

# SAC-3P-M12MS/ 2,0-150/M12FR-2L - Sensor/actuator cable



1546592

<https://www.phoenixcontact.com/gb/products/1546592>

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Sensor/actuator cable, 3-position, PUR halogen-free, irradiated, orange RAL 2003, Plug straight M12, coding: A, with 2 LEDs, on Socket angled M12, coding: A, with 2 LEDs, cable length: 2 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1546592       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 25 pc         |
| Sales key                            | AF1CBA        |
| Product key                          | AF1CBA        |
| GTIN                                 | 4046356128728 |
| Weight per piece (including packing) | 71.1 g        |
| Weight per piece (excluding packing) | 70 g          |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Number of positions  | 3                     |
| 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                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 24 V                       |
| Nominal current $I_N$ | 4 A                        |

### Mechanical properties

#### Mechanical data

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

### Signaling

|                        |        |
|------------------------|--------|
| Status display         | 2 LEDs |
| Status display present | yes    |

### Connector

#### Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 3                 |
| Coding type         | A                 |

#### Connection 2

|                     |                   |
|---------------------|-------------------|
| Type                | Socket angled M12 |
| Number of positions | 3                 |

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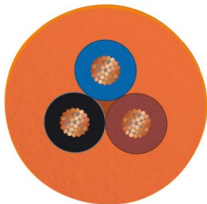
<https://www.phoenixcontact.com/gb/products/1546592>

|             |   |
|-------------|---|
| Coding type | A |
|-------------|---|

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 2 m |
|--------------|-----|

### PUR irradiated halogen-free orange [150]

|                                               |                                                                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |                                                     |
| Number of positions                           | 3                                                                                                                                     |
| Shielded                                      | no                                                                                                                                    |
| Cable type                                    | PUR irradiated halogen-free orange [150]                                                                                              |
| Conductor structure signal line               | 42x 0.10 mm                                                                                                                           |
| AWG signal line                               | 22                                                                                                                                    |
| Conductor cross section                       | 3x 0.34 mm <sup>2</sup> (Signal line)                                                                                                 |
| Wire diameter incl. insulation                | 1.05 mm ±0.05 mm (Signal line)                                                                                                        |
| External cable diameter                       | 4.40 mm ±0.2 mm                                                                                                                       |
| Outer sheath, material                        | PUR                                                                                                                                   |
| External sheath, color                        | orange RAL 2003                                                                                                                       |
| Conductor material                            | Bare Cu litz wires                                                                                                                    |
| Material wire insulation                      | PE                                                                                                                                    |
| Single wire, color                            | brown, blue, black                                                                                                                    |
| Overall twist                                 | 3 wires, twisted                                                                                                                      |
| Max. conductor resistance                     | max. 57 Ω/km                                                                                                                          |
| Nominal voltage, cable                        | 250 V (AC)                                                                                                                            |
| Test voltage                                  | 2000 V (50 Hz, 5 minutes)                                                                                                             |
| Smallest bending radius, fixed installation   | 13.5 mm                                                                                                                               |
| Smallest bending radius, movable installation | 53 mm                                                                                                                                 |
| Dynamic load capacity (bending)               | Max. bending cycles: 5000000, Bending radius: 44 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup> |
| Flame resistance                              | according to DIN VDE 0472 Part 804                                                                                                    |
| Other resistance                              | UV resistant                                                                                                                          |
| Special properties                            | Silicone-free<br>Irradiated                                                                                                           |
| Ambient temperature (operation)               | -50 °C ... 105 °C (cable, fixed installation)<br>-40 °C ... 105 °C (Cable, flexible installation)                                     |

## Environmental and real-life conditions

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## Ambient conditions

|                                 |                                                  |
|---------------------------------|--------------------------------------------------|
| Degree of protection            | IP65                                             |
|                                 | IP67                                             |
|                                 | IP68                                             |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)                 |
|                                 | -50 °C ... 105 °C (cable, fixed installation)    |
|                                 | -40 °C ... 105 °C (Cable, flexible installation) |

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## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



Socket M12 x 1, angled, with LED

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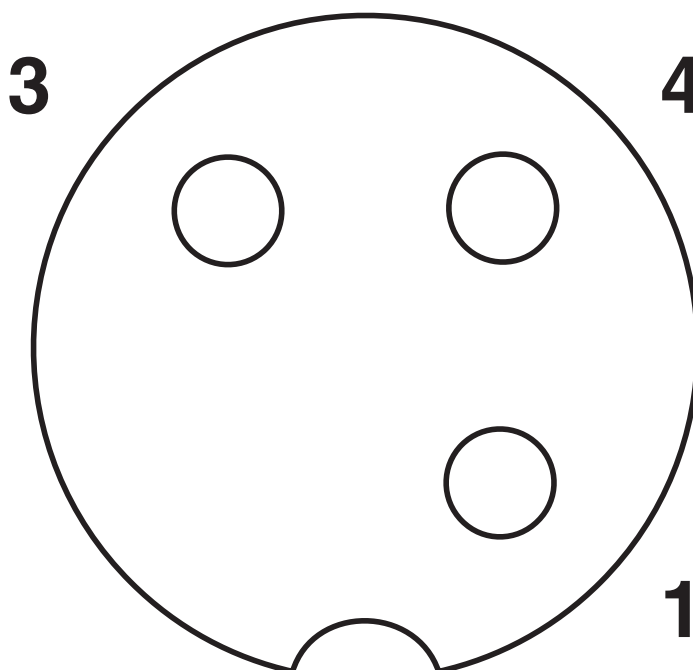
<https://www.phoenixcontact.com/gb/products/1546592>

Schematic diagram



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

Schematic diagram



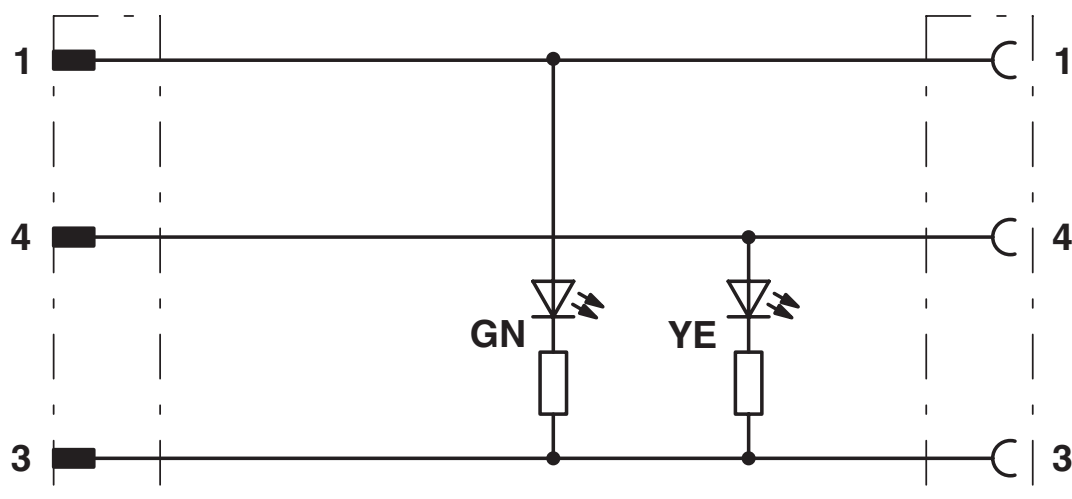
Pin assignment M12 socket, 3-pos., A-coded, view female side

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Circuit diagram



Contact assignment of M12 plugs / sockets with 3 LEDs

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## Approvals

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### UL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 24 V                  | 4 A                   | -                 | -                           |



### cUL Listed

Approval ID: FILE E 221474

|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 24 V                  | 4 A                   | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)