

## Bus system cable - VS-MSDS-IP20-93K-LI/2,0 - 1419168

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Bus system cable, Sercos CAT5 (100 Mbps), 4-position, PVC, Red RAL 3020, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 / IP20, cable length: 2 m



sercos  
the standard for

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 541138
GTIN	4046356541138

### Technical data

#### Dimensions

Length of cable	2 m
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#### Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP20 (RJ45 connector)
Ambient temperature (operation)	-10 °C ... 60 °C (cable, fixed installation)
	-5 °C ... 50 °C (cable, flexible installation)

#### General data

Rated voltage	48 V AC
	60 V DC
Number of positions	4
Signal type/category	Sercos CAT5 (IEC 11801), 100 Mbps
Alternative short product description	Sercos III cable
Transmission characteristics (category)	CAT5

#### Characteristics head 1

Head type	Plug straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	4

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## Technical data

### Characteristics head 1

Coding	D (Data)
Color	black
Shielded	yes
Outer sheath, material	PVC
External sheath, color	Red RAL 3020
Type type, plug side	Plug straight

### Characteristics head 2

Head type	Plug straight RJ45 / IP20
No. of positions (pin connector pattern)	4
Color	gray

### Cable

Cable type	Sercos III
Cable type (abbreviation)	93K
UL AWM style	21694 (60°C / 600 V)
Signal type/category	Sercos CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/7; SF/TQ
Conductor cross section	4x 0.34 mm <sup>2</sup>
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
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)
Nominal voltage, cable	600 V

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### Technical data

#### Cable

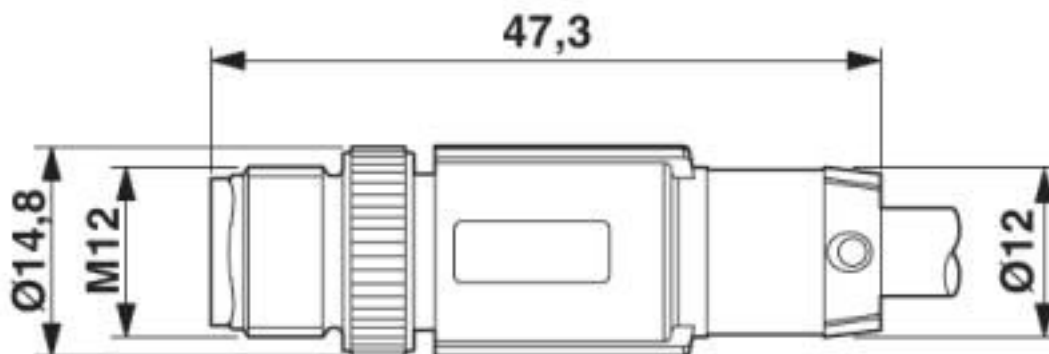
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Flame resistance	according to UL 1685 (CSA FT 4)
Resistance to oil	Resistant to oil to a limited extent
Other resistance	UV resistant According to UL 1581, Section 1200
Ambient temperature (operation)	-40 °C ... 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

#### 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

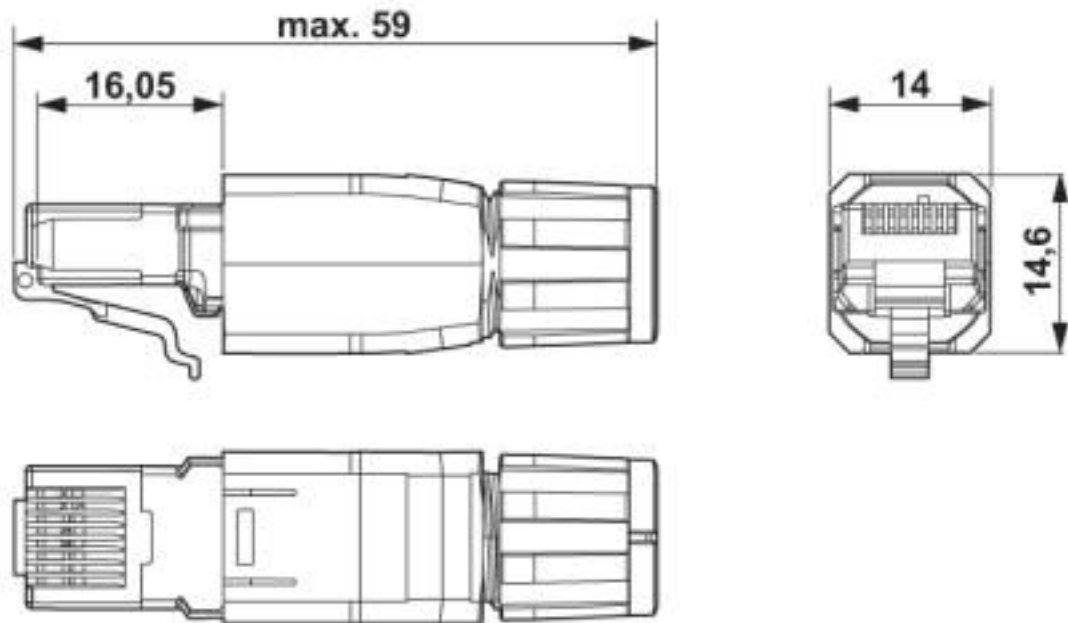
Dimensional drawing



Plug, M12 x 1, straight, shielded

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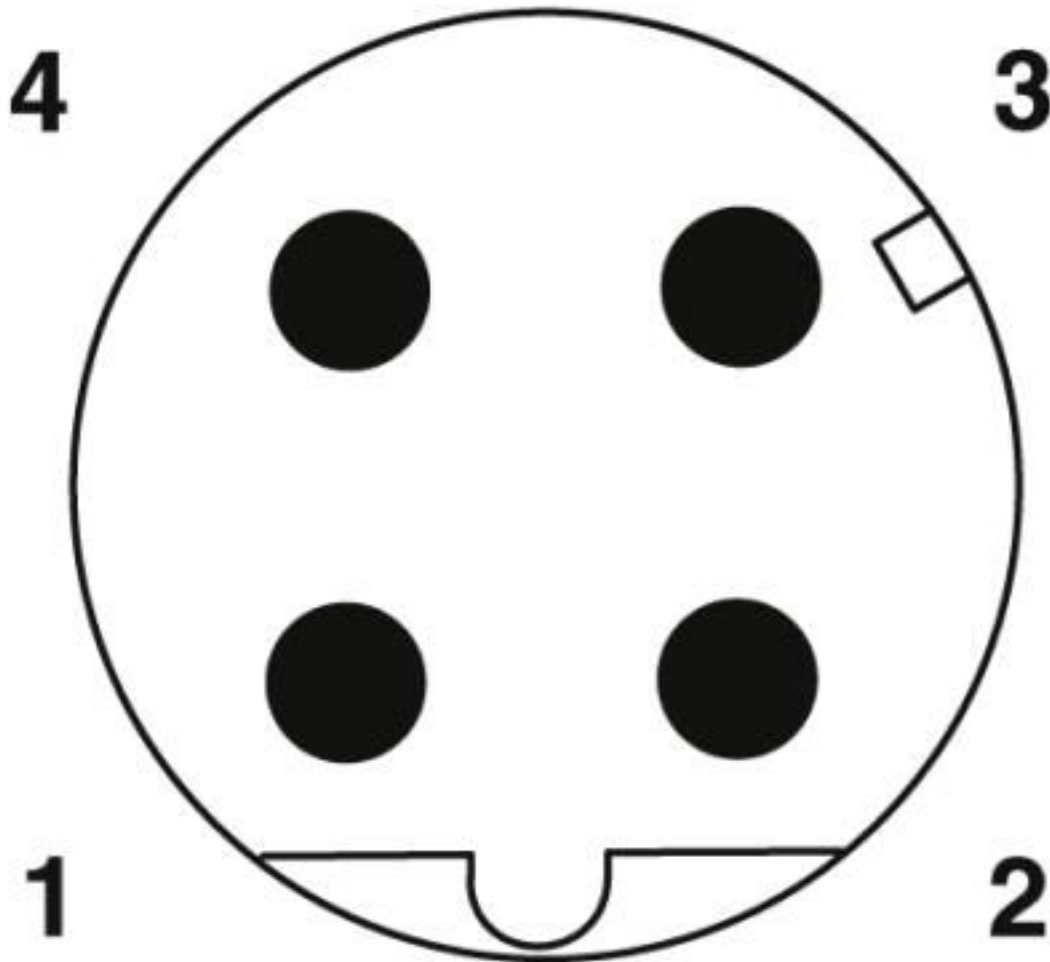
Dimensional drawing



RJ45 connector, IP20

## Bus system cable - VS-MSDS-IP20-93K-LI/2,0 - 1419168

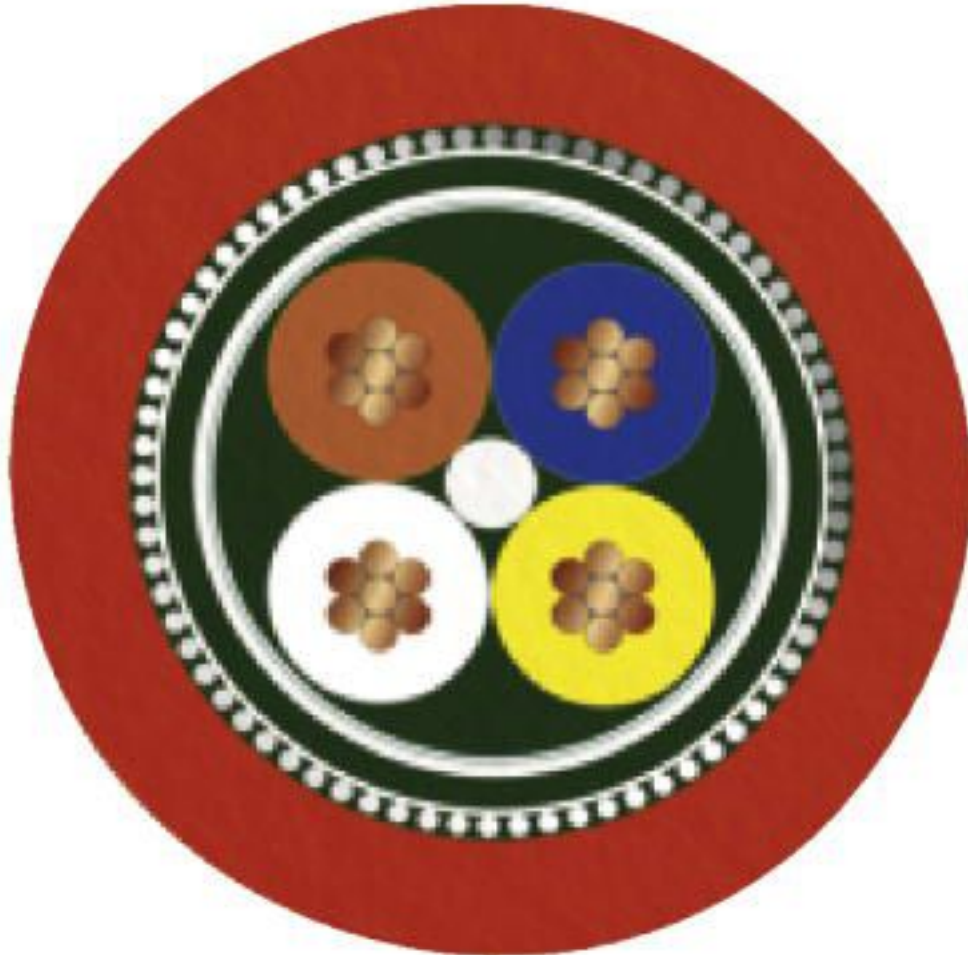
Schematic diagram



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

# Bus system cable - VS-MSDS-IP20-93K-LI/2,0 - 1419168

Cable cross section



Sercos III [93K]

## Classifications

eCl@ss

eCl@ss 10.0.1	27060308
eCl@ss 4.0	27060300
eCl@ss 4.1	27060300
eCl@ss 5.0	27060300
eCl@ss 5.1	27060300
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218
eCl@ss 9.0	27060308

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## Classifications

### ETIM

ETIM 2.0	EC000830
ETIM 3.0	EC000830
ETIM 4.0	EC001855
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	26121616
UNSPSC 13.2	31251501
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

## Approvals

### Approvals

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Approvals


EAC-RoHS

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Ex Approvals

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### Approval details

EAC-RoHS		RU D- DE.HB35.B.00387
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