

## Sensor/actuator cable - SAC-8P-M12MS/ 2,0-28X/M12FS OD - 1407277

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Sensor/actuator cable, 8-position, PE-X halogen-free, black-gray RAL 7021, Plug straight M12, A-coded, on Socket straight M12, A-coded, cable length: 2 m, for outdoor applications, with high-grade steel knurl

### Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Corrosion protection for all exposed metal parts, thanks to the use of stainless steel type 1.4404
- ✓ Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C to +105°C

RoHS

### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 STK   |
| GTIN                                 | <br>4 046356 773959 |
| GTIN                                 | 4046356773959   |
| Weight per Piece (excluding packing) | 160.000 g   |
| Custom tariff number                 | 85444290  |
| Country of origin                    | Poland  |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 2 m |
|-----------------|-----|

#### Ambient conditions

|                                 |   |
|---------------------------------|---|
| Ambient temperature (operation) | -40 °C ... 105 °C (Plug / socket)   |
|                                 | -40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4)) |
| Degree of protection            | IP65  |
|                                 | IP67  |

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## Technical data

### Ambient conditions

|  |       |
|--|-------|
|  | IP68  |
|  | IP69K |

### General

|                              |                               |
|------------------------------|-------------------------------|
| Rated current at 40°C        | 2 A                           |
| Rated voltage                | 30 V AC                       |
|                              | 30 V DC                       |
| Number of positions          | 8                             |
| Insulation resistance        | ≥ 100 MΩ                      |
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | No                            |
| Protective circuit/component | Unwired                       |
| Degree of pollution          | 3                             |
| Insertion/withdrawal cycles  | ≥ 100                         |
| Torque                       | 0.4 Nm (M12 connector)        |

### Material

|  |                 |
|--|-----------------|
| Flammability rating according to UL 94 | V0              |
| Contact material                       | CuSn            |
| Contact surface material               | Ni/Au           |
| Contact carrier material               | PP              |
| Material of grip body                  | PP              |
| Material, knurls                       | Stainless steel |
| Sealing material                       | FPM             |

### Standards and Regulations

|  |                 |
|--|-----------------|
| Standard designation                   | M12 connector   |
| Standards/regulations                  | IEC 61076-2-101 |
| Flammability rating according to UL 94 | V0              |

### Cable

|                                    |                         |
|------------------------------------|-------------------------|
| Cable type                         | PE-X black              |
| Cable type (abbreviation)          | 28X                     |
| Cable abbreviation                 | Li2X2X                  |
| Conductor cross section            | 8x 0.25 mm <sup>2</sup> |
| AWG signal line                    | 24                      |
| Conductor structure signal line    | 32x 0.10 mm             |
| Core diameter including insulation | 1.17 mm ±0.02 mm        |

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## Technical data

### Cable

|   |   |
|---|---|
| Thickness, insulation                           | approx. 0.25 mm (Core insulation)   |
| Wire colors                                     | white, brown, green, yellow, gray, pink, blue, red  |
| Overall twist                                   | 8 wires around filler to the core   |
| Length of twist, overall twist                  | 67 mm   |
| External sheath, color                          | black-gray RAL 7021   |
| Outer sheath thickness                          | approx. 1.3 mm  |
| External cable diameter D                       | 6.8 mm ±0.2 mm  |
| Minimum bending radius, fixed installation      | 5 x D   |
| Minimum bending radius, flexible installation   | 10 x D  |
| Number of bending cycles                        | 2000000   |
| 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                                    | 65 kg/km  |
| Outer sheath, material                          | PE-X  |
| Material, filler                                | PP yarn   |
| Material conductor insulation                   | PE-X  |
| Conductor material                              | Bare Cu litz wires  |
| Insulation resistance                           | ≥ 100 MΩ*km (at 20 °C)  |
| Conductor resistance                            | ≤ 78 Ω/km (at 20 °C)  |
| Nominal voltage, cable                          | ≤ 300 V AC  |
| Test voltage, cable                             | ≥ 3000 V AC (Spark test)  |
| Special properties                              | Irradiated  |
| Flame resistance                                | According to DIN EN 60332-1-2<br>According to DIN EN 50266-2-5  |
| Halogen-free                                    | in accordance with DIN VDE 0472 part 815<br>in accordance with DIN EN 50267-2-1   |
| Resistance to oil                               | According to DIN EN 60811-2-1, 168 h at 100°C<br>According to DIN EN 50306  |
| Other resistance                                | Resistance to fuels according to IEC 60811, 168 h at 70°C<br>UV resistant according to DIN VDE 0276-605   |
| Ambient temperature (operation)                 | -40 °C ... 105 °C (cable, fixed installation)<br>-15 °C ... 105 °C (cable, flexible installation)<br>20 °C ±5 °C (cable, drag chain applications) |

### Environmental Product Compliance

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

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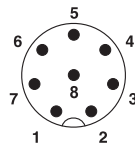
## Technical data

### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 50  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

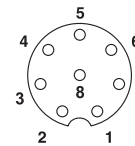
## Drawings

Schematic diagram



Pin assignment M12 plug, 8-pos., A-coded, view plug side

Schematic diagram



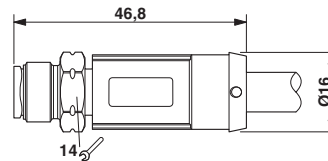
Pin assignment M12 socket, 8-pos., A-coded, view female side

Cable cross section



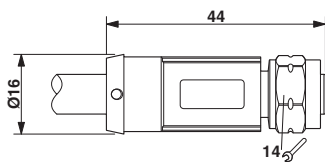
PE-X black [28X]

Dimensional drawing



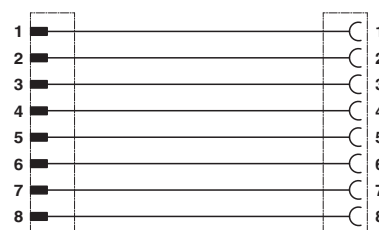
Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight

Circuit diagram



Contact assignment of the M12 connector and the M12 socket

## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060306 |
|------------|----------|

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## Classifications

### eCl@ss

|            |          |
|------------|----------|
| 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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Approvals

DNV GL

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Ex Approvals

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### Approval details

|        |   |            |
|--------|---|------------|
| DNV GL | <a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a> | TAE00002K4 |
|--------|---|------------|

## Accessories

### Accessories

Screwdriver tools

## Sensor/actuator cable - SAC-8P-M12MS/ 2,0-28X/M12FS OD - 1407277

### 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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Adapter - SAC BIT M12-W14 - 1212513



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 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