

Bus system cable - SAC-4P-M12MS/10,0-960 VA



1431199

<https://www.phoenixcontact.com/pc/products/1431199>

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Bus system cable, FOUNDATION Fieldbus (31.25 kbps), 3-position, PVC, orange RAL 2003, shielded, Plug straight M12, coding: A, on free cable end, cable length: 10 m

Commercial Data

Item number	1431199
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1CCG
Catalog Page	Page 435 (C-2-2019)
GTIN	4046356431675
Weight per Piece (including packing)	689.185 g
Weight per Piece (excluding packing)	689.185 g
Customs tariff number	85444290
Country of origin	PL

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Technical Data

Notes

General	Further products with variable cable type and variable cable length can be found in the accessories section
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Product properties

Product type	Data cable preassembled
Number of positions	3
Application	Process technology
No. of cable outlets	1
Shielded	yes
Coding	A - standard

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Interfaces

Bus system	FOUNDATION Fieldbus
Signal type/category	FOUNDATION Fieldbus, 31.25 kbps

LED signaling

Status display	No
Status display present	No

Electrical properties

Contact resistance	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	4 A
Transmission medium	Copper

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100
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Material specifications

Color Handle area	black
Flammability rating according to UL 94	HB
Sealing material	NBR
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuSn

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Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material for screw connection	Stainless steel

Connection data

Pin assignment

Contact Color (signal designation) Contact (optional)	1 (Plug) = BU (DATA-)
	2 (Plug) = OG (DATA+)
	3 (Plug) = SR (shield)

Connector

Connection 1

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

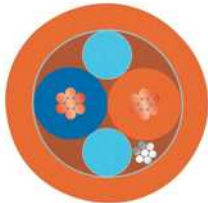
Connection 2

Head design	free cable end
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Cable / line

Cable length	10 m
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FOUNDATION Fieldbus orange [960]

Dimensional drawing	
Cable weight	56.552 kg/km
Number of positions	2
Shielded	yes
Cable type	FOUNDATION Fieldbus orange [960]
Conductor structure	2xAWG18/7 + 1xAWG20/7
Signal speed	0.66 c
Conductor structure signal line	7x 0.40 mm
AWG signal line	18
Conductor cross section	2x 0.75 mm ² (Signal line) 1x 0.5 mm ² (Drain wire)
Wire diameter incl. insulation	2.24 mm ±0.05 mm
External cable diameter	7.5 mm ±0.25 mm

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Outer sheath, material	PVC
External sheath, color	orange RAL 2003
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PO (Signal line)
Single wire, color	Blue, orange
Thickness, insulation	0.5 mm
Thickness, outer sheath	1 mm
Twisted pairs	2 cores to the pair
Overall twist	One pair with one drain wire and fillers for core
Optical shield covering	100 %
Max. conductor resistance	≤ 19.35 Ω/km (Signal line)
	26 Ω/km (shield)
Cable capacity	147 pF/m (at 1 kHz, core/shield)
	≤ 3.94 pF/m (capacitance unbalance)
Working capacitance	78 nF (at 1 kHz)
Cable impedance	100 Ω ±20 % (At 31.25 kHz)
Nominal voltage, cable	300 V
Smallest bending radius, fixed installation	75 mm
Tensile strength	260 N
Shield attenuation	3 dB/km (at 39 kHz)
Flame resistance	UL 1685 (CSA FT 4)
	UL 1685 (vertical tray)
	UL 1666 (riser)
Special properties	UL standards PLTC-ER and ITC
Ambient temperature (operation)	-40 °C ... 105 °C (cable, fixed installation)

Ambient conditions

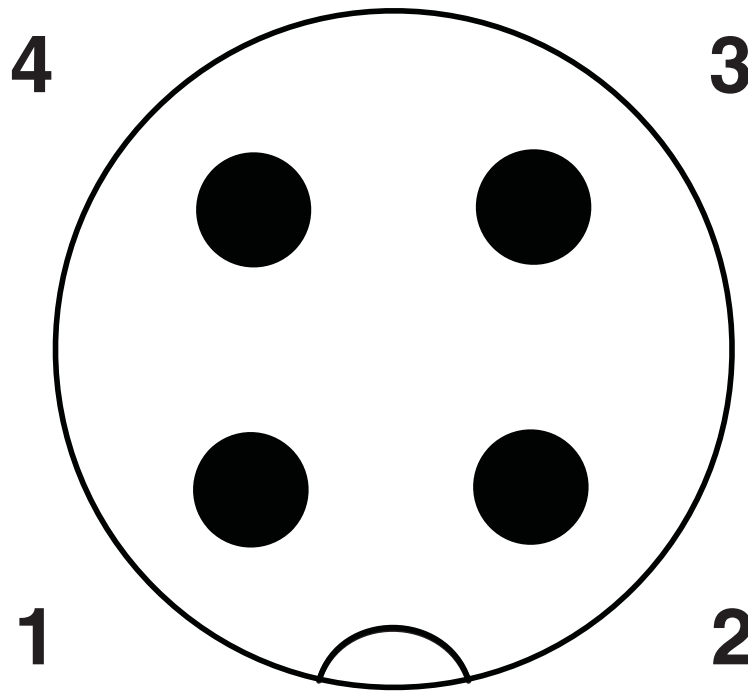
Degree of protection	IP65
	IP67
	IP68
	IP69K
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)

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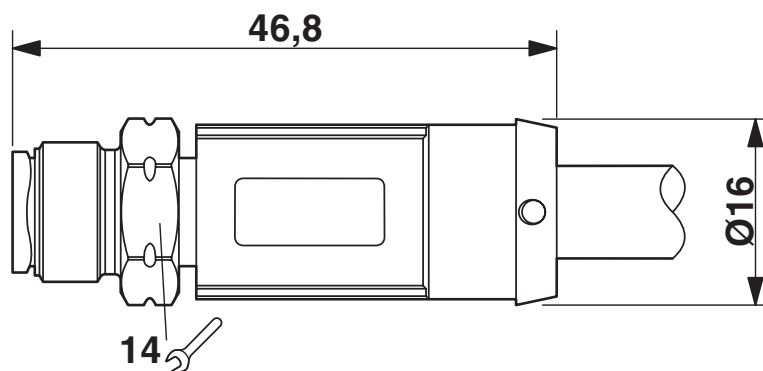
Drawings

Schematic diagram



Pin assignment M12 plug, 4-pos., A-coded, view plug side

Dimensional drawing



Plug, M12 x 1, straight, shielded

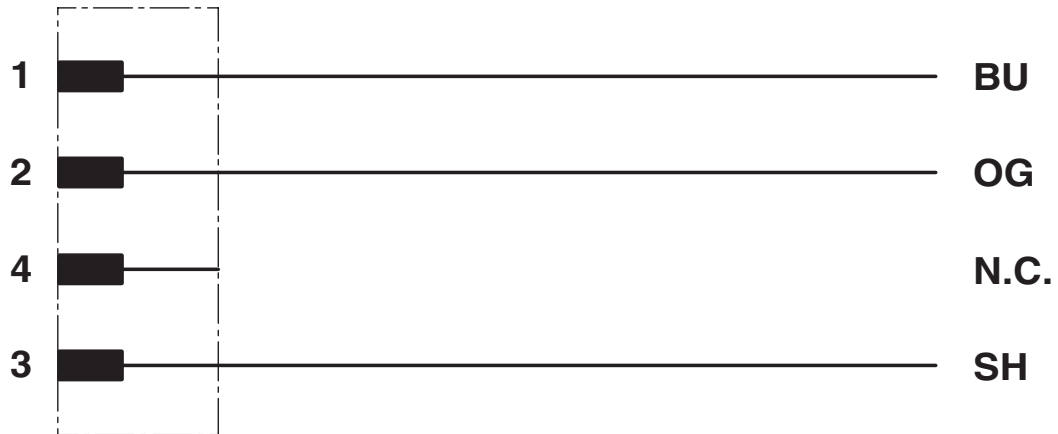
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Circuit diagram



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Approvals



EAC

Approval ID: RU C-DE.BL08.B.00286



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

Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

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

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



Bus system cable

Bus system cable - SAC-4P-M12MR-M12FR FF VA/... - 1431393

<https://www.phoenixcontact.com/pc/products/1431393>

Bus system cable, FOUNDATION Fieldbus (31.25 kbps), 3-position, Variable cable type, shielded, Plug angled M12, coding: A, on Socket angled M12, coding: A, cable length: Free input (0.2 ... 40.0 m), High-grade steel knurl



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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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Connector

Connector - SACC-M12MS-5CON-DM 5-8 SH VA - 1440025

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Connector, 5-position, shielded, Plug straight M12, A-coded, Screw connection, knurl material: Stainless steel 1.4404, cable gland M16, external cable diameter 5.5 mm ... 8.6 mm

Connector

Connector - SACC-M12FS-5CON-DM 5-8 SH VA - 1440041

<https://www.phoenixcontact.com/pc/products/1440041>



Connector, 5-position, shielded, Socket straight M12, A-coded, Screw connection, knurl material: Stainless steel 1.4404, cable gland M16, external cable diameter 5.5 mm ... 8.6 mm

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T distributor

T distributor - SAC-4P-M12T/2XM12 FF VA - 1431416

<https://www.phoenixcontact.com/pc/products/1431416>



T distributor, FOUNDATION Fieldbus, PROFIBUS PA, 4-position, unshielded, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Parallel distributor

Termination resistor

Termination resistor - SAC-4P-M12MS FF TR VA - 1431403

<https://www.phoenixcontact.com/pc/products/1431403>



FOUNDATION Fieldbus™ termination resistor, 4-pos., M12 connector, high-grade steel knurl

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