

## Network cable - VS-M12MSS-OE-94F/20,0/10G - 1440588

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Network cable, Ethernet CAT6<sub>A</sub> (10 Gbps), 8-position, PUR, water blue RAL 5021, Plug straight M12 SPEEDCON / IP65, coding: X, on free cable end, cable length: 20 m



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 504508
GTIN	4046356504508
Weight per Piece (excluding packing)	918.600 g
Custom tariff number	85444290
Country of origin	Poland

### Technical data

#### Dimensions

Length of cable	20 m
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#### Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)

#### General data

Rated current at 40°C	0.5 A
Rated voltage	48 V AC
	60 V DC
Number of positions	8
Signal type/category	Ethernet CAT6 <sub>A</sub> , 10 Gbps
Overvoltage category	II

# Network cable - VS-M12MSS-OE-94F/20,0/10G - 1440588

## Technical data

### General data

Degree of pollution	3
Alternative short product description	Ethernet cable

### Characteristics head 1

Head type	Plug straight M12 SPEEDCON / IP65
No. of positions (pin connector pattern)	8 (8)
Coding	X (Data)
Color	black
Shielded	yes

### Characteristics head 2

Head type	free cable end
No. of positions (pin connector pattern)	8
Color	black
Shielded	yes

### Standards and Regulations

Connection in acc. with standard	UL
Flammability rating according to UL 94	HB

### Cable

Cable type	Ethernet 10 Gbit
Cable type (abbreviation)	94F
UL AWM style	20963 (80°C/30 V)
Signal type/category	Ethernet CAT6 <sub>A</sub> , 10 Gbps
Cable structure	4x2xAWG26/7; S/FTP
Conductor cross section	4x 2x 0.14 mm <sup>2</sup>
AWG signal line	26
Conductor structure signal line	7x 0.16 mm
Core diameter including insulation	1.04 mm
Wire colors	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Twisted pairs	2 cores to the pair
Type of pair shielding	Aluminum-lined foil
Overall twist	4 pairs for core
Shielding	Tinned copper braided shield
Optical shield covering	70 %
External sheath, color	water blue RAL 5021
Outer sheath thickness	0.65 mm
External cable diameter D	6.4 mm ±0.2 mm
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Tensile strength GRP	≤ 100 N

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## Technical data

### Cable

Cable weight	42 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 290.00 Ω/km
Cable capacity	47 nF/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Near end crosstalk attenuation (NEXT)	75.3 dB (with 1 MHz)
	66.3 dB (at 4 MHz)
	61.8 dB (at 8 MHz)
	60.3 dB (at 10 MHz)
	57.2 dB (at 16 MHz)
	55.8 dB (at 20 MHz)
	54.3 dB (at 25 MHz)
	52.8 dB (at 31.25 MHz)
	48.4 dB (at 62.5 MHz)
	45.3 dB (at 100 MHz)
	40.8 dB (at 200 MHz)
	39.3 dB (at 250 MHz)
	38.1 dB (at 300 MHz)
	36.3 dB (at 400 MHz)
	34.8 dB (at 500 MHz)
Power-summed near end crosstalk attenuation (PSNEXT)	72.3 dB (with 1 MHz)
	63.3 dB (at 4 MHz)
	58.8 dB (at 8 MHz)
	57.3 dB (at 10 MHz)
	54.2 dB (at 16 MHz)
	52.8 dB (at 20 MHz)
	51.3 dB (at 25 MHz)
	49.9 dB (at 31.25 MHz)
	45.4 dB (at 62.5 MHz)
	42.3 dB (at 100 MHz)
	37.8 dB (at 200 MHz)
	36.3 dB (at 250 MHz)
	35.1 dB (at 300 MHz)
	33.3 dB (at 400 MHz)
	31.8 dB (at 500 MHz)
Attenuation	3.1 dB (with 1 MHz)
	5.7 dB (at 4 MHz)

## Network cable - VS-M12MSS-OE-94F/20,0/10G - 1440588

### Technical data

#### Cable

	8 dB (at 8 MHz)
	8.9 dB (at 10 MHz)
	11.2 dB (at 16 MHz)
	12.6 dB (at 20 MHz)
	14.1 dB (at 25 MHz)
	15.8 dB (at 31.25 MHz)
	22.5 dB (at 62.5 MHz)
	28.7 dB (at 100 MHz)
	41.4 dB (at 200 MHz)
	46.6 dB (at 250 MHz)
	51.4 dB (at 300 MHz)
	60.1 dB (at 400 MHz)
	67.9 dB (at 500 MHz)
Return loss (RL)	20 dB (with 1 MHz)
	23 dB (at 4 MHz)
	24.5 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	24.2 dB (at 25 MHz)
	23.3 dB (at 31.25 MHz)
	20.7 dB (at 62.5 MHz)
	19 dB (at 100 MHz)
	16.4 dB (at 200 MHz)
	15.6 dB (at 250 MHz)
	15.6 dB (at 300 MHz)
	15.6 dB (at 400 MHz)
	15.6 dB (at 500 MHz)
Signal runtime	5.13 ns/m
Shield attenuation	≥ 80 dB (at 30 ... 100 MHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 V (50 Hz, 1 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 °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

# Network cable - VS-M12MSS-OE-94F/20,0/10G - 1440588

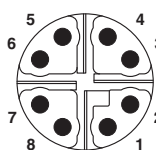
## Technical data

### 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



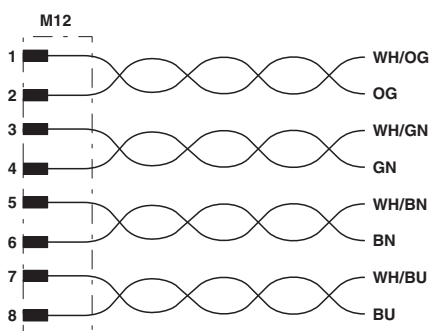
Pin assignment M12 plug, 8-pos., view plug side

Cable cross section



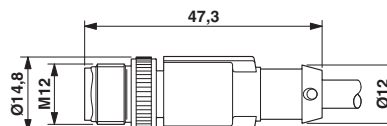
Ethernet 10 Gbit [94F]

Circuit diagram



Contact assignment of the M12 plugs

Dimensional drawing



Dimens. drawing: M12 connectors

## Classifications

eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	19030300
eCl@ss 6.0	27061800
eCl@ss 7.0	27061801
eCl@ss 8.0	27061801
eCl@ss 9.0	27060308

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## Classifications

### ETIM

ETIM 2.0	EC000830
ETIM 3.0	EC000830
ETIM 4.0	EC002599
ETIM 5.0	EC002599
ETIM 6.0	EC000830

### UNSPSC

UNSPSC 6.01	26121609
UNSPSC 7.0901	26121609
UNSPSC 11	26121609
UNSPSC 12.01	26121609
UNSPSC 13.2	26121604

## Approvals


### Approvals


Approvals

UL Recognized / EAC

Ex Approvals

### Approval details

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 335024
Nominal voltage UN	30 V		
Nominal current IN	0.5 A		

EAC		RU C- DE.AI30.B.00767
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