

Bus coupler - AXL F BK PN TPS - 2403869

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Axioline F bus coupler for PROFINET (including bus base module and connector)

Product Description

The bus coupler is intended for use within a PROFINET network. It is the link to the Axioline F I/O system. Up to 63 Axioline F devices can be connected to the bus coupler.

Your advantages

- ✓ 2 Ethernet ports (with integrated switch)
- ✓ Conformance with PROFINET specification V2.3
- ✓ Supported protocols: PROFINET, TFTP, PTCP, LLDP, SNMP, MRP, DCP, DDI, BootP (BootP only for executing firmware updates)
- ✓ Supports PROFI-safe
- ✓ Supports PROFI-energy
- ✓
- ✓ PROFINET RT and IRT
- ✓ Minimum cycle time of PROFINET for RT and IRT is 250 µs
- ✓ Firmware can be updated
- ✓ Runtime in bus coupler is negligible (almost 0 µs)
- ✓ Typical cycle time of the Axioline F local bus is around 10 µs



Key Commercial Data

| | |
|--------------------------------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4055626345826 |
| Weight per Piece (excluding packing) | 220.800 g |
| Custom tariff number | 85389091 |
| Country of origin | Germany |

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 | 45 mm |
| Height | 126.1 mm |
| Depth | 74 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 (Mounting position: wall mounting on horizontal DIN rail) |
| | -25 °C ... 55 °C (Mounting position: any) |
| 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. |
| 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 mounting |
| Color | traffic grey A RAL 7042 |
| Net weight | 220.8 g |
| Note on weight specifications | with connector and bus base module |
| Mounting type | DIN rail mounting |
| Mounting position | any |

Interfaces

| | |
|-----------------|----------|
| Designation | PROFINET |
| No. of channels | 2 |

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Technical data

Interfaces

| | |
|-------------------------------|-----------------------------------|
| Connection method | RJ45 jack |
| Note on the connection method | Auto negotiation and autocrossing |
| Transmission speed | 100 Mbps (full duplex) |
| Transmission physics | Ethernet in RJ45 twisted pair |
| Designation | Axioline F local bus |
| Connection method | Bus base module |
| Transmission speed | 100 Mbps |
| Designation | Service |
| Connection method | USB type C |

System limits of the bus coupler

| | |
|---|---|
| Amount of process data | max. 2024 Byte (max. 1012 Byte IN - max. 1012 Byte OUT) |
| | max. 1012 Byte (Input) |
| | max. 1012 Byte (Output) |
| Number of supported devices | max. 63 (per station) |
| Number of local bus devices that can be connected | max. 63 |

Axioline potentials

| | |
|----------------------|--|
| Designation | Communications power U_L feed-in (the supply of the Axioline F local bus U_{BUS} is generated from U_L) |
| Supply voltage | 24 V DC |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current consumption | max. 532 mA (with 2 A at U_{BUS} for the I/Os and $U_L = 24$ V) |
| Power consumption | max. 14 W (with 2 A load at U_{BUS} for the I/Os) |
| Designation | Axioline F local bus supply (U_{BUS}) |
| Supply voltage | 5 V DC (via bus base module) |
| Power supply unit | 2 A |
| Protective circuit | Surge protection of the supply voltage electronic |
| | Polarity reversal protection of the supply voltage |

Standards and Regulations

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

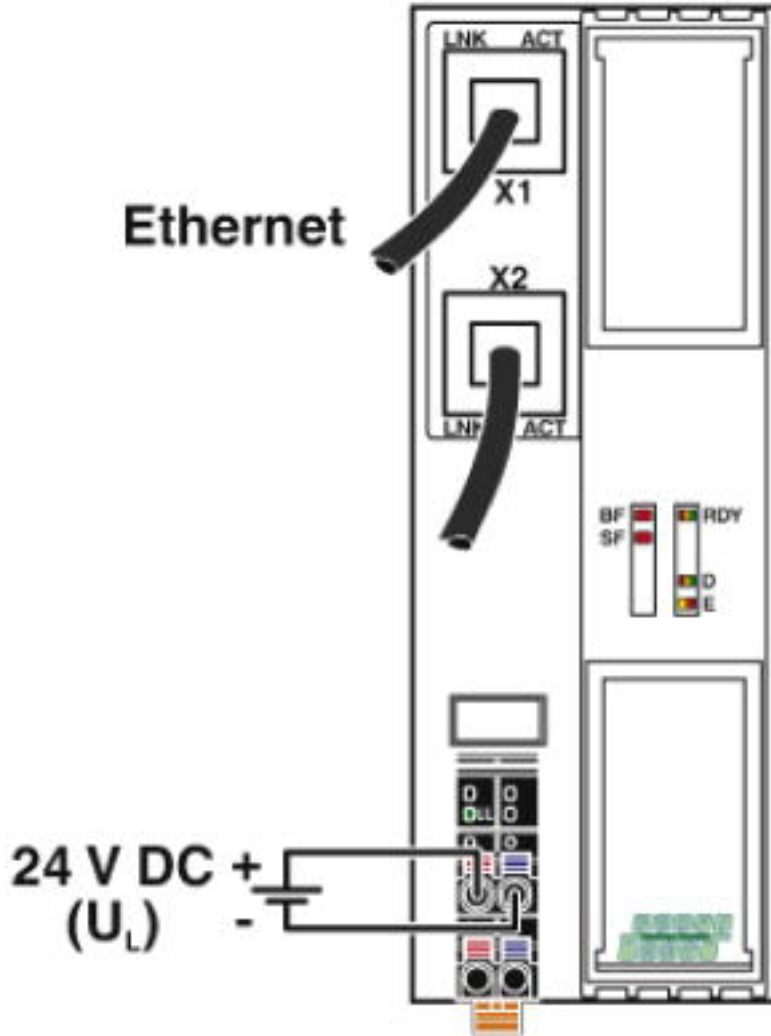
Environmental Product Compliance

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

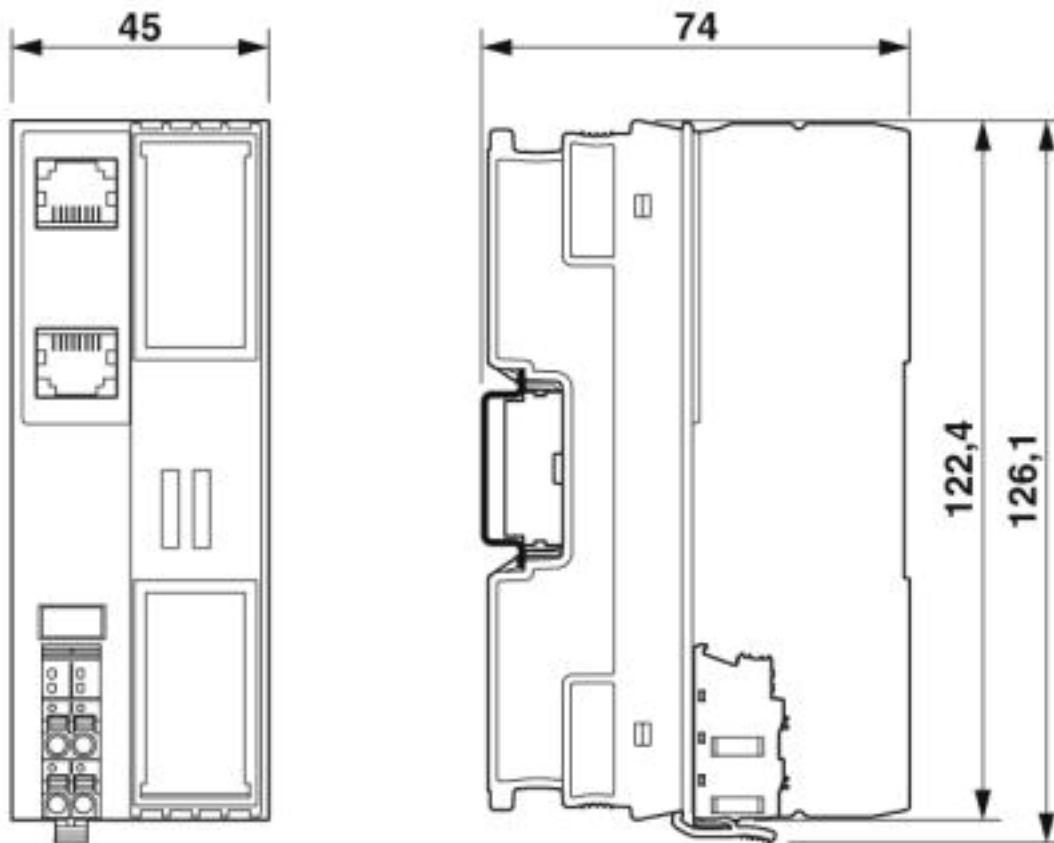
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Connection diagram



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Dimensional drawing



Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27240490 |
| eCl@ss 4.1 | 27240490 |
| eCl@ss 5.0 | 27242208 |
| eCl@ss 5.1 | 27242600 |
| eCl@ss 6.0 | 27242600 |
| eCl@ss 7.0 | 27242608 |
| eCl@ss 8.0 | 27242608 |
| eCl@ss 9.0 | 27242608 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001604 |
| ETIM 4.0 | EC001604 |
| ETIM 5.0 | EC001604 |
| ETIM 6.0 | EC001604 |
| ETIM 7.0 | EC001604 |

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Approvals

Approvals

Approvals

PROFINET / null / null / null

Ex Approvals

Approval details

| | |
|----------|--------|
| PROFINET | Z11944 |
| | |
| | |
| | |

Accessories

Accessories

Data cable by the meter

Network cable - FL CAT5 HEAVY - 2744814



CAT5-SF/UTP cable (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable, 2 x 2 x 0.22 mm², solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

Network cable - FL CAT5 FLEX - 2744830



CAT5-SF/UTP cable (J-LI02YS(ST)C H 2 x 2 x 26 AWG), light-duty, flexible installation cable 2 x 2 x 0.14 mm², stranded, shielded, outer sheath: 5.75 mm ± 0.15 mm diameter

Device marking

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Accessories

Insert label - EMT (35X18,7)R - 0801831



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 18.7 mm, Number of individual labels: 500

DIN rail connector

Bus connector - AXL BS BK - 2701422



Axioline F bus base module for housing type BK

Plug

RJ45 connector - FL PLUG RJ45 GR/2 - 2744856



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.

RJ45 connector - FL PLUG RJ45 GN/2 - 2744571



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, green for crossed cables, for assembly on site. For connections that are crossed, it is recommended that the connector set with green bend protection sleeves is used.

Programming cable

Connecting cable - CAB-USB C/ USB C/1,8M - 1021809



Connecting cable, for connecting the controller to a PC from USB C to USB C

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Accessories

Connecting cable - CAB-USB A/ USB C/1,8M - 2404677



Connecting cable, for connecting the controller to a PC from USB A to USB C

Software library

Function block - SAFE AI - 2400057



Function block library for safety-related analog value acquisition with standard I/O modules. Please contact the safety hotline (+49 5281 9-462777) before ordering the SAFE AI article.

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

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

Assembly tool - FL CRIMPTOOL - 2744869



Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site

