

Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

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DeviceNet™ bus coupler, 8 inputs, 24 V DC, 4 outputs, 24 V DC, 500 mA, complete with I/O connectors

Product Description

The bus coupler for the DeviceNet™ has 4 digital outputs and 8 digital inputs. This package contains all the necessary Inline connectors for connecting the supply and the I/Os. For project planning, the corresponding EDS (device master data) file for the product is provided in the download center. 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

- DeviceNet# connection using TWIN-COMBICON plug
- 62 terminals can be connected
- Automatic speed detection of the system bus
- Address can be set via DIP switches or software
- Slave function in DeviceNet# network

DeviceNet

Key commercial data

| | |
|------------------|---------------|
| package_quantity | 1 |
| GTIN | 4046356103015 |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

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

Ambient conditions

| | |
|--|---|
| Ambient temperature (operation) | -25 °C ... 55 °C |
| Ambient temperature (storage/transport) | -45 °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) |

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Ambient conditions

| | |
|---|---|
| Air pressure (storage/transport) | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Degree of protection | IP20 |

General

| | |
|--|---|
| Weight | 320 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 |
| Conformance with EMC directives | 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 |
| Conformance with EMC directives | 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 |
| Conformance with EMC directives | 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 |
| Conformance with EMC directives | 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 |
| Conformance with EMC directives | 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 5 g |
| Mechanical tests | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25 g, 11 ms duration, semi-sinusoidal shock impulse |
| Diagnostics messages | Short-circuit / overload of the digital outputs Yes |
| Diagnostics messages | Sensor supply failure Yes |
| Diagnostics messages | Failure of the actuator supply Yes |

Interfaces

| | |
|----------------------------|--|
| Fieldbus system | DeviceNet™ |
| Designation | DeviceNet™ |
| Connection method | 2x 5-pos. TWIN-COMBICON connectors |
| Transmission speed | 500 kBit/s, 250 kBit/s, 125 kBit/s (Can be set via DIP switch or programmed) |
| Number of positions | 10 |
| Fieldbus system | Lokalbus |
| Designation | Inline local bus |
| Connection method | Inline data jumper |
| Transmission speed | 500 kBit/s / 2 MBit/s (Automatic detection, no combined system) |

System limits of the bus coupler

| | |
|--|---|
| 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) |

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System limits of the bus coupler

| | |
|---|--------|
| 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) |
| Supply current | typ. 70 mA |
| Current consumption | max. 0.9 A (from U_{BK}) |
| Power loss | max. 3.5 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 |
| 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

| | |
|-----------------------------------|--|
| Input name | Digital inputs |
| Connection method | Inline connector |
| Connection method | 2, 3-wire |
| Number of inputs | 8 (EN 61131-2 type 1) |
| Typical response time | approx. 500 μ s |
| Protective circuit | Protection against polarity reversal Polarity protection diode |
| 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 |

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Digital inputs

| | |
|------------------------------------|-----------|
| 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 |
| Connection method | 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 | 4 A |
| Nominal load, inductive | 12 VA (1.2 H; 48 Ω) |
| Nominal load, lamp | 12 W |
| Nominal load, ohmic | 12 W |

classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27250203 |
| eCl@ss 4.1 | 27250203 |
| eCl@ss 5.0 | 27250203 |
| eCl@ss 5.1 | 27242608 |
| eCl@ss 6.0 | 27242608 |
| eCl@ss 7.0 | 27242608 |
| eCl@ss 8.0 | 27242608 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC001434 |
| ETIM 3.0 | EC001604 |
| ETIM 4.0 | EC001604 |
| ETIM 5.0 | EC001604 |

UNSPSC

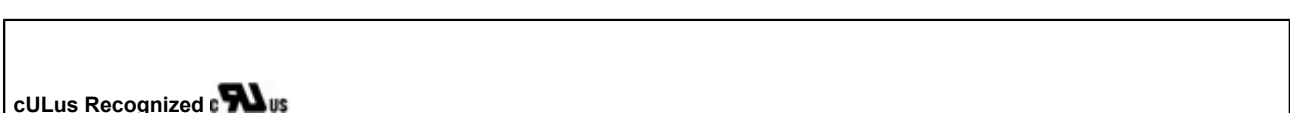
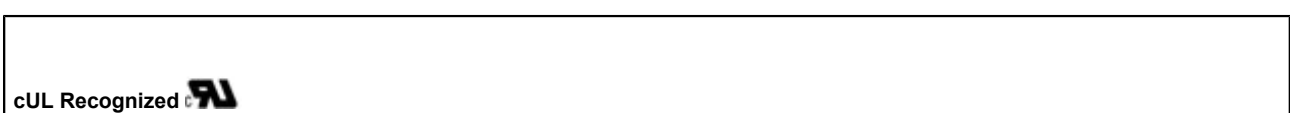
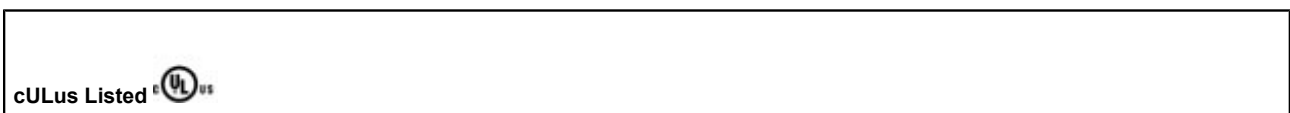
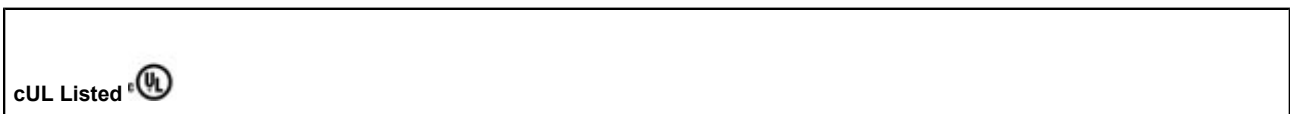
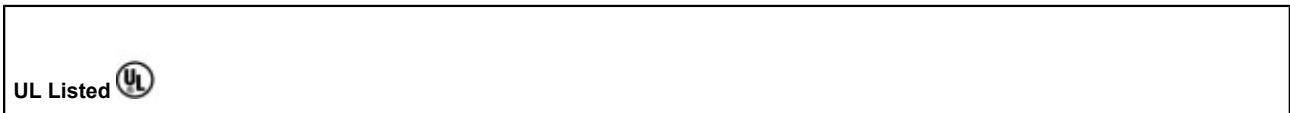
| | |
|---------------|----------|
| UNSPSC 6.01 | 43172015 |
| UNSPSC 7.0901 | 43201404 |
| UNSPSC 11 | 43172015 |
| UNSPSC 12.01 | 43201404 |
| UNSPSC 13.2 | 43201404 |

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approvals

UL Listed / cUL Listed / cULus Listed / UL Recognized / cUL Recognized / cULus Recognized /

Approval details



accessories

End block

CLIPFIX 35 - 3022218



Terminal marking

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accessories

ESL 62X46 - 0809502



ESL 62X10 - 0809492



Labeling panel

IB IL FIELD 8 - 2727515



IB IL FIELD 2 - 2727501



Connector set

IL BKDIO-PLSET - 2878599



Plug

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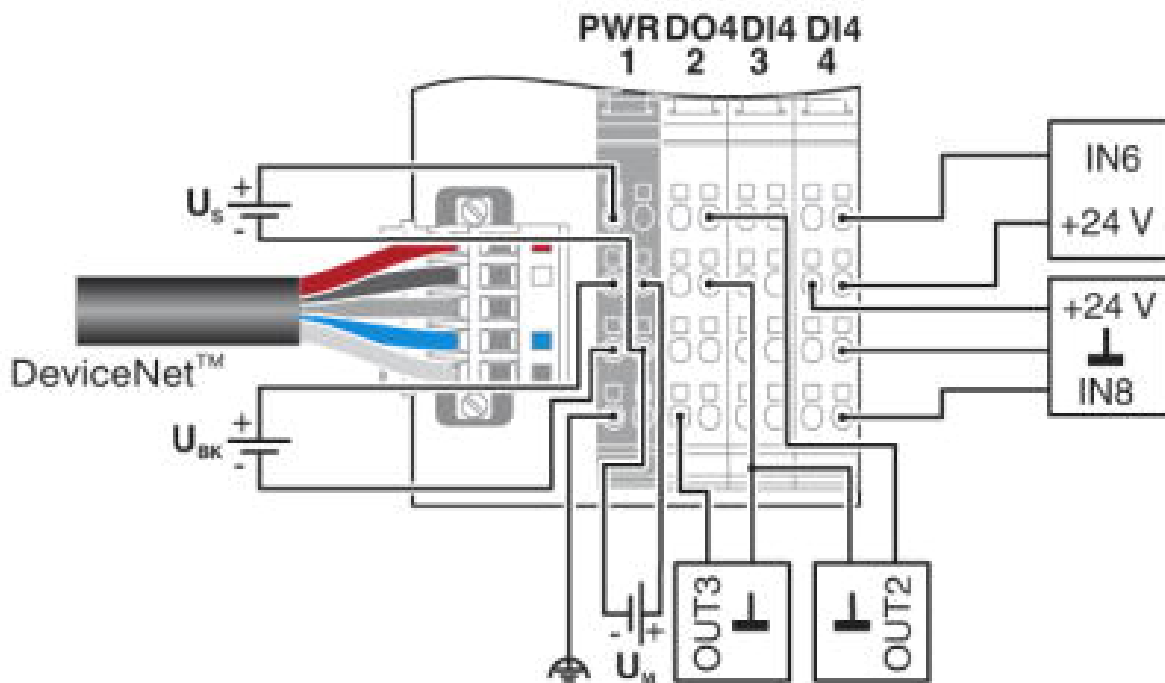
accessories

TMSTBP 2,5/ 5-STF-5,08 GNAU CP - 2862576



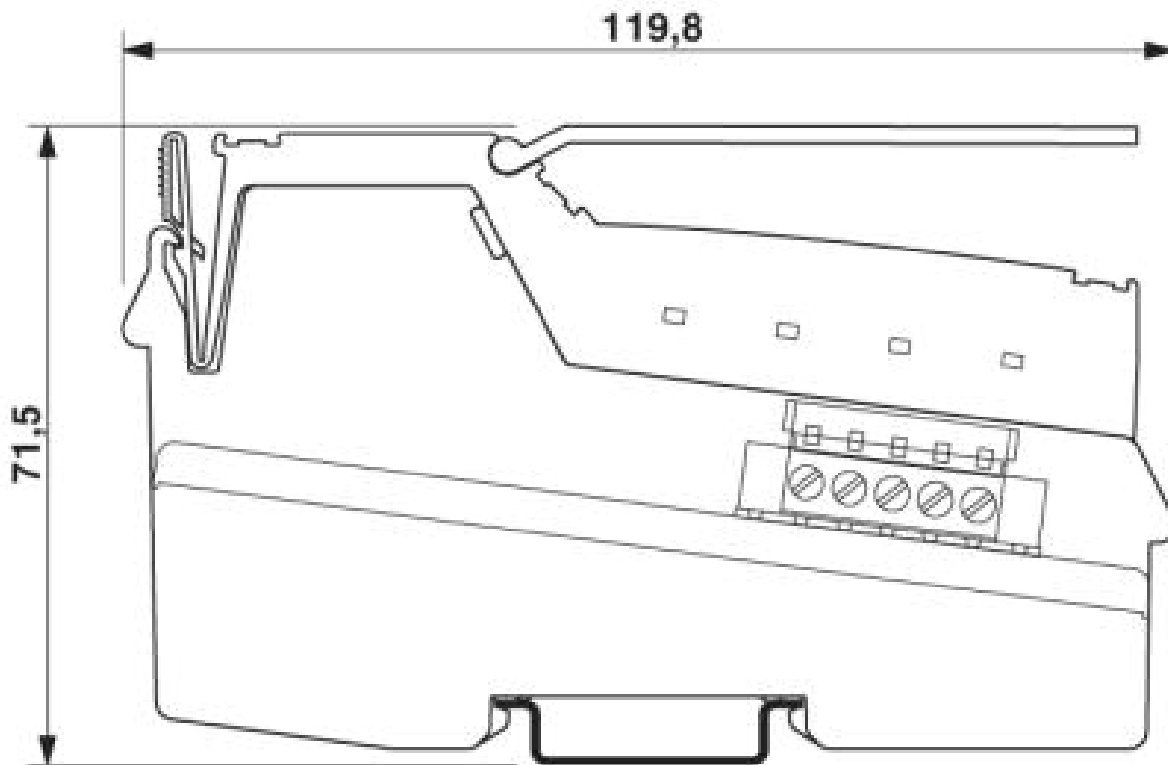
Drawings

Connection diagram



Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

Dimensioned drawing



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