

## I/O module - AXL F DI16/1 DO8/2-2A 2H - 2702291

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Axioline F, Digital I/O module, Digital inputs: 16, 24 V DC, Connection technology: 1-wire, Digital outputs: 8, 24 V DC, 2 A, Connection technology: 2-wire, Transmission speed in the local bus 100 Mbps, Degree of protection IP20, including bus base module and Axioline F connectors

### Product Description

The module is designed for use within an Axioline F station.

It is used to acquire and output digital signals.

The filter times of the inputs can be adjusted to increase noise immunity.

Filter times of 100  $\mu$ s enable the user to implement a counter function with a maximum input frequency of 5 kHz in the application.

The outputs are protected against short circuit and overload.

### Why buy this product

- 16 digital inputs according to EN 61131-2 type 1 and type 3
- 24 V DC, 2.4 mA
- Connection of sensors in single-wire technology
- Filter times can be adjusted in three increments: < 100  $\mu$ s, 1000  $\mu$ s or 3000  $\mu$ s
- Maximum input frequency: 5 kHz
- 8 digital outputs
- 24 V DC, 2 A
- Connection of actuators in 2-wire technology
- Minimum update time of < 150  $\mu$ s
- Device rating plate stored

### Key Commercial Data

Packing unit	1 STK
GTIN	 4 055626 071848
GTIN	4055626071848
Custom tariff number	85389091
Country of origin	Germany

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## Technical data

### Dimensions

Width	35 mm
Height	129.9 mm
Depth	54 mm
Note on dimensions	The depth is valid when a TH 35-7.5 DIN rail is used (according to EN 60715).

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
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	IP20

### Connection data

Designation	Axioline F connectors (digital inputs)
Connection method	Push-in connection
Note on connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

### General

Mounting type	DIN rail
Net weight	111 g
Note on weight specifications	with connectors and bus base module
Diagnostics messages	I/O supply failure Yes
	Short-circuit / overload of the digital outputs Yes

### Interfaces

Fieldbus system	Lokalbus
Designation	Axioline F local bus
Connection method	Bus base module

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## Technical data

### Interfaces

Transmission speed	100 Mbps
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### Power supply for module electronics

Connection method	Push-in connection
Note on connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.

### Axioline potentials

Communications power $U_{Bus}$	5 V DC (via bus base module)
Current consumption from $U_{Bus}$	max. 120 mA
Digital input and output module supply $U_{IO}$	24 V DC
Current consumption from $U_{IO}$	max. 16 A (Provide external protection; if the total current of 8 A is exceeded, connect the supply at the power connector parallel via both terminal points.)

### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Connection method	Push-in connection
Connection technology	1-wire
Number of inputs	16
Protective circuit	Polarity reversal protection of the inputs Parallel diode (30 V, 5 s)
Input filter time	3000 $\mu$ s (default)
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input current at $U_{IN}$	2.4 mA

### Digital outputs

Output name	Digital outputs
Connection method	Push-in connection
Connection technology	2-wire
Number of outputs	8
Protective circuit	Short-circuit protection, overload protection of the outputs Electronic
Output voltage	24 V DC
Nominal output voltage	24 V DC
Maximum output current per channel	2 A
Maximum output current per module	16 A (external fuse)
Nominal load, inductive	max. 48 VA (1.2 H, 12 $\Omega$ , at nominal load)
Nominal load, lamp	max. 48 W (at nominal voltage)
Nominal load, ohmic	max. 48 W (12 $\Omega$ , at nominal load)

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### Electrical isolation

Test section	5 V communications power (logic), 24 V supply (I/O) 500 V AC 50 Hz 1 min.
	5 V supply (logic)/functional earth ground 500 V AC 50 Hz 1 min.
	24 V supply (I/O) / functional earth ground 500 V AC 50 Hz 1 min.

### Standards and Regulations

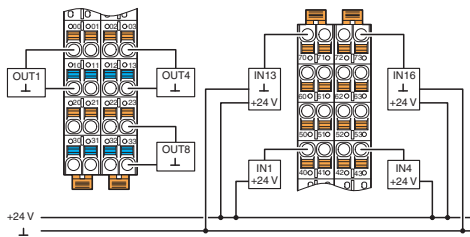
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

### Environmental Product Compliance

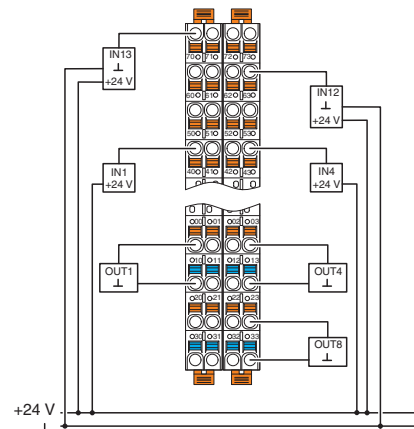
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Connection diagram



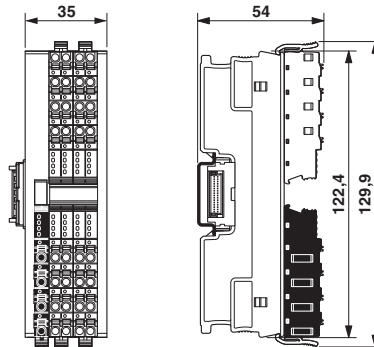
Connection diagram



Example of connection of sensors and actuators

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Dimensional drawing



## Classifications

eCl@ss

eCl@ss 5.1	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

ETIM

ETIM 5.0	EC001599
ETIM 6.0	EC001599

UNSPSC

UNSPSC 13.2	32151602
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## Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

## Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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### Approvals

cUL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 238705

cULus Listed



### Accessories

#### Accessories

#### DIN rail connector

Bus connector - AXL F BS H - 2700992



Axioline F bus base module for housing type H

#### Terminal marking

Zack marker strip - ZB 20,3 AXL UNPRINTED - 0829579



Zack marker strip for Axioline F (device labeling), in 2 x 20.3 mm pitch, unprinted, 25-section, for individual labeling with B-STIFT 0.8, X-PEN, or CMS-P1-PLOTTER

Zack Marker strip, flat - ZBF 10/5,8 AXL UNPRINTED - 0829580



Zack marker strip, flat, in 10 mm pitch, unprinted, 10-section, for individual labeling with M-PEN 0,8, X-PEN, or CMS-P1-PLOTTER