

## Bus system cable - VS-MSDS-IP20-93G-LI/2,0 - 1419147

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Assembled EtherCAT® cable, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), M12 connector, SPEEDCON, 4-pos. on RJ45 connector/IP20, length: 2 m



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	180.0 GRM
Custom tariff number	85444210
Country of origin	Poland

### Technical data

#### Dimensions

Length of cable	2 m
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#### Ambient conditions

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

#### General data

Number of positions	4
Pollution degree	3

#### Characteristics head 1

Head type	Plug Straight M12
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#### Characteristics head 2

Head type	Plug Straight RJ45
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#### Cable

Cable type	PROFINET PVC stranded CAT5e
Cable type (abbreviation)	93B

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### Technical data

#### Cable

UL AWM style	21694
Signal type/category	PROFINET CAT5 (IEC 11801:2002), 100 Mbps
	PROFINET CAT5e (TIA 568B:2001), 100 bps
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	approx. 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	3 x D
Minimum bending radius, flexible installation	7 x D
Torsion force	± 180 °/m (30,000 torsion cycles)
Cable weight	67 kg/km
Outer sheath, material	PVC
Material, inner sheath	PVC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 120 Ω (per kilometer)
Working capacitance	52 pF
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Signal runtime	5.3 ns/m
Coupling resistance	≤ 20.00 mΩ/m
Nominal voltage, cable	600 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 UL 1685 (CSA FT 4)
Resistance to oil	Resistant to oil to a limited extent
Other resistance	UV resistant According to UL 1581, Section 1200
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)
	-40 °C ... 70 °C (cable, flexible installation)

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### Technical data

#### Cable

Ambient temperature (installation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-50 °C ... 70 °C

### Classifications

#### eCl@ss

eCl@ss 4.0	27060307
eCl@ss 4.1	27060307
eCl@ss 5.0	27061801
eCl@ss 5.1	27060307
eCl@ss 6.0	27061801
eCl@ss 7.0	27061801
eCl@ss 8.0	27061801

#### ETIM

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

#### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	26121616
UNSPSC 13.2	26121616

### Approvals

#### Approvals

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Approvals

GOST

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Ex Approvals

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## Approvals

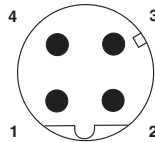
Approvals submitted

## Approval details



## Drawings

Schematic diagram



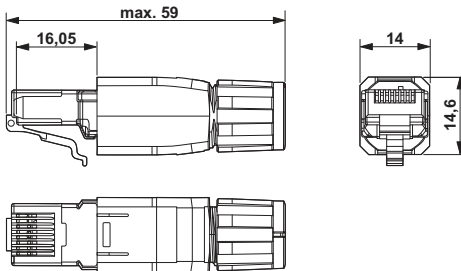
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



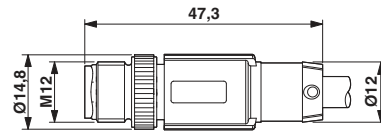
PROFINET PVC stranded CAT5e [93B]

Dimensioned drawing



RJ45 connector, IP20

Dimensioned drawing



Plug, M12 x 1, straight, shielded

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Circuit diagram

