

## Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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, 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 [phoenixcontact.net/products](http://phoenixcontact.net/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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 315272
GTIN	4046356315272

### Technical data

#### Note

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

# Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

## Technical data

### Note

	Use in potentially explosive areas is not permitted in China.
--	---------------------------------------------------------------

### Dimensions

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

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
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)
Degree of protection	IP20

### General

Color	green
Net weight	343.2 g
Note on weight specifications	with connectors
Diagnostics messages	Short-circuit or overload of the digital outputs Yes
	Sensor supply failure Yes
	Failure of the actuator supply Yes
Mounting type	DIN rail mounting

### Interfaces

Designation	PROFIBUS DP
Number of interfaces	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 / 2 Mbps (automatic detection, no combined system)

### Network/bus system

Amount of process data	max. 488 Byte (per station)
	max. 244 Byte (Input)
	max. 244 Byte (Output)
Number of parameter data	max. 244 Byte (including 14 bytes for the bus coupler, DP/V1, and the local inputs and outputs)
Number of configuration data	max. 244 Byte (including 5 bytes for the local inputs and outputs)
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)

# Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

## Technical data

### Network/bus system

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)

### Inline potentials

Designation	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 consumption	min. 80 mA (without connected I/O terminal blocks)
	max. 0.98 A (with max. number of connected I/O terminal blocks)
Designation	Communications power ( $U_L$ )
Supply voltage	7.5 V DC
Power supply unit	max. 0.8 A DC
Designation	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 unit	max. 0.5 A DC
Designation	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)
Power supply unit	max. 8 A DC (sum of $U_M + U_S$ )
Current consumption	min. 3 mA (without connected peripherals)
	max. 8 A DC
Designation	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 unit	max. 8 A DC (sum of $U_M + U_S$ )
Current consumption	max. 8 A DC
Power consumption	typ. 1.7 W (entire device)
Current consumption	min. 3 mA (without connected peripherals)

### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Connection method	Inline connector
Connection technology	3-conductor
Number of inputs	8
Typical response time	approx. 500 $\mu$ s
Protective circuit	Reverse polarity protection Suppressor diode
Nominal input voltage $U_{IN}$	24 V DC

# Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

## Technical data

### Digital inputs

Nominal input current at $U_{IN}$	typ. 3 mA
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
Typical input current per channel	typ. 3 mA
Delay at signal change from 0 to 1	2.9 ms
Delay at signal change from 1 to 0	2.9 ms

### Digital outputs

Output name	Digital outputs
Number of outputs	4
Connection method	Inline connector
Connection technology	3-conductor
Protective circuit	Short-circuit and overload protection Freewheeling circuit in the output driver
Output voltage	24 V DC -1 V (At nominal current)
Nominal output voltage	24 V DC
Output current per channel	max. 500 mA
Output current of the device	max. 2 A
Nominal load, inductive	12 VA (1.2 H, 48 $\Omega$ )
Nominal load, lamp	12 W
Nominal load, ohmic	12 W
Limitation of the voltage induced on circuit interruption	approx. -30 V
Output current when switched off	max. 10 $\mu$ A (When not loaded, a voltage can be measured even at an output that is not set.)
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Reverse voltage resistance to short pulses	Reverse voltage proof

### Standards and Regulations

Immunity to ESD	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B, 6 kV contact discharge, 8 kV air discharge
Immunity to EF	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, all interfaces 1 kV Criterion B, all interfaces 2 kV
Immunity to surge	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, supply lines DC: 0.5 kV/0.5 kV (symmetrical/asymmetrical), fieldbus cable shield 1 kV
Immunity to conducted interference	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test as per EN 61000-6-4 Class A

# Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

## Technical data

### Standards and Regulations

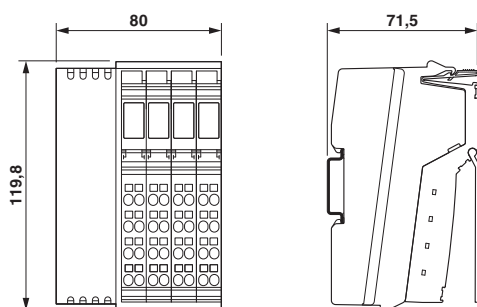
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse
Connection in acc. with standard	CUL
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

### Environmental Product Compliance

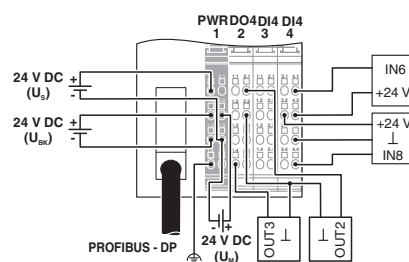
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

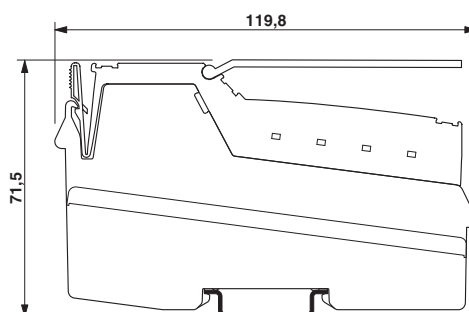
Dimensional drawing



Connection diagram

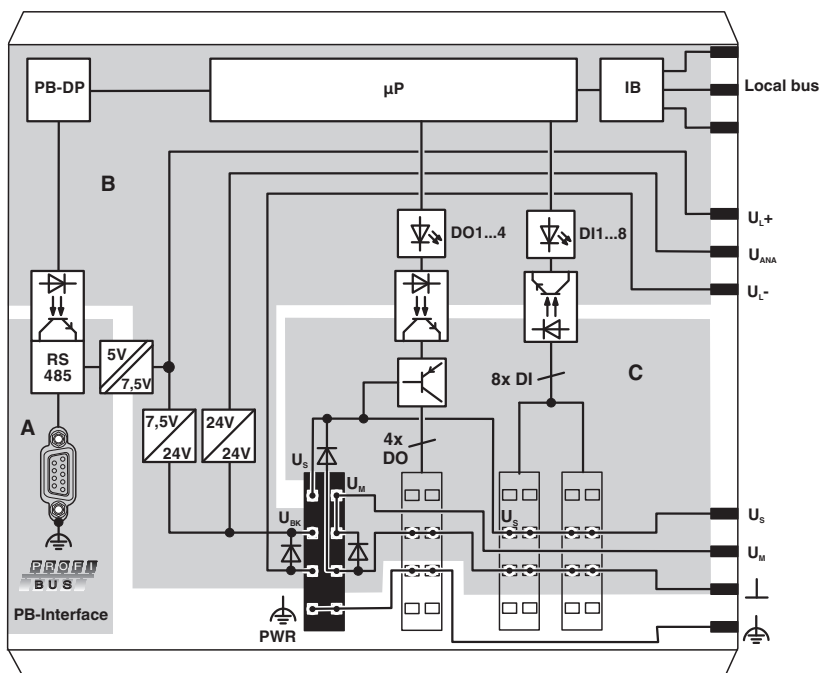


Dimensional drawing



# Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

Block diagram



## Classifications

### eCl@ss

eCl@ss 10.0.1	27242608
eCl@ss 11.0	27242608
eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27250300
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242608
eCl@ss 9.0	27242608

### ETIM

ETIM 2.0	EC001430
ETIM 3.0	EC001599
ETIM 4.0	EC001599
ETIM 6.0	EC001604
ETIM 7.0	EC001604

### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015

# Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

## Classifications

### UNSPSC

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

DNV GL / BV / GL / LR / GL-SW / RINA / UL Recognized / cUL Recognized / PROFIBUS / EAC / cULus Recognized / GL

#### Ex Approvals

ATEX

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00002CU
BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	21725/C0 BV
GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	19910-11 HH
LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	08/20033
GL-SW			19910-11 HH
RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE001320XG

## Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

### Approvals

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
---------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------	---------------

cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
----------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------	---------------

PROFIBUS			Z01390
----------	--	--	--------

EAC			EAC-Zulassung
-----	--	--	---------------

cULus Recognized			
------------------	--	--	--

GL			
----	--	--	--

### Accessories

#### Accessories

##### Connector set

Connector set - IL BKDIO-PLSET - 2878599



Connector set, for Inline bus coupler with I/Os mounted in rows

##### Data plug

D-SUB bus connector - SUBCON-PLUS-PROFIB - 2744348



D-SUB plug, 9-pos., pin, axial version with two 35° 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; spring-cage connection terminal blocks



## Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

### Accessories

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



D-SUB connector, 9-pos., male connector, 35° cable entry, 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, 35° cable entry, 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, 90° cable entry, 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, 90° cable entry, 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, 90° cable entry, 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

## Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

### Accessories

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



D-SUB connector, 9-pos., male connector, 90° cable entry, 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

#### D-SUB bus connector - SUBCON-PLUS-PROFIB/35/M12 - 2902320



D-SUB plug, 9-pos., pin, assignment: 3, 5, 6, 8; two 35° cable entries M12 (B-coded). Bus system: PROFIBUS DP up to 12 Mbps. Termination resistor via separate M12 terminator.

#### D-SUB bus connector - SUBCON-PLUS-PROFIB/90/M12 - 2902318



D-SUB plug, 9-pos., pin, assignment: 3, 5, 6, 8; two 90° M12 cable glands (B-coded). Bus system: PROFIBUS DP up to 12 Mbps. Termination resistor via separate M12 terminator.

### 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

## Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

### Accessories

End clamp - CLIPFIX 35-5 - 3022276



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 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



---

### Plug

Inline connector - IB IL SCN-12-ICP - 2727611



Connector, color coded, for digital 4, or 16-channel Inline input terminals

---

Inline connector - IB IL SCN-12-OCP - 2727624



Connector, colored identification, for digital 4, or 16-channel Inline output terminal blocks

---

### Terminal marking

## Bus coupler - IL PB BK DI8 DO4/EF-PAC - 2692322

### 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: 15



---

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



---

Phoenix Contact 2021 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>