

# SACC-M12FS-5CON-PG 7-SH - Connector



1694305

<https://www.phoenixcontact.com/us/products/1694305>

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Connector, Universal, 5-position, shielded, Socket straight M12, coding: A, Screw connection, knurl material: Brass, nickel-plated, cable gland Pg7, external cable diameter 4 mm ... 6 mm

## Your advantages

- Safe use in the field, thanks to a high degree of protection
- Screw connection: proven connection technology for a large selection of different conductors
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1694305       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF30          |
| Product key                          | AF2CBA        |
| GTIN                                 | 4017918181307 |
| Weight per piece (including packing) | 60 g          |
| Weight per piece (excluding packing) | 59.5 g        |
| Customs tariff number                | 85366990      |
| Country of origin                    | CN            |

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## Technical data

### Notes

Assembly note

**NOTE:** Observe the permissible bending radii when routing cables, since the degree of protection may be at risk if the bending forces are too high. Reduce mechanical loads upstream of the connector, e.g., by using cable ties.

### Product properties

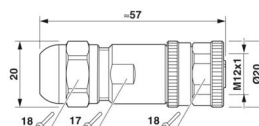
|                      |                                 |
|----------------------|---------------------------------|
| Product type         | Circular connector (cable-side) |
| Sensor type          | Universal                       |
| Number of positions  | 5                               |
| No. of cable outlets | 1                               |
| Shielded             | yes                             |
| Coding               | A                               |
| Cable outlet         | straight                        |
| Pg screw connection  | Pg7                             |

### Insulation characteristics

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

### Dimensions

Dimensional drawing



|        |       |
|--------|-------|
| Width  | 20 mm |
| Height | 20 mm |
| Length | 57 mm |

### External dimensions

|                  |               |
|------------------|---------------|
| Outside diameter | 4 mm ... 6 mm |
|------------------|---------------|

### Housing

|                  |       |
|------------------|-------|
| Diameter housing | 20 mm |
|------------------|-------|

### Material specifications

|                                        |                      |
|----------------------------------------|----------------------|
| Flammability rating according to UL 94 | HB                   |
| Seal material                          | NBR                  |
| Material of grip body                  | Brass, nickel-plated |
| Contact material                       | CuZn                 |
| Contact surface material               | Au                   |
| Contact carrier material               | PA                   |
| Material for screw connection          | Brass, nickel-plated |

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## Connection data

### Conductor connection

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Connection method                       | Screw connection                                    |
| Connection cross section                | 0.25 mm² ... 0.75 mm² (without ferrule)             |
|                                         | 0.14 mm² ... 0.5 mm² (with ferrule)                 |
|                                         | 0.25 mm² ... 0.75 mm² (solid)                       |
| Connection cross section AWG            | 24 ... 18 (without ferrule)                         |
|                                         | 26 ... 20 (with ferrule)                            |
| Stripping length of the individual wire | 5 mm                                                |
| Tightening torque                       | 0.4 Nm (M12 knurl)                                  |
|                                         | 0.2 Nm (Screw terminal blocks)                      |
|                                         | 0.8 Nm ... 1 Nm (Pressure nut with coupling sleeve) |

## Electrical properties

|                                |          |
|--------------------------------|----------|
| Rated surge voltage            | 1.5 kV   |
| Contact resistance             | ≤ 3 mΩ   |
| Insulation resistance          | ≥ 100 MΩ |
| Nominal voltage U <sub>N</sub> | 48 V AC  |
|                                | 60 V DC  |
| Nominal current I <sub>N</sub> | 4 A      |

## Mechanical properties

### Mechanical data

|                             |       |
|-----------------------------|-------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|-------|

## Connector

### Connection 1

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

## Cable/line

|                                         |           |
|-----------------------------------------|-----------|
| Signal type/category                    | Universal |
| Stripping length of the individual wire | 5 mm      |

## Environmental and real-life conditions

### Ambient conditions

|                                                                   |                                  |
|-------------------------------------------------------------------|----------------------------------|
| Degree of protection                                              | IP67                             |
| Ambient temperature (operation) (male connector/female connector) | -40 °C ... 85 °C (Plug / socket) |

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## Standards and regulations

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

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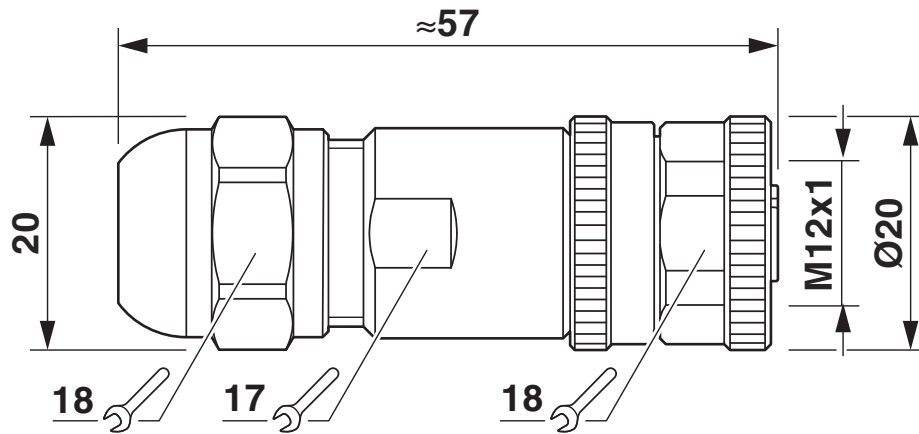


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## Drawings

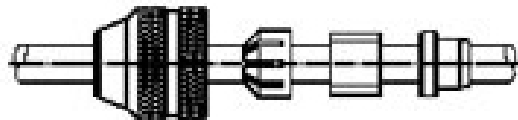
Dimensional drawing



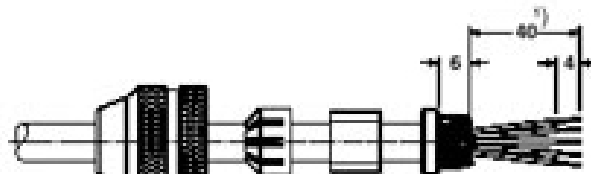
M12 x 1 socket, straight, shielded

## Functional drawing

### Assembly steps for M 12 male/female connector and conductor

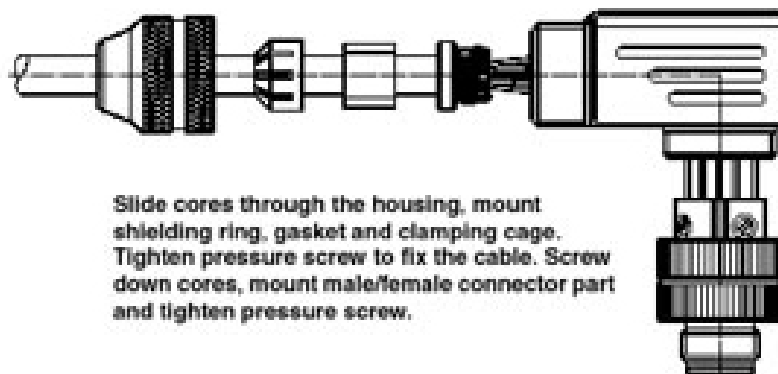


Slide parts onto the conductor



<sup>1)</sup> For straight version: 35

Strip conductor, widen shield and lay around the shielding ring, cut off projecting mesh.



Slide cores through the housing, mount shielding ring, gasket and clamping cage. Tighten pressure screw to fix the cable. Screw down cores, mount male/female connector part and tighten pressure screw.

### Assembly steps for M12 male/female plug and conductor

a = Slide on parts

b= Strip conductor, widen shield and lay around the shielding ring, cut off projecting mesh. Slide cores through the housing. Mount shielding ring, gasket and clamping cage. Tighten pressure screw to fix the cable. Screw down cores. Mount male/female part. Tighten pressure screw.

Schematic diagram



Pin assignment M12 socket, 5-pos., A-coded, socket side view

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1694305>

|                                                                                                                                       |                                |                                |                   |                               |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|  <b>cUL Recognized</b><br>Approval ID: FILE E 221474 |                                |                                |                   |                               |
|                                                                                                                                       | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine                                                                                                                                 |                                |                                |                   |                               |
|                                                                                                                                       | 60 V                           | 4 A                            | -                 | -                             |

|                                                                                                                                      |                                |                                |                   |                               |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|  <b>UL Recognized</b><br>Approval ID: FILE E 221474 |                                |                                |                   |                               |
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| keine                                                                                                                                |                                |                                |                   |                               |
|                                                                                                                                      | 60 V                           | 4 A                            | -                 | -                             |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27440116 |
| ECLASS-15.0 | 27440116 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002635 |
|----------|----------|

### UNSPSC

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

## Environmental product compliance

## EU RoHS

|                                         |      |
|-----------------------------------------|------|
| Fulfills EU RoHS substance requirements | Yes  |
| Exemption                               | 6(c) |

## China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

## EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 12c19019-36f6-4d91-a9e7-62ad1611fbf3 |

## EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.678 kg CO2e |
|---------|---------------|