

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

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, 5-position, PUR halogen-free, orange RAL 2003, Plug straight M12, A-coded, on Socket straight M12, A-coded, with 3 LEDs, cable length: 1 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

Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 066530
GTIN	4055626066530
Weight per Piece (excluding packing)	76.800 g
Custom tariff number	85444290
Country of origin	Poland

Technical data

Dimensions

Length of cable	1 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

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

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 mm ²
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

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

Technical data

Cable

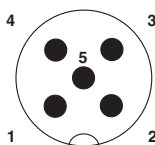
Traversing rate	3 m/s
Acceleration	10 m/s ²
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 20 MΩ*km
Conductor resistance	approx. 57 Ω/km
Nominal voltage, cable	300 V (Peak value, not for high-power applications)
Test voltage Core/Core	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)
	≤ 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"

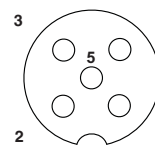
Drawings

Schematic diagram



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

Schematic diagram



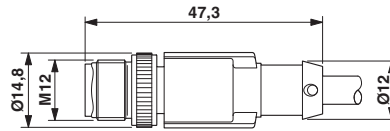
Pin assignment M12 socket, 5-pos., A-coded, socket side view

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

Cable cross section



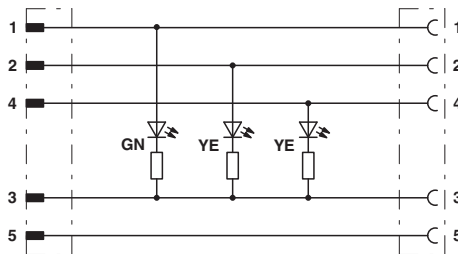
Dimensional drawing



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

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

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

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/1,0-810/M12FS-3L - 1416220

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

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

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



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

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



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

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

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

Sensor/actuator cable - SAC-5P-M12MS/1,0-810/M12FS-3L - 1416220

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
