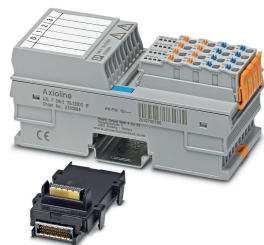


I/O module - AXL F DI8/2 110/220DC 1F - 2700684

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Axioline F, Digital input module, Digital inputs: 8, 110 V DC / 220 V DC, connection technology: 2-conductor, corresponds to standard IEC 61850-3, 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 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.

Your advantages

- ✔ 8 digital inputs according to EN 61131-2 type 1
- ✔ Connection of sensors in 2-conductor 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



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 916448
GTIN	4046356916448

Technical data

Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	54 mm

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

Technical data

Dimensions

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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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	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	173 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2
Mounting position	any (observe temperature and voltage derating); Nominal mounting position: wall mounting on horizontal DIN rail

Interfaces

Designation	Axioline F local bus
Number	2
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)

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

Technical data

Axioline potentials

Current consumption	max. 120 mA
Power consumption	max. 600 mW
Designation	Supply for digital input modules (U _i)
Protection	max. 8 A (for startup only)

Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Connection method	Push-in connection
Connection technology	2-conductor
Number of inputs	8
Protective circuit	Polarity reversal protection of the inputs
Nominal input voltage U _{IN}	110 V DC
Nominal input current at U _{IN}	1.5 mA
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

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 ground 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	I/O/functional 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 ground 1 kV Pulse test voltage according to EN 61850/IEC 61850

Standards and Regulations

Immunity to ESD	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion A; 8 kV contact discharge; 8 kV air discharge
Immunity to EF	Noise immunity test in accordance with EN 61000-6-2 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
Immunity to burst	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, 4 kV

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

Technical data

Standards and Regulations

Immunity to surge	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A, ±2 kV (symmetrical), ±4 kV (asymmetrical)
Immunity to conducted interference	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test according to EN 61000-6-3 Class B
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
	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
Overvoltage category	III (EN 61010-2-201/UL 61010-2-201), up to 2000 m above sea level II (EN 61010-2-201/UL 61010-2-201), up to 3000 m above sea level

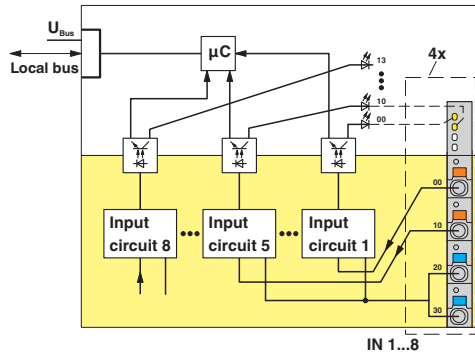
Environmental Product Compliance

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"

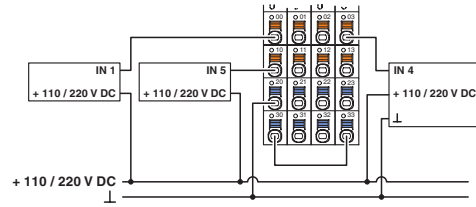
Drawings

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

Block diagram



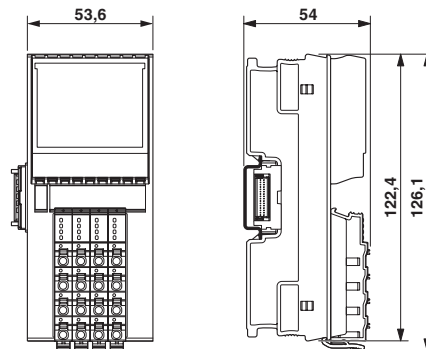
Connection diagram



Connection of sensors when using external busbars

Internal wiring of the terminal points

Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 11.0	27242604
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 9.0	27242604

ETIM

ETIM 6.0	EC001599
ETIM 7.0	EC001599

UNSPSC

UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602

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

Classifications

UNSPSC

UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

Approvals

Approvals



Approvals

UL Listed / cUL Listed / cULus Listed



Ex Approvals



Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

Accessories

Device marking

Insert label - EMT (35X46)R - 0801604



Insert label, for the Axioline F series from Phoenix Contact, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: snapped into marker carrier, lettering field size: 35 x 46 mm, Number of individual labels: 500

DIN rail connector

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

Accessories

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

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 7,5:UNBEDRUCKT - 0809942



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: 7.5 mm, lettering field size: 5.15 x 7.4 mm, Number of individual labels: 10

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