

1657548
<https://www.phoenixcontact.com/us/products/1657548>

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Sensor/actuator cable, 4-position, PUR, black-gray RAL 7021, Plug angled M12, coding: A, on free cable end, cable length: 1 m

Commercial data

Item number	1657548
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF13
Product key	AF1IFB
GTIN	4067923190252
Weight per piece (including packing)	22.22 g
Weight per piece (excluding packing)	22.22 g
Country of origin	US

SAC-4P-M12MR/1,0-186 BK - Sensor/actuator cable



1657548

<https://www.phoenixcontact.com/us/products/1657548>

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
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
Outer sheath, material	PUR

Electrical properties

Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage U_N	250 V AC
	250 V DC
Nominal current I_N	4 A

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100
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Signaling

Status display	no
Status display present	no

Connection data

Conductor connection

Tightening torque	0.4 Nm (M12 connector)
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Connector

Connection 1

SAC-4P-M12MR/1,0-186 BK - Sensor/actuator cable



1657548

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Type	Plug angled M12
Coding type	A

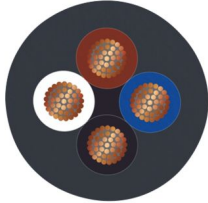
Connection 2

Type	free cable end
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Cable/line

Cable length	1 m
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PUR POWER 0.75 mm² black [186]

Dimensional drawing	
Cable weight	57 kg/km
UL AWM Style	20549 / 1061 (80°C/300 V)
Number of positions	4
Shielded	no
Cable type	PUR POWER 0.75 mm ² black [186]
Conductor structure signal line	42x 0.15 mm
AWG signal line	18
Conductor cross section	4x 0.75 mm ² (power line)
Wire diameter incl. insulation	1.75 mm ±0.05 mm
External cable diameter	5.90 mm ±0.15 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Material wire insulation	PVC
Single wire, color	brown, white, blue, black
Thickness, insulation	≥ 0.23 mm (Core insulation) ≥ 0.76 mm (Outer cable sheath)
Overall twist	4 wires, twisted
Max. conductor resistance	max. 26 Ω/km (at 20 °C)
Insulation resistance	≥ 1 MΩ*km (at 20 °C)
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	30 mm
Smallest bending radius, movable installation	59 mm
Dynamic load capacity (bending)	Max. bending cycles: 2000000, Bending radius: 59 mm,

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	Traversing path: 5 m, Traversing rate: 3 m/s, Acceleration: 5 m/s²
Flame resistance	according to UL 758/1581 (horizontal)
	in accordance with UL 758/1581 FT2
Resistance to oil	According to DIN EN 60811-2-1, 168 h at 100°C
Other resistance	hydrolysis and microbe resistant
	Low adhesion
	abrasion-resistant
	Resistant to salt water
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (Cable, flexible installation)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
	IP67
	IP68
Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (Cable, flexible installation)

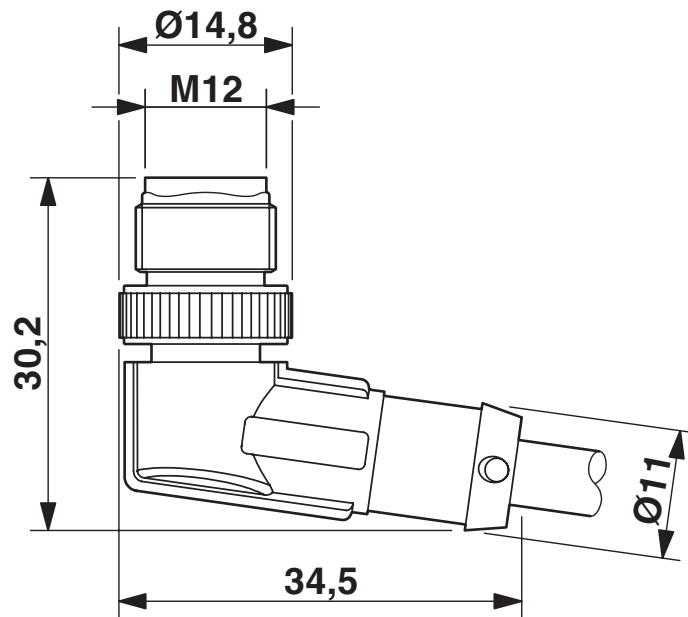
Standards and regulations

M12

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

Drawings

Dimensional drawing

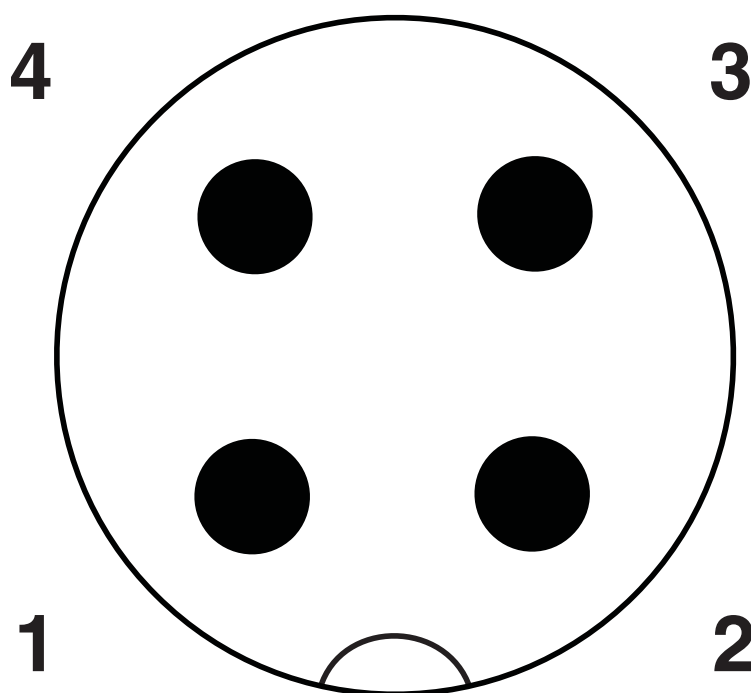


M12 x 1 male plug, angled

1657548

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Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plugs

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Classifications

ECLASS

ECLASS-13.0	27060311
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ETIM

ETIM 9.0	EC001855
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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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%
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