

## Network cable - NBC-MSD/ 2,0-93B/R4ACR SCO - 1407509

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Network cable, PROFINET CAT5 (100 Mbps), PROFINET CAT5e (100 Mbps), 4-position, PVC/PVC, Green RAL 6018, shielded, Plug Straight M12 SPEEDCON / IP67, Coding: D, on Plug angled RJ45 / IP20, Cable length: 2 m



### Key commercial data

Packing unit	1 pc
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	IP65 (M12 connector)
	IP67 (M12 connector)
	IP20 (RJ45 connector)

#### 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 8.2 Connectors for Outside Environment (Balanced cabling)
Rated current at 40°C	1 A
Rated voltage	50 V
Number of positions	4
Signal type/category	PROFINET CAT5 (IEC 11801:2002), 100 Mbps
	PROFINET CAT5e (TIA 568B:2001), 100 Mbps
Standards/regulations	M12 connector IEC 61076-2-101

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### Technical data

#### Characteristics head 1

Head type	Plug Straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	4
Coding	D (Data)
Color	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

#### Characteristics head 2

Head type	Plug angled RJ45 / IP20
No. of positions (pin connector pattern)	4 (8)
Color	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-25 °C ... 80 °C

#### Cable

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

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### Technical data

#### Cable

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)
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	27060307

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## Classifications

### eCl@ss

eCl@ss 5.1	27060307
eCl@ss 6.0	27060307
eCl@ss 7.0	27060307
eCl@ss 8.0	27060307

### ETIM

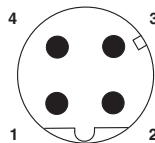
ETIM 3.0	EC000830
ETIM 4.0	EC001855
ETIM 5.0	EC001855

### UNSPSC

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

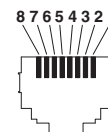
## Drawings

Schematic diagram



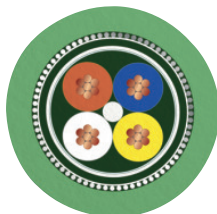
Pin assignment M12 male connector, 4-pos., D-coded, male side

Schematic diagram



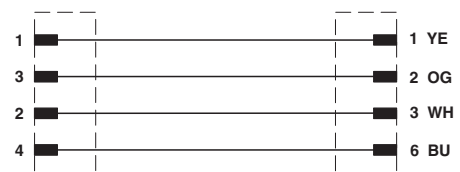
Connector pin assignment plug RJ45

Cable cross section



PROFINET PVC stranded CAT5e [93B]

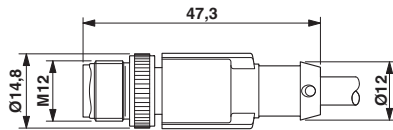
Circuit diagram



Contact assignment of the M12 and RJ45 plug

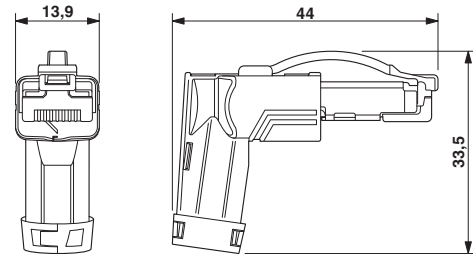
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Dimensioned drawing



Plug, M12 x 1, straight, shielded

Dimensioned drawing



RJ45 connector, IP20, angled