

Network cable - NBC-MSD/ 1,0-93G/MSD SCO - 1407569

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Network cable, EtherCAT® CAT5 (100 Mbps), EtherCAT® CAT5e (100 Mbps), 4-position, PVC, Green RAL 6018, shielded, Plug Straight M12 SPEEDCON / IP67, Coding: D, on Plug Straight M12 SPEEDCON / IP67, Coding: D, Cable length: 1 m



Key commercial data

Packing unit	1 pc
Custom tariff number	85444210
Country of origin	Poland

Technical data

Dimensions

Length of cable	1 m
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Ambient conditions

Degree of protection	IP65
	IP67

General data

Rated current at 40°C	4 A
Rated voltage	250 V
Number of positions	4
Signal type/category	EtherCAT® CAT5 (IEC 11801:2002), 100 Mbps
	EtherCAT® CAT5e (TIA 568B:2001), 100 Mbps
Standards/regulations	M12 connector IEC 61076-2-101

Characteristics head 1

Head type	Plug Straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	4
Coding	D (Data)

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Technical data

Characteristics head 1

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	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

Characteristics head 2

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	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

Cable

Cable type	EtherCAT®
Cable type (abbreviation)	93G
UL AWM style	21694
Signal type/category	EtherCAT® CAT5 (IEC 11801:2002)
	EtherCAT® CAT5e (TIA 568B:2001)
Cable structure	1x4xAWG22/7; SF/TQ
Conductor cross section	4x 0.34 mm²
AWG signal line	22
Conductor structure signal line	7x 0.25 mm

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Technical data

Cable

Core diameter including insulation	approx. 1.5 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 $\pm$ 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	$\geq 500 \text{ M}\Omega \cdot \text{km}$
Conductor resistance	$\leq 120000000 \text{ }\Omega/\text{km}$
Working capacitance	52 pF
Wave impedance	100 $\Omega \pm 15 \text{ }\Omega$ (at 100 MHz)
Signal runtime	5.3 ns/m
Coupling resistance	$\leq 20.00 \text{ m}\Omega/\text{m}$
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)
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	27061801
eCl@ss 5.1	27060307

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Classifications

eCl@ss

eCl@ss 6.0	27279218
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218

ETIM

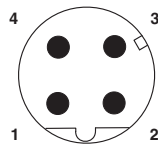
ETIM 3.0	EC000830
ETIM 4.0	EC001855
ETIM 5.0	EC001855

UNSPSC

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

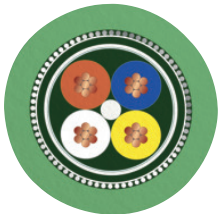
Drawings

Schematic diagram



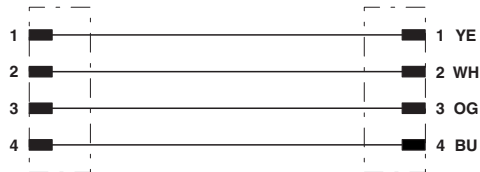
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



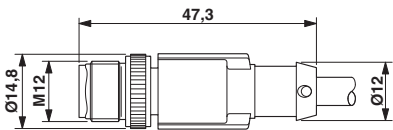
EtherCAT® [93G]

Circuit diagram



Contact assignment of the M12 plugs

Dimensioned drawing



Plug, M12 x 1, straight, shielded

