

SAC-5P-MR/ 2,0-923/FS CAN SCO - Bus system cable

1419060
<https://www.phoenixcontact.com/us/products/1419060>

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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, silver-grey RAL 7001, shielded (Tinned copper braided shield), Plug angled M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, cable length: 2 m, Connector unshielded

Commercial data

Item number	1419060
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	BF1CDD
Catalog page	Page 431 (C-2-2019)
GTIN	4046356543217
Weight per piece (including packing)	152.6 g
Weight per piece (excluding packing)	148.5 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
No. of cable outlets	1
Coding	A

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Interfaces

Bus system	CANopen [®] /DeviceNet [™]
Signal type/category	CANopen [®]
	DeviceNet [™]

Signaling

Status display	No
Status display present	No

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	4 A
Transmission medium	Copper

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

Connection data

Pin assignment

Contact Color (signal designation) Contact (optional)	1 (Plug) SR (shield) 1 (Socket)
	2 (Plug) RD (V+) 2 (Socket)
	3 (Plug) BK (V-) 3 (Socket)
	4 (Plug) WH (CAN_H) 4 (Socket)

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5 (Plug) | BU (CAN_L) | 5 (Socket)

Connector

Connection 1

Type	Plug angled M12 SPEEDCON
Number of positions	5
Locking type	SPEEDCON
Coding type	A (Standard)
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

Type	Socket straight M12 SPEEDCON
Number of positions	5
Locking type	SPEEDCON
Coding type	A (Standard)
Ambient temperature (operation)	-25 °C ... 90 °C

Cable/line

Cable length	2 m
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CANopen[®]/DeviceNet[™], PUR, gray [923]

Dimensional drawing	
Cable weight	90 kg/km
UL AWM Style	21198 (80°C/300 V)
Number of positions	4
Shielded	yes
Cable type	CANopen [®] /DeviceNet [™] , PUR, gray [923]
Conductor structure	2xAWG24/19+2xAWG22/19
Conductor structure signal line	19x 0.13 mm
AWG signal line	24
Conductor cross section	2x 0.25 mm ² (Data cable) 2x 0.34 mm ² (Power supply) 1x 0.34 mm ² (Drain wire)
Wire diameter incl. insulation	1.95 mm ±0.05 mm (Data cable) 1.4 mm ±0.05 mm (Power supply)
External cable diameter	6.70 mm ±0.3 mm
Outer sheath, material	PUR

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External sheath, color	silver-grey RAL 7001
Conductor material	Tin-plated Cu litz wires
Material wire insulation	Foamed PE (Data cable)
	PE (Power supply)
Single wire, color	red-black, blue-white
Twisted pairs	2 cores to the pair
Type of pair shielding	Plastic-coated aluminum foil, aluminum side outside
Overall twist	2 pairs around a drain wire in the center to the core
Optical shield covering	80 %
Insulation resistance	$\geq 5 \text{ G}\Omega\cdot\text{km}$ (Data cable)
	$\geq 5 \text{ G}\Omega\cdot\text{km}$ (Power supply)
Loop resistance	$\leq 181.80 \text{ }\Omega/\text{km}$ (Data cable)
	$\leq 114.80 \text{ }\Omega/\text{km}$ (Power supply)
Wave impedance	$120 \text{ }\Omega \pm 10 \text{ }\%$ (with 1 MHz)
Cable capacity	nom. 40 nF/km (Data cable)
Nominal voltage, cable	$\leq 300 \text{ V}$ (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	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	34 mm
Smallest bending radius, movable installation	67 mm
Max. bending cycles	5000000
Shield attenuation	$\leq 22.9 \text{ dB/km}$ (with 1 MHz)
	$\leq 16.4 \text{ dB/km}$ (At 500 kHz)
	$\leq 9.5 \text{ dB/km}$ (At 125 kHz)
Halogen-free	in accordance with DIN VDE 0472 part 815
	according to IEC 60754-1
Flame resistance	UL 1581, Sec. 1060 (FT-1)
	IEC 60332-1
Other resistance	Low adhesion
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)
	$\leq 70 \text{ }^{\circ}\text{C}$ (cable, drag chain applications)

Environmental and real-life conditions

Ambient conditions

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

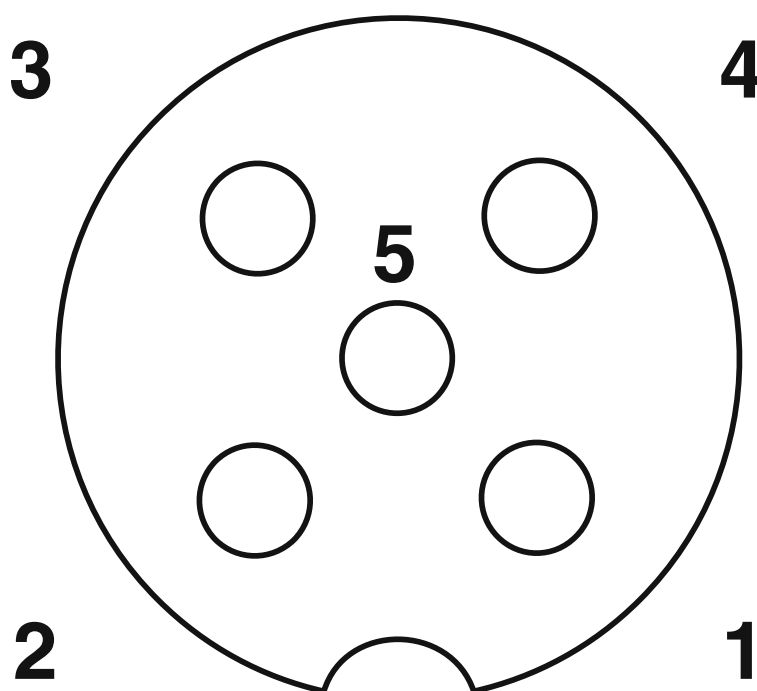
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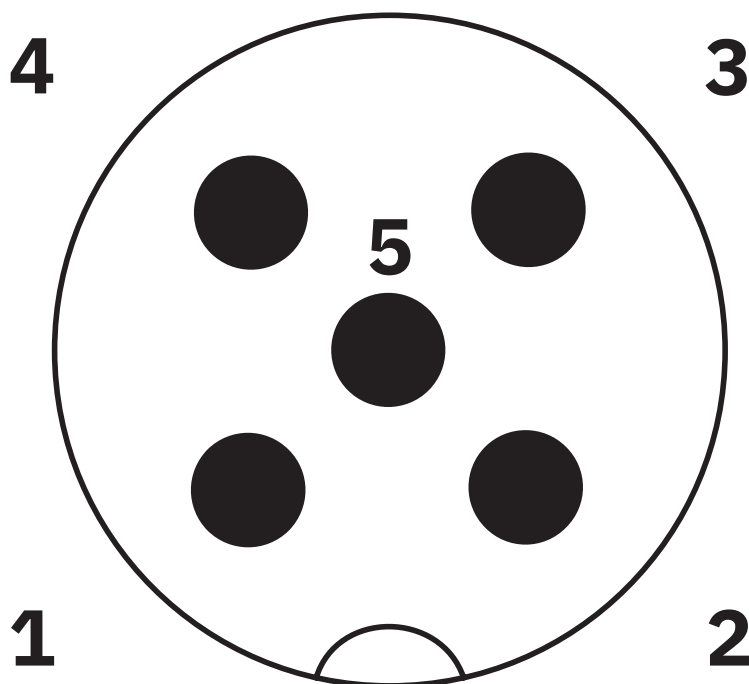
Drawings

Schematic diagram



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

Schematic diagram



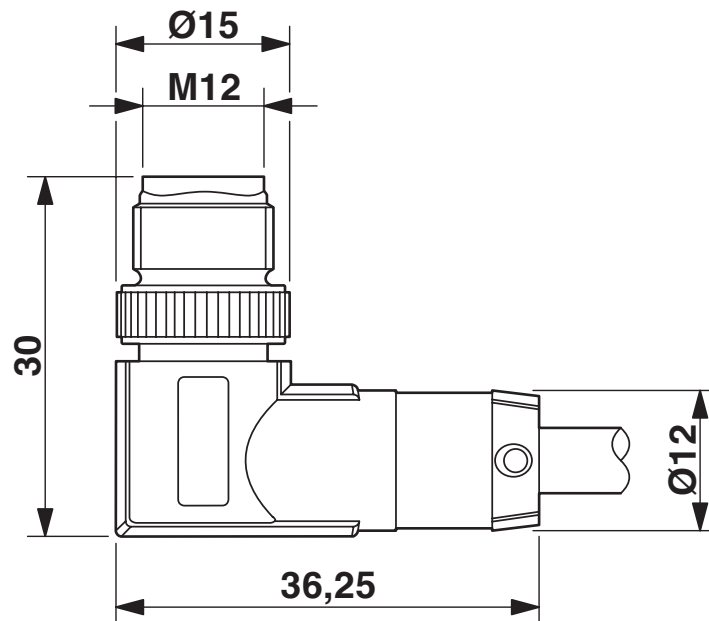
Pin assignment M12 male connector, 5-pos., A-coded, male side

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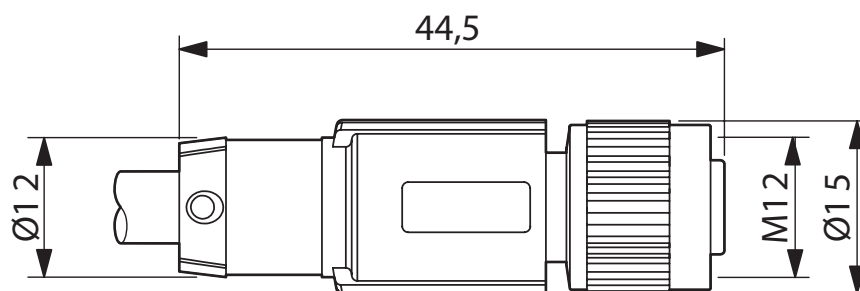
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Dimensional drawing



M12 x 1 male plug, angled

Dimensional drawing



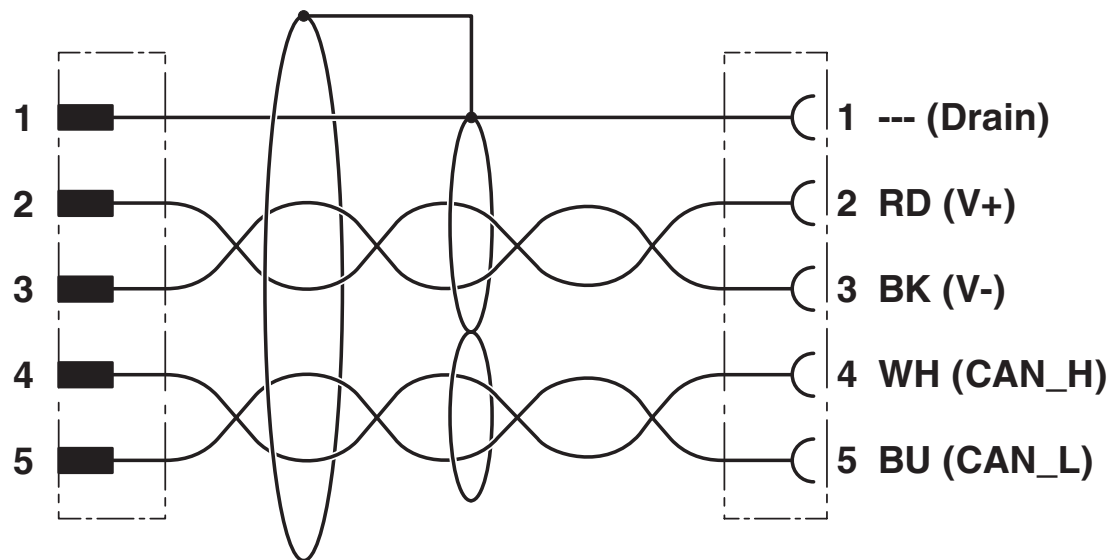
M12 x 1 socket, straight

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Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1419060>

 UL Listed Approval ID: FILE E 221474				
	Nominal voltage U _N	Nominal current I _N	Cross section AWG	Cross section mm ²
	125 V	4 A	-	-

 cUL Listed Approval ID: FILE E 221474				
	Nominal voltage U _N	Nominal current I _N	Cross section AWG	Cross section mm ²
	125 V	4 A	-	-

 EAC-RoHS Approval ID: RU D-DE.HB35.B.00387				
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cULus Listed				
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Classifications

ECLASS

ECLASS-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	27060307

ETIM

ETIM 9.0	EC001855
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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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Accessories

PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/products/1558988>

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/us/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



SAC-M12-EXCLIP-F - Locking clip

1558991

<https://www.phoenixcontact.com/us/products/1558991>

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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SAC-5PH-M-F/2XF SH1 SCO - H distributor

1417414

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H distributor, 5-position, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Thread M12 not rotatable, Parallel distributor

SAC-5P-M12T/2XM12 VP - T distributor

1541186

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T distributor, 5-position, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Parallel distributor

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SAC-5PT-F/F-M VP - T distributor

1424712

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T distributor, CANopen[®], DeviceNet[™], 5-position, Socket straight M12, coding: A, on Socket straight M12, coding: A and Plug straight M12, coding: A, Parallel distributor

SAC-5P-M12MS CAN TR - Termination resistor

1507816

<https://www.phoenixcontact.com/us/products/1507816>



Terminating resistor CANopen[®]/DeviceNet[™] M12

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TSD 04 SAC - Torque screwdriver

1208429

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Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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