

SAC-3P-M8MR/1,5-542/M8FS SH BK -  
Sensor/actuator cable



1406049  
<https://www.phoenixcontact.com/us/products/1406049>

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Sensor/actuator cable, 3-position, PVC, yellow, shielded, Plug angled M8, on Socket straight M8, cable length: 1.5 m

Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1406049                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF13                           |
| Product key                          | AF1IBA                         |
| GTIN                                 | 4046356799935                  |
| Weight per piece (including packing) | 22.22 g                        |
| Weight per piece (excluding packing) | 22.22 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  | 3                     |
| 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 | 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                |
| Outer sheath, material                 | PVC                                         |

### 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

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## Connection 1

|                     |                |
|---------------------|----------------|
| Type                | Plug angled M8 |
| Number of positions | 3              |

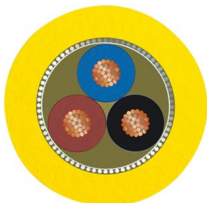
## Connection 2

|                     |                    |
|---------------------|--------------------|
| Type                | Socket straight M8 |
| Number of positions | 3                  |

## Cable/line

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

## PVC yellow 105 °C [542]

|                                               |                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 33 kg/km                                                                            |
| UL AWM Style                                  | 2517 (105 °C / 300 V)                                                               |
| Number of positions                           | 3                                                                                   |
| Shielded                                      | yes                                                                                 |
| Cable type                                    | PVC yellow 105 °C [542]                                                             |
| Conductor structure signal line               | 7x 0.20 mm                                                                          |
| AWG signal line                               | 24                                                                                  |
| Wire diameter incl. insulation                | 1.12 mm ±0.03 mm                                                                    |
| External cable diameter                       | 4.70 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                                                                  |
| Overall twist                                 | 3 wires, twisted                                                                    |
| Optical shield covering                       | 85 %                                                                                |
| 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 | 12 x D                                                                              |
| Smallest bending radius, movable installation | 57 mm                                                                               |
| Flame resistance                              | FT4                                                                                 |
| Other resistance                              | UV resistant                                                                        |
| Ambient temperature (operation)               | -30 °C ... 105 °C (cable, fixed installation)                                       |

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|  |                                                 |
|--|-------------------------------------------------|
|  | -5 °C ... 105 °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 ... 90 °C (Plug / socket) |

## Standards and regulations

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M8 connector    |
| Standards/specifications | IEC 61076-2-104 |

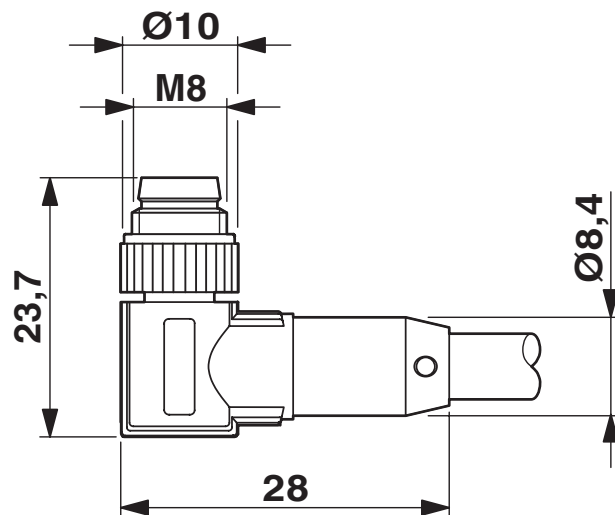
# SAC-3P-M8MR/1,5-542/M8FS SH BK - Sensor/actuator cable

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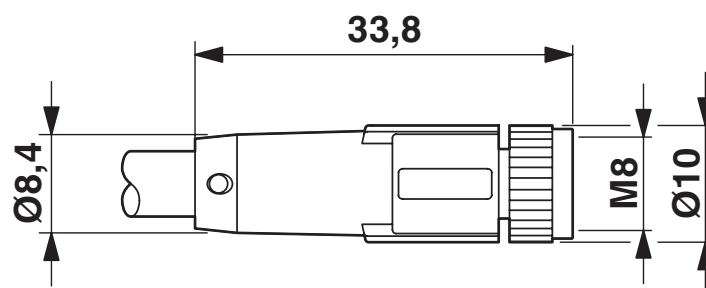
## Drawings

Dimensional drawing



Plug M8 x 1, angled, shielded

Dimensional drawing



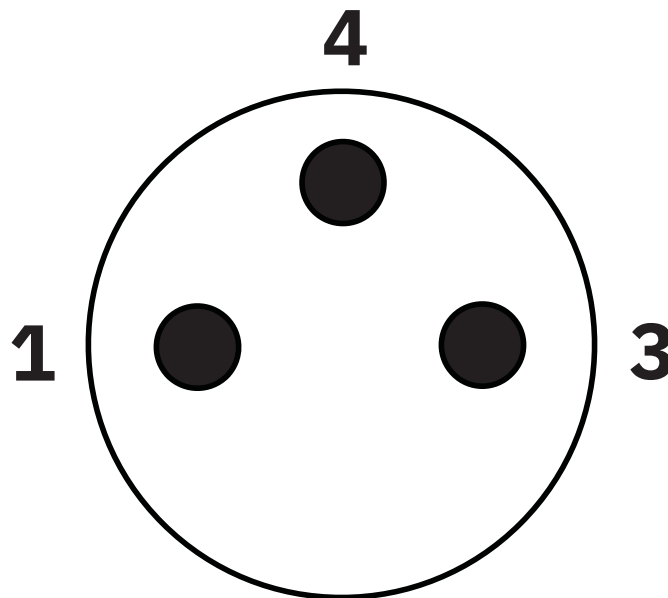
Socket M8 x 1, straight, shielded

# SAC-3P-M8MR/1,5-542/M8FS SH BK - Sensor/actuator cable

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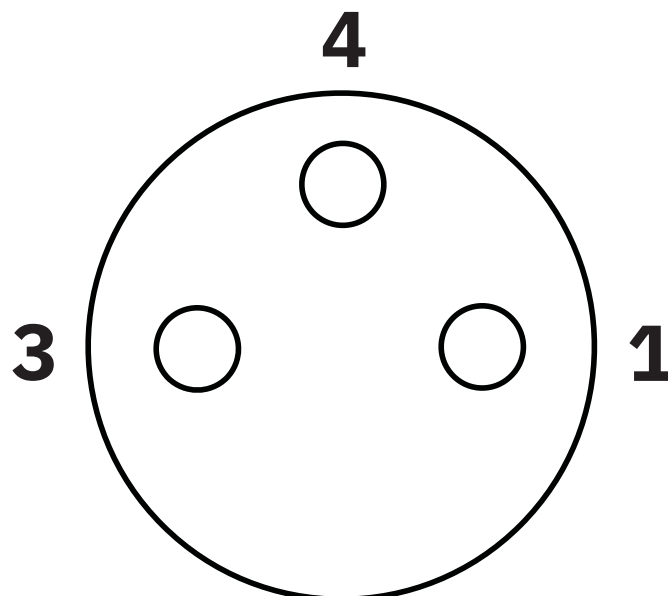
<https://www.phoenixcontact.com/us/products/1406049>

Schematic diagram



Pin assignment M8 plug, 3-pos., view male side

Schematic diagram



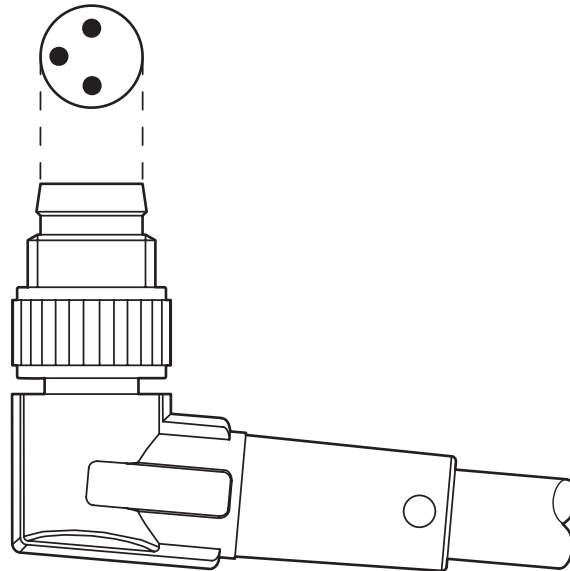
Pin assignment M8 socket, 3-pos., view female side

# SAC-3P-M8MR/1,5-542/M8FS SH BK - Sensor/actuator cable

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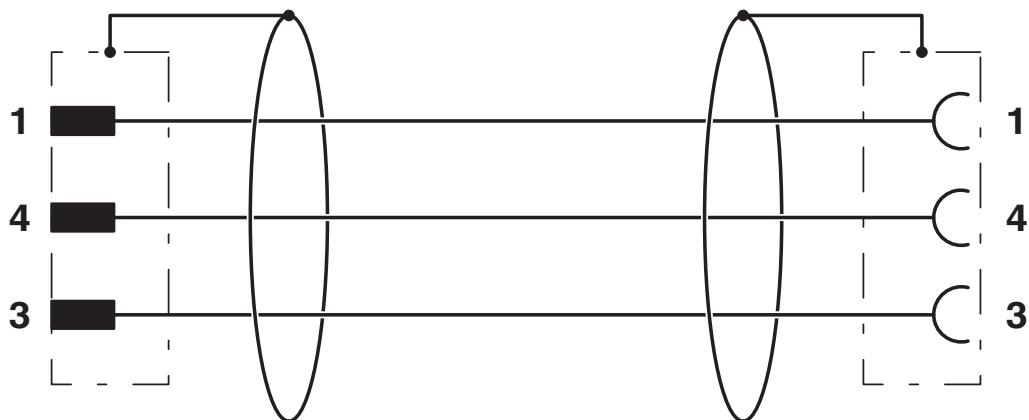
<https://www.phoenixcontact.com/us/products/1406049>

Schematic diagram



Layout of connector pin assignments

Circuit diagram



Contact assignment of M8 plugs/sockets

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1406049>

|  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                            |                       |                       |                   |                             |
|                                                                                                                                  | 60 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 $\text{mm}^2$ |
| keine                                                                                                                             |                       |                       |                   |                             |
|                                                                                                                                   | 60 V                  | 4 A                   | -                 | -                           |

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

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 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                                | e164aff7-24d7-4087-a402-6ef9af3df7b1 |

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.773 kg CO2e |
|---------|---------------|

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