

## Network cable - VS-M12MS-IP20-93C-LI/2,0 - 1416188


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Network cable, PROFINET CAT5 (100 Mbps), 4-position, PUR, green RAL 6018, Plug straight M12, on Plug straight RJ45, cable length: 2 m

RoHS

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 474672
GTIN	4046356474672

### Technical data

#### Dimensions

Length of cable	2 m
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#### Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP20 (RJ45 connector)

#### General data

Rated voltage	48 V AC
	60 V DC
Number of positions	4
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
Overvoltage category	I
Degree of pollution	3
Alternative short product description	PROFINET cable
Transmission characteristics (category)	CAT5

#### Characteristics head 1

Head type	Plug straight M12
Color	black

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## Technical data

### Characteristics head 1

Shielded	yes
Outer sheath, material	PUR
External sheath, color	green RAL 6018
Type type, plug side	Plug straight
Type type, socket side	Plug, straight

### Characteristics head 2

Head type	Plug straight RJ45
Color	gray

### Standards and Regulations

Flammability rating according to UL 94	V0
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### Cable

Product labeling	"sequential length in metres" PN-CABLE-934-C / PUR-4X22AWG/7 Trailing * 22AWG (SHIELDED) (UL) E119100 CMX 75°C VERIFIED (UL) CAT 5E PATCH CABLE FRNC * (Cable printing cable supplier)
Cable type	PROFINET drag chain CAT5
Cable type (abbreviation)	93C
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/7; SF/TQ
Conductor cross section	4x 0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	7x 0.25 mm
Core diameter including insulation	1.5 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	85 %
External sheath, color	green RAL 6018
Outer sheath thickness	approx. 0.9 mm
External cable diameter D	6.5 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	7.5 x D
Number of bending cycles	3000000
Bending radius	100 mm
Traversing path	10 m
Traversing rate	4 m/s
Acceleration	4 m/s <sup>2</sup>
Torsion force	± 30 °/m
Tensile strength GRP	≤ 150 N
Cable weight	61 kg/km

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## Technical data

### Cable

Outer sheath, material	PUR	
Material, inner sheath	FRNC	
Material conductor insulation	PE	
Conductor material	Tin-plated Cu litz wires	
Insulation resistance	≥ 500 MΩ*km	
Loop resistance	≤ 120.00 Ω/km	
Wave impedance	100 Ω ±15 Ω (at 1 ... 100 MHz)	
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz)	
	76 dB (at 4 MHz)	
	70 dB (at 10 MHz)	
	65 dB (at 16 MHz)	
	63 dB (at 20 MHz)	
	60 dB (at 31.25 MHz)	
	55 dB (at 62.5 MHz)	
	50 dB (at 100 MHz)	
	Attenuation	2.1 dB (with 1 MHz)
		4 dB (at 4 MHz)
6.3 dB (at 10 MHz)		
8 dB (at 16 MHz)		
9 dB (at 20 MHz)		
11.4 dB (at 31.25 MHz)		
16.5 dB (at 62.5 MHz)		
21.3 dB (at 100 MHz)		
Signal speed	0.66 c	
Signal runtime	5.3 ns/m	
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)	
Nominal voltage, cable	600 V (UL rating)	
Test voltage Core/Core	2000 V (50 Hz, 1 min.)	
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)	
Special properties	Electrical properties according to EN 50288-2-2	
Flame resistance	according to IEC 60332-1-2	
Halogen-free	yes	
Resistance to oil	in accordance with DIN EN 60811-2-1	
Other resistance	UV resistant	
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)	
	-40 °C ... 70 °C (cable, flexible installation)	
Ambient temperature (installation)	-20 °C ... 60 °C	
Ambient temperature (storage/transport)	-50 °C ... 70 °C	

### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
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# Network cable - VS-M12MS-IP20-93C-LI/2,0 - 1416188

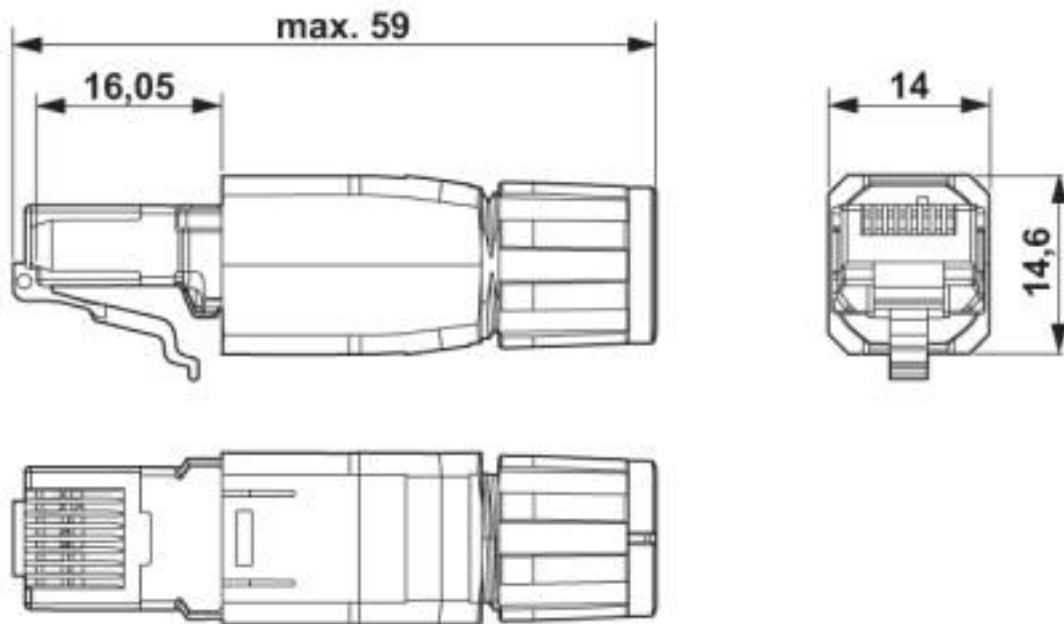
## Technical data

### Environmental Product Compliance

	No hazardous substances above threshold values
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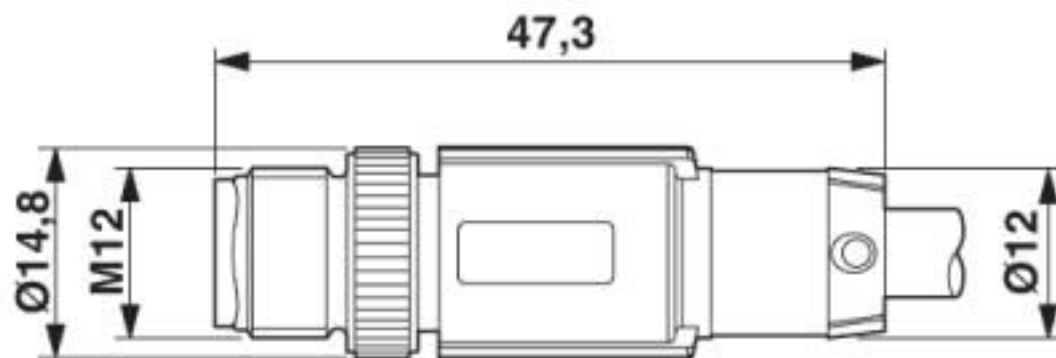
## Drawings

Dimensional drawing



RJ45 connector, IP20

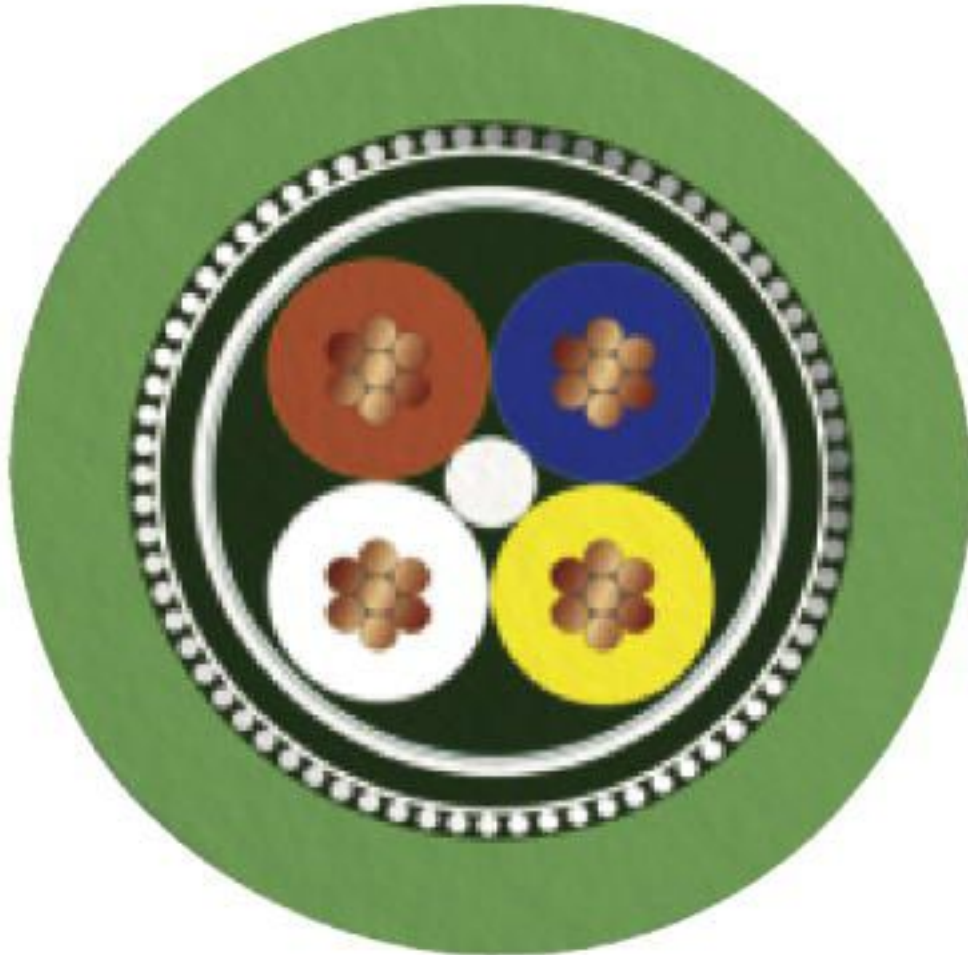
Dimensional drawing



Plug, M12 x 1, straight, shielded

# Network cable - VS-M12MS-IP20-93C-LI/2,0 - 1416188

Cable cross section



PROFINET drag chain CAT5 [93C]

## Classifications

eCl@ss

eCl@ss 10.0.1	27060308
eCl@ss 4.0	24010400
eCl@ss 4.1	24010400
eCl@ss 5.0	19030300
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 3.0	EC000830
ETIM 4.0	EC002599
ETIM 5.0	EC002599
ETIM 6.0	EC001262
ETIM 7.0	EC001262

#### UNSPSC

UNSPSC 6.01	31261501
UNSPSC 7.0901	31261501
UNSPSC 11	31261501
UNSPSC 12.01	31261501
UNSPSC 13.2	26121604
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

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