

# SAC-3P-MS/ 2,5-28R SCO RAIL - Sensor/actuator cable



1424174

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Sensor/actuator cable, 3-position, PE-X halogen-free, black, shielded, Plug straight M12 SPEEDCON, coding: A, on free cable end, cable length: 2.5 m, For railway applications

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Securely locked by special vibration brake
- Resistant to temperature influences – tested for an extended temperature range and for resistance to temperature shocks
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

## Commercial data

Item number	1424174
Packing unit	1 pc
Minimum order quantity	50 pc
Product key	AF1CBA
GTIN	4055626368573
Weight per piece (including packing)	142.6 g
Weight per piece (excluding packing)	142.6 g
Country of origin	PL

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## Technical data

### Product properties

Product type	Sensor/actuator cable
Application	Railway applications
Number of positions	3
No. of cable outlets	1
Shielded	yes
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Material specifications

Flammability rating according to UL 94	V0
Material of grip body	PA 6.6
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material for screw connection	Zinc die-cast, nickel-plated
Standards/regulations	PA 6.6

### Electrical properties

Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	4 A

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
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### Signaling

Status display	no
Status display present	no

### Connector

#### Connection 1

Type	Plug straight M12 SPEEDCON
Number of positions	3
Locking type	SPEEDCON
Coding type	A

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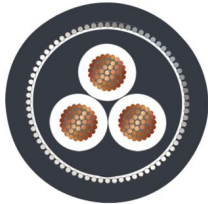
## Connection 2

Type	free cable end
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## Cable/line

Cable length	2.5 m
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## Shielded black RADOX® [28R]

Dimensional drawing	
Cable weight	51 kg/km
Number of positions	3
Shielded	yes
Cable type	Shielded black RADOX® [28R]
Conductor structure signal line	19x 0.18 mm
AWG signal line	20
Conductor cross-section	3x 0.5 mm <sup>2</sup>
Wire diameter incl. insulation	1.43 mm
External cable diameter	5.30 mm ±0.3 mm
Outer sheath, material	PE-X
External sheath, color	black
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE-X
Single wire, color	white 1, white 2, white 3
Overall twist	3 wires, twisted
Max. conductor resistance	≤ 40.1 Ω/km
Nominal voltage, cable	600 V AC (Core-ground, U <sub>0</sub> ) 1000 V AC (Core-ground, U) ≤ 720 V AC (core-ground) ≤ 1200 V AC (Core-ground, U <sub>m</sub> ) ≤ 900 V DC (Core-ground, V <sub>0</sub> ) ≤ 1500 V DC (Line-line)
Test voltage	3500 V AC (50 Hz, 5 min.) 8400 V DC (50 Hz, 5 min.)
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	4 x D
Smallest bending radius, fixed installation	16 mm
Smallest bending radius, movable installation	22 mm
Halogen-free	in accordance with EN 50267-2-1

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Flame resistance	IEC 60332-1-2
	EN 50266
	EN 50305, 9.1.2
	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
	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 ... 120 °C (cable, fixed installation)
	-25 °C ... 90 °C (Cable, flexible installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
Ambient temperature (operation) (male connector/female connector)	-40 °C ... 85 °C (Plug / socket)

## Standards and regulations

### M12

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101
Standard designation	Shock, vibration
Standards/specifications	EN 50155

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## Drawings

Dimensional drawing



M12 SPEEDCON plug, straight, shielded

Schematic diagram



Pin assignment M12 plug, 3-pos., A-coded, view male side

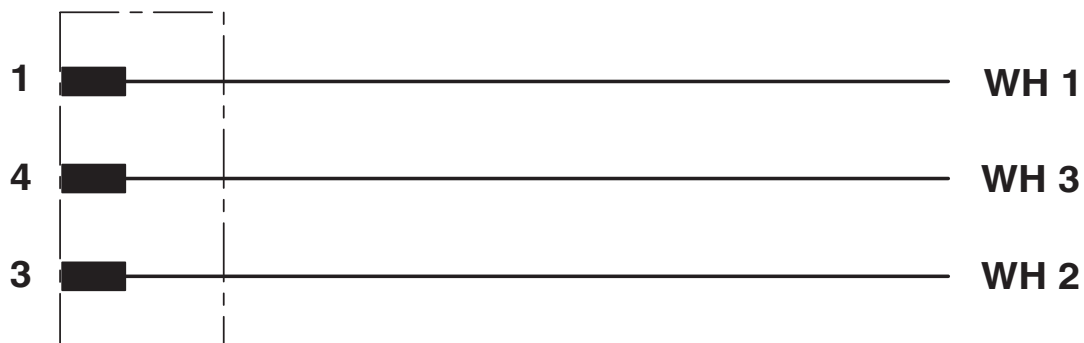
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Circuit diagram



Contact assignment of the M12 plug

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## Classifications

### ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

### UNSPSC

UNSPSC 21.0	31251501
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)