

1681651

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Sensor/actuator cable, 5-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: 3 m

Your advantages

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

Commercial data

Item number	1681651
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF03
Product key	AF1CDA
Catalog page	Page 201 (C-2-2019)
GTIN	4017918158064
Weight per piece (including packing)	110.2 g
Weight per piece (excluding packing)	110.2 g
Customs tariff number	85444290
Country of origin	PL



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Technical data

Product properties

Product type	Sensor/actuator cable	
Application	Standard	
Number of positions	5	
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	НВ
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	≥ 100 MΩ
Nominal voltage U _N	48 V AC
	60 V DC
Nominal current I _N	4 A

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100

Signaling

Status display	no
Status display present	no

Connection data

Conductor connection

Tightening torque	0.4 Nm (M12 connector)
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Connector

Connection 1



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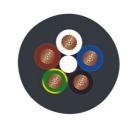
Туре	Plug straight M12
Number of positions	5
Coding type	A
Connection 2	Socket angled M12
Туре	Socket angled M12
	Socket angled M12 5

Cable/line

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

Dimensional drawing



Cable weight	33 kg/km
UL AWM Style	20549
Number of positions	5
Shielded	no
Cable type	PUR halogen-free black [PUR]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	5x 0.34 mm² (Signal line)
Wire diameter incl. insulation	1.27 mm 0.05 mm (Signal line)
External cable diameter	4.55 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, white, blue, black, green-yellow
Thickness, insulation	approx. 0.50 mm
Max. conductor resistance	max. 58 Ω/km (at 20 °C)
Insulation resistance	≥ 16 GΩ*km (at 20 °C)
Nominal voltage, cable	300 V
Test voltage	3000 V
Smallest bending radius, fixed installation	23 mm
Smallest bending radius, movable installation	46 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 46 mm, Bending radius: 10 x D, Traversing path: 10 m, Traversing rate: 3



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	m/s, Acceleration: 10 m/s²
Dynamic load capacity (torsion)	Torsion: ±180 °/m, Torsion cycles: ≥2000000, 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	Highly resistant to acids, alkaline solutions and solvents
	hydrolysis and microbe resistant
	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
	flexible
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)	-25 °C 90 °C (Plug / socket)
	-40 °C 80 °C (cable, fixed installation)
	-5 °C 80 °C (Cable, flexible installation)

Standards and regulations

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

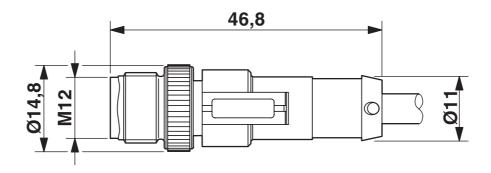


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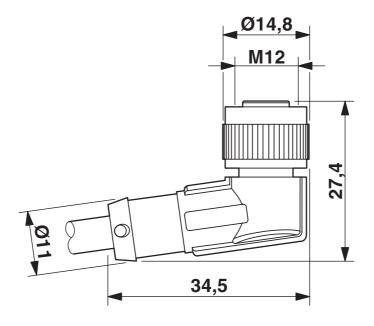
Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing

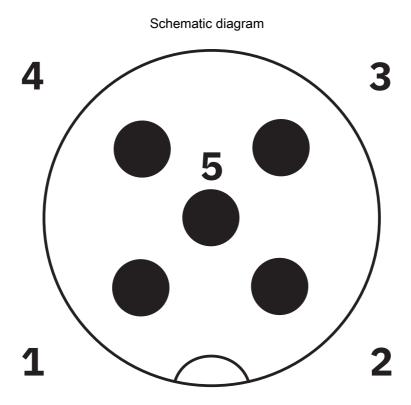


M12 x 1 socket, angled

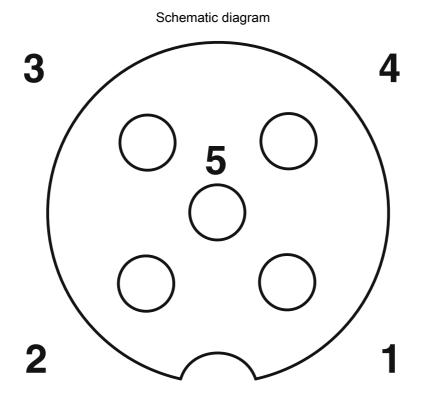


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Pin assignment M12 male connector, 5-pos., A-coded, male side



Pin assignment M12 socket, 5-pos., A-coded, socket side view



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Circuit diagram



Contact assignment of the M12 plug and the M12 socket



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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1681651

UL Listed Approval ID: FILE E 221474					
		Nominal voltage U _N	Nominal current I _N	Cross section AWG	Cross section mm ²
		125 V	4 A	-	-

• <u>®</u>	cUL Listed Approval ID: FILE E 221474				
		Nominal voltage U_N	Nominal current I _N	Cross section AWG	Cross section mm ²
		125 V	4 A	-	-

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



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Classifications

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	ECLASS-13.0	27060311
E	ГІМ	
	ETIM 9.0	EC001855
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	2.01 kg CO2e

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