

SAC-4P- 1,5-800/M12FS - Sensor/actuator cable



1456938

<https://www.phoenixcontact.com/us/products/1456938>

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Sensor/actuator cable, 4-position, PUR halogen-free, resistant to welding sparks, highly flexible, gray RAL 7001, free cable end, on Socket straight M12, coding: A, cable length: 1.5 m, for robots and drag chains

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Reliable solution for the body shop as cable is resistant to welding sparks

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1456938 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF03 |
| Product key | AF1CCA |
| GTIN | 4046356593298 |
| Weight per piece (including packing) | 55.7 g |
| Weight per piece (excluding packing) | 53.5 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|----------------------|------------------------|
| Product type | Sensor/actuator cable |
| Application | Robots and drag chains |
| 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 | 250 V AC |
| | 250 V DC |
| Nominal current I_N | 4 A |

Mechanical properties

Mechanical data

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

Signaling

| | |
|------------------------|----|
| Status display | no |
| Status display present | no |

Connection data

Conductor connection

| | |
|-------------------|------------------------|
| Tightening torque | 0.4 Nm (M12 connector) |
|-------------------|------------------------|

Connector

Connection 1

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| | |
|------|----------------|
| Type | free cable end |
|------|----------------|

Connection 2

| | |
|---------------------|---------------------|
| Type | Socket straight M12 |
| Number of positions | 4 |
| Coding type | A |

Cable/line

| | |
|--------------|-------|
| Cable length | 1.5 m |
|--------------|-------|

Gray, highly flexible PUR [800]

| | |
|---|--|
| Dimensional drawing |  |
| Note | Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments. |
| Cable weight | 33.5 kg/km |
| UL AWM Style | 20549 |
| Number of positions | 4 |
| Shielded | no |
| Cable type | Gray, highly flexible PUR [800] |
| Conductor structure signal line | 42x 0.10 mm |
| AWG signal line | 22 |
| Conductor cross-section | 4x 0.34 mm ² (Signal line) |
| Wire diameter incl. insulation | 1.3 mm ±0.05 mm (Signal line) |
| External cable diameter | 4.80 mm ±0.2 mm |
| Outer sheath, material | PUR |
| External sheath, color | gray RAL 7001 |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | PP |
| Single wire, color | brown, white, blue, black |
| Overall twist | 4 wires, twisted |
| Max. conductor resistance | approx. 53 Ω/km |
| Insulation resistance | ≥ 20 MΩ*km |
| Nominal voltage, cable | 300 V |
| Test voltage | 2000 V |
| Minimum bending radius, fixed installation | 4 x D |
| Minimum bending radius, flexible installation | 7.5 x D |
| Smallest bending radius, fixed installation | 20 mm |
| Smallest bending radius, movable installation | 36 mm |

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| | |
|---------------------------------|--|
| Dynamic load capacity (bending) | Max. bending cycles: 10000000, Bending radius: 7,5 x D, Traversing path: 5 m, Traversing rate: 3.3 m/s, Acceleration: 5 m/s ² |
| | Max. bending cycles: 15000000, Bending radius: 50 mm, Traversing path: 0.9 m, Traversing rate: 5 m/s, Acceleration: 30 m/s ² |
| Dynamic load capacity (torsion) | Torsion: ±360 °/m, Torsion cycles: 1000000, Torsional frequency: 35 cycles/min. |
| Halogen-free | in accordance with DIN VDE 0472 part 815 |
| Flame resistance | in accordance with UL 758/1581 FT2 |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Other resistance | Highly resistant to acids, alkaline solutions and solvents Silicone-free |
| Special properties | Cable jacket is welding spark-resistant, recyclable, matt, low-adhesion, abrasion-resistant, flame-retardant, and self-extinguishing |
| | Free from silicone and cadmium |
| | Free of substances which would hinder coating with paint or varnish |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -25 °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) |
| Ambient temperature (operation) (Cable, fixed installation) | -40 °C ... 90 °C (cable, fixed installation) |
| Ambient temperature (operation) (Cable, flexible installation) | -30 °C ... 90 °C (Cable, flexible installation) |
| Ambient temperature (operation) | to 120 °C (for 3000 h) |
| | to 80 °C (in acc. with UL) |

Standards and regulations

M12

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

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Drawings

Dimensional drawing



M12 x 1 socket, straight

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1456938>

|  UL Listed Approval ID: FILE E 221474 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 300 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 | | | | |
| | 300 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 | 0.257 kg CO2e |
|---------|---------------|

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