

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



ETHERCAT Ethernet

Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 774819
GTIN	4046356774819

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

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Technical data

General data

Standards/regulations	M8 connector IEC 61076-2-104
Contact material	CuSn
Contact carrier material	TPU GF
Contact surface material	Ni/Au
Housing material	Plastic
Degree of protection	IP67/IP20

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
Shielded	yes
Outer sheath, material	PVC
External sheath, color	green RAL 6018
Type type, plug side	Plug straight
Type type, socket side	Plug, straight

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

Standards/specifications	M8 connector IEC 61076-2-104
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Cable

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Technical data

Cable

Cable type	PROFINET PVC stranded CAT5
Cable type (abbreviation)	93B
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 ²
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)

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Technical data

Cable

	11.4 dB (at 31.25 MHz)
	16.5 dB (at 62.5 MHz)
	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

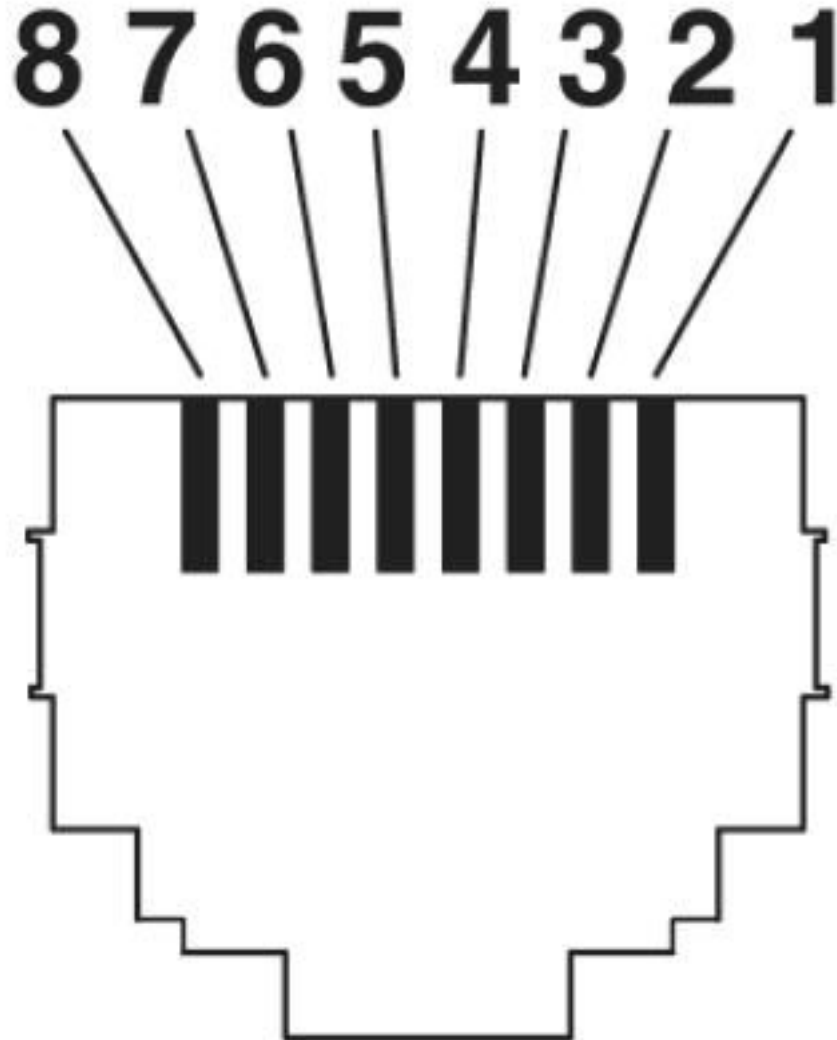
Environmental Product Compliance

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

Drawings

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

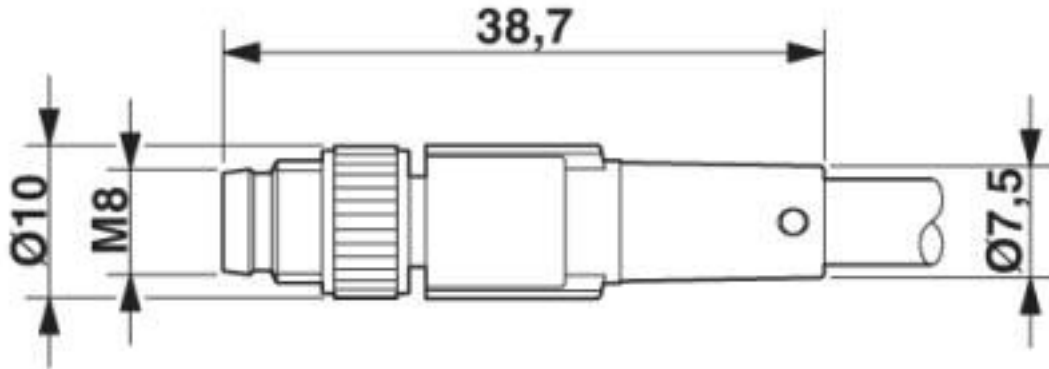
Schematic diagram



Connector pin assignment plug RJ45

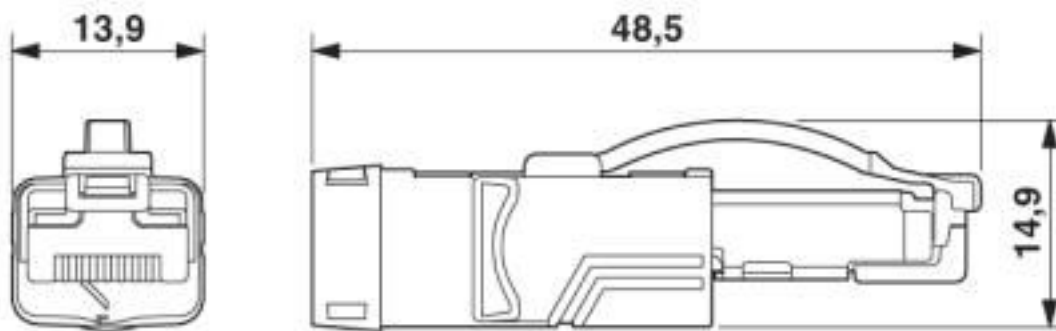
Network cable - NBC-M 8MS/ 2,0-93B/R4AC - 1407353

Dimensional drawing



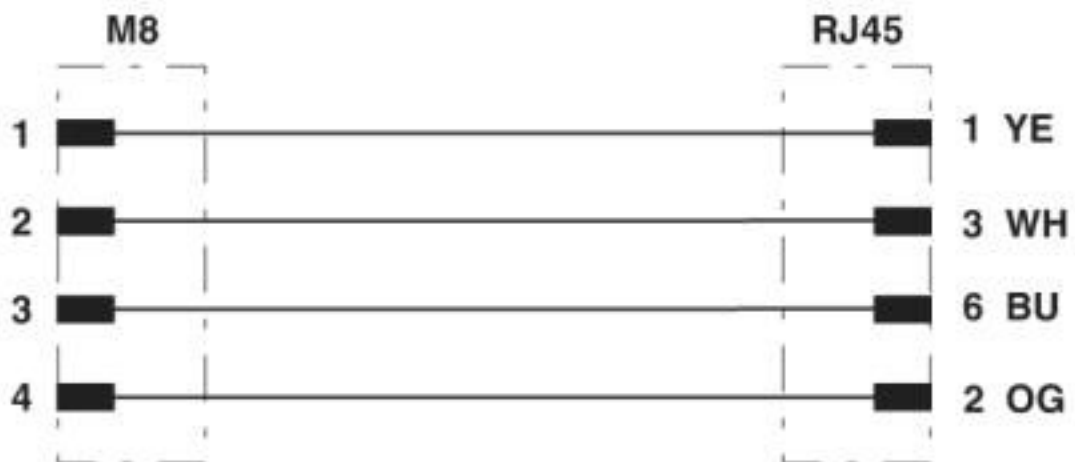
M8 x 1 male plug, straight version

Dimensional drawing



RJ45 connector, IP20

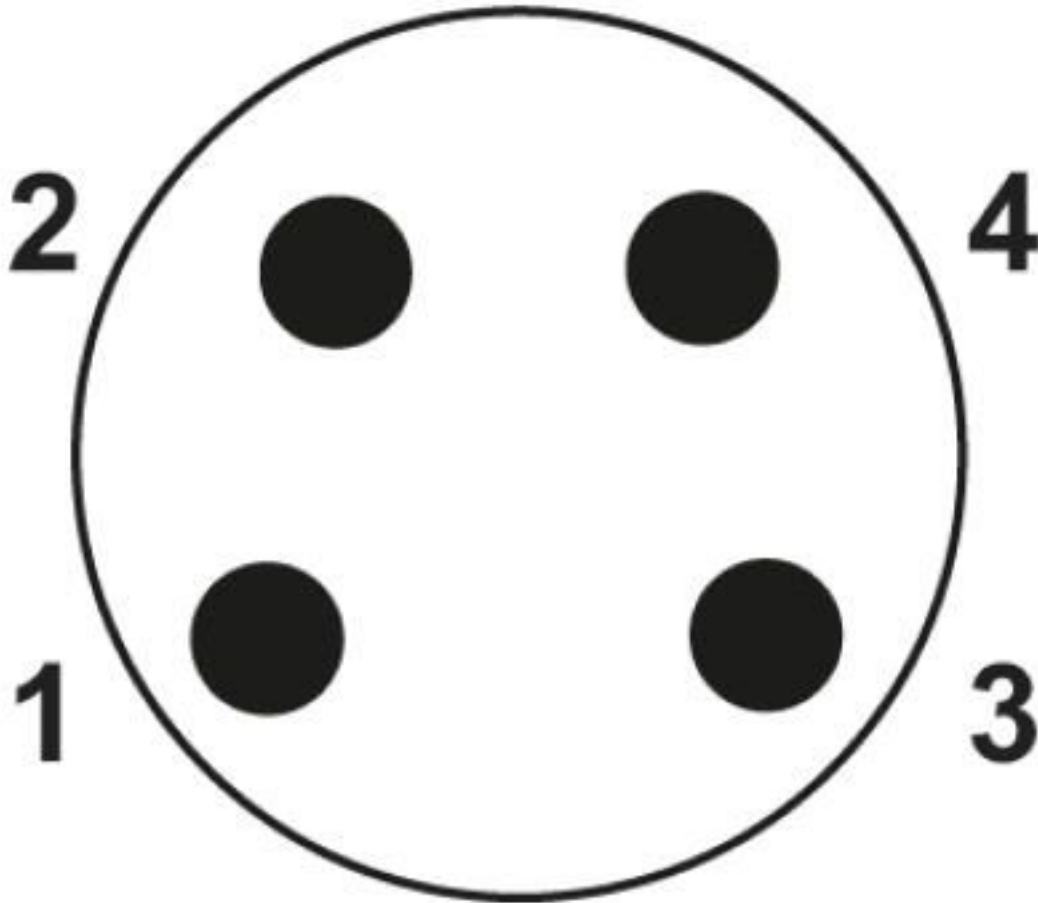
Circuit diagram



Contact assignment of the M8 and RJ45 plug

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Schematic diagram



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

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Cable cross section



PROFINET PVC stranded CAT5 [93B]

Classifications

eCl@ss

eCl@ss 10.0.1	27060308
eCl@ss 4.0	24010400
eCl@ss 4.1	24010400
eCl@ss 5.0	19030300
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

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Classifications

ETIM

ETIM 3.0	EC001855
ETIM 4.0	EC001855
ETIM 5.0	EC002599
ETIM 6.0	EC001262
ETIM 7.0	EC001262

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	26121604
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

Approvals

Approvals

Approvals

EAC-RoHS

Ex Approvals

Approval details

EAC-RoHS		RU D- DE.HB35.B.00387
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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

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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

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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