

AXL F BK PN - Bus coupler



2701815

<https://www.phoenixcontact.com/in/products/2701815>

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Axioline F, Bus coupler, PROFINET, RJ45 jack, 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: [phoenixcontact.net/product/2701815](https://www.phoenixcontact.net/product/2701815).

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 μ s
- Firmware can be updated
- Runtime in bus coupler is negligible (almost 0 μ s)
- Typical cycle time of the Axioline F local bus is around 10 μ s
- Web-based management
- Supports the operation of Axioline Smart Elements
- Supports Diag+
- Safe analog value processing with SAFE AI and other components

Commercial Data

Item number	2701815
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DRI
Product Key	DRI21A
Catalog Page	Page 69 (C-6-2019)
GTIN	4046356845601
Weight per Piece (including packing)	229.4 g
Weight per Piece (excluding packing)	222 g
Customs tariff number	85176200
Country of origin	DE

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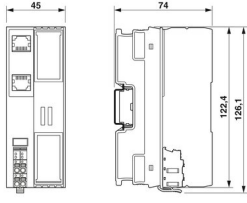
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Technical Data

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).

Material specifications

Color	traffic grey A RAL 7042
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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
Specification	Version 2.2

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Conformance Class	Conformance-Class C
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Product properties

Type	block modular
Product type	I/O component
Product family	Axioline F
Mounting position	any
Scope of delivery	including bus base module and Axioline F connector

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	max. 2.5 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. 570 mA (with 2 A at U_{Bus} for the I/O and $U_L = 24$ V)
Power consumption	max. 13.7 W (with 2 A load at U_{Bus} for the I/Os and $U_L = 19$ 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

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 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

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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)
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

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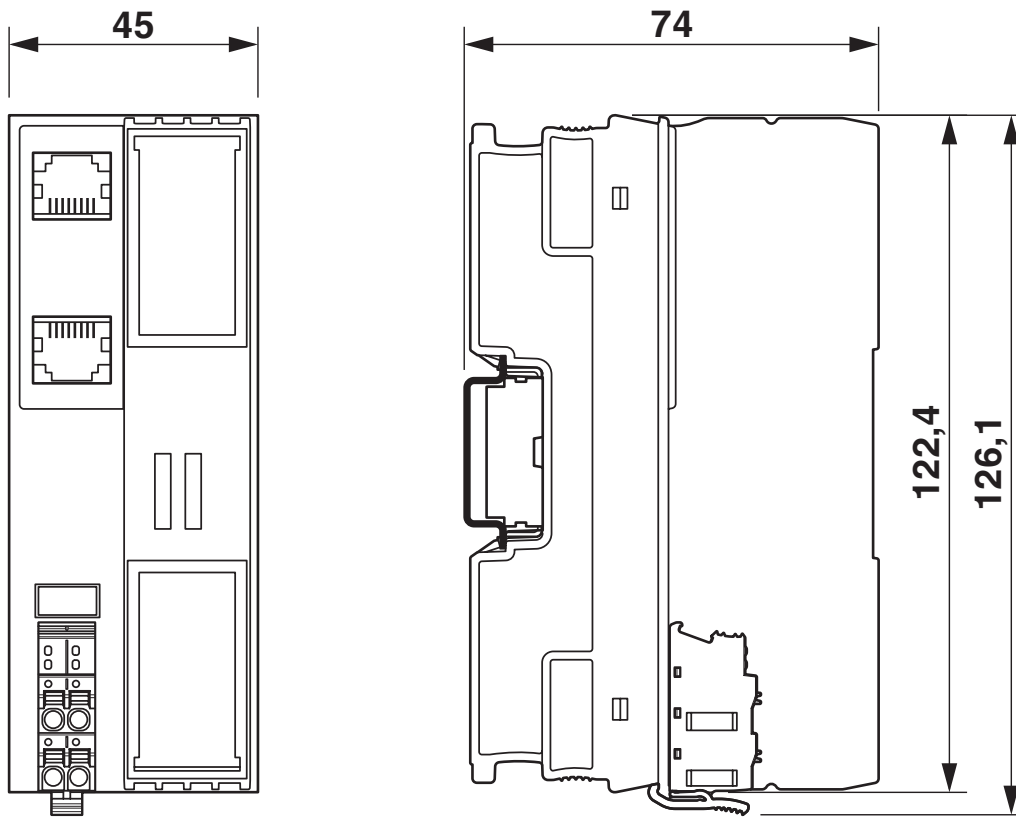
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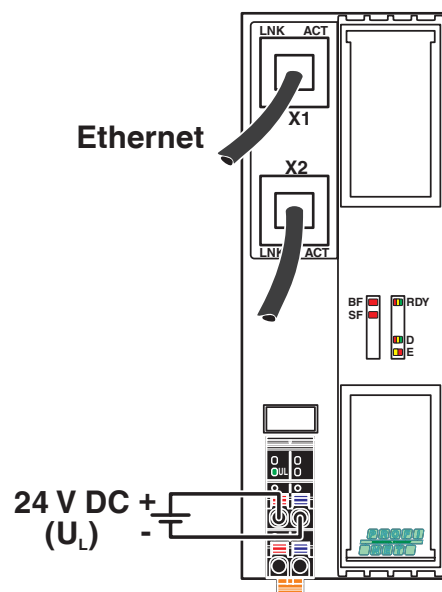


Drawings

Dimensional drawing



Connection diagram



Connection of the cables

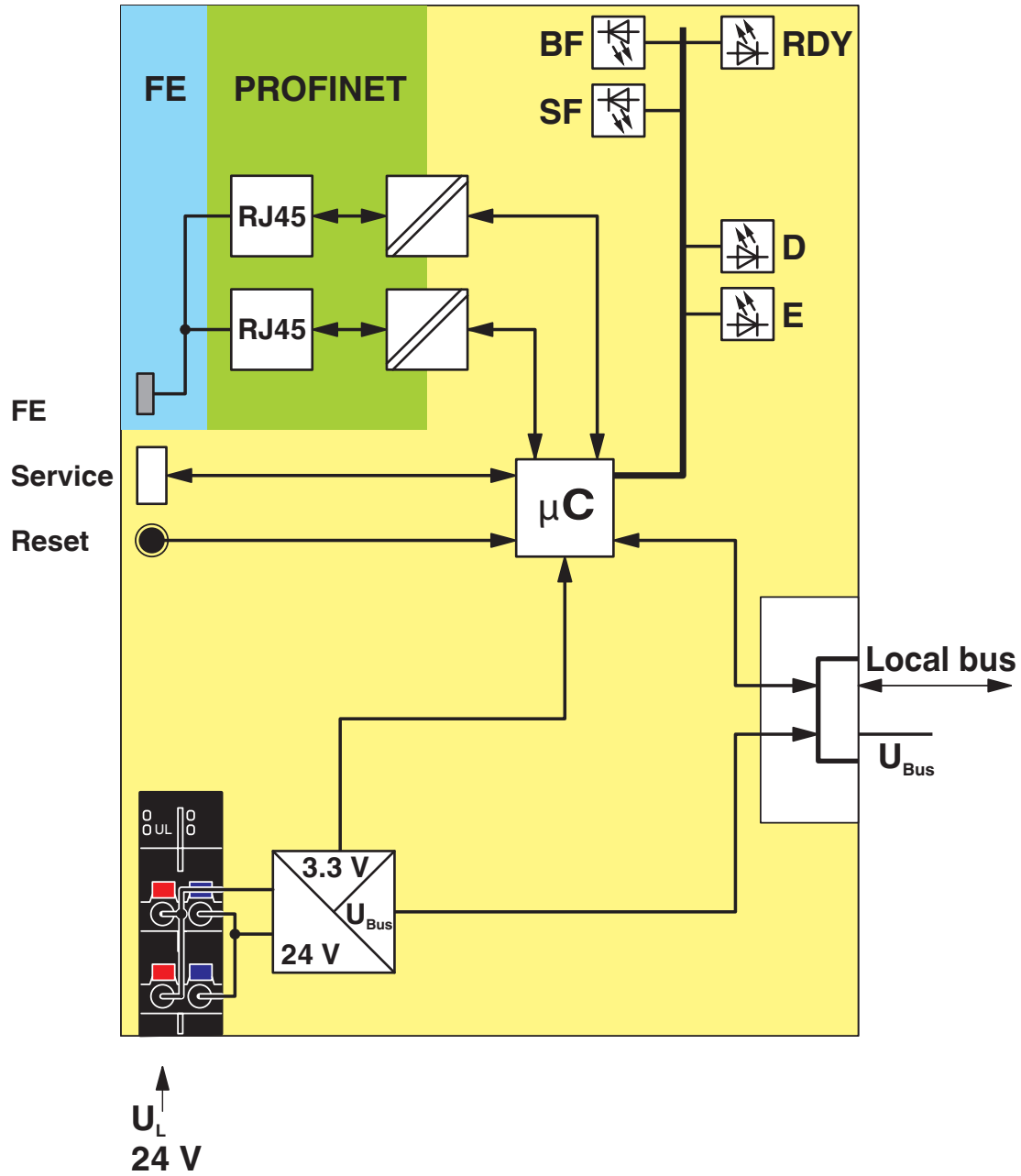
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Block diagram



Internal wiring of the terminal points

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Approvals



EAC

Approval ID: RU*DE*08.B.00529/19



DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2001902TA



NK

Approval ID: 14A006



BV

Approval ID: 36433/B4 BV



PRS

Approval ID: TE/1020/880590/21



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705



RINA

Approval ID: ELE283021XG



cUL Listed

Approval ID: FILE E 238705



UL Listed

Approval ID: FILE E 238705

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001604
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UNSPSC

UNSPSC 21.0	32151600
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

AXL F BS BK - Bus connector

2701422

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

Axioline F bus base module for housing type BK



FL PLUG RJ45 GR/2 - RJ45 connector

2744856

<https://www.phoenixcontact.com/in/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, cable outlet: straight, color: green, Ethernet



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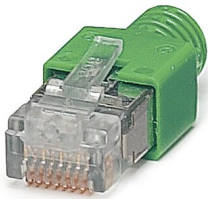
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FL PLUG RJ45 GN/2 - RJ45 connector

2744571

<https://www.phoenixcontact.com/in/products/2744571>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Plastic, connection method: Crimp connection, cable outlet: straight, color: green, Ethernet

FL CAT5 HEAVY - Data cable

2744814

<https://www.phoenixcontact.com/in/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/in/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

<https://www.phoenixcontact.com/in/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

ZBF 10/5,8 AXL UNPRINTED - Zack Marker strip, flat

0829580

<https://www.phoenixcontact.com/in/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

<https://www.phoenixcontact.com/in/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

SAFE AI - Function block

2400057

<https://www.phoenixcontact.com/in/products/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.**

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

2701626

<https://www.phoenixcontact.com/in/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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