

# NBC-MS/10,0-94B/R4MC SCO - Network cable



1407425

<https://www.phoenixcontact.com/us/products/1407425>

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded, Plug straight M12 SPEEDCON, coding: A / IP67, on Plug straight RJ45 Clip locking / IP67, cable length: 10 m

## Commercial data

Item number	1407425
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CMI
GTIN	4046356775472
Weight per piece (including packing)	521.5 g
Weight per piece (excluding packing)	472.9 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
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### Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	Ethernet
Number of positions	8
Shielded	yes
Coding	A

### Interfaces

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

### Signaling

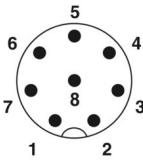
Status display	no
Status display present	no

### Electrical properties

Nominal voltage $U_N$	30 V AC
	30 V DC
Nominal current $I_N$	1 A
Transmission medium	Copper
Transmission speed	1 Gbps
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

### Connector

#### Connection 1

Dimensional drawing	 Pin assignment M12 plug, 8-pos., A-coded, view plug side
Type	M12 Plug, angled, 8-position, shielded (Advanced Shielding Technology), Keying: A
Number of positions	8
Shielded	yes
Shielding	Advanced Shielding Technology

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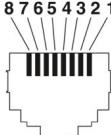
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Signal type/category	Ethernet CAT5, 1 bps
Insertion/withdrawal cycles	$\geq 100$
Insulation resistance	$\geq 100 \Omega$
Overtoltage category	II
Degree of pollution	3
Tightening torque	0.4 Nm (M12 connector)
Material Contact	CuZn
Material Contact surface	Ni/Au
Material Contact carrier	PA 6.6
Material Screw connection	Die-cast zinc, nickel-plated
Material Grip body	TPU, hardly inflammable, self-extinguishing
Material Seal	FKM
Flammability rating according to UL 94	V0
Ambient temperature (operation)	-25 °C ... 85 °C
Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101

## Connection 2

Dimensional drawing	
	Connector pin assignment plug RJ45
Type	RJ45 Plug, straight, 8-position, Snap-in locking
Number of positions	8
Signal type/category	Ethernet CAT6 (IEC 11801:2002), 1 Gbps
Insertion/withdrawal cycles	$\geq 750$
Insertion force	30 N (per signal contact)
Withdrawal force	50 N (per signal contact)
Degree of pollution	2
Material Contact	CuSn
Material Contact surface	Ni/Au
Material Contact carrier	PC
Color (Housing)	gray
Flammability rating according to UL 94	V2
Degree of protection	IP67
	IP65
Ambient temperature (operation)	-40 °C ... 60 °C

## Cable/line

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Cable length	10 m
Ethernet flexible CAT5, 4-pair [94B]	
Dimensional drawing	
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]
Conductor structure	4x2xAWG26/7, SF/UTP
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 mm <sup>2</sup>
Wire diameter incl. insulation	0.96 mm
External cable diameter	6.40 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
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	700.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Smallest bending radius, fixed installation	26 mm

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Smallest bending radius, movable installation	52 mm
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-summed 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 attenuation (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
Resistance to oil	in accordance with 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

## Environmental and real-life conditions

### Ambient conditions

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

## Standards and regulations

M12

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

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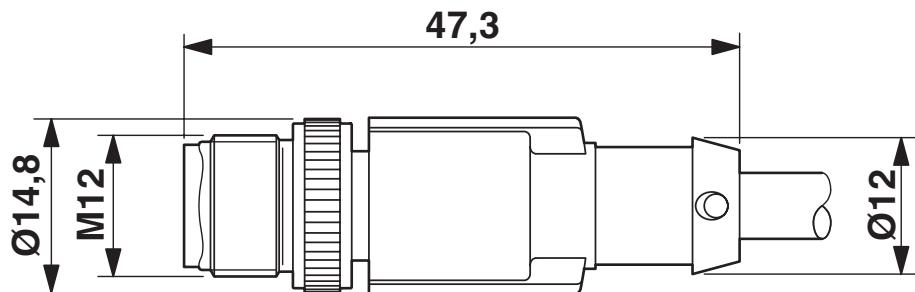
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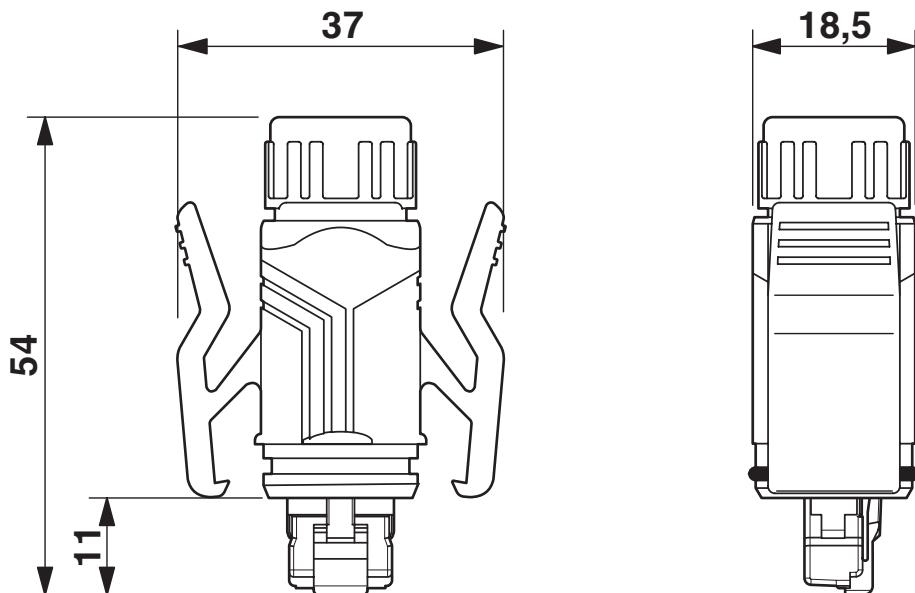
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



RJ45-connector, IP67

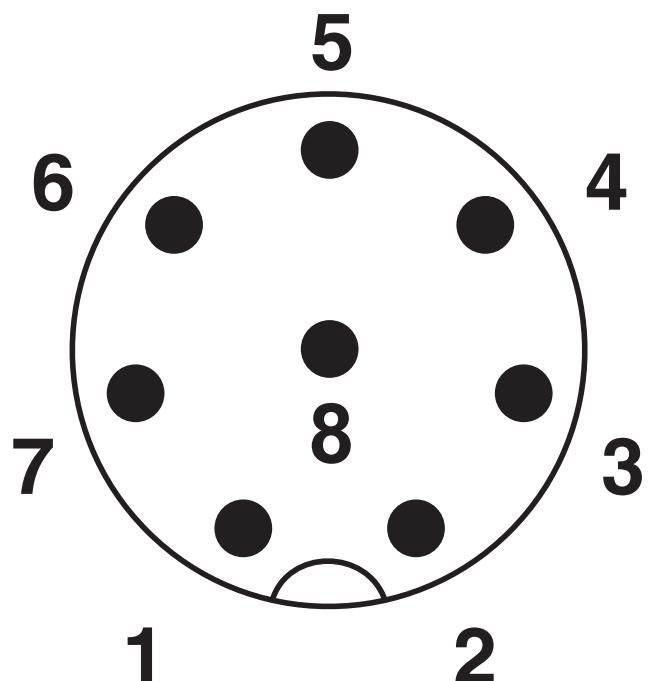
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Schematic diagram



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

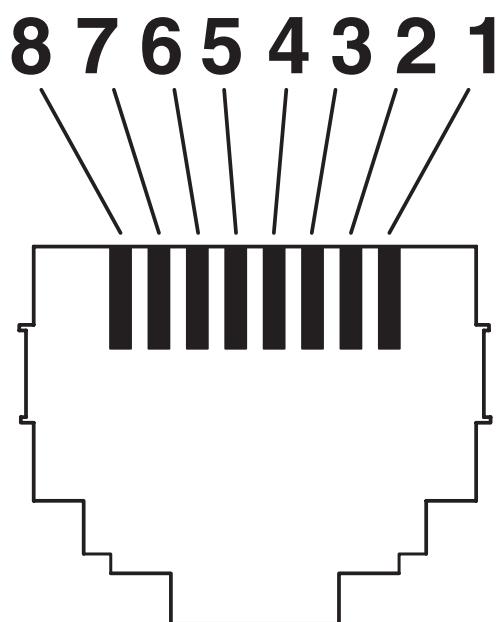
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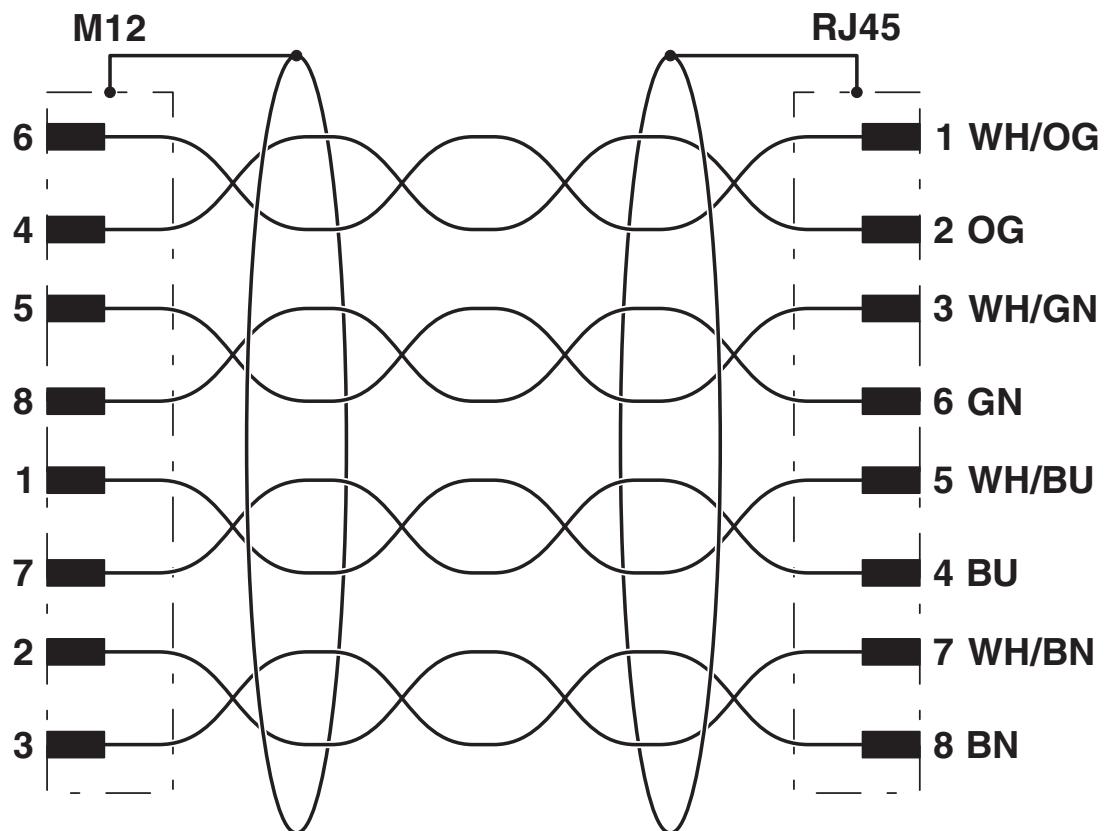


Schematic diagram



Connector pin assignment plug RJ45

Circuit diagram



Contact assignment of the M12 and RJ45 plug

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## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	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.)	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	1fcf8447-7fa4-4603-9075-d6d1269666e1

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