

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

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, Sercos CAT5 (100 Mbps), 4-position, PVC/PVC, signal red RAL 3020, shielded, Plug straight M12 SPEEDCON, coding: D / IP67, on Plug straight RJ45 / IP20, cable length: 1 m

Commercial data

Item number	1411509
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CJO
GTIN	4046356933728
Weight per piece (including packing)	99.2 g
Weight per piece (excluding packing)	75.5 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Product properties

Product type	Data cable preassembled
Application	Standard
Number of positions	4
Shielded	yes
Coding	D

Interfaces

Bus system	Sercos III
Signal type/category	Sercos CAT5 (IEC 11801), 100 Mbps

Signaling

Status display	no
Status display present	no

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	1 A
Transmission medium	Copper
Transmission speed	100 Mbps
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

Connector

Connection 1

Type	Plug straight M12 SPEEDCON / IP67
Number of positions	4
Locking type	SPEEDCON
Coding type	D (Data)
Handle color	black
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carrier)
	TPU, hardly inflammable, self-extinguishing (Grip body)
	Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	≥ 100
Insulation resistance	$\geq 100 \text{ M}\Omega$
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509


<https://www.phoenixcontact.com/us/products/1411509>

Type	Plug straight RJ45 / IP20
Number of positions	4 (8)
Handle color	black
Material	CuSn (Contact) Ni/Au (Contact surface) PA (Contact carrier) PA (Housing)
Insertion/withdrawal cycles	≥ 750
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 80 °C

Cable/line

Cable length	1 m
--------------	-----

Sercos III [93K]

Dimensional drawing	
Cable weight	68 kg/km
UL AWM Style	21694 (60 °C / 600 V)
Number of positions	4
Shielded	yes
Cable type	Sercos III [93K]
Conductor structure	1x4xAWG22/7, SF/TQ
Signal runtime	5.3 ns/m
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross-section	4x 0.34 mm ²
Wire diameter incl. insulation	approx. 1.55 mm
External cable diameter	6.50 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	signal red RAL 3020
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE
Single wire, color	white, yellow, blue, orange
Thickness, outer sheath	approx. 0.90 mm
Type of pair shielding	Aluminum-lined polyester foil
Overall twist	Star quad
Max. conductor resistance	≤ 120 Ω/km

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

Insulation resistance	$\geq 0.5 \text{ G}\Omega \cdot \text{km}$
Coupling resistance	$\leq 20.00 \text{ m}\Omega/\text{m}$ (at 10 Hz)
Wave impedance	$100 \Omega \pm 15 \Omega$ (at 100 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Smallest bending radius, fixed installation	20 mm
Smallest bending radius, movable installation	46 mm
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

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP67 (M12 connector)
	IP20 (RJ45 connector)
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (M12 connector)
	-25 °C ... 80 °C (RJ45 connector)

Standards and regulations

M12

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

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

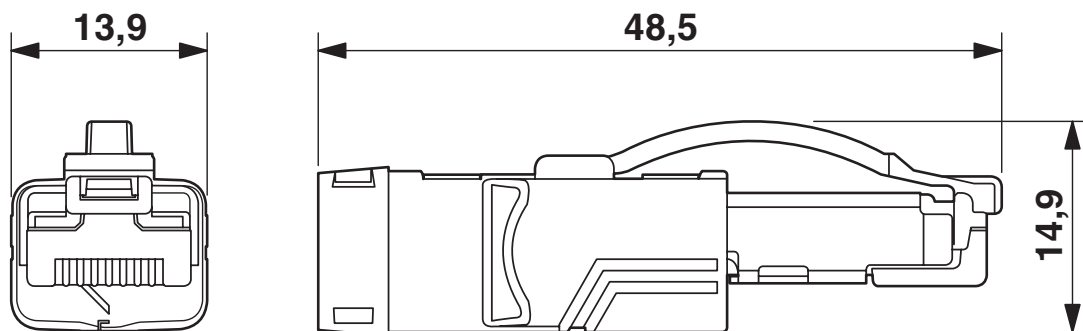
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



RJ45 connector, IP20

1411509

<https://www.phoenixcontact.com/us/products/1411509>

Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

Schematic diagram



Connector pin assignment plug RJ45

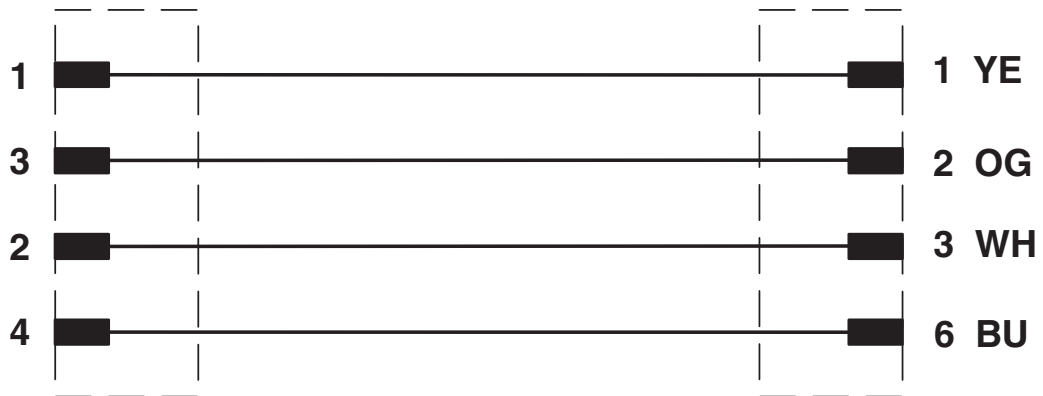
NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

Circuit diagram



Contact assignment of the M12 and RJ45 plug

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1411509>



EAC-RoHS

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



cULus Listed

Approval ID: E335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	60 V	0.5 A	-	-

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

Classifications

ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

UNSPSC

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

NBC-M12MSD/ 1,0-93K/R4AC - Network cable



1411509

<https://www.phoenixcontact.com/us/products/1411509>

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%
-------------------------------------	----------------------------

EF3.1 Climate Change

CO2e kg	1.237 kg CO2e
---------	---------------

Phoenix Contact 2026 © - 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