

# AXL F BK PB XC - Bus coupler



2702463

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Axioline F, Bus coupler, PROFIBUS DP, D-SUB-9 female connector, 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 PROFIBUS network and represents the link to the Axioline F I/O system. Up to 63 Axioline F devices can be connected to the bus coupler. A corresponding GSD file is available for integrating the Axioline F station into the programming system. It can be downloaded at: [phoenixcontact.net/product/2702463](https://phoenixcontact.net/product/2702463)

## Your advantages

- PROFIBUS connection via 9-pos. D-SUB socket
- Electrical isolation between PROFIBUS interface and logic
- Rotary coding switches for setting the PROFIBUS address
- DP/V1 for class 1 and class 2 masters
- PROFIBUS data transmission speed of 9.6 kbps to 12 Mbps
- Dynamic configuration is supported
- I&M functions
- Firmware can be updated
- Typical cycle time of the Axioline F local bus is around 10 µs
- Supports the operation of Axioline Smart Elements
- Supports passive Smart Elements (firmware version 2.20 or later)
- 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	2702463
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI212
Catalog page	Page 72 (C-6-2019)
GTIN	4055626459271
Weight per piece (including packing)	243 g
Weight per piece (excluding packing)	175 g

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Customs tariff number	85176200
Country of origin	DE

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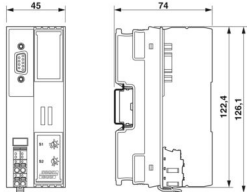
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## Technical data

### 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

PROFIBUS DP	
Number of interfaces	1
Connection method	D-SUB-9 female connector
Transmission speed	9.6 kbps ... 12 Mbps
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)

### 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

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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	08
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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. 567 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)
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: PROFIBUS interface / 24 V communications voltage ( $U_L$ ) feed-in	500 V AC, 50 Hz, 1 min.
Test voltage: PROFIBUS interface / functional ground	500 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
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

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## 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 mm² ... 1.5 mm²
Conductor cross section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Standard, applications with UL approval, use in zone 2 potentially explosive area; mounting position: wall mounting on horizontal DIN rail) -25 °C ... 55 °C (Standard, applications with UL approval, use in zone 2 potentially explosive area; 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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## Approvals

### ATEX

Identification	⚡ II 3 G Ex ec IIC T4 Gc
Certificate	UL 20 ATEX 2441X
References to standards	EN IEC 60079-0, EN IEC 60079-7

### UKEX

Identification	⚡ II 3 G Ex ec IIC T4 Gc
Certificate	PxCIMA22UKEX2701949X
References to standards	EN IEC 60079-0, EN IEC 60079-7

### IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX ULD 20.0026X
References to standards	IEC 60079-0 Ed. 7, IEC 60079-7 Ed. 5.1

### UL, USA/Canada

Identification	cULus
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Certificate	E238705
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UL Ex, USA / Canada

Identification	Class I, Zone 2, AEx ec IIC T4
	Class I, Division 2, Groups A, B, C, D, T4
	Ex ec IIC T4 Gc X
Certificate	E366272
References to standards	UL 60079-0 Ed. 7 / CSA C22.2 NO. 60079-0 Ed. 4
	UL 60079-7 Ed. 5 / CSA C22.2 NO. 60079-7 Ed. 2

CCC / China-Ex

Identification	Ex ec IIC T4 Gc
Certificate	
References to standards	GB/T 3836.1-2021, GB/T 3836.3-2021

Mounting

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

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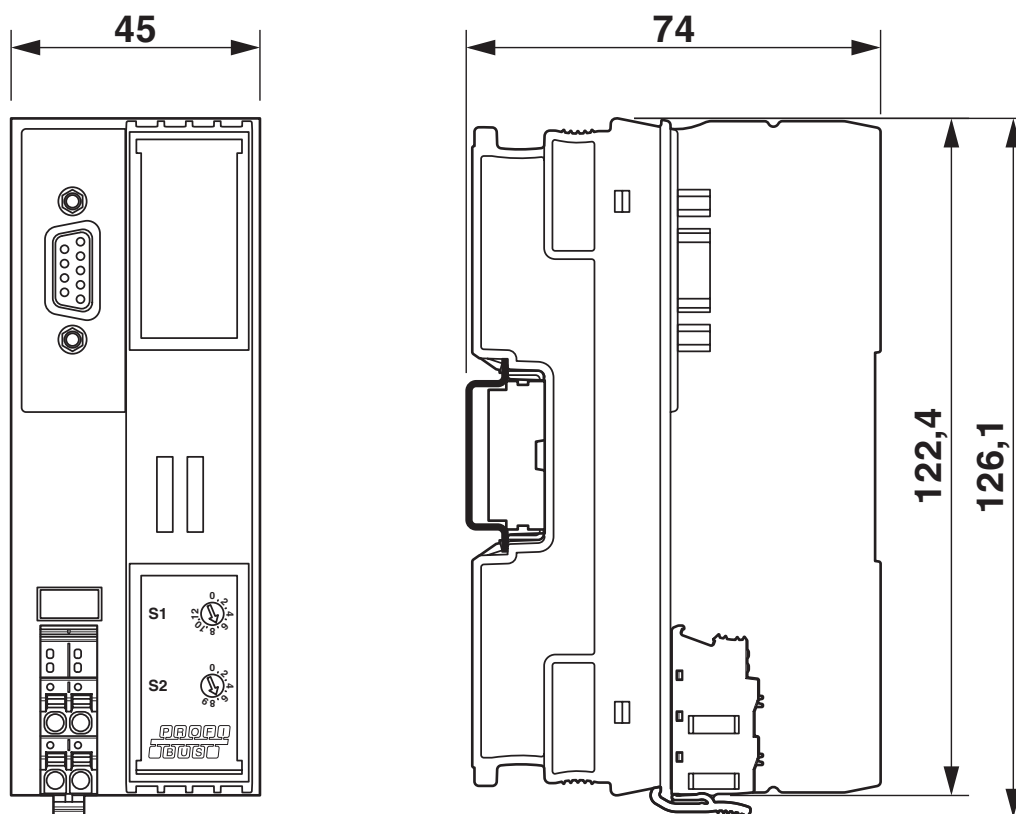
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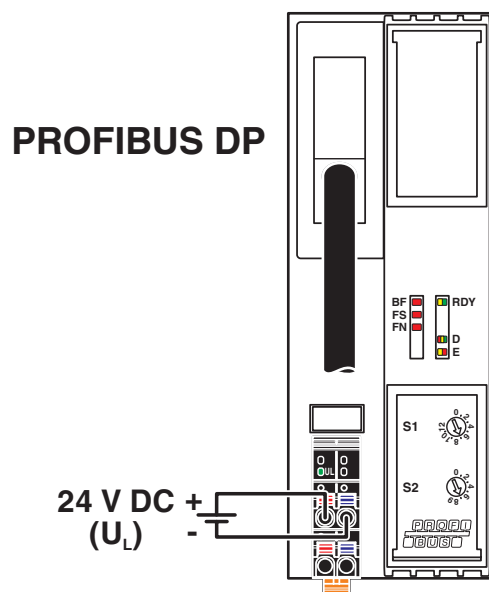


## Drawings

Dimensional drawing



Connection diagram



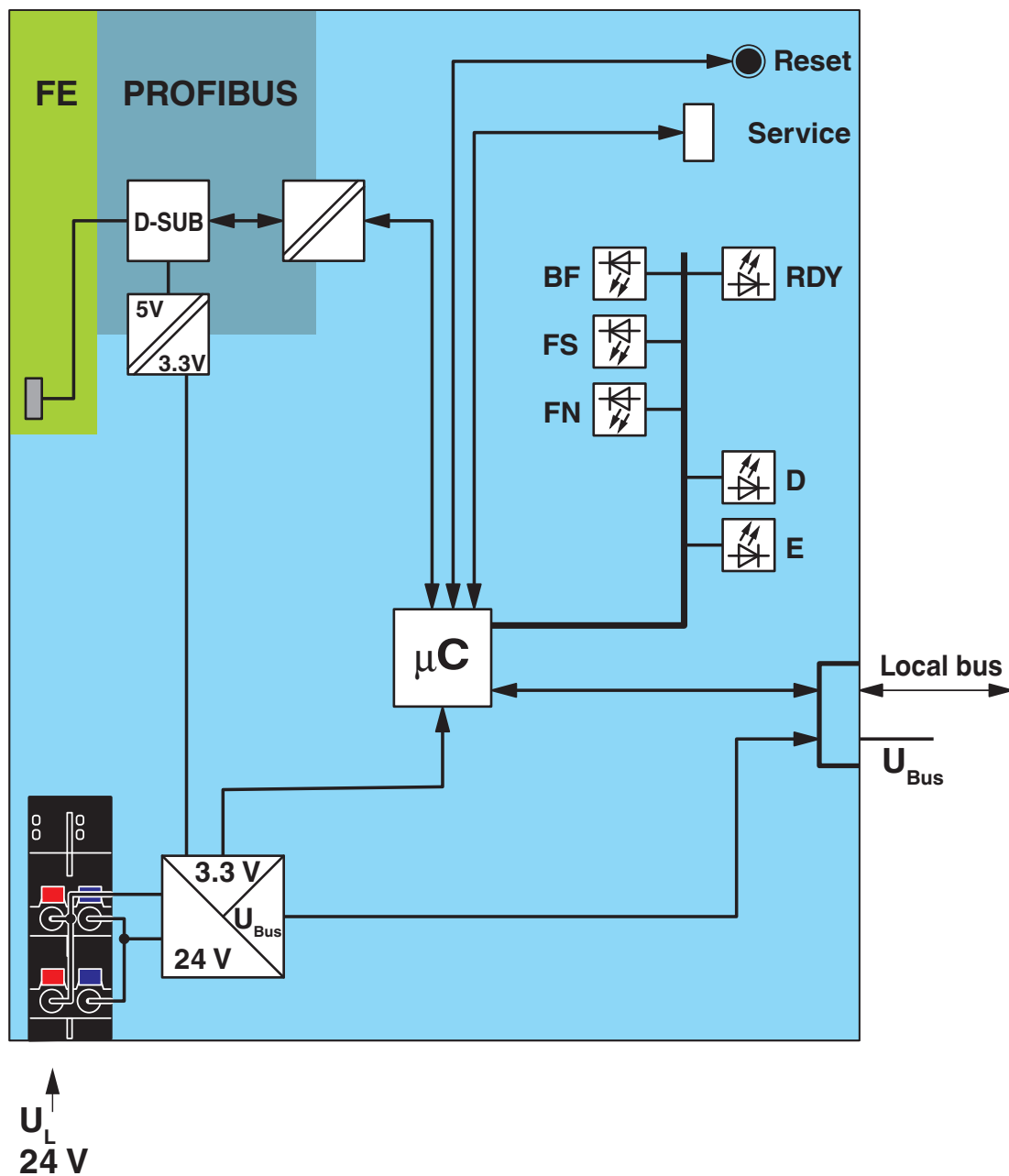
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Block diagram



Internal wiring of the terminal points



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2702463>

	<b>BSH</b> Approval ID: 840
	<b>PROFIBUS</b> Approval ID: Z02274
	<b>UAE-RoHS</b> Approval ID: 23-02-63241
	<b>UL Listed</b> Approval ID: E238705
	<b>cUL Listed</b> Approval ID: E238705
	<b>IECEX</b> Approval ID: IECEX ULD 20.0026X
	<b>ATEX</b> Approval ID: UL 20 ATEX 2441X
	<b>cULus Listed</b> Approval ID: E366272
	<b>CCC</b> Approval ID: 2021122309114456_CN
	<b>cULus Listed</b>

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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	6(c), 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.)	Lead(CAS: 7439-92-1)
SCIP	8fbc1048-1069-4109-a9dc-eda5c95b7f36

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## Accessories

### AXL F BS BK - Bus connector

2701422

<https://www.phoenixcontact.com/us/products/2701422>

Axioline F bus base module for housing type BK



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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

## 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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## SUBCON-PLUS-PROFIB/35/M12 - D-SUB bus connector

2902320

<https://www.phoenixcontact.com/us/products/2902320>



D-SUB plug, 9-pos., pin, assignment: 3, 5, 6, 8; two 35° cable entries M12 (B-coded). Bus system: PROFIBUS DP up to 12 Mbps. Termination resistor via separate M12 terminator.

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## SUBCON-PLUS-PROFIB/SC2 - D-SUB bus connector

2708232

<https://www.phoenixcontact.com/us/products/2708232>



D-SUB connector, 9-pos., pin, 35° cable outlet, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

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## SUBCON-PLUS-PROFIB/90/IDC - D-SUB bus connector

2313672

<https://www.phoenixcontact.com/us/products/2313672>



D-SUB connector, 9-pos., pin, 90° cable outlet, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

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## SUBCON-PLUS-PROFIB/90/SC - D-SUB bus connector

2313698

<https://www.phoenixcontact.com/us/products/2313698>



D-SUB connector, 9-pos., pin, 90° cable outlet, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

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## SUBCON-PLUS-PROFIB/AX/SC - D-SUB bus connector

2744380

<https://www.phoenixcontact.com/us/products/2744380>



D-SUB connector, 9-pos., male connector, axial version with two cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

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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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