

# SAC-4P-M8MR/ 1,5-542/M8 FR BK - Sensor/actuator cable



1406206

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Sensor/actuator cable, 4-position, PVC, yellow, Plug angled M8, on Socket angled M8, cable length: 1.5 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1406206                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF1                            |
| Product key                          | AF1IAB                         |
| GTIN                                 | 4046356798440                  |
| Weight per piece (including packing) | 48.7 g                         |
| Weight per piece (excluding packing) | 48.7 g                         |
| Customs tariff number                | 85444290                       |
| Country of origin                    | US                             |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard, U.S. cables |
| Number of positions  | 4                     |
| 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, nickel-plated                |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 48 V AC                    |
|                       | 60 V DC                    |
| Nominal current $I_N$ | 4 A                        |

### Mechanical properties

#### Mechanical data

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

### Signaling

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

### Connection data

#### Conductor connection

|                   |                        |
|-------------------|------------------------|
| Tightening torque | 0.2 Nm (M8 connectors) |
|-------------------|------------------------|

### Connector

#### Connection 1

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|                     |                |
|---------------------|----------------|
| Type                | Plug angled M8 |
| Number of positions | 4              |

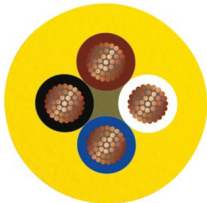
## Connection 2

|                     |                  |
|---------------------|------------------|
| Type                | Socket angled M8 |
| Number of positions | 4                |

## Cable/line

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

PVC yellow 105 °C [542]

|                                               |                                                                                                  |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |               |
| Cable weight                                  | 25 kg/km                                                                                         |
| UL AWM Style                                  | 2517 (105 °C / 300 V)                                                                            |
| Number of positions                           | 4                                                                                                |
| Shielded                                      | no                                                                                               |
| Cable type                                    | PVC yellow 105 °C [542]                                                                          |
| Conductor structure signal line               | 32x 1.10 mm                                                                                      |
| AWG signal line                               | 24                                                                                               |
| Wire diameter incl. insulation                | 1.12 mm ±0.03 mm                                                                                 |
| External cable diameter                       | 4.40 mm ±0.2 mm                                                                                  |
| Outer sheath, material                        | PVC                                                                                              |
| External sheath, color                        | yellow                                                                                           |
| Conductor material                            | Tin-plated Cu litz wires                                                                         |
| Material wire insulation                      | PVC                                                                                              |
| Single wire, color                            | brown, blue, black, white                                                                        |
| Overall twist                                 | 4 wires, twisted                                                                                 |
| Max. conductor resistance                     | max. 79.7 Ω/km (20 °C)                                                                           |
| Insulation resistance                         | ≥ (550 M Ohms/m @ 500V)                                                                          |
| Nominal voltage, cable                        | 300 V                                                                                            |
| Minimum bending radius, flexible installation | 8 x D                                                                                            |
| Smallest bending radius, movable installation | 36 mm                                                                                            |
| Flame resistance                              | FT4                                                                                              |
| Other resistance                              | UV resistant                                                                                     |
| Ambient temperature (operation)               | -30 °C ... 105 °C (cable, fixed installation)<br>-5 °C ... 105 °C (Cable, flexible installation) |

## Environmental and real-life conditions

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## 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     | M8 connector    |
| Standards/specifications | IEC 61076-2-104 |

# SAC-4P-M8MR/ 1,5-542/M8 FR BK - Sensor/actuator cable

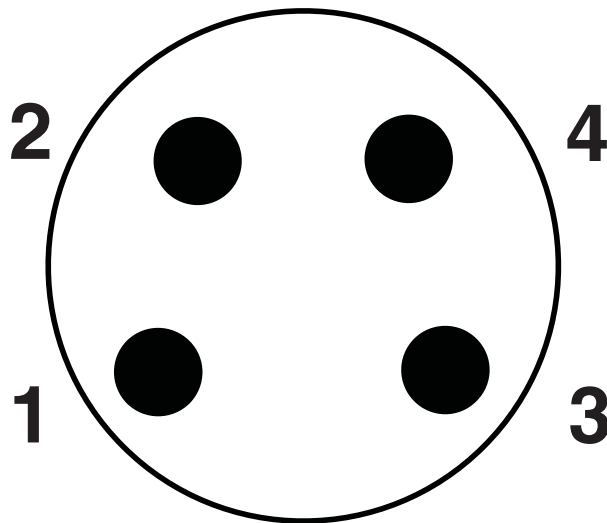


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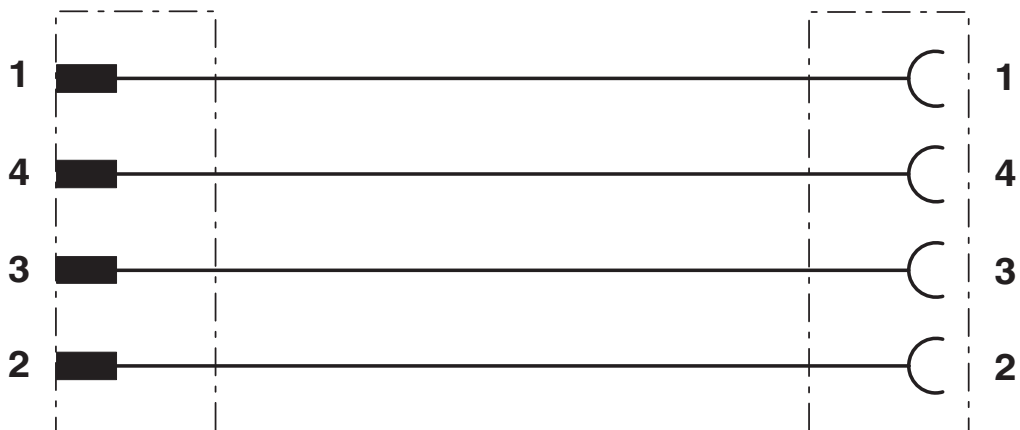
## Drawings

Schematic diagram



Pin assignment M8 plug, 4-pos., view male side

Circuit diagram



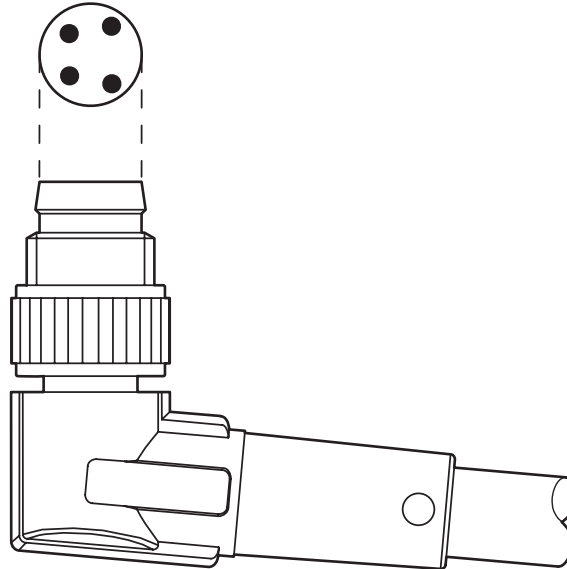
Contact assignment of M8 plugs/sockets

# SAC-4P-M8MR/ 1,5-542/M8 FR BK - Sensor/actuator cable

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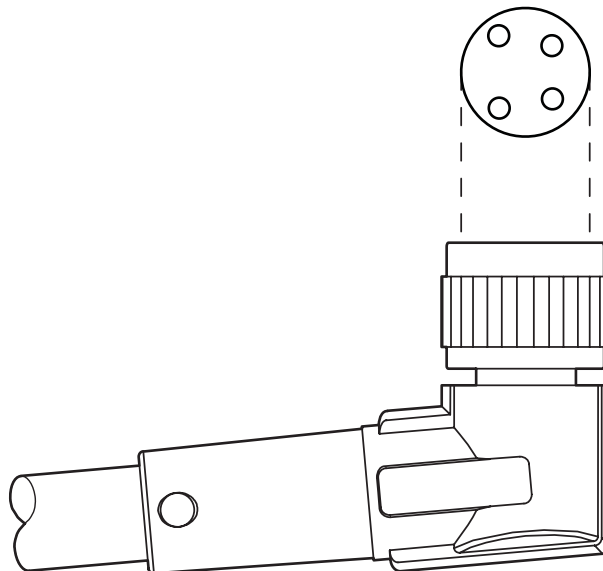
<https://www.phoenixcontact.com/in/products/1406206>

Schematic diagram



Layout of connector pin assignments

Schematic diagram



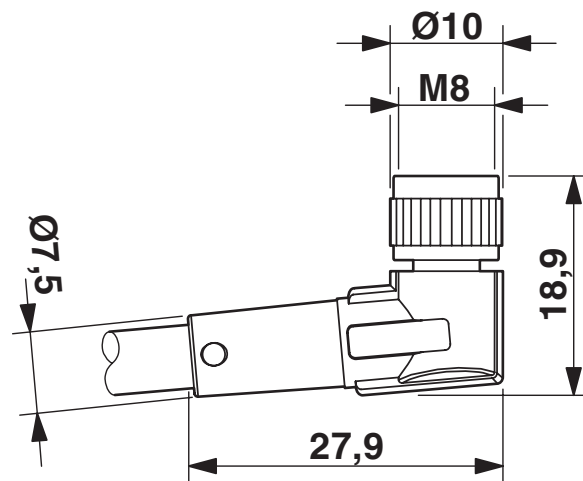
Layout of connector pin assignments

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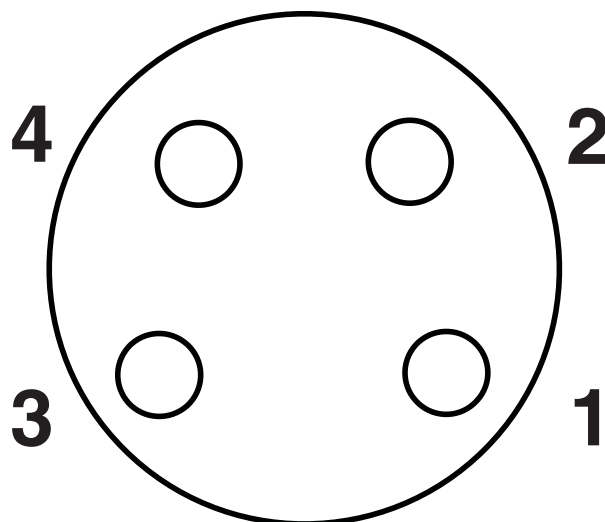
<https://www.phoenixcontact.com/in/products/1406206>

Dimensional drawing



Socket M8 x 1, angled

Schematic diagram



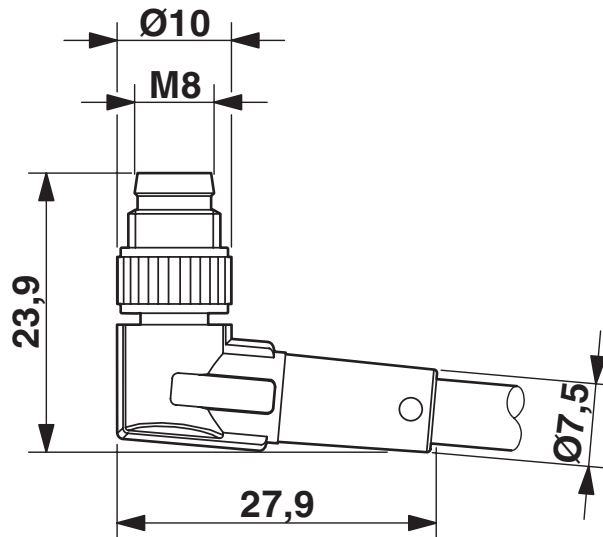
Pin assignment M8 socket, 4-pos., view female side

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Dimensional drawing



M8 x 1 male plug, angled version

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/1406206>

|  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                  | 125 V                 | 4 A                   | -                 | -                           |

|  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                   | 125 V                 | 4 A                   | -                 | -                           |

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

|  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                     | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                     | 30 V                  | 4 A                   | -                 | -                           |

|  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                    | 30 V                  | 4 A                   | -                 | -                           |

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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

### EU RoHS

|                                         |      |
|-----------------------------------------|------|
| Fulfills EU RoHS substance requirements | Yes  |
| Exemption                               | 6(c) |

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 54c72cb3-5936-4533-95a5-1e27bf90b2f6 |

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.462 kg CO2e |
|---------|---------------|

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## Accessories

### PROT-M 8 FS-PA-CHAIN - Sealing cap

1430857

<https://www.phoenixcontact.com/in/products/1430857>

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



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### PROT-M 8 MS-PA-CHAIN - Screw plug

1430860

<https://www.phoenixcontact.com/in/products/1430860>

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 sockets



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## TSD 02 SAC - Torque screwdriver

1208487

<https://www.phoenixcontact.com/in/products/1208487>



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

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## SAC BIT M8-D10 - Tool

1208461

<https://www.phoenixcontact.com/in/products/1208461>



Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

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