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# Sensor/Actuator cable - SAC-3P-M12MS/ 0,6-800/M12FR - 1456828

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Sensor/Actuator cable, 3-position, PUR halogen-free, welding sputter-resistant, highly flexible, gray RAL 7001, Plug straight M12, A-coded, on Socket angled M12, A-coded, Cable length: 0.6 m, for robots and drag chains

## Why buy this product

- Easy and safe: 100% electrically tested plug-in components
- Flexible: cable supports a high degree of torsion and bending
- Reliable solution for the body shop as cable is resistant to welding sparks

## Key Commercial Data

|              |                     |
|--------------|---------------------|
| Packing unit | 1 STK               |
| GTIN         | <br>4 046356 593182 |

## Technical data

### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 0.6 m |
|-----------------|-------|

### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |

### General

|                              |                               |
|------------------------------|-------------------------------|
| Rated current at 40°C        | 4 A                           |
| Rated voltage                | 250 V                         |
| Number of positions          | 3                             |
| Insulation resistance        | ≥ 100 MΩ                      |
| 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                             |

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## Technical data

### General

|                             |                        |
|-----------------------------|------------------------|
| Insertion/withdrawal cycles | ≥ 100                  |
| Torque                      | 0.4 Nm (M12 connector) |

### Material

|  |   |
|--|---|
| Flammability rating according to UL 94 | HB  |
| Contact material                       | CuSn  |
| 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

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

### Cable

|   |  |
|---|--|
| Note  | Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments. |
| Cable type                                      | Gray, highly flexible PUR  |
| Cable type (abbreviation)                       | 800  |
| Cable abbreviation                              | Li12Y11Y-HF  |
| UL AWM style                                    | 20233  |
| Conductor cross section                         | 3x 0.34 mm <sup>2</sup> (Signal line)  |
| AWG signal line                                 | 22   |
| Conductor structure signal line                 | 42x 0.10 mm  |
| Core diameter including insulation              | 1.3 mm ±0.05 mm (Signal line)  |
| Wire colors                                     | brown, blue, black   |
| Overall twist                                   | 3 wires, twisted   |
| External sheath, color                          | gray RAL 7001  |
| External cable diameter D                       | 4.5 mm ±0.2 mm   |
| Minimum bending radius, fixed installation      | 4 x D  |
| Minimum bending radius, flexible installation   | 7.5 x D  |
| Number of bending cycles                        | 10000000   |
| Minimum bending radius, drag chain applications | 7,5 x D  |
| Traversing path                                 | 5 m  |
| Traversing rate                                 | 3.3 m/s  |
| Acceleration                                    | 5 m/s <sup>2</sup>   |
| Number of bending cycles                        | 15000000   |
| Bending radius                                  | 50 mm  |
| Traversing path                                 | 0.9 m  |
| Traversing rate                                 | 5 m/s  |

## Sensor/Actuator cable - SAC-3P-M12MS/ 0,6-800/M12FR - 1456828

### Technical data

#### Cable

|                                 |  |
|---------------------------------|--|
| Acceleration                    | 30 m/s <sup>2</sup>  |
| Torsion force                   | ± 360 °/m (10,000,000 torsion cycles)  |
| Cable weight                    | 28.3 kg/km   |
| Outer sheath, material          | PUR  |
| Material conductor insulation   | PES  |
| Conductor material              | Bare Cu litz wires   |
| Insulation resistance           | ≥ 20 MΩ*km   |
| Conductor resistance            | approx. 53 Ω/km  |
| Nominal voltage, cable          | 300 V  |
| Test voltage, cable             | 2000 V   |
| Special properties              | Sheath resistant to welding beads, can be recycled, matt, without adhesion, wear-resistant, flame resistant and self-extinguishing |
|                                 | Free from silicone and cadmium   |
|                                 | Free of substances which would hinder coating with paint or varnish  |
| Flame resistance                | According to IEC 60332-1-2   |
|                                 | According to UL 758/1581 VW-1  |
|                                 | According to UL 758/1581 FT1   |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815   |
| Resistance to oil               | According to HD 22.10  |
|                                 | in accordance with DIN EN 60811-404 (external sheath)  |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents   |
|                                 | Silicone-free  |
| Ambient temperature (operation) | -40 °C ... 90 °C (cable, fixed installation)   |
|                                 | -30 °C ... 90 °C (cable, flexible installation)  |
|                                 | to 120 °C (for 3000 h)   |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061801 |
| eCl@ss 6.0 | 27061801 |
| eCl@ss 7.0 | 27061801 |
| eCl@ss 8.0 | 27279218 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

# Sensor/Actuator cable - SAC-3P-M12MS/ 0,6-800/M12FR - 1456828

## Classifications

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11     | 31251501 |
| UNSPSC 12.01  | 31251501 |
| UNSPSC 13.2   | 31251501 |

## Approvals

### Approvals

Approvals

EAC / UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approvals submitted

### Approval details

|     |
|-----|
| EAC |
|-----|

|                    |       |
|--------------------|-------|
| UL Listed          |       |
| Nominal current IN | 4 A   |
| Nominal voltage UN | 300 V |

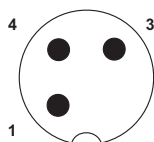
|                    |       |
|--------------------|-------|
| cUL Listed         |       |
| Nominal current IN | 4 A   |
| Nominal voltage UN | 300 V |

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

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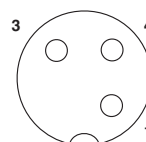
## Drawings

Schematic diagram



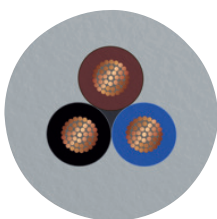
Pin assignment M12 plug, 3-pos., A-coded, view male side

Schematic diagram



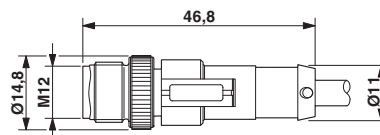
Pin assignment M12 socket, 3-pos., A-coded, view female side

Cable cross section



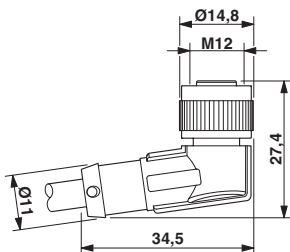
Gray, highly flexible PUR [800]

Dimensional drawing



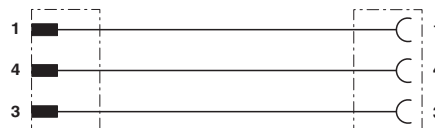
M12 x 1 plug, straight

Dimensional drawing



M12 x 1 socket, angled

Circuit diagram



Contact assignment of the M12 plug and the M12 socket



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