NBC-M12FSY/10,0-94H/M12FSY - Hybrid cable

1146451

https://www.phoenixcontact.com/us/products/1146451

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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 Socket straight M12, coding: Y / IP65/IP67, cable length: 10 m, Power with Ethernet (PWE)

Commercial data

Item number	1146451
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CML
GTIN	4063151137243
Weight per piece (including packing)	1,158.8 g
Weight per piece (excluding packing)	1,156 g
Customs tariff number	85444290
Country of origin	PL

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

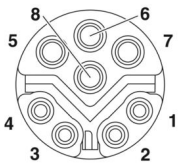
Nominal voltage U_N	48 V AC (Power and data)
	50 V DC (Power and data)
Nominal current I_N	6 A (Power)
	0.5 A (Data)
Transmission medium	Copper
Transmission speed	100 Mbps

Material specifications

Flammability rating according to UL 94	V0

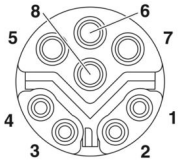
Connector

Connection 1

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

	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

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

Cable/line

Cable length	10 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 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)
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/s², 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

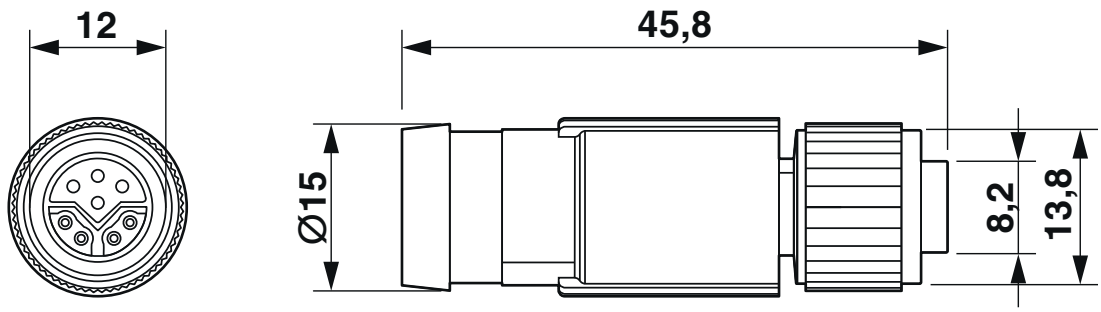
Degree of protection	IP65
	IP67

Standards and regulations

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

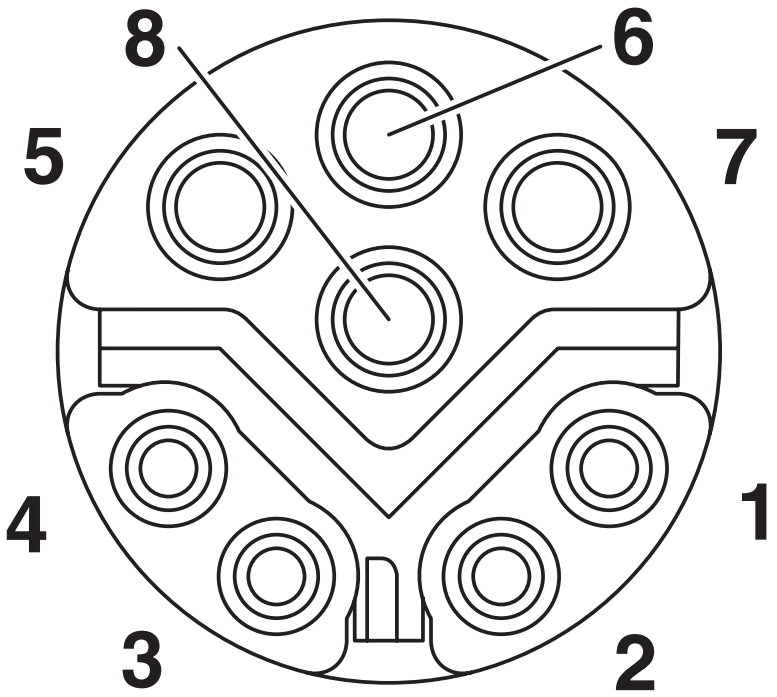
Drawings

Dimensional drawing



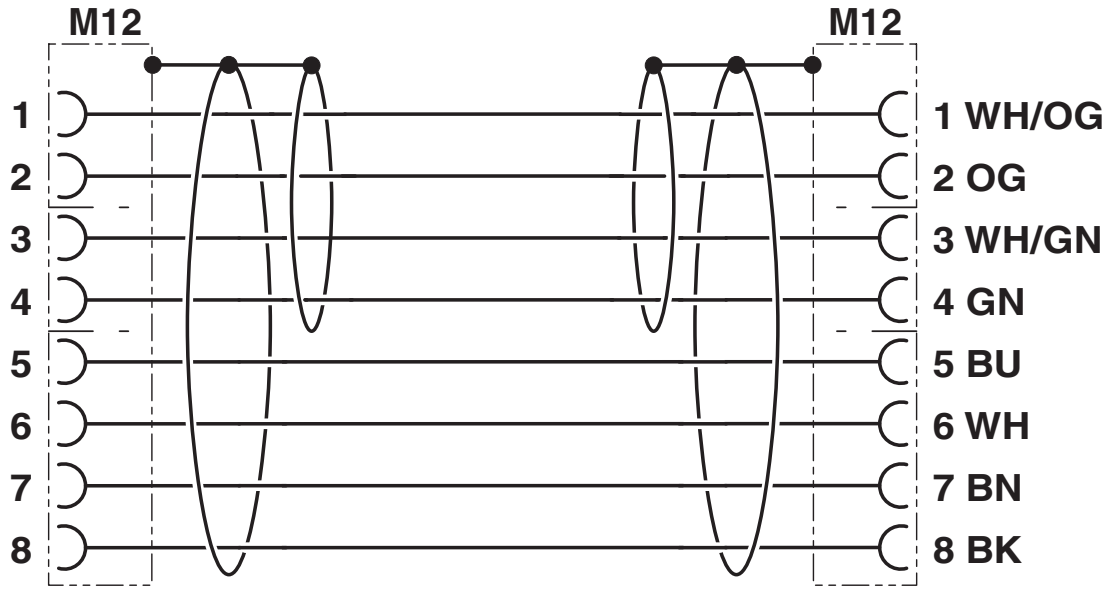
M12 x 1 socket, straight, shielded

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 sockets

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1146451

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	-	-

Classifications

ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

ETIM

ETIM 10.0	EC002599

UNSPSC

UNSPSC 21.0	26121600

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%

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