

## Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)




Sensor/actuator cable, 4-position, PE-X halogen-free, black, shielded, Plug angled M12 SPEEDCON, A-coded, on free cable end, cable length: 10 m, For railway applications

### Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Safety thanks to flame retardancy: PA 6.6 grip and radiation-cross-linked cables satisfy the most stringent requirements
- ✓ 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



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 774321
GTIN	4046356774321

### Technical data

#### Dimensions

Length of cable	10 m
-----------------	------

#### Ambient conditions

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

#### General

Note	Further products with variable cable type and variable cable length can be found in the accessories section
Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	4

# Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

## Technical data

### General

Color handle area	black
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
	Shock, vibration EN 50155
Status display	No
Protective circuit/component	unwired
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

### 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	PA 6.6
Material, knurls	Zinc die-cast, nickel-plated
Standards/regulations	PA 6.6: Fire protection in rail vehicles - requirement sets R22, R23, and R24 acc. to DIN EN 45545-2 (Risk level HL1 - HL3)

### Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Standard designation	Shock, vibration
Standards/regulations	EN 50155
Flammability rating according to UL 94	V0

### Cable

Cable type	Shielded black RADOX®
Cable type (abbreviation)	28R
Conductor cross section	4x 0.5 mm <sup>2</sup>
AWG signal line	20
Conductor structure signal line	19x 0.18 mm
Core diameter including insulation	1.43 mm
Wire colors	White 1, white 2, white 3, white 4
Overall twist	4 wires, twisted
Shielding	Tinned copper braided shield
External sheath, color	black
External cable diameter D	5.4 mm ±0,3 mm
Minimum bending radius, fixed installation	3 x D

## Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

### Technical data

#### Cable

Minimum bending radius, flexible installation	4 x D
Cable weight	56 kg/km
Outer sheath, material	PE-X
Material conductor insulation	PE-X
Conductor material	Tin-plated Cu litz wires
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 (core-core)
Test voltage, cable	3500 V AC (50 Hz, 5 min.)
	8400 V DC (50 Hz, 5 min.)
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)
Flame resistance	EN 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)
Halogen-free	According to EN 50267-2-1
Resistance to oil	according to IRM 902, 72 h at 100 °C
Other resistance	Resistance to fuels according to IRM 903, 168 h at 70 °C
Concentration of fumes	BS 6853 D.8.7
	EN 61034-2
	UL 1685, 12 (FT4)
Fume corrosiveness	EN 50267-2-2
Fume toxicity	BS 6853 B.1
	EN 50305, 9.2
Ambient temperature (operation)	-50 °C ... 120 °C (cable, fixed installation)
	-25 °C ... 90 °C (cable, flexible installation)

# Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

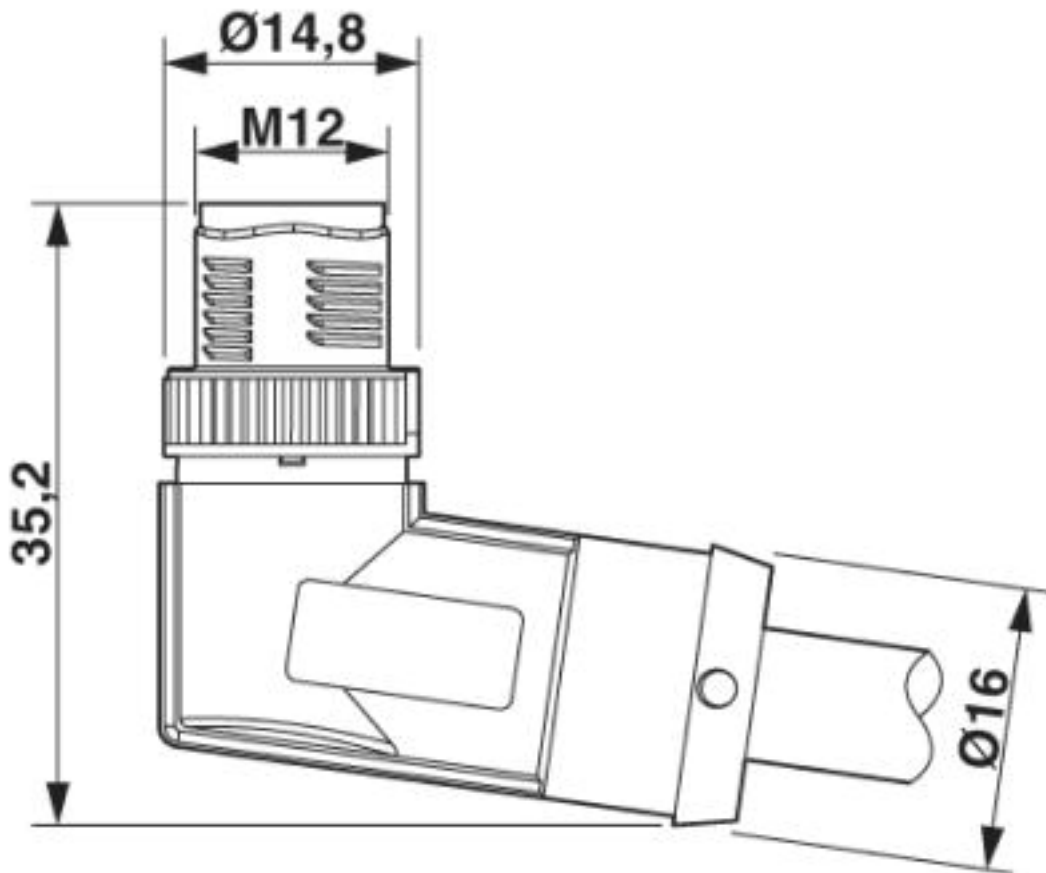
## Technical data

### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

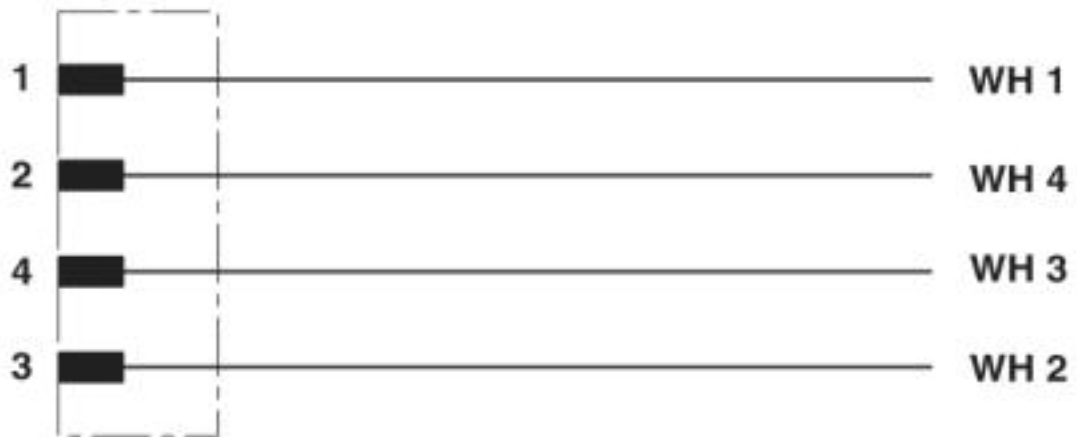
Dimensional drawing



Plug M12 SPEEDCON, angled, shielded

## Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

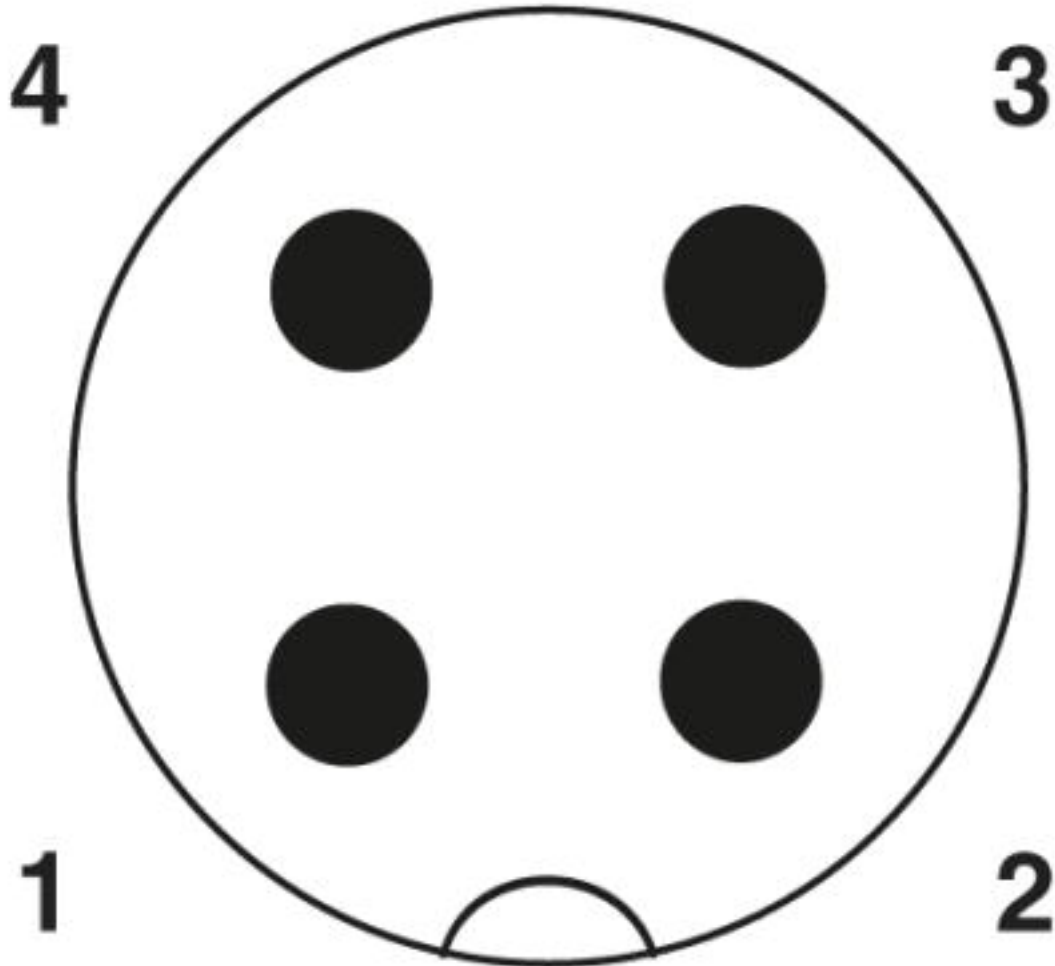
Circuit diagram



Contact assignment of the M12 plug

## Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

Schematic diagram



Pin assignment M12 plug, 4-pos., A-coded, view plug side

# Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

Cable cross section



Shielded black RADOX® [28R]

## Approvals

Approvals

---

Approvals

EAC

---

Ex Approvals

---

Approval details

## Sensor/actuator cable - SAC-4P-MR/10,0-28R SCO RAIL - 1407316

### Approvals

EAC



RU C-  
DE.BL08.B.00286

Phoenix Contact 2019 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>