

# NBC-M12FRY/3,0-94H - Hybrid cable



1149273

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Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, PUR halogen-free, black RAL 9005, shielded (Advanced Shielding Technology), Socket angled M12, coding: Y / IP65/IP67, on free cable end, cable length: 3 m, Power with Ethernet (PWE)

## Commercial data

Item number	1149273
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CML
GTIN	4063151144524
Weight per piece (including packing)	22.22 g
Weight per piece (excluding packing)	22.22 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

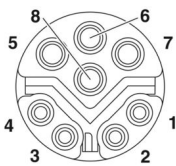
Nominal voltage $U_N$	48 V AC (Power and data)
	50 V DC (Power and data)
Nominal current $I_N$	6 A (Power)
	0.5 A (Data)
Transmission medium	Copper
Transmission speed	100 Mbps

### Material specifications

Flammability rating according to UL 94	V0
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### Connector

#### Connection 1

Dimensional drawing	 <p>M12 hybrid plug pin assignment, 8-pos., Y-coded, socket side view</p>
Type	M12 Socket, angled, 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
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## Cable/line

Cable length	3 m
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## Ethernet hybrid [94H]

Dimensional drawing	
Cable weight	110 kg/km
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
Conductor structure, voltage supply	19x 0.20 mm
AWG power supply	18
Conductor cross-section	4x 0.15 mm <sup>2</sup> (Data)

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	4x 0.85 mm <sup>2</sup> (Power)
Wire diameter incl. insulation	1.05 mm (Data)
	1.4 mm (Power)
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 ±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	2000.00 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	36 mm
Smallest bending radius, movable installation	71 mm
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 <sup>2</sup> , Ambient temperature: -20 °C ... 60 °C
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)

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	≥ 80.00 dB (30 MHz ... 100 MHz)
Halogen-free	according to IEC 60754-1
Flame resistance	in accordance with DIN VDE 0472 part 815
	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

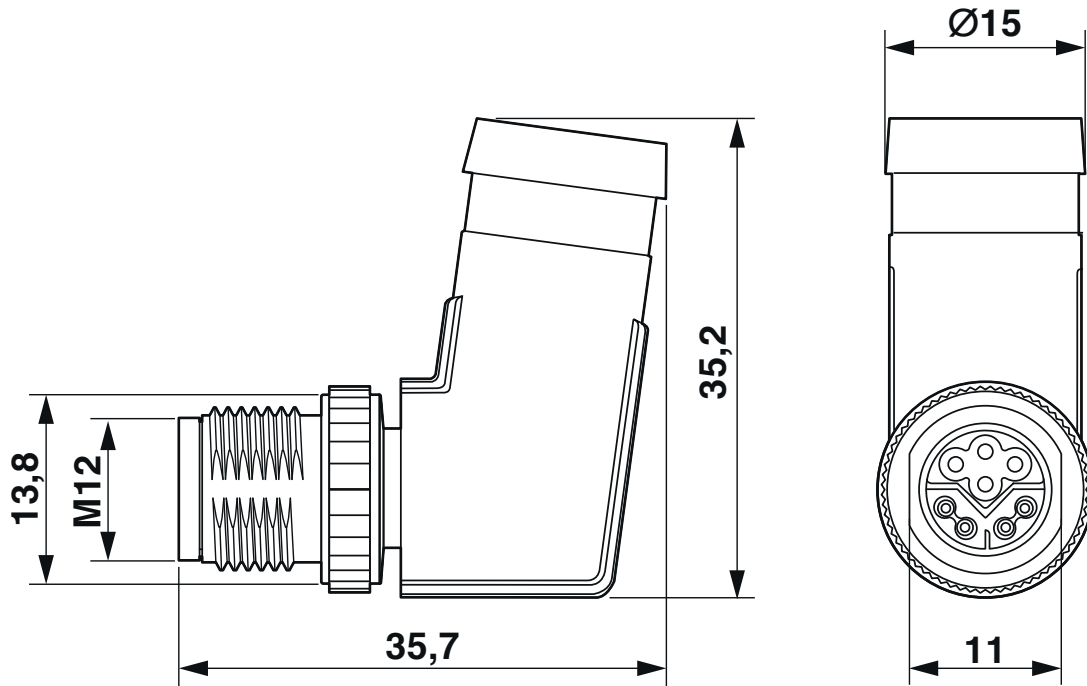
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## Drawings

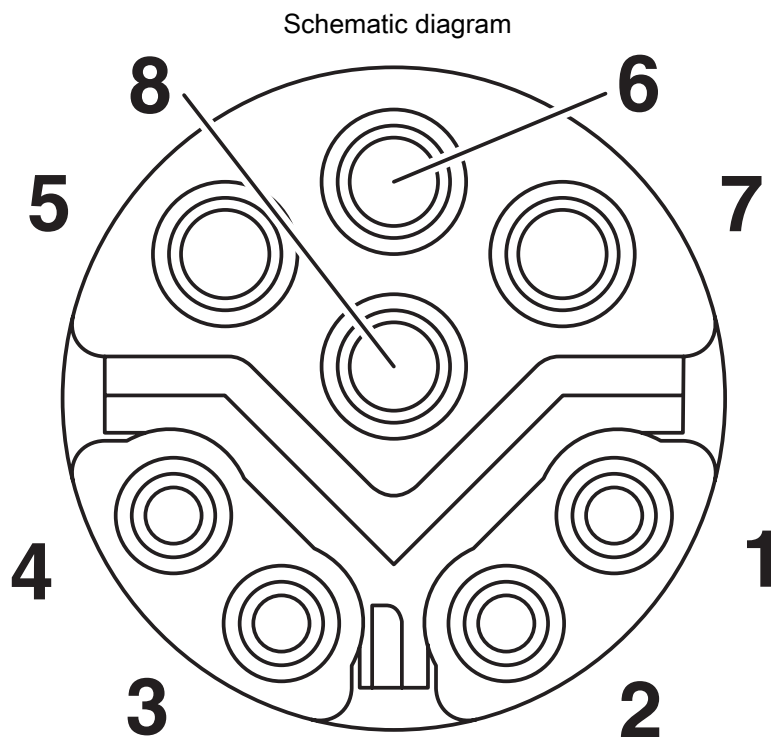
Dimensional drawing



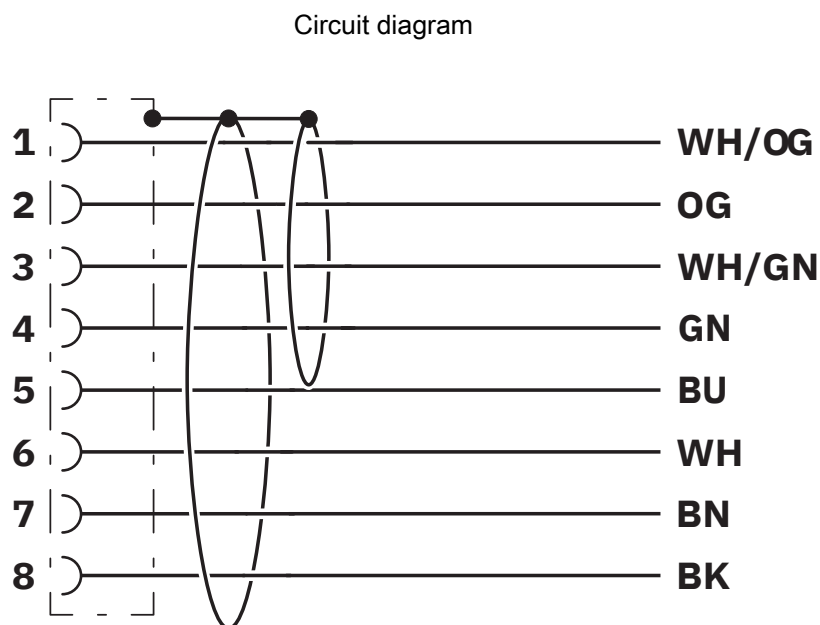
M12 x 1 socket, angled, shielded

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



Contact assignment of the M12 socket

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## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

### ETIM

ETIM 9.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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## Environmental product compliance

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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