

Bus system cable - SAC-5P-M12MS/5,0-92X/M12FSSHOD



1410470

<https://www.phoenixcontact.com/pc/products/1410470>

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Bus system cable, CANopen[®], DeviceNet[™], 5-position, FRNC halogen-free, black, shielded, Plug straight M12, coding: A, on Socket straight M12, coding: A, cable length: 5 m, for outdoor applications, with high-grade steel knurl

Your advantages

- Easy and safe: 100% electrically tested plug-in components
- Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C ... +105°C
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

Commercial Data

Item number	1410470
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1CKD
Catalog Page	Page 187 (NTK-2014)
GTIN	4046356899062
Weight per Piece (including packing)	370 g
Weight per Piece (excluding packing)	370 g
Customs tariff number	85444290
Country of origin	PL

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Technical Data

Product properties

Product type	Data cable preassembled
Number of positions	5
Application	External areas
No. of cable outlets	1
Shielded	yes
Coding	A - standard

Insulation characteristics

Degree of pollution	3
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Interfaces

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

LED signaling

Status display	No
Status display present	No

Electrical properties

Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Nominal voltage U _N	48 V AC
	60 V DC
Nominal current I _N	4 A
Protective circuit	unwired
Transmission medium	Copper

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100
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Material specifications

Color	black
Flammability rating according to UL 94	V0
Sealing material	FPM
Material of grip body	PP
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PP
Material for screw connection	Stainless steel

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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)
	5 (Plug) = BU (CAN_L) = 5 (Socket)

Connector

Connection 1

Head design	Plug
Head cable outlet	straight
Head thread type	M12
Coding	A


Connection 2

Head design	Socket
Head cable outlet	straight
Head thread type	M12
Coding	A

Cable / line

Cable length	5 m
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CANopen[®]/DeviceNet[™] outdoor installation, FRNC, black [92X]

Dimensional drawing	
Cable weight	70 kg/km
UL AWM Style	21281 (80°C/300 V)
Number of positions	4
Shielded	yes
Cable type	CANopen [®] /DeviceNet [™] outdoor installation, FRNC, black [92X]
Conductor structure	2xAWG24/19+2xAWG22/19
Signal runtime	4.46 ns/m
Conductor structure signal line	19x 0.13 mm
AWG signal line	24
	2x 0.25 mm ² (Signal)

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Conductor cross section	2x 0.34 mm ² (Power)
	1x 0.38 mm ² (Drain wire)
Wire diameter incl. insulation	1.9 mm (Signal)
	1.4 mm (Power)
External cable diameter	6.9 mm ±0.3 mm
Outer sheath, material	FRNC
External sheath, color	black
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE
Single wire, color	red-black, blue-white
Thickness, insulation	0.6 mm (Signal)
	0.3 mm (Power)
Thickness, outer sheath	1.15 mm
Twisted pairs	2 cores to the pair
Type of pair shielding	Aluminum-lined foil
Overall twist	2 pairs around a drain wire in the center to the core
Optical shield covering	70 %
Max. conductor resistance	90 Ω/km (Signal)
	55 Ω/km (Power)
Insulation resistance	≥ 200 MΩ*km (at 20 °C)
Wave impedance	120 Ω ±12 Ω (f = 1 MHz)
Working capacitance	39.8 nF (at 1 kHz, core/core)
Nominal voltage, cable	≤ 300 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Halogen-free	yes
Flame resistance	According to IEC 60332-3-25 (Cat. D)
Resistance to oil	yes
Other resistance	UV resistant
Ambient temperature (operation)	-40 °C ... 105 °C
Ambient temperature (installation)	-40 °C ... 105 °C

Ambient conditions

Degree of protection	IP65
	IP67
	IP68
	IP69K
Ambient temperature (operation)	-40 °C ... 105 °C (Plug / socket)
	-40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4))

Standards and regulations

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M12

Standards/specifications

IEC 61076-2-101

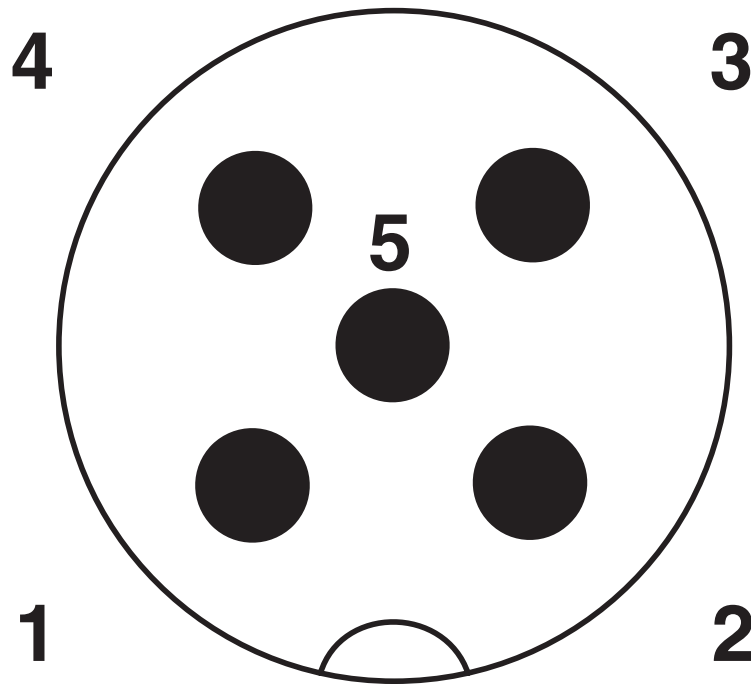
Bus system cable - SAC-5P-M12MS/5,0-92X/M12FSSHOD

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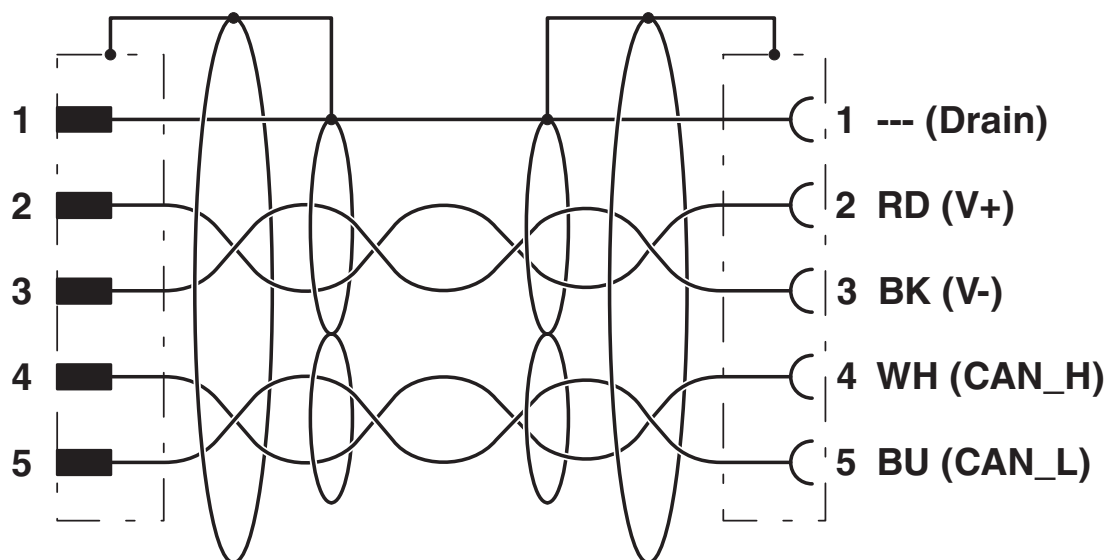
Drawings

Schematic diagram



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

Circuit diagram

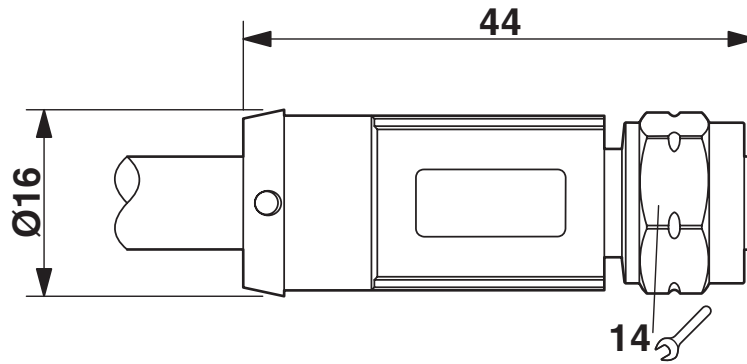


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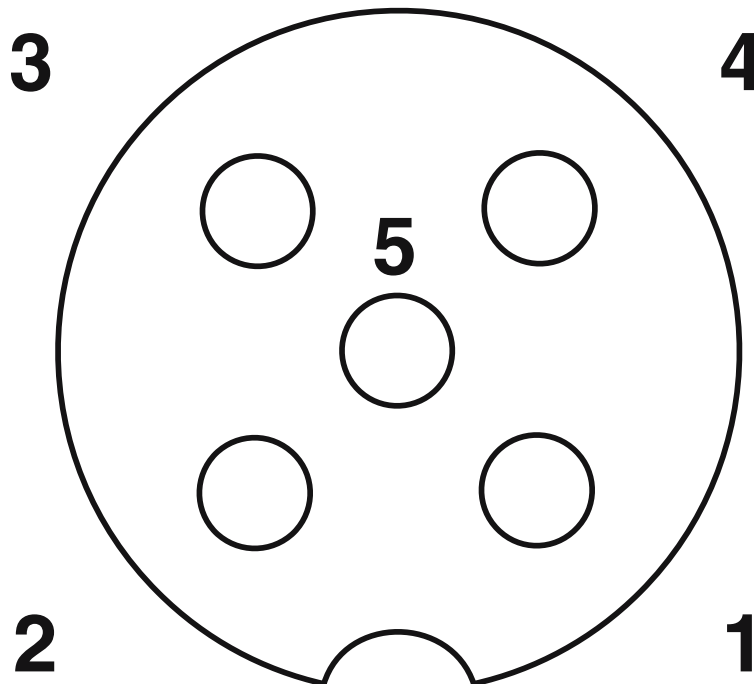
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Dimensional drawing



M12 x 1 socket, straight

Schematic diagram



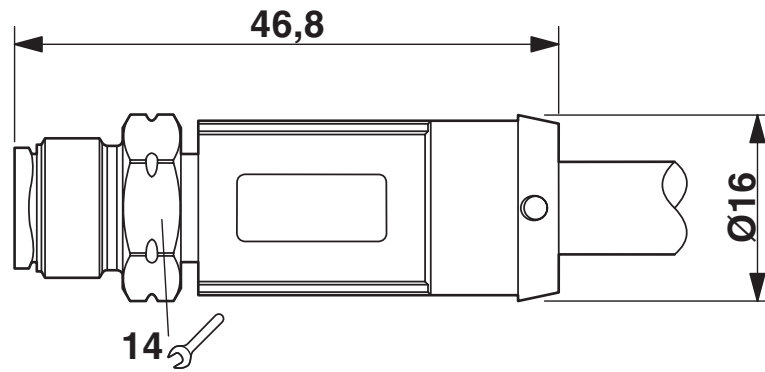
Pin assignment M12 socket, 5-pos., A-coded, socket side view

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Dimensional drawing



Plug, M12 x 1, straight, shielded

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Approvals



EAC

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

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Classifications

ECLASS

ECLASS-9.0	27060308
ECLASS-10.0.1	27060308
ECLASS-11.0	27060307

ETIM

ETIM 8.0	EC001855
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UNSPSC

UNSPSC 21.0	26121600
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Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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Accessories

Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

<https://www.phoenixcontact.com/pc/products/1208429>



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

Torque screwdriver

Torque screwdriver - TSD-M 1,2NM - 1212224

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



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

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Adapter insert

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600

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



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

Tool

Tool - SAC BIT M12-W14 - 1212513

<https://www.phoenixcontact.com/pc/products/1212513>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive

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