

# I/O module - AXL F DI8/2 110/220DC 1F - 2700684

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Axioline F, Digital input module, Digital inputs: 8, 110 V DC / 220 V DC, connection method: 2-wire, corresponds to standard IEC 61850-3, transmission speed in the local bus: 100 Mbps, 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 digital DC voltage signals in the low-voltage range. You can use low-voltage and extra-low voltage modules directly next to each other within an Axioline F station.


## Why buy this product

- 8 digital inputs according to EN 61131-2 type 1
- Connection of sensors in 2-wire technology
- 110 V DC / 220 V DC, 1.5 mA
- Filter time of < 1 ms
- Inputs are reverse polarity protected
- Safe isolation according to EN 61010-2-201/IEC 61010-2-201
- Device rating plate stored
- Diagnostic and status indicators
- Meets the requirements of IEC 61850-3 and IEEE 1613



**IEC 61850-3**

## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 916448
GTIN	4046356916448

## Technical data

### Dimensions

Width	53.6 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).

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Mounting position: wall mounting on horizontal DIN rail, input voltage: max. 264 V)
	-25 °C ... 55 °C (Mounting position: any)
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	Axiline F connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axiline 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	173 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2

### Interfaces

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

### Axiline potentials

Designation	Axiline F local bus supply (U <sub>Bus</sub> )
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 120 mA
Power consumption	max. 600 mW
Designation	Supply for digital input modules (U <sub>i</sub> )
Protection	max. 8 A ( )

### Digital inputs

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## Technical data

### Digital inputs

Input name	Digital inputs
Description of the input	according to EN 61131-2 type 1
Connection method	Push-in connection
Connection technology	2-wire
Number of inputs	8
Type of protection	Polarity reversal protection of the inputs
Input filter time	< 1 ms
Input voltage	110 V DC (Nominal voltage)
	220 V DC (Nominal voltage)
	max. 300 V DC
Input voltage range "0" signal	-41 V DC ... 41 V DC
Input voltage range "1" signal	88 V DC ... 300 V DC
Input voltage range	-300 V DC ... 300 V DC
Nominal input current at U <sub>IN</sub>	1.5 mA

### Electrical isolation

Test section	I/Os / logic 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	I/Os / logic 5 kV Pulse test voltage according to EN 61850/IEC 61850
	I/O / functional earth ground 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	I/O / functional earth ground 5 kV Pulse test voltage according to EN 61850/IEC 61850
	I/O / I/O (adjacent connectors) 2.5 kV Pulse test voltage according to EN 61850/IEC 61850
	Logic / functional earth ground 1 kV Pulse test voltage according to EN 61850/IEC 61850

### 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
Developed according to standard	IEC 61850-3 Electrostatic discharge (ESD) EN 61000-4-2/ IEC 61000-4-2 Criterion A; 8 kV contact discharge; 8 kV air discharge
	IEC 61850-3 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, 20 V/m up to 1 GHz, 10 V/m up to 3 GHz
	IEC 61850-3 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, 4 kV
	IEC 61850-3 Transient overvoltage (surge) EN 61000-4-5/ IEC 61000-4-5 Criterion A, ±2 kV (symmetrical), ±4 kV (asymmetrical)
	IEC 61850-3 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A; Test voltage 10 V
	IEC 61850-3 Immunity to magnetic fields, EN 61000-4-8/IEC 61000-4-8 300 A/m continuous, 1000 A/m for 1 s
	IEC 61850-3 Immunity to attenuated oscillating magnetic fields, EN 61000-4-10/IEC 61000-4-10 100 A/m

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### Standards and Regulations

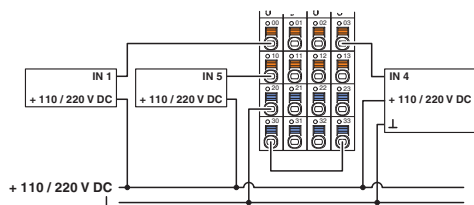
	IEC 61850-3 Immunity to conducted common-mode interference, EN 61000-4-16/IEC 61000-4-16 30 V continuous, 300 V for 1 s
	IEC 61850-3 Attenuated oscillating waves, EN 61000-4-18/ IEC 61000-4-18 1 kV symmetrical, 2.5 kV asymmetrical
	IEC 61850-3 Radio interference properties EN 55022 Class B

### Environmental Product Compliance

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

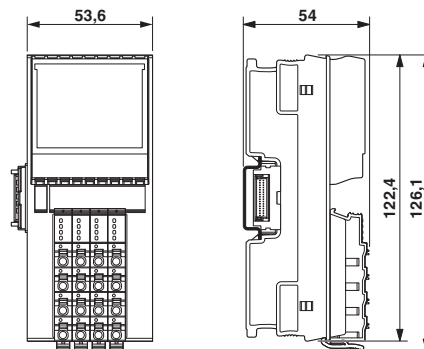
## Drawings

Connection diagram

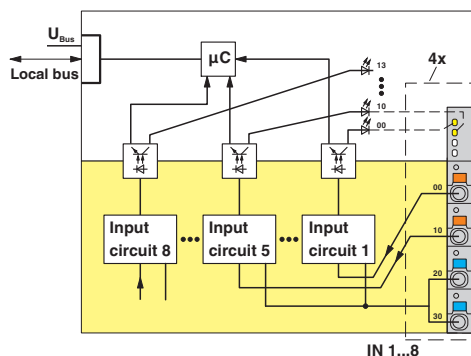


Connection of sensors when using external busbars

Dimensional drawing



Block diagram



Internal wiring of the terminal points

## Approvals

Approvals

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## Approvals

Approvals




UL Listed / cUL Listed / cULus Listed

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Ex Approvals

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## 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
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
cULus Listed			

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