

AXL F BK ETH - Bus coupler



2688459

<https://www.phoenixcontact.com/us/products/2688459>

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Axioline F, Bus coupler, Modbus/TCP (UDP), RJ45 jack, 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 a Modbus/TCP (UDP) network. The bus coupler creates the link to the Axioline F I/O system and the industrial I/O signals connected to it. 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
- 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
- Web-based management
- Security in the network: Port disconnection possible via web-based management (firmware version 1.31 or later)
- Supports the operation of Axioline Smart Elements
- Supports passive Smart Elements (firmware version 1.30 or later)
- Supports IOL-CONF (firmware version 1.30 and later)
- Supports Diag+

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2688459 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DR02 |
| Product key | DRI21B |
| GTIN | 4046356710770 |
| Weight per piece (including packing) | 211.5 g |
| Weight per piece (excluding packing) | 177 g |
| Customs tariff number | 85176200 |
| Country of origin | DE |

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Technical data

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 45 mm |
| Height | 126.1 mm |
| Depth | 74 mm |
| Note on dimensions | The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715). |

Notes

Note on application

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

Material specifications

| | |
|-----------------|-----------------|
| Color (Housing) | gray (RAL 7042) |
|-----------------|-----------------|

Interfaces

| | |
|---------------------|------------------|
| Supported protocols | Modbus/TCP (UDP) |
| | SNMP |
| | HTTP |
| | TFTP |
| | FTP |
| | BootP |
| | DHCP |
| | DCP |

Modbus/TCP (UDP)

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

Axioline F local bus

| | |
|----------------------|-----------------|
| Number of interfaces | 1 |
| Connection method | Bus base module |
| Transmission speed | 100 Mbps |

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Service

| | |
|----------------------|---|
| Number of interfaces | 1 |
| Connection method | USB type C (from HW 05) Micro USB type B (up to HW 04) |

System properties

System limits

| | |
|---|-----------------------|
| Number of supported devices | max. 63 (per station) |
| Number of local bus devices that can be connected | max. 63 |

Programming data

| | |
|--------------------------|-----------|
| Register length (master) | 1484 Byte |
|--------------------------|-----------|

Product properties

| | |
|-------------------|--|
| Product type | I/O component |
| Product family | Axioline F |
| Type | block modular |
| Mounting position | any (observe temperature derating) |
| Scope of supply | including bus base module and Axioline F connector |

Insulation characteristics

| | |
|----------------------|------------------------------|
| Overvoltage category | II (IEC 60664-1, EN 60664-1) |
| Pollution degree | 2 (IEC 60664-1, EN 60664-1) |

Electrical properties

| | |
|---|-------|
| Maximum power dissipation for nominal condition | 3.6 W |
|---|-------|

Potentials: 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 draw | max. 583 mA (2.0 A at U_{BUS} , $U_L = 24$ V, up to HW 04) max. 670 mA (2.5 A at U_{BUS} , $U_L = 24$ V, from HW 05) |
| Current consumption | typ. 105 mA (without I/O modules, $U_L = 24$ V, up to HW 04) typ. 85 mA (without I/O modules, $U_L = 24$ V, from HW 05) |
| Protective circuit | Surge protection; electronic Reverse polarity protection; electronic |

Potentials: 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 04) max. 2.5 A (from HW 05) |

Electrical isolation/isolation of the voltage ranges

| | |
|--|-------------------------|
| Test voltage: Ethernet interface 1 / Ethernet interface 2 | 1500 V AC, 50 Hz, 1 min |
| Test voltage: Ethernet interface 1 / 24 V communications voltage (U_L) feed-in | 1500 V AC, 50 Hz, 1 min |

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| | |
|--|-------------------------|
| Test voltage: Ethernet interface 2 / 24 V communications voltage (U _L) feed-in | 1500 V AC, 50 Hz, 1 min |
| Test voltage: Ethernet interface 1 / functional ground | 1500 V AC, 50 Hz, 1 min |
| Test voltage: Ethernet interface 2 / functional ground | 1500 V AC, 50 Hz, 1 min |
| Test voltage: 24 V communications voltage (U _L) feed-in / functional ground | 500 V AC, 50 Hz, 1 min |

Connection data

Connection technology

| | |
|-------------------------------|---|
| Connection name | Axioline F connector |
| Note on the connection method | Please observe the information provided on conductor cross-sections in the "Axioline F: system and installation" user manual. |

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, 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 |
| Stripping length | 8 mm |

Environmental and real-life conditions

Ambient conditions

| | |
|--|--|
| Ambient temperature (operation) | -25 °C ... 60 °C (Mounting position: panel mounting on horizontal DIN rail) -25 °C ... 55 °C (Mounting position: any) |
| Degree of protection | IP20 |
| 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) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |
| Permissible humidity (storage/transport) | 5 % ... 95 % (non-condensing) |

Mechanical test

| | |
|--|-----|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | 5g |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 30g |
| Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 10g |

Standards and regulations

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

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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Mounting position

any (observe temperature derating)

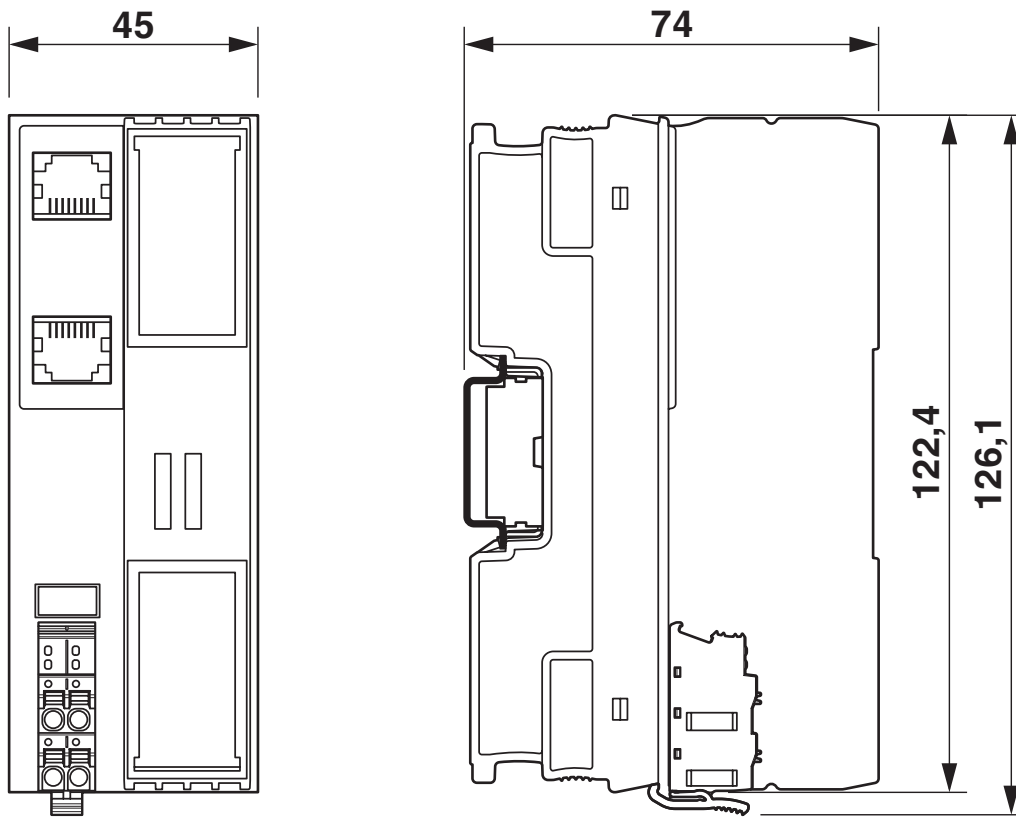
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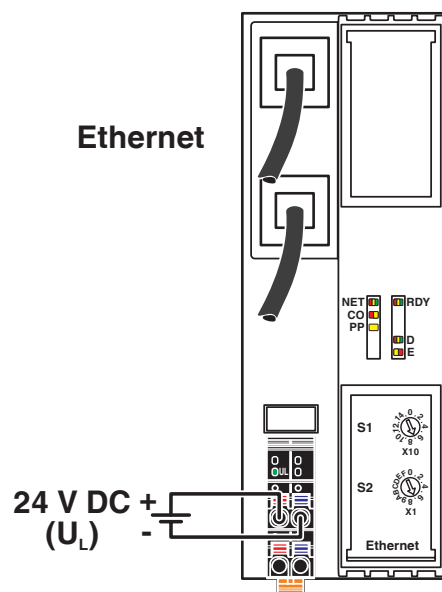
<https://www.phoenixcontact.com/us/products/2688459>

Drawings

Dimensional drawing



Connection diagram



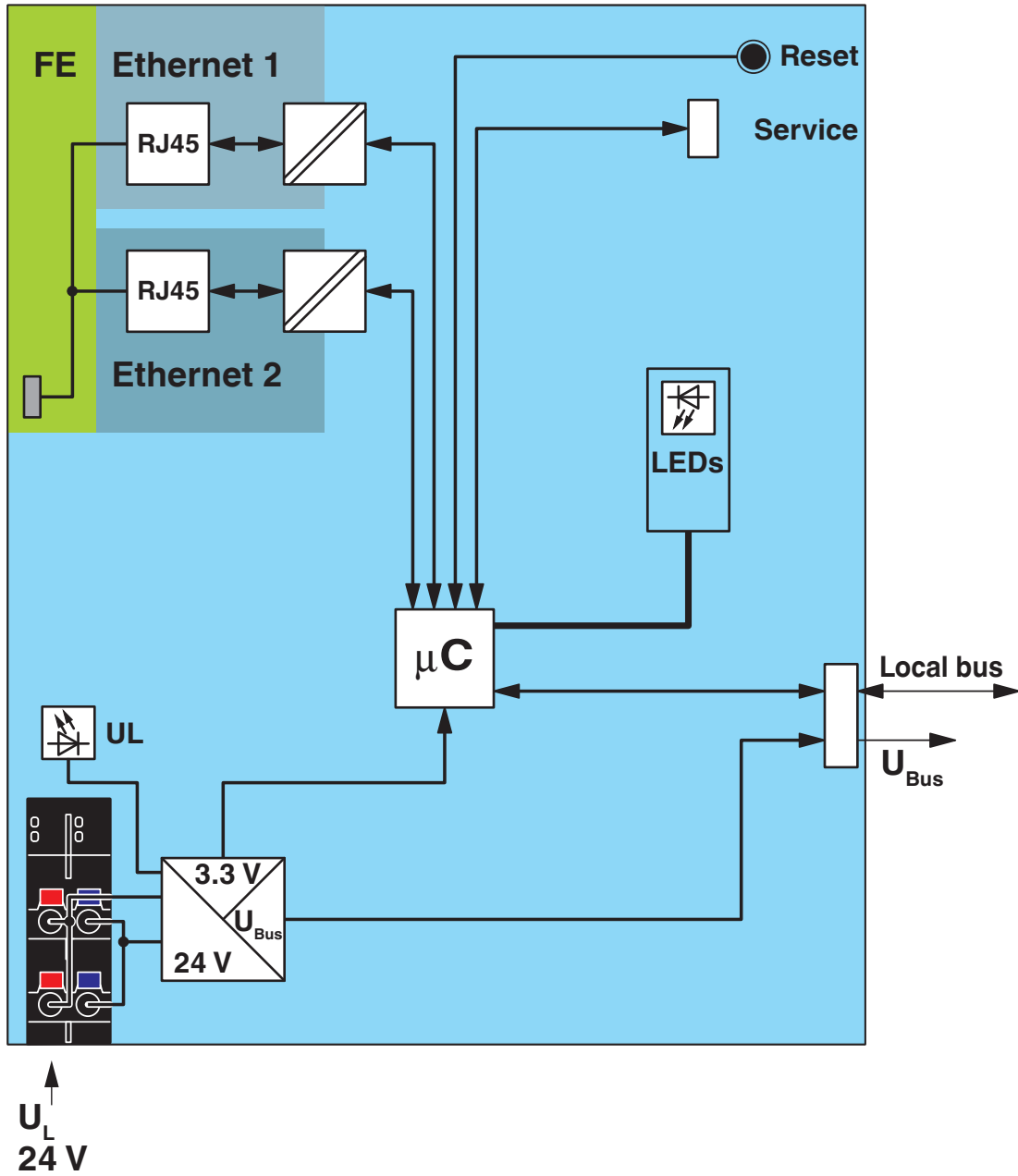
Connection of the cables

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Block diagram



Internal wiring of the terminal points

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Approvals

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DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2480202TA-02



PRS

Approval ID: TE/1020/880590/21



KC

Approval ID: MSIP-REI-PCK-2688459

BSH

Approval ID: 840



RINA

Approval ID: ELE008423XG001



cULus Listed

Approval ID: E238705



cULus Listed

Approval ID: E238705

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27242608 |
| ECLASS-15.0 | 27242608 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC001604 |
|-----------|----------|

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.) | 4,4'-isopropylidenediphenol(CAS: 80-05-7) |
| | Lead(CAS: 7439-92-1) |
| SCIP | e7d7ddf9-9432-4938-bf99-3bdc22ff5909 |

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 9.453 kg CO2e |
|---------|---------------|

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