

1518711

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Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12 SPEEDCON, coding: A, on free cable end, cable length: 10 m

## Your advantages

- · Easy and safe: 100 % electrically tested plug-in components
- Save time, thanks to installation with SPEEDCON fast locking system
- Our standard: robust halogen-free PUR cable

## Commercial data

Item number	1518711
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	BF03
Product key	BF1CBA
Catalog page	Page 38 (C-4-2013)
GTIN	4017918961091
Weight per piece (including packing)	260.4 g
Weight per piece (excluding packing)	254.2 g
Customs tariff number	85444290
Country of origin	PL



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## Technical data

### **Product properties**

Product type	Sensor/actuator cable	
Number of positions	3	
Application	Standard	
No. of cable outlets	1	
Shielded	no	
Coding	A	
Insulation characteristics		
Overvoltage category	II	
Degree of pollution	3	

#### Material specifications

Flammability rating according to UL 94	HB
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
Outer sheath, material	PUR
Conductor material	Bare Cu litz wires

## **Electrical properties**

Insulation resistance	≥ 100 MΩ
Nominal voltage U <sub>N</sub>	250 V AC
	250 V DC
Nominal current I <sub>N</sub>	4 A
Protective circuit	unwired
Max. conductor resistance	58 Ω/m

### Mechanical properties

Mechanical data	
Insertion/withdrawal cycles	≥ 100
Max. bending cycles	4000000

## Signaling

Status display	No
Status display present	No

### Connection data

Conductor connection





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Material wire insulation Single wire, color

Thickness, insulation

Insulation resistance

Max. conductor resistance

Overall twist

Tightening torque   0.4 Nm (M12 connector)     Connecton 1     Type   Plug angled M12 SPEEDCON     Number of positions   3     Locking type   SPEEDCON     Connecton 2   SPEEDCON     Connection 3   SPEEDCON     Connection 4   SPEEDCON     Connection 2   Tome     Type   free cable end     Connection 5   10 m     PUR halogen-free black (PUR)   Dimensional drawing     Dimensional drawing   Speed State     Cable weight   23 kg/m     UL AVM Style   20549     Number of positions   3     Sheided   no     Cable filme   22 kg/m     Vurd drawing   Speed     Wire dramet incl. instaltant   22 kg/m     Vurd drawing   Speed     Vurd drawing   Speed     Vurd drawing   Speed     Cable weight   23 kg/m     UL AVM Style   20549     Number of positions   3     Sheided   no     Conductor structure signal line   42x 0.10 mm     AWG signal line   22     Conductor ross section   3x 0.34 mm* (Signal line)     Wire dramet incl. instaltance   1.27 mm 40 22 mm (Signal line) <tr< th=""><th></th><th></th></tr<>		
Connection 1     Plug angled M12 SPEEDCON       Number of positions     3       Locking type     SPEEDCON       Coding type     A       Connection 2     Image: Connection 2       Type     free cable end       Cobine trips     10 m       Cable length     10 m       PUR halogen-free black [PUR]     Image: Connection 2       Dimensional drawing     Image: Connection 2       Cable weight     23 kg/km       UL AVM Style     20649       Number of positions     3       Shielded     no       Conductor structure signal line     420.10 mm       AVG signal line     22       Conductor structure signal line     3x 0.34 mm² (Signal line)       AVG signal line     22       Conductor cross section     3x 0.34 mm² (Signal line)       AVG signal line     22       Conductor cross section     3x 0.34 mm² (Signal line)       AVG signal line     22       Conductor cross section     3x 0.34 mm² (Signal line)       AVG signal line     1.27 mm ± 0.02 mm (Signal line)       AVG signal line     1.27 mm ± 0.02 mm (Signal line)       Outer sheath, mater	Tightening torque	0.4 Nm (M12 connector)
TypePlug angled M12 SPEEDCONNumber of positions3Locking typeSPEEDCONCoding typeAConnection 2TypeTypefree cable endCoble length10 mPUR halogen-free black [PUR]JoneDimensional drawingJoneCable weight23 kg/kmUL AVMN Style20649Number of positions3ShieldednoCable kypePUR halogen-free black [PUR]Connector structure signal line42x 0.10 mmAVMS signal line22Conductor rorse section3x 0.34 mm? (Signal line)Wre diameter incl. insulation1.27 mm ±0.02 mm (Signal line)Wre diameter incl. insulation1.27 mm ±0.02 mm (Signal line)Outer sheath, materialPURPURPURPUR10 mmConductor rorse section3x 0.34 mm? (Signal line)Mire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3kierdiConductor rorse section9URMire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter9URConductor rorse section9URSteind cable diameter1.55 mmOuter sheath, materialPURConductor rorse section9URConductor rorse section1.27 mm ±0.02 mm (Signal line)Conductor rorse section1.27 mm ±0.02 mm (Signal line)Conductor rorse section9URConductor rorse section9UR </td <td>Connector</td> <td></td>	Connector	
TypePlug angled M12 SPEEDCONNumber of positions3Locking typeSPEEDCONCoding typeAConnection 2TypeTypefree cable endCoble length10 mPUR halogen-free black [PUR]JoneDimensional drawingJoneCable weight23 kg/kmUL AVMN Style20649Number of positions3ShieldednoCable kypePUR halogen-free black [PUR]Connector structure signal line42x 0.10 mmAVMS signal line22Conductor rorse section3x 0.34 mm? (Signal line)Wre diameter incl. insulation1.27 mm ±0.02 mm (Signal line)Wre diameter incl. insulation1.27 mm ±0.02 mm (Signal line)Outer sheath, materialPURPURPURPUR10 mmConductor rorse section3x 0.34 mm? (Signal line)Mire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3kierdiConductor rorse section9URMire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter9URConductor rorse section9URSteind cable diameter1.55 mmOuter sheath, materialPURConductor rorse section9URConductor rorse section1.27 mm ±0.02 mm (Signal line)Conductor rorse section1.27 mm ±0.02 mm (Signal line)Conductor rorse section9URConductor rorse section9UR </td <td>Connection 1</td> <td></td>	Connection 1	
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Locking typeSPEEDCONCoding typeAConnection 2Typefree cable endToget and the cable of th		
Coding type     A       Connection 2     Type       Type     free cable end       Cable length     10 m       PUR halogen-free black (PUR)     Immensional drawing       Dimensional drawing     Immensional drawing       Cable weight     23 kg/km       Que weight     20549       Number of positions     3       Shielded     no       Cable kype     PUR halogen-free black (PUR)       Connection 2     23 kg/km       Que weight     20549       Number of positions     3       Shielded     no       Cable kype     PUR halogen-free black (PUR)       Conductor structure signal line     42x 0.10 mm       AWG signal line     22       Conductor cross section     3x 0.34 mm? (Signal line)       Wire diameter incl. insulation     1.27 mm ±0.02 mm (Signal line)       Wire diameter incl. insulation     1.27 mm ±0.02 mm (Signal line)       Cuber sheath, material     PUR       Outer sheath, naterial     PUR		
Connection 2     Type     free cable end       Type free cable end       Cable length     10 m       Dimensional drawing       Dimensional drawing       Cable weight     10 m       Cable weight     23 kg/km       Cable weight     23 kg/km       Questions     3       Shielded     no       Cable kype     PUR halogen-free black (PUR)       Conductor structure signal line       Avx 0.10 mm       Avx 0.34 mm² (Signal line)       Wire diameter incl. insulation       Avx 0.34 mm² (Signal line)       Wire diameter incl. insulation       Outer sheath, material       PUR       Dimensional drawing		
Type     free cable end       Cable length     10 m       PUR halogen-free black [PUR]       Dimensional drawing     Jumensional drawing       Cable weight     23 kg/km       Cable weight     23 kg/km       UL AWM Style     20549       Number of positions     3       Shielded     no       Cable type     PUR halogen-free black [PUR]       Conductor structure signal line     42x 0.10 mm       AWG signal line     22       Conductor structure signal line     1.27 mm ±0.02 mm (Signal line)       Wire diameter incl. insulation     1.27 mm ±0.02 mm (Signal line)       Wure diameter incl. insulation     1.27 mm ±0.02 mm (Signal line)       Outer sheath, material     PUR       PUR     black-gray RAL 7021	Coding type	A
Zable length     10 m       PUR halogen-free black [PUR]     Immensional drawing       Dimensional drawing     Immensional drawing       Cable weight     23 kg/km       LL AWM Style     20549       Number of positions     3       Shielded     no       Cable type     PUR halogen-free black [PUR]       Conductor structure signal line     42x 0.10 mm       AWS signal line     22       Conductor cross section     3x 0.34 mm² (Signal line)       Wire diameter incl. insulation     1.27 mm ±0.02 mm (Signal line)       Wire diameter incl. insulation     1.27 mm ±0.02 mm (Signal line)       Outer sheath, material     PUR       Duter sheath, color     black-gray RAL 7021	Connection 2	
Cable length10 mDimensional drawingDimensional drawingCable weightCable weightCable weightUL AWM StyleCable weightUL AWM StyleShieldedNumber of positionsShieldedCable typeCable typeCable typeCable typeCulture signal line42x 0.10 mmAWG signal lineSurger free black [PUR]Conductor cross sectionXuG signal lineSurger free black [PUR]Culture signal linePUR black-gray RAL 7021	Туре	free cable end
Cable length10 mDimensional drawingDimensional drawingCable weightCable weightCable weightUL AWM StyleCable weightUL AWM StyleShieldedNumber of positionsShieldedCable typeCable typeCable typeCable typeCulture signal line42x 0.10 mmAWG signal lineSurger free black [PUR]Conductor cross sectionXuG signal lineSurger free black [PUR]Culture signal linePUR black-gray RAL 7021	Cable/line	
PUR halogen-free black [PUR]       Dimensional drawing       Image: Cable weight       Cable weight       UL AWM Style       Number of positions       Shielded       no       Cable type       Conductor structure signal line       42x 0.10 mm       AWG signal line       22       Conductor cross section       3x 0.34 mm² (Signal line)       Wire diameter incl. insulation       1.27 mm ±0.02 mm (Signal line)       Wire diameter       0.40 structure signal       PUR       PUR       PUR       PUR       External cable diameter       0.85 mm ±0.15 mm       Outer sheath, material       PUR		10 m
Dimensional drawingDimensional drawingLine of the state o	<b>-</b>	
Cable weight23 kg/kmCable weight23 kg/kmUL AWM Style20549Number of positions3ShieldednoCable typePUR halogen-free black [PUR]Conductor structure signal line42x 0.10 mmAWG signal line22Conductor cross section3x 0.34 mm² (Signal line)Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	PUR halogen-free black [PUR]	
UL AWM Style20549Number of positions3ShieldednoCable typePUR halogen-free black [PUR]Conductor structure signal line42x 0.10 mmAWG signal line22Conductor cross section3x 0.34 mm² (Signal line)Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021		
Number of positions3ShieldednoCable typePUR halogen-free black [PUR]Conductor structure signal line42x 0.10 mmAWG signal line22Conductor cross section3x 0.34 mm² (Signal line)Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	Cable weight	23 kg/km
ShieldednoCable typePUR halogen-free black [PUR]Conductor structure signal line42x 0.10 mmAWG signal line22Conductor cross section3x 0.34 mm² (Signal line)Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	UL AWM Style	20549
Cable typePUR halogen-free black [PUR]Conductor structure signal line42x 0.10 mmAWG signal line22Conductor cross section3x 0.34 mm² (Signal line)Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	Number of positions	3
Conductor structure signal line42x 0.10 mmAWG signal line22Conductor cross section3x 0.34 mm² (Signal line)Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	Shielded	no
AWG signal line22Conductor cross section $3x 0.34 mm^2$ (Signal line)Wire diameter incl. insulation $1.27 mm \pm 0.02 mm$ (Signal line)External cable diameter $3.85 mm \pm 0.15 mm$ Outer sheath, materialPURExternal sheath, colorblack-gray RAL 7021	Cable type	PUR halogen-free black [PUR]
Conductor cross section $3x 0.34 \text{ mm}^2$ (Signal line)Wire diameter incl. insulation $1.27 \text{ mm} \pm 0.02 \text{ mm}$ (Signal line)External cable diameter $3.85 \text{ mm} \pm 0.15 \text{ mm}$ Outer sheath, materialPURExternal sheath, colorblack-gray RAL 7021	Conductor structure signal line	42x 0.10 mm
Wire diameter incl. insulation1.27 mm ±0.02 mm (Signal line)External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	AWG signal line	22
External cable diameter3.85 mm ±0.15 mmOuter sheath, materialPURExternal sheath, colorblack-gray RAL 7021	Conductor cross section	3x 0.34 mm² (Signal line)
Outer sheath, material   PUR     External sheath, color   black-gray RAL 7021	Wire diameter incl. insulation	1.27 mm ±0.02 mm (Signal line)
Outer sheath, material   PUR     External sheath, color   black-gray RAL 7021	External cable diameter	3.85 mm ±0.15 mm
External sheath, color black-gray RAL 7021	Outer sheath, material	
		black-gray RAL 7021

PP

brown, blue, black

3 wires, twisted

≥ 0.21 mm (Core insulation)

max. 58 Ω/km (at 20 °C)

≥ 100 GΩ\*km (at 20 °C)

approx. 0.50 mm (Outer cable sheath)



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Nominal voltage, cable	≤ 300 V
Test voltage	≥ 3000 V
Smallest bending radius, fixed installation	19 mm
Smallest bending radius, movable installation	38 mm
Max. bending cycles	1000000
Halogen-free	in accordance with DIN VDE 0472 part 815
Flame resistance	in accordance with UL 758/1581 FT2
	DIN EN 60332-2-2 (20 s)
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	Highly resistant to acids, alkaline solutions and solvents
	hydrolysis and microbe resistant
	partly UV-resistant (in accordance with DIN EN ISO 4892-2-A)
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
Ambient temperature (operation)	-40 °C 80 °C (cable, fixed installation)
	-25 °C 80 °C (Cable, flexible installation)

#### Environmental and real-life conditions

#### Ambient conditions

Degree of protection	IP65
	IP67
	IP68
Ambient temperature (operation)	-25 °C 90 °C (Plug / socket)
	-40 °C 80 °C (cable, fixed installation)
	-5 °C 80 °C (Cable, flexible installation)

## Standards and regulations

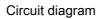
Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

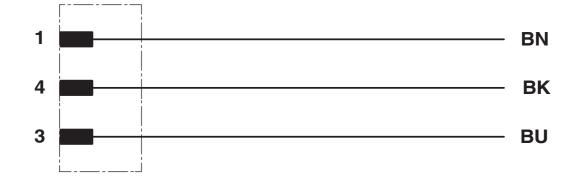


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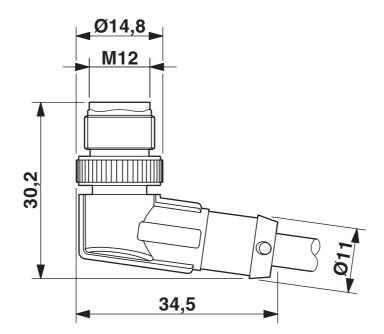
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## Drawings





## Dimensional drawing

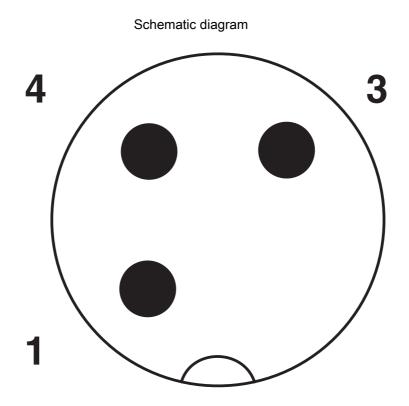


M12 x 1 male plug, angled



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Pin assignment M12 plug, 3-pos., A-coded, view male side



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## Classifications

### ECLASS

ECLASS-11.0	27060311
ECLASS-13.0	27060311



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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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Phoenix Contact USA 586 Fulling Mill Road Middletown, PA 17057, United States (+717) 944-1300 info@phoenixcon.com **PHŒNIX** CONTACT