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NBC-MSD/ 2,0-93K/R4AC SCO - Network cable

1411515

https://www.phoenixcontact.com/gb/products/1411515

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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: 2 m

Commercial data

Item number	1411515
Packing unit	1 pc
Minimum order quantity	25 pc
Sales key	AF1CJO
Product key	AF1CJO
GTIN	4046356933735
Weight per piece (including packing)	167.6 g
Weight per piece (excluding packing)	167.6 g
Customs tariff number	85444290
Country of origin	PL

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Technical data

Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	Sercos
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 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	≥ 100 MΩ
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

Connection 2

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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	2 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 mm²
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

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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

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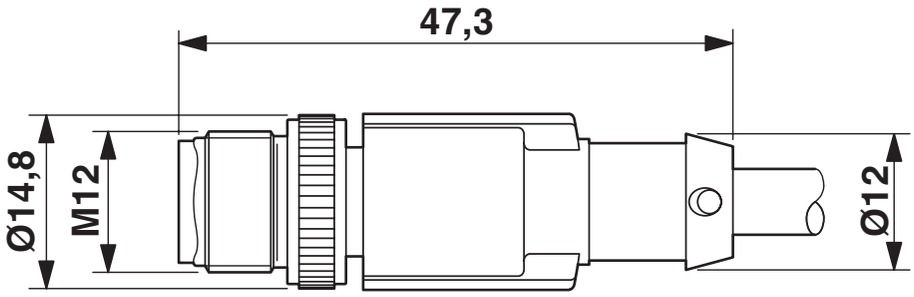
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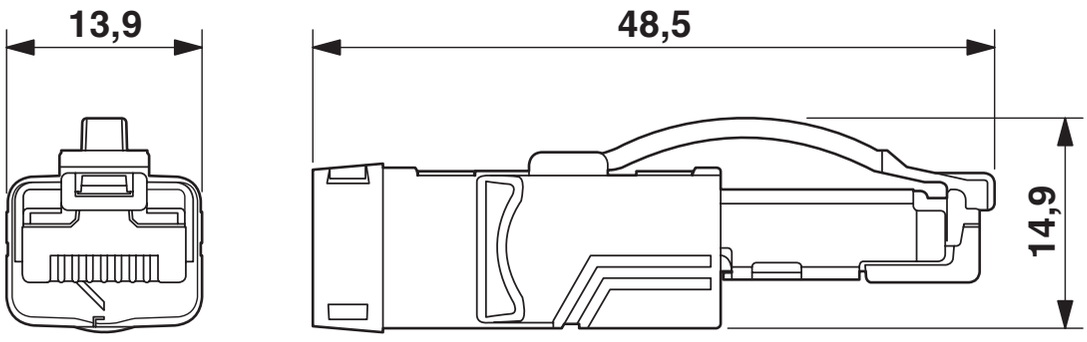
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



RJ45 connector, IP20

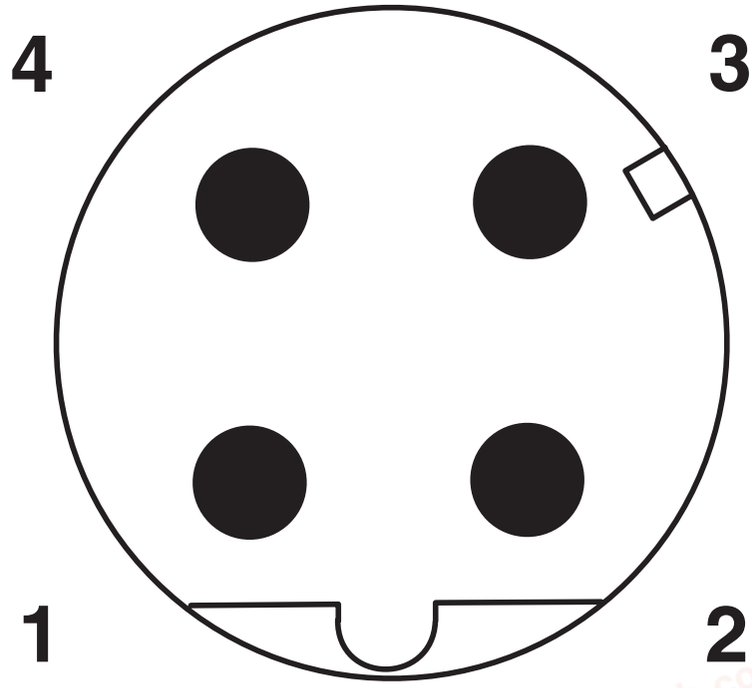
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Schematic diagram



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

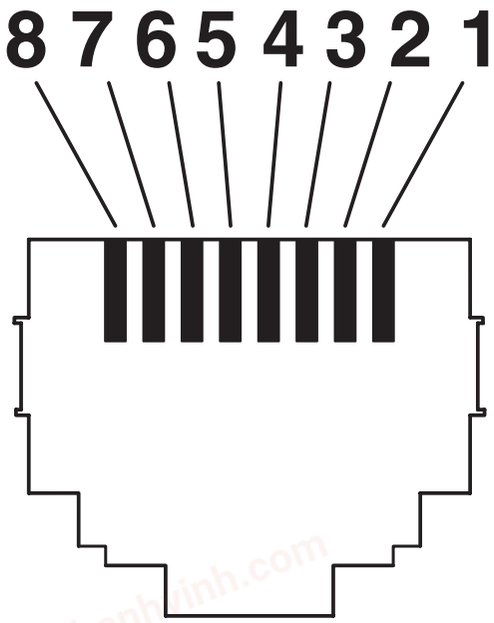
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Schematic diagram



Connector pin assignment plug RJ45

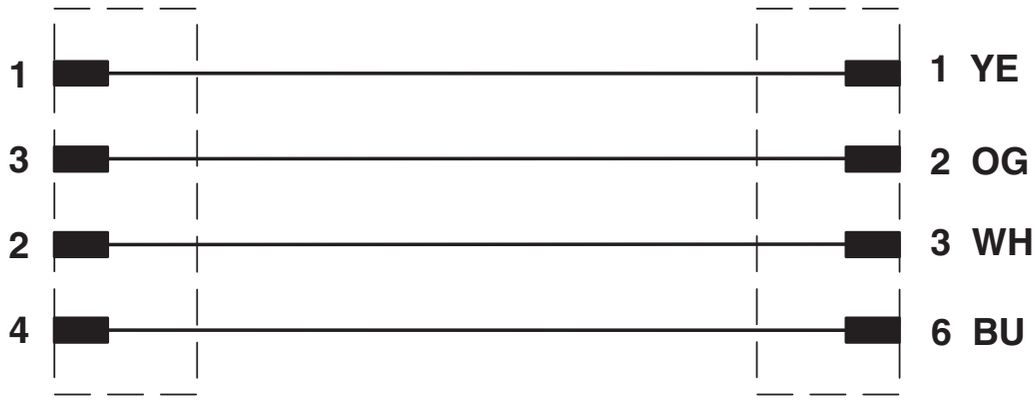
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Circuit diagram



Contact assignment of the M12 and RJ45 plug

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Approvals

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cULus Listed
Approval ID: E335024

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

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Classifications

ECLASS

ECLASS-13.0	27060307

ETIM

ETIM 9.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

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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%

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