

## 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 method: 1-wire, Digital outputs: 8, 24 V DC, 2 A, connection method: 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.

### Your advantages

- 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 pc
GTIN	 4 055626 071848
GTIN	4055626071848

### Technical data

#### Dimensions

Width	35 mm
Height	129.9 mm

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## Technical data

### Dimensions

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	Axoline F connectors (digital inputs)
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axoline 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
Color	traffic grey A RAL 7042
Net weight	111 g
Note on weight specifications	with connectors and bus base module
Diagnostics messages	I/O supply failure Yes
	Short-circuit or overload of the digital outputs Yes
Mounting position	any (no temperature derating)

### Interfaces

Designation	Axoline F local bus
No. of channels	2
Connection method	Bus base module
Transmission speed	100 Mbps

### Axoline potentials

Designation	Axoline F local bus supply (U <sub>Bus</sub> )
Supply voltage	5 V DC (via bus base module)

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## Technical data

### Axioline potentials

Current consumption	max. 120 mA
Power consumption	max. 600 mW
Designation	Supply for digital input and output modules (U <sub>IO</sub> )
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	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.)
Power consumption	max. 480 W (of which 6.4 W internal losses)
Protective circuit	Surge protection electronic (35 V, 0.5 s)
	Reverse polarity protection parallel diode; with external 5 A fuse (only for commissioning)
Protection	max. 16 A (polarity reversal protection up to 5 A)

### 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)
Nominal input voltage U <sub>IN</sub>	24 V DC
Nominal input current at U <sub>IN</sub>	2.4 mA
Input filter time	3000 µs (Default)
	1000 µs
	< 100 µs
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC

### 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 (provide external protection)
Nominal load, inductive	max. 48 VA (1.2 H, 12 Ω, at nominal load)
Nominal load, lamp	max. 48 W (at nominal voltage)
Nominal load, ohmic	max. 48 W (12 Ω, at nominal load)
Switching frequency	max. 3000 per second (with at least 50 mA load current)

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## Technical data

### Digital outputs

Load min.	10 kΩ
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 μA
Behavior with overload	Shutdown with automatic restart
Behavior with inductive overload	Output can be destroyed
Reverse voltage resistance to short pulses	limited protection up to 0.5 A for 1 s

### Electrical isolation

Test section	5 V supply of the local bus (U <sub>Bus</sub> ) / 24 V supply (I/Os) 500 V AC 50 Hz 1 min.
	5 V supply of the local bus (U <sub>Bus</sub> ) / functional ground 500 V AC 50 Hz 1 min.
	24 V supply (I/O)/functional 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)

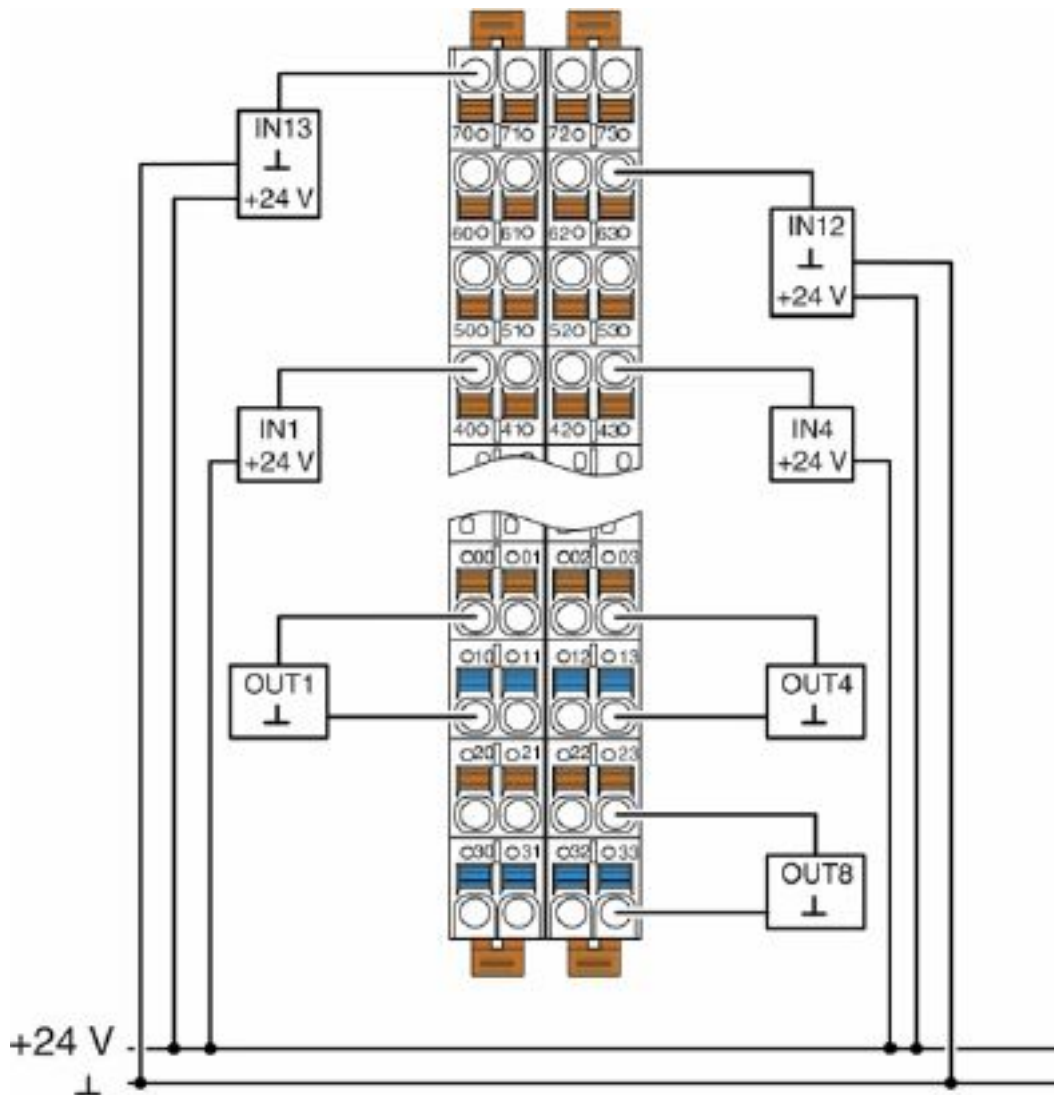
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

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

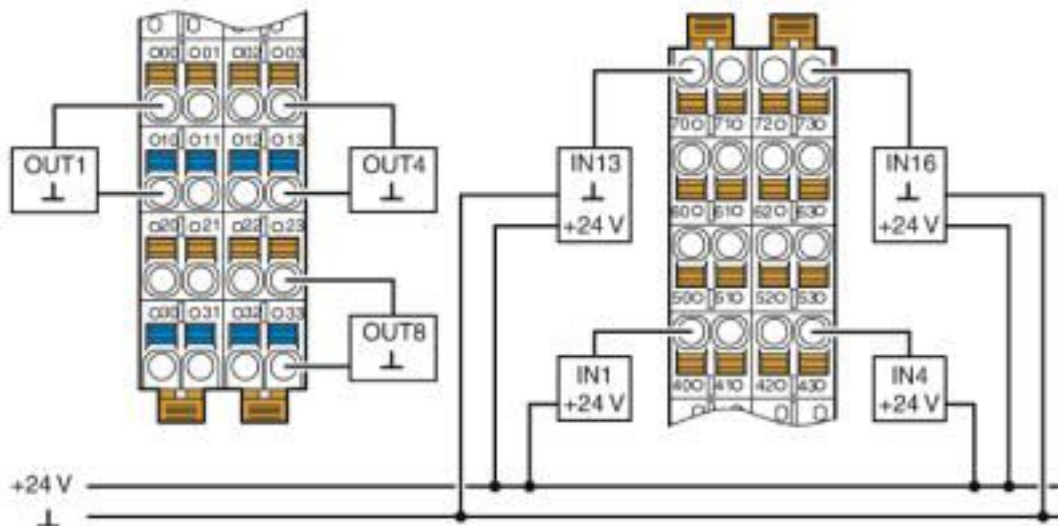
Connection diagram



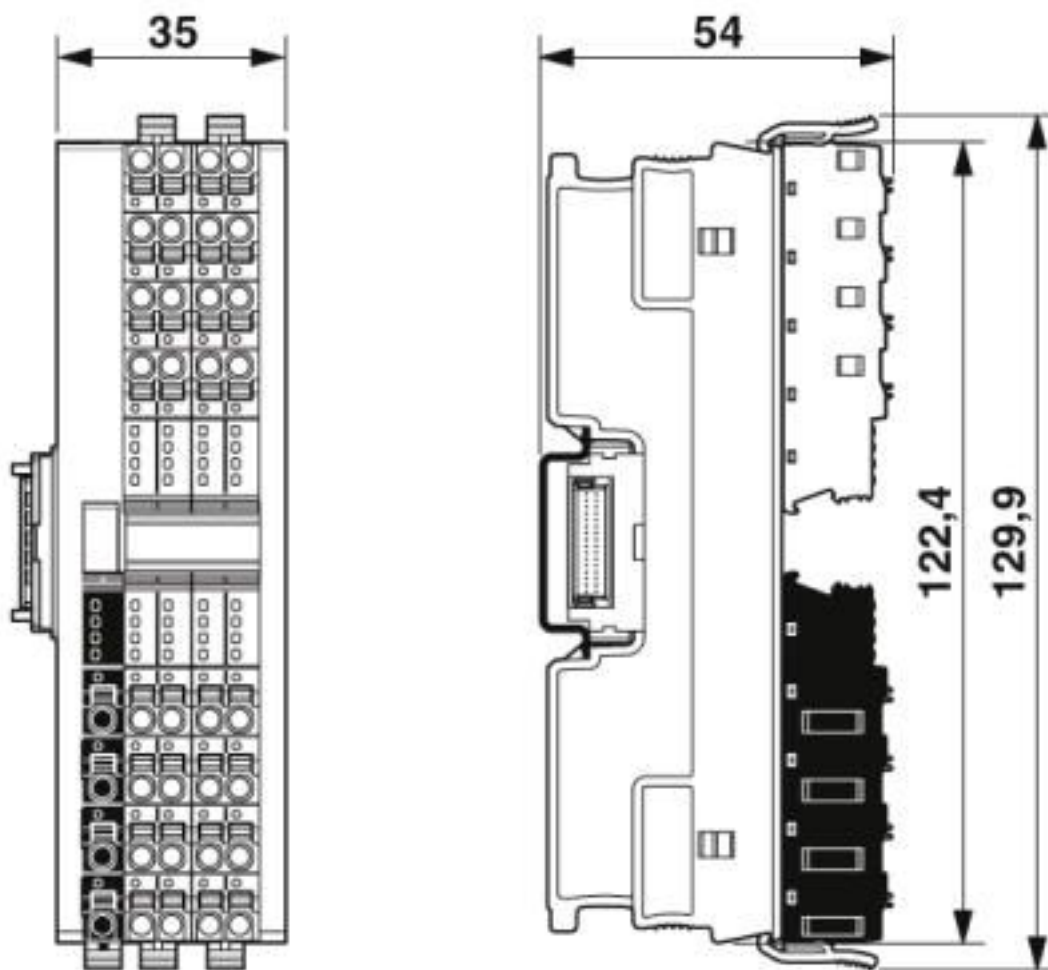
Example of connection of sensors and actuators

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Connection diagram



Dimensional drawing



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## Classifications

### eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

### ETIM

ETIM 5.0	EC001599
ETIM 6.0	EC001599
ETIM 7.0	EC001599

### UNSPSC

UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

## 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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cUL 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

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, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 10.15 mm, lettering field size: 4 of 10.15 x 5 mm and 1 of 5.8 x 5 mm, Number of individual labels: 50

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