

SAC-3P-M 8MS/ 3,0-PUR/M 8FS - Sensor/actuator cable



1681936

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Sensor/actuator cable, 3-position, PUR halogen-free, black-gray RAL 7021, Plug straight M8, coding: A, on Socket straight M8, coding: A, cable length: 3 m

Your advantages

- Easy and safe: 100 % electrically tested plug-in components

Commercial data

Item number	1681936
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	02
Product key	AF1BBA
GTIN	4017918158590
Weight per piece (including packing)	63 g
Weight per piece (excluding packing)	60.7 g
Customs tariff number	85444290
Country of origin	DE

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Technical data

Product properties

Product type	Sensor/actuator cable
Application	Standard
Number of positions	3
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	48 V AC
	60 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	0.2 Nm (M8 connectors)
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Connector

Connection 1

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Type	Plug straight M8
Number of positions	3
Coding type	A

Connection 2

Type	Socket straight M8
Number of positions	3
Coding type	A

Cable/line

Cable length	3 m
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PUR halogen-free black [PUR]

Dimensional drawing	
Cable weight	18 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	3
Shielded	no
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross-section	3x 0.25 mm² (Signal line)
Wire diameter incl. insulation	1.17 mm ±0.02 mm
External cable diameter	3.60 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)
Thickness, outer sheath	approx. 0.50 mm
Overall twist	3 wires, twisted
Length of twist, overall twist	40 mm
Max. conductor resistance	≤ 78 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	18 mm

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Smallest bending radius, movable installation	36 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 44 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s ²
Dynamic load capacity (torsion)	Torsion: $\pm 180^\circ/\text{m}$, Torsion cycles: ≥ 5000000 , 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	hydrolysis and microbe resistant Highly resistant to acids, alkaline solutions and solvents Resistant to salt water 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 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	M8 connector
Standards/specifications	IEC 61076-2-104

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Drawings

Dimensional drawing



M8 x 1 male plug, straight version

Dimensional drawing



Socket M8 x 1, straight

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Schematic diagram



Pin assignment M8 plug, 3-pos., view male side

Schematic diagram



Pin assignment M8 socket, 3-pos., view female side

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Circuit diagram



Contact assignment of M8 plugs/sockets

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Approvals

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 UL Listed Approval ID: FILE E 221474				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	60 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				
	60 V	4 A	-	-

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

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

ETIM

ETIM 10.0	EC001855
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UNSPSC

UNSPSC 21.0	26121600
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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	0.868 kg CO2e

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Accessories

PROT-M 8 FS-PA-CHAIN - Sealing cap

1430857

<https://www.phoenixcontact.com/pc/products/1430857>

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 plugs



UCT-WMT (23X4) - Conductor marker

0801453

<https://www.phoenixcontact.com/pc/products/0801453>



Conductor marker, Sheet, white (RAL 9010), unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME 2.0, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, TOPMARK NEO, TOPMARK LASER, cable diameter range: 1.5 ... 35 mm, mounting type: insert, Number of individual labels: 30, text field height: 4 mm, text field width: 23 mm

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UC-WMT (23X4) - Conductor marker

0819411

<https://www.phoenixcontact.com/pc/products/0819411>



Conductor marker, Sheet, white (RAL 9010), unmarked, can be labeled with: BLUEMARK E.CARD, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, cable diameter range: 1.5 ... 35 mm, mounting type: insert, Number of individual labels: 24, text field height: 4 mm, text field width: 23 mm

US-WMT (23X4) - Cable marker

0828769

<https://www.phoenixcontact.com/pc/products/0828769>



Cable marker, Card, white (RAL 9010), unmarked, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, THERMOMARK PRIME 2.0, cable diameter range: 1.5 ... 35 mm, mounting type: slide-on, Number of individual labels: 56, text field height: 4 mm, text field width: 23 mm

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WMTW (23X4)R - Cable marker

0831004

<https://www.phoenixcontact.com/pc/products/0831004>



Cable marker, Roll, white (RAL 9010), unmarked, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, cable diameter range: 1.5 ... 35 mm, mounting type: insert, Number of individual labels: 3000, text field height: 4 mm, text field width: 23 mm

PROT-M 8 MS-PA-CHAIN - Screw plug

1430860

<https://www.phoenixcontact.com/pc/products/1430860>

M8 sealing cap made of plastic with fixing band for sensor cables, for M8 sockets



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B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/pc/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

TSD 02 SAC - Torque screwdriver

1208487

<https://www.phoenixcontact.com/pc/products/1208487>



Torque screwdriver, with preset torque of 0.2 Nm and 4 mm hexagonal drive for M8 connectors

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SAC BIT M8-D10 - Tool

1208461

<https://www.phoenixcontact.com/pc/products/1208461>



Nut for assembling M8 connectors with longitudinal knurl and a knurl diameter of 10 mm, for 4 mm hexagonal drive

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