AXL E PB IOL8 DI4 M12 6P - Communication module

2701503

https://www.phoenixcontact.com/us/products/2701503

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.

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

Product description

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

Your advantages

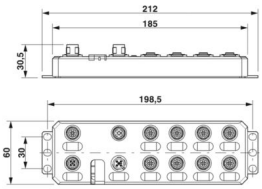
- Connection to PROFIBUS DP using M12 connectors (B-coded)
- Baud rate of up to 12 Mbaud (automatic baud rate detection)
- Connection of four IO-Link devices with additional digital input
- Connection of four IO-Link actuators with additional power supply
- Connection of IO-Link ports using M12connectors (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	2701503
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR04
Product key	DRI7D2
Catalog page	Page 179 (C-6-2019)
GTIN	4046356763554
Weight per piece (including packing)	552 g
Weight per piece (excluding packing)	552 g
Customs tariff number	85176200
Country of origin	DE

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

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)	0E57
Input address area	min. 2 Byte

	max. 162 Byte (Dependent on configuration)
Output address area	min. 2 Byte
	max. 162 Byte (Dependent on configuration)

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
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 µs
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 (EN 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 µs
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 fast connection technology
Connection technology	3-conductor
Port type	Class A
Cycle Time	min. 2 ms (MasterCycleTime: PDInput* + PDOutput* + OnReqData* < = 17 Bytes, COM3; * see "IO-Link Interface and System Specification V1.1.2")

IO-Link

Number of ports	4
Connection method	M12 fast connection technology
Connection technology	3-conductor
Port type	Class B
Cycle Time	min. 2 ms (MasterCycleTime: PDInput* + PDOutput* + 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
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

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: 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)
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. 170 mA ±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 ±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	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 / FE	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	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

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)

Mounting

Mounting type	Wall mounting

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001599

UNSPSC

UNSPSC 21.0	32151600

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”

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com