

# SAC-4P-M12MS/ 3,0-652/M12FS - Sensor/actuator cable



1432050

<https://www.phoenixcontact.com/us/products/1432050>

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Sensor/actuator cable, 4-position, TPE, yellow, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 3 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1432050                        |
| Packing unit                         | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | BF1ICB                         |
| GTIN                                 | 4055626432311                  |
| Weight per piece (including packing) | 22.22 g                        |
| Weight per piece (excluding packing) | 22.22 g                        |
| Country of origin                    | US                             |

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## Technical data

### Notes

#### Trade restriction

|         |                                                                                                |
|---------|------------------------------------------------------------------------------------------------|
| CE note | The products are offered exclusively for export outside the EU and the European Economic Area. |
|---------|------------------------------------------------------------------------------------------------|

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Number of positions  | 4                     |
| Application          | Standard, U.S. cables |
| 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                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material for screw connection          | Zinc die-cast, weld slag-resistant coating  |
| Outer sheath, material                 | TPE                                         |

### Electrical properties

|                       |                           |
|-----------------------|---------------------------|
| Contact resistance    | $\leq 5 \text{ m}\Omega$  |
| Insulation resistance | $\geq 10 \text{ M}\Omega$ |
| 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 |

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## Connection data

### Conductor connection

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

## Connector

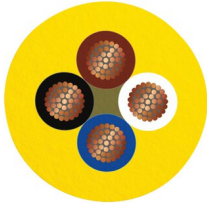
### Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 4                 |
| Coding type         | A                 |
| Number of positions | 4                 |

### Connection 2

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

## Cable/line

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Cable length                    | 3 m                                                                                  |
| Dimensional drawing             |  |
| UL AWM Style                    | 20327 (105 °C / 300 V)                                                               |
| Number of positions             | 4                                                                                    |
| Shielded                        | no                                                                                   |
| Conductor structure signal line | 19x 0.03 in.                                                                         |
| AWG signal line                 | 22                                                                                   |
| Conductor cross section         | 4x 0.34 mm <sup>2</sup> (Signal line)                                                |
| Wire diameter incl. insulation  | 0.05 in. ±0.02 mm                                                                    |
| External cable diameter         | 5.33 mm ±0.13 mm                                                                     |
| Outer sheath, material          | TPE                                                                                  |
| External sheath, color          | yellow                                                                               |
| Conductor material              | Bare Cu litz wires                                                                   |
| Material wire insulation        | SRPVC                                                                                |
| Single wire, color              | brown, white, blue, black                                                            |
| Overall twist                   | 4 wires, twisted                                                                     |
| Nominal voltage, cable          | 300 V                                                                                |
| Test voltage                    | Spark test                                                                           |

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|                                               |                                                 |
|-----------------------------------------------|-------------------------------------------------|
| Minimum bending radius, flexible installation | 8 x D                                           |
| Smallest bending radius, fixed installation   | 10 x D                                          |
| Max. bending cycles                           | 10000000                                        |
| Torsion force                                 | ± 360 °/m                                       |
| Torsion cycles                                | 10000000                                        |
| Halogen-free                                  | yes                                             |
| Flame resistance                              | in acc. with UL FT4                             |
| Other resistance                              | to UL 2256                                      |
|                                               | welding sputter-resistant                       |
|                                               | 720 h test per UL 2256                          |
| Ambient temperature (operation)               | -5 °C ... 105 °C (Cable, flexible installation) |
|                                               | -30 °C ... 105 °C (cable, fixed installation)   |

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Degree of protection            | IP65                                            |
|                                 | IP67                                            |
|                                 | IP68                                            |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)                |
|                                 | -30 °C ... 105 °C (cable, fixed installation)   |
|                                 | -5 °C ... 105 °C (Cable, flexible installation) |

## Standards and regulations

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

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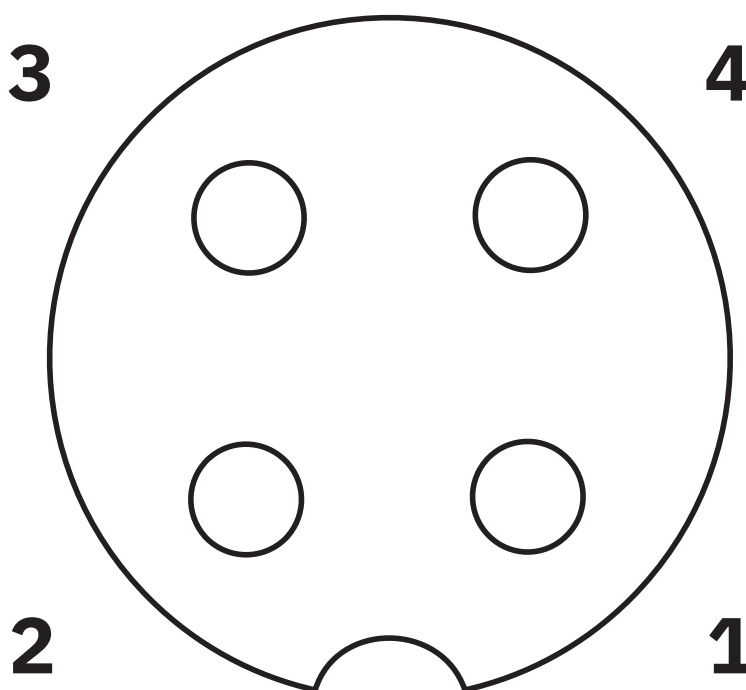


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## Drawings

Schematic diagram



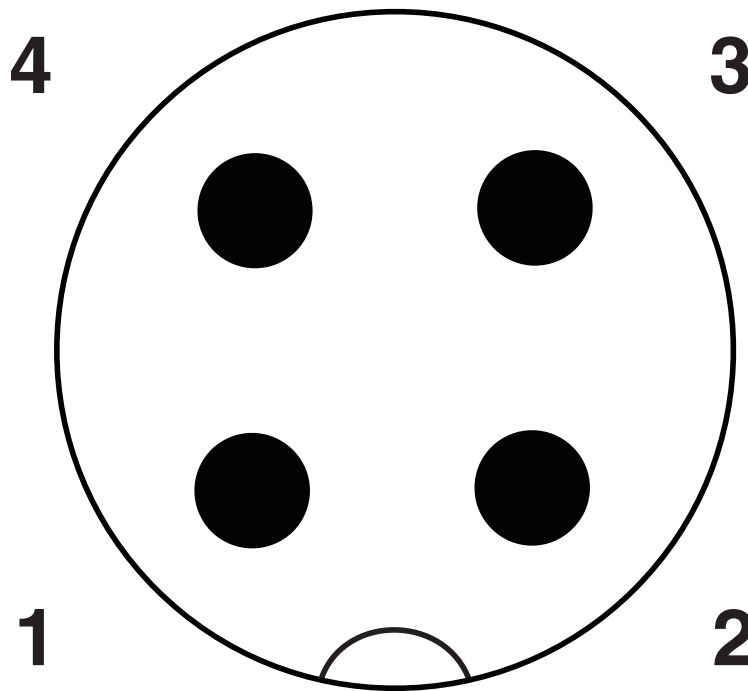
Pin assignment M12 socket, 4-pos., A-coded, view female side

# SAC-4P-M12MS/ 3,0-652/M12FS - Sensor/actuator cable

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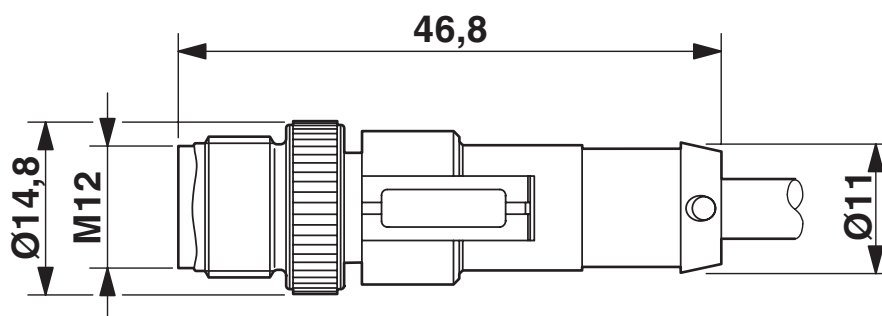
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Schematic diagram



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

Dimensional drawing



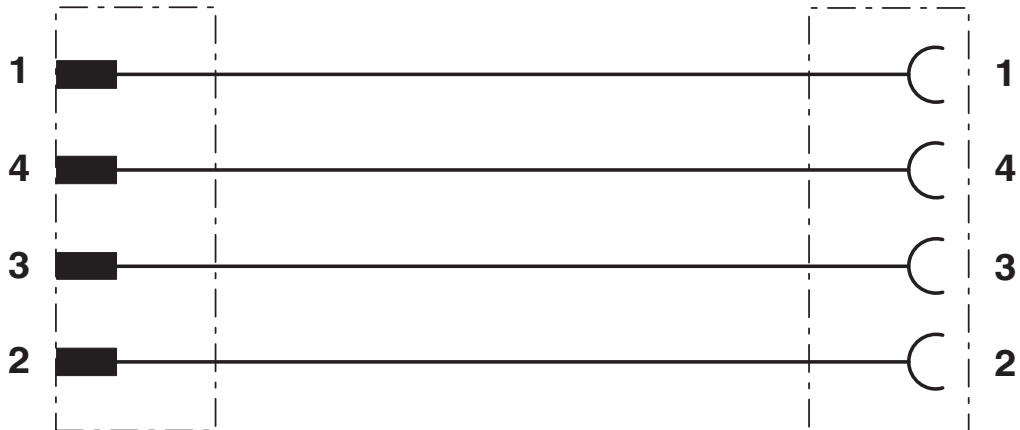
Plug, M12 x 1, straight

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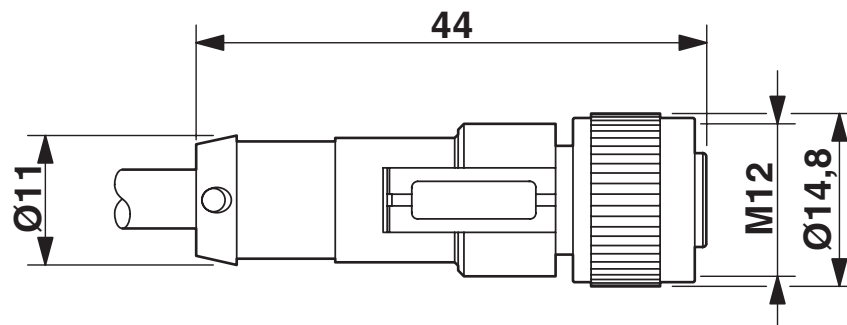
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Circuit diagram



Dimensional drawing



M12 x 1 socket, straight

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1432050>



**EAC**

Approval ID: RU C-DE.BL08.B.00286



**UL Listed**

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 300 V                 | 4 A                   | -                 | -                           |



**cUL Listed**

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 300 V                 | 4 A                   | -                 | -                           |

**cULus Listed**

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 7.0 | EC001855 |
|----------|----------|

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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

### PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



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### SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/products/1558988>

Locking clip for the pin 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



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## 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



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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

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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-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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