

# SAC-6P-M8MS/3,7-PUR/M8FS OBS - Sensor/actuator cable



1415744

<https://www.phoenixcontact.com/us/products/1415744>

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Sensor/actuator cable, 6-position, PUR halogen-free, black-gray RAL 7021, Plug straight M8, coding: A, on Socket straight M8, cable length: 3.7 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1415744                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF19                           |
| Product key                          | AF1BGA                         |
| GTIN                                 | 4055626049625                  |
| Weight per piece (including packing) | 130 g                          |
| Weight per piece (excluding packing) | 130 g                          |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Number of positions  | 6                     |
| 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  |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuZn  |
| 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 $U_N$ | 30 V AC                    |
|                       | 30 V DC                    |
| Nominal current $I_N$ | 1.5 A                      |

### Mechanical properties

#### Mechanical data

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

### Signaling

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

### Connector

#### Connection 1

|                     |                  |
|---------------------|------------------|
| Type                | Plug straight M8 |
| Number of positions | 6                |
| Coding type         | A                |

#### Connection 2

|                     |                    |
|---------------------|--------------------|
| Type                | Socket straight M8 |
| Number of positions | 6                  |

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## Cable/line

|              |       |
|--------------|-------|
| Cable length | 3.7 m |
|--------------|-------|

PUR halogen-free black [PUR]

|   |  |
|---|--|
| Dimensional drawing                           |    |
| Cable weight                                  | 34 kg/km   |
| Number of positions                           | 6  |
| Shielded                                      | no   |
| Cable type                                    | PUR halogen-free black [PUR]   |
| Conductor structure signal line               | 32x 0.10 mm  |
| AWG signal line                               | 24   |
| Conductor cross-section                       | 6x 0.25 mm <sup>2</sup> (Signal line)  |
| Wire diameter incl. insulation                | 1.17 mm ±0.02 mm   |
| External cable diameter                       | 5 mm<br>5.00 mm ±0.15 mm   |
| Outer sheath, material                        | PUR  |
| External sheath, color                        | black-gray RAL 7021  |
| Conductor material                            | Bare Cu litz wires   |
| Material, filler                              | PE   |
| Material wire insulation                      | PP   |
| Single wire, color                            | brown, white, blue, black, gray, pink  |
| Thickness, insulation                         | ≥ 0.21 mm (Core insulation)  |
| Thickness, outer sheath                       | approx. 0.70 mm  |
| Overall twist                                 | Six cores around the filler to the core  |
| Max. conductor resistance                     | 78 Ω/km (at 20 °C)   |
| Insulation resistance                         | ≥ 100 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   |
| Smallest bending radius, fixed installation   | 25 mm  |
| Smallest bending radius, movable installation | 50 mm  |
| Dynamic load capacity (bending)               | Max. bending cycles: 10000000, Bending radius: 50 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup> |
| Dynamic load capacity (torsion)               | Torsion: ±180 °/m, Torsion cycles: ≥5000000, Torsional frequency: 35 cycles/min.   |

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|                                 |   |
|---------------------------------|---|
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                            |
| Flame resistance                | in accordance with DIN UL-Style 20549                               |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                                 |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents          |
|                                 | hydrolysis and microbe resistant                                    |
|                                 | partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)        |
| Special properties              | Flexible cable conduit capable                                      |
|                                 | Silicone-free   |
|                                 | Free of substances which would hinder coating with paint or varnish |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                        |
|                                 | -5 °C ... 80 °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)               |
| Ambient temperature (operation) (Cable, fixed installation)       | -40 °C ... 80 °C (cable, fixed installation)   |
| Ambient temperature (operation) (Cable, flexible installation)    | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

### M8

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

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## Drawings

Dimensional drawing



M8 x 1 male plug, straight version

Schematic diagram



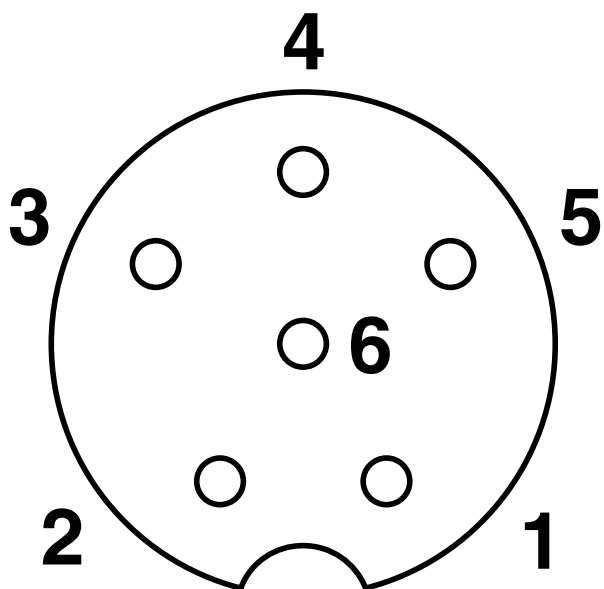
Pin assignment M8 plug, 6-pos., view male side

# SAC-6P-M8MS/3,7-PUR/M8FS OBS - Sensor/actuator cable

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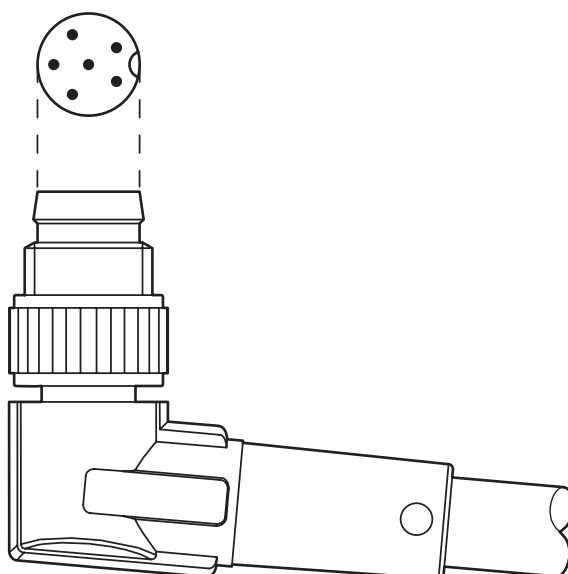
<https://www.phoenixcontact.com/us/products/1415744>

Schematic diagram



Pin assignment M8 socket, 6-pos.

Schematic diagram



Layout of connector pin assignments

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Circuit diagram



Contact assignment of the M8 plug

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## Approvals

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|  <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  |                       |                       |                   |                             |
|  | 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 $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
|   | 125 V                 | 4 A                   | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001855 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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