

# SAC-5P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406163

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Sensor/actuator cable, 5-position, PVC, yellow, Plug angled M12, coding: A, on Socket angled M12, coding: A, cable length: 0.5 m

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1406163                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF13                           |
| Product key                          | BF1ICC                         |
| GTIN                                 | 4046356798877                  |
| Weight per piece (including packing) | 40.7 g                         |
| Weight per piece (excluding packing) | 39.33 g                        |
| Customs tariff number                | 85444290                       |
| 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             | 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 |

### Connection data

#### Conductor connection

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

### Connector

#### Connection 1

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

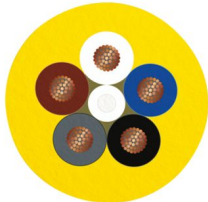
## Connection 2

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

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 0.5 m |
|--------------|-------|

PVC yellow 105 °C [542]

|   |   |
|---|---|
| Dimensional drawing                           |  |
| Cable weight                                  | 43 kg/km  |
| UL AWM Style                                  | 2517 (105 °C / 300 V)   |
| Number of positions                           | 5   |
| Shielded                                      | no  |
| Cable type                                    | PVC yellow 105 °C [542]   |
| Conductor structure signal line               | 30x 1.30 mm   |
| AWG signal line                               | 22  |
| Wire diameter incl. insulation                | 1.27 mm ±0.03 mm  |
| External cable diameter                       | 5.40 mm ±0.2 mm   |
| Outer sheath, material                        | PVC   |
| External sheath, color                        | yellow  |
| Conductor material                            | Tin-plated Cu litz wires  |
| Material, filler                              | PP  |
| Material wire insulation                      | PVC   |
| Single wire, color                            | brown, blue, black, white, gray   |
| Overall twist                                 | 5 wires around filler to the core   |
| Max. conductor resistance                     | max. 50.5 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 | 44 mm   |
| Flame resistance                              | FT4   |
| Other resistance                              | UV resistant  |
| Special properties                            | UL standards PLTC and ITC   |

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

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

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

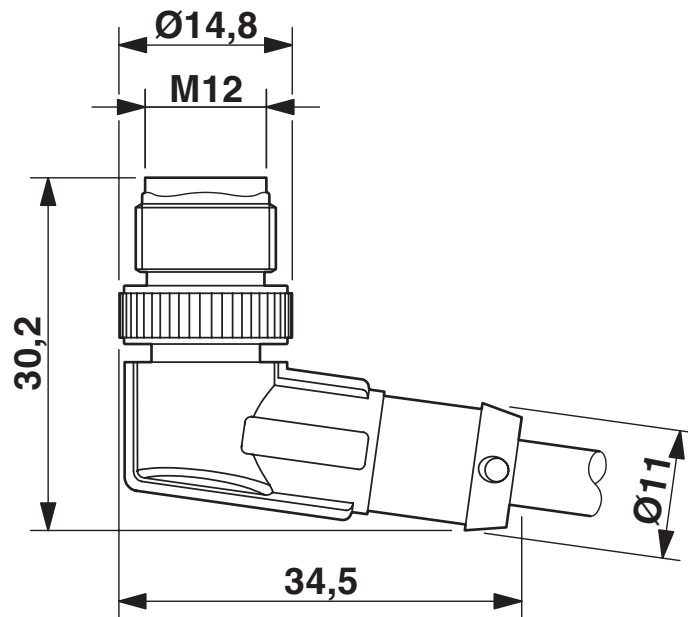
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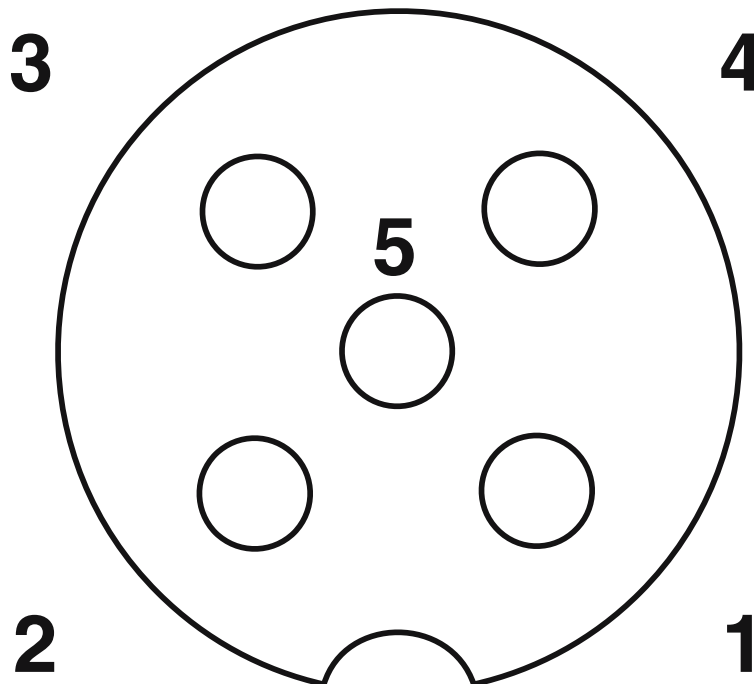
## Drawings

Dimensional drawing



M12 x 1 male plug, angled

Schematic diagram



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

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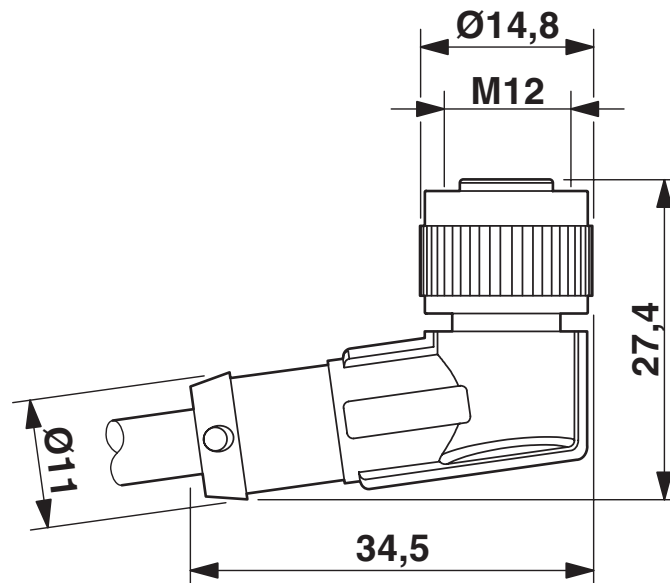
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Circuit diagram



Dimensional drawing



M12 x 1 socket, angled

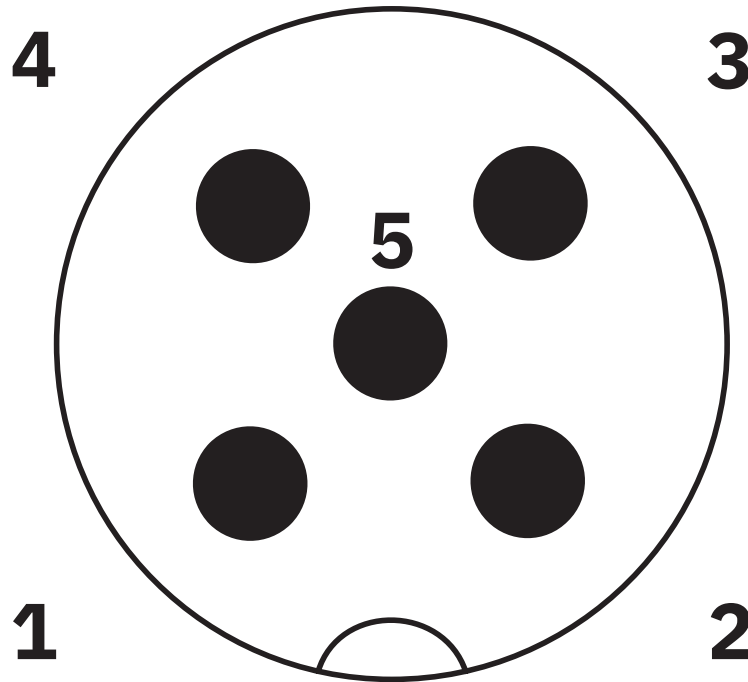
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Schematic diagram



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

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## Approvals

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

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

| <b>cULus Listed</b> |  |  |  |  |
|---------------------|--|--|--|--|
|---------------------|--|--|--|--|



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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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