

# SAC-5P-M12MS/3,0-680/M12FS FDP - Sensor/actuator cable



1095850

<https://www.phoenixcontact.com/us/products/1095850>

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Sensor/actuator cable, 5-position, PVC, gray, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 3 m, Foil shielding plus drain wire

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1095850       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF13          |
| Product key                          | AF1IEC        |
| GTIN                                 | 4055626928012 |
| Weight per piece (including packing) | 22.22 g       |
| Weight per piece (excluding packing) | 22.22 g       |
| Country of origin                    | US            |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard, U.S. cables |
| Number of positions  | 5                     |
| No. of cable outlets | 1                     |
| Shielded             | yes                   |
| 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 |

### Connection data

#### Conductor connection

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

### Connector

#### Connection 1

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|             |                   |
|-------------|-------------------|
| Type        | Plug straight M12 |
| Coding type | A                 |

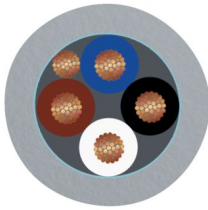
## Connection 2

|             |                     |
|-------------|---------------------|
| Type        | Socket straight M12 |
| Coding type | A                   |

## Cable/line

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

PVC, gray, 105°C [680]

|   |   |
|---|---|
| Dimensional drawing                           |  |
| Cable weight                                  | 45.42 kg/km   |
| UL AWM Style                                  | 2517 (105 °C / 300 V)   |
| Number of positions                           | 4   |
| Shielded                                      | yes   |
| Cable type                                    | PVC, gray, 105°C [680]  |
| AWG signal line                               | 22  |
| Wire diameter incl. insulation                | 1.27 mm ±0.03 mm  |
| External cable diameter                       | 5.08 mm ±0.2 mm   |
| Outer sheath, material                        | PVC   |
| External sheath, color                        | gray  |
| Conductor material                            | Tin-plated Cu litz wires  |
| Material wire insulation                      | PVC (Signal line)   |
| Single wire, color                            | brown, white, blue, black   |
| Type of pair shielding                        | Plastic-coated aluminum foil, aluminum side inside                                  |
| Overall twist                                 | Conductors, fillers, and drain wire are twisted with left-hand lay                  |
| Max. conductor resistance                     | max. 51.1 Ω/km (20 °C)  |
| Insulation resistance                         | ≥ (550 M Ohms/m @ 500V)   |
| Nominal voltage, cable                        | 300 V   |
| Minimum bending radius, flexible installation | 8 x D   |
| Smallest bending radius, movable installation | 41 mm   |
| Flame resistance                              | FT4   |
| Other resistance                              | UV resistant  |
| Special properties                            | UL standards PLTC and ITC   |
| Ambient temperature (operation)               | -30 °C ... 105 °C (cable, fixed installation)                                       |

## Environmental and real-life conditions

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## Ambient conditions

|   |  |
|---|--|
| Degree of protection  | IP65   |
|   | IP67   |
|   | IP68   |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket)               |
| Ambient temperature (operation) (Cable, fixed installation)       | -40 °C ... 80 °C (cable, fixed installation)   |
| Ambient temperature (operation) (Cable, flexible installation)    | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

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

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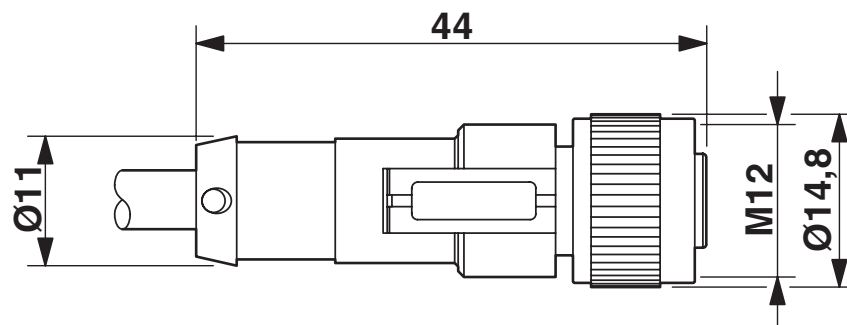
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, straight

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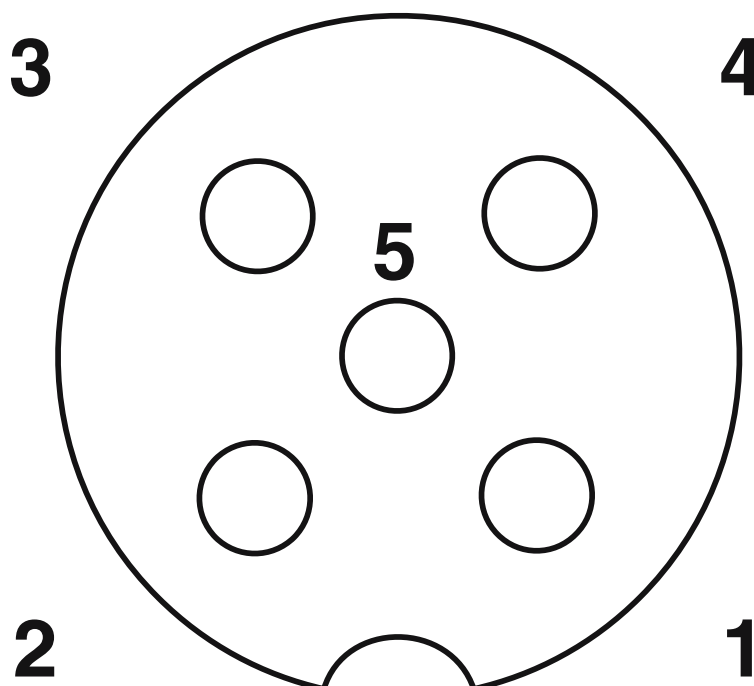
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Schematic diagram



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

Schematic diagram



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

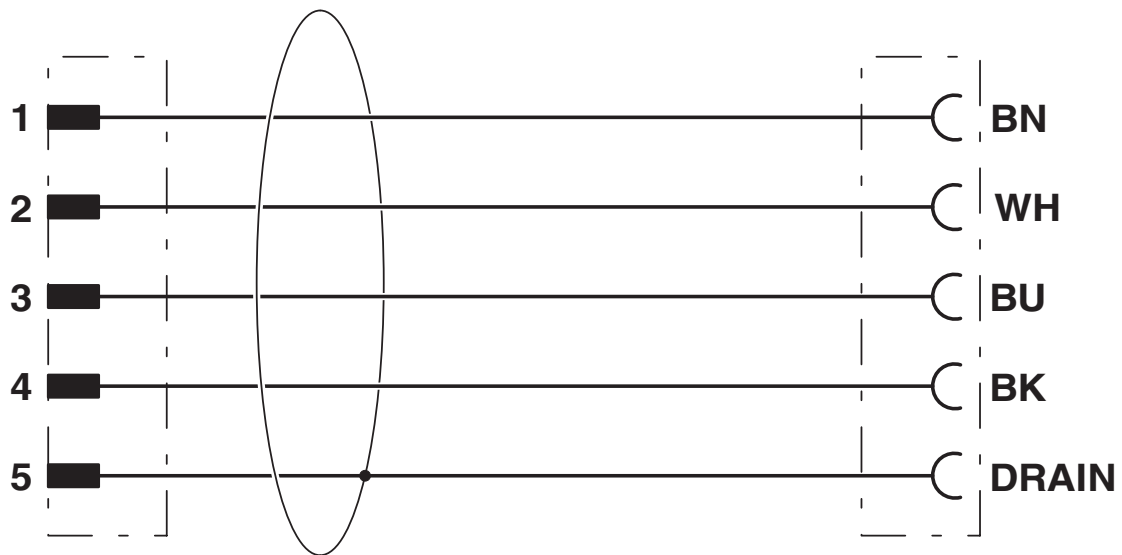
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Circuit diagram



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/1095850>

|       |  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                                |                   |                               |
|-------|--|--------------------------------|-------------------|-------------------------------|
|       | Nominal voltage U <sub>N</sub>   | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine |  |                                |                   |                               |
|       | 125 V  | 4 A                            | -                 | -                             |

|       |  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                                |                   |                               |
|-------|---|--------------------------------|-------------------|-------------------------------|
|       | Nominal voltage U <sub>N</sub>  | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine |   |                                |                   |                               |
|       | 125 V   | 4 A                            | -                 | -                             |



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 31251501 |
|-------------|----------|

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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-50   |
|  | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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