

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

1416220
<https://www.phoenixcontact.com/us/products/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 documentation. Our general terms of use for downloads are valid.



Sensor/actuator cable, 5-position, PUR halogen-free, welding sputter-resistant, orange RAL 2003, Plug straight M12, coding: A, with 3 LEDs, on Socket straight M12, coding: A, with 3 LEDs, cable length: 1 m, for robots and drag chains

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Reliable solution for the body shop as cable is welding sputter resistant
- Convenient: increased machine availability thanks to quick and easy diagnostics

Commercial data

Item number	1416220
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	AF1CDA
GTIN	4055626066530
Weight per piece (including packing)	76.8 g
Weight per piece (excluding packing)	76.8 g
Country of origin	PL

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



1416220

<https://www.phoenixcontact.com/us/products/1416220>

Technical data

Product properties

Product type	Sensor/actuator cable
Application	Robots and drag chains
Number of positions	5
No. of cable outlets	1
Shielded	no
Coding	A

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Material specifications

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

Electrical properties

Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage U_N	24 V DC
Nominal current I_N	4 A

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100
-----------------------------	------------

Signaling

Status display	3 LEDs
Status display present	yes

Connector

Connection 1

Type	Plug straight M12
Number of positions	5
Coding type	A

Connection 2

Type	Socket straight M12
------	---------------------

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



1416220

<https://www.phoenixcontact.com/us/products/1416220>

Number of positions	5
Coding type	A

Cable/line

Cable length	1 m
--------------	-----

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

Dimensional drawing	
Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
UL AWM Style	20549 (80°C/300 V)
Number of positions	5
Shielded	no
Cable type	PUR, halogen-free, highly flexible, welding-sputter resistant, orange [810]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	5x 0.34 mm ²
Wire diameter incl. insulation	1.55 mm ±0.05 mm (Signal line)
External cable diameter	6.90 mm ±0.1 mm
Outer sheath, material	PUR
External sheath, color	orange RAL 2003
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
Max. conductor resistance	approx. 57 Ω/km
Insulation resistance	≥ 20 MΩ*km
Nominal voltage, cable	300 V (Peak value, not for high-power applications)
Test voltage Core/Core	3000 V (Spark test)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	35 mm
Smallest bending radius, movable installation	69 mm
Dynamic load capacity (bending)	Max. bending cycles: 5000000, Bending radius: 10 x D, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s ² , Ambient temperature: ≤ 60 °C
Halogen-free	in accordance with DIN VDE 0472 part 815

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



1416220

<https://www.phoenixcontact.com/us/products/1416220>

Flame resistance	in acc. with UL FT-2
Other resistance	hydrolysis and microbe resistant
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
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)
	≤ 60 °C (cable, drag chain applications)

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-101

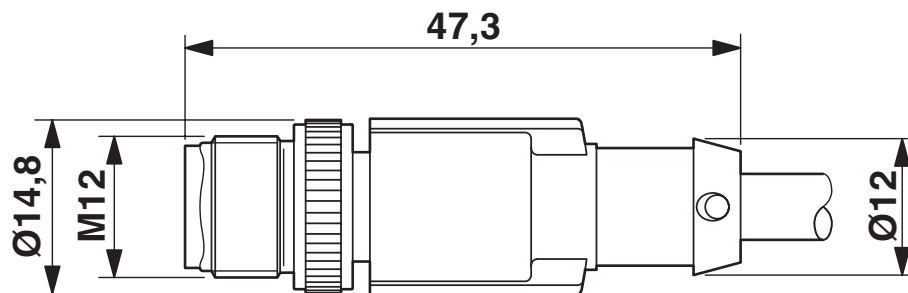
SAC-5P-M12MS/1,0-810/M12FS-3L - Sensor/actuator cable

1416220

<https://www.phoenixcontact.com/us/products/1416220>

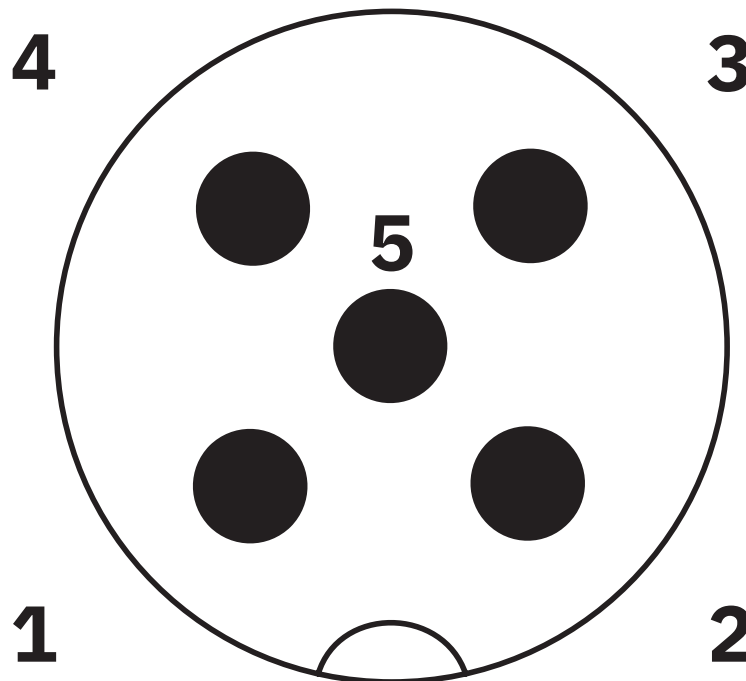
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Schematic diagram



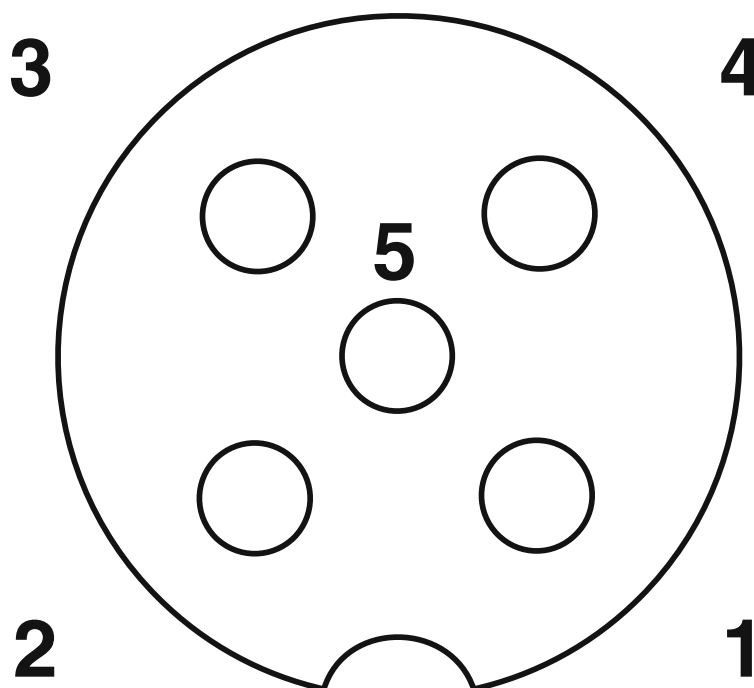
Pin assignment M12 male connector, 5-pos., A-coded, male side

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

1416220

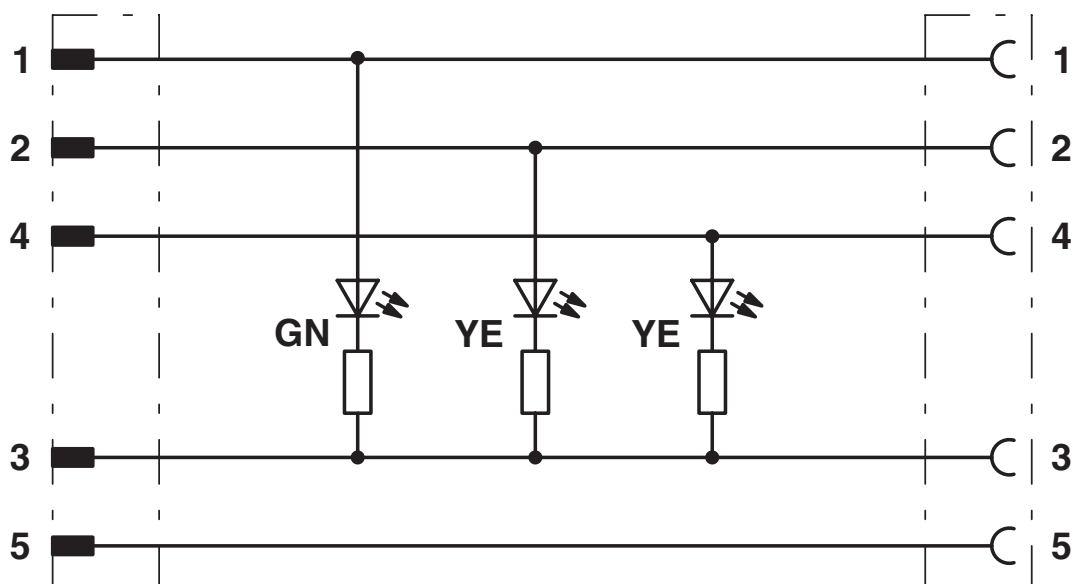
<https://www.phoenixcontact.com/us/products/1416220>

Schematic diagram



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

Circuit diagram



Contact assignment of M12 plugs / sockets with 3 LEDs

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



1416220

<https://www.phoenixcontact.com/us/products/1416220>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1416220>

 UL Listed Approval ID: FILE E 221474				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	24 V	4 A	-	-

 cUL Listed Approval ID: FILE E 221474				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	24 V	4 A	-	-

 EAC-RoHS Approval ID: RU D-DE.HB35.B.00387				
--	--	--	--	--

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



1416220

<https://www.phoenixcontact.com/us/products/1416220>

Classifications

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

ETIM

ETIM 9.0	EC001855
----------	----------

UNSPSC

UNSPSC 21.0	26121600
-------------	----------

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



1416220

<https://www.phoenixcontact.com/us/products/1416220>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

EF3.0 Climate Change

CO2e kg	0.865 kg CO2e
---------	---------------

Phoenix Contact 2025 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com