

# SAC-4P-M12MS/ 4,0-652/M12FS - Sensor/actuator cable



1432051

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Sensor/actuator cable, 4-position, TPE halogen-free, welding sputter-resistant, highly flexible, yellow, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 4 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1432051                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | AF1ICB                         |
| GTIN                                 | 4055626432328                  |
| 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  | 4                     |
| 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, weld slag-resistant coating  |
| Outer sheath, material                 | TPE                                         |

### Electrical properties

|                       |                           |
|-----------------------|---------------------------|
| Insulation resistance | $\geq 10 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 250 V AC                  |
|                       | 250 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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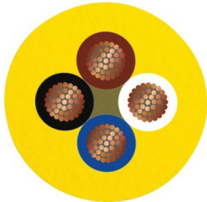
## Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 4                 |
| Coding type         | A                 |

## Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 4                   |
| Coding type         | A                   |

## Cable/line

|                                               |                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Cable length                                  | 4 m                                                                                 |
| Dimensional drawing                           |  |
| UL AWM Style                                  | 20327 (105 °C / 300 V)                                                              |
| Number of positions                           | 4                                                                                   |
| Shielded                                      | no                                                                                  |
| Conductor structure signal line               | 19x 0.03 in.                                                                        |
| AWG signal line                               | 22                                                                                  |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (Signal line)                                               |
| Wire diameter incl. insulation                | 0.05 in. ±0.02 mm                                                                   |
| External cable diameter                       | 5.33 mm ±0.13 mm                                                                    |
| Outer sheath, material                        | TPE                                                                                 |
| External sheath, color                        | yellow                                                                              |
| Conductor material                            | Bare Cu litz wires                                                                  |
| Material wire insulation                      | SRPVC                                                                               |
| Single wire, color                            | brown, white, blue, black                                                           |
| Overall twist                                 | 4 wires, twisted                                                                    |
| Nominal voltage, cable                        | 300 V                                                                               |
| Test voltage                                  | Spark test                                                                          |
| Minimum bending radius, flexible installation | 8 x D                                                                               |
| Smallest bending radius, fixed installation   | 10 x D                                                                              |
| Smallest bending radius, movable installation | 43 mm                                                                               |
| Dynamic load capacity (bending)               | Max. bending cycles: 10000000, Bending radius: 8 x D                                |
| Dynamic load capacity (torsion)               | Torsion: ±360 °/m, Torsion cycles: 10000000                                         |
| Halogen-free                                  | yes                                                                                 |
| Flame resistance                              | in acc. with UL FT4<br>oil resistant (to UL 2256)                                   |

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|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Other resistance                | welding sputter-resistant                       |
|                                 | sunlight resistant (720 h test per UL 2256)     |
| Ambient temperature (operation) | -5 °C ... 105 °C (Cable, flexible installation) |
|                                 | -30 °C ... 105 °C (cable, fixed installation)   |

## Environmental and real-life conditions

### 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)       | -30 °C ... 105 °C (cable, fixed installation)   |
| Ambient temperature (operation) (Cable, flexible installation)    | -5 °C ... 105 °C (Cable, flexible installation) |

## Standards and regulations

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

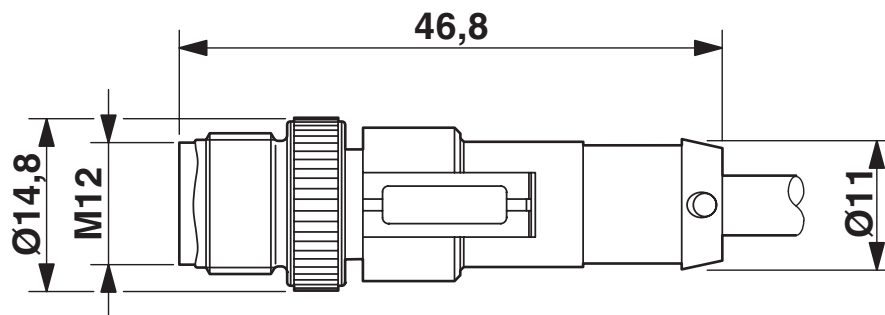
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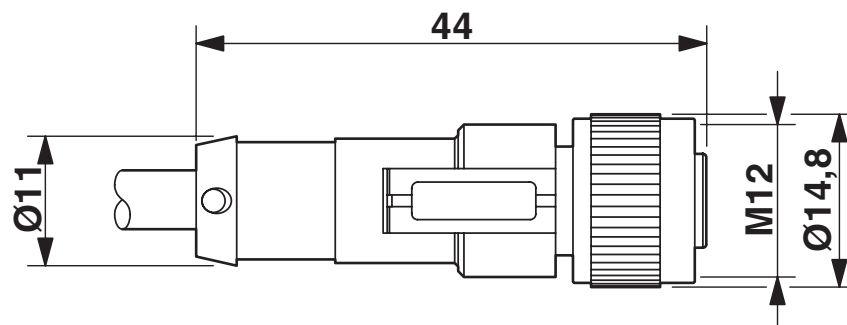
## Drawings

Dimensional drawing



Plug, M12 x 1, straight

Dimensional drawing



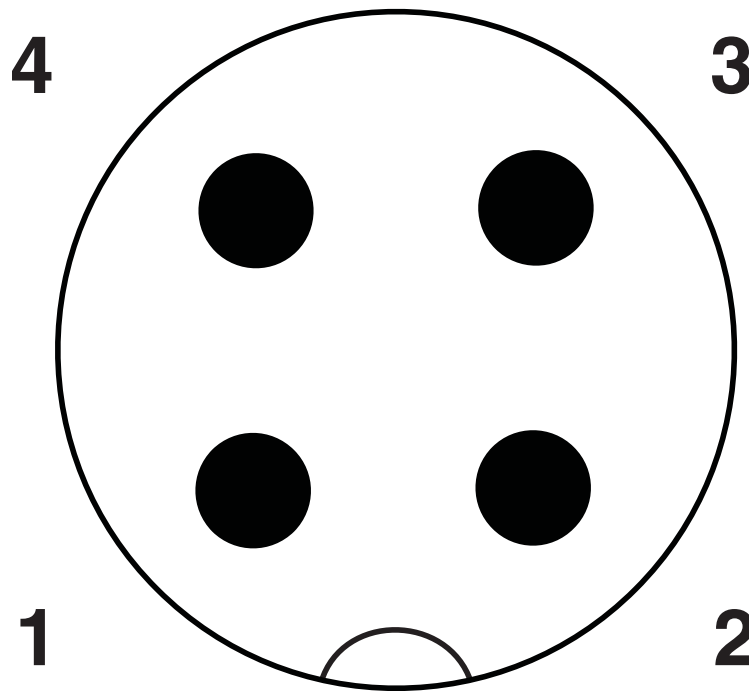
M12 x 1 socket, straight

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Schematic diagram



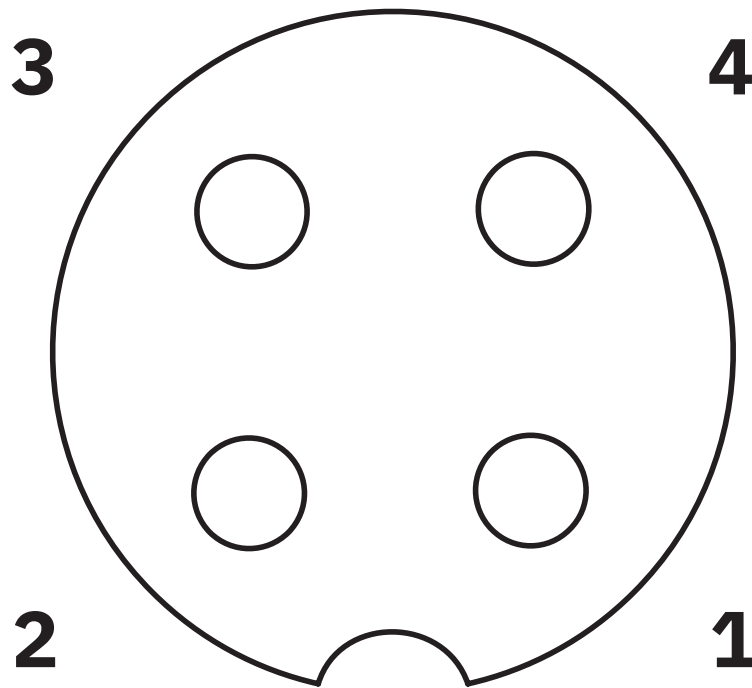
Pin assignment M12 plug, 4-pos., A-coded, view plug side

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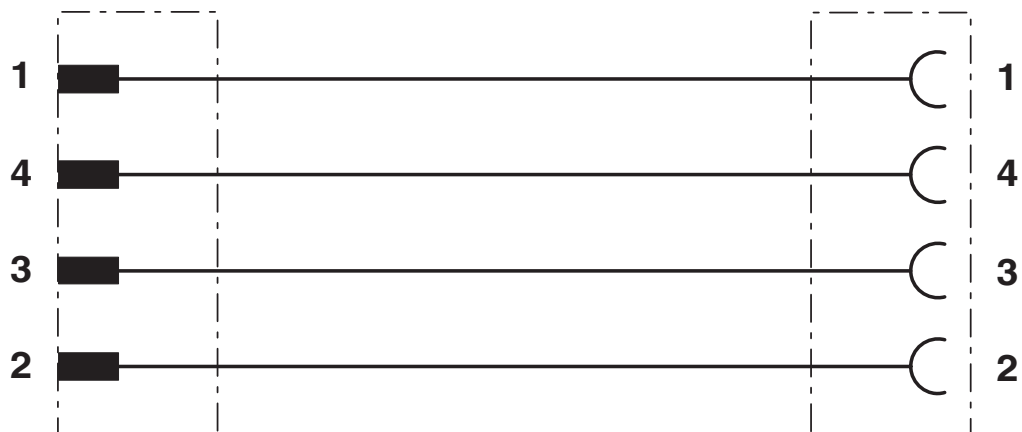
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Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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## Classifications

### ECLASS

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

### ETIM

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

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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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