

# AXL F BK ETH NET2 - Bus coupler

2702177

<https://www.phoenixcontact.com/us/products/2702177>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Axioline F, Bus coupler, Ethernet (2 networks), 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 represents the link between two Ethernet networks (Modbus/TCP) and the Axioline F system. It offers the option of isolated, simultaneous communication in two different networks in order to redundantly create the network infrastructure between the controller and bus coupler. Up to 63 Axioline F devices can be connected to the bus coupler.

## Your advantages

- 2 separate Ethernet ports (without integrated switch)
- 2 IP addresses
- Transmission speed of 10 Mbps and 100 Mbps
- Rotary coding switches for setting the IP address assignment and other functions
- Modbus/TCP (UDP) support
- BootP and DHCP
- Firmware can be updated
- Runtime in the bus coupler is negligible (almost 0  $\mu$ s) (for Modbus/UDP)
- Typical cycle time of the Axioline F local bus is around 10  $\mu$ s

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2702177                        |
| Packing unit                         | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | DR02                           |
| Product key                          | DRI21B                         |
| GTIN                                 | 4055626008417                  |
| Weight per piece (including packing) | 229.1 g                        |
| Weight per piece (excluding packing) | 177 g                          |
| Customs tariff number                | 85176200                       |
| Country of origin                    | DE                             |

# AXL F BK ETH NET2 - Bus coupler

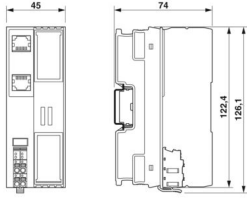


2702177

<https://www.phoenixcontact.com/us/products/2702177>

## 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). |

### Material specifications

|       |                         |
|-------|-------------------------|
| Color | traffic gray A RAL 7042 |
|-------|-------------------------|

### Interfaces

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

### Ethernet (2 networks)

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

### Service

|                      |                  |
|----------------------|------------------|
| Number of interfaces | 1                |
| Connection method    | Micro USB type B |

### Fieldbus: Local bus gateway

# AXL F BK ETH NET2 - Bus coupler



2702177

<https://www.phoenixcontact.com/us/products/2702177>

|                                  |   |
|----------------------------------|---|
| Max. number of local bus devices | 63 (Consider the logic current consumed by the devices) |
|----------------------------------|---|

## 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 | 4 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 (with 2 A at $U_{BUS}$ for the I/Os and $U_L = 24$ V)       |
| Current consumption  | typ. 105 mA (without I/Os and $U_L = 24$ V)                             |
| Protective circuit   | Surge protection; electronic<br>Reverse polarity protection; electronic |

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

|                   |                              |
|-------------------|------------------------------|
| Supply voltage    | 5 V DC (via bus base module) |
| Power supply unit | 2 A                          |

## 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. |

# AXL F BK ETH NET2 - Bus coupler



2702177

<https://www.phoenixcontact.com/us/products/2702177>

|                                   |   |
|-----------------------------------|---|
| Conductor cross-section, rigid    | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section, flexible | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 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                  |
|                   | DIN rail mounting                  |
| Mounting position | any (observe temperature derating) |

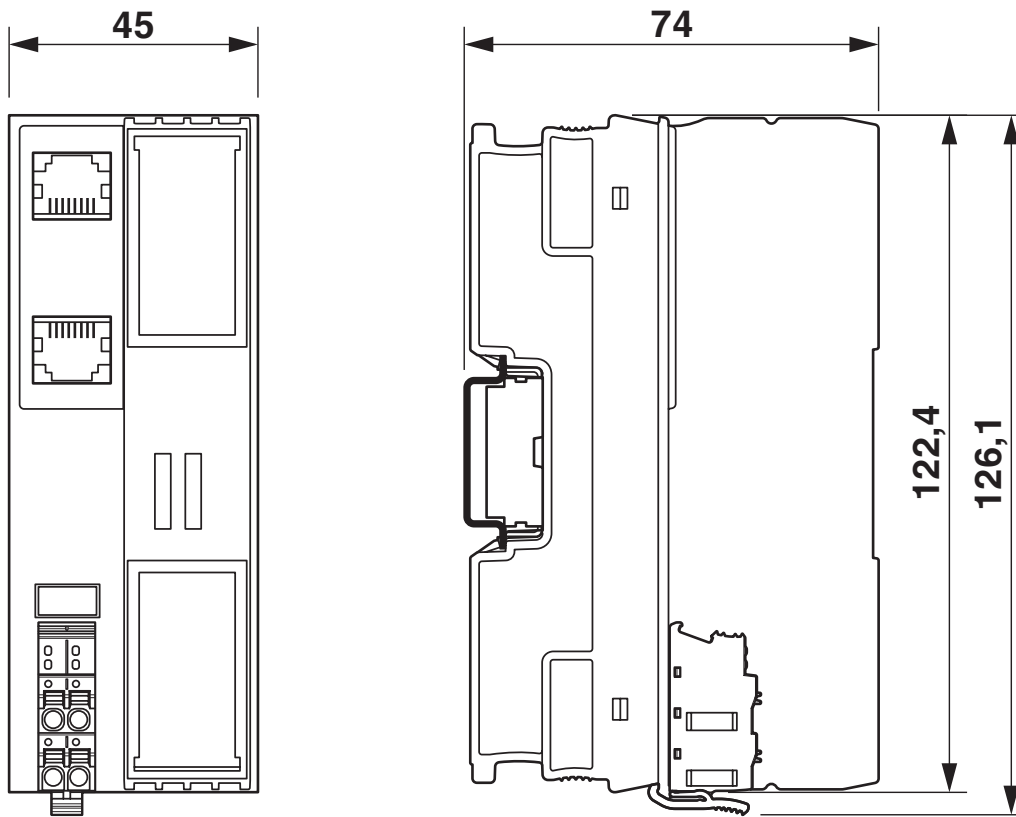
# AXL F BK ETH NET2 - Bus coupler

2702177

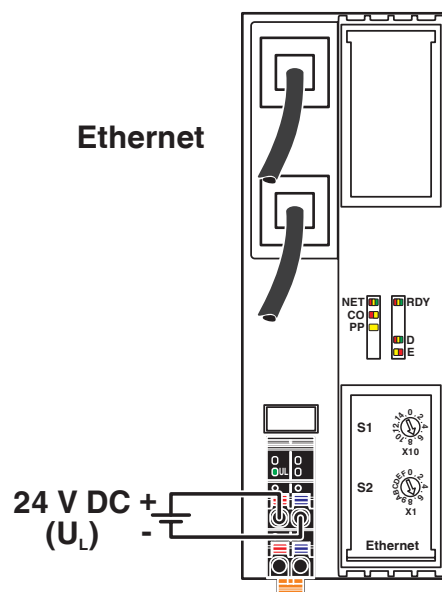
<https://www.phoenixcontact.com/us/products/2702177>

## Drawings

Dimensional drawing



Connection diagram

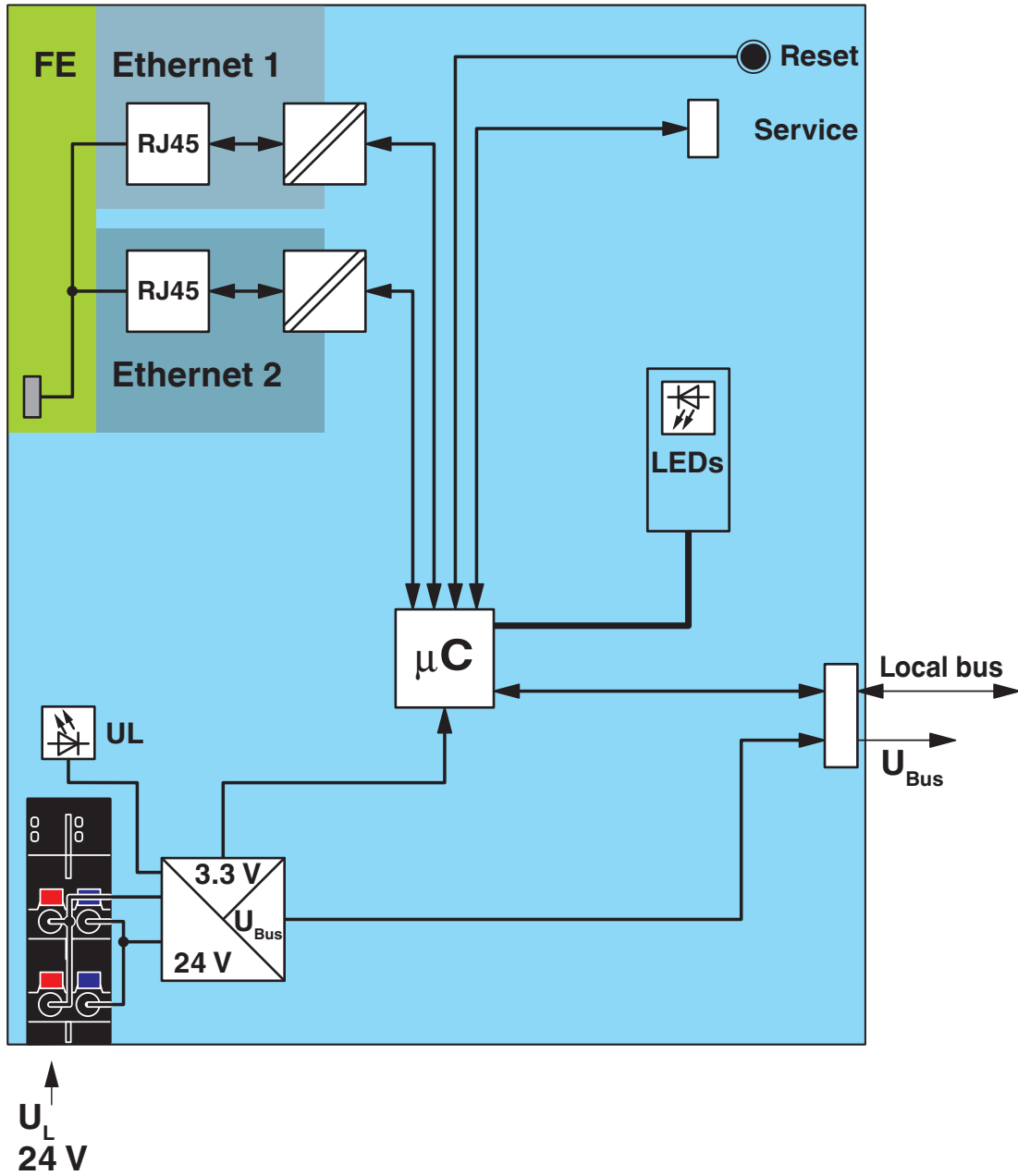


# AXL F BK ETH NET2 - Bus coupler

2702177

<https://www.phoenixcontact.com/us/products/2702177>

Block diagram



Internal wiring of the terminal points

# AXL F BK ETH NET2 - Bus coupler



2702177

<https://www.phoenixcontact.com/us/products/2702177>

## Classifications

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 32151600 |
|-------------|----------|

# AXL F BK ETH NET2 - Bus coupler



2702177

<https://www.phoenixcontact.com/us/products/2702177>

## 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-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                      |
|-------------------------------------|----------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
|-------------------------------------|----------------------|

Phoenix Contact 2026 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)