

## 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, 3-conductor, Digital outputs: 16, 24 V DC, 500 mA, 3-conductor, Transmission speed in the local bus 500 kBit/s, Degree of protection IP20, including Inline connectors and marking fields

### Product Description

The complete station for PROFIBUS combines a PROFIBUS bus terminal, a digital output terminal with 16 outputs, and a digital input terminal with 16 inputs. This package contains all the necessary Inline connectors for connecting the supply and the I/Os.

For project planning, a diskette with the corresponding device master data file is delivered with the product.

The Inline terminals can be labeled using pull-out labeling fields. The fields have insert cards that can be labeled individually to suit the application. Additionally, there is the ZBFM-6... Zack marker strip for labeling the terminal points.

### Product Features

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



### Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	697.7 g
Custom tariff number	85389091
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### Environmental Product Compliance

REACH SVHC	DEHP 117-81-7
	Lead monoxide (lead oxide) 1317-36-8
	Diboron trioxide 1303-86-2

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### Technical data

#### Dimensions

Width	182.6 mm
Height	140.5 mm
Depth	71.5 mm

#### 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
Net weight	395 g
Note on weight specifications	with connectors

#### Interfaces

Fieldbus system	PROFIBUS DP
Designation	PROFIBUS DP
Connection method	D-SUB-9 female connector
Transmission speed	9,6 kBit/s ... 12 MBit/s
Fieldbus system	Lokalbus
Designation	Inline local bus
Connection method	Inline data jumper
Transmission speed	500 kBit/s
Designation	Supply
Connection method	8-pos. Inline power connector

#### System limits of the bus coupler

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

#### Power supply for module electronics

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including ripple)

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## Technical data

### Power supply for module electronics

Current consumption	max. 1.25 A (with max. number of connected I/O terminal blocks)
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### Inline potentials

Communications power $U_L$	7.5 V DC $\pm 5\%$
Power supply at $U_L$	max. 2 A DC
Main circuit supply $U_M$	24 V DC $-15\%$ / $+20\%$ (acc. to EN 61131-2)
Power supply at $U_M$	max. 8 A DC (Sum of $U_M + U_S$ )
Segment circuit supply $U_S$	24 V DC $-15\%$ / $+20\%$ (acc. to EN 61131-2)
Power supply at $U_S$	max. 8 A DC (Sum of $U_M + U_S$ )
I/O supply voltage $U_{ANA}$	24 V DC $-15\%$ / $+20\%$
Power supply at $U_{ANA}$	max. 0.5 A DC (observe derating)

### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Connection method	Spring-cage connection
	3-conductor
Number of inputs	16
Protective circuit	Polarity reversal Suppressor diode
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
	3-conductor
Number of outputs	16
Protective circuit	Short-circuit and overload protection Free running circuit
Output voltage	24 V DC $-1\%$ (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

### Standards and Regulations

Test section	RS-485 interface / supply voltage 500 V AC
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### Technical data

#### Standards and Regulations

	RS-485 interface / local bus 500 V AC
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

### Classifications

#### eCl@ss

eCl@ss 4.0	27250203
eCl@ss 4.1	27250203
eCl@ss 5.0	27250203
eCl@ss 5.1	27242608
eCl@ss 6.0	27242608
eCl@ss 7.0	27242608
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

#### ETIM

ETIM 2.0	EC001434
ETIM 3.0	EC001604
ETIM 4.0	EC001604
ETIM 5.0	EC001599

#### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	43201404

### Approvals

#### Approvals

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Approvals

EAC

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

### Approvals

Ex Approvals

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Approvals submitted

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### Approval details

EAC
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### Accessories

#### Accessories

##### Data plug

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

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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

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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

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### Accessories

#### 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

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#### 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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#### 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

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#### 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

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### 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

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### Accessories

#### Labeling panel

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



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Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



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#### Terminal marking

Insert strip - ESL 62X46 - 0809502

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, Plotter: Laser printer, Mounting type: Insert, Lettering field: 62 x 46 mm



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Insert strip - ESL 62X10 - 0809492

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, Plotter: Laser printer, Mounting type: Insert, Lettering field: 62 x 10 mm

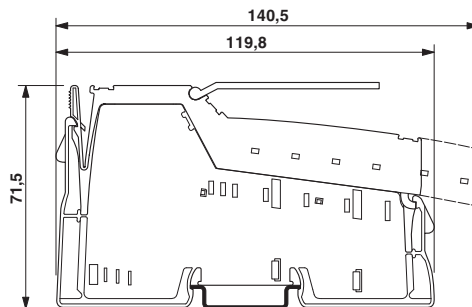


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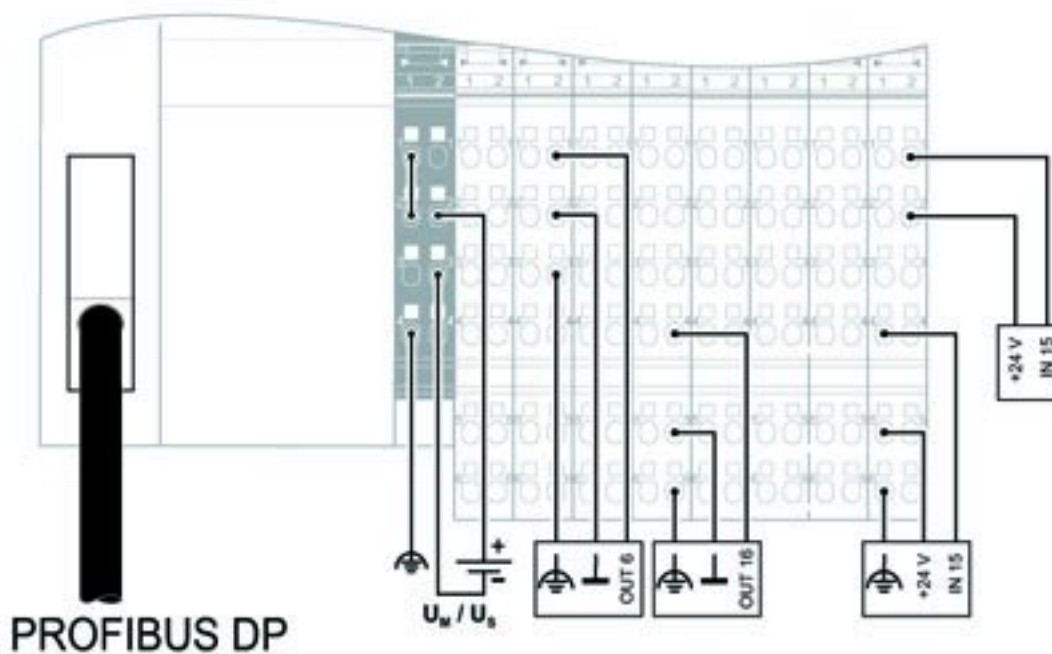
### Drawings

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

Dimensional drawing



Connection diagram





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Authorized Distributor

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