

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

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>)




Bus system flush-type female connector, Ethernet , 4-pos., M12, shielded, D-coded, SPEEDCON, rear/screw mounting with Pg9 thread, can be positioned, with 0.5 m bus line, 2 x 2 x 0.14 mm<sup>2</sup>



Ethernet



## Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 046356 458429 |
| GTIN         | 4046356458429   |

## Technical data

### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 0.5 m |
|-----------------|-------|

### Ambient conditions

|                                 |   |
|---------------------------------|---|
| Ambient temperature (operation) | -25 °C ... 85 °C (Plug / socket)                |
|                                 | -40 °C ... 85 °C (without mechanical actuation) |
|                                 | -25 °C ... 85 °C (Plug / socket)                |
| Degree of protection            | IP67 (When plugged in)                          |
|                                 | IP65 (When plugged in)                          |

### General

|                       |  |
|-----------------------|--|
| Rated current at 40°C | 4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Rated voltage         | 48 V AC  |
|                       | 60 V DC  |
| Number of positions   | 4  |
| Coding                | D - data   |
| Standards/regulations | M12 connector IEC 61076-2-101  |

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

## Technical data

### General

|   |  |
|---|--|
| Signal type/category                    | Ethernet CAT5 (IEC 11801:2002), 100 Mbps |
|   | Ethernet                                 |
| Overvoltage category                    | II                                       |
| Degree of pollution                     | 3  |
| Transmission characteristics (category) | CAT5                                     |

### Material

|  |                     |
|--|---------------------|
| Flammability rating according to UL 94 | V0                  |
| Contact material                       | CuZn                |
| Contact surface material               | Ni/Au               |
| Contact carrier material               | PA 6.6              |
| Material, knurls                       | Nickel-plated brass |
| Sealing material                       | NBR                 |

### Standards and Regulations

|  |  |
|--|--|
| Standards/specifications               | M12 connector IEC 61076-2-101  |
| Flammability rating according to UL 94 | V0   |
| Safety note                            | WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.   |
|  | <ul style="list-style-type: none"> <li>• WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product.</li> </ul> |
|  | <ul style="list-style-type: none"> <li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>• Assembled products may not be manipulated or improperly opened.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at phoenixcontact.com/products).</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Observe the corresponding technical data. You will find information:                             <ul style="list-style-type: none"> <li>o On the product</li> <li>o On the packing label</li> </ul> </li> </ul>   |

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

## Technical data

### Standards and Regulations

|                          |  |
|--------------------------|--|
|                          | <ul style="list-style-type: none"> <li>o In the supplied documentation</li> <li>o Online at phoenixcontact.com/products under the product</li> </ul>   |
|                          | <ul style="list-style-type: none"> <li>• Only use tools recommended by Phoenix Contact</li> </ul>  |
|                          | <ul style="list-style-type: none"> <li>• Use a protective cap to protect connectors that are not in use. The suitable accessories are available online in the accessory section of the product at phoenixcontact.com/products</li> </ul>   |
|                          | <ul style="list-style-type: none"> <li>• Ensure that the protective or functional ground has been properly connected.</li> </ul>   |
|                          | <ul style="list-style-type: none"> <li>• VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector</li> </ul>  |
|                          | <ul style="list-style-type: none"> <li>• The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting warnings (e.g. DIN EN ISO 13732-1:2008-12).</li> </ul> |
| Standards/specifications | M12 connector IEC 61076-2-101  |

### Cable

|   |  |
|---|--|
| Cable type                                    | Ethernet flexible CAT5, 2-pair                     |
| Cable type (abbreviation)                     | 93E  |
| UL AWM style                                  | 20963 (80°C/30 V)                                  |
| Signal type/category                          | Ethernet CAT5 (IEC 11801), 100 Mbps                |
| Cable structure                               | 2x2xAWG26/7; SF/UTP                                |
| Conductor cross section                       | 2x 2x 0.14 mm <sup>2</sup>                         |
| AWG signal line                               | 26   |
| Conductor structure signal line               | 7x 0.16 mm   |
| Core diameter including insulation            | 0.98 mm  |
| Wire colors                                   | white/orange-orange, white/green-green             |
| Twisted pairs                                 | 2 cores to the pair                                |
| Overall twist                                 | Two pairs with two fillers to the core             |
| Shielding                                     | Aluminum-coated foil, tinned copper braided shield |
| Optical shield covering                       | 70 %   |
| External sheath, color                        | water blue RAL 5021                                |
| Outer sheath thickness                        | 1.2 mm   |
| External cable diameter D                     | 6.4 mm ±0.2 mm                                     |
| Minimum bending radius, fixed installation    | 4 x D  |
| Minimum bending radius, flexible installation | 8 x D  |
| Tensile strength GRP                          | ≤ 80 N   |
| Cable weight                                  | 42 kg/km   |
| Outer sheath, material                        | PUR  |
| Material conductor insulation                 | Foamed PE  |
| Conductor material                            | Bare Cu litz wires                                 |
| Standards/specifications                      | Electrical requirements EN 50288-2-2               |
| Insulation resistance                         | ≥ 500 MΩ*km  |

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

## Technical data

### Cable

|  |   |
|--|---|
| Loop resistance  | ≤ 290.00 Ω/km   |
| Cable capacity   | approx. 45 nF/km (at 1 kHz)                           |
| Wave impedance   | 100 Ω ±5 Ω (at 100 MHz)                               |
| Near end crosstalk attenuation (NEXT)                  | 65.3 dB (with 1 MHz)                                  |
|  | 56.3 dB (at 4 MHz)                                    |
|  | 50.3 dB (at 10 MHz)                                   |
|  | 47.2 dB (at 16 MHz)                                   |
|  | 45.8 dB (at 20 MHz)                                   |
|  | 42.9 dB (at 31.25 MHz)                                |
|  | 38.4 dB (at 62.5 MHz)                                 |
|  | 35.3 dB (at 100 MHz)                                  |
| Power-summated near end crosstalk attenuation (PSNEXT) | 62.3 dB (with 1 MHz)                                  |
|  | 53.3 dB (at 4 MHz)                                    |
|  | 47.3 dB (at 10 MHz)                                   |
|  | 44.2 dB (at 16 MHz)                                   |
|  | 42.8 dB (at 20 MHz)                                   |
|  | 39.9 dB (at 31.25 MHz)                                |
|  | 35.4 dB (at 62.5 MHz)                                 |
|  | 32.3 dB (at 100 MHz)                                  |
| Attenuation  | 3.2 dB (with 1 MHz)                                   |
|  | 6 dB (at 4 MHz)                                       |
|  | 9.5 dB (at 10 MHz)                                    |
|  | 12.1 dB (at 16 MHz)                                   |
|  | 13.6 dB (at 20 MHz)                                   |
|  | 17.1 dB (at 31.25 MHz)                                |
|  | 24.8 dB (at 62.5 MHz)                                 |
|  | 32 dB (at 100 MHz)                                    |
| Return loss (RL)                                       | 23 dB (at 4 MHz)                                      |
|  | 24.1 dB (at 8 MHz)                                    |
|  | 25 dB (at 10 MHz)                                     |
|  | 25 dB (at 16 MHz)                                     |
|  | 25 dB (at 20 MHz)                                     |
|  | 23.6 dB (at 31.25 MHz)                                |
|  | 21.5 dB (at 62.5 MHz)                                 |
|  | 20.1 dB (at 100 MHz)                                  |
| Signal runtime   | 5.3 ns/m  |
| Coupling resistance                                    | ≤ 100.00 mΩ/m (at 10 MHz)                             |
| Nominal voltage, cable                                 | ≤ 100 V (Peak value, not for high-power applications) |
| Test voltage Core/Core                                 | 700 V (50 Hz, 1 min.)                                 |

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

## Technical data

### Cable

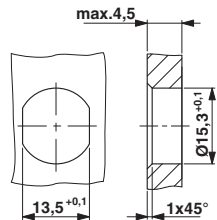
|   |   |
|---|---|
| Test voltage Core/Shield                | 700 V (50 Hz, 1 min.)                           |
| Current carrying capacity of cable      | 2 A (according to DIN VDE 0891-1)               |
| Flame resistance                        | according to IEC 60332-1-2                      |
|   | in acc. to UL VW1                               |
| Halogen-free                            | according to IEC 60754-1                        |
| Resistance to oil                       | according to EN 60811-2-1                       |
| Ambient temperature (operation)         | -40 °C ... 80 °C (cable, fixed installation)    |
|   | -20 °C ... 80 °C (Cable, flexible installation) |
| Ambient temperature (installation)      | -20 °C ... 80 °C                                |
| Ambient temperature (storage/transport) | -20 °C ... 80 °C                                |
| Shielded                                | yes   |

### Environmental Product Compliance

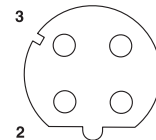
|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

Dimensional drawing



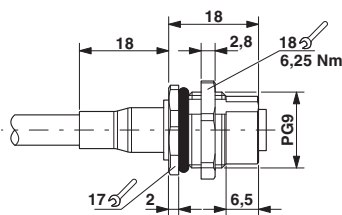
Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

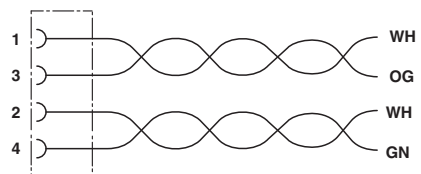
Housing cutout for Pg9 fastening thread, mounting panel with feed-through hole (alternatively with surface as protection against rotation)

Dimensional drawing



M12 panel feed-through

Circuit diagram



Contact assignment of the M12 socket

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

Cable cross section



Ethernet flexible CAT5, 2-pair [93E]

## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440102 |
| eCl@ss 11.0   | 27440102 |
| eCl@ss 4.0    | 27140800 |
| eCl@ss 4.1    | 27140800 |
| eCl@ss 5.0    | 27143400 |
| eCl@ss 5.1    | 27143400 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27440103 |
| eCl@ss 9.0    | 27440102 |

# Bus system flush-type socket - SACCBP-FSD-4CON-PG9/0,5-931SCO - 1437685

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC002061 |
| ETIM 4.0 | EC002061 |
| ETIM 6.0 | EC002061 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 39121413 |
| UNSPSC 18.0   | 39121413 |
| UNSPSC 19.0   | 39121413 |
| UNSPSC 20.0   | 39121413 |
| UNSPSC 21.0   | 39121413 |

## Approvals


### Approvals

Approvals

UL Recognized / EAC

Ex Approvals

### Approval details

|                            |   |   |               |
|----------------------------|---|---|---------------|
| 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 118976 |
| Nominal voltage UN         | 250 V   |   |               |
| Nominal current IN         | 4 A   |   |               |
| mm <sup>2</sup> /AWG/kcmil | 22  |   |               |

|     |   |         |
|-----|---|---------|
| EAC |  | B.01687 |
|-----|---|---------|

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

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