

# AXL F DI16/4 XC 2F - Digital module



2701224

<https://www.phoenixcontact.com/us/products/2701224>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



The figure shows the standard item

Axioline F, Digital input module, Digital inputs: 16, 24 V DC, connection technology: 4-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 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  $\mu$ 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  $\mu$ s or 500  $\mu$ 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  $\mu$ s
- Device rating plate stored
- 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)
- Partially coated PCBs

## Commercial data

Item number	2701224
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI231
GTIN	4046356730877
Weight per piece (including packing)	323 g
Weight per piece (excluding packing)	278 g
Customs tariff number	85389091
Country of origin	DE

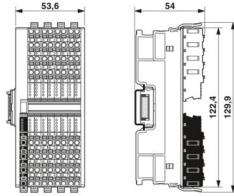
# AXL F DI16/4 XC 2F - Digital module

2701224

<https://www.phoenixcontact.com/us/products/2701224>

## 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
Utilization restriction	
EMC note	EMC: class A product, see manufacturer's declaration in the download area

### Material specifications

Color (Housing)	gray (RAL 7042)
-----------------	-----------------

### Interfaces

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

### System properties

Programming data (LocalbusSlave)	
Input address area	2 Byte
Output address area	0 Byte
Fieldbus data telegram (PROFIBUS)	
Required parameter data	3 Byte
Required configuration data	6 Byte

### Input data

Digital:	
----------	--

# AXL F DI16/4 XC 2F - Digital module



2701224

<https://www.phoenixcontact.com/us/products/2701224>

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
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	2.4 mA
Current flow	linear until nominal current is reached, then constantly approx. 2.4 mA
Input filter time	500 $\mu$ s (Default) < 100 $\mu$ s
Process data update	< 100 $\mu$ 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 supply	including bus base module and Axioline F connectors
Special properties	Extreme conditions version

## 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
---	-------

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

Supply voltage	5 V DC (via bus base module)
Current draw	max. 120 mA (HW 00) max. 60 mA (from HW 01)

## 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 $U_S$ )
Current consumption	typ. 25 mA (without sensors)
Protective circuit	Surge protection; electronic (35 V, 0.5 s) Reverse polarity protection; parallel diode; with external 5 A fuse (only for commissioning)
Protection	max. 8 A (polarity reversal protection up to 5 A)

Supply: Sensor supply ( $U_S$ )

# AXL F DI16/4 XC 2F - Digital module



2701224

<https://www.phoenixcontact.com/us/products/2701224>

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.

### 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

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Standard, applications with UL approval, use in zone 2 potentially explosive area) -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)

### Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

### Test (noxious gas)

Test standard	ISA-71.04-2013 G3 Harsh Group A
---------------	---------------------------------



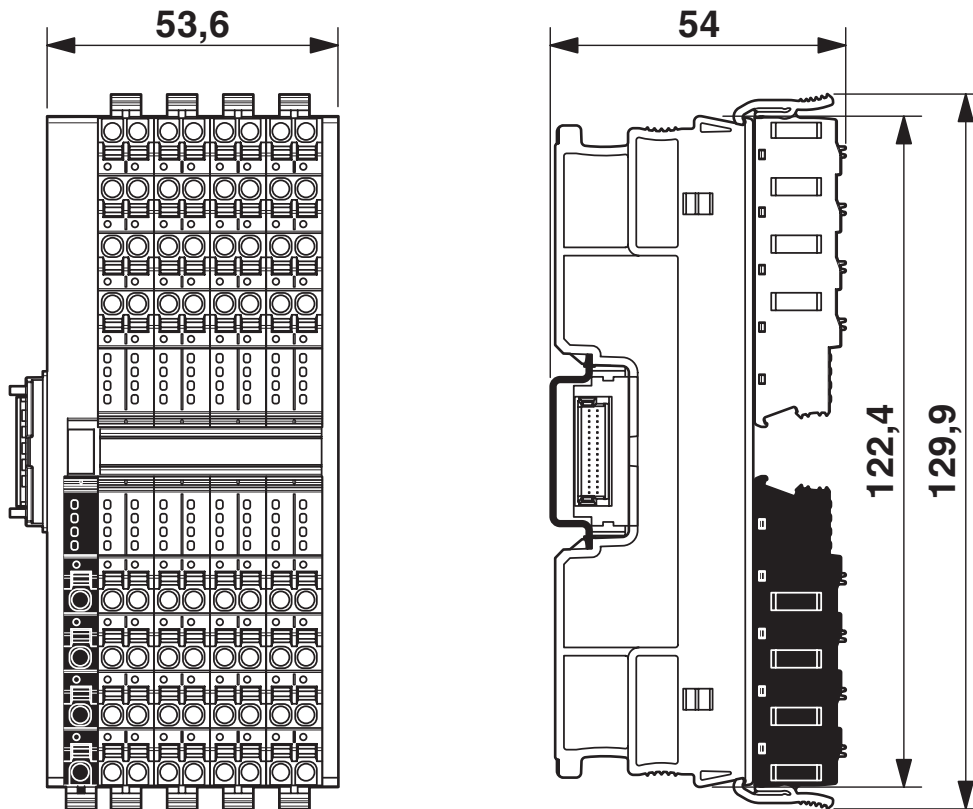
# AXL F DI16/4 XC 2F - Digital module

2701224

<https://www.phoenixcontact.com/us/products/2701224>

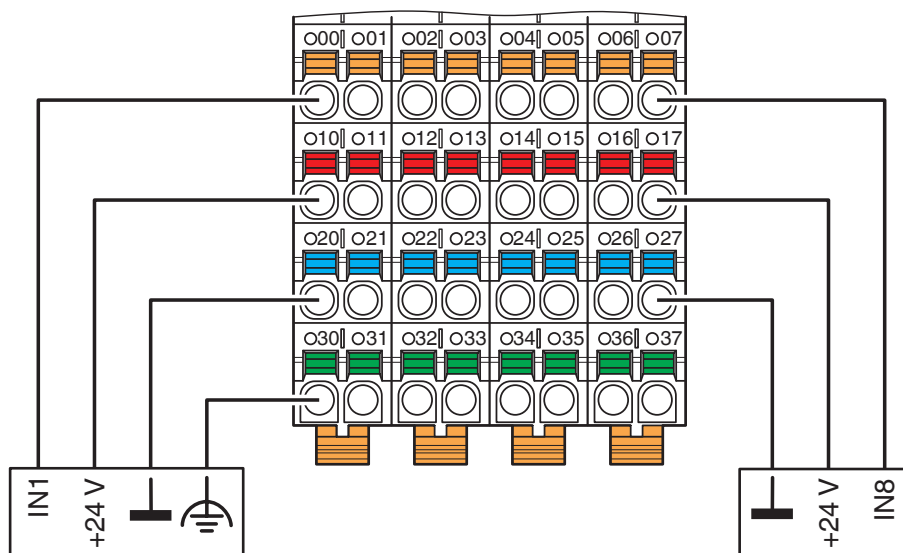
## Drawings

Dimensional drawing



## Dimensions

Connection diagram



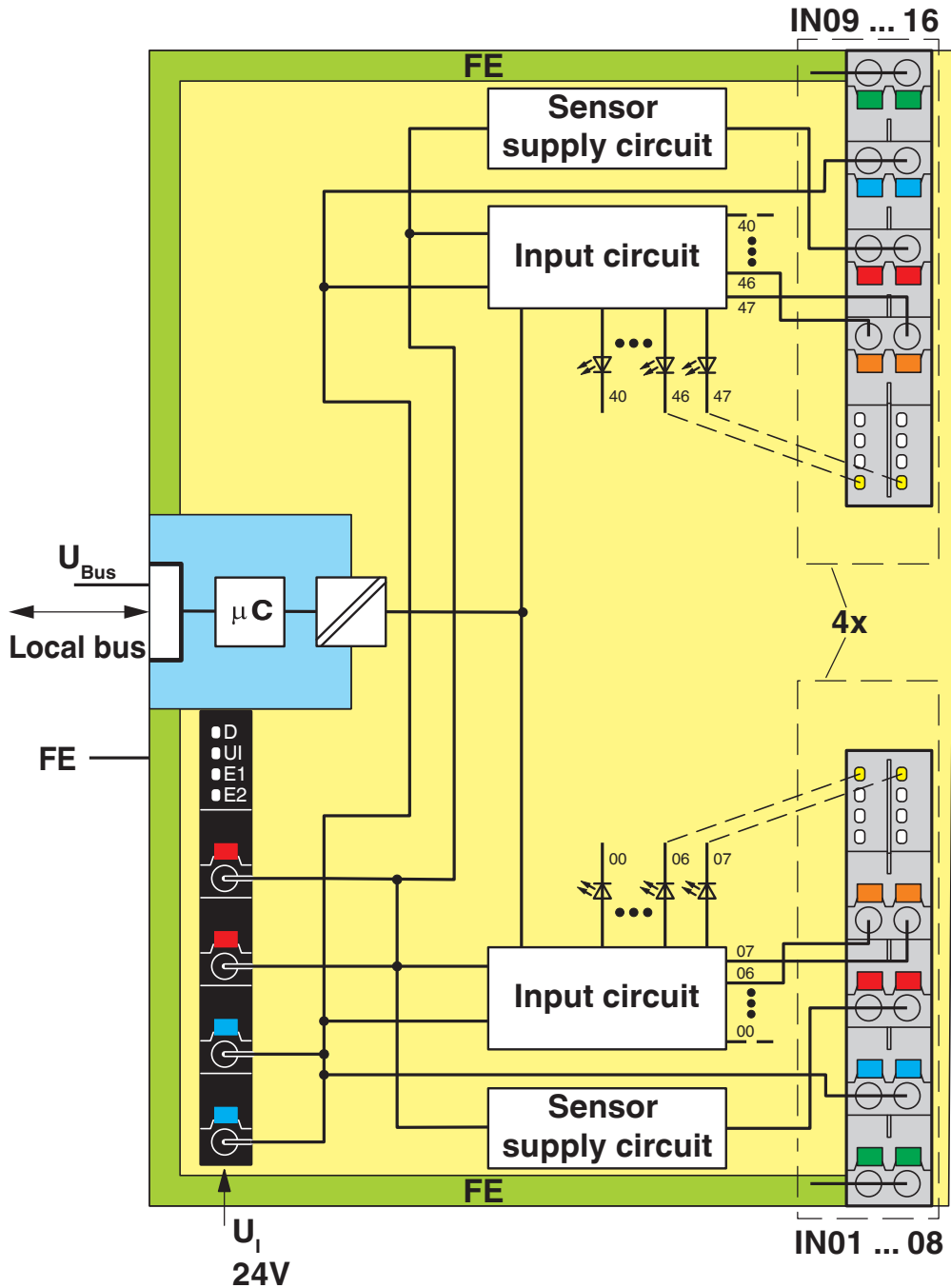
## Connection example

# AXL F DI16/4 XC 2F - Digital module

2701224

<https://www.phoenixcontact.com/us/products/2701224>

Block diagram



Internal wiring of the terminal points

# AXL F DI16/4 XC 2F - Digital module



2701224

<https://www.phoenixcontact.com/us/products/2701224>

## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2701224>



**DNV GL**

Approval ID: TAA00000DF



**LR**

Approval ID: LR2480202TA-02



**PRS**

Approval ID: TE/1020/880590/21

**BSH**

Approval ID: 840



**RINA**

Approval ID: ELE008423XG001



**cULus Listed**

Approval ID: E238705



**IECEx**

Approval ID: IECEx ULD 20.0026X



**ATEX**

Approval ID: UL 20 ATEX 2441X



**cULus Listed**

Approval ID: E366272



**CCC**

Approval ID: 2021122309114456\_CN

# AXL F DI16/4 XC 2F - Digital module



2701224

<https://www.phoenixcontact.com/us/products/2701224>

## Classifications

### ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

### ETIM

ETIM 10.0	EC001599
-----------	----------

### UNSPSC

UNSPSC 21.0	32151600
-------------	----------

# AXL F DI16/4 XC 2F - Digital module



2701224

<https://www.phoenixcontact.com/us/products/2701224>

## 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)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	9373a524-9336-45f2-8c57-d32ae311acad

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)