

SAC-5P-M12MS-M12FR/920/... - Bus system cable



1431102/920/1.0

<https://www.phoenixcontact.com/de/produkte/1431102?orderkey=MTQzMTEwMi85MjAvMS4w>

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Bus system cable, CANopen[®], DeviceNet[™], 5-position, PUR halogen-free, red lilac RAL 4001, shielded (Tinned copper braided shield), Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: Free input (0.2 ... 40.0 m)

Commercial data

Item number	1431102/920/1.0
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	C1 - Sensor-Aktor-Kabel
Product key	BF1CKD
Catalog page	Page 433 (C-2-2019)
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
Shielded	yes
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

Insulation resistance	≥ 100 MΩ
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

Connector

Connection 1

Type	Plug straight M12
Number of positions	5

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Coding type	A (Standard)
Ambient temperature (operation)	-25 °C ... 90 °C


Connection 2

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

Cable/line

Cable length	Free input (0.2 ... 40.0 m)
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CANopen[®]/DeviceNet[™], PUR, violet [920]

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, violet [920]
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
External sheath, color	red lilac RAL 4001
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 %

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Insulation resistance	≥ 5 GΩ*km (Data cable)
	≥ 5 GΩ*km (Power supply)
Loop resistance	≤ 181.80 Ω/km (Data cable)
	≤ 114.80 Ω/km (Power supply)
Wave impedance	120 Ω ±10 % (with 1 MHz)
Cable capacity	nom. 40 nF/km (Data cable)
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	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	≤ 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	IEC 60332-1-2
	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Other resistance	Low adhesion
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)	-25 °C ... 90 °C (Plug / socket)
	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 75 °C (Cable, flexible installation)

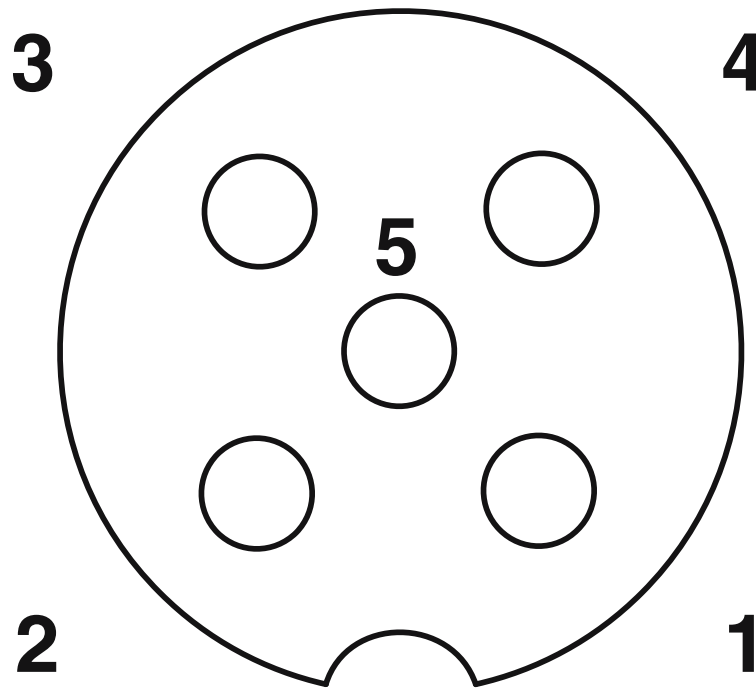
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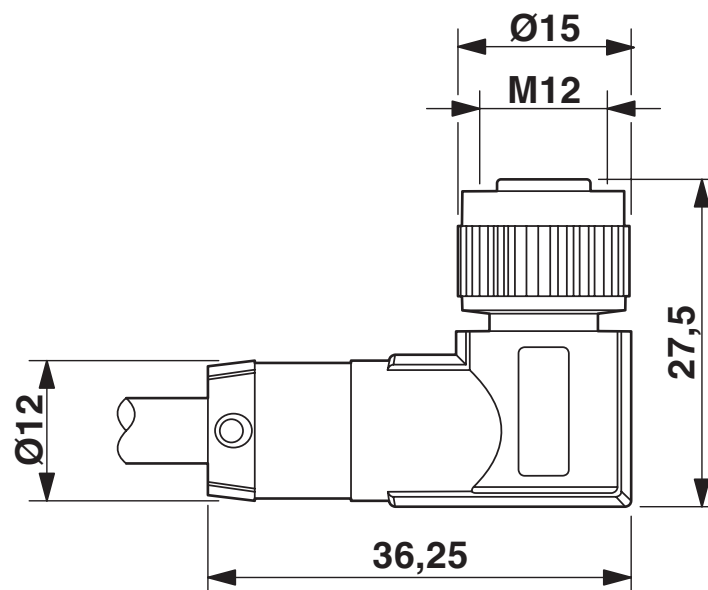
Drawings

Schematic diagram



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

Dimensional drawing



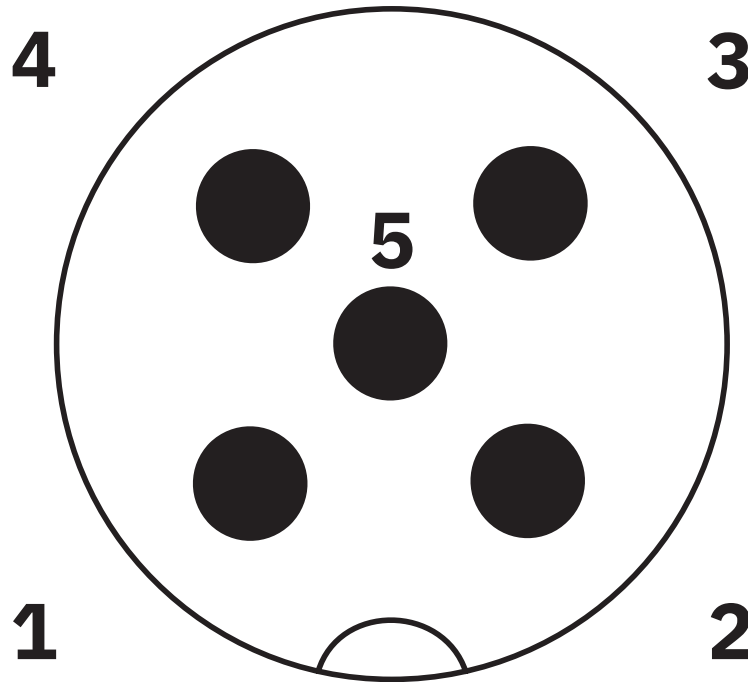
M12 x 1 socket, angled, shielded

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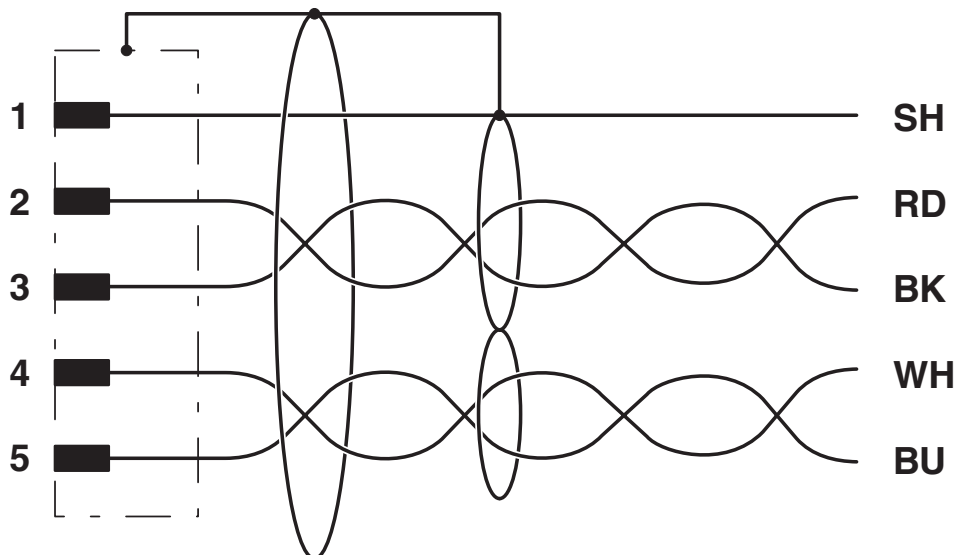
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Schematic diagram



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

Circuit diagram

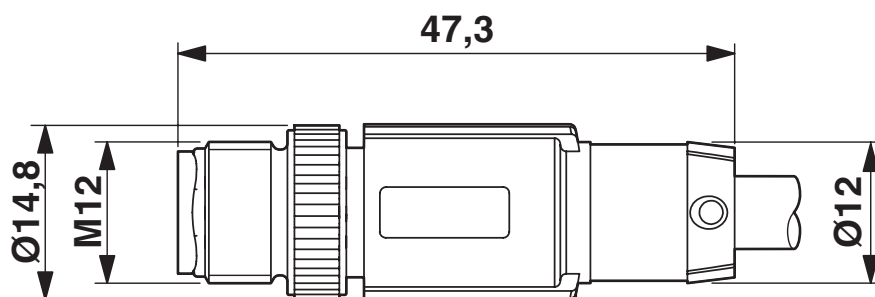


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Dimensional drawing



Plug, M12 x 1, straight, shielded

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Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/de/produkte/1431102?orderkey=MTQzMTEwMi85MjAvMS4w>

 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 8.0	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
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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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