

# NBC-M12MSX/20,0-94F/R4AC - Network cable



1421857

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Network cable, Ethernet CAT6<sub>A</sub> (10 Gbps) CAT6<sub>A</sub> (10 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded (Advanced Shielding Technology), Plug straight M12 SPEEDCON, coding: X / IP67, on Plug straight RJ45 / IP20, cable length: 20 m

## Commercial data

Item number	1421857
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF04
Product key	AF1CMJ
GTIN	4055626285191
Weight per piece (including packing)	968 g
Weight per piece (excluding packing)	869.8 g
Customs tariff number	85444290
Country of origin	PL

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## Technical data

### Product properties

Product type	Data cable preassembled
Application	Standard
Number of positions	8
No. of cable outlets	1
Shielded	yes
Coding	X

### Interfaces

Bus system	Ethernet
Signal type/category	Ethernet CAT6 <sub>A</sub> , 10 Gbps

### Signaling

Status display	no
Status display present	no

### Electrical properties

Nominal voltage $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	0.5 A
Transmission medium	Copper
Transmission speed	10 Gbps
Transmission characteristics (category)	CAT6 <sub>A</sub>

### Connector

#### Connection 1

Type	Plug straight M12 SPEEDCON / IP67
Number of positions	8
Locking type	SPEEDCON
Coding type	X (Data)
Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)
	PP (Contact carrier)
	TPU, hardly inflammable, self-extinguishing (Grip body)
	Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

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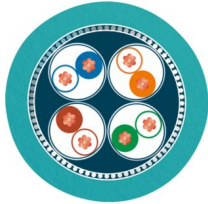
## Connection 2

Type	Plug straight RJ45 / IP20
Number of positions	8 (8)
Handle color	gray
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	PC (Contact carrier)
	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C

## Cable/line

Cable length	20 m
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## Ethernet 10 Gbit [94F]

Dimensional drawing	
UL AWM Style	21238 (80 °C / 600 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet 10 Gbit [94F]
Conductor structure	4x2xAWG26/7; S/FTP
AWG signal line	26
Conductor cross-section	4x 2x 0.14 mm <sup>2</sup>
Wire diameter incl. insulation	1 mm ±0.05 mm
External cable diameter	6.40 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Twisted pairs	2 cores to the pair
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 290.00 Ω/km

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Wave impedance	100 $\Omega$ $\pm$ 5 $\Omega$ (at 100 MHz)
Nominal voltage, cable	$\leq$ 100 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	51 mm
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
	in accordance with UN ECE-R 118.03
	according to CSA C 22.2 No. 210-FT1
Resistance to oil	in accordance with DIN EN 60811-404
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP67/IP20
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (M12 connector)
	-20 °C ... 70 °C (RJ45 connector)

## Standards and regulations

### M12

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-109

Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

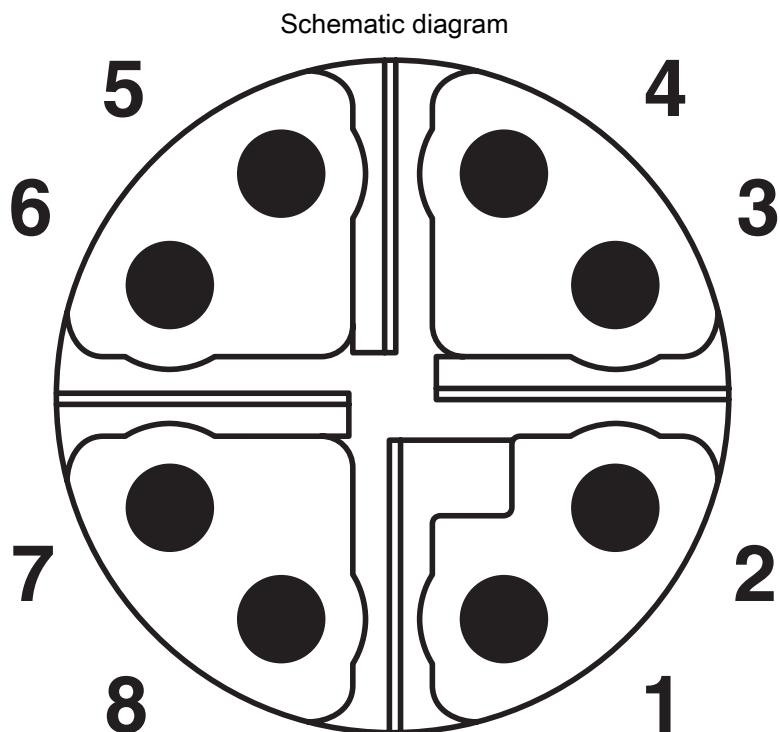
Dimensional drawing



RJ45 connector, IP20

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

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Schematic diagram



Connector pin assignment plug RJ45

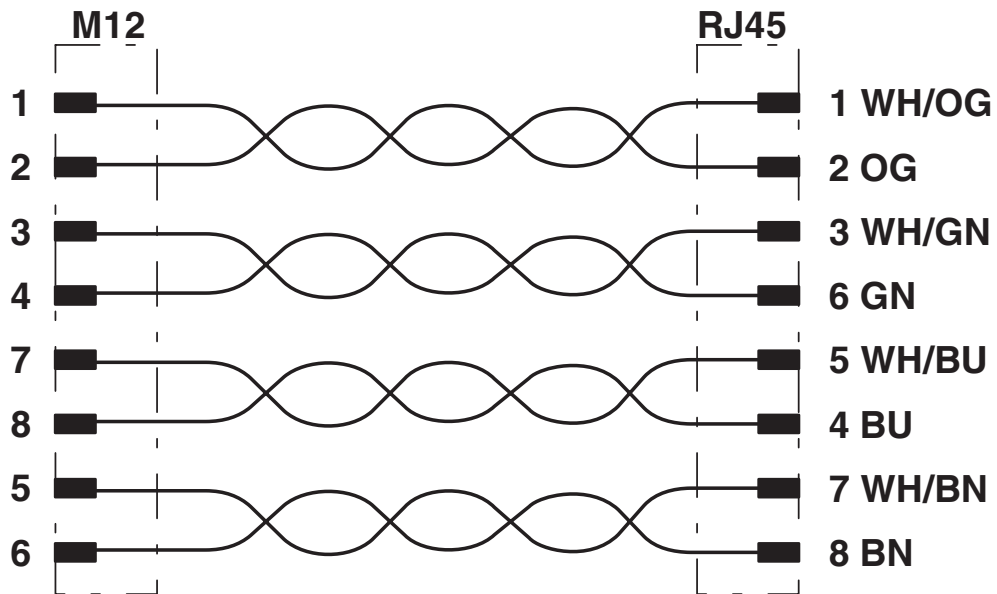
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Circuit diagram



Contact assignment of the M12 and RJ45 plug

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## Approvals

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 <b>UL Listed</b> Approval ID: FILE E 335024				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	30 V	0.5 A	-	-

 <b>cUL Listed</b> Approval ID: FILE E 335024				
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## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

### UNSPSC

UNSPSC 21.0	26121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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