

# SACCBP-FSD-4CON-PG9/5,0-931SCO - Device connector, rear mounting



1437711

<https://www.phoenixcontact.com/us/products/1437711>

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Bus system flush-type socket, Ethernet, 4-pos., M12, shielded, D-coded, SPEEDCON, rear/screw mounting with Pg9 thread, can be positioned, with 5.0 m bus cable, 2 x 2 x 0.2 mm<sup>2</sup>

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1437711       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AB25          |
| Product key                          | ABQDGJ        |
| GTIN                                 | 4046356458450 |
| Weight per piece (including packing) | 236.9 g       |
| Weight per piece (excluding packing) | 229 g         |
| Customs tariff number                | 85444290      |
| Country of origin                    | DE            |

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## Technical data

### Notes

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General     | The electrical and mechanical data specified assume that the connector pair is correctly locked and mounted. If the connector is unlocked and if there is a danger of contamination, the connector must be sealed using a protective cap > IP54. Influences arising from litz wires, cables or PCB assembly must also be taken into consideration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Safety note |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Safety note | <p>WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.</p> <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><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><li>• The products are suitable for applications in plant, controller, and electrical device engineering.</li><li>• When operating the connectors in outdoor applications, they must be separately protected against environmental influences.</li><li>• Assembled products may not be manipulated or improperly opened.</li><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 <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a>).</li><li>• When using the product in direct connection with third-party manufacturers, the user is responsible.</li><li>• For operating voltages &gt; 50 V AC, conductive connector housings must be grounded</li><li>• Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.</li><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><li>o In the supplied documentation</li><li>o Online at <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a> under the product</li></ul></li><li>• Only use tools recommended by Phoenix Contact</li><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 <a href="https://www.phoenixcontact.com/products">phoenixcontact.com/products</a></li></ul> |

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|  |                                                                                                                                                                                                                                                                                        |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <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> |

## Mounting

|               |               |
|---------------|---------------|
| Mounting type | Rear mounting |
|---------------|---------------|

## Product properties

|                      |                                   |
|----------------------|-----------------------------------|
| Product type         | Circular connectors (device side) |
| Sensor type          | Ethernet                          |
| Number of positions  | 4                                 |
| No. of cable outlets | 1                                 |
| Coding               | D                                 |

## Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

## Material specifications

|                                        |                      |
|----------------------------------------|----------------------|
| Flammability rating according to UL 94 | V0                   |
| Seal material                          | NBR                  |
| Contact material                       | CuZn                 |
| Contact surface material               | Ni/Au                |
| Contact carrier material               | PA 6.6               |
| Material for screw connection          | Brass, nickel-plated |

## Electrical properties

|                                         |                                                                                                |
|-----------------------------------------|------------------------------------------------------------------------------------------------|
| Nominal voltage $U_N$                   | 48 V AC                                                                                        |
|                                         | 60 V DC                                                                                        |
| Nominal current $I_N$                   | 1.5 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Transmission medium                     | Copper                                                                                         |
| Transmission characteristics (category) | CAT5 (IEC 11801:2002)                                                                          |

## Connector

### Connection 1

|                   |          |
|-------------------|----------|
| Head design       | Socket   |
| Head cable outlet | straight |
| Head thread type  | M12      |

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|                   |          |
|-------------------|----------|
| Head locking type | SPEEDCON |
| Coding            | D        |

## Connection 2

|             |                |
|-------------|----------------|
| Head design | free cable end |
|-------------|----------------|

## Cable/line

### Ethernet flexible CAT5, 2-pair [93E]

|                                 |                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 42 kg/km                                                                           |
| UL AWM Style                    | 20963 (80°C/30 V)                                                                  |
| Wiring standards/regulations    | Electrical requirements EN 50288-2-2                                               |
| Number of positions             | 4                                                                                  |
| Shielded                        | yes                                                                                |
| Cable type                      | Ethernet flexible CAT5, 2-pair [93E]                                               |
| Conductor structure             | 2x2xAWG26/7, SF/UTP                                                                |
| Signal runtime                  | 5.3 ns/m                                                                           |
| Conductor structure signal line | 7x 0.16 mm                                                                         |
| AWG signal line                 | 26                                                                                 |
| Conductor cross section         | 2x 2x 0.14 mm <sup>2</sup>                                                         |
| Wire diameter incl. insulation  | 0.98 mm                                                                            |
| External cable diameter         | 6.4 mm ±0.2 mm                                                                     |
| Outer sheath, material          | PUR                                                                                |
| External sheath, color          | water blue RAL 5021                                                                |
| Conductor material              | Bare Cu litz wires                                                                 |
| Material wire insulation        | Foamed PE                                                                          |
| Single wire, color              | white/orange-orange, white/green-green                                             |
| Thickness, outer sheath         | 1.2 mm                                                                             |
| Twisted pairs                   | 2 cores to the pair                                                                |
| Overall twist                   | Two pairs with two fillers to the core                                             |
| Optical shield covering         | 70 %                                                                               |
| Insulation resistance           | ≥ 500 MΩ*km                                                                        |
| Coupling resistance             | ≤ 100.00 mΩ/m (at 10 MHz)                                                          |
| Loop resistance                 | ≤ 290.00 Ω/km                                                                      |
| Wave impedance                  | 100 Ω ±5 Ω (at 100 MHz)                                                            |

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|                                                        |                                                       |
|--------------------------------------------------------|-------------------------------------------------------|
| Cable capacity                                         | approx. 45 nF/km (at 1 kHz)                           |
| Nominal voltage, cable                                 | ≤ 100 V (Peak value, not for high-power applications) |
| Test voltage Core/Core                                 | 700 V (50 Hz, 1 min.)                                 |
| Test voltage Core/Shield                               | 700 V (50 Hz, 1 min.)                                 |
| Current carrying capacity of cable                     | 2 A (according to DIN VDE 0891-1)                     |
| Minimum bending radius, fixed installation             | 4 x D                                                 |
| Minimum bending radius, flexible installation          | 8 x D                                                 |
| Tensile strength                                       | ≤ 80 N                                                |
| 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)                                  |
| 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)                                  |
| Shield 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)                                    |
| Halogen-free                                           | according to IEC 60754-1                              |
|                                                        | according to IEC 60332-1-2                            |

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|                                    |                                                 |
|------------------------------------|-------------------------------------------------|
| Flame resistance                   | in acc. to UL VW1                               |
|                                    | in accordance with UN ECE-R 118.03              |
| Resistance to oil                  | in accordance with 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                                |

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

### M12

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

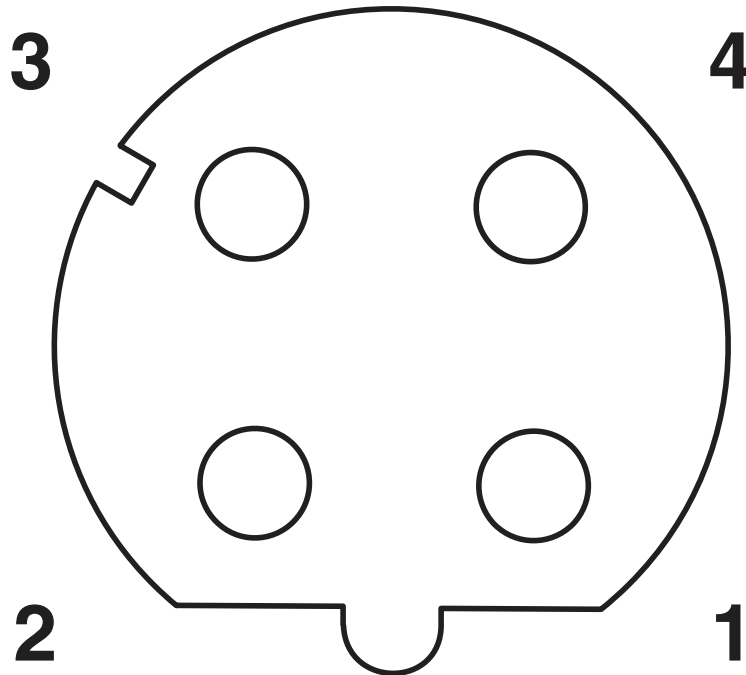
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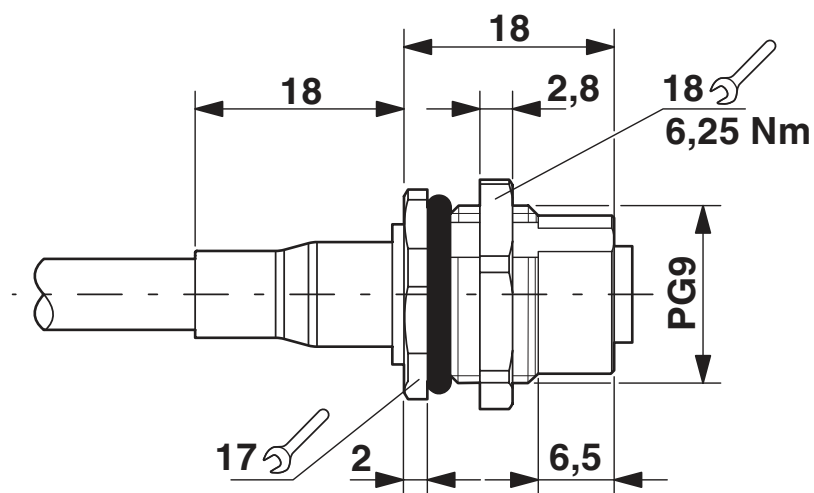
## Drawings

Schematic diagram



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

Dimensional drawing



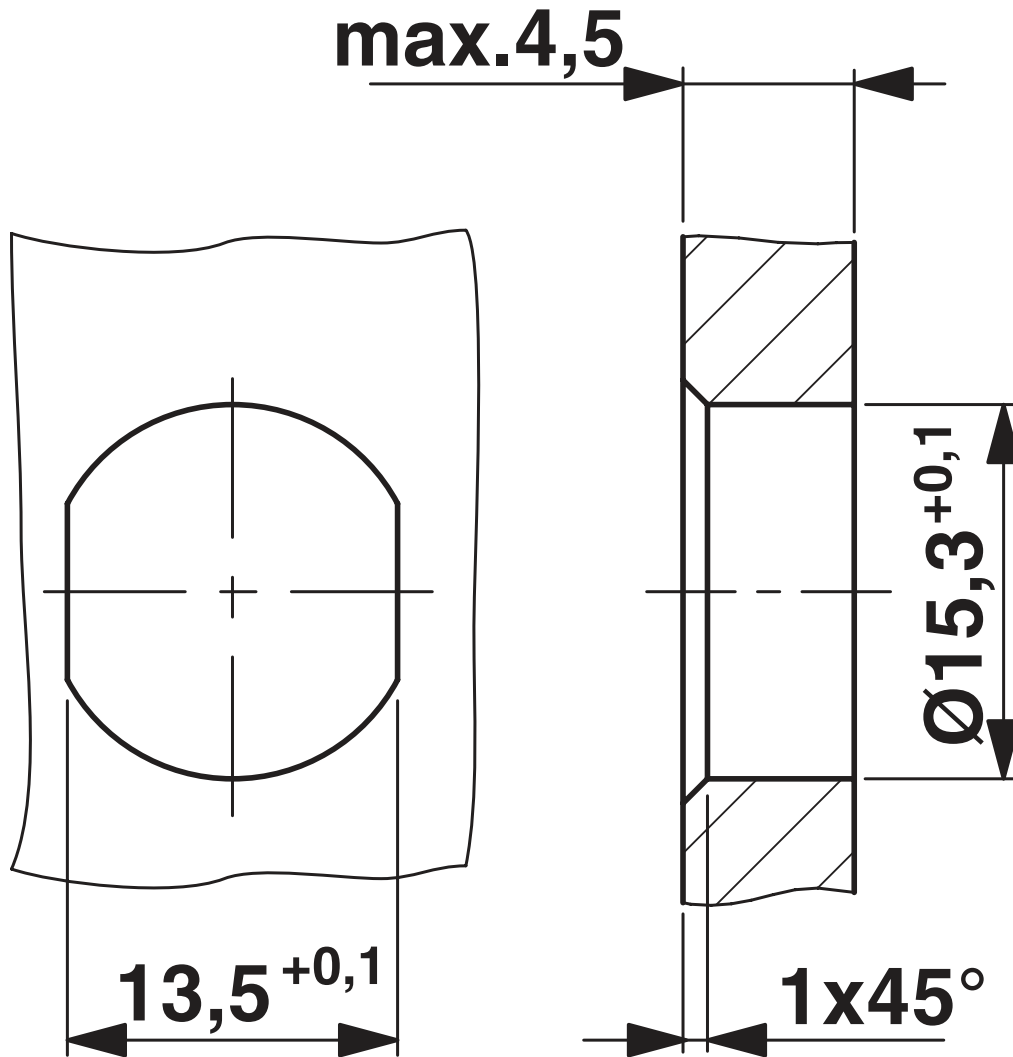
Dimensional drawing

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Dimensional drawing



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



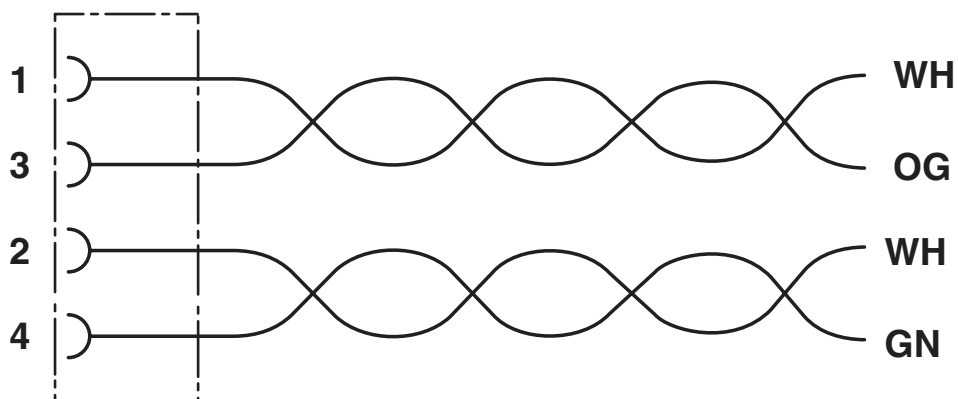
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Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1437711>



### UL Recognized

Approval ID: E118976-20100522

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 30 V                  | 1.5 A                 | - 26              | -                           |



### EAC

Approval ID: B.01687

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27440103 |
| ECLASS-12.0 | 27440103 |
| ECLASS-13.0 | 27440103 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC003570 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|            |                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                               |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                               |
|            | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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