

# VS-M12FSBP-M12MS-936-LI/1,2 - Device connector rear mounting



1401259

<https://www.phoenixcontact.com/in/products/1401259>

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Device connector rear mounting, degree of protection: IP67, cable length: 1.2 m, number of positions: 4, 100 Mbps, CAT5, PROFINET

## Commercial data

Item number	1401259
Packing unit	1 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	ABQ
Product key	ABQDGI
GTIN	4046356543859
Weight per piece (including packing)	134.75 g
Weight per piece (excluding packing)	134.75 g
Customs tariff number	85444290
Country of origin	PL

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## Technical data

### Product properties

Product type	Data cable preassembled
Application	Data
Sensor type	PROFINET
Number of positions	4

### Insulation characteristics

Overvoltage category	II
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### Electrical properties

Nominal voltage $U_N$	48 V AC
Nominal current $I_N$	4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed)
Transmission medium	Copper

### Material specifications

Outer sheath, material	PE-X
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### Connector

#### Connection 1

Type	Plug straight M12
Locking type	SPEEDCON
Coding type	D (Data)
Handle color	black
Material	CuSn (Contact) Ni/Au (Contact surface) PA (Contact carriers) TPU, hardly inflammable, self-extinguishing (Grip body) Zinc die-cast, nickel-plated (Screw connection)
Insertion/withdrawal cycles	$\geq 100$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Tightening torque	0.4 Nm
Degree of protection	IP67
Ambient temperature (operation)	-25 °C ... 90 °C

#### Connection 2

Type	Flush-type female connector straight M12
Coding type	D (Data)
Material	CuZn (Contact) Ni/Au (Contact surface) PA 6.6 (Contact carriers)

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	FKM (O-ring)
	Zinc die-cast, nickel-plated (Housing)
Insertion/withdrawal cycles	≥ 100
Degree of protection	IP67
Ambient temperature (operation)	-40 °C ... 85 °C

## Cable/line

Cable length	1.20 m
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PROFINET RADOX® railway application CAT5 reinforced [936]

Dimensional drawing	
Cable weight	81 g/m
Number of positions	4
Shielded	yes
Cable type	PROFINET RADOX® railway application CAT5 reinforced [936]
Conductor structure	1x4xAWG22/7, SF/TQ
Signal speed	66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm²
Wire diameter incl. insulation	1.95 mm
External cable diameter	7.25 mm ±0.3 mm
Outer sheath, material	PE-X
External sheath, color	black RAL 9005
Conductor material	silver-plated Cu litz wires
Material wire insulation	PE-X
Single wire, color	white-blue, orange-yellow
Thickness, outer sheath	≥ 0.80 mm
Overall twist	Star quad
Optical shield covering	100 %
Max. conductor resistance	≤ 54.4 Ω/km
Coupling resistance	200.00 mΩ/m (f ≤ 30 MHz)
Wave impedance	100 Ω ±5 Ω (f = 100 MHz)
Working capacitance	≤ 65 pF (Line-line) ≤ 100 pF (Line-shield)
Nominal voltage, cable	300 V AC

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Test voltage	2000 V AC (50 Hz, 5 minutes)
Minimum bending radius, fixed installation	6 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	44 mm
Smallest bending radius, movable installation	73 mm
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz)
	76 dB (at 4 MHz)
	67 dB (at 10 MHz)
	60 dB (at 31.5 MHz)
	56 dB (at 62.5 MHz)
	53 dB (at 100 MHz)
Return attenuation (RL)	35 dB (at 4 MHz)
	35 dB (at 10 MHz)
	35 dB (at 31.5 MHz)
	33 dB (at 62.5 MHz)
	33 dB (at 100 MHz)
Remote crosstalk attenuation (FEXT)	80 dB (with 1 MHz)
	70 dB (at 4 MHz)
	65 dB (at 10 MHz)
	58 dB (at 31.5 MHz)
	59 dB (at 62.5 MHz)
	67 dB (at 100 MHz)
Shield attenuation	2 dB (with 1 MHz)
	4 dB (at 4 MHz)
	6.5 dB (at 10 MHz)
	10.5 dB (at 31.5 MHz)
	14 dB (at 62.5 MHz)
	18 dB (at 100 MHz)
	40.00 dB (30 MHz ≤ f ≤ 100 MHz)
Halogen-free	in accordance with EN 50267-2-1
Flame resistance	IEC 60332-1-2
	EN 50266
	EN 60332-3-25
	NF C32-070, 2.1
	NF C32-070, 2.2
	UL 1685, 12 (FT4)
	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Fume corrosiveness	EN 50267-2-2
Fume toxicity	BS 6853 B.1
	EN 50305, 9.2
Concentration of fumes	BS 6853 D.8.7
	EN 61034-2

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	UL 1685, 12 (FT4)
Resistance to oil	according to IRM 902, 72 h at 100 °C
Fire protection in rail vehicles	BS 6853 (Category Ia, Ib, II)
	GM/RT 2130 (Category Ia, Ib, II)
	EN 45545 (Risk level HL1 - HL3)
	DIN 5510 (Fire protection level 1, 2, 3, 4)
	NF F16-101 (Category A1, A2, B)
	NF F16-101 (Class C/F0)
	NFPA 130
	UNI CEI 11170 (Risk level LR1 - LR4)
Other resistance	Resistance to fuels (according to IRM 903, 168 h at 70 °C)
Ambient temperature (operation)	-50 °C ... 90 °C (cable, fixed installation)
	-40 °C ... 90 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
	IP67

## Standards and regulations

### M12

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

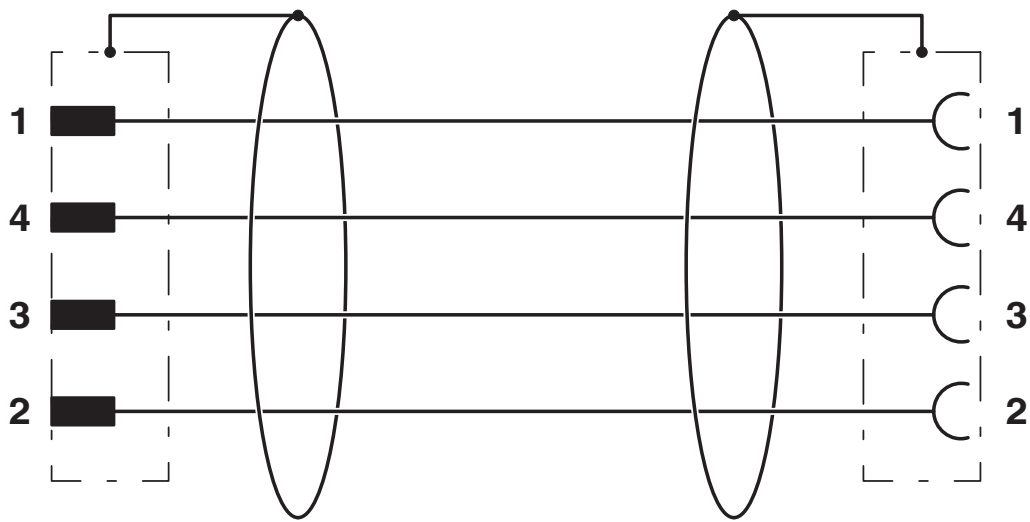
# VS-M12FSBP-M12MS-936-LI/1,2 - Device connector rear mounting

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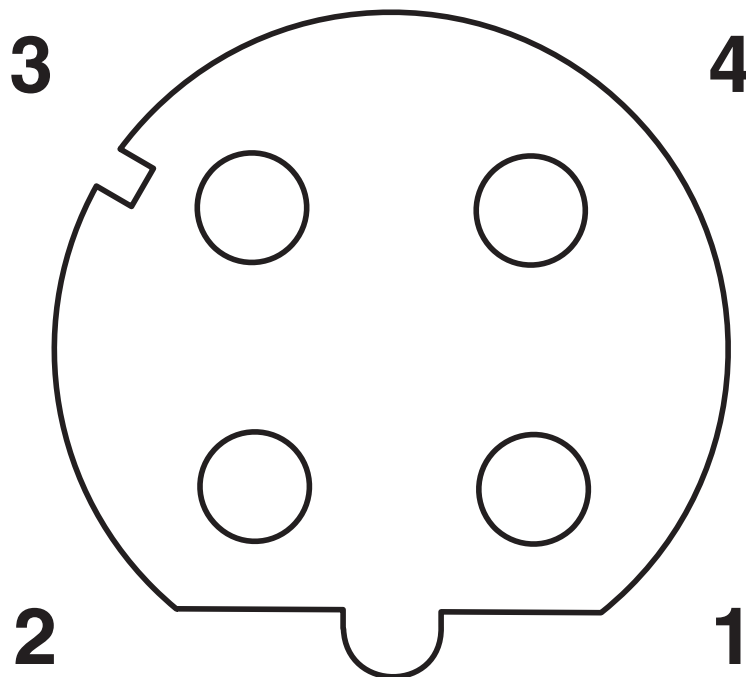
## Drawings

Circuit diagram



Contact assignment of the M12 plugs

Schematic diagram



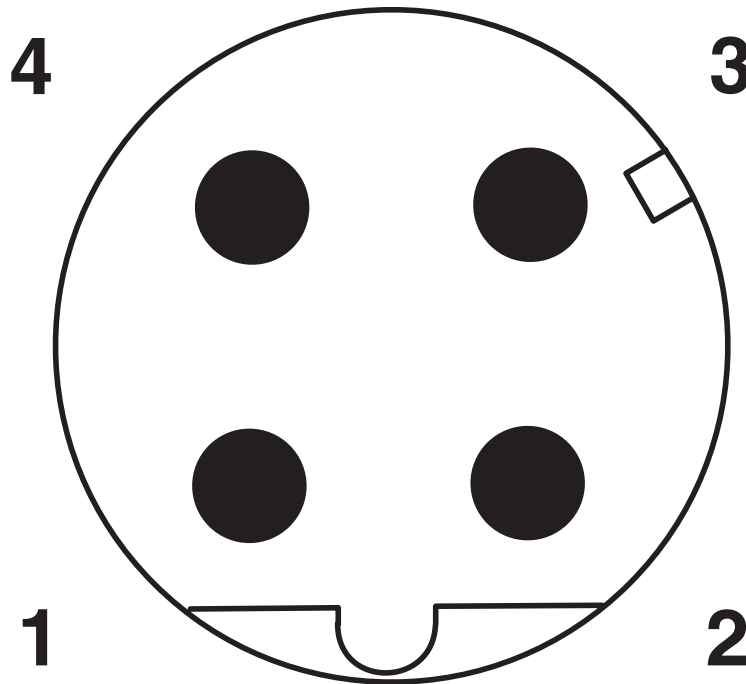
Pin assignment M12 socket, 4-pos., D-coded, female side

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Schematic diagram



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

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## Approvals

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**EAC**

Approval ID: 19060508



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## Classifications

### ECLASS

ECLASS-11.0	27440102
ECLASS-12.0	27440116
ECLASS-13.0	27440116

### ETIM

ETIM 9.0	EC002635
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	30ab64f2-4df6-4b93-9c67-9ed6e67184f5

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