

NBC-M12FSD/ 1,0-93B/R4RC - Network cable



1407544

<https://www.phoenixcontact.com/us/products/1407544>

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Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded (Advanced Shielding Technology), Socket straight M12, coding: D / IP67, on Plug straight RJ45 Push Pull / IP67, cable length: 1 m

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1407544 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF04 |
| Product key | AF1CJN |
| GTIN | 4046356778497 |
| Weight per piece (including packing) | 156 g |
| Weight per piece (excluding packing) | 156 g |
| Customs tariff number | 85444210 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|---------------------|-------------------------|
| Product type | Data cable preassembled |
| Application | Standard |
| Sensor type | PROFINET |
| Number of positions | 4 |
| Shielded | yes |

Interfaces

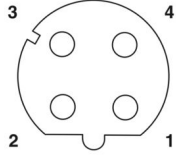
| | |
|----------------------|---|
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps EtherCAT® CAT5 (IEC 11801), 100 Mbps |
|----------------------|---|

Electrical properties

| | |
|-----------------------|----------|
| Nominal voltage U_N | 48 V AC |
| | 60 V DC |
| Nominal current I_N | 1 A |
| Transmission medium | Copper |
| Transmission speed | 100 Mbps |

Connector

Connection 1

| | |
|-----------------------------|---|
| Dimensional drawing |  <p>Pin assignment M12 socket, 4-pos., D-coded, female side</p> |
| Type | M12 Socket, straight, 4-position, shielded (Advanced Shielding Technology), Keying: D |
| Number of positions | 4 |
| Shielded | yes |
| Shielding | Advanced Shielding Technology |
| Signal type/category | EtherCAT® CAT5 (IEC 11801), 100 Mbps PROFINET CAT5 (IEC 11801) |
| Insertion/withdrawal cycles | ≥ 100 |
| Insulation resistance | ≥ 100 MΩ |
| Overvoltage category | II |
| Degree of pollution | 3 |
| Tightening torque | 0.4 Nm |
| Material Contact | CuSn |
| Material Contact surface | Ni/Au |

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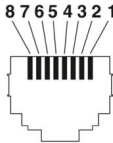


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| | |
|--|---|
| Material Contact carrier | PA 6.6 |
| Material Screw connection | Die-cast zinc, nickel-plated |
| Material Grip body | TPU, hardly inflammable, self-extinguishing |
| Material Seal | FKM |
| Flammability rating according to UL 94 | V0 |
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) | -25 °C ... 85 °C |
| Standard designation | M12 connector |
| Standards/regulations | IEC 61076-2-101 |

Connection 2

| | |
|--|--|
| Dimensional drawing |  <p>Connector pin assignment plug RJ45</p> |
| Type | RJ45 Plug, straight |
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps EtherCAT® CAT5 (IEC 11801) |
| Insertion/withdrawal cycles | ≥ 750 |
| Insulation resistance | ≥ 100 MΩ |
| Overvoltage category | I |
| Degree of pollution | 2 |
| Material Contact | CuSn |
| Material Contact surface | Ni/Au |
| Material Contact carrier | PC |
| Material Housing | PA-GF |
| Color (Housing) | gray |
| Flammability rating according to UL 94 | V2 |
| Degree of protection | IP20 |
| Ambient temperature (operation) | -40 °C ... 70 °C |

Cable/line

| | |
|--------------|-----|
| Cable length | 1 m |
|--------------|-----|


PROFINET PVC stranded CAT5 [93B]

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| | |
|---|--|
| Dimensional drawing |  |
| UL AWM Style | 21695 (80 °C / 600 V) |
| Number of positions | 4 |
| Shielded | yes |
| Cable type | PROFINET PVC stranded CAT5 [93B] |
| Conductor structure | 1x4xAWG22/7, SF/TQ |
| AWG signal line | 22 |
| Conductor cross-section | 4x 0.34 mm ² |
| Wire diameter incl. insulation | 1.5 mm ±0.1 mm |
| External cable diameter | 6.50 mm ±0.2 mm |
| Outer sheath, material | PVC |
| External sheath, color | green RAL 6018 |
| Conductor material | Tin-plated Cu litz wires |
| Material wire insulation | PE |
| Single wire, color | white, yellow, blue, orange |
| Overall twist | Star quad |
| Optical shield covering | 85 % |
| Insulation resistance | ≥ 5 GΩ*km |
| Loop resistance | ≤ 120.00 Ω/km |
| Wave impedance | 100 Ω ±5 Ω (at 100 MHz) |
| Nominal voltage, cable | ≤ 600 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 |
| Flame resistance | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1) UL 1685 (CSA FT 4) UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2) |
| Resistance to oil | OIL RES I according to UL 2256 |
| Other resistance | UV resistant (according to UL 1581, Section 1200) |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) -10 °C ... 70 °C (Cable, flexible installation) |

Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Dimensional drawing



RJ45 Push-Pull connector, IP67

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Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

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Schematic diagram



Connector pin assignment plug RJ45

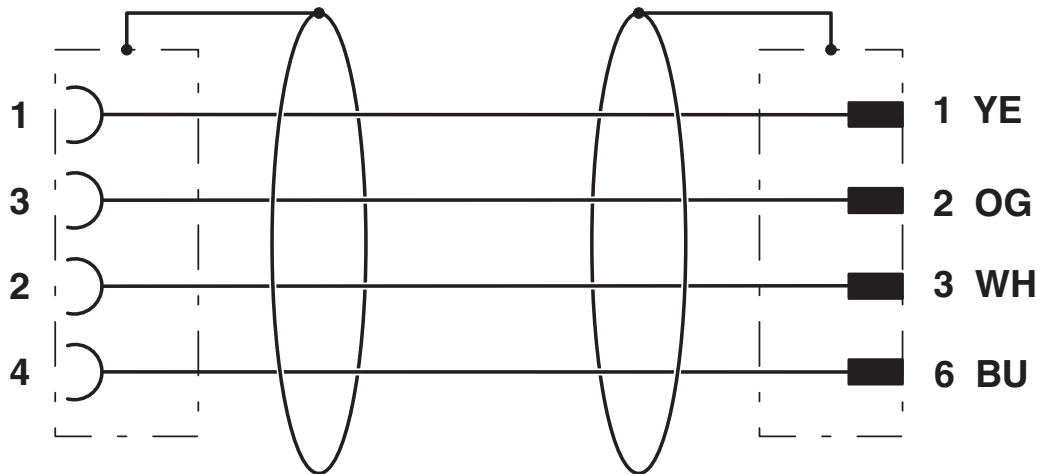
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Circuit diagram



Contact assignment of the M12 socket and the RJ45 plug

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Approvals

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EAC-RoHS

Approval ID: RU D-DE.HB35.B.00387

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Classifications

ECLASS

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

UNSPSC

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

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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.) | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1) 2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)(CAS: 3147-75-9) |
| SCIP | 3f7b36f8-4066-4a10-a46a-043f1305fb5f |

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