

IL PB BK DI8 DO4/EF-PAC - Bus coupler



2692322

<https://www.phoenixcontact.com/pc/products/2692322>

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Inline, Bus coupler, PROFIBUS DP, D-SUB-9 female connector, Digital inputs: 8, 24 V DC, connection technology: 3-conductor, Digital outputs: 4, 24 V DC, 500 mA, 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 a PROFIBUS network and represents the link to the Inline I/O system. Up to 61 Inline devices can be connected to the bus coupler. A corresponding GSD file is available for integrating the Inline station into the programming system. This file can be downloaded via the product at www.phoenixcontact.com/products.

Your advantages

- PROFIBUS connection via 9-pos. D-SUB socket
- Electrical isolation between PROFIBUS interface and logic
- 8 digital inputs, 4 digital outputs (on-board)
- Connection of a maximum of 16 PCP devices
- DP/V1 for class 1 and class 2 masters
- PROFIBUS data transmission speed of 9.6 kbps to 12 Mbps
- Rotary coding switches for setting the PROFIBUS address
- Supported PROFIBUS addresses from 0 to 126
- I&M functions
- IO-Link call (firmware 2.0 or later)
- Operation of PROFIsafe devices

Commercial data

Item number	2692322
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DRI112
Catalog page	Page 109 (C-6-2019)
GTIN	4046356315272
Weight per piece (including packing)	325.3 g
Weight per piece (excluding packing)	343.2 g
Customs tariff number	85389091
Country of origin	DE

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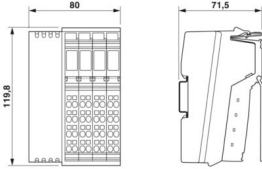


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Technical data

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.

Interfaces

PROFIBUS DP	
Number of interfaces	1
Connection method	D-SUB-9 female connector
Transmission speed	9.6 kbps ... 12 Mbps
Inline local bus	
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

System properties

System limits	
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. 16
Number of supported branch terminals with remote bus branch	0
Response time of I/Os	typ. 4 ms (aligned I/Os; transmission speed: PROFIBUS 1.5 Mbps, local bus 500 kbps)

Module	
ID code (hex)	0B50
Input address area	8 bit (or 1 byte, selection in the GSD file)
Output address area	4 bit (or 1 byte, selection in the GSD file)
Register length	16 bit

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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
Delay at signal change from 0 to 1	2.9 ms
Delay at signal change from 1 to 0	2.9 ms

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
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. 2.9 ms
Overcurrent shut-down	min. 0.7 A

Product properties

Type	modular
Product type	I/O component

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Product family	Inline
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

Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

Electrical properties

Maximum power dissipation for nominal condition	23.5 VA
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Potentials

Power consumption	typ. 1.7 W (entire device)
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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. 0.98 A (with max. number of connected I/O terminal blocks)
	min. 80 mA (without connected I/O terminal blocks)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC
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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)

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)
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)
Current draw	max. 8 A DC
	min. 3 mA (without connected peripherals)

Electrical isolation/isolation of the voltage ranges

Test voltage: PROFIBUS interface / communications power (U_{BK} , U_L , U_{ANA})	500 V AC, 50 Hz, 1 min.
Test voltage: PROFIBUS interface / I/O (U_M , U_S)	500 V AC, 50 Hz, 1 min.
Test voltage: PROFIBUS interface / functional ground	500 V AC, 50 Hz, 1 min.

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Test voltage: Communications power (U_{BK} , U_L , U_{ANA}) / I/O (U_M , U_S)	500 V AC, 50 Hz, 1 min.
Test voltage: Communications power (U_{BK} , U_L , U_{ANA}) / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: I/O (U_M , U_S) / functional ground	500 V AC, 50 Hz, 1 min.

Connection data

Connection technology

Connection name	Inline connector
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Conductor connection

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
Stripping length	8 mm

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
Stripping length	8 mm

Environmental and real-life conditions

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

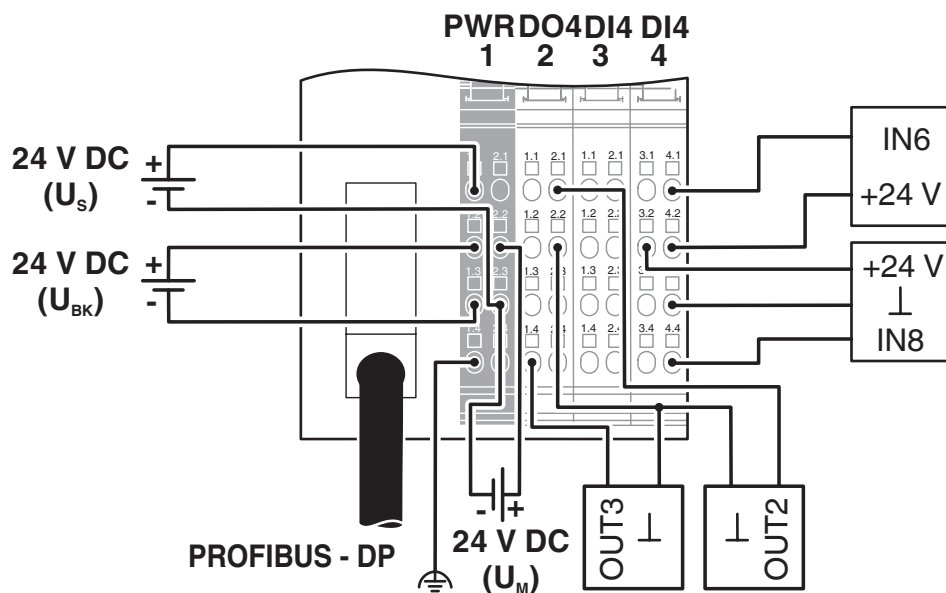
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Mounting

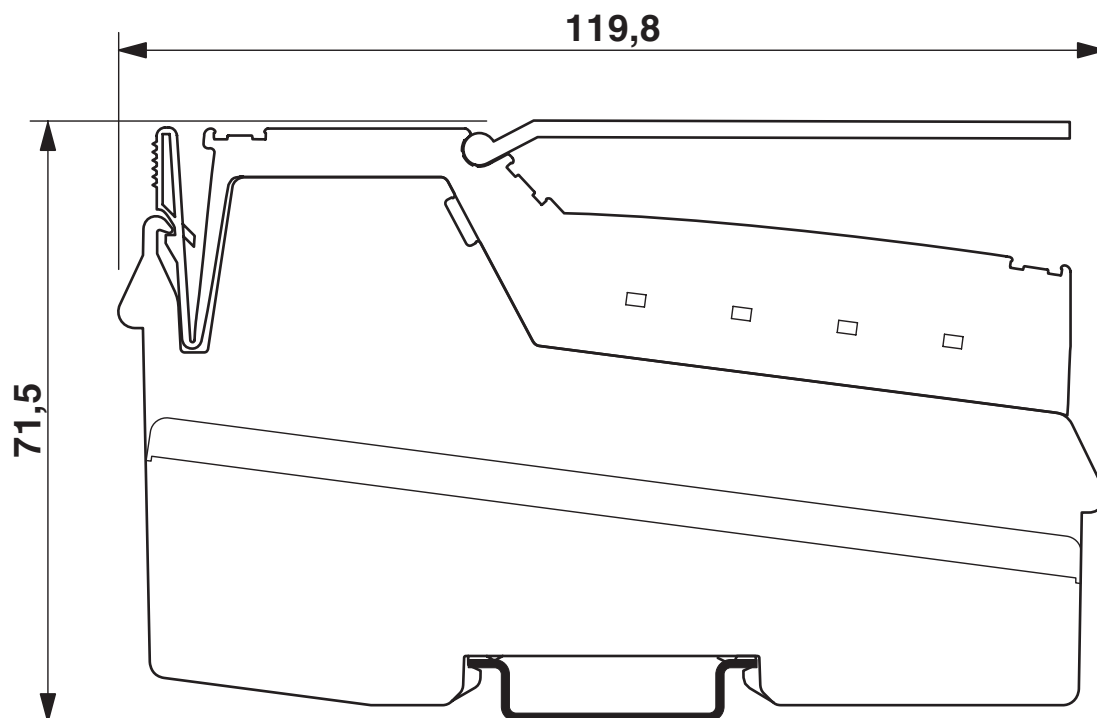
Mounting type	DIN rail mounting
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Drawings

Connection diagram



Dimensional drawing



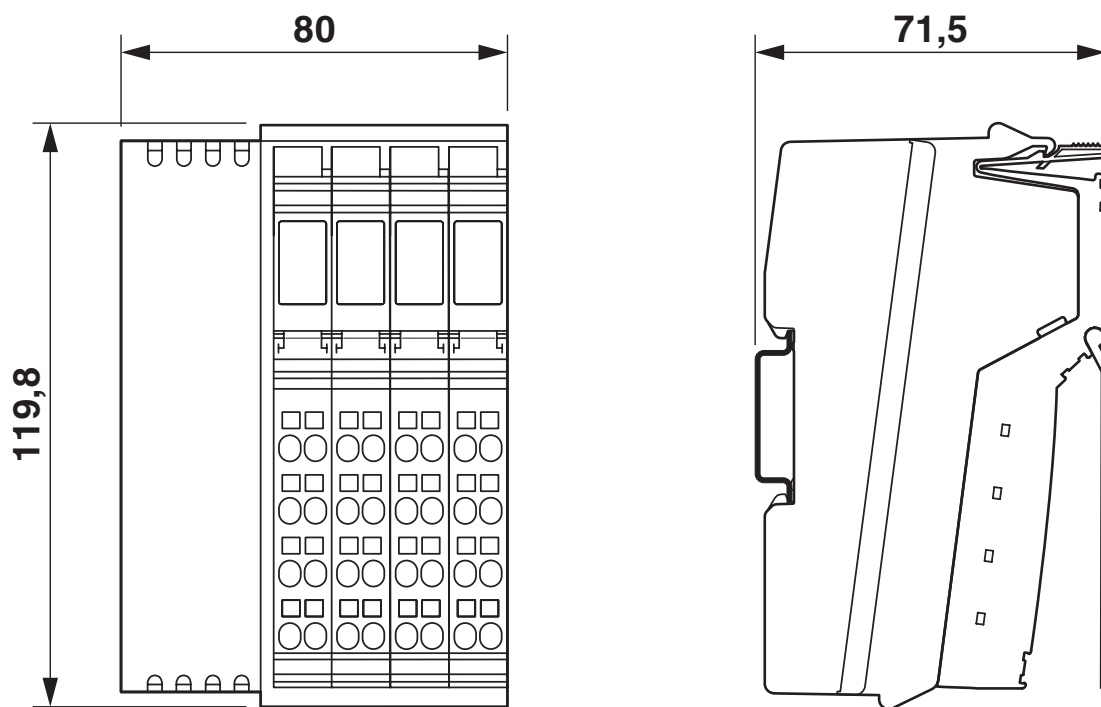
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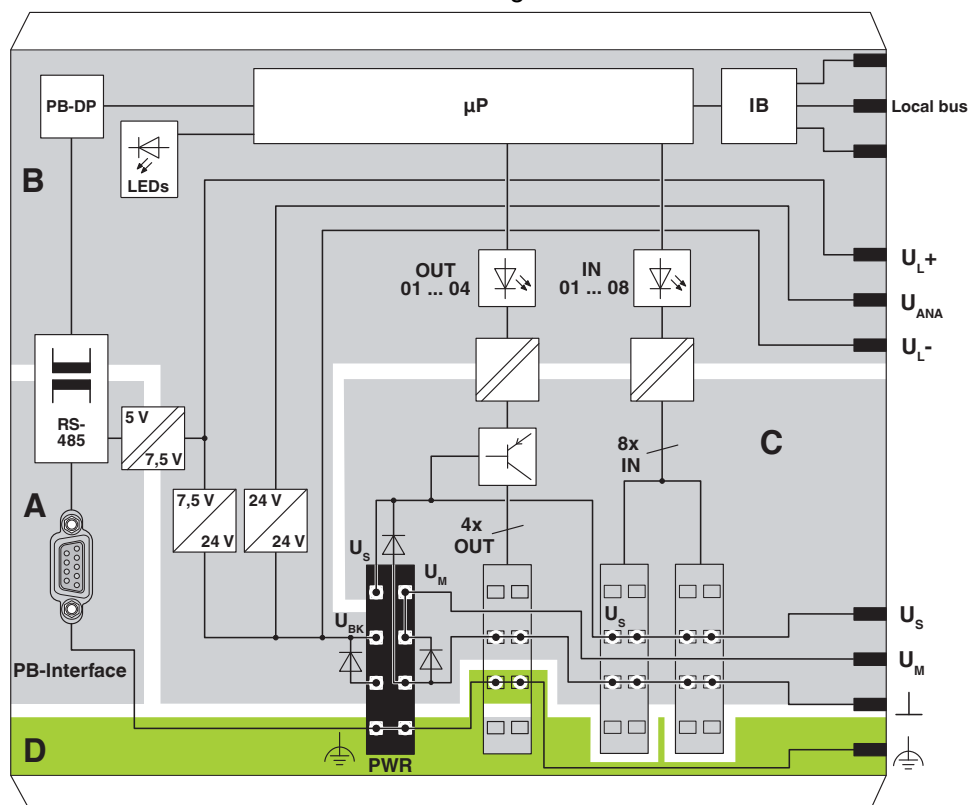
<https://www.phoenixcontact.com/pc/products/2692322>



Dimensional drawing



Block diagram



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Approvals

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cUL Recognized
Approval ID: FILE E 140324



UL Recognized
Approval ID: FILE E 140324



EAC
Approval ID: TR TS_S_03508-21



DNV GL
Approval ID: TAA00002CU



BV
Approval ID: 21725/C0 BV



RINA
Approval ID: ELE121121XG

PROFIBUS
Approval ID: Z01390

UAE-RoHS
Approval ID: 22-04-13087

cULus Recognized

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Classifications

ECLASS

ECLASS-11.0	27242608
ECLASS-12.0	27242608
ECLASS-13.0	27242608

ETIM

ETIM 9.0	EC001604
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UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
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