Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

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Sensor/actuator cable, 8-position, Variable cable type, Plug angled M12, coding: A, on free cable end, cable length: Free input (0.2 ... 40.0 m)

Your advantages

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

RoHS

Key Commercial Data

Packing unit	1 pc
Minimum order quantity	25 pc
Weight per Piece (excluding packing)	1.000 g
Custom tariff number	85444290
Country of origin	Poland

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	2 A

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Technical data

General

Rated voltage	30 V AC
	30 V DC
Number of positions	8
Insulation resistance	≥ 100 MΩ
Coding	A - standard
Standards/regulations	M12 connector IEC 61076-2-101
Status display	No
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	CuZn
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

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.

Standards and Regulations

Standards/specifications	M12 connector 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	0.25 mm²
AWG signal line	24
Conductor structure signal line	32x 0.10 mm
Core diameter including insulation	1.2 mm ±0.05 mm
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.38 mm (Outer cable sheath)
Wire colors	Brown, white, green, yellow, gray, pink, blue, red

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Technical data

PUR/PVC gray [100]

Overall twist	8 wires around filler to the core
External sheath, color	gray RAL 7001
External cable diameter	5.90 mm
Smallest bending radius, fixed installation	59 mm
Smallest bending radius, movable installation	59 mm
Number of bending cycles	2000000
Bending radius	59 mm
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
Conductor resistance	≤ 78 Ω/km
Nominal voltage, cable	300 V
Test voltage, cable	3000 V

PVC gray [500]

Cable type	PVC gray
Cable type (abbreviation)	500
UL AWM style	2464 / 1729 (80°C/300 V)
Conductor cross section	8x 0.25 mm²
AWG signal line	24
Conductor structure signal line	32x 0.10 mm
Core diameter including insulation	1.19 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm
Wire colors	white, brown, green, yellow, gray, pink, blue, red
Overall twist	8 wires around filler to the core
External sheath, color	gray RAL 7001
Outer sheath thickness	≥ 0.76 mm
External cable diameter D	5.9 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Cable weight	54 kg/km
Outer sheath, material	PVC

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Technical data

PVC gray [500]

Material conductor insulation	PVC
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 200 MΩ*km (at 20 °C)
Conductor resistance	78 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
Resistance to oil	According to DIN EN 60811-2-1, 168 h at 80°C
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

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	LiF9Y11Y
UL AWM style	20549
Conductor cross section	8x 0.25 mm² (Signal line)
AWG signal line	24
Conductor structure signal line	32x 0.10 mm
Core diameter including insulation	1.2 mm ±0.05 mm (Signal line)
Wire colors	white, brown, green, yellow, gray, pink, blue, red
Overall twist	8 wires around filler to the core
External sheath, color	gray RAL 7001
External cable diameter D	6 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	5 x D
Number of bending cycles	15000000
Bending radius	50 mm
Traversing path	0.9 m
Traversing rate	5 m/s
Acceleration	30 m/s²
Torsion force	± 360 °/m
Cable weight	49.1 kg/km
Outer sheath, material	PUR
Material, filler	PE

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Technical data

Gray, highly flexible PUR [800]

Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 20 MΩ*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	in accordance with UL 758/1581 FT2
Halogen-free	The cable is halogen-free
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	Highly resistant to acids, alkaline solutions and solvents
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

PUR halogen-free black [PUR]

Cable type	PUR halogen-free black
Cable type (abbreviation)	PUR
Cable abbreviation	Li9Y11Y
UL AWM style	20549 / 10493 (80°C/300 V)
Conductor cross section	8x 0.25 mm²
AWG signal line	24
Conductor structure signal line	32x 0.10 mm
Core diameter including insulation	1.17 mm ±0.02 mm
Thickness, insulation	≥ 0.21 mm
Wire colors	white, brown, green, yellow, gray, pink, blue, red
Overall twist	8 wires around filler to the core
External sheath, color	black-gray RAL 7021
Outer sheath thickness	approx. 0.8 mm
External cable diameter D	5.9 mm ±0.15 mm
Minimum bending radius, fixed installation	8 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	4000000
Bending radius	59 mm
Traversing path	10 m
Traversing rate	3 m/s
Acceleration	10 m/s²

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Technical data

PUR halogen-free black [PUR]

Cable weight	46 kg/km
Outer sheath, material	PUR
Material, filler	PE
Material conductor insulation	PP
Conductor material	Bare Cu litz wires
Conductor resistance	≤ 78 Ω/km
Cable capacity	≤ 70 pF/m
Wave impedance	100 Ω +15 % (with 1 MHz)
Conductor inductance	approx. 0.6 mH/km (with 1 MHz)
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
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
	partly UV-resistant in accordance with DIN EN ISO 4892-2-A
	Low adhesion
	abrasion-resistant
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	8x 0.25 mm² (Signal line)
AWG signal line	24
Conductor structure signal line	32x 0.10 mm
Core diameter including insulation	1.19 mm ±0.02 mm
Thickness, insulation	≥ 0.23 mm
Wire colors	white, brown, green, yellow, gray, pink, blue, red
Overall twist	8 wires around filler to the core

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Technical data

PVC black [PVC]

External sheath, color	black RAL 9005
Outer sheath thickness	≥ 0.76 mm
External cable diameter D	5.9 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Minimum bending radius, drag chain applications	15 x D
Cable weight	54 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	78 Ω/km (at 20 °C)
Nominal voltage, cable	≤ 300 V AC
Test voltage, cable	≥ 3000 V AC (Spark test)
Special properties	flexible
Flame resistance	According to UL 758/1581 (Cable Flame)
	according to UL 758/1581 FT1
Resistance to oil	According to DIN EN 60811-2-1, 168 h at 80°C
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (cable, flexible installation)

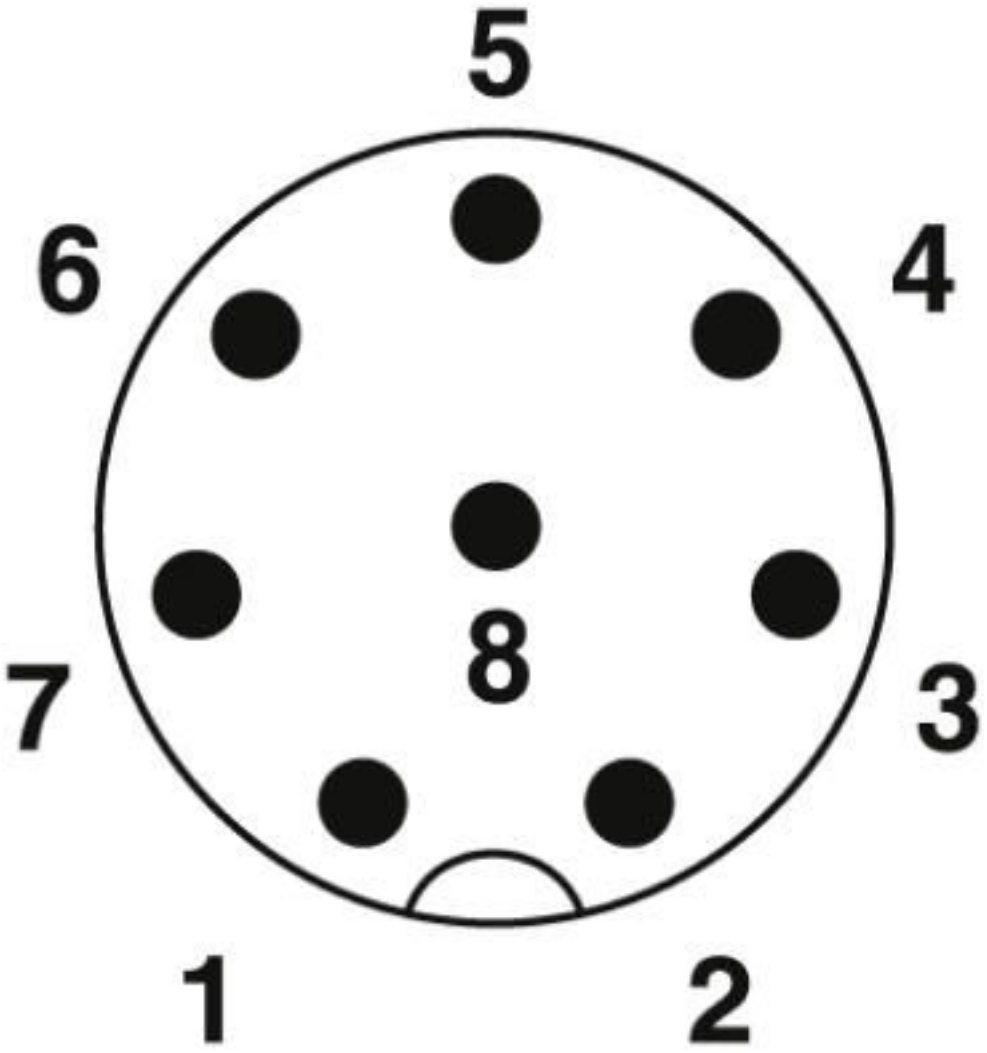
Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Schematic diagram



Pin assignment M12 plug, 8-pos., view plug side

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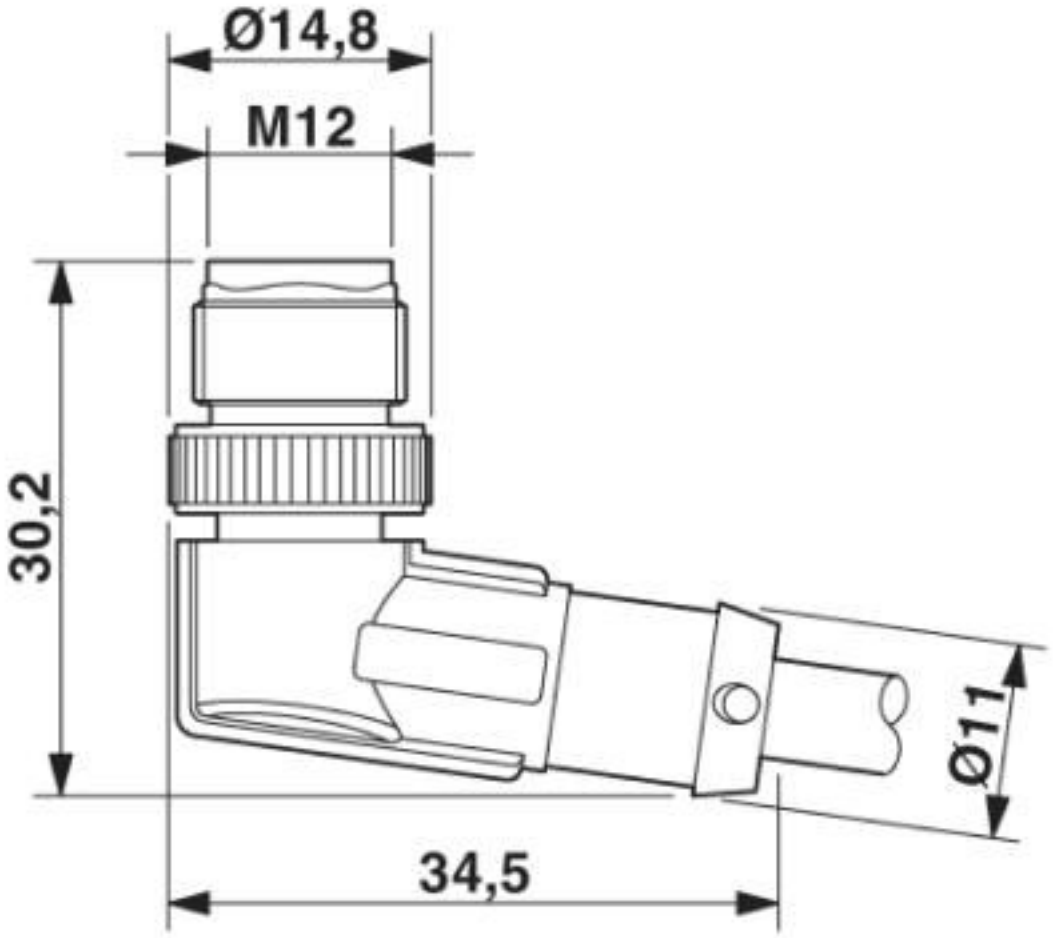
Dimensional drawing



M12 x 1 male plug, angled

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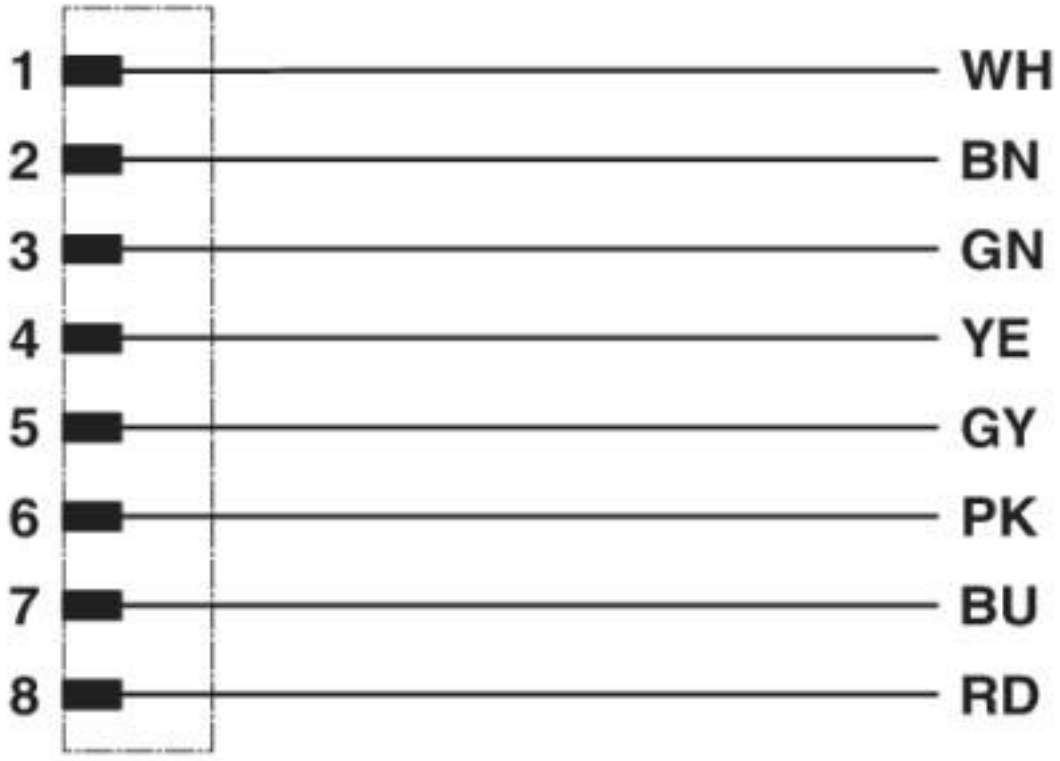
Circuit diagram



Contact assignment of the M12 plug

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Cable cross section

PUR/PVC gray [100]

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Cable cross section

PVC gray [500]

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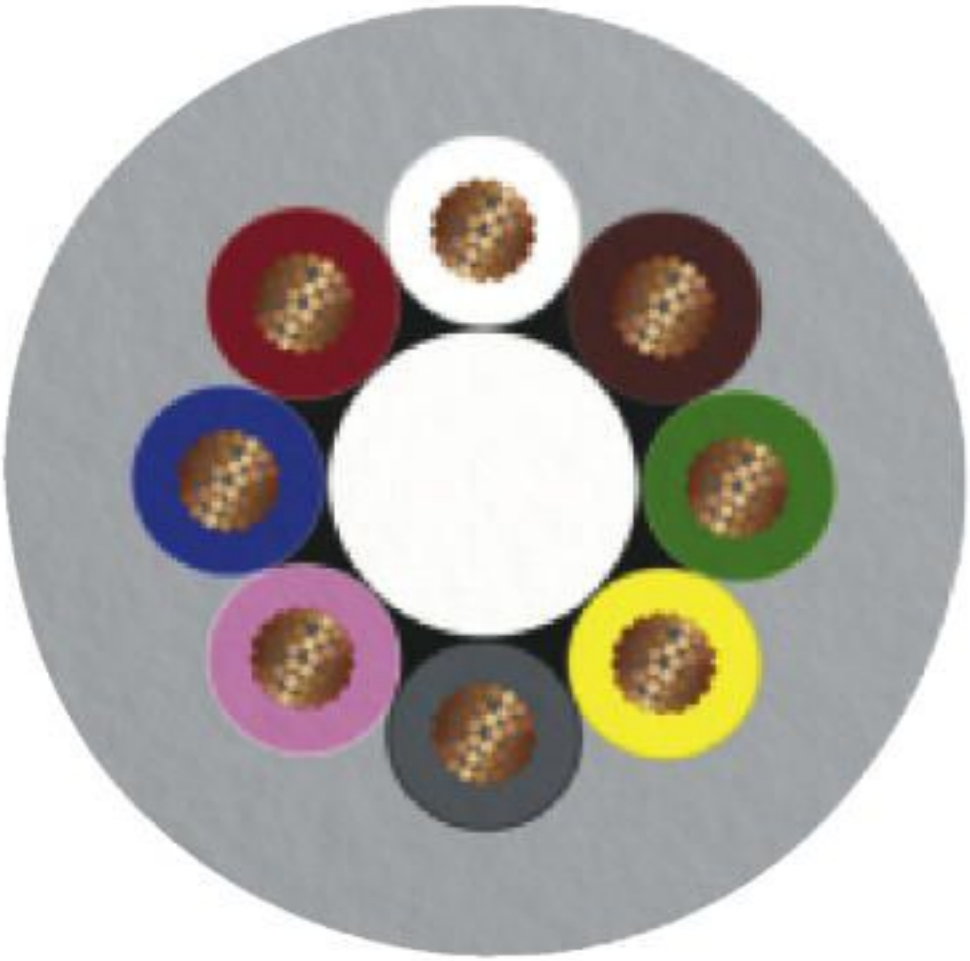
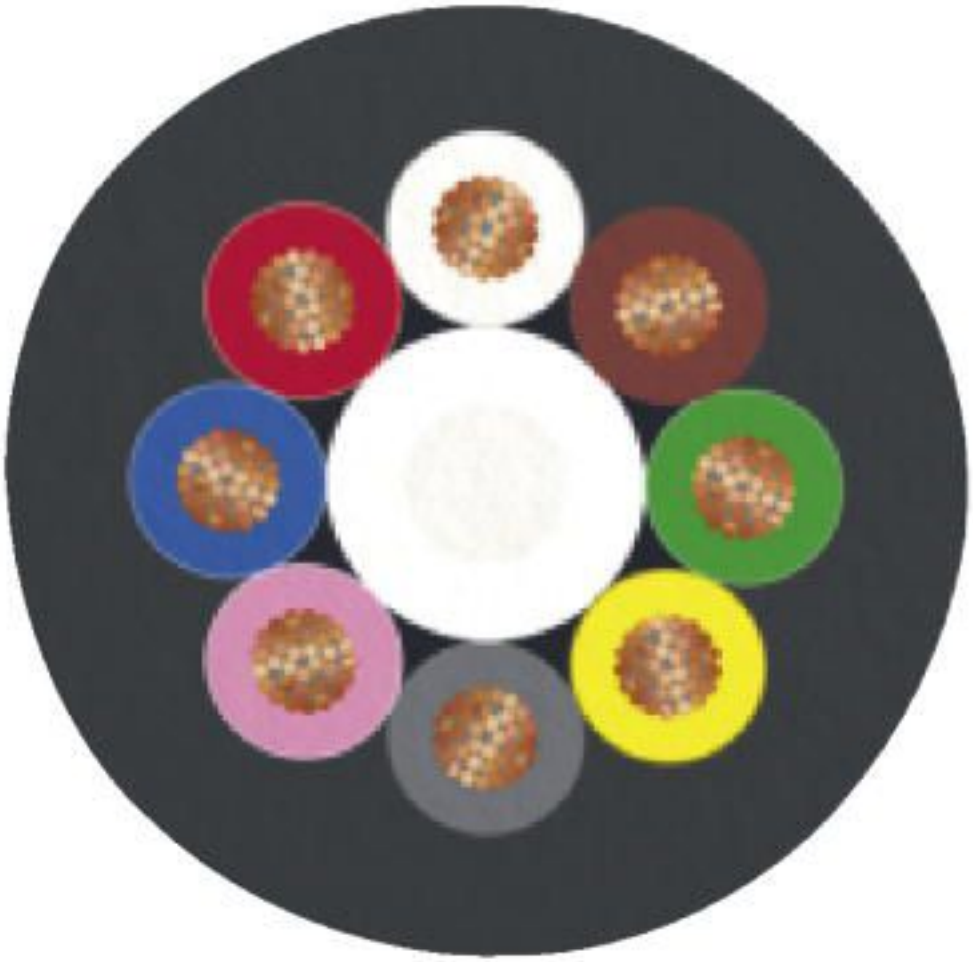
Cable cross section



Gray, highly flexible PUR [800]

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Cable cross section



PUR halogen-free black [PUR]

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Cable cross section

PVC black [PVC]

Classifications

eCl@ss

eCl@ss 10.0.1	27060311
eCl@ss 4.0	27060300
eCl@ss 4.1	27060300
eCl@ss 5.0	27061800
eCl@ss 5.1	27061800
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Classifications

eCl@ss

eCl@ss 8.0	27279218
eCl@ss 9.0	27060311

ETIM

ETIM 2.0	EC000830
ETIM 3.0	EC001855
ETIM 4.0	EC001855
ETIM 5.0	EC001855
ETIM 6.0	EC001855
ETIM 7.0	EC001855

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	31251501
UNSPSC 19.0	31251501
UNSPSC 20.0	31251501
UNSPSC 21.0	31251501

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC-RoHS / EAC / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474

Nominal voltage UN	30 V

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Approvals

Nominal current IN	2 A

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 221474

Nominal voltage UN	30 V
Nominal current IN	2 A

EAC-RoHS		RU D-DE.HB35.B.00387

EAC		EAC-Zulassung

cULus Listed	

Accessories

Accessories

Conductor marking

Insert label - PABA WH/23 - 1013779

Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Insert label - PABA YE/23 - 1013782

Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 ... 35 mm, lettering field size: 23 x 4 mm, Number of individual labels: 20

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Accessories

Corrugated pipe

Protective hose - WP-PA HF 13,0 BK - 3240681

Polyamide protective hose, inflammability class V0, UV resistant

Protective hose - WP-PA HF-HB 13,0 BK - 3240839

Polyamide protective hose, inflammability class HB, UV resistant

Cutting tools

Diagonal cutter - CUTFOX-S VDE - 1212207

Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

Marker pen

Marker pen - B-STIFT - 1051993

Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Protective cap

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Accessories

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs

Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600

Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

Tool - SAC BIT M12-D15 - 1208432

Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

Stripping tool

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Accessories

Stripping tool - WIREFOX SAC-1 - 1212757

Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 3.2 to 4.4 mm, any stripping length

Stripping tool - WIREFOX SAC - 1212623

Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from Ø of 4.4 to 7 mm, any stripping length

Stripping tool - WIREFOX 10 - 1212150

Stripping tool, for cables and conductors from 0.02 - 10 mm², self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm² stranded/1.5 mm² solid, replaceable stripping blade

Torque tool

Torque screwdriver - TSD 04 SAC - 1208429

Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

Torque screwdriver - TSD-M 1,2NM - 1212224

Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

Sensor/actuator cable - SAC-8P-M12MR/.../... - 1522587

Accessories

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884

Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel