

## Network cable - VS-M12FSBP-OE-936-2,0 - 1416578


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Assembled PROFINET cable, CAT5e, shielded, star quad, AWG 22 (7-wire), black, M12 flush-type socket, rear/screw mounting with M16 thread on free conductor end, length 2 m



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 479318
GTIN	4046356479318
Weight per Piece (excluding packing)	180.400 g
Custom tariff number	85444290
Country of origin	Germany

### Technical data

#### Ambient conditions

Degree of protection	IP67
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#### General data

Rated current at 40°C	4 A
Rated voltage	250 V
Number of positions	4
Overvoltage category	II
Degree of pollution	3
Alternative short product description	PROFINET cable
Contact material	CuZn
Contact carrier material	PA 6.6
Contact surface material	Ni/Au

#### Standards and Regulations

Flammability rating according to UL 94	V0
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### Technical data

#### Cable

Cable type	PROFINET railway applications
Cable type (abbreviation)	936
Signal type/category	PROFINET 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	1.95 mm
Wire colors	white-blue, orange-yellow
Overall twist	Star quad
Shielding	Plastic-coated aluminum foil, tinned copper braided shield
Optical shield covering	100 %
External sheath, color	black RAL 9005
Outer sheath thickness	≥ 0.8 mm
External cable diameter D	7.25 mm ±0,3 mm
Minimum bending radius, fixed installation	6 x D
Minimum bending radius, flexible installation	10 x D
Cable weight	81 g/m
Outer sheath, material	PE-X
Material conductor insulation	PE-X
Conductor material	silver-plated Cu litz wires
Conductor resistance	≤ 54.4 Ω/km
Working capacitance	≤ 65 pF (core-core) ≤ 100 pF (core-shield)
Wave impedance	100 Ω ±5 Ω (f = 100 MHz)
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz) 76 dB (at 4 MHz) 67 dB (at 10 MHz) 60 dB (at 31.5 MHz) 56 dB (at 62.5 MHz) 53 dB (at 100 MHz)
Remote crosstalk attenuation (FEXT)	80 dB (with 1 MHz) 70 dB (at 4 MHz) 65 dB (at 10 MHz) 58 dB (at 31.5 MHz) 59 dB (at 62.5 MHz) 67 dB (at 100 MHz)
Attenuation	2 dB (with 1 MHz) 4 dB (at 4 MHz) 6.5 dB (at 10 MHz)

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#### Cable

	10.5 dB (at 31.5 MHz)
	14 dB (at 62.5 MHz)
	18 dB (at 100 MHz)
Return loss (RL)	35 dB (at 4 MHz)
	35 dB (at 10 MHz)
	35 dB (at 31.5 MHz)
	33 dB (at 62.5 MHz)
	33 dB (at 100 MHz)
Signal speed	66 c
Shield attenuation	40 dB (30 MHz ≤ f ≤ 100 MHz)
Coupling resistance	200.00 mΩ/m (f ≤ 30 MHz)
Nominal voltage, cable	300 V AC
Test voltage, cable	2000 V AC (50 Hz, 5 minutes)
Fire protection in rail vehicles	BS 6853 (Category Ia, Ib, II)
	GM/RT 2130 (Category Ia, Ib, II)
	EN 45545 (Risk level HL1 - HL3)
	DIN 5510 (Fire protection level 1, 2, 3, 4)
	NF F16-101 (Category A1, A2, B)
	NF F16-101 (Class C/F0)
	NFPA 130
	UNI CEI 11170 (Risk level LR1 - LR4)
Flame resistance	EN 60332-1-2
	EN 50266
	EN 60332-3-25
	NF C32-070, 2.1
	NF C32-070, 2.2
	UL 1685, 12 (FT4)
	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Halogen-free	According to EN 50267-2-1
Resistance to oil	according to IRM 902, 72 h at 100 °C
Other resistance	Resistance to fuels according to IRM 903, 168 h at 70 °C
Concentration of fumes	BS 6853 D.8.7
	EN 61034-2
	UL 1685, 12 (FT4)
Fume corrosiveness	EN 50267-2-2
Fume toxicity	BS 6853 B.1
	EN 50305, 9.2
Ambient temperature (operation)	-50 °C ... 90 °C (cable, fixed installation)
	-40 °C ... 90 °C (cable, flexible installation)

#### Environmental Product Compliance

# Network cable - VS-M12FSBP-OE-936-2,0 - 1416578

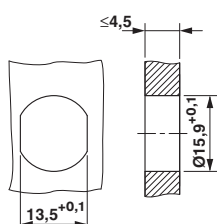
## Technical data

### Environmental Product Compliance

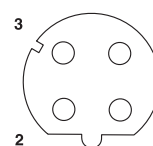
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Dimensional drawing



Schematic diagram



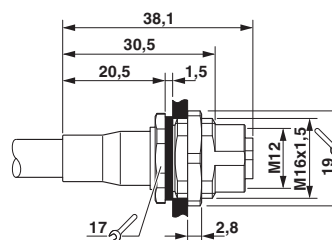
Housing cutout for M16 fastening thread, mounting panel with feed-through hole (alternatively with surface as protection against rotation)

Cable cross section



PROFINET railway applications [936]

Dimensional drawing



M12 flush-type connector

## Classifications

eCl@ss

eCl@ss 4.0	272607xx
eCl@ss 4.1	27260701
eCl@ss 5.0	27260701
eCl@ss 5.1	19030300
eCl@ss 6.0	27061800
eCl@ss 7.0	27060308
eCl@ss 8.0	27060308
eCl@ss 9.0	27060308

ETIM

ETIM 3.0	EC000830
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## Classifications

### ETIM

ETIM 4.0	EC002599
ETIM 5.0	EC002599

### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	31261501
UNSPSC 13.2	26121604

## Approvals

### Approvals

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Approvals


EAC

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Ex Approvals

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### Approval details

EAC		B.00767
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