

AXL F BK PN XC - Bus coupler



2701222

<https://www.phoenixcontact.com/us/products/2701222>

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Axioline F, Bus coupler, PROFINET, 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 a PROFINET 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. Device descriptions for Phoenix Contact controllers are integral parts of the engineering tools PC Worx and PLCnext Engineer. Corresponding GSDML files are available for integrating the Axioline F station into other programming systems. These files can be downloaded at: www.phoenixcontact.com/product/2701222

Your advantages

- 2 Ethernet ports (with integrated switch)
- Conformance with PROFINET specification V2.2
- Supports PROFIsafe
- PROFINET RT and IRT
- Minimum cycle time of PROFINET for RT and IRT is 250 µs
- 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 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

Commercial data

Item number	2701222
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI21A
GTIN	4046356729789
Weight per piece (including packing)	230.33 g
Weight per piece (excluding packing)	193.16 g
Customs tariff number	85176200

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Country of origin	DE
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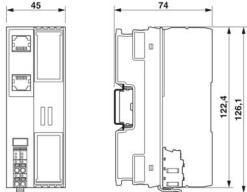
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Technical data

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

Interfaces

PROFINET	
Number of interfaces	2
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	100 Mbps (full duplex)
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

System properties

System limits	
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63
PROFINET	
Device function	PROFINET device

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Specification	Version 2.2
Conformance Class	Conformance-Class C
Device ID	1000 _{hex}
Vendor ID	00B0 _{hex}

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (observe temperature derating)
Scope of delivery	including bus base module and Axioline F connector
Special properties	Extreme conditions version

Data management status

Article revision	07
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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. 570 mA (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	max. 2 A

Electrical isolation/isolation of the voltage ranges

Test voltage: PROFINET interface 1 / PROFINET interface 2	1500 V AC, 50 Hz, 1 min.
Test voltage: PROFINET interface 1 / 24 V communications voltage (U_L) feed-in	1500 V AC, 50 Hz, 1 min.
Test voltage: PROFINET interface 2 / 24 V communications voltage (U_L) feed-in	1500 V AC, 50 Hz, 1 min.
Test voltage: PROFINET interface 1 / functional ground	1500 V AC, 50 Hz, 1 min.
Test voltage: PROFINET 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
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Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.
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Conductor connection

Connection method	Push-in connection
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

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: wall mounting on horizontal DIN rail)
	-25 °C ... 55 °C (Mounting position: any)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
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
Mounting position	any (observe temperature derating)

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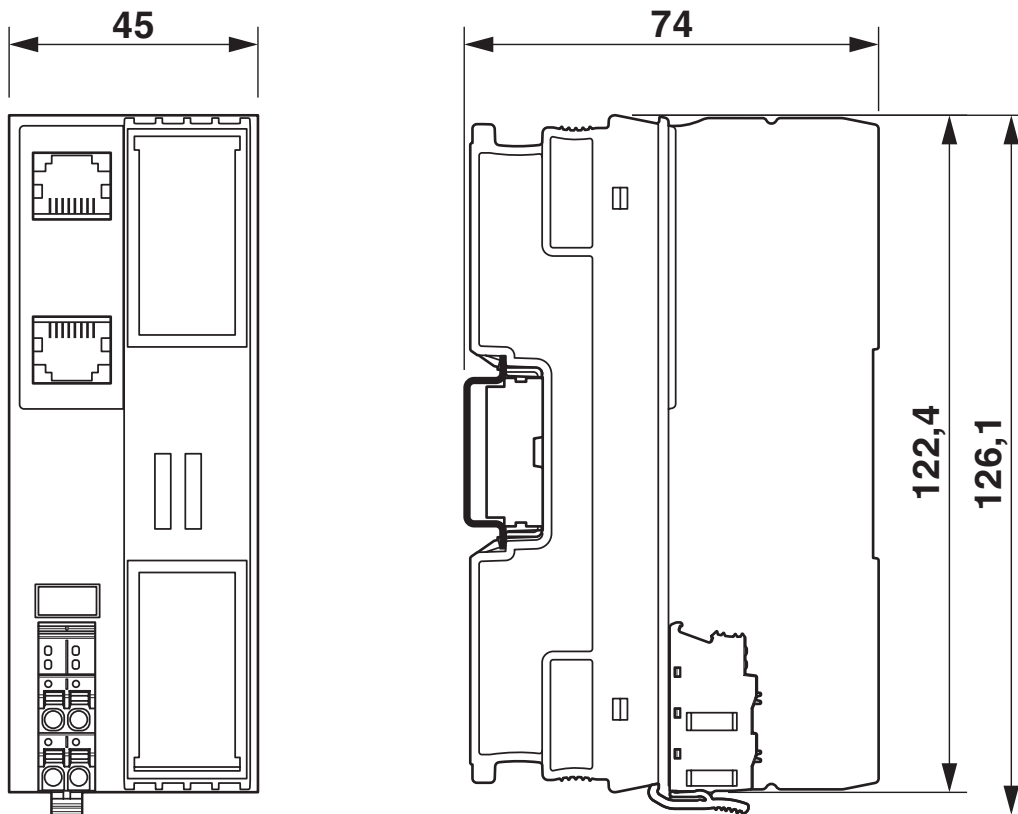
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Drawings

Dimensional drawing



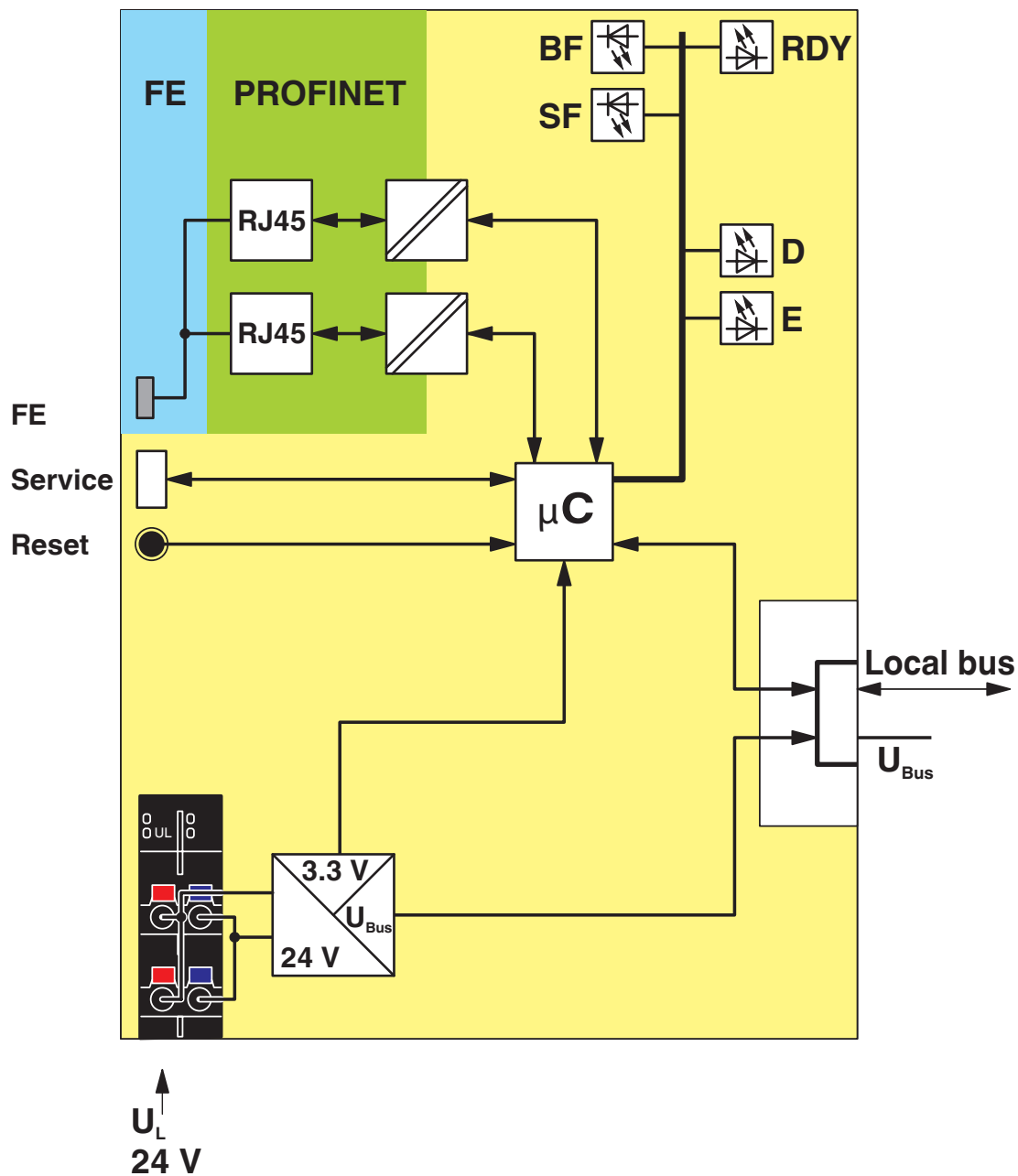
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Block diagram



Internal wiring of the terminal points

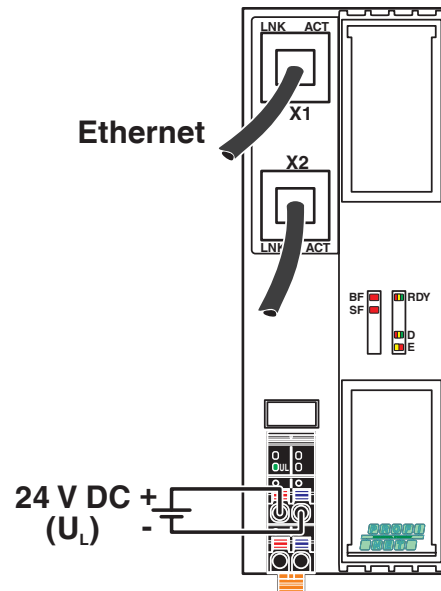
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Connection diagram



Connection of the cables

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2701222>

	DNV GL Approval ID: TAA0000DF Rev.12
	NK Approval ID: 14A006
	BV Approval ID: 36433/B4 BV
	PRS Approval ID: TE/1020/880590/21
	UL Listed Approval ID: E238705
	cUL Listed Approval ID: E238705
	RINA Approval ID: ELE008423XG
	ABS Approval ID: 23-2449604-PDA
	UAE-RoHS Approval ID: 23-02-63241
	cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27242608
ECLASS-12.0	27242608
ECLASS-13.0	27242608

ETIM

ETIM 9.0	EC001604
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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	10c21429-4d3c-497e-a12b-0b4a154d2fe4

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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



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: gray, Ethernet

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FL PLUG RJ45 GN/2 - RJ45 connector

2744571

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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

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 mm², 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)

FL CRIMPTOOL - Assembly tool

2744869

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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

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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

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

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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

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

2701626

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