

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

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, shielded (Advanced Shielding Technology), Socket straight M12, coding: D / IP67, on Plug straight RJ45 / IP20, cable length: 10 m

## Commercial data

Item number	1038760
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF04
Product key	BF1CJN
GTIN	4055626592428
Weight per piece (including packing)	655.2 g
Weight per piece (excluding packing)	655.2 g
Customs tariff number	85444290
Country of origin	PL

1038760

<https://www.phoenixcontact.com/us/products/1038760>

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

### Insulation characteristics

Overvoltage category	I
Degree of pollution	2

### Interfaces

Bus system	PROFINET
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps EtherCAT <sup>®</sup> 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 $I_N$	1 A
Transmission medium	Copper
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

### Material specifications

Flammability rating according to UL 94	V2
--	----

### Connector

#### Connection 1

Type	Socket straight M12 / IP67
------	----------------------------

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

Number of positions	4
Coding type	D (Data)
Handle color	black
Material	CuSn (Contact) Ni/Au (Contact surface) PA (Contact carriers) TPU, hardly inflammable, self-extinguishing (Grip) Zinc die-cast, nickel-plated (Screw connection) FKM (Seal)
Insertion/withdrawal cycles	≥ 100
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 100 MΩ
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C
Number of positions	4
Insertion/withdrawal cycles	100

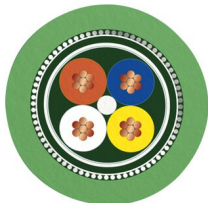
## Connection 2

Type	Plug straight RJ45 / IP20
Number of positions	4 (8)
Handle color	black
Material	CuSn (Contact) Ni/Au (Contact surface) PA (Contact carriers) PA (Housing)
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-25 °C ... 80 °C
Number of positions	4
Degree of protection	IP20

## Cable/line

Cable length	10 m
--------------	------

## PROFINET drag chain CAT5 [93C]

Dimensional drawing	
Cable weight	61 kg/km
Number of positions	4

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

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 mm <sup>2</sup>
Wire diameter incl. insulation	1.5 mm
External cable diameter	6.5 mm ±0.2 mm
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. 0.9 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 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 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	7.5 x D
Max. bending cycles	3000000
Tensile strength	≤ 150 N
Torsion force	± 30 °/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)

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)
Halogen-free	yes
Flame resistance	according to IEC 60332-1-2
Resistance to oil	in accordance with DIN EN 60811-2-1
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 (M12 connector)
	IP67 (M12 connector)
	IP20 (RJ45 connector)

## Standards and regulations

### M12

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

# NBC-M12FSD/10,0-93C/R4AC - Network cable

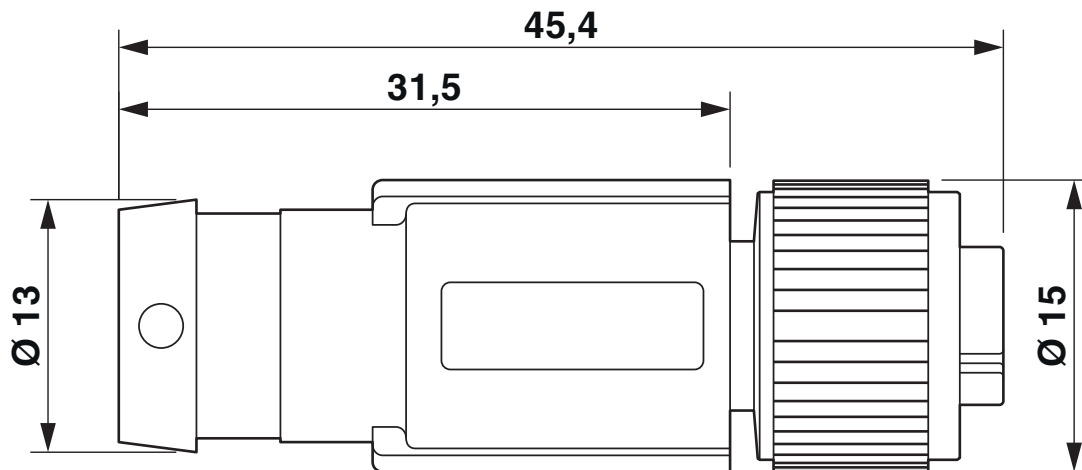


1038760

<https://www.phoenixcontact.com/us/products/1038760>

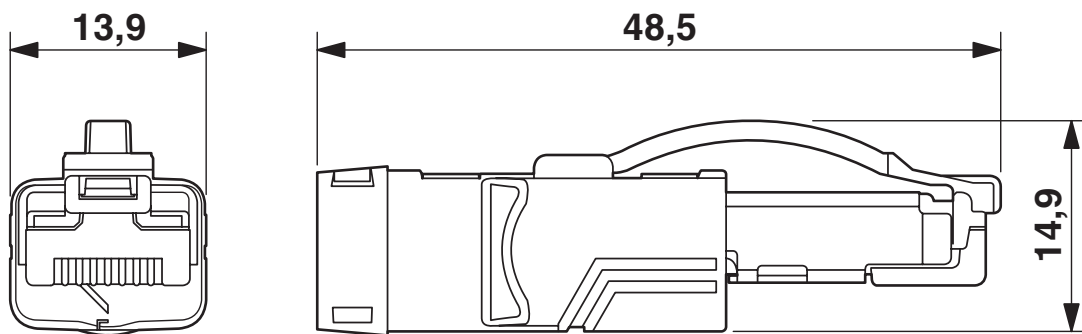
## Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Dimensional drawing

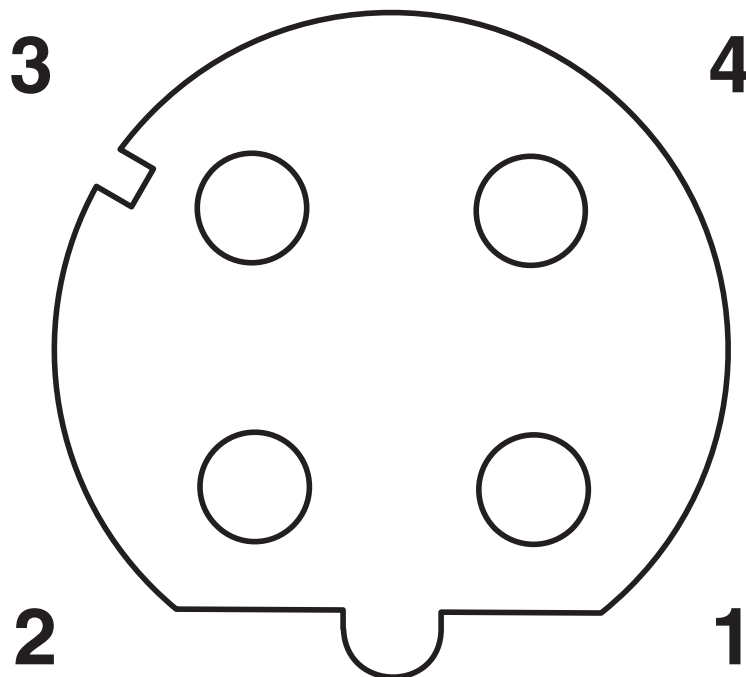


RJ45 connector, IP20

1038760

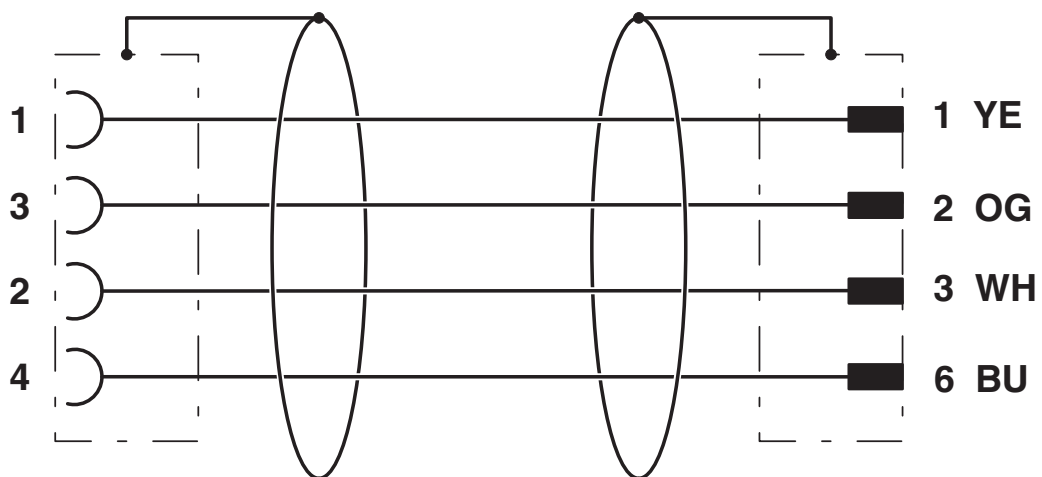
<https://www.phoenixcontact.com/us/products/1038760>

Schematic diagram

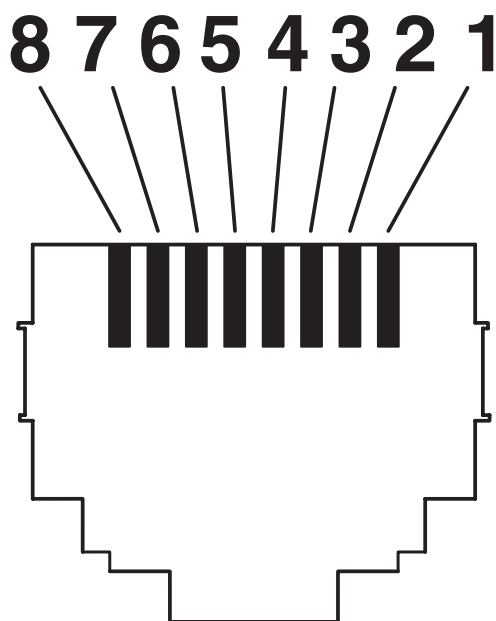


Pin assignment M12 socket, 4-pos., D-coded, female side

Circuit diagram



Schematic diagram



Connector pin assignment plug RJ45



# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1038760>



**EAC-RoHS**

Approval ID: RU D-DE.HB35.B.00385

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001855
----------	----------

### UNSPSC

UNSPSC 21.0	26121600
-------------	----------

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## Accessories

### NBC-MSD-R4AC SCO-PN/.../... - Network cable

1408639

<https://www.phoenixcontact.com/us/products/1408639>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M12, coding: D SPEEDCON / IP67, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

---

### NBC-MSD-R4ACR SCO-PN/.../... - Network cable

1408638

<https://www.phoenixcontact.com/us/products/1408638>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M12, coding: D SPEEDCON / IP67, on Plug angled RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## NBC-MRD-R4AC SCO-PN/.../... - Network cable

1408632

<https://www.phoenixcontact.com/us/products/1408632>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT<sup>®</sup> CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug angled M12, coding: D SPEEDCON / IP67, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

---

## NBC-MRD-R4ACR SCO-PN/.../... - Network cable

1408631

<https://www.phoenixcontact.com/us/products/1408631>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT<sup>®</sup> CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug angled M12, coding: D SPEEDCON / IP67, on Plug angled RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

# NBC-M12FSD/10,0-93C/R4AC - Network cable

1038760

<https://www.phoenixcontact.com/us/products/1038760>



## NBC-FSD-R4AC SCO-PN/.../... - Network cable

1408622

<https://www.phoenixcontact.com/us/products/1408622>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT<sup>®</sup> CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Socket straight M12, coding: D SPEEDCON / IP67, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

---

## NBC-FSD-R4ACR SCO-PN/.../... - Network cable

1408621

<https://www.phoenixcontact.com/us/products/1408621>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT<sup>®</sup> CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Socket straight M12, coding: D SPEEDCON / IP67, on Plug angled RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

## NBC-M12FSD/10,0-93C/R4AC - Network cable

1038760

<https://www.phoenixcontact.com/us/products/1038760>



### NBC-FRD-R4AC SCO-PN/.../... - Network cable

1408613

<https://www.phoenixcontact.com/us/products/1408613>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT<sup>®</sup> CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Socket angled M12, coding: D SPEEDCON / IP67, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

---

### NBC-FRD-R4ACR SCO-PN/.../... - Network cable

1408612

<https://www.phoenixcontact.com/us/products/1408612>



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT<sup>®</sup> CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Socket angled M12, coding: D SPEEDCON / IP67, on Plug angled RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/us/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/us/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm



# NBC-M12FSD/10,0-93C/R4AC - Network cable



1038760

<https://www.phoenixcontact.com/us/products/1038760>

## TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/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/us/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

# NBC-M12FSD/10,0-93C/R4AC - Network cable

1038760

<https://www.phoenixcontact.com/us/products/1038760>



## PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/us/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/us/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



---

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

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