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Network cable - VS-M12MSD/10,0-93X OD

1454228

https://www.phoenixcontact.com/gb/products/1454228

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Network cable, Ethernet CAT5 (100 Mbps), PROFINET CAT5 (100 Mbps), 4-position halogen-free, shielded, Plug straight M12 / IP69K, coding: D, on free cable end, cable length: 10 m, for outdoor applications, with high-grade steel knurl

Commercial Data

Item number	1454228
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	BF1CJN
Product Key	BF1CJN
Catalog Page	Page 159 (C-4-2013)
GTIN	4046356568838
Weight per Piece (including packing)	781.2 g
Weight per Piece (excluding packing)	767.3 g
Customs tariff number	85444210
Country of origin	DE

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Technical Data

Product properties

Product type	Data cable preassembled
Number of positions	4
Application	External areas
No. of cable outlets	1
Shielded	yes
Coding	D - data

Insulation characteristics

Degree of pollution	3

Interfaces

Bus system	PROFINET
	Ethernet
Signal type/category	Ethernet CAT5 (IEC 11801), 100 Mbps
	PROFINET CAT5 (IEC 11801), 100 Mbps
	Ethernet CAT5 (IEC 11801), 100 Mbps
	PROFINET CAT5 (IEC 11801), 100 Mbps

LED signaling

Status display	No
Status display present	No

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	4 A
Transmission medium	Copper

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
Cable gland material	Stainless steel

Connector

Insertion/withdrawal cycles	≥ 100

Connection 1

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Type	Plug straight M12 / IP69K
Number of positions	4 (4)
Coding type	D (Data)
Shielded	yes
Handle color	black
Degree of protection	IP69K

Connection 2

Type	free cable end
Number of positions	4

Cable / line

Cable length	10 m
Cable weight	81 g/m
Shielded	yes
Cable type	PROFINET outdoors [93X]
Signal speed	66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm²
Wire diameter incl. insulation	1.95 mm
External cable diameter	7.25 mm ±0.3 mm
Outer sheath, material	PE-X
External sheath, color	black RAL 9005
Conductor material	silver-plated Cu litz wires
Material wire insulation	PE-X
Single wire, color	white-blue, orange-yellow
Thickness, outer sheath	≥ 0.8 mm
Overall twist	Star quad
Optical shield covering	100 %
Max. conductor resistance	≤ 54.4 Ω/km
Coupling resistance	200.00 mΩ/m (f ≤ 30 MHz)
Wave impedance	100 Ω ±5 Ω (f = 100 MHz)
Working capacitance	≤ 65 pF (core-core)
	≤ 100 pF (core-shield)
Nominal voltage, cable	300 V AC
Test voltage	2000 V AC (50 Hz, 5 minutes)
Minimum bending radius, fixed installation	6 x D
Minimum bending radius, flexible installation	10 x D
Shield attenuation	40 dB (30 MHz ≤ f ≤ 100 MHz)
Halogen-free	According to EN 50267-2-1
Flame resistance	EN 60332-1-2
	EN 50266
	EN 60332-3-25

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	NF C32-070, 2.1
	NF C32-070, 2.2
	UL 1685, 12 (FT4)
	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Resistance to oil	according to IRM 902, 72 h at 100 °C
Fire protection in rail vehicles	BS 6853 (Category Ia, Ib, II)
	GM/RT 2130 (Category Ia, Ib, II)
	EN 45545 (Risk level HL1 - HL3)
	DIN 5510 (Fire protection level 1, 2, 3, 4)
	NF F16-101 (Category A1, A2, B)
	NF F16-101 (Class C/F0)
	NFPA 130
	UNI CEI 11170 (Risk level LR1 - LR4)
Other resistance	Resistance to fuels according to IRM 903, 168 h at 70 °C
Ambient temperature (operation)	-50 °C ... 90 °C (cable, fixed installation)
	-40 °C ... 90 °C (Cable, flexible installation)
Signal type/category	Ethernet CAT5 (IEC 11801), 100 Mbps
	PROFINET CAT5 (IEC 11801), 100 Mbps
Ambient temperature (operation)	-40 °C ... 90 °C (cable, fixed installation)
	-25 °C ... 90 °C (Cable, flexible installation)

Ambient conditions

Degree of protection	IP65
	IP67
	IP68
	IP69K
Degree of protection	IP65/IP68/IP69K
Ambient temperature (operation)	-40 °C ... 105 °C
	-40 °C ... 90 °C (cable, fixed installation)
	-25 °C ... 90 °C (Cable, flexible installation)
	-40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4))

Standards and regulations

M12

Standards/specifications	IEC 61076-2-101

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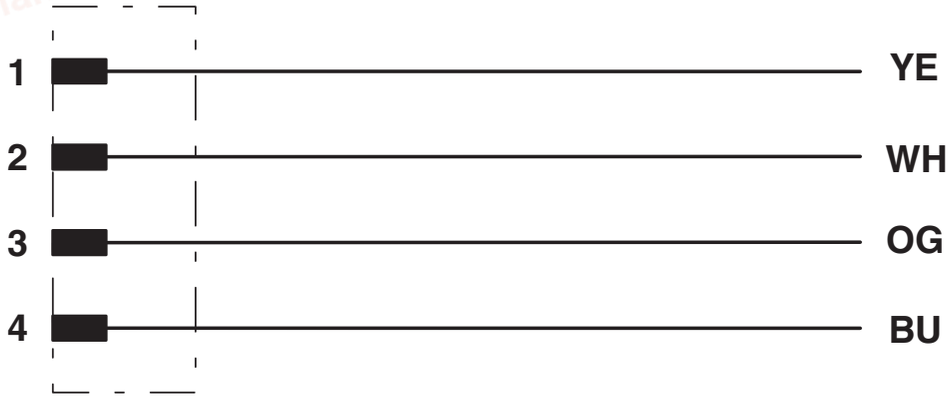
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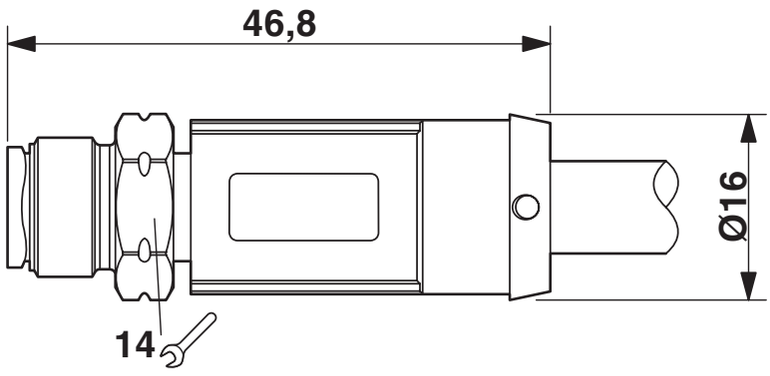
Drawings

Circuit diagram



Contact assignment of the M12 plug

Dimensional drawing



Plug, M12 x 1, straight, shielded

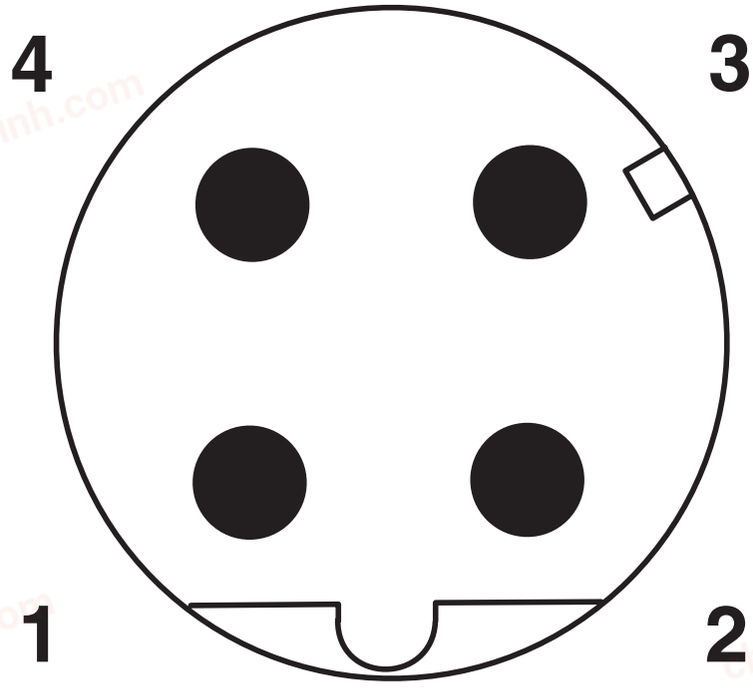
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Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

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Approvals

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

EAC
Approval ID: RU D-DE.HB35.B.00385

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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

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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