

SAC-3P-M12Y-2XM12FR B/.../...

Order No.: 1697373



Sensor/Actuator cable, 3-position, Plug, straight M12, A-coded, on Socket, angled M12, A-coded, PIN 2+4 bridged and Socket, angled M12, A-coded, PIN 2+4 bridged, Cable length: Free input (0.2 ... 40.0 m)

Commercial data

Note	Made-to-order
Pack	1
Customs tariff	85444290
Catalog page information	Page 100 (PC-2009)

Technical data

General data

Rated current at 40°C	4 A
Rated voltage	250 V
Number of positions	3
Volume resistance	$\leq 5 \text{ m}\Omega$
Insulation resistance	$\geq 100 \text{ M}\Omega$
Length of cable	Free input (0.2 ... 40.0 m)

General characteristics

Standards/regulations	M12 connector IEC 61076-2-101
Coding	A - standard
Surge voltage category	II
Pollution degree	3

Degree of protection	IP65/IP68/IP69K
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
Status display	No

Line characteristics

Note	This item is a sensor/actuator cable with a freely selectable cable type. The technical data for all possible cable types is listed in the table below.
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PUR halogen-free black [PUR]

Cable type	PUR halogen-free black
Cable type (abbreviation)	PUR
Cable abbreviation	Li9Y11Y
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.27 mm ±0.02 mm
Thickness, insulation	≥ 0.21 mm (Core insulation) ≥ 0.76 mm (Outer cable sheath)
External cable diameter	4.40 mm
Wire colors	Brown, blue, black
External sheath, color	Black-gray RAL 7021
Insulation resistance	≥ 100 GΩ*km
Conductor resistance	≤ 58 Ω/m
Nominal voltage, conductor	300 V
Test voltage, conductor	3000 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Cable weight	26 kg/km
Smallest bending radius, movable installation	44 mm

Number of bending cycles	4000000
Bending radius	44 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
Flame resistance	in accordance with DIN UL-Style 20549
Halogen-free	in accordance with DIN VDE 0472 part 815
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

PVC black [PVC]

Cable type	PVC black
Cable type (abbreviation)	PVC
Cable abbreviation	LiYY
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.52 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	Black RAL 9005
Insulation resistance	≥ 100 MΩ*km
Conductor resistance	max. 57.3 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	2500 V
Overall twist	3 wires, twisted
Outer sheath, material	PVC

Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	40 kg/km
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)
Flame resistance	As per UL-Style 2464

PUR/PVC gray [100]

Cable type	PUR/PVC gray
Cable type (abbreviation)	100
Cable abbreviation	LIYY-11Y
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.52 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.38 mm (Outer cable sheath)
	Approx. 0.45 mm (Inner sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	Gray RAL 7001
Insulation resistance	≥ 100 MΩ*km
Conductor resistance	max. 57.3 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	2500 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material, inner sheath	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	37 kg/km
Smallest bending radius, fixed installation	52 mm
Smallest bending radius, movable installation	52 mm
Number of bending cycles	2000000
Bending radius	52 mm
Traversing path	5 m

Traversing rate	3 m/s
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

PUR/PVC orange [110]

Cable type	PUR/PVC orange
Cable type (abbreviation)	110
Cable abbreviation	LiYY-11Y
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.52 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.38 mm (Outer cable sheath)
	Approx. 0.45 mm (Inner sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	orange RAL 2003
Insulation resistance	≥ 100 MΩ*km
Conductor resistance	max. 57.3 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	2500 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material, inner sheath	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	37 kg/km
Smallest bending radius, fixed installation	52 mm
Smallest bending radius, movable installation	52 mm
Number of bending cycles	2000000
Bending radius	52 mm
Traversing path	5 m
Traversing rate	3 m/s
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

PUR/PVC yellow [140]

Cable type	PUR/PVC yellow
Cable type (abbreviation)	140
Cable abbreviation	LiYY-11Y
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.52 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.38 mm (Outer cable sheath)
	Approx. 0.45 mm (Inner sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	Yellow RAL 1021
Insulation resistance	≥ 100 MΩ*km
Conductor resistance	≤ 57.3 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	2500 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material, inner sheath	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	37 kg/km
Smallest bending radius, fixed installation	52 mm
Smallest bending radius, movable installation	52 mm
Number of bending cycles	2000000
Bending radius	52 mm
Traversing path	5 m
Traversing rate	3 m/s
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

PUR irradiated halogen-free orange [150]

Cable type	PUR irradiated halogen-free orange
Cable type (abbreviation)	150

Cable abbreviation	D12YSL11X-OB
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
External cable diameter	4.40 mm
Wire colors	Brown, blue, black
External sheath, color	orange RAL 2003
Conductor resistance	max. 57 Ω/km
Nominal voltage, conductor	250 V
Test voltage, conductor	2000 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material conductor insulation	PE
Conductor material	Bare Cu litz wires
Smallest bending radius, fixed installation	min. 20 mm
Smallest bending radius, movable installation	min. 30 mm
Number of bending cycles	5000000
Bending radius	44 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²
Ambient temperature (operation)	-50 °C ... 105 °C (cable, fixed installation)
	-40 °C ... 105 °C (cable, flexible installation)

PUR halogen-free orange [180]

Cable type	PUR halogen-free orange
Cable type (abbreviation)	180
Cable abbreviation	Li31Y-11Y
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.55 mm ±0.05 mm
Thickness, insulation	0.39 mm (Core insulation)
	0.95 mm (Outer cable sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black

External sheath, color	orange RAL 2003
Conductor resistance	$\leq 57.5 \Omega/\text{km}$
Test voltage, conductor	2500 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material conductor insulation	TPE
Conductor material	Bare Cu litz wires
Cable weight	33 kg/km
Smallest bending radius, fixed installation	52 mm
Smallest bending radius, movable installation	78 mm
Number of bending cycles	4000000
Bending radius	78 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s ²
Ambient temperature (operation)	-25 °C ... 105 °C (cable, fixed installation)
	-5 °C ... 105 °C (cable, flexible installation)

PUR halogen-free gray [280]

Cable type	PUR halogen-free gray
Cable type (abbreviation)	280
Cable abbreviation	Li9Y11Y
UL AWM Style	20549
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.27 mm $\pm$ 0.02 mm
Thickness, insulation	0.21 mm (Core insulation)
	0.8 mm (Outer cable sheath)
External cable diameter	4.40 mm
Wire colors	Brown, blue, black
External sheath, color	Gray RAL 7001
Conductor resistance	$\leq 58 \Omega/\text{km}$ (at 20 °C)
Nominal voltage, conductor	$\leq 300 \text{ V}$
Test voltage, conductor	$\geq 3000 \text{ V}$
Overall twist	3 wires, twisted

Outer sheath, material	PUR
Material conductor insulation	TPE
Conductor material	Bare Cu litz wires
Cable weight	26 kg/km
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
Halogen-free	in accordance with DIN VDE 0472 part 815

PVC gray [500]

Cable type	PVC gray
Cable type (abbreviation)	500
Cable abbreviation	LIYY
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.45 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	Gray RAL 7001
Insulation resistance	≥ 1 GΩ*km
Conductor resistance	≤ 58 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	3000 V
Overall twist	3 wires, twisted
Outer sheath, material	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	40 kg/km
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)
Flame resistance	As per UL-Style 2464

PVC yellow [540]

Cable type	PVC yellow
Cable type (abbreviation)	540

Cable abbreviation	LiYY
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.45 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	Yellow RAL 1021
Insulation resistance	≥ 1 GΩ*km
Conductor resistance	≤ 58 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	3000 V
Overall twist	3 wires, twisted
Outer sheath, material	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	40 kg/km
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

PVC yellow 105 °C [542]

Cable type	PVC yellow 105 °C
Cable type (abbreviation)	542
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.55 mm ±0.05 mm
Thickness, insulation	≥ 0.38 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)
External cable diameter	5.20 mm
Wire colors	Brown, blue, black
External sheath, color	Yellow RAL 1021
Insulation resistance	≥ 100 MΩ*km
Conductor resistance	≤ 58 Ω/km

Nominal voltage, conductor	300 V
Test voltage, conductor	4000 V
Overall twist	3 wires, twisted
Outer sheath, material	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Cable weight	38 kg/km

PUR halogen-free, highly flexible, resistant to welding beads, gray [800]

Cable type	PUR halogen-free, highly flexible, resistant to welding beads, gray
Cable type (abbreviation)	800
Cable abbreviation	Li12Y11Y-HF
Conductor cross section	0.34 mm ²
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.3 mm ±0.05 mm
External cable diameter	4.50 mm
Wire colors	Brown, blue, black
External sheath, color	Gray RAL 7001
Insulation resistance	≥ 20 MΩ*km
Conductor resistance	≤ 53 Ω/km
Nominal voltage, conductor	300 V
Test voltage, conductor	1200 V
Overall twist	3 wires, twisted
Outer sheath, material	PUR
Material conductor insulation	PES
Conductor material	Bare Cu litz wires
Smallest bending radius, fixed installation	23 mm
Smallest bending radius, movable installation	50 mm
Number of bending cycles	15000000
Bending radius	50 mm
Traversing path	0.9 m
Traversing rate	5 m/s
Acceleration	30 m/s ²
Torsion force	± 360 °/m

Ambient temperature (operation)	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 90 °C (cable, flexible installation)
Special properties	Sheath resistant to welding beads, can be recycled, matt, without adhesion, wear-resistant, flame resistant and self-extinguishing
	Free from silicone and cadmium
	Free of substances which would hinder coating with paint or varnish
Flame resistance	DIN VDE 0472 part 804, test type B
	IEC 60332-1
	In accordance with UL FT-2
Halogen-free	The cable is halogen-free
Resistance to oil	As per VDE 0472 Part 803
Other resistance	Highly resistant to acids, alkaline solutions and solvents

Certificates



Certification

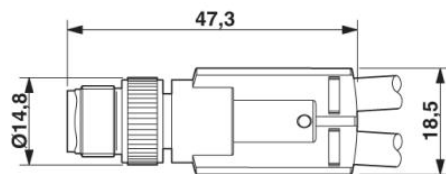
CUL Listed, UL Listed

Configuration options

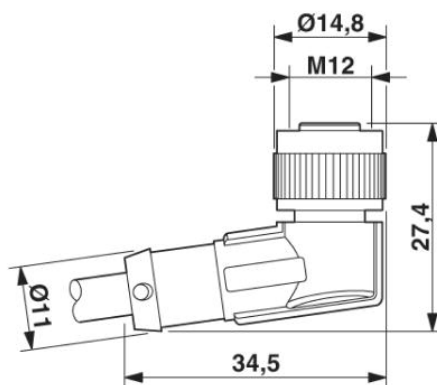
Cable type	PUR halogen-free black [PUR] PVC black [PVC] PUR/PVC gray [100] PUR/PVC orange [110] PUR/PVC yellow [140] PUR irradi. halogen-free orange [150] PUR halogen-free orange [180] PUR halogen-free gray [280] PVC gray [500] PVC yellow [540] PVC yellow 105 °C [542] PUR highflex gray [800]
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Drawings

Dimensioned drawing

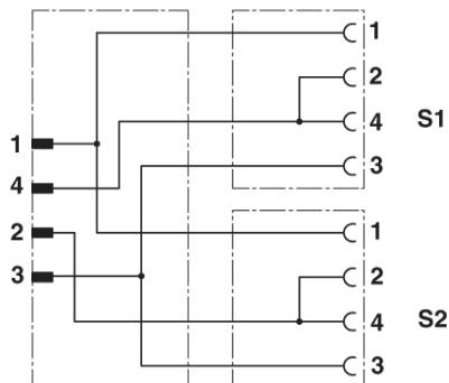


Plug M12 x 1, Y distributor



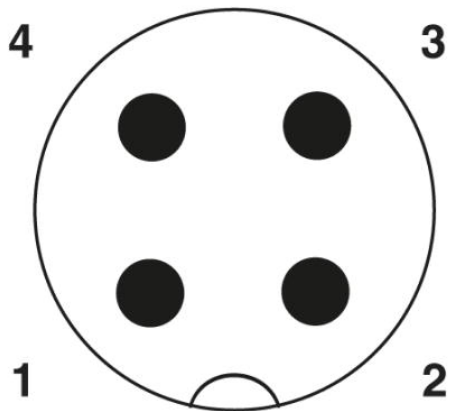
M12 x 1 female connector, angled

Circuit diagram

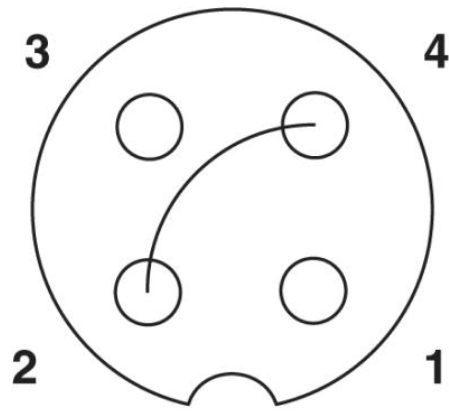


Contact assignment of the M12 plug and the M12 socket

Schematic diagram



Pin assignment M12 Y plug, 4-pos., A-coded, view plug side



Pin assignment M12 socket, 3-pos., PIN 2+4 bridged, A-coded, view female side