# NBC-M12MSX/ 5,0-94F/M12MSX - Network cable

1407485

https://www.phoenixcontact.com/us/products/1407485

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Network cable, Ethernet CAT6$_A$ (10 Gbps), CC-Link IE CAT6$_A$ (10 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded (Advanced Shielding Technology), Plug straight M12, coding: X / IP67, on Plug straight M12, coding: X / IP67, cable length: 5 m

## Commercial data

| | |
|---|---|
| Item number | 1407485 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF04 |
| Product key | AF1CMJ |
| GTIN | 4046356777643 |
| Weight per piece (including packing) | 269 g |
| Weight per piece (excluding packing) | 221.7 g |
| Customs tariff number | 85444290 |
| Country of origin | US |

## Technical data

### Notes

| | |
|---|---|
| General | Further products with variable cable type and variable cable length can be found in the accessories section |

### 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 $CAT6_A$, 10 Gbps |
| | CC-Link IE $CAT6_A$, 10 Gbps |

### Signaling

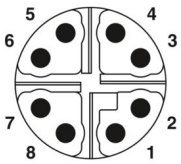
| | |
|---|---|
| Status display | no |
| Status display present | no |

### Electrical properties

| | |
|---|---|
| Nominal voltage $U_N$ | 48 V AC |
| | 60 V DC |
| Nominal current $I_N$ | 0.5 A |
| Transmission medium | Copper |
| Transmission speed | 10 Gbps |
| Transmission characteristics (category) | $CAT6_A$ |

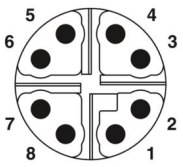
### Connector

Connection 1

| | |
|---|---|
| Dimensional drawing |  Pin assignment of M12 plug, 8-pos., X-coded, pin side view |
| Type | M12 Plug, straight, 8-position, shielded (Advanced Shielding Technology), Keying: X, Ethernet, CC-Link IE |
| Number of positions | 8 |
| Shielded | yes |

| | |
|---|---|
| Shielding | Advanced Shielding Technology |
| Signal type/category | Ethernet $CAT6_A$, 10 Gbps |
| | CC-Link IE $CAT6_A$, 10 Gbps |
| Insertion/withdrawal cycles | ≥ 100 |
| Insulation resistance | ≥ 100 Ω |
| Overvoltage category | II |
| Degree of pollution | 3 |
| Tightening torque | 0.4 Nm (M12 connector) |
| Material Contact | CuZn |
| Material Contact surface | Ni/Au |
| Material Contact carrier | PA 6.6 |
| Material Screw connection | Die-cast zinc, nickel-plated |
| Material Grip body | TPU, hardly inflammable, self-extinguishing |
| Material Seal | FKM |
| Flammability rating according to UL 94 | V0 |
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) | -25 °C ... 85 °C |
| Standard designation | M12 connector |
| Standards/regulations | IEC 61076-2-109 |

Connection 2

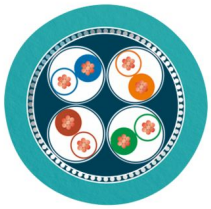
| | |
|---|---|
| Dimensional drawing | <br>Pin assignment of M12 plug, 8-pos., X-coded, pin side view |
| Type | M12 Plug, straight, 8-position, shielded (Advanced Shielding Technology), Keying: X, Ethernet, CC-Link IE |
| Number of positions | 8 |
| Shielded | yes |
| Shielding | Advanced Shielding Technology |
| Signal type/category | Ethernet $CAT6_A$, 10 Gbps |
| | CC-Link IE $CAT6_A$, 10 Gbps |
| Insertion/withdrawal cycles | ≥ 100 |
| Insulation resistance | ≥ 100 Ω |
| Overvoltage category | II |
| Degree of pollution | 3 |
| Tightening torque | 0.4 Nm (M12 connector) |
| Material Contact | CuZn |
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|---|---|
| Material Grip body | TPU, hardly inflammable, self-extinguishing |
| Material Seal | FKM |
| Flammability rating according to UL 94 | V0 |
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) | -25 °C ... 85 °C |
| Standard designation | M12 connector |
| Standards/regulations | IEC 61076-2-109 |

## Cable/line

| | |
|---|---|
| Cable length | 5 m |

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 mm² |
| 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 |
| Wave impedance | 100 Ω ±5 Ω (at 100 MHz) |
| Nominal voltage, cable | ≤ 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 | IP65 |
| | IP67 |
| | IP65/IP67 |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (M12 connector) |

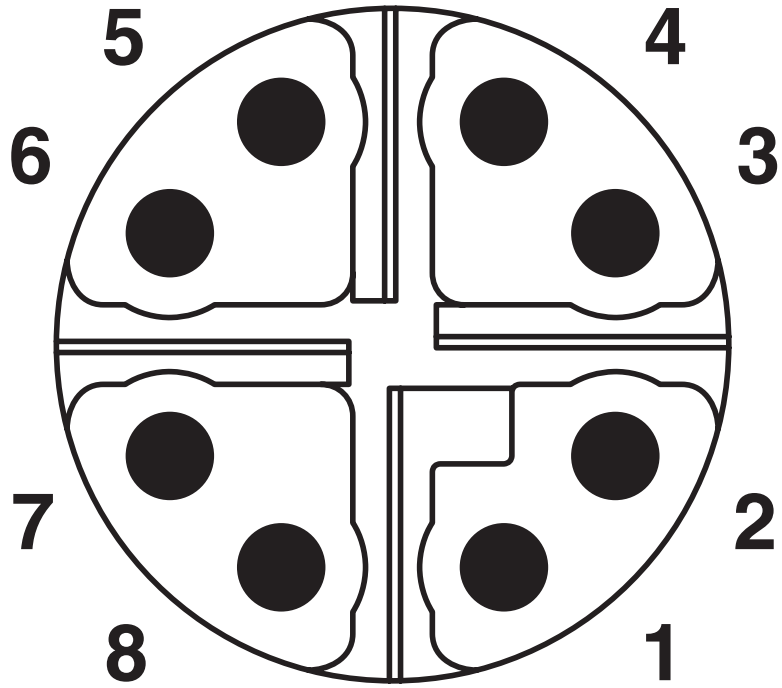
## Standards and regulations

M12

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

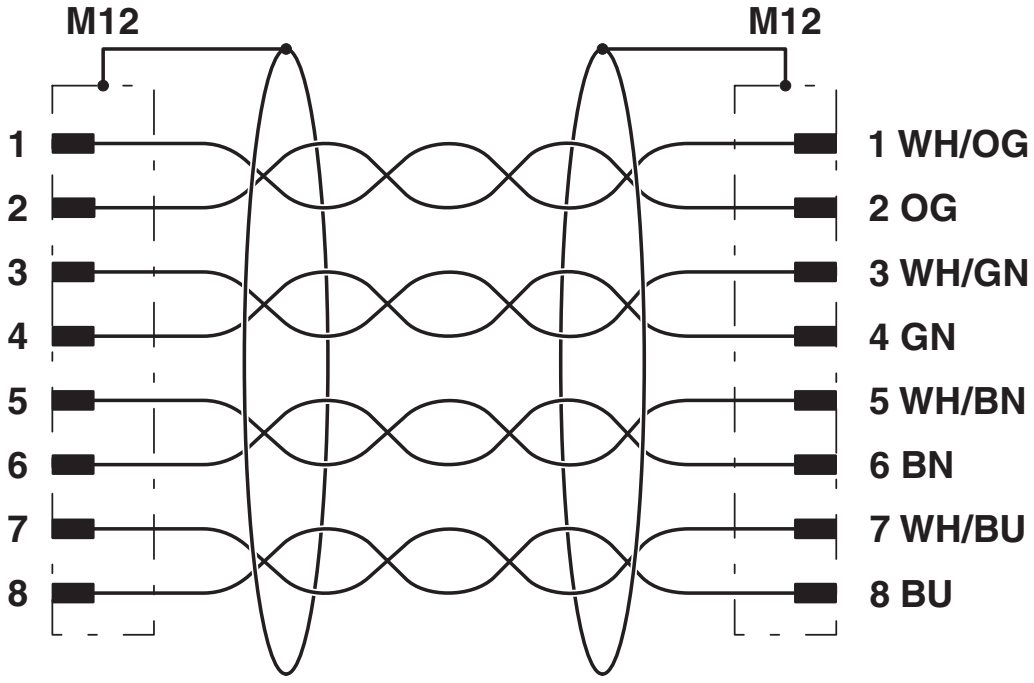
## Drawings

Schematic diagram




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

Circuit diagram




Contact assignment of the M12 plugs

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1407485

**UL Listed**
Approval ID: FILE E 335024

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 30 V | 0.5 A | - | - |

**cUL Listed**
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| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 30 V | 0.5 A | - | - |

**EAC-RoHS**
Approval ID: RU D-DE.HB35.B.00387

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002599 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 26121600 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |

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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