

# AXL F BK PB XC - Bus coupler

2702463

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

The figure shows the standard item

## 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  $\mu$ s
- 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	DR1212
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

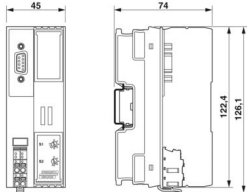
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## Technical data

### 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

### Material specifications

Color (Housing)	gray (RAL 7042)
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### 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

### System properties

#### System limits

Amount of process data (Input data)	max. 244 Byte
Amount of process data (Output data)	max. 244 Byte
Number of parameter data	max. 233 Byte
Number of configuration data	max. 244 Byte

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

## Programming data

Register length (master)	1484 Byte
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## Product properties

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

## Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

## Electrical properties

Maximum power dissipation for nominal condition	4 W
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### 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)
Current consumption	typ. 101 mA (without I/Os and $U_L = 24$ 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.

### Axioline F connector

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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

## 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: panel 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)

### Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

### Test (noxious gas)

Test standard	ISA-71.04-2013 G3 Harsh Group A IEC 60068-2-60:2015 Method 4
Temperature	25 °C ±1 K
Humidity (relative)	75 % ±3 %
Test duration	21 Days
Volume concentration H <sub>2</sub> S (Hydrogen sulfide)	50 ppb
Volume concentration NO <sub>2</sub> (Nitrogen dioxide)	1250 ppb
Volume concentration Cl <sub>2</sub> (Chlorine)	10 ppb
Volume concentration SO <sub>2</sub> (Sulfur dioxide)	300 ppb

## Standards and regulations

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

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## ATEX

Identification	Ⓜ II 3 G Ex ec IIC T4 Gc
Certificate	UL 20 ATEX 2441X

## IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX ULD 20.0026X

## UL, USA/Canada

Identification	cULus
Certificate	E238705

## 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

## CCC / China-Ex

Identification	Ex ec IIC T4 Gc
Certificate	ⓂⓂ, 

## Mounting

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

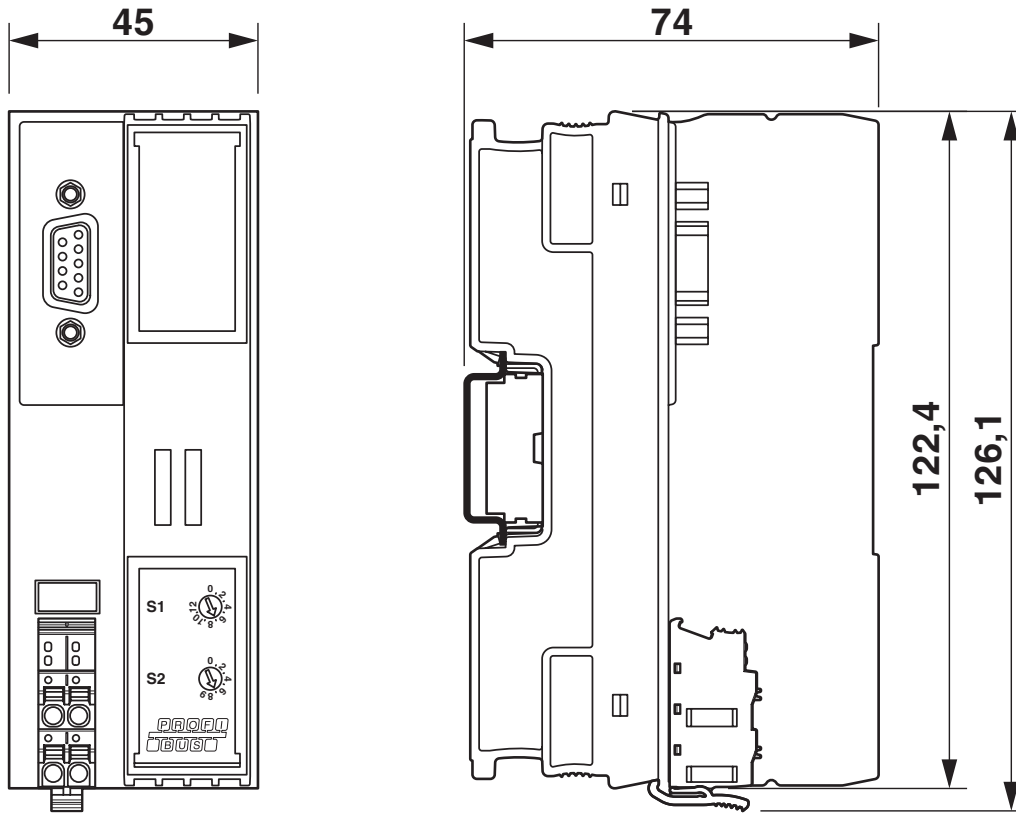
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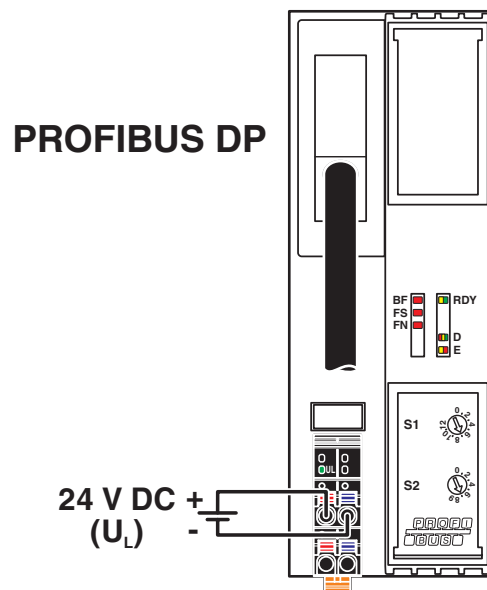
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## Drawings

Dimensional drawing



Connection diagram

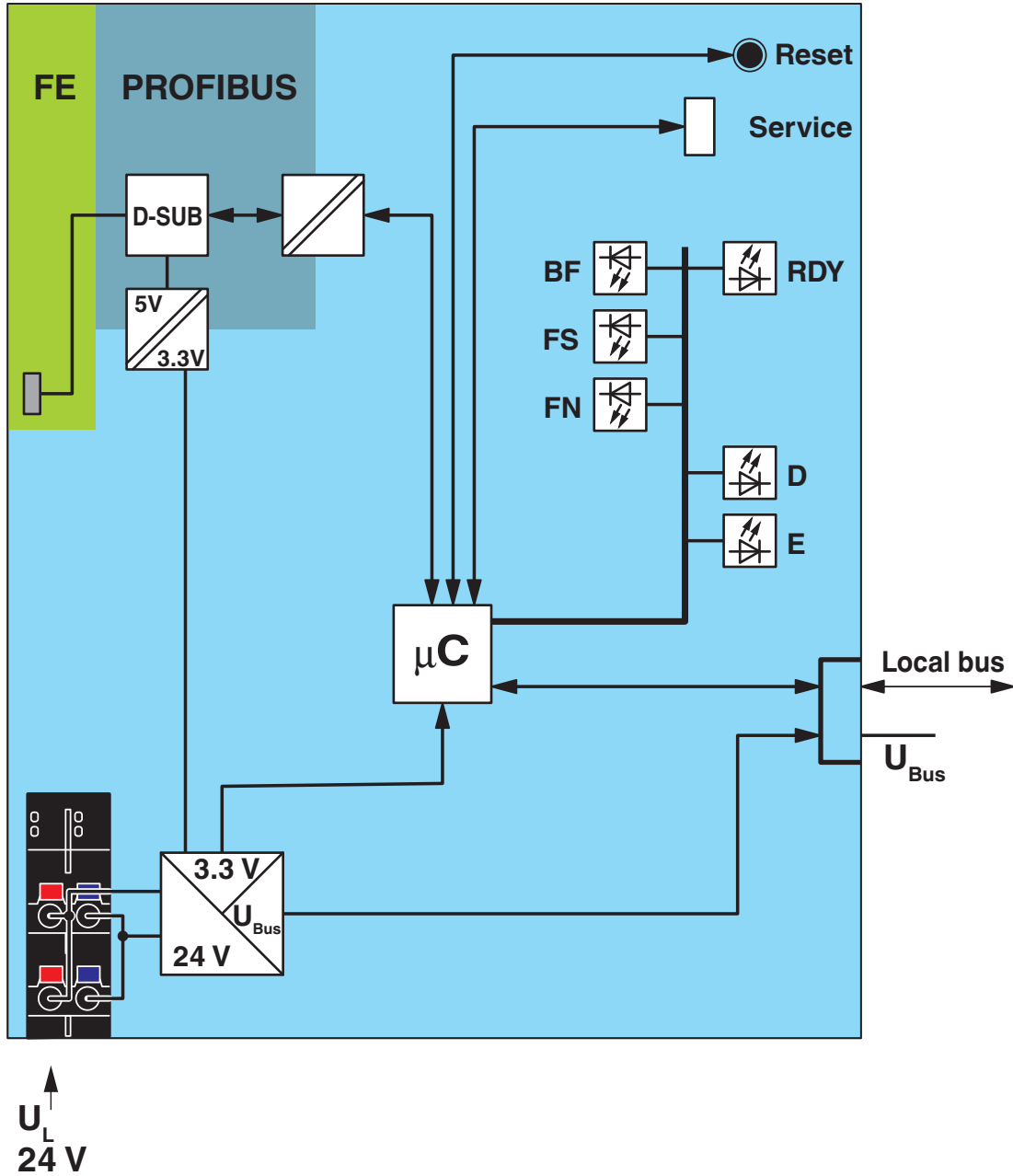


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Block diagram



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>

### BSH

Approval ID: 840

### PROFIBUS

Approval ID: Z02274



### cULus Listed

Approval ID: E238705



### IECEx

Approval ID: IECEx ULD 20.0026X



### ATEX

Approval ID: UL 20 ATEX 2441X



### cULus Listed

Approval ID: E366272



### CCC

Approval ID: 2021122309114456\_CN

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## Classifications

### ECLASS

ECLASS-13.0	27242608
ECLASS-15.0	27242608

### ETIM

ETIM 10.0	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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