SAC-5P-MS/20,0-923/FS CAN SCO - Bus system cable

1419056

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Bus system cable, CANopen®, DeviceNet™, 5-position, PUR halogen-free, silver-gray RAL 7001, shielded, Plug straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A, cable length: 20 m, Connector unshielded

Commercial data

Item number	1419056
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CDD
GTIN	4046356543002
Weight per piece (including packing)	1,220 g
Weight per piece (excluding packing)	1,177.4 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Product properties

Product type	Data cable preassembled
Application	Standard
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

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

Connector

Connection 1

Type	Plug straight M12 SPEEDCON
Number of positions	5
Locking type	SPEEDCON
Coding type	A (Standard)

Connection 2

Type	Socket straight M12 SPEEDCON
Number of positions	5
Locking type	SPEEDCON
Coding type	A (Standard)

Cable/line

Cable length	20 m

CANopen®/DeviceNet™, PUR, gray [923]

Dimensional drawing	
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
AWG signal line	24
AWG power supply	22
Conductor cross-section	2x 0.25 mm² (Data cable)
	2x 0.34 mm² (Power supply)
	1x 0.34 mm² (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
External sheath, color	silver-gray 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
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)
	≥ 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
Smallest bending radius, fixed installation	27 mm
Smallest bending radius, movable installation	54 mm
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, Acceleration: 3 m/s², 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)
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)

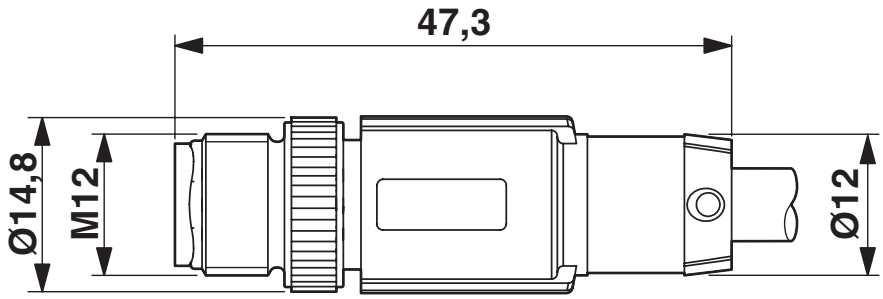
Environmental and real-life conditions

Ambient conditions

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

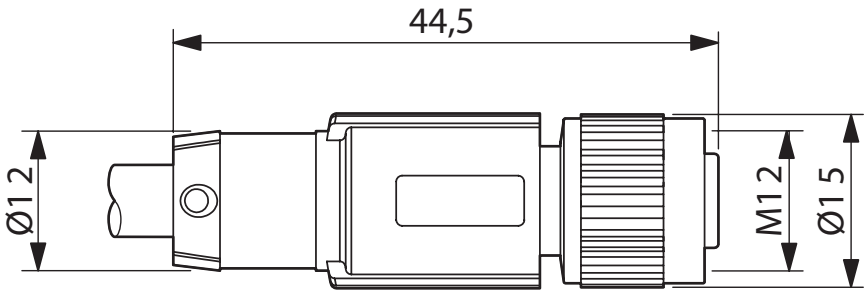
Drawings

Dimensional drawing



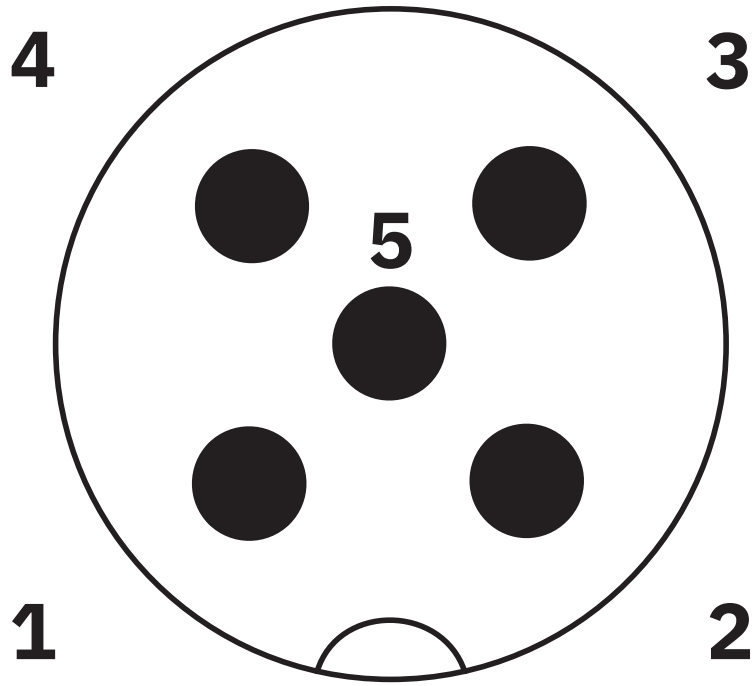
Plug, M12 x 1, straight, shielded

Dimensional drawing



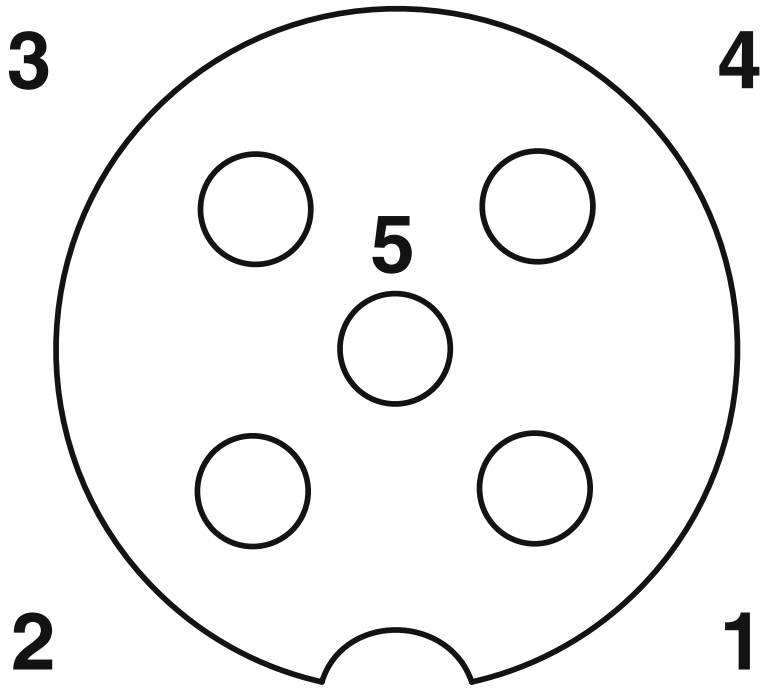
M12 x 1 socket, straight

Schematic diagram



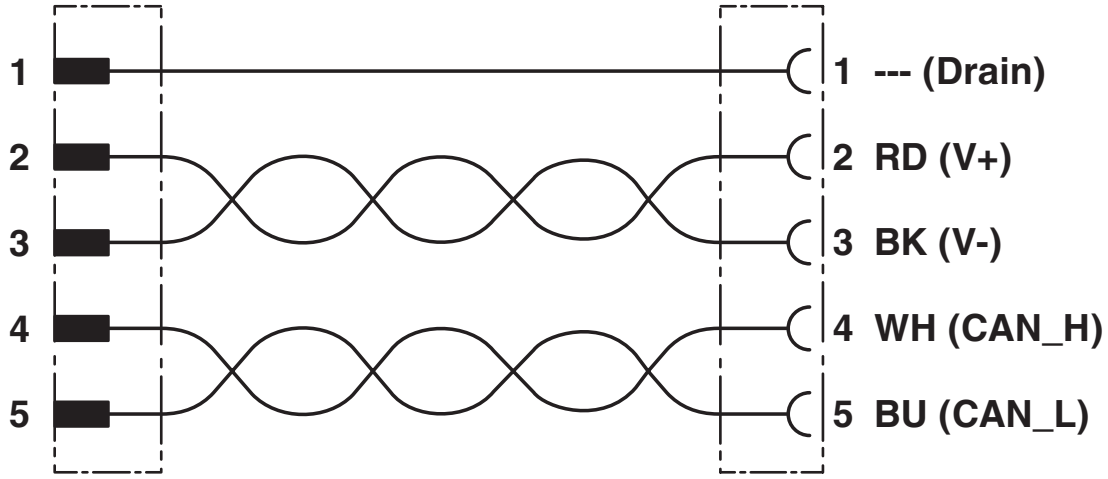
Pin assignment M12 male connector, 5-pos., A-coded, male side

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1419056

UL Listed
Approval ID: FILE E 221474

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	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
keine				
	125 V	4 A	-	-

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

Classifications

ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

ETIM

ETIM 10.0	EC002599

UNSPSC

UNSPSC 21.0	26121600

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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