

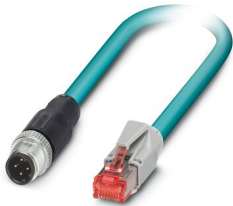
Network cable - VS-MSD-IP20-93E/10,0



1404303

<https://www.phoenixcontact.com/pc/products/1404303>

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Assembled Ethernet cable, CAT5e, shielded, 2-pair, 26 AWG stranded (7-wire), RAL 5021 (water blue), M12 plug to RJ45 plug/IP20, line, length: 10 m

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Commercial Data

Item number	1404303
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	BF1CJI
GTIN	4046356690102
Weight per Piece (including packing)	439.9 g
Weight per Piece (excluding packing)	439 g
Customs tariff number	85444210
Country of origin	PL

Technical Data

Product properties

Product type	Data cable preassembled
Number of positions	4
No. of cable outlets	1
Shielded	yes
Cable outlet	straight

Insulation characteristics

Overvoltage category	I
Degree of pollution	3

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet CAT5 (IEC 11801:2002)

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Transmission medium	Copper

Material specifications

Flammability rating according to UL 94	V2
Housing material	TPU/PA

Connector

Insertion/withdrawal cycles	≥ 100
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Header 1

Type	Plug straight M12 / IP67
Number of positions	4
Coding type	D (Data)
Shielded	yes
Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)
	TPU GF (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
Zinc die-cast, nickel-plated (Screw connection)	
Insertion/withdrawal cycles	≥ 100
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

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Head 2

Type	Plug straight RJ45 / IP20
Number of positions	4 (8)
Shielded	yes
Handle color	gray
Material	CuSn (Contact) Ni/Au (Contact surface) PC (Contact carriers) PA (Housing)
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-40 °C ... 60 °C
Number of positions	4
Insertion/withdrawal cycles	≥ 100
Housing material	TPU/PA
Degree of protection	IP67/IP20
Number of positions	4
Insertion/withdrawal cycles	≥ 100

Cable / line

Cable length	10 m
Cable weight	42 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	4
Shielded	yes
Cable type	Ethernet flexible CAT5, 2-pair [93E]
Signal runtime	5.3 ns/m
Conductor structure signal line	7x 0.16 mm
AWG signal line	26
Conductor cross section	2x 2x 0.14 mm ²
Wire diameter incl. insulation	0.98 mm
External cable diameter	6.4 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white/orange-orange, white/green-green
Thickness, outer sheath	1.2 mm
Twisted pairs	2 cores to the pair
Overall twist	Two pairs with two fillers to the core
Optical shield covering	70 %
Insulation resistance	≥ 500 MΩ*km
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 290.00 Ω/km

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Wave impedance	100 Ω \pm 5 Ω (at 100 MHz)
Cable capacity	approx. 45 nF/km (at 1 kHz)
Nominal voltage, cable	\leq 100 V (Peak value, not for high-power applications)
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 V (50 Hz, 1 min.)
Current carrying capacity of cable	2 A (according to DIN VDE 0891-1)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Tensile strength	\leq 80 N
Near end crosstalk attenuation (NEXT)	65.3 dB (with 1 MHz)
	56.3 dB (at 4 MHz)
	50.3 dB (at 10 MHz)
	47.2 dB (at 16 MHz)
	45.8 dB (at 20 MHz)
	42.9 dB (at 31.25 MHz)
	38.4 dB (at 62.5 MHz)
	35.3 dB (at 100 MHz)
Power-summed near end crosstalk attenuation (PSNEXT)	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
Return loss (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Shield attenuation	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
	in acc. to UL VW1

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Resistance to oil	according to EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 80 °C

Cable structure

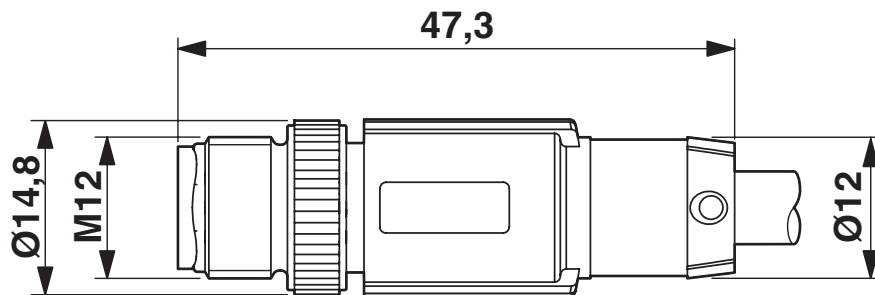
Signal type/category	Ethernet CAT5 (IEC 11801:2002)
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Ambient conditions

Degree of protection	IP20 (RJ45 connector)
	IP67 (M12 connector)
Degree of protection	IP67/IP20

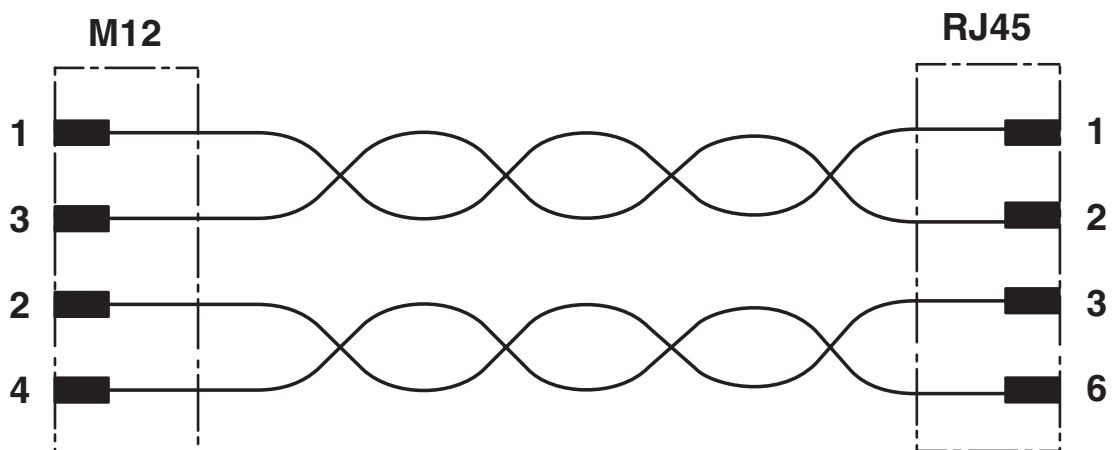
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Circuit diagram



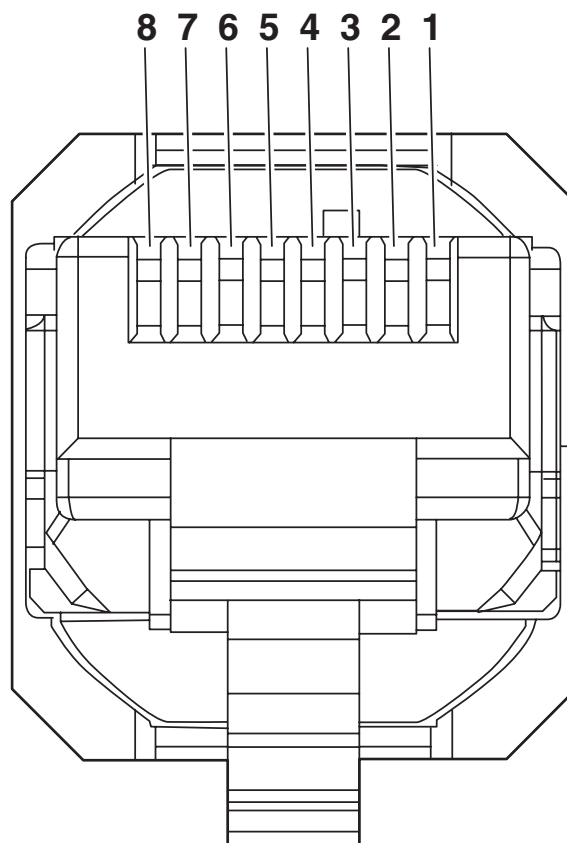
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Schematic diagram



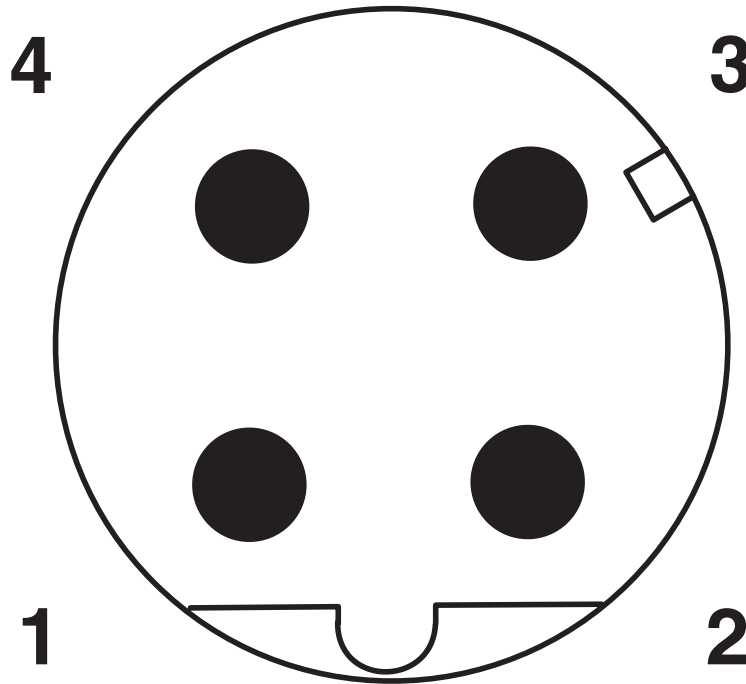
Connector pin assignment plug RJ45

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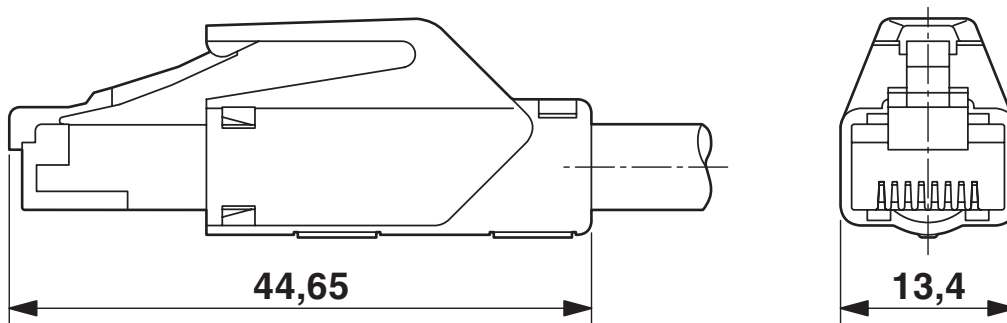
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Schematic diagram



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

Dimensional drawing



RJ45 connector, IP20

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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

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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PHOENIX CONTACT GmbH & Co. KG

Flachsmarktstraße 8

D-32825 Blomberg

+49 (0) 5235-3 00

info@phoenixcontact.com