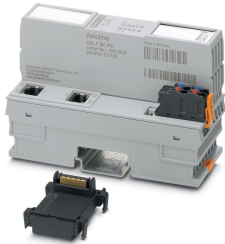


## Bus coupler - AXL F BK PN XC - 2701222

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Axioline F XC, 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

Similar figure

### 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: [phoenixcontact.net/product/2701222](http://phoenixcontact.net/product/2701222).

### Your advantages

- 2 Ethernet ports (with integrated switch)
- Conformance with PROFINET specification V2.2
- Supports PROFI-safe
- PROFINET RT and IRT
- Minimum cycle time of PROFINET for RT and IRT is 250  $\mu$ s
- Firmware can be updated
- Runtime in bus coupler is negligible (almost 0  $\mu$ s)
- Typical cycle time of the Axioline F local bus is around 10  $\mu$ s
- 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



### Key Commercial Data

Packing unit	1 pc
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## Bus coupler - AXL F BK PN XC - 2701222

GTIN	 4 046356 729789
GTIN	4046356729789
Weight per Piece (excluding packing)	240.000 g
Custom tariff number	85176200
Country of origin	Germany

### 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 (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.)
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

#### General

Color	traffic grey A RAL 7042
Net weight	193.16 g
Note on weight specifications	with connector and bus base module
Degree of pollution	2 (IEC 60664-1, EN 60664-1)
Mounting type	DIN rail mounting
Mounting position	any

#### Interfaces

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

## Bus coupler - AXL F BK PN XC - 2701222

### Technical data

#### Interfaces

Transmission physics	Ethernet in RJ45 twisted pair
Designation	Axioline F local bus
Number of interfaces	1
Connection method	Bus base module
Transmission speed	100 Mbps
Designation	Service
Number of interfaces	1
Connection method	Micro USB type B

#### Network/bus system

Amount of process data	max. 262 Byte (Input, incl. max. 2 byte IOPS per local bus device)
	max. 262 Byte (Output, incl. max. 2 byte IOPS per local bus device)
	max. 132 Byte (Input, incl. max. 2 byte IOPS per local bus device, with the use of the Phoenix Redundancy Layer (PRL))
	max. 132 Byte (Output, incl. max. 2 byte IOPS per local bus device, with the use of the Phoenix Redundancy Layer (PRL))
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63
Protocol	PROFINET
	TFTP
	PTCP
	LLDP
	SNMP
	MRP
	DCP
	DDI
	BootP (BootP only to perform firmware updates)

#### 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. 570 mA (with 2 A at $U_{Bus}$ for the I/Os and $U_L = 24$ V)
Power consumption	max. 13.7 W (2.0 A on $U_{Bus}$ , $U_L = 24$ V)
Type of protection	Surge protection
	Reverse polarity protection
Designation	Axioline F local bus supply ( $U_{Bus}$ )
Supply voltage	5 V DC (via bus base module)

# Bus coupler - AXL F BK PN XC - 2701222

## Technical data

### Axioline potentials

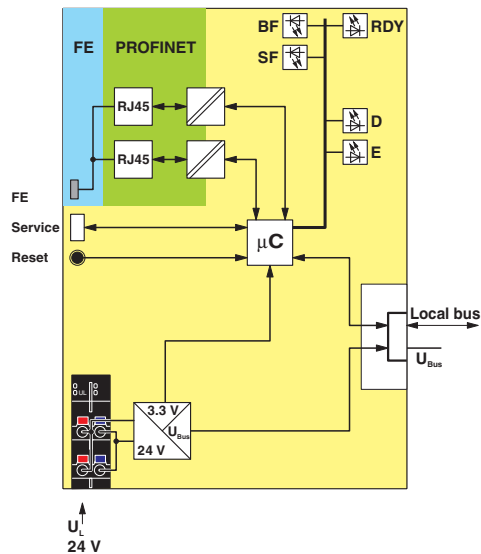
Power supply unit	max. 2 A
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### Environmental Product Compliance

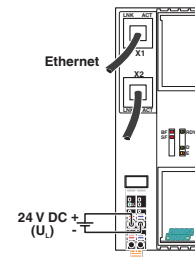
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Block diagram



Connection diagram

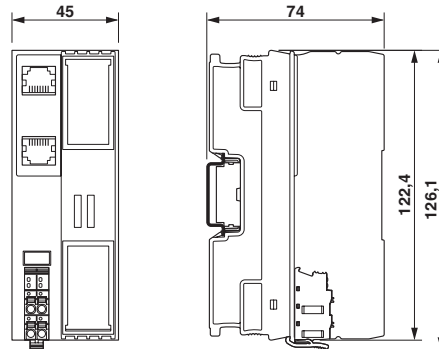


Connection of the cables

### Internal wiring of the terminal points

## Bus coupler - AXL F BK PN XC - 2701222

Dimensional drawing



### Classifications

#### eCl@ss

eCl@ss 10.0.1	27242608
eCl@ss 11.0	27242608
eCl@ss 4.0	27240490
eCl@ss 4.1	27240490
eCl@ss 5.0	27242208
eCl@ss 5.1	27242608
eCl@ss 6.0	27242600
eCl@ss 7.0	27242608
eCl@ss 9.0	27242608

#### ETIM

ETIM 3.0	EC001604
ETIM 4.0	EC001604
ETIM 6.0	EC001604
ETIM 7.0	EC001604

#### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	39121311
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

## Bus coupler - AXL F BK PN XC - 2701222

### Approvals

#### Approvals

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#### Approvals

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







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#### Ex Approvals

ATEX

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### Approval details

LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	LR2001902TA
KR		<a href="http://www.krs.co.kr/eng/main/main.aspx">http://www.krs.co.kr/eng/main/main.aspx</a>	HMB17372-AC002
NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A006
ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	21-2187864-PDA
RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE233820XG
PRS		<a href="http://www.prs.pl/">http://www.prs.pl/</a>	TE/1020/880590/21
BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	36433/B2 BV

## Bus coupler - AXL F BK PN XC - 2701222

### Approvals

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00000DF
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UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cULus Listed			
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### 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 mm<sup>2</sup>, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

##### Installation cable - FL CAT5 FLEX - 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)

#### Data plug

## Bus coupler - AXL F BK PN XC - 2701222

### Accessories

Assembly tool - FL CRIMPTOOL - 2744869



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

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### 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, lettering field size: 35 x 18.7 mm, Number of individual labels: 500

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### DIN rail connector

Bus connector - AXL BS BK - 2701422



Axioline F bus base module for housing type BK

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### 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.

## Bus coupler - AXL F BK PN XC - 2701222

### Accessories

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.

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### 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.

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### 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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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: snapped, 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