SAC-8P-M12FS/.../... - Sensor/actuator cable

1522613

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Sensor/actuator cable, 8-position, Variable cable type, free cable end, on Socket straight M12, coding: A, cable length: Free input (0.2 m ... 100.0 m)

Your advantages

- Easy and safe: 100 % electrically tested plug-in components

Commercial data

Item number	1522613
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	BF17
Product key	AF1CFA
Customs tariff number	85444290
Country of origin	PL

Technical data

Product properties

Product type	Sensor/actuator cable
Application	Standard
	Robots and drag chains
Number of positions	8
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
Material grommet GRP	NBR
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material for screw connection	Zinc die-cast, nickel-plated

Electrical properties

Insulation resistance	≥ 100 MΩ
Nominal voltage U_N	30 V AC
	30 V DC
Nominal current I_N	2 A

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100

Signaling

Status display	no
Status display present	no

Connection data

Conductor connection

Tightening torque	0.4 Nm (M12 connector)

Connector

Connection 1

Type	free cable end

Connection 2

Type	Socket straight M12
Number of positions	8
Coding type	A

Cable/line

Cable length	Free input (0.2 m ... 100.0 m)

PUR halogen-free black [PUR]

Dimensional drawing	
Cable weight	46 kg/km
UL AWM Style	20549 / 10493 (80°C/300 V)
Number of positions	8
Shielded	no
Cable type	PUR halogen-free black [PUR]
	PUR halogen-free black PUR
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross-section	8x 0.25 mm² (Signal line)
Wire diameter incl. insulation	1.17 mm ±0.02 mm
External cable diameter	5.90 mm ±0.15 mm
Outer sheath, material	PUR
External sheath, color	black-gray RAL 7021
Conductor material	Bare Cu litz wires
Material, filler	PE
Material wire insulation	PP
Single wire, color	white, brown, green, yellow, gray, pink, blue, red
Thickness, insulation	≥ 0.21 mm
Thickness, outer sheath	approx. 0.80 mm
Overall twist	8 wires around filler to the core
Max. conductor resistance	≤ 78 Ω/km (at 20 °C)
Insulation resistance	≥ 1 GΩ*km (at 20 °C)
Wave impedance	100 Ω +15 % (with 1 MHz)
Cable capacity	≤ 70 pF/m

Nominal voltage, cable	≤ 300 V
Test voltage	≥ 3000 V
Minimum bending radius, fixed installation	8 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	48 mm
Smallest bending radius, movable installation	59 mm
Dynamic load capacity (bending)	Max. bending cycles: 10000000, Bending radius: 59 mm, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s²
Dynamic load capacity (torsion)	Torsion: ±180 °/m, Torsion cycles: ≥5000000, Torsional frequency: 35 cycles/min.
Halogen-free	in accordance with DIN VDE 0472 part 815
Flame resistance	in accordance with UL 758/1581 FT2
	According to DIN EN 60332-2-2 (20 s)
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
Special properties	Flexible cable conduit capable
	Silicone-free
	Free of substances which would hinder coating with paint or varnish
	flexible
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)

PUR/PVC gray [100]

Dimensional drawing	
Cable weight	50 kg/km
Number of positions	8
Shielded	no
Cable type	PUR/PVC gray [100]
	PUR/PVC gray 100
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross-section	0.25 mm²

Wire diameter incl. insulation	1.2 mm ±0.05 mm
External cable diameter	5.9 mm
	5.90 mm
Outer sheath, material	PUR
External sheath, color	gray RAL 7001
Conductor material	Bare Cu litz wires
Material, filler	PVC
Material wire insulation	PVC
Single wire, color	brown, white, green, yellow, gray, pink, blue, red
Thickness, insulation	≥ 0.23 mm (Core insulation)
	≥ 0.38 mm (Outer cable sheath)
Overall twist	8 wires around filler to the core
Max. conductor resistance	≤ 78 Ω/km
Insulation resistance	≥ 100 MΩ*km
Nominal voltage, cable	300 V
Test voltage	3000 V
Smallest bending radius, fixed installation	59 mm
Smallest bending radius, movable installation	59 mm
Dynamic load capacity (bending)	Max. bending cycles: 2000000, Bending radius: 59 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)

PVC black [PVC]

Dimensional drawing	
Cable weight	54 kg/km
UL AWM Style	2464 / 1729 (80°C/300 V)
Number of positions	8
Shielded	no
Cable type	PVC black [PVC]
	PVC black PVC
Conductor structure signal line	14x 0.15 mm
AWG signal line	24
Conductor cross-section	8x 0.25 mm² (Signal line)
Wire diameter incl. insulation	1.17 mm ±0.05 mm
External cable diameter	5.90 mm ±0.2 mm
Outer sheath, material	PVC

External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Material wire insulation	PVC
Single wire, color	white, brown, green, yellow, gray, pink, blue, red
Thickness, insulation	≥ 0.23 mm
Thickness, outer sheath	≥ 0.76 mm
Overall twist	8 wires around filler to the core
Max. conductor resistance	79 Ω/km (at 20 °C)
Insulation resistance	≥ 200 MΩ*km (at 20 °C)
Nominal voltage, cable	≤ 300 V AC
Test voltage	≥ 3000 V AC
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	30 mm
Smallest bending radius, movable installation	59 mm
Flame resistance	as per VW-1 in accordance with UL 758
Resistance to oil	in accordance with DIN EN 60811-2-1
Ambient temperature (operation)	-25 °C ... 80 °C (cable, fixed installation)
	-10 °C ... 80 °C (Cable, flexible installation)

PVC gray [500]

Dimensional drawing	
Cable weight	54 kg/km
UL AWM Style	2464 / 1729 (80°C/300 V)
Number of positions	8
Shielded	no
Cable type	PVC gray [500]
	PVC gray 500
Conductor structure signal line	14x 0.15 mm
AWG signal line	24
Conductor cross-section	8x 0.25 mm² (Signal line)
Wire diameter incl. insulation	1.17 mm ±0.05 mm
External cable diameter	5.90 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	gray
Conductor material	Bare Cu litz wires
Material wire insulation	PVC

Single wire, color	white, brown, green, yellow, gray, pink, blue, red
Thickness, insulation	≥ 0.23 mm
Thickness, outer sheath	≥ 0.76 mm
Overall twist	8 wires around filler to the core
Max. conductor resistance	79 Ω/km (at 20 °C)
Insulation resistance	≥ 200 MΩ*km (at 20 °C)
Nominal voltage, cable	≤ 300 V AC
Test voltage	≥ 3000 V AC
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	30 mm
Smallest bending radius, movable installation	59 mm
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-25 °C ... 80 °C (Cable, flexible installation)

Gray, highly flexible PUR [800]

Dimensional drawing	
Note	Due to the extremely robust outer sheath, this cable should only be stripped in 5 cm increments.
Cable weight	49.1 kg/km
UL AWM Style	20549
Number of positions	8
Shielded	no
Cable type	Gray, highly flexible PUR [800]
	Gray, highly flexible PUR 800
Conductor structure signal line	32x 0.10 mm
AWG signal line	24
Conductor cross-section	8x 0.25 mm² (Signal line)
Wire diameter incl. insulation	1.2 mm ±0.05 mm (Signal line)
External cable diameter	6.00 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	gray RAL 7001
Conductor material	Bare Cu litz wires
Material, filler	PE
Material wire insulation	PP
Single wire, color	white, brown, green, yellow, gray, pink, blue, red
Overall twist	8 wires around filler to the core

Insulation resistance	≥ 20 MΩ*km
Nominal voltage, cable	300 V
Test voltage	2000 V
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	5 x D
Smallest bending radius, fixed installation	30 mm
Smallest bending radius, movable installation	30 mm
Dynamic load capacity (bending)	Max. bending cycles: 15000000, Bending radius: 50 mm, Traversing path: 0.9 m, Traversing rate: 5 m/s, Acceleration: 30 m/s²
Dynamic load capacity (torsion)	Torsion: ±360 °/m
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
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

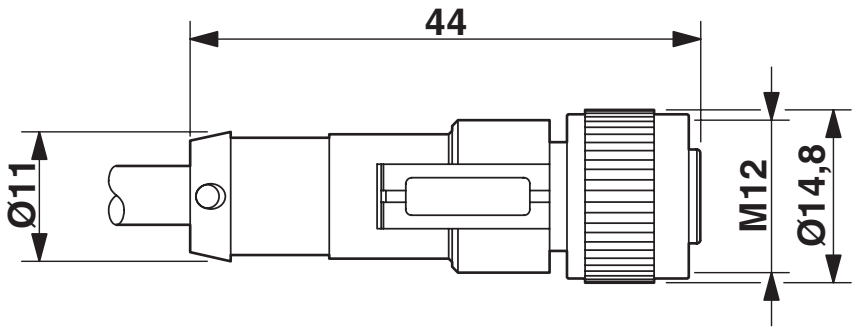
Degree of protection	IP65
	IP67
	IP68
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (Plug / socket)

Standards and regulations

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

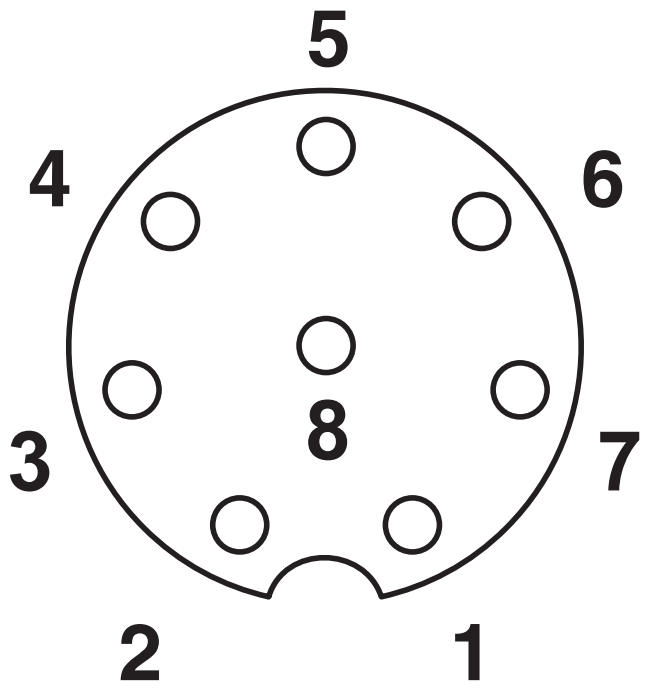
Drawings

Dimensional drawing



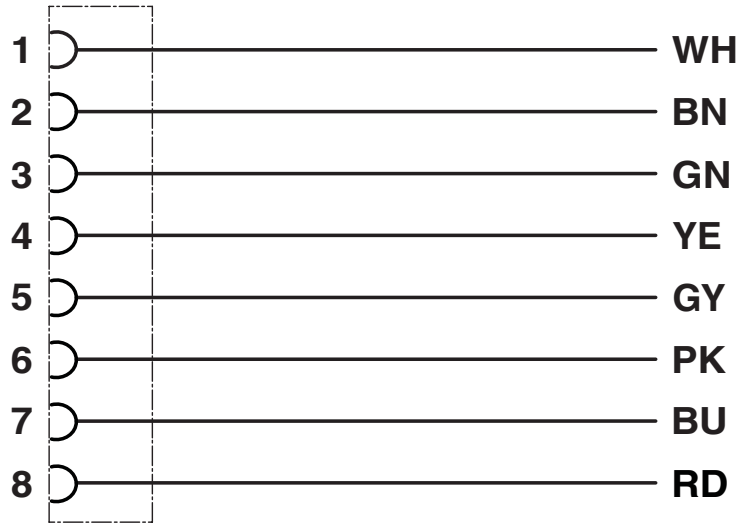
M12 x 1 socket, straight

Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

Circuit diagram



Contact assignment of the M12 socket

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1522613

UL Listed
Approval ID: FILE E 221474

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	30 V	2 A	-	-

cUL Listed
Approval ID: FILE E 221474

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	30 V	2 A	-	-

EAC-RoHS
Approval ID: RU D-DE.HB35.B.00387

Classifications

ECLASS

ECLASS-13.0	27060311
ECLASS-15.0	27060311

ETIM

ETIM 10.0	EC001855

UNSPSC

UNSPSC 21.0	26121600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions

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%

EF3.1 Climate Change

CO2e kg	12.297 kg CO2e

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