

NBC-MSD/ 1,0-93K/R4AC SCO - 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, 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	BF1CJO
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

1411509

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

Technical data

Product properties

Product type	Data cable preassembled
Sensor type	Sercos
Number of positions	4
Application	Standard
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 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 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

NBC-MSD/ 1,0-93K/R4AC SCO - Network cable



1411509

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

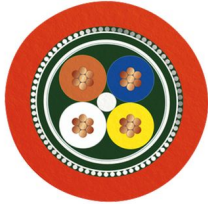
Connection 2

Type	Plug straight RJ45 / IP20
Number of positions	4 (8)
Handle color	black
Material	CuSn (Contact) Ni/Au (Contact surface) PA (Contact carriers) 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

NBC-MSD/ 1,0-93K/R4AC SCO - Network cable



1411509

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

Max. conductor resistance	≤ 120 Ω/km
Insulation resistance	≥ 0.5 GΩ*km
Coupling resistance	≤ 20.00 mΩ/m (at 10 Hz)
Wave impedance	100 Ω ±15 Ω (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)	-25 °C ... 90 °C (M12 connector)
	-25 °C ... 80 °C (RJ45 connector)

Standards and regulations

M12

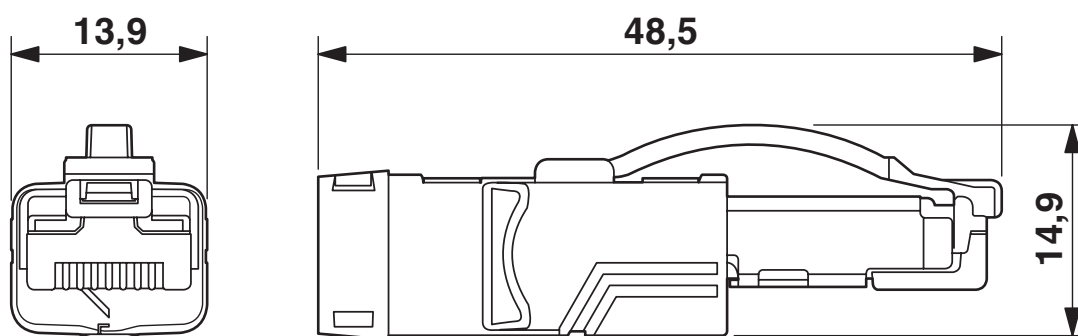
Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

1411509

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

Drawings

Dimensional drawing



RJ45 connector, IP20

Schematic diagram

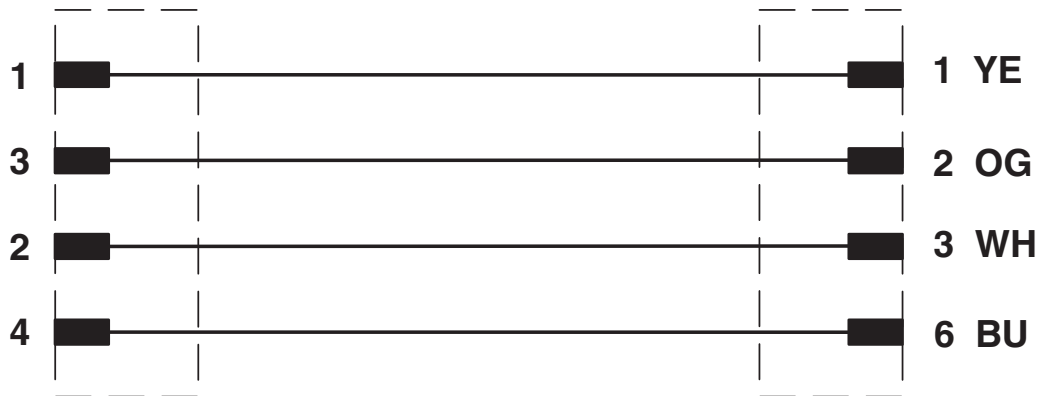


Connector pin assignment plug RJ45

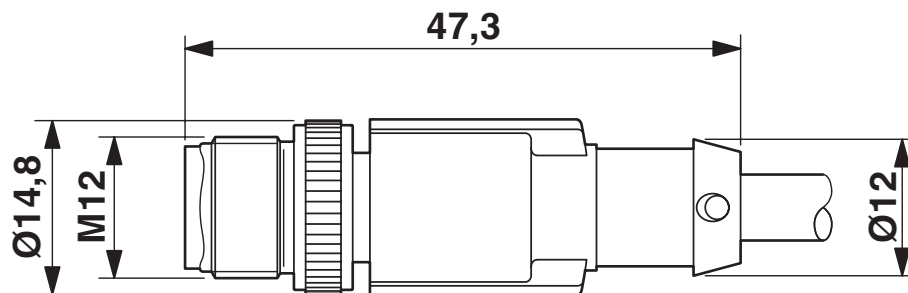
1411509

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

Circuit diagram



Dimensional drawing

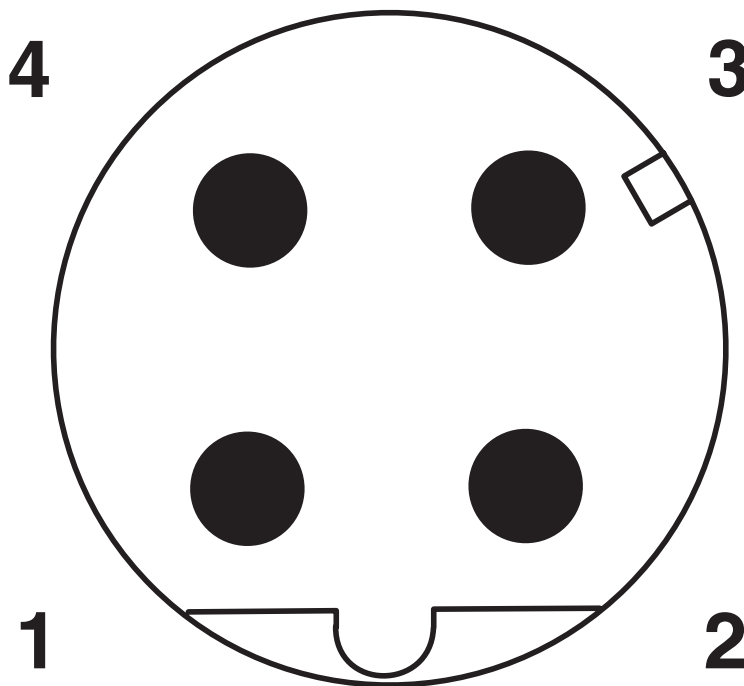


Plug, M12 x 1, straight, shielded

1411509

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

Schematic diagram



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

NBC-MSD/ 1,0-93K/R4AC SCO - 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

NBC-MSD/ 1,0-93K/R4AC SCO - Network cable



1411509

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

Classifications

ECLASS

ECLASS-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	27060307

ETIM

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

UNSPSC

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

NBC-MSD/ 1,0-93K/R4AC SCO - Network cable



1411509

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

Environmental product compliance

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

1411509

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

Accessories

PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

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



SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/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



NBC-MSD/ 1,0-93K/R4AC SCO - Network cable

1411509

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



TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/us/products/1208429>



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

TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>



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

NBC-MSD/ 1,0-93K/R4AC SCO - Network cable



1411509

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

TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>



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

SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/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

Phoenix Contact 2024 © - 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