

Network cable - VS-M12FSBP-OE-93E-LI/2,0 - 1405866

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Assembled Ethernet cable, CAT5e, shielded, 2-pair, AWG 26 stranded (7-wire), RAL 5021 (water blue), M12 flush-type socket, rear/screw mounting with M16 thread on free conductor end, line, 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



Ethernet

Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356475976

Technical data

Dimensions

Length of cable	2 m
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Ambient conditions

Degree of protection	IP67 (When plugged in)
	IP65 (When plugged in)
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	4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed)
Rated voltage	48 V AC
	60 V DC
Rated surge voltage	2.5 kV
Number of positions	4
Signal type/category	Ethernet CAT5 (IEC 11801:2002), 100 Mbps
	Ethernet
Standards/regulations	M12 connector IEC 61076-2-101
Overvoltage category	II
Degree of pollution	3
Alternative short product description	Ethernet cable
Contact material	CuZn
Contact carrier material	PA 6.6
Contact surface material	Ni/Au
Degree of protection	IP65/IP67
Transmission characteristics (category)	CAT5

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 61076-2-101
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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Technical data

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 flexible CAT5, 2-pair
Cable type (abbreviation)	93E
UL AWM style	20963 (80°C/30 V)
Signal type/category	Ethernet CAT5 (IEC 11801), 100 Mbps
Cable structure	2x2xAWG26/7; SF/UTP
Conductor cross section	2x 2x 0.14 mm ²
AWG signal line	26
Conductor structure signal line	7x 0.16 mm
Core diameter including insulation	0.98 mm
Wire colors	white/orange-orange, white/green-green
Twisted pairs	2 cores to the pair
Overall twist	Two pairs with two fillers to the core
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	70 %
External sheath, color	water blue RAL 5021
Outer sheath thickness	1.2 mm
External cable diameter D	6.4 mm ±0.2 mm
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D

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Technical data

Cable

Tensile strength GRP	≤ 80 N
Cable weight	42 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE
Conductor material	Bare Cu litz wires
Standards/specifications	Electrical requirements EN 50288-2-2
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 290.00 Ω/km
Cable capacity	approx. 45 nF/km (at 1 kHz)
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Near end crosstalk attenuation (NEXT)	65.3 dB (with 1 MHz)
	56.3 dB (at 4 MHz)
	50.3 dB (at 10 MHz)
	47.2 dB (at 16 MHz)
	45.8 dB (at 20 MHz)
	42.9 dB (at 31.25 MHz)
	38.4 dB (at 62.5 MHz)
	35.3 dB (at 100 MHz)
Power-summated near end crosstalk attenuation (PSNEXT)	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
Attenuation	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Return loss (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)

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Technical data

Cable

	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Signal runtime	5.3 ns/m
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Nominal voltage, cable	≤ 100 V (Peak value, not for high-power applications)
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700 V (50 Hz, 1 min.)
Current carrying capacity of cable	2 A (according to DIN VDE 0891-1)
Flame resistance	according to IEC 60332-1-2
	in acc. to UL VW1
Halogen-free	according to IEC 60754-1
Resistance to oil	according to EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 80 °C
Ambient temperature (storage/transport)	-20 °C ... 80 °C

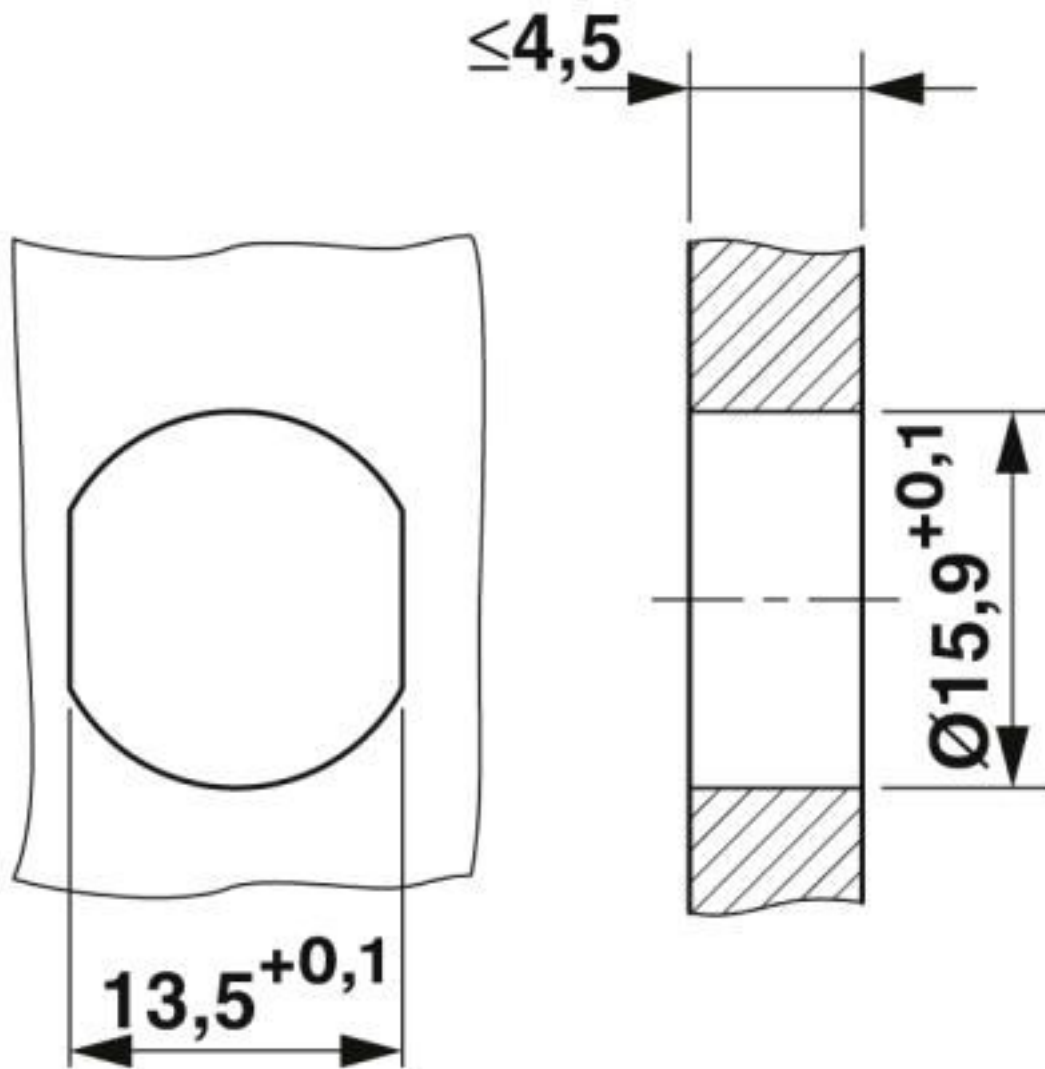
Environmental Product Compliance

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

Network cable - VS-M12FSBP-OE-93E-LI/2,0 - 1405866

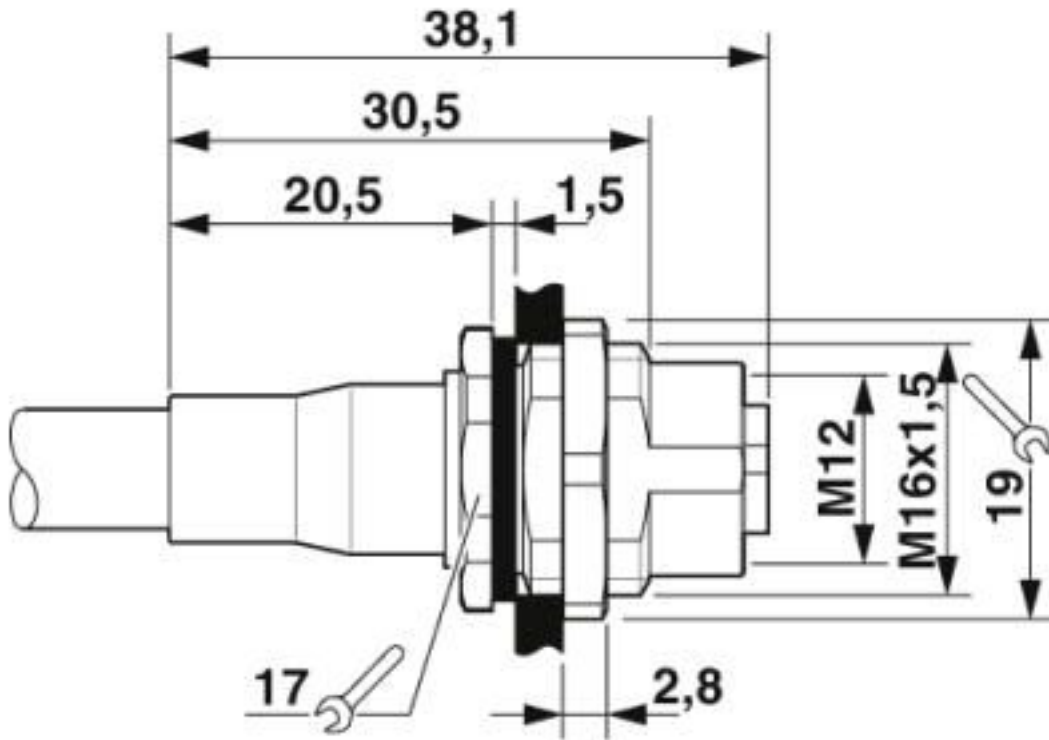
Dimensional drawing



Housing cutout for M16 fastening thread, mounting panel with feed-through hole (alternatively with surface as protection against rotation)

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Dimensional drawing



M12 flush-type connector

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Cable cross section



Ethernet flexible CAT5, 2-pair [93E]

Classifications

eCl@ss

eCl@ss 10.0.1	27060308
eCl@ss 4.0	24010400
eCl@ss 4.1	24010400
eCl@ss 5.0	19030300
eCl@ss 5.1	19030300
eCl@ss 6.0	27061800
eCl@ss 7.0	27060308
eCl@ss 8.0	27060308
eCl@ss 9.0	27060308

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Classifications

ETIM

ETIM 3.0	EC001262
ETIM 4.0	EC001262
ETIM 5.0	EC002599
ETIM 6.0	EC001262
ETIM 7.0	EC001262

UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	31261501
UNSPSC 13.2	26121604
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

Approvals

Approvals

Approvals

EAC

Ex Approvals

Approval details

EAC		19060508
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Accessories

Accessories

Cable connector

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Accessories

Conductor connectors - SACC-CC-4QO SH ETH - 1414415



Cable connector, Ethernet CAT5 (100 Mbps), 4-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-MSD-4QO SH ETH SCO - 1411066



Data connector, Ethernet CAT5 (100 Mbps), 4-position, halogen-free, shielded, Plug straight M12 SPEEDCON, Coding: D, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Data connector - SACC-M12MRD-4Q SH - 1553624



Data connector, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, Coding: D, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

Data connector - SACC-FSD-4QO SH ETH SCO - 1411069



Data connector, Ethernet CAT5 (100 Mbps), 4-position, halogen-free, shielded, Socket straight M12 SPEEDCON, Coding: D, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Data connector - SACC-M12FRD-4Q SH - 1553637



Data connector, Ethernet CAT5 (100 Mbps), 4-position, shielded, Socket angled M12, Coding: D, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

Corrugated pipe

Network cable - VS-M12FSBP-OE-93E-LI/2,0 - 1405866

Accessories

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



Polyamide protective hose, inflammability class V0, UV resistant

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-RJ45-5-Q/IP20 - 1656725



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042

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Accessories

RJ45 connector - VS-08-RJ45-5-Q/IP20 BK - 1658008



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 26- 23, cable outlet: straight, 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

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/R4CE8:1 - 1414383



RJ45 connector, degree of protection: IP67, number of positions: 8, 1 Gbps, CAT6, material: PA, connection method: Crimp connection, connection cross section: AWG 27- 24, cable outlet: straight, color: gray

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Accessories

RJ45 connector - CUC-V06-C1PBK-S/R4CE8:1 - 1414408



RJ45 connector, degree of protection: IP67, number of positions: 8, 1 Gbps, CAT6, material: PA, connection method: Crimp connection, connection cross section: AWG 24- 27, cable outlet: straight, color: black

RJ45 connector - CUC-V14-C1ZNI-S/R4E8 - 1422661



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 26 ... 24 AWG, for cable diameter of 5.5 mm ... 10 mm

RJ45 connector - CUC-V14-C1ZNI-T/R4E8 - 1422663



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 26 ... 24 AWG, for cable diameter of 5.5 mm ... 10 mm

RJ45 connector - CUC-V14-C1ZNI-B/R4E8 - 1422662



Push-pull connector (version 14), die-cast zinc, with RJ45 connector insert, 8-pos., with IDC fast connection technology, for 1 and 7-wire cores, 26 ... 24 AWG, for cable diameter of 5.5 mm ... 10 mm

RJ45 connector - VS-PPC-C1-RJ45-POBK-PG9-4Q5 - 1608126



RJ45 connector, IP67, with push-pull interlocking, plastic housing, CAT5e, 4-pos., with QUICKON fast connection technology, for 1-wire and 7-wire conductors AWG 26 ... 22, for cable cross section 5.0 mm ... 8.0 mm

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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