

# SAC-12P- 1,5-35T/FS SH SCO - Sensor/actuator cable



1430129

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Sensor/actuator cable, 12-position, PUR/PVC, black RAL 9005, shielded, free cable end, on Socket straight M12 SPEEDCON, coding: A, cable length: 1.5 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                          | 1430129             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF03                |
| Product key                          | AF1CNA              |
| Catalog page                         | Page 214 (C-2-2019) |
| GTIN                                 | 4046356322393       |
| Weight per piece (including packing) | 163.9 g             |
| Weight per piece (excluding packing) | 160.2 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                                          |
| Seal material                          | NBR                                         |
| 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                    |
| Nominal current $I_N$ | 1.5 A                      |

### Signaling

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

### Connection data

|                      |                        |
|----------------------|------------------------|
| Conductor connection |                        |
| Tightening torque    | 0.4 Nm (M12 connector) |

### Connector

|                     |                              |
|---------------------|------------------------------|
| Connection 1        |                              |
| Type                | free cable end               |
| Connection 2        |                              |
| Type                | Socket straight M12 SPEEDCON |
| Number of positions | 12                           |

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|              |          |
|--------------|----------|
| Locking type | SPEEDCON |
| Coding type  | A        |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 1.5 m |
|--------------|-------|

### Black PUR/PVC twisted pair [35T]

|                                               |                                                                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 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> |

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|                                 |                                                                |
|---------------------------------|----------------------------------------------------------------|
| Flame resistance                | According to DIN EN 60332-1-2                                  |
|                                 | 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) | -40 °C ... 80 °C (cable, fixed installation)                   |
|                                 | -5 °C ... 80 °C (Cable, flexible installation)                 |

## Environmental and real-life conditions

### Ambient conditions

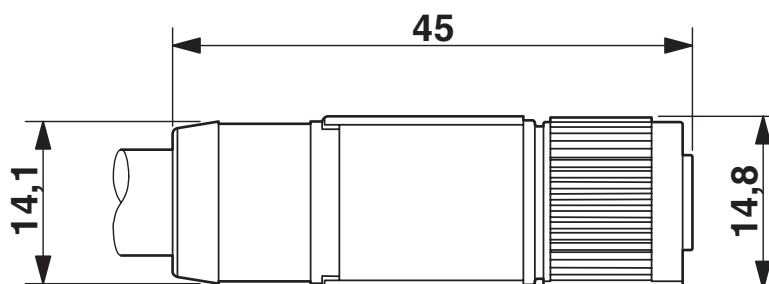
|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Degree of protection            | IP65                                           |
|                                 | IP67                                           |
| Ambient temperature (operation) | -25 °C ... 85 °C (Plug / socket)               |
|                                 | -40 °C ... 80 °C (cable, fixed installation)   |
|                                 | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

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

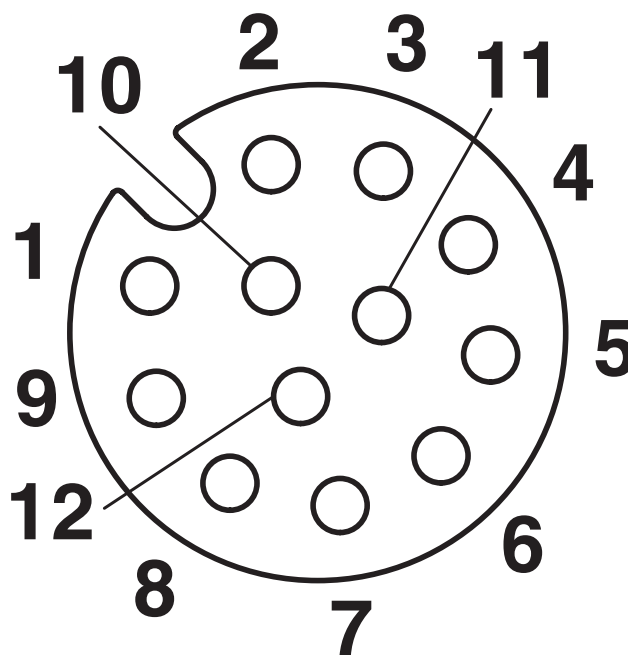
## Drawings

Dimensional drawing



Socket M12-SPEEDCON, straight, shielded

Schematic diagram



Pin assignment M12, 12-pos., female side view

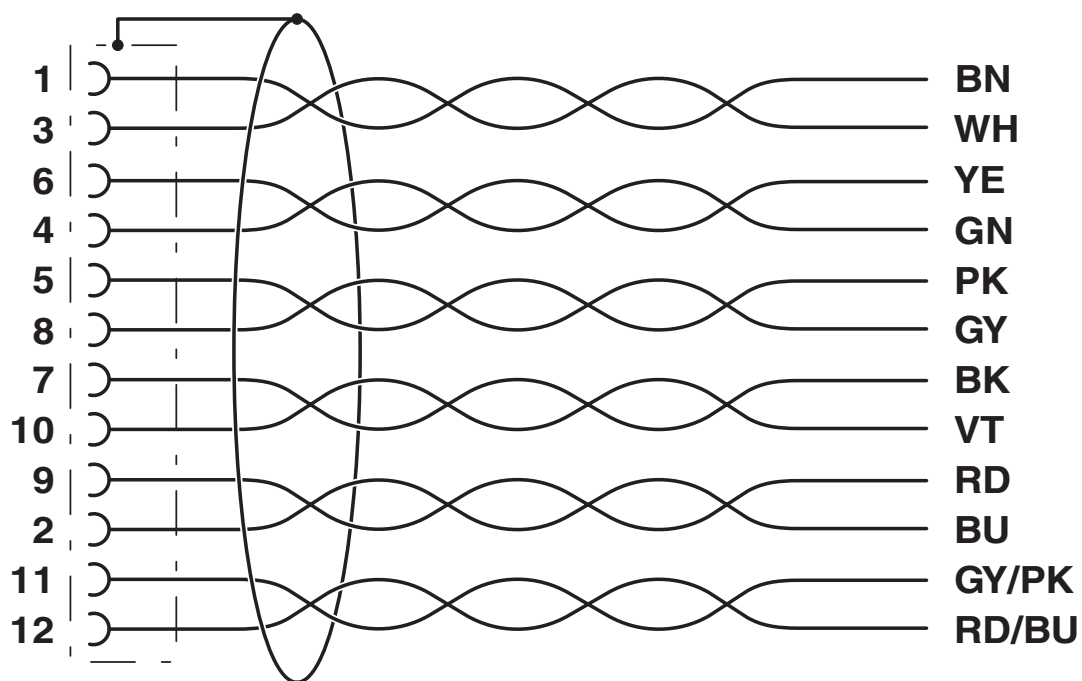
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Circuit diagram



Contact assignment of the M12 socket

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1430129>

|  |                      |                                |                                |                               |
|--|----------------------|--------------------------------|--------------------------------|-------------------------------|
|  | <b>UL Listed</b>     |                                |                                |                               |
|  | Approval ID: E221474 |                                |                                |                               |
|  |                      | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG             |
|  |                      | 30 V                           | 1 A                            | -                             |
|  |                      |                                |                                | Cross section mm <sup>2</sup> |
|  |                      |                                |                                | -                             |

|  |                                   |  |  |  |
|--|-----------------------------------|--|--|--|
|  | <b>EAC-RoHS</b>                   |  |  |  |
|  | Approval ID: RU D-DE.HB35.B.00387 |  |  |  |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 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%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 9.507 kg CO2e                            |

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