

# Network cable - VS-MSD-IP20-93E/3,0 - 1403499

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Assembled Ethernet cable, CAT5e, shielded, 2-pair, AWG 26, stranded (7-wire), RAL 5021 (aqua blue), M12 plug to RJ45 plug/IP20, line, length 3 m

## Ethernet

### Key commercial data

package_quantity	1
GTIN	4046356656191

### Technical data

#### Dimensions

Length of cable	3 m
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#### Ambient conditions

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

#### General data

Number of positions	4
Signal type/category	Ethernet CAT5 (IEC 11801:2002)
Signal type/category	Ethernet CAT5e (TIA 568B:2001)
Surge voltage category	I
Pollution degree	3

#### Characteristics head 1

Head design	Plug Straight M12 / IP67
No. of positions (pin connector pattern)	4
Coding	D (Data)
Color	Black
Material (component)	CuZn (Contact)
Material (component)	Ni/Au (Contact surface)
Material (component)	TPU GF (Contact carriers)
Material (component)	TPU, hardly inflammable, self-extinguishing (Grip)
Material (component)	Zinc die-cast, nickel-plated (Screw connection)
Shielded	Yes
Insertion/withdrawal cycles	≥ 100

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## Technical data

### Characteristics head 1

<b>Torque</b>	0.4 Nm
<b>Ambient temperature (operation)</b>	-25 °C ... 90 °C

### Characteristics head 2

<b>Head design</b>	Plug Straight RJ45 / IP20
<b>No. of positions (pin connector pattern)</b>	4 (8)
<b>Color</b>	Gray
<b>Material (component)</b>	CuSn (Contact)
<b>Material (component)</b>	Ni/Au (Contact surface)
<b>Material (component)</b>	PC (Contact carriers)
<b>Material (component)</b>	PA (Housing)
<b>Shielded</b>	Yes
<b>Insertion/withdrawal cycles</b>	≥ 750
<b>Ambient temperature (operation)</b>	-40 °C ... 60 °C

### Cable

<b>Cable type</b>	Ethernet
<b>Cable type (abbreviation)</b>	93E
<b>UL AWM style</b>	20963 (80°C/30 V)
<b>Signal type/category</b>	Ethernet CAT5 (IEC 11801:2002)
<b>Signal type/category</b>	Ethernet CAT5e (TIA 568B:2001)
<b>Cable structure</b>	2x2xAWG26/7; SF/UTP
<b>Conductor cross section</b>	2x 2x 0.14 mm <sup>2</sup>
<b>AWG signal line</b>	26
<b>Conductor structure signal line</b>	7x 0.16 mm
<b>Core diameter including insulation</b>	0.98 mm
<b>Wire colors</b>	white/orange-orange, white/green-green
<b>Twisted pairs</b>	2 cores to the pair
<b>Overall twist</b>	Two pairs with two fillers to the core
<b>Shielding</b>	Aluminum-coated foil, tinned copper braided shield
<b>Optical shield covering</b>	70 %
<b>External sheath, color</b>	water blue RAL 5021
<b>External cable diameter D</b>	6.4 mm ± 0.2 mm
<b>Minimum bending radius, fixed installation</b>	4 x D
<b>Minimum bending radius, flexible installation</b>	8 x D
<b>Tensile strength short-term/long-term</b>	≤ 80N
<b>Cable weight</b>	42 kg/km
<b>Outer sheath, material</b>	PUR
<b>Material conductor insulation</b>	Foamed PE
<b>Conductor material</b>	Bare Cu litz wires
<b>Insulation resistance</b>	≥ 500 MΩ*km (at 20 °C)
<b>Conductor resistance</b>	≤ 290 Ω/km (at 20 °C)

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## Technical data

### Cable

<b>Working capacitance</b>	45 nF (At 1 kHz)
<b>Wave impedance</b>	100 Ω ± 5 Ω (At 100 MHz)
<b>Signal runtime</b>	5.3 ns/m
<b>Nominal voltage, cable</b>	≤ 100 V
<b>Nominal voltage, cable</b>	300 V (Outer cable sheath)
<b>Test voltage Core/Core</b>	700 V (50 Hz, 1 min.)
<b>Test voltage Core/Shield</b>	700 V (50 Hz, 1 min.)
<b>Flame resistance</b>	IEC 60332-1-2
<b>Halogen-free</b>	According to IEC 60754-1
<b>Resistance to oil</b>	in accordance with DIN EN 60811-2-1
<b>Ambient temperature (operation)</b>	-40 °C ... 80 °C (cable, fixed installation)
<b>Ambient temperature (operation)</b>	-20 °C ... 80 °C (cable, flexible installation)
<b>Ambient temperature (installation)</b>	-20 °C ... 80 °C
<b>Ambient temperature (storage/transport)</b>	-20 °C ... 80 °C

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27060306
<b>eCl@ss 4.1</b>	27060306
<b>eCl@ss 5.0</b>	27061801
<b>eCl@ss 5.1</b>	27061801
<b>eCl@ss 6.0</b>	27061801
<b>eCl@ss 7.0</b>	27061801
<b>eCl@ss 8.0</b>	27061801

### ETIM

<b>ETIM 4.0</b>	EC000830
<b>ETIM 5.0</b>	EC000830

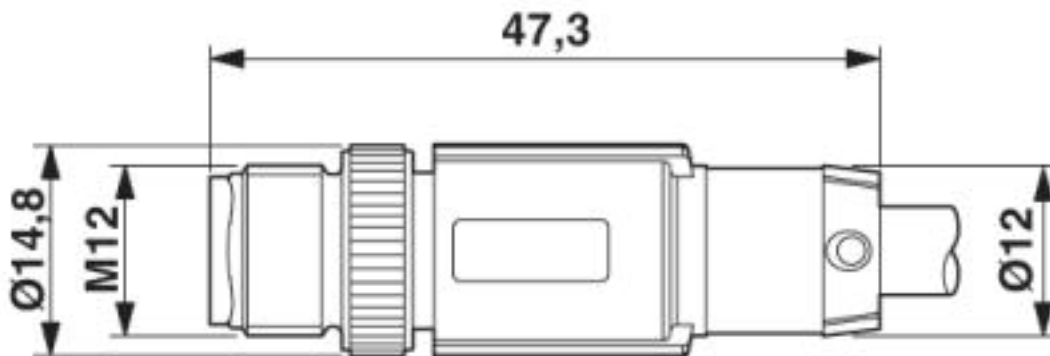
### UNSPSC

<b>UNSPSC 6.01</b>	26121609
<b>UNSPSC 7.0901</b>	26121609
<b>UNSPSC 11</b>	26121609
<b>UNSPSC 12.01</b>	26121609
<b>UNSPSC 13.2</b>	26121609

## Drawings

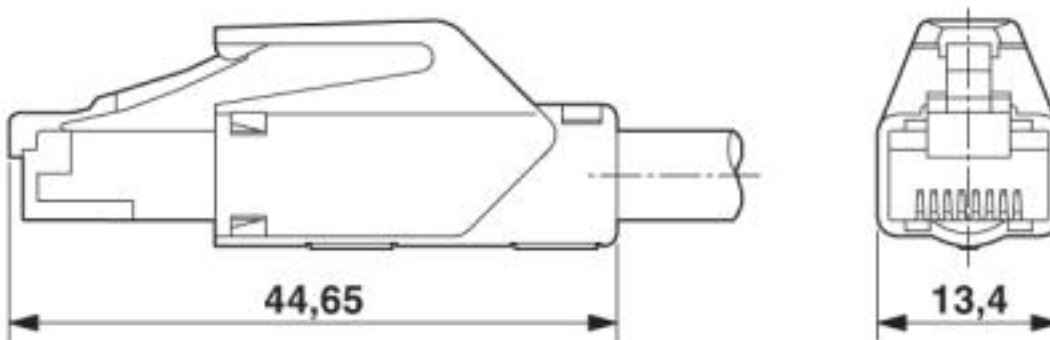
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Dimensioned drawing



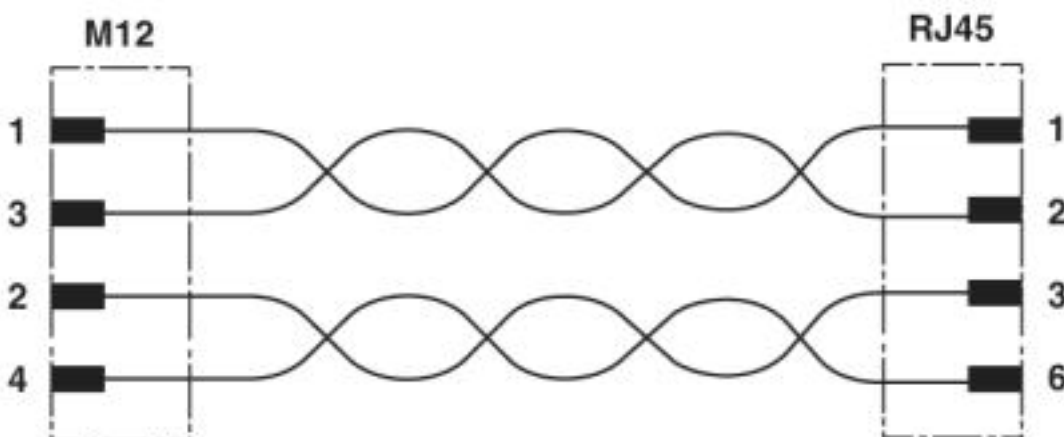
Plug, M12 x 1, straight, shielded

Dimensioned drawing



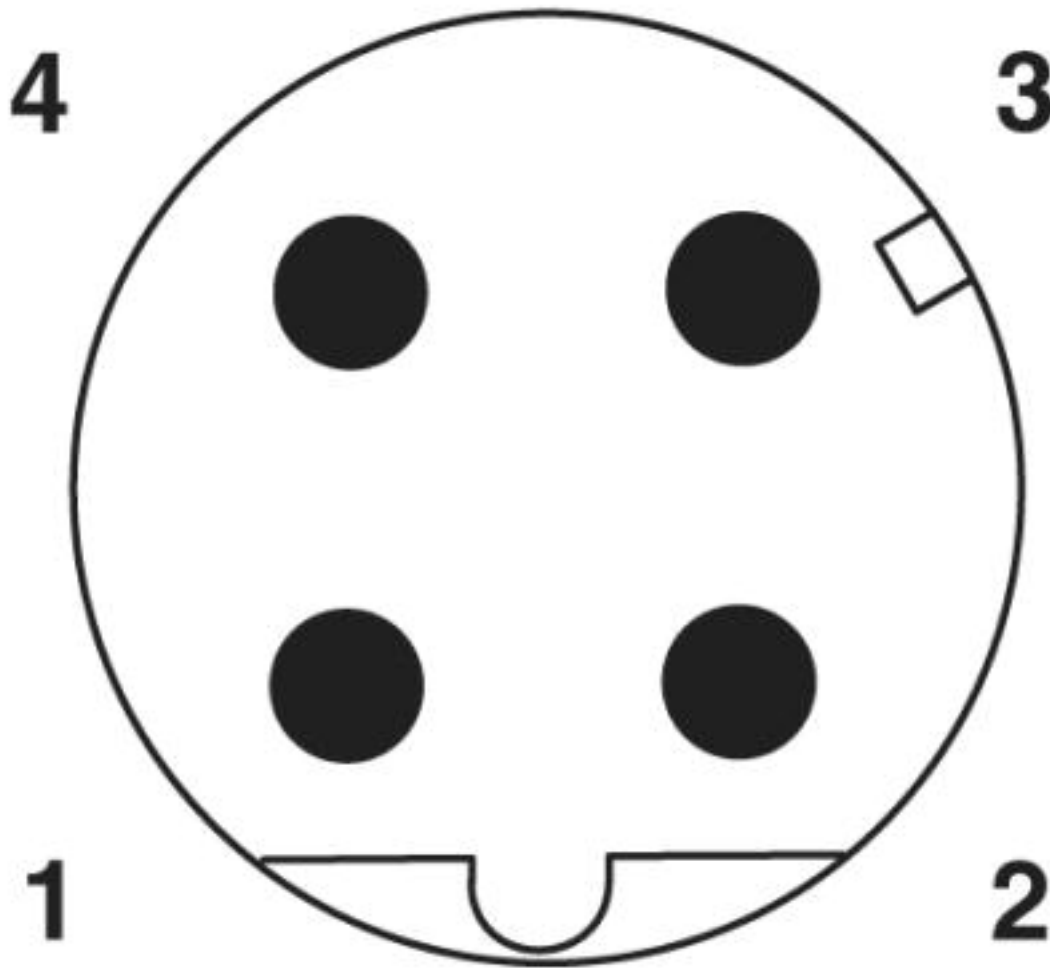
RJ45 connector, IP20

Circuit diagram



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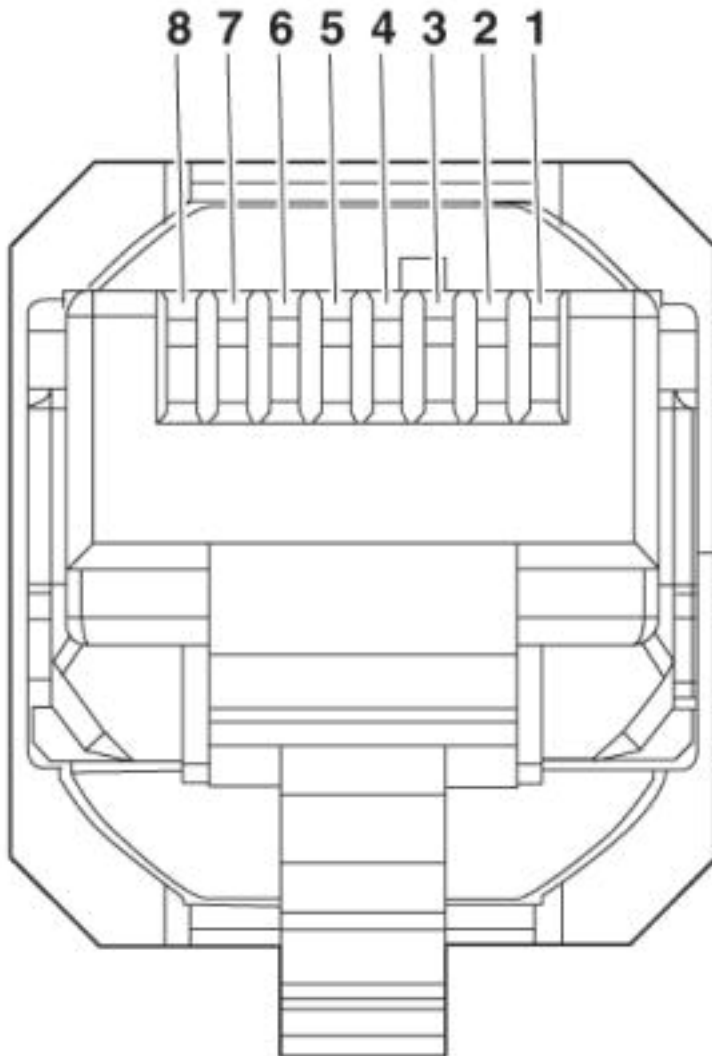
Schematic diagram



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

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Schematic diagram



Connector pin assignment plug RJ45

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Cable cross section



Ethernet [93E]

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