

## 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 method: 2-wire, 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 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

### 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

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## Technical data

### 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 the 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 <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	222 g
Note on weight specifications	with connectors and bus base module
Degree of pollution	2

### Interfaces

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

### Axioline potentials

Designation	Axioline F local bus supply (U <sub>Bus</sub> )
Supply voltage	5 V DC (via bus base module)
Current consumption	max. 280 mA (all relays pick up)
Power consumption	max. 1.4 W (all relays pick up)

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## Technical data

### 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 ( $\leq 30$ V, ohmic load)
	max. 500 mA DC ( $\leq 110$ 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)
	max. 110 mA DC (250 V DC, L/R $\leq 50$ ms, applications with UL approval)
Switching capacity	max. 2000 VA
	For DC see load limit curve, e.g., the following values:
	max. 240 W (30 V DC)
	max. 55 W ( $\geq 60$ V DC)
	max. 25 W (125 V DC, 250 V DC, applications with UL approval)
Contact type	4 floating N/O contacts
Switching current	max. 8 A AC (cos phi = 1)
	For DC see load limit curve, e.g., the following values:
	max. 8 A DC ( $\leq 30$ V, ohmic load)
	max. 500 mA DC ( $\leq 110$ 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)
	max. 110 mA DC (250 V DC, L/R $\leq 50$ ms, applications with UL approval)
Switching capacity	max. 2000 VA
Switching frequency	max. 6 (per minute)
Release time	< 5 ms
Mechanical service life	10x 10 <sup>6</sup> 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)
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## Technical data

### Electrical isolation

	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
	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

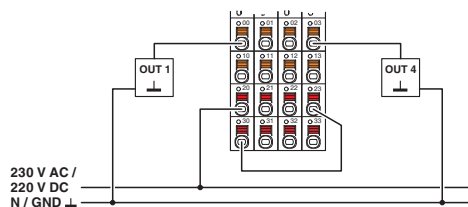
### Environmental Product Compliance

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

## Drawings

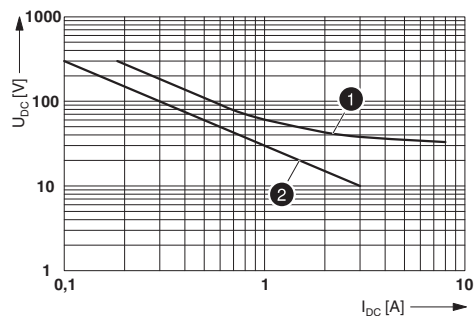
# I/O module - AXL F DOR4/2 AC/220DC 1F - 2700608

Connection diagram



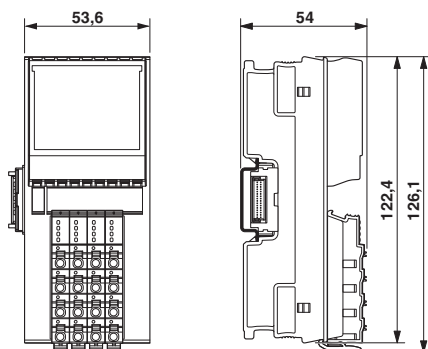
Connection of actuators

Diagram

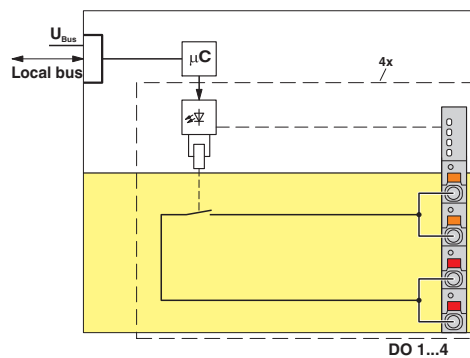


DC load limit curve for REL-MLR-1X1/G 5 (1 - ohmic load, 2 - inductive load L/R = 50 ms)

Dimensional drawing



Block diagram



Internal wiring of the terminal points

## Approvals

Approvals

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UL Listed / cUL Listed / cULus Listed


Ex Approvals

Approval details

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

## Approvals

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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cULus Listed			
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