

1456996

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Sensor/actuator cable, 4-position, PUR halogen-free, resistant to welding sparks, highly flexible, gray RAL 7001, free cable end, on Socket angled M12, coding: A, with 3 LEDs, cable length: 1.5 m, for robots and drag chains

Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Reliable solution for the body shop as cable is resistant to welding sparks
- Convenient: increased machine availability thanks to quick and easy diagnostics

Commercial data

Item number	1456996
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF03
Product key	BF1CCA
Catalog page	Page 198 (C-2-2019)
GTIN	4046356593359
Weight per piece (including packing)	61.6 g
Weight per piece (excluding packing)	55 g
Customs tariff number	85444290
Country of origin	PL

SAC-4P- 1,5-800/M12FR-3L - Sensor/actuator cable



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Technical data

Product properties

Product type	Sensor/actuator cable
Application	Robots and drag chains
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
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	24 V DC
Nominal current I_N	4 A

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100
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Signaling

Status display	3 LEDs
Status display present	Yes

Connection data

Conductor connection

Tightening torque	0.4 Nm (M12 connector)
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Connector

Connection 1

Type	free cable end
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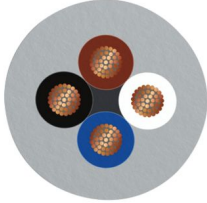
Connection 2

Type	Socket angled M12
Number of positions	4
Coding type	A

Cable/line

Cable length	1.5 m
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Gray, highly flexible PUR [800]

Dimensional drawing	
Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable weight	33.5 kg/km
UL AWM Style	20549
Number of positions	4
Shielded	no
Cable type	Gray, highly flexible PUR [800]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	4x 0.34 mm ² (Signal line)
Wire diameter incl. insulation	1.3 mm ±0.05 mm (Signal line)
External cable diameter	4.80 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	gray RAL 7001
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	brown, white, blue, black
Overall twist	4 wires, twisted
Max. conductor resistance	approx. 53 Ω/km
Insulation resistance	≥ 20 MΩ*km
Nominal voltage, cable	300 V
Test voltage	2000 V
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	7.5 x D
Smallest bending radius, fixed installation	20 mm
Smallest bending radius, movable installation	36 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 7,5 x D,

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	Traversing path: 5 m, Traversing rate: 3.3 m/s, Acceleration: 5 m/s ²
	Max. bending cycles: 15000000, Bending radius: 50 mm, Traversing path: 0.9 m, Traversing rate: 5 m/s, Acceleration: 30 m/s ²
Dynamic load capacity (torsion)	Torsion: ± 360 °/m, Torsion cycles: 1000000
Halogen-free	in accordance with DIN VDE 0472 part 815
Flame resistance	in accordance with UL 758/1581 FT2
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	Highly resistant to acids, alkaline solutions and solvents
Special properties	Silicone-free
	Cable jacket is welding spark-resistant, recyclable, matt, low-adhesion, abrasion-resistant, flame-retardant, and self-extinguishing
	Free from silicone and cadmium
Ambient temperature (operation)	Free of substances which would hinder coating with paint or varnish
	-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)	-25 °C ... 90 °C (Plug / socket)
	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 90 °C (Cable, flexible installation)
	to 120 °C (for 3000 h)
	to 80 °C (in acc. with UL)

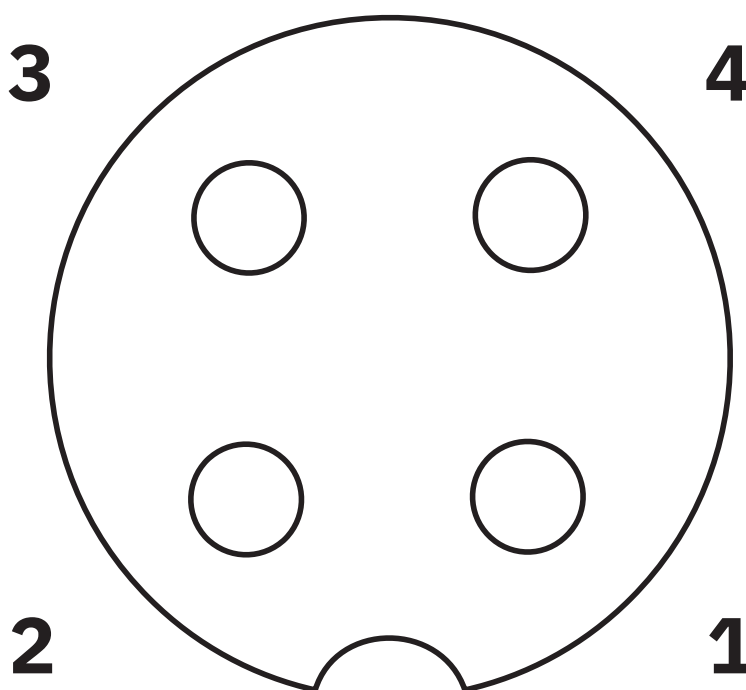
Standards and regulations

M12

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

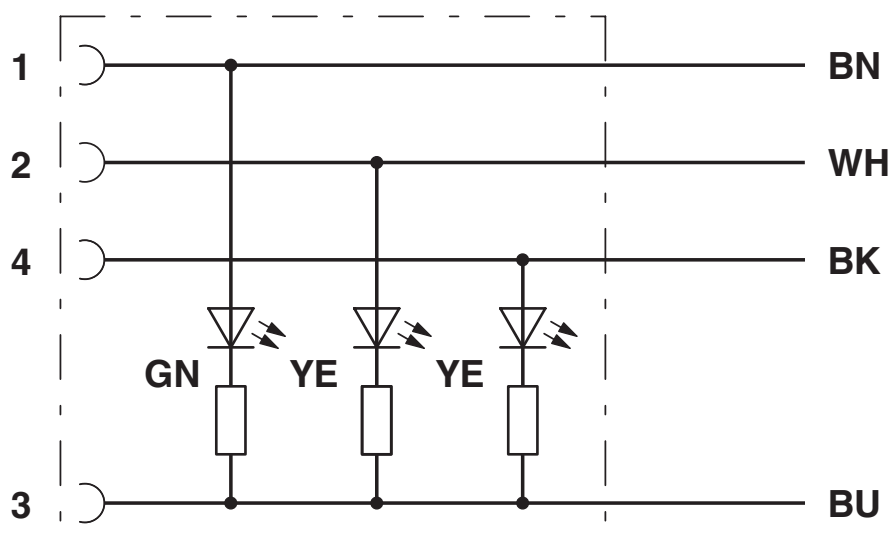
Drawings

Schematic diagram



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

Circuit diagram



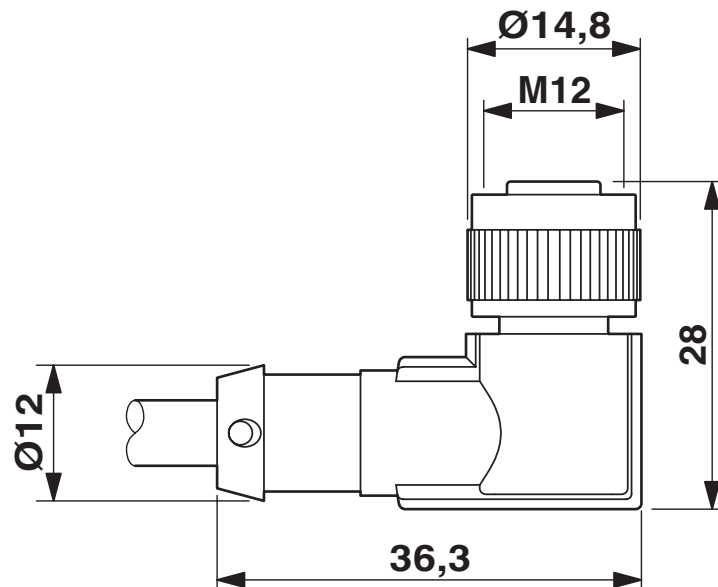
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Dimensional drawing



Socket M12 x 1, angled, with LED

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1456996>

	UL Listed Approval ID: FILE E 221474			
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	24 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
	24 V	4 A	-	-

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

cULus Listed				
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Classifications

ECLASS

ECLASS-11.0	27060311
ECLASS-12.0	27060311
ECLASS-13.0	27060311

ETIM

ETIM 9.0	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%
EF3.0 Climate Change	
CO2e kg	0.261 kg CO2e

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