

## Network cable - NBC-MSX/ 5,0-94F/MSX SCO - 1407485

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Network cable, Ethernet CAT6<sub>A</sub> (10 Gbps), CC-Link IE CAT6<sub>A</sub> (10 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: X, on Plug straight M12 SPEEDCON / IP67, coding: X, cable length: 5 m



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 777643
GTIN	4046356777643
Weight per Piece (excluding packing)	260.000 g
Custom tariff number	85444290
Country of origin	Poland

### Technical data

#### Dimensions

Length of cable	5 m
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#### Ambient conditions

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

#### General data

Note	Further products with variable cable type and variable cable length can be found in the accessories section
Rated current at 40°C	0.5 A

# Network cable - NBC-MSX/ 5,0-94F/MSX SCO - 1407485

## Technical data

### General data

Rated voltage	48 V AC
	60 V DC
Number of positions	8
Signal type/category	Ethernet CAT6 <sub>A</sub> , 10 Gbps
	CC-Link IE CAT6 <sub>A</sub> , 10 Gbps
Standards/regulations	M12 connector IEC 61076-2-109

### Characteristics head 1

Head type	Plug straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	8
Coding	X (Data)
Color	black
Material (component)	CuZn (Contact)
	Ni/Au (Contact surface)
	PP (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)	8
Coding	X (Data)
Color	black
Material (component)	CuZn (Contact)
	Ni/Au (Contact surface)
	PP (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

### Standards and Regulations

Standard designation	M12 connector
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### Technical data

#### Standards and Regulations

Standards/regulations	IEC 61076-2-109
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#### Cable

Cable type	Ethernet 10 Gbit
Cable type (abbreviation)	94F
UL AWM style	20963 (80°C/30 V)
Signal type/category	Ethernet CAT6 <sub>A</sub> , 10 Gbps
Cable structure	4x2xAWG26/7; S/FTP
Conductor cross section	4x 2x 0.14 mm <sup>2</sup>
AWG signal line	26
Conductor structure signal line	7x 0.16 mm
Core diameter including insulation	1.04 mm
Wire colors	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Twisted pairs	2 cores to the pair
Type of pair shielding	Aluminum-lined foil
Overall twist	4 pairs for core
Shielding	Tinned copper braided shield
Optical shield covering	70 %
External sheath, color	water blue RAL 5021
Outer sheath thickness	0.65 mm
External cable diameter D	6.4 mm ±0.2 mm
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Tensile strength GRP	≤ 100 N
Cable weight	42 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 290 Ω (per km)
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Signal runtime	5.13 ns/m
Shield attenuation	≥ 80 dB (at 30 ... 100 MHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 V (50 Hz, 1 min.)
Flame resistance	according to IEC 60332-1-2

# Network cable - NBC-MSX/ 5,0-94F/MSX SCO - 1407485

## Technical data

### Cable

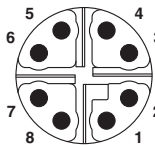
Halogen-free	According to IEC 60754-1
Resistance to oil	in accordance with DIN EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 80 °C
Ambient temperature (storage/transport)	-20 °C ... 80 °C

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Schematic diagram



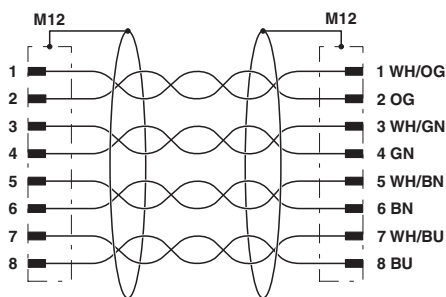
Pin assignment of M12 plug, 8-pos., X-coded, pin side view

Cable cross section



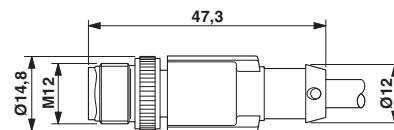
Ethernet 10 Gbit [94F]

Circuit diagram



Contact assignment of the M12 plugs

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

## Classifications

eCI@ss

eCI@ss 4.0	27060307
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# Network cable - NBC-MSX/ 5,0-94F/MSX SCO - 1407485

## Classifications

### eCl@ss

eCl@ss 4.1	27060307
eCl@ss 5.0	27060307
eCl@ss 5.1	27060307
eCl@ss 6.0	27060390
eCl@ss 7.0	27060390
eCl@ss 8.0	27061801
eCl@ss 9.0	27060308

### ETIM

ETIM 3.0	EC000830
ETIM 4.0	EC001855
ETIM 5.0	EC001855
ETIM 6.0	EC000830

### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	31261501
UNSPSC 13.2	31251501

## Approvals


### Approvals

Approvals

UL Listed

Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 335024
Nominal current IN	0.5 A		

## Network cable - NBC-MSX/ 5,0-94F/MSX SCO - 1407485

### Approvals

Nominal voltage UN	30 V
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### Accessories

#### Accessories

Data cable preassembled

Network cable - NBC-MSX-MSX SCO-10G/.../... - 1408644



Network cable, Ethernet CAT6<sub>A</sub> (10 Gbps), CC-Link IE CAT6<sub>A</sub> (10 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: X, on Plug straight M12 SPEEDCON / IP67, coding: X, cable length: Free input (0.2 ... 40.0 m)

### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

## Network cable - NBC-MSX/ 5,0-94F/MSX SCO - 1407485

### Accessories

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Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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