

PB IL 24 BK DIO 16/16 - Bus coupler



2742638

<https://www.phoenixcontact.com/us/products/2742638>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Inline, Bus coupler, PROFIBUS DP, D-SUB-9 female connector, Digital inputs: 16, 24 V DC, connection technology: 3-conductor, Digital outputs: 16, 24 V DC, 500 mA, connection technology: 3-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connectors and marking fields

Product description

This item is a set consisting of a bus coupler, a digital input terminal with 16 inputs, and a digital output terminal with 16 outputs. The set forms an Inline station, which you can extend with additional Inline terminals. This Inline station is intended for use within a PROFIBUS network and represents the link to the Inline I/O system. Up to 63 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. **The bus coupler does not support PROFIsafe modules. Use the IL PB BK DI8 DO4/EF-PAC bus coupler for this.**

Your advantages

- 16 digital inputs
- 16 digital outputs
- Diagnostic and status indicators

Commercial data

Item number	2742638
Packing unit	1 pc
Sales key	DR01
Product key	DRI112
GTIN	4017918819347
Weight per piece (including packing)	697.7 g
Weight per piece (excluding packing)	395 g
Customs tariff number	85389091
Country of origin	DE

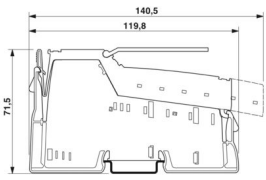
PB IL 24 BK DIO 16/16 - Bus coupler

2742638

<https://www.phoenixcontact.com/us/products/2742638>

Technical data

Dimensions

Dimensional drawing	
Width	182.6 mm
Height	140.5 mm
Depth	71.5 mm

Material specifications

Color	green
-------	-------

Interfaces

PROFIBUS DP

No. of channels	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

Supply

Connection method	8-pos. Inline power connector
-------------------	-------------------------------

Fieldbus: Local bus gateway

Max. number of local bus devices	63
----------------------------------	----

System properties

System limits

Amount of process data	max. 176 Byte (per station)
	max. 176 Byte (Input)
	max. 176 Byte (Output)
Number of local bus devices that can be connected	max. 63
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	0

Programming data

Register length (master)	184 Byte
--------------------------	----------

PB IL 24 BK DIO 16/16 - Bus coupler



2742638

<https://www.phoenixcontact.com/us/products/2742638>

Input data

Digital:

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Number of inputs	16
Connection method	Spring-cage connection
Connection technology	3-conductor
Input voltage	24 V DC
Input voltage range "1" signal	15 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC
Typical input current per channel	typ. 3 mA
Protective circuit	Polarity reversal; Suppressor diode

Output data

Digital:

Output name	Digital outputs
Connection method	Spring-cage connection
Connection technology	3-conductor
Number of outputs	16
Protective circuit	Short-circuit and overload protection; Free running circuit
Output voltage	24 V DC -1 V (At nominal current)
Max. current carrying capacity per output	max. 500 mA
Maximum output current per module	max. 8 A
Nominal output voltage	24 V DC
Nominal load, inductive	12 VA
Nominal load, lamp	12 W
Nominal load, ohmic	12 W

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	including Inline connectors and marking fields
No. of channels	32

Electrical properties

Protective circuit	Reverse polarity protection
--------------------	-----------------------------

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. 1.25 A (with max. number of connected I/O terminal blocks)

	typ. 100 mA (without connected Inline I/O terminals)
Potentials: Communications power (U_L)	
Supply voltage	7.5 V DC \pm 5 %
Power supply	max. 2 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)
Power supply	max. 0.5 A DC (observe derating)
Potentials: Main circuit supply (U_M)	
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 8 A DC (sum of $U_M + U_S$)
Potentials: Segment circuit supply (U_S)	
Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 8 A DC (sum of $U_M + U_S$)
Electrical isolation/isolation of the voltage ranges	
Test voltage: RS-485 interface / supply voltage	500 V AC
Test voltage: RS-485 interface / local bus	500 V AC

Connection data

Connection technology

Connection name	Inline connector
-----------------	------------------

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)	0 °C ... 55 °C
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)
Permissible humidity (operation)	95 % (non-condensing)
Permissible humidity (storage/transport)	95 % (non-condensing)

Mechanical test

PB IL 24 BK DIO 16/16 - Bus coupler



2742638

<https://www.phoenixcontact.com/us/products/2742638>

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse

Mounting

Mounting type	DIN rail mounting
---------------	-------------------

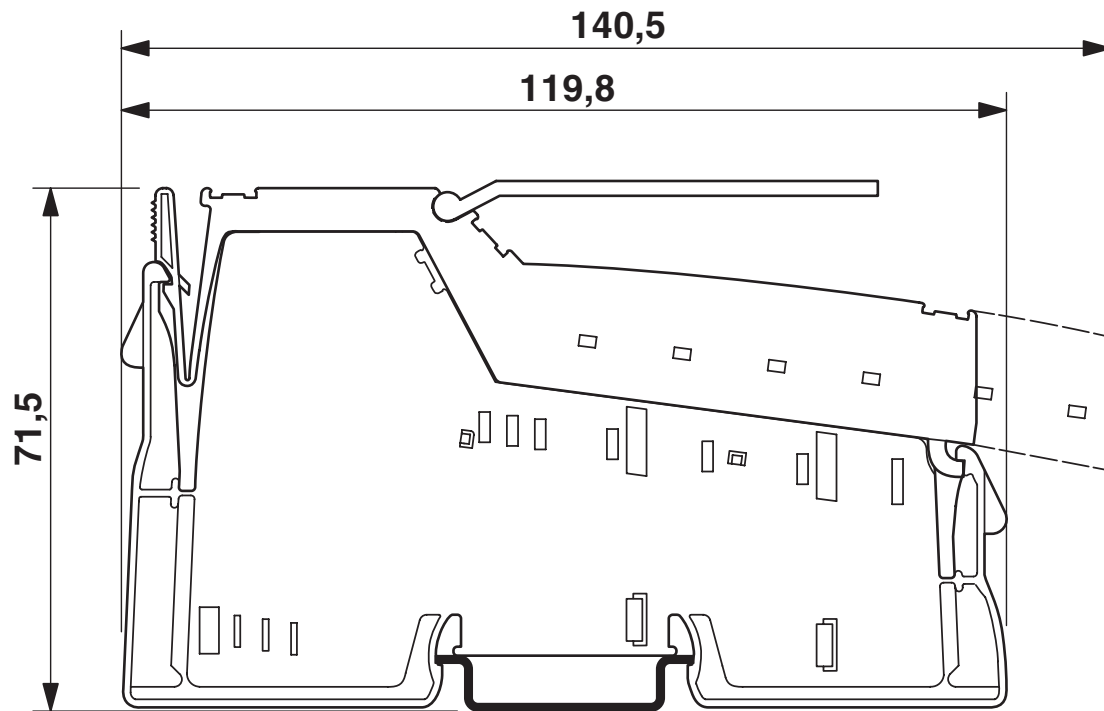
PB IL 24 BK DIO 16/16 - Bus coupler

2742638

<https://www.phoenixcontact.com/us/products/2742638>

Drawings

Dimensional drawing

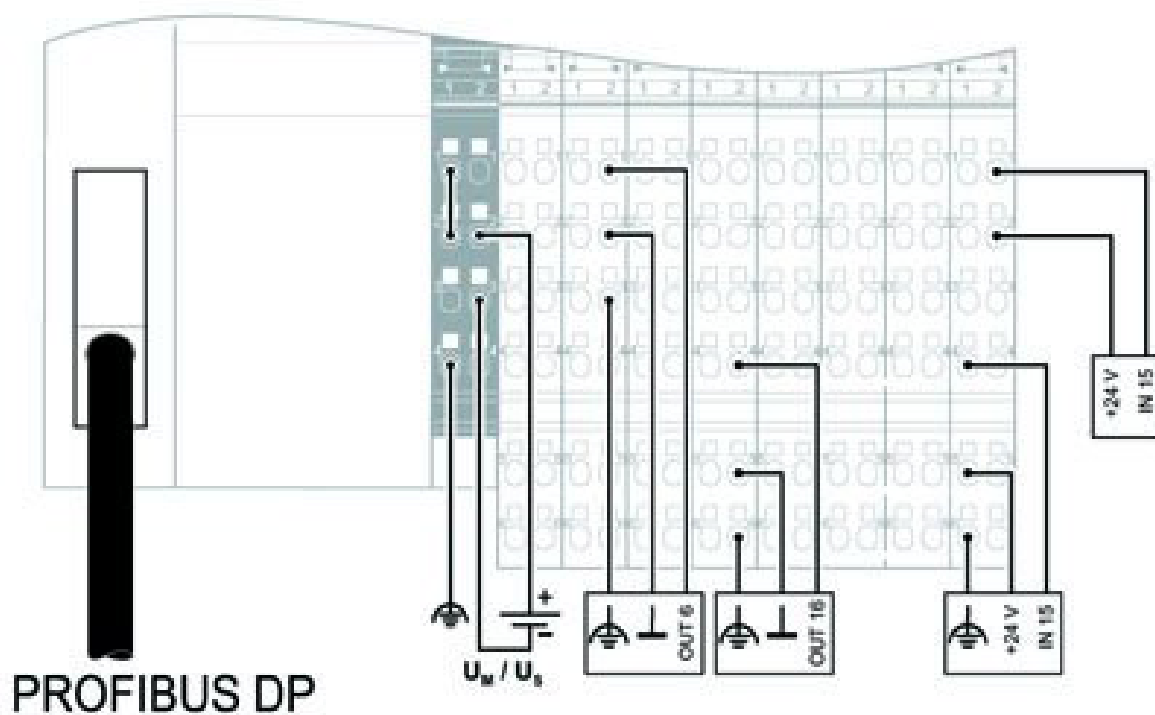


PB IL 24 BK DIO 16/16 - Bus coupler

2742638

<https://www.phoenixcontact.com/us/products/2742638>

Connection diagram



PB IL 24 BK DIO 16/16 - Bus coupler

2742638

<https://www.phoenixcontact.com/us/products/2742638>



Classifications

UNSPSC

UNSPSC 21.0	32151600
-------------	----------

2742638

<https://www.phoenixcontact.com/us/products/2742638>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

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

Phoenix Contact 2026 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com