

I/O module - AXL F DI16/4 XC 2F - 2701224

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Axioline F XC, Digital input module, Digital inputs: 16, 24 V DC, connection method: 4-wire, Extreme conditions version, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and Axioline F connectors

The figure shows the standard item

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 according to EN 61131-2 type 1 and type 3
- ✓ 24 V DC, 2.4 mA
- ✓ Connection of sensors in 2, 3, and 4-wire technology
- ✓ Minimum update time of < 100 μ s
- ✓ 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 8 inputs)
- ✓ 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



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 730877 |
| GTIN | 4046356730877 |

Technical data

Note

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Technical data

Note

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

Dimensions

| | |
|--------------------|---|
| Width | 53.6 mm |
| Height | 129.9 mm |
| Depth | 54 mm |
| Note on dimensions | The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715). |

Ambient conditions

| | |
|--|---|
| Ambient temperature (operation) | -25 °C ... 60 °C (Standard applications and applications with UL approval) |
| | -40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |
| Permissible humidity (storage/transport) | 5 % ... 95 % (non-condensing) |
| 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) |
| Degree of protection | IP20 |

Connection data

| | |
|---------------------------------------|---|
| Designation | 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. |
| | Applications with UL approval: only use copper conductors. |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 1.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 1.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 16 |
| Stripping length | 8 mm |

General

| | |
|-------------------------------|-------------------------------------|
| Mounting type | DIN rail |
| Color | traffic grey A RAL 7042 |
| Net weight | 278 g |
| Note on weight specifications | with connectors and bus base module |
| Mounting position | any (no temperature derating) |

Interfaces

| | |
|-------------|----------------------|
| Designation | Axioline F local bus |
|-------------|----------------------|

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Technical data

Interfaces

| | |
|--------------------|-----------------|
| No. of channels | 2 |
| Connection method | Bus base module |
| Transmission speed | 100 Mbps |

Axioline potentials

| | |
|----------------------|---|
| Designation | Axioline F local bus supply (U_{Bus}) |
| Supply voltage | 5 V DC (via bus base module) |
| Current consumption | max. 120 mA (HW 00) |
| | max. 60 mA (as of HW 01) |
| Power consumption | max. 600 mW (HW 00) |
| | max. 300 mW (as of HW 01) |
| Designation | 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 consumption | max. 4 A (2 A or each group of 8 inputs) |
| Power consumption | max. 120 W (of which 800 mW with internal losses) |
| 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) |

Digital inputs

| | |
|-----------------------------------|---|
| Input name | Digital inputs |
| Description of the input | EN 61131-2 types 1 and 3 |
| Connection method | Push-in connection |
| Connection technology | 4-wire |
| Number of inputs | 16 |
| Protective circuit | Polarity reversal protection of the inputs electronic |
| 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 |
| Input voltage range "0" signal | -3 V DC ... 5 V DC |
| Input voltage range "1" signal | 11 V DC ... 30 V DC |

Electrical isolation

| | |
|--------------|--|
| Test section | 5 V supply of the local bus (U_{Bus}) / 24 V supply (I/Os) 500 V AC 50 Hz 1 min. |
| | 5 V supply of the local bus (U_{Bus}) / functional ground 500 V AC 50 Hz 1 min. |
| | 24 V supply (I/O)/functional ground 500 V AC 50 Hz 1 min. |

Standards and Regulations

| | |
|------------------|---|
| Mechanical tests | Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g |
|------------------|---|

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Technical data

Standards and Regulations

| | |
|------------------|--|
| | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g |
| | Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g |
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |

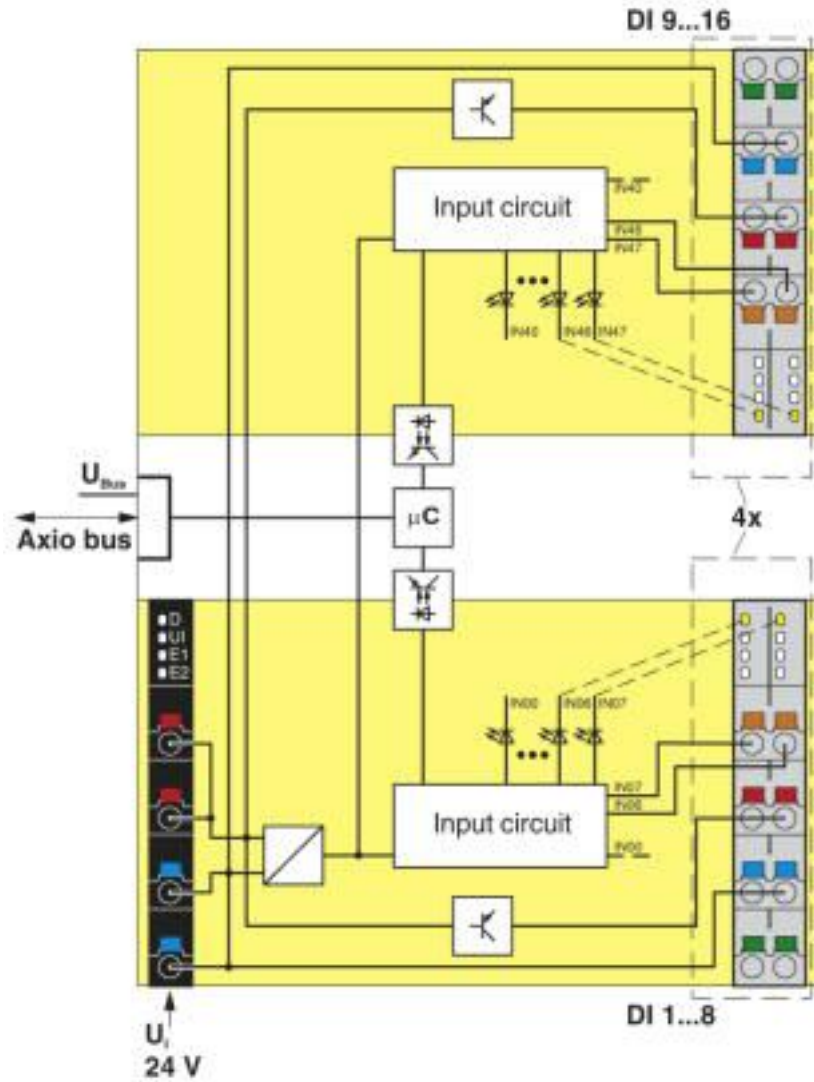
Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

I/O module - AXL F DI16/4 XC 2F - 2701224

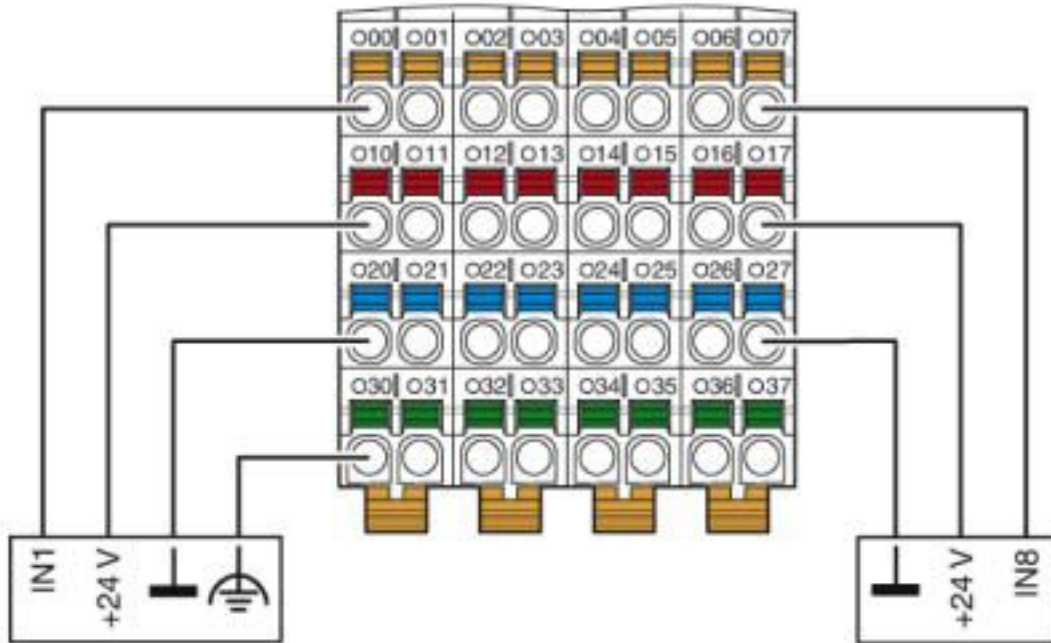
Block diagram



Internal wiring of the terminal points

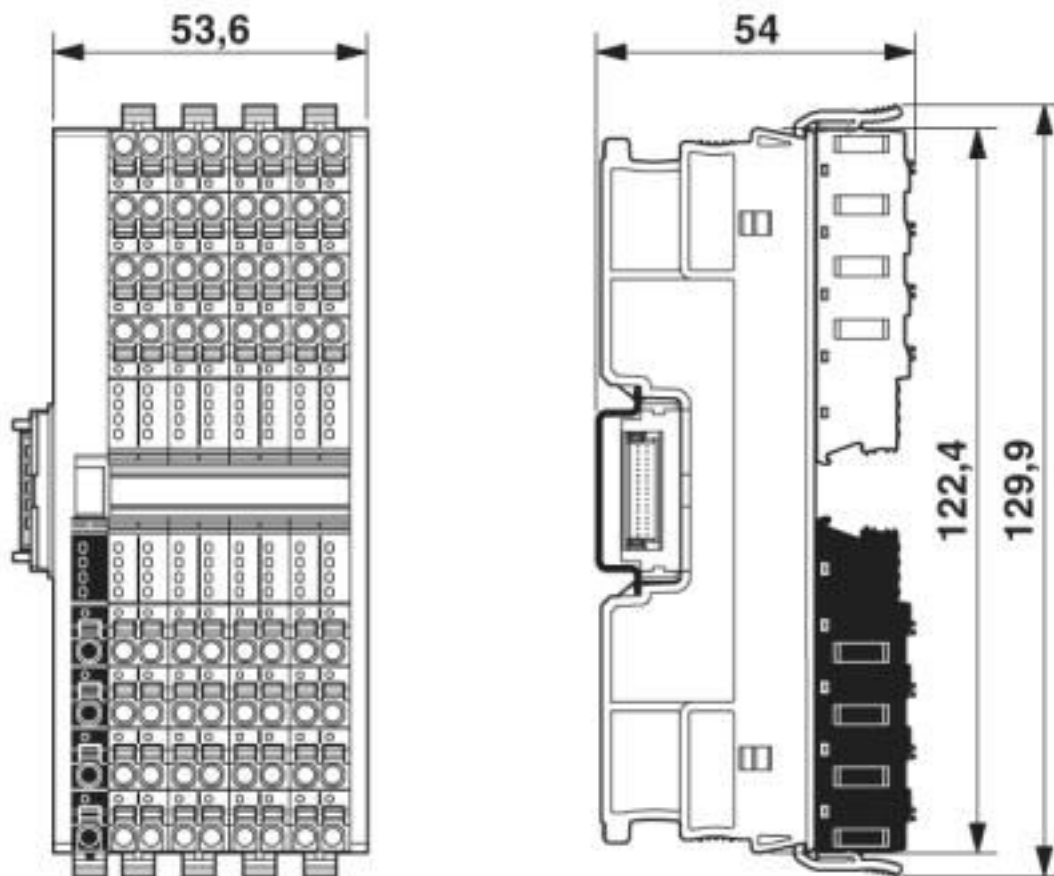
I/O module - AXL F DI16/4 XC 2F - 2701224

Connection diagram



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Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27242604 |
| eCl@ss 4.0 | 27240400 |
| eCl@ss 4.1 | 27240400 |
| eCl@ss 5.0 | 27242200 |
| eCl@ss 5.1 | 27242600 |
| eCl@ss 6.0 | 27242600 |
| eCl@ss 7.0 | 27242604 |
| eCl@ss 8.0 | 27242604 |
| eCl@ss 9.0 | 27242604 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC001433 |
| ETIM 3.0 | EC001599 |
| ETIM 4.0 | EC001599 |
| ETIM 5.0 | EC001599 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 6.0 | EC001599 |
| ETIM 7.0 | EC001599 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 43172015 |
| UNSPSC 7.0901 | 43201404 |
| UNSPSC 11 | 39121311 |
| UNSPSC 12.01 | 39121311 |
| UNSPSC 13.2 | 32151602 |
| UNSPSC 18.0 | 32151602 |
| UNSPSC 19.0 | 32151602 |
| UNSPSC 20.0 | 32151602 |
| UNSPSC 21.0 | 32151602 |

Approvals


Approvals

Approvals


PRS / BV / LR / KR / NK / BSH / RINA / DNV GL / UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

| | | | |
|-----|---|---|-------------------|
| PRS |  | http://www.prs.pl/ | TE/2239/880590/19 |
|-----|---|---|-------------------|

| | | | |
|----|---|---|-------------|
| BV |  | http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials | 36433/B1 BV |
|----|---|---|-------------|

| | | | |
|----|---|---|-------------|
| LR |  | http://www.lr.org/en | LR2001902TA |
|----|---|---|-------------|

| | | | |
|----|---|---|----------------|
| KR |  | http://www.krs.co.kr/eng/main/main.aspx | HMB17372-AC002 |
|----|---|---|----------------|

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Approvals

| | | | |
|----|--|---|--------|
| NK | | http://www.classnk.or.jp/hp/en/ | 14A006 |
|----|--|---|--------|

| | | | |
|-----|--|--|-----|
| BSH | | | 840 |
|-----|--|--|-----|

| | | | |
|------|--|---|-------------|
| RINA | | http://www.rina.org/en | ELE030120XG |
|------|--|---|-------------|

| | | | |
|--------|--|---|------------|
| DNV GL | | https://approvalfinder.dnvgl.com/ | TAA00000DF |
|--------|--|---|------------|

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 238705 |
|-----------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 238705 |
|------------|--|---|---------------|

| | | | |
|--------------|--|--|--|
| cULus Listed | | | |
|--------------|--|--|--|

Accessories

Accessories

DIN rail connector

Bus connector - AXL F BS F - 2688129



AxioLine F bus base module for housing type F

Terminal marking

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Accessories

Zack marker strip - ZB 20,3 AXL UNPRINTED - 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

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, 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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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>

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