

AXL F PSDI8/4 1F - Safety module



2701559

<https://www.phoenixcontact.com/us/products/2701559>

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Axioline F, Digital input module, Functional safety, PROFIsafe, only for connection to Phoenix Contact or Siemens controller, Digital inputs: 4 (for 2-channel assignment), 8 (for 1-channel assignment), 24 V DC, connection technology: 2-, 3-, 4-conductor, degree of protection: IP20

Product description

The safety module is an input module from the Axioline F product range designed for use in a PROFIsafe system. The module has four safe digital inputs for two-channel assignment or eight safe digital inputs for single-channel assignment. The inputs can be parameterized according to the application and enable sensors to be integrated into the PROFIsafe system.

Your advantages

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2701559 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN03 |
| Product key | DNA521 |
| Catalog page | Page 270 (C-6-2019) |
| GTIN | 4046356770026 |
| Weight per piece (including packing) | 257 g |
| Weight per piece (excluding packing) | 222 g |
| Customs tariff number | 85389091 |
| Country of origin | DE |

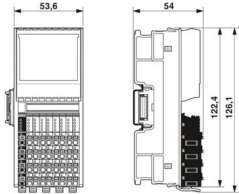
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Technical data

Dimensions

| | |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width | 53.6 mm |
| Height | 126.1 mm |
| Depth | 54 mm |
| Note on dimensions | Housing dimensions |

Notes

Note on application

| | |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

Interfaces

Axioline F local bus

| | |
|-------------------|-----------------|
| Connection method | Bus base module |
|-------------------|-----------------|

System properties

Module

| | |
|-----------------------------|--------------------------------|
| Input address area | 5 Byte |
| Output address area | 5 Byte |
| Required parameter data | 22 Byte ((I-and F-parameters)) |
| Required configuration data | 10 Byte |

Input data

Digital:

| | |
|--------------------------|------------------------------------------------------------------------------------------------------|
| Input name | Digital inputs |
| Description of the input | IEC 61131-2 type 3 |
| Number of inputs | 4 (for 2-channel assignment) 8 (for 1-channel assignment) |
| Cable length | max. 1000 m (200 m from the clock output to the safe input (total based on forward and return path)) |
| Connection method | Push-in connection |
| Connection technology | 2-, 3-, 4-conductor |
| Input voltage | 24 V DC (via clock outputs T1 and T2 or external supply) |
| Input voltage range | -3 V DC ... 30 V DC |

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| | |
|-----------------------------------|----------------|
| Nominal input voltage U_{IN} | 24 V DC |
| Nominal input current at U_{IN} | typ. 4.2 mA |
| Typical input current per channel | 4.2 mA |
| Input filter time | 1.5 ms |
| | 3 ms (Default) |
| | 5 ms |
| | 15 ms |

Product properties

| | |
|----------------|--------------------------------------------------------------|
| Product type | I/O component |
| Product family | Axioline F |
| Application | Functional safety |
| | PROFIsafe |
| | only for connection to Phoenix Contact or Siemens controller |
| Type | modular |

Data management status

| | |
|------------------|----|
| Article revision | 12 |
|------------------|----|

Electrical properties

| | |
|-------------------------------------------------|--------|
| Maximum power dissipation for nominal condition | 2 W |
| Transmission medium | Copper |

Potentials

| | |
|--------------------|--------------------------------------------------------------------------------------|
| Protective circuit | Protection against polarity reversal, EMC protective circuit, undervoltage detection |
|--------------------|--------------------------------------------------------------------------------------|

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

| | |
|----------------|------------------------------------------------------------------------|
| Supply voltage | 5 V DC (via bus base module) |
| Current draw | max. 310 mA |
| | typ. 280 mA (all inputs set; supply by U_I of 19.2 V DC ... 30 V DC) |

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 | typ. 9 mA (all inputs set; supply from U_I with 30 V DC; without supply to the sensors via clock supplies T1 and T2) |

Connection data

Connection technology

| | |
|-----------------|----------------------|
| Connection name | Axioline F connector |
| pluggable | yes |

Conductor connection

| | |
|-------------------------------|---------------------------------------------|
| Connection method | Push-in connection |
| Conductor cross section rigid | 0.2 mm ² ... 1.5 mm ² |

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| | |
|----------------------------------|---------------------------------------------|
| Conductor cross section flexible | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 24 ... 16 |

Axioline F connector

| | |
|-----------------------------------|---------------------------------------------|
| 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 |
| Conductor cross section AWG | 24 ... 16 |

Environmental and real-life conditions

Ambient conditions

| | |
|------------------------------------------|--------------------------------------------------------------|
| Ambient temperature (operation) | -35 °C ... 60 °C (Mounting position: any) |
| Degree of protection | IP20 |
| Air pressure (operation) | 70 kPa ... 108 kPa (up to 3000 m above sea level) |
| Air pressure (storage/transport) | 66 kPa ... 108 kPa (up to 3500 m above sea level) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 10 % ... 75 % (on average, 85% infrequently, non-condensing) |
| Permissible humidity (storage/transport) | 10 % ... 75 % (non-condensing) |

Standards and regulations

| | |
|------------------|---------------------------------------|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |
|------------------|---------------------------------------|

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
| Thread type | () |

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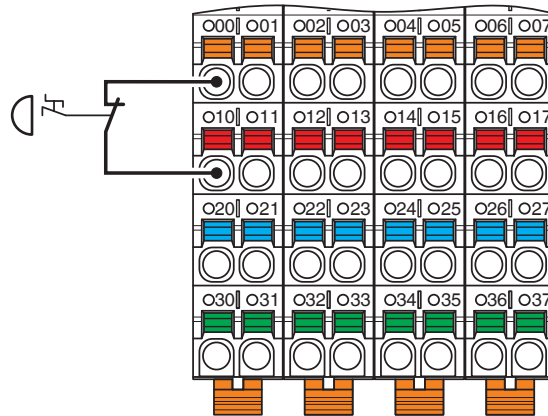
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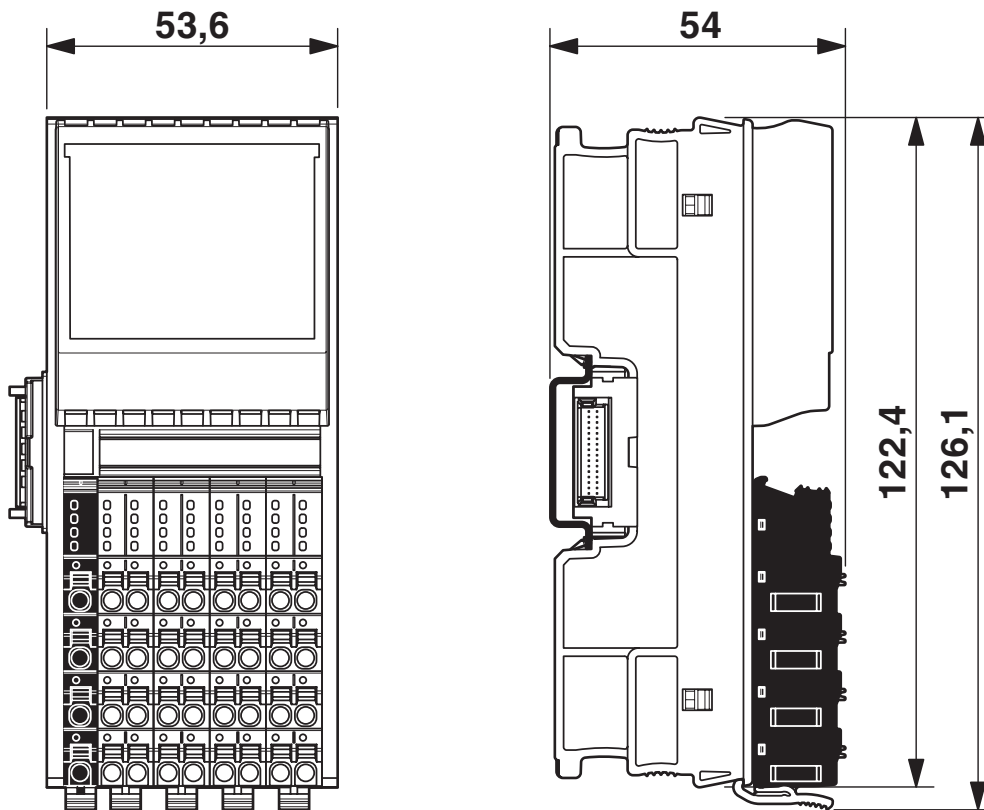
Drawings

Connection diagram



Connection example for an emergency stop circuit

Dimensional drawing



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2701559>



DNV GL

Approval ID: TAA00000DF

BSH

Approval ID: 840



Functional Safety

Approval ID: 968/EZ 650.04/20

PROFIsafe

Approval ID: Z20119



Functional Safety

Approval ID: 968/EZ 650.04/20

UAE-RoHS

Approval ID: 23-02-63243



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

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 | 4f074b40-390c-417f-a38e-88d460eb2c47 |

EF3.0 Climate Change

| | |
|---------|---------------|
| CO2e kg | 8.357 kg CO2e |
|---------|---------------|

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Accessories

AXL F BS F - Bus connector

2688129

<https://www.phoenixcontact.com/us/products/2688129>



Axioline F bus base module for housing type F

ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

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

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

0829580

<https://www.phoenixcontact.com/us/products/0829580>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: latching, 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 (35X46)R - Insert label

0801604

<https://www.phoenixcontact.com/us/products/0801604>



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 46 mm, Number of individual labels: 500

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EMT (35X46)R YE - Insert label

0801605

<https://www.phoenixcontact.com/us/products/0801605>



Insert label, for marking the Axioline F series from Phoenix Contact, Roll, yellow, 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 46 mm, Number of individual labels: 500

SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

CRIMPFOX DUO 10 - Crimping pliers

1031721

<https://www.phoenixcontact.com/us/products/1031721>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, UL 486F, form A, E, F, min. cross section: 0.14 mm², max. cross section: 10 mm², for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

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CRIMPFOX 10T-F - Crimping pliers

1134913

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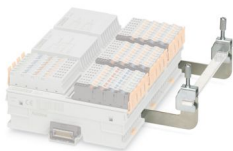


Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section: 0.14 mm², max. cross section: 10 mm², For TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

AXL SHIELD SET - Shield connection

2700518

<https://www.phoenixcontact.com/us/products/2700518>



Axioline shield connection set (contains 2 shield bus holders and 2 SK 5 shield connection clamps)

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