

## Bus system cable - SAC-5P-M12MS/ 1,0-920/M12FS - 1507544

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Bus system cable, CANopen<sup>®</sup>, DeviceNet<sup>™</sup>, CANopen<sup>®</sup>/DeviceNet<sup>™</sup>, 5-position, PUR halogen-free, Violet, RAL 4001, shielded, Plug straight M12, A-coded, on Socket straight M12, A-coded, Cable length: 1 m



### Key commercial data

package_quantity	1
GTIN	4017918900335

### Technical data

#### Dimensions

Length of cable	1 m
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#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
Degree of protection	IP65
Degree of protection	IP67

#### General

Rated current at 40°C	4 A
Rated voltage	60 V
Number of positions	5
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Signal type/category	CANopen <sup>®</sup>
Signal type/category	DeviceNet <sup>™</sup>
Status display	No
Surge voltage category	II
Pollution degree	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

#### Material

Inflammability class according to UL 94	HB
Contact material	CuSn

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## Technical data

### Material

<b>Contact surface material</b>	Ni/Au
<b>Contact carrier material</b>	TPU GF
<b>Material of grip body</b>	TPU, hardly inflammable, self-extinguishing
<b>Material, knurls</b>	Zinc die-cast, nickel-plated
<b>Sealing material</b>	NBR

### Pin assignment

<b>Position = wire color (signal) = position (optional)</b>	1 (Plug) = SR (shield) = 1 (Socket)
<b>Position = wire color (signal) = position (optional)</b>	2 (Plug) = RD (V+) = 2 (Socket)
<b>Position = wire color (signal) = position (optional)</b>	3 (Plug) = BK (V-) = 3 (Socket)
<b>Position = wire color (signal) = position (optional)</b>	4 (Plug) = WH (CAN_H) = 4 (Socket)
<b>Position = wire color (signal) = position (optional)</b>	5 (Plug) = BU (CAN_L) = 5 (Socket)

### Cable

<b>Cable type</b>	CAN Bus/DeviceNet
<b>Cable type (abbreviation)</b>	920
<b>Conductor cross section</b>	2x 0.25 mm <sup>2</sup> (signal line)
<b>Conductor cross section</b>	2x 0.34 mm <sup>2</sup> (Power supply)
<b>Conductor cross section</b>	1x 0.34 mm <sup>2</sup> (Drain wire)
<b>AWG signal line</b>	24
<b>AWG power supply</b>	22
<b>Conductor structure signal line</b>	19x 0.13 mm
<b>Conductor structure, voltage supply</b>	19x 0.15 mm
<b>Core diameter including insulation</b>	1.95 mm ±0.05 mm (signal line)
<b>Core diameter including insulation</b>	1.4 mm ±0.05 mm (Power supply)
<b>Wire colors</b>	Red-black, blue-white
<b>Twisted pairs</b>	2 cores to the pair
<b>Type of pair shielding</b>	Aluminum-lined polyester foil
<b>Overall twist</b>	2 pairs around a drain wire in the center to the core
<b>Shielding</b>	Tinned copper braided shield
<b>Optical shield covering</b>	80 %
<b>External sheath, color</b>	Violet, RAL 4001
<b>External cable diameter D</b>	6.7 mm ±0.3 mm
<b>Smallest bending radius, fixed installation</b>	67 mm
<b>Smallest bending radius, movable installation</b>	67 mm
<b>Number of bending cycles</b>	2000000
<b>Bending radius</b>	67 mm
<b>Traversing path</b>	4.5 m
<b>Traversing rate</b>	3 m/s
<b>Acceleration</b>	3 m/s <sup>2</sup>
<b>Outer sheath, material</b>	PUR
<b>Material conductor insulation</b>	Foamed PE (signal line)

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## Technical data

### Cable

<b>Material conductor insulation</b>	PE (Power supply)
<b>Conductor material</b>	Tin-plated Cu litz wires
<b>Insulation resistance</b>	≥ 5 GΩ*km (signal line)
<b>Insulation resistance</b>	≥ 5 GΩ*km (Power supply)
<b>Working capacitance</b>	nom. 40 nF (signal line)
<b>Wave impedance</b>	120 Ω ± 12 Ω (with 1 MHz)
<b>Nominal voltage, cable</b>	max. 300 V
<b>Test voltage, cable</b>	2000 V (50 Hz, 1 min.)
<b>Flame resistance</b>	UL 1581, Sec. 1060 (FT-1)
<b>Flame resistance</b>	IEC 60332-1
<b>Ambient temperature (operation)</b>	-40 °C ... 80 °C (cable, fixed installation)
<b>Ambient temperature (operation)</b>	-20 °C ... 70 °C (cable, flexible installation)

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27060306
<b>eCl@ss 4.1</b>	27060306
<b>eCl@ss 5.0</b>	27061801
<b>eCl@ss 5.1</b>	27061801
<b>eCl@ss 6.0</b>	27061801
<b>eCl@ss 7.0</b>	27061801
<b>eCl@ss 8.0</b>	27061801

### ETIM

<b>ETIM 2.0</b>	EC000830
<b>ETIM 3.0</b>	EC001855
<b>ETIM 4.0</b>	EC001855
<b>ETIM 5.0</b>	EC001855

### UNSPSC

<b>UNSPSC 6.01</b>	31251501
<b>UNSPSC 7.0901</b>	31251501
<b>UNSPSC 11</b>	31251501
<b>UNSPSC 12.01</b>	31251501
<b>UNSPSC 13.2</b>	31251501

## approvals

GOST / GOST /

### Approval details

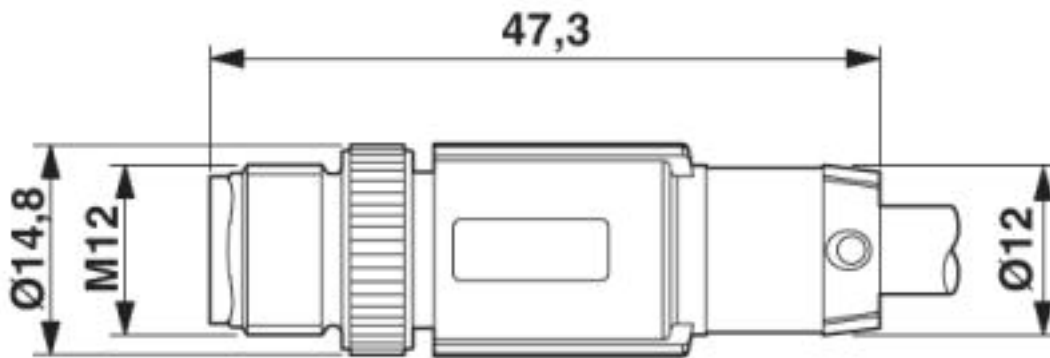
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approvals



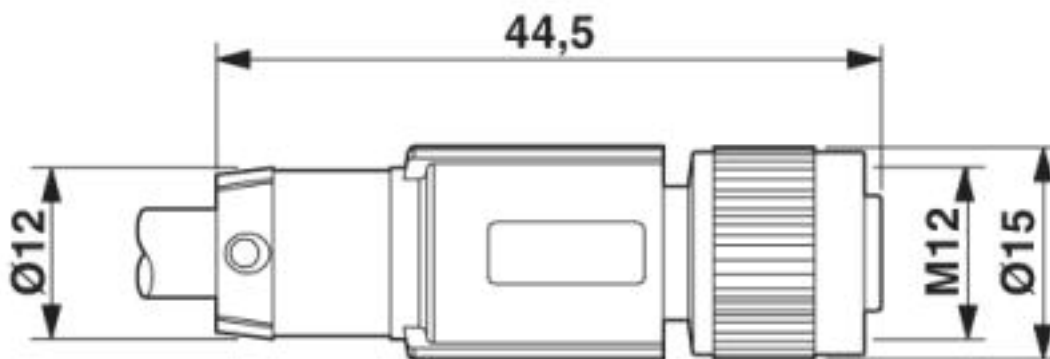
## Drawings

Dimensioned drawing



Plug, M12 x 1, straight, shielded

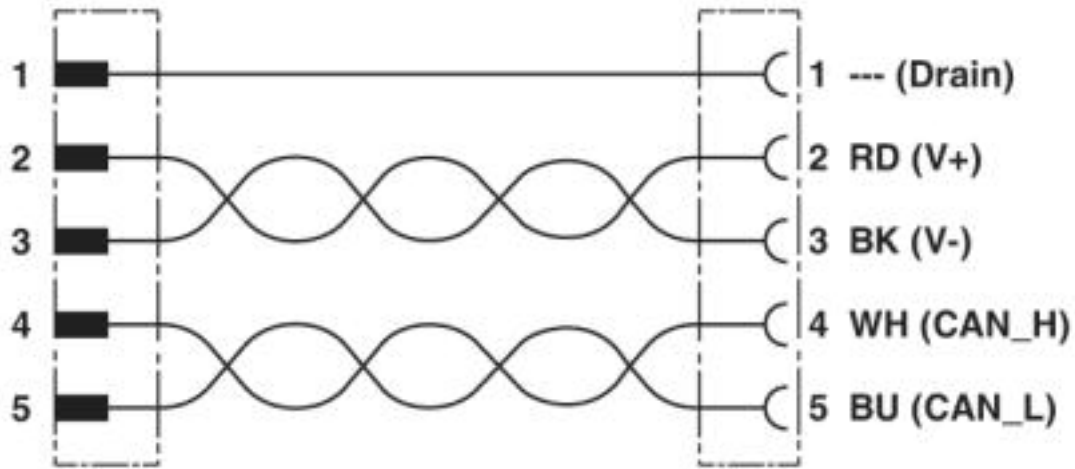
Dimensioned drawing



M12 x 1 socket, straight, shielded

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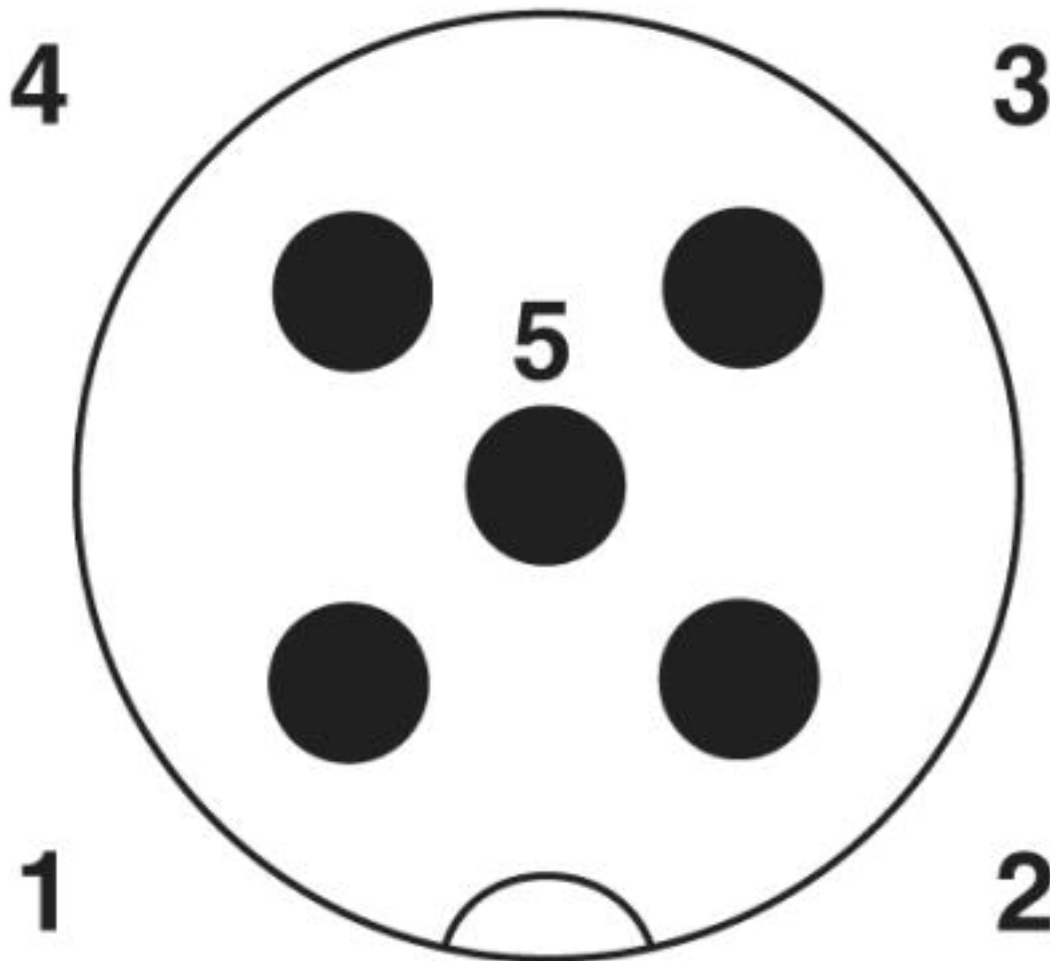
Circuit diagram



Contact assignment of the M12 connector and the M12 socket

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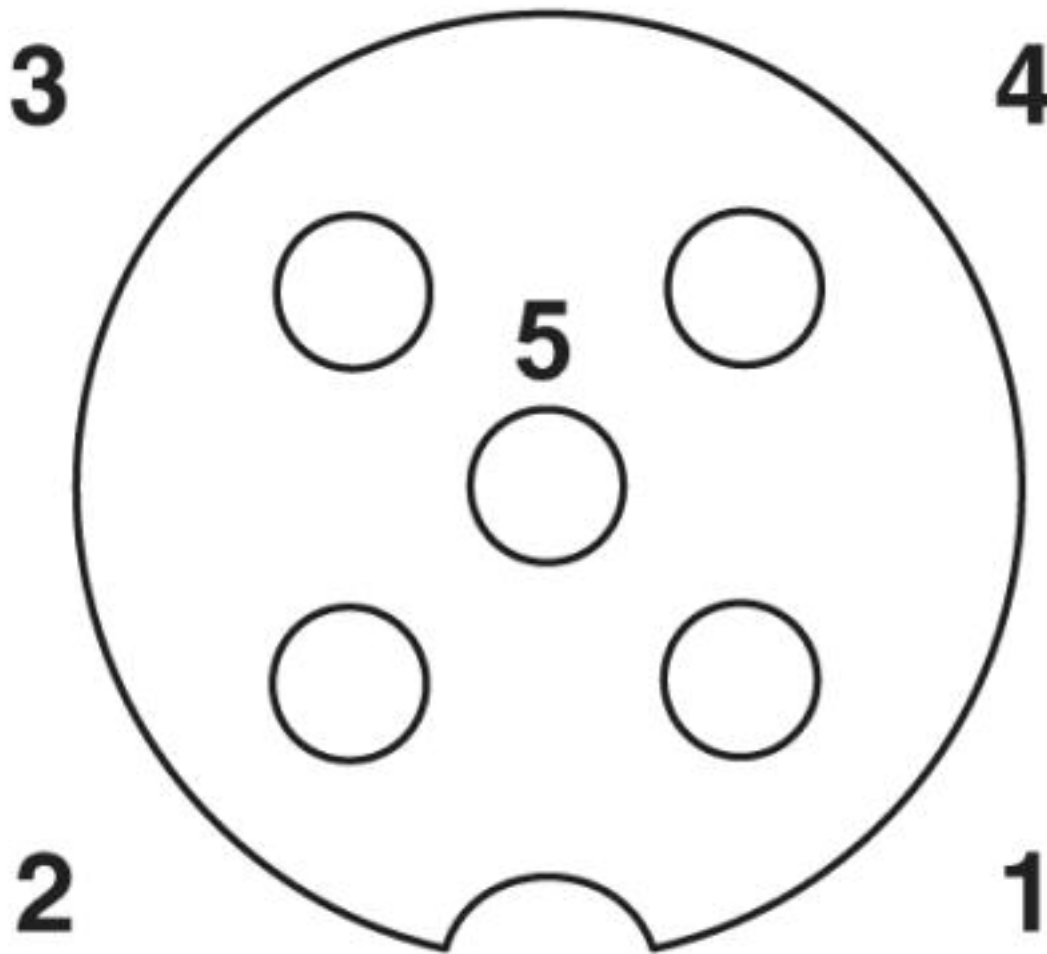
Schematic diagram



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

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Schematic diagram



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

## Bus system cable - SAC-5P-M12MS/ 1,0-920/M12FS - 1507544

Cable cross section



CAN Bus/DeviceNet [920]

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