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NBC-M12MSY/2,0-94H/M12FSY - Hybrid cable

1057782

https://www.phoenixcontact.com/in/products/1057782

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Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, PUR halogen-free, black RAL 9005, shielded (Advanced Shielding Technology), Plug straight M12, coding: Y / IP65/IP67, on Socket straight M12, coding: Y / IP65/IP67, cable length: 2 m, Power with Ethernet (PWE)

Commercial data

Item number	1057782
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	*****
Product key	AF1CML
GTIN	4055626701714
Weight per piece (including packing)	273 g
Weight per piece (excluding packing)	279.8 g
Customs tariff number	85444290
Country of origin	PL

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Technical data

Product properties

Product type	Data cable preassembled
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

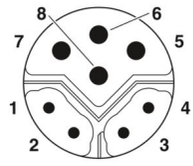
Nominal voltage U_N	48 V AC (Power and data)
	50 V DC (Power and data)
Nominal current I_N	6 A (Power)
	0.5 A (Data)
Transmission medium	Copper

Material specifications

Flammability rating according to UL 94	V0

Connector

Connection 1

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

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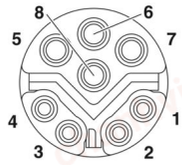
NBC-M12MSY/2,0-94H/M12FSY - Hybrid cable

1057782

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	PROFINET CAT5 (IEC 11801), 100 Mbps
Insertion/withdrawal cycles	≥ 100
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

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
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

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1057782

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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	2 m

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 mm² (Data)
	4x 0.85 mm² (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

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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/s², 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)
	≥ 80.00 dB (30 MHz ... 100 MHz)
Halogen-free	according to IEC 60754-1
	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)

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	-30 °C ... 70 °C (Cable, flexible installation)

Standards and regulations

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

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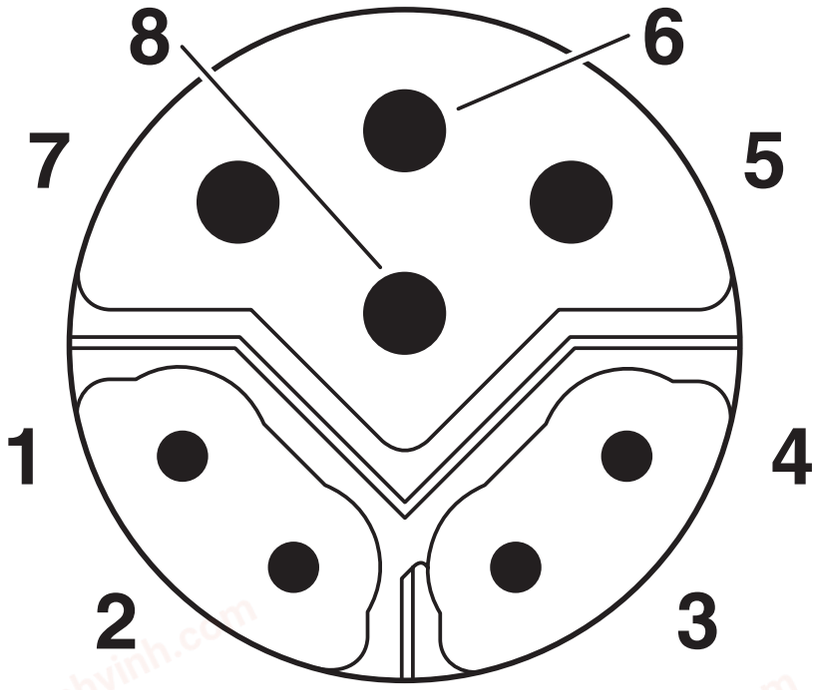
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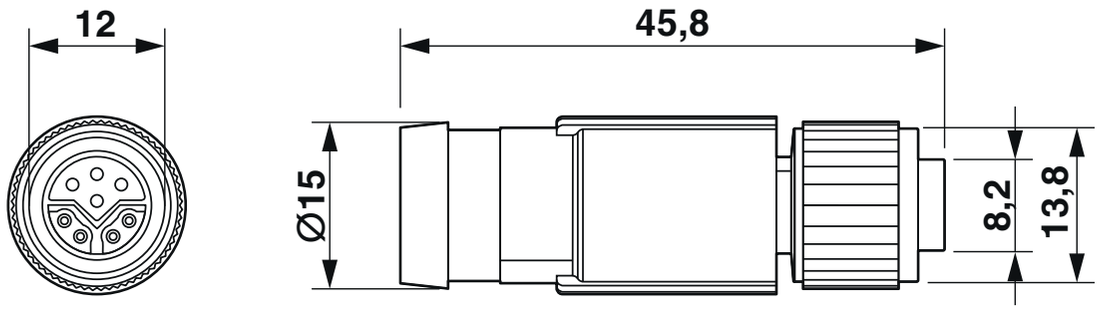
Drawings

Schematic diagram



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

Dimensional drawing



M12 x 1 socket, straight, shielded

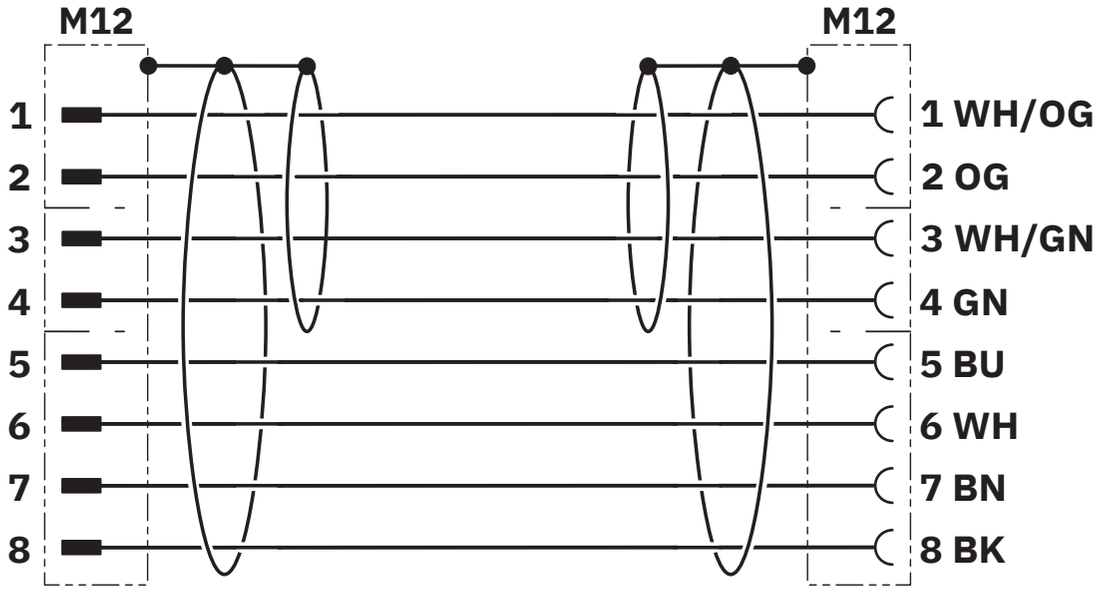
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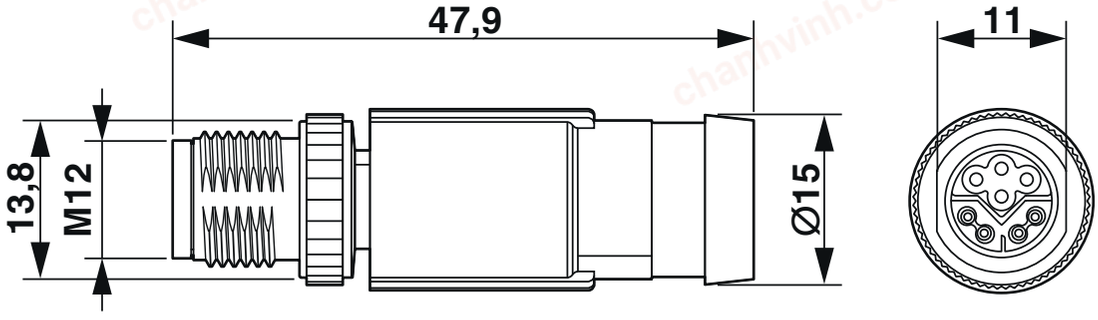
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Circuit diagram



Contact assignment of the M12 connector and the M12 socket

Dimensional drawing



Plug, M12 x 1, straight, shielded

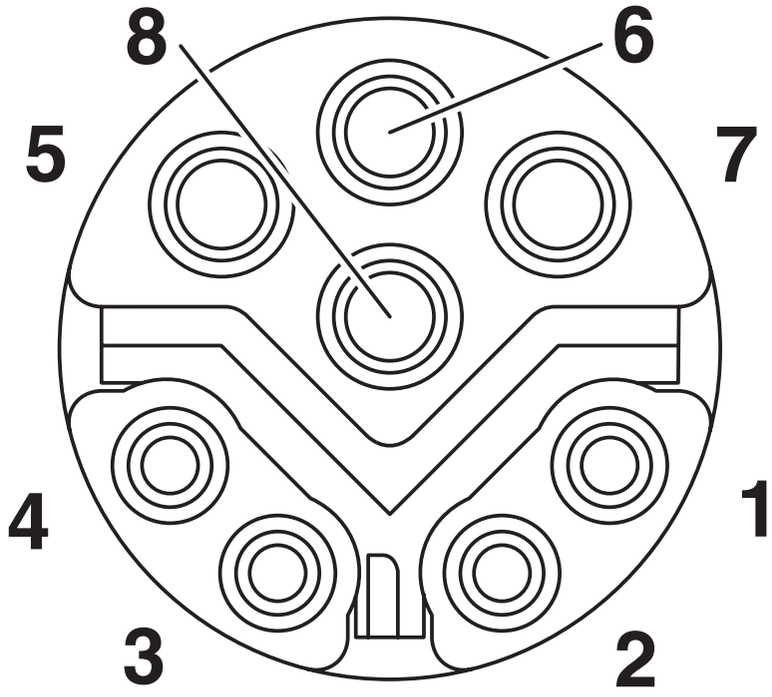
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Schematic diagram



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

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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/in/products/1057782

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	-	-

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Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

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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%

EF3.0 Climate Change

CO2e kg	6.577 kg CO2e

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Accessories

PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

https://www.phoenixcontact.com/in/products/1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



SAC-M12-EXCLIP-M - Locking clip

1558988

https://www.phoenixcontact.com/in/products/1558988

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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PROT-M12 MS-PA-CHAIN - Screw plug

1430899

https://www.phoenixcontact.com/in/products/1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



SAC-M12-EXCLIP-F - Locking clip

1558991

https://www.phoenixcontact.com/in/products/1558991

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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TSD 04 SAC - Torque screwdriver

1208429

https://www.phoenixcontact.com/in/products/1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

TSD-M 1,2NM - Torque screwdriver

1212224

https://www.phoenixcontact.com/in/products/1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0. 3 - 1.2 Nm

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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

https://www.phoenixcontact.com/in/products/1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

SAC BIT M12-D15 - Tool

1208432

https://www.phoenixcontact.com/in/products/1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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