

## Bus coupler - AXL F BK PN TPS - 2403869

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Axioline F bus coupler for PROFINET (including bus base module and connector)

### Product Description


The bus coupler is the link between a PROFINET network and the Axioline F system. Up to 63 Axioline F devices can be connected to an existing Ethernet system using the bus coupler. The new TPS version has conformance class C certification in accordance with Profinet Spec 2.3 conformance. PROFIenergy is supported.

### Your advantages

- Up to 63 additional Axioline devices can be connected
- PROFI-safe support
- PROFIenergy support
- Conformance with PROFINET specification V2.3
- 2 RJ45 connections
- BootP and DCP
- Diagnostic and status indicators
- Firmware can be updated
- Typical cycle time of the Axioline F local bus is around 10 µs
- Safe analog value processing with SAFE AI and other components



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 345826
GTIN	4055626345826
Weight per Piece (excluding packing)	220.800 g
Custom tariff number	85389091
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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## 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)
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

### Connection data

Designation	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 solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

### General

Mounting type	DIN rail mounting
Color	traffic grey A RAL 7042
Net weight	220.8 g
Note on weight specifications	with connector and bus base module
Mounting type	DIN rail mounting
Mounting position	any

### Interfaces

Designation	PROFINET
No. of channels	2
Connection method	RJ45 socket
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	100 Mbps (full duplex)
Transmission physics	Ethernet in RJ45 twisted pair

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## Technical data

### Interfaces

Designation	Axioline F local bus
Connection method	Bus base module
Transmission speed	100 Mbps
Designation	Service
Connection method	USB type C

### System limits of the bus coupler

Amount of process data	max. 2024 Byte (max. 1012 Byte IN - max. 1012 Byte OUT)
	max. 1012 Byte (Input)
	max. 1012 Byte (Output)
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63

### Power supply for module electronics

#### Inline potentials

Supply voltage	24 V DC
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#### 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. 532 mA (with 2 A at $U_{BUS}$ for the I/Os and $U_L = 24 V$ )
Power consumption	max. 14 W (with 2 A load at $U_{BUS}$ for the I/Os)
Designation	Axioline F local bus supply ( $U_{BUS}$ )
Supply voltage	5 V DC (via bus base module)
Power supply unit	2 A
Protective circuit	Surge protection of the supply voltage electronic
	Polarity reversal protection of the supply voltage No

### Standards and Regulations

Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

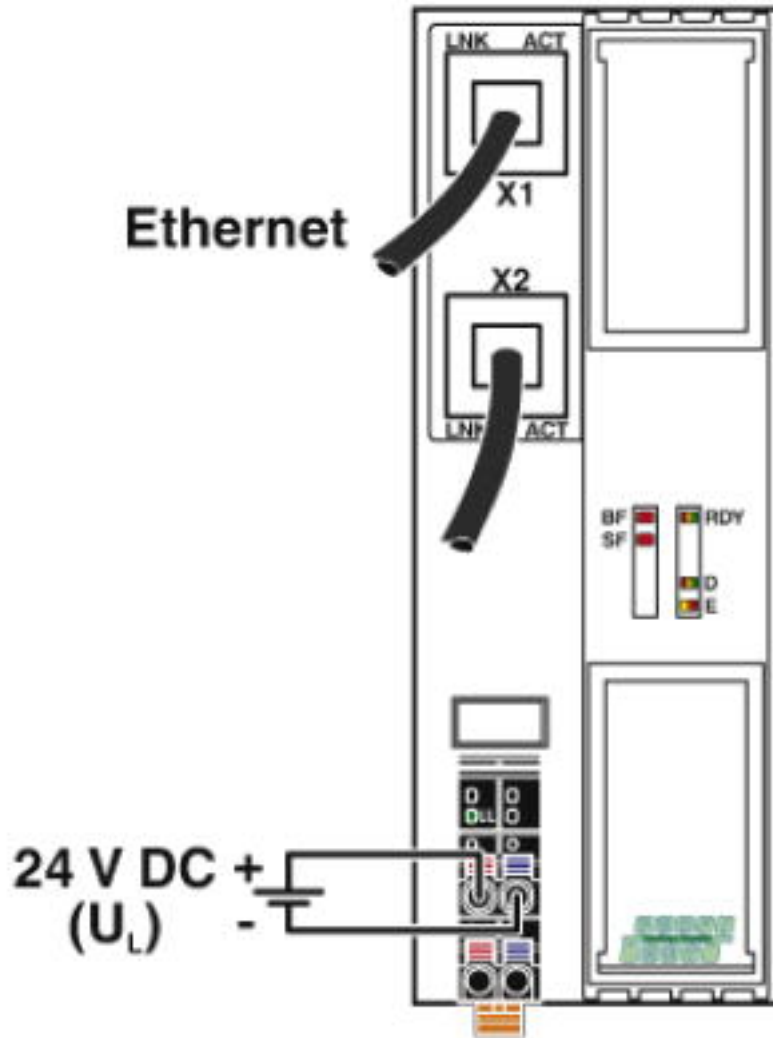
### Environmental Product Compliance

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

## Drawings

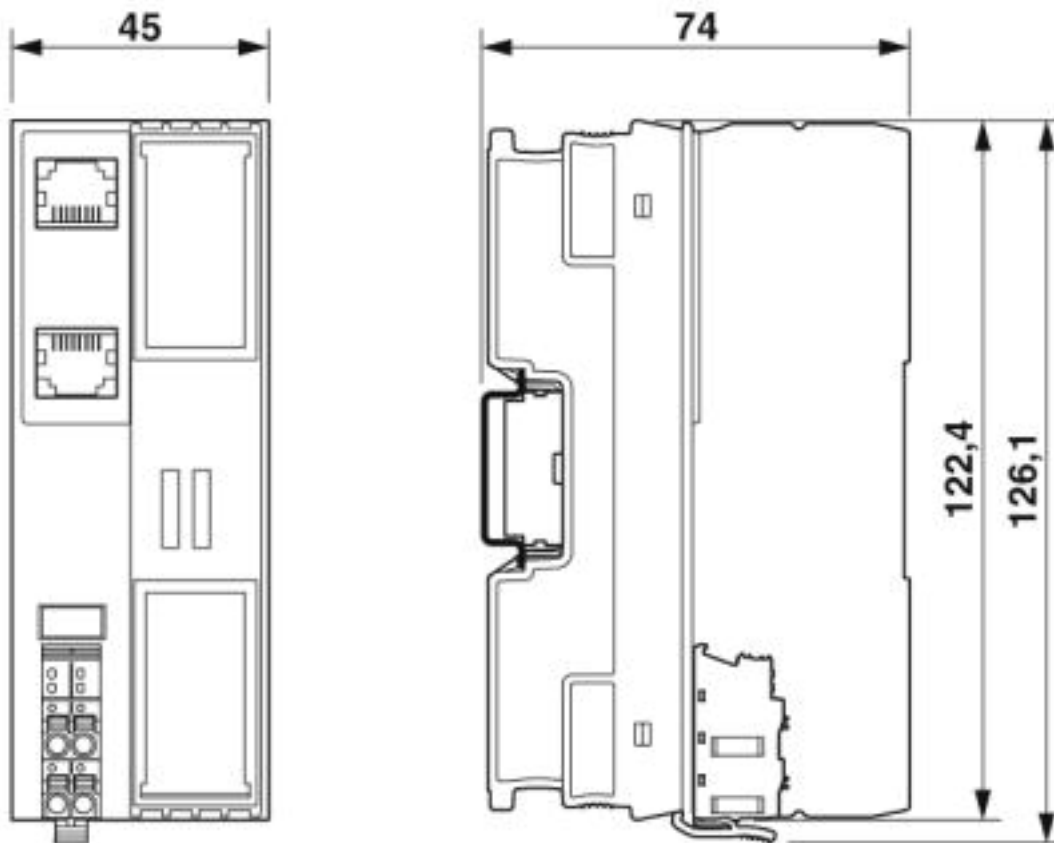
# Bus coupler - AXL F BK PN TPS - 2403869

Connection diagram



# Bus coupler - AXL F BK PN TPS - 2403869

Dimensional drawing



## Classifications

eCl@ss

eCl@ss 4.0	27240490
eCl@ss 4.1	27240490
eCl@ss 5.0	27242208
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242608
eCl@ss 8.0	27242608
eCl@ss 9.0	27242608

ETIM

ETIM 3.0	EC001604
ETIM 4.0	EC001604
ETIM 5.0	EC001604
ETIM 6.0	EC001604
ETIM 7.0	EC001604

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## Approvals

### Approvals

#### Approvals

PROFINET / UL Listed / cUL Listed / cULus Listed

#### Ex Approvals

### Approval details

PROFINET	Z11944
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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
Nominal voltage UN		125 V	
Nominal current IN		1 A	

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
Nominal voltage UN		125 V	
Nominal current IN		1 A	

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

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### Accessories

Network cable - FL CAT5 FLEX - 2744830



CAT5-SF/UTP cable (J-LI02YS(ST)C H 2 x 2 x 26 AWG), light-duty, flexible installation cable 2 x 2 x 0.14 mm<sup>2</sup>, stranded, shielded, outer sheath: 5.75 mm ± 0.15 mm diameter

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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 into marker carrier, 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.

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

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### Accessories

Connecting cable - CAB-USB C/ USB C/1,8M - 1021809



Connecting cable, for connecting the controller to a PC from USB C to USB C

Connecting cable - CAB-USB A/ USB C/1,8M - 2404677



Connecting cable, for connecting the controller to a PC from USB A to USB C

### Software library

Function block - SAFE AI - 2400057



Function block library for safety-related analog value acquisition with standard I/O modules. Please contact the safety hotline (+49 5281 9-462777) before ordering the SAFE AI article.

### 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

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: snap into flat marker groove, 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



## Bus coupler - AXL F BK PN TPS - 2403869

### Accessories

Assembly tool - FL CRIMPTOOL - 2744869



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

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