

Bus coupler - AXL F BK ETH XC - 2701949

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Axioline F XC, Bus coupler, Modbus/TCP(UDP), 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

The figure shows the standard item

Product Description

The bus coupler is intended for use within a Modbus/TCP (UDP) 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)
- Transmission speed of 10 Mbps and 100 Mbps
- Rotary coding switches for setting the IP address assignment and other functions
- Supported protocols: Modbus/TCP (UDP), SNMP, HTTP, TFTP, FTP, BootP, DHCP, DCP
- Firmware can be updated
- Runtime in the bus coupler is negligible (almost 0 μ s) (for Modbus/UDP)
- Typical cycle time of the Axioline F local bus is around 10 μ s
- 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



Modbus/TCP (UDP) COMPLETE

Key Commercial Data

| | |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc |
| GTIN |  4 046356 901239 |
| GTIN | 4046356901239 |
| Weight per Piece (excluding packing) | 177.000 g |
| Custom tariff number | 85176200 |
| Country of origin | Germany |
| Note | Made to Order (non-returnable) |

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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; mounting position: wall mounting on horizontal DIN rail)) |
| | -25 °C ... 55 °C (Standard; 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

| | |
|-------------------------------|------------------------------------|
| Mounting type | DIN rail |
| Color | traffic grey A RAL 7042 |
| Net weight | 177 g |
| Note on weight specifications | with connector and bus base module |
| Mounting position | any (observe temperature derating) |

Interfaces

| | |
|-------------------------------|-----------------------------------|
| Designation | Modbus/TCP (UDP) |
| No. of channels | 2 |
| Connection method | RJ45 jack |
| Note on the connection method | Auto negotiation and autocrossing |

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Technical data

Interfaces

| | |
|----------------------|----------------------------------------------------------------------------------------|
| 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 |
| Connection method | Bus base module |
| Transmission speed | 100 Mbps |
| Designation | Service |
| Connection method | USB type C (as of HW 02) |
| | Micro USB type B (up to HW 01) |

System limits of the bus coupler

| | |
|---------------------------------------------------|-----------------------|
| 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. 583 mA (2.0 A at U_{BUS} , $U_L = 24$ V, up to HW 01) |
| | max. 670 mA (2.5 A at U_{BUS} , $U_L = 24$ V, HW 02 or later) |
| Power consumption | max. 14 W (2.0 A at U_{BUS} , $U_L = 24$ V, up to HW 01) |
| | max. 16 W (2.5 A at U_{BUS} , $U_L = 24$ V, HW 02 or later) |
| Designation | Axioline F local bus supply (U_{BUS}) |
| Supply voltage | 5 V DC (via bus base module) |
| Power supply unit | max. 2 A (up to HW 01) |
| | max. 2.5 A (as of HW 02) |
| Protective circuit | Surge protection of the supply voltage electronic |
| | Polarity reversal protection of the supply voltage electronic |

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) |

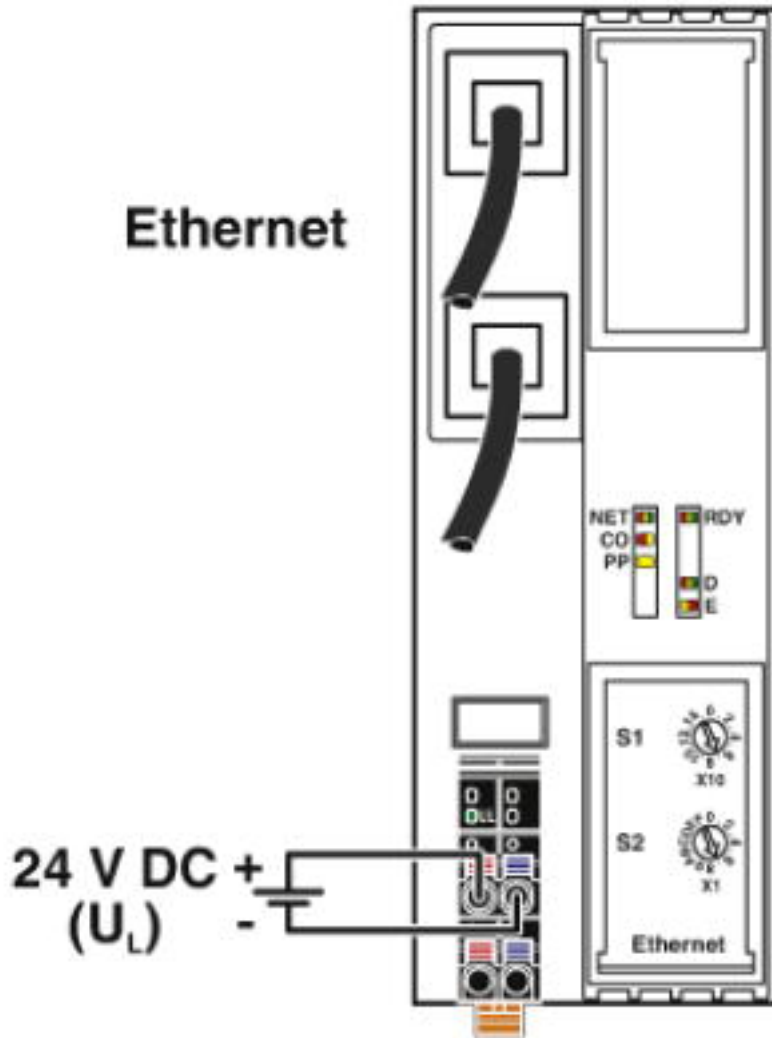
Environmental Product Compliance

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

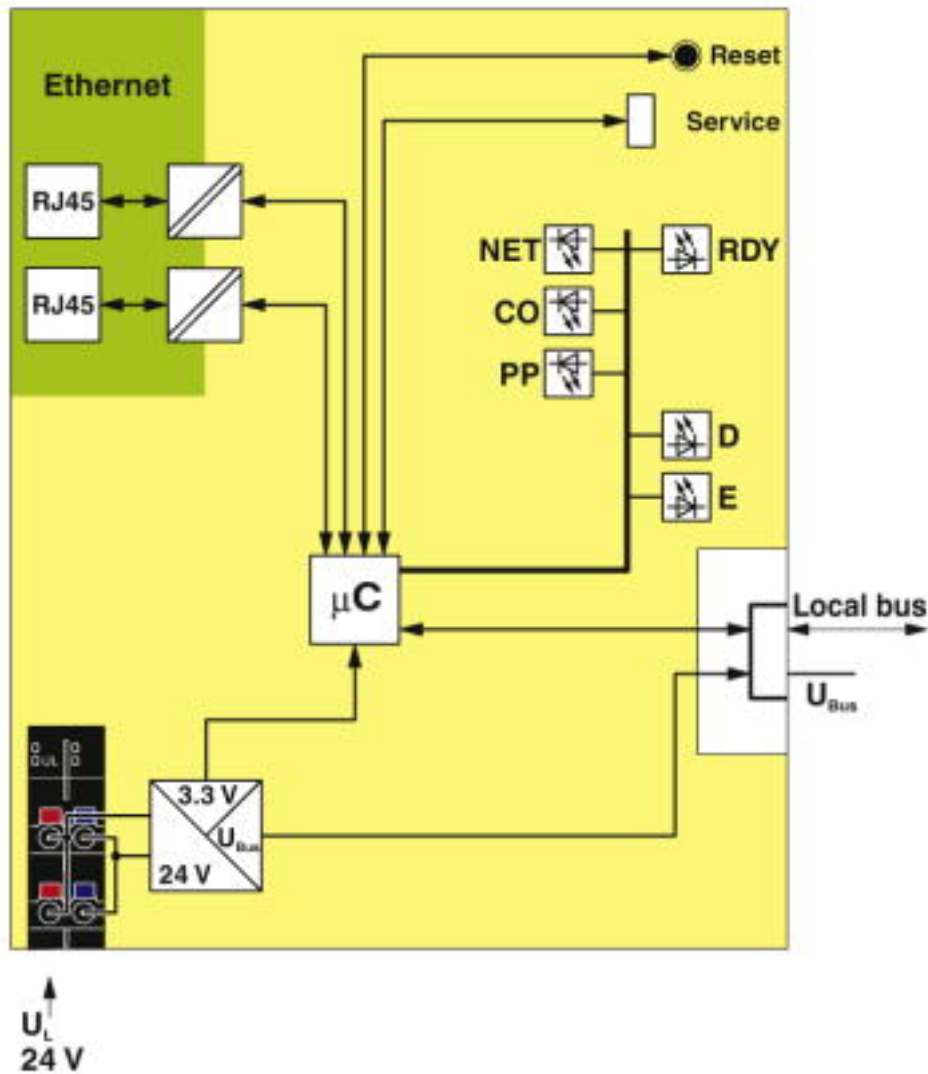
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Connection diagram



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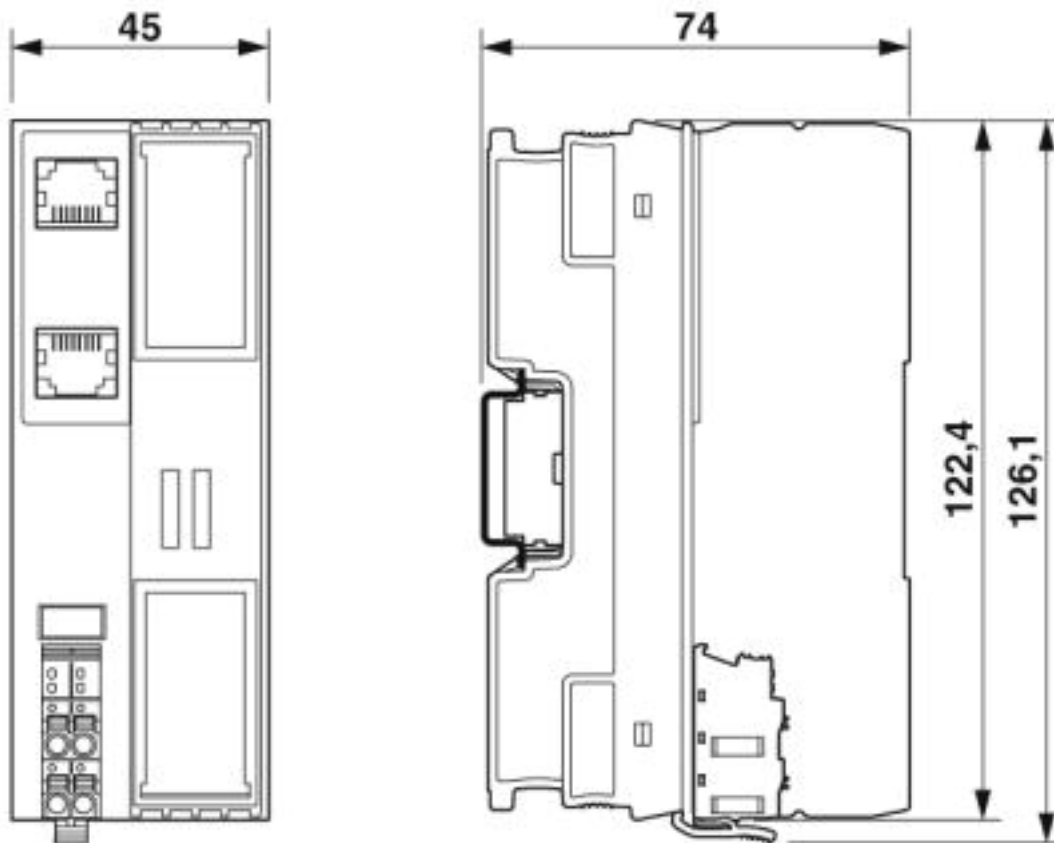
Block diagram



Internal wiring of the terminal points

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Dimensional drawing



Classifications

eCl@ss

| | |
|------------|----------|
| 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 5.0 | EC001604 |
| ETIM 6.0 | EC001604 |
| ETIM 7.0 | EC001604 |

UNSPSC

| | |
|-------------|----------|
| UNSPSC 13.2 | 32151602 |
| UNSPSC 18.0 | 32151602 |
| UNSPSC 19.0 | 32151602 |
| UNSPSC 20.0 | 32151602 |

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Classifications

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 32151602 |
|-------------|----------|

Approvals

Approvals

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

Ex Approvals

Approval details

| | | | |
|--------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| DNV GL | | https://approvalfinder.dnvgl.com/ | TAA00000DF |
| PRS | | http://www.prs.pl/ | TE/2239/880590/19 |
| BV | | http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials | 36433/B0 BV |
| LR | | http://www.lr.org/en | 14-20019 |
| KR | | http://www.krs.co.kr/eng/main/main.aspx | HMB17372-AC002 |
| NK | | http://www.classnk.or.jp/hp/en/ | 14A006 |
| ABS | | http://www.eagle.org/eagleExternalPortalWEB/ | 18-HG1767360-PDA |
| BSH | | | 840 |

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Approvals

| | | | |
|------|--|-------------------------------------------------------------|-------------|
| RINA | | http://www.rina.org/en | ELE256518XG |
|------|--|-------------------------------------------------------------|-------------|

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

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

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

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Accessories

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 A/MICRO USB B/2,0M - 2701626



Connecting cable, for connecting the controller to a PC for PC Worx and LOGIC+, USB A to micro USB B, 2 m in length.

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

Assembly tool - FL CRIMPTOOL - 2744869



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