

NBC-M8MSD/10,0-93C/M8MRD - Network cable



1080542

<https://www.phoenixcontact.com/in/products/1080542>

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Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PUR/FRNC halogen-free, green RAL 6018, shielded (Advanced Shielding Technology), Plug straight M8, coding: D / IP67, on Plug angled M8, coding: D / IP67, cable length: 10 m

Commercial data

Item number	1080542
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF1
Product key	AF1BJI
Catalog page	Page 395 (C-2-2019)
GTIN	4055626804859
Weight per piece (including packing)	658 g
Weight per piece (excluding packing)	570.66 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Notes

General	This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 8.2 Connectors for Outside Environment (Balanced cabling)
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Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	PROFINET
Number of positions	4
No. of cable outlets	1
Shielded	yes
Coding	D

Interfaces

Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps

Signaling

Status display	no
Status display present	No

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	4 A
Transmission medium	Copper

Connector

Connection 1

Type	Plug straight M8 / IP67
Number of positions	4
Coding type	D (Data)
Shielded	yes
Handle color	black
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	PA 6.6 (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip body)
	Brass, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100

NBC-M8MSD/10,0-93C/M8MRD - Network cable



1080542

<https://www.phoenixcontact.com/in/products/1080542>

Insulation resistance	≥ 100 MΩ
Tightening torque	0.2 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

Type	Plug angled M8 / IP67
Number of positions	4
Coding type	D (Data)
Shielded	yes
Handle color	black
Material	CuSn (Contact) Ni/Au (Contact surface) PA 6.6 (Contact carriers) TPU, hardly inflammable, self-extinguishing (Grip body) Brass, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ
Tightening torque	0.2 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Cable/line

Cable length	10 m
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PROFINET drag chain CAT5 [93C]

Dimensional drawing	
Cable weight	61 kg/km
Shielded	yes
Cable type	PROFINET drag chain CAT5 [93C]
Conductor structure	1x4xAWG22/7, SF/TQ
Signal runtime	5.3 ns/m
Signal speed	0.66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm²
Wire diameter incl. insulation	1.5 mm
External cable diameter	6.50 mm ±0.2 mm

NBC-M8MSD/10,0-93C/M8MRD - Network cable



1080542

<https://www.phoenixcontact.com/in/products/1080542>

Outer sheath, material	PUR
External sheath, color	green RAL 6018
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE
Single wire, color	white, yellow, blue, orange
Thickness, outer sheath	approx. 0.90 mm
Overall twist	Star quad
Optical shield covering	85 %
Insulation resistance	$\geq 500 \text{ M}\Omega \cdot \text{km}$
Coupling resistance	$\leq 20.00 \text{ m}\Omega/\text{m}$ (at 10 MHz)
Loop resistance	$\leq 120.00 \text{ }\Omega/\text{km}$
Wave impedance	$100 \text{ }\Omega \pm 15 \text{ }\Omega$ (at 1 ... 100 MHz)
Nominal voltage, cable	600 V (UL rating)
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	5 x D
Minimum bending radius, flexible installation	7.5 x D
Smallest bending radius, fixed installation	33 mm
Smallest bending radius, movable installation	49 mm
Dynamic load capacity (bending)	Max. bending cycles: 3000000, Bending radius: 100 mm, Traversing path: 10 m, Traversing rate: 4 m/s, Acceleration: 4 m/s ²
Tensile strength	$\leq 150 \text{ N}$
Dynamic load capacity (torsion)	Torsion: $\pm 30 \text{ }^\circ/\text{m}$
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz)
	76 dB (at 4 MHz)
	70 dB (at 10 MHz)
	65 dB (at 16 MHz)
	63 dB (at 20 MHz)
	60 dB (at 31.25 MHz)
	55 dB (at 62.5 MHz)
	50 dB (at 100 MHz)
Shield attenuation	2.1 dB (with 1 MHz)
	4 dB (at 4 MHz)
	6.3 dB (at 10 MHz)
	8 dB (at 16 MHz)
	9 dB (at 20 MHz)
	11.4 dB (at 31.25 MHz)
	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)
Halogen-free	yes
Flame resistance	according to IEC 60332-1-2
	in accordance with UN ECE-R 118.03
Resistance to oil	in accordance with DIN EN 60811-2-1

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1080542

<https://www.phoenixcontact.com/in/products/1080542>

Other resistance	UV resistant
Special properties	Electrical properties in accordance with EN 50288-2-2
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)
	-40 °C ... 70 °C (Cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 60 °C

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

M8

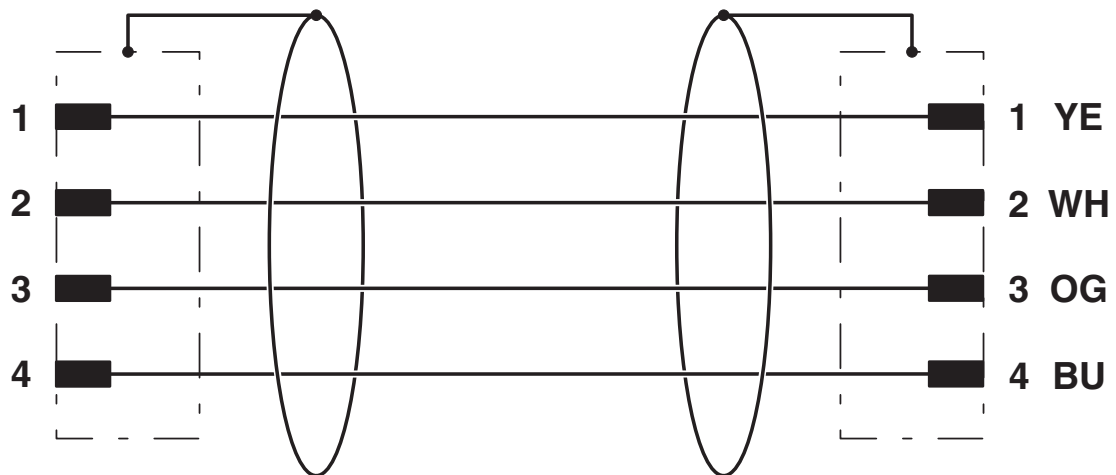
Standard designation	M8 connector
Standards/specifications	IEC 61076-2-114

1080542

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Drawings

Circuit diagram

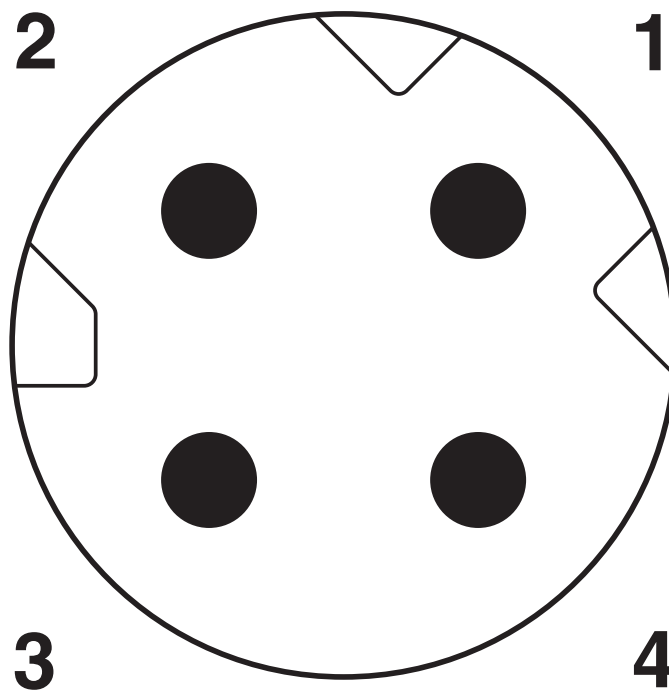


Contact assignment of M8 plugs

1080542

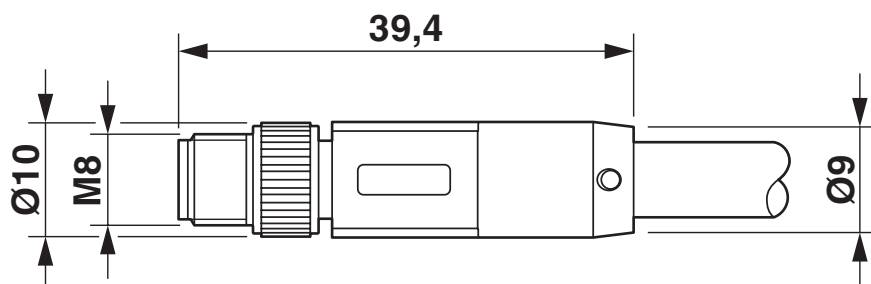
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Schematic diagram



Pin assignment M8 male connector, 4-pos., D-coded, view of pin side

Dimensional drawing



Plug M8 x 1, straight, shielded

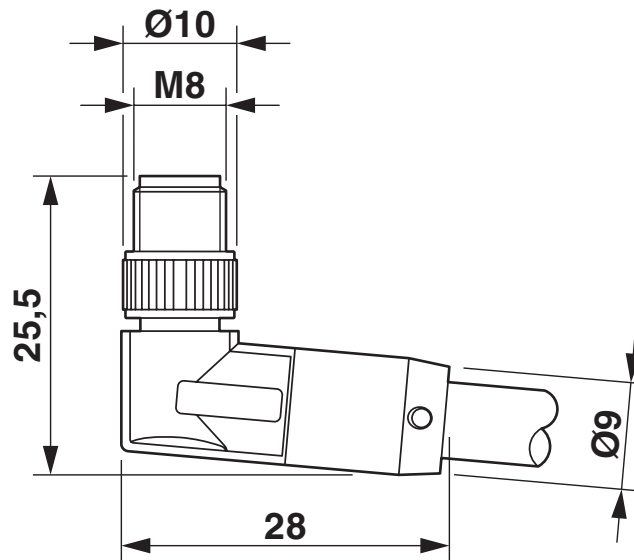
NBC-M8MSD/10,0-93C/M8MRD - Network cable



1080542

<https://www.phoenixcontact.com/in/products/1080542>

Dimensional drawing



Plug M8 x 1, angled, shielded

NBC-M8MSD/10,0-93C/M8MRD - Network cable



1080542

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/1080542>



UL Listed

Approval ID: E335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	30 V	0.5 A	-	-



cUL Listed

Approval ID: E335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	30 V	0.5 A	-	-

cULus Listed

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Classifications

ECLASS

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

ETIM

ETIM 9.0	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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