

I/O module - AXL F DOR4/2 AC/220DC 1F - 2700608

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Axioline F, Relay module, Relay output: 4 (floating contacts), 220 V DC / 230 V AC, 8 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 has four floating relay N/O contacts which are independent of one another. Low-voltage and extra-low-voltage modules can be used side by side within an Axioline F station.

Why buy this product

- Meets the requirements of IEC 61850-3 and IEEE 1613
- 4 monostable relays
- Floating connections for 4 actuators
- Nominal current of each output: 8 A
- Total current of the module: 32 A (4 x 8 A)
- Device rating plate stored
- Diagnostic and status indicators



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 916486
GTIN	4046356916486
Weight per Piece (excluding packing)	260.000 g
Custom tariff number	85389091
Country of origin	Germany

Technical data

Dimensions

I/O module - AXL F DOR4/2 AC/220DC 1F - 2700608

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).

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Max. 6 A/channel for wall mounting on horizontal DIN rail; max. 4 A/channel for any mounting position)
	-25 °C ... 50 °C (Max. 8 A/channel for wall mounting on horizontal DIN rail; max. 6 A/channel for any mounting position)
	-25 °C ... 40 °C (Max. 8 A/channel for any mounting position)
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 connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual. When selecting the cables, please note that in the case of a small conductor cross section and high current, the terminal point temperature may be up to 30 K above the ambient temperature.
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
Net weight	222 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2

Interfaces

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Technical data

Interfaces

Designation	Axioline F local bus
Connection method	Bus base module
Transmission speed	100 Mbps

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. When selecting the cables, please note that in the case of a small conductor cross section and high current, the terminal point temperature may be up to 30 K above the ambient temperature.

Axioline potentials

Communications power U_{Bus}	5 V DC (via bus base module)
Current consumption from U_{Bus}	max. 280 mA (all relays pick up)

Digital outputs

Output name	Relay output
Output description	Relay N/O contact
Connection method	Push-in connection
Connection technology	2-wire
Number of outputs	4 (floating contacts)
Nominal output voltage	220 V DC
Output current	max. 8 A (per channel, provide an external fuse)
	max. 32 A (per module)
Maximum output current per channel	8 A

Relay outputs

Switching current	max. 8 A AC ($\cos \phi = 1$)
	For DC see load limit curve, e.g., the following values:
	max. 8 A DC (≤ 30 V, ohmic load)
	max. 500 mA DC (≤ 110 V, ohmic load)
	max. 250 mA DC (220 V DC, ohmic load)
	max. 220 mA DC (125 V DC, $L/R \leq 50$ ms, applications with UL approval)
Switching capacity	max. 110 mA DC (250 V DC, $L/R \leq 50$ ms, applications with UL approval)
	max. 2000 VA
	For DC see load limit curve, e.g., the following values:
	max. 240 W (30 V DC)
	max. 55 W (≥ 60 V DC)
	max. 25 W (125 V DC, 250 V DC, applications with UL approval)
Contact type	4 floating N/O contacts

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Relay outputs

Switching current	max. 8 A AC (cos phi = 1)
	For DC see load limit curve, e.g., the following values:
	max. 8 A DC (≤ 30 V, ohmic load)
	max. 500 mA DC (≤ 110 V, ohmic load)
	max. 250 mA DC (220 V DC, ohmic load)
	max. 220 mA DC (125 V DC, L/R ≤ 50 ms, applications with UL approval)
	max. 110 mA DC (250 V DC, L/R ≤ 50 ms, applications with UL approval)
Switching capacity	max. 2000 VA
Switching frequency	max. 6 (Per minute)
Release time	< 5 ms
Mechanical service life	10×10^6 cycles

Electrical isolation

Test section	Relay contact / logic 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	Relay contact / logic 5 kV Pulse test voltage according to EN 61850/IEC 61850
	Contact / functional earth ground 4 kV Rated surge voltage (safe isolation according to EN 61010-2-201/IEC 61010-2-201)
	Contact / functional earth ground 5 kV Pulse test voltage according to EN 61850/IEC 61850
	Contact / contact (open contact) 1 kV 50 Hz 1 min.
	Contact / contact (adjacent connectors 2.5 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 20g (contact interruption) / 5g (contact closure)
	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, 6 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, ± 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

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Technical data

Standards and Regulations

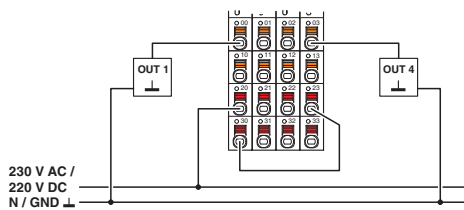
	IEC 61850-3 Immunity to attenuated oscillating magnetic fields, EN 61000-4-10/IEC 61000-4-10 100 A/m
	IEC 61850-3 Immunity to conducted common-mode interference, EN 61000-4-16/IEC 61000-4-16 30 V continuous, 300 V for 1 s
	IEC 61850-3 Attenuated oscillating waves, EN 61000-4-18/IEC 61000-4-18 2.5 kV 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

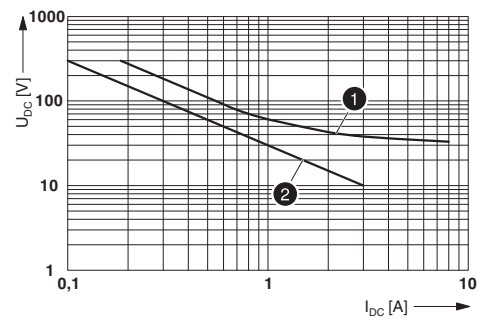
Drawings

Connection diagram



Connection of actuators

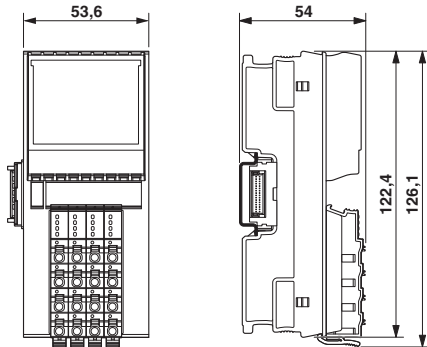
Diagram



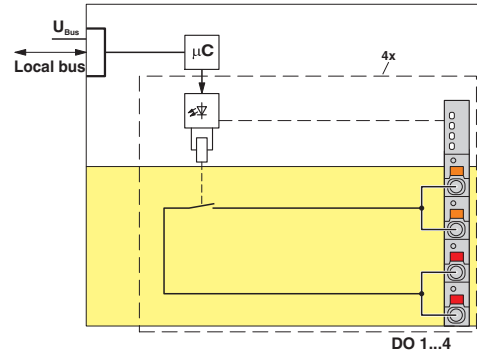
DC load limit curve for REL-MLR-1X1/G 5 (1 - ohmic load, 2 - inductive load L/R = 50 ms)

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Dimensional drawing



Block diagram



Internal wiring of the terminal points

Classifications

eCl@ss

eCl@ss 5.1	27242604
eCl@ss 6.0	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

I/O module - AXL F DOR4/2 AC/220DC 1F - 2700608

Approvals

UL Listed		http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYVV/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 ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK S1.1, Mounting type: snapped into marker carrier, Lettering field: 35 x 46 mm

DIN rail connector

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

Terminal marking

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Accessories

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: CMS-P1-PLOTTER, PLOTMARK, Mounting type: Snap into flat marker groove, for terminal block width: 7.5 mm, Lettering field: 5.15 x 7.4 mm