

NBC-M12FSX/5,0-94F/R4AC - Network cable



1080736

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Network cable, Ethernet CAT6_A (10 Gbps) CAT6_A (10 Gbps), 8-position halogen-free, shielded (Advanced Shielding Technology), Plug straight RJ45 / IP20, on Socket straight M12, coding: X / IP67, cable length: 5 m

Commercial data

Item number	1080736
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	BF1CMJ
Catalog page	Page 403 (C-2-2019)
GTIN	4055626806396
Weight per piece (including packing)	268.4 g
Weight per piece (excluding packing)	252 g
Customs tariff number	85444290
Country of origin	PL

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Technical data

Product properties

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

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet CAT6 _A , 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 characteristics (category)	CAT6 _A

Connector

Connection 1

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

Connection 2

Type	Socket straight M12 / IP67
Number of positions	8
Coding type	X (Data)
Handle color	black

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Material	CuZn (Contact) Ni/Au (Contact surface) PA 6.6 (Contact carriers) TPU, hardly inflammable, self-extinguishing (Grip) Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Cable/line

Cable length	5 m
Ethernet 10 Gbit [94F]	
Dimensional drawing	
Cable weight	42 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet 10 Gbit [94F]
Conductor structure	4x2xAWG26/7; S/FTP
Signal runtime	5.13 ns/m
Conductor structure signal line	7x 0.16 mm
AWG signal line	26
Conductor cross section	4x 2x 0.14 mm ²
Wire diameter incl. insulation	1.04 mm
External cable diameter	6.4 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
Thickness, outer sheath	0.65 mm
Twisted pairs	2 cores to the pair

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Type of pair shielding	Aluminum-lined foil
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	$\geq 500 \text{ M}\Omega \cdot \text{km}$
Loop resistance	$\leq 290.00 \text{ }\Omega/\text{km}$
Wave impedance	$100 \text{ }\Omega \pm 5 \text{ }\Omega$ (at 100 MHz)
Cable capacity	47 nF/km
Nominal voltage, cable	$\leq 100 \text{ V}$
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 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	52 mm
Tensile strength	$\leq 100 \text{ N}$
Near end crosstalk attenuation (NEXT)	75.3 dB (with 1 MHz) 66.3 dB (at 4 MHz) 61.8 dB (at 8 MHz) 60.3 dB (at 10 MHz) 57.2 dB (at 16 MHz) 55.8 dB (at 20 MHz) 54.3 dB (at 25 MHz) 52.8 dB (at 31.25 MHz) 48.4 dB (at 62.5 MHz) 45.3 dB (at 100 MHz) 40.8 dB (at 200 MHz) 39.3 dB (at 250 MHz) 38.1 dB (at 300 MHz) 38.1 dB (at 400 MHz) 38.1 dB (at 500 MHz)
Power-summed near end crosstalk attenuation (PSNEXT)	72.3 dB (with 1 MHz) 63.3 dB (at 4 MHz) 58.8 dB (at 8 MHz) 57.3 dB (at 10 MHz) 54.2 dB (at 16 MHz) 52.8 dB (at 20 MHz) 51.3 dB (at 25 MHz) 49.9 dB (at 31.25 MHz) 45.4 dB (at 62.5 MHz) 42.3 dB (at 100 MHz) 37.8 dB (at 200 MHz) 36.3 dB (at 250 MHz) 35.1 dB (at 300 MHz) 33.3 dB (at 400 MHz)

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Return attenuation (RL)	31.8 dB (at 500 MHz) 20 dB (with 1 MHz) 23 dB (at 4 MHz) 24.5 dB (at 8 MHz) 25 dB (at 10 MHz) 25 dB (at 16 MHz) 25 dB (at 20 MHz) 24.2 dB (at 25 MHz) 23.3 dB (at 31.25 MHz) 20.7 dB (at 62.5 MHz) 19 dB (at 100 MHz) 16.4 dB (at 200 MHz) 15.6 dB (at 250 MHz) 15.6 dB (at 300 MHz) 15.6 dB (at 400 MHz) 15.6 dB (at 500 MHz)
Shield attenuation	3.1 dB (with 1 MHz) 5.7 dB (at 4 MHz) 8 dB (at 8 MHz) 8.9 dB (at 10 MHz) 11.2 dB (at 16 MHz) 12.6 dB (at 20 MHz) 14.1 dB (at 25 MHz) 15.8 dB (at 31.25 MHz) 22.5 dB (at 62.5 MHz) 28.7 dB (at 100 MHz) 41.4 dB (at 200 MHz) 46.6 dB (at 250 MHz) 51.4 dB (at 300 MHz) 60.1 dB (at 400 MHz) 67.9 dB (at 500 MHz) ≥ 80 dB (at 30 ... 100 MHz)
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
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

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65 IP67
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IP67/IP20

Standards and regulations

M12

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

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Approvals

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UL Listed				
Approval ID: FILE E 335024				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	30 V	0.5 A	-	-

cUL Listed				
Approval ID: FILE E 335024				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	30 V	0.5 A	-	-

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	27060307

ETIM

ETIM 9.0	EC001855
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UNSPSC

UNSPSC 21.0	26121600
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Environmental product compliance

REACH SVHC

Lead 7439-92-1

China RoHS

Environmentally friendly use period: unlimited = EFUP-e

No hazardous substances above threshold values

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Accessories

PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/us/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



SAC-M12-EXCLIP-F - Locking clip

1558991

<https://www.phoenixcontact.com/us/products/1558991>

Locking clip for the socket 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



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TSD 04 SAC - Torque screwdriver

1208429

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



TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>

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



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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>

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



SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/products/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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