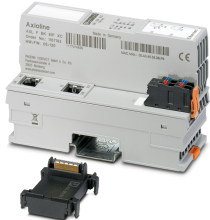


Bus coupler - AXL F BK EIP XC - 1167192

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Axioline F XC, Bus coupler, EtherNet/IP™, RJ45 jack, Extreme conditions version, transmission speed in the local bus: 100 Mbps, degree of protection: IP20, including bus base module and Axioline F connector

Product Description


The bus coupler is intended for use within an EtherNet/IP™ 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. A corresponding EDS file is available for integrating the Axioline F station into the programming system. This file can be downloaded at: phoenixcontact.net/product/1167192.

Your advantages

- ✓ 2 Ethernet ports (with integrated switch)
- ✓ Transmission speed of 10 Mbps and 100 Mbps
- ✓ Rotary coding switches for setting the IP address assignment and other functions
- ✓ 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
- ✓ Web-based management
- ✓ Supports the operation of Axioline Smart Elements
- ✓ Supports IOL-CONF (firmware version 1.30 and later)
- ✓ Supports Diag+
- ✓ 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 063151 184674 |
| GTIN | 4063151184674 |

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| | |
|--------------------------------------|-----------|
| Weight per Piece (excluding packing) | 240.000 g |
| Custom tariff number | 85176200 |
| Country of origin | Germany |

Technical data

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 (Standard, applications with UL approval, use in zone 2 potentially explosive area; mounting position: wall mounting on horizontal DIN rail) |
| | -25 °C ... 55 °C (Standard, applications with UL approval, use in zone 2 potentially explosive area; mounting position: any) |
| | -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. |
| 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

| | |
|------------|-------------------------|
| Color | traffic grey A RAL 7042 |
| Net weight | 177 g |

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Technical data

General

| | |
|-------------------------------|------------------------------------|
| Note on weight specifications | with connector and bus base module |
| Degree of pollution | 2 (IEC 60664-1, EN 60664-1) |
| Mounting type | DIN rail mounting |
| Mounting position | any (observe temperature derating) |

Interfaces

| | |
|-------------------------------|--|
| Designation | EtherNet/IP™ |
| Number of interfaces | 2 |
| Connection method | RJ45 jack |
| Note on the connection method | Auto negotiation and autocrossing |
| Transmission speed | 10/100 Mbps (Half or full duplex mode (automatic detection, can be adjusted manually)) |
| Transmission physics | Ethernet in RJ45 twisted pair |
| Designation | Axioline F local bus |
| Number of interfaces | 1 |
| Connection method | Bus base module |
| Transmission speed | 100 Mbps |
| Designation | Service |
| Number of interfaces | 1 |
| Connection method | USB type C |

Network/bus system

| | |
|---|------------------------------|
| Amount of process data | max. 1008 Byte (per station) |
| | max. 504 Byte (Input) |
| | max. 504 Byte (Output) |
| Number of supported devices | max. 63 (per station) |
| Number of local bus devices that can be connected | max. 63 |
| Protocol | EtherNet/IP# |
| | DLR |
| | SNMP |
| | HTTP |
| | TFTP |
| | FTP |
| | BootP |
| | DHCP |
| | DCP |

Axioline potentials

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Technical data

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. 670 mA (2.5 A on U_{Bus} , $U_L = 24$ V) |
| | max. 583 mA (2.0 A at U_{Bus} , $U_L = 24$ V, applications with UL approval, use in zone 2 potentially explosive area) |
| Power consumption | max. 16 W (2.5 A on U_{Bus} , $U_L = 24$ V) |
| | max. 14 W (2.0 A at U_{Bus} , $U_L = 24$ V, applications with UL approval, use in zone 2 potentially explosive area) |
| Type of protection | Surge protection |
| | Reverse polarity protection |
| Designation | Axioline F local bus supply (U_{Bus}) |
| Supply voltage | 5 V DC (via bus base module) |
| Power supply unit | max. 2.5 A |
| | max. 2 A (Applications with UL approval, use in zone 2 potentially explosive area) |

Electrical isolation

| | |
|--------------|---|
| Test section | Ethernet interface 1 / Ethernet interface 2 1500 V AC 50 Hz 1 min. |
| | Ethernet interface 1 / 24 V communications voltage (U_L) feed-in 1500 V AC 50 Hz 1 min. |
| | Ethernet interface 2 / 24 V communications voltage (U_L) feed-in 1500 V AC 50 Hz 1 min. |
| | Ethernet interface 1 / functional ground 1500 V AC 50 Hz 1 min. |
| | Ethernet interface 2 / functional ground 1500 V AC 50 Hz 1 min. |
| | 24 V communications voltage (U_L) feed-in / functional ground 500 V AC 50 Hz 1 min. |

Standards and Regulations

| | |
|-------------------|---|
| Immunity to ESD | Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B, 6 kV contact discharge, 8 kV air discharge |
| Immunity to EF | Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m |
| Immunity to burst | Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 2 kV |
| Immunity to surge | Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, DC supply lines: ± 0.5 kV/ ± 0.5 kV (symmetrical/asymmetrical), fieldbus cable shield: ± 1 kV |

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Technical data

Standards and Regulations

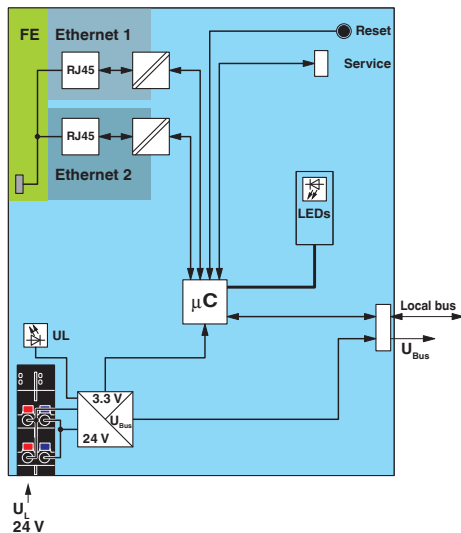
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|------------------------------------|--|
| Immunity to conducted interference | Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V |
| Interference emission | Noise emission test according to EN 61000-6-3/IEC 61000-6-3 Class B |
| 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 |
| ATEX | # II 3 G Ex ec IIC T4 Gc |
| IECEX | Ex ec IIC T4 Gc |
| UL, USA / Canada | cULus |
| | Class I, Zone 2, AEx ec IIC T4, Ex ec IIC T4 Gc X |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |
| Overvoltage category | II (IEC 60664-1, EN 60664-1) |

Environmental Product Compliance

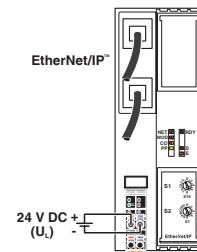
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| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

Drawings

Block diagram



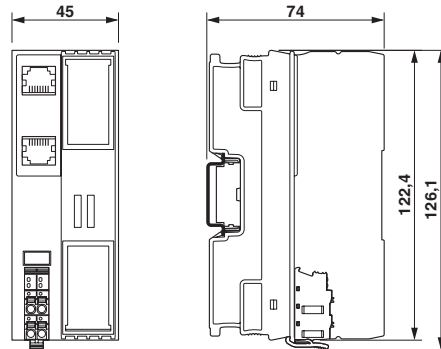
Connection diagram



Internal wiring of the terminal points

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Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27242608 |
| eCl@ss 11.0 | 27242608 |
| 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 9.0 | 27242608 |

ETIM

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

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

ATEX / cULus Listed / IECEx

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

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

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

Installation cable - FL CAT5 FLEX - 2744830



By the meter, Installation cable, Ethernet CAT5 (100 Mbps), shielded, PUR halogen-free, water blue RAL 5021, 4-wire (2x2xAWG26/7; SF/UTP), color single wire: white/orange-orange, white/green-green, cable length: Free entry (1.0 ... 1000.0 m)

Data plug

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Accessories

Assembly tool - FL CRIMPTOOL - 2744869



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

Device marking

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, 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.

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Accessories

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

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

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, 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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Accessories

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