

## Network cable - NBC-MSD/ 5,0-93K/MSD SCO - 1411532


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Network cable, Sercos CAT5 (100 Mbps), 4-position, PVC/PVC, signal red RAL 3020, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight M12 SPEEDCON / IP67, coding: D, cable length: 5 m



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 933780
GTIN	4046356933780

### Technical data

#### Dimensions

Length of cable	5 m
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#### Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP67 (M12 connector)
Ambient temperature (operation)	-25 °C ... 90 °C (M12 connector)

#### General data

Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	4
Signal type/category	Sercos CAT5 (IEC 11801), 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)
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 straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	4
Coding	D (Data)
Color	black
	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	Zinc die-cast, nickel-plated (Screw connection)
	Zinc die-cast, nickel-plated (Screw connection)
	TPU, hardly inflammable, self-extinguishing (Grip)
	PA (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
Insulation resistance	≥ 100 MΩ
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

### Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101

### Cable

Cable type	Sercos III
Cable type (abbreviation)	93K
UL AWM style	21694 (60°C / 600 V)
Signal type/category	Sercos 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

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## Technical data

### Cable

Core diameter including insulation	approx. 1.55 mm
Wire colors	White, yellow, blue, orange
Type of pair shielding	Aluminum-lined polyester foil
Overall twist	Star quad
Shielding	Tinned copper braided shield
External sheath, color	signal red RAL 3020
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	68 kg/km
Outer sheath, material	PVC
Material, inner sheath	PVC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 0.5 GΩ*km
Conductor resistance	≤ 120 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Signal runtime	5.3 ns/m
Coupling resistance	≤ 20.00 mΩ/m (at 10 Hz)
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

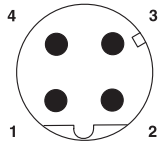
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

### Drawings

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Schematic diagram



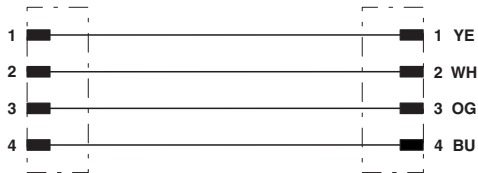
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



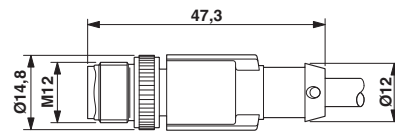
Sercos III [93K]

Circuit diagram



Contact assignment of the M12 plugs

Dimensional drawing



Plug, M12 x 1, straight, shielded

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