

## 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, 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 Automation 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](http://phoenixcontact.net/product/2688899)

### Why buy this product

- 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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 658355
GTIN	4046356658355

### Technical data

#### Dimensions

Width	45 mm
Height	126.1 mm
Depth	74 mm

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## Technical data

### Dimensions

Note on dimensions	The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715).
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### 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	Axiline F connector
Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the "Axiline F: system and installation" user manual.
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
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 <sub>hex</sub> Diagnosis history

### Interfaces

Designation	EtherCAT <sup>®</sup>
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
Designation	Axiline F local bus
Connection method	Bus base module
Transmission speed	100 Mbps

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## Technical data

### Interfaces

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 <sup>®</sup>
System-specific protocols	Mailbox protocols CAN application protocol over EtherCAT <sup>®</sup>
	Mailbox protocols File access over EtherCAT <sup>®</sup>
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

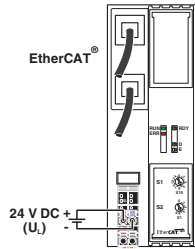
### Environmental Product Compliance

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

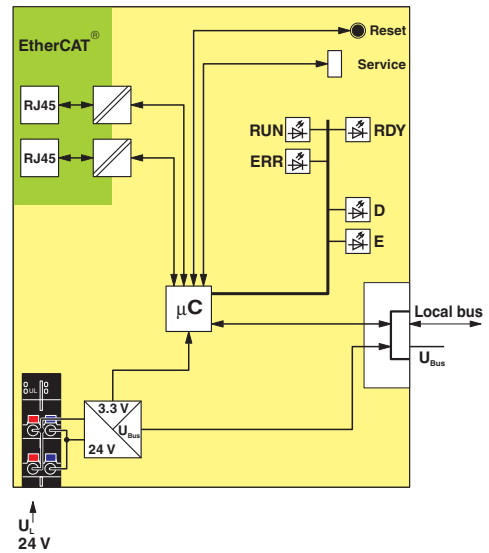
## Drawings

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Connection diagram

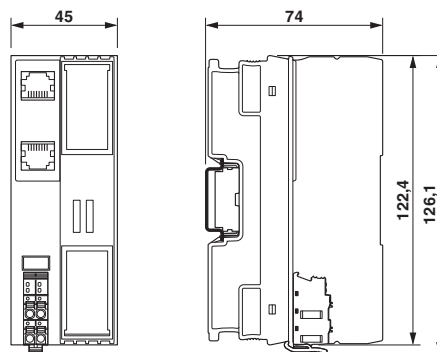


Block diagram



Internal wiring of the terminal points

Dimensional drawing



Approvals

Approvals

Approvals

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

Ex Approvals

Approval details

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## Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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EtherCAT			0x290783
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RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE0078216XG
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NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A006
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BSH		<a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>	840
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DNV GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA00000DF
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ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	18-HG1767360-PDA
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KR		<a href="http://www.krs.co.kr/eng/main/main.aspx">http://www.krs.co.kr/eng/main/main.aspx</a>	HMB17372-AC002
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cULus Listed			
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