

Sensor/Actuator cable - SAC-5P-MS/ 5,0-28R/FS SCO RAIL - 1407338

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Sensor/Actuator cable, 5-position, RADOX® GKW S halogen-free, black, shielded, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded, Cable length: 5 m, For railway applications

Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Safety thanks to flame retardancy: PA 6.6 grip and RADOX® cable meet the highest 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 774543
Weight per Piece (excluding packing)	388.7 g
Custom tariff number	85444290
Country of origin	Poland
Note	Made to Order (non-returnable)

Technical data

Dimensions

Length of cable	5 m
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Ambient conditions

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

General

Rated current at 40°C	4 A
Rated voltage	60 V
Number of positions	5

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Technical data

General

Contact resistance	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Protective circuit/component	Unwired
Surge voltage category	II
Pollution degree	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

Material

Inflammability class 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
Sealing material	NBR

Cable

Cable type	Shielded black RADOX®
Cable type (abbreviation)	28R
Conductor cross section	5x 0.5 mm ²
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, white 5
Overall twist	5 cores, twisted
Shielding	Tinned copper braided shield
External sheath, color	black
External cable diameter D	6.2 mm $\pm 0.3 \text{ mm}$
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	4 x D
Cable weight	70 kg/km
Outer sheath, material	RADOX® GKW S
Material conductor insulation	RADOX® TI303
Conductor material	Tin-plated Cu litz wires
Conductor resistance	$\leq 40.1 \text{ }\Omega/\text{km}$
Nominal voltage, cable	600 V AC (Core-ground, U ₀)
	1000 V AC (Core-ground, U)

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Technical data

Cable

	≤ 720 V AC (core-ground)
	≤ 1200 V AC (Core-ground, U _m)
	≤ 900 V DC (Core-ground, V ₀)
	≤ 1500 V DC (core-core)
Test voltage, cable	3500 V AC (50 Hz, 5 min.)
	8400 V DC (50 Hz, 5 min.)
Special properties	Fire protection in rail vehicles NF F16-101 Category A1, A2, B
	Fire protection in rail vehicles NF F16-101 Class C/F0
	Fire protection in rail vehicles according to DIN 5510 Risk level 1 - 4
	Fire protection in rail vehicles according to CEI 11170 Risk level LR1 - LR4
	Fire protection in rail vehicles according to CEN/TS 45545 Risk level HL1 - HL3
Flame resistance	According to EN 60332-1-2
	according to EN 50305, 9.1.2
Halogen-free	According to EN 50267-2-1
Concentration of fumes	according to EN 61034-2
Fume corrosiveness	according to EN 50267-2-2
Fume toxicity	according to EN 50305, 9.2
Ambient temperature (operation)	-40 °C ... 120 °C (cable, fixed installation)
	-25 °C ... 90 °C (cable, flexible installation)

Classifications

eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	27061801
eCl@ss 6.0	27061801
eCl@ss 7.0	27061801
eCl@ss 8.0	27279218

ETIM

ETIM 3.0	EC001855
ETIM 4.0	EC001855
ETIM 5.0	EC001855

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501

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Classifications

UNSPSC

UNSPSC 12.01	31251501
UNSPSC 13.2	31251501

Accessories

Accessories

Conductor marking

Insert label - PABA WH/15 - 1013151



Insert label, Strip, white, unlabeled, can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA YE/15 - 1013698



Insert label, Strip, yellow, unlabeled, can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Insert label - PABA RD/15 - 1013944



Insert label, Strip, red, unlabeled, can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Marker carrier cable

Conductor marker carrier - PATO 2/15 - 1013122



Conductor marker carrier, transparent, unlabeled, Mounting type: clip on, Cable diameter: 2.8-4.4 mm, Lettering field: 4 x 15 mm

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Accessories

Conductor marker carrier - PATO 3/15 - 1013135



Conductor marker carrier, transparent, unlabeled, Mounting type: clip on, Cable diameter: 4.4-6.7 mm, Lettering field: 4 x 15 mm

Conductor marker carrier - PATO 4/15 - 1013148



Conductor marker carrier, transparent, unlabeled, Mounting type: clip on, Cable diameter: 6.7-10 mm, Lettering field: 4 x 15 mm

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873



M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 sockets

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899



M12 sealing cap with fixing band, for sensor cables, for free M12 sockets

Safety locking

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Accessories

Locking clip - SAC-M12-EXCLIP-M - 1558988



Locking clip - SAC-M12-EXCLIP-F - 1558991



Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and for M12 connectors with QUICKON fast connection technology, for 4 mm hexagonal drive

Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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Accessories

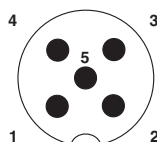
Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

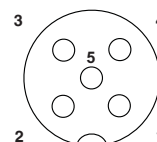
Drawings

Schematic diagram



Pin assignment M12 male connector, 5-pos., A-coded, male side

Schematic diagram



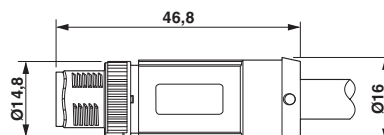
Pin assignment M12 socket, 5-pos., A-coded, socket side view

Cable cross section



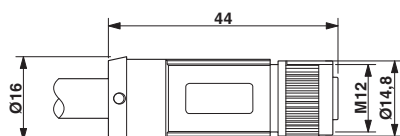
Shielded black RADOX® [28R]

Dimensioned drawing



M12 SPEEDCON plug, straight, shielded

Dimensioned drawing



Socket M12-SPEEDCON, straight, shielded

Circuit diagram



Contact assignment of the M12 plug and the M12 socket