

# SAC-4P-5,0-500/M12FR FB - Sensor/actuator cable



1420972

<https://www.phoenixcontact.com/us/products/1420972>

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Sensor/actuator cable, 4-position, free cable end, on Socket angled M12, coding: A, cable length: 5 m, with high-grade steel knurl

## Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Contamination can be detected quickly – thanks to the light color

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1420972                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | BF1CCA                         |
| GTIN                                 | 4055626250021                  |
| Weight per piece (including packing) | 198.79 g                       |
| Weight per piece (excluding packing) | 189.75 g                       |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

## Technical data

### Product properties

|                      |                          |
|----------------------|--------------------------|
| Product type         | Sensor/actuator cable    |
| Number of positions  | 4                        |
| Application          | Food processing industry |
| No. of cable outlets | 1                        |
| Shielded             | no                       |
| Coding               | A                        |

### Insulation characteristics

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

### Material specifications

|                               |                 |
|-------------------------------|-----------------|
| Material of grip body         | PP              |
| Contact material              | CuSn            |
| Contact surface material      | Ni/Au           |
| Contact carrier material      | PP              |
| Material for screw connection | Stainless steel |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Contact resistance    | $\leq 5 \text{ m}\Omega$   |
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 250 V AC                   |
|                       | 250 V DC                   |
| Nominal current $I_N$ | 4 A                        |
| Protective circuit    | unwired                    |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Signaling

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

### Connection data

#### Conductor connection

|                   |        |
|-------------------|--------|
| Tightening torque | 0.4 Nm |
|-------------------|--------|

### Connector

#### Connection 1

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

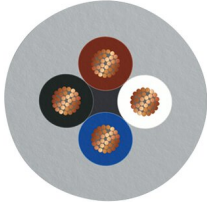
## Connection 2

|                     |                   |
|---------------------|-------------------|
| Type                | Socket angled M12 |
| Number of positions | 4                 |
| Coding type         | A                 |
| Number of positions | 4                 |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

## PVC gray [500]

|                                               |                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 40 kg/km                                                                            |
| UL AWM Style                                  | 2464 / 1729 (80°C/300 V)                                                            |
| Number of positions                           | 4                                                                                   |
| Shielded                                      | no                                                                                  |
| Cable type                                    | PVC gray [500]                                                                      |
| Conductor structure signal line               | 19x 0.15 mm                                                                         |
| AWG signal line                               | 22                                                                                  |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (Signal line)                                               |
| Wire diameter incl. insulation                | 1.26 mm ±0.05 mm                                                                    |
| External cable diameter                       | 4.7 mm ±0.15 mm                                                                     |
| Outer sheath, material                        | PVC                                                                                 |
| External sheath, color                        | gray RAL 7001                                                                       |
| Conductor material                            | Bare Cu litz wires                                                                  |
| Material wire insulation                      | PVC                                                                                 |
| Single wire, color                            | brown, white, blue, black                                                           |
| Thickness, insulation                         | ≥ 0.23 mm (Core insulation)                                                         |
| Thickness, outer sheath                       | ≥ 0.76 mm                                                                           |
| Overall twist                                 | 4 wires, twisted                                                                    |
| Max. conductor resistance                     | max. 57 Ω/km (at 20 °C)                                                             |
| Insulation resistance                         | ≥ 200 MΩ*km (at 20 °C)                                                              |
| Nominal voltage, cable                        | ≤ 300 V                                                                             |
| Test voltage                                  | ≥ 3000 V                                                                            |
| Minimum bending radius, fixed installation    | 5 x D                                                                               |
| Minimum bending radius, flexible installation | 10 x D                                                                              |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)                                        |

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|  |                                                 |
|--|-------------------------------------------------|
|  | -25 °C ... 80 °C (Cable, flexible installation) |
|--|-------------------------------------------------|

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |
|                                 | IP69K                            |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |

## Standards and regulations

### M12

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

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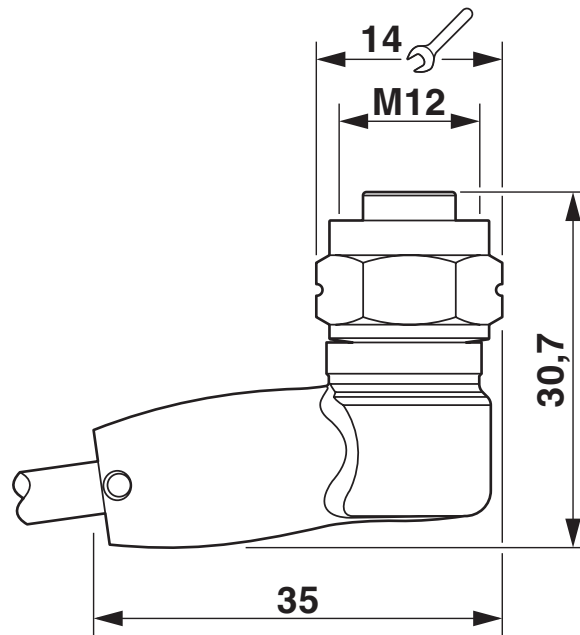
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## Drawings

Dimensional drawing



M12 x 1 socket, angled

Schematic diagram



Pin assignment M12 socket, 4-pos., A-coded, view female side

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1420972>



### UL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 250 V                 | 4 A                   | -                 | -                           |



### cUL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 250 V                 | 4 A                   | -                 | -                           |



### EAC-RoHS

Approval ID: RU D-DE.HB35.B.00385

### cULus Listed

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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

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

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## Accessories

### 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-W14 - Tool

1212513

<https://www.phoenixcontact.com/us/products/1212513>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive

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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

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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 Ø of 4.4 to 7 mm, any stripping length

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## 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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