

IL PN BK DI8 DO4 2SCRJ-PAC - Bus coupler



2878379

<https://www.phoenixcontact.com/us/products/2878379>

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

Product description

The bus coupler with integrated I/Os is intended for use within a PROFINET 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 16 PCP devices.

Your advantages

- 2 x fiber optic connection according to SC-RJ standard for polymer and HCS (PCF) fibers
- Connection to the PROFINET network via SC-RJ female connector
- Conformance with PROFINET specification V2.3 (firmware 4.00 or later)
- PROFINET IRT (firmware 4.00 or later)
- Automatic detection of the transmission speed in the local bus (500 kbps or 2 Mbps)
- 8 digital inputs, 4 digital outputs (on-board)
- Approved for PROFI-safe applications

Commercial data

Item number	2878379
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI11A
GTIN	4046356073271
Weight per piece (including packing)	392.4 g
Weight per piece (excluding packing)	367.9 g
Customs tariff number	85176200
Country of origin	DE

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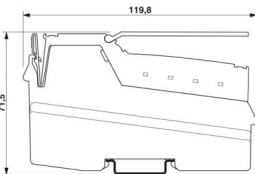


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Technical data

Dimensions

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

Notes

Note on application

Note on application	Only for industrial use
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Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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Interfaces

PROFINET

No. of channels	2
Connection method	SC-RJ socket
Transmission speed	100 Mbps (acc. to PROFINET standard)
Wavelength	660 nm

Inline local bus

Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

Fieldbus: Local bus gateway

Designation	Local bus gateway
Connection method	Inline data jumper
Transmission speed	500 kbaud/2 Mbaud, can be selected
Max. length of local bus	20 m

System properties

System limits

Amount of process data ()	max. 244 Byte (Input)
Amount of process data ()	max. 244 Byte (Output)
Number of supported devices	max. 63 (per station)

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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. 16
Number of supported branch terminals with remote bus branch	0

PROFINET

Device function	PROFINET device
Update rate	min. 1 ms (depending on the size of the bus system)
Conformance Class	B

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 μ s
Filter time	3 ms
Delay at signal change from 0 to 1	5 ms
Delay at signal change from 1 to 0	5 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; Freewheeling circuit in the output driver
Output voltage	24 V DC -1 V (At nominal current)
Maximum output current per module	max. 2 A

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Nominal output voltage	24 V DC
Output current when switched off	max. 10 μ 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 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W
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
Signal delay	typ. 1.2 ms
Overcurrent shut-down	min. 0.7 A

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	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

Potentials

Supply voltage	24 V DC
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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. 0.83 A (with max. number of connected I/O terminal blocks)
	typ. 250 mA
	min. 50 mA (without connected I/O terminal blocks)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC
Power supply	max. 0.8 A DC (observe derating)

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)
Power supply	max. 0.5 A DC (observe derating)

Potentials: Main circuit supply (U_M)

Supply voltage	24 V DC (via Inline connector)
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Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 8 A DC (Sum of $U_M + U_S$; 4 A, maximum, when used in potentially explosive areas.)
Current draw	max. 8 A DC
	min. 3 mA (without connected peripherals)

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)
Power supply	max. 8 A DC (Sum of $U_M + U_S$; 4 A, maximum, when used in potentially explosive areas.)
Current draw	max. 8 A DC
	min. 3 mA (without connected peripherals)

Connection data

Connection technology

Connection name	Inline connector
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Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.08 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.08 mm ² ... 1.5 mm ²
Conductor cross-section AWG	28 ... 16

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C (observe derating)
Degree of protection	IP20
Air pressure (operation)	80 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)	-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)

Standards and regulations

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

Mounting type	DIN rail mounting
	DIN rail mounting

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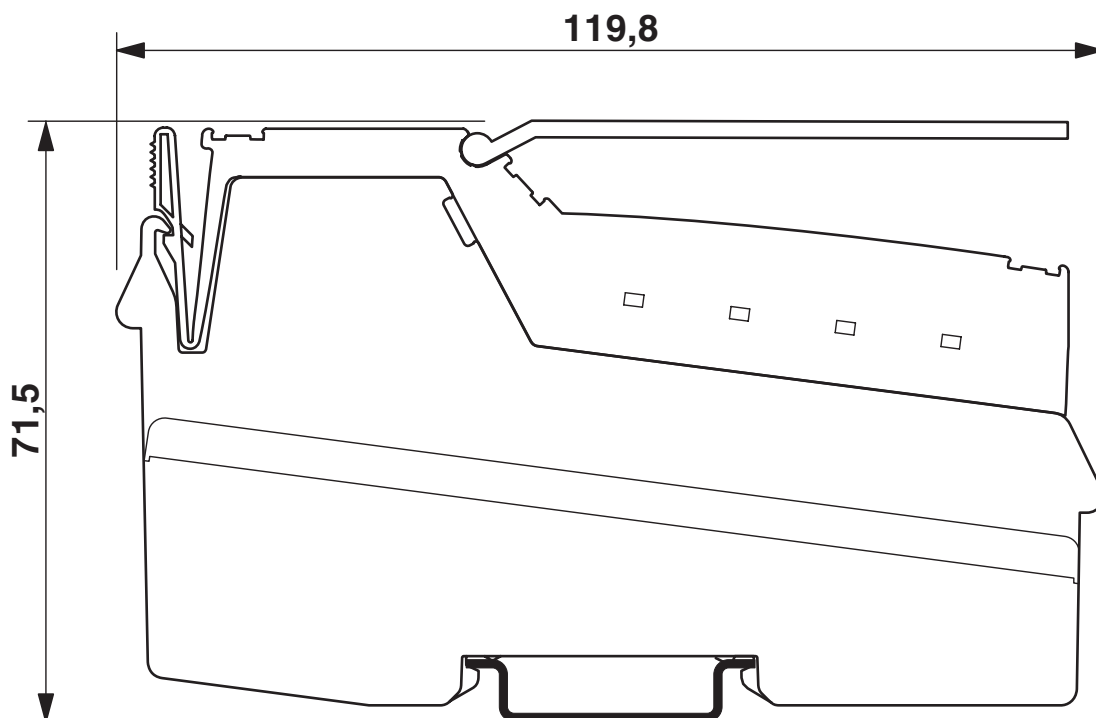


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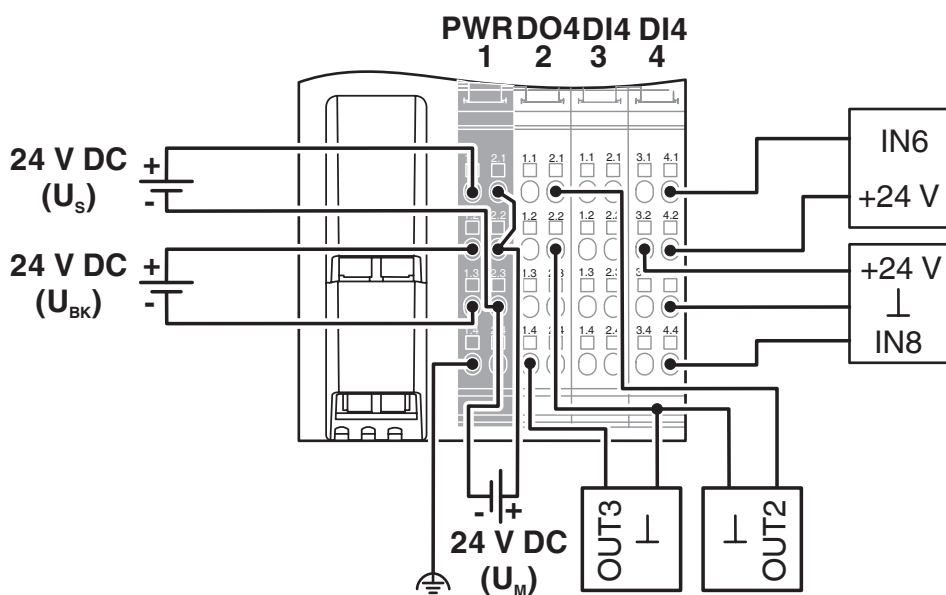
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Drawings

Dimensional drawing



Connection diagram

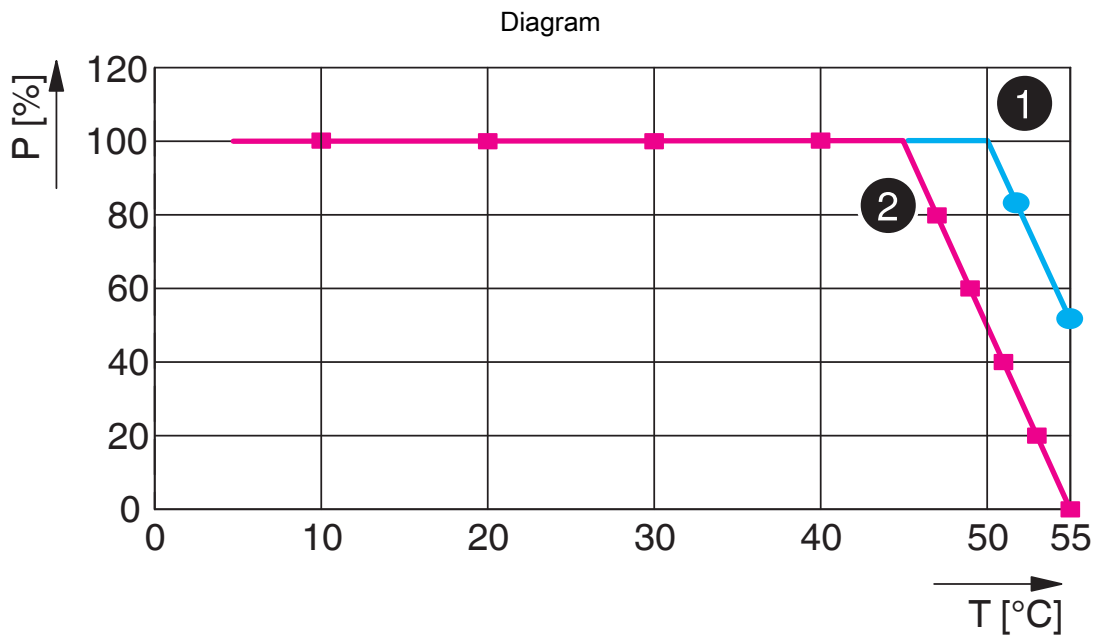


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Derating for different mounting positions

1 - Mounting on a horizontal DIN rail

2 - Other mounting positions

P [%] Power dissipation as a percentage

T [°C] Temperature in °C

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Approvals

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Approval ID: FILE E 140324



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Classifications

ECLASS

ECLASS-13.0

27242608

ETIM

ETIM 9.0

EC001604

UNSPSC

UNSPSC 21.0

32151600

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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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