



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## Network cable - NBC-MSX/ 2,0-94F SCO - 1407468


Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Network cable, Ethernet CAT6<sub>A</sub> (10 Gbps), CC-Link IE CAT6<sub>A</sub> (10 Gbps), 8-position, PUR, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON / IP67, coding: X, on free cable end, cable length: 2 m



### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 STK   |
| GTIN         | <br>4 046356 775892 |
| GTIN         | 4046356775892   |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 2 m |
|-----------------|-----|

#### 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   |
| 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   |
| Contact material       | CuSn  |

# Network cable - NBC-MSX/ 2,0-94F SCO - 1407468

## Technical data

### General data

|                          |       |
|--------------------------|-------|
| Contact carrier material | PP    |
| Contact surface material | Ni/Au |

### 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 | free cable end |
| Color     | black          |

### 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 <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 %   |

## Network cable - NBC-MSX/ 2,0-94F SCO - 1407468

### Technical data

#### Cable

|  |                         |
|--|-------------------------|
| 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           |
| 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-summated 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)    |

## Network cable - NBC-MSX/ 2,0-94F SCO - 1407468

### Technical data

#### Cable

|                          |                             |
|--------------------------|-----------------------------|
|                          | 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)        |
| 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    |

# Network cable - NBC-MSX/ 2,0-94F SCO - 1407468

## Technical data

### Cable

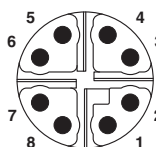
|   |   |
|---|---|
| Resistance to oil                       | in accordance with DIN EN 60811-2-1             |
| Ambient temperature (operation)         | -40 °C ... 80 °C (cable, fixed installation)    |
|   | -20 °C ... 80 °C (cable, flexible installation) |
| Ambient temperature (installation)      | -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



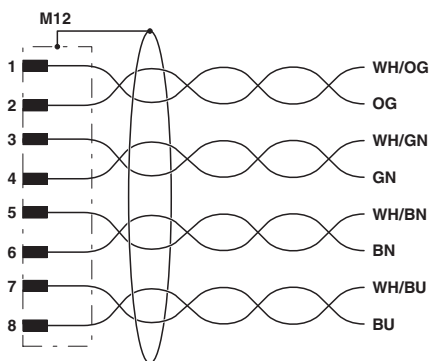
Pin assignment of M12 plug, 8-pos., X-coded, pin side view

Cable cross section



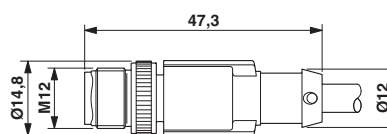
Ethernet 10 Gbit [94F]

Circuit diagram



Contact assignment of the M12 plug

Dimensional drawing



Plug, M12 x 1, straight, shielded

## Approvals

### Approvals

## Network cable - NBC-MSX/ 2,0-94F SCO - 1407468

### Approvals

Approvals


UL Recognized

---

Ex Approvals

---

### Approval details

|                    |   |   |               |
|--------------------|---|---|---------------|
| UL Recognized      |  | <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 voltage UN |   | 30 V  |               |
| Nominal current IN |   | 0.5 A   |               |

---

Phoenix Contact 2018 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>