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## Network cable - VS-M12MSD/10,0-93X OD - 1454228

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Network cable, Ethernet CAT5 (100 Mbps), PROFINET CAT5 (100 Mbps), 4-position, RADOX® GWK S halogen-free, black-gray RAL 7021, shielded, Plug straight M12 / IP69K, Coding: D, on free cable end, Cable length: 10 m, for outdoor applications, With high-grade steel knurl



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 568838

### Technical data

#### Dimensions

Length of cable	10 m
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#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °C
	-40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4))
Degree of protection	IP65
	IP67
	IP68
	IP69K

#### General

Rated current at 40°C	4 A
Rated voltage	250 V
Number of positions	4
Coding	D - data
Standards/regulations	M12 connector IEC 61076-2-101
Signal type/category	Ethernet CAT5 (IEC 11801), 100 Mbps
	PROFINET CAT5 (IEC 11801), 100 Mbps
Status display	No
Degree of pollution	3

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## Technical data

### General

Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

### Material

Flammability rating according to UL 94	V0
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PP
Material of grip body	PP
Material, knurls	High-grade steel
Sealing material	FPM

### Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	V0

### Cable

Cable type	PROFINET outdoors
Cable type (abbreviation)	93X
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	RADOX® GKW S
Material conductor insulation	RADOX® Com
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)

## Network cable - VS-M12MSD/10,0-93X OD - 1454228

### Technical data

#### Cable

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)
Special properties	Fire protection in rail vehicles as per DIN 5510-2 Fire protection level 1, 2, 3, 4
	Fire protection in rail vehicles as per BS 6853 Cables inside and outside the vehicle, Cat. Ia, Ib, II
	manufactured as per EN 50288-2-2 multi-strand metallic data and control cables
	Fire protection in rail vehicles according to CEI 11170
	Fire protection in rail vehicles EN 45545-2 Risk level HL1 - HL3
Resistance to oil	acc. to EN 50306-3 section 4.8
Other resistance	Resistance to fuels acc. to EN 50306-3 section 4.9
	Resistance to acids and alkalis acc. to EN 50306-3 section 4.10
Ambient temperature (operation)	-50 °C ... 90 °C (cable, fixed installation)
	-40 °C ... 90 °C (cable, flexible installation)

### 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	27061801
eCl@ss 7.0	27061801
eCl@ss 8.0	27279218

#### ETIM

ETIM 3.0	EC000830
ETIM 4.0	EC000830
ETIM 5.0	EC001855

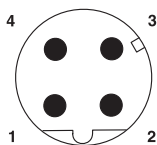
#### UNSPSC

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

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## Drawings

Schematic diagram



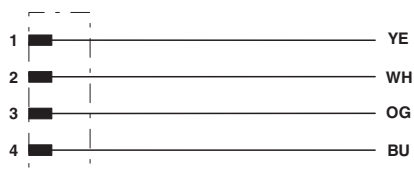
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



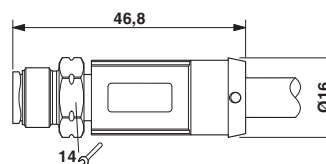
PROFINET outdoors [93X]

Circuit diagram



Contact assignment of the M12 plug

Dimensional drawing



M12 x 1 plug, straight



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