

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



2897758

<https://www.phoenixcontact.com/nz/products/2897758>

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Inline, Bus coupler, EtherNet/IP™, RJ45 jack, Digital inputs: 8, 24 V DC, connection technology: 3-conductor, Digital outputs: 4, 24 V DC, connection technology: 3-conductor, 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](https://phoenixcontact.net/products).

## Your advantages

- 8 digital inputs, 4 digital outputs (on-board)
- 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)

## Commercial Data

Item number	2897758
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DNI11D
Product Key	DRI11D
Catalog Page	Page 103 (C-6-2019)
GTIN	4046356157926
Weight per Piece (including packing)	347.78 g
Weight per Piece (excluding packing)	320 g
Customs tariff number	85389090
Country of origin	DE

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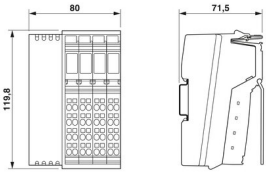


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## Technical Data

### Dimensions

Dimensional drawing	
Width	80 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Specifications with connectors

### Notes

#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### Material specifications

Color	green
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### Interfaces

#### EtherNet/IP™

Number of interfaces	2
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and autocrossing
Permissible conductor cross section	0.14 mm <sup>2</sup> ... 0.22 mm <sup>2</sup> (twisted pair)
Transmission speed	10/100 Mbps (half or full duplex (automatic detection))
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)

#### Fieldbus: Local bus gateway

Max. number of local bus devices	61 (The on-board I/Os are two devices)
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Max. number of local bus devices	61 (The on-board I/Os are two devices)
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### System properties

#### System limits

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Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 61 (The 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

## Module

ID code (hex)	none
Input address area	8 Bit
Output address area	4 Bit
Register length	16 Bit

## Input data

### Digital

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Number of inputs	8
Connection method	Inline connector
Connection technology	3-conductor
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 voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	typ. 3 mA
Typical input current per channel	typ. 3 mA
Typical response time	approx. 500 $\mu$ s
Delay at signal change from 0 to 1	1.2 ms
Delay at signal change from 1 to 0	1.2 ms
Protective circuit	Reverse polarity protection; Suppressor diode

## Output data

### Digital

Output name	Digital outputs
Connection method	Inline connector
Connection technology	3-conductor
Number of outputs	4
Protective circuit	Short-circuit and overload protection; Free running circuit
Output voltage	24 V DC -1 V (At nominal current)
Maximum output current per module	max. 2 A
Nominal output voltage	24 V DC
Output current when switched off	max. 10 $\mu$ A (When not loaded, a voltage can be measured even at an output that is not set.)
Nominal load, inductive	12 VA (1.2 H, 48 $\Omega$ )
Nominal load, lamp	12 W
Nominal load, ohmic	12 W

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Reverse voltage resistance to short pulses	Reverse voltage proof
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Behavior at voltage switch-off	The output follows the power supply without delay

## Product properties

Type	modular
Product type	I/O component
Scope of delivery	including Inline connectors and marking fields
No. of channels	12
Diagnostics messages	Short-circuit or overload of the digital outputs Yes
	Sensor supply failure Yes
	Failure of the actuator supply Yes

## Electrical properties

No. of channels	12
Maximum power dissipation for nominal condition	23.5 W
Power dissipation	typ. 1.7 W (entire device)

## Potentials

Power consumption	typ. 3 W (entire device)
Protective circuit	Short-circuit protection of the communications power; electronic
	Short-circuit protection of the analog supply; electronic

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. 0.98 A (with max. number of connected I/O terminal blocks)
	80 mA (without connected I/O terminal blocks)

## Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC
	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)
	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)
	max. 8 A DC (sum of $U_M + U_S$ )
Current draw	max. 8 A DC
	min. 3 mA (without connected peripherals)

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## 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)
Current draw	max. 8 A DC (sum of $U_M + U_S$ )
	min. 6 mA (without connected peripherals)

## Connection data

### Connection technology

Connection name	Inline connector
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### Conductor connection

Connection method	Spring-cage connection
Conductor cross section solid	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

### Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	8 mm

## Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °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)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

## Standards and regulations

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

Mounting type	DIN rail mounting
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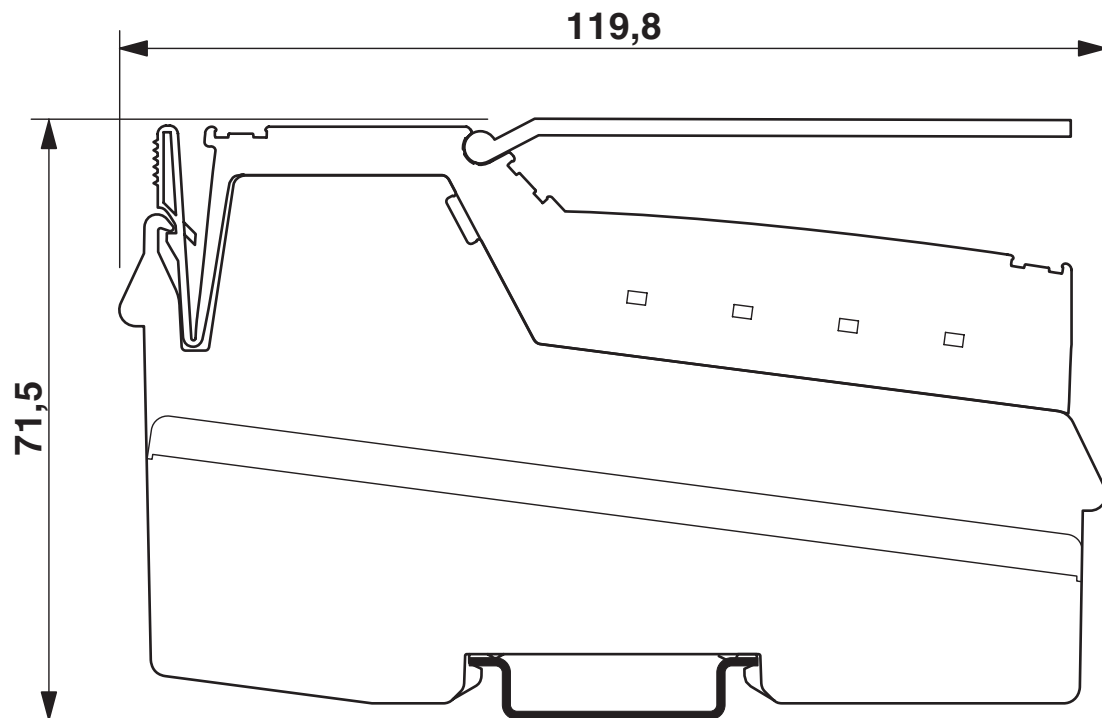


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## Drawings

Dimensional drawing



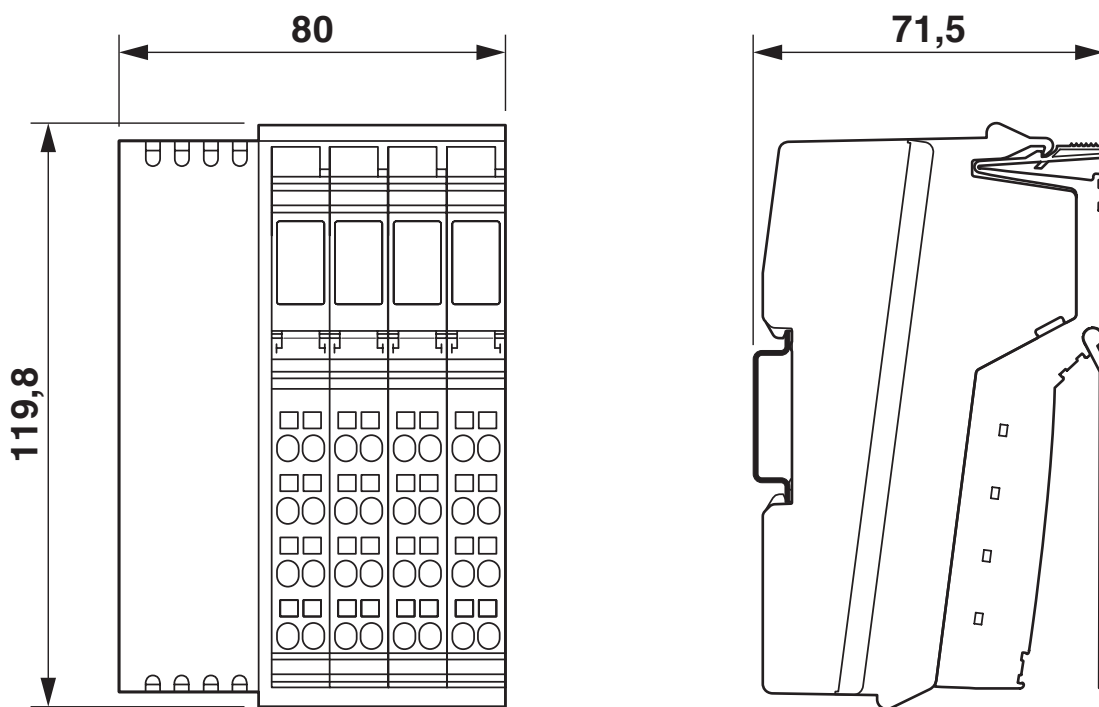
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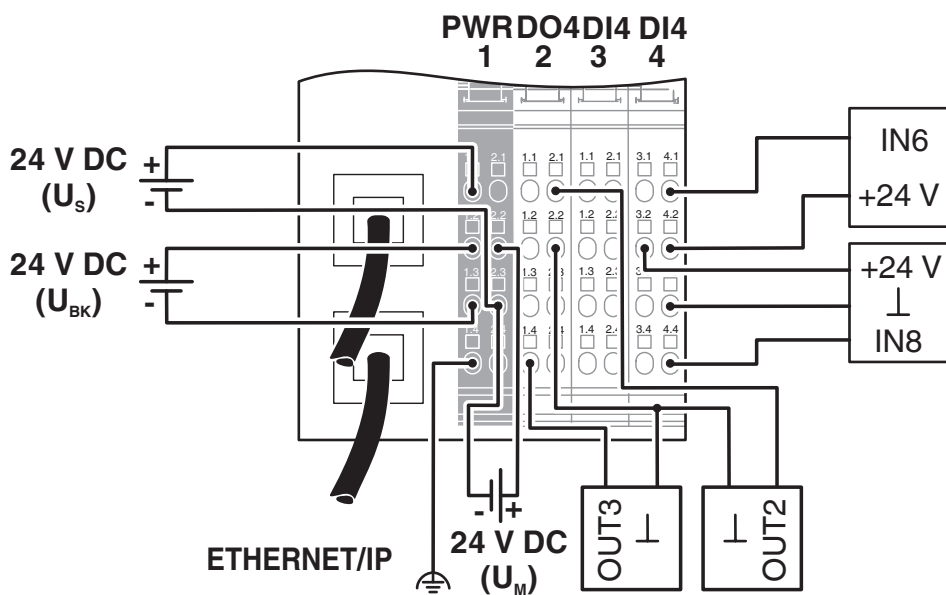
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Dimensional drawing



Connection diagram



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## Approvals



**cUL Recognized**  
Approval ID: FILE E 140324



**UL Recognized**  
Approval ID: FILE E 140324



**UL Recognized**  
Approval ID: FILE E 140324



**cUL Recognized**  
Approval ID: FILE E 140324



**cUL Listed**  
Approval ID: FILE E 199827



**UL Listed**  
Approval ID: FILE E 199827



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**cULus Recognized**

**cULus Listed**



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## Classifications

### ECLASS

ECLASS-9.0	27242608
ECLASS-10.0.1	27242608
ECLASS-11.0	27242608

### ETIM

ETIM 8.0	EC001604
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental Product Compliance

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

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## Accessories

### End clamp

End clamp - CLIPFIX 35 - 3022218

<https://www.phoenixcontact.com/nz/products/3022218>

Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray



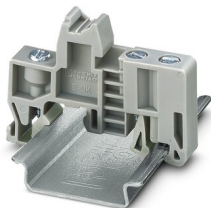
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### End clamp

End clamp - E/UK - 1201442

<https://www.phoenixcontact.com/nz/products/1201442>

End clamp, material: PA, color: gray, Mounting on a DIN rail NS 32 or NS 35



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## Insert strip

Insert strip - ESL 62X46 - 0809502

<https://www.phoenixcontact.com/nz/products/0809502>

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems:  
Laser printer, mounting type: insert, lettering field size: 62 x 46 mm, Number of  
individual labels: 15



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## Labeling field

Labeling field - IB IL FIELD 8 - 2727515

<https://www.phoenixcontact.com/nz/products/2727515>

Labeling field, width: 48.8 mm



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## Insert strip

Insert strip - ESL 62X10 - 0809492

<https://www.phoenixcontact.com/nz/products/0809492>

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems:  
Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of  
individual labels: 72



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## Labeling field

Labeling field - IB IL FIELD 2 - 2727501

<https://www.phoenixcontact.com/nz/products/2727501>

Labeling field, width: 12.2 mm



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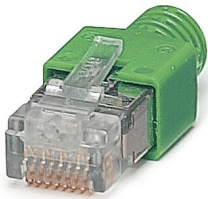
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## RJ45 connector

RJ45 connector - FL PLUG RJ45 GR/2 - 2744856

<https://www.phoenixcontact.com/nz/products/2744856>



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.

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## RJ45 connector

RJ45 connector - FL PLUG RJ45 GN/2 - 2744571

<https://www.phoenixcontact.com/nz/products/2744571>



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, green for crossed cables, for assembly on site. For connections that are crossed, it is recommended that the connector set with green bend protection sleeves is used.

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## Network cable

Network cable - FL CAT5 HEAVY - 2744814

<https://www.phoenixcontact.com/nz/products/2744814>



CAT5-SF/UTP cable (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable, 2 x 2 x 0.22 mm<sup>2</sup>, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

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## Installation cable

Installation cable - FL CAT5 FLEX - 2744830

<https://www.phoenixcontact.com/nz/products/2744830>



By the meter, Installation cable, Ethernet CAT5 (100 Mbps), shielded, PUR halogen-free, water blue RAL 5021, 4-wire (2x2xAWG26/7; SF/UTP), color single wire: white/orange-orange, white/green-green, cable length: Free entry (1.0 ... 1000.0 m)

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## Assembly tool

Assembly tool - FL CRIMPTOOL - 2744869

<https://www.phoenixcontact.com/nz/products/2744869>

Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site



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## Connector set

Connector set - IL BKDIO-PLSET - 2878599

<https://www.phoenixcontact.com/nz/products/2878599>

Connector set, for Inline bus coupler with I/Os mounted in rows



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