

NBC-M12FRY/5,0-94H - Hybrid cable



1146412

<https://www.phoenixcontact.com/nl/products/1146412>

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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: 5 m, Power with Ethernet (PWE)

Commercial data

Item number	1146412
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	AF1CML
Product key	AF1CML
GTIN	4063151137618
Weight per piece (including packing)	587 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

Application	Standard
Sensor type	Ethernet hybrid
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

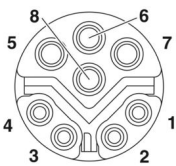
Nominal voltage U_N	48 V AC (Power and data)
	50 V DC (Power and data)
Nominal current I_N	6 A (Power)
	0.5 A (Data)
Transmission medium	Copper
Transmission speed	100 Mbps

Material specifications

Flammability rating according to UL 94	V0
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Connector

Connection 1

Dimensional drawing	 M12 hybrid plug pin assignment, 8-pos., Y-coded, socket side view
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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1146412

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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	5 m
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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 mm² (Data)
	4x 0.85 mm² (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 $\pm$ 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	$\geq 5 \text{ G}\Omega\cdot\text{km}$
Loop resistance	$\leq 280.00 \text{ }\Omega/\text{km}$ (Data) $\leq 45.00 \text{ }\Omega/\text{km}$ (Power)
Wave impedance	$100 \text{ }\Omega \pm 5 \text{ }\Omega$ (at 100 MHz)
Differential impedance	$100 \text{ }\Omega \pm 5 \text{ %}$ (at 100 MHz)
Nominal voltage, cable	$\leq 125 \text{ V}$ (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	$\geq 80.00 \text{ dB}$ (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)

Standards and regulations

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

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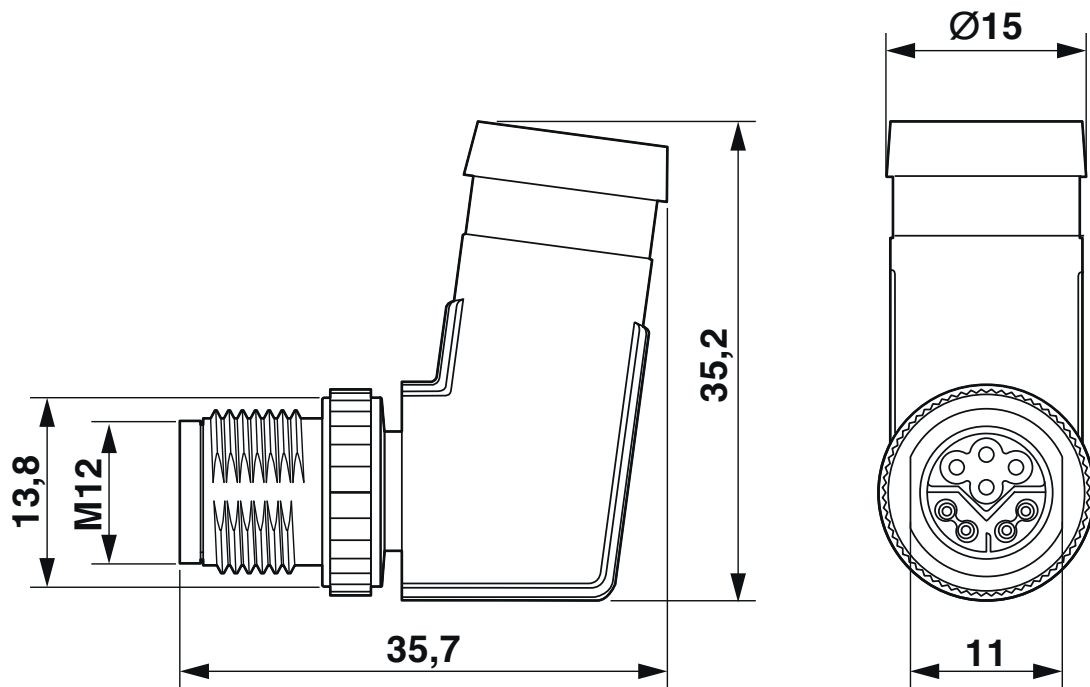
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Drawings

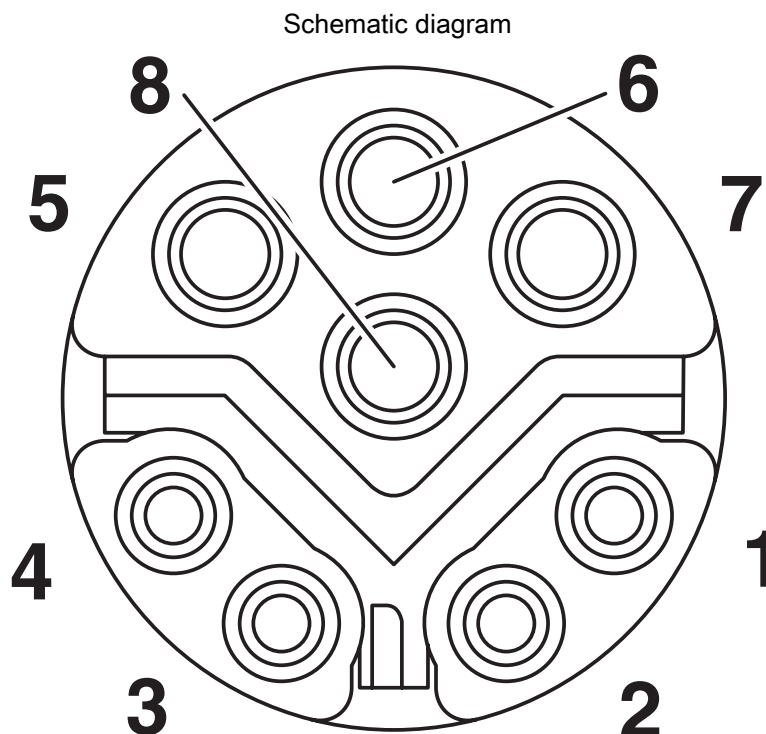
Dimensional drawing



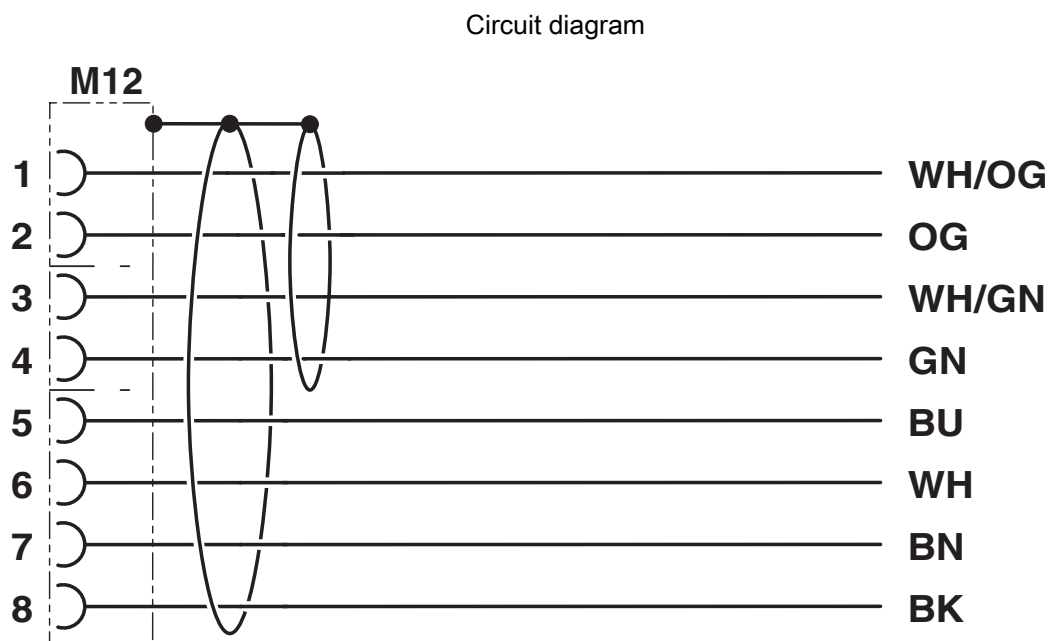
M12 x 1 socket, angled, shielded

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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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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/nl/products/1146412>

 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

ETIM

ETIM 10.0	EC001855
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UNSPSC

UNSPSC 21.0	26121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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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%
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EF3.1 Climate Change

CO2e kg	10,98 kg CO2e
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