PHŒNIX CONTACT

Bus coupler - AXL F BK EC - 2688899

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Axioline F, Bus coupler, EtherCAT®, RJ45 socket, 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 an EtherCAT® 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.
EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Auotmation GmbH, Germany.
A corresponding ESI file is available for integrating the Axioline F station into the programming system.
It can be downloaded at: phoenixcontact.net/product/2688899

Your advantages

☑ 2 RJ45 connections

☑ Rotary encoding switch

☑ Automatic addressing

☑ Station mapped as a modular EtherCAT® device using a modular device profile (MDP)

☑ Station can be mapped as a block device

☑ Acyclic data communication (mailbox protocols)

☑ Cyclic data communication

☑ Firmware can be updated

☑ Typical cycle time of the Axioline F local bus is around 10 µs

RoHS

EtherCAT.

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 658355
GTIN	4046356658355
Weight per Piece (excluding packing)	219.900 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Dimensions

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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 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	1.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

General

Mounting type	DIN rail
Net weight	219.9 g
Note on weight specifications	with connector and bus base module
Diagnostics messages	Emergency messages
	Messages via object 10F3$_{hex}$ Diagnosis history

Interfaces

Designation	EtherCAT®
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	Micro USB type B

System limits of the bus coupler

Amount of process data	1024 Byte (for each data direction)
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63
Designation	EtherCAT®
System-specific protocols	Mailbox protocols CAN application protocol over EtherCAT®
	Mailbox protocols File access over EtherCAT®
Type of addressing	Auto-increment addressing
	Fixed position addressing
	Logical addressing
	Explicit device ID
Specification	ETG.1000 V1.02

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. 570 mA (with 2 A at U_{Bus} for the I/Os and U_L = 24 V)
Power consumption	max. 13.7 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
Type of protection	Surge protection of the supply voltage
	Polarity reversal protection of the supply voltage

Standards and Regulations

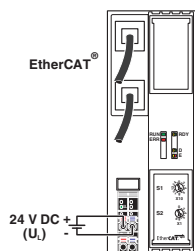|	
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

Environmental Product Compliance

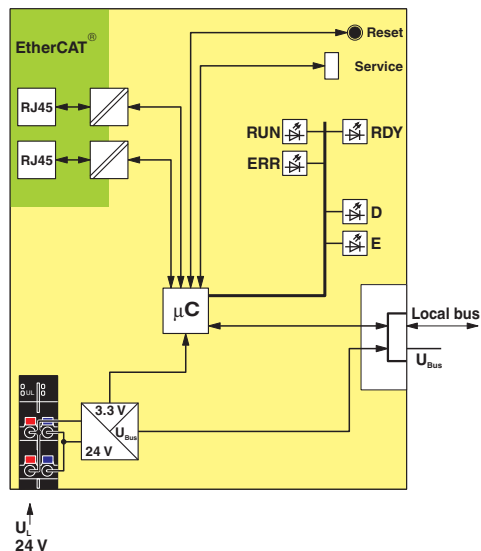|	
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

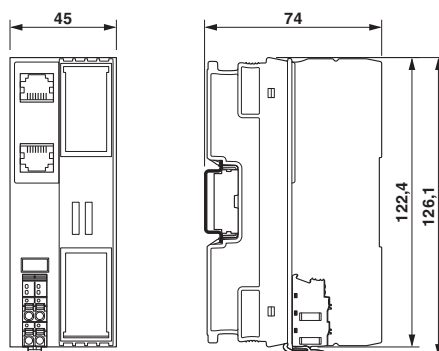## Drawings

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Connection diagram

Block diagram

Internal wiring of the terminal points

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

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Classifications

ETIM

ETIM 4.0	EC001604
ETIM 5.0	EC001604
ETIM 6.0	EC001604

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	39121311
UNSPSC 12.01	39121311
UNSPSC 13.2	32151602

Approvals

Approvals

Approvals

DNV GL / KR / NK / ABS / BSH / RINA / UL Listed / cUL Listed / EtherCAT / cULus Listed

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Ex Approvals

Approval details

DNV GL		http://exchange.dnv.com/tari/	TAA00000DF

KR	KR KOREAN REGISTER	http://www.krs.co.kr/eng/main/main.aspx	HMB17372-AC002

NK	ClassNK	http://www.classnk.or.jp/hp/en/	14A006

ABS		http://www.eagle.org/eagleExternalPortalWEB/	18-HG1767360-PDA

BSH		http://www.bsh.de/de/index.jsp	840

RINA		http://www.rina.org/en	ELE256518XG

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Approvals

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

EtherCAT	0x290783

cULus Listed	

Accessories

Accessories

Data cable by the meter

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 mm², solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

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 mm², stranded, shielded, outer sheath: 5.75 mm ± 0.15 mm diameter

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

Plug

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Accessories

Plug - AXL CN S/UL - 2701421

Axioline F short power connector (for e.g., AXL F BK ...)

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.

Programming cable

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

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

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Accessories

Zack Marker strip, flat - ZBF 10/5,8 AXL UNPRINTED - 0829580

Zack marker strip, flat, in 10 mm pitch, unprinted, 10-section, for individual labeling with M-PEN 0,8, X-PEN, or CMS-P1-PLOTTER

Universal tools

Assembly tool - FL CRIMPTOOL - 2744869

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