IL EC BK-PAC - Bus coupler

2702507

https://www.phoenixcontact.com/us/products/2702507

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Inline, Bus coupler, EtherCAT®, RJ45 jack, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20, including Inline connector and labeling field

Product Description

The bus coupler is intended for use within an EtherCAT® network and represents the link to the Inline I/O system. Up to 63 Inline 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 Inline station into the programming system. This file can be downloaded via the product at phoenixcontact.net/products.

Your advantages

- 2 RJ45 connections
- Automatic addressing
- Station mapped as a modular EtherCAT® device using a modular device profile (MDP)
- Acyclic data communication (mailbox protocols)
- SafetyBridge V3 supported
- Firmware can be updated

Commercial Data

Item number	2702507
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DR01
Product Key	DRI11E
Catalog Page	Page 102 (C-6-2019)
GTIN	4055626258683
Weight per Piece (including packing)	178 g
Weight per Piece (excluding packing)	168 g
Customs tariff number	85176200
Country of origin	DE

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Technical Data

Dimensions

Dimensional drawing	
Width	40 mm
Height	119.4 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Material specifications

Color	green

Interfaces

EtherCAT®

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

Inline local bus

Number of interfaces	1
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

EtherCAT®

System-specific protocols	Mailbox protocols CAN application protocol over EtherCAT®
	Mailbox protocols File access over EtherCAT®
Specification	ETG.1000 V1.02

System properties

System limits

Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	0

Module

ID code (hex)	none

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Product properties

Type	modular
Product type	I/O component
Product family	Inline
Scope of delivery	including Inline connector and labeling field
Diagnostics messages	Messages via object $10F3_{hex}$ Diagnosis history

Electrical properties

Potentials

Power consumption	typ. 1.7 W (entire device)

Potentials: Bus coupler supply U_{BK}; Communications power U_L (7.5 V) and the analog supply U_{ANA} (24 V) are generated from the bus coupler supply.

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 0.9 A (with max. number of connected I/O terminal blocks)
	typ. 70.6 mA (No local bus devices connected)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC
	max. 0.8 A

Potentials: Supply of analog modules (U_{ANA})

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
	max. 0.5 A DC

Potentials: Main circuit supply (U_M)

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
	max. 8 A DC (sum of $U_M + U_S$)

Potentials: Segment circuit supply (U_S)

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
	max. 8 A DC (sum of $U_M + U_S$)

Connection data

Connection technology

Connection name	Inline connector

Conductor connection

Connection method	Spring-cage connection
Conductor cross section solid	0.08 mm² ... 1.5 mm²
Conductor cross section flexible	0.08 mm² ... 1.5 mm²

Conductor cross section AWG	28 ... 16
Stripping length	8 mm

Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm² ... 1.5 mm²
Conductor cross section, flexible	0.08 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
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)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Standards and regulations

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

Mounting

Mounting type	DIN rail mounting

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Drawings

Dimensional drawing

40

119,4

71,5
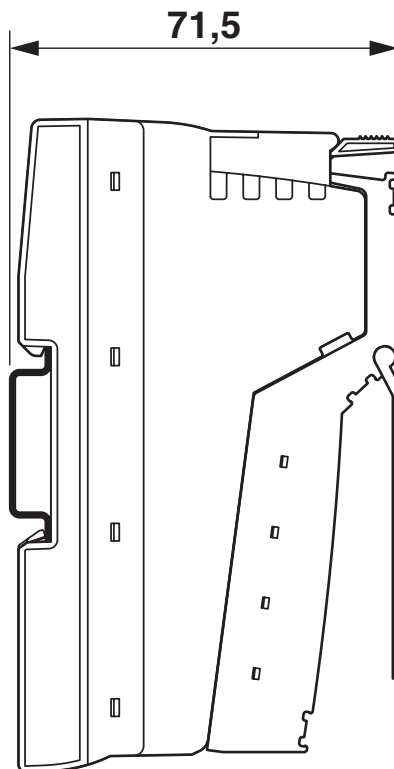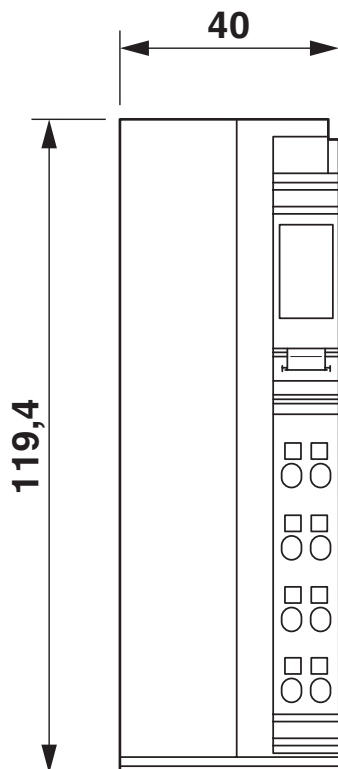
Block diagram

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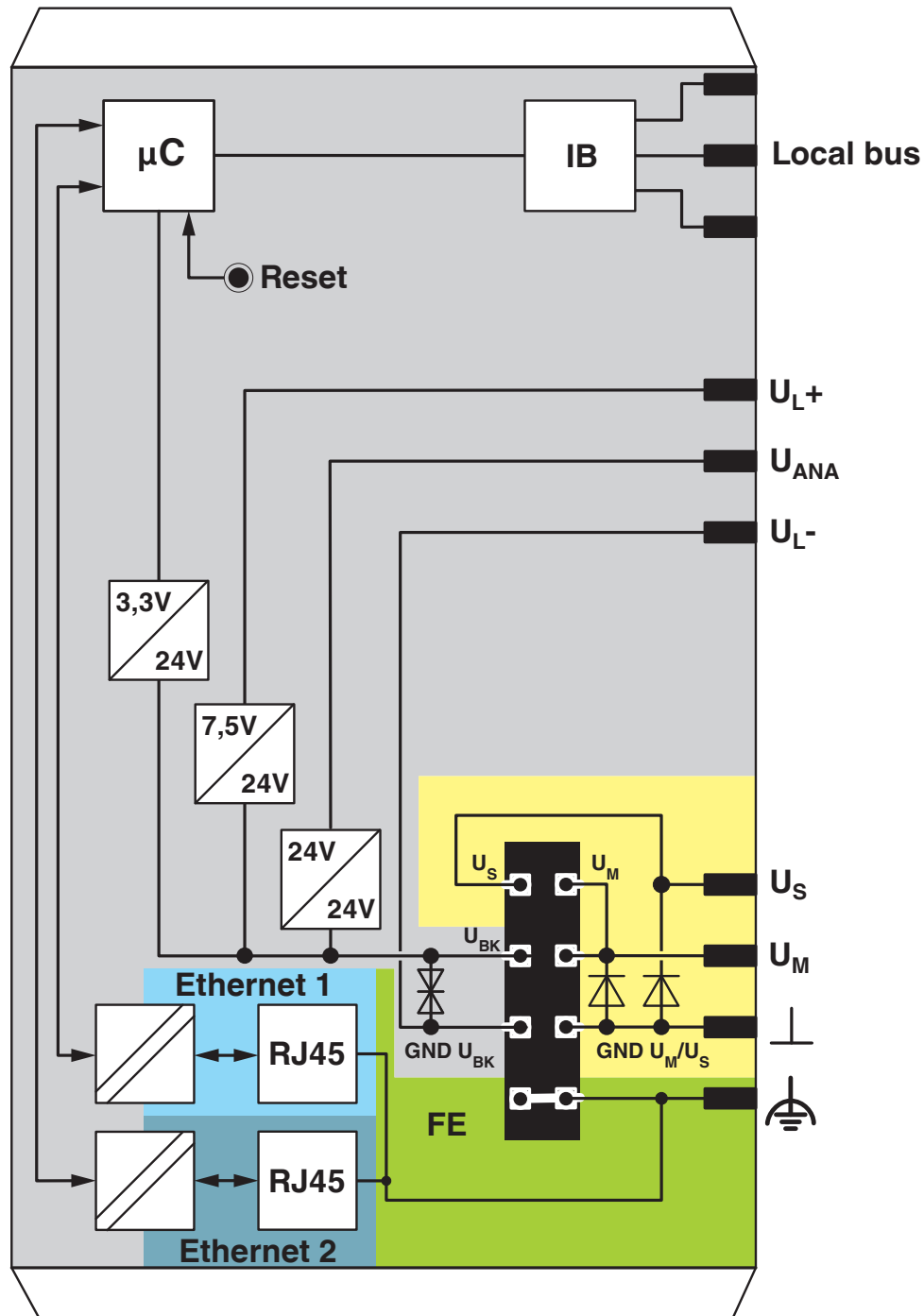
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Connection diagram

EtherCAT®

24 V DC + (U$_{BK}$)

+ 24 V DC (U$_M$)

+ 24 V DC (U$_S$)

1.1 2.1
1.2 2.2
1.3 2.3
1.4 2.4

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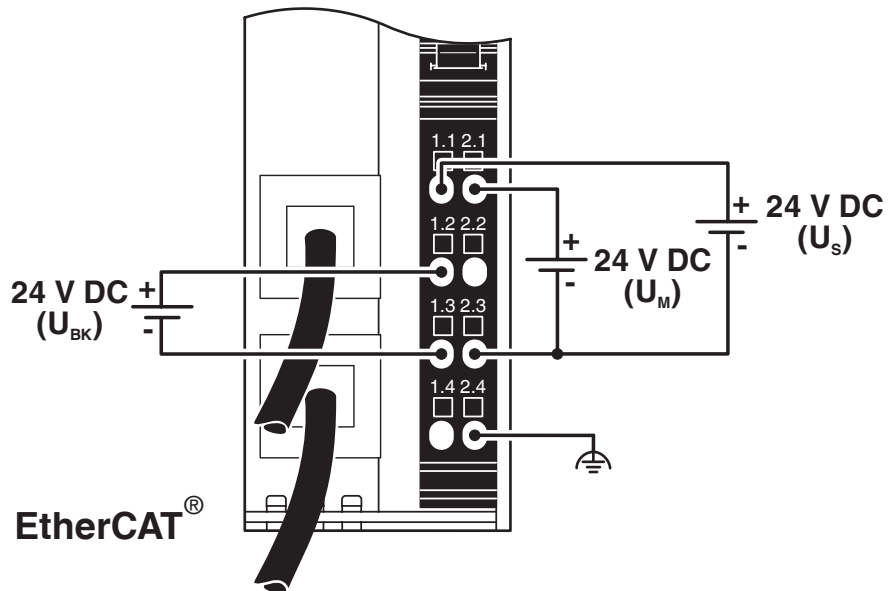
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Approvals

UL Listed
Approval ID: FILE E 238705

cUL Listed
Approval ID: FILE E 238705

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27242608
ECLASS-10.0.1	27242608
ECLASS-11.0	27242608
ECLASS-12.0	27242608
ECLASS-13.0	27242608

ETIM

ETIM 8.0	EC001604

UNSPSC

UNSPSC 21.0	32151600

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Accessories

IB IL FIELD 2 - Labeling field

2727501

https://www.phoenixcontact.com/us/products/2727501

Labeling field, width: 12.2 mm

ESL 62X10 - Insert strip

0809492

https://www.phoenixcontact.com/us/products/0809492

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72

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CLIPFIX 35-5 - End clamp

3022276

https://www.phoenixcontact.com/us/products/3022276

Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 mm, color: gray

CLIPFIX 35 - End clamp

3022218

https://www.phoenixcontact.com/us/products/3022218

Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

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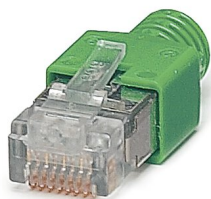https://www.phoenixcontact.com/us/products/2702507

FL PLUG RJ45 GR/2 - RJ45 connector

2744856

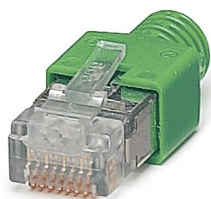https://www.phoenixcontact.com/us/products/2744856

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

FL PLUG RJ45 GN/2 - RJ45 connector

2744571

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

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FL CAT5 HEAVY - Data cable

2744814

https://www.phoenixcontact.com/us/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 mm^2, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

FL CAT5 FLEX - Installation cable

2744830

https://www.phoenixcontact.com/us/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)

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FL CRIMPTOOL - Assembly tool

2744869

https://www.phoenixcontact.com/us/products/2744869

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

D-LAN-CAT.5-FP - Surge protection device

2800723

https://www.phoenixcontact.com/us/products/2800723

Fine surge protection for data networks up to 1 Gbps. For use in Ethernet, Power over Ethernet (PoE, mode A and mode B), token ring, ISDN, and DS1. RJ45 attachment plug with separate grounding cable and snap-on foot for NS 35 DIN rails.