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# Network cable - VS-M12MS-IP20-93R-LI/2,0 - 1416242

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Assembled PROFINET cable, CAT5e, shielded, star-quad, 22 AWG stranded (19-wire), RAL 6018 (yellow green), M12 plug to RJ45 plug/IP20, line, length: 2 m



## Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 473385

## Technical data

### Dimensions

Length of cable	2 m
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### General data

Number of positions	4
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps

### Characteristics head 1

Head type	Plug straight M12
No. of positions (pin connector pattern)	4

### Characteristics head 2

Head type	Plug straight RJ45
No. of positions (pin connector pattern)	4

### Cable

Cable type	PROFINET robot CAT5
Cable type (abbreviation)	93R
UL AWM style	20233 (80°C/300 V)
Cable structure	1x4xAWG22/19; S/TQ
Conductor cross section	4x 0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	19x 0.15 mm

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## Technical data

### Cable

Core diameter including insulation	1.5 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	green RAL 6018
Outer sheath thickness	approx. 1 mm
External cable diameter D	6.5 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Torsion force	± 180 °/m (1,000,000 torsion cycles)
Cable weight	55 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Conductor resistance	≤ 120 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Signal runtime	4.8 ns/m
Nominal voltage, cable	300 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 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
Other resistance	UV resistant According to UL 1581, Section 1200
Ambient temperature (operation)	-40 °C ... 80 °C
	-40 °C ... 80 °C
Ambient temperature (installation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C

## Classifications

### eCl@ss

eCl@ss 4.0	272607xx
eCl@ss 4.1	27260701
eCl@ss 5.0	27260701
eCl@ss 5.1	27060307
eCl@ss 6.0	27060390
eCl@ss 7.0	27060390
eCl@ss 8.0	27060308

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## Classifications

### ETIM

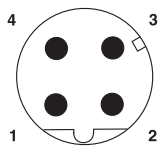
ETIM 4.0	EC002599
ETIM 5.0	EC002599

### UNSPSC

UNSPSC 6.01	31261501
UNSPSC 7.0901	31261501
UNSPSC 11	31261501
UNSPSC 12.01	31261501
UNSPSC 13.2	31261501

## Drawings

Schematic diagram



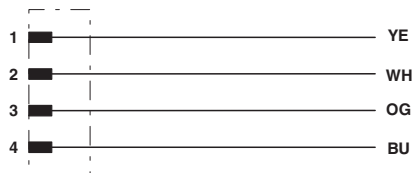
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



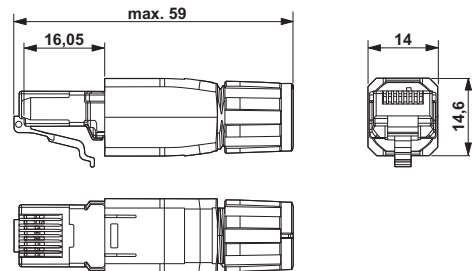
PROFINET robot CAT5 [93R]

Circuit diagram



Contact assignment of the M12 connector

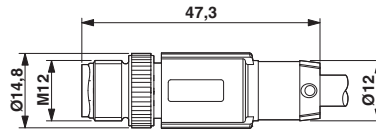
Dimensional drawing



RJ45 connector, IP20

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Dimensional drawing



Plug, M12 x 1, straight, shielded

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