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Bus system cable - SAC-4P-M12MS/15,0-960/M12FS VA

1431319

https://www.phoenixcontact.com/gb/products/1431319

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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 Socket straight M12, coding: A, cable length: 15 m

Commercial Data

Item number	1431319
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	BF1CCG
Product Key	BF1CCG
Catalog Page	Page 435 (C-2-2019)
GTIN	4046356431798
Weight per Piece (including packing)	971.5 g
Weight per Piece (excluding packing)	222.22 g
Customs tariff number	85444290
Country of origin	DE

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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

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	≤ 5 mΩ
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

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
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Cable gland material	Stainless steel

Connection data

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Pin assignment

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

Connector

Insertion/withdrawal cycles	≥ 100

Connection 1

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

Head 2

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

Cable / line

Cable length	15 m
Cable weight	56.552 kg/km
Number of positions	2
Shielded	yes
Cable type	FOUNDATION Fieldbus orange [960]
Signal speed	0.66 c
Conductor structure signal line	7x 0.40 mm
AWG signal line	18
Conductor cross section	2x 0.75 mm² (Signal line)
	1x 0.5 mm² (Drain wire)
Wire diameter incl. insulation	2.24 mm ±0.05 mm
External cable diameter	7.5 mm ±0.25 mm
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)

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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)

Cable structure

Cable type	FOUNDATION Fieldbus orange
Signal type/category	FOUNDATION Fieldbus, 31.25 kbps
Outer sheath, material	PVC
External sheath, color	orange RAL 2003

Ambient conditions

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

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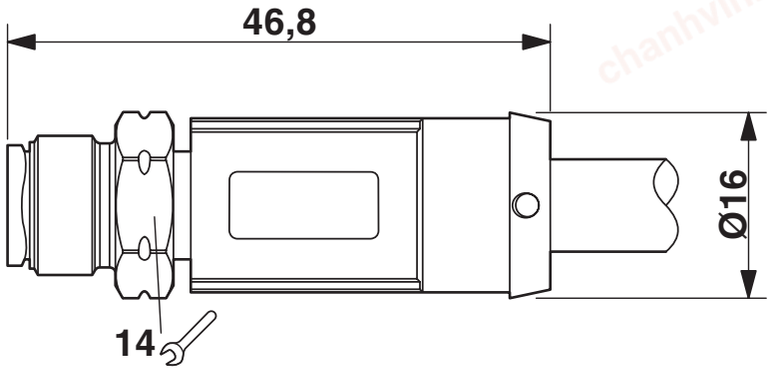
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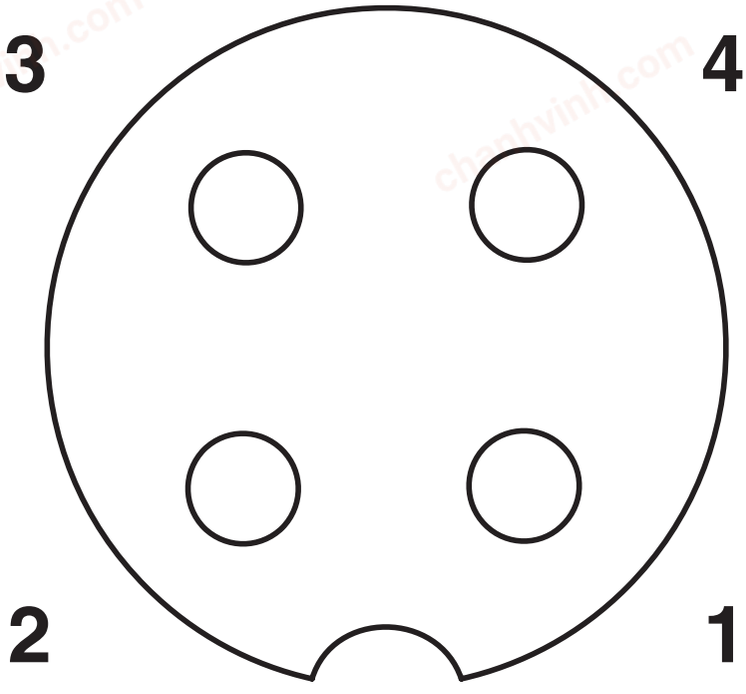
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



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

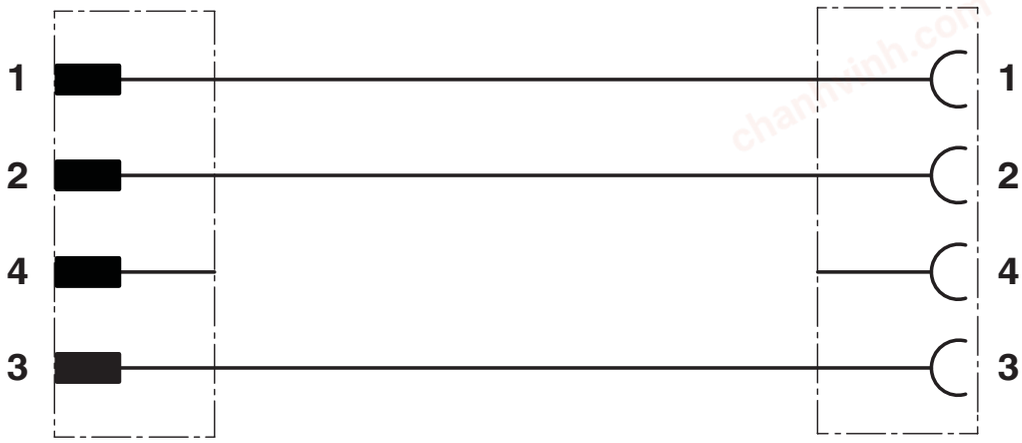
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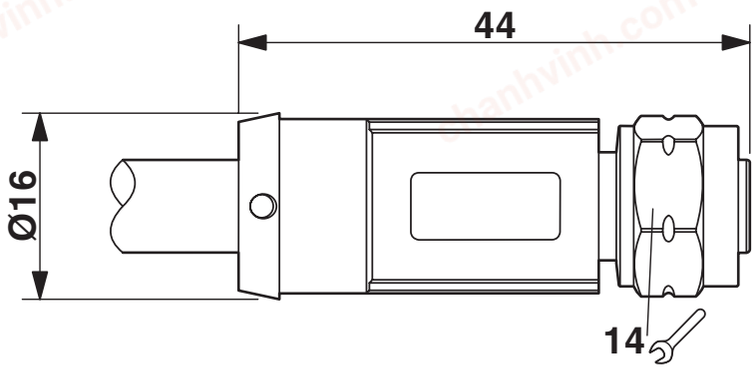
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Circuit diagram



Contact assignment of the M12 connector and the M12 socket

Dimensional drawing



M12 x 1 socket, straight

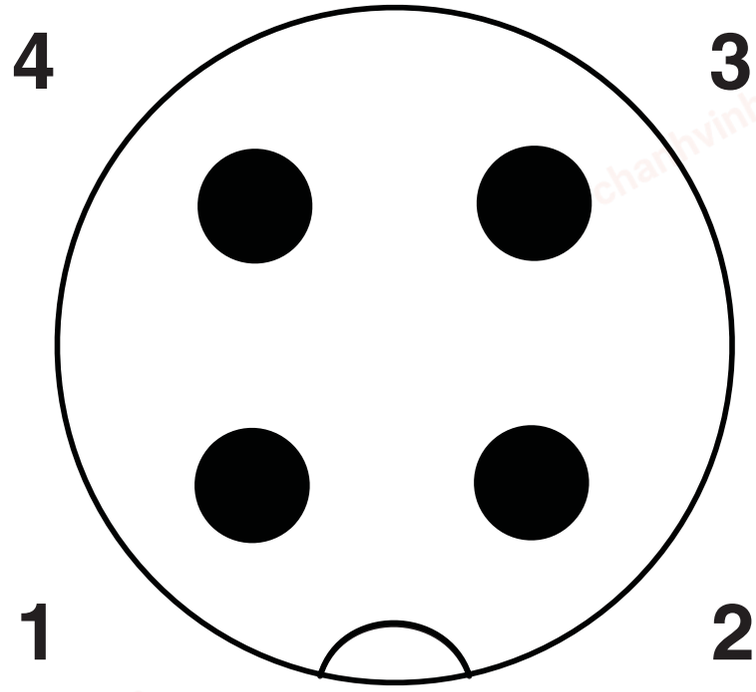
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Schematic diagram



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

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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

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/gb/products/1430873

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



Screw plug

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

https://www.phoenixcontact.com/gb/products/1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

https://www.phoenixcontact.com/gb/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/gb/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/gb/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/gb/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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T distributor

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

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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/gb/products/1431403



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

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