

# SAC-4P-M12MR/0,3-PVC/M 8FR - Sensor/actuator cable



1415667

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Sensor/actuator cable, 4-position, PVC, black RAL 9005, Plug angled M12, coding: A, on Socket angled M8, coding: A, cable length: 0.3 m

## Your advantages

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

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1415667                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF03                           |
| Product key                          | AF1CCA                         |
| GTIN                                 | 4055626050188                  |
| Weight per piece (including packing) | 19.8 g                         |
| Weight per piece (excluding packing) | 19.8 g                         |
| Customs tariff number                | 85444290                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard              |
| 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, 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 angled M12 |
| Number of positions | 4               |
| Coding type         | A               |

#### Connection 2

# SAC-4P-M12MR/0,3-PVC/M 8FR - Sensor/actuator cable



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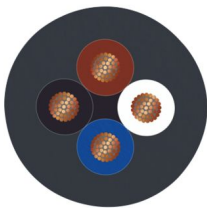
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|                     |                  |
|---------------------|------------------|
| Type                | Socket angled M8 |
| Number of positions | 4                |
| Coding type         | A                |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 0.3 m |
|--------------|-------|

## PVC black [PVC]

|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 40 kg/km                                                                           |
| UL AWM Style                                  | 2464 / 1729 (80°C/300 V)                                                           |
| Number of positions                           | 4                                                                                  |
| Shielded                                      | no                                                                                 |
| Cable type                                    | PVC black [PVC]                                                                    |
| Conductor structure signal line               | 19x 0.15 mm                                                                        |
| AWG signal line                               | 22                                                                                 |
| Conductor cross section                       | 4x 0.34 mm <sup>2</sup> (Signal line)                                              |
| Wire diameter incl. insulation                | 1.26 mm ±0.05 mm                                                                   |
| External cable diameter                       | 4.70 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                                                          |
| Thickness, insulation                         | ≥ 0.23 mm (Core insulation)                                                        |
| Thickness, outer sheath                       | ≥ 0.76 mm                                                                          |
| Overall twist                                 | 4 wires, twisted                                                                   |
| Max. conductor resistance                     | ≤ 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   | 24 mm                                                                              |
| Smallest bending radius, movable installation | 47 mm                                                                              |
| Flame resistance                              | As per UL-Style 2464                                                               |
| Resistance to oil                             | according to DIN EN 60811-2-1, 168 h at 60 °C                                      |

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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                             |
|                                                                   | IP67                             |
|                                                                   | 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 |
| Standard designation     | M8 connector    |
| Standards/specifications | IEC 61076-2-104 |

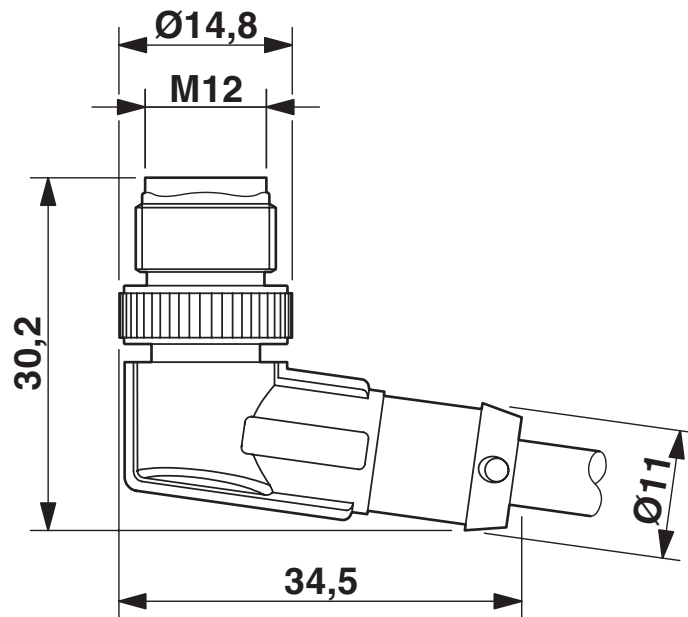
# SAC-4P-M12MR/0,3-PVC/M 8FR - Sensor/actuator cable

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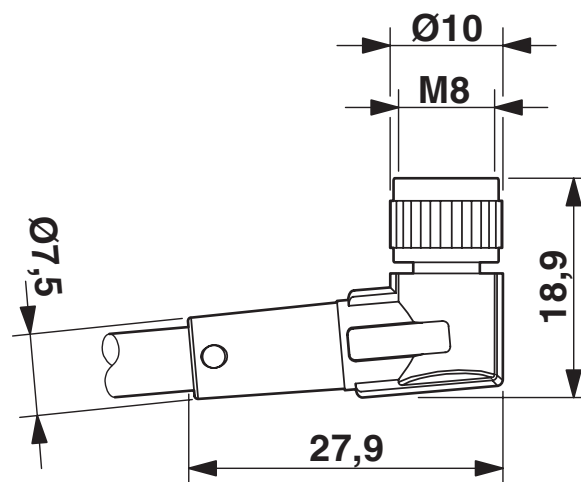
## Drawings

Dimensional drawing



M12 x 1 male plug, angled

Dimensional drawing



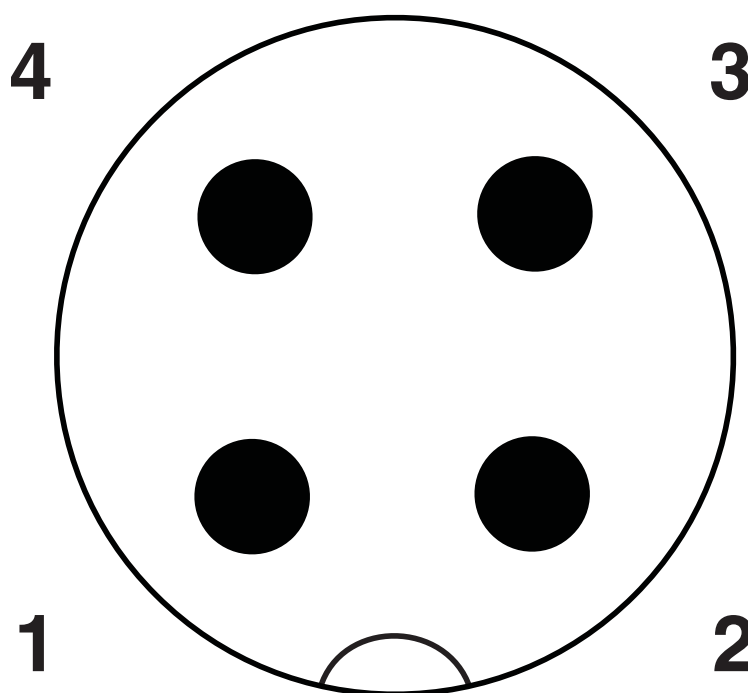
Socket M8 x 1, angled

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Schematic diagram



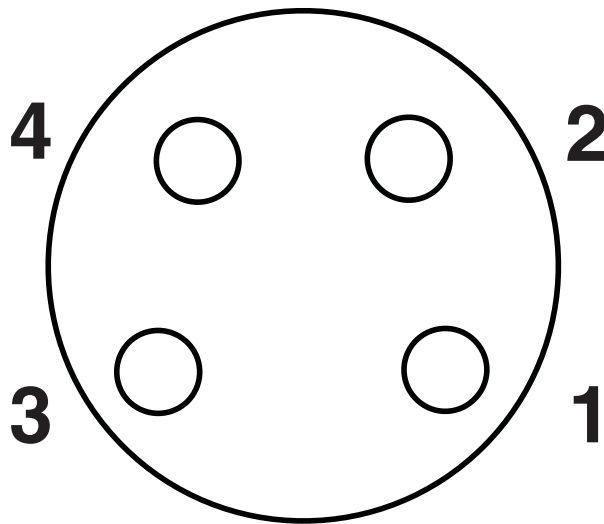
Pin assignment M12 plug, 4-pos., A-coded, view plug side

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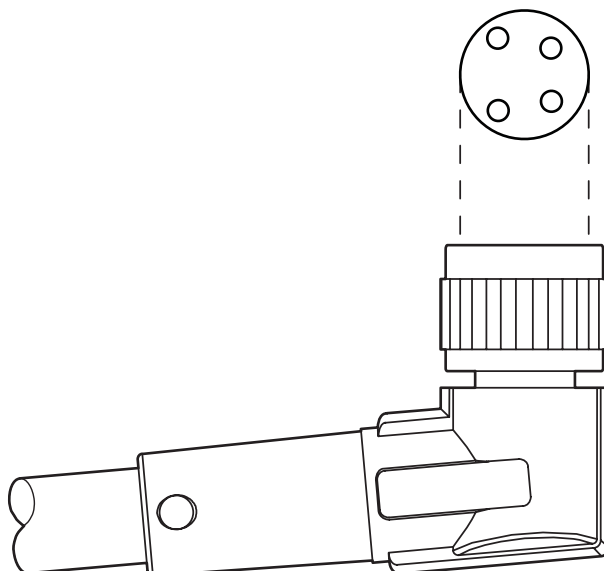
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Schematic diagram



Pin assignment M8 socket, 4-pos., view female side

Schematic diagram



Layout of connector pin assignments

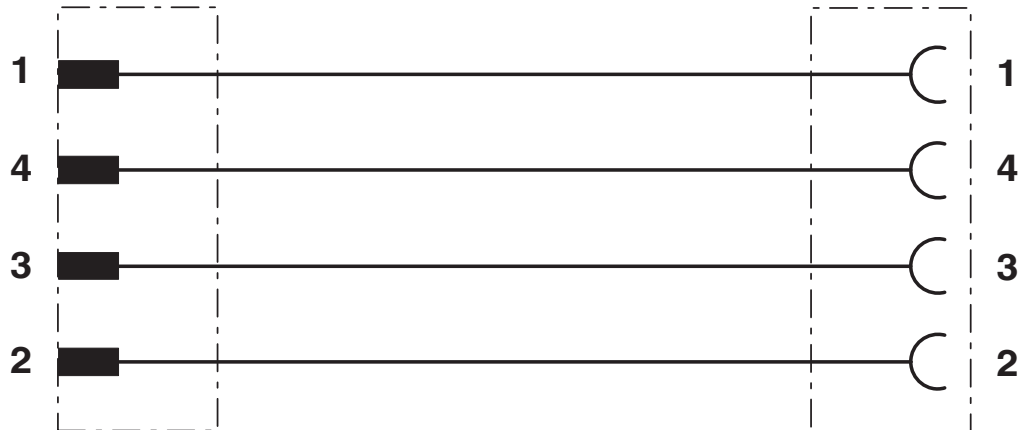
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Circuit diagram



Contact assignment of M12 plugs / M8 sockets



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1415667>

|       |                                                                                                                                  |                       |                   |                             |
|-------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------|-----------------------------|
| keine |  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                       |                   |                             |
|       | Nominal voltage $U_N$                                                                                                            | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|       | 30 V                                                                                                                             | 4 A                   | -                 | -                           |

|       |                                                                                                                                   |                       |                   |                             |
|-------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------|-----------------------------|
| keine |  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                       |                   |                             |
|       | Nominal voltage $U_N$                                                                                                             | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|       | 30 V                                                                                                                              | 4 A                   | -                 | -                           |

|                                                                                                                                          |  |
|------------------------------------------------------------------------------------------------------------------------------------------|--|
|  <b>EAC-RoHS</b><br>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.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.215 kg CO2e |
|---------|---------------|

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