

# SAC-17P-MS/3,0-35T/FS SH SCO - Sensor/actuator cable



1414114

<https://www.phoenixcontact.com/us/products/1414114>

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Sensor/actuator cable, 17-position, PUR/PVC, black RAL 9005, shielded, Plug straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, cable length: 3 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Save space – with high-pos. connectors
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1414114       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF03          |
| Product key                          | BF1CNA        |
| GTIN                                 | 4055626192482 |
| Weight per piece (including packing) | 362 g         |
| Weight per piece (excluding packing) | 22.22 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | Sensor/actuator cable |
| Application         | Standard              |
| Number of positions | 17                    |
| Shielded            | yes                   |

### Insulation characteristics

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

### Material specifications

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | V0 |
|----------------------------------------|----|

### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 30 V AC |
|                       | 30 V DC |
| Nominal current $I_N$ | 1.5 A   |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | No |
| Status display present | No |

### Connector

#### Connection 1

|                     |                            |
|---------------------|----------------------------|
| Type                | Plug straight M12 SPEEDCON |
| Number of positions | 17                         |
| Locking type        | SPEEDCON                   |
| Coding type         | A                          |

#### Connection 2

|                     |                              |
|---------------------|------------------------------|
| Type                | Socket straight M12 SPEEDCON |
| Number of positions | 17                           |
| Locking type        | SPEEDCON                     |
| Coding type         | A                            |

### Cable/line

|              |     |
|--------------|-----|
| Cable length | 3 m |
|--------------|-----|

Black PUR/PVC twisted pair [35T]

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|                                               |                                                                                                                                                 |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |                                                               |
| Cable weight                                  | 105 kg/km                                                                                                                                       |
| UL AWM Style                                  | 20233 / 1061 (80°C/300 V)                                                                                                                       |
| Number of positions                           | 17                                                                                                                                              |
| Shielded                                      | yes                                                                                                                                             |
| Cable type                                    | Black PUR/PVC twisted pair [35T]                                                                                                                |
| Conductor structure signal line               | 18x 0.10 mm                                                                                                                                     |
| AWG signal line                               | 26                                                                                                                                              |
| Conductor cross section                       | 17x 0.14 mm <sup>2</sup> (Signal line)                                                                                                          |
| Wire diameter incl. insulation                | 1 mm ±0.05 mm (Signal line)                                                                                                                     |
| External cable diameter                       | 9.20 mm ±0.2 mm                                                                                                                                 |
| Outer sheath, material                        | PUR                                                                                                                                             |
| External sheath, color                        | black RAL 9005                                                                                                                                  |
| Conductor material                            | Tin-plated Cu litz wires                                                                                                                        |
| Material wire insulation                      | PVC                                                                                                                                             |
| Single wire, color                            | white-brown, green-yellow, gray-pink, blue-red, black-violet, gray/pink-red/blue, white/green-brown/green, white/yellow-yellow/brown-white/gray |
| Overall twist                                 | 7 pairs and 1 three-way unit, intertwisted                                                                                                      |
| Optical shield covering                       | 85 %                                                                                                                                            |
| Max. conductor resistance                     | 142 Ω/km (at 20 °C)                                                                                                                             |
| Insulation resistance                         | ≥ 10 MΩ*km (at 20 °C)                                                                                                                           |
| Nominal voltage, cable                        | 42 V AC                                                                                                                                         |
| Test voltage                                  | 1500 V AC                                                                                                                                       |
| Minimum bending radius, fixed installation    | 5 x D                                                                                                                                           |
| Minimum bending radius, flexible installation | 10 x D                                                                                                                                          |
| Smallest bending radius, fixed installation   | 46 mm                                                                                                                                           |
| Smallest bending radius, movable installation | 92 mm                                                                                                                                           |
| Max. bending cycles                           | 4000000                                                                                                                                         |
| Flame resistance                              | According to DIN EN 60332-1-2<br>According to VW-1                                                                                              |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1                                                                                                             |
| Other resistance                              | hydrolysis and microbe resistant (in accordance with EN 50396)                                                                                  |
| Special properties                            | Flexible cable conduit capable                                                                                                                  |
| Ambient temperature (operation)               | -30 °C ... 80 °C (cable, fixed installation)<br>-5 °C ... 80 °C (Cable, flexible installation)                                                  |

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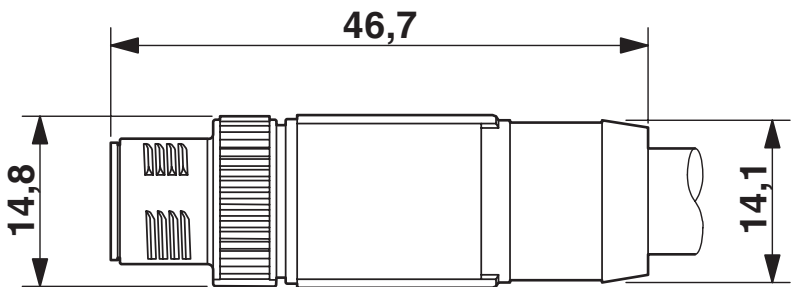
Environmental and real-life conditions

|                      |      |
|----------------------|------|
| Ambient conditions   |      |
| Degree of protection | IP65 |
|                      | IP68 |

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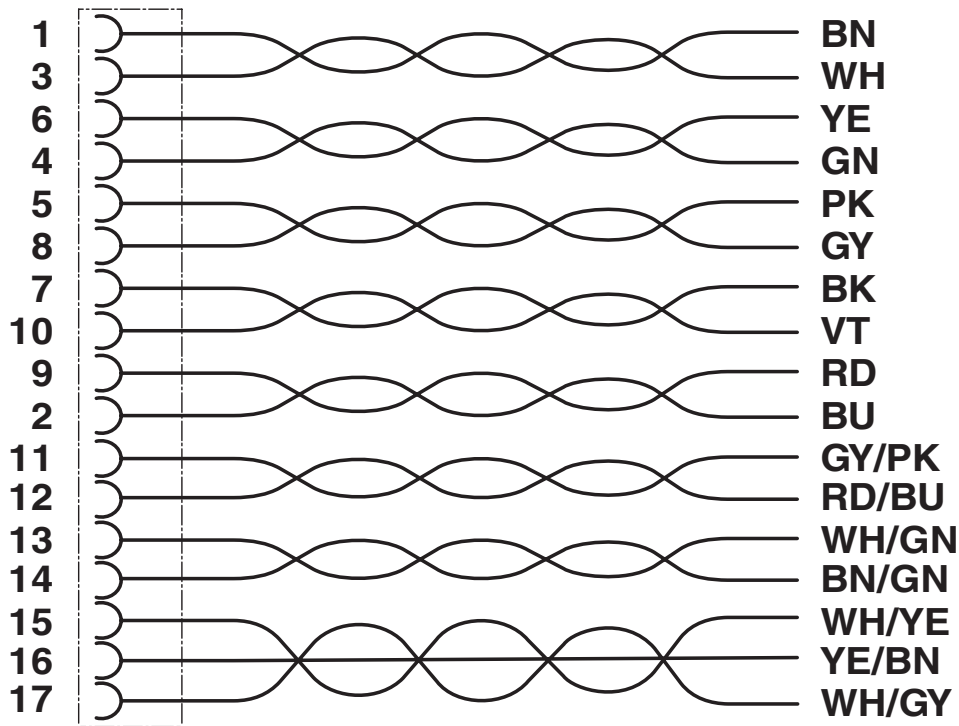
Drawings

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

Circuit diagram



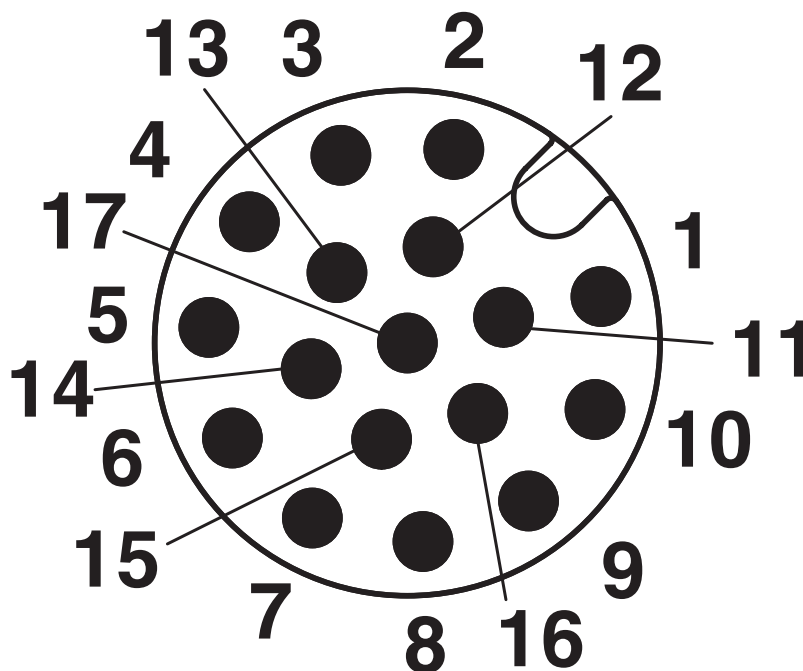
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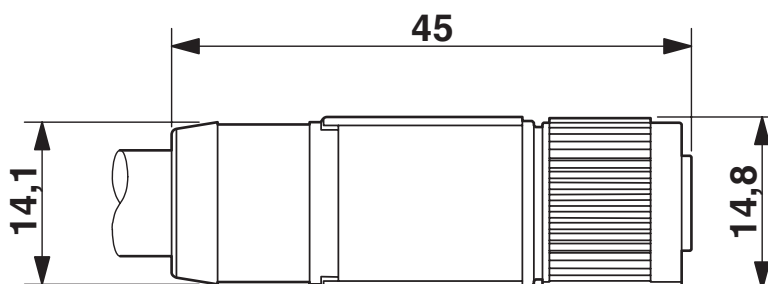
<https://www.phoenixcontact.com/us/products/1414114>

Schematic diagram



Pin assignment M12 male connector, 17-pos., male side view

Dimensional drawing



Socket M12-SPEEDCON, straight, shielded

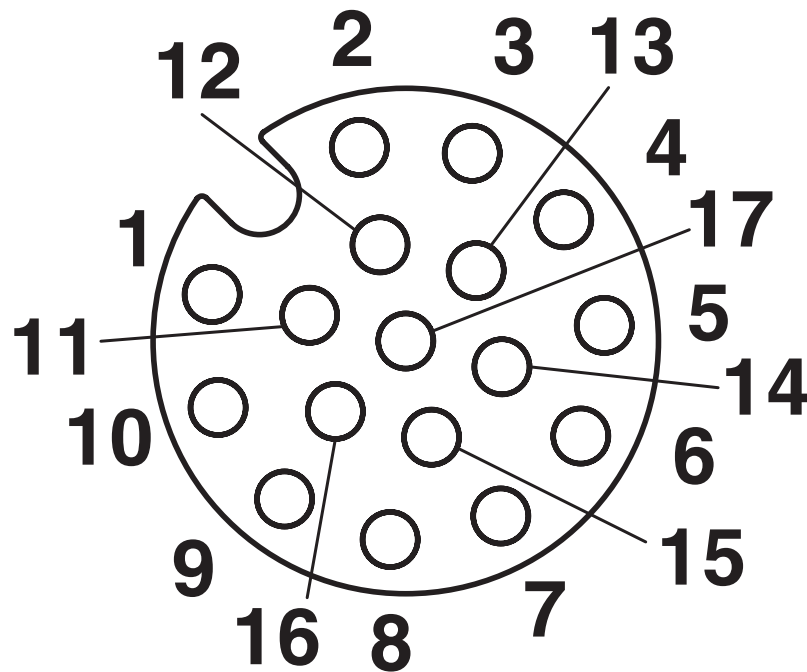
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Schematic diagram



Pin assignment M12, 17-pos., socket side view

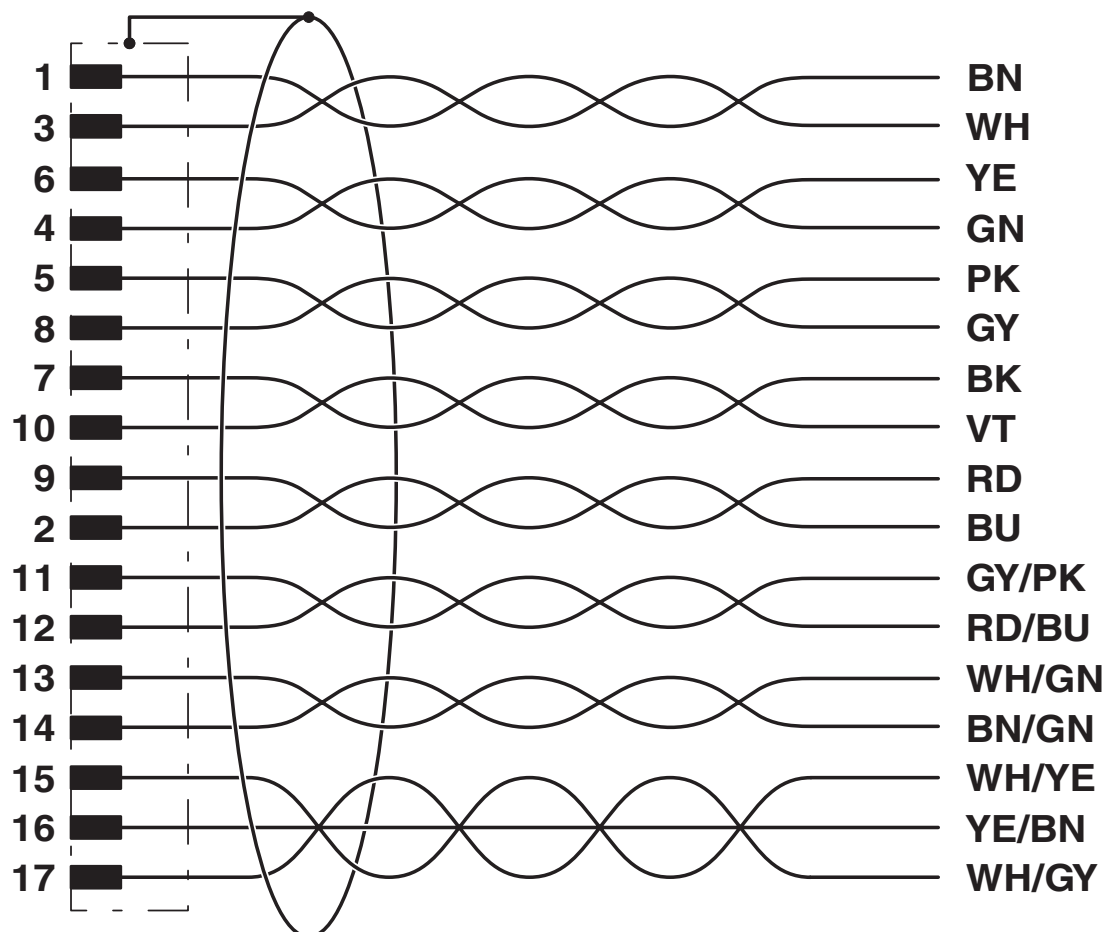
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Circuit diagram





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Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1414114>

|                                                                                   |                                                |                                |                   |                               |
|-----------------------------------------------------------------------------------|------------------------------------------------|--------------------------------|-------------------|-------------------------------|
|  | <b>UL Listed</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> |
|                                                                                   | 30 V                                           | 1 A                            | -                 | -                             |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| ECLASS-13.0 | 27060311 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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Environmental product compliance

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| EU RoHS                                 |                                          |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| China RoHS                              |                                          |
| Environment friendly use period (EFUP)  | EFUP-E                                   |
|                                         | No hazardous substances above the limits |
| EU REACH SVHC                           |                                          |
| REACH candidate substance (CAS No.)     | No substance above 0.1 wt%               |

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## Accessories

### PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



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### SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/products/1558988>

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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## UCT-WMT (23X4) - Conductor marker

0801453

<https://www.phoenixcontact.com/us/products/0801453>



Conductor marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 30

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## UC-WMT (23X4) - Conductor marker

0819411

<https://www.phoenixcontact.com/us/products/0819411>



Conductor marker, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 24

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## US-WMT (23X4) - Cable marker

0828769

<https://www.phoenixcontact.com/us/products/0828769>



Cable marker, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: slide-on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 56

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## WMTW (23X4)R - Cable marker

0831004

<https://www.phoenixcontact.com/us/products/0831004>



Cable marker, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: insert, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 3000

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## PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/us/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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## SAC-M12-EXCLIP-F - Locking clip

1558991

<https://www.phoenixcontact.com/us/products/1558991>

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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## B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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## TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/us/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors



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## TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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## TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

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## SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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