

AXL F BK S3 - Bus coupler



2701686

<https://www.phoenixcontact.com/us/products/2701686>

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Axioline F, Bus coupler, Sercos, 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 third-generation Sercos® 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. A corresponding SDDML file is available for integrating the Axioline F station into the programming system. It can be downloaded at: www.phoenixcontact.com/product/2701686

Your advantages

- 2 Ethernet ports (with integrated switch)
- Rotary coding switches for setting the Sercos address
- Certified in accordance with Sercos V1.12
- Supports Sercos V1.31
- FSP-IO (Function Specific Profile-IO) for modular I/O devices
- Minimum Sercos III cycle time of 31.25 µs
- 8 connections (max. 4 consumer and max. 4 producer connections)
- Cross communication is possible up to reaching the maximum number of connections
- Synchronization between fieldbus and local bus
- The typical cycle time of the S20 system bus is around 10 µs
- Runtime in bus coupler is negligible (almost 0 µs)
- Firmware can be updated
- Supports the operation of Axioline Smart Elements
- Supports passive Smart Elements (firmware version 1.35 or later)
- Supports IOL-CONF (firmware version 1.35 or later)

Commercial data

Item number	2701686
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI21C
GTIN	4046356790109
Weight per piece (excluding packing)	177 g
Customs tariff number	85176200

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Country of origin	DE
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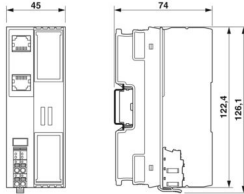
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Technical data

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

Sercos	
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	USB type C (from HW 05) Micro USB type B (up to HW 04)

Sercos	
Equipment type	Sercos slave
System-specific protocols	Sercos protocols Sercos
Specification	Sercos specification 1.31

System properties

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System limits

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

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

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	3.7 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 (2.0 A at U_{BUS} , U_L = 24 V, up to HW 04) max. 670 mA (2.5 A at U_{BUS} , U_L = 24 V, from HW 05)
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 (up to HW 04) max. 2.5 A (from HW 05)

Electrical isolation/isolation of the voltage ranges

Test voltage: Ethernet interface 1 / Ethernet interface 2	1500 V AC, 50 Hz, 1 min
Test voltage: Ethernet interface 1 / 24 V communications voltage (U_L) feed-in	1500 V AC, 50 Hz, 1 min
Test voltage: Ethernet interface 2 / 24 V communications voltage (U_L) feed-in	1500 V AC, 50 Hz, 1 min
Test voltage: Ethernet interface 1 / functional ground	1500 V AC, 50 Hz, 1 min
Test voltage: Ethernet interface 2 / functional ground	1500 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
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Note on the connection method	Please observe the information provided on conductor cross sections in the "Axioline F: system and installation" user manual.
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Conductor connection

Connection method	Push-in connection
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

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 (Mounting position: panel 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 (observe temperature derating)

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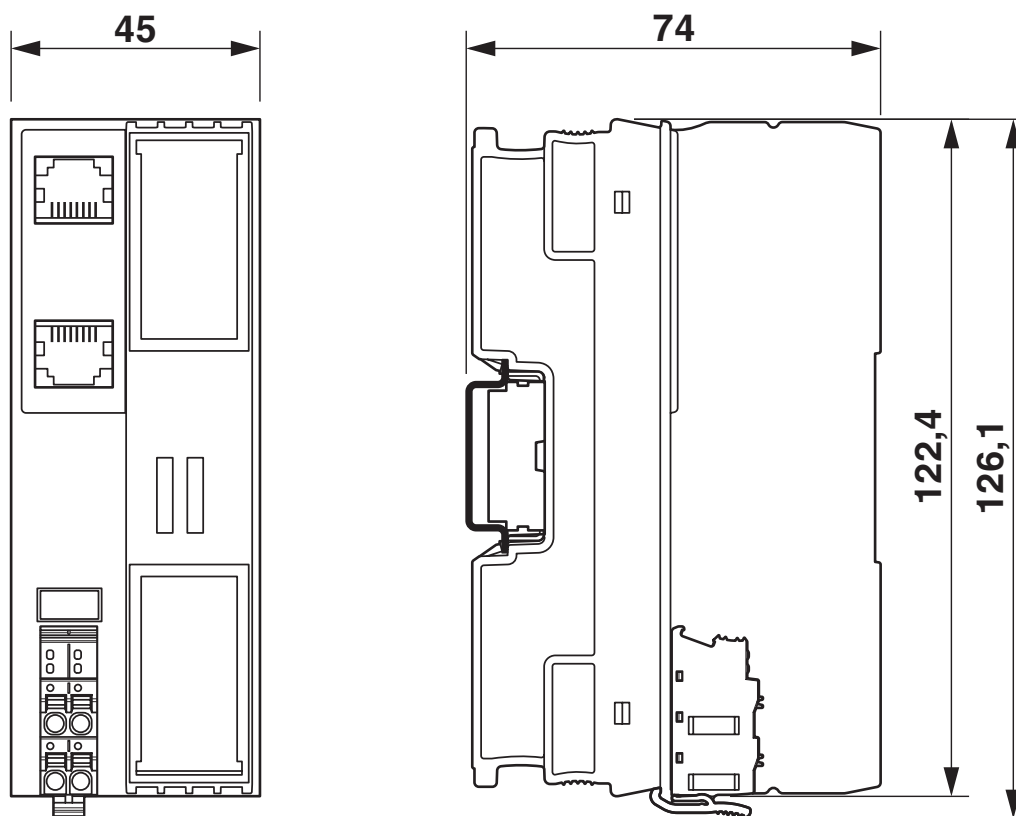
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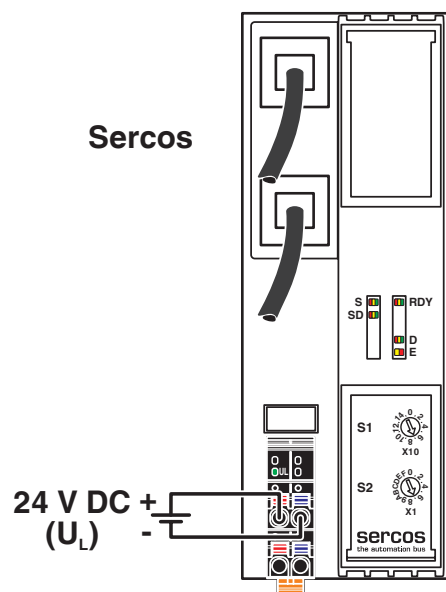


Drawings

Dimensional drawing



Connection diagram



Connection of the cables

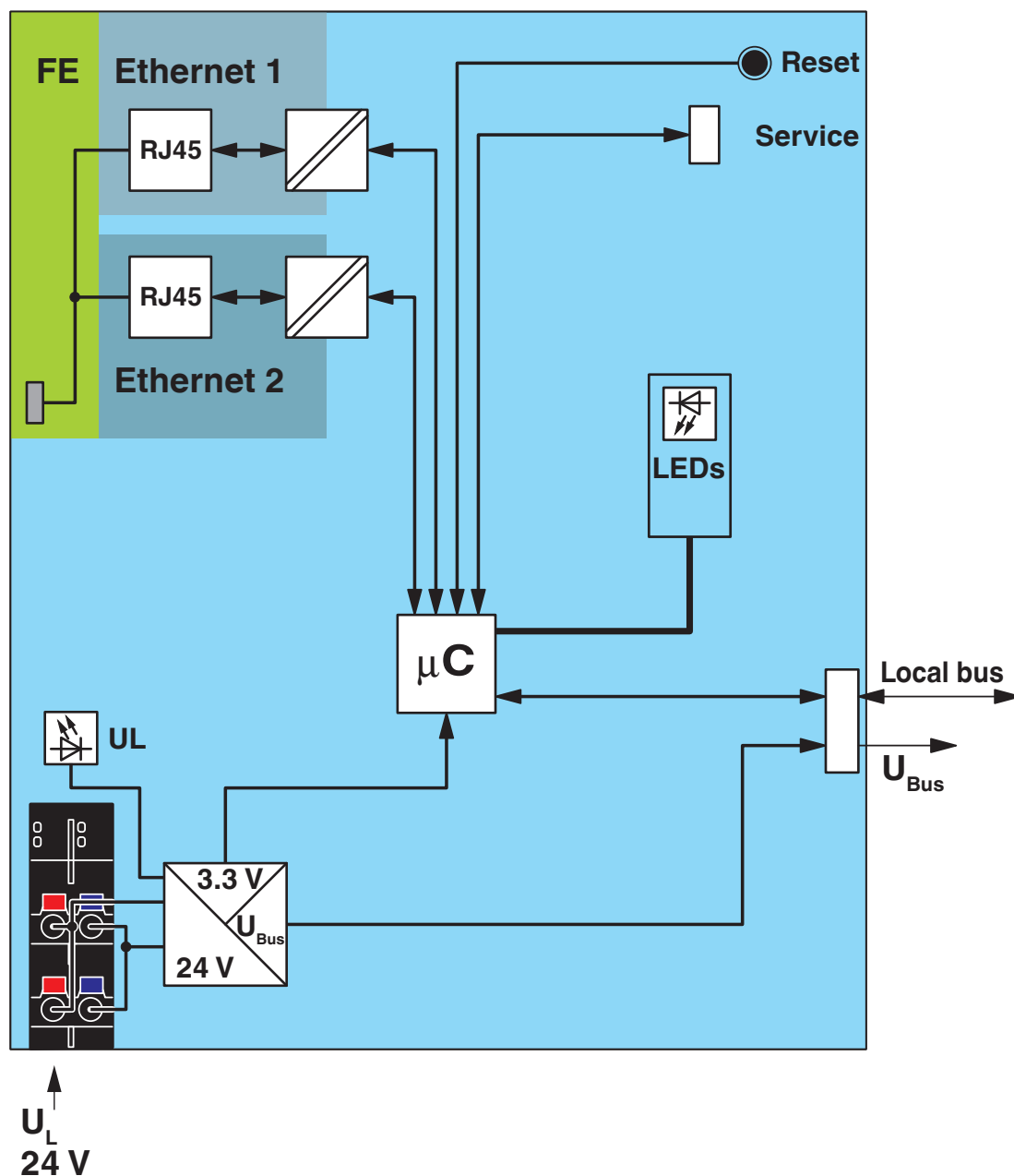
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Block diagram



Internal wiring of the terminal points

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Approvals

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DNV GL

Approval ID: TAA00000DF



LR

Approval ID: LR2480202TA-02



PRS

Approval ID: TE/1020/880590/21

BSH

Approval ID: 840



RINA

Approval ID: ELE008423XG

ABS

Approval ID: 23-2449604-PDA



cULus Listed

Approval ID: E238705



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Classifications

ECLASS

ECLASS-13.0	27242608
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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	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.)	4,4'-isopropylidenediphenol(CAS: 80-05-7)
	Lead(CAS: 7439-92-1)
SCIP	dccc1b9f-2267-48ee-882f-35b166de8313