

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

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 CAT6_A (10 Gbps), CC-Link IE CAT6_A (10 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, shielded (Advanced Shielding Technology), Plug straight M12, coding: X / IP67, on Plug straight RJ45, coding: X / IP20, cable length: 15 m

Commercial data

Item number	1421855
Packing unit	1 pc
Minimum order quantity	25 pc
Note	Made to order (non-returnable)
Sales key	AF1CMJ
Product key	AF1CMJ
GTIN	4055626285177
Weight per piece (including packing)	749.5 g
Weight per piece (excluding packing)	658.1 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Product properties

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

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet CAT6 _A , 10 Gbps
	CC-Link IE CAT6 _A , 10 Gbps

Signaling

Status display	no
Status display present	no

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	0.5 A
Transmission medium	Copper
Transmission characteristics (category)	CAT6 _A

Connector

Connection 1

Type	Plug straight M12 / IP67
Number of positions	8
Coding type	X (Data)
Handle color	black
Material	CuZn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip body)
	Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Type	Plug straight RJ45 / IP20
Number of positions	8 (8)
Coding type	X (Data)
Handle color	gray
Material	CuSn (Contact) Ni/Au (Contact surface) PC (Contact carriers) PA (Housing)
Insertion/withdrawal cycles	≥ 750
Insulation resistance	≥ 100 MΩ
Tightening torque	0.4 Nm
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C

Cable/line

Cable length	15 m
--------------	------

Ethernet 10 Gbit [94F]

Dimensional drawing	
Cable weight	42 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet 10 Gbit [94F]
Conductor structure	4x2xAWG26/7; S/FTP
Signal runtime	5.13 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	1.04 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

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Thickness, outer sheath	0.65 mm
Twisted pairs	2 cores to the pair
Type of pair shielding	Aluminum-lined foil
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	$\geq 500 \text{ M}\Omega \cdot \text{km}$
Loop resistance	$\leq 290.00 \text{ }\Omega/\text{km}$
Wave impedance	$100 \text{ }\Omega \pm 5 \text{ }\Omega$ (at 100 MHz)
Cable capacity	47 nF/km
Nominal voltage, cable	$\leq 100 \text{ V}$
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
Smallest bending radius, movable installation	52 mm
Tensile strength	$\leq 100 \text{ N}$
Near end crosstalk attenuation (NEXT)	75.3 dB (with 1 MHz)
	66.3 dB (at 4 MHz)
	61.8 dB (at 8 MHz)
	60.3 dB (at 10 MHz)
	57.2 dB (at 16 MHz)
	55.8 dB (at 20 MHz)
	54.3 dB (at 25 MHz)
	52.8 dB (at 31.25 MHz)
	48.4 dB (at 62.5 MHz)
	45.3 dB (at 100 MHz)
	40.8 dB (at 200 MHz)
	39.3 dB (at 250 MHz)
	38.1 dB (at 300 MHz)
	38.1 dB (at 400 MHz)
	38.1 dB (at 500 MHz)
Power-summed near end crosstalk attenuation (PSNEXT)	72.3 dB (with 1 MHz)
	63.3 dB (at 4 MHz)
	58.8 dB (at 8 MHz)
	57.3 dB (at 10 MHz)
	54.2 dB (at 16 MHz)
	52.8 dB (at 20 MHz)
	51.3 dB (at 25 MHz)
	49.9 dB (at 31.25 MHz)
	45.4 dB (at 62.5 MHz)
	42.3 dB (at 100 MHz)
	37.8 dB (at 200 MHz)
	36.3 dB (at 250 MHz)

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Return attenuation (RL)	35.1 dB (at 300 MHz)
	33.3 dB (at 400 MHz)
	31.8 dB (at 500 MHz)
	20 dB (with 1 MHz)
	23 dB (at 4 MHz)
	24.5 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	24.2 dB (at 25 MHz)
	23.3 dB (at 31.25 MHz)
	20.7 dB (at 62.5 MHz)
	19 dB (at 100 MHz)
	16.4 dB (at 200 MHz)
	15.6 dB (at 250 MHz)
	15.6 dB (at 300 MHz)
	15.6 dB (at 400 MHz)
	15.6 dB (at 500 MHz)
Shield attenuation	3.1 dB (with 1 MHz)
	5.7 dB (at 4 MHz)
	8 dB (at 8 MHz)
	8.9 dB (at 10 MHz)
	11.2 dB (at 16 MHz)
	12.6 dB (at 20 MHz)
	14.1 dB (at 25 MHz)
	15.8 dB (at 31.25 MHz)
	22.5 dB (at 62.5 MHz)
	28.7 dB (at 100 MHz)
	41.4 dB (at 200 MHz)
	46.6 dB (at 250 MHz)
	51.4 dB (at 300 MHz)
	60.1 dB (at 400 MHz)
	67.9 dB (at 500 MHz)
	≥ 80.00 dB (at 30 ... 100 MHz)
Halogen-free	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
	in accordance with UN ECE-R 118.03
Resistance to oil	in accordance with DIN 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

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Ambient conditions

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

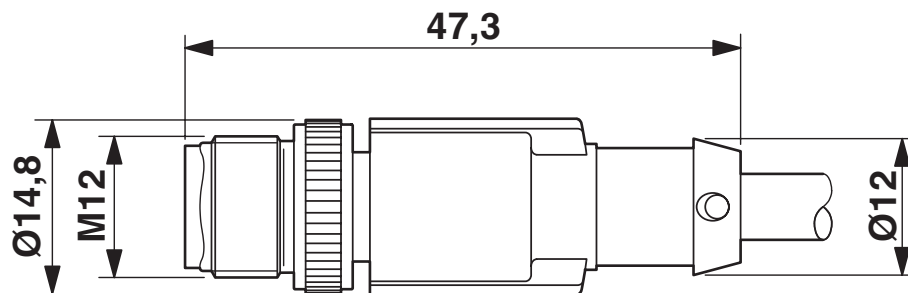
Standards and regulations

M12

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-109

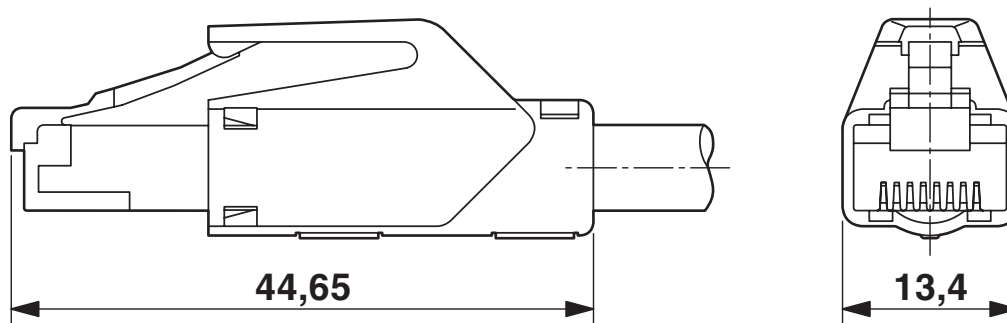
Drawings

Dimensional drawing

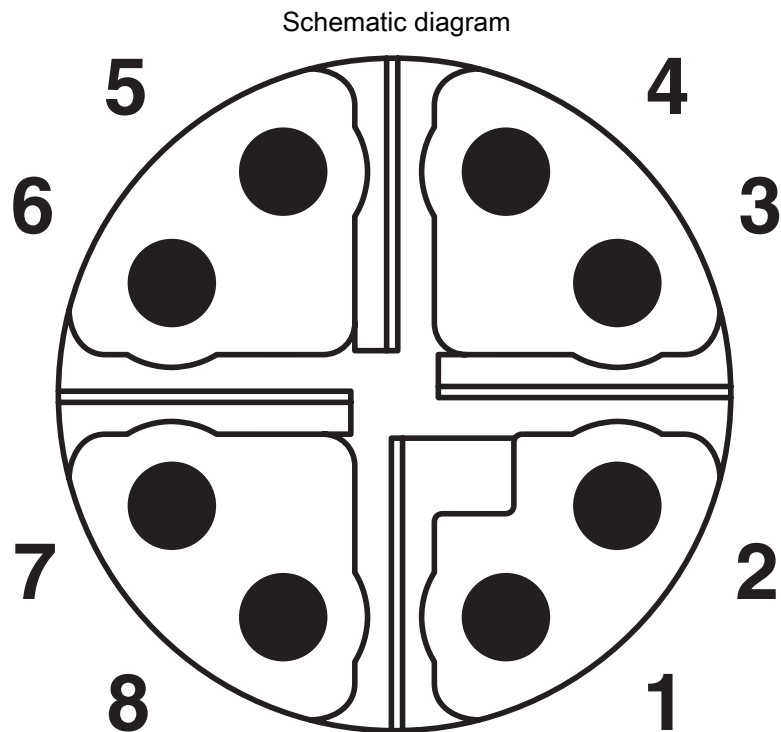


Plug, M12 x 1, straight, shielded

Dimensional drawing

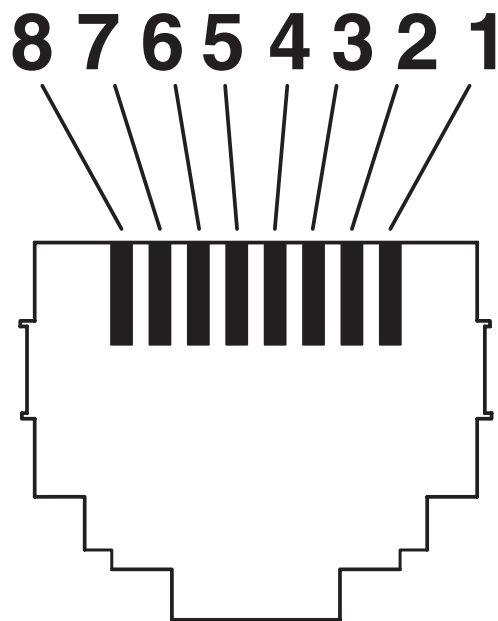


RJ45 connector, IP20



Pin assignment of M12 plug, 8-pos., X-coded, pin side view

Schematic diagram

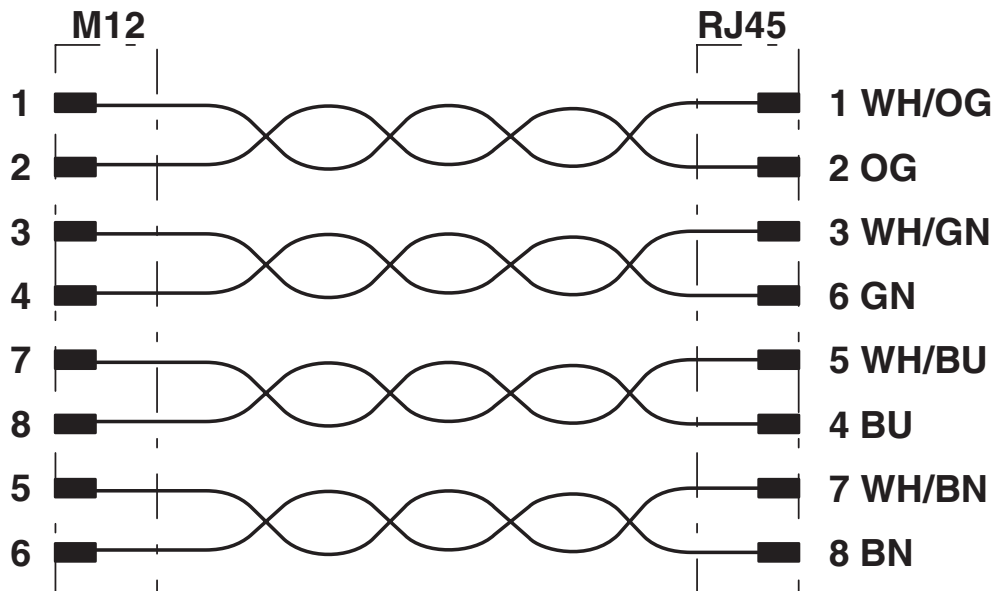


Connector pin assignment plug RJ45

1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Circuit diagram



Contact assignment of the M12 and RJ45 plug

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1421855>



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-RoHS

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

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

Classifications

ECLASS

ECLASS-12.0	27060307
ECLASS-13.0	27060307

ETIM

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

UNSPSC

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

NBC-M12MSX/15,0-94F/R4AC - Network cable



1421855

<https://www.phoenixcontact.com/gb/products/1421855>

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.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

Phoenix Contact 2025 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT Ltd
Halesfield 13, Telford
Shropshire, TF7 4PG
01952 681700
info@phoenixcontact.co.uk