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Sensor/Actuator cable, 3-position, PUR halogen-free, Black-gray RAL 7021, shielded, Plug straight M12, A-coded, on Socket angled M12, A-coded, Cable length: 3 m

#### **Product Features**

- Reliable signal transmission 360° shielding in environments with electromagnetic interference



## Key commercial data

Packing unit	11
Weight per Piece (excluding packing)	161.9 GRM
Custom tariff number	85444290
Country of origin	Poland

### Technical data

#### **Dimensions**

Length of cable	3 m
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## Ambient conditions

Ambient temperature (operation)	-25 °C 90 °C (Plug / socket)
Degree of protection	IP65
	IP67

#### General

Rated current at 40°C	4 A
Rated voltage	250 V
Number of positions	3
Contact resistance	$\leq 5~\text{m}\Omega$
Insulation resistance	$\geq$ 100 M $\Omega$

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## Technical data

### General

Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
Surge voltage category	II
Pollution degree	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

### Material

Inflammability class according to UL 94	НВ
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	Zinc die-cast, nickel-plated
Sealing material	NBR

### Cable

Cable type	PUR halogen-free black shielded	
Cable type (abbreviation)	PUR	
Cable abbreviation	Li9Y-VI-C-VI-11Y	
UL AWM style	20549	
Conductor cross section	3x 0.34 mm² (signal line)	
AWG signal line	22	
Conductor structure signal line	42x 0.10 mm	
Core diameter including insulation	1.27 mm ±0.02 mm (signal line)	
Thickness, insulation	≥ 0.21 mm (Core insulation)	
	approx. 1.1 mm (Outer cable sheath)	
Wire colors	brown, blue, black	
Overall twist	3 wires, twisted	
Shielding	Braided copper wires	
Optical shield covering	85 %	
External sheath, color	Black-gray RAL 7021	
External cable diameter D	5.9 mm ±0.15 mm	
Smallest bending radius, fixed installation	29.5 mm	
Smallest bending radius, movable installation	59 mm	
Number of bending cycles	4000000	
Bending radius	59 mm	

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## Technical data

## Cable

Traversing path	10 m	
Traversing rate	3 m/s	
Acceleration	10 m/s²	
Cable weight	44 kg/km	
Outer sheath, material	PUR	
Material conductor insulation	PP	
Conductor material	Bare Cu litz wires	
Insulation resistance	$\geq$ 100 G $\Omega$ *km (at 20 °C)	
Conductor resistance	max. 58 Ω/km (at 20 °C)	
Nominal voltage, cable	≤ 300 V	
Test voltage, cable	≥ 3000 V	
Special properties	Flexible cable conduit capable	
	Silicone-free	
	Free of substances which would hinder coating with paint or varnish	
Flame resistance	in accordance with DIN UL-Style 20549	
Halogen-free	in accordance with DIN VDE 0472 part 815	
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	
Ambient temperature (operation)	-40 °C 80 °C (cable, fixed installation)	
	-25 °C 80 °C (cable, flexible installation)	

## Classifications

## eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	27061801
eCl@ss 6.0	27061801
eCl@ss 7.0	27061801
eCl@ss 8.0	27061801

### **ETIM**

ETIM 2.0	EC000830
ETIM 3.0	EC001855

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## Classifications

ETIM 4.0	EC001855
ETIM 5.0	EC001855

## **UNSPSC**

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

## Approvals

Approvals

Approvals

UL Listed / cUL Listed / GOST / GOST / cULus Listed

Ex Approvals

Approvals submitted

## Approval details

UL Listed (II)		
Nominal current IN	4 A	
Nominal voltage UN	300 V	

cUL Listed (19)	
Nominal current IN	4 A
Nominal voltage UN	300 V

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## Approvals

GOST C		
GOST 🕙		
cULus Listed (10)		

#### Accessories

Accessories

Conductor marking

Insert label - PABA WH/15 - 1013151



Insert label, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

#### Insert label - PABA YE/15 - 1013698



Insert label, Strip, yellow, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

#### Insert label - PABA RD/15 - 1013944



Insert label, Strip, red, Unlabeled, Can be labeled with: Plotter, Mounting type: Thread on, Cable diameter: 0.6-50 mm, Lettering field: 15 x 4 mm

Marker carrier cable

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### Accessories

Conductor marker carrier - PATO 2/15 - 1013122



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 2.8-4.4 mm, Lettering field: 4 x 15 mm

Conductor marker carrier - PATO 3/15 - 1013135



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 4.4-6.7 mm, Lettering field: 4 x 15 mm

Conductor marker carrier - PATO 4/15 - 1013148



Conductor marker carrier, transparent, Unlabeled, Mounting type: Clip on, Cable diameter: 6.7-10 mm, Lettering field: 4 x 15 mm

### Marker pen

Marker pen - B-STIFT - 1051993



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

### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 sockets



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#### Accessories

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



### Safety locking

Fuse clip - SAC-M12-EXCLIP-M - 1558988



Fuse clip for the pin side of various M12 sensor/actuator connectors prevents plug-in connections being interrupted without using a tool

Fuse clip - SAC-M12-EXCLIP-F - 1558991



Fuse clip for the socket side of various M12 sensor/actuator connectors prevents plug-in connections being interrupted without using a tool

#### 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

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### Accessories

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and for M12 connectors with QUICKON fast connection technology, for 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

## **Drawings**

Schematic diagram



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

Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

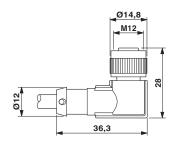


Cable cross section



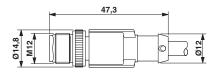
PUR halogen-free black shielded [PUR]

Dimensioned drawing



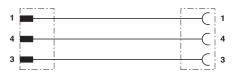
M12 x 1 socket, angled, shielded

## Dimensioned drawing

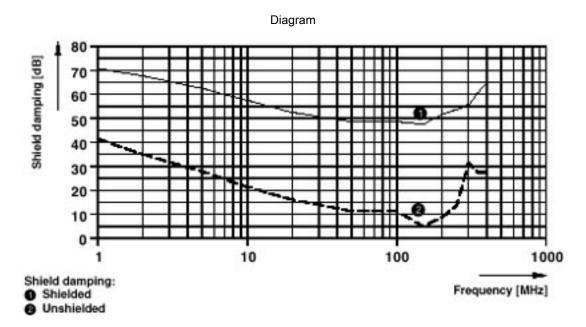


Plug, M12 x 1, straight, shielded

## Circuit diagram



Contact assignment of M8 plugs / M12 sockets





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