

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

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Sensor/actuator cable, 5-position, Variable cable type, free cable end, on Socket angled M12, A-coded, cable length: Free input (0.2 ... 40.0 m)

### Why buy this product

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Flexible solutions - configurable materials with variable cable types and cable lengths

### Key Commercial Data

Packing unit	1 STK
Minimum order quantity	25 STK

### Technical data

#### Dimensions

Length of cable	Free input (0.2 ... 40.0 m)
Stripping length of the free conductor end	50 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
Degree of protection	IP65
	IP67
	IP68

#### General

Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	5
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No

# Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

## Technical data

### General

Protective circuit/component	Unwired
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

### Material

Flammability rating according to UL 94	HB
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

### 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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### Standards and Regulations

Standard designation	M12 connector
Standards/regulations	IEC 61076-2-101
Flammability rating according to UL 94	HB

### PUR/PVC gray [100]

Cable type	PUR/PVC gray
Cable type (abbreviation)	100
Cable abbreviation	LiYY-11Y
Conductor cross section	0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.5 mm ±0.05 mm
Thickness, insulation	≥ 0.3 mm (Core insulation)
	≥ 0.38 mm (Outer cable sheath)
	approx. 0.35 mm (Inner sheath)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	gray RAL 7001
External cable diameter D	5.9 mm ±0.2 mm
Smallest bending radius, fixed installation	29.5 mm
Smallest bending radius, movable installation	59 mm
Number of bending cycles	2000000
Bending radius	59 mm

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PUR/PVC gray [100]

Traversing path	5 m
Traversing rate	3 m/s
Cable weight	50 kg/km
Outer sheath, material	PUR
Material, inner sheath	PVC
Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 100 MΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	As per UL-Style 2464
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

#### PUR, black, 5th conductor gray [115]

Cable type	PUR, black, 5th conductor gray
Cable type (abbreviation)	115
Cable abbreviation	Li9Y11Y-HF
UL AWM style	20549 / 10493 (80°C/300 V)
Conductor cross section	5x 0.34 mm <sup>2</sup>
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
Wire colors	Brown, white, blue, black, gray
Overall twist	5 cores, twisted
External sheath, color	black-gray RAL 7021
Outer sheath thickness	approx. 0.7 mm
External cable diameter D	5 mm ±0.15 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	4000000
Bending radius	50 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s <sup>2</sup>
Cable weight	35 kg/km
Outer sheath, material	PUR
Material, filler	PP

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

PUR, black, 5th conductor gray [115]

Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Conductor resistance	≤ 58 Ω/km
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
	flexible
Flame resistance	in accordance with DIN UL-Style 20549
	in accordance with UL 758/1581 FT2
Halogen-free	in accordance with DIN VDE 0472 part 815
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
	hydrolysis and microbe resistant
	Resistant to salt water
	Low adhesion
	abrasion-resistant
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

PUR/PVC yellow [140]

Cable type	PUR/PVC yellow
Cable type (abbreviation)	140
Cable abbreviation	LiY-11Y
UL AWM style	20549
Conductor cross section	0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.5 mm ±0.05 mm
Thickness, insulation	approx. 0.3 mm (Core insulation)
	approx. 0.35 mm (Inner sheath)
	≥ 0.38 mm (Outer cable sheath)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	yellow
External cable diameter D	5.9 mm ±0.2 mm
Number of bending cycles	2000000
Bending radius	59 mm
Traversing path	5 m
Traversing rate	3 m/s

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PUR/PVC yellow [140]

Cable weight	50 kg/km
Outer sheath, material	PUR
Material, inner sheath	PVC
Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	in accordance with DIN UL-Style 20549

#### PUR irradiated halogen-free orange [150]

Cable type	PUR irradiated halogen-free orange
Cable type (abbreviation)	150
Cable abbreviation	D12YSL11X-JB
Conductor cross section	4x 0.34 mm <sup>2</sup> (Signal line)
	1x 0.5 mm <sup>2</sup> (PE connection)
AWG signal line	22
AWG power supply	20
Conductor structure signal line	42x 0.10 mm
Conductor structure, voltage supply	24x 0.15 mm
Wire colors	Brown, blue, black, white, green/yellow
Overall twist	5 cores, twisted
External sheath, color	orange RAL 2003
External cable diameter D	5.2 mm ±0.2 mm
Smallest bending radius, fixed installation	min. 20 mm
Smallest bending radius, movable installation	min. 30 mm
Number of bending cycles	5000000
Bending radius	52 mm
Traversing path	10 m
Traversing rate	3 m/s
Outer sheath, material	PUR
Material conductor insulation	PE
Conductor material	Bare Cu litz wires
Conductor resistance	≤ 57.5 Ω/km (with 0.34 mm <sup>2</sup> conductor cross section)
	≤ 39 Ω/km (with 0.5 mm <sup>2</sup> conductor cross section)
Nominal voltage, cable	250 V (AC)
Test voltage, cable	2000 V (50 Hz, 5 minutes)
Special properties	Silicone-free
	Irradiated

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PUR irradiated halogen-free orange [150]

Flame resistance	DIN VDE 0472 part 804, test type B
Halogen-free	The cable is halogen-free
Other resistance	hydrolysis and microbe resistant
	UV resistant
	Resistant to welding splashes
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	Li9YLi9Y-11Y
UL AWM style	20549
Conductor cross section	4x 0.34 mm <sup>2</sup> (Signal line)
	1x 0.5 mm <sup>2</sup> (PE connection)
AWG signal line	22
AWG power supply	20
Conductor structure signal line	42x 0.10 mm
Conductor structure, voltage supply	28x 0.15 mm
Core diameter including insulation	1.27 mm ±0.02 mm (Signal line)
	1.46 mm ±0.02 mm (PE connection)
Thickness, insulation	≥ 0.21 mm (Signal line)
	≥ 0.21 mm (PE connection)
	approx. 0.65 mm (Outer cable sheath)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	orange RAL 2003
External cable diameter D	5 mm ±0.15 mm
Cable weight	36 kg/km
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 10 GΩ*km (at 20 °C)
Conductor resistance	≤ 58 Ω/km (Signal line)
	≤ 39 Ω/km (PE connection)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	in accordance with DIN UL-Style 20549
Halogen-free	in accordance with DIN VDE 0472 part 815
Ambient temperature (operation)	-25 °C ... 80 °C (Cable)

#### PUR POWER 0.75 mm<sup>2</sup> black [186]

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PUR POWER 0.75 mm<sup>2</sup> black [186]

Cable type	PUR POWER 0.75 mm <sup>2</sup> black
Cable type (abbreviation)	186
Cable abbreviation	LiY11Y
Conductor cross section	5x 0.75 mm <sup>2</sup> (power line)
AWG signal line	18
Conductor structure signal line	42x 0.15 mm
Core diameter including insulation	1.7 mm ±0.05 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.76 mm (Outer cable sheath)
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
External sheath, color	black-gray RAL 7021
External cable diameter D	6.3 mm ±0.2 mm
Smallest bending radius, movable installation	63 mm
Number of bending cycles	2000000
Bending radius	63 mm
Traversing path	5 m
Traversing rate	3 m/s
Acceleration	5 m/s <sup>2</sup>
Cable weight	67 kg/km
Outer sheath, material	PUR
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 1 MΩ*km (at 20 °C)
Conductor resistance	max. 26 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	in accordance with DIN UL-Style 20549
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

#### PUR halogen-free gray [280]

Cable type	PUR halogen-free gray
Cable type (abbreviation)	280
Conductor cross section	0.34 mm <sup>2</sup>
AWG signal line	22
AWG power supply	20
Conductor structure signal line	42x 0.10 mm
Conductor structure, voltage supply	28x 0.15 mm
Core diameter including insulation	1.55 mm (Signal line)
	1.65 mm (Protective conductor)

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PUR halogen-free gray [280]

Thickness, insulation	0.39 mm (Signal line)
	0.37 mm (Protective conductor)
	0.65 mm (Outer cable sheath)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	gray RAL 7001
External cable diameter	5.20 mm
Outer sheath, material	PUR
Material, filler	Fiberglass
Material conductor insulation	TPE
Conductor material	Bare Cu litz wires
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

#### PVC gray [500]

Cable type	PVC gray
Cable type (abbreviation)	500
Cable abbreviation	LiYY
Conductor cross section	0.34 mm <sup>2</sup>
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)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	gray RAL 7001
External cable diameter D	5.9 mm ±0.15 mm
Cable weight	51 kg/km
Outer sheath, material	PVC
Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V (AC)
Test voltage, cable	≥ 3000 V (AC)
Flame resistance	As per UL-Style 2464
	according to UL 758/1581 FT1
Resistance to oil	in accordance with DIN EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)



## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PVC gray [500]

	-25 °C ... 80 °C (cable, flexible installation)
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#### PVC black [515]

Cable type	PVC black 5th conductor gray
Cable type (abbreviation)	515
Cable abbreviation	LiYY
UL AWM style	2464 / 1729 (80°C/300 V)
Conductor cross section	5x 0.34 mm <sup>2</sup> (Signal line)
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)
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
Length of twist, overall twist	60 mm
External sheath, color	black RAL 9005
External cable diameter D	5.9 mm ±0.15 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Cable weight	52 kg/km
Outer sheath, material	PVC
Material, filler	PP yarn
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 100 MΩ*km (at 20 °C)
Conductor resistance	≤ 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V AC
Test voltage, cable	≥ 3000 V AC
Flame resistance	According to UL 758/1581 (Cable Flame)
	according to UL 758/1581 FT1
	According to DIN EN 60332-1-2 (60 s)
Resistance to oil	according to DIN EN 60811-2-1, 168 h at 60 °C
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

#### PVC gray [520]

Cable type	PVC gray
Cable type (abbreviation)	520
Cable abbreviation	LiYY
Conductor cross section	0.34 mm <sup>2</sup>
AWG signal line	22

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PVC gray [520]

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)
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
Length of twist, overall twist	55 mm
External sheath, color	gray RAL 7001
External cable diameter D	5.9 mm ±0.15 mm
Cable weight	54 kg/km
Outer sheath, material	PVC
Material, filler	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	As per UL-Style 2464
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-5 °C ... 80 °C (cable, flexible installation)

#### PVC yellow [540]

Cable type	PVC yellow
Cable type (abbreviation)	540
Cable abbreviation	LiFYY
Conductor cross section	0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	43x 0.10 mm
Core diameter including insulation	1.45 mm ±0.02 mm
Thickness, insulation	approx. 0.23 mm (Core insulation)
	approx. 0.76 mm (Outer cable sheath)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
Length of twist, overall twist	70 mm
External sheath, color	yellow
External cable diameter D	5.9 mm ±0.15 mm
Smallest bending radius, fixed installation	29.5 mm
Smallest bending radius, movable installation	59 mm
Outer sheath, material	PVC
Material, filler	PVC

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

#### PVC yellow [540]

Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	$\geq 1 \text{ M}\Omega \cdot \text{km}$ (at 20 °C)
Conductor resistance	max. 58 $\Omega/\text{km}$ (at 20 °C)
Nominal voltage, cable	$\leq 300 \text{ V}$ (AC)
Test voltage, cable	3000 V
Flame resistance	As per UL-Style 2464
	according to UL 758/1581 FT1
Resistance to oil	in accordance with DIN EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °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 <sup>2</sup>
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.55 mm $\pm$ 0.05 mm
Thickness, insulation	$\geq 0.38 \text{ mm}$ (Core insulation)
	$\geq 0.76 \text{ mm}$ (Outer cable sheath)
Wire colors	Brown, white, blue, black, gray
Overall twist	5 wires around filler to the core
External sheath, color	yellow
External cable diameter D	5.9 mm $\pm$ 0.2 mm
Cable weight	50 kg/km
Outer sheath, material	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	$\geq 100 \text{ M}\Omega \cdot \text{km}$ (at 20 °C)
Conductor resistance	max. 58 $\Omega/\text{km}$ (at 20 °C)
Nominal voltage, cable	$\leq 300 \text{ V}$
Test voltage, cable	$\geq 3000 \text{ V}$
Flame resistance	in accordance with UL-Style 2517

#### Gray, highly flexible PUR [800]

Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable type	Gray, highly flexible PUR
Cable type (abbreviation)	800
Cable abbreviation	Li12YYTPE-HF
UL AWM style	20233

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

Gray, highly flexible PUR [800]

Conductor cross section	5x 0.34 mm <sup>2</sup> (Signal line)
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.3 mm ±0.05 mm (Signal line)
Wire colors	Black, brown, blue, white, gray
Overall twist	5 wires around filler to the core
External sheath, color	gray RAL 7001
External cable diameter D	5.1 mm ±0.2 mm
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	7.5 x D
Number of bending cycles	10000000
Minimum bending radius, drag chain applications	7,5 x D
Traversing path	5 m
Traversing rate	3.3 m/s
Acceleration	5 m/s <sup>2</sup>
Number of bending cycles	15000000
Bending radius	50 mm
Traversing path	0.9 m
Traversing rate	5 m/s
Acceleration	30 m/s <sup>2</sup>
Torsion force	± 360 °/m (1 000 000 torsion cycles)
Cable weight	38 kg/km
Outer sheath, material	PUR
Material, filler	PE
Material conductor insulation	PES
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 20 MΩ*km
Conductor resistance	approx. 53 Ω/km
Nominal voltage, cable	300 V
Test voltage, cable	2000 V
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
Flame resistance	according to IEC 60332-1-2
	according to UL 758/1581 VW-1
	according to UL 758/1581 FT1
Halogen-free	in accordance with DIN VDE 0472 part 815
Resistance to oil	According to HD 22.10
	in accordance with DIN EN 60811-404 (external sheath)
Other resistance	Highly resistant to acids, alkaline solutions and solvents

## Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

### Technical data

Gray, highly flexible PUR [800]

	Silicone-free
Ambient temperature (operation)	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 90 °C (cable, flexible installation)
	to 120 °C (for 3000 h)

PUR halogen-free black [PUR]

Cable type	PUR halogen-free black
Cable type (abbreviation)	PUR
UL AWM style	20549
Conductor cross section	5x 0.34 mm <sup>2</sup> (Signal line)
AWG signal line	22
Conductor structure signal line	42x 0.10 mm
Core diameter including insulation	1.27 mm ±0.02 mm (Signal line)
Thickness, insulation	approx. 0.5 mm
Wire colors	brown, white, blue, black, green-yellow
External sheath, color	black-gray RAL 7021
External cable diameter D	4.55 mm ±0.15 mm
Smallest bending radius, fixed installation	23 mm
Smallest bending radius, movable installation	46 mm
Number of bending cycles	10000000
Bending radius	50 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s <sup>2</sup>
Cable weight	33 kg/km
Outer sheath, material	PUR
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 16 GΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	300 V
Test voltage, cable	3000 V
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
	flexible
Flame resistance	in accordance with UL 758/1581 FT2
	DIN EN 60332-2-2 (20 s)
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

# Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

## Technical data

### PUR halogen-free black [PUR]

	hydrolysis and microbe resistant
	Resistant to salt water
	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

### PVC black [PVC]

Cable type	PVC black
Cable type (abbreviation)	PVC
Cable abbreviation	LiYY
UL AWM style	2464 / 1729 (80°C/300 V)
Conductor cross section	5x 0.34 mm <sup>2</sup> (Signal line)
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)
Wire colors	brown, white, blue, black, green-yellow
Overall twist	5 wires around filler to the core
External sheath, color	black RAL 9005
Outer sheath thickness	≥ 0.76 mm
External cable diameter D	5.9 mm ±0.15 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Cable weight	51 kg/km
Outer sheath, material	PVC
Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 200 MΩ*km (at 20 °C)
Conductor resistance	max. 58 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V
Test voltage, cable	≥ 3000 V
Flame resistance	As per UL-Style 2464
	according to UL 758/1581 FT1
Resistance to oil	According to DIN EN 60811-2-1, 168 h at 90°C
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

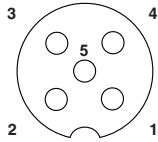
### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

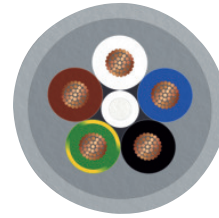
# Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

Schematic diagram



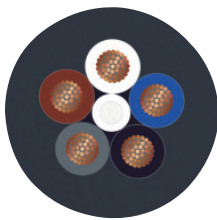
Pin assignment M12 socket, 5-pos., A-coded, socket side view

Cable cross section



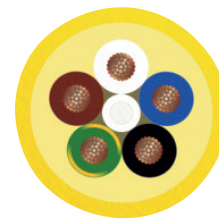
PUR/PVC gray [100]

Cable cross section



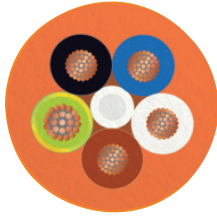
PUR, black, 5th conductor gray [115]

Cable cross section



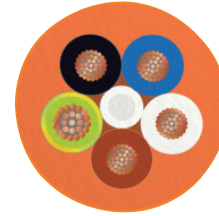
PUR/PVC yellow [140]

Cable cross section



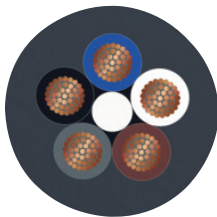
PUR irradiated halogen-free orange [150]

Cable cross section



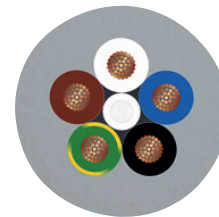
PUR halogen-free orange [180]

Cable cross section



PUR POWER 0.75 mm² black [186]

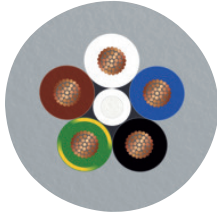
Cable cross section



PUR halogen-free gray [280]

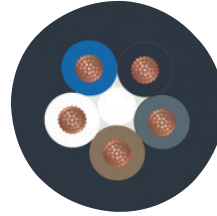
# Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

Cable cross section



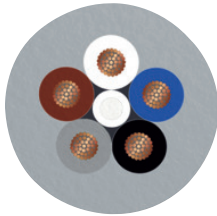
PVC gray [500]

Cable cross section



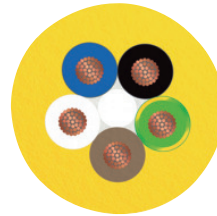
PVC black [515]

Cable cross section



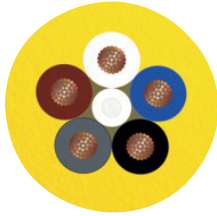
PVC gray [520]

Cable cross section



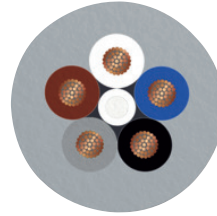
PVC yellow [540]

Cable cross section



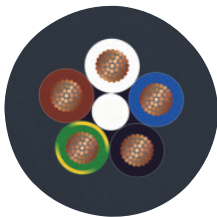
PVC yellow 105 °C [542]

Cable cross section



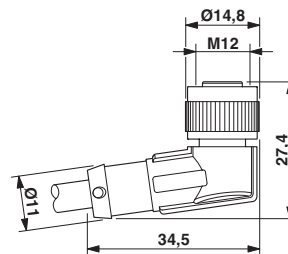
Gray, highly flexible PUR [800]

Cable cross section



PVC black [PVC]

Dimensional drawing



M12 x 1 socket, angled



# Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

Circuit diagram



Contact assignment of M12 socket, with exception of conductor types 115, 186, 515, 520, and 800. Here, the fifth wire is gray and not green/yellow.

## Approvals

### Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 221474
Nominal voltage UN		125 V	
Nominal current IN		4 A	

cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 221474
Nominal voltage UN		125 V	
Nominal current IN		4 A	

EAC		EAC-Zulassung
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cULus Listed	
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