

# VS-IP20-M12FSBP-93B-LI/2,0 - Network cable



1416158

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Network cable, degree of protection: IP67/IP20, cable length: 2 m, number of positions: 4, 100 Mbps, CAT5, cable outlet: straight, PROFINET, 1x4xAWG22/7, SF/TQ, green RAL 6018

## Commercial data

Item number	1416158
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AB18
Product key	ABNPAB
GTIN	4046356474238
Weight per piece (including packing)	169.4 g
Weight per piece (excluding packing)	156.782 g
Customs tariff number	85444210
Country of origin	PL

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## Technical data

### Product properties

Product type	Circular connectors (device side)
Sensor type	PROFINET
Number of positions	4
No. of cable outlets	1
Shielded	yes
Cable outlet	straight

### Insulation characteristics

Degree of pollution	3
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### Material specifications

Flammability rating according to UL 94	V0
Outer sheath, material	PVC
Conductor material	Tin-plated Cu litz wires

### Electrical properties

Transmission medium	Copper
Transmission speed	100 Mbps
Transmission characteristics (category)	CAT5 (IEC 11801:2002)
Transmission speed	100 Mbps
Wave impedance	100 Ω

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	≥ 100
Insertion force per signal contact	50.00 N
Extraction force per signal contact	30 N

### Connector

#### Connection 1

Type	Flush-type female connector straight M12
Coding type	D
Shielded	yes
Insertion/withdrawal cycles	> 100
Degree of protection	IP67

#### Connection 2

Type	Plug straight RJ45
Shielded	yes
Degree of protection	IP20

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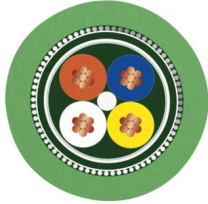
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## Cable/line

Cable length	2.00 m
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### PROFINET PVC stranded CAT5 [93B]

Dimensional drawing	
Cable weight	67 kg/km
UL AWM Style	21694
Number of positions	4
Shielded	yes
Cable type	PROFINET PVC stranded CAT5 [93B]
Conductor structure	1x4xAWG22/7, SF/TQ
Signal runtime	5.3 ns/m
Signal speed	0.66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross-section	4x 0.34 mm <sup>2</sup>
Wire diameter incl. insulation	1.55 mm
External cable diameter	6.50 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	green RAL 6018
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE
Single wire, color	white, yellow, blue, orange
Thickness, outer sheath	approx. 0.90 mm
Overall twist	Star quad
Optical shield covering	85 %
Insulation resistance	≥ 500 MΩ*km
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Smallest bending radius, fixed installation	20 mm

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Smallest bending radius, movable installation	46 mm
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)
Shield 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)
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)
Ambient temperature (installation)	-20 °C ... 60 °C

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
	IP67
	IP67/IP20
Ambient temperature (operation) (Cable, fixed installation)	-25 °C ... 60 °C (cable, fixed installation)
Ambient temperature (operation) (Cable, flexible installation)	-5 °C ... 50 °C (Cable, flexible installation)

## Standards and regulations

Standard designation	M12 circular connector
Standards/specifications	according to IEC 61076-2-101

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## Approvals

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**EAC**

Approval ID: 19060508

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## Classifications

### ECLASS

ECLASS-13.0	27440103
ECLASS-15.0	27440103

### ETIM

ETIM 10.0	EC003570
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### UNSPSC

UNSPSC 21.0	26121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)(CAS: 3147-75-9)
SCIP	80687f88-6257-425f-a661-a536f58a2742

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