

## 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

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 <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.08 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
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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## Technical data

### General

	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

Input name	Digital inputs
Connection method	Inline connector
	2, 3-wire
Number of inputs	8
Typical response time	approx. 500 $\mu$ 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 $\Omega$ )
Nominal load, lamp	12 W

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## Technical data

### Digital outputs

Nominal load, ohmic	12 W
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## Classifications

### eCl@ss

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

### ETIM

ETIM 5.0	EC001599
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## Approvals

### Approvals

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#### Approvals

UL Recognized / cUL Recognized / cULus Recognized

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#### Ex Approvals


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#### Approvals submitted

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### Approval details

UL Recognized 
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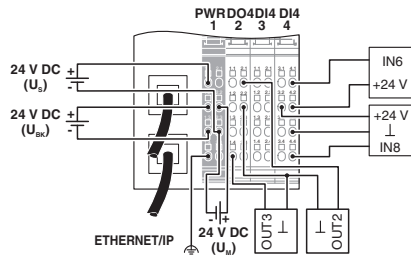
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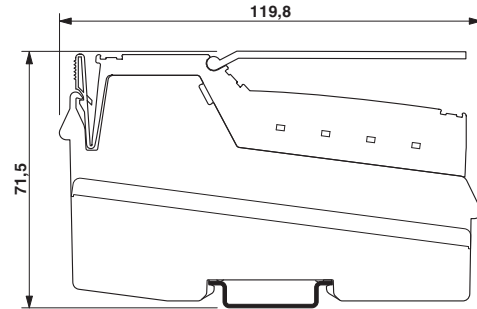
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## Drawings

Connection diagram



Dimensional drawing



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