# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

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Sensor/actuator cable, 3-position, Variable cable type, Plug angled M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, with 2 LEDs, cable length: Free input (0.2 ... 40.0 m)

## Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Flexible solutions - configurable materials with variable cable types and cable lengths
- Convenient: increased machine availability thanks to quick and easy diagnostics

## Key Commercial Data

| | |
|---|---|
| Packing unit | 1 pc |
| Minimum order quantity | 25 pc |

## Technical data

### Dimensions

| | |
|---|---|
| Length of cable | Free input (0.2 ... 40.0 m) |

### Ambient conditions

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

### General

| | |
|---|---|
| Rated current at 40°C | 4 A |
| Rated voltage | 24 V |
| | 24 V DC |
| Number of positions | 3 |
| Insulation resistance | ≥ 100 MΩ |
| Coding | A - standard |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### General

| | |
|---|---|
| Standards/regulations | M12 connector IEC 61076-2-101 |
| Status display | 2 LEDs |
| Protective circuit/component | unwired |
| Overvoltage category | II |
| Degree of pollution | 3 |
| Test voltage | 2500 V |
| Insertion/withdrawal cycles | ≥ 100 |
| Torque | 0.4 Nm (M12 connector) |

### Material

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

### Line characteristics

| | |
|---|---|
| Note | This item is a sensor/actuator cable with a freely selectable cable type. The technical data for all possible cable types is listed in the table below. |

### Standards and Regulations

| | |
|---|---|
| Standards/specifications | M12 connector IEC 61076-2-101 |
| Flammability rating according to UL 94 | HB |

### PUR halogen-free black [PUR]

| | |
|---|---|
| Cable type | PUR halogen-free black |
| Cable type (abbreviation) | PUR |
| Cable abbreviation | Li9Y11Y |
| UL AWM style | 20549 |
| Conductor cross section | 3x 0.34 mm² (Signal line) |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.27 mm ±0.02 mm (Signal line) |
| Thickness, insulation | ≥ 0.21 mm (Core insulation) |
| | approx. 0.5 mm (Outer cable sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | black-gray RAL 7021 |
| External cable diameter D | 3.85 mm ±0.15 mm |
| Smallest bending radius, fixed installation | 19 mm |
| Smallest bending radius, movable installation | 38 mm |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### PUR halogen-free black [PUR]

| | |
|---|---|
| Number of bending cycles | 10000000 |
| Bending radius | 44 mm |
| Traversing path | 10 m |
| Traversing rate | 3 m/s |
| Acceleration | 10 m/s² |
| Cable weight | 23 kg/km |
| Outer sheath, material | PUR |
| Material conductor insulation | PP |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 100 GΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage, cable | ≥ 3000 V |
| Special properties | Flexible cable conduit capable |
| | Silicone-free |
| | Free of substances which would hinder coating with paint or varnish |
| 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 |
| 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 |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -25 °C ... 80 °C (cable, flexible installation) |

### PVC black [PVC]

| | |
|---|---|
| Cable type | PVC black |
| Cable type (abbreviation) | PVC |
| Cable abbreviation | LiYY |
| UL AWM style | 2464 / 1729 (80°C/300 V) |
| Conductor cross section | 3x 0.34 mm² (Signal line) |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.45 mm ±0.02 mm |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | black RAL 9005 |
| Outer sheath thickness | ≥ 0.76 mm |
| External cable diameter D | 5.2 mm ±0.2 mm |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### PVC black [PVC]

| | |
|---|---|
| Minimum bending radius, fixed installation | 5 x D |
| Minimum bending radius, flexible installation | 10 x D |
| Cable weight | 40 kg/km |
| Outer sheath, material | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 100 MΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage, cable | ≥ 2500 V |
| Flame resistance | As per UL-Style 2464 |
| Resistance to oil | According to DIN EN 60811-2-1, 168 h at 90°C |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -25 °C ... 80 °C (cable, flexible installation) |

### PUR/PVC gray [100]

| | |
|---|---|
| Cable type | PUR/PVC gray |
| Cable type (abbreviation) | 100 |
| Cable abbreviation | LiYY-11Y |
| Conductor cross section | 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.5 mm ±0.05 mm |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| | ≥ 0.38 mm (Outer cable sheath) |
| | approx. 0.5 mm (Inner sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | gray RAL 7001 |
| External cable diameter D | 5.2 mm ±0.2 mm |
| Smallest bending radius, fixed installation | 26 mm |
| Smallest bending radius, movable installation | 52 mm |
| Number of bending cycles | 2000000 |
| Bending radius | 52 mm |
| Traversing path | 5 m |
| Traversing rate | 3 m/s |
| Cable weight | 37 kg/km |
| Outer sheath, material | PUR |
| Material, inner sheath | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### PUR/PVC gray [100]

| | |
|---|---|
| Insulation resistance | ≥ 100 MΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage, cable | ≥ 3000 V |
| Flame resistance | in accordance with DIN UL-Style 20549 |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (cable, flexible installation) |

### PUR/PVC orange [110]

| | |
|---|---|
| Cable type | PUR/PVC orange |
| Cable type (abbreviation) | 110 |
| Cable abbreviation | LiYY-11Y |
| Conductor cross section | 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.52 mm ±0.02 mm |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| | ≥ 0.38 mm (Outer cable sheath) |
| | approx. 0.45 mm (Inner sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | orange RAL 2003 |
| External cable diameter | 5.20 mm |
| Smallest bending radius, fixed installation | 52 mm |
| Smallest bending radius, movable installation | 52 mm |
| Number of bending cycles | 2000000 |
| Bending radius | 52 mm |
| Traversing path | 5 m |
| Traversing rate | 3 m/s |
| Cable weight | 37 kg/km |
| Outer sheath, material | PUR |
| Material, inner sheath | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 100 MΩ*km |
| Conductor resistance | max. 57.3 Ω/km |
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 2500 V |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (cable, flexible installation) |

### PUR/PVC yellow [140]

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### PUR/PVC yellow [140]

| | |
|---|---|
| Cable type | PUR/PVC yellow |
| Cable type (abbreviation) | 140 |
| Cable abbreviation | LiYY-11Y |
| Conductor cross section | 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.52 mm ±0.02 mm |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| | ≥ 0.38 mm (Outer cable sheath) |
| | approx. 0.45 mm (Inner sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | yellow |
| External cable diameter D | 5.2 mm ±0.2 mm |
| Smallest bending radius, fixed installation | 52 mm |
| Smallest bending radius, movable installation | 52 mm |
| Number of bending cycles | 2000000 |
| Bending radius | 52 mm |
| Traversing path | 5 m |
| Traversing rate | 3 m/s |
| Cable weight | 37 kg/km |
| Outer sheath, material | PUR |
| Material, inner sheath | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 100 MΩ*km (at 20 °C) |
| Conductor resistance | max. 57.3 Ω/km (at 20 °C) |
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 2500 V |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (cable, flexible installation) |

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

| | |
|---|---|
| Cable type | PUR irradiated halogen-free orange |
| Cable type (abbreviation) | 150 |
| Cable abbreviation | D12YSL11X-OB |
| Conductor cross section | 3x 0.34 mm² (Signal line) |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.05 mm ±0.05 mm (Signal line) |
| Wire colors | brown, blue, black |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

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

| | |
|---|---|
| Overall twist | 3 wires, twisted |
| External sheath, color | orange RAL 2003 |
| External cable diameter D | 4.4 mm ±0.2 mm |
| Smallest bending radius, fixed installation | 13.5 mm |
| Smallest bending radius, movable installation | 53 mm |
| Number of bending cycles | 5000000 |
| Bending radius | 44 mm |
| Traversing path | 10 m |
| Traversing rate | 3 m/s |
| Acceleration | 10 m/s² |
| Outer sheath, material | PUR |
| Material conductor insulation | PE |
| Conductor material | Bare Cu litz wires |
| Conductor resistance | max. 57 Ω/km |
| Nominal voltage, cable | 250 V (AC) |
| Test voltage, cable | 2000 V (50 Hz, 5 minutes) |
| Special properties | Silicone-free |
| | Irradiated |
| Other resistance | UV resistant |
| Flame resistance | according to DIN VDE 0472 Part 804 |
| Ambient temperature (operation) | -50 °C ... 105 °C (cable, fixed installation) |
| | -40 °C ... 105 °C (cable, flexible installation) |

### PUR halogen-free gray [280]

| | |
|---|---|
| Cable type | PUR halogen-free gray |
| Cable type (abbreviation) | 280 |
| Cable abbreviation | Li9Y11Y |
| UL AWM style | 20549 |
| Conductor cross section | 0.34 mm² |
| 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 (Core insulation) |
| | approx. 0.8 mm (Outer cable sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | gray RAL 7001 |
| External cable diameter D | 4.4 mm ±0.15 mm |
| Cable weight | 26 kg/km |
| Outer sheath, material | PUR |
| Material conductor insulation | TPE |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### PUR halogen-free gray [280]

| | |
|---|---|
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 10 GΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage, cable | ≥ 3000 V |
| Halogen-free | in accordance with DIN VDE 0472 part 815 |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |

### PVC gray [500]

| | |
|---|---|
| Cable type | PVC gray |
| Cable type (abbreviation) | 500 |
| Cable abbreviation | LiYY |
| Conductor cross section | 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.45 mm ±0.02 mm |
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| | ≥ 0.76 mm (Outer cable sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | gray RAL 7001 |
| External cable diameter D | 5.2 mm ±0.2 mm |
| Cable weight | 40 kg/km |
| Outer sheath, material | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 1 GΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage, cable | ≥ 3000 V |
| Flame resistance | As per UL-Style 2464 |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (cable, flexible installation) |

### PVC yellow [540]

| | |
|---|---|
| Cable type | PVC yellow |
| Cable type (abbreviation) | 540 |
| Cable abbreviation | LiYY |
| Conductor cross section | 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.45 mm ±0.05 mm |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### PVC yellow [540]

| | |
|---|---|
| Thickness, insulation | ≥ 0.23 mm (Core insulation) |
| | ≥ 0.76 mm (Outer cable sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | yellow |
| External cable diameter D | 5.2 mm ±0.2 mm |
| Cable weight | 40 kg/km |
| Outer sheath, material | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 1 GΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | ≤ 300 V |
| Test voltage, cable | ≥ 3000 V |
| Flame resistance | As per UL-Style 2464 |
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation) |
| | -5 °C ... 80 °C (cable, flexible installation) |

### PVC yellow 105 °C [542]

| | |
|---|---|
| Cable type | PVC yellow 105 °C |
| Cable type (abbreviation) | 542 |
| Conductor cross section | 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.55 mm ±0.05 mm |
| Thickness, insulation | ≥ 0.38 mm (Core insulation) |
| | ≥ 0.76 mm (Outer cable sheath) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | yellow |
| External cable diameter D | 5.2 mm ±0.2 mm |
| Cable weight | 38 kg/km |
| Outer sheath, material | PVC |
| Material conductor insulation | PVC |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 100 MΩ*km (at 20 °C) |
| Conductor resistance | max. 58 Ω/km (at 20 °C) |
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 4000 V |
| Flame resistance | according to DIN 50265-2-1 |

### Gray, highly flexible PUR [800]

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### Gray, highly flexible PUR [800]

| | |
|---|---|
| Note | Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments. |
| Cable type | Gray, highly flexible PUR |
| Cable type (abbreviation) | 800 |
| Cable abbreviation | LiF9Y11Y |
| UL AWM style | 20549 |
| Conductor cross section | 3x 0.34 mm² (Signal line) |
| AWG signal line | 22 |
| Conductor structure signal line | 42x 0.10 mm |
| Core diameter including insulation | 1.3 mm ±0.05 mm (Signal line) |
| Wire colors | brown, blue, black |
| Overall twist | 3 wires, twisted |
| External sheath, color | gray RAL 7001 |
| External cable diameter D | 4.5 mm ±0.2 mm |
| Minimum bending radius, fixed installation | 4 x D |
| Minimum bending radius, flexible installation | 7.5 x D |
| Number of bending cycles | 10000000 |
| Minimum bending radius, drag chain applications | 7,5 x D |
| Traversing path | 5 m |
| Traversing rate | 3.3 m/s |
| Acceleration | 5 m/s² |
| Number of bending cycles | 15000000 |
| Bending radius | 50 mm |
| Traversing path | 0.9 m |
| Traversing rate | 5 m/s |
| Acceleration | 30 m/s² |
| Torsion force | ± 360 °/m (1 000 000 torsion cycles) |
| Cable weight | 28.3 kg/km |
| Outer sheath, material | PUR |
| Material conductor insulation | PP |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 20 MΩ*km |
| Conductor resistance | approx. 53 Ω/km |
| Nominal voltage, cable | 300 V |
| Test voltage, cable | 2000 V |
| 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 |
| Other resistance | Highly resistant to acids, alkaline solutions and solvents |
| | Silicone-free |

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Technical data

### Gray, highly flexible PUR [800]

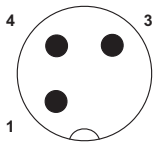
| | |
|---|---|
| Flame resistance | in accordance with UL 758/1581 FT2 |
| Halogen-free | in accordance with DIN VDE 0472 part 815 |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -25 °C ... 80 °C (cable, flexible installation) |

### Environmental Product Compliance

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

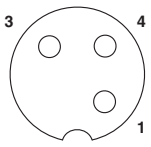
## Drawings

Schematic diagram



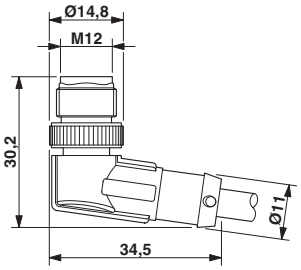

Pin assignment M12 plug, 3-pos., A-coded, view male side

Schematic diagram



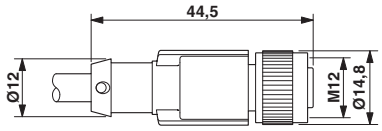

Pin assignment M12 socket, 3-pos., A-coded, view female side

Dimensional drawing



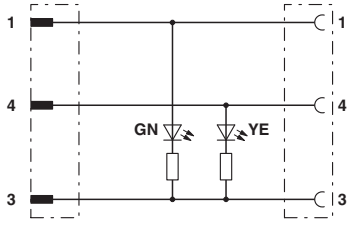

M12 x 1 male plug, angled

Dimensional drawing




Socket M12 x 1, straight, with LED

Circuit diagram




Contact assignment of M12 plugs/sockets bridged with LED

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## 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 9.0 | 27060311 |

### ETIM

| | |
|---|---|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | 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 |
| UNSPSC 19.0 | 31251501 |

## Accessories

### Accessories

### Conductor marking

Insert label - PABA WH/23 - 1013779

Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Insert label - PABA YE/23 - 1013782

Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Marker pen

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Accessories

Marker pen - B-STIFT - 1051993

Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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### Plug for cable screw gland

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets

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### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs

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### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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Locking clip - SAC-M12-EXCLIP-F - 1558991

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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### Screwdriver tools

# Sensor/actuator cable - SAC-3P-MR-FS-2L SCO/.../... - 1542033

## Accessories

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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Tool - SAC BIT M12-D15 - 1208432

Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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Torque tool

Torque screwdriver - TSD 04 SAC - 1208429

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

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

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

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