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Network cable - NBC-FSD/ 2,0-93K/R4AC SCO - 1411540

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Network cable, Sercos III CAT5 (100 Mbps), 4-position, PVC/PVC, signal red RAL 3020, shielded, Plug straight RJ45 / IP20, on Socket straight M12 SPEEDCON / IP67, Coding: D, Cable length: 2 m



Key Commercial Data

| | |
|----------------------|----------|
| Packing unit | 1 STK |
| Custom tariff number | 85444290 |
| Country of origin | Poland |

Technical data

Dimensions

| | |
|-----------------|-----|
| Length of cable | 2 m |
|-----------------|-----|

Ambient conditions

| | |
|----------------------|-----------------------|
| Degree of protection | IP65 (M12 connector) |
| | IP67 (M12 connector) |
| | IP20 (RJ45 connector) |

General data

| | |
|-----------------------|---------------------------------------|
| Rated current at 40°C | 1 A |
| Rated voltage | 50 V |
| Number of positions | 4 |
| Signal type/category | Sercos III CAT5 (IEC 11801), 100 Mbps |
| Standards/regulations | M12 connector IEC 61076-2-101 |

Characteristics head 1

| | |
|-----------|---------------------------|
| Head type | Plug straight RJ45 / IP20 |
|-----------|---------------------------|

Network cable - NBC-FSD/ 2,0-93K/R4AC SCO - 1411540

Technical data

Characteristics head 1

| | |
|--|-------------------------|
| No. of positions (pin connector pattern) | 4 (8) |
| Color | black |
| Material (component) | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | PA (Contact carriers) |
| | PA (Housing) |
| Insertion/withdrawal cycles | ≥ 750 |
| Ambient temperature (operation) | -25 °C ... 80 °C |

Characteristics head 2

| | |
|--|--|
| Head type | Socket straight M12 SPEEDCON / IP67 |
| No. of positions (pin connector pattern) | 4 |
| Coding | D (Data) |
| Color | black |
| Material (component) | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | TPU GF (Contact carriers) |
| | TPU, hardly inflammable, self-extinguishing (Grip) |
| | Zinc die-cast, nickel-plated (Screw connection) |
| Insulation resistance | ≥ 100 MΩ |
| Insertion/withdrawal cycles | ≥ 100 |
| Torque | 0.4 Nm |
| Ambient temperature (operation) | -25 °C ... 90 °C |

Standards and Regulations

| | |
|-----------------------|-----------------|
| Standard designation | M12 connector |
| Standards/regulations | IEC 61076-2-101 |

Cable

| | |
|------------------------------------|---------------------------------------|
| Cable type | Sercos III |
| Cable type (abbreviation) | 93K |
| UL AWM style | 21694 (60°C / 600 V) |
| Signal type/category | Sercos III CAT5 (IEC 11801), 100 Mbps |
| Cable structure | 1x4xAWG22/7; SF/TQ |
| Conductor cross section | 4x 0.34 mm ² |
| AWG signal line | 22 |
| Conductor structure signal line | 7x 0.25 mm |
| Core diameter including insulation | approx. 1.55 mm |
| Wire colors | White, yellow, blue, orange |

Network cable - NBC-FSD/ 2,0-93K/R4AC SCO - 1411540

Technical data

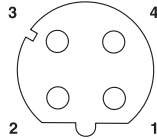
Cable

| | |
|---|---|
| Type of pair shielding | Aluminum-lined polyester foil |
| Overall twist | Star quad |
| Shielding | Tinned copper braided shield |
| External sheath, color | signal red RAL 3020 |
| Outer sheath thickness | approx. 0.9 mm |
| External cable diameter D | 6.5 mm ±0.2 mm |
| Minimum bending radius, fixed installation | 3 x D |
| Minimum bending radius, flexible installation | 7 x D |
| Cable weight | 68 kg/km |
| Outer sheath, material | PVC |
| Material, inner sheath | PVC |
| Material conductor insulation | PE |
| Conductor material | Tin-plated Cu litz wires |
| Insulation resistance | ≥ 0.5 GΩ*km |
| Conductor resistance | ≤ 120 Ω/km |
| Wave impedance | 100 Ω ±15 Ω (at 100 MHz) |
| Signal runtime | 5.3 ns/m |
| Coupling resistance | ≤ 20.00 mΩ/m (at 10 Hz) |
| Test voltage Core/Core | 2000 V (50 Hz, 1 min.) |
| Test voltage Core/Shield | 2000 V (50 Hz, 1 min.) |
| 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 |
| Ambient temperature (storage/transport) | -50 °C ... 70 °C |

Drawings

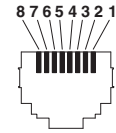
Network cable - NBC-FSD/ 2,0-93K/R4AC SCO - 1411540

Schematic diagram



Pin assignment M12 socket, 4-pos., D-coded, female side

Schematic diagram



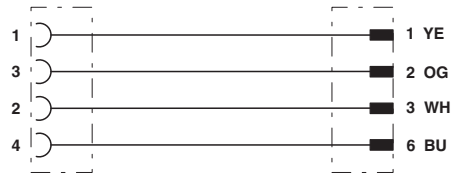
Connector pin assignment plug RJ45

Cable cross section



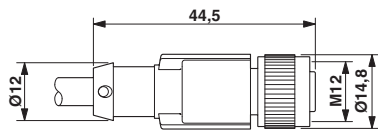
Sercos III [93K]

Circuit diagram



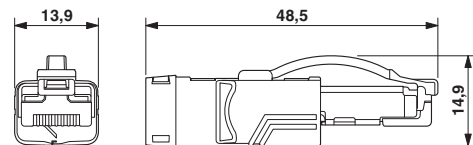
Contact assignment of the M12 socket and the RJ45 plug

Dimensional drawing



M12 x 1 socket, straight, shielded

Dimensional drawing



RJ45 connector, IP20

Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.1 | 27060306 |
| eCl@ss 5.1 | 27060307 |
| eCl@ss 6.0 | 27060390 |
| eCl@ss 8.0 | 27279218 |
| eCl@ss 9.0 | 27060311 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 4.0 | EC002599 |
| ETIM 5.0 | EC001855 |

Accessories

Accessories

Protective cap

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



Safety locking

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket 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

Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



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

Tool - SAC BIT M12-D15 - 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

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Accessories

Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



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

Torque screwdriver - TSD-M 1,2NM - 1212224



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