicators
- Short-circuit and overload protection of the sensor supply
- IP65/IP67 degree of protection

Commercial data

Item number	2701531
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DR04
Product key	DRI7PE
GTIN	4046356763790
Weight per piece (including packing)	726.9 g
Weight per piece (excluding packing)	726.9 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

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

Material specifications

Housing material	Die-cast zinc
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Interfaces

EtherCAT®

Number of interfaces	2
No. of channels	2
Connection method	M12 connector
Note on the connection method	D-coded
Number of positions	4
Transmission speed	100 Mbps (with auto negotiation)

EtherCAT®

Equipment type	EtherCAT® subdevice
System-specific protocols	Mailbox protocols CANopen® over EtherCAT® Mailbox protocols File access over EtherCAT®
Specification	ETG.1000 V1.02

Input data

Digital:

Input name	Digital inputs at pin 2 for class A ports
Description of the input	IEC 61131-2 type 1
Number of inputs	4
Connection method	M12 connector, X01 ... X04 have double occupancy
Connection technology	3-conductor
Input voltage range "0" signal	-0.3 V DC ... 5 V DC

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Input voltage range "1" signal	15 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	typ. 3 mA
Sensor current per channel	max. 200 mA (from L+/L-)
Total sensor current	max. 1.6 A (from L+/L-)
Input frequency	0.5 kHz
Input filter time	< 1000 μ s
Protective circuit	Overload protection, short-circuit protection of sensor supply

Digital

Description of the input	IO-Link ports in digital input (DI) mode
Number of inputs	max. 8 (IEC 61131-2 type 1)
Connection method	M12 connector, X01 ... X04 have double occupancy
Connection technology	3-conductor
Nominal input voltage U_{IN}	24 V DC
Input voltage range "0" signal	-0.3 V DC ... 5 V DC
Input voltage range "1" signal	15 V DC ... 30 V DC
Nominal input current	typ. 3 mA
Sensor current per channel	max. 200 mA (from L+/L-)
Total sensor current	max. 1.6 A (from L+/L-)
Input filter time	< 1000 μ s
Input frequency	0.5 kHz
Protective circuit	Overload protection; yes Short-circuit protection for the sensor supply; yes

IO-Link

Number of ports	4
Connection method	M12 connector
Connection technology	3-conductor
Port type	Class A
Cycle Time	min. 2 ms (MasterCycleTime: PDInput* + PDOOutput* + OnReqData* <= 17 Bytes, COM3; * see "IO-Link Interface and System Specification V1.1.2")

IO-Link

Number of ports	4
Connection method	M12 connector
Connection technology	3-conductor
Port type	Class B
Cycle Time	min. 2 ms (MasterCycleTime: PDInput* + PDOOutput* + OnReqData* <= 17 Bytes, COM3; * see "IO-Link Interface and System Specification V1.1.2")

Output data

Digital

Output description	IO-Link ports in digital output (DO) mode
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Connection method	M12 connector, X01 ... X04 have double occupancy
Connection technology	3-conductor
Number of outputs	max. 8
Nominal output voltage	24 V DC
Maximum output current per channel	150 mA
Maximum output current per module	1.2 A
Nominal load, ohmic	3.6 W (160 Ω, at nominal load)
Nominal load, inductive	3.6 VA (0.8 H, 160 Ω, at nominal load)
Signal delay	max. 150 μs (when switched on) max. 200 μs (when switched off)
Switching rate	1 per second, maximum (at nominal inductive load) 5500 per second, maximum (at nominal ohmic load)
Limitation of the voltage induced on circuit interruption	-15 V DC
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 μA
Protective circuit	Overload protection; yes Short-circuit protection; yes
Behavior with overload	Shutdown with automatic restart

Product properties

Product type	I/O component
Product family	Axioline E
Type	Block design
Special properties	Metal housing

Electrical properties

Potentials

Voltage supply U_S	24 V DC
Power supply at U_S	max. 4 A
Current consumption from U_S	typ. 8 mA max. 1.2 A

Supply: IO-Link

Nominal voltage for I/O supply	24 V DC
Nominal current for every IO-Link port	max. 150 mA (at C/Q (pin 4), maximum of 1.6 A over all 8 IO-Link C/Q and L+ cables) max. 200 mA (at L+/L- (pin 1 and pin 3), during startup, up to 1.6 A for short periods) max. 2 A (at U_A (IO-Link B ports, pin 2 and pin 5))
Permissible cable length	< 20 m
Protective circuit	Overload protection; yes

Supply: Module electronics and sensors

Designation	Supply of module electronics and sensors (U_S)
Connection method	M12 connector, T-coded

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Number of positions	4
Supply voltage	24 V DC
Supply voltage range	19.5 V DC ... 31.2 V DC (including all tolerances, including ripple)
Current consumption	typ. 180 mA \pm 15 % (at 24 V DC) max. 12 A

Supply: Actuators

Designation	Supply of actuators (U_A)
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. 28 mA \pm 15 % (at 24 V DC) max. 12 A

Electrical isolation/isolation of the voltage ranges

Test voltage: 24 V supply (communications power and sensor supply, IO-Link ports)/bus connection (Ethernet 1)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (communications power and sensor supply, IO-Link ports)/bus connection (Ethernet 2)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (communications power and sensor supply, IO-Link ports)/FE	500 V AC, 50 Hz, 1 min
Test voltage: Bus connection (Ethernet 1)/FE	500 V AC, 50 Hz, 1 min
Test voltage: Bus connection (Ethernet 2)/FE	500 V AC, 50 Hz, 1 min
Test voltage: Bus connection (Ethernet 1)/bus connection (Ethernet 2)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply)/24 V supply (communications power and sensor supply, IO-Link ports)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply)/bus connection (Ethernet 1)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply)/bus connection (Ethernet 2)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply)/FE	500 V AC, 50 Hz, 1 min

Connection data

Connection method	M12 connector
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Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP65/IP67
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)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 %
Permissible humidity (storage/transport)	5 % ... 95 %

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Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g, 11 ms period, half-sine shock pulse
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Mounting

Mounting type	Panel mounting or DIN rail mounting; both with mounting panel.
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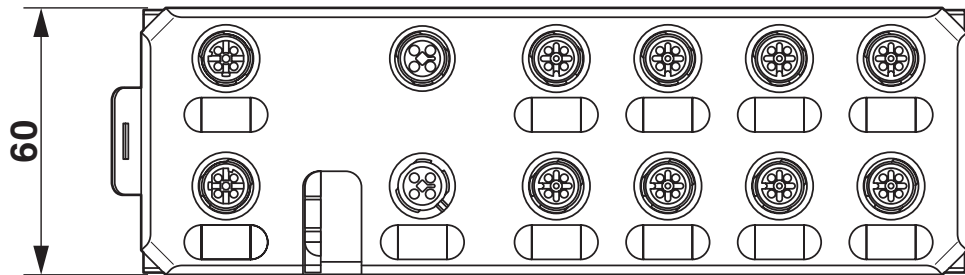
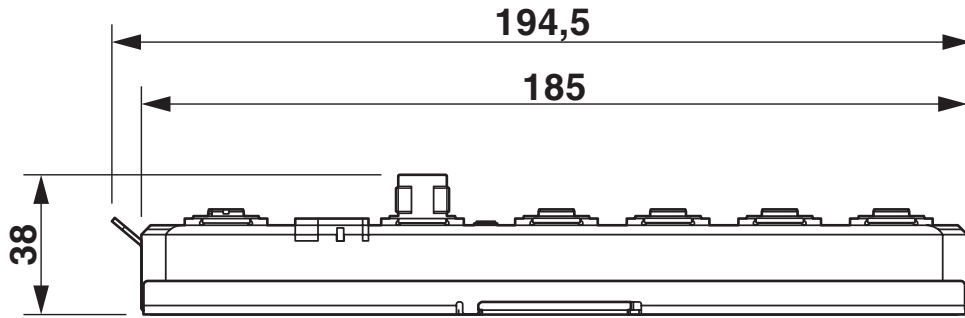


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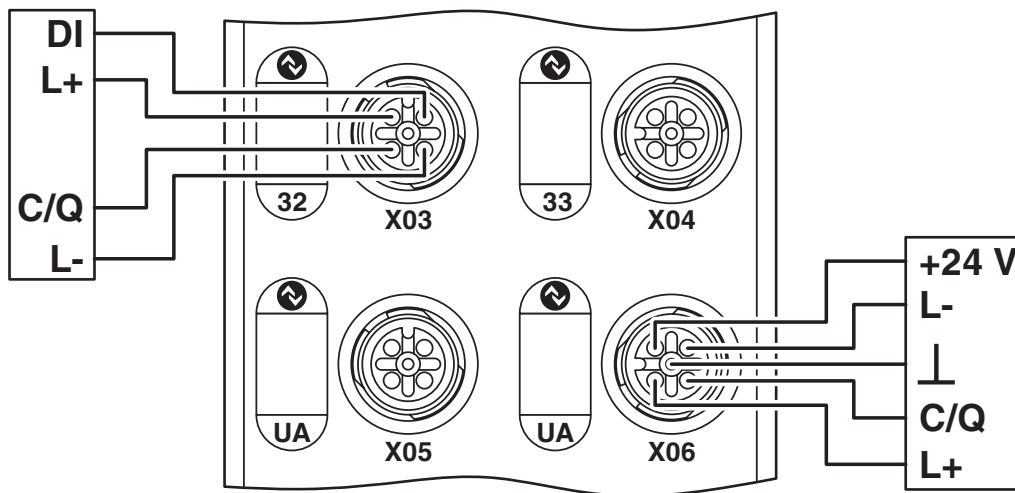
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Drawings

Dimensional drawing



Connection diagram



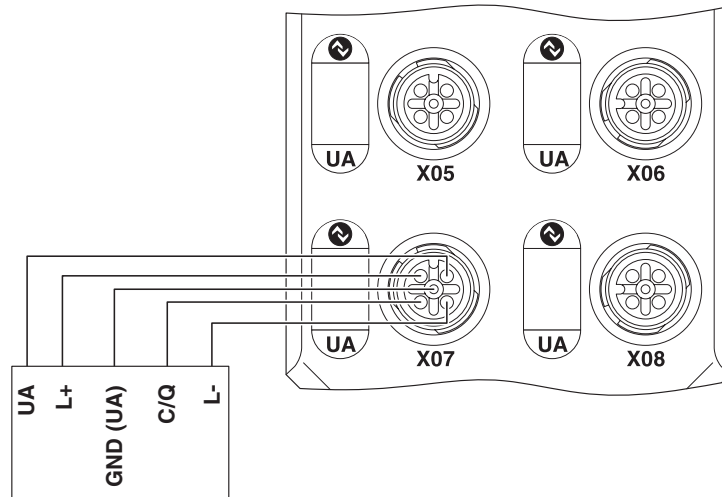
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Connection diagram



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Classifications

ECLASS

ECLASS-13.0	27242604
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com