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Network cable - NBC-MS/ 1,0-94B/R4AC SCO

1407414

https://www.phoenixcontact.com/gb/products/1407414

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Plug straight RJ45 / IP20, cable length: 1 m

Commercial Data

Item number	1407414
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	BF1CMI
Product Key	BF1CMI
Catalog Page	Page 401 (C-2-2019)
GTIN	4046356775366
Weight per Piece (including packing)	78.3 g
Weight per Piece (excluding packing)	75.9 g
Customs tariff number	85444210
Country of origin	PL

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Technical Data

Notes

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
Number of positions	8
Application	Standard
Shielded	yes
Coding	A - standard

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet CAT5 (on the basis of IEC 11801), 1 Gbps

LED 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

Material specifications

Color Handle area	gray / black
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Cable gland material	Zinc die-cast, nickel-plated
Housing material	Plastic

Connector

Header 1

Type	Plug straight M12 SPEEDCON / IP67
Number of positions	8
Coding type	A (Standard)
Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)

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	TPU GF (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
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

Head 2

Type	Plug straight RJ45 / IP20
Number of positions	8 (8)
Handle color	gray
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	PC (Contact carriers)
	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-25 °C ... 60 °C

Cable / line

Cable length	1 m
Cable weight	47 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet flexible CAT5, 4-pair [94B]
Signal runtime	5.3 ns/m
Conductor structure signal line	7x 0.16 mm
AWG signal line	26
Conductor cross section	4x 2x 0.14 mm²
Wire diameter incl. insulation	0.96 mm
External cable diameter	6.4 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Thickness, outer sheath	1.05 mm
Twisted pairs	2 cores to the pair
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	≥ 5 GΩ*km

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Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 290.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Cable capacity	48 nF/km (at 1 kHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Tensile strength	≤ 100 N
Near end crosstalk attenuation (NEXT)	71.3 dB (with 1 MHz)
	62.3 dB (at 4 MHz)
	56.3 dB (at 10 MHz)
	53.2 dB (at 16 MHz)
	51.8 dB (at 20 MHz)
	48.9 dB (at 31.25 MHz)
	44.4 dB (at 62.5 MHz)
	41.3 dB (at 100 MHz)
Power-summated near end crosstalk attenuation (PSNEXT)	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
Return loss (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Shield attenuation	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2

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Resistance to oil	according to EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 80 °C

Cable structure

Signal type/category	Ethernet CAT5 (on the basis of IEC 11801), 1 Gbps

Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP67 (M12 connector)
	IP20 (RJ45 connector)
Degree of protection	IP67/IP20
Ambient temperature (operation)	-25 °C ... 90 °C (M12 connector)
	-20 °C ... 70 °C (RJ45 connector)

Standards and regulations

M12

Standards/specifications	IEC 61076-2-101

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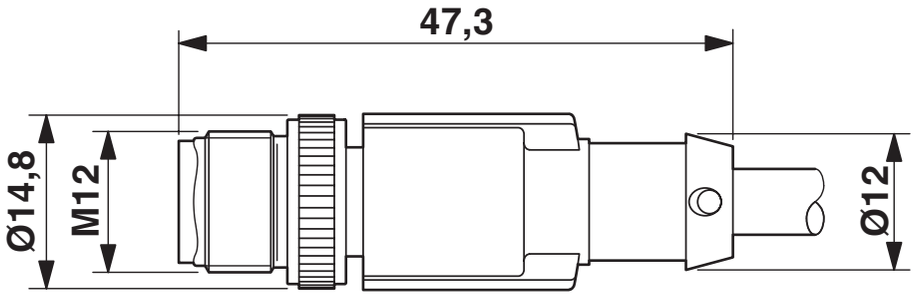
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Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

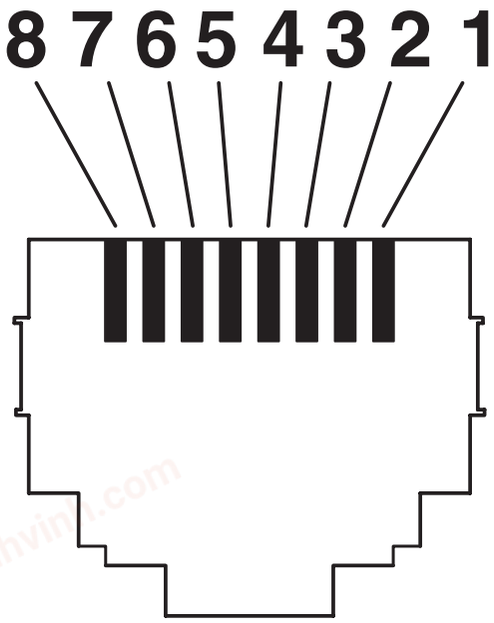
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Schematic diagram



Connector pin assignment plug RJ45

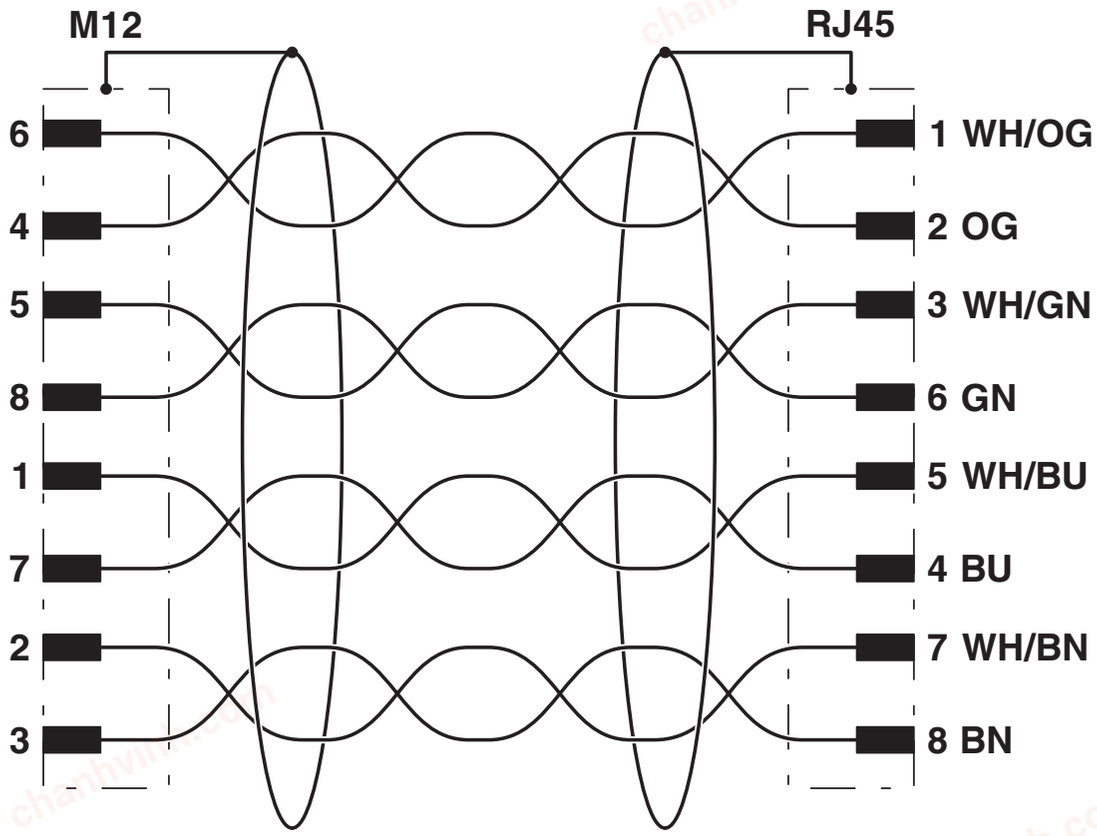
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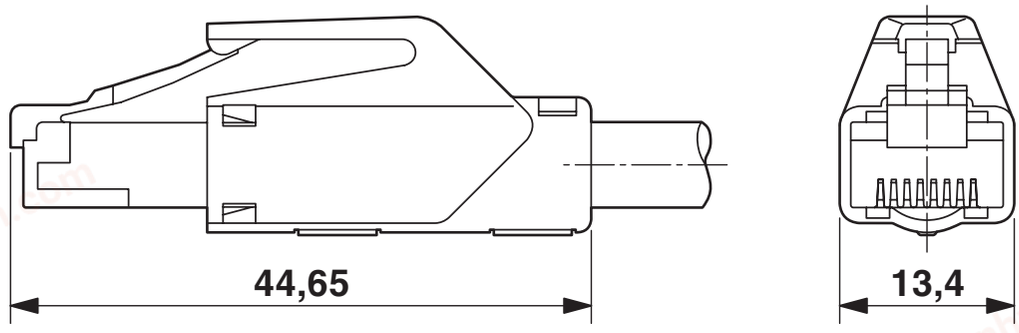
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Circuit diagram



Contact assignment of the M12 and RJ45 plug

Dimensional drawing



RJ45 connector, IP20

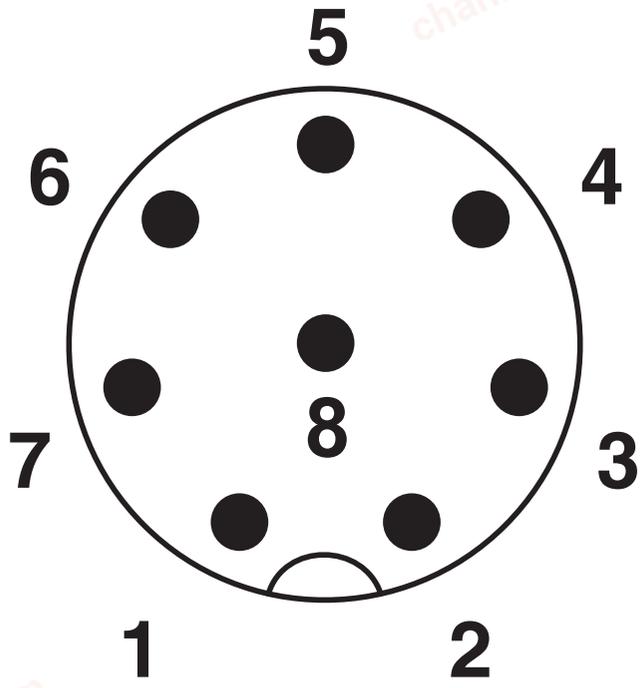
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Schematic diagram



Pin assignment M12 plug, 8-pos., A-coded, view plug side

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Approvals

UL Listed
Approval ID: FILE E 335024

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	30 V	0.5 A	-	-

cUL Listed
Approval ID: FILE E 335024

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	30 V	0.5 A	-	-

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

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27060308
ECLASS-10.0.1	27060308
ECLASS-11.0	27060307

ETIM

ETIM 8.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

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Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

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

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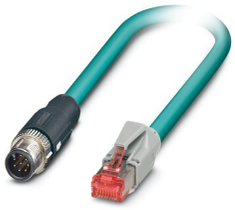
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Accessories

Network cable

Network cable - NBC-MS-R4AC SCO-IE/.../... - 1408681

https://www.phoenixcontact.com/gb/products/1408681



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

https://www.phoenixcontact.com/gb/products/1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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Network cable - NBC-MS/ 1,0-94B/R4AC SCO

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Network cable

Network cable - NBC-MR-R4AC SCO-IE/.../... - 1408674

https://www.phoenixcontact.com/gb/products/1408674



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON / IP67, coding: A, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

Torque screwdriver

Torque screwdriver - TSD-M 1,2NM - 1212224

https://www.phoenixcontact.com/gb/products/1212224



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

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Network cable - NBC-MS/ 1,0-94B/R4AC SCO

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Network cable

Network cable - NBC-FS-R4AC SCO-IE/.../... - 1408664

https://www.phoenixcontact.com/gb/products/1408664



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight RJ45 / IP20, on Socket straight M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Adapter insert

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600

https://www.phoenixcontact.com/gb/products/1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

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Network cable - NBC-MS/ 1,0-94B/R4AC SCO

1407414

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Network cable

Network cable - NBC-FR-R4AC SCO-IE/.../... - 1408655

https://www.phoenixcontact.com/gb/products/1408655



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight RJ45 / IP20, on Socket angled M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Tool

Tool - SAC BIT M12-D15 - 1208432

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

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Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

https://www.phoenixcontact.com/gb/products/1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



Locking clip

Locking clip - SAC-M12-EXCLIP-M - 1558988

https://www.phoenixcontact.com/gb/products/1558988

Locking clip for the pin 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



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