

# Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

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Sensor/actuator cable, 8-position, PUR halogen-free, black-gray RAL 7021, shielded, free cable end, on Socket straight M12, coding: A, cable length: 10 m

## Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Our standard: robust halogen-free PUR cable
- ✓ Reliable signal transmission – 360° shielding in environments with electromagnetic interference



## Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 017918 957674 |
| GTIN         | 4017918957674                                                                                           |

## Technical data

### Dimensions

|                                            |       |
|--------------------------------------------|-------|
| Length of cable                            | 10 m  |
| Stripping length of the free conductor end | 50 mm |

### Ambient conditions

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

### General

|                       |          |
|-----------------------|----------|
| Rated current at 40°C | 2 A      |
| Rated voltage         | 30 V AC  |
|                       | 30 V DC  |
| Number of positions   | 8        |
| Insulation resistance | ≥ 100 MΩ |

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## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | No                            |
| Protective circuit/component | unwired                       |
| Overvoltage category         | II                            |
| Degree of pollution          | 3                             |
| Insertion/withdrawal cycles  | ≥ 100                         |
| Torque                       | 0.4 Nm (M12 connector)        |

### Material

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | HB                                          |
| Contact material                       | CuZn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                       | Zinc die-cast, nickel-plated                |
| Sealing material                       | NBR                                         |

### Standards and Regulations

|                                        |                               |
|----------------------------------------|-------------------------------|
| Standards/specifications               | M12 connector IEC 61076-2-101 |
| Flammability rating according to UL 94 | HB                            |

### Cable

|                                               |                                                    |
|-----------------------------------------------|----------------------------------------------------|
| Cable type                                    | PUR halogen-free black                             |
| Cable type (abbreviation)                     | PUR                                                |
| Cable abbreviation                            | LiF9YC11Y                                          |
| UL AWM style                                  | 20549 / 10493 (80°C/300 V)                         |
| Conductor cross section                       | 8x 0.25 mm <sup>2</sup> (Signal line)              |
| AWG signal line                               | 24                                                 |
| Conductor structure signal line               | 32x 0.10 mm                                        |
| Core diameter including insulation            | 1.17 mm ±0.02 mm                                   |
| Thickness, insulation                         | approx. 0.2 mm                                     |
| Wire colors                                   | Brown, white, green, yellow, gray, pink, blue, red |
| Overall twist                                 | 8 wires around filler to the core                  |
| Shielding                                     | Tinned copper braided shield                       |
| Optical shield covering                       | 85 %                                               |
| External sheath, color                        | black-gray RAL 7021                                |
| Outer sheath thickness                        | approx. 0.5 mm                                     |
| External cable diameter D                     | 5.9 mm ±0.2 mm                                     |
| Minimum bending radius, fixed installation    | 5 x D                                              |
| Minimum bending radius, flexible installation | 10 x D                                             |
| Number of bending cycles                      | 2000000                                            |

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## Technical data

### Cable

|                                                 |                                                            |
|-------------------------------------------------|------------------------------------------------------------|
| Minimum bending radius, drag chain applications | 10 x D                                                     |
| Traversing path                                 | 10 m                                                       |
| Traversing rate                                 | 3 m/s                                                      |
| Acceleration                                    | 10 m/s <sup>2</sup>                                        |
| Cable weight                                    | 53 kg/km                                                   |
| Outer sheath, material                          | PUR                                                        |
| Material conductor insulation                   | PP                                                         |
| Conductor material                              | Bare Cu litz wires                                         |
| Insulation resistance                           | ≥ 1 GΩ*km (at 20 °C)                                       |
| Conductor resistance                            | ≤ 78 Ω/km (at 20 °C)                                       |
| Nominal voltage, cable                          | ≤ 300 V AC                                                 |
| Test voltage, cable                             | ≥ 3000 V AC (Spark test)                                   |
| Test voltage Core/Shield                        | ≥ 2000 V AC (for 60 s)                                     |
| Special properties                              | Flexible cable conduit capable                             |
| Flame resistance                                | in acc. with UL FT-2                                       |
|                                                 | according to UL 758/1581 (horizontal)                      |
|                                                 | in accordance with UL 758/1581 FT2                         |
|                                                 | According to DIN EN 60332-2-2 (20 s)                       |
| Halogen-free                                    | in accordance with DIN VDE 0472 part 815                   |
|                                                 | in accordance with DIN EN 50267-2-1                        |
| Other resistance                                | hydrolysis and microbe resistant                           |
|                                                 | Resistant to salt water                                    |
|                                                 | Low adhesion                                               |
|                                                 | Low adhesion                                               |
|                                                 | 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)            |

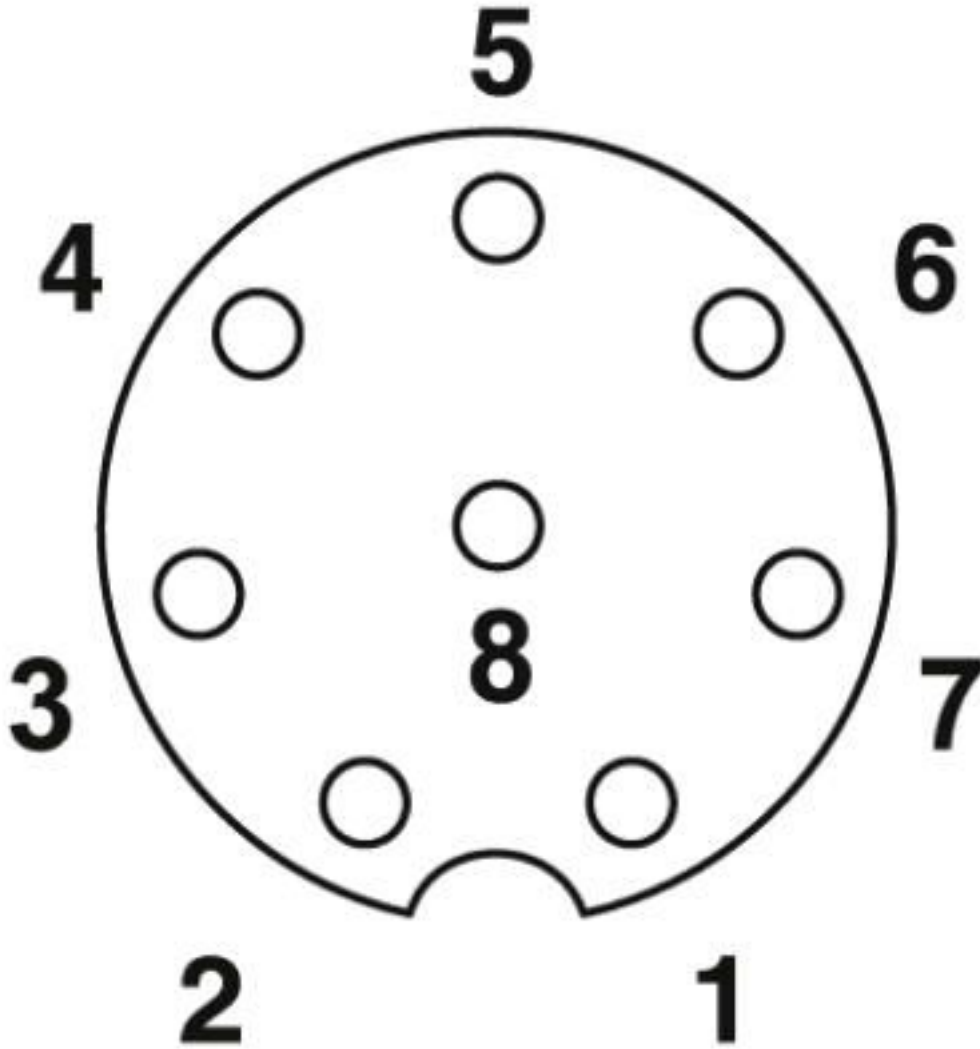
### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                      |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

### Drawings

# Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

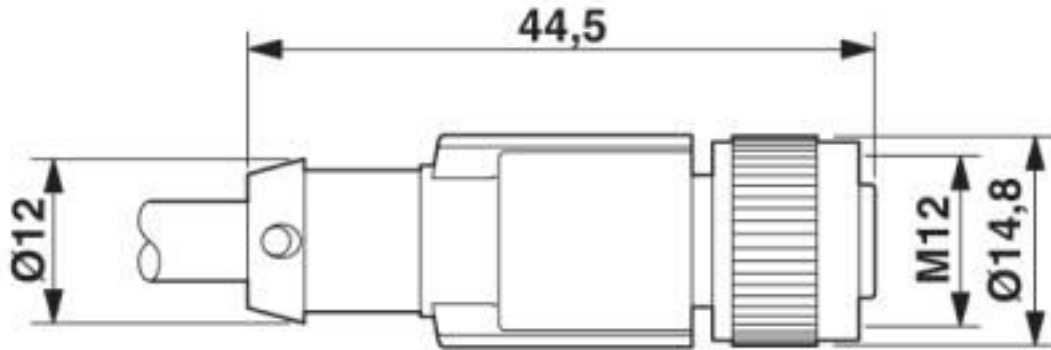
Schematic diagram



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

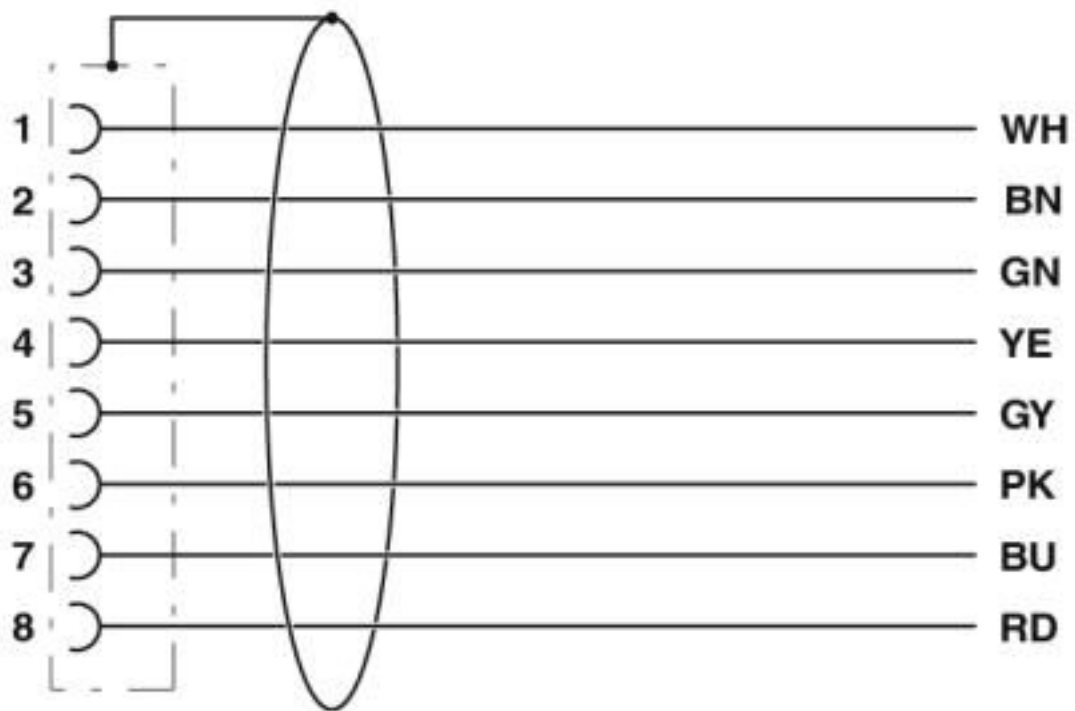
# Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

Dimensional drawing



M12 x 1 socket, straight, shielded

Circuit diagram



Contact assignment of the M12 socket

# Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

Cable cross section



PUR halogen-free black [PUR]

## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060311 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27061800 |
| eCl@ss 5.1    | 27061800 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 8.0    | 27279218 |
| eCl@ss 9.0    | 27060311 |

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## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |
| ETIM 6.0 | EC001855 |
| ETIM 7.0 | EC001855 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |
| UNSPSC 19.0   | 31251501 |
| UNSPSC 20.0   | 31251501 |
| UNSPSC 21.0   | 31251501 |

## Approvals


### Approvals


#### Approvals

UL Listed / cUL Listed / EAC-RoHS / EAC / cULus Listed

#### Ex Approvals

### Approval details

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Listed          |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 30 V                                                                                |                                                                                                                                                       |               |
| Nominal current IN | 2 A                                                                                 |                                                                                                                                                       |               |

|                    |                                                                                     |                                                                                                                                                       |               |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Listed         |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
| Nominal voltage UN | 30 V                                                                                |                                                                                                                                                       |               |

# Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

## Approvals

|                                |     |
|--------------------------------|-----|
| Nominal current I <sub>N</sub> | 2 A |
|--------------------------------|-----|

|          |  |                          |
|----------|--|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|--|--------------------------|

|     |  |               |
|-----|--|---------------|
| EAC |  | EAC-Zulassung |
|-----|--|---------------|

|              |  |  |
|--------------|--|--|
| cULus Listed |  |  |
|--------------|--|--|

## Accessories

### Accessories

#### Conductor marking

Insert label - PABA WH/23 - 1013779



Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Insert label - PABA YE/23 - 1013782



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

#### Corrugated pipe

Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant



## Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

### Accessories

Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

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### Cutting tools

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

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### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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### Plug for cable screw gland

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899



M12 sealing cap with fixing band, for sensor cables, for free M12 sockets

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### Safety locking

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

## Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

### Accessories

#### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

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Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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#### Stripping tool

Stripping tool - WIREFOX SAC-1 - 1212757



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\varnothing$  of 3.2 to 4.4 mm, any stripping length

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Stripping tool - WIREFOX SAC - 1212623



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\varnothing$  of 4.4 to 7 mm, any stripping length

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Stripping tool - WIREFOX 10 - 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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#### Torque tool

## Sensor/actuator cable - SAC-8P-10,0-PUR/M12FS SH - 1522891

### Accessories

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

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