

SAC-3P-M8MR/ 2,0-542 SH BK - Sensor/actuator cable



1406060  
<https://www.phoenixcontact.com/us/products/1406060>

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Sensor/actuator cable, 3-position, PVC, yellow, shielded, Plug angled M8, on free cable end, cable length: 2 m

Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1406060                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF13                           |
| Product key                          | BF1IBA                         |
| GTIN                                 | 4046356799874                  |
| Weight per piece (including packing) | 81.5 g                         |
| Weight per piece (excluding packing) | 81.5 g                         |
| Customs tariff number                | 85444290                       |
| Country of origin                    | US                             |

# SAC-3P-M8MR/ 2,0-542 SH BK - Sensor/actuator cable



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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                                          |
| 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

#### Connection 1

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|      |                |
|------|----------------|
| Type | Plug angled M8 |
|------|----------------|

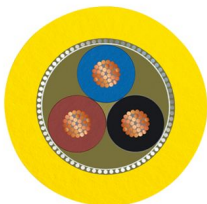
## Connection 2

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

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 2 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               | 32x 1.10 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)<br>-5 °C ... 105 °C (Cable, flexible installation) |

## Environmental and real-life conditions

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### Ambient conditions

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

### Standards and regulations

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

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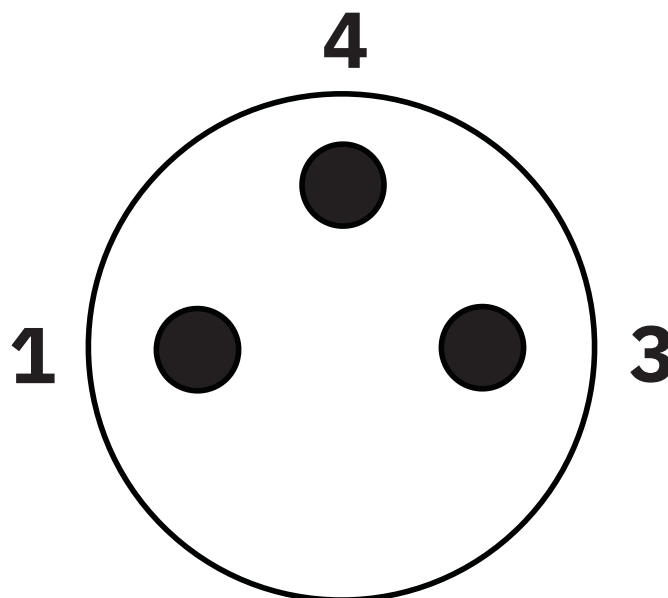
## Drawings

Dimensional drawing



Plug M8 x 1, angled, shielded

Schematic diagram



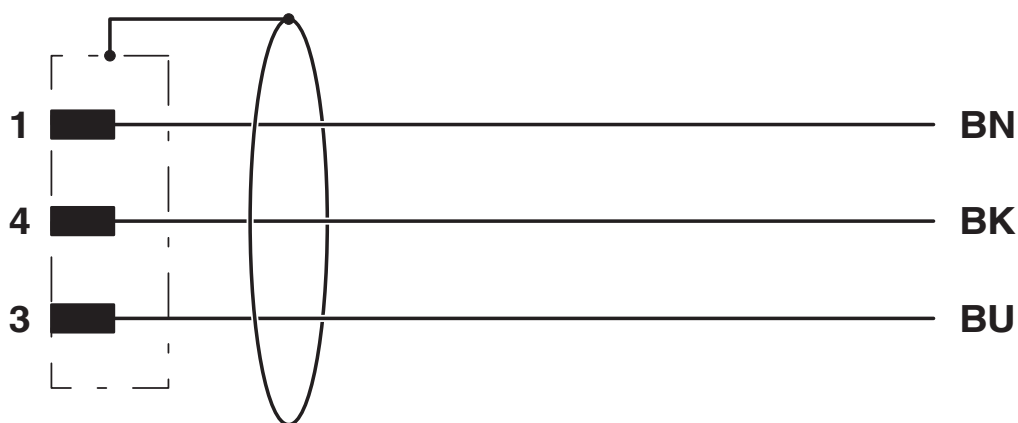
Pin assignment M8 plug, 3-pos., view male side

# SAC-3P-M8MR/ 2,0-542 SH BK - Sensor/actuator cable

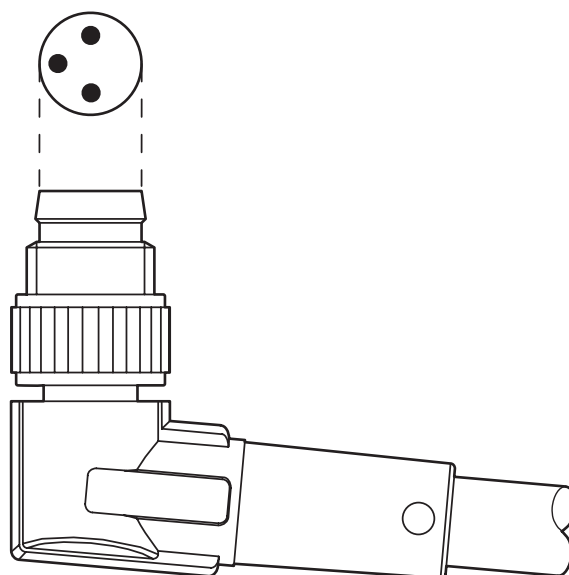
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Circuit diagram



Schematic diagram



Layout of connector pin assignments

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1406060>

|                                                                                                                                  |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|  <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 $\text{mm}^2$ |
|                                                                                                                                     | 60 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 $\text{mm}^2$ |
|                                                                                                                                    | 60 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                                    | e5b138f9-98a6-4efa-875c-abb8dee50ff3                                                                                                                                                                                              |

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## Accessories

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

1430857

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

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



### 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



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<https://www.phoenixcontact.com/us/products/1406060>

## 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

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<https://www.phoenixcontact.com/us/products/1406060>

## 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

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<https://www.phoenixcontact.com/us/products/1406060>

## 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

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## 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 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

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## 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 Ø 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 Ø of 4.4 to 7 mm, any stripping length

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1406060

<https://www.phoenixcontact.com/us/products/1406060>

## 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 02 SAC - Torque screwdriver

1208487

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



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

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<https://www.phoenixcontact.com/us/products/1406060>

## SAC BIT M8-D10 - Tool

1208461

<https://www.phoenixcontact.com/us/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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