

# AXL F BK ETH NET2 - Bus coupler



2702177

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

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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
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	DR02
Product key	DRI21B
Catalog page	Page 71 (C-6-2019)
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

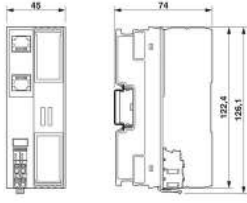
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## Technical data

### 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).

### Material specifications

Color	traffic grey A RAL 7042
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### Interfaces

#### 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

Max. number of local bus devices	63 (Consider the logic current consumed by the devices)
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## System properties

### System limits

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

## Product properties

Type	block modular
Product type	I/O component
Product family	Axioline F
Mounting position	any (observe temperature derating)
Scope of delivery	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

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)
Power consumption	max. 14 W (2.0 A on $U_{BUS}$ , $U_L = 24$ V)
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	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.

### Conductor connection

Connection method	Push-in connection
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

### 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 <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

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## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Mounting position: wall 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)

### Standards and regulations

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

Mounting type	DIN rail mounting
	DIN rail mounting
Mounting position	any (observe temperature derating)

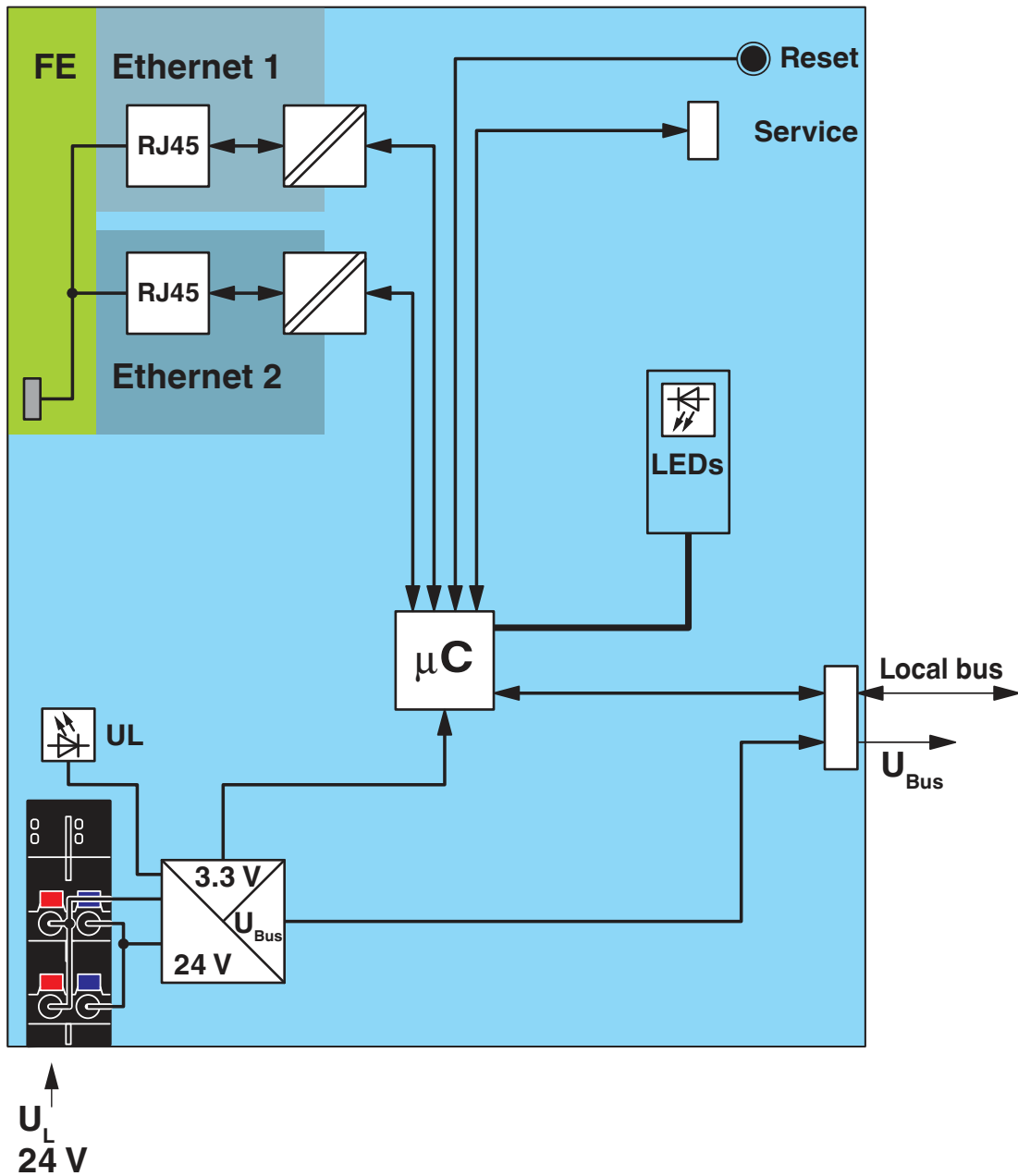
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## Drawings

Block diagram



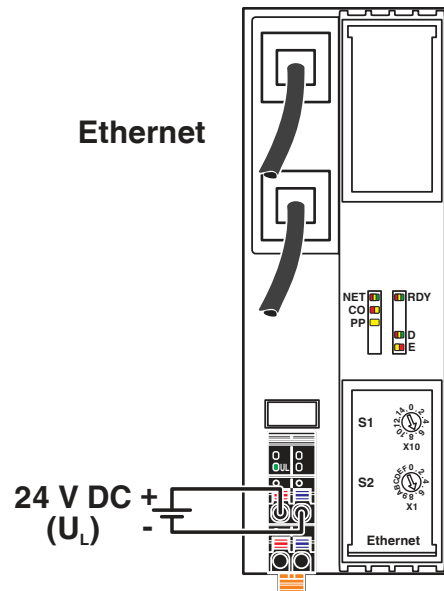
Internal wiring of the terminal points

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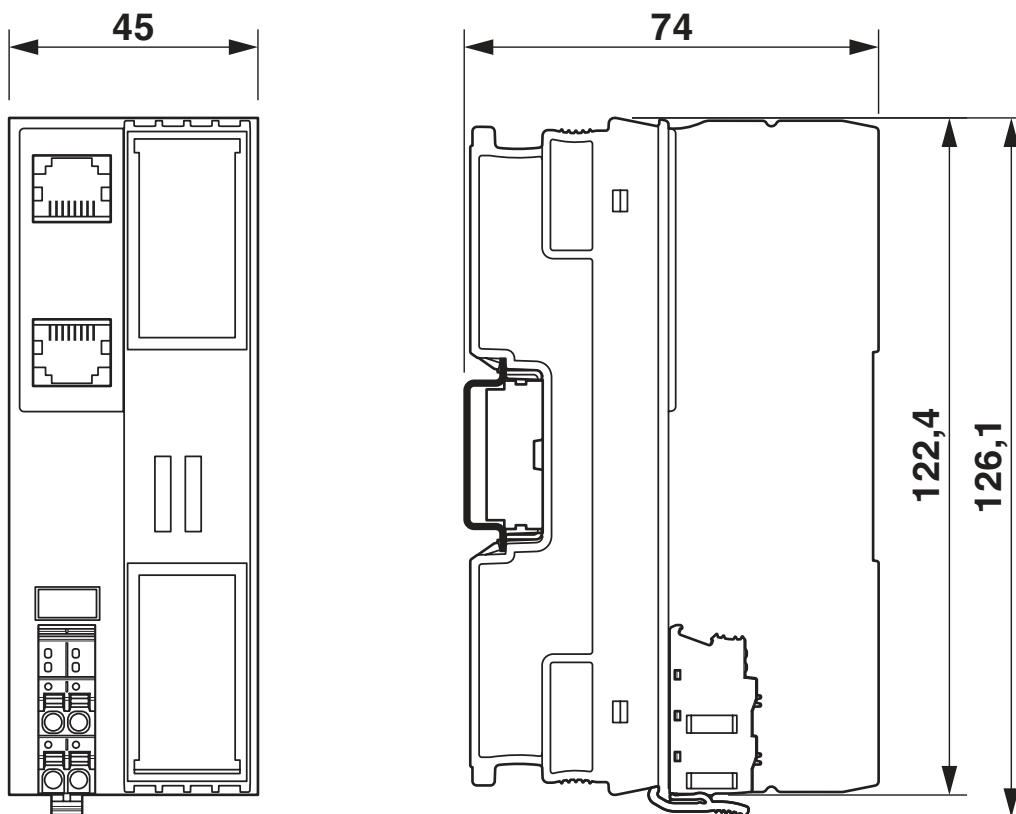
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Connection diagram



Dimensional drawing



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## Approvals

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**DNV GL**

Approval ID: TAA00000DF

**ClassNK**

**NK**

Approval ID: 14A006

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## Classifications

### ECLASS

ECLASS-11.0

27242608

### ETIM

ETIM 8.0

EC001604

### UNSPSC

UNSPSC 21.0

32151600



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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### AXL F BS BK - Bus connector

2701422

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Axioline F bus base module for housing type BK



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### FL PLUG RJ45 GR/2 - RJ45 connector

2744856

<https://www.phoenixcontact.com/us/products/2744856>

RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Plastic, connection method: Crimp connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green, Ethernet



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## FL PLUG RJ45 GN/2 - RJ45 connector

2744571

<https://www.phoenixcontact.com/us/products/2744571>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Plastic, connection method: Crimp connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green, Ethernet

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## FL CAT5 HEAVY - Data cable

2744814

<https://www.phoenixcontact.com/us/products/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 mm<sup>2</sup>, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

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## FL CAT5 FLEX - Installation cable

2744830

<https://www.phoenixcontact.com/us/products/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)

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## FL CRIMPTOOL - Assembly tool

2744869

<https://www.phoenixcontact.com/us/products/2744869>



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

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## ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

<https://www.phoenixcontact.com/us/products/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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## ZBF 10/5,8 AXL UNPRINTED - Zack Marker strip, flat

0829580

<https://www.phoenixcontact.com/us/products/0829580>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 10.15 mm, lettering field size: 4 x 10, 15 x 5 mm, 1 x 5.8 x 5 mm, Number of individual labels: 50

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

0801831

<https://www.phoenixcontact.com/us/products/0801831>



Insert label, for marking Phoenix Contact Axioline modules, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: insert, lettering field size: 35 x 18.7 mm, Number of individual labels: 500

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## CAB-USB A/MICRO USB B/2,0M - Connecting cable

2701626

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

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