

Network cable - NBC-MSX/20,0-94F/R4AC SCO - 1421857


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Network cable, Ethernet CAT6_A (10 Gbps), 8-position, PUR, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: X, on Plug straight RJ45 / IP20, cable length: 20 m



Key Commercial Data

| | |
|------------------------|---|
| Packing unit | 1 pc |
| Minimum order quantity | 25 pc |
| GTIN |  4 055626 285191 |
| GTIN | 4055626285191 |

Technical data

Dimensions

| | |
|-----------------|------|
| Length of cable | 20 m |
|-----------------|------|

Ambient conditions

| | |
|---------------------------------|-----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (M12 connector) |
| | -20 °C ... 70 °C (RJ45 connector) |

General data

| | |
|--------------------------|--------------------------------------|
| Rated current at 40°C | 0.5 A |
| Rated voltage | 48 V AC |
| | 60 V DC |
| Number of positions | 8 |
| Signal type/category | Ethernet CAT6 _A , 10 Gbps |
| Standards/regulations | M12 connector IEC 61076-2-109 |
| Contact material | CuSn |
| Contact carrier material | PP |
| Contact surface material | Ni/Au |

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Technical data

General data

| | |
|------------------|---------|
| Housing material | Plastic |
|------------------|---------|

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 RJ45 / IP20 |
| No. of positions (pin connector pattern) | 8 (8) |
| Color | gray |
| Material (component) | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | PC (Contact carriers) |
| | PA (Housing) |
| Insertion/withdrawal cycles | ≥ 750 |
| Ambient temperature (operation) | -25 °C ... 60 °C |

Standards and Regulations

| | |
|-----------------------|-----------------|
| Standard designation | M12 connector |
| Standards/regulations | IEC 61076-2-109 |

Cable

| | |
|------------------------------------|--------------------------------------|
| Cable type | Ethernet 10 Gbit |
| Cable type (abbreviation) | 94F |
| UL AWM style | 20963 (80°C/30 V) |
| Signal type/category | Ethernet CAT6 _A , 10 Gbps |
| Cable structure | 4x2xAWG26/7; S/FTP |
| Conductor cross section | 4x 2x 0.14 mm² |
| AWG signal line | 26 |
| Conductor structure signal line | 7x 0.16 mm |
| Core diameter including insulation | 1.04 mm |

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Cable

| | |
|--|--|
| 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 | ≤ 290.00 Ω/km |
| Cable capacity | 47 nF/km |
| Wave impedance | 100 Ω ±5 Ω (at 100 MHz) |
| 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) |
| | 36.3 dB (at 400 MHz) |
| | 34.8 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) |

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Cable

| | |
|------------------|------------------------|
| | 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) |
| | 31.8 dB (at 500 MHz) |
| 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) |
| Return loss (RL) | 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) |

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Technical data

Cable

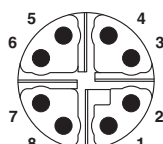
| | |
|---|---|
| Signal runtime | 5.13 ns/m |
| Shield attenuation | ≥ 80 dB (at 30 ... 100 MHz) |
| Nominal voltage, cable | ≤ 100 V |
| Test voltage Core/Core | 700 V (50 Hz, 1 min.) |
| Test voltage Core/Shield | 700 V (50 Hz, 1 min.) |
| Flame resistance | according to IEC 60332-1-2 |
| Halogen-free | 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

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

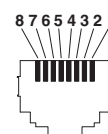
Drawings

Schematic diagram



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

Schematic diagram



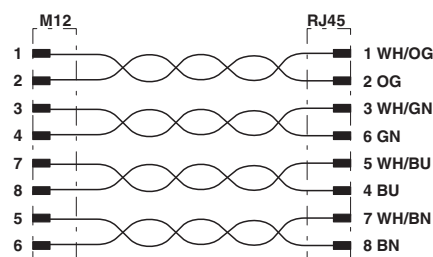
Connector pin assignment plug RJ45

Cable cross section



Ethernet 10 Gbit [94F]

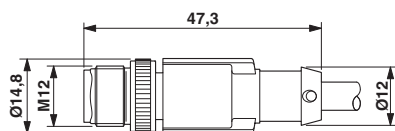
Circuit diagram



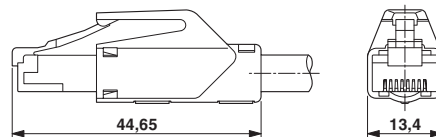
Contact assignment of the M12 and RJ45 plug

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Dimensional drawing



Dimensional drawing



RJ45 connector, IP20

Plug, M12 x 1, straight, shielded

Approvals


Approvals

Approvals

UL Listed

Ex Approvals

Approval details

| | | | |
|--------------------|---|---|---------------|
| UL Listed |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 335024 |
| Nominal voltage UN | | 30 V | |
| Nominal current IN | | 0.5 A | |

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