

1402422

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Sensor/actuator cable, 17-pos., PUR/PVC, RAL 9005 (black), shielded, straight M12 SPEEDCON male plug (A-coded) to straight M12 SPEEDCON female plug, cable length: 10 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                          | 1402422       |
|--------------------------------------|---------------|
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF03          |
| Product key                          | AF1CNA        |
| GTIN                                 | 4046356615426 |
| Weight per piece (including packing) | 1,099 g       |
| Weight per piece (excluding packing) | 1,099 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                    |
| 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

| Nominal voltage U <sub>N</sub> | 30 V AC |
|--------------------------------|---------|
|                                | 30 V DC |
| Nominal current I <sub>N</sub> | 1.5 A   |

### Mechanical properties

### Mechanical data

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

## Signaling

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

### Connector

#### Connection 1

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

| Connection 2 |                              |
|--------------|------------------------------|
| Type         | Socket straight M12 SPEEDCON |



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| Number of positions                           | 17  |
|---|---|
| Locking type                                  | SPEEDCON  |
| Coding type                                   | A   |
| e/line  |   |
| Cable length                                  | 10 m  |
| ick PUR/PVC twisted pair [35T]                |   |
| 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 mm² (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   |

Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10



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|                                 | m/s²   |
|---------------------------------|--|
| 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) | -30 °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) (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

#### M12

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

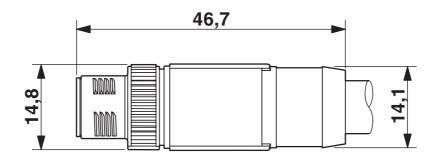


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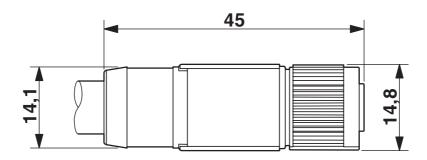
## Drawings

## Dimensional drawing



M12 SPEEDCON plug, straight, shielded

## Dimensional drawing



Socket M12-SPEEDCON, straight, shielded

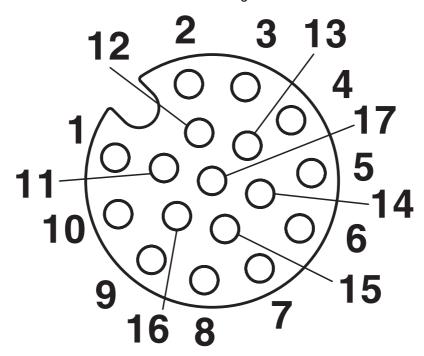


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Pin assignment M12 male connector, 17-pos., male side view

## Schematic diagram

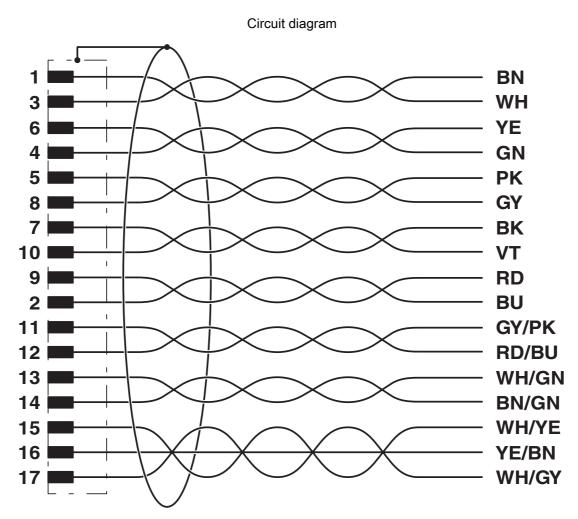


Pin assignment M12, 17-pos., socket side view



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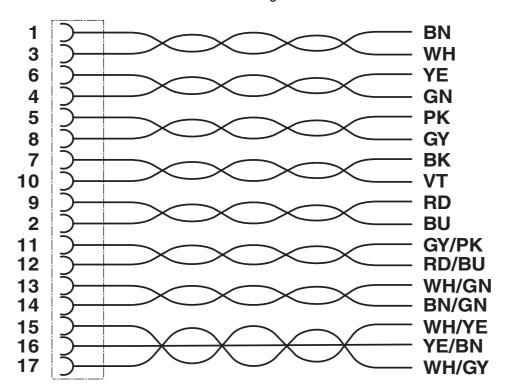
Contact assignment of the M12 plug



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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/1402422

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



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## Classifications

### **ECLASS**

|      | ECLASS-13.0 | 27060311 |  |  |  |
|------|-------------|----------|--|--|--|
|      | ECLASS-15.0 | 27060311 |  |  |  |
|      | ECLASS-13.0 | 27000311 |  |  |  |
| ETIM |             |          |  |  |  |
|      | ETIM 9.0    | EC001855 |  |  |  |
| UN   | ISPSC       |          |  |  |  |

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                                 | 15.513 kg CO2e                           |  |
|   |  |  |

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