

## Network cable - VS-MSD-IP20-93E/10,0 - 1404303

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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

**RoHS**

**Ethernet**

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 690102
GTIN	4046356690102

### Technical data

#### Dimensions

Length of cable	10 m
-----------------	------

#### Ambient conditions

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

#### General data

Rated voltage	48 V AC
	60 V DC
Number of positions	4
Signal type/category	Ethernet CAT5 (IEC 11801:2002)
Overvoltage category	I
Degree of pollution	3
Housing material	TPU/PA

#### Characteristics head 1

Head type	Plug straight M12 / IP67
No. of positions (pin connector pattern)	4
Coding	D (Data)

# Network cable - VS-MSD-IP20-93E/10,0 - 1404303

## Technical data

### Characteristics head 1

Color	black
Material (component)	CuZn (Contact)
	Ni/Au (Contact surface)
	TPU GF (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Shielded	yes
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

### Characteristics head 2

Head type	Plug straight RJ45 / IP20
No. of positions (pin connector pattern)	4 (8)
Color	gray
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PC (Contact carriers)
	PA (Housing)
Shielded	yes
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-40 °C ... 60 °C

### Standards and Regulations

Flammability rating according to UL 94	V2
--	----

### Cable

Cable type	PUR ETHERNET 2x2 FLEX
Cable type (abbreviation)	93E
UL AWM style	20963 (80°C/30 V)
Signal type/category	Ethernet CAT5 (IEC 11801), 100 Mbps
Cable structure	2x2xAWG26/7; SF/UTP
Conductor cross section	2x 2x 0.14 mm <sup>2</sup>
AWG signal line	26
Conductor structure signal line	7x 0.16 mm
Core diameter including insulation	0.98 mm
Wire colors	white/orange-orange, white/green-green
Twisted pairs	2 cores to the pair
Overall twist	Two pairs with two fillers to the core
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	70 %
External sheath, color	water blue RAL 5021

# Network cable - VS-MSD-IP20-93E/10,0 - 1404303

## Technical data

### Cable

Outer sheath thickness	1.2 mm
External cable diameter D	6.4 mm $\pm 0.2$ mm
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Tensile strength GRP	$\leq 80$ N
Cable weight	42 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE
Conductor material	Bare Cu litz wires
Standards/specifications	Electrical requirements EN 50288-2-2
Insulation resistance	$\geq 500$ M $\Omega$ *km
Loop resistance	$\leq 290.00$ $\Omega$ /km
Cable capacity	approx. 45 nF/km (at 1 kHz)
Wave impedance	100 $\Omega$ $\pm 5$ $\Omega$ (at 100 MHz)
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)
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)
Return loss (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)

## Network cable - VS-MSD-IP20-93E/10,0 - 1404303

### Technical data

#### Cable

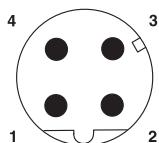
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Signal runtime	5.3 ns/m
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Nominal voltage, cable	≤ 100 V (Peak value, not for high-power applications)
Test voltage Core/Core	700 V (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)
Flame resistance	according to IEC 60332-1-2
	in acc. to UL VW1
Halogen-free	according to IEC 60754-1
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
Ambient temperature (storage/transport)	-20 °C ... 80 °C

#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

Schematic diagram



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

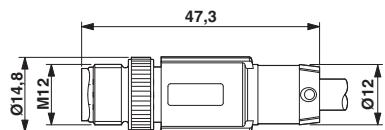
Cable cross section



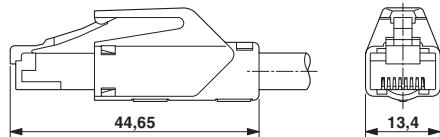
PUR ETHERNET 2x2 FLEX [93E]

## Network cable - VS-MSD-IP20-93E/10,0 - 1404303

Dimensional drawing



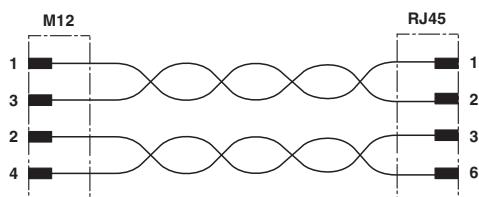
Dimensional drawing



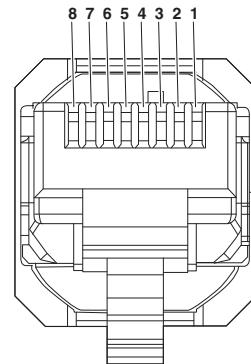
RJ45 connector, IP20

Plug, M12 x 1, straight, shielded

Circuit diagram



Schematic diagram



Connector pin assignment plug RJ45

### Approvals

#### Approvals

---

Approvals

EAC

---

Ex Approvals

---

#### Approval details

EAC



EAC-Zulassung

Phoenix Contact 2018 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Phoenix Contact:](#)

[1404303](#)