

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 Automation GmbH, Germany. A corresponding ESI file is available for integrating the Inline station into the programming system. This file can be downloaded at: www.phoenixcontact.net/product/2702507

Your advantages

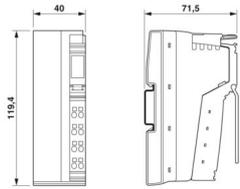
- 2 RJ45 connections
- Automatic addressing
- Station mapped as a modular EtherCAT® device using a modular device profile (MDP)
- Acyclic data communication (mailbox protocols)
- SafetyBridge V3 supported
- Firmware can be updated

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2702507 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DR01 |
| Product key | DRI11E |
| GTIN | 4055626258683 |
| Weight per piece (including packing) | 178 g |
| Weight per piece (excluding packing) | 168 g |
| Customs tariff number | 85176200 |
| Country of origin | DE |

Technical data

Dimensions

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

Notes

Note on application

| | |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

Interfaces

EtherCAT®

| | |
|-------------------------------|-----------------------------------|
| 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 |

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 |

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Module

| | |
|---------------|------|
| ID code (hex) | none |
|---------------|------|

Product properties

| | |
|----------------------|---|
| Product type | I/O component |
| Product family | Inline |
| Type | modular |
| Mounting position | any |
| Scope of supply | including Inline connector and labeling field |
| Diagnostics messages | Messages via object 10F3 _{hex} Diagnosis history |

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 | 3.6 W |
|---|-------|

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. 50 mA (no local bus devices connected, as of HW 04) |
| | typ. 70.6 mA (no local bus devices connected, up to HW 03) |

Potentials: Communications power (U_L)

| | |
|----------------|----------|
| Supply voltage | 7.5 V DC |
|----------------|----------|

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) |

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) |

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) |

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 / logic (U_{BK} , U_L , U_{ANA}) | 1500 V AC, 50 Hz, 1 min |
| Test voltage: Ethernet interface 1 / I/O (U_M , U_S) | 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 / logic (U_{BK} , U_L , U_{ANA}) | 1500 V AC, 50 Hz, 1 min |

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| | |
|---|-------------------------|
| Test voltage: Ethernet interface 2 / I/O (U_M , U_S) | 1500 V AC, 50 Hz, 1 min |
| Test voltage: Ethernet interface 2 / functional ground | 1500 V AC, 50 Hz, 1 min |
| Test voltage: Communications power (U_{BK} , U_L , U_{ANA}) / I/O (U_M , U_S) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Communications power (U_{BK} , U_L , U_{ANA}) / functional ground | 500 V AC, 50 Hz, 1 min |
| Test voltage: I/O (U_M , U_S) / functional ground | 500 V AC, 50 Hz, 1 min |

Connection data

Connection technology

| | |
|-----------------|------------------|
| Connection name | Inline connector |
|-----------------|------------------|

Conductor connection

| | |
|----------------------------------|--|
| Connection method | Spring-cage connection |
| Conductor cross-section rigid | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross-section flexible | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross-section AWG | 28 ... 16 |
| Stripping length | 8 mm |

Inline connector

| | |
|-----------------------------------|--|
| Connection method | Spring-cage connection |
| Conductor cross-section, rigid | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross-section, flexible | 0.08 mm ² ... 1.5 mm ² |
| 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 |
| Mounting position | any |

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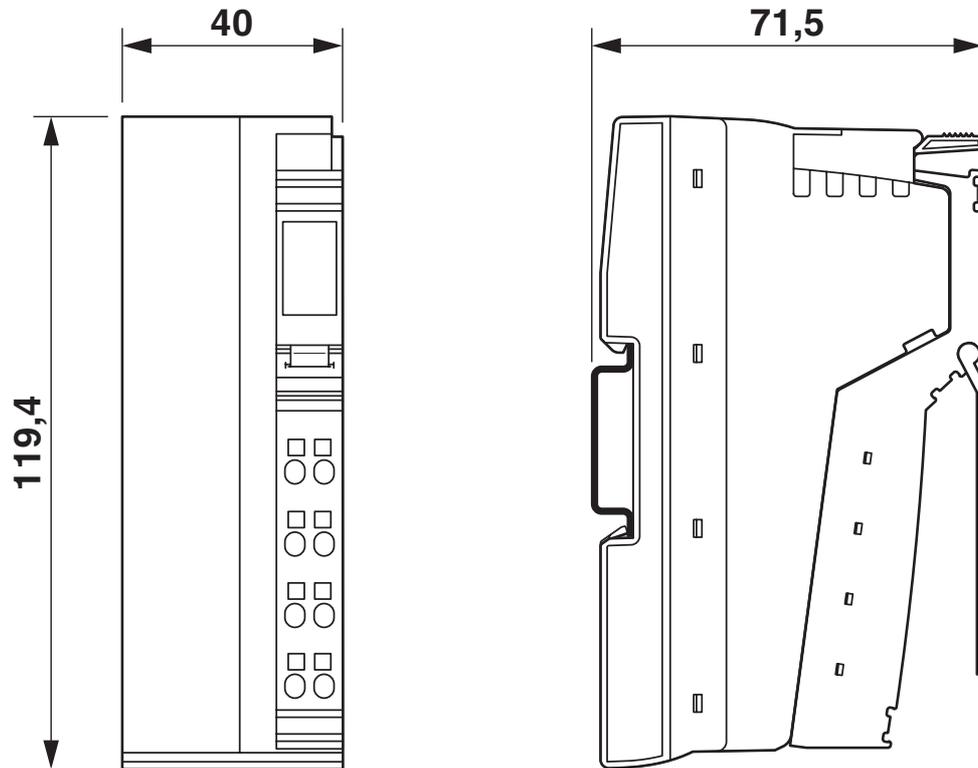
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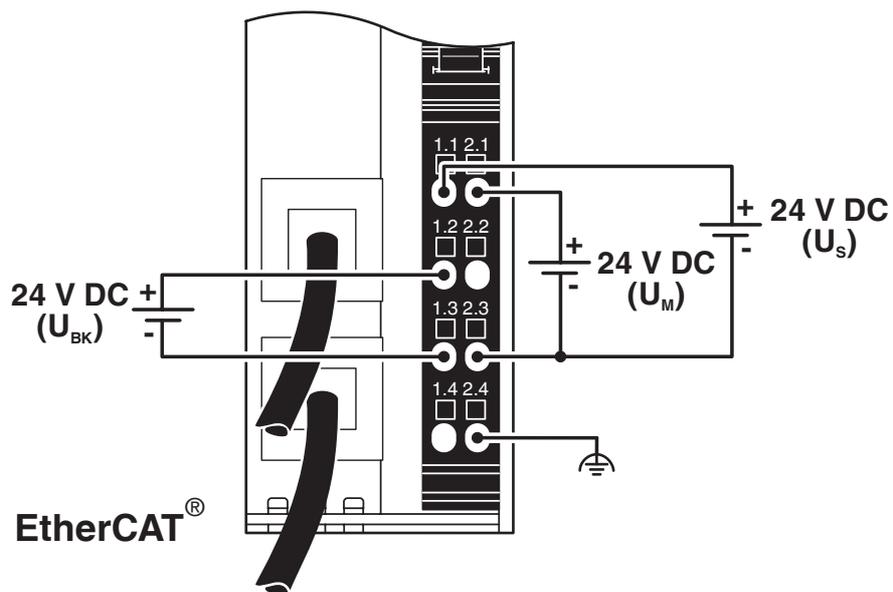


Drawings

Dimensional drawing



Connection diagram



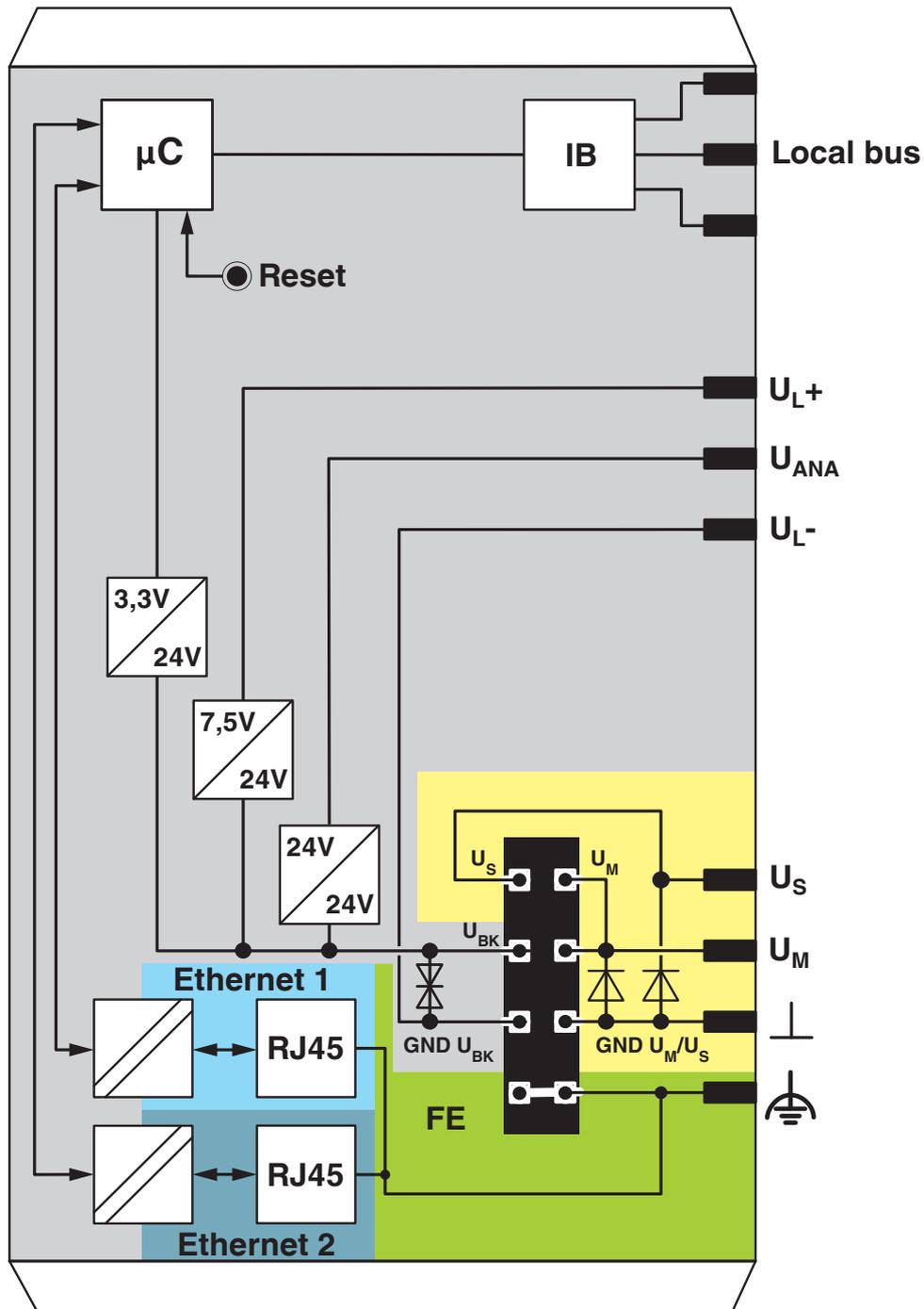
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Block diagram



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Approvals

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cULus Listed

Approval ID: E238705



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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27242608 |
| ECLASS-15.0 | 27242608 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC001604 |
|----------|----------|

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.) | Lead(CAS: 7439-92-1) |
| SCIP | 9cba4bf3-dfdd-471d-b3b7-e112abf1e545 |

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