

Bus coupler - PB IL 24 BK DIO 16/16 - 2742638

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Inline, Bus coupler, PROFIBUS DP, D-SUB-9 female connector, Digital inputs: 16, 24 V DC, connection method: 3-wire, Digital outputs: 16, 24 V DC, 500 mA, connection method: 3-wire, 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 phoenixcontact.net/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



Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 819347
GTIN	4017918819347

Technical data

Note

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

Width	182.6 mm
Height	140.5 mm
Depth	71.5 mm

Ambient conditions

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Technical data

Ambient conditions

Ambient temperature (operation)	0 °C ... 55 °C
Permissible humidity (operation)	95 % (non-condensing)
Permissible humidity (storage/transport)	95 % (non-condensing)
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)
Degree of protection	IP20

General

Mounting type	DIN rail
Color	green
Net weight	395 g
Note on weight specifications	with connectors

Interfaces

Designation	PROFIBUS DP
No. of channels	1
Connection method	D-SUB-9 female connector
Transmission speed	9.6 kbps ... 12 Mbps
Designation	Inline local bus
Connection method	Inline data jumper
Transmission speed	500 kbps
Designation	Supply
Connection method	8-pos. Inline power connector

Network/bus system

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

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	typ. 100 mA (without connected Inline I/O terminals)
	max. 1.25 A (with max. number of connected I/O terminal blocks)
Designation	Communications power (U_L)
Supply voltage	7.5 V DC $\pm 5\%$
Power supply unit	max. 2 A DC
Designation	Supply of analog modules (U_{ANA})

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Inline potentials

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 (observe derating)
Designation	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 unit	max. 8 A DC (sum of $U_M + U_S$)
Designation	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 unit	max. 8 A DC (sum of $U_M + U_S$)

Digital inputs

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

Digital outputs

Output name	Digital outputs
Connection method	Spring-cage connection
Connection technology	3-wire
Number of outputs	16
Protective circuit	Short-circuit and overload protection Free running circuit
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	8 A
Nominal load, inductive	12 VA
Nominal load, lamp	12 W
Nominal load, ohmic	12 W
Limitation of the voltage induced on circuit interruption	approx. -30 V

Electrical isolation

Test section	RS-485 interface / supply voltage 500 V AC
	RS-485 interface / local bus 500 V AC

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Technical data

Standards and Regulations

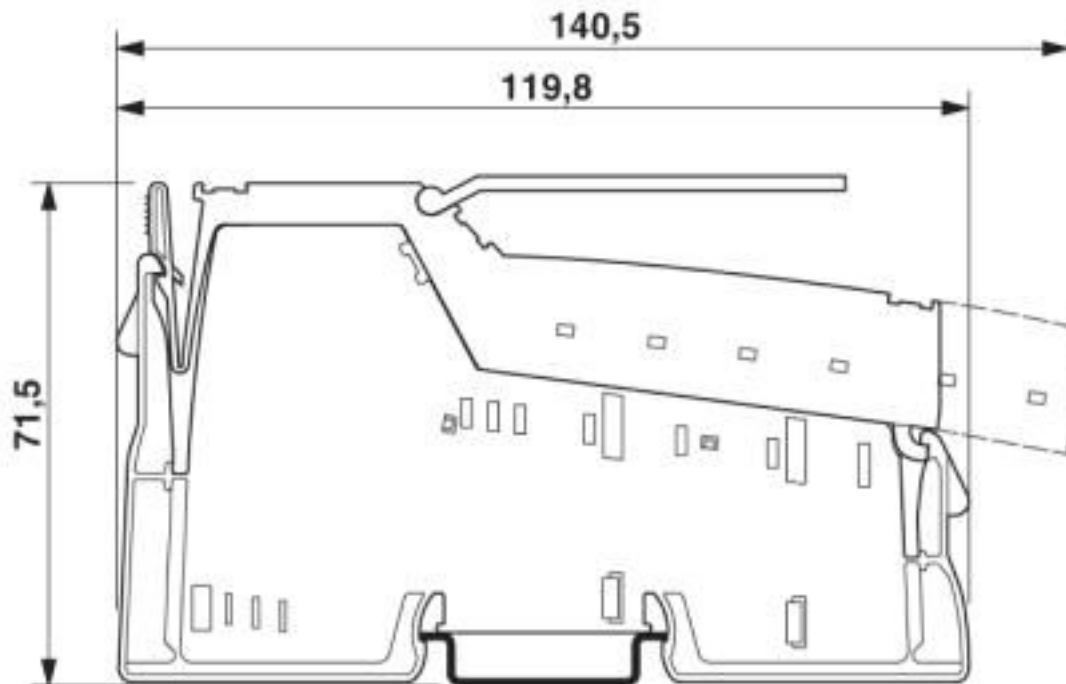
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27242608
eCl@ss 4.0	27250200
eCl@ss 4.1	27250200
eCl@ss 5.0	27250200
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242608

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Classifications

eCl@ss

eCl@ss 8.0	27242608
eCl@ss 9.0	27242608

ETIM

ETIM 2.0	EC001434
ETIM 3.0	EC001604
ETIM 4.0	EC001604
ETIM 5.0	EC001604
ETIM 6.0	EC001604
ETIM 7.0	EC001604

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

Approvals

Approvals

Approvals

EAC

Ex Approvals

Approval details

EAC		EAC-Zulassung
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Accessories

Accessories

Data plug

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Accessories

D-SUB bus connector - SUBCON-PLUS-PROFIB/SC2 - 2708232



D-SUB connector, 9-pos., male connector, cable entry < 35°, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/PG/SC2 - 2708245



D-SUB connector, 9-pos., male connector, cable entry < 35°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/IDC - 2313672



D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/IDC - 2313685



D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/SC - 2313698



D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

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Accessories

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/SC - 2313708



D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/AX/SC - 2744380



D-SUB connector, 9-pos., male connector, axial version with two cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

End block

End clamp - CLIPFIX 35 - 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

Labeling panel

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



Terminal marking

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Accessories

Insert strip - ESL 62X46 - 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: 120



Insert strip - ESL 62X10 - 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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