

# Digital module - AXL F EX IS DI16 NAM XC 1F



1052423

<https://www.phoenixcontact.com/pc/products/1052423>

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Axioline F, Digital input module, Digital inputs: 16 (NAMUR), 8 V DC, connection technology: 2-conductor, Extreme conditions version, Intrinsically safe, 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. As an intrinsic safety I/O module, this device allows direct connection from intrinsically safe field I/O to the terminals of the module. 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
- Intrinsically safe analog inputs with connection to Zone 1, Zone 0 or Division 1
- 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)

## Commercial Data

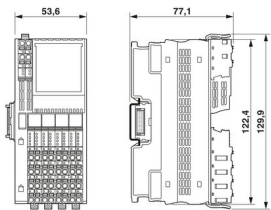
Item number	1052423
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	DRI2E4
GTIN	4055626674940
Weight per Piece (including packing)	420 g
Weight per Piece (excluding packing)	292.5 g
Customs tariff number	85389099
Country of origin	US

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## Technical Data

### Dimensions

Dimensional drawing	
Width	53.6 mm
Height	129.9 mm
Depth	77.14 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

### Notes

Utilization restriction	
EMC note	EMC: class A product, see manufacturer's declaration in the download area
Utilization restriction	
CCCEX note	Use in potentially explosive areas is not permitted in China.

### Material specifications

Color	traffic grey A RAL 7042
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### Interfaces

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

### System properties

Module	
Input address area	2 Byte
Output address area	0 Byte
Required parameter data	6 Byte
Required configuration data	6 Byte

### Input data

Digital	
Input name	Digital inputs

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

## Product properties

Type	block modular
Product type	I/O component
Mounting position	any (no temperature derating)
Scope of delivery	including bus base module and Axioline F connectors

## Electrical properties

Potentials: Axioline F local bus supply ( $U_{BUS}$ )

Supply voltage	5 V DC (via bus base module)
Current draw	max. 60 mA typ. 40 mA

Potentials: 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 draw	max. 130 mA

## Connection data

Connection technology

Connection name	Axioline F connector
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.

Conductor connection

Connection method	Push-in connection
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

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, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

## 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.)
Degree of protection	IP20
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)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Approval data

### ATEX

Identification	II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC
Certificate	DEMKO 20 ATEX 2370X

### IECEX

Identification	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
Certificate	IECEX UL 20.0044X

### UKCA Ex (UKEX)

Identification	II 3(1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC
Certificate	UL22UKEX2508X

### Ex data

UL, USA / Canada	Ind. Cont. Eq. (E238705) also Listed Ind. Cont. Eq. for haz. loc. E196811 Install in: Class I, Div. 2, Groups A, B, C, D T4 Intrinsically safe outputs for: Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; [Ex ia] Haz loc Class I, Zone 2, AEx ec [ia Ga] IIC T4 Gc [AEx ia Da] IIIC Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any (no temperature derating)

## Ex data

### Safety data

Max. output voltage $U_o$	10.6 V
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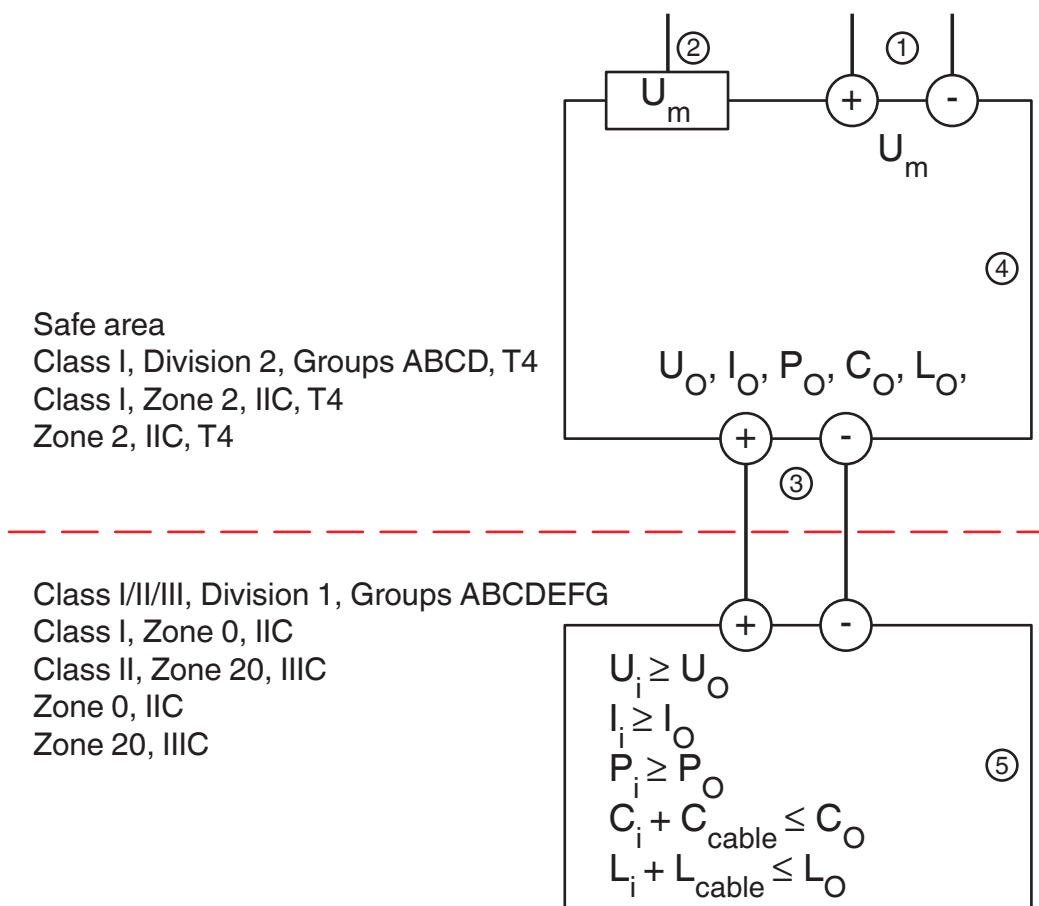
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Max. output current $I_o$	11 mA
Max. output power $P_o$	30 mW
Safety-related maximum voltage $U_m$	250 V
A, B / IIC ((A, B, or IIC)): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	/ 2.3 $\mu$ F
C/IIB, IIIC ((C, IIB, or IIIC)): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	/ 16 $\mu$ F
D/IIA, E, F, G, Class III ((D, E, F, G, Class III, or IIA)): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	/ 71.8 $\mu$ F
A, B / IIC ((A, B, or IIC)): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	100 mH
C/IIB, IIIC ((C, IIB, or IIIC)): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	100 mH
D/IIA, E, F, G, Class III ((D, E, F, G, Class III, or IIA)): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	100 mH

## Drawings

Schematic diagram



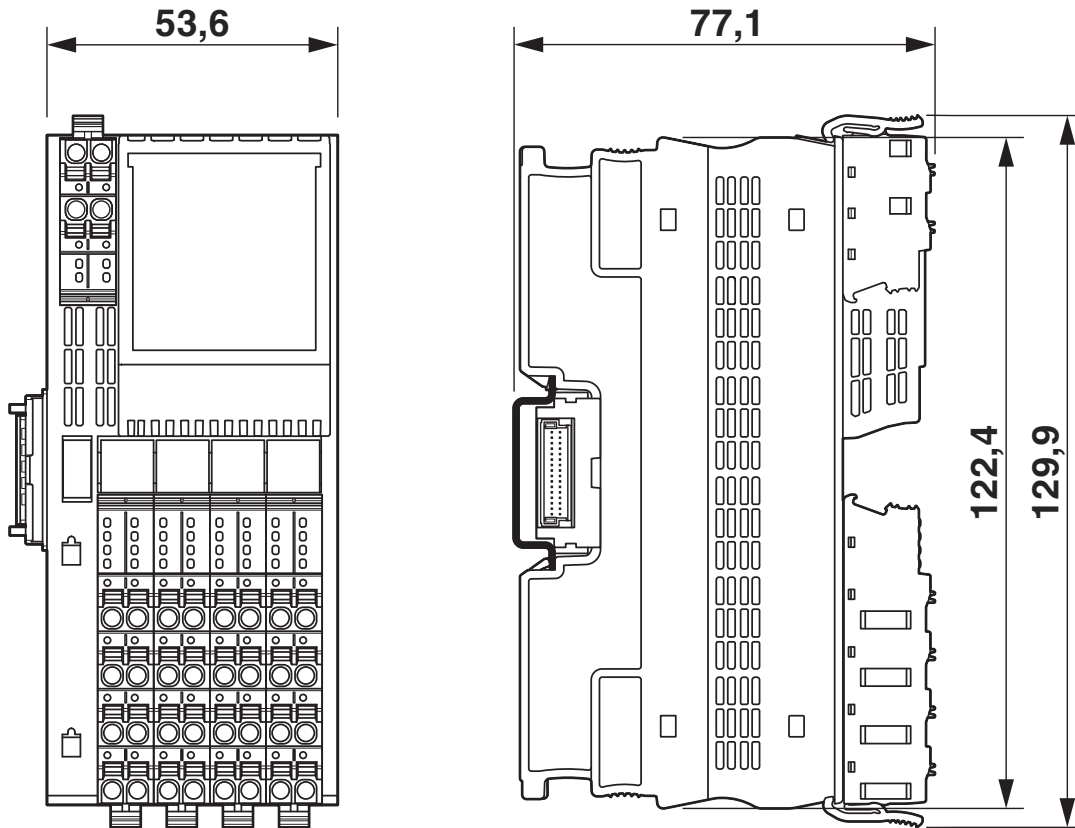
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Dimensional drawing



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## Approvals



**UL Listed**

Approval ID: FILE E 238705



**cUL Listed**

Approval ID: FILE E 238705



**IECEX**

Approval ID: IECEX UL 20.0044X



**cUL Listed**

Approval ID: FILE E 196811



**UL Listed**

Approval ID: FILE E 196811



**ATEX**

Approval ID: DEMKO 20 ATEX 2370X

**cULus Listed**

**cULus Listed**



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## Classifications

### ECLASS

ECLASS-9.0	27242604
ECLASS-10.0.1	27242604
ECLASS-11.0	27242604

### ETIM

ETIM 8.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
	Dechlorane Plus
China RoHS	Environmentally Friendly Use Period = 25;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### Bus connector

Bus connector - AXL F BS F - 2688129

<https://www.phoenixcontact.com/pc/products/2688129>

Axioline F bus base module for housing type F



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### Shield connection

Shield connection - AXL SHIELD SET - 2700518

<https://www.phoenixcontact.com/pc/products/2700518>

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



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## Zack marker strip

Zack marker strip - ZB 20,3 AXL UNPRINTED - 0829579

<https://www.phoenixcontact.com/pc/products/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

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

<https://www.phoenixcontact.com/pc/products/0829580>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, 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

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## Insert label

Insert label - EMT (35X46)R - 0801604

<https://www.phoenixcontact.com/pc/products/0801604>



Insert label, for marking 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: insert, lettering field size: 35 x 46 mm, Number of individual labels: 500

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## Separating plate

Separating plate - AXL F/P IO EX PP - 1100201

<https://www.phoenixcontact.com/pc/products/1100201>

Axioline F/P partition plate for intrinsically safe modules



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