

SAC-4P-M12MR/3,0-PVC/M12FR-3L - Sensor/actuator cable



1415650

<https://www.phoenixcontact.com/us/products/1415650>

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Sensor/actuator cable, 4-position, PVC, black RAL 9005, Plug angled M12, coding: A, with 3 LEDs, on Socket angled M12, coding: A, with 3 LEDs, cable length: 3 m

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Convenient: increased machine availability thanks to quick and easy diagnostics

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1415650 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF03 |
| Product key | AF1CCA |
| GTIN | 4055626050171 |
| Weight per piece (including packing) | 125.6 g |
| Weight per piece (excluding packing) | 125.6 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|----------------------|-----------------------|
| Product type | Sensor/actuator cable |
| Application | Standard |
| Number of positions | 4 |
| 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 DC |
| Nominal current I_N | 4 A |

Mechanical properties

Mechanical data

| | |
|-----------------------------|------------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|------------|

Signaling

| | |
|------------------------|--------|
| Status display | 3 LEDs |
| Status display present | yes |

Connector

Connection 1

| | |
|---------------------|-----------------|
| Type | Plug angled M12 |
| Number of positions | 4 |
| Coding type | A |

Connection 2

| | |
|------|-------------------|
| Type | Socket angled M12 |
|------|-------------------|

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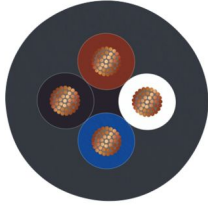
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| | |
|---------------------|---|
| Number of positions | 4 |
| Coding type | A |

Cable/line

| | |
|--------------|-----|
| Cable length | 3 m |
|--------------|-----|

PVC black [PVC]

| | |
|---|--|
| Dimensional drawing |  |
| Cable weight | 40 kg/km |
| UL AWM Style | 2464 / 1729 (80°C/300 V) |
| Number of positions | 4 |
| Shielded | no |
| Cable type | PVC black [PVC] |
| Conductor structure signal line | 19x 0.15 mm |
| AWG signal line | 22 |
| Conductor cross-section | 4x 0.34 mm ² (Signal line) |
| Wire diameter incl. insulation | 1.26 mm ±0.05 mm |
| External cable diameter | 4.70 mm ±0.15 mm |
| Outer sheath, material | PVC |
| External sheath, color | black RAL 9005 |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | PVC |
| Single wire, color | brown, white, blue, black |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| Thickness, outer sheath | ≥ 0.76 mm |
| Overall twist | 4 wires, twisted |
| Max. conductor resistance | ≤ 57 Ω/km (at 20 °C) |
| Insulation resistance | ≥ 200 MΩ*km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage | ≥ 3000 V |
| Minimum bending radius, fixed installation | 5 x D |
| Minimum bending radius, flexible installation | 10 x D |
| Smallest bending radius, fixed installation | 24 mm |
| Smallest bending radius, movable installation | 47 mm |
| Flame resistance | As per UL-Style 2464 |
| Resistance to oil | according to DIN EN 60811-2-1, 168 h at 60 °C |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |

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| | |
|--|---|
| | -10 °C ... 80 °C (Cable, flexible installation) |
|--|---|

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

| | |
|--------------------------|-----------------|
| Standard designation | M12 connector |
| Standards/specifications | IEC 61076-2-101 |

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Drawings

Dimensional drawing



M12 x 1 male plug, angled

Dimensional drawing



Socket M12 x 1, angled, with LED

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Schematic diagram



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

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Schematic diagram



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

Circuit diagram



Contact assignment of M12 plugs / sockets with 3 LEDs

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1415650>

|  UL Listed Approval ID: FILE E 221474 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 24 V | 4 A | - | - |

|  cUL Listed Approval ID: FILE E 221474 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 24 V | 4 A | - | - |

|  EAC-RoHS Approval ID: RU D-DE.HB35.B.00387 | |
|--|--|
|--|--|

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 0.954 kg CO2e |
|---------|---------------|

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com