

# AXL E PB DIO16 M12 6P - Digital module



2701499

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Axioline E, Digital I/O device, PROFIBUS DP, M12 fast connection technology, Digital inputs: 16, 24 V DC, connection technology: 4-conductor, Digital outputs: 16, 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 a PROFINET network. It is used to acquire and output digital signals.

## Your advantages

- Connection to PROFIBUS DP using M12 connectors (B-coded)
- Baud rate of up to 12 Mbaud (automatic baud rate detection)
- 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	2701499
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR04
Product key	DRI7D2
Catalog page	Page 178 (C-6-2019)
GTIN	4046356763530
Weight per piece (including packing)	553.3 g
Weight per piece (excluding packing)	480 g
Customs tariff number	85176200
Country of origin	DE

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## 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

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Material specifications

Housing material	Pocan®
Color	anthracite

### Interfaces

#### PROFIBUS DP

Number of interfaces	2
No. of channels	2
Connection method	M12 fast connection technology
Note on the connection method	B-coded
Number of positions	5
Transmission speed	9.6 kbps ... 12 Mbps (Automatic baud rate detection)
Transmission physics	PROFIBUS-DP-compliant copper cable
Address area assignment	1 ... 126, adjustable

#### PROFIBUS DP

Equipment type	PROFIBUS slave
System-specific protocols	PROFIBUS protocols DP V1

### System properties

#### Module

ID code (hex)	0E59
Input address area	16 bit

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Output address area	16 bit
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## Input data

### Digital

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Number of inputs	16
Cable length	max. 30 m (to the sensor)
Connection method	M12 connector, double occupancy
Connection technology	4-conductor
Input voltage range "0" signal	0 V ... 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. 1.2 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	16
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 $U_S$ )
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
Output name	Digital outputs

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## Product properties

Type	Stand-Alone
Product type	I/O component
Product family	Axioline E
Special properties	Plastic 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: Module electronics, sensors, and actuators

Designation	Module electronics, sensors and actuators ( $U_S$ )
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. 165 mA $\pm$ 15 % (at 24 V DC) max. 12 A

### Supply: Actuators

Designation	Supply of actuators ( $U_A$ ) for additional devices
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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) max. 12 A

## Electrical isolation/isolation of the voltage ranges

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

## Standards and regulations

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

Mounting type	Wall mounting
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## Classifications

### ECLASS

ECLASS-11.0	27242604
ECLASS-12.0	27242604
ECLASS-13.0	27242604

### ETIM

ETIM 9.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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