

# SAC-HZ-3P-M12MS/0,5-542/M12FRSH - Sensor/actuator cable



1409513

<https://www.phoenixcontact.com/us/products/1409513>

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Sensor/actuator cable, 3-position, PVC, yellow, shielded, Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: 0.5 m



## Commercial data

Item number	1409513
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF13
Product key	AF11GA
GTIN	4055626017679
Weight per piece (including packing)	22.22 g
Weight per piece (excluding packing)	22.22 g
Customs tariff number	85444290
Country of origin	US

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## Technical data

### Product properties

Product type	Sensor/actuator cable
Application	U.S. cables for hazardous locations
Number of positions	3
No. of cable outlets	1
Shielded	yes
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Material specifications

Material	TPE-U (Locking clip)
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
Outer sheath, material	PVC

### Electrical properties

Insulation resistance	$\geq 100 \text{ M}\Omega$
Nominal voltage $U_N$	250 V AC
	250 V DC
Nominal current $I_N$	4 A

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
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### 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

Type	Plug straight M12
Number of positions	3
Coding type	A


### Connection 2

Type	Socket angled M12
Number of positions	3
Coding type	A

## Cable/line

Cable length	0.5 m
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PVC yellow 105 °C [542]

Dimensional drawing	
Cable weight	40 kg/km
UL AWM Style	2517 (105 °C / 300 V)
Number of positions	3
Shielded	yes
Cable type	PVC yellow 105 °C [542]
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Wire diameter incl. insulation	1.27 mm ±0.03 mm
External cable diameter	5.20 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	yellow
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PVC
Single wire, color	brown, blue, black
Overall twist	3 wires, twisted
Optical shield covering	85 %
Max. conductor resistance	max. 50.5 Ω/km (20 °C)
Insulation resistance	≥ (550 M Ohms/m @ 500V)
Nominal voltage, cable	300 V

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Minimum bending radius, flexible installation	12 x D
Smallest bending radius, movable installation	63 mm
Flame resistance	FT4
Other resistance	UV resistant
Special properties	UL standards PLTC and ITC
Ambient temperature (operation)	-30 °C ... 105 °C (cable, fixed installation)
	-5 °C ... 105 °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) (Locking clip)	-40 °C ... 65 °C (Locking clip)

## Approvals

### Conformity/Approvals

UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D
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## Standards and regulations

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

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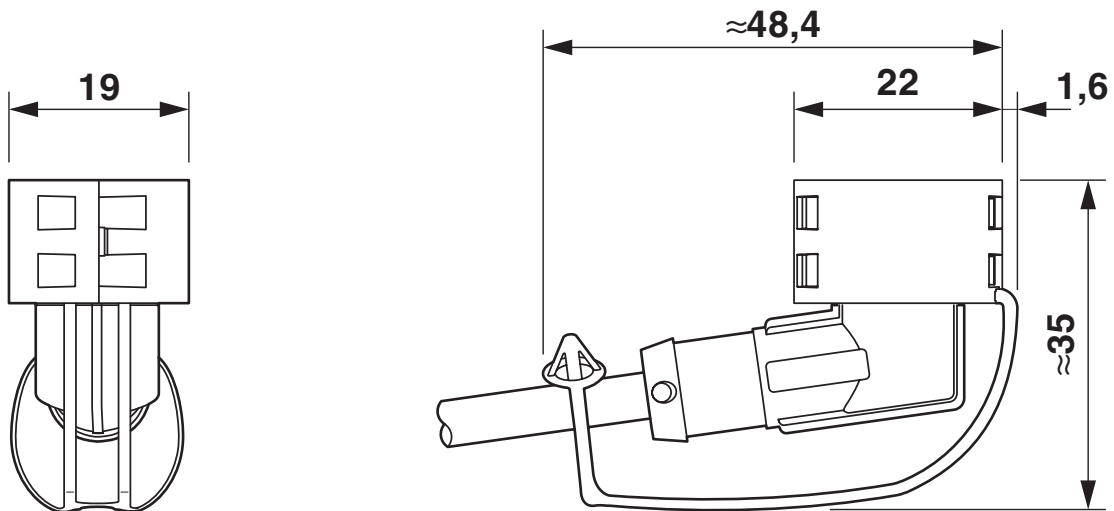
## Drawings

Dimensional drawing



EXCLIP mounted plug

Dimensional drawing



EXCLIP mounted socket

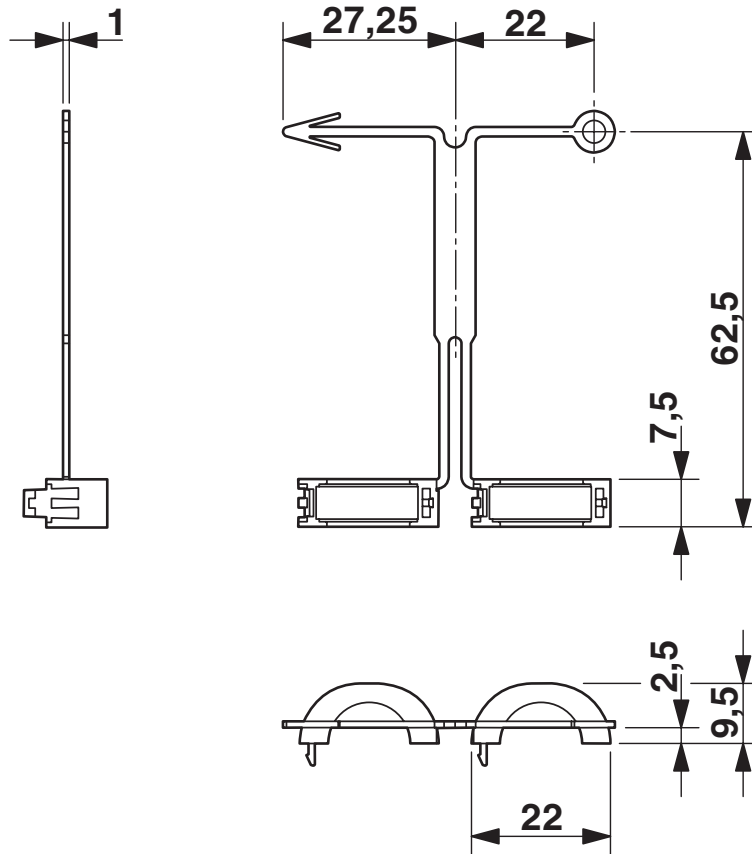
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Dimensional drawing



EXCLIP plug

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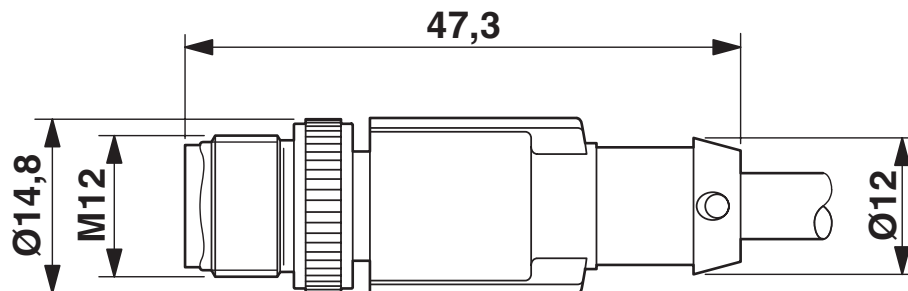
<https://www.phoenixcontact.com/us/products/1409513>

Dimensional drawing



EXCLIP socket

Dimensional drawing



Plug, M12 x 1, straight, shielded

# SAC-HZ-3P-M12MS/0,5-542/M12FRSH - Sensor/actuator cable

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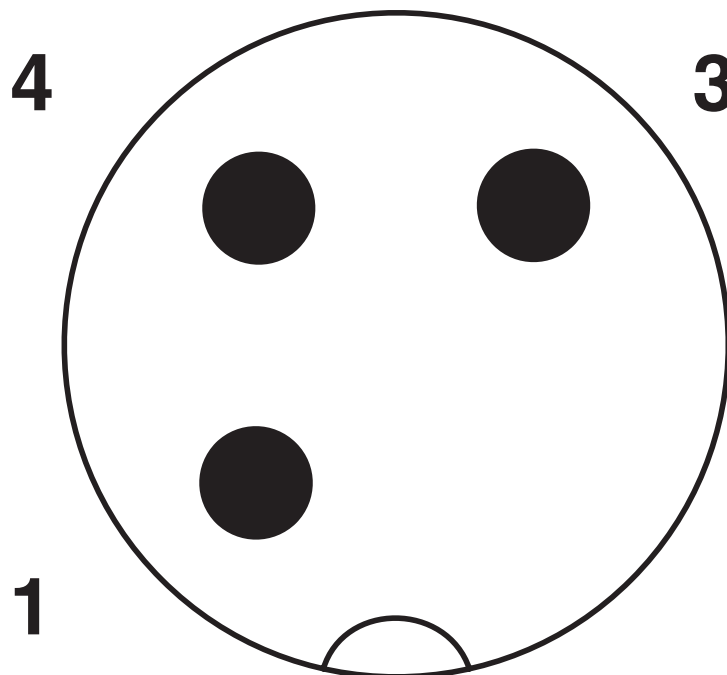
<https://www.phoenixcontact.com/us/products/1409513>

Dimensional drawing



M12 x 1 socket, angled, shielded

Schematic diagram



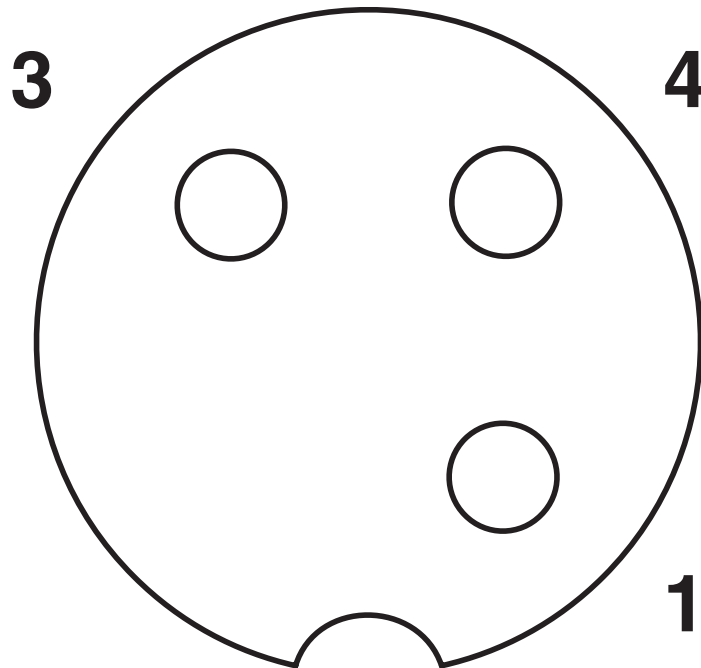
Pin assignment M12 plug, 3-pos., A-coded, view male side

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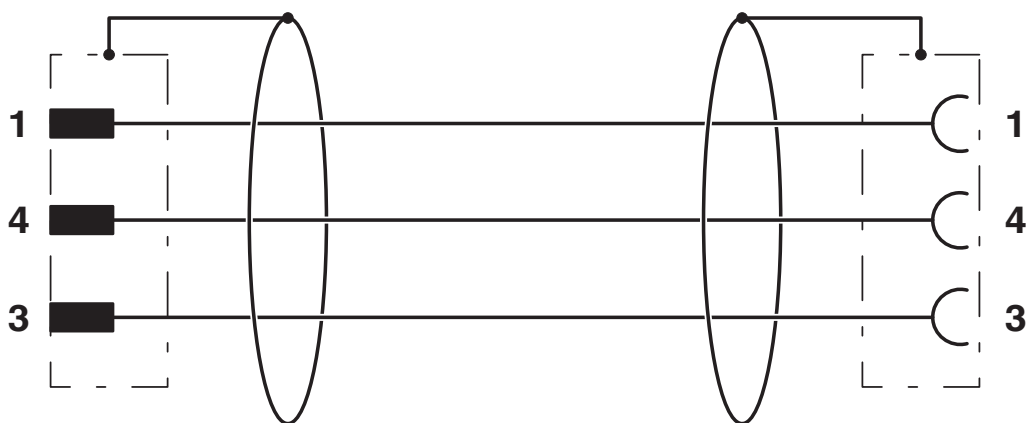
<https://www.phoenixcontact.com/us/products/1409513>

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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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

### 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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