

# Sensor/actuator cable - SAC-3P-M12MS/ 1,5-PVC/M12FR-2L - 1415523

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Sensor/actuator cable, 3-position, PVC, black RAL 9005, Plug straight M12, A-coded, on Socket angled M12, A-coded, with 2 LEDs, cable length: 1.5 m

## Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Convenient: increased machine availability thanks to quick and easy diagnostics

## Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 048987
GTIN	4055626048987
Weight per Piece (excluding packing)	61.300 g
Custom tariff number	85444290
Country of origin	Poland

## Technical data

### Dimensions

Length of cable	1.5 m
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### Ambient conditions

Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
Degree of protection	IP65
	IP67
	IP68

### General

Rated current at 40°C	4 A
Rated voltage	24 V
	24 V DC

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## Technical data

### General

Number of positions	3
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	2 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

Cable type	PVC black
Cable type (abbreviation)	PVC
Cable abbreviation	LiYY
UL AWM style	2464 / 1729 (80°C/300 V)
Conductor cross section	3x 0.34 mm <sup>2</sup> (Signal line)
AWG signal line	22
Conductor structure signal line	19x 0.15 mm
Core diameter including insulation	1.26 mm ±0.05 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
Wire colors	brown, blue, black
Overall twist	3 wires, twisted
External sheath, color	black RAL 9005
Outer sheath thickness	≥ 0.76 mm
External cable diameter D	4.3 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Cable weight	40 kg/km

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## Technical data

### Cable

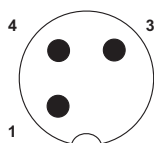
Outer sheath, material	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 100 MΩ*km (at 20 °C)
Conductor resistance	max. 57 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 2500 V
Flame resistance	As per UL-Style 2464
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

### Environmental Product Compliance

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

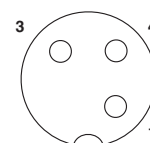
## Drawings

Schematic diagram



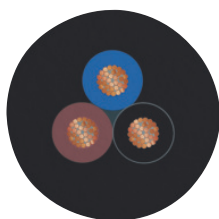
Pin assignment M12 plug, 3-pos., A-coded, view male side

Schematic diagram



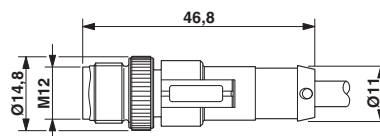
Pin assignment M12 socket, 3-pos., A-coded, view female side

Cable cross section



PVC black [PVC]

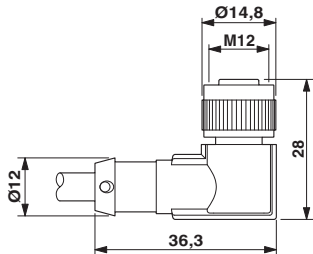
Dimensional drawing



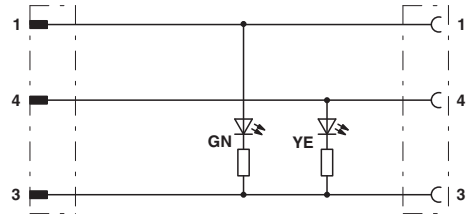
Plug, M12 x 1, straight, shielded

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Dimensional drawing



Circuit diagram



Contact assignment of the M12 plug and the M12 socket

Socket M12 x 1, angled, with LED

## 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
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## Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals


## Approval details


UL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 221474
Nominal voltage UN	24 V		

# Sensor/actuator cable - SAC-3P-M12MS/ 1,5-PVC/M12FR-2L - 1415523

## Approvals

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

cULus Listed	
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## 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

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

## Sensor/actuator cable - SAC-3P-M12MS/ 1,5-PVC/M12FR-2L - 1415523

### Accessories

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

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

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



## Sensor/actuator cable - SAC-3P-M12MS/ 1,5-PVC/M12FR-2L - 1415523

### Accessories

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

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

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

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### Torque tool

## Sensor/actuator cable - SAC-3P-M12MS/ 1,5-PVC/M12FR-2L - 1415523

### Accessories

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



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

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