chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded (Advanced Shielding Technology), Plug straight M12, coding: D / IP67, on Socket straight M12, coding: D / IP67, cable length: 2 m

Commercial data

Item number	1407554
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF1CJN
Product key	BF1CJN
Catalog page	Page 198 (C-6-2019)
GTIN	4046356778589
Weight per piece (including packing)	172 g
Weight per piece (excluding packing)	138.778 g
Customs tariff number	85444210
Country of origin	PL

chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

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 10.1 Cord Sets for Balanced Cabling
General	Further products with variable cable type and variable cable length can be found in the accessories section

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

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Interfaces

Bus system	PROFINET
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
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

Material specifications

Flammability rating according to UL 94	V0

Connector

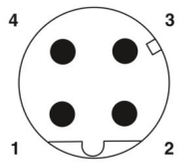
Connection 1

chanhvinh.com

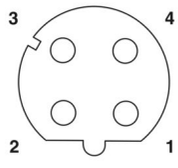
NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

Dimensional drawing	 Pin assignment M12 male connector, 4-pos., D-coded, male side
Type	M12 Plug, straight, 4-position, shielded (Advanced Shielding Technology), Keying: D
Number of positions	4
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	CuSn
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 61076-2-101

Connection 2

Dimensional drawing	 Pin assignment M12 socket, 4-pos., D-coded, female side
Type	M12 Socket, straight, 4-position, shielded (Advanced Shielding Technology), Keying: D
Number of positions	4
Shielded	yes
Shielding	Advanced Shielding Technology

chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

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	CuSn
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 61076-2-101

Cable/line

Cable length	2 m

PROFINET PVC stranded CAT5 [93B]

Dimensional drawing	
Cable weight	67 kg/km
UL AWM Style	21694
Number of positions	4
Shielded	yes
Cable type	PROFINET PVC stranded CAT5 [93B]
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	1.55 mm

chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

External cable diameter	6.50 mm ±0.2 mm
Outer sheath, material	PVC
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	≥ 500 MΩ*km
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Nominal voltage, cable	600 V
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	3 x D
Minimum bending radius, flexible installation	7 x D
Smallest bending radius, fixed installation	20 mm
Smallest bending radius, movable installation	46 mm
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)
Flame resistance	according to UL 1685 (CSA FT 4)
Resistance to oil	Resistant to oil to a limited extent
Other resistance	UV resistant (according to UL 1581, Section 1200)
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

chanhvinh.com

Ambient conditions

Degree of protection	IP65
	IP67

Standards and regulations

M12

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

chanhvinh.com

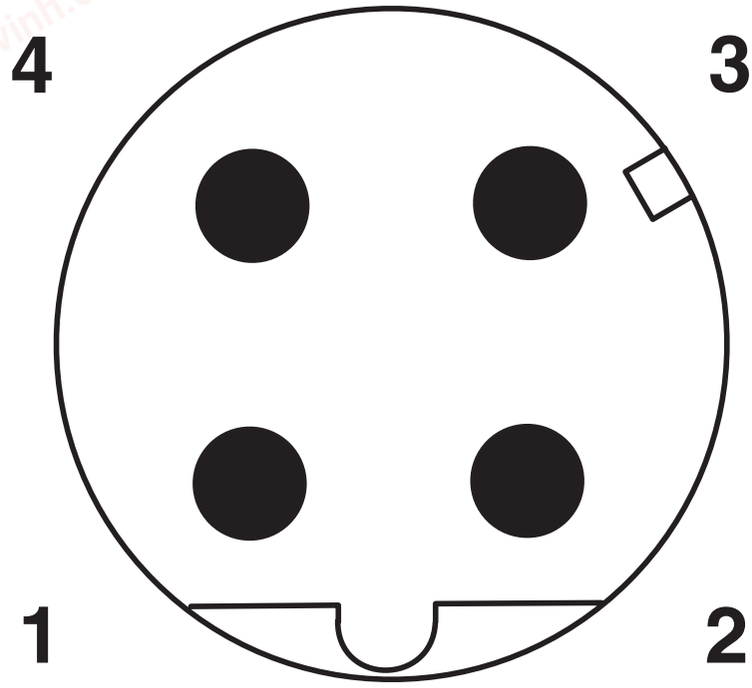
NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

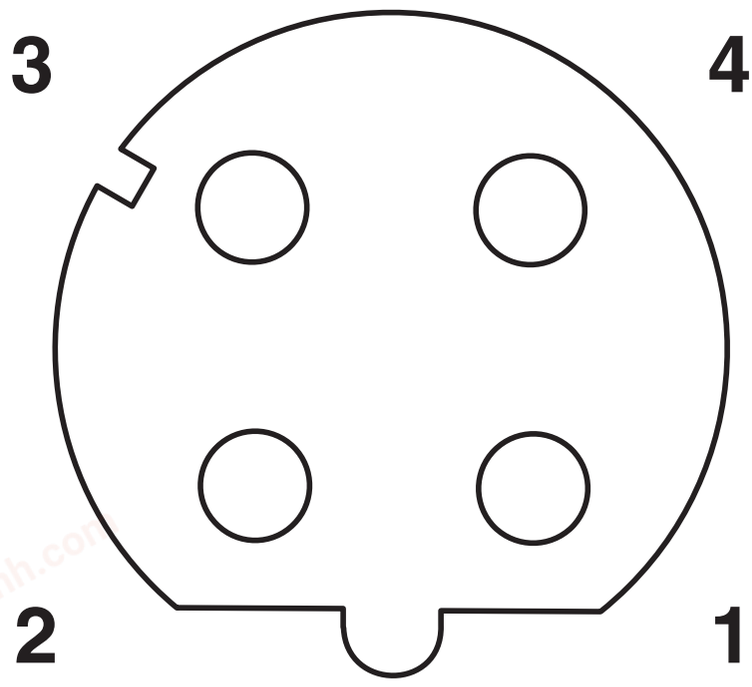
Drawings

Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

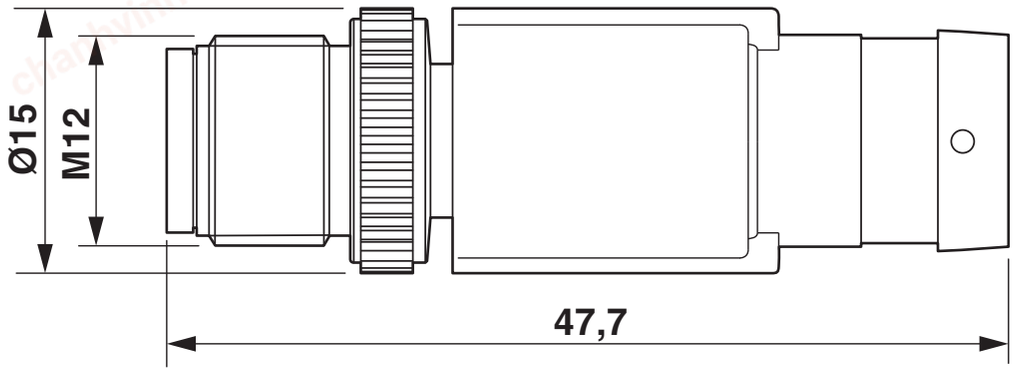
chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

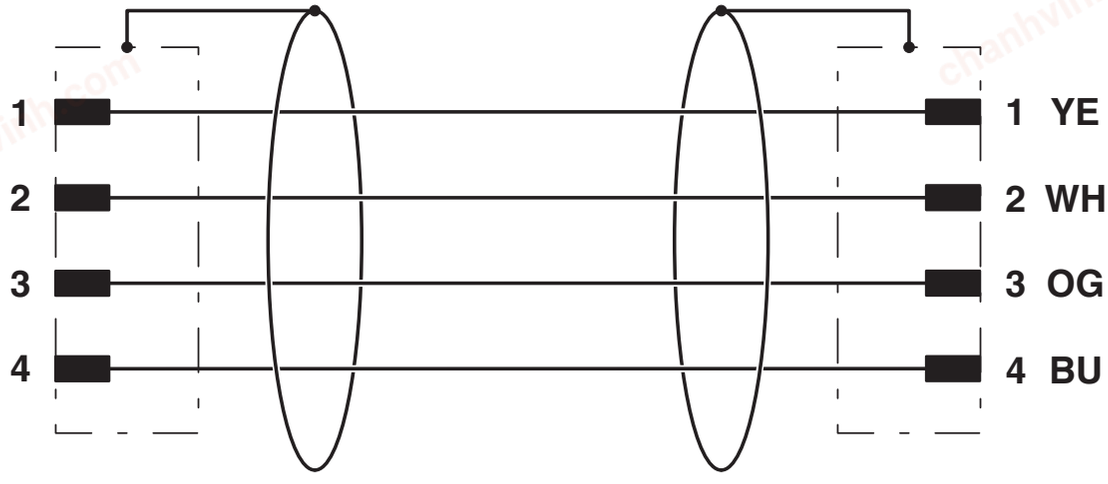
https://www.phoenixcontact.com/gb/products/1407554

Dimensional drawing



Plug, M12 x 1, straight, shielded

Circuit diagram



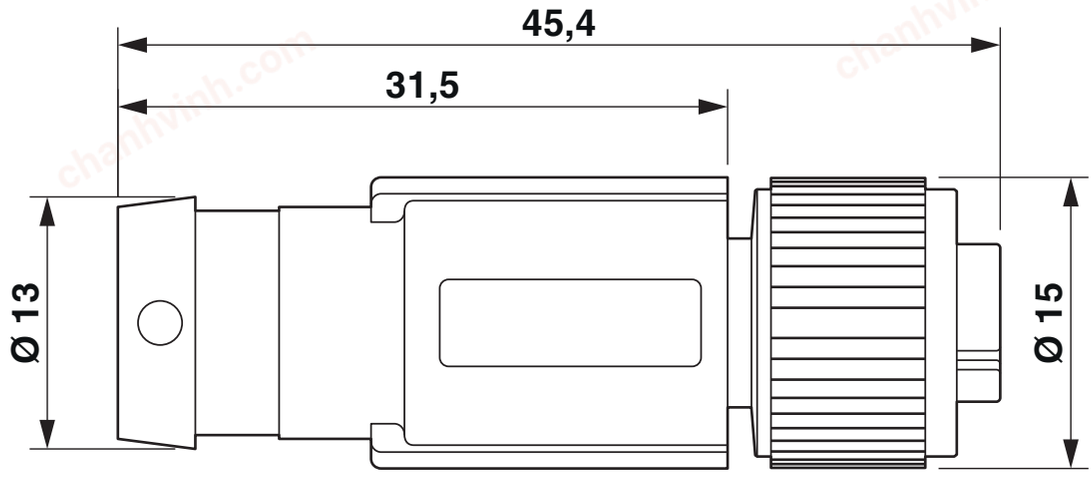
chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

Dimensional drawing



M12 x 1 socket, straight, shielded

chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/1407554

UL Listed
Approval ID: FILE E 335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	250 V	4 A	-	-

cUL Listed
Approval ID: FILE E 335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	250 V	4 A	-	-

EAC-RoHS
Approval ID: RU D-DE.HB35.B.00387

cULus Listed

chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

chanhvinh.com

NBC-M12MSD/ 2,0-93B/M12FSD - Network cable

1407554

https://www.phoenixcontact.com/gb/products/1407554

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%

Phoenix Contact 2024 © - all rights reserved
https://www.phoenixcontact.com

PHOENIX CONTACT Ltd
Halesfield 13, Telford
Shropshire, TF7 4PG
01952 681700
info@phoenixcontact.co.uk