

## Network cable - NBC-M 8MS/ 2,0-93B/R4AC - 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 / IP67, coding: A, on Plug straight RJ45 / IP20, cable length: 2 m



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 774819
GTIN	4046356774819
Weight per Piece (excluding packing)	158.000 g
Custom tariff number	85444290
Country of origin	Poland

### Technical data

#### Dimensions

Length of cable	2 m
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#### 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)

#### General data

Note	Further products with variable cable type and variable cable length can be found in the accessories section
Rated current at 40°C	1 A
Rated voltage	30 V AC
	30 V DC
Number of positions	4

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## Technical data

### General data

Signal type/category	Ethernet, 100 Mbps
	PROFINET, 100 Mbps
	EtherCAT®, 100 Mbps
Standards/regulations	M8 connector IEC 61076-2-104
Contact material	CuSn
Contact carrier material	TPU GF
Contact surface material	Ni/Au
Housing material	Plastic

### Characteristics head 1

Head type	Plug straight M8 / IP67
No. of positions (pin connector pattern)	4
Coding	A (Standard)
Color	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	TPU GF (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Insulation resistance	≥ 100 MΩ
Insertion/withdrawal cycles	≥ 100
Torque	0.2 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

### Characteristics head 2

Head type	Plug straight RJ45 / IP20
No. of positions (pin connector pattern)	4 (8)
Color	black
	gray / black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-25 °C ... 80 °C

### Standards and Regulations

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

### Cable

Cable type	PROFINET PVC stranded CAT5
Cable type (abbreviation)	93B

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### Technical data

#### Cable

UL AWM style	21694
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/7; SF/TQ
Conductor cross section	4x 0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	7x 0.25 mm
Core diameter including insulation	1.55 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	85 %
External sheath, color	green RAL 6018
Outer sheath thickness	approx. 0.9 mm
External cable diameter D	6.5 mm ±0.2 mm
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Cable weight	67 kg/km
Outer sheath, material	PVC
Material, inner sheath	PVC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
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)
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)

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## Technical data

### Cable

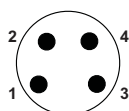
	21.3 dB (at 100 MHz)
Signal speed	0.66 c
Signal runtime	5.3 ns/m
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Flame resistance	According to UL 1685 (CSA FT 4)
Resistance to oil	Resistant 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
Ambient temperature (storage/transport)	-50 °C ... 70 °C

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

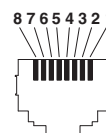
## Drawings

Schematic diagram



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

Schematic diagram



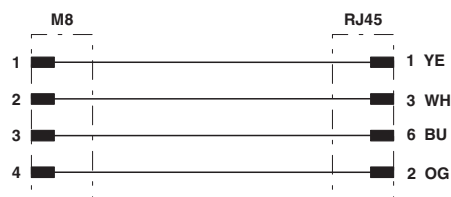
Connector pin assignment plug RJ45

Cable cross section



PROFINET PVC stranded CAT5 [93B]

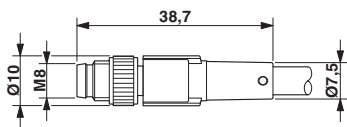
Circuit diagram



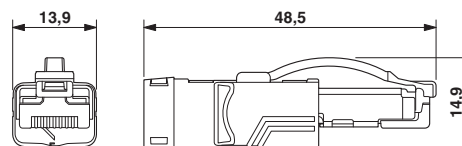
Contact assignment of the M8 and RJ45 plug

# Network cable - NBC-M 8MS/ 2,0-93B/R4AC - 1407353

Dimensional drawing



Dimensional drawing



M8 x 1 male plug, straight version

RJ45 connector, IP20

## Classifications

eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	19030300
eCl@ss 6.0	27061800
eCl@ss 7.0	27060308
eCl@ss 8.0	27060308
eCl@ss 9.0	27060308

ETIM

ETIM 3.0	EC001855
ETIM 4.0	EC001855
ETIM 5.0	EC002599
ETIM 6.0	EC000830

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	26121604

## Accessories

Accessories

Data cable preassembled

## Network cable - NBC-M 8MS/ 2,0-93B/R4AC - 1407353

### Accessories

Network cable - NBC-M 8MS-R4AC/.../... - 1408717



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

Network cable - NBC-M 8MS-M 8MS/.../... - 1408718



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

Network cable - NBC-M 8FS-R4AC/.../... - 1408714



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

Network cable - NBC-M 8MS-M 8FS/.../... - 1408715



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

### Protective cap

Sealing cap - PROT-M 8 FS-PA-CHAIN - 1430857

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



### Screwdriver tools

## Network cable - NBC-M 8MS/ 2,0-93B/R4AC - 1407353

### Accessories

Tool - SAC BIT M8-D10 - 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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### Torque tool

Torque screwdriver - TSD 02 SAC - 1208487



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

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