

Network cable - NBC-M8MRD/5,0-93C/R4AC - 1080545

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Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PUR/FRNC halogen-free, green RAL 6018, shielded (Advanced Shielding Technology), Plug angled M8 / IP67, coding: D, on Plug straight RJ45 / IP20, cable length: 5 m



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4055626804880 |

Technical data

Dimensions

| | |
|-----------------|-----|
| Length of cable | 5 m |
|-----------------|-----|

Ambient conditions

| | |
|---------------------------------|----------------------------------|
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) | -25 °C ... 90 °C (M12 connector) |

General data

| | |
|-----------------------|--|
| Note | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 8.2 Connectors for Outside Environment (Balanced cabling) |
| Rated current at 40°C | 1 A |
| Rated voltage | 48 V AC |
| | 60 V DC |
| Number of positions | 4 |
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps |
| | EtherCAT® CAT5 (IEC 11801), 100 Mbps |
| Standards/regulations | M8 connector IEC 61076-2-114 |

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Technical data

General data

| | |
|---|------|
| Transmission characteristics (category) | CAT5 |
|---|------|

Characteristics head 1

| | |
|--|--|
| Head type | Plug angled M8 / IP67 |
| No. of positions (pin connector pattern) | 4 |
| Coding | D (Data) |
| Color | black |
| Material (component) | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | PA 6.6 (Contact carriers) |
| | TPU, hardly inflammable, self-extinguishing (Grip) |
| | Brass, nickel-plated (Screw connection) |
| Shielded | yes |
| Insulation resistance | ≥ 100 MΩ |
| Insertion/withdrawal cycles | ≥ 100 |
| Torque | 0.2 Nm |
| Ambient temperature (operation) | -25 °C ... 90 °C |
| Shielded | yes |
| Outer sheath, material | PUR |
| External sheath, color | green RAL 6018 |
| Type type, plug side | Plug angled |
| Type type, socket side | Plug, straight |

Characteristics head 2

| | |
|--|---------------------------|
| Head type | Plug straight RJ45 / IP20 |
| No. of positions (pin connector pattern) | 4 (8) |
| Color | black |
| Material (component) | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | PA (Contact carriers) |
| | PA (Housing) |
| Insertion/withdrawal cycles | ≥ 750 |
| Ambient temperature (operation) | -25 °C ... 80 °C |

Standards and Regulations

| | |
|--------------------------|------------------------------|
| Standards/specifications | M8 connector IEC 61076-2-114 |
|--------------------------|------------------------------|

Cable

| | |
|---------------------------|--|
| Product labeling | "sequential length in metres" PN-CABLE-934-C / PUR-4X22AWG/7 Trailing * 22AWG (SHIELDED) (UL) E119100 CMX 75°C VERIFIED (UL) CAT 5E PATCH CABLE FRNC * (Cable printing cable supplier) |
| Cable type | PROFINET drag chain CAT5 |
| Cable type (abbreviation) | 93C |
| Signal type/category | PROFINET CAT5 (IEC 11801), 100 Mbps |

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Technical data

Cable

| | |
|---|--|
| | EtherCAT® CAT5 (IEC 11801), 100 Mbps |
| Cable structure | 1x4xAWG22/7; SF/TQ |
| Conductor cross section | 4x 0.34 mm² |
| AWG signal line | 22 |
| Conductor structure signal line | 7x 0.25 mm |
| Core diameter including insulation | 1.5 mm |
| Wire colors | White, yellow, blue, orange |
| Overall twist | Star quad |
| Shielding | Aluminum-coated foil, tinned copper braided shield |
| Optical shield covering | 85 % |
| External sheath, color | green RAL 6018 |
| Outer sheath thickness | approx. 0.9 mm |
| External cable diameter D | 6.5 mm ±0.2 mm |
| Minimum bending radius, fixed installation | 5 x D |
| Minimum bending radius, flexible installation | 7.5 x D |
| Number of bending cycles | 3000000 |
| Bending radius | 100 mm |
| Traversing path | 10 m |
| Traversing rate | 4 m/s |
| Acceleration | 4 m/s² |
| Torsion force | ± 30 °/m |
| Tensile strength GRP | ≤ 150 N |
| Cable weight | 61 kg/km |
| Outer sheath, material | PUR |
| Material, inner sheath | FRNC |
| Material conductor insulation | PE |
| Conductor material | Tin-plated Cu litz wires |
| Insulation resistance | ≥ 500 MΩ*km |
| Loop resistance | ≤ 120.00 Ω/km |
| Wave impedance | 100 Ω ±15 Ω (at 1 ... 100 MHz) |
| Near end crosstalk attenuation (NEXT) | 80 dB (with 1 MHz) |
| | 76 dB (at 4 MHz) |
| | 70 dB (at 10 MHz) |
| | 65 dB (at 16 MHz) |
| | 63 dB (at 20 MHz) |
| | 60 dB (at 31.25 MHz) |
| | 55 dB (at 62.5 MHz) |
| | 50 dB (at 100 MHz) |
| Attenuation | 2.1 dB (with 1 MHz) |
| | 4 dB (at 4 MHz) |

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Technical data

Cable

| | |
|---|---|
| | 6.3 dB (at 10 MHz) |
| | 8 dB (at 16 MHz) |
| | 9 dB (at 20 MHz) |
| | 11.4 dB (at 31.25 MHz) |
| | 16.5 dB (at 62.5 MHz) |
| | 21.3 dB (at 100 MHz) |
| Signal speed | 0.66 c |
| Signal runtime | 5.3 ns/m |
| Coupling resistance | ≤ 20.00 mΩ/m (at 10 MHz) |
| Nominal voltage, cable | 600 V (UL rating) |
| Test voltage Core/Core | 2000 V (50 Hz, 1 min.) |
| Test voltage Core/Shield | 2000 V (50 Hz, 1 min.) |
| Special properties | Electrical properties according to EN 50288-2-2 |
| Flame resistance | according to IEC 60332-1-2 |
| Halogen-free | yes |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Other resistance | UV resistant |
| Ambient temperature (operation) | -40 °C ... 70 °C (cable, fixed installation) |
| | -40 °C ... 70 °C (cable, flexible installation) |
| Ambient temperature (installation) | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -50 °C ... 70 °C |

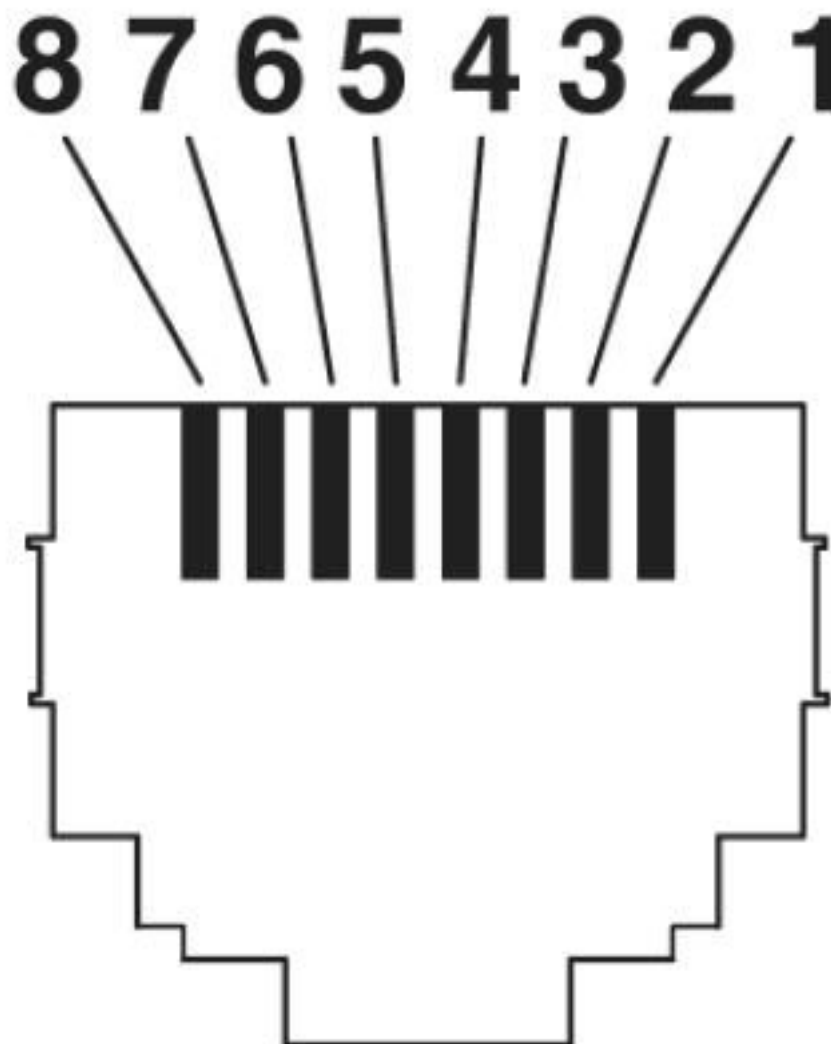
Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

Network cable - NBC-M8MRD/5,0-93C/R4AC - 1080545

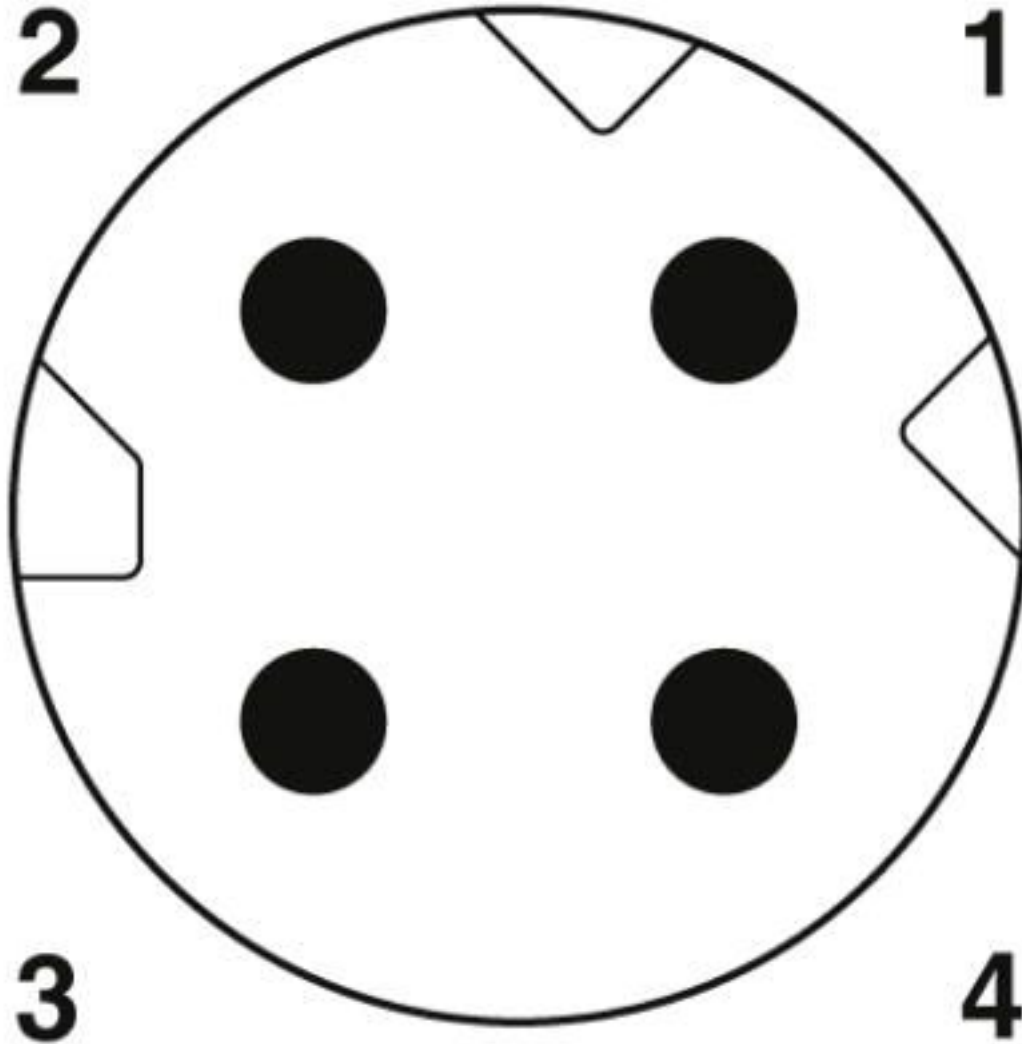
Schematic diagram



Connector pin assignment plug RJ45

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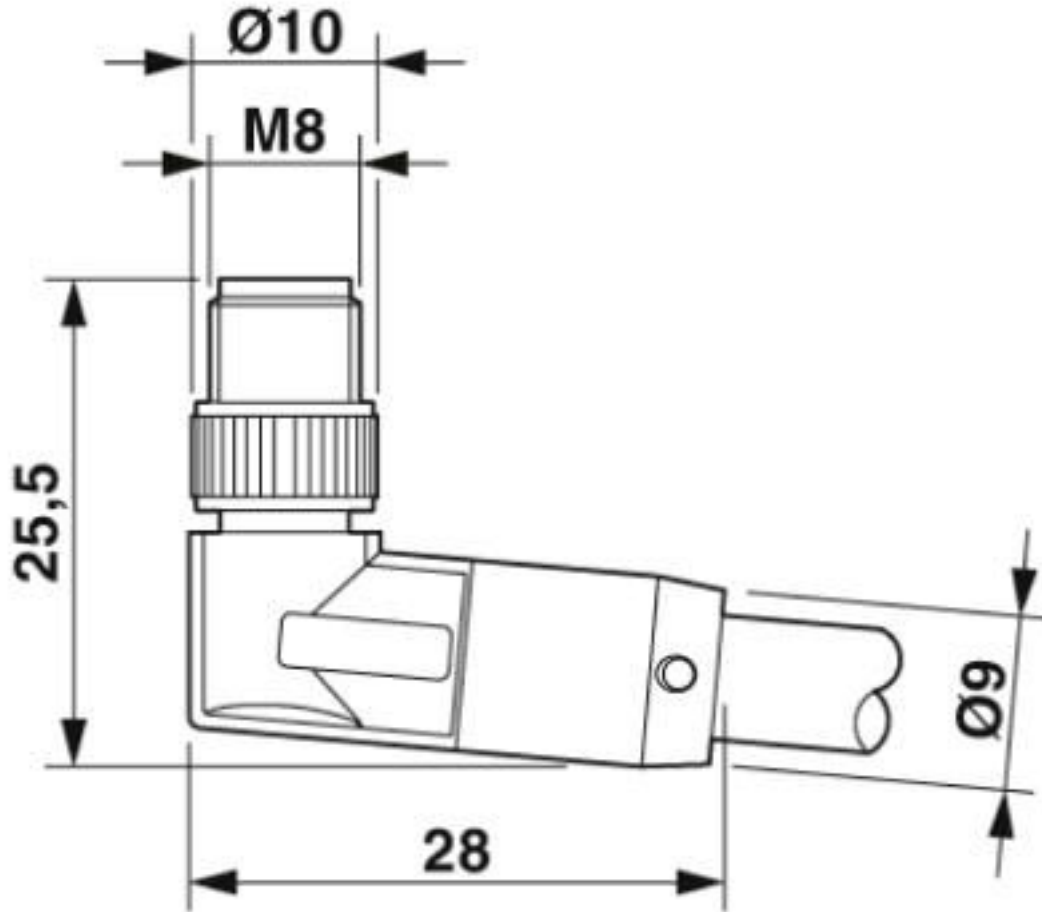
Schematic diagram



Pin assignment M8 male connector, 4-pos., D-coded, view of pin side

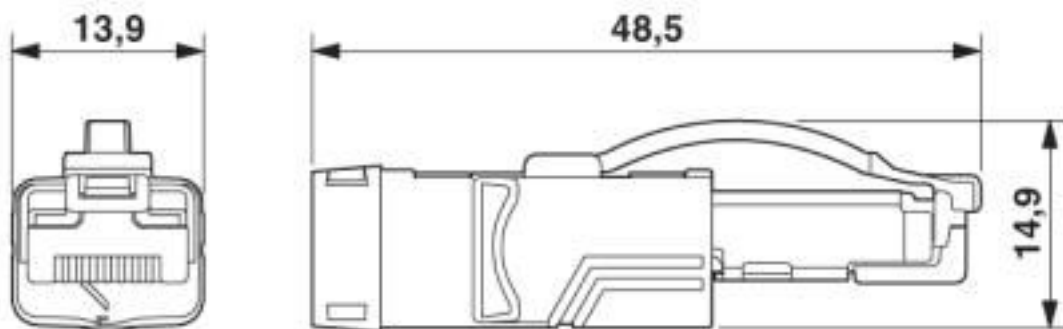
Network cable - NBC-M8MRD/5,0-93C/R4AC - 1080545

Dimensional drawing



Plug M8 x 1, angled, shielded

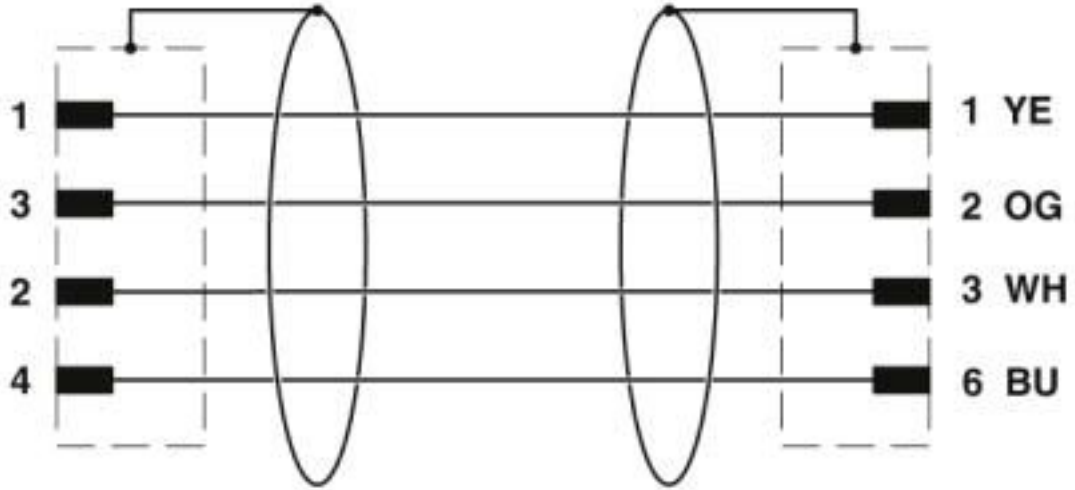
Dimensional drawing



RJ45 connector, IP20

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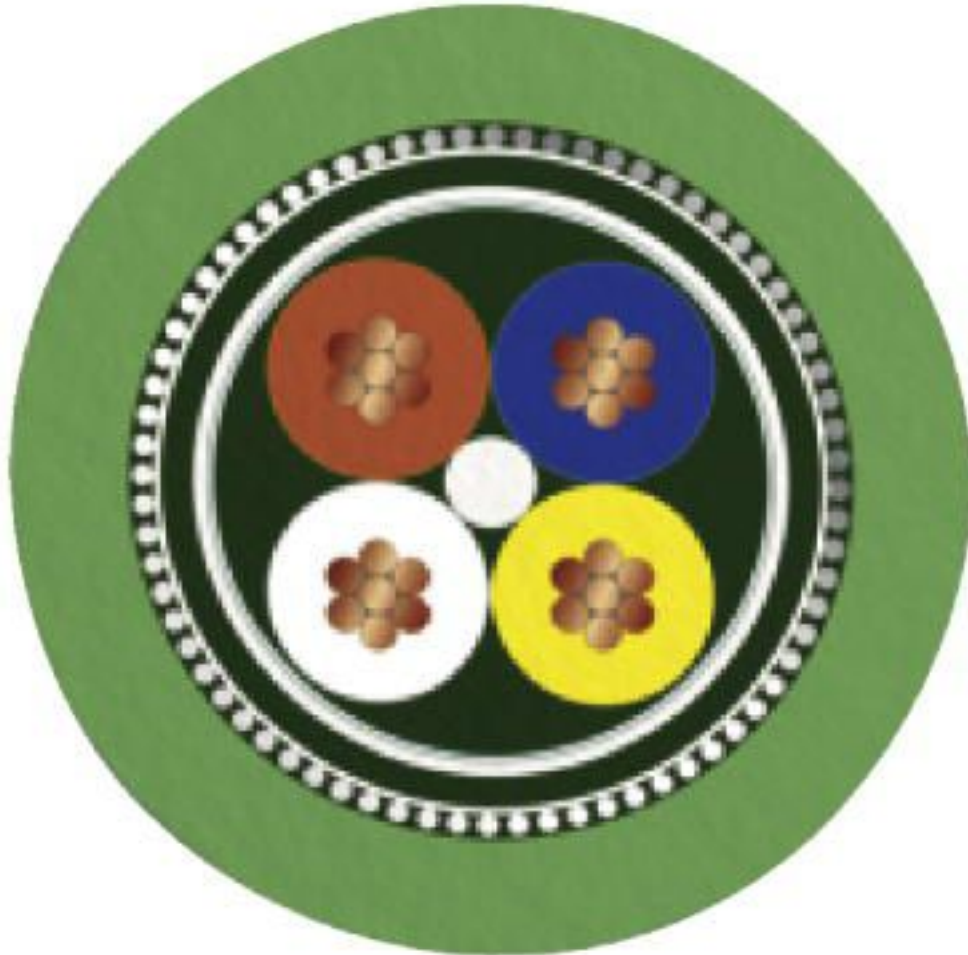
Circuit diagram



Contact assignment of the M8 and RJ45 plug

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Cable cross section



PROFINET drag chain CAT5 [93C]

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 8.0 | 27060308 |
| eCl@ss 9.0 | 27060308 |

ETIM

| | |
|----------|----------|
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

Network cable - NBC-M8MRD/5,0-93C/R4AC - 1080545

Approvals

Approvals

Approvals

EAC-RoHS

Ex Approvals

Approval details

| | | |
|----------|---|--------------------------|
| EAC-RoHS |  | RU D- DE.HB35.B.00385 |
|----------|---|--------------------------|

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