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Sensor/actuator cable, 4-position, PUR halogen-free, welding sputter-resistant, highly flexible, gray RAL 7001, free cable end, on Socket angled M12, A-coded, with 3 LEDs, cable length: 10 m, for robots and drag chains

#### Why buy this product

- Flexible: cable supports a high degree of torsion and bending
- Reliable solution for the body shop as cable is resistant to welding sparks
- ☑ Convenient: increased machine availability thanks to quick and easy diagnostics



### **Key Commercial Data**

Packing unit	1 STK
GTIN	4 046356 327169
GTIN	4046356327169
Weight per Piece (excluding packing)	320.000 g
Custom tariff number	85444290
Country of origin	Poland

#### Technical data

#### **Dimensions**

Length of cable	10 m
Stripping length of the free conductor end	50 mm

#### Ambient conditions

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



## Technical data

#### Ambient conditions

IP67
IP68

#### General

Rated current at 40°C	4 A
Rated voltage	24 V
	24 V DC
Number of positions	4
Color handle area	transparent
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	3 LEDs
Protective circuit/component	Unwired
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

#### Material

Flammability rating 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

### Standards and Regulations

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

### Cable

Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable type	Gray, highly flexible PUR
Cable type (abbreviation)	800
Cable abbreviation	Li12YYTPE-HF
UL AWM style	20233



## Technical data

#### Cable

Conductor cross section	4x 0.34 mm² (Signal line)
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.3 mm ±0.05 mm (Signal line)
Wire colors	brown, white, blue, black
Overall twist	4 wires, twisted
External sheath, color	gray RAL 7001
External cable diameter D	4.8 mm ±0.2 mm
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	7.5 x D
Number of bending cycles	10000000
Minimum bending radius, drag chain applications	7,5 x D
Traversing path	5 m
Traversing rate	3.3 m/s
Acceleration	5 m/s²
Number of bending cycles	15000000
Bending radius	50 mm
Traversing path	0.9 m
Traversing rate	5 m/s
Acceleration	30 m/s²
Torsion force	± 360 °/m (1,000,000 torsion cycles)
Cable weight	33.5 kg/km
Outer sheath, material	PUR
Material conductor insulation	PES
Conductor material	Bare Cu litz wires
Insulation resistance	$\geq 20 \text{ M}\Omega^*\text{km}$
Conductor resistance	approx. 53 Ω/km
Nominal voltage, cable	300 V
Test voltage, cable	2000 V
Special properties	Cable jacket is welding spark-resistant, recyclable, matt, low-adhesion, abrasion-resistant, flame-retardant, and self-extinguishing
	Free from silicone and cadmium
	Free of substances which would hinder coating with paint or varnish
Flame resistance	according to IEC 60332-1-2
	According to UL 758/1581 VW-1
	According to UL 758/1581 FT1
Halogen-free	in accordance with DIN VDE 0472 part 815



### Technical data

#### Cable

Resistance to oil	According to HD 22.10
	in accordance with DIN EN 60811-404 (external sheath)
Other resistance	Highly resistant to acids, alkaline solutions and solvents
	Silicone-free
Ambient temperature (operation)	-40 °C 90 °C (cable, fixed installation)
	-30 °C 90 °C (cable, flexible installation)
	to 120 °C (for 3000 h)

### **Environmental Product Compliance**

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

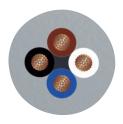
## Drawings

Schematic diagram



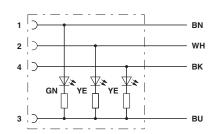
Pin assignment M12 socket, 4-pos., A-coded, view female side

Cable cross section



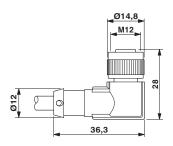
Gray, highly flexible PUR [800]

Circuit diagram



Contact assignment of M12 sockets with LED

Dimensional drawing



Socket M12 x 1, angled, with LED



## Classifications

### eCl@ss

eCl@ss 4.0	27060306
eCl@ss 4.1	27060306
eCl@ss 5.0	27061801
eCl@ss 5.1	27061800
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218
eCl@ss 9.0	27060311

#### **ETIM**

ETIM 3.0	EC001855
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

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Approval details



## Approvals

UL Listed	LISTED	http://database.ul.co	m/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474
Nominal voltage UN			24 V	
Nominal current IN			4 A	

cUL Listed	CUL	http://database.ul.co	m/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474
Nominal voltage UN			24 V	
Nominal current IN			4 A	

EAC EHL	EAC-Zulassung
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cULus Listed	CUL) US
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#### Accessories

Accessories

Protective cap

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

 $\ensuremath{\mathsf{M12}}$  sealing cap with fixing band, for sensor cables, for free  $\ensuremath{\mathsf{M12}}$  sockets



Screwdriver tools



#### Accessories

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, 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

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