

# SAC-8P-M 8MS/ 1,5-PUR - Sensor/actuator cable



1404178

<https://www.phoenixcontact.com/us/products/1404178>

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, Plug straight M8, coding: A, on free cable end, cable length: 1.5 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Save space – with high-pos. connectors

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1404178       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF01          |
| Product key                          | AF1BGA        |
| GTIN                                 | 4046356680912 |
| Weight per piece (including packing) | 53.7 g        |
| Weight per piece (excluding packing) | 52.8 g        |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard              |
| Number of positions  | 8                     |
| No. of cable outlets | 1                     |
| Shielded             | no                    |
| Coding               | A                     |

### Insulation characteristics

|                     |   |
|---------------------|---|
| 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                |

### 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 |

### Connection data

#### Conductor connection

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

### Connector

#### Connection 1

|                     |                  |
|---------------------|------------------|
| Type                | Plug straight M8 |
| Number of positions | 8                |

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|             |   |
|-------------|---|
| Coding type | A |
|-------------|---|


## Connection 2

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

## Cable/line

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

## PUR halogen-free black [PUR]

|   |  |
|---|--|
| Dimensional drawing                           |  |
| Cable weight                                  | 31.4 kg/km   |
| UL AWM Style                                  | 20549  |
| Number of positions                           | 8  |
| Shielded                                      | no   |
| Cable type                                    | PUR halogen-free black [PUR]   |
| Conductor structure signal line               | 18x 0.10 mm  |
| AWG signal line                               | 26   |
| Conductor cross section                       | 8x 0.14 mm <sup>2</sup> (Signal line)  |
| Wire diameter incl. insulation                | 1 mm ±0.02 mm (Signal line)  |
| External cable diameter                       | 5.10 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                            | white, brown, green, yellow, gray, pink, blue, red                                 |
| Thickness, insulation                         | ≥ 0.21 mm (Signal line)<br>≥ 0.38 mm (Outer cable sheath)                          |
| Overall twist                                 | 8 wires around filler to the core  |
| Length of twist, overall twist                | 58 mm  |
| Max. conductor resistance                     | 139 Ω/km (at 20 °C)  |
| Insulation resistance                         | 1 GΩ*km (at 20 °C)   |
| Nominal voltage, cable                        | ≤ 300 V AC   |
| Test voltage                                  | ≥ 3000 V AC (Spark test)   |
| Minimum bending radius, fixed installation    | 5 x D  |
| Minimum bending radius, flexible installation | 10 x D   |
| Smallest bending radius, fixed installation   | 25.5 mm  |
| Smallest bending radius, movable installation | 51 mm  |

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|                                 |   |
|---------------------------------|---|
| Dynamic load capacity (bending) | Max. bending cycles: 4000000, Bending radius: 51 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup> |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815  |
|                                 | in accordance with DIN EN 50267-2-1   |
| Flame resistance                | according to UL 758/1581 (horizontal)   |
|                                 | in accordance with UL 758/1581 FT2  |
| Resistance to oil               | According to DIN EN 60811-2-1, 168 h at 100°C   |
| Other resistance                | hydrolysis and microbe resistant  |
|                                 | Resistant to salt water   |
|                                 | Low adhesion  |
|                                 | abrasion-resistant  |
|                                 | partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)  |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)  |
|                                 | -25 °C ... 80 °C (Cable, flexible installation)   |

## Environmental and real-life conditions

### Ambient conditions

|   |                                  |
|---|----------------------------------|
| Degree of protection  | IP65                             |
|   | IP67                             |
|   | IP68                             |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket) |

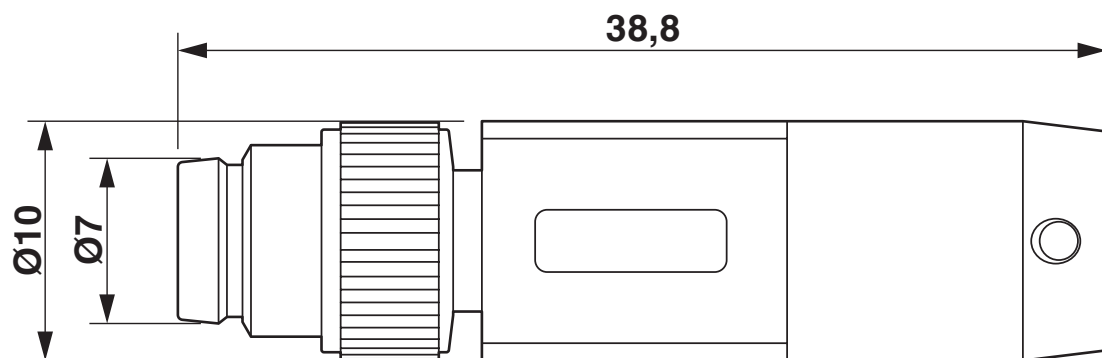
## Standards and regulations

### M8

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

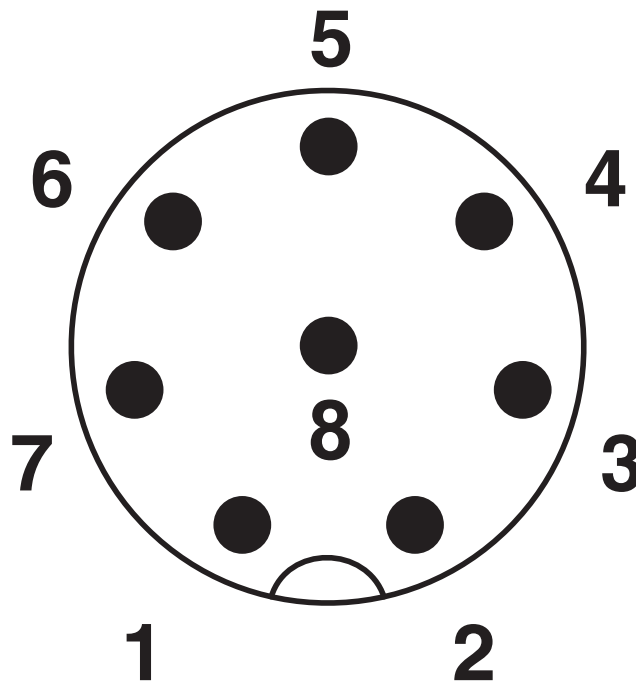
## Drawings

Dimensional drawing



M8 x 1 male plug, straight version

Schematic diagram



M8 plug pin assignment, 8-pos., view of pin side

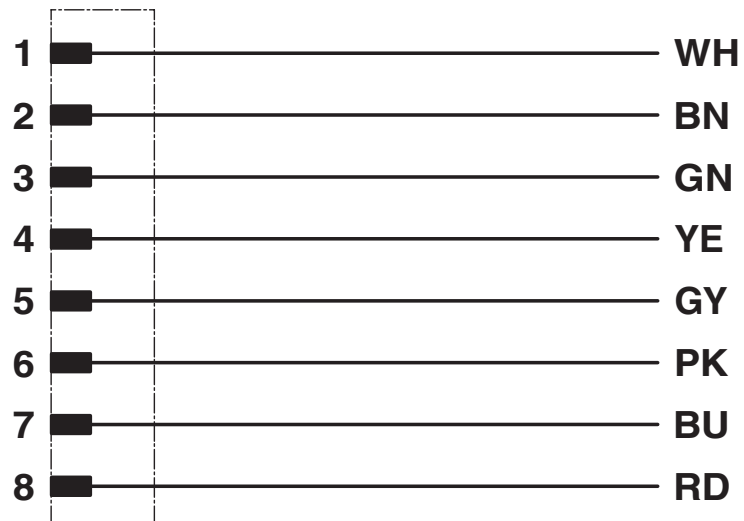
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Circuit diagram



Contact assignment of the M8 plug

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## Approvals

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### UL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 30 V                  | 1.5 A                 | -                 | -                           |



### cUL Listed

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|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 30 V                  | 1.5 A                 | -                 | -                           |



### EAC-RoHS

Approval ID: RU D-DE.HB35.B.00387

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| 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, 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% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 1.094 kg CO2e |
|---------|---------------|

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