

NBC-MSY/10,0-94H SCO - Hybrid cable



1407490

<https://www.phoenixcontact.com/us/products/1407490>

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Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, PUR halogen-free, black RAL 9005, shielded, Plug straight M12 SPEEDCON, coding: Y / IP67, on free cable end, cable length: 10 m, Power with Ethernet (PWE)

Commercial data

Item number	1407490
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	BF04
Product key	AF1CML
GTIN	4046356777896
Weight per piece (including packing)	895.1 g
Weight per piece (excluding packing)	895.1 g
Customs tariff number	85444210
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

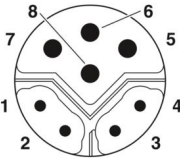
Status display	no
Status display present	no

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

Connector

Connection 1

Dimensional drawing	 <p>M12 hybrid plug pin assignment, 8-pos., Y-coded, pin side view</p>
Type	M12 Plug, 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 PROFINET CAT5 (IEC 11801), 100 Mbps
Insertion/withdrawal cycles	≥ 100

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Insulation resistance	≥ 100 MΩ
Overvoltage category	III
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	10 m
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Ethernet hybrid [94H]

Dimensional drawing	
Cable weight	87 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet hybrid [94H]
Conductor structure	1x4xAWG26 + 1x4xAWG20
Conductor structure signal line	19x 0.10 mm
AWG signal line	26
Conductor structure, voltage supply	19x 0.20 mm
AWG power supply	20
Conductor cross-section	4x 0.15 mm ² (Data) 4x 0.6 mm ² (Power)
Wire diameter incl. insulation	1.05 mm (Data)

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	1.4 mm (Power)
External cable diameter	7.60 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)
	≤ 34.60 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	≤ 50 V (Peak value, not for high-power applications)
Test voltage Core/Core	1500 V (50 Hz, 1 min.)
Test voltage Core/Shield	1500.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	38 mm
Smallest bending radius, movable installation	76 mm
Dynamic load capacity (bending)	Max. bending cycles: 2000000, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 4 m/s ²
Tensile strength	70 N (in accordance with DIN EN 50565-1 for flexible installation)
	240 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 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.5 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
	≥ 80.00 dB (30 MHz ... 125 MHz)
Halogen-free	according to IEC 60754

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	in accordance with DIN VDE 0472 part 815
Flame resistance	in acc. with UL 1581, section 1061
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Resistance to oil	according to IEC 60811-2-1
	according to VDE 0282 Part 10
Other resistance	Low adhesion
Special properties	Free of substances which would hinder coating with paint or varnish
	Silicone-free
Ambient temperature (operation)	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 70 °C (Cable, flexible installation)

Environmental and real-life conditions

Ambient conditions

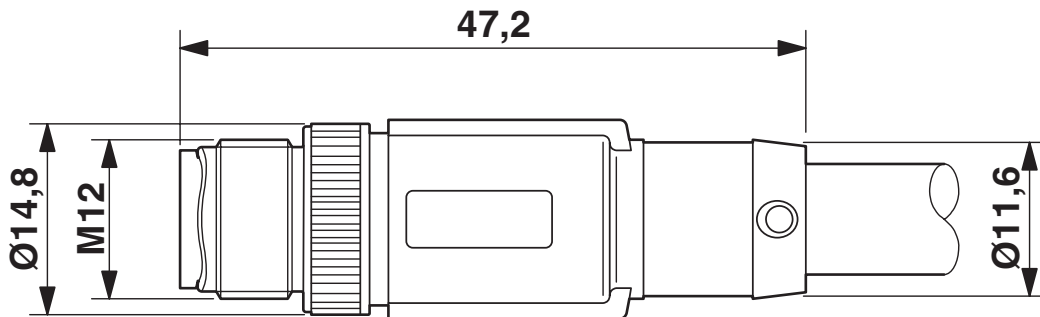
Degree of protection	IP65
	IP67
	IP65/IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (M12 connector)

Standards and regulations

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

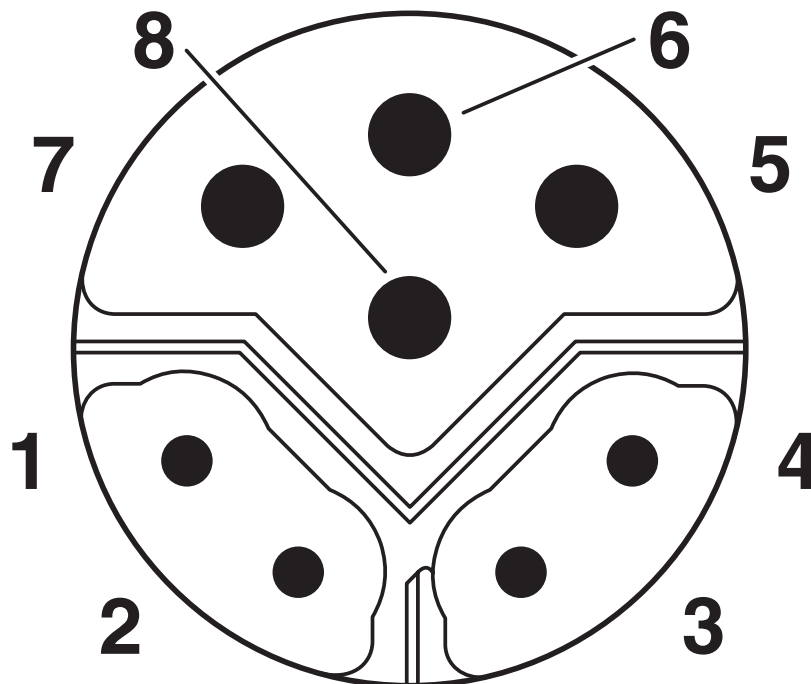
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



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

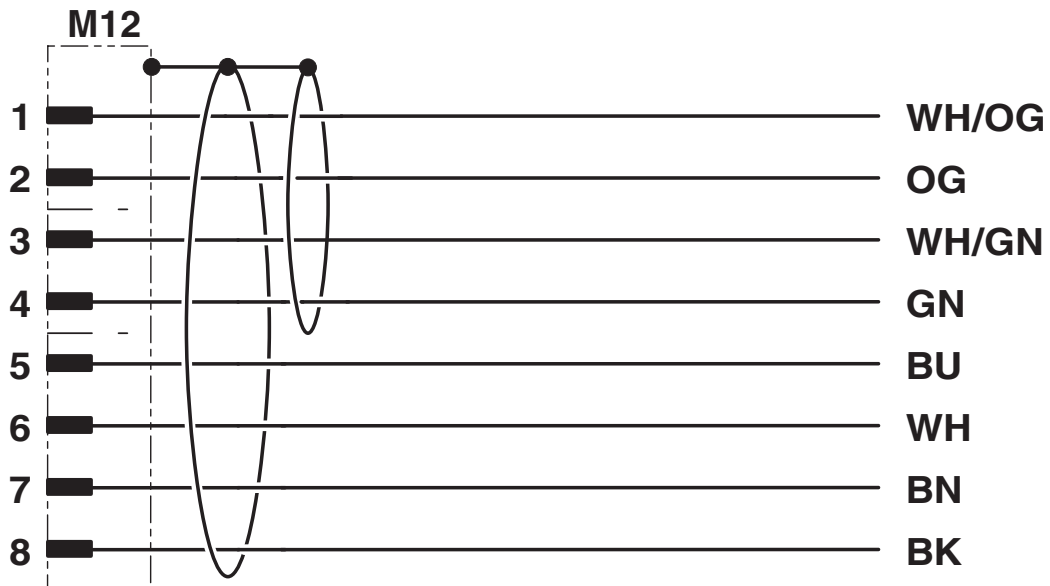
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Circuit diagram



Contact assignment of the M12 plug

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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
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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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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com