

Bus coupler - IL EIP BK DI8 DO4 2TX-XC-PAC - 2702131

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EtherNet/IP™ bus coupler, extreme conditions version, 8 inputs 24 V DC, 4 outputs 24 V DC, 500 mA, complete with I/O connectors

Product description

The bus coupler for the EtherNet/IP™ protocol has 4 digital outputs and 8 digital inputs. This package contains all the necessary Inline plugs for connecting the supply and the I/Os.

The Inline terminals can be labeled using pull-out labeling fields. The fields have insert cards that can be labeled individually to suit the application. Additionally, there is the ZBFM-6... Zack marker strip for labeling the terminal points.

Product Features

- ✓ Up to 61 terminals (16 PCP devices) can be connected
- ✓ 8 digital inputs, 4 digital outputs onboard
- ✓ EtherNet/IP™, Version 1.2
- ✓ Web-based management
- ✓ 2 RJ45 connections
- ✓ Automatic speed detection of the system bus
- ✓ Diagnostic and status indicators
- ✓ Can be used under extreme ambient conditions
- ✓ Extended temperature range of -40°C ... +70°C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- ✓ Coated PCBs
- ✓



EtherNet/IP

Key commercial data

| | |
|--------------------------------------|-----------|
| Packing unit | 1 pc |
| Weight per Piece (excluding packing) | 270.0 GRM |
| Custom tariff number | 85389091 |
| Country of origin | Germany |

Technical data

Dimensions

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Technical data

Dimensions

| | |
|--------------------|--------------------------------|
| Width | 80 mm |
| Height | 119.8 mm |
| Depth | 71.5 mm |
| Note on dimensions | Specifications with connectors |

Ambient conditions

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|--|---|
| Ambient temperature (operation) | -25 °C ... 55 °C |
| | -40 °C ... 70 °C (See "Tested successfully: use under extreme ambient conditions" in the data sheet.) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 10 % ... 95 % (according to DIN EN 61131-2) |
| Permissible humidity (storage/transport) | 10 % ... 95 % (according to DIN EN 61131-2) |
| 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 | Inline connector |
| Connection method | Spring-cage connection |
| Conductor cross section solid min. | 0.08 mm ² |
| Conductor cross section solid max. | 1.5 mm ² |
| Conductor cross section flexible min. | 0.08 mm ² |
| Conductor cross section flexible max. | 1.5 mm ² |
| Conductor cross section AWG/kcmil min. | 28 |
| Conductor cross section AWG/kcmil max | 16 |
| Stripping length | 8 mm |

General

| | |
|---------------------------------|--|
| Net weight | 329 g |
| Note on weight specifications | with connectors |
| Mounting type | DIN rail |
| Protection class | III, IEC 61140, EN 61140, VDE 0140-1 |
| Conformance with EMC directives | Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B; 6 kV contact discharge, 8 kV air discharge |
| | Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A; Field intensity: 10 V/m |
| | Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A; all interfaces 1 kV Criterion B; all interfaces 2 kV |

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General

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|----------------------|---|
| | Noise immunity test in accordance with EN 61000-6-2 Transient surge voltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B; supply lines DC: 0.5 kV/0.5 kV (symmetrical/asymmetrical); fieldbus cable shield 1 kV |
| | Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A; Test voltage 10 V |
| | Noise emission test as per EN 61000-6-4 EN 55011 Class A |
| 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 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse |
| Diagnostics messages | Short-circuit / overload of the digital outputs Yes |
| | Sensor supply failure Yes |
| | Failure of the actuator supply Yes |

System limits of the bus coupler

| | |
|---|---|
| Designation | System limits of the bus coupler |
| Amount of process data | max. 512 Byte (per station) |
| Number of supported devices | max. 63 (per station) |
| Number of local bus devices that can be connected | max. 61 (on board I/Os are two devices) |
| Number of devices with parameter channel | max. 8 |
| Number of branch terminals with remote bus branch | 0 |

Power supply for module electronics

| | |
|----------------------------|--|
| Connection method | Spring-cage connection |
| Designation | Bus coupler supply U_{BC} ; 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 consumption | max. 0.98 A (from U_{BK}) |
| Power loss | typ. 3 W (entire device) |
| Communications power U_L | 7.5 V DC |
| Current consumption | 0.8 A |
| Power consumption | typ. 1.7 W |

Inline potentials

| | |
|--------------------------------|--|
| Communications power U_L | 7.5 V DC $\pm 5\%$ |
| Power supply at U_L | max. 0.8 A DC |
| Main circuit supply U_M | 24 V DC |
| Supply voltage range U_M | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Power supply at U_M | max. 8 A DC (Sum of $U_M + U_S$) |
| Current consumption from U_M | max. 8 A DC |

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Technical data

Inline potentials

| | |
|--------------------------------|--|
| Segment supply voltage U_S | 24 V DC |
| Supply voltage range U_S | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Power supply at U_S | max. 8 A DC (Sum of $U_M + U_S$) |
| Current consumption from U_S | max. 8 A DC |
| I/O supply voltage U_{ANA} | 24 V DC |
| Supply voltage range U_{ANA} | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Power supply at U_{ANA} | max. 0.5 A DC |

Digital inputs

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|------------------------------------|---|
| Input name | Digital inputs |
| Connection method | Inline connector |
| | 2, 3-wire |
| Number of inputs | 8 |
| Typical response time | approx. 500 μ s |
| Protective circuit | Protection against polarity reversal Suppressor diode |
| Input characteristic curve | IEC 61131-2 type 1 |
| Input voltage | 24 V DC |
| Input voltage range "0" signal | -30 V DC ... 5 V DC |
| Input voltage range "1" signal | 15 V DC ... 30 V DC |
| Nominal input current at U_{IN} | typ. 3 mA |
| Typical input current per channel | typ. 3 mA |
| Delay at signal change from 0 to 1 | 1.2 ms |
| Delay at signal change from 1 to 0 | 1.2 ms |

Digital outputs

| | |
|--|--|
| Output name | Digital outputs |
| Connection method | Inline connector |
| | 2, 3-wire |
| Number of outputs | 4 |
| Protective circuit | Short-circuit and overload protection Free running circuit |
| Output voltage | 24 V DC -1 V (At nominal current) |
| Nominal output voltage | 24 V DC |
| Maximum output current per channel | 500 mA |
| Maximum output current per module / terminal block | 2 A |
| Maximum output current per module | 2 A |
| Nominal load, inductive | 12 VA (1.2 H; 48 Ω) |
| Nominal load, lamp | 12 W |

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Digital outputs

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|---------------------|------|
| Nominal load, ohmic | 12 W |
|---------------------|------|

Classifications

eCl@ss

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| eCl@ss 5.1 | 27242608 |
| eCl@ss 6.0 | 27242608 |
| eCl@ss 8.0 | 27242604 |

ETIM

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| ETIM 5.0 | EC001599 |
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Approvals

Approvals

Approvals

UL Recognized / cUL Recognized / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

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|---------------|
| UL Recognized |
|---------------|

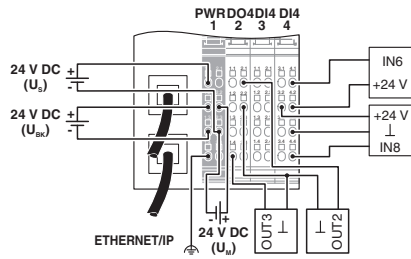
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Drawings

Connection diagram



Dimensional drawing

