

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

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, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, coding: A, with 3 LEDs, on Socket angled M12, coding: A, with 3 LEDs, cable length: 3 m

Your advantages

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

Commercial data

Item number	1668548
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF03
Product key	AF1CCA
GTIN	4017918136239
Weight per piece (including packing)	94 g
Weight per piece (excluding packing)	96.1 g
Customs tariff number	85444290
Country of origin	PL

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

Technical data

Product properties

Product type	Sensor/actuator cable
Application	Standard
Number of positions	4
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

Connection data

Conductor connection	
Tightening torque	0.4 Nm (M12 connector)

Connector

Connection 1	
Type	Plug straight M12

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

Number of positions	4
Coding type	A

Connection 1

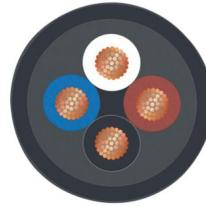
Type	Socket angled M12
Number of positions	4
Coding type	A

Cable/line

Cable length	3 m
--------------	-----

PUR halogen-free black [PUR]

Dimensional drawing



Cable weight	30 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	4
Shielded	no
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm ² (Signal line)
Wire diameter incl. insulation	1.27 mm ±0.02 mm
External cable diameter	4.20 mm ±0.15 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, white, blue, black
Thickness, insulation	≥ 0.21 mm
Thickness, outer sheath	approx. 0.50 mm
Overall twist	4 wires, twisted
Max. conductor resistance	≤ 58 Ω/km
Insulation resistance	≥ 1 GΩ*km
Nominal voltage, cable	≤ 300 V
Test voltage	≥ 3000 V
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	21 mm

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

Smallest bending radius, movable installation	42 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 42 mm, Bending radius: 10 x D, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s ²
Dynamic load capacity (torsion)	Torsion: ±180 °/m, Torsion cycles: ≥2000000, Torsional frequency: 35 cycles/min.
Halogen-free	in accordance with DIN VDE 0472 part 815
	in accordance with DIN EN 50267-2-1
Flame resistance	in accordance with UL 758/1581 FT2
	DIN EN 60332-2-2 (20 s)
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	Highly resistant to acids, alkaline solutions and solvents hydrolysis and microbe resistant partly UV-resistant (in accordance with DIN EN ISO 4892-2-A) Low adhesion abrasion-resistant
Special properties	Flexible cable conduit capable Silicone-free Free of substances which would hinder coating with paint or varnish flexible
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation) -25 °C ... 80 °C (Cable, flexible installation)

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)
Ambient temperature (operation) (Cable, fixed installation)	-40 °C ... 80 °C (cable, fixed installation)
Ambient temperature (operation) (Cable, flexible installation)	-5 °C ... 80 °C (Cable, flexible installation)

Standards and regulations

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

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable

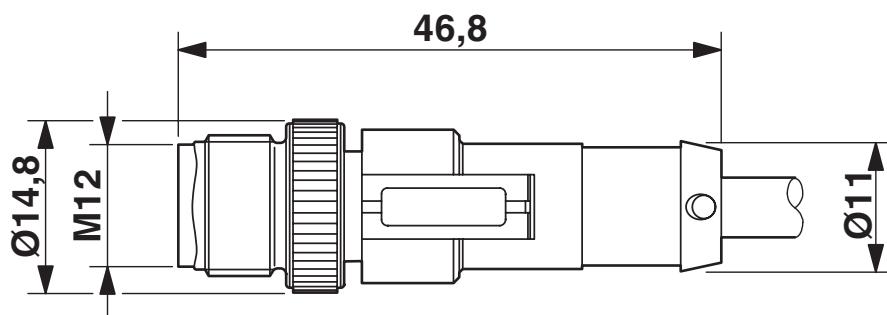


1668548

<https://www.phoenixcontact.com/us/products/1668548>

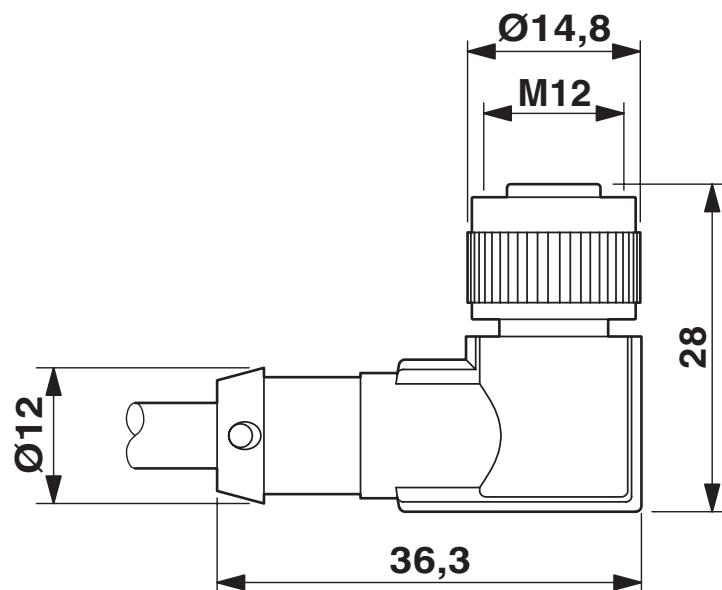
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



Socket M12 x 1, angled, with LED

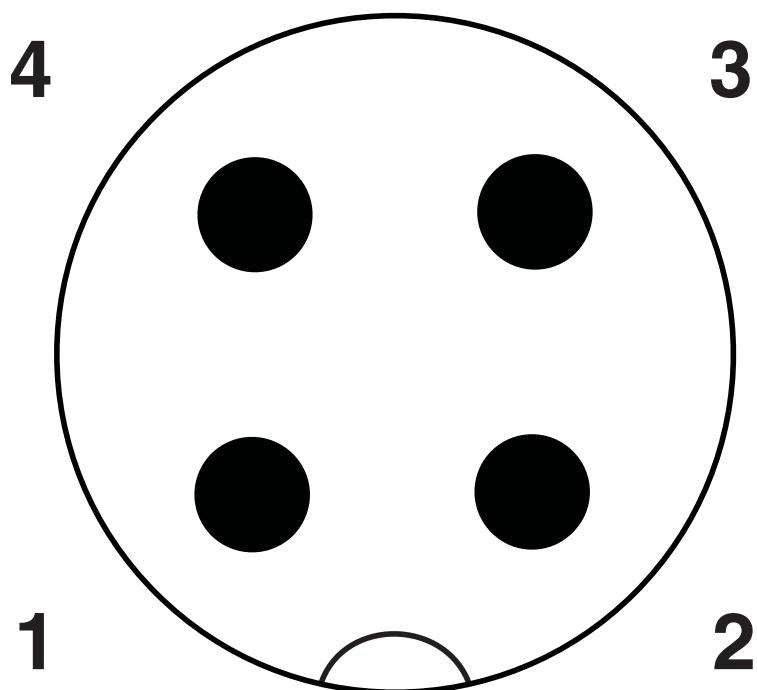
SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator
cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

Schematic diagram



Pin assignment M12 plug, 4-pos., A-coded, view plug side

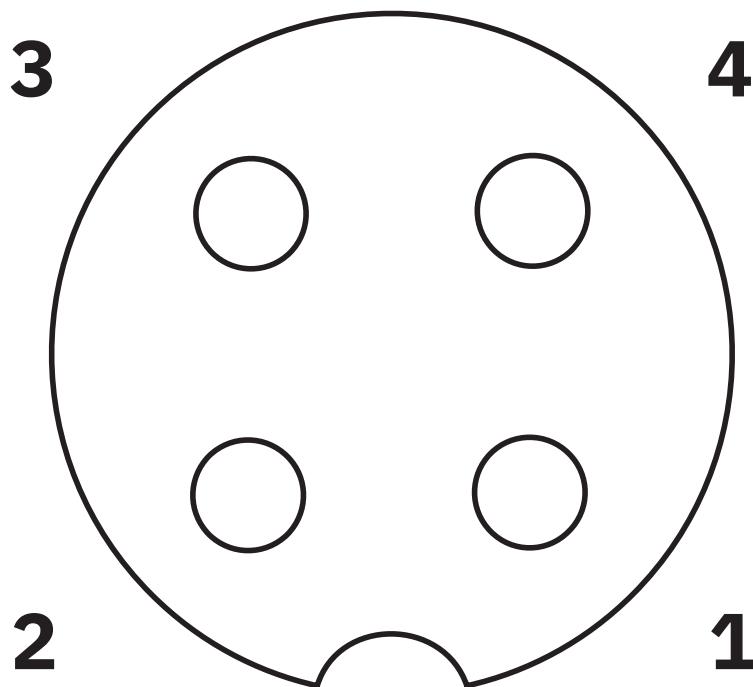
SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

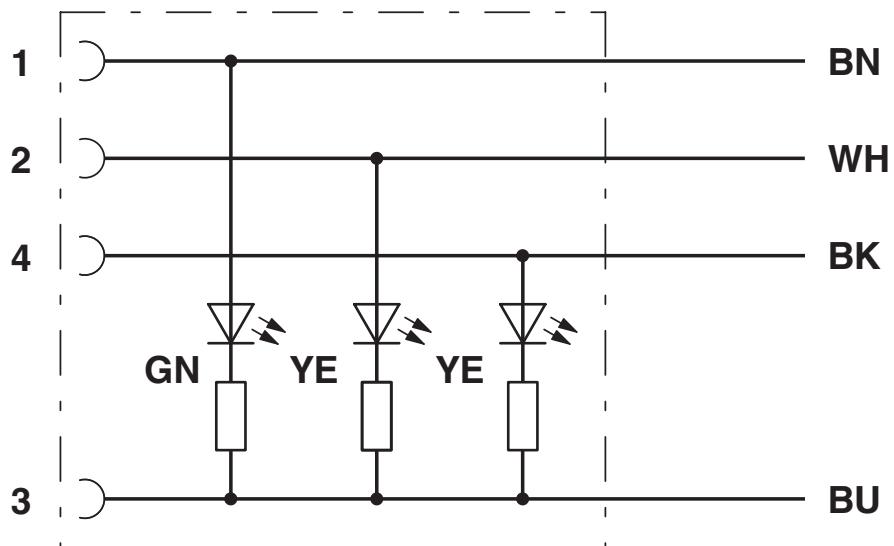
<https://www.phoenixcontact.com/us/products/1668548>

Schematic diagram



Pin assignment M12 socket, 4-pos., A-coded, view female side

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1668548>



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-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

Classifications

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

ETIM

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

UNSPSC

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

SAC-4P-M12MS/3,0-PUR/M12FR-3L - Sensor/actuator cable



1668548

<https://www.phoenixcontact.com/us/products/1668548>

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	1.642 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