

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position halogen-free, shielded (Advanced Shielding Technology), Socket straight M12, coding: Y / IP65/IP67, on Socket straight M12, coding: Y / IP65/IP67, cable length: 25 m, Power with Ethernet (PWE)

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1146454 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product key | BF1CML |
| GTIN | 4063151137632 |
| Weight per piece (including packing) | 2,803.5 g |
| Weight per piece (excluding packing) | 2,803.5 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

1146454

<https://www.phoenixcontact.com/pc/products/1146454>

Technical data

Product properties

| | |
|----------------------|-------------------------|
| Product type | Data cable preassembled |
| Sensor type | Ethernet hybrid |
| Number of positions | 8 |
| Application | Standard |
| 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 |

Material specifications

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

Connector

Connection 1

| | |
|-----------------------------|--|
| Type | Socket straight M12 / IP65/IP67 |
| Number of positions | 8 (4+4) |
| Coding type | Y (Hybrid) |
| Shielded | yes |
| Handle color | black |
| Material | CuZn (Contact) |
| | Ni/Au (Contact surface) |
| | PA (Contact carrier, data) |
| | PA (Contact carrier, power) |
| | TPU, hardly inflammable, self-extinguishing (Grip) |
| Insertion/withdrawal cycles | Zinc die-cast, nickel-plated (Screw connection) |
| | ≥ 100 |

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

| | |
|---------------------------------|------------------|
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Tightening torque | 0.4 Nm |
| Degree of protection | IP65/IP67 |
| Ambient temperature (operation) | -25 °C ... 90 °C |
| Number of positions | 8 |
| Insertion/withdrawal cycles | 100 |


Connection 2

| | |
|---------------------------------|---|
| Type | Socket straight M12 / IP65/IP67 |
| Number of positions | 8 (4+4) |
| Coding type | Y (Hybrid) |
| Shielded | yes |
| Handle color | black |
| Material | CuZn (Contact) Ni/Au (Contact surface) PA (Contact carrier, data) PA (Contact carrier, power) TPU, hardly inflammable, self-extinguishing (Grip) Zinc die-cast, nickel-plated (Screw connection) |
| Insertion/withdrawal cycles | ≥ 100 |
| Tightening torque | 0.4 Nm |
| Ambient temperature (operation) | -25 °C ... 90 °C |
| Number of positions | 8 |
| Degree of protection | IP65/IP67 |

Cable/line

| | |
|--------------|------|
| Cable length | 25 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 |
| Conductor structure signal line | 19x 0.10 mm |
| AWG signal line | 26 |

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

| | |
|---|---|
| Conductor cross section | 4x 0.15 mm ² (Data) |
| | 4x 0.85 mm ² (Power) |
| Wire diameter incl. insulation | 1.05 mm (Data) |
| | 1.4 mm (Power) |
| External cable diameter | 8.8 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 ±15 Ω (4 MHz ... 100 MHz) |
| Working capacitance | nom. 50 nF (per kilometer) |
| 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 V (50 Hz, 1 min.) |
| Minimum bending radius, fixed installation | 4 x D |
| Minimum bending radius, flexible installation | 8 x D |
| Max. bending cycles | 2000000 |
| Tensile strength | 85 N (in accordance with DIN EN 50565-1 for flexible installation) |
| | 295 N (in accordance with DIN EN 50565-1 for fixed installation) |
| Near end crosstalk attenuation (NEXT) | 56.3 dB (at 4 MHz) |
| | 50.3 dB (at 10 MHz) |
| | 47.2 dB (at 16 MHz) |
| | 45.8 dB (at 20 MHz) |
| | 42.9 dB (at 31.25 MHz) |
| | 38.4 dB (at 62.5 MHz) |
| | 35.3 dB (at 100 MHz) |
| Shield attenuation | 6.2 dB (at 4 MHz) |
| | 9.8 dB (at 10 MHz) |
| | 12.4 dB (at 16 MHz) |
| | 13.9 dB (at 20 MHz) |
| | 17.6 dB (at 31.25 MHz) |
| | 25.4 dB (at 62.5 MHz) |
| | 32.8 dB (at 100 MHz) |
| ≥ 80 dB (30 MHz ... 100 MHz) | |
| Halogen-free | according to IEC 60754-1 |

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

| | |
|---------------------------------|---|
| | in accordance with DIN VDE 0472 part 815 |
| Flame resistance | in accordance with UL 1581, Section 1060 |
| | in acc. with UL 1581, section 1061 |
| | in accordance with UL 2556, Section 9.3 |
| Resistance to oil | in accordance with IEC 60811-404 |
| | According to DIN EN 50363-10-2 |
| Other resistance | Low adhesion |
| | Hydrolysis resistance DIN EN 50396 |
| Special properties | Free of substances which would hinder coating with paint or varnish |
| | Silicone-free |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -30 °C ... 70 °C (Cable, flexible installation) |

Environmental and real-life conditions

Ambient conditions

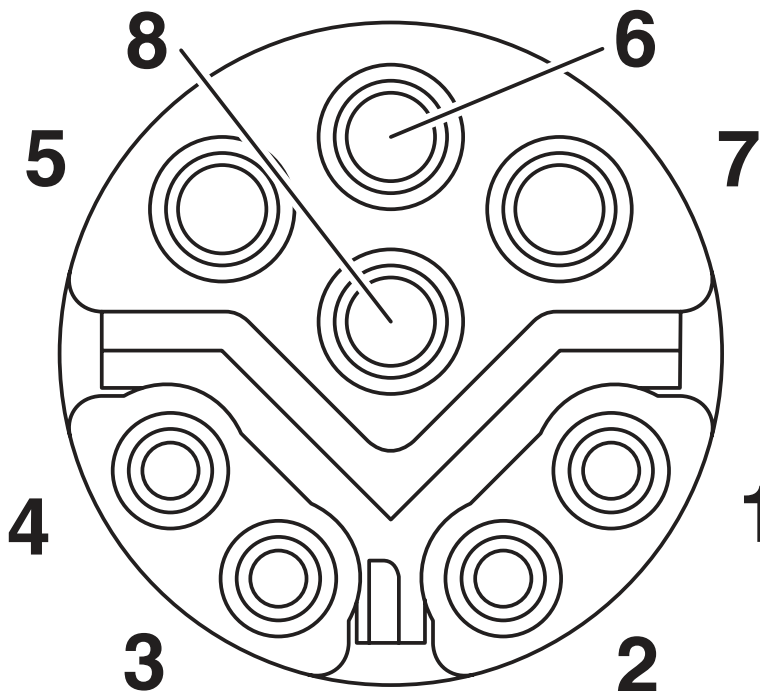
| | |
|----------------------|-----------|
| Degree of protection | IP65 |
| | IP67 |
| | IP65/IP67 |

Standards and regulations

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

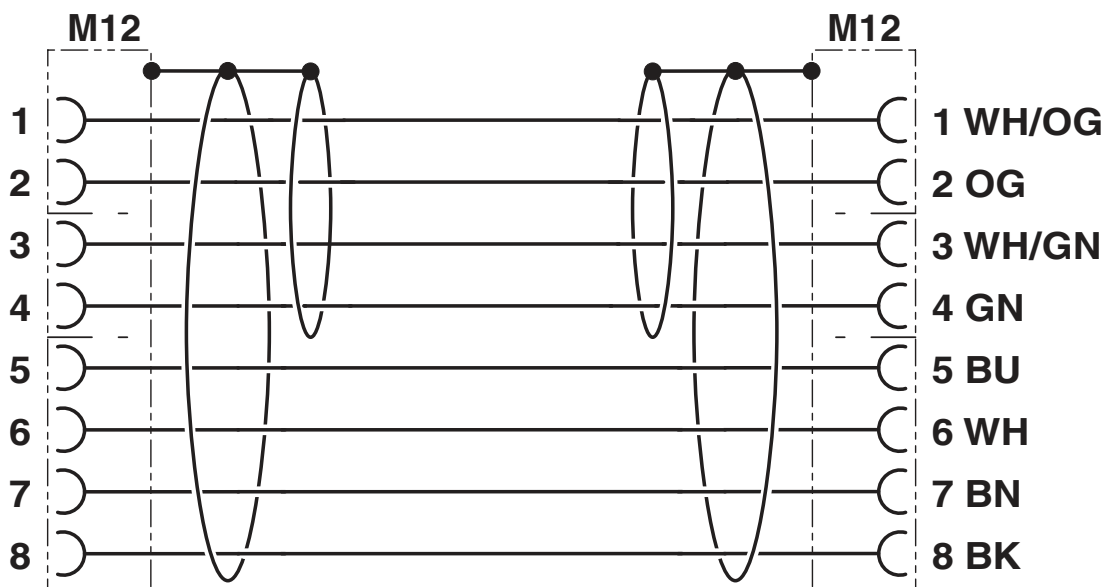
Drawings

Schematic diagram



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

Circuit diagram



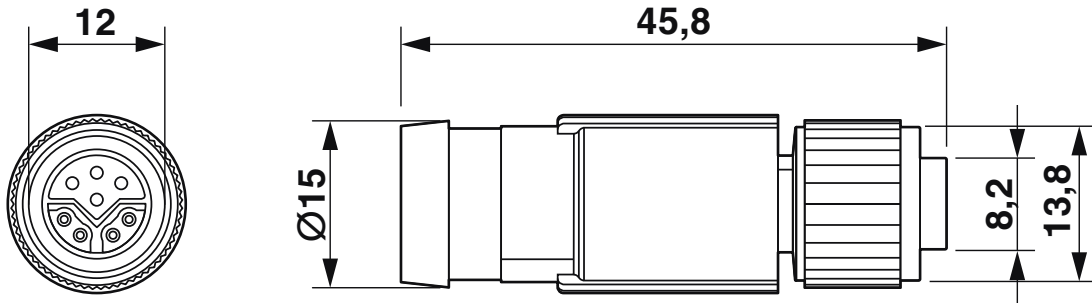
NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

Dimensional drawing



M12 x 1 socket, straight, shielded

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable





1146454


<https://www.phoenixcontact.com/pc/products/1146454>


Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1146454>

|  UL Listed Approval ID: FILE E 335024 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 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 |
| | 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 |
| 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 |
| Power | 48 V | 6 A | - | - |
| Data | 50 V | 0.5 A | - | - |

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27060307 |
| ECLASS-12.0 | 27060307 |
| ECLASS-13.0 | 27060307 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

UNSPSC

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

NBC-M12FSY/25,0-94H/M12FSY - Hybrid cable



1146454

<https://www.phoenixcontact.com/pc/products/1146454>

Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

Phoenix Contact 2023 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com