## Network cable - VS-MSD-IP20-93E/1,0-1403498

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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 1 m

## Ethernet

## Key Commercial Data

| Packing unit | 1 pc |
| :--- | :--- |
| Weight per Piece (excluding packing) | 80.0 g |
| Custom tariff number | 85444290 |
| Country of origin | Poland |

## Technical data

Dimensions

| Length of cable | 1 m |
| :--- | :--- |

Ambient conditions

| Degree of protection | IP20 (RJ45 connector) |
| :--- | :--- |
|  | IP67 (M12 connector) |

## General data

| Number of positions | 4 |
| :--- | :--- |
| Signal type/category | Ethernet CAT5 (IEC 11801), 100 Mbps |
| Overvoltage category | I |
| Pollution degree | 3 |

## Characteristics head 1

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

## Network cable - VS-MSD-IP20-93E/1,0-1403498

## Technical data

## Characteristics head 1

| 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 | $\geq 100$ |
| Torque | 0.4 Nm |
| Ambient temperature (operation) | $-25^{\circ} \mathrm{C} \ldots 90^{\circ} \mathrm{C}$ |

## 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 | $\geq 750$ |
| Ambient temperature (operation) | $-40^{\circ} \mathrm{C} \ldots 60^{\circ} \mathrm{C}$ |

## Cable

| Cable type | PUR ETHERNET 2x2 FLEX |
| :--- | :--- |
| Cable type (abbreviation) | $93 E$ |
| UL AWM style | $20963\left(80^{\circ} \mathrm{C} / 30 \mathrm{~V}\right)$ |
| Signal type/category | Ethernet CAT5 (IEC 11801), 100 Mbps |
| Cable structure | $2 \times 2 \times A W G 26 / 7 ;$ SF/UTP |
| Conductor cross section | $2 \times 2 \times 0.14 \mathrm{~mm}^{2}$ |
| AWG signal line | 26 |
| Conductor structure signal line | $7 \times 0.16 \mathrm{~mm}$ |
| 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/1,0-1403498

## Technical data

Cable

| Outer sheath thickness | 1.2 mm |
| :---: | :---: |
| External cable diameter D | $6.4 \mathrm{~mm} \pm 0.2 \mathrm{~mm}$ |
| Minimum bending radius, fixed installation | $4 \times \mathrm{D}$ |
| Minimum bending radius, flexible installation | $8 \times \mathrm{D}$ |
| Tensile strength short-term/long-term | $\leq 80 \mathrm{~N}$ |
| Cable weight | $42 \mathrm{~kg} / \mathrm{km}$ |
| Outer sheath, material | PUR |
| Material conductor insulation | Foamed PE |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | $\geq 500 \mathrm{M} \Omega^{*} \mathrm{~km}$ |
| Conductor resistance | $\leq 290$ ת/km |
| Cable capacity | approx. $45 \mathrm{nF} / \mathrm{km}$ (at 1 kHz ) |
| Wave impedance | $100 \Omega \pm 5 \Omega$ (at 100 MHz ) |
| Signal runtime | $5.3 \mathrm{~ns} / \mathrm{m}$ |
| Coupling resistance | $\leq 100.00 \mathrm{~m} \Omega / \mathrm{m}$ (At 10 MHz ) |
| Nominal voltage, cable | $\leq 100 \mathrm{~V}$ |
| Test voltage Core/Core | 700 V ( $50 \mathrm{~Hz}, 1 \mathrm{~min}$. |
| Test voltage Core/Shield | 700 V ( $50 \mathrm{~Hz}, 1 \mathrm{~min}$.) |
| Flame resistance | According to IEC 60332-1-2 |
| Halogen-free | According to IEC 60754-1 |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Ambient temperature (operation) | $-40^{\circ} \mathrm{C} \ldots 80^{\circ} \mathrm{C}$ (cable, fixed installation) |
|  | $-20^{\circ} \mathrm{C} \ldots 80^{\circ} \mathrm{C}$ (cable, flexible installation) |
| Ambient temperature (installation) | $-20^{\circ} \mathrm{C} \ldots 80^{\circ} \mathrm{C}$ |
| Ambient temperature (storage/transport) | $-20^{\circ} \mathrm{C} \ldots 80^{\circ} \mathrm{C}$ |

## Classifications

eCl@ss

| eCl@ss 4.0 | 27060306 |
| :--- | :--- |
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27061801 |
| eCl@ss 6.0 | 27061801 |
| eCl@ss 7.0 | 27061801 |
| eCl@ss 8.0 | 27060308 |

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Classifications
ETIM

| ETIM 4.0 | EC000830 |
| :--- | :--- |
| ETIM 5.0 | EC002599 |

UNSPSC

| UNSPSC 6.01 | 26121609 |
| :--- | :--- |
| UNSPSC 7.0901 | 26121609 |
| UNSPSC 11 | 26121609 |
| UNSPSC 12.01 | 26121609 |
| UNSPSC 13.2 | 26121609 |

## Approvals

Approvals

## Approvals

EAC

Ex Approvals

## Approvals submitted

## Approval details

EAC
Drawings

Schematic diagram


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

Cable cross section


# Network cable - VS-MSD-IP20-93E/1,0-1403498 

Dimensional drawing


Plug, M12 x 1, straight, shielded


RJ45 connector, IP20
Dimensional drawing


Schematic diagram


Connector pin assignment plug RJ45

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