

# NBC-M12MS/3,0-94B/M12FR - Bus system cable



1407850

<https://www.phoenixcontact.com/us/products/1407850>

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Assembled Ethernet cable, shielded, 4-pair, 26 AWG stranded (7-wire), RAL 5021 (water blue), M12 plug to M12 socket, line, length: 3 m

As illustrated but with angled female connector

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1407850       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 50 pc         |
| Product key                          | AF1CMI        |
| GTIN                                 | 4046356775953 |
| Weight per piece (including packing) | 172.8 g       |
| Weight per piece (excluding packing) | 172.8 g       |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Number of positions  | 8                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | A                       |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Signaling

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

### Electrical properties

|                       |          |
|-----------------------|----------|
| Insulation resistance | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 30 V AC  |
|                       | 30 V DC  |
| Nominal current $I_N$ | 2 A      |

### Material specifications

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | HB |
|----------------------------------------|----|

### Connector

#### Connection 1

|             |                                             |
|-------------|---------------------------------------------|
| Type        | Plug straight M12                           |
| Coding type | A (Standard)                                |
| Material    | CuZn                                        |
|             | Ni/Au                                       |
|             | TPU GF                                      |
|             | TPU, hardly inflammable, self-extinguishing |
|             | Zinc die-cast, nickel-plated                |
| NBR         |                                             |

#### Connection 2

|             |                                             |
|-------------|---------------------------------------------|
| Type        | Socket angled M12                           |
| Coding type | A (Standard)                                |
| Material    | CuZn                                        |
|             | Ni/Au                                       |
|             | TPU GF                                      |
|             | TPU, hardly inflammable, self-extinguishing |

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|  |                              |
|--|------------------------------|
|  | Zinc die-cast, nickel-plated |
|  | NBR                          |

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 3 m |
|--------------|-----|

### Ethernet flexible CAT5, 4-pair [94B]

|                                 |                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 47 kg/km                                                                           |
| UL AWM Style                    | 20963 (80°C/30 V)                                                                  |
| Number of positions             | 8                                                                                  |
| Shielded                        | yes                                                                                |
| Cable type                      | Ethernet flexible CAT5, 4-pair [94B]                                               |
| Conductor structure             | 4x2xAWG26/7, SF/UTP                                                                |
| Signal runtime                  | 5.3 ns/m                                                                           |
| Conductor structure signal line | 7x 0.16 mm                                                                         |
| AWG signal line                 | 26                                                                                 |
| Conductor cross-section         | 4x 2x 0.14 mm <sup>2</sup>                                                         |
| Wire diameter incl. insulation  | 0.96 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         |
| Thickness, outer sheath         | 1.05 mm                                                                            |
| Twisted pairs                   | 2 cores to the pair                                                                |
| Overall twist                   | 4 pairs for core                                                                   |
| Optical shield covering         | 70 %                                                                               |
| Insulation resistance           | ≥ 5 GΩ*km                                                                          |
| Coupling resistance             | ≤ 100.00 mΩ/m (at 10 MHz)                                                          |
| Loop resistance                 | ≤ 290.00 Ω/km                                                                      |
| Wave impedance                  | 100 Ω ±5 Ω (at 100 MHz)                                                            |
| Cable capacity                  | 48 nF/km (at 1 kHz)                                                                |
| Nominal voltage, cable          | ≤ 100 V                                                                            |
| Test voltage Core/Core          | 700 V (50 Hz, 1 min.)                                                              |

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|                                                        |                                                 |
|--------------------------------------------------------|-------------------------------------------------|
| Test voltage Core/Shield                               | 700.00 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          | 52 mm                                           |
| Tensile strength                                       | ≤ 100 N                                         |
| Near end crosstalk attenuation (NEXT)                  | 71.3 dB (with 1 MHz)                            |
|                                                        | 62.3 dB (at 4 MHz)                              |
|                                                        | 56.3 dB (at 10 MHz)                             |
|                                                        | 53.2 dB (at 16 MHz)                             |
|                                                        | 51.8 dB (at 20 MHz)                             |
|                                                        | 48.9 dB (at 31.25 MHz)                          |
|                                                        | 44.4 dB (at 62.5 MHz)                           |
|                                                        | 41.3 dB (at 100 MHz)                            |
| Power-summated near end crosstalk attenuation (PSNEXT) | 62.3 dB (with 1 MHz)                            |
|                                                        | 53.3 dB (at 4 MHz)                              |
|                                                        | 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)                            |
| Return attenuation (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)                            |
| Shield attenuation                                     | 3.2 dB (with 1 MHz)                             |
|                                                        | 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)                              |
| Halogen-free                                           | according to IEC 60754-1                        |
| Flame resistance                                       | according to IEC 60332-1-2                      |
| Resistance to oil                                      | in accordance with 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                                |

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## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



Pin assignment M12 plug, 8-pos., view plug side

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Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

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## Classifications

### ECLASS

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

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