

## Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

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Assembled PROFINET cable, type B, CAT5e, shielded, star quad, AWG 22 stranded (7-wire), RAL 6018 (yellow-green), panel feed-through, M12, 4 pos., D-coded on RJ45 connector, length: 1 m



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356692373

### Technical data

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)
	-5 °C ... 50 °C (cable, flexible installation)
	Plug / socket

#### General data

Note	This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 10.1 Cord Sets for Balanced Cabling
Rated voltage	48 V
Number of positions	4
Overvoltage category	I
Degree of pollution	1
Alternative short product description	PROFINET cable
Rated voltage (III/3)	50 V
Housing material	CuZn/PA
Degree of protection	IP20
Transmission characteristics (category)	CAT5

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## Technical data

### Characteristics head 1

Shielded	yes
Outer sheath, material	PVC
External sheath, color	green-yellow RAL 6018

### Cable

Cable type	PROFINET PVC stranded CAT5
Cable type (abbreviation)	93B
UL AWM style	21694
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	1.55 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
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	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 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)

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#### Cable

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

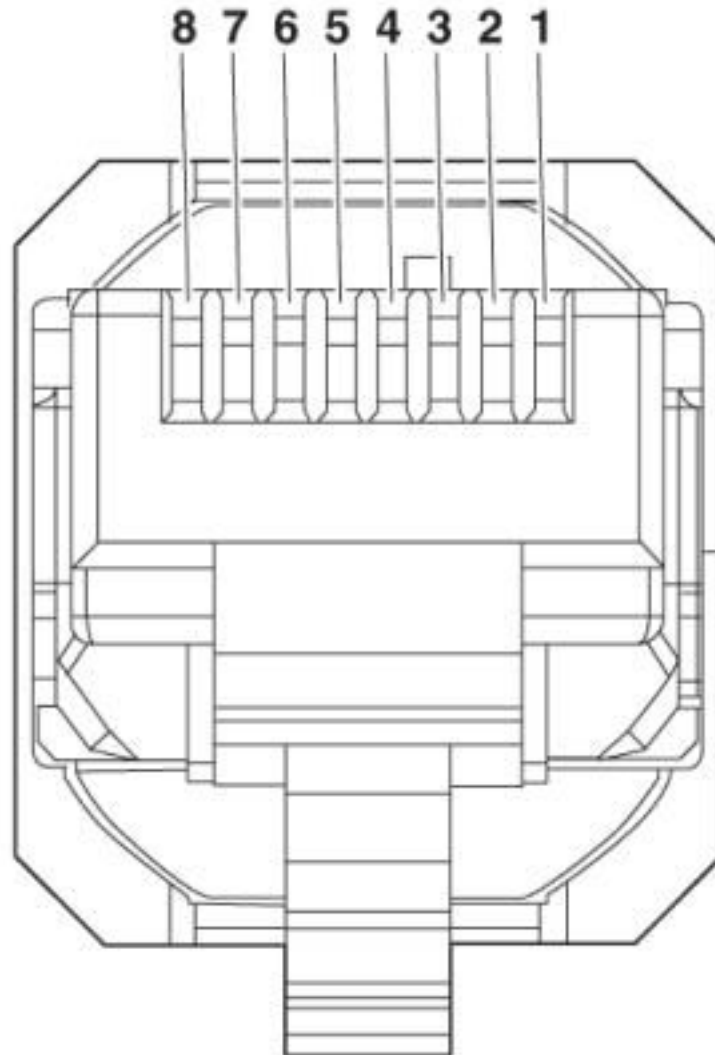
#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

#### Drawings

## Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

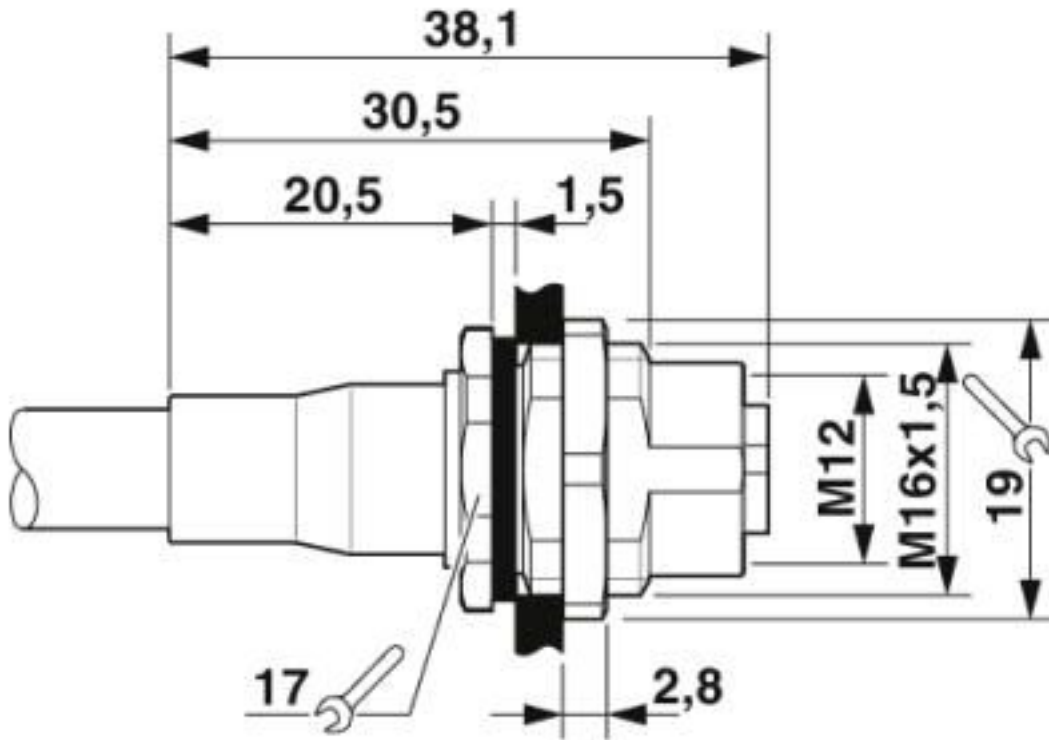
Schematic diagram



Connector pin assignment plug RJ45

# Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

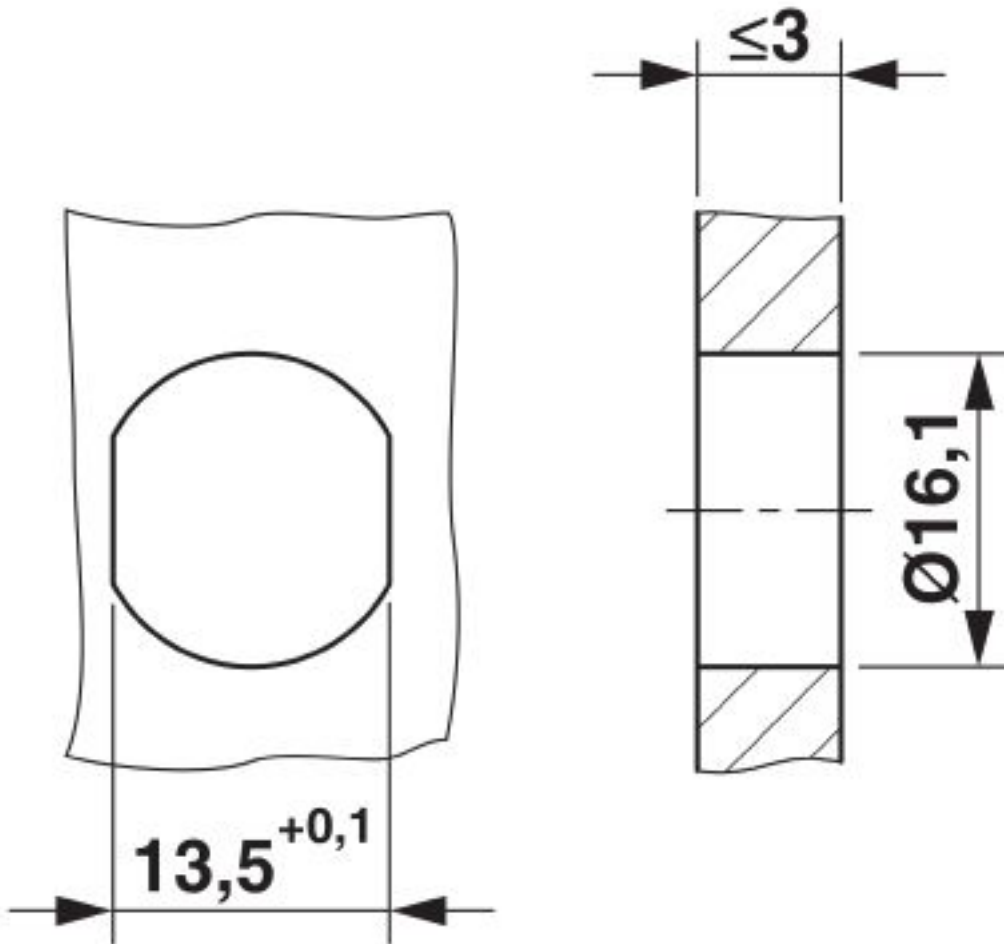
Dimensional drawing



M12 flush-type connector

# Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

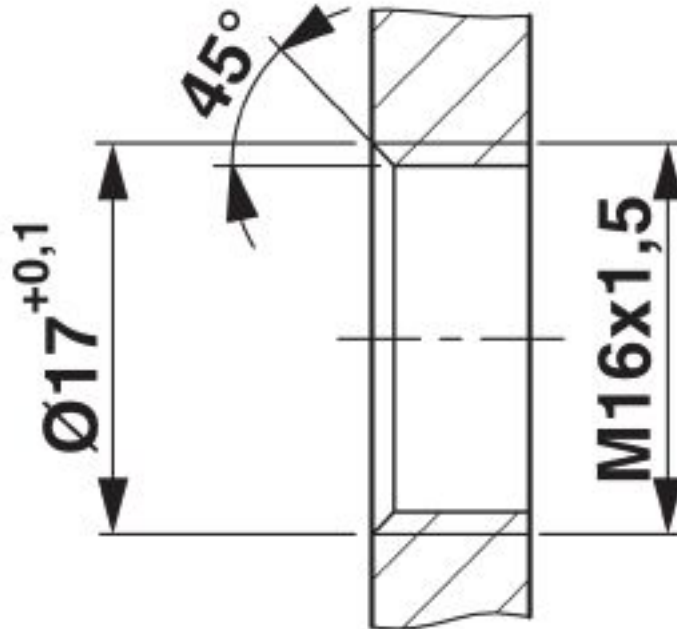
Dimensional drawing



Mounting panel with feed-through hole

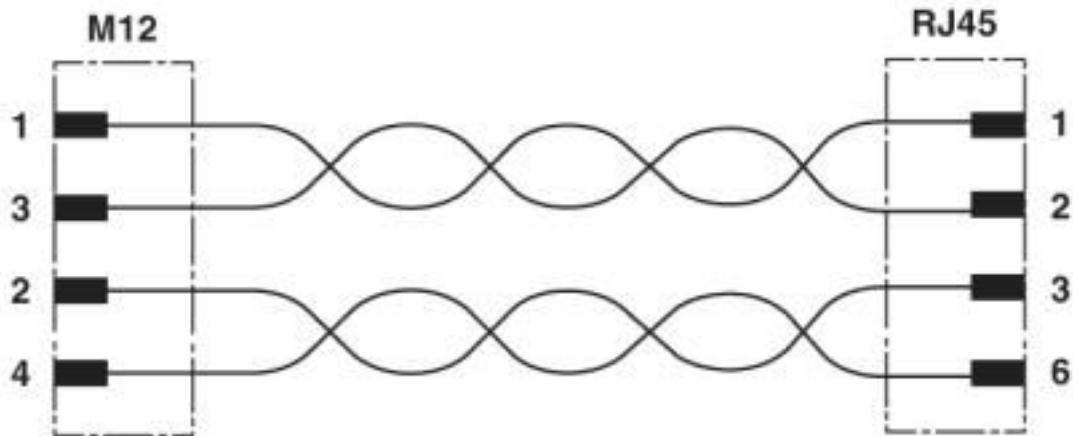
# Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

Dimensional drawing



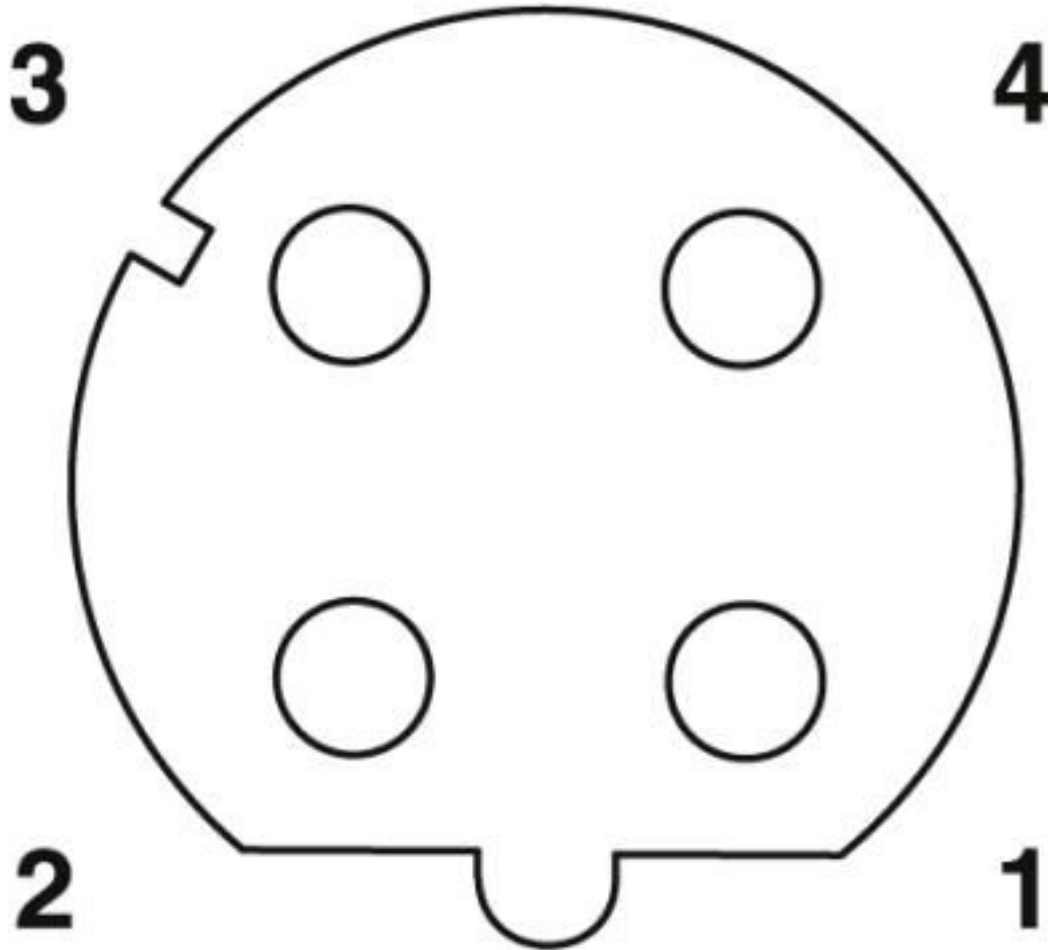
Mounting panel with thread

Circuit diagram



## Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

Schematic diagram

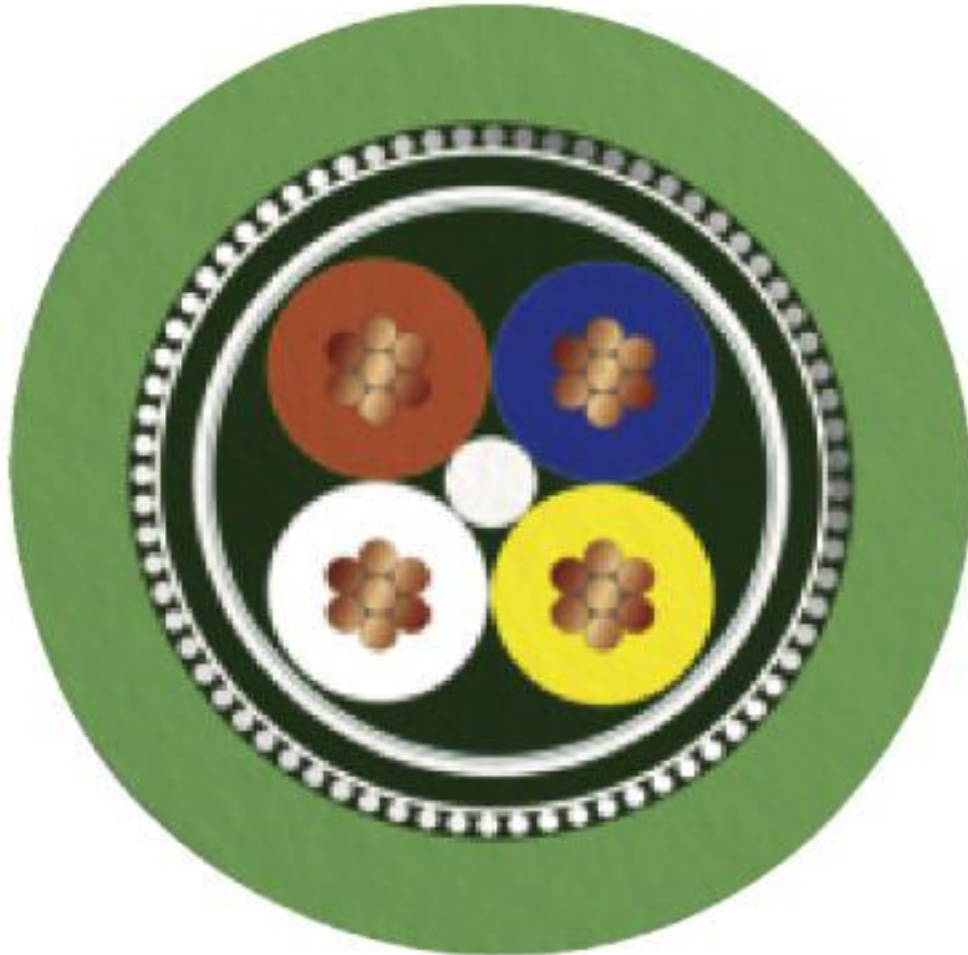


Pin assignment M12 socket, 4-pos., D-coded, female side



# Cable - VS-M12FSBPS-IP20-93B/1,0 - 1404368

Cable cross section



PROFINET PVC stranded CAT5 [93B]

## 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	27060300
eCl@ss 7.0	27060308
eCl@ss 8.0	27060308
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	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	31261501
UNSPSC 13.2	26121604
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

## Approvals

### Approvals

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#### Approvals

EAC

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#### Ex Approvals

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### Approval details

EAC		19060508
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