

# SAC-8P-40,0-PUR/M12FS - Sensor/actuator cable



1410295

<https://www.phoenixcontact.com/us/products/1410295>

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, coding: A, cable length: 40 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1410295                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | AF1CFA                         |
| GTIN                                 | 4046356894920                  |
| Weight per piece (including packing) | 1,828.6 g                      |
| Weight per piece (excluding packing) | 1,828.6 g                      |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

## 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

|                      |    |
|----------------------|----|
| 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                       | CuZn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |
| Outer sheath, material                 | PUR   |
| Conductor material                     | Bare Cu litz wires                          |

### Electrical properties

|                           |                            |
|---------------------------|----------------------------|
| Insulation resistance     | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$     | 30 V AC                    |
|                           | 30 V DC                    |
| Nominal current $I_N$     | 2 A                        |
| Max. conductor resistance | 78 $\Omega/\text{km}$      |

### Mechanical properties

#### Mechanical data

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

### Signaling

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

### Connector

#### Connection 1

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

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## Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 8                   |
| Coding type         | A                   |

## Cable/line

|              |      |
|--------------|------|
| Cable length | 40 m |
|--------------|------|

## PUR halogen-free black [PUR]

|   |  |
|---|--|
| Dimensional drawing                           |  |
| Cable weight                                  | 46 kg/km   |
| UL AWM Style                                  | 20549 / 10493 (80°C/300 V)   |
| Number of positions                           | 8  |
| Shielded                                      | no   |
| Cable type                                    | PUR halogen-free black [PUR]   |
| Conductor structure signal line               | 32x 0.10 mm  |
| AWG signal line                               | 24   |
| Conductor cross-section                       | 8x 0.25 mm <sup>2</sup> (Signal line)  |
| Wire diameter incl. insulation                | 1.17 mm ±0.02 mm   |
| External cable diameter                       | 5.90 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  |
| Thickness, outer sheath                       | approx. 0.80 mm  |
| Overall twist                                 | 8 wires around filler to the core  |
| Max. conductor resistance                     | ≤ 78 Ω/km (at 20 °C)   |
| Insulation resistance                         | ≥ 1 GΩ*km (at 20 °C)   |
| Wave impedance                                | 100 Ω +15 % (with 1 MHz)   |
| Cable capacity                                | ≤ 70 pF/m  |
| Nominal voltage, cable                        | ≤ 300 V  |
| Test voltage                                  | ≥ 3000 V   |
| Minimum bending radius, fixed installation    | 8 x D  |
| Minimum bending radius, flexible installation | 10 x D   |

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|   |  |
|---|--|
| Smallest bending radius, fixed installation   | 48 mm  |
| Smallest bending radius, movable installation | 59 mm  |
| Dynamic load capacity (bending)               | Max. bending cycles: 10000000, Bending radius: 59 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup>   |
| Dynamic load capacity (torsion)               | Torsion: $\pm 180$ °/m, Torsion cycles: $\geq 5000000$ , Torsional frequency: 35 cycles/min.   |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815   |
| Flame resistance                              | in accordance with UL 758/1581 FT2<br>According to DIN EN 60332-2-2 (20 s)   |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1  |
| Other resistance                              | Highly resistant to acids, alkaline solutions and solvents<br>hydrolysis and microbe resistant<br>partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)<br>Low adhesion<br>abrasion-resistant |
| Special properties                            | Flexible cable conduit capable<br>Silicone-free<br>Free of substances which would hinder coating with paint or varnish<br>flexible   |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)<br>-25 °C ... 80 °C (Cable, flexible installation)  |

## Environmental and real-life conditions

### Ambient conditions

|  |  |
|--|--|
| Degree of protection   | IP65<br>IP68                                   |
| Ambient temperature (operation)                                | -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

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

## Drawings

Dimensional drawing



M12 x 1 socket, straight

Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

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Circuit diagram



Contact assignment of the M12 socket

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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  |                       |                       |                   |                             |
|  | 30 V                  | 2 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   |                       |                       |                   |                             |
|   | 30 V                  | 2 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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