

<https://www.phoenixcontact.com/gb/products/2701916>

I/O module - AXL F DI8/1 DO8/1 1H - 2701916

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Axioline F, Digital I/O module, Digital inputs: 8 , 24 V DC, connection method: 1-wire, Digital outputs: , 24 V DC, 500 mA, connection method: 1-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 µs enable the user to implement a counting function with a maximum input frequency of 5 kHz in the application.


The outputs are protected against short circuit and overload.

Your advantages

- 8 digital inputs
- 24 V DC, 2.4 mA
- Connection of sensors in single-wire technology
- Filter times can be adjusted in three increments: < 100 µs, 1000 µs or 3000 µs
- Maximum input frequency: 5 kHz
- 8 digital outputs
- 24 V DC, 500 mA
- Connection of actuators in single-wire technology
- Minimum update time of < 100 µs
- Device rating plate stored
- Diagnostic and status indicators



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 872935
GTIN	4046356872935
Weight per Piece (excluding packing)	133.000 g
Custom tariff number	85389091
Country of origin	Germany

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Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	35 mm
Height	126.1 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 connector
Connection method	Push-in connection
Note on the 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 ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
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	133 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
Mounting position	any (no temperature derating)

Interfaces

Designation	Axioline F local bus
No. of channels	2

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Interfaces

Connection method	Bus base module
Transmission speed	100 Mbps

Axioline potentials

Designation	Axioline F local bus supply (U_{Bus})
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 120 mA
Power consumption	max. 600 mW
Designation	Supply for digital input and output modules (U_{IO})
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 8 A (provide external protection)
Power consumption	max. 97.35 W (of which 1.35 W internal losses)
Protective circuit	Surge protection of the supply voltage electronic (35 V, 0.5 s)
	Polarity reversal protection of the supply voltage parallel diode; with external 5 A fuse (only for commissioning)
Protection	max. 8 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	8
Protective circuit	Polarity reversal protection of the inputs parallel diode (30 V, 5 s)
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	2.4 mA
Input filter time	3000 μ s (Default)
	1000 μ s
	< 100 μ s
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	1-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	500 mA

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Digital outputs

Maximum output current per module	4 A (provide external protection)
Nominal load, inductive	max. 12 VA (1.2 H, 48 Ω , with nominal voltage)
Nominal load, lamp	max. 12 W (at nominal voltage)
Nominal load, ohmic	max. 12 W (48 Ω , with nominal voltage)
Switching frequency	max. 10000 per second (with at least 50 mA load current)
Load min.	10 k Ω
Output voltage when switched off	max. 1 V
Output current when switched off	max. 300 μ A
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 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)

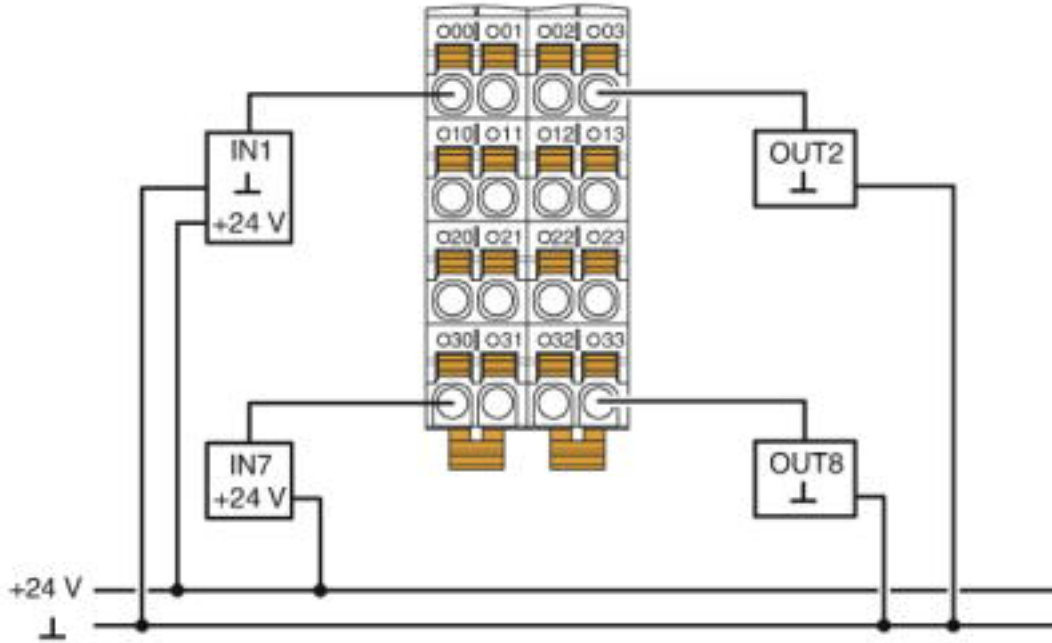
Environmental Product Compliance

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

Drawings

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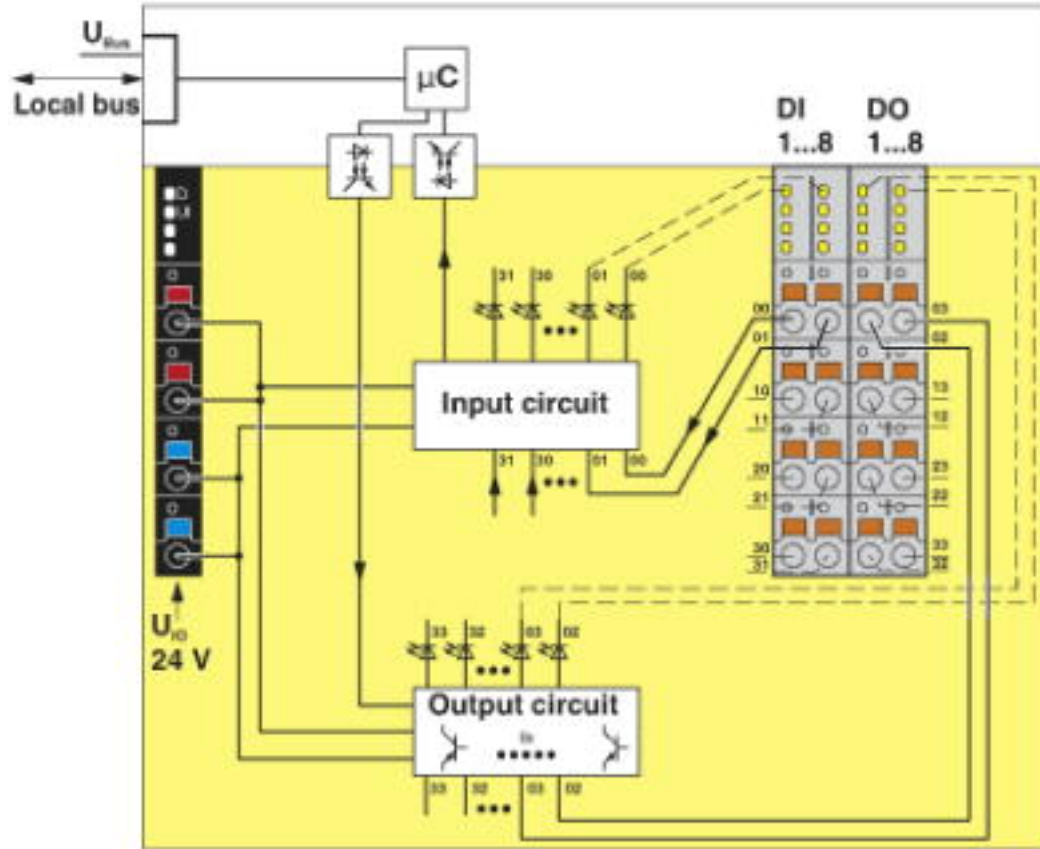
Connection diagram



Typical connection of sensors and actuators when using external busbars

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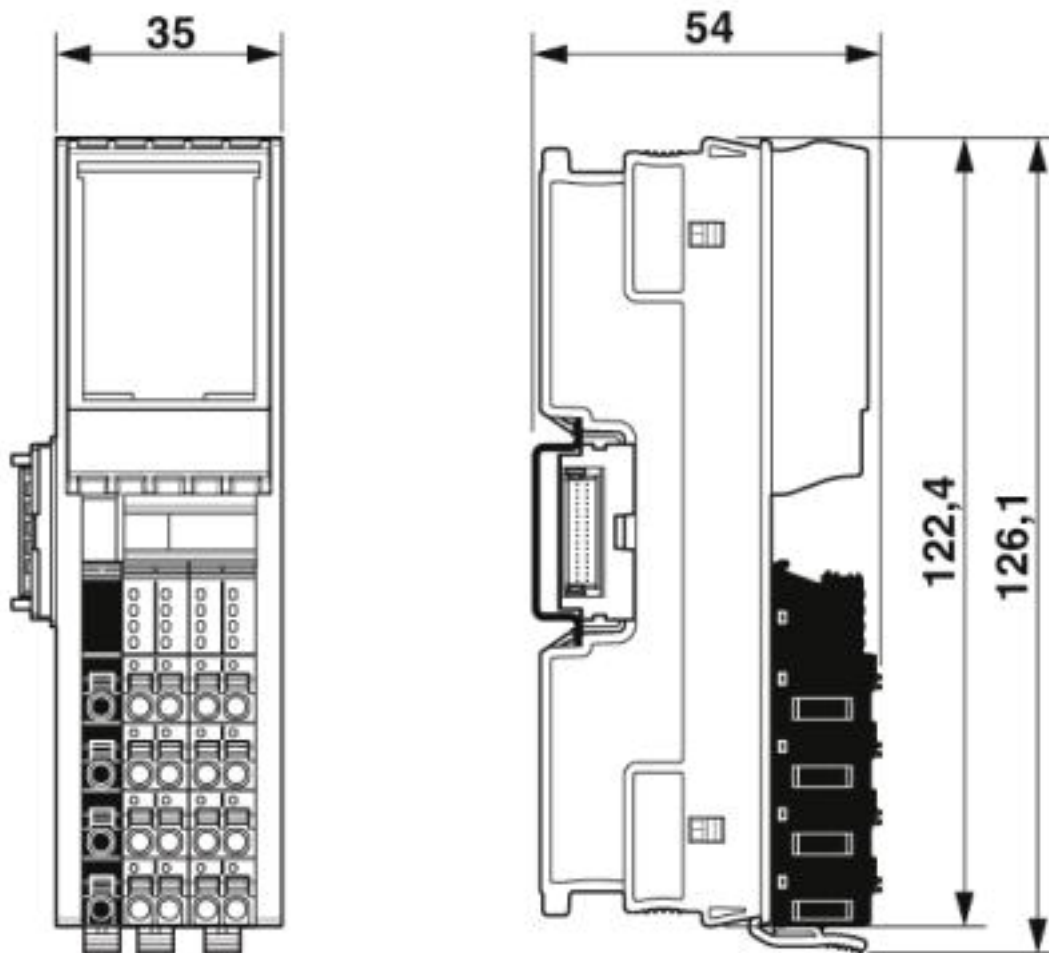
Block diagram



Internal wiring of the terminal points

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Dimensional drawing



Classifications

eCl@ss

eCl@ss 4.0	27240400
eCl@ss 4.1	27240400
eCl@ss 5.0	27242200
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 4.0	EC001599
ETIM 5.0	EC001599
ETIM 6.0	EC001599

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Classifications

ETIM

ETIM 7.0	EC001599
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UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

Approvals

Approvals

Approvals

DNV GL / PRS / BV / LR / KR / ABS / BSH / RINA / UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAA00000DF
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PRS		http://www.prs.pl/	TE/2239/880590/19
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BV		http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials	36433/B0 BV
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LR		http://www.lr.org/en	14-20019
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KR		http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002
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ABS		http://www.eagle.org/eagleExternalPortalWEB/	18-HG1767360-PDA
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Approvals

BSH		http://www.bsh.de/de/index.jsp	840
RINA		http://www.rina.org/en	ELE256518XG
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
EAC			EAC-Zulassung
cULus Listed			

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