

# SAC-12P-MS/ 25,0-35T SH SCO - Sensor/actuator cable



1039020

<https://www.phoenixcontact.com/us/products/1039020>

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Sensor/actuator cable, 12-position, PUR/PVC, black RAL 9005, shielded, Plug straight M12 SPEEDCON, coding: A, on free cable end, cable length: 25 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                          | 1039020                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | AF1CNA                         |
| GTIN                                 | 4055626593777                  |
| Weight per piece (including packing) | 2,287.8 g                      |
| Weight per piece (excluding packing) | 2,287 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  | 12                    |
| No. of cable outlets | 1                     |
| Shielded             | yes                   |
| Coding               | A                     |

### Insulation characteristics

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

### Material specifications

|  |   |
|--|---|
| Flammability rating according to UL 94 | V0  |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuZn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | PA 6.6                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 30 V AC                    |
|                       | 30 V DC                    |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Connector

#### Connection 1

|              |                            |
|--------------|----------------------------|
| Type         | Plug straight M12 SPEEDCON |
| Locking type | SPEEDCON                   |
| Coding type  | A                          |

#### Connection 2

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

### Cable/line

|              |      |
|--------------|------|
| Cable length | 25 m |
|--------------|------|

Black PUR/PVC twisted pair [35T]

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## Dimensional drawing



|   |   |
|---|---|
| Cable weight                                  | 87 kg/km  |
| UL AWM Style                                  | 20233 / 1061 (80°C/300 V)   |
| Number of positions                           | 12  |
| 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                       | 12x 0.14 mm <sup>2</sup> (Signal line)  |
| Wire diameter incl. insulation                | 1 mm ±0.05 mm (Signal line)   |
| External cable diameter                       | 8.50 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  |
| Twisted pairs                                 | 2 cores to the pair   |
| Overall twist                                 | Six pairs around the filler to the core   |
| 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   | 43 mm   |
| Smallest bending radius, movable installation | 85 mm   |
| Dynamic load capacity (bending)               | Max. bending cycles: 2000000, Bending radius: 85 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup> |
| Flame resistance                              | According to DIN EN 60332-1-2   |
| 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)               | -40 °C ... 80 °C (cable, fixed installation)  |

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-5 °C ... 80 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

|   |  |
|---|--|
| Degree of protection  | IP65   |
|   | IP68   |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket)               |
| Ambient temperature (operation) (Cable, fixed installation)       | -40 °C ... 80 °C (cable, fixed installation)   |
| Ambient temperature (operation) (Cable, flexible installation)    | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

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

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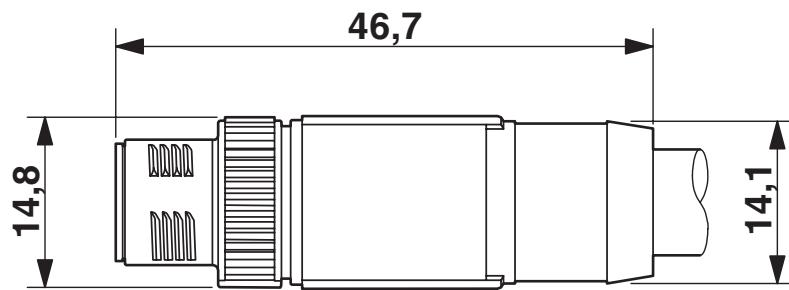


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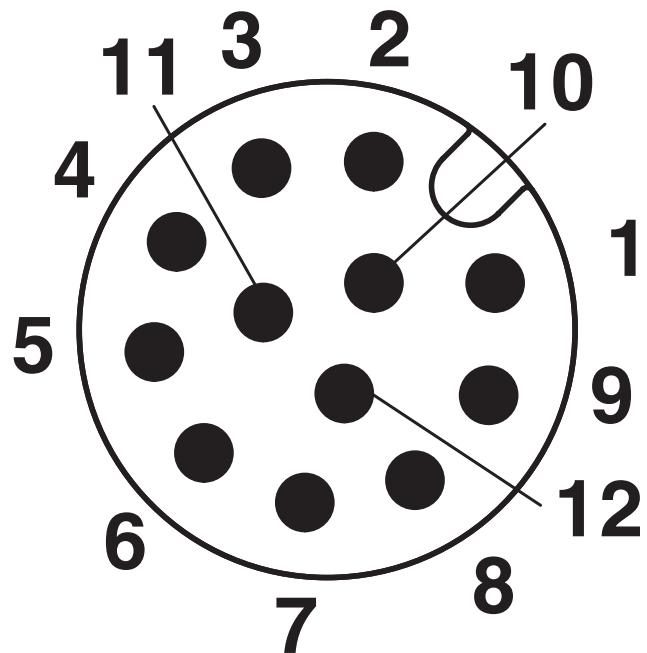
## Drawings

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

Schematic diagram



Pin assignment M12 male connector, 12-pos., male side view

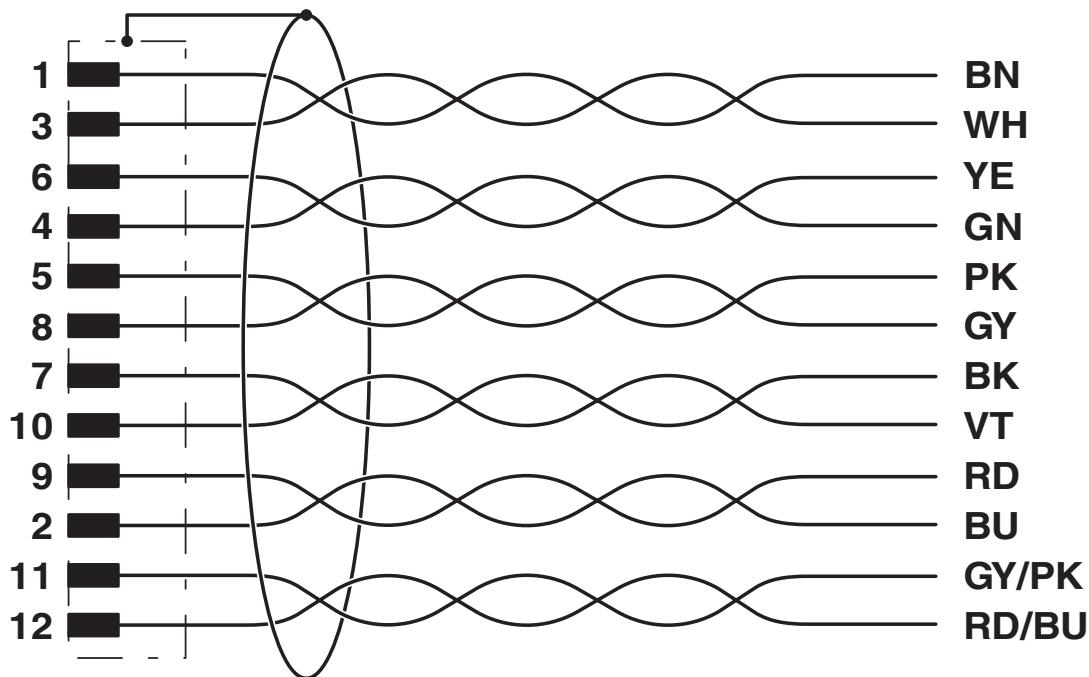
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Circuit diagram



Contact assignment of the M12 plug

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### ETIM

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