

## Bus system cable - VS-M12MS-M12MS-93E-LI/8,0 - 1403420


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Bus system cable, Ethernet CAT5 (100 Mbps), 4-position, PUR halogen-free, water blue RAL 5021, shielded, Plug straight M12, D-coded, on Plug straight M12, D-coded, cable length: 8 m



### Key Commercial Data

Packing unit	1 pc
Minimum order quantity	50 pc
GTIN	 4 046356 651561
GTIN	4046356651561

### Technical data

#### Dimensions

Length of cable	8 m
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#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
Degree of protection	IP65
	IP67
	IP68

#### General

Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	4
Insulation resistance	≥ 100 MΩ
Coding	D - data
Signal type/category	Ethernet CAT5, 100 Mbps
Status display	No
Overvoltage category	II

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## Technical data

### General

Degree of pollution	3
Insertion/withdrawal cycles	≥ 100

### Material

Flammability rating according to UL 94	V0
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	Zinc die-cast, nickel-plated

### Standards and Regulations

Flammability rating according to UL 94	V0
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### Cable

Cable type	Ethernet
Cable type (abbreviation)	93E
Cable abbreviation	J-LI02YS(ST) CH 2 x 2 x 26 AWG
Cable structure	2x2xAWG26/7; SF/UTP
Conductor cross section	2x 2x 0.14 mm <sup>2</sup>
AWG signal line	26
Conductor structure signal line	7x 0.16 mm
Core diameter including insulation	1 mm -0.2 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	Plastic-coated aluminum foil, tinned copper braided shield
Optical shield covering	85 %
External sheath, color	water blue RAL 5021
External cable diameter D	5.75 mm ±0.15 mm
Smallest bending radius, fixed installation	30 mm (cable, fixed installation)
Smallest bending radius, movable installation	78 mm (cable, flexible installation)
Cable weight	43 kg/km
Tensile strength GRP	≤ 50 N (temporary) ≤ 10 N (Permanent)
Outer sheath, material	Halogen-free compound, HM 2 in acc. with VDE 0207
Material conductor insulation	Foam-Skin PE
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 5 GΩ*km
Conductor resistance	≤ 284 Ω/km
Transmission characteristics (category)	CAT5 (IEC 11801:2002)
Cable capacity	nom. 48 nF/km (At 800 Hz)

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### Technical data

#### Cable

Wave impedance	100 Ω ±15 % (at 1 ... 100 MHz)
Near end crosstalk attenuation (NEXT)	66 dB/m (with 1 MHz)
	57 dB/m (at 4 MHz)
	52 dB/m (at 10 MHz)
	50 dB/m (at 16 MHz)
	47 dB/m (at 20 MHz)
	45 dB/m (at 31.25 MHz)
	40 dB/m (at 62.5 MHz)
	36 dB/m (at 100 MHz)
Attenuation	0.028 dB/m (with 1 MHz)
	0.06 dB/m (at 4 MHz)
	0.085 dB/m (at 10 MHz)
	0.115 dB/m (at 16 MHz)
	0.128 dB/m (at 20 MHz)
	0.162 dB/m (at 31.25 MHz)
	0.23 dB/m (at 62.5 MHz)
	0.29 dB/m (at 100 MHz)
Crosstalk attenuation (ACR)	6.57 dB/m (with 1 MHz)
	5.64 dB/m (at 4 MHz)
	5.12 dB/m (at 10 MHz)
	4.89 dB/m (at 16 MHz)
	4.57 dB/m (at 20 MHz)
	4.34 dB/m (at 31.25 MHz)
	3.77 dB/m (at 62.5 MHz)
	3.31 dB/m (at 100 MHz)
Signal speed	0.77 c
Signal runtime	4.3 ns/m
Interference suppression	approx. 65 dB (at 30 MHz)
Coupling resistance	≤ 5.00 mΩ/m (at 20 MHz)
Nominal voltage, cable	50 V <sub>rms</sub>
	125 V (Peak value, not for high-power applications)
Test voltage Core/Core	1000 V <sub>rms</sub>
Test voltage Core/Shield	500 V <sub>rms</sub>
Flame resistance	according to VDE 0482 Part 265-2-1
	according to IEC 332-1

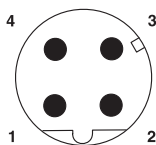
#### Environmental Product Compliance

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

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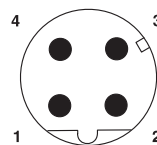
## Drawings

Schematic diagram



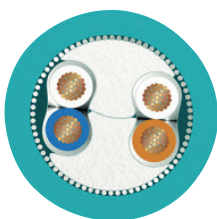
Pin assignment M12 male connector, 4-pos., D-coded, male side

Schematic diagram



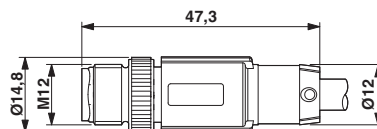
Pin assignment M12 male connector, 4-pos., D-coded, male side

Cable cross section



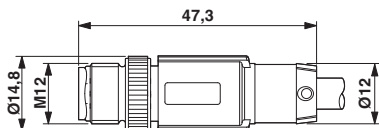
Ethernet [93E]

Dimensional drawing



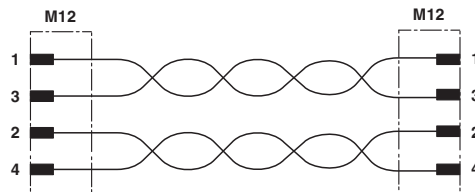
Plug, M12 x 1, straight, shielded

Dimensional drawing



Plug, M12 x 1, straight, shielded

Circuit diagram



Contact assignment of M12 connector/socket

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