

# AXL E EC DI8 DO8 M12 6P - Digital module



2701520

<https://www.phoenixcontact.com/us/products/2701520>

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Axioline E, Digital I/O device, EtherCAT®, M12 connector, Digital inputs: 8, 24 V DC, connection technology: 4-conductor, Digital outputs: 8, 24 V DC, connection technology: 3-conductor, 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 and output digital signals.

## Your advantages

- Connection to EtherCAT® network using M12 connectors (D-coded)
- Transmission speed of 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

## Commercial data

Item number	2701520
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR04
Product key	DRI7DE
GTIN	4046356763707
Weight per piece (including packing)	558.1 g
Weight per piece (excluding packing)	480 g
Customs tariff number	85176200
Country of origin	DE

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2701520

<https://www.phoenixcontact.com/us/products/2701520>

## Technical data

### Dimensions

Dimensional drawing	
Width	60 mm
Height	185 mm
Depth	30.5 mm
Drill hole spacing	198.5 mm
Note on dimensions	The height is 212 mm including fixing clips.

### Notes

#### Note on application

Note on application	Only for industrial use
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### Material specifications

Color (Housing)	anthracite gray (RAL 7016)
Housing material	Pocan®

### Interfaces

#### EtherCAT®

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
Description of the input	IEC 61131-2 types 1 and 3
Number of inputs	8

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2701520

<https://www.phoenixcontact.com/us/products/2701520>

Connection method	M12 connector double occupancy
Connection technology	4-conductor
Input voltage range "0" signal	0 V DC ... 5 V DC
Input voltage range "1" signal	11 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	typ. 75 mA (from $U_S$ )
Total sensor current	max. 0.6 A (per device)
Input filter time	< 1000 $\mu$ s
Protective circuit	Overload protection, short-circuit protection of sensor supply

## Output data

Digital:

Output name	Digital outputs
Connection method	M12 connector double occupancy
Connection technology	3-conductor
Number of outputs	8
Protective circuit	Overload protection, short-circuit protection of outputs; yes
Output voltage	24 V DC
Limitation of the voltage induced on circuit interruption	-28 V ... -17 V
Maximum output current per channel	500 mA
Nominal output voltage	24 V DC (from voltage $U_A$ )
Output voltage range	18 V DC ... 31.2 V DC
Output voltage when switched off	max. 1 V
Output current when switched off	max. 20 $\mu$ A
Nominal load, inductive	12 VA (1.2 H, 48 $\Omega$ , with nominal voltage)
Nominal load, ohmic	12 W (48 $\Omega$ , with nominal voltage)
Switching frequency	max. 5500 per second (with at least 50 mA load current) max. 1 per second (with inductive load)
Reverse voltage resistance to short pulses	Reverse voltage proof
Behavior with overload	Auto restart
Signal delay	max. 150 $\mu$ s (when switched on) max. 200 $\mu$ s (when switched off)
Overcurrent shut-down	min. 0.7 A

## Product properties

Product type	I/O component
Product family	Axioline E
Type	Stand-alone
Special properties	Plastic housing

## Electrical properties

Potentials

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2701520

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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: Module electronics and sensors

Designation	Supply of 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)
	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. 30 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, digital inputs)/bus connection (Ethernet 1)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (communications power and sensor supply, digital inputs)/bus connection (Ethernet 2)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (communications power and sensor supply, digital inputs)/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, digital outputs)/24 V supply (communications power and sensor supply, digital inputs)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply, digital outputs)/bus connection (Ethernet 1)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply, digital outputs)/bus connection (Ethernet 2)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (actuator supply, digital outputs)/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

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2701520

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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 %

## 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	Screw mounting
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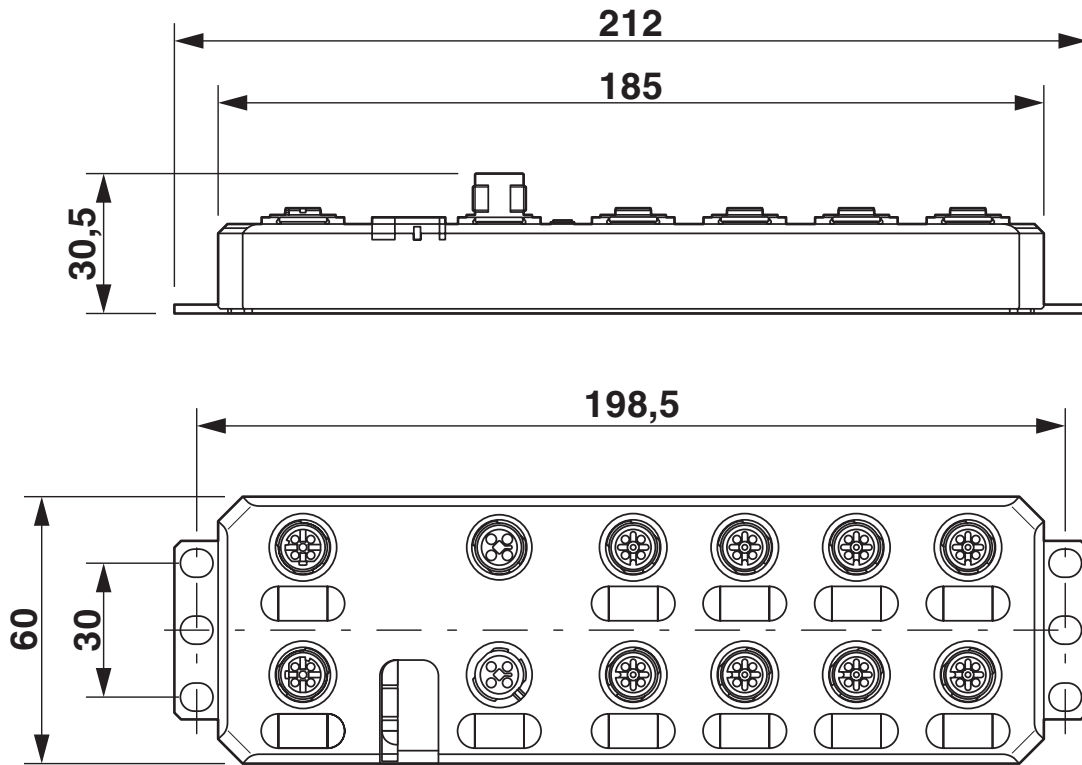


2701520

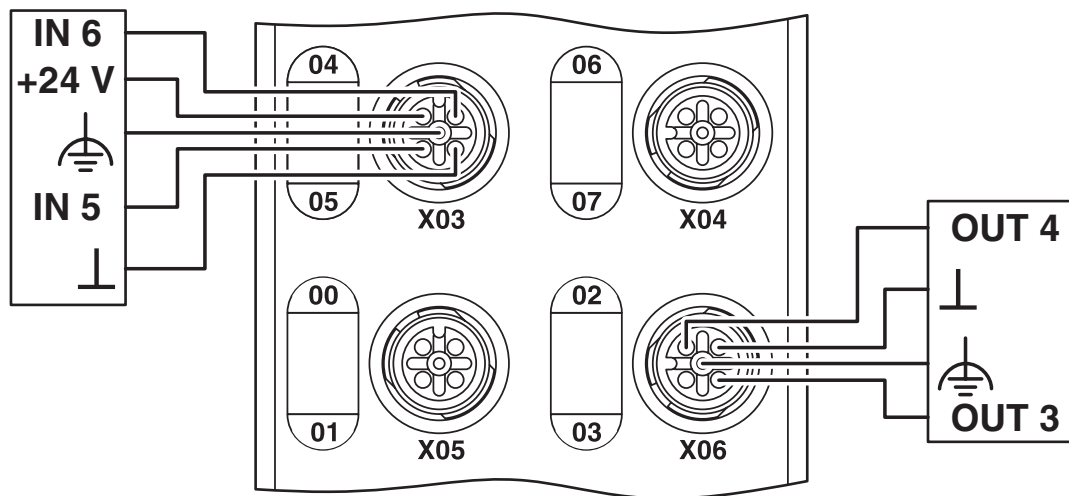
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## Drawings

Dimensional drawing



Connection diagram



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## Approvals

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**EtherCAT**

Approval ID: 0x84\_001



**cULus Listed**

Approval ID: E140324



**cULus Listed**

Approval ID: E199827

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## Classifications

### ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

### ETIM

ETIM 10.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

### 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.)	Lead(CAS: 7439-92-1)
SCIP	5166b2b9-cb87-4fda-880d-586e74b0062f

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