

AXL F DI16/1 1H - Digital module



2688310

<https://www.phoenixcontact.com/in/products/2688310>

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Axioline F, Digital input module, Digital inputs: 16, 24 V DC, connection technology: 1-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 1-conductor technology
- Minimum update time of < 100 μ s
- Filter times can be adjusted in three increments: < 100 μ s, 1000 μ s or 3000 μ s
- Maximum input frequency: 5 kHz
- Device rating plate stored

Commercial Data

Item number	2688310
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DRI
Product Key	DRI231
Catalog Page	Page 74 (C-6-2019)
GTIN	4046356606455
Weight per Piece (including packing)	181.6 g
Weight per Piece (excluding packing)	181.6 g
Customs tariff number	85389091
Country of origin	DE

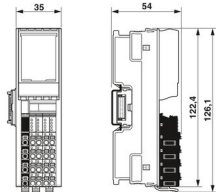
AXL F DI16/1 1H - Digital module

2688310

<https://www.phoenixcontact.com/in/products/2688310>

Technical Data

Dimensions

Dimensional drawing	
Width	35 mm
Height	126.1 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).

Material specifications

Color	traffic grey A RAL 7042
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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	1-conductor
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC

AXL F DI16/1 1H - Digital module



2688310

<https://www.phoenixcontact.com/in/products/2688310>

Nominal input current at U_{IN}	2.4 mA
Input filter time	3000 μ s (Default)
	1000 μ s
	< 100 μ s
Protective circuit	Polarity reversal protection of the inputs; parallel diode (30 V, 5 s)

Product properties

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

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	11.52 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 01)
	max. 60 mA (from HW 02)
Power consumption	max. 600 mW (up to HW 01)
	max. 300 mW (from HW 02)

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. 30 mA
Power consumption	max. 720 mW
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; parallel diode; with external 5 A fuse (only for commissioning)

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 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²

AXL F DI16/1 1H - Digital module



2688310

<https://www.phoenixcontact.com/in/products/2688310>

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 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)	-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
Mounting position	any (no temperature derating)

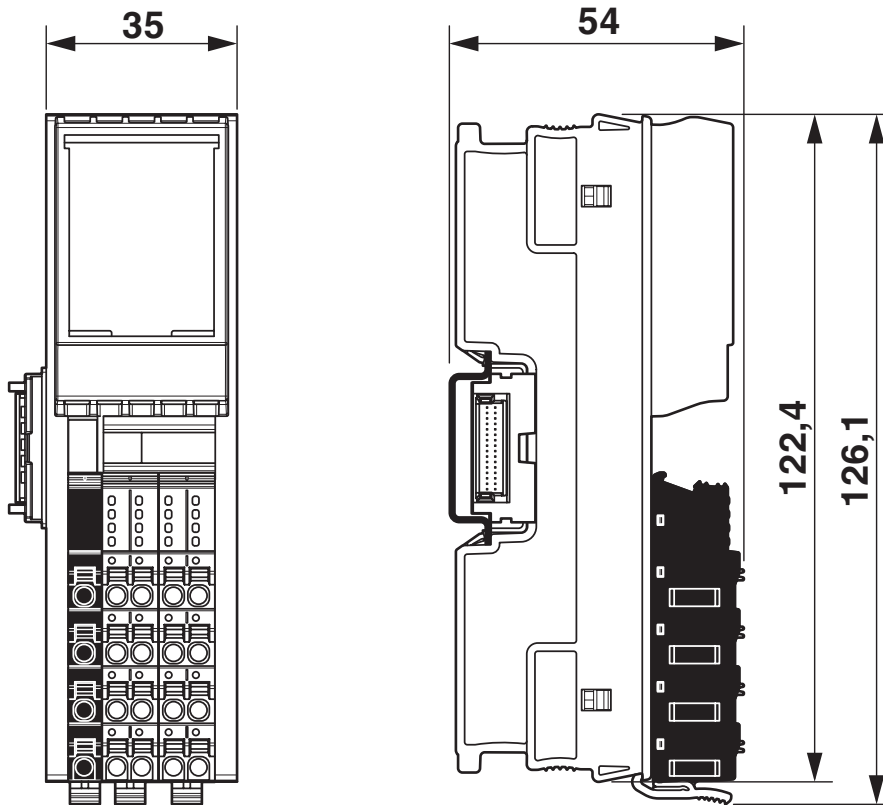
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2688310

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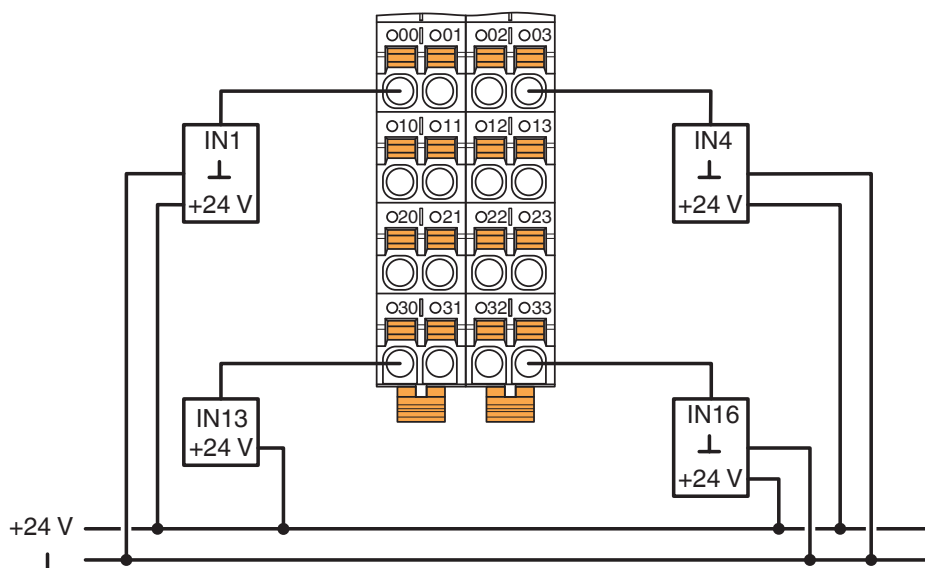
Drawings

Dimensional drawing



Dimensions

Connection diagram



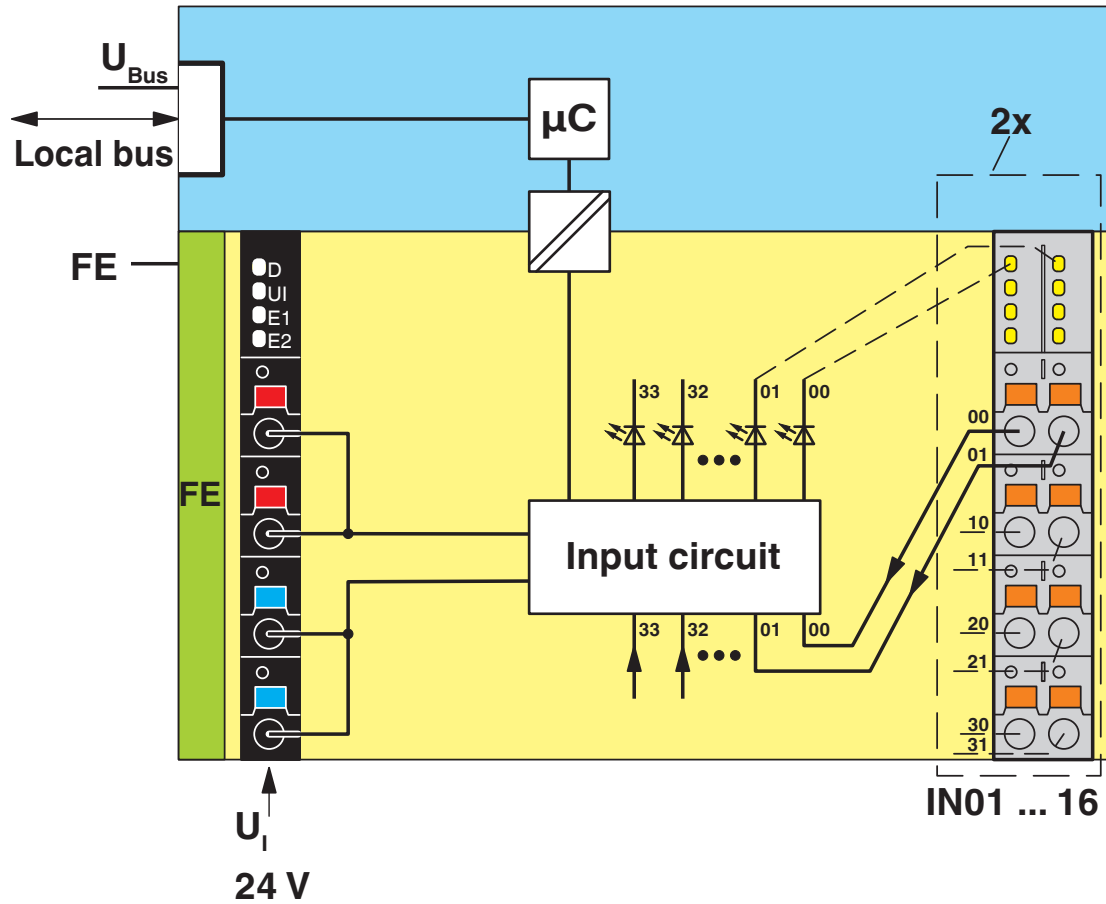
Connection example

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Block diagram



Internal wiring of the terminal points

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Approvals



DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2001902TA



NK

Approval ID: 14A006



BV

Approval ID: 36433/B4 BV



PRS

Approval ID: TE/1020/880590/21



RINA

Approval ID: ELE283021XG



cULus Listed

Approval ID: FILE E 238705



EAC

Approval ID: TR_TS_D_01831-19

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001599
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UNSPSC

UNSPSC 21.0	32151600
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2688310

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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

AXL F BS H - Bus connector

2700992

<https://www.phoenixcontact.com/in/products/2700992>

Axioline F bus base module for housing type H



ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

<https://www.phoenixcontact.com/in/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

AXL F DI16/1 1H - Digital module

2688310

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

0829580

<https://www.phoenixcontact.com/in/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 x 10, 15 x 5 mm, 1 x 5.8 x 5 mm, Number of individual labels: 50

EMT (35X28)R - Insert label

0801602

<https://www.phoenixcontact.com/in/products/0801602>



Insert label, for marking the Axioline F series from Phoenix Contact, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: insert, lettering field size: 35 x 28 mm, Number of individual labels: 500

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CABLE-FLK14/AXIO/OE/0,14/0,5M - Cable

1369888

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Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 0.5 m

CABLE-FLK14/AXIO/OE/0,14/1,0M - Cable

1369897

<https://www.phoenixcontact.com/in/products/1369897>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 1 m

AXL F DI16/1 1H - Digital module

2688310

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CABLE-FLK14/AXIO/OE/0,14/1,5M - Cable

1369902

<https://www.phoenixcontact.com/in/products/1369902>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 1.5 m

CABLE-FLK14/AXIO/OE/0,14/2,0M - Cable

1369904

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Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 2 m

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2688310

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CABLE-FLK14/AXIO/OE/0,14/3,0M - Cable

1369905

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Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 3 m

CABLE-FLK14/AXIO/OE/0,14/4,0M - Cable

1369906

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Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 4 m

AXL F DI16/1 1H - Digital module

2688310

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CABLE-FLK14/AXIO/OE/0,14/6,0M - Cable

1369909

<https://www.phoenixcontact.com/in/products/1369909>



Round cable set; controller: Axioline Realtime I/O; connection 1: Single wires (8-position) (The wires are marked and fitted with ferrules); connection 2: IDC/FLK socket strip (1x 14-position); cable length: 6 m

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