

SAC-5P-M12MS/ 3,0-802/M12FR-3L - Sensor/actuator cable



1457319

<https://www.phoenixcontact.com/us/products/1457319>

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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	1457319
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF03
Product key	AF1CDA
GTIN	4046356593595
Weight per piece (including packing)	125.4 g
Weight per piece (excluding packing)	125.4 g
Customs tariff number	85444290
Country of origin	PL

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Technical data

Product properties

Product type	Sensor/actuator cable
Application	Robots and drag chains
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	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	Plug straight M12
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Number of positions	5
Coding type	A

Connection 2

Type	Socket angled M12
Number of positions	5
Coding type	A

Cable/line

Cable length	3 m
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PUR halogen-free highly flexible resistant to welding sparks gray 5th conductor green/yellow [802]

Dimensional drawing	
Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable weight	38 kg/km
UL AWM Style	20549
Number of positions	5
Shielded	no
Cable type	PUR halogen-free highly flexible resistant to welding sparks gray 5th conductor green/yellow [802]
Conductor structure signal line	42x 0.10 mm
AWG signal line	22
Conductor cross section	5x 0.34 mm ² (Signal line)
Wire diameter incl. insulation	1.3 mm ±0.05 mm (Signal line)
External cable diameter	5.10 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, green-yellow
Overall twist	5 wires around filler to the core
Max. conductor resistance	approx. 53 Ω/km
Insulation resistance	≥ 20 MΩ*km
Nominal voltage, cable	300 V
Test voltage	1200 V
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	5 x D

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Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	26 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 7,5 x D, 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, Torsional frequency: 35 cycles/min.
Halogen-free	The cable is halogen-free
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
	Silicone-free
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
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 ... 90 °C (cable, fixed installation)
Ambient temperature (operation) (Cable, flexible installation)	-30 °C ... 90 °C (Cable, flexible installation)
Ambient temperature (operation)	to 120 °C (for 3000 h)
	to 80 °C (in acc. with UL)

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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Schematic diagram



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

Schematic diagram



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

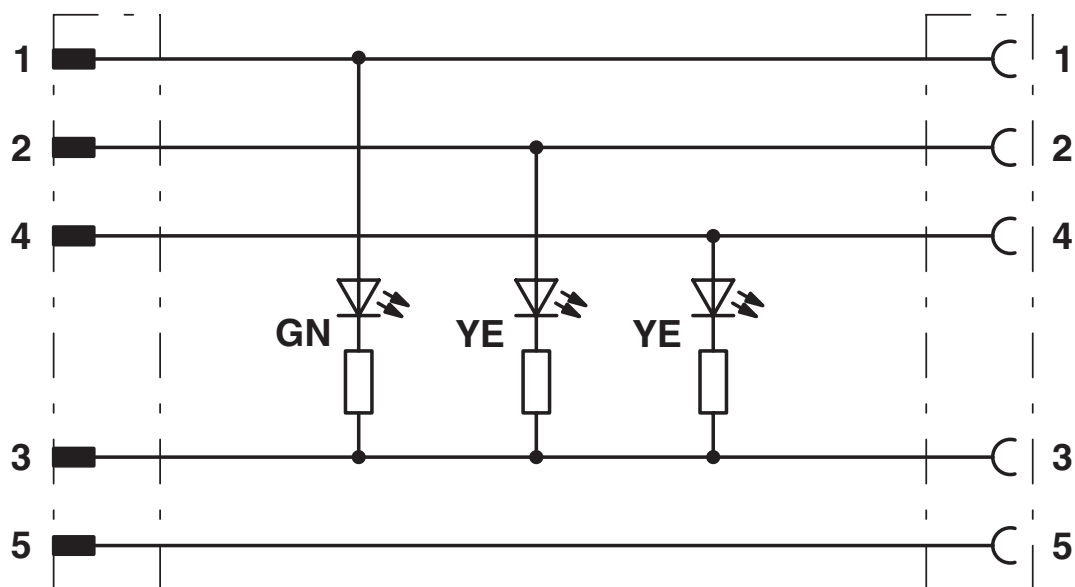
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Circuit diagram



Contact assignment of M12 plugs / sockets with 3 LEDs

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1457319>

keine	 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	-	-

keine	 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	
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Classifications

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	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
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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%
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EF3.0 Climate Change

CO2e kg	1.287 kg CO2e
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