

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

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>)



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 PROFIsafe applications
- Automatic speed detection of the system bus
- Eight digital inputs, four digital outputs (on-board)



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 073271 |
| GTIN | 4046356073271 |
| Weight per Piece (excluding packing) | 367.900 g |
| Custom tariff number | 85176200 |
| Country of origin | Germany |

Technical data

Note

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

Technical data

Note

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

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 ... 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 |

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

Technical data

Digital inputs

| | |
|------------------------------------|---------------------|
| 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 |
| 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

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

Technical data

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 |
| | 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) |

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

Technical data

Standards and Regulations

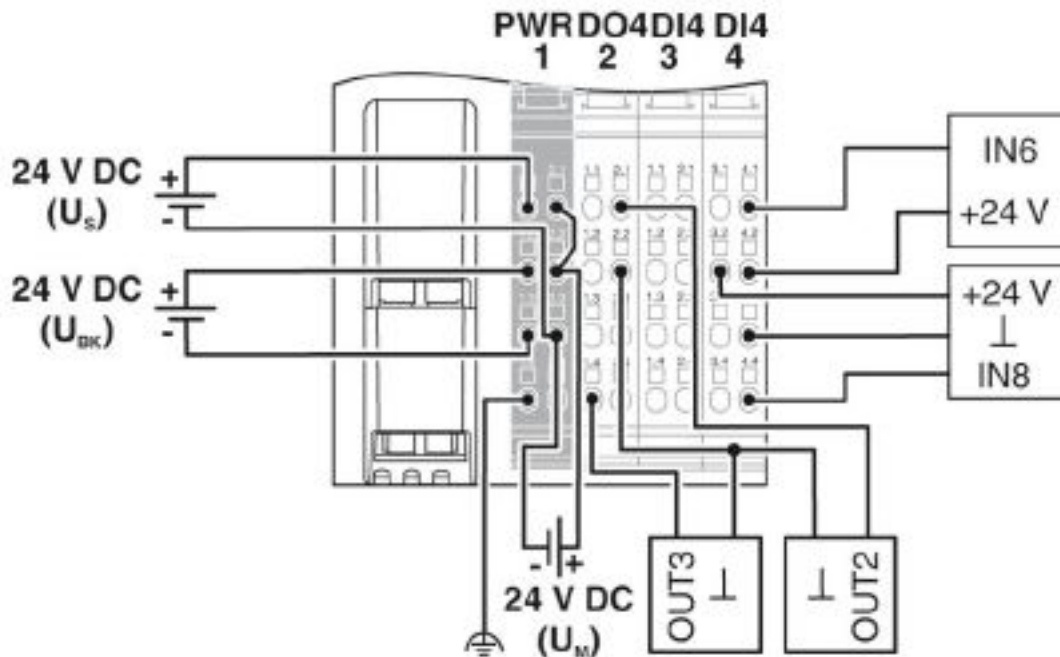
| | |
|------------------|---|
| Mechanical tests | Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g |
| | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse |
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |

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" |

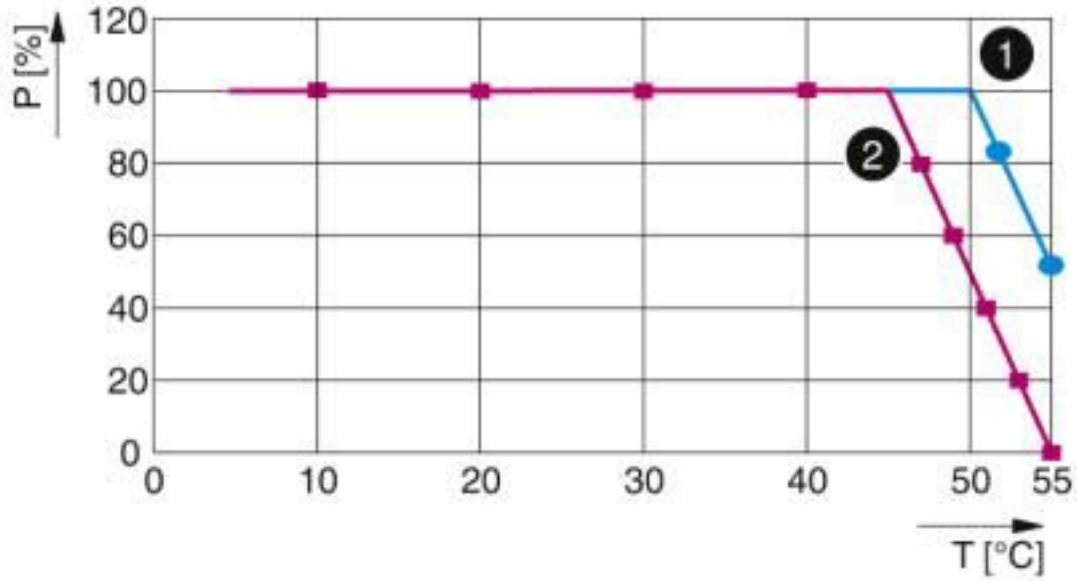
Drawings

Connection diagram



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

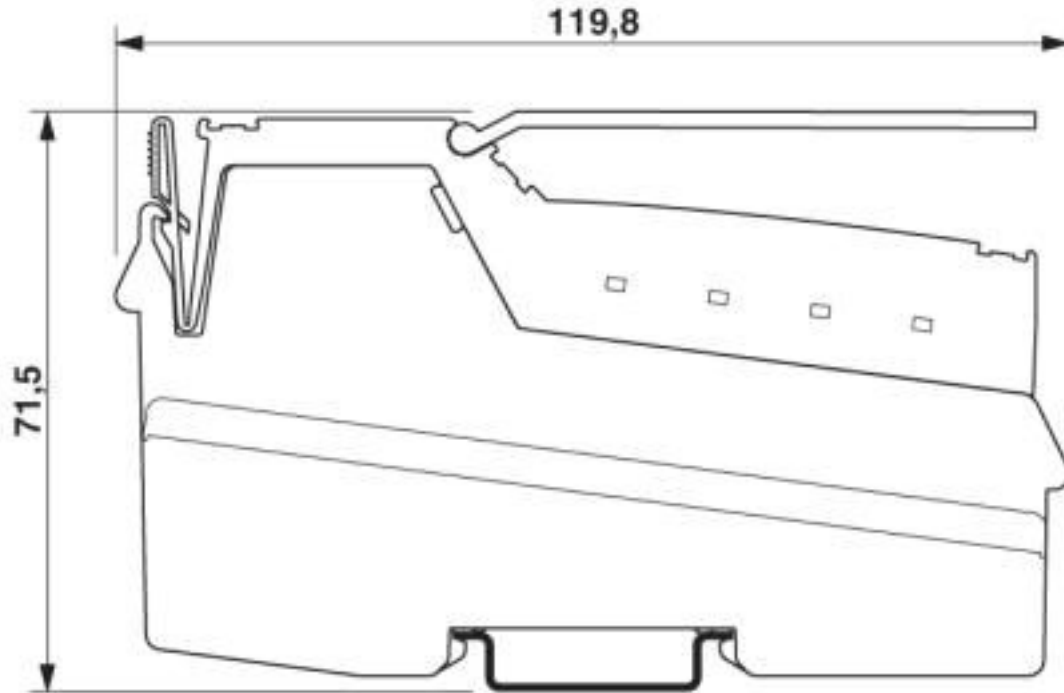
Diagram



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

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

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 |

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

Classifications

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

UL Listed / cUL Listed / PROFIBUS / cULus Listed

Ex Approvals

ATEX

Approval details

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|-----------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|------------|--|---|---------------|

| | |
|----------|--------|
| PROFIBUS | Z10315 |
|----------|--------|

| | |
|--------------|--|
| cULus Listed | |
|--------------|--|

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

Accessories

Accessories

Connector set

Connector set - IL BKDIO-PLSET - 2878599



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

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

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

Fiber optic connector (cable side)

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



SC-RJ fiber optic connector, IP20, duplex, with fast connection technology, for polymer fiber 980/1000 μm , for individual wire diameter 2.2 mm

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

Accessories

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



SC-RJ fiber optic connector, IP20, duplex, with fast connection technology, for PCF fiber 200/230 μm , 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 μm , 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



Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



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

Accessories

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 μ m 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 μ m PCF fiber, SC-RJ/IP20 to SC-RJ/IP20, for installation inside control cabinets, length: 2 m

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



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

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

Accessories

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-SCRJ-POF-KONFTOOL-POLISH, consisting of two polishing discs and a polisher

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

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
