

SAC-5P-M12MS/1,5-600/M12FS HD - Sensor/actuator cable



1404065  
<https://www.phoenixcontact.com/us/products/1404065>

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Sensor/actuator cable, 5-position, PP-EPDM halogen-free, gray RAL 7035, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 1.5 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

Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1404065             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF03                |
| Product key                          | BF1CDA              |
| Catalog page                         | Page 143 (C-4-2013) |
| GTIN                                 | 4046356678025       |
| Weight per piece (including packing) | 76 g                |
| Weight per piece (excluding packing) | 67 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  | 5                        |
| No. of cable outlets | 1                        |
| Shielded             | no                       |
| Coding               | A                        |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 03 |
|------------------|----|

### Insulation characteristics

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

### Material specifications

|                               |                 |
|-------------------------------|-----------------|
| Seal material                 | FKM             |
| 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

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## Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 5                 |
| Coding type         | A                 |

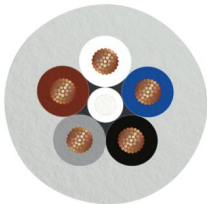
## Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 5                   |
| Coding type         | A                   |

## Cable/line

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

## Halogen-free PP gray [600]

|                                            |                                                                                     |
|--------------------------------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing                        |  |
| Cable weight                               | 34 kg/km                                                                            |
| Number of positions                        | 5                                                                                   |
| Shielded                                   | no                                                                                  |
| Cable type                                 | Halogen-free PP gray [600]                                                          |
| Conductor structure signal line            | 42x 0.10 mm                                                                         |
| AWG signal line                            | 22                                                                                  |
| Conductor cross section                    | 5x 0.34 mm <sup>2</sup> (Signal line)                                               |
| Wire diameter incl. insulation             | 1.27 mm ±0.02 mm (Signal line)                                                      |
| External cable diameter                    | 5.00 mm ±0.15 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, gray                                                     |
| Thickness, insulation                      | ≥ 0.21 mm (Core insulation)                                                         |
| Thickness, outer sheath                    | approx. 0.70 mm                                                                     |
| Overall twist                              | 5 cores, twisted                                                                    |
| Length of twist, overall twist             | 55 mm                                                                               |
| Max. conductor resistance                  | 58 Ω/km (at 20 °C)                                                                  |
| Nominal voltage, cable                     | ≤ 300 V AC                                                                          |
| Test voltage                               | ≥ 3000 V AC                                                                         |
| Minimum bending radius, fixed installation | 5 x D                                                                               |

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|                                                 |                                                                                     |
|-------------------------------------------------|-------------------------------------------------------------------------------------|
| Minimum bending radius, flexible installation   | 10 x D                                                                              |
| Smallest bending radius, fixed installation     | 25 mm                                                                               |
| Smallest bending radius, movable installation   | 50 mm                                                                               |
| Max. bending cycles                             | 4000000                                                                             |
| 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>                                                                 |
| Torsion force                                   | ± 270 °/m                                                                           |
| Torsion cycles                                  | ≥ 4000000                                                                           |
| Torsional frequency                             | max. 25 (Torsion cycles/min)                                                        |
| 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                                      |
|                                                 | highly 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) | -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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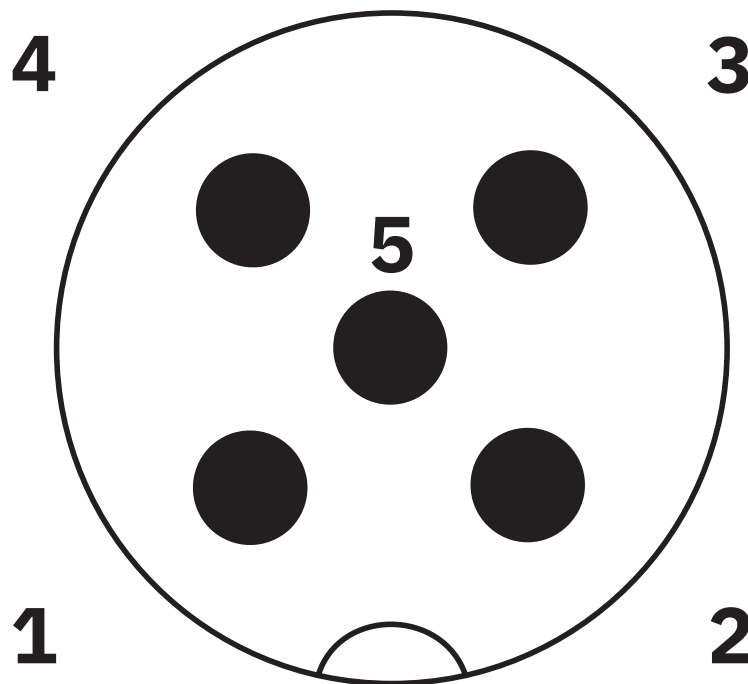


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## Drawings

Schematic diagram



Pin assignment M12 male connector, 5-pos., A-coded, male side

Circuit diagram



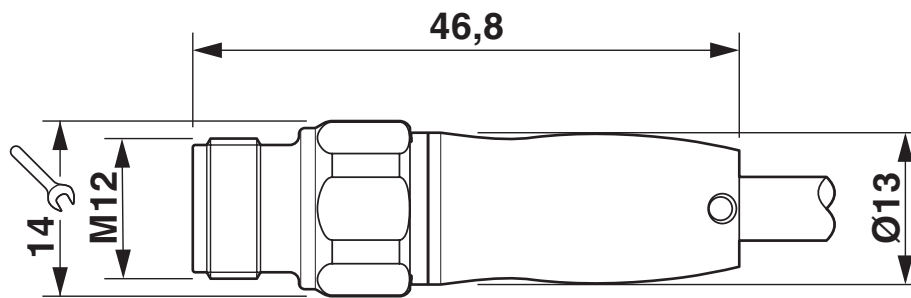
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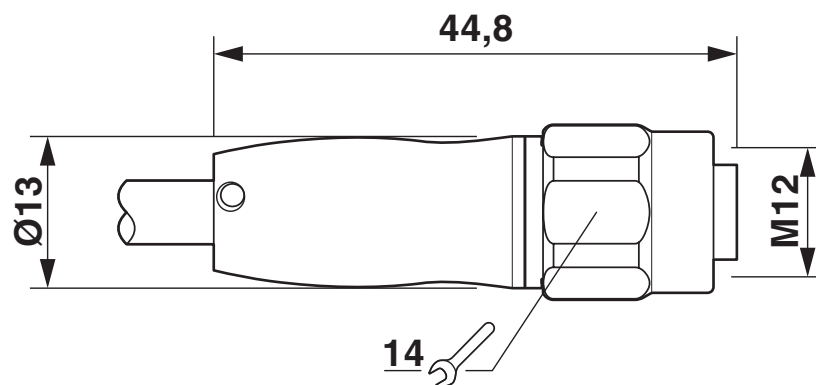
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Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight

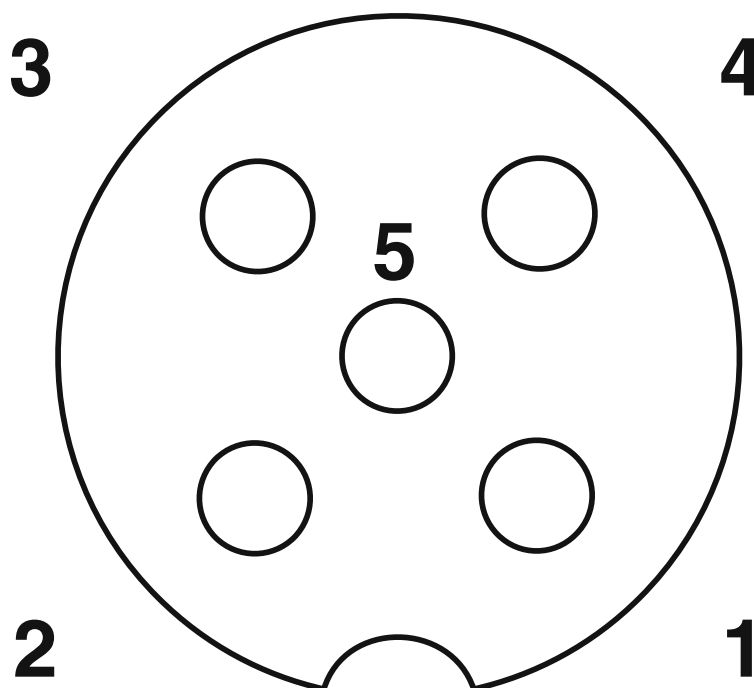
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Schematic diagram



Pin assignment M12 socket, 5-pos., A-coded, socket side view

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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-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| ECLASS-13.0 | 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.)     | No substance above 0.1 wt%               |

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