SAC-3P-M12MR/ 1,5-PUR SH - Sensor/actuator cable

1682689

https://www.phoenixcontact.com/us/products/1682689

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Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, shielded (Advanced Shielding Technology), Plug angled M12, coding: A, on free cable end, cable length: 1.5 m

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Reliable signal transmission – 360° shielding in environments with electromagnetic interference

Commercial data

Item number	1682689
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF03
Product key	AF1CIA
GTIN	4017918168964
Weight per piece (including packing)	68.4 g
Weight per piece (excluding packing)	52 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Product properties

Product type	Sensor/actuator cable
Application	Standard
Number of positions	3
No. of cable outlets	1
Shielded	yes
Coding	A

Insulation characteristics

Overvoltage category	II
Degree of pollution	3

Material specifications

Flammability rating according to UL 94	HB
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	≥ 100 MΩ
Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	4 A

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100

Signaling

Status display	no
Status display present	no

Connection data

Conductor connection

Tightening torque	0.4 Nm (M12 connector)

Connector

Connection 1

Type	Plug angled M12

Number of positions	3
Coding type	A

Connection 2

Type	free cable end

Cable/line

Cable length	1.5 m

PUR halogen-free black [PUR]

Dimensional drawing	
Cable weight	31 kg/km
UL AWM Style	20549
Number of positions	3
Shielded	yes
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross-section	3x 0.34 mm² (Signal line)
Wire diameter incl. insulation	1.27 mm ±0.02 mm (Signal line)
External cable diameter	4.65 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, blue, black
Thickness, insulation	≥ 0.21 mm (Core insulation)
	approx. 0.50 mm (Outer cable sheath)
Overall twist	3 wires, twisted
Optical shield covering	80 %
Max. conductor resistance	max. 58 Ω/km (at 20 °C)
Insulation resistance	≥ 100 GΩ*km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage	≥ 3000 V
Smallest bending radius, fixed installation	23 mm
Smallest bending radius, movable installation	47 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 47 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10

	m/s²
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
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)
Special properties	Flexible cable conduit capable
	Silicone-free
	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)

Environmental and real-life conditions

Ambient conditions

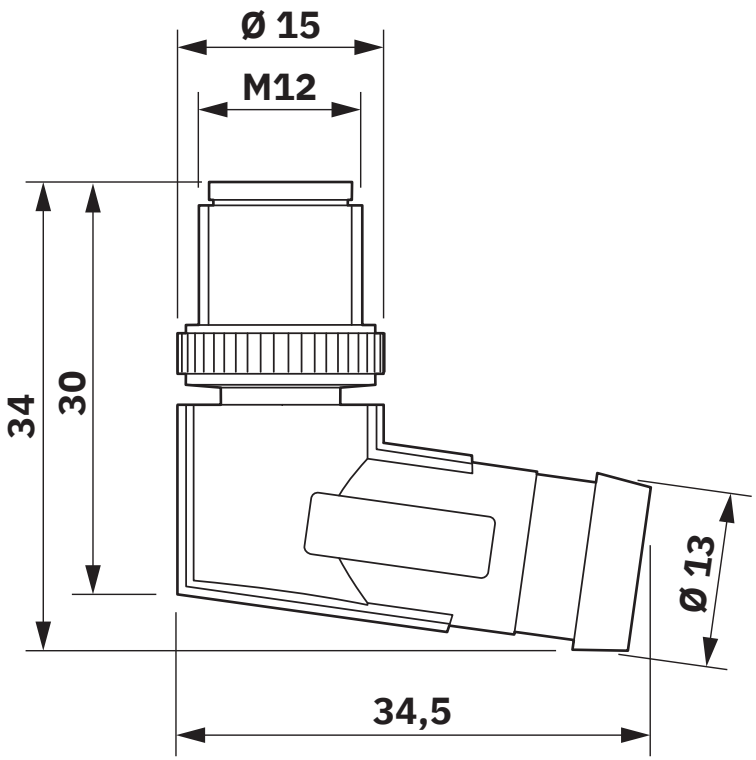
Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (Plug / socket)
Ambient temperature (operation) (Cable, fixed installation)	-25 °C ... 80 °C (cable, fixed installation)
Ambient temperature (operation) (Cable, flexible installation)	-5 °C ... 80 °C (Cable, flexible installation)

Standards and regulations

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

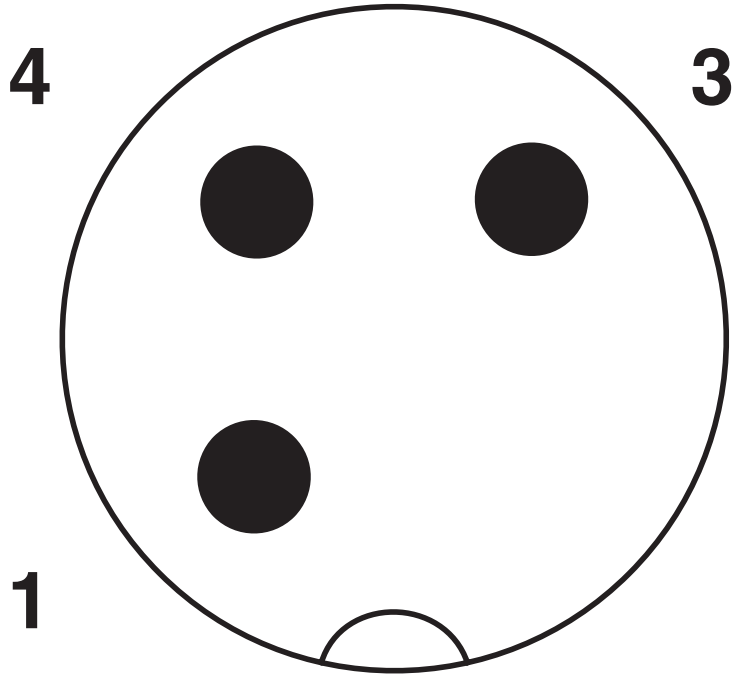
Drawings

Dimensional drawing



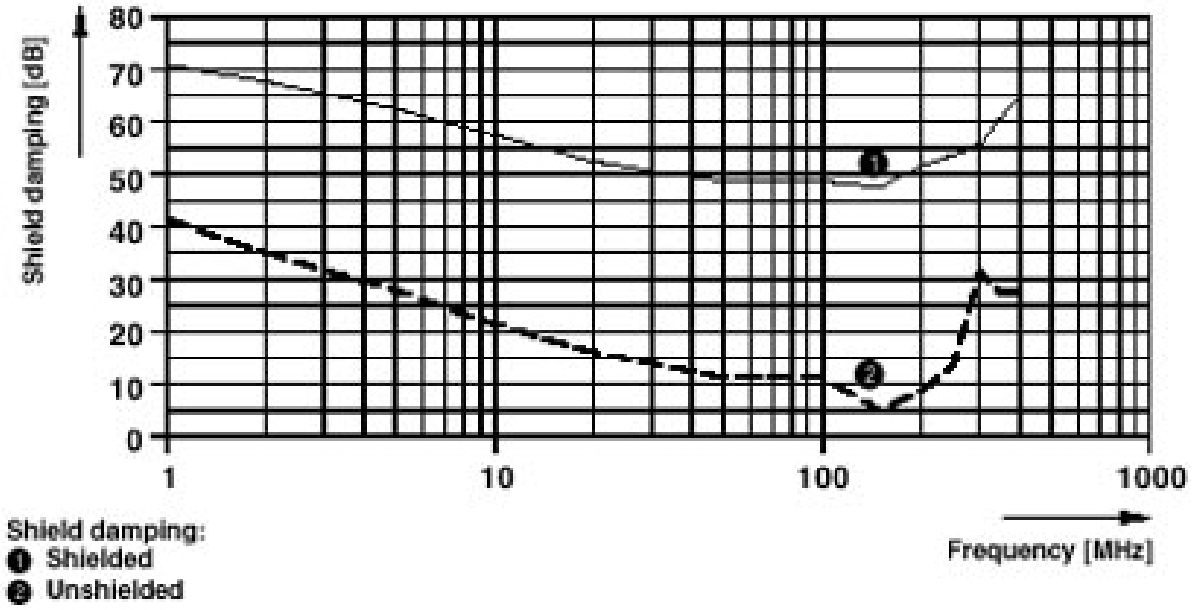
M12 x 1 male plug, angled, shielded

Schematic diagram

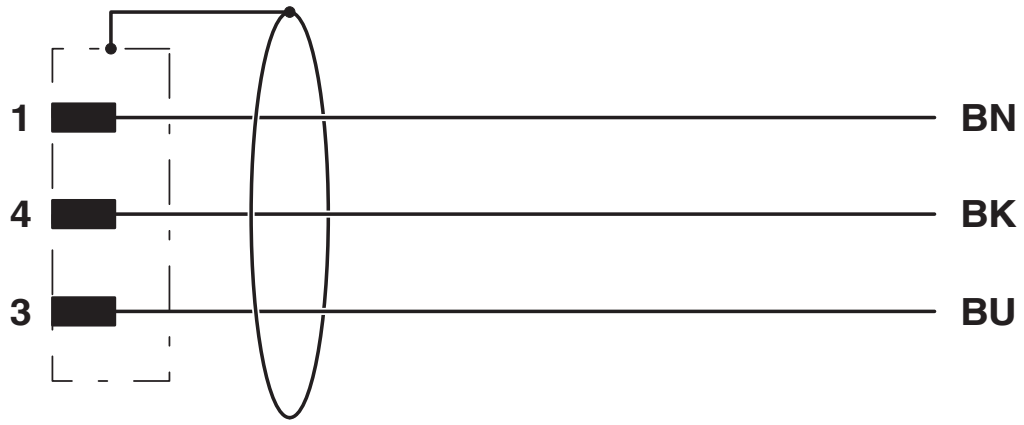


Pin assignment M12 plug, 3-pos., A-coded, view male side

Diagram


Shield damping [dB]
80
70
60
50
40
30
20
10
0
1
10
100
1000
Frequency [MHz]
Shield damping:
1 Shielded
2 Unshielded

Circuit diagram



Contact assignment of the M12 plugs

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1682689

UL Listed
Approval ID: FILE E 221474

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	300 V	4 A	-	-

cUL Listed
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	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	300 V	4 A	-	-

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

Classifications

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

ETIM

ETIM 10.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

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%

EF3.1 Climate Change

CO2e kg	0.928 kg CO2e

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