

#### 1522626

https://www.phoenixcontact.com/us/products/1522626

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, coding: A, cable length: 1.5 m

#### Your advantages

• Easy and safe: 100 % electrically tested plug-in components

#### Commercial data

| Item number                          | 1522626             |
|--------------------------------------|---------------------|
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF03                |
| Product key                          | BF1CFA              |
| Catalog page                         | Page 208 (C-2-2019) |
| GTIN                                 | 4017918957452       |
| Weight per piece (including packing) | 78.3 g              |
| Weight per piece (excluding packing) | 77 g                |
| Customs tariff number                | 85444290            |
| Country of origin                    | PL                  |



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### Technical data

#### **Product properties**

| Product type               | Sensor/actuator cable |  |  |
|----------------------------|-----------------------|--|--|
| Number of positions        | 8                     |  |  |
| Application                | Standard              |  |  |
| No. of cable outlets       | 1                     |  |  |
| Shielded                   | no                    |  |  |
| Coding                     | A                     |  |  |
| Insulation characteristics |                       |  |  |
| Overvoltage category       | II                    |  |  |
| Degree of pollution        | 3                     |  |  |

#### Material specifications

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

#### **Electrical properties**

| Insulation resistance          | ≥ 100 MΩ |
|--------------------------------|----------|
| Nominal voltage U <sub>N</sub> | 30 V AC  |
|                                | 30 V DC  |
| Nominal current I <sub>N</sub> | 2 A      |
| Protective circuit             | unwired  |

#### Mechanical properties

| Mechanical data             |       |  |  |  |
|-----------------------------|-------|--|--|--|
| Insertion/withdrawal cycles | ≥ 100 |  |  |  |
| Signaling                   |       |  |  |  |
| Status display              | No    |  |  |  |
| Status display present      | No    |  |  |  |
| Connection data             |       |  |  |  |

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

#### Connector





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| Connection 1        |                   |
|---------------------|-------------------|
| Туре                | free cable end    |
| Connection 2        |                   |
| Туре                | Socket angled M12 |
| Number of positions | 8                 |
| Coding type         | A                 |
| Cable/line          |                   |
| Cable length        | 1.5 m             |

PUR halogen-free black [PUR]

Dimensional drawing



| Cable weight                    | 46 kg/km                                           |
|---------------------------------|----------------------------------------------------|
| UL AWM Style                    | 20549 / 10493 (80°C/300 V)                         |
| Number of positions             | 8                                                  |
| Shielded                        | no                                                 |
| Cable type                      | PUR halogen-free black [PUR]                       |
| Conductor structure signal line | 32x 0.10 mm                                        |
| AWG signal line                 | 24                                                 |
| Conductor cross section         | 8x 0.25 mm² (Signal line)                          |
| Wire diameter incl. insulation  | 1.17 mm ±0.02 mm                                   |
| External cable diameter         | 5.90 mm ±0.15 mm                                   |
| Outer sheath, material          | PUR                                                |
| External sheath, color          | black-gray RAL 7021                                |
| Conductor material              | Bare Cu litz wires                                 |
| Material, filler                | PE                                                 |
| Material wire insulation        | PP                                                 |
| Single wire, color              | white, brown, green, yellow, gray, pink, blue, red |
| Thickness, insulation           | ≥ 0.21 mm                                          |
| Thickness, outer sheath         | approx. 0.80 mm                                    |
| Overall twist                   | 8 wires around filler to the core                  |
| Max. conductor resistance       | ≤ 78 Ω/km                                          |
| Insulation resistance           | ≥ 1 GΩ*km                                          |
| Wave impedance                  | 100 Ω +15 % (with 1 MHz)                           |
| Cable capacity                  | ≤ 70 pF/m                                          |
| Nominal voltage, cable          | ≤ 300 V                                            |



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| Test voltage                                  | ≥ 3000 V                                                            |
|-----------------------------------------------|---------------------------------------------------------------------|
| Minimum bending radius, fixed installation    | 8 x D                                                               |
| Minimum bending radius, flexible installation | 10 x D                                                              |
| Smallest bending radius, fixed installation   | 48 mm                                                               |
| Smallest bending radius, movable installation | 59 mm                                                               |
| Max. bending cycles                           | 4000000                                                             |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815                            |
| Flame resistance                              | in accordance with UL 758/1581 FT2                                  |
|                                               | According to DIN EN 60332-2-2 (20 s)                                |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1                                 |
| Other resistance                              | Highly resistant to acids, alkaline solutions and solvents          |
|                                               | hydrolysis and microbe resistant                                    |
|                                               | partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)        |
|                                               | Low adhesion                                                        |
|                                               | abrasion-resistant                                                  |
| Special properties                            | Flexible cable conduit capable                                      |
|                                               | Silicone-free                                                       |
|                                               | Free of substances which would hinder coating with paint or varnish |
|                                               | flexible                                                            |
| Ambient temperature (operation)               | -40 °C 80 °C (cable, fixed installation)                            |
|                                               | -25 °C 80 °C (Cable, flexible installation)                         |

#### Environmental and real-life conditions

#### Ambient conditions

| Degree of protection            | IP65                                       |
|---------------------------------|--------------------------------------------|
|                                 | IP67                                       |
|                                 | IP68                                       |
| Ambient temperature (operation) | -25 °C 90 °C (Plug / socket)               |
|                                 | -40 °C 80 °C (cable, fixed installation)   |
|                                 | -5 °C 80 °C (Cable, flexible installation) |

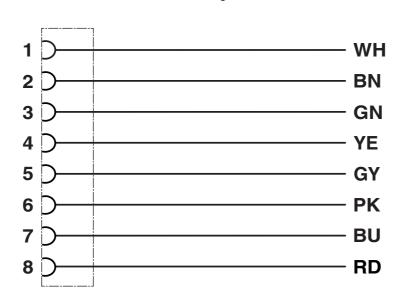
#### Standards and regulations

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

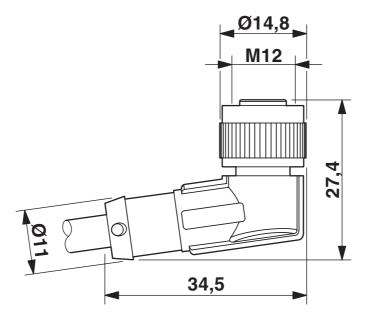
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### Drawings



Dimensional drawing



M12 x 1 socket, angled

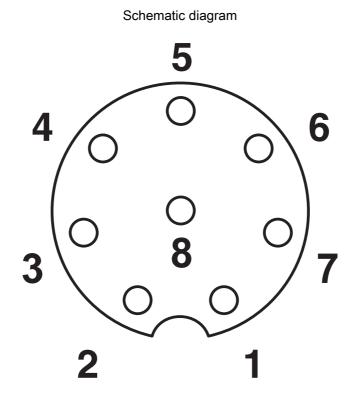
#### Circuit diagram

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Pin assignment M12 socket, 8-pos., A-coded, view female side



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### Approvals

🌣 To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1522626

|          | <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                                   | 2 A                                   | -                 | -                             |
|          |                                                 |                                        |                                       |                   |                               |
| <u>.</u> | <b>cUL Listed</b><br>Approval ID: FILE E 221474 | 4                                      |                                       |                   |                               |
|          |                                                 |                                        |                                       |                   | 2                             |
|          |                                                 | Nominal voltage U <sub>N</sub>         | Nominal current I <sub>N</sub>        | Cross section AWG | Cross section mm <sup>2</sup> |
|          |                                                 | Nominal voltage U <sub>N</sub><br>30 V | Nominal current I <sub>N</sub><br>2 A | Cross section AWG | Cross section mm <sup>2</sup> |
|          |                                                 |                                        |                                       |                   |                               |

#### cULus Listed



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### Classifications

#### ECLASS

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

#### ETIM

|        | ETIM 9.0    | EC001855 |  |  |
|--------|-------------|----------|--|--|
| UNSPSC |             |          |  |  |
|        | UNSPSC 21.0 | 26121600 |  |  |

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### Environmental product compliance

| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|------------|---------------------------------------------------------|
|            | No hazardous substances above threshold values          |



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#### Accessories

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

#### 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

#### 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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#### WP-CTA POM 13,0 BK - Protective hose adapter

#### 1422884

https://www.phoenixcontact.com/us/products/1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

#### WP-PA HF 13,0 BK - Protective hose

3240681 https://www.phoenixcontact.com/us/products/3240681



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

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#### WP-PA HF-HB 13,0 BK - Protective hose

#### 3240839

https://www.phoenixcontact.com/us/products/3240839



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m

#### 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

#### 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  $\rm mm$ 

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#### CUTFOX-S VDE - Diagonal cutter

#### 1212207

https://www.phoenixcontact.com/us/products/1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

#### WIREFOX SAC-1 - Stripping tool

1212757 https://www.phoenixcontact.com/us/products/1212757



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\emptyset$  of 3.2 to 4.4 mm, any stripping length

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WIREFOX SAC - Stripping tool

#### 1212623

https://www.phoenixcontact.com/us/products/1212623



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\emptyset$  of 4.4 to 7 mm, any stripping length

#### WIREFOX 10 - Stripping tool

1212150 https://www.phoenixcontact.com/us/products/1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

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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

#### 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  $\rm Nm$ 

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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

#### 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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