

NBC-M 8MS/ 2,0-93B/R4AC - Network cable



1407353

<https://www.phoenixcontact.com/us/products/1407353>

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Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M8, coding: A / IP67, on Plug straight RJ45 / IP20, cable length: 2 m

Commercial data

Item number	1407353
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF02
Product key	BF1BJI
Catalog page	Page 394 (C-2-2019)
GTIN	4046356774819
Weight per piece (including packing)	157.8 g
Weight per piece (excluding packing)	153 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Notes

General	Further products with variable cable type and variable cable length can be found in the accessories section
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Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	Ethernet
Number of positions	4
Shielded	yes
Coding	A

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet, 100 Mbps
	PROFINET, 100 Mbps
	EtherCAT®, 100 Mbps

Signaling

Status display	No
Status display present	No

Electrical properties

Nominal voltage U_N	30 V AC
	30 V DC
Nominal current I_N	1 A
Transmission medium	Copper

Connector

Connection 1

Type	Plug straight M8 / IP67
Number of positions	4
Coding type	A (Standard)
Handle color	black
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	TPU GF (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ
Tightening torque	0.2 Nm

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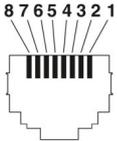


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Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

Dimensional drawing	 <p>Connector pin assignment plug RJ45</p>
Type	RJ45 Plug, straight
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps EtherCAT® CAT5 (IEC 11801)
Insertion/withdrawal cycles	≥ 750
Insulation resistance	≥ 100 MΩ
Overvoltage category	I
Degree of pollution	2
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PA
Flammability rating according to UL 94	V2
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 80 °C

Cable/line

Cable length	2 m
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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

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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 ²
Wire diameter incl. insulation	1.55 mm
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

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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

Ambient conditions

Degree of protection	IP65 (M8 connectors)
	IP67 (M8 connectors)
	IP20 (RJ45 connector)
Ambient temperature (operation)	-25 °C ... 90 °C (M8 connectors)
	-25 °C ... 60 °C (RJ45 connector)

Standards and regulations

M8

Standard designation	M8 connector
Standards/specifications	IEC 61076-2-104

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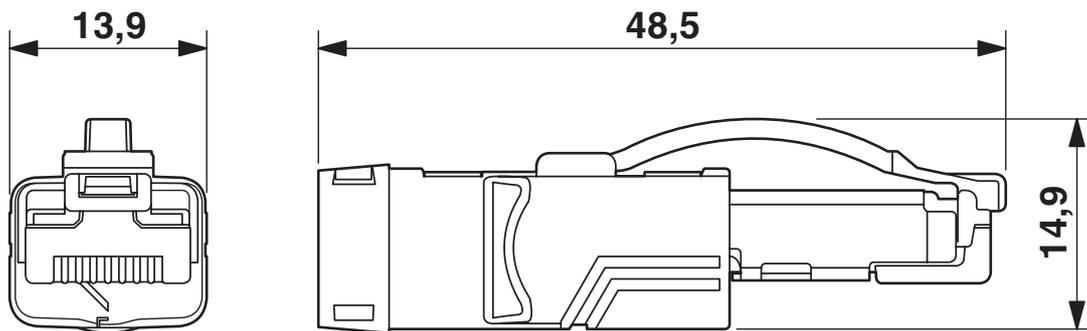


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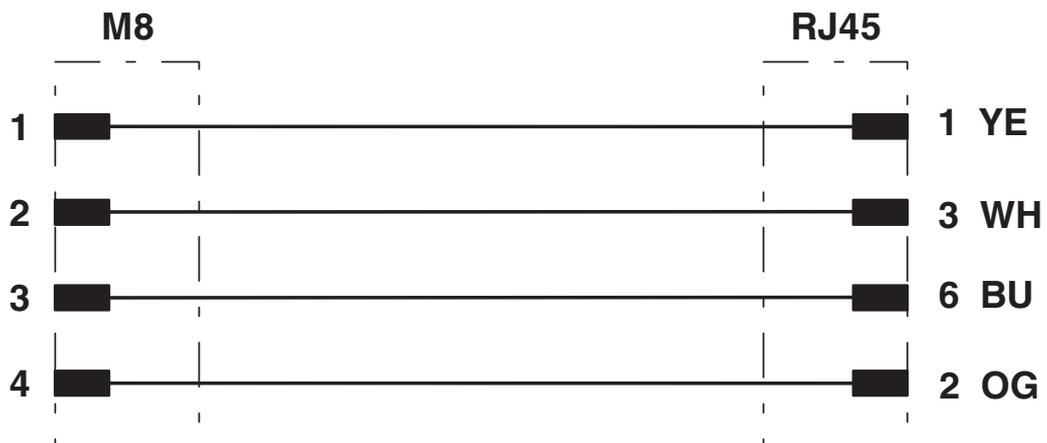
Drawings

Dimensional drawing



RJ45 connector, IP20

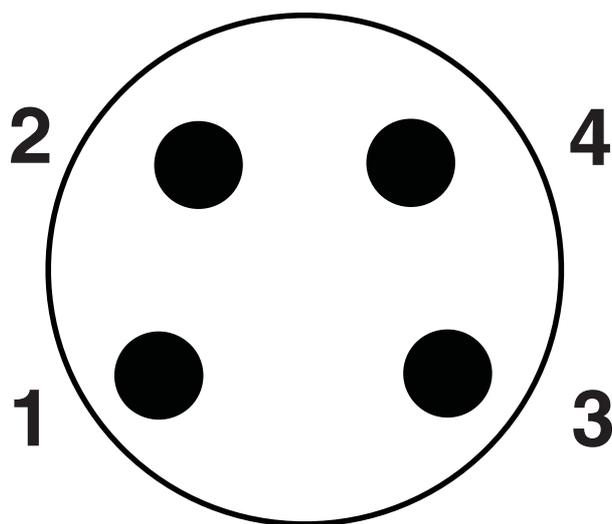
Circuit diagram



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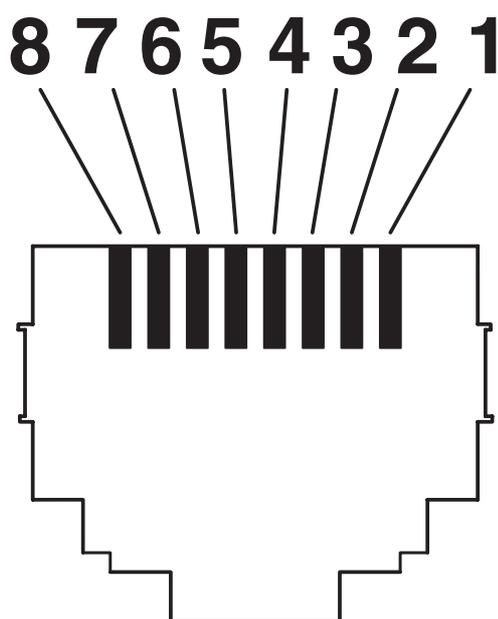
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Schematic diagram



Pin assignment M8 plug, 4-pos., view male side

Schematic diagram



Connector pin assignment plug RJ45

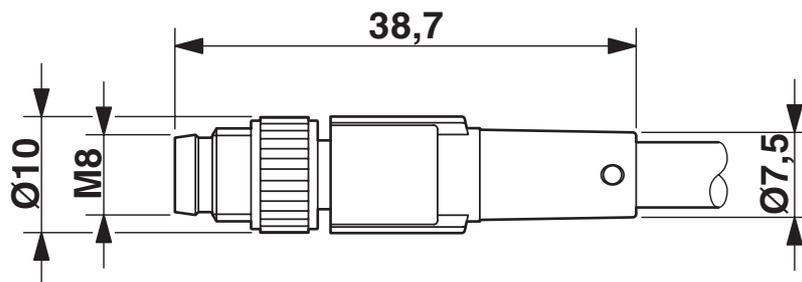
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Dimensional drawing



M8 x 1 male plug, straight version

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Approvals

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EAC-RoHS

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

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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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Accessories

NBC-M 8MS-R4AC/.../... - Network cable

1408717

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Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, shielded, Plug straight M8, coding: A / IP67, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

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1408718

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Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, shielded, Plug straight M8, coding: A / IP67, on Plug straight M8, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

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NBC-M 8FS-R4AC/.../... - Network cable

1408714

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Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, shielded, Plug straight RJ45 / IP20, on Socket straight M8, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

NBC-M 8MS-M 8FS/.../... - Network cable

1408715

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Network cable, Ethernet (100 Mbps), PROFINET (100 Mbps), EtherCAT® (100 Mbps), 4-position, shielded, Plug straight M8, coding: A / IP67, on Socket straight M8, coding: A / IP67, cable length: Free input (0.2 ... 40.0 m)

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PROT-M 8 FS-PA-CHAIN - Sealing cap

1430857

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M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



TSD 02 SAC - Torque screwdriver

1208487

<https://www.phoenixcontact.com/us/products/1208487>

Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors



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SAC BIT M8-D10 - Tool

1208461

<https://www.phoenixcontact.com/us/products/1208461>



Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

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