

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

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Inline XC, Bus coupler, EtherNet/IP™, RJ45 socket, Digital inputs: 8, 24 V DC, connection method: 3-wire, Digital outputs: 4, 24 V DC, 500 mA, connection method: 3-wire, Extreme conditions version, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20, including Inline connectors and marking fields

### Product Description

The bus coupler with integrated I/Os is intended for use within an EtherNet/IP™ network and represents the link to the Inline I/O system. Up to 61 Inline devices can be connected to the bus coupler. The bus coupler supports a maximum of 8 PCP devices. A corresponding EDS file is available for integrating the Inline station into the programming system. This file can be downloaded via the product at [phoenixcontact.net/products](http://phoenixcontact.net/products).

### Your advantages

- 8 digital inputs, 4 digital outputs onboard
- EtherNet/IP™, Version 1.2
- Web-based management
- 2 RJ45 connections
- Automatic detection of the transmission speed in the local bus (500 kbps or 2 Mbps)
- 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



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356981071

### Technical data

#### Note

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

Width	80 mm
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## Technical data

### Dimensions

Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Specifications with connectors

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Standard)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
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 min.	28
Conductor cross section AWG max.	16
Stripping length	8 mm

### General

Mounting type	DIN rail
Net weight	329 g
Note on weight specifications	with connectors
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 supported branch terminals with remote bus branch	0

### Inline potentials

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## Technical data

### Inline potentials

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	80 mA (without connected I/O terminal blocks)
	max. 0.98 A
Designation	Communications power ( $U_L$ )
Supply voltage	7.5 V DC
Power supply unit	max. 0.8 A DC
Designation	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 unit	max. 0.5 A DC
Designation	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 unit	max. 8 A DC (sum of $U_M + U_S$ )
Current consumption	3 mA (without sensors)
	max. 8 A DC
Designation	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 unit	max. 8 A DC (sum of $U_M + U_S$ )
Current consumption	max. 8 A DC
Type of protection	Short-circuit protection of the communications power
	Short-circuit protection of the analog supply
Power consumption	typ. 3 W (entire device)
Current consumption	6 mA (Without connected peripherals)

### Digital inputs

Input name	Digital inputs
Connection method	Inline connector
Connection technology	3-wire
Number of inputs	8
Typical response time	approx. 500 $\mu$ s
Type of protection	Reverse polarity protection
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

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## Technical data

### 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 technology	3-wire
Number of outputs	4
Type of protection	Short-circuit and overload protection
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
Nominal load, ohmic	12 W

### Standards and Regulations

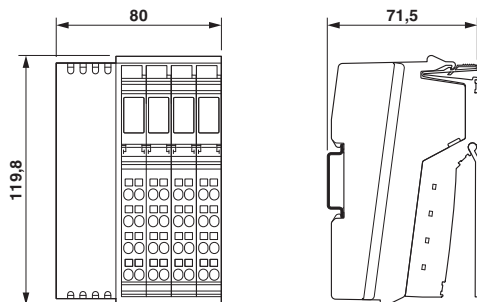
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse
Protection class	III, IEC 61140, EN 61140, VDE 0140-1

### Environmental Product Compliance

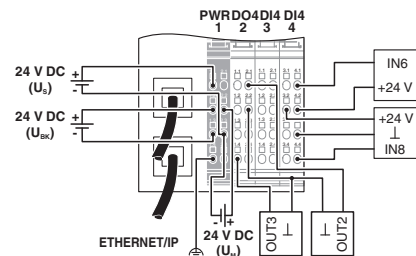
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Dimensional drawing

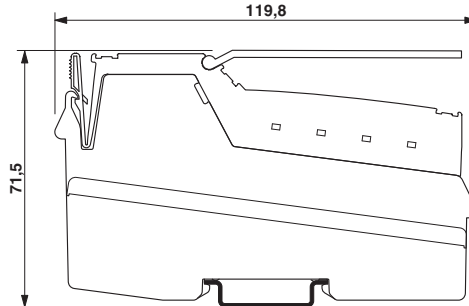


Connection diagram



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Dimensional drawing



## Approvals

### Approvals

Approvals

UL Recognized / cUL Recognized / UL Recognized / cUL Recognized

Ex Approvals

### Approval details

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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