

# Sensor/actuator cable - SAC-4P-M12MR/ 4,0-PUR/M12FS-3L - 1560316

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Sensor/actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, A-coded, on Socket straight M12, A-coded, with 3 LEDs, cable length: 4 m

RoHS

## Key Commercial Data

|                      |          |
|----------------------|----------|
| Packing unit         | 1 pc     |
| Custom tariff number | 85444290 |
| Country of origin    | Poland   |

## Technical data

### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 4 m |
|-----------------|-----|

### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP65 |
|                      | IP67 |
|                      | IP68 |

### General

|                             |              |
|-----------------------------|--------------|
| Rated current at 40°C       | 4 A          |
| Rated voltage               | 24 V         |
|                             | 24 V DC      |
| Number of positions         | 4            |
| Insulation resistance       | ≥ 100 MΩ     |
| Coding                      | A - standard |
| Status display              | 3 LEDs       |
| Overvoltage category        | II           |
| Degree of pollution         | 3            |
| Insertion/withdrawal cycles | ≥ 100        |

### Material

|  |    |
|--|----|
| Flammability rating according to UL 94 | HB |
|--|----|

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## Technical data

### Material

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

|  |    |
|--|----|
| Flammability rating according to UL 94 | HB |
|--|----|

### Cable

|   |                                |
|---|--------------------------------|
| Cable type                                      | PUR halogen-free black         |
| Cable type (abbreviation)                       | PUR                            |
| Cable abbreviation                              | Li9Y11Y-HF                     |
| UL AWM style                                    | 20549 / 10493 (80°C/300 V)     |
| Conductor cross section                         | 4x 0.34 mm <sup>2</sup>        |
| AWG signal line                                 | 22                             |
| Conductor structure signal line                 | 42x 0.10 mm                    |
| Core diameter including insulation              | 1.27 mm ±0.02 mm               |
| Thickness, insulation                           | ≥ 0.21 mm                      |
| Wire colors                                     | brown, white, blue, black      |
| Overall twist                                   | 4 wires, twisted               |
| External sheath, color                          | black-gray RAL 7021            |
| Outer sheath thickness                          | approx. 0.5 mm                 |
| External cable diameter D                       | 4.2 mm ±0.15 mm                |
| Minimum bending radius, fixed installation      | 5 x D                          |
| Minimum bending radius, flexible installation   | 10 x D                         |
| Number of bending cycles                        | 10000000                       |
| 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                                    | 30 kg/km                       |
| Outer sheath, material                          | PUR                            |
| Material conductor insulation                   | PP                             |
| Conductor material                              | Bare Cu litz wires             |
| Insulation resistance                           | ≥ 1 GΩ*km                      |
| Conductor resistance                            | ≤ 58 Ω/km                      |
| Nominal voltage, cable                          | ≤ 300 V                        |
| Test voltage, cable                             | ≥ 3000 V                       |
| Special properties                              | Flexible cable conduit capable |
|   | Silicone-free                  |

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## Technical data

### Cable

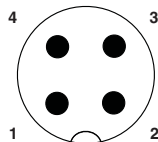
|                                 |   |
|---------------------------------|---|
|                                 | Free of substances which would hinder coating with paint or varnish |
|                                 | flexible  |
| Flame resistance                | in accordance with UL 758/1581 FT2                                  |
|                                 | 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                                 |
| Resistance to oil               | in accordance with DIN EN 60811-2-1                                 |
| Other resistance                | Highly resistant to acids, alkaline solutions and solvents          |
|                                 | hydrolysis and microbe resistant                                    |
|                                 | partly UV-resistant in accordance with DIN EN ISO 4892-2-A          |
|                                 | Low adhesion  |
|                                 | abrasion-resistant  |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                        |
|                                 | -25 °C ... 80 °C (cable, flexible installation)                     |

### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

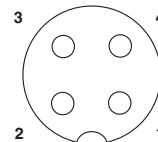
## Drawings

Schematic diagram



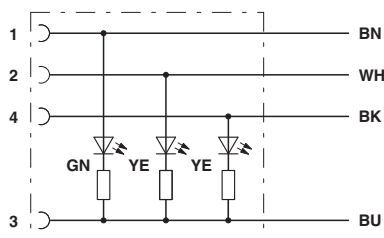
Pin assignment M12 plug, 4-pos., A-coded, view plug side

Schematic diagram



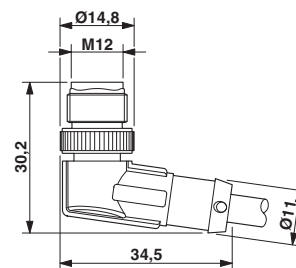
Pin assignment M12 socket, 4-pos., A-coded, view female side

Circuit diagram



Contact assignment of M12 plugs / sockets with 3 LEDs

Dimensional drawing



M12 x 1 male plug, angled

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Dimensional drawing



Socket M12 x 1, straight, with LED

## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| 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 |

ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |
| ETIM 6.0 | EC001855 |

UNSPSC

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

## Approvals

Approvals

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UL Listed / cUL Listed / cULus Listed


Ex Approvals

# Sensor/actuator cable - SAC-4P-M12MR/ 4,0-PUR/M12FS-3L - 1560316

## 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 |   | 24 V  |               |
| Nominal current IN |   | 4 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 |
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|              |   |  |  |
|--------------|---|--|--|
| cULus Listed |  |  |  |
|--------------|---|--|--|