

# IL ETH BK-PAC - Bus coupler



2702372

<https://www.phoenixcontact.com/us/products/2702372>

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Inline, Bus coupler, Modbus/TCP (UDP), 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 a Modbus/TCP (UDP) network. The bus coupler creates the link to the Inline I/O system and the industrial I/O signals connected to it. Up to 63 Inline devices can be connected to the bus coupler. The bus coupler supports a maximum of 16 PCP devices.

## Your advantages

- 2 Ethernet ports (with integrated switch)
- Transmission speed of 10 Mbps and 100 Mbps
- Automatic detection of the transmission speed in the local bus (500 kbps or 2 Mbps)
- Support for three branch terminals as a remote bus branch (32 remote bus devices in total)
- Firmware can be updated
- Data exchange via OPC server supported
- Software interface for access via TCP/IP: Device Driver Interface (DDI)
- Web-based management
- Security in the network: Port disconnection possible via web-based management

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2702372       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR01          |
| Product key                          | DRI11B        |
| GTIN                                 | 4055626399386 |
| Weight per piece (including packing) | 167 g         |
| Weight per piece (excluding packing) | 131 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 (Housing) | green (RAL 6021) |
|-----------------|------------------|

### Interfaces

|                     |                  |
|---------------------|------------------|
| Supported protocols | Modbus/TCP (UDP) |
|                     | SNMP             |
|                     | HTTP             |
|                     | TFTP             |
|                     | FTP              |
|                     | BootP            |
|                     | DHCP             |
|                     | DCP              |

#### Modbus/TCP (UDP)

|                               |                                   |
|-------------------------------|-----------------------------------|
| Number of interfaces          | 2                                 |
| Connection method             | RJ45 jack                         |
| Note on the connection method | Auto negotiation and autocrossing |
| Transmission speed            | 10/100 Mbps                       |
| 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) |

## 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               |

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|   |   |
|---|---|
| Number of supported branch terminals with remote bus branch | 3 |
|---|---|

## Programming data

|                          |          |
|--------------------------|----------|
| Register length (master) | 512 Byte |
|--------------------------|----------|

## Product properties

|                   |   |
|-------------------|---|
| Product type      | I/O component                                 |
| Product family    | Inline  |
| Type              | modular                                       |
| Mounting position | any   |
| Scope of supply   | including Inline connector and labeling field |

## 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 | 3.8 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. 0.95 A (with max. number of connected I/O terminal blocks)<br>typ. 74 mA (no local bus devices connected) |

## Potentials: Communications power ( $U_L$ )

|                |               |
|----------------|---------------|
| Supply voltage | 7.5 V DC      |
| Power supply   | max. 0.8 A 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) |
| Power supply         | 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) |
| Power supply         | 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) |
| Power supply         | max. 8 A DC (sum of $U_M + U_S$ )                                  |

## 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 |

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

### Inline connector

|                                   |  |
|-----------------------------------|--|
| Connection method                 | Spring-cage connection                       |
| Conductor cross-section, rigid    | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section, flexible | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 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)                    |

### Mechanical test

|  |     |
|--|-----|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | 5g  |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27              | 25g |

## Standards and regulations

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

## Mounting

|                   |                   |
|-------------------|-------------------|
| Mounting type     | DIN rail mounting |
| Mounting position | any               |

# IL ETH BK-PAC - Bus coupler

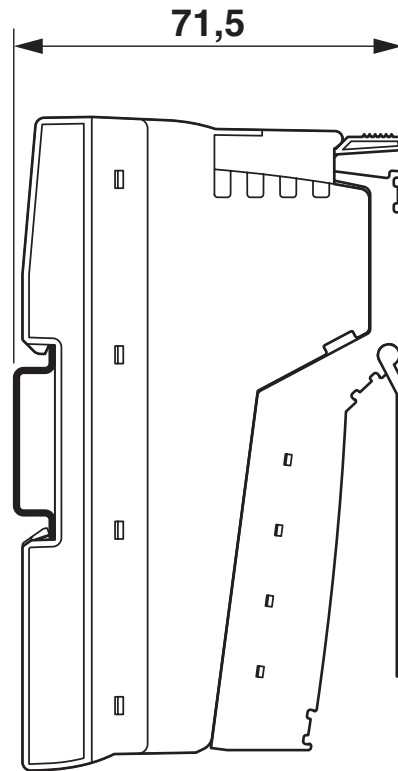
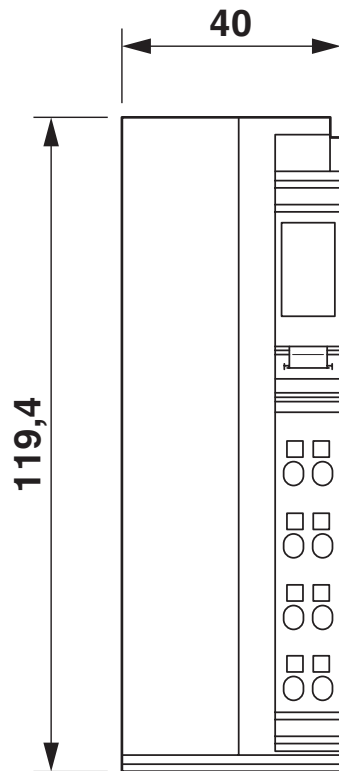
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## Drawings

Dimensional drawing



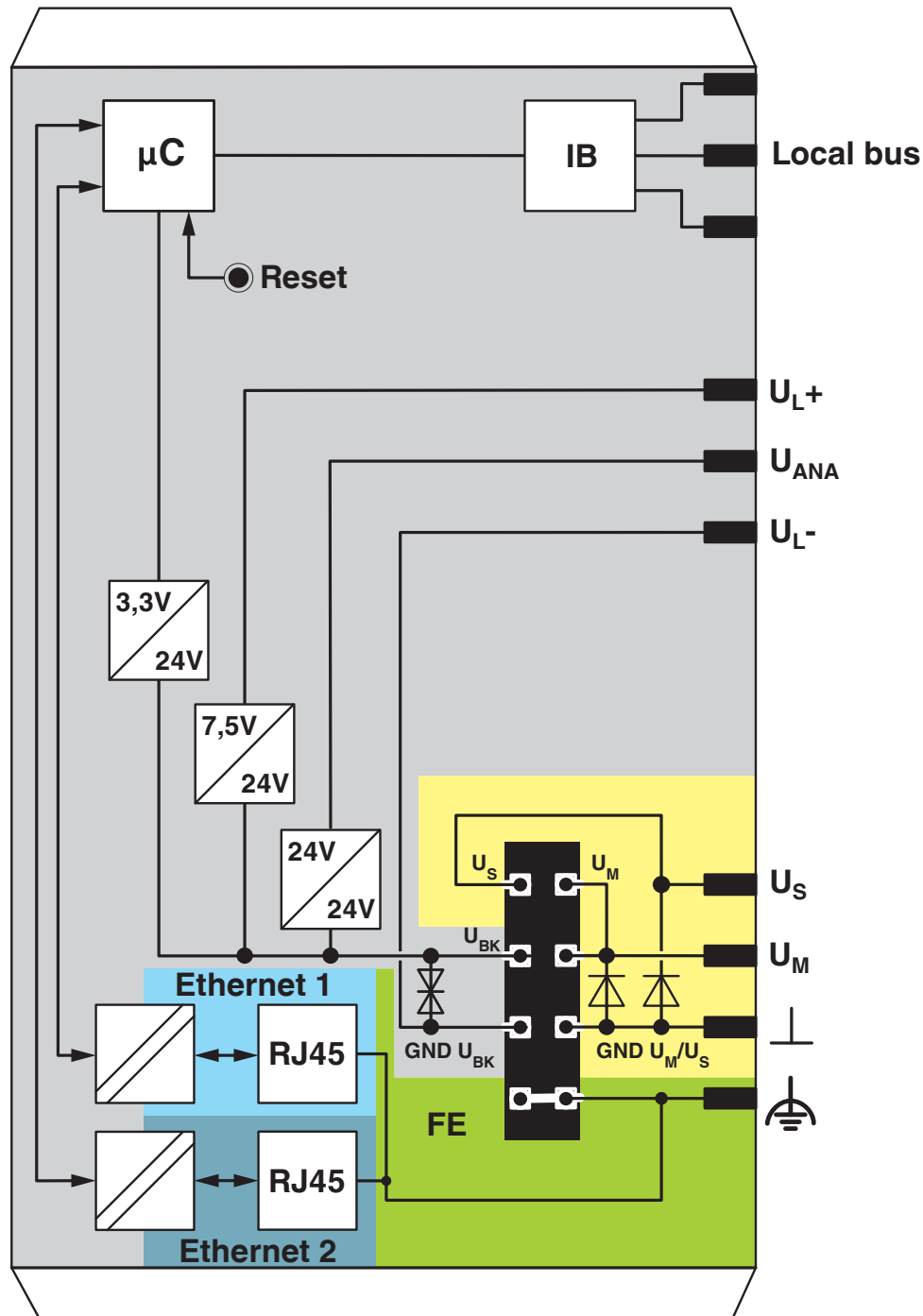
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Block diagram



Internal wiring of connections

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2702372>



**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

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

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | 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) |
|-------------------------------------|----------------------|

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