

## Network cable - NBC-MSX/ 2,8-94C/R4AC SCO - 1417813

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Network cable, Ethernet CAT5, 8-position, PUR, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: X, on Plug straight RJ45 / IP20, cable length: 2.8 m



### Key Commercial Data

|                        |                                                                                                         |
|------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit           | 1 pc                                                                                                    |
| Minimum order quantity | 50 pc                                                                                                   |
| GTIN                   | <br>4 055626 126999 |
| GTIN                   | 4055626126999                                                                                           |

### Technical data

#### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 2.8 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 CAT5                 |
| 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)          | -40 °C ... 60 °C          |

### Standards and Regulations

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

### Cable

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Cable type                         | Ethernet drag chain CAT5          |
| Cable type (abbreviation)          | 94C                               |
| UL AWM style                       | 20963 (80°C/30 V)                 |
| Signal type/category               | Ethernet CAT5 (IEC 11801), 1 Gbps |
| Cable structure                    | 4x2xAWG26/19; S/UTP               |
| Conductor cross section            | 4x 2x 0.14 mm²                    |
| AWG signal line                    | 26                                |
| Conductor structure signal line    | 19x 0.10 mm                       |
| Core diameter including insulation | 1 mm                              |

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## Technical data

### Cable

|                                                        |                                                                            |
|--------------------------------------------------------|----------------------------------------------------------------------------|
| Wire colors                                            | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Twisted pairs                                          | 2 cores to the pair                                                        |
| Overall twist                                          | Four pairs and four fillers to the core                                    |
| Shielding                                              | Tinned copper braided shield                                               |
| Optical shield covering                                | 90 %                                                                       |
| External sheath, color                                 | water blue RAL 5021                                                        |
| Outer sheath thickness                                 | 0.85 mm                                                                    |
| External cable diameter D                              | 6.9 mm +0.1 mm ... 0.2 mm                                                  |
| Minimum bending radius, fixed installation             | 4 x D                                                                      |
| Minimum bending radius, flexible installation          | 8 x D                                                                      |
| Number of bending cycles                               | 5000000                                                                    |
| Minimum bending radius, drag chain applications        | 7,5 x D                                                                    |
| Traversing rate                                        | 3 m/s                                                                      |
| Acceleration                                           | 5 m/s <sup>2</sup>                                                         |
| Tensile strength GRP                                   | ≤ 100 N                                                                    |
| Cable weight                                           | 57 kg/km                                                                   |
| Outer sheath, material                                 | PUR                                                                        |
| Material conductor insulation                          | PP                                                                         |
| Conductor material                                     | Bare Cu litz wires                                                         |
| Insulation resistance                                  | ≥ 500 MΩ*km                                                                |
| Loop resistance                                        | ≤ 290.00 Ω/km                                                              |
| Cable capacity                                         | approx. 50 nF/km (at 1 kHz)                                                |
| Wave impedance                                         | 100 Ω ±5 Ω (at 100 MHz)                                                    |
| Near end crosstalk attenuation (NEXT)                  | 65.3 dB (with 1 MHz)                                                       |
|                                                        | 56.3 dB (at 4 MHz)                                                         |
|                                                        | 50.3 dB (at 10 MHz)                                                        |
|                                                        | 47.2 dB (at 16 MHz)                                                        |
|                                                        | 45.8 dB (at 20 MHz)                                                        |
|                                                        | 42.9 dB (at 31.25 MHz)                                                     |
|                                                        | 38.4 dB (at 62.5 MHz)                                                      |
|                                                        | 35.3 dB (at 100 MHz)                                                       |
|                                                        | 62.3 dB (with 1 MHz)                                                       |
|                                                        | 53.3 dB (at 4 MHz)                                                         |
| Power-summated near end crosstalk attenuation (PSNEXT) | 47.3 dB (at 10 MHz)                                                        |
|                                                        | 44.2 dB (at 16 MHz)                                                        |
|                                                        | 42.8 dB (at 20 MHz)                                                        |
|                                                        | 39.9 dB (at 31.25 MHz)                                                     |
|                                                        | 35.4 dB (at 62.5 MHz)                                                      |
|                                                        | 32.3 dB (at 100 MHz)                                                       |
|                                                        | 3.2 dB (with 1 MHz)                                                        |
| Attenuation                                            | 3.2 dB (with 1 MHz)                                                        |

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### Technical data

#### Cable

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
|                                         | 6 dB (at 4 MHz)                                 |
|                                         | 9.5 dB (at 10 MHz)                              |
|                                         | 12.1 dB (at 16 MHz)                             |
|                                         | 13.6 dB (at 20 MHz)                             |
|                                         | 17.1 dB (at 31.25 MHz)                          |
|                                         | 24.8 dB (at 62.5 MHz)                           |
|                                         | 32 dB (at 100 MHz)                              |
| Return loss (RL)                        | 23 dB (at 4 MHz)                                |
|                                         | 24.1 dB (at 8 MHz)                              |
|                                         | 25 dB (at 10 MHz)                               |
|                                         | 25 dB (at 16 MHz)                               |
|                                         | 25 dB (at 20 MHz)                               |
|                                         | 23.6 dB (at 31.25 MHz)                          |
|                                         | 21.5 dB (at 62.5 MHz)                           |
|                                         | 20.1 dB (at 100 MHz)                            |
| Signal runtime                          | 5.3 ns/m                                        |
| Coupling resistance                     | ≤ 100.00 mΩ/m (at 10 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                       | according to 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                                |

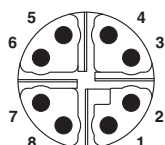
#### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| 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

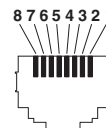
## Network cable - NBC-MSX/ 2,8-94C/R4AC SCO - 1417813

Schematic diagram



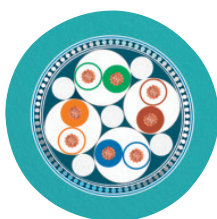
Pin assignment of M12 plug, 8-pos., X-coded, pin side view

Schematic diagram



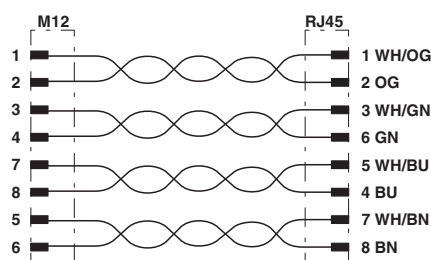
Connector pin assignment plug RJ45

Cable cross section



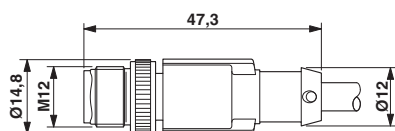
Ethernet drag chain CAT5 [94C]

Circuit diagram



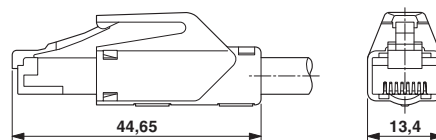
Contact assignment of the M12 and RJ45 plug

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



RJ45 connector, IP20



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- Консультации по применению компонента;
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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