

VS-M12MSD/2,0-93X/M12MSDOD - Network cable



1454231

<https://www.phoenixcontact.com/in/products/1454231>

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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 Plug straight M12 / IP69K, coding: D, cable length: 2 m, for outdoor applications, with high-grade steel knurl

Commercial Data

Item number	1454231
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	BF1
Product Key	BF1CJN
Catalog Page	Page 159 (C-4-2013)
GTIN	4046356568845
Weight per Piece (including packing)	189.7 g
Weight per Piece (excluding packing)	189.7 g
Customs tariff number	85444210
Country of origin	PL

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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

Insulation characteristics

Degree of pollution	3
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Interfaces

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

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

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100
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Material specifications

Color	black
Flammability rating according to UL 94	V0

Connector

Connection 1

Type	Plug straight M12 / IP69K
Number of positions	4 (4)
Coding type	D (Data)
Shielded	yes

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Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Degree of protection	IP69K

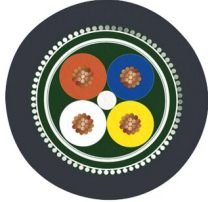
Connection 2

Type	Plug straight M12 / IP69K
Number of positions	4 (4)
Coding type	D (Data)
Shielded	yes
Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)

Cable/line

Cable length	2 m
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PROFINET outdoors [93X]

Dimensional drawing	
Cable weight	81 g/m
Shielded	yes
Cable type	PROFINET outdoors [93X]
Conductor structure	1x4xAWG22/7; SF/TQ
Signal speed	66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm ²
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

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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	in accordance with EN 50267-2-1
Flame resistance	EN 60332-1-2 EN 50266 EN 60332-3-25 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)
Fume corrosiveness	EN 50267-2-2
Fume toxicity	BS 6853 B.1 EN 50305, 9.2
Concentration of fumes	BS 6853 D.8.7 EN 61034-2 UL 1685, 12 (FT4)
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)

Environmental and real-life conditions

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Ambient conditions

Degree of protection	IP65
	IP67
	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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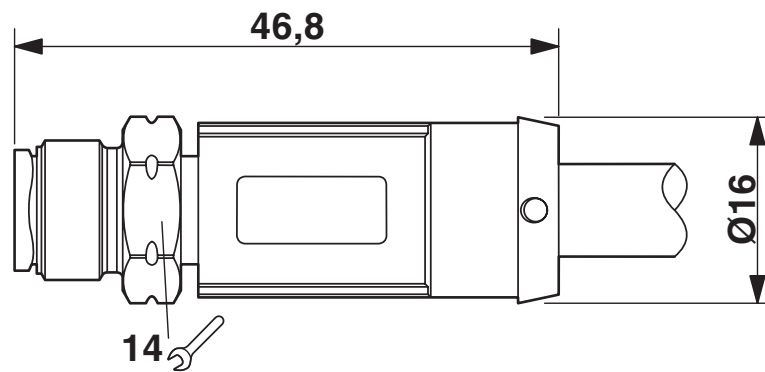
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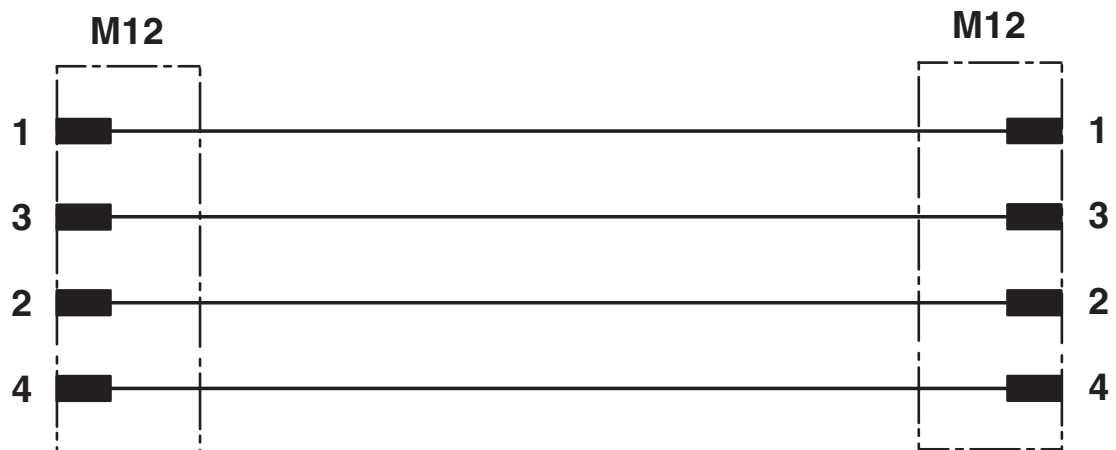
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

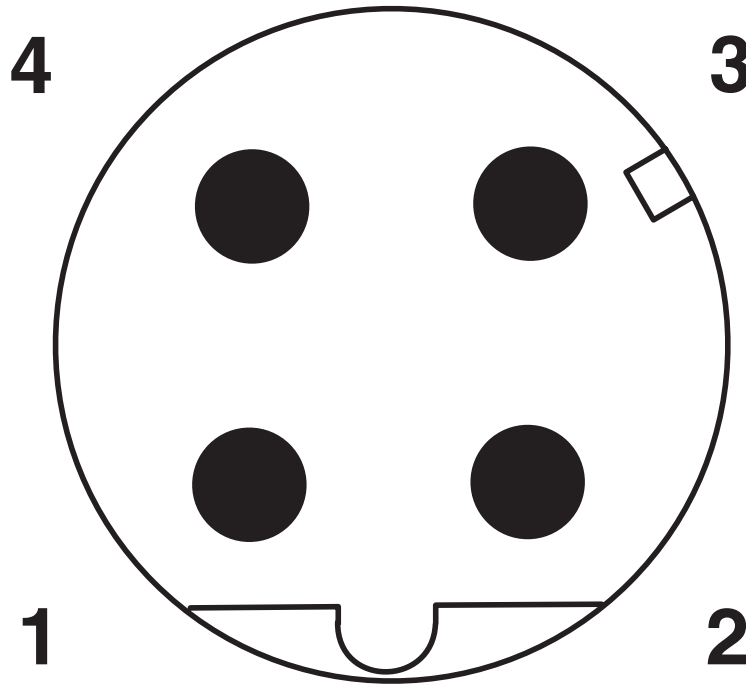
Circuit diagram



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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-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	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

TSD 04 SAC - Torque screwdriver

1208429

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



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

TSD-M 1,2NM - Torque screwdriver

1212224

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

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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

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



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

SAC BIT M12-W14 - Tool

1212513

<https://www.phoenixcontact.com/in/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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