

I/O module - AXL F DI16/1 HS 1H - 2701722

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Axioline F, Digital input module, Digital inputs: 16, 24 V DC, connection method: 1-wire, Input filter time < 5 μ s, 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.


The internal update time of < 5 μ s makes it possible to implement a counting function with the module. The input frequency of the counting amounts to a maximum of 100 kHz.

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 single-wire technology
- ✔ Minimum update time of < 5 μ s, bus synchronous
- ✔ Filter times can be adjusted in three increments: no filter, 1000 μ s or 3000 μ s
- ✔ Maximum frequency of 100 kHz
- ✔ Device rating plate stored
- ✔ Diagnostic and status indicators



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 801645 |
| GTIN | 4046356801645 |
| Weight per Piece (excluding packing) | 180.000 g |
| Custom tariff number | 85389091 |
| Country of origin | Germany |

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Technical data

Dimensions

| | |
|--------------------|---|
| Width | 35 mm |
| Height | 126.1 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 |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 5 % ... 95 % (according to DIN EN 61131-2) |
| Permissible humidity (storage/transport) | 5 % ... 95 % (according to DIN EN 61131-2) |
| 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. |
| 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 | 133 g |
| Note on weight specifications | with connectors and bus base module |
| Diagnostics messages | I/O supply failure Yes |
| Mounting position | any (no temperature derating) |

Interfaces

| | |
|-----------------|----------------------|
| Designation | Axioline F local bus |
| No. of channels | 2 |

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Technical data

Interfaces

| | |
|--------------------|-----------------|
| 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 |
| Power consumption | max. 600 mW |
| 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. 20 mA |
| Power consumption | max. 480 mW |
| Protective circuit | Surge protection of the supply voltage electronic (35 V, 0.5 s) |
| | Polarity reversal protection of the supply voltage 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 | 1-wire |
| Number of inputs | 16 |
| Protective circuit | Polarity reversal protection of the inputs parallel diode (30 V, 5 s) |
| Nominal input voltage U_{IN} | 24 V DC |
| Nominal input current at U_{IN} | 2.3 mA |
| Input filter time | < 5 μ s |
| Input voltage range "0" signal | -3 V DC ... 8.4 V DC |
| Input voltage range "1" signal | 9.4 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 earth 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

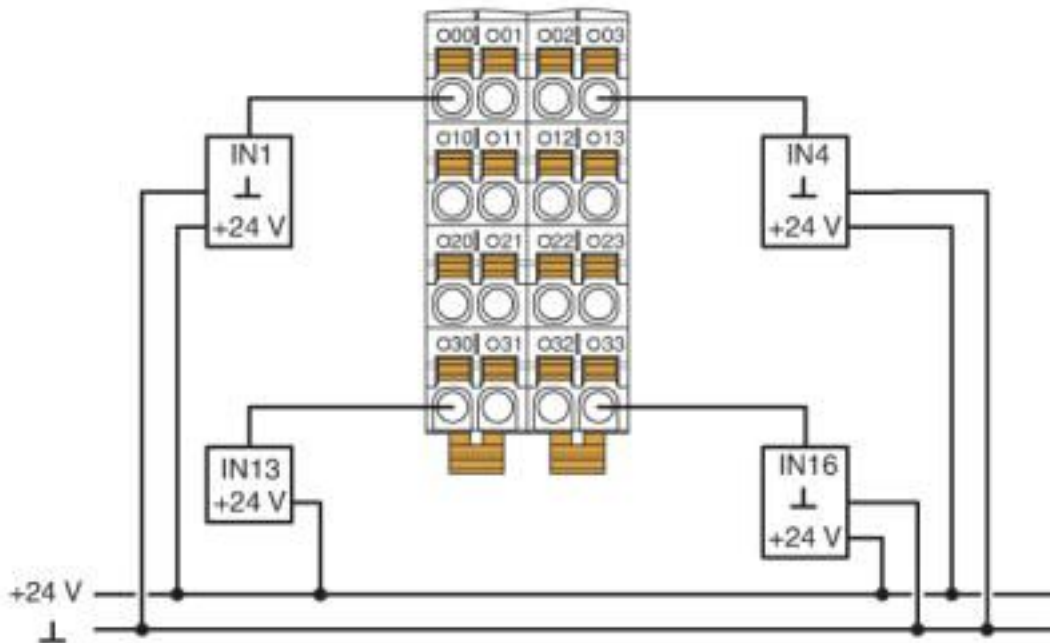
| | |
|------------------|--|
| | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 25g, 11 ms period, half-sine shock pulse |
| | Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g |
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |

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" |

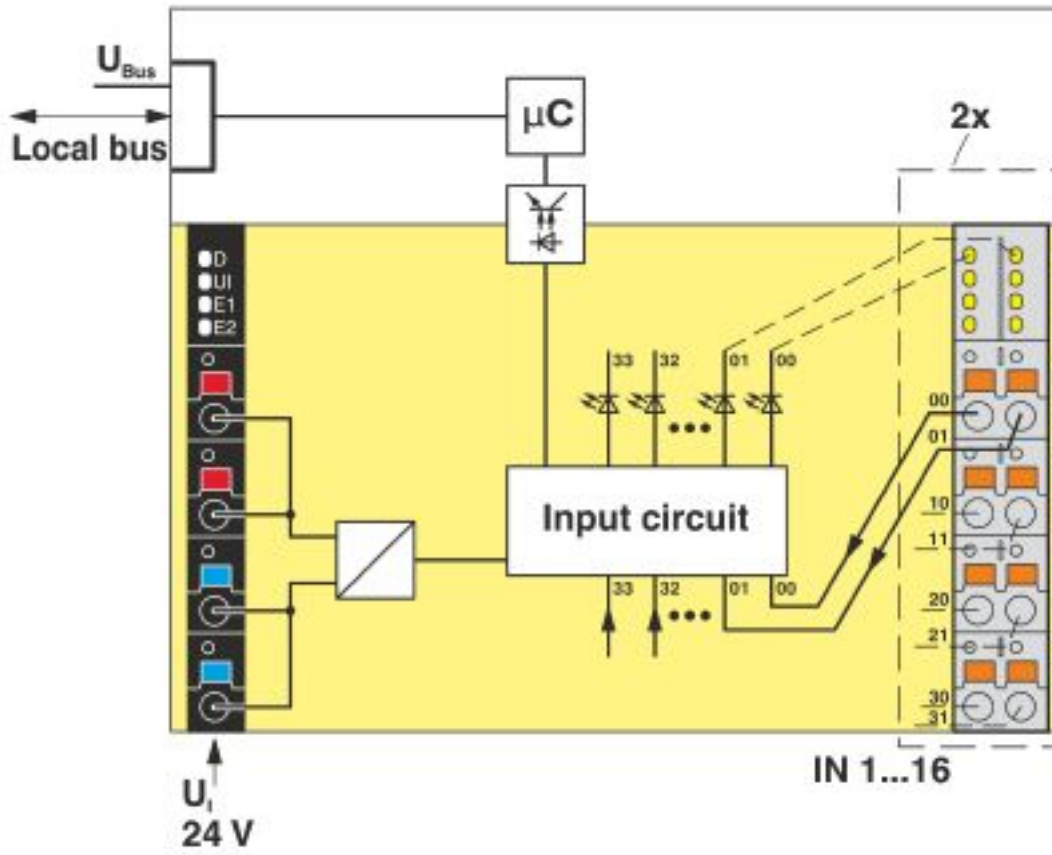
Drawings

Connection diagram



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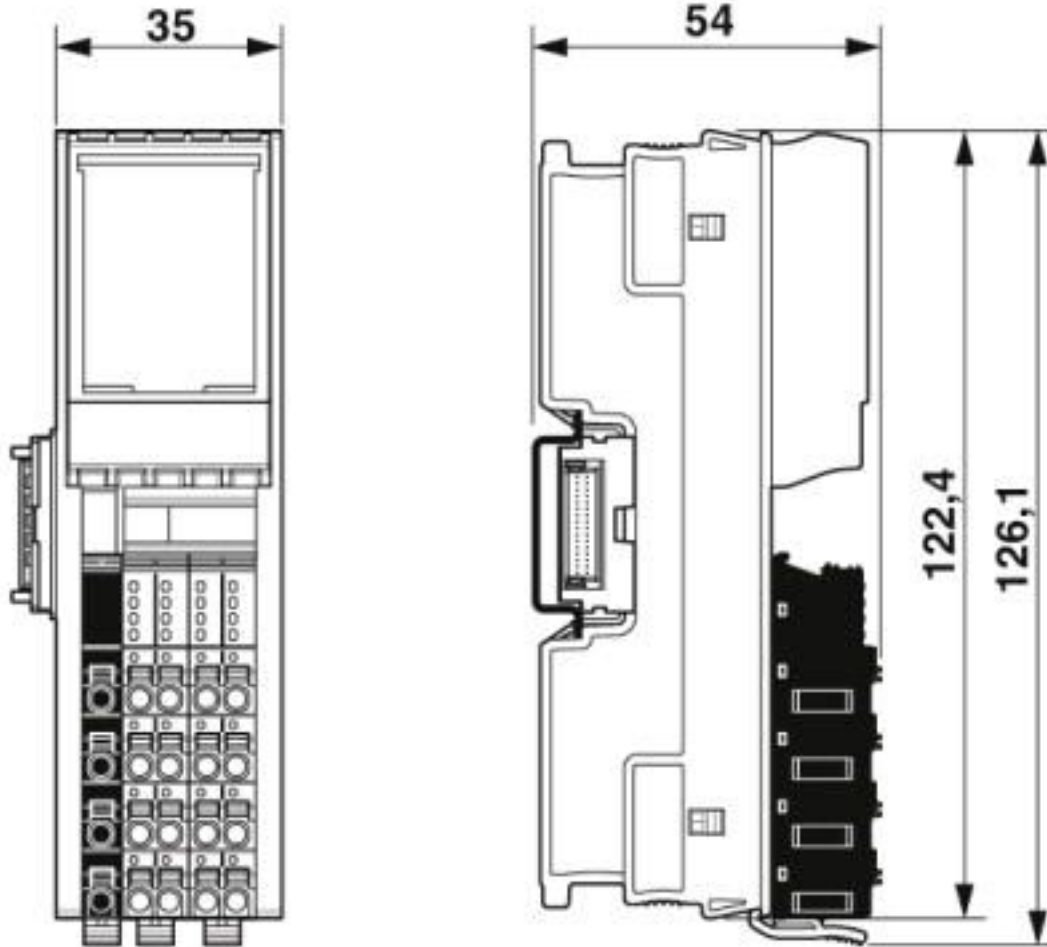
Block diagram



Internal wiring of the terminal points

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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 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001045 |
| ETIM 4.0 | EC001596 |
| ETIM 5.0 | EC001599 |
| 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

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

| | | | |
|-----------|--|---|---------------|
| 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 |
|------------|--|---|---------------|

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Approvals

cULus Listed



Accessories

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Device marking

Insert label - EMT (35X28)R - 0801602



Insert label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: snapped into marker carrier, lettering field size: 35 x 28 mm, Number of individual labels: 500

DIN rail connector

Bus connector - AXL F BS H - 2700992



Axioline F bus base module for housing type H

Terminal marking

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

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Accessories

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