



Main features

- Technopolymer housing, right or bottom cable output
- Protection degrees IP67 and IP69K
- 2 types of integrated cable available
- Versions with M12 connector for safety applications ☹
- Versions with AMP connector
- 14 contact blocks available
- 37 actuators available

Markings and quality marks:



IMQ approval:	CA02.04562
UL approval:	E131787
CCC approval:	2013010305653520
EAC approval:	RU C-IT ДМ94.В.01024

Technical data

Housing

Housing made of fiber glass reinforced technopolymer, self-extinguishing, shock-proof and with double insulation ☐.

Version with integrated cable, standard length 2 m. Other lengths and special cables on request.

Versions with integrated M12 connector, 4 or 8 poles

Protection degree:

IP67 according to EN 60529
IP69K according to ISO 20653

(Protect the cables from direct high-pressure and high-temperature jets)

Corrosion resistance in saline mist:

≥ 300 hours in NSS according to ISO 9227

General data

Ambient temperature:

See table on page 132

Max actuation frequency:

3600 operating cycles¹/hour

Mechanical endurance:

20 million operating cycles¹

Mounting position:

any

Safety parameters:

B_{10d} : 40,000,00 for NC contacts

Mechanical interlock, not coded: type 1 according to EN ISO 14119

Tightening torques for installation: see pages 235-246

(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1.

Electrical data

Rated impulse withstand voltage (U_{imp}): 4 kV

Conditional short circuit current: 1000 A according to EN 60947-5-1

Pollution degree:

3

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, EN 60529, ISO 20653, UL 508, CSA 22.2 No.14.

In conformity with the requirements of:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1.

⚠ Installation for safety applications:

Use only switches marked with the symbol ☹ aside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: see "internal connections" on page 132) as stated in **EN 60947-5-1, encl. K, par. 2**. Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams on page 244. Operate the switch **at least with the positive opening force**, indicated between brackets below each article, aside the minimum force value. All applicable standards must be respected.

⚠ **If not expressly indicated in this chapter, for correct installation and utilization of all articles see chapter utilization requirements from page 235 to page 246.**

⚠ **Important: Switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for separation of electrical loads.**

Characteristics approved by IMQ

Rated insulation voltage (Ui):	250 Vac
Conventional free air thermal current (Ith):	10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 4-pin M12 connector)
Protection against short circuits (fuse):	10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 4-pin M12 connector), gG type
Rated impulse withstand voltage (U_{imp}):	4 kV
Protection degree of the housing:	IP67
MA terminals (saddle clamps)	
Pollution degree:	3
Utilization category:	AC15 / DC13 (with connector)
Operating voltage (Ue):	250 Vac (50 Hz) / 24 Vdc (with connector)
Operating current (Ie):	3 A / 2 A (with connector)
Forms of the contact element:	X, Y, X+Y, X+X, Y+Y, Y+Y+X, X+X+Y, X+X+Y+Y, Zb
Positive opening of contacts on contact blocks	B01, B11, B02, B12, B21, B22, G01, G11, G02, G12, G21, G22, L01, L11, L02, L12, L21, L22, H01, H11, H02, H12, H21, H22
In conformity with standards:	EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

Please contact our technical service for the list of approved products.

Characteristics approved by UL

Utilization categories	R300 pilot duty (28 VA, 125-250 Vdc) B300 pilot duty (360 VA, 120-240 Vac) (1-2-3 cont.) C300 pilot duty (180 VA, 120-240 Vac) (4 cont.)
Data of housing type 1, 4X "indoor use only"; 12.	
Housing data for versions with 1-2 contacts and type N cable type 1, 4X "indoor use only"	
In conformity with standard:	UL 508, CSA 22.2 No.14

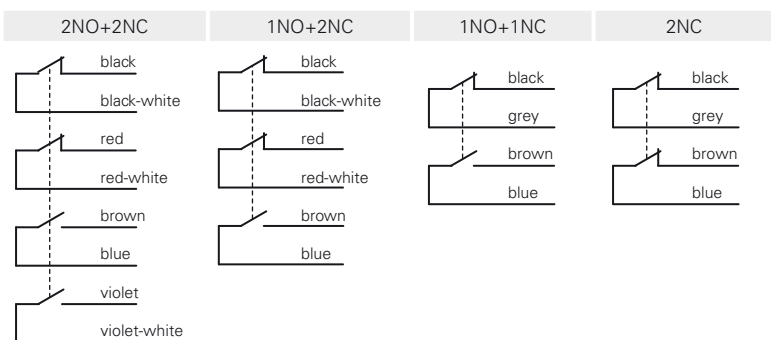
Please contact our technical service for the list of approved products.



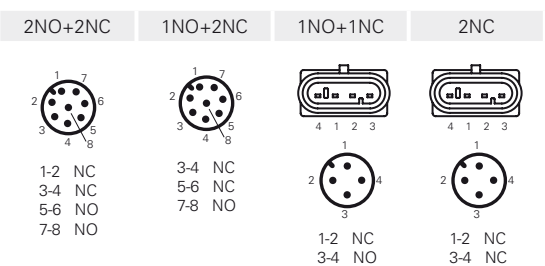
Utilization temperatures and electrical data

		Output with cable				Output with M12 connector		Output with AMP connector	
		Versions with 2 contacts		Versions with 3 contacts	Versions with 4 contacts	Versions with 2 contacts	Versions with 3/4 contacts	Versions with 2 contacts	
		Cable type N 5x0.75 mm ² ,	Cable type G 5x0.75 mm ² ,	Cable type N 7x0.5 mm ²	Cable type N 9x0.34 mm ²	M12 connector 5 poles	M12 connector 8 poles	AMP superseal 1.5 connector	
		Sheath PVC 05VV-F, Self-extinguishing: IEC 60332-1-2 IEC 60332-1-3	Sheath PVC S05VV-F, Self-extinguishing: IEC 60332-1-2 IEC 60332-1-3 IEC 60332-3 CEI 20-22 II	Sheath PVC 03VV-F, Self-extinguishing IEC 60332-1-2 IEC 60332-1-3	Sheath PVC 03VV-F, Self-extinguishing: IEC 60332-1-2 IEC 60332-1-3				
		Minimum bending radius: 72 mm	Minimum bending radius: 72 mm	Minimum bending radius: 108 mm	Minimum bending radius: 94 mm				
		External diameter: 8 mm	External diameter: 8 mm	External diameter: 7 mm	External diameter: 7 mm				
		Stripped end: 80 mm	Stripped end: 80 mm	Stripped end: 80 mm	Stripped end: 80 mm				
		Class 5 copper IEC 60228	Class 5 copper IEC 60228	Class 5 copper IEC 60228	Class 5 copper IEC 60228				
Ambient temperature standard extended (-T6)	Cable fixed installation	-25 °C ... +70 °C	-25 °C ... +70 °C	-25°C ... +80°C	-25°C ... +80°C				
	Cable flexible installation	+5 °C ... +70 °C	+5 °C ... +70 °C	-5 °C ... +80 °C	-5 °C ... +80 °C		-25°C ... +80°C		
	Cable mobile installation	/	/	/	/				
	Cable fixed installation	/	/	/	/				
	Cable flexible installation	/	/	/	/		-40°C ... +80°C		
	Cable mobile installation	/	/	/	/				
Electrical data	Thermal current I _{th}	10 A	10 A	6 A	3 A	4 A	2 A	10 A	
	Rated insulation voltage U _i	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac 300 Vdc	30 Vac 36 Vdc	250 Vac 300 Vdc	
	Protection against short circuits (fuse)	10 A 500 V type gG	10 A 500 V type gG	6 A 500 V type gG	3 A 500 V type gG	4 A 500 V type gG	2 A 500 V type gG	10 A 500 V type gG	
	Utilization category DC13	24 V	2 A	2 A	2 A	2 A	2 A	2 A	2 A
		125 V	0.4 A	0.4 A	0.4 A	0.4 A	0.4 A	/	0.4 A
		250 V	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	/	0.3 A
	Utilization category AC15	24 V	4 A	4 A	4 A	3 A	4 A	2 A	4 A
120 V		4 A	4 A	4 A	3 A	4 A	/	4 A	
250 V		4 A	4 A	4 A	3 A	4 A	/	4 A	
Approvals	CE cULus IMQ EAC CCC	CE EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus EAC CCC	CE cULus EAC CCC	

Internal connections of the cable



Internal connections of the connector



Female connectors See page 226