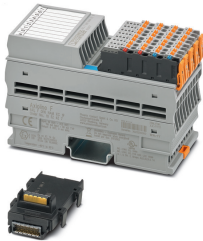


# I/O module - AXL F DI16 NAM XC 1F - 1052427

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Axioline F XC, Digital input module, Digital inputs: 16 (NAMUR), 8 V DC, connection method: 2-conductor, Extreme conditions version, 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 an Axioline F I/O module for use in the Axioline F modular I/O system. It is used to acquire digital signals. The module is a modular I/O device that can be affixed to the Axioline F local bus, to communicate I/O data up to the Axioline F controller or bus coupler, which forms the head of the station. The digital input module with NAMUR capabilities collects digital input signals and supports NAMUR proximity and close contact switches and makes this information available to the controller / bus coupler through the Axioline F local bus.

## Your advantages

- ✓ 16 NAMUR digital input signals for NAMUR proximity sensors according to EN 60947-5-6
- ✓ Open circuit contacts
- ✓ Switch contacts with resistance circuit in accordance with IEC/EN 60947-5-6
- ✓ Connection of sensors in 2-conductor technology
- ✓ Can be used under extreme ambient conditions
- ✓ Extended temperature range of -40 °C ... +70 °C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 675770
GTIN	4055626675770
Weight per Piece (excluding packing)	390.900 g
Custom tariff number	85389091
Country of origin	United States
Sales Key	DRI231

## Technical data

### Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.
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## Technical data

### Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	77.14 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 (Standard)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
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
Color	traffic grey A RAL 7042
Net weight	390.9 g
Note on weight specifications	with connectors and bus base module
Mounting position	any (no temperature derating)
Maximum altitude	3000 m

### Interfaces

Designation	Axiline F local bus
Number	2
Connection method	Bus base module
Transmission speed	100 Mbps

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## Technical data

### Axioline potentials

Designation	Axioline F local bus supply ( $U_{Bus}$ )
Supply voltage	5 V DC (via bus base module)
Current consumption	typ. 40 mA
	max. 60 mA
Designation	Supply for digital input modules ( $U_i$ )
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 130 mA

### Digital inputs

Input name	Digital inputs
Description of the input	NAMUR enabled digital input signals
Connection method	Push-in connection
Connection technology	2-conductor
Number of inputs	16 (NAMUR)
Nominal input voltage $U_{IN}$	8.2 V DC

### Electrical isolation

Test section	5 V supply of the local bus ( $U_{Bus}$ ) / 24 V supply (I/Os) 500 V AC 50 Hz 1 min.
	5 V supply of the local bus ( $U_{Bus}$ ) / functional ground 500 V AC 50 Hz 1 min.
	24 V supply (I/O)/functional ground 500 V AC 50 Hz 1 min.
	Field to functional earth 500 V AC 50 Hz 1 min.
	Field to 5V or 24V supplies 1500 V AC 50 Hz 1 min.

### 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, 6 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, Field intensity: 10 V/m
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 B, 2 kV
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, supply lines DC: $\pm 0.5$ kV/ $\pm 0.5$ kV (symmetrical/asymmetrical), $\pm 1$ kV to shielded I/O cables
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 as per EN 61000-6-4 Class A
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
ATEX	DEMKO 20 ATEX 2334X II 3G Ex ec IIC T4 Gc

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## Technical data

### Standards and Regulations

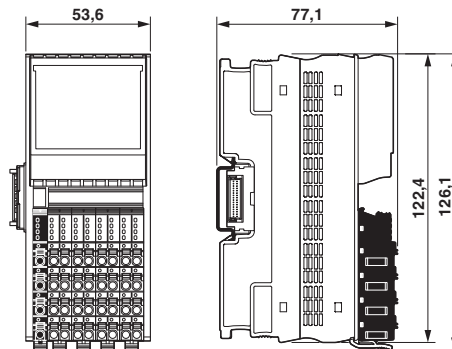
IECEX	IECEX UL 20.0002X Ex ec IIC T4 Gc
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D T4
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Dimensional drawing



## Classifications

### eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 11.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

### ETIM

ETIM 5.0	EC001599
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## Approvals

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UL Listed / cUL Listed / cULus Listed

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## Approvals

Ex Approvals

IECEEx / ATEX / UL Listed / cUL Listed / cULus Listed

### 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
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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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## Accessories

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#### 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

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

### Shield connection

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### Accessories

Shield connection - AXL SHIELD SET - 2700518



Axioline shield connection set (contains 2 shield bus holders and 2 SK 5 shield connection clamps)

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### 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

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Zack Marker strip, flat - ZBF 10/5,8 AXL UNPRINTED - 0829580



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: 10.15 mm, lettering field size: 4 of 10.15 x 5 mm and 1 of 5.8 x 5 mm, Number of individual labels: 50