

Bus system flush-type socket - VS-FSBPXS-OE-94F/2,0 - 1424151

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Assembled Ethernet cable, CAT6_A, shielded, 4-pair, 26 AWG stranded (7-wire), RAL 5021 (water blue), M12 flush-type socket, rear/screw mounting with M16 thread to free cable end, length: 2 m

Your advantages

- ✓ Pre-assembled with cables in various standard lengths for immediate use
- ✓ Customer-specific assemblies and cable lengths can be supplied
- ✓ Sealed on the cable side for optimum tightness of seal
- ✓ Cable designs for all common networks and fieldbuses
- ✓ For high transmission safety: shield connection to the housing with optional EMC nut



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 692632 |
| GTIN | 4046356692632 |

Technical data

Dimensions

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

Ambient conditions

| | |
|---------------------------------|---|
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) | -25 °C ... 85 °C (Plug / socket) |
| | -40 °C ... 85 °C (without mechanical actuation) |

General data

| | |
|------|--|
| Note | The electrical and mechanical data specified assume that the connector pair is correctly locked and mounted. If the connector is unlocked and if there is a danger of contamination, the connector must be sealed using a protective cap > IP54. Influences arising from litz wires, cables or PCB assembly must also be taken into consideration. |
|------|--|

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Technical data

General data

| | |
|---|--|
| Rated current at 40°C | 0.5 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |
| Rated voltage | 50 V AC |
| | 60 V DC |
| Rated surge voltage | 0.8 kV |
| Number of positions | 8 |
| Signal type/category | Ethernet CAT6 _A , 10 Gbps |
| Standards/regulations | M12 connector IEC 61076-2-109 |
| Overvoltage category | III |
| Degree of pollution | 3 |
| Alternative short product description | Ethernet cable |
| Contact material | CuZn |
| Contact carrier material | PPA |
| Contact surface material | Au |
| Degree of protection | IP65/IP67 |
| Transmission characteristics (category) | CAT6 _A |

Characteristics head 1

| | |
|------------------------|-----------------------------|
| Shielded | yes |
| Outer sheath, material | PUR |
| External sheath, color | water blue RAL 5021 |
| Type type, plug side | Flush-type socket, straight |
| Type type, socket side | free cable end |

Standards and Regulations

| | |
|--|--|
| Standards/specifications | M12 connector IEC 61076-2-109 |
| Flammability rating according to UL 94 | V0 |
| Safety note | WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property. |
| | • WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible. |
| | • WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product. |
| | • The products are suitable for applications in plant, controller, and electrical device engineering. |
| | • When operating the connectors in outdoor applications, they must be separately protected against environmental influences. |
| | • Assembled products may not be manipulated or improperly opened. |

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Standards and Regulations

| | |
|--|--|
| | <ul style="list-style-type: none"> • Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at phoenixcontact.com/products). |
| | <ul style="list-style-type: none"> • When using the product in direct connection with third-party manufacturers, the user is responsible. |
| | <ul style="list-style-type: none"> • For operating voltages > 50 V AC, conductive connector housings must be grounded |
| | <ul style="list-style-type: none"> • Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards. |
| | <ul style="list-style-type: none"> • Observe the corresponding technical data. You will find information: <ul style="list-style-type: none"> o On the product o On the packing label o In the supplied documentation o Online at phoenixcontact.com/products under the product |
| | <ul style="list-style-type: none"> • Only use tools recommended by Phoenix Contact |
| | <ul style="list-style-type: none"> • Use a protective cap to protect connectors that are not in use. The suitable accessories are available online in the accessory section of the product at phoenixcontact.com/products |
| | <ul style="list-style-type: none"> • Ensure that the protective or functional ground has been properly connected. |
| | <ul style="list-style-type: none"> • VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector |
| | <ul style="list-style-type: none"> • The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting warnings (e.g. DIN EN ISO 13732-1:2008-12). |

Cable

| | |
|------------------------------------|--|
| Cable type | Ethernet 10 Gbit |
| Cable type (abbreviation) | 94F |
| UL AWM style | 20963 (80°C/30 V) |
| Signal type/category | Ethernet CAT6 _A , 10 Gbps |
| Cable structure | 4x2xAWG26/7; S/FTP |
| Conductor cross section | 4x 2x 0.14 mm ² |
| AWG signal line | 26 |
| Conductor structure signal line | 7x 0.16 mm |
| Core diameter including insulation | 1.04 mm |
| Wire colors | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Twisted pairs | 2 cores to the pair |
| Type of pair shielding | Aluminum-lined foil |
| Overall twist | 4 pairs for core |
| Shielding | Tinned copper braided shield |
| Optical shield covering | 70 % |
| External sheath, color | water blue RAL 5021 |
| Outer sheath thickness | 0.65 mm |
| External cable diameter D | 6.4 mm ±0.2 mm |

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Technical data

Cable

| | |
|--|-------------------------|
| Minimum bending radius, fixed installation | 4 x D |
| Minimum bending radius, flexible installation | 8 x D |
| Tensile strength GRP | ≤ 100 N |
| Cable weight | 42 kg/km |
| Outer sheath, material | PUR |
| Material conductor insulation | Foamed PE |
| Conductor material | Bare Cu litz wires |
| Insulation resistance | ≥ 500 MΩ*km |
| Loop resistance | ≤ 290.00 Ω/km |
| Cable capacity | 47 nF/km |
| Wave impedance | 100 Ω ±5 Ω (at 100 MHz) |
| 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) |
| | 36.3 dB (at 400 MHz) |
| | 34.8 dB (at 500 MHz) |
| Power-summated 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) |
| | 35.1 dB (at 300 MHz) |
| | 33.3 dB (at 400 MHz) |

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Cable

| | |
|---------------------------------|--|
| | 31.8 dB (at 500 MHz) |
| 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) |
| Return loss (RL) | 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) |
| Signal runtime | 5.13 ns/m |
| Shield attenuation | ≥ 80 dB (at 30 ... 100 MHz) |
| Nominal voltage, cable | ≤ 100 V |
| Test voltage Core/Core | 700 V (50 Hz, 1 min.) |
| Test voltage Core/Shield | 700 V (50 Hz, 1 min.) |
| Flame resistance | according to IEC 60332-1-2 |
| Halogen-free | according to IEC 60754-1 |
| Resistance to oil | in accordance with DIN EN 60811-2-1 |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |

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Technical data

Cable

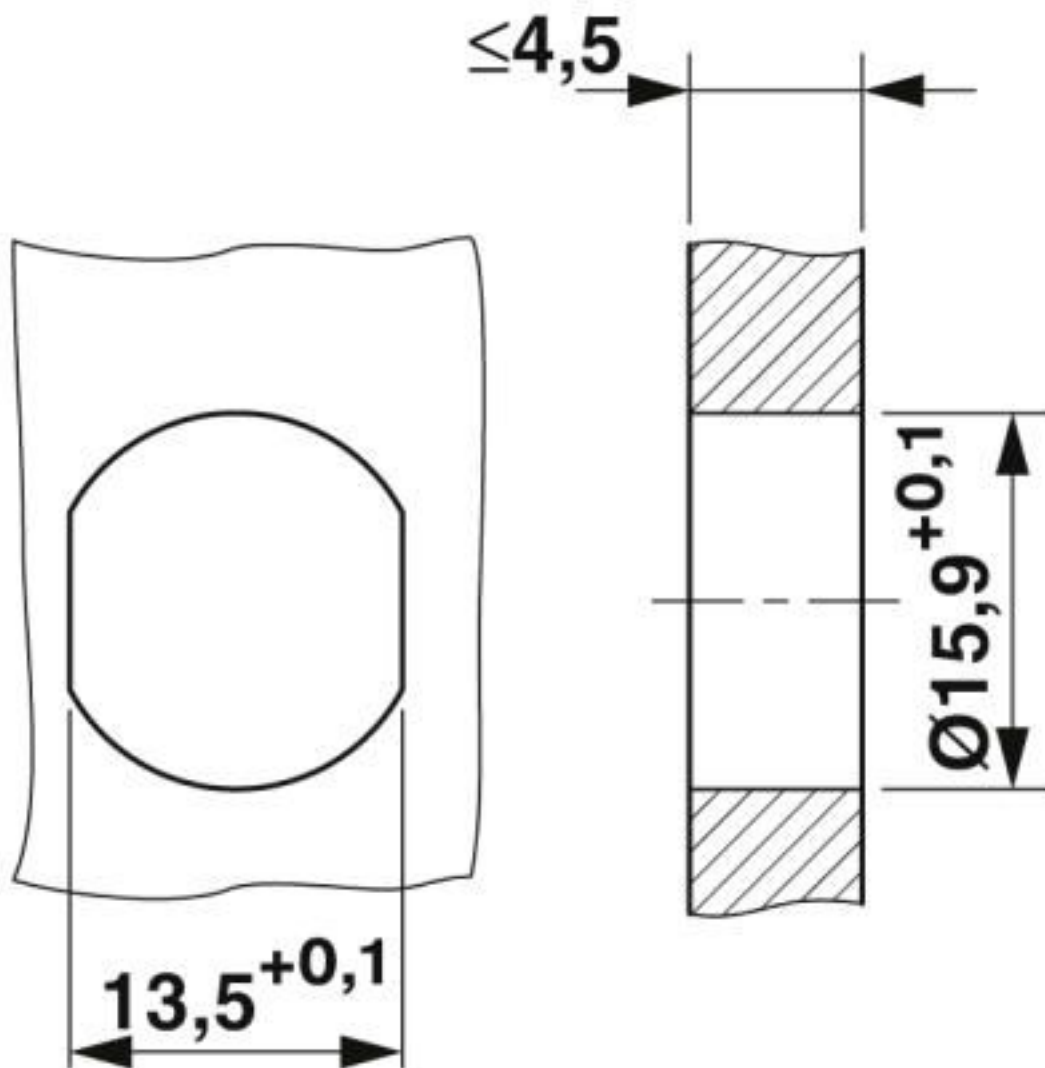
| | |
|---|---|
| | -20 °C ... 80 °C (cable, flexible installation) |
| Ambient temperature (installation) | -20 °C ... 80 °C |
| Ambient temperature (storage/transport) | -20 °C ... 80 °C |

Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

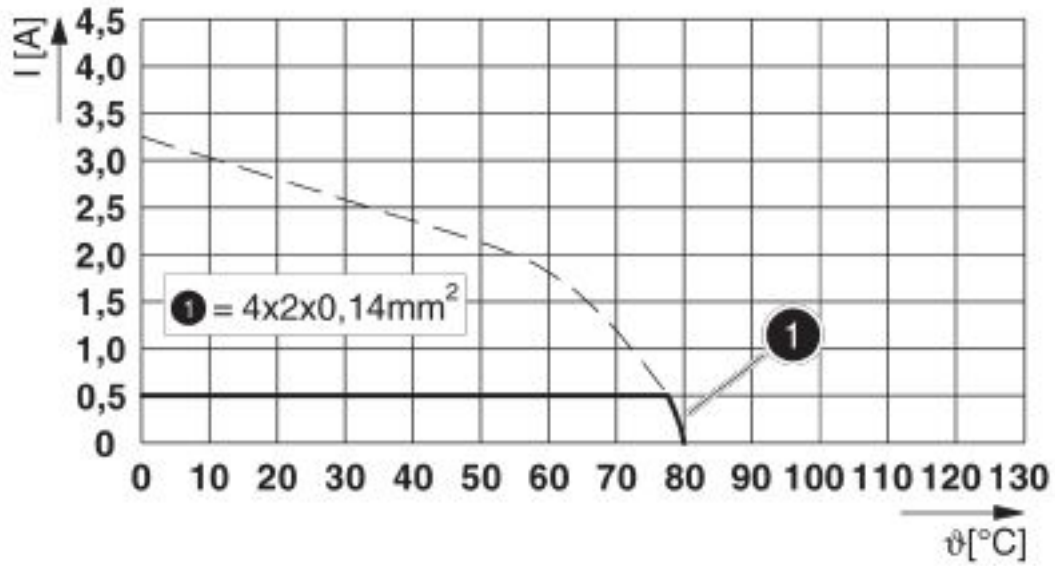
Drawings

Dimensional drawing



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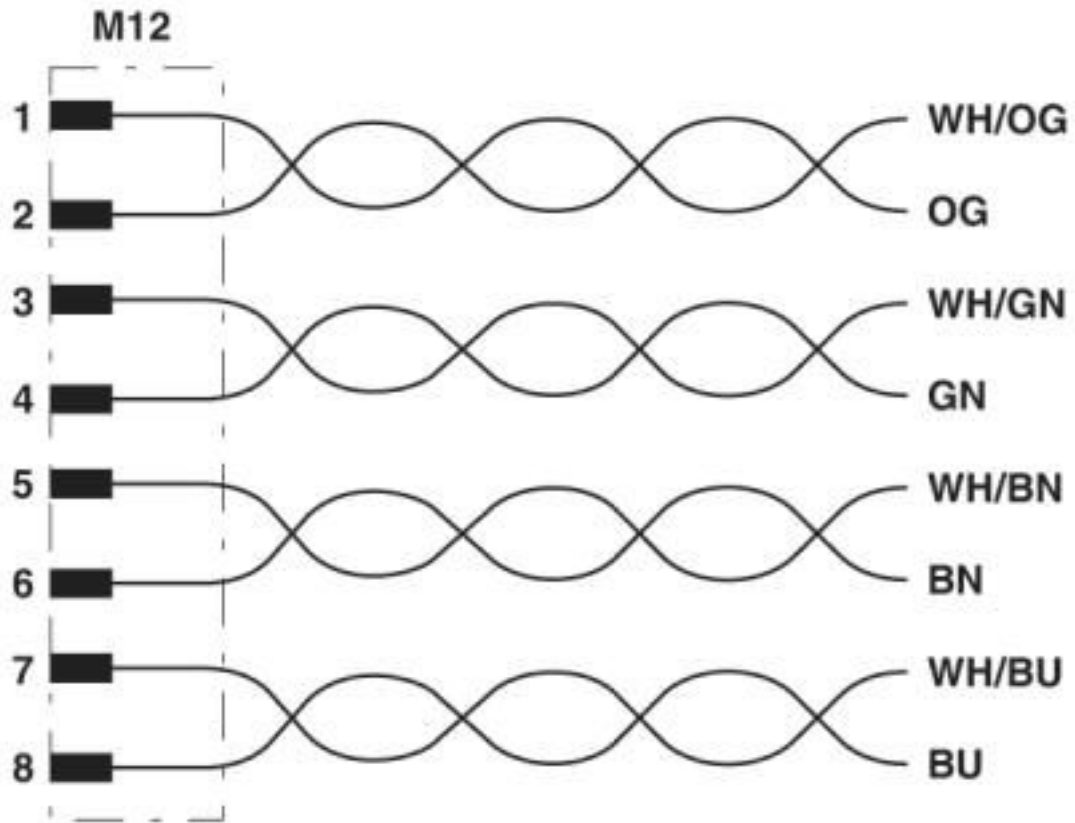
Diagram



I = current strength, T = ambient temperature

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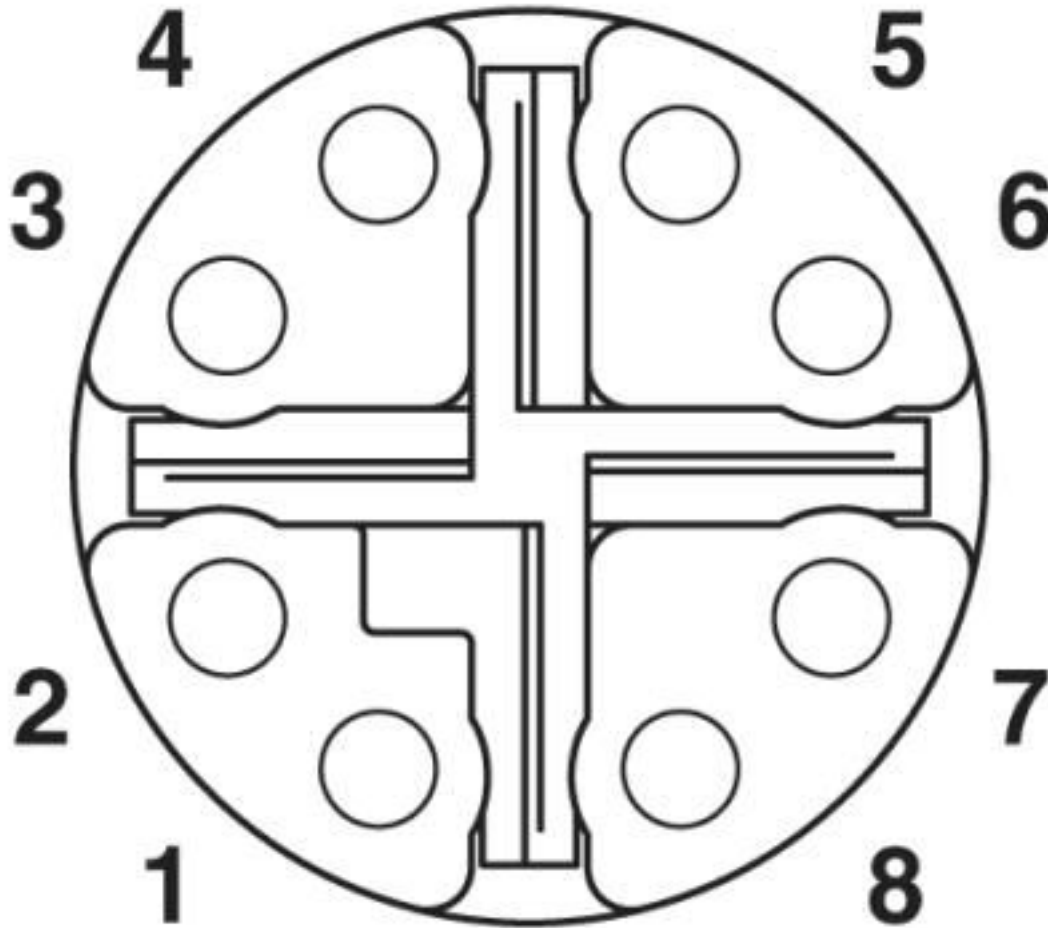
Circuit diagram



Contact assignment of the M12 plug

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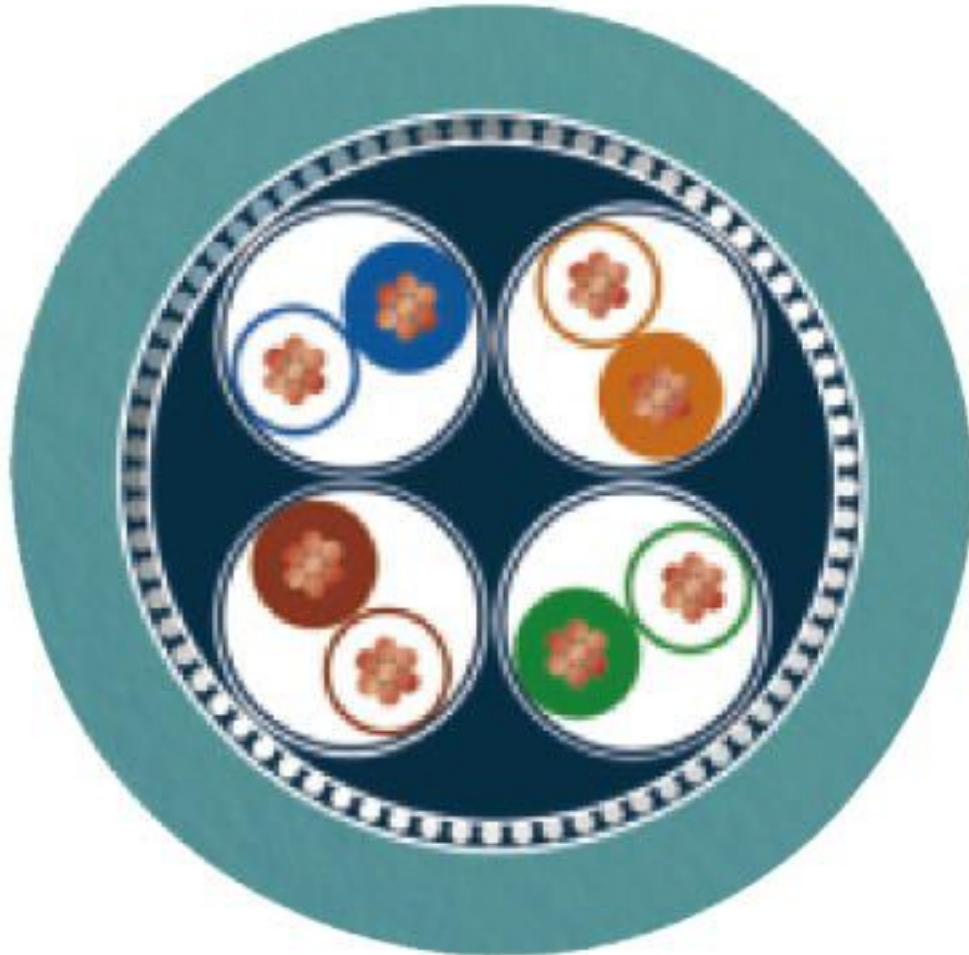
Schematic diagram



M12 socket pin assignment, 8-pos, view of socket side

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Cable cross section



Ethernet 10 Gbit [94F]

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 4.0 | 27140800 |
| eCl@ss 4.1 | 27140800 |
| eCl@ss 5.0 | 27143400 |
| eCl@ss 5.1 | 27143400 |
| eCl@ss 6.0 | 27143400 |
| eCl@ss 7.0 | 27060308 |
| eCl@ss 8.0 | 27060308 |
| eCl@ss 9.0 | 27060308 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC002062 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 31251501 |
| UNSPSC 7.0901 | 31251501 |
| UNSPSC 11 | 31251501 |
| UNSPSC 12.01 | 31251501 |
| UNSPSC 13.2 | 26121604 |
| UNSPSC 18.0 | 26121604 |
| UNSPSC 19.0 | 26121604 |
| UNSPSC 20.0 | 26121604 |
| UNSPSC 21.0 | 26121604 |

Approvals


Approvals


Approvals

UL Recognized / cUL Recognized / EAC / cULus Recognized

Ex Approvals

Approval details

| | | |
|--------------------|---|--|
| UL Recognized |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm E335024-20120308 |
| Nominal voltage UN | 60 V | |
| Nominal current IN | 0.5 A | |

| | | |
|--------------------|---|--|
| cUL Recognized |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm E335024-20120308 |
| Nominal voltage UN | 60 V | |

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Approvals

| | |
|--------------------------------|-------|
| Nominal current I _N | 0.5 A |
|--------------------------------|-------|

| | | |
|-----|--|----------|
| EAC | | 19060508 |
|-----|--|----------|

| | |
|------------------|--|
| cULus Recognized | |
|------------------|--|

Accessories

Accessories

Cable connector

Conductor connectors - SACC-CC-8QO SH ETH - 1414412



Cable connector, Ethernet CAT6_A (10 Gbps), 8-pos., halogen-free, shielded, insulation displacement connection, housing material: zinc die-cast, nickel-plated, outer cable diameter of 5 mm ... 9.7 mm

Circular connector (cable-side)

Data connector - SACC-MSX-8QO SH ETH SCO - 1411043



Data connector, Ethernet CAT6_A (10 Gbps), 8-position, halogen-free, shielded, Plug straight M12 SPEEDCON, Coding: X, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Data connector - SACC-FSX-8QO SH ETH SCO - 1414586



Data connector, Ethernet CAT6_A (10 Gbps), 8-position, halogen-free, shielded, Socket straight M12 SPEEDCON, Coding: X, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

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Accessories

Data connector - VS-08-M12MS-10G-P SCO - 1417430



Data connector, Ethernet CAT6_A (10 Gbps), 8-position, shielded, Plug straight M12 SPEEDCON, Coding: X, Piercecon[®], knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Data connector - VS-08-M12MR-10G-P SCO - 1417443



Data connector, Ethernet CAT6_A (10 Gbps), 8-position, shielded, Plug angled M12 SPEEDCON, Coding: X, Piercecon[®], knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Data connector - SACC-M12MSX-8CT-CL SH - 1422844



Data connector, Ethernet/PROFINET CAT6_A (10 Gbps), 8-position, shielded, Plug straight M12, Coding: X, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 6.5 mm ... 10 mm, without crimp contacts

Data connector - SACC-M12MRX-8CT-CL SH - 1422845



Data connector, Ethernet/PROFINET CAT6_A (10 Gbps), 8-position, shielded, Plug angled M12, Coding: X, Crimp connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 6.5 mm ... 10 mm, without crimp contacts

Corrugated pipe

Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant

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Accessories

Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

Cutting tools

Cable-cutting tool - CUTFOX 12 - 1212128



Cable cutter, for copper and aluminum up to 12 mm diameter (up to 35 mm²)

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

Data plug

RJ45 connector - VS-08-RJ45-10G/Q - 1419001



RJ45 connector, IP20, CAT6_A, 8-pos., with QUICKON fast connection technology, for 26 ... 24 AWG 1-wire and 7-wire conductors, color: black

RJ45 connector - CUC-IND-C1ZNI-S/R4IE8 - 1421607



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green

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Accessories

RJ45 connector - CUC-IND-C1ZNI-T/R4IE8 - 1421877



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: angled

RJ45 connector - CUC-IND-C1ZNI-B/R4IE8 - 1421876



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: angled

RJ45 connector - CUC-V06-C1PGY-S/R4CEA:1 - 1414406



RJ45 connector, degree of protection: IP67, 10 Gbps, CAT6_A, material: PA, connection method: Crimp connection, connection cross section: AWG 24- 27, cable outlet: straight, color: gray

RJ45 connector - CUC-V06-C1PBK-S/R4CEA:1 - 1414410



RJ45 connector, degree of protection: IP67, number of positions: 8, 10 Gbps, CAT6_A, material: PA, connection method: Crimp connection, connection cross section: AWG 24- 27, cable outlet: straight, color: black

RJ45 connector - VS-PPC-C1-RJ45-POBK-8I10G - 1422205



RJ45 connector, IP67, with push/pull interlocking (Version 14), plastic housing, for 10 Gbps, for 24 ... 27 AWG stranded conductors

Electronics pliers

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Accessories

Diagonal cutter - MICROFOX-SP-1 - 1212487



Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version

Stripping tool

Stripping tool - WIREFOX 4 - 1212156



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

Stripping tool - WIREFOX-E 4 - 1212704



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

Stripping tool - WIREFOX 10 - 1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

Stripping tool - VS-CABLE-STRIP-VARIO - 1657407



Stripping tool, for the multi-level stripping of shielded cables

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Accessories

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

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