

# SAC-5P-M12MS/ 5,0-PVC/M12FS - Sensor/actuator cable



1417521

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Sensor/actuator cable, 5-position, PVC, black RAL 9005, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 5 m

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1417521                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | AF1CDA                         |
| GTIN                                 | 4055626117331                  |
| Weight per piece (including packing) | 218 g                          |
| Weight per piece (excluding packing) | 171.6 g                        |
| Customs tariff number                | 85444290                       |
| Country of origin                    | DE                             |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard              |
| Number of positions  | 5                     |
| 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 $U_N$ | 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 |

### Connector

#### Connection 1

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

#### Connection 2

# SAC-5P-M12MS/ 5,0-PVC/M12FS - Sensor/actuator cable



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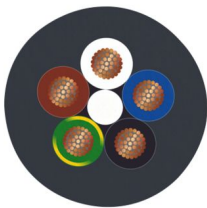
<https://www.phoenixcontact.com/us/products/1417521>

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

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

## PVC black [PVC]

|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 51 kg/km                                                                           |
| UL AWM Style                                  | 2464 / 1729 (80°C/300 V)                                                           |
| Number of positions                           | 5                                                                                  |
| Shielded                                      | no                                                                                 |
| Cable type                                    | PVC black [PVC]                                                                    |
| Conductor structure signal line               | 19x 0.15 mm                                                                        |
| AWG signal line                               | 22                                                                                 |
| Conductor cross-section                       | 5x 0.34 mm <sup>2</sup> (Signal line)                                              |
| Wire diameter incl. insulation                | 1.26 mm ±0.05 mm                                                                   |
| External cable diameter                       | 5.00 mm ±0.15 mm                                                                   |
| Outer sheath, material                        | PVC                                                                                |
| External sheath, color                        | black RAL 9005                                                                     |
| Conductor material                            | Bare Cu litz wires                                                                 |
| Material wire insulation                      | PVC                                                                                |
| Single wire, color                            | brown, white, blue, black, green-yellow                                            |
| Thickness, insulation                         | ≥ 0.23 mm (Core insulation)                                                        |
| Thickness, outer sheath                       | ≥ 0.76 mm                                                                          |
| Overall twist                                 | 5 wires around filler to the core                                                  |
| Max. conductor resistance                     | max. 57 Ω/km (at 20 °C)                                                            |
| Insulation resistance                         | ≥ 200 MΩ*km (at 20 °C)                                                             |
| Nominal voltage, cable                        | ≤ 300 V                                                                            |
| Test voltage                                  | ≥ 3000 V                                                                           |
| Minimum bending radius, fixed installation    | 5 x D                                                                              |
| Minimum bending radius, flexible installation | 10 x D                                                                             |
| Smallest bending radius, fixed installation   | 25 mm                                                                              |
| Smallest bending radius, movable installation | 50 mm                                                                              |
| Flame resistance                              | UL VW-1                                                                            |
| Resistance to oil                             | in accordance with DIN EN 60811-2-1                                                |

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|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Ambient temperature (operation) | -25 °C ... 80 °C (cable, fixed installation)    |
|                                 | -10 °C ... 80 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

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

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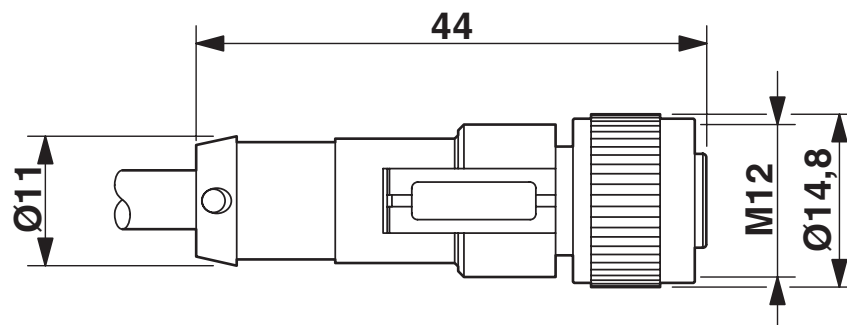
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight

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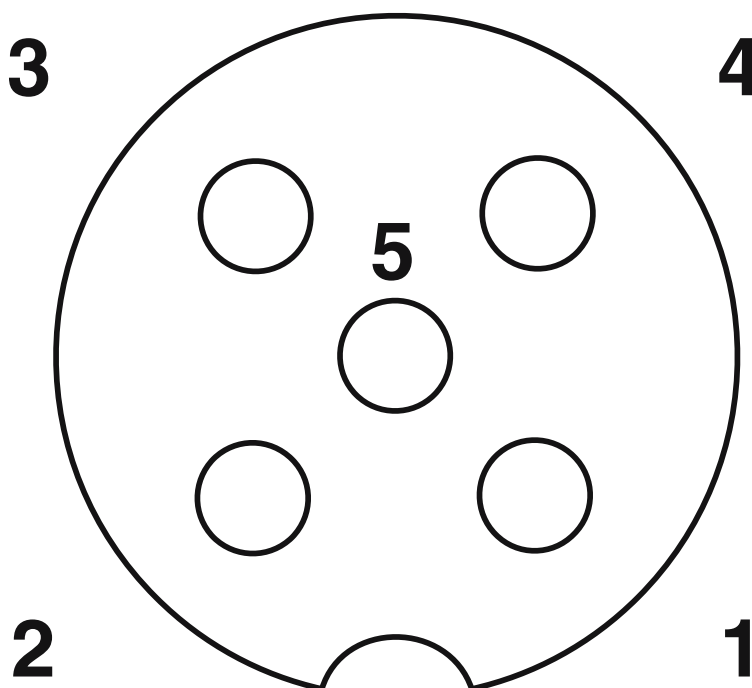
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Schematic diagram



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

Schematic diagram



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

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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/1417521>

|                                                                                                                                             |                       |                       |                   |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| <div><b>UL Listed</b><br/>Approval ID: FILE E 221474</div> |                       |                       |                   |                             |
|                                                                                                                                             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                       |                       |                       |                   |                             |
|                                                                                                                                             | 125 V                 | 4 A                   | -                 | -                           |

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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 | 2.94 kg CO2e |
|---------|--------------|

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