

# SAC-5P-M12MR/ 5,0-920/M12FR - Bus system cable



1543919

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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, red lilac RAL 4001, Plug angled M12, coding: A, on Socket angled M12, coding: A, cable length: 5 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1543919       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF04          |
| Product key                          | AF1CKD        |
| GTIN                                 | 4046356103053 |
| Weight per piece (including packing) | 324.6 g       |
| Weight per piece (excluding packing) | 317.9 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                     |                         |
|---------------------|-------------------------|
| Product type        | Data cable preassembled |
| Application         | Standard                |
| Sensor type         | CANopen®                |
| Number of positions | 5                       |
| Shielded            | yes                     |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Interfaces

|                      |                        |
|----------------------|------------------------|
| Bus system           | CANopen®/DeviceNet™    |
| Signal type/category | CANopen®<br>DeviceNet™ |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 48 V AC |
|                       | 60 V DC |
| Transmission medium   | Copper  |

### Mechanical properties

#### Mechanical data

|                             |       |
|-----------------------------|-------|
| Insertion/withdrawal cycles | ≥ 100 |
|-----------------------------|-------|

### Material specifications

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | HB |
|----------------------------------------|----|

### Connector

#### Connection 1

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

#### Connection 2

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


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## Cable/line

|                                               |                                                                                                                              |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Cable length                                  | 5 m                                                                                                                          |
| CANopen®/DeviceNet™, PUR, violet [920]        |                                                                                                                              |
| Dimensional drawing                           |                                            |
| UL AWM Style                                  | 21198 (80°C/300 V)                                                                                                           |
| Number of positions                           | 4                                                                                                                            |
| Shielded                                      | yes                                                                                                                          |
| Cable type                                    | CANopen®/DeviceNet™, PUR, violet [920]                                                                                       |
| Conductor structure                           | 2xAWG24/19+2xAWG22/19                                                                                                        |
| AWG signal line                               | 24                                                                                                                           |
| AWG power supply                              | 22                                                                                                                           |
| Conductor cross-section                       | 2x 0.25 mm <sup>2</sup> (Data cable)<br>2x 0.34 mm <sup>2</sup> (Power supply)<br>1x 0.34 mm <sup>2</sup> (Drain wire)       |
| Wire diameter incl. insulation                | 1.95 mm ±0.05 mm (Data cable)<br>1.4 mm ±0.05 mm (Power supply)                                                              |
| External cable diameter                       | 6.70 mm ±0.3 mm                                                                                                              |
| Outer sheath, material                        | PUR                                                                                                                          |
| External sheath, color                        | red lilac RAL 4001                                                                                                           |
| Conductor material                            | Tin-plated Cu litz wires                                                                                                     |
| Material wire insulation                      | Foamed PE (Data cable)<br>PE (Power supply)                                                                                  |
| Single wire, color                            | red-black, blue-white                                                                                                        |
| Twisted pairs                                 | 2 cores to the pair                                                                                                          |
| Overall twist                                 | 2 pairs around a drain wire in the center to the core                                                                        |
| Optical shield covering                       | 80 %                                                                                                                         |
| Insulation resistance                         | ≥ 5 GΩ*km (Data cable)<br>≥ 5 GΩ*km (Power supply)                                                                           |
| Wave impedance                                | 120 Ω ±10 % (with 1 MHz)                                                                                                     |
| Nominal voltage, cable                        | ≤ 300 V (Peak value, not for high-power applications)                                                                        |
| Test voltage Core/Core                        | 2000 V (50 Hz, 1 min.)                                                                                                       |
| Test voltage Core/Shield                      | 2000.00 V (50 Hz, 1 min.)                                                                                                    |
| Minimum bending radius, fixed installation    | 4 x D                                                                                                                        |
| Minimum bending radius, flexible installation | 8 x D                                                                                                                        |
| Dynamic load capacity (bending)               | Max. bending cycles: 5000000, Bending radius: 70 mm, Bending radius: 15 x D, Traversing path: 4.5 m, Traversing rate: 3 m/s, |

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|                                 |                                                                          |
|---------------------------------|--------------------------------------------------------------------------|
|                                 | Acceleration: 3 m/s <sup>2</sup> , Ambient temperature: -20 °C ... 60 °C |
| Shield attenuation              | ≤ 22.9 dB/km (with 1 MHz)                                                |
|                                 | ≤ 16.4 dB/km (At 500 kHz)                                                |
|                                 | ≤ 9.5 dB/km (At 125 kHz)                                                 |
| Halogen-free                    | in accordance with DIN VDE 0472 part 815                                 |
|                                 | according to IEC 60754-1                                                 |
| Flame resistance                | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1)                     |
|                                 | UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2)                 |
|                                 | IEC 60332-1-2                                                            |
|                                 | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)                     |
| Special properties              | Flexible cable conduit capable                                           |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)                             |
|                                 | -30 °C ... 70 °C (Cable, flexible installation)                          |
|                                 | -20 °C ... 60 °C (for installation)                                      |
|                                 | -20 °C ... 60 °C (cable, drag chain applications)                        |

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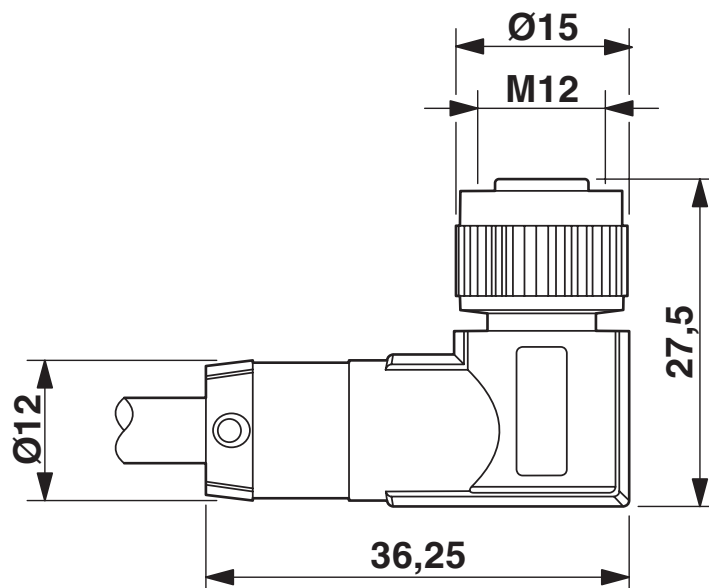
## Drawings

Dimensional drawing



M12 x 1 male plug, angled, shielded

Dimensional drawing



M12 x 1 socket, angled, shielded

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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 connector and the M12 socket

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### 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 | 3.618 kg CO2e |
|---------|---------------|

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