

Sensor/actuator cable - SAC-4P-M12MS/ 2,0-28X SH OD - 1454121

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Sensor/actuator cable, 4-position, PE-X/PE-X halogen-free, black-gray RAL 7021, shielded, Plug straight M12, A-coded, on free cable end, cable length: 2 m, for outdoor applications, with high-grade steel knurl

Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Corrosion protection for all exposed metal parts, thanks to the use of stainless steel type 1.4404
- ✓ Robust throughout: resistant to oil, UV, and ozone, withstands temperatures from -40°C to +105°C
- ✓ Reliable signal transmission – 360° shielding in environments with electromagnetic interference

Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 568739
GTIN	4046356568739
Weight per Piece (excluding packing)	180.000 g
Custom tariff number	85444290
Country of origin	Germany

Technical data

Dimensions

Length of cable	2 m
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Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °C (Plug / socket)
	-40 °C ... 85 °C (On sudden changes in temperature (according to IEC 60512-11-4))
Degree of protection	IP65

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Technical data

Ambient conditions

	IP67
	IP68
	IP69K

General

Rated current at 40°C	4 A
Rated voltage	250 V AC
	250 V DC
Number of positions	4
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Protective circuit/component	Unwired
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

Material

Flammability rating according to UL 94	V0
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	PP
Material of grip body	PP
Material, knurls	Stainless steel
Sealing material	FPM

Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	V0

Cable

Cable type	PE-X black
Cable type (abbreviation)	28X
Cable abbreviation	Li2X2X-C-VI-2X
Conductor cross section	4x 0.5 mm ² (Signal line)
AWG signal line	20
Conductor structure signal line	28x 0.15 mm

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Cable

Core diameter including insulation	1.6 mm ±0.05 mm (Signal line)
Thickness, insulation	approx. 0.3 mm (Core insulation)
	approx. 0.7 mm (Outer cable sheath)
	approx. 0.45 mm (Inner sheath)
Wire colors	brown, white, blue, black
Overall twist	4 wires, twisted
Length of twist, overall twist	108.8 mm
Shielding	Braided copper wires
Optical shield covering	85 %
External sheath, color	black-gray RAL 7021
External cable diameter D	6.8 mm ±0.2 mm
Smallest bending radius, fixed installation	34 mm
Smallest bending radius, movable installation	68 mm
Number of bending cycles	1000000
Bending radius	68 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²
Cable weight	74 kg/km
Outer sheath, material	PE-X
Material, inner sheath	PE-X
Material conductor insulation	PE-X
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 100 MΩ*km (at 20 °C)
Conductor resistance	≤ 39 Ω/km (at 20 °C)
Cable capacity	≤ 100 nF/km (Conductor-conductor, asymmetrical/touching)
	≤ 85 nF/km (Conductor-conductor, symmetrical/star quad)
	≤ 150 nF/km (Wire/shield)
Inductance	0.64 mH (at 1 kHz)
	0.46 mH (at 10 MHz)
Nominal voltage, cable	≤ 300 V AC
Test voltage, cable	≥ 3000 V AC
Special properties	Irradiated
Flame resistance	According to DIN 60332-1-2
	According to DIN EN 50266-2-5
Halogen-free	in accordance with DIN VDE 0472 part 815
Resistance to oil	in accordance with DIN EN 60811-2-1

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Technical data

Cable

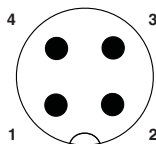
Other resistance	UV resistant according to DIN VDE 0276-605
Ambient temperature (operation)	-40 °C ... 105 °C (cable, fixed installation)
	-15 °C ... 105 °C (cable, flexible installation)

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

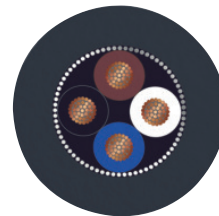
Drawings

Schematic diagram



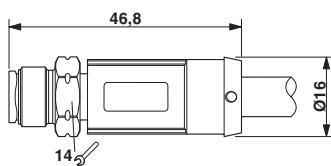
Pin assignment M12 plug, 4-pos., A-coded, view plug side

Cable cross section



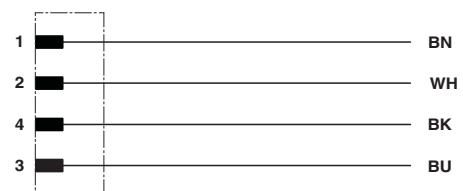
PE-X black [28X]

Dimensional drawing



Plug, M12 x 1, straight, shielded

Circuit diagram



Contact assignment of the M12 plug

Classifications

eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	27061800

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Classifications

eCl@ss

eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218
eCl@ss 9.0	27060311

ETIM

ETIM 4.0	EC001855
ETIM 5.0	EC001855
ETIM 6.0	EC001855

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	31251501

Approvals

Approvals

Approvals

EAC / DNV GL

Ex Approvals

Approval details

EAC		EAC-Zulassung
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DNV GL	http://exchange.dnv.com/tari/	TAE00002K4
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Accessories

Accessories

Circular connector (cable-side)

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Accessories

Connector - SACC-M12FS-5CON-DM 5-8 SH VA - 1440041



Connector, 5-position, shielded, Socket straight M12, A-coded, Screw connection, knurl material: Stainless steel 1.4404, cable gland M16, external cable diameter 5.5 mm ... 8.6 mm

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

Adapter - SAC BIT M12-W14 - 1212513



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive

Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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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Accessories

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