

# SAC-4P-M12MS/3,0-600 SH HD - Sensor/actuator cable



1403982

<https://www.phoenixcontact.com/us/products/1403982>

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Sensor/actuator cable, 4-position, PP-EPDM halogen-free, gray RAL 7035, shielded, Plug straight M12, coding: A, on free cable end, cable length: 3 m, Hygienic design, with high-grade steel knurl

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Stainless steel type 1.4404 used to provide corrosion protection for all exposed metal parts
- Contamination can be detected quickly – thanks to the light color
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1403982       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF03          |
| Product key                          | AF1CJA        |
| GTIN                                 | 4046356677370 |
| Weight per piece (including packing) | 140 g         |
| Weight per piece (excluding packing) | 141 g         |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                          |
|----------------------|--------------------------|
| Product type         | Sensor/actuator cable    |
| Application          | Food processing industry |
| Number of positions  | 4                        |
| No. of cable outlets | 1                        |
| Shielded             | yes                      |
| Coding               | A                        |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Material specifications

|                               |                 |
|-------------------------------|-----------------|
| Material of grip body         | PP              |
| Contact material              | CuSn            |
| Contact surface material      | Ni/Au           |
| Contact carrier material      | PP              |
| Material for screw connection | Stainless steel |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 48 V AC                    |
|                       | 60 V DC                    |
| Nominal current $I_N$ | 4 A                        |

### Mechanical properties

#### Mechanical data

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

### Signaling

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

### Connection data

#### Conductor connection

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

### Connector

#### Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 4                 |

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

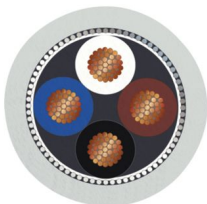
## Connection 2

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

## Cable/line

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

## Halogen-free PP gray shielded [600]

|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 40 kg/km                                                                           |
| Number of positions                           | 4                                                                                  |
| Shielded                                      | yes                                                                                |
| Cable type                                    | Halogen-free PP gray shielded [600]                                                |
| Conductor structure signal line               | 42x 0.10 mm                                                                        |
| AWG signal line                               | 22                                                                                 |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (Signal line)                                              |
| Wire diameter incl. insulation                | 1.27 mm ±0.02 mm (Signal line)                                                     |
| External cable diameter                       | 5.55 mm ±0.2 mm                                                                    |
| Outer sheath, material                        | PP-EPDM                                                                            |
| External sheath, color                        | gray RAL 7035                                                                      |
| Conductor material                            | Bare Cu litz wires                                                                 |
| Material wire insulation                      | PP                                                                                 |
| Single wire, color                            | brown, white, blue, black                                                          |
| Thickness, insulation                         | ≥ 0.21 mm (Core insulation)                                                        |
| Thickness, outer sheath                       | approx. 0.80 mm                                                                    |
| Overall twist                                 | 4 wires, twisted                                                                   |
| Length of twist, overall twist                | 48 mm                                                                              |
| Optical shield covering                       | 85 %                                                                               |
| Max. conductor resistance                     | 58 Ω/km (at 20 °C)                                                                 |
| Nominal voltage, cable                        | ≤ 300 V AC                                                                         |
| Test voltage                                  | ≥ 3000 V AC (Spark test)                                                           |
| Test voltage Core/Shield                      | ≥ 2000.00 V AC (for 60 s)                                                          |
| Minimum bending radius, fixed installation    | 5 x D                                                                              |
| Minimum bending radius, flexible installation | 10 x D                                                                             |
| Smallest bending radius, fixed installation   | 28 mm                                                                              |
| Smallest bending radius, movable installation | 56 mm                                                                              |
| Dynamic load capacity (bending)               | Max. bending cycles: 2000000, Bending radius: 10 x D,                              |

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|                                 |                                                                                     |
|---------------------------------|-------------------------------------------------------------------------------------|
|                                 | Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup>    |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                                            |
| Other resistance                | Resistant to cold bending and cold impacts (according to DIN EN 60811-1-4 (-40 °C)) |
| Special properties              | FDA compliant according to FDA 21 CFR 177.2600                                      |
|                                 | flexible                                                                            |
|                                 | Flexible cable conduit capable                                                      |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation)                                       |
|                                 | -25 °C ... 105 °C (Cable, flexible installation)                                    |

## Environmental and real-life conditions

### Ambient conditions

|                                                                   |                                   |
|-------------------------------------------------------------------|-----------------------------------|
| Degree of protection                                              | IP65                              |
|                                                                   | IP67                              |
|                                                                   | IP68                              |
|                                                                   | IP69K                             |
| Ambient temperature (operation) (male connector/female connector) | -40 °C ... 105 °C (Plug / socket) |

## Standards and regulations

### M12

|                          |                      |
|--------------------------|----------------------|
| Standard designation     | M12 connector        |
| Standards/specifications | IEC 61076-2-101      |
| Standard designation     | Material conformance |
| Standards/specifications | FDA 21 CFR 177.2600  |

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## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

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Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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## Approvals

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**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 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.) | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1) |
| SCIP                                | 7362487e-e7f6-4639-89af-5539250c59d4                        |

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 2.006 kg CO2e |
|---------|---------------|

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