

# Bus coupler - IL PN BK DI8 DO4 2SCRJ-PAC - 2878379

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PROFINET bus coupler, 8 inputs, 24 V DC, 4 outputs, 24 V DC, 500 mA, complete with I/O connectors

## Product Description

The bus coupler for the PROFINET protocol has 4 digital outputs and 8 digital inputs. This package contains all the necessary Inline plugs for connecting the supply and the I/Os. 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.

## Your advantages

- Up to 61 terminals (16 PCP devices) can be connected
- 80 mm design width
- Approved for PROFI-safe applications
- Automatic speed detection of the system bus
- Eight digital inputs, four digital outputs (on-board)



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356073271

## Technical data

### Note

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

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

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)
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

### Interfaces

Designation	PROFINET
No. of channels	2
Connection method	SC-RJ socket
Wavelength	660 nm
Transmission speed	100 Mbps (acc. to PROFINET standard)
Designation	Inline local bus
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Connection method	Inline connector
Connection technology	3-wire
Number of inputs	8
Typical response time	approx. 500 µs
Protective circuit	Reverse polarity protection Suppressor diode
Nominal input voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	typ. 3 mA
Filter time	3 ms
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	5 ms
Delay at signal change from 1 to 0	5 ms

### Digital outputs

Output name	Digital outputs
Connection method	Inline connector
Connection technology	3-wire
Number of outputs	4
Protective circuit	Short-circuit and overload protection Free running circuit

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## Technical data

### Digital outputs

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 / terminal block	2 A
Maximum output current per module	2 A
Nominal load, inductive	12 VA (1.2 H, 48 Ω)
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 µA (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

### Power supply for module electronics

Connection method	Spring-cage connection
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)
Supply current	250 mA
Current consumption	typ. 250 mA (from $U_{BK}$ )
	max. 0.83 A DC (from $U_{BK}$ )
Power dissipation	typ. 3 W (entire device)

### General

Mounting type	DIN rail mounting
Color	green
Net weight	367.9 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

### 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	50 mA (without connected I/O terminal blocks)
	typ. 250 mA

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## Technical data

### Inline potentials

	max. 0.83 A DC
Designation	Communications power ( $U_L$ )
Supply voltage	7.5 V DC $\pm 5\%$
Power supply unit	max. 0.8 A DC (observe derating)
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 (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 $U_M + U_S$ ; 4 A, maximum, when used in potentially explosive areas.)
Current consumption	3 mA (without sensors)
	max. 8 A DC
Designation	Segment circuit supply ( $U_S$ )
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 $U_M + U_S$ ; 4 A, maximum, when used in potentially explosive areas.)
Current consumption	max. 8 A DC
	3 mA (without actuators)

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

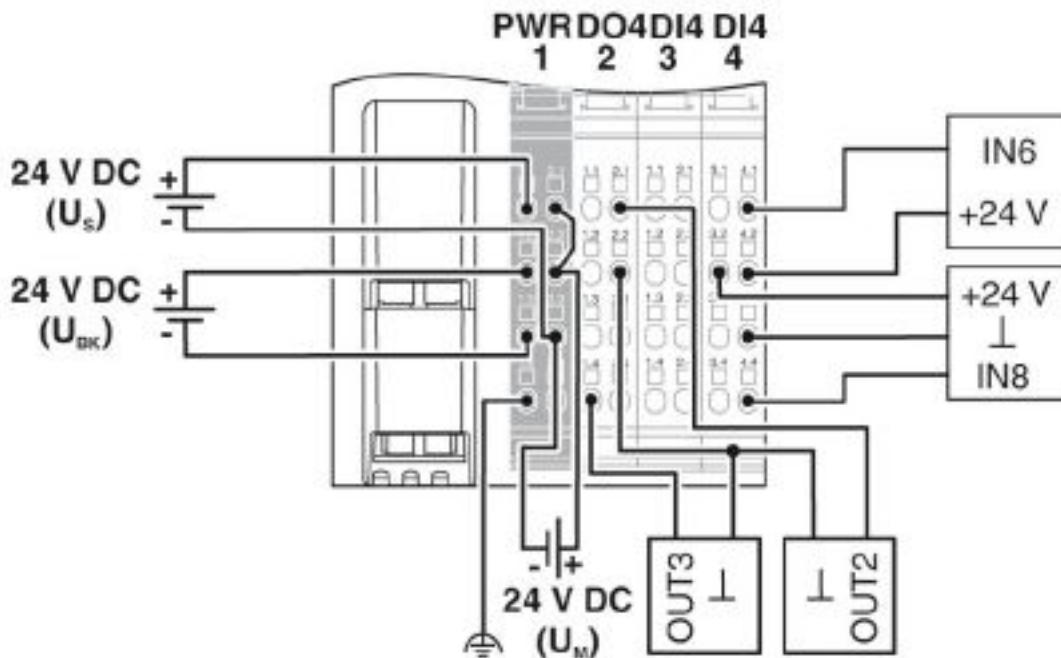
### Environmental Product Compliance

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

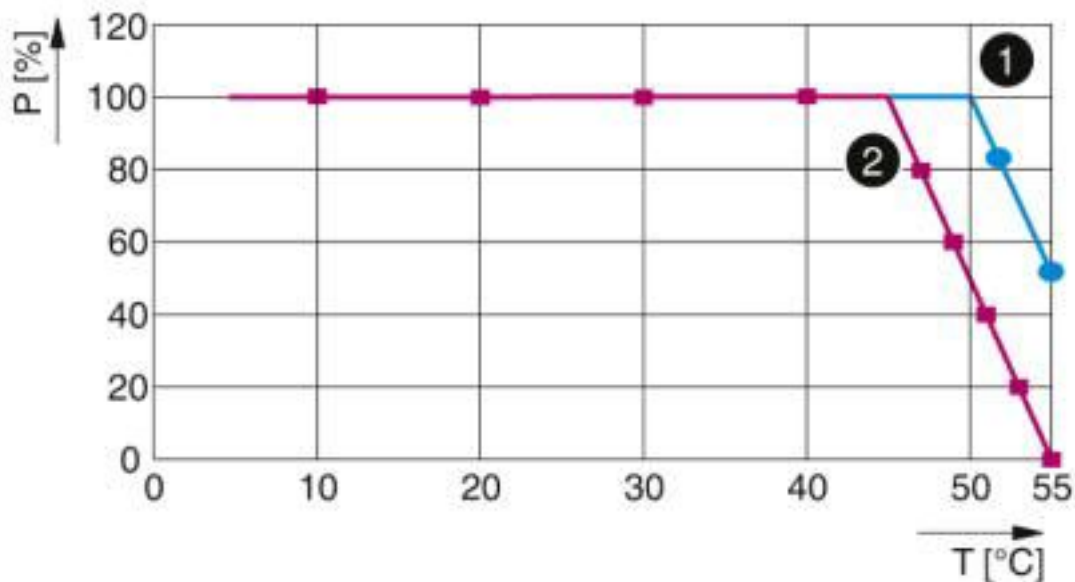
## Drawings

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Connection diagram



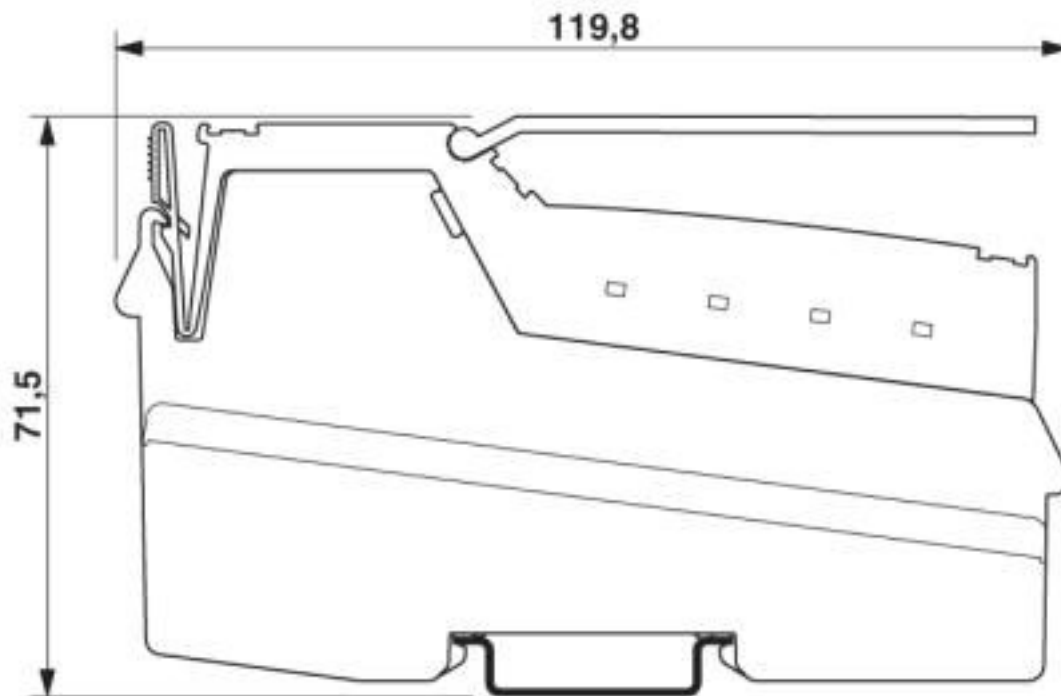
Diagram



Derating for different mounting positions  
 1 - Mounting on a horizontal DIN rail  
 2 - Other mounting positions  
 P [%] Power dissipation as a percentage  
 T [°C] Temperature in °C

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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
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
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## Classifications

### UNSPSC

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

UL Listed / cUL Listed / PROFIBUS / cULus Listed

#### Ex Approvals

ATEX

### Approval details

UL Listed		<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
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cUL Listed		<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
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PROFIBUS	Z10315
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cULus Listed	
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## Accessories

### Accessories

Connector set

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### Accessories

Connector set - IL BKDIO-PLSET - 2878599



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

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### Data plug

FO connectors - PSM-SET-SCRJ-DUP/2-POF - 2708656



SC-RJ connector set for polymer fiber, for self assembly, consisting of 2 duplex quick mounting connectors with bending protection

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Assembly tool - PSM-HCS-KONFTOOL/SC-RJ - 2708876



HCS assembly kit for SC-RJ quick mounting connectors, including stripping blade, stripping pliers, aramide yarn scissors, fiber stripper, microscope, fiber cleaving tool for standard HCS and HCS GI fibers, two SC-RJ connectors for standard HCS fiber, and documentation

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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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End clamp - E/UK - 1201442



End clamp, width: 9.5 mm, height: 35.3 mm, material: PA, length: 50.5 mm, Mounting on a DIN rail NS 32 or NS 35, color: gray

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### Fiber optic connector (cable side)



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### Accessories

FO connectors - VS-SCRJ-POF-FA-IP20 - 1654879



SC-RJ fiber optic connector, IP20, duplex, with fast connection technology, for polymer fiber 980/1000  $\mu\text{m}$ , for individual wire diameter 2.2 mm

FO connectors - VS-SCRJ-HCS-FA-IP20 - 1654866



SC-RJ fiber optic connector, IP20, duplex, with fast connection technology, for PCF fiber 200/230  $\mu\text{m}$ , for individual wire diameter 2.9 mm

FO connectors - VS-SCRJ-HCS-FA-IP20-PN - 1404087



Fiber optic connector SC-RJ, IP20, duplex, with fast connection technology, for PROFINET, for PCF fiber 200/230  $\mu\text{m}$ , for individual wire diameter 2.2 mm

### I/O component

Inline terminal - IB IL 24 PWR IN/R-PAC - 2861674



Inline power terminal or boost terminal, complete with accessories (connector and labeling field), 24 V DC, without fuse

### Labeling panel

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



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### Accessories

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: 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



FO connecting cable - VS-PC-2XHCS-200-SCRJ/SCRJ-1 - 1654934



Assembled FO cable, breakout cable, 200/230 µm PCF fiber, SC-RJ/IP20 to SC-RJ/IP20, for installation inside control cabinets, length: 1 m

FO connecting cable - VS-PC-2XHCS-200-SCRJ/SCRJ-2 - 1654947



Assembled FO cable, breakout cable, 200/230 µm PCF fiber, SC-RJ/IP20 to SC-RJ/IP20, for installation inside control cabinets, length: 2 m

## Bus coupler - IL PN BK DI8 DO4 2SCRJ-PAC - 2878379

### Accessories

FO connecting cable - VS-PC-2XHCS-200-SCRJ/SCRJ-5 - 1654950



Assembled FO cable, breakout cable, 200/230 µm PCF fiber, SC-RJ/IP20 to SC-RJ/IP20, for installation inside control cabinets, length: 5 m

FO accessories - VS-SCRJ-POF-KONFTOOL-CUT - 1657096



SC-RJ cutting tool set, for polymer fiber, for field assembly of SC-RJ/IP20 and SC-RJ/IP67. Push-Pull connectors with fast connection technology, consisting of stripping tool, aramid scissors, SC-RJ cutting tool, microscope, 2x SC-RJ connectors IP20

FO accessories - VS-SCRJ-POF-KONFTOOL-POLISH - 1658820



SC-RJ polishing tool set, for polymer fiber, for field assembly of the SC-RJ connector (IP20/IP67) with fast connection technology, with stripping tool, diagonal cutter, aramid scissors, polishing materials, microscope, 2x SC-RJ connector IP20

FO accessories - VS-SCRJ-POF-POLISH - 1656673



Refilling set for VS-SC-RJ-POF-KONFTOOL-POLISH, consisting of two polishing discs and a polisher

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