PHŒNIX CONTACT

Sensor/actuator cable - SAC-5P-M12MS/3,0-810/M12FS-3L - 1416224

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Sensor/actuator cable, 5-position, PUR halogen-free, orange RAL 2003, Plug straight M12, A-coded, on Socket straight M12, A-coded, with 3 LEDs, cable length: 3 m, for robots and drag chains

Your advantages

☑ Easy and safe: 100% electrically tested plug-in components

☑ Flexible: cable supports a high degree of torsion and bending

☑ Reliable solution for the body shop as cable is welding sputter resistant

☑ Convenient: increased machine availability thanks to quick and easy diagnostics

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	4 055626 066561
GTIN	4055626066561
Weight per Piece (excluding packing)	187.800 g
Custom tariff number	85444290
Country of origin	Poland

Technical data

Dimensions

Length of cable	3 m

Ambient conditions

Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)

General

Rated current at 40°C	4 A
Rated voltage	24 V
	24 V DC
Number of positions	5

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Technical data

General

Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	3 LEDs
Protective circuit/component	unwired
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100

Material

Flammability rating according to UL 94	HB
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	Zinc die-cast, nickel-plated
Sealing material	NBR

Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	HB

Cable

Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable type	PUR, halogen-free, highly flexible, welding-sputter resistant, orange
Cable type (abbreviation)	810
Cable abbreviation	LiF9Y11Y
UL AWM style	20549 (80°C/300 V)
Conductor cross section	5x 0.34 mm²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.55 mm ±0.05 mm (Signal line)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	orange RAL 2003
External cable diameter D	6.9 mm ±0.1 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	5000000
Minimum bending radius, drag chain applications	10 x D
Traversing path	10 m

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Technical data

Cable

Traversing rate	3 m/s
Acceleration	10 m/s²
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	$\geq$ 20 MΩ*km
Conductor resistance	approx. 57 Ω/km
Nominal voltage, cable	300 V (Peak value, not for high-power applications)
Test voltage Core/Core	3000 V (Spark test)
Special properties	Sheath resistant to welding beads, can be recycled, matt, without adhesion, wear-resistant, flame resistant and self-extinguishing
	Free from silicone and cadmium
	Free of substances which would hinder coating with paint or varnish
Flame resistance	in acc. with UL FT-2
Halogen-free	in accordance with DIN VDE 0472 part 815
Other resistance	hydrolysis and microbe resistant
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)
	$\leq$ 60 °C (cable, drag chain applications)

Environmental Product Compliance

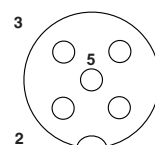|	
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

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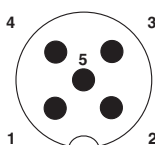
Pin assignment M12 male connector, 5-pos., A-coded, male side
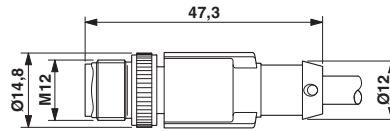
Schematic diagram

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

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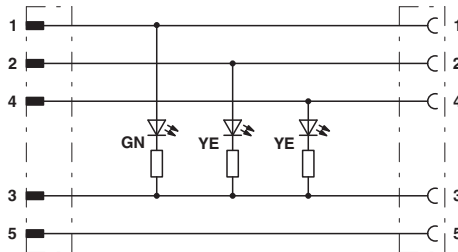# Sensor/actuator cable - SAC-5P-M12MS/3,0-810/M12FS-3L - 1416224

Cable cross section

PUR, halogen-free, highly flexible, welding-sputter resistant, orange [810]

Dimensional drawing

Plug, M12 x 1, straight, shielded

Circuit diagram

Contact assignment of M12 plugs / sockets with 3 LEDs

Classifications

eCl@ss

eCl@ss 5.1	27061800
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218
eCl@ss 9.0	27060311

ETIM

ETIM 5.0	EC001855
ETIM 6.0	EC001855

UNSPSC

UNSPSC 13.2	31251501

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

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Approvals

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474
Nominal voltage UN		24 V	
Nominal current IN		4 A	

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474
Nominal voltage UN		24 V	
Nominal current IN		4 A	

cULus Listed	

Accessories

Accessories

Conductor marking

Insert label - PABA WH/15 - 1013151

Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 0.6 - 50 mm, lettering field size: 15 x 4 mm

Insert label - PABA YE/15 - 1013698

Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 0.6 - 50 mm, lettering field size: 15 x 4 mm

Sensor/actuator cable - SAC-5P-M12MS/3,0-810/M12FS-3L - 1416224

Accessories

Insert label - PABA RD/15 - 1013944

Insert label, Strip, red, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 0.6 - 50 mm, lettering field size: 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 range: 2.8 - 4.4 mm, lettering field size: 4 x 15 mm

Conductor marker carrier - PATO 3/15 - 1013135

Conductor marker carrier, transparent, unlabeled, mounting type: clip on, cable diameter range: 4.4 - 6.7 mm, lettering field size: 4 x 15 mm

Conductor marker carrier - PATO 4/15 - 1013148

Conductor marker carrier, transparent, unlabeled, mounting type: clip on, cable diameter range: 6.7 - 10 mm, lettering field size: 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

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Accessories

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

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

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

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

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Safety locking

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

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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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

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Accessories

Tool - SAC BIT M12-D15 - 1208432

Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, 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

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

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