

AXL P EX IS DI16 NAM 1F - Digital module



1052417

<https://www.phoenixcontact.com/us/products/1052417>

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Axioline P, Digital input module, Digital inputs: 16 (NAMUR), 8 V DC, connection technology: 2-conductor, NAMUR functionality, intrinsically safe, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and Axioline P connectors

Product description

The module is an Axioline P I/O module for use in the Axioline P modular I/O system. The module is a modular I/O device that can be affixed to the Axioline P local bus, to communicate I/O data up to the Axioline P 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/Os 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 bus coupler through the Axioline P local bus. The module is fully hot-swappable and may be removed while under power.

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 digital inputs with connection to Zone 1, Zone 0 or Division 1
- Can be used under extreme ambient conditions
- Temperature range: -40 °C ... +70 °C
- Hot-swappable

Commercial data

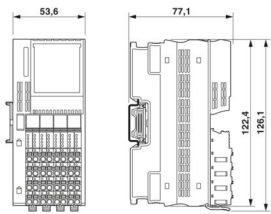
Item number	1052417
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR06
Product key	DRIP31
GTIN	4055626676241
Weight per piece (including packing)	420 g
Weight per piece (excluding packing)	288 g
Customs tariff number	85389099
Country of origin	US

1052417

<https://www.phoenixcontact.com/us/products/1052417>

Technical data

Dimensions

Dimensional drawing	
Width	53.6 mm
Height	126.1 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

Note on application	
Note on application	Only for industrial use
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.

Interfaces

Axioline P local bus	
Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

System properties

Module	
ID code (hex)	none
Input address area	2 Byte (Firmware 1.00) 4 Byte (Firmware 1.03 or later)
Output address area	0 Byte

Input data

Digital:	
Input name	Digital inputs

AXL P EX IS DI16 NAM 1F - Digital module



1052417

<https://www.phoenixcontact.com/us/products/1052417>

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
Protective circuit	Polarity reversal protection of the inputs

Product properties

Product type	I/O component
Product family	Axioline P
Type	block modular
Mounting position	any (no temperature derating)
Scope of supply	including bus base module and Axioline P connectors
Special properties	NAMUR functionality intrinsically safe

Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

Electrical properties

Maximum power dissipation for nominal condition	3.17 W
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Potentials: Supply voltage (U_L)

Supply voltage	24 V DC (via bus base module)
Supply voltage range	19.2 V DC ... 30 V DC
Current draw	max. 130 mA (via bus base module) typ. 94 mA (via bus base module)
Protective circuit	Surge protection; electronic (35 V, 0.5 s) Reverse polarity protection; Polarity protection diode Transient protection; Suppressor diode

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

Supply voltage	5 V DC (via bus base module)
Current draw	max. 135 mA typ. 110 mA

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply of the local bus (U_{BUS}) / functional ground	500 V AC, 60 Hz, 1 min
Test voltage: 5 V supply of the local bus (U_{BUS}) / digital inputs	1500 V AC, 60 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 60 Hz, 1 min
Test voltage: 24 V supply (I/O) / digital inputs	1500 V AC, 60 Hz, 1 min
Test voltage: Digital inputs / functional ground	500 V AC, 60 Hz, 1 min

Connection data

1052417

<https://www.phoenixcontact.com/us/products/1052417>

Connection technology

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

Axioline P connector

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axioline P: System and installation" user manual.
Conductor cross-section, rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 2000 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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Approvals

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

UL, USA/Canada

Identification	cULus
Certificate	E238705

1052417

<https://www.phoenixcontact.com/us/products/1052417>

UL Ex, USA / Canada

Identification	Class I, Division 2, Groups A, B, C, D, T4
	Intrinsically safe connections to: 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
Certificate	E196811

CCC / China-Ex

Identification	Ex ec [ia Ga] IIC T4 Gc
	[Ex ia Da] IIIC

Ex data

UL, USA / Canada	<p>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</p>
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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
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: Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 2.3 μ F
C/IIB, IIIC: Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 16 μ F
D/IIA, E, F, G, Class III: Max. external inductivity L_o / Max. external capacitance C_o	100 mH / 71.8 μ F

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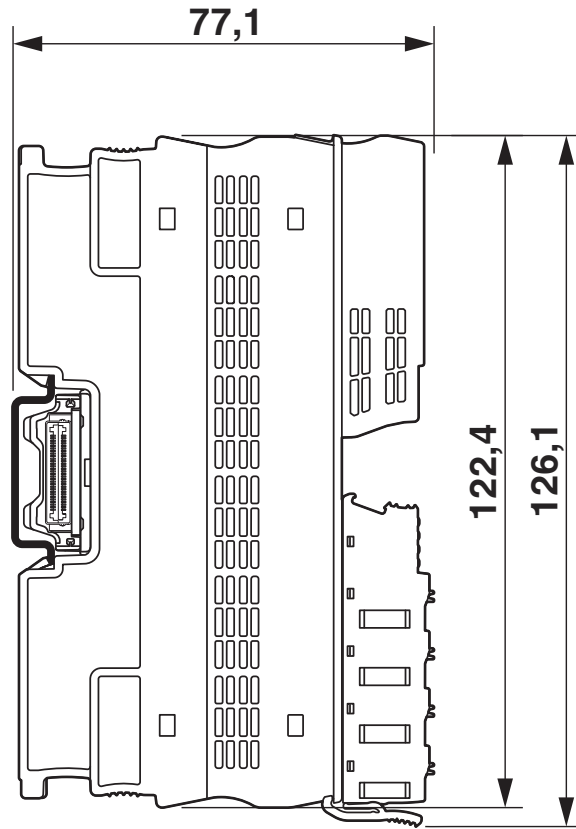
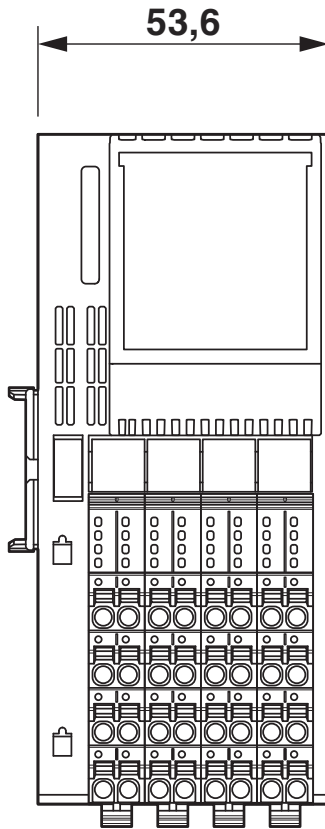


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Drawings

Dimensional drawing



Dimensional drawing

1052417

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1052417>



cULus Listed

Approval ID: E238705



IECEX

Approval ID: IECEX UL 20.0044X



cUL Listed

Approval ID: FILE E196811



UL Listed

Approval ID: FILE E196811



ATEX

Approval ID: DEMKO 20 ATEX 2370X



CCC

Approval ID: 2025122316122298



UKCA-EX

Approval ID: UL22UKEX2508X

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1052417

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Classifications

ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

ETIM

ETIM 10.0	EC001599
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	4aa24af6-07dc-4980-81e1-a0146a9c1629

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