



Main features

- Metal housing, one conduit entry
- Protection degree IP67
- 17 contact blocks available
- 43 actuators available
- Versions with M12 connector
- Versions with gold-plated silver contacts

Markings and quality marks:



IMQ approval:	EG609
UL approval:	E131787
CCC approval:	2007010305229998
EAC approval:	RU C-IT DM94.B.01024

Technical data

Housing

Metal housing, baked powder coating
One threaded conduit entry:
Protection degree:

M20x1.5 (standard)
IP67 according to EN 60529 with
cable gland having equal or higher
protection degree

General data

Ambient temperature: -25°C ... +80°C
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.

Cable cross section (flexible copper strands)

Contact blocks 20, 21, 22, 33, 34:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max.	2 x 1.5 mm ²	(2 x AWG 16)
Contact block 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 2.5 mm ²	(2 x AWG 14)
Contact block 2:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 1.5 mm ²	(2 x AWG 16)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 50047, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, UL 508, CSA 22.2 No.14 .

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

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: 11-12, 21-22 or 31-32) as stated in **standard 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 240. Operate the switch **at least with the positive opening force**, indicated between brackets below each article, aside the minimum force value.

⚠ **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.**

	Electrical data	Utilization category
without connector	Thermal current (I _{th}):	10 A
	Rated insulation voltage (U _i):	500 Vac 600 Vdc 400 Vac 500 Vdc (contact blocks 2, 11, 12, 20, 21, 22, 33, 34)
	Rated impulse withstand voltage (U _{imp}):	6 kV 4 kV (contact blocks 20, 21, 22, 33, 34)
	Conditional short circuit current: Protection against short circuits: Pollution degree:	1000 A according to EN 60947-5-1 type aM fuse 10 A 500 V 3
with M12 connector 5 poles	Thermal current (I _{th}):	4 A
	Rated insulation voltage (U _i):	250 Vac 300 Vdc
	Protection against short circuits: Pollution degree:	type gG fuse 4 A 500 V 3
	Utilization category	Alternating current: AC15 (50÷60 Hz) U _e (V) 250 400 500 I _e (A) 6 4 1 Direct current: DC13 U _e (V) 24 125 250 I _e (A) 6 1.1 0.4
with M12 connector 8 poles	Thermal current (I _{th}):	2 A
	Rated insulation voltage (U _i):	30 Vac 36 Vdc
	Protection against short circuits: Pollution degree:	type gG fuse 2 A 500 V 3
	Utilization category	Alternating current: AC15 (50÷60 Hz) U _e (V) 24 I _e (A) 2 Direct current: DC13 U _e (V) 24 I _e (A) 2

Characteristics approved by IMO

Rated insulation voltage (Ui): 500 Vac
400 Vac (for contact blocks 2, 11, 12, 20, 21, 22, 33, 34)

Conventional free air thermal current (Ith): 10 A

Protection against short circuits: type aM fuse 10 A 500 V

Rated impulse withstand voltage (U_{imp}): 6 kV
4 kV (for contact blocks 20, 21, 22, 33, 34)

Protection degree of the housing: IP67

MV terminals (screw terminals)

Pollution degree 3

Utilization category: AC15

Operating voltage (Ue): 400 Vac (50 Hz)

Operating current (Ie): 3 A

Forms of the contact element: Za, Zb, Za+Za, Y+Y, X+X, Y+Y+X, Y+Y+Y, Y+X+X

Positive opening of contacts on contact blocks 5, 6, 7, 9, 11, 13, 14, 16, 18, 20, 21, 22, 33, 34

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 Q300 (69 VA, 125 ... 250 Vdc)
A600 (720 VA, 120 ... 600 Vac)

Data of housing type 1, 4X "indoor use only", 12, 13

For all contact blocks except 2 and 3 use 60 or 75°C copper (Cu) conductor, rigid or flexible, wire size AWG 12/14. Terminal tightening torque of 7.1 lb in (0.8 Nm).

For contact blocks 2 and 3 use 60 or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 14. Terminal tightening torque of 12 lb in (1.4 Nm).

In conformity with standard: UL 508, CSA 22.2 No.14

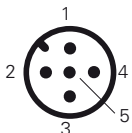
Please contact our technical service for the list of approved products.

Connection diagram for M12 connectors

Contact block 2 1NO+1NC+1NO-1NC	Contact block 5 1NO+1NC	Contact block 6 1NO+1NC	Contact block 7 1NO+1NC	Contact block 9 2NC	Contact block 10 2NO	Contact block 11 2NC	Contact block 12 2NO	Contact block 13 2NC
M12 connector, 8 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles
Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.
NO 3-4	NC 1-2	NC 1-2	NC 1-2	NC 1-2	NO 1-2	NC 1-2	NO 1-2	NC (1°) 1-2
NC 5-6	NO 3-4	NO 3-4	NO 3-4	NC 3-4	NO 3-4	NC 3-4	NO 3-4	NC (2°) 3-4
NC 7-8	ground 5	ground 5	ground 5	ground 5	ground 5	ground 5	ground 5	ground 5
NO 1-2								

Contact block 14 2NC	Contact block 15 2NO	Contact block 16 2NC	Contact block 18 1NO+1NC	Contact block 20 2NC+1NO	Contact block 21 3NC	Contact block 22 1NC+2NO	Contact block 33 1NC+1NO	Contact block 34 2NC
M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 5 poles	M12 connector, 8 poles	M12 connector, 8 poles	M12 connector, 8 poles	M12 connector, 5 poles	M12 connector, 5 poles
Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.
NC (1°) 1-2	NO (1°) 1-2	NC, lever at the right 1-2	NC 1-2	NC 3-4	NC 3-4	NC 3-4	NC 1-2	NC 1-2
NC (2°) 3-4	NO (2°) 3-4	NC, lever to the left 3-4	NO 3-4	NC 5-6	NC 5-6	NO 5-6	NO 3-4	NC 3-4
ground 5	ground 5	ground 5	ground 5	NO 7-8	NC 7-8	NO 7-8	ground 5	ground 5
				ground 1	ground 1	ground 1		

Contact block E1 PNP



M12 connector, 5 poles

Contacts	Pin no.
+	1
-	3
NC	2
NO	4
ground	5