

## Sensor/Actuator cable - SAC-5P-M12MR/10,0-600 HD - 1404048

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Sensor/Actuator cable, 5-position, PP-EPDM halogen-free, Gray RAL 7035, Plug angled M12, A-coded, on free cable end, Cable length: 10 m, Hygienic design, With high-grade steel knurl

### Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Easy to clean, thanks to the special hygienic design
- ✓ Corrosion protection for all exposed metal parts, thanks to the use of stainless steel type 1.4404
- ✓ Contamination can be detected quickly – thanks to the light color



### Key commercial data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 046356 677868 |
| Weight per Piece (excluding packing) | 319.0 g                                                                                                 |
| Custom tariff number                 | 85444290                                                                                                |
| Country of origin                    | Poland                                                                                                  |
| Note                                 | Made to Order (non-returnable)                                                                          |

### Technical data

#### Dimensions

|                 |      |
|-----------------|------|
| Length of cable | 10 m |
|-----------------|------|

#### Ambient conditions

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Ambient temperature (operation) | -40 °C ... 105 °C (Plug / socket) |
| Degree of protection            | IP65                              |
|                                 | IP67                              |
|                                 | IP68                              |
|                                 | IP69K                             |

#### General

|                       |      |
|-----------------------|------|
| Rated current at 40°C | 4 A  |
| Rated voltage         | 60 V |

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## Technical data

### General

|                              |                                          |
|------------------------------|------------------------------------------|
| Number of positions          | 5                                        |
| Contact resistance           | $\leq 5 \text{ m}\Omega$                 |
| Insulation resistance        | $\geq 100 \text{ M}\Omega$               |
| Coding                       | A - standard                             |
| Standards/regulations        | M12 connector IEC 61076-2-101            |
|                              | Material conformance FDA 21 CFR 177.2600 |
| Status display               | No                                       |
| Protective circuit/component | Unwired                                  |
| Surge voltage category       | II                                       |
| Pollution degree             | 3                                        |
| Insertion/withdrawal cycles  | $\geq 100$                               |
| Torque                       | 0.4 Nm (M12 connector)                   |

### Material

|                          |                  |
|--------------------------|------------------|
| Contact material         | CuSn             |
| Contact surface material | Ni/Au            |
| Contact carrier material | PP               |
| Material of grip body    | PP               |
| Material, knurls         | High-grade steel |

### Cable

|                                                 |                                          |
|-------------------------------------------------|------------------------------------------|
| Cable type                                      | Halogen-free PP gray                     |
| Cable type (abbreviation)                       | 600                                      |
| Cable abbreviation                              | Li9Y9Y                                   |
| Conductor cross section                         | 5x 0.34 mm <sup>2</sup> (signal line)    |
| AWG signal line                                 | 22                                       |
| Conductor structure signal line                 | 42x 0.10 mm                              |
| Core diameter including insulation              | 1.27 mm $\pm$ 0.02 mm (signal line)      |
| Thickness, insulation                           | $\geq 0.21 \text{ mm}$ (Core insulation) |
| Wire colors                                     | Brown, white, blue, black, gray          |
| Overall twist                                   | 5 cores, twisted                         |
| Length of twist, overall twist                  | 55 mm                                    |
| External sheath, color                          | Gray RAL 7035                            |
| Outer sheath thickness                          | approx. 0.7 mm                           |
| External cable diameter D                       | 5 mm $\pm$ 0.15 mm                       |
| Minimum bending radius, fixed installation      | 5 x D                                    |
| Minimum bending radius, flexible installation   | 10 x D                                   |
| Number of bending cycles                        | 4000000                                  |
| 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>                      |

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### Technical data

#### Cable

|                                 |                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------|
| Cable weight                    | 34 kg/km                                                                          |
| Outer sheath, material          | PP-EPDM                                                                           |
| Material conductor insulation   | PP                                                                                |
| Conductor material              | Bare Cu litz wires                                                                |
| Conductor resistance            | 58 Ω/km (at 20 °C)                                                                |
| Nominal voltage, cable          | ≤ 300 V AC                                                                        |
| Test voltage, cable             | ≥ 3000 V AC                                                                       |
| Special properties              | FDA compliant according to FDA 21 CFR 177.2600                                    |
|                                 | highly flexible                                                                   |
|                                 | partly suitable for use with drag chain                                           |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                                          |
| Other resistance                | Resistant to cold bending and cold impacts According to DIN EN 60811-1-4 (-40 °C) |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation)                                     |
|                                 | -25 °C ... 105 °C (cable, flexible installation)                                  |

### 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 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

#### UNSPSC

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

### Accessories

#### Accessories

## Sensor/Actuator cable - SAC-5P-M12MR/10,0-600 HD - 1404048

### Accessories

#### Cutting tools

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for copper and aluminum conductors, VDE-tested

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#### 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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Adapter - SAC BIT M12-W14 - 1212513



SAC nut, for assembling M12 connectors with hexagonal high-grade steel knurl, with 4 mm hexagonal drive

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#### Stripping tool

Stripping tool - WIREFOX SAC - 1212623



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø 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 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

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#### Torque tool

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### Accessories

Torque screwdriver - TSD 04 SAC - 1208429



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

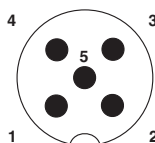
Torque screwdriver - TSD-M 1,2NM - 1212224



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

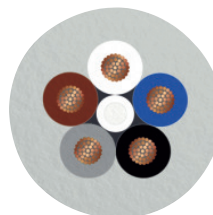
### Drawings

Schematic diagram



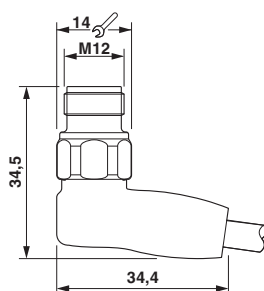
Pin assignment M12 male connector, 5-pos., A-coded, male side

Cable cross section



Halogen-free PP gray [600]

Dimensioned drawing



M12 x 1 male plug, angled

Circuit diagram



Contact assignment of the M12 plug