

AXL F DI16/4 2F - Digital module



2688022

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Axioline F, Digital input module, Digital inputs: 16, 24 V DC, connection technology: 4-conductor, 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 is used to acquire digital signals. You can adjust the filter times of the inputs to increase noise immunity. Filter times of 100 μ s enable you to implement a counter function with a maximum input frequency of 5 kHz in the application.

Your advantages

- 16 digital inputs in accordance with EN 61131-2 type 1 and type 3
- 24 V DC, 2.4 mA
- Connection of sensors in 2-, 3-, and 4-conductor technology
- Filter times can be adjusted in two increments: < 100 μ s or 500 μ s
- Maximum input frequency: 5 kHz
- Maximum permissible load current per sensor: 2 A
- Maximum permissible load current of the module: 4 A (2 A for each group of a max. 8 sensors)
- Minimum update time of < 100 μ s
- Device rating plate stored

Commercial data

Item number	2688022
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI231
Catalog page	Page 75 (C-6-2019)
GTIN	4046356501606
Weight per piece (including packing)	296.8 g
Weight per piece (excluding packing)	231 g
Customs tariff number	85389091
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing		
Width		53.6 mm
Height		129.9 mm
Depth		54 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

Interfaces

Axioline F 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
Output address area	0 Byte
Required parameter data	3 Byte
Required configuration data	6 Byte

Input data

Digital:	
Input name	Digital inputs
Description of the input	EN 61131-2 types 1 and 3
Number of inputs	16
Connection method	Push-in connection
Connection technology	4-conductor
Input voltage range "0" signal	-3 V DC ... 5 V DC

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Input voltage range "I" signal	11 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	2.4 mA
Input filter time	500 μ s (Default) < 100 μ s
Protective circuit	Polarity reversal protection of the inputs; electronic

Product properties

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

Data management status

Article revision	09
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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	2.3 W
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Potentials: Axioline F local bus supply (U_{BUS})

Supply voltage	5 V DC (via bus base module)
Current draw	max. 120 mA (up to HW 04) max. 60 mA (from HW 05)

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. 4 A (Sensor supply U_S)
Protective circuit	Surge protection; electronic (35 V, 0.5 s) Reverse polarity protection; parallel diode; with external 5 A fuse (only for commissioning)

Supply: Sensor supply (U_S)

Designation	Sensor supply (U_S)
Supply voltage	24 V DC (from U_I)

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply of the local bus (U_{BUS}) / 24 V supply (I/Os)	500 V AC, 50 Hz, 1 min.
Test voltage: 5 V supply of the local bus (U_{BUS}) / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min.

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 rigid	0.2 mm² ... 1.5 mm²
Conductor cross section flexible	0.2 mm² ... 1.5 mm²
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 mm² ... 1.5 mm²
Conductor cross section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
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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Mounting

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

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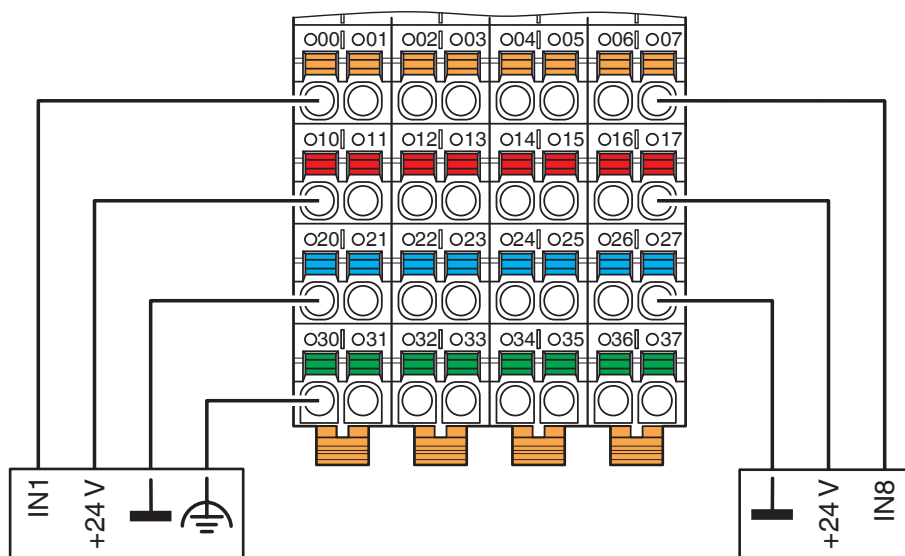
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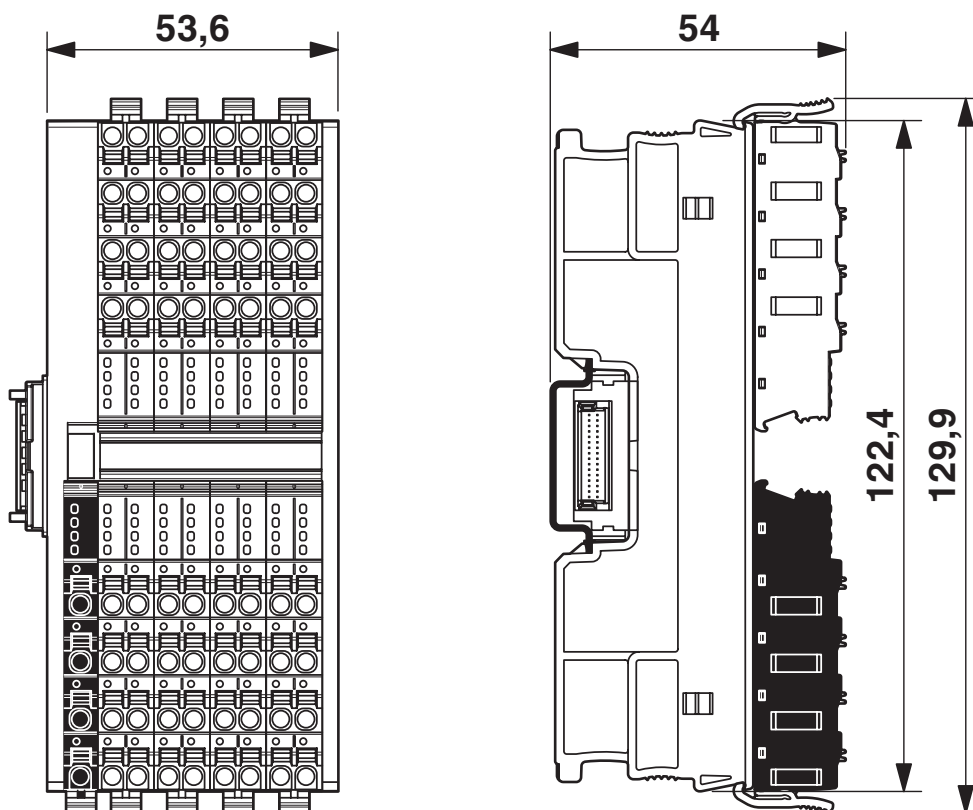
Drawings

Connection diagram



Connection example

Dimensional drawing



Dimensions

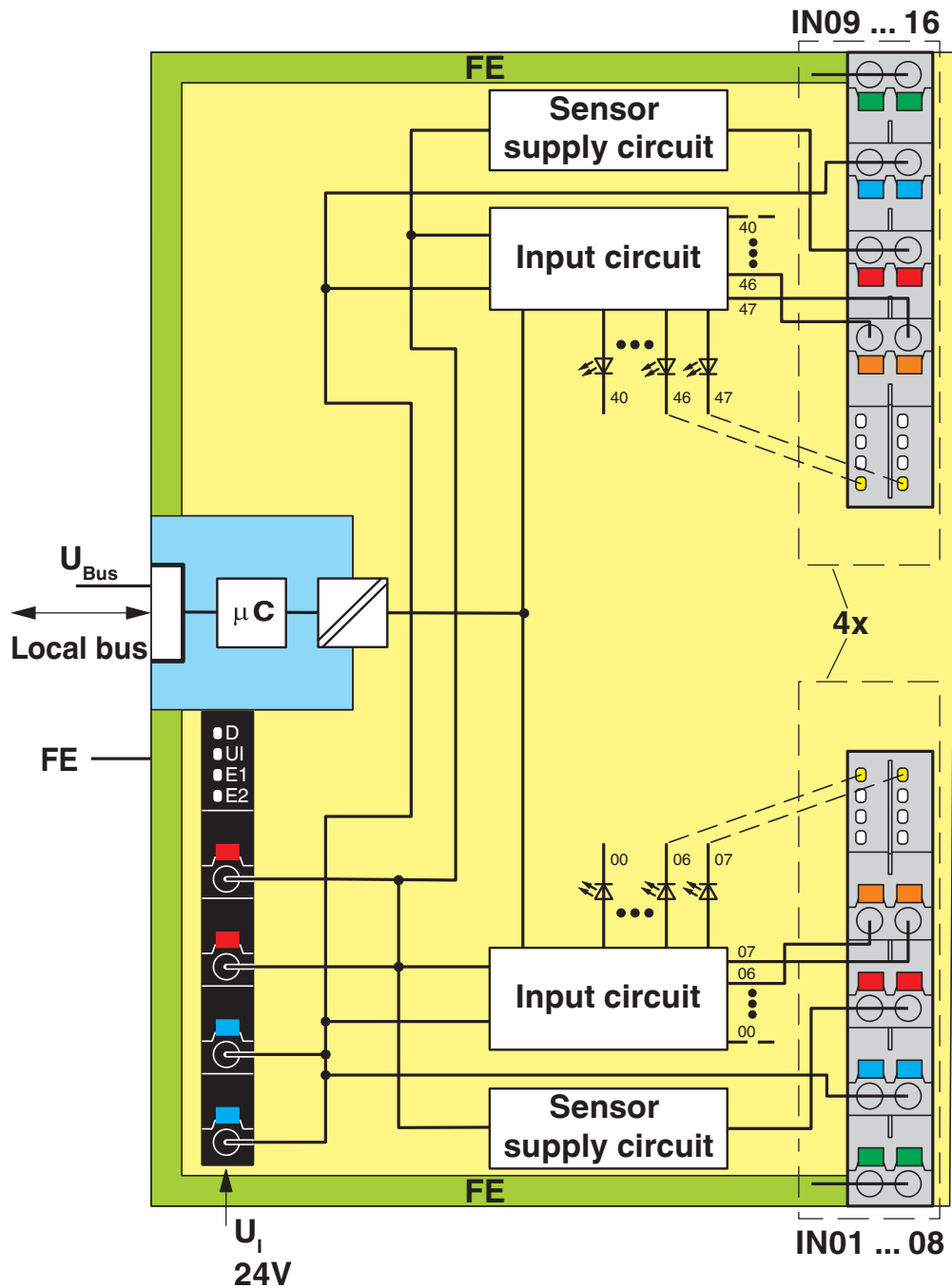
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Block diagram



Internal wiring of the terminal points

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2688022>



DNV GL

Approval ID: TAA0000DF Rev.12



LR

Approval ID: LR2480202TA



NK

Approval ID: 14A006



BV

Approval ID: 36433/B4 BV



PRS

Approval ID: TE/1020/880590/21

BSH

Approval ID: 840



RINA

Approval ID: ELE008423XG

ABS

Approval ID: 20-2059154-PDA



EAC

Approval ID: TR_TS_D_01831-19

UAE-RoHS

Approval ID: 23-02-63242



cULus Listed

Approval ID: E238705

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Classifications

ECLASS

ECLASS-11.0	27242604
ECLASS-12.0	27242604
ECLASS-13.0	27242604

ETIM

ETIM 9.0	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-50
	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	265d6a5b-2dc9-4af5-a8e9-7958ac2ce830

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