



Main features

Safety switch designed for over-speed governors where a high sensibility and a low actuating force are required.

Operation: the actuator of the switch has to be pressed up to the tripping point. Then the actuator snaps to the end of the travel, up to end of travel.

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation:
 One threaded conduit entry: M20x1.5 (standard)
 Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 1 million operations cycles (FR 5A3-M2 / FR 11A3-M2)
 50,000 operations cycles (FR 17A3-M2 / FR 19A3-M2)
 Assembling position: any
 Safety parameters B_{10D} for NC contacts: 2,000,000 (FR 5A3-M2 / FR 11A3-M2)
 100,000 (FR 17A3-M2 / FR 19A3-M2)
 Mechanical interlock, not coded: type 1 according to EN ISO 14119
 Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 5, 11, 17:
 min. 1 x 0.5 mm² (1 x AWG 20)
 max. 2 x 2.5 mm² (2 x AWG 14)

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, EN81-20, EN 81-50, 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 requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/EU.

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 \ominus . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 134. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc (contacts block 11)
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 400 Vac for contacts block 11
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_e): 400 Vac (50 Hz)
 Operation current (I_e): 3 A
 Forms of the contact element: Zb, Y+Y, Y+Y+X
 Positive opening of contacts on contact block 5, 11, 17, 19
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

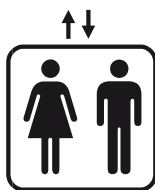
Please contact our technical service for the list of type approved products.

Data type approved by UL

Utilization categories Q300 (69 VA, 125-250 Vdc)
 A600 (720 VA, 120-600 Vac)
 Data of the housing type 1, 4X "indoor use only"; 12, 13
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, CSA 22.2 No.14.

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

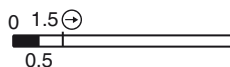
According to EN 81-20 and EN 81-50



- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- All switches are in compliance with the requirements set by the new standards on safety contacts.

Contact blocks 17 and 19

Pizzato Elettrica has developed innovative contact blocks, designed to offer a very short pre-travel and low actuating forces, as requested in modern over-speed devices.



Increased actuating force



The contact block 19 can be supplied on request with a increased actuating force 4 or 6 N, suitable for applications with strong vibrations.

Protection degree IP 67

IP67

These series switches are all IP 67 rated.

Code structure

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

article options options
FR 19A3-E26GM2K23P11T6

Housing FR polymer housing, one conduit entry	Ambient temperature -25°C ... +80°C (standard) T6 -40°C ... +80°C
Contact blocks 5 1NO+1NC, snap action 11 2NC, snap action 17 1NC, snap action 19 2NC, snap action	Fixing plate without plate (standard) P11 with plate VF SFP1
Actuators A3 short plunger	Threaded conduit entry M2 M20x1.5 (standard) M1 M16x1.5 PG 13.5 A PG 11
Actuation force standard actuation force E26 actuation force 4 N (19 N ⊕) (contact block 19 only) E27 actuation force 6 N (21 N ⊕) (contact block 19 only)	Threaded conduit entry K23 for cables Ø 6 ... 12 mm K27 for cables Ø 3 ... 7 mm
	Contact type silver contacts (standard) G silver contacts with 1 µm gold coating G1 silver contacts with 2,5 µm gold coating

Dimensional drawings

All measures in the drawings are in mm

Contacts type:

R = snap action

Contact blocks	5 R FR 5A3-M2 ⊕ 1NO+1NC	11 R FR 11A3-M2 ⊕ 2NC	17 R FR 17A3-M2 ⊕ 1NC	19 R FR 19A3-M2 ⊕ 2NC
Max speed	0.5 m/s	0.5 m/s	0.5 m/s	0.5 m/s
Actuating force	3.5 N (25 N ⊕)	3.5 N (25 N ⊕)	1.5 N (25 N ⊕)	2 N (25 N ⊕)
Travels diagrams				

Legend

■ Closed contact | □ Opened contact | ⊕40° Positive opening travel

Accessories See page 127