

NBC-M12FSY/1,0-94H - Hybrid cable



1149275

<https://www.phoenixcontact.com/us/products/1149275>

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Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, PUR halogen-free, black RAL 9005, shielded (Advanced Shielding Technology), Socket straight M12, coding: Y / IP65/IP67, on free cable end, cable length: 1 m, Power with Ethernet (PWE)

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1149275 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF04 |
| Product key | AF1CML |
| GTIN | 4063151144098 |
| Weight per piece (including packing) | 134.6 g |
| Weight per piece (excluding packing) | 147.6 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

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Technical data

Product properties

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

Interfaces

| | |
|----------------------|--|
| Bus system | Ethernet |
| Signal type/category | Ethernet hybrid CAT5 (IEC 11801), 100 Mbps |

Signaling

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

Electrical properties

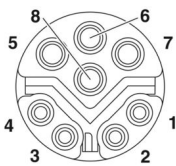
| | |
|-----------------------|--------------------------|
| Nominal voltage U_N | 48 V AC (Power and data) |
| | 50 V DC (Power and data) |
| Nominal current I_N | 6 A (Power) |
| | 0.5 A (Data) |
| Transmission medium | Copper |
| Transmission speed | 100 Mbps |

Material specifications

| | |
|--|----|
| Flammability rating according to UL 94 | V0 |
|--|----|

Connector

Connection 1

| | |
|----------------------|---|
| Dimensional drawing |  <p>M12 hybrid plug pin assignment, 8-pos., Y-coded, socket side view</p> |
| Type | M12 Socket, straight, 8-position, shielded (Advanced Shielding Technology), Keying: Y |
| Number of positions | 8 |
| Shielded | yes |
| Shielding | Advanced Shielding Technology |
| Signal type/category | EtherCAT® CAT5 (IEC 11801), 100 Mbps |

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| | |
|--|---|
| | 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 | 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 61076-2-113 |


Connection 2

| | |
|------|----------------|
| Type | free cable end |
|------|----------------|

Cable/line

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

Ethernet hybrid [94H]

| | |
|--------------------------------|--|
| Dimensional drawing |  |
| UL AWM Style | 20233 (80°C/300 V) |
| Number of positions | 8 |
| Shielded | yes |
| Cable type | Ethernet hybrid [94H] |
| Conductor structure | 1x4x AWG 26+1x4x AWG 18 |
| AWG signal line | 26 |
| AWG power supply | 18 |
| Conductor cross-section | 4x 0.15 mm ² (Data) 4x 0.85 mm ² (Power) |
| Wire diameter incl. insulation | 1.03 mm ±0.02 mm (Data) 1.6 mm ±0.1 mm (Power) |

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| | |
|---|--|
| External cable diameter | 8.80 mm ±0.2 mm |
| Outer sheath, material | PUR |
| External sheath, color | black RAL 9005 |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | PP (Data) |
| | PP (Power) |
| Single wire, color | white/orange, orange, white/green, green, white, blue, brown, black |
| Overall twist | 1 star quad and 4 wires with 2 fillers |
| Optical shield covering | 85 % |
| Insulation resistance | ≥ 5 GΩ*km |
| Loop resistance | ≤ 280.00 Ω/km (Data) |
| | ≤ 45.00 Ω/km (Power) |
| Wave impedance | 100 Ω ±5 Ω (at 100 MHz) |
| Differential impedance | 100 Ω ±5 % (at 100 MHz) |
| Nominal voltage, cable | ≤ 125 V (Peak value, not for high-power applications) |
| 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 |
| Dynamic load capacity (bending) | Max. bending cycles: 2000000, Bending radius: 15 x D, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 3 m/s ² , Ambient temperature: -20 °C ... 60 °C |
| Shield attenuation | ≥ 80.00 dB (30 MHz ... 100 MHz) |
| Halogen-free | according to IEC 60754-1 |
| Flame resistance | UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1) |
| | IEC 60332-1-2 |
| Resistance to oil | in accordance with IEC 60811-404 |
| | According to DIN EN 50363-10-2 |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -30 °C ... 70 °C (Cable, flexible installation) |
| | -20 °C ... 60 °C (for installation) |
| | -20 °C ... 60 °C (cable, drag chain applications) |

Environmental and real-life conditions

Ambient conditions

| | |
|----------------------|------|
| Degree of protection | IP65 |
| | IP67 |

Standards and regulations

| | |
|--------------------------|-----------------|
| Standard designation | M12 connector |
| Standards/specifications | IEC 61076-2-113 |

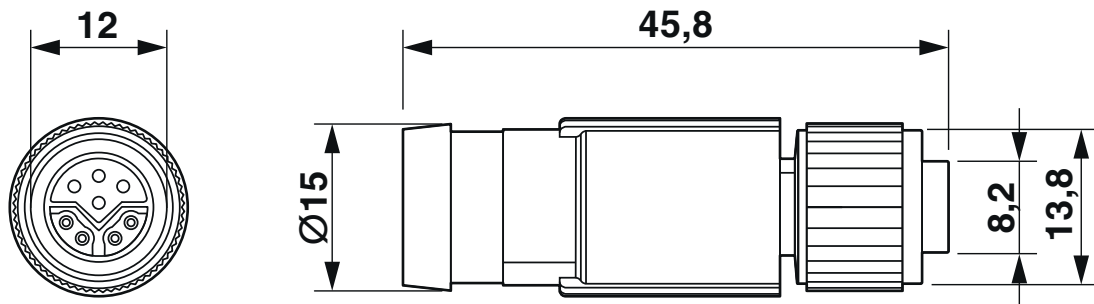
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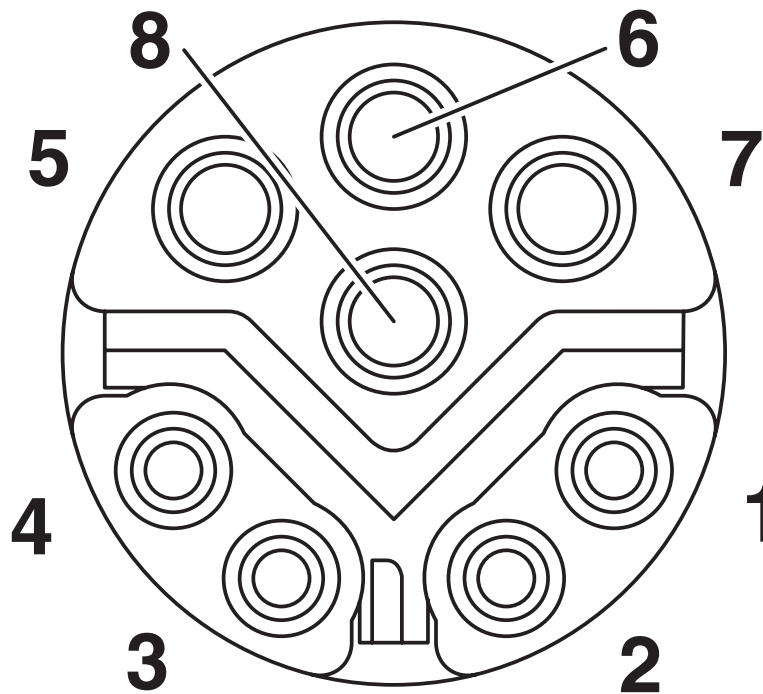
Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Schematic diagram



M12 hybrid plug pin assignment, 8-pos., Y-coded, socket side view

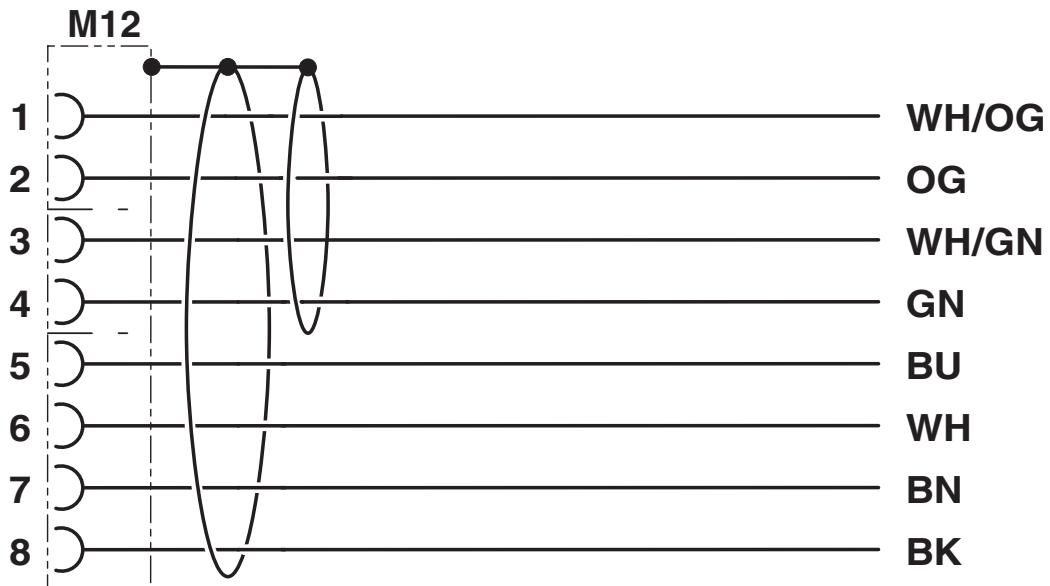
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Circuit diagram



Contact assignment of the M12 socket

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1149275>

|  UL Listed Approval ID: FILE E 335024 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 56.5 V | 0.175 A | - | - |

|  cUL Listed Approval ID: FILE E 335024 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 56.5 V | 0.175 A | - | - |

|  cUL Listed Approval ID: E221474 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| Power | 48 V | 6 A | - | - |
| Data | 50 V | 0.5 A | - | - |

|  UL Listed Approval ID: E221474 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| Power | 48 V | 6 A | - | - |
| Data | 50 V | 0.5 A | - | - |

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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.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 3.858 kg CO2e |
|---------|---------------|

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