

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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

Commercial data

Item number	1407451
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CMI
GTIN	4046356775724
Weight per piece (including packing)	67.99 g
Weight per piece (excluding packing)	67.99 g
Customs tariff number	85444210
Country of origin	PL

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



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
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

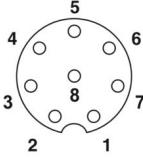
Electrical properties

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)

Material specifications

Seal material	NBR
---------------	-----

Connector

Connection 1	
Dimensional drawing	
Type	Pin assignment M12 socket, 8-pos., A-coded, view female side

M12 Socket, angled, 8-position, shielded (Advanced Shielding Technology), Keying: A

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

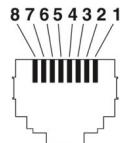
<https://www.phoenixcontact.com/us/products/1407451>



Number of positions	8
Shielded	yes
Shielding	Advanced Shielding Technology
Signal type/category	Ethernet CAT5, 1 bps
Insertion/withdrawal cycles	≥ 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	≥ 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

NBC-FS/ 1,0-94B/R4MC SCO - Network cable



1407451

<https://www.phoenixcontact.com/us/products/1407451>

Ambient temperature (operation)	-40 °C ... 60 °C
---------------------------------	------------------

Cable/line

Cable length	1 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 ²
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.)

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D
Smallest bending radius, fixed installation	26 mm
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

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



Environmental and real-life conditions

Ambient conditions

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

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

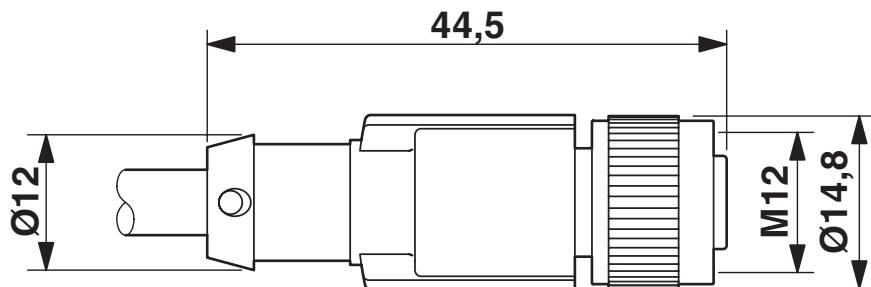
1407451

<https://www.phoenixcontact.com/us/products/1407451>



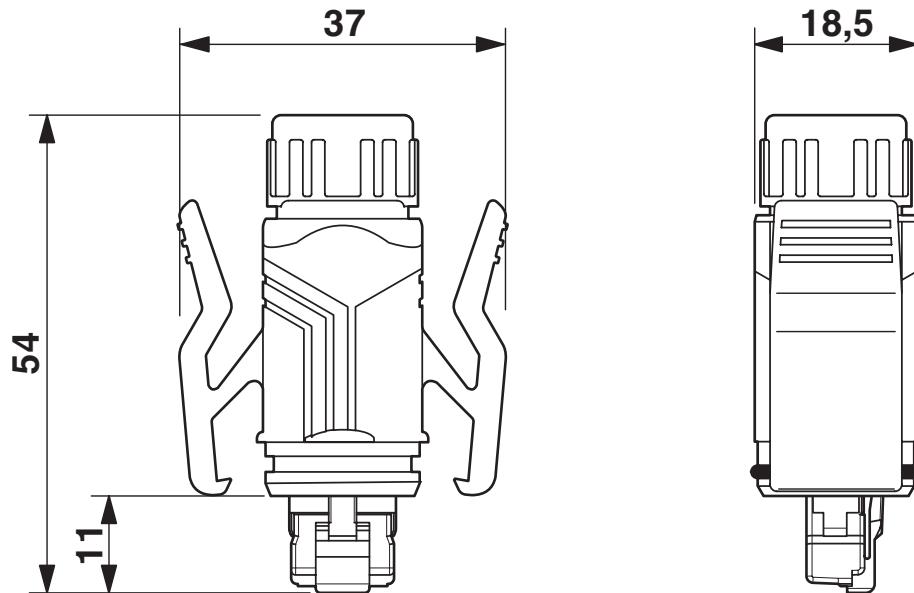
Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Dimensional drawing



RJ45-connector, IP67

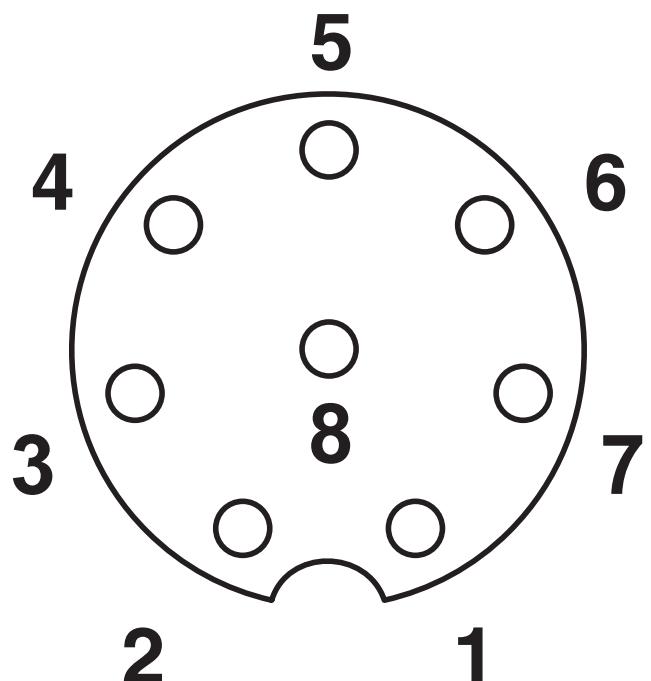
NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



Schematic diagram



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

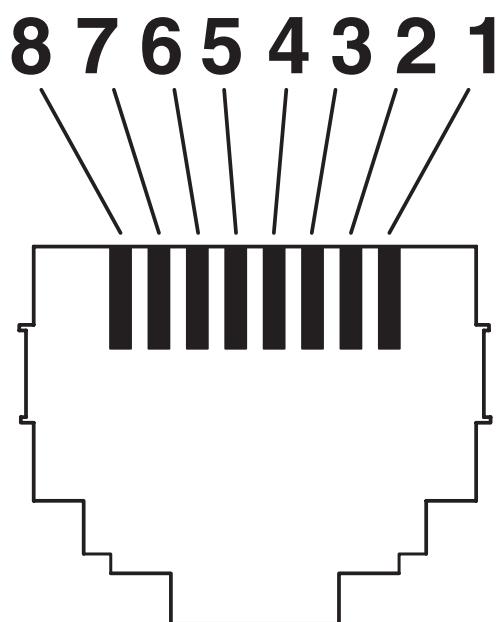
NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>

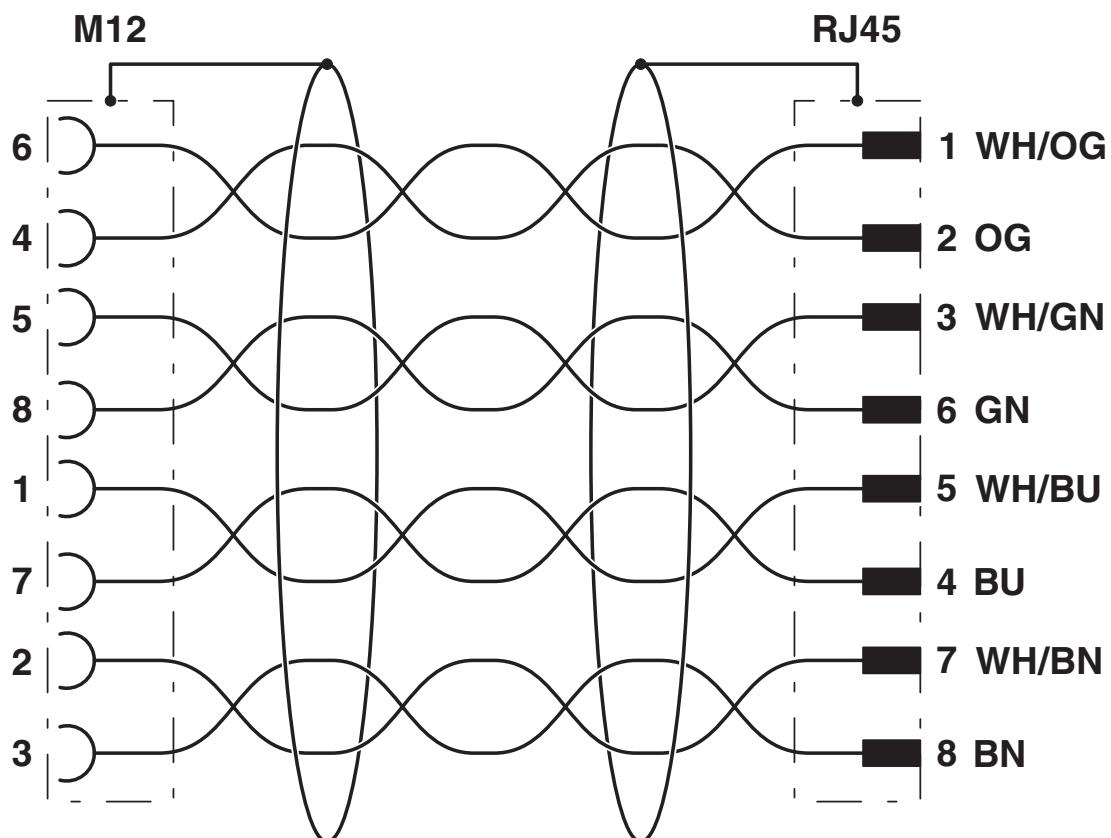


Schematic diagram



Connector pin assignment plug RJ45

Circuit diagram



Contact assignment of the M12 socket and the RJ45 plug

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



Classifications

ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

ETIM

ETIM 9.0	EC001855
----------	----------

UNSPSC

UNSPSC 21.0	26121600
-------------	----------

NBC-FS/ 1,0-94B/R4MC SCO - Network cable

1407451

<https://www.phoenixcontact.com/us/products/1407451>



Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

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	8a518cb8-553f-4ee4-91b4-f4d7d36b92be

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA

586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com