

Main features

- Technopolymer housing
- Protection degree IP20 (terminals), IP40 (contacts)
- 14 contact blocks available
- Actuators with plastic or metal plunger
- Contact block with positive opening ⊕
- For internal use in PA, PX, PC series foot switches

Quality marks:



IMQ approval: CA02.06217
 UL approval: E131787
 CCC approval: 2013010305600704
 EAC approval: RU C-IT.A.135.B.00454

Installation for safety applications:

Use only switches marked with the symbol ⊕ next to the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as required by **EN ISO 14119, paragraph 5.4** for specific interlock applications and **EN ISO 13849-2 table D3** (well-tried components) and **D.8** (fault exclusions) for safety applications in general. Actuate the switch **at least up to the positive opening travel** reported in the travel diagrams. Actuate the switch **at least with the positive opening force**, reported in brackets below each article, next to the minimum force value.

⚠ **If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 223 to 236.**

Technical data

Housing

Housing made of glass fibre reinforced technopolymer, self-extinguishing and shock-proof
 Protection degree acc. to EN 60529: IP20 (terminals)
 IP40 (contacts)

General data

Ambient temperature: -40°C ... +80°C
 Safety parameter B_{10D}: 40,000,000 for NC contacts
 Max. actuation frequency: 3600 operating cycles/hour
 Mechanical endurance: 20 million operating cycles
 Max. actuation speed: 0.5 m/s
 Min. actuation speed: 1 mm/s (slow action)
 0.01 mm/s (snap action)
 Tightening torque of the terminal screws: 0.6 ... 0.8 Nm
 Wire cross-sections and wire stripping lengths: see page 243

In compliance with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, EN 50581, UL 508, CSA 22.2 No.14 .

Approvals:

UL 508, CSA 22.2 No. 14, EN 60947-1, EN 60947-5-1

Compliance with the requirements of:

Low Voltage Directive 2014/35/EU,
 EMC Directive 2014/30/EU,
 RoHS Directive 2011/65/EU.

Positive contact opening in conformity with standards:

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

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Conditional short circuit current: 1000 A acc. to EN 60947-5-1
 Protection against short circuits: type aM fuse 10 A 500 V
 Pollution degree: 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) 3 0.55 0.3

Features approved by UL

Electrical ratings: Q300 (69 VA, 125-250 Vdc)
 A600 (720 VA, 120-600 Vac)
 Housing features: open type.
 For all contact blocks use 60 or 75°C copper (Cu) conductors, rigid or flexible, wire size 12, 14 AWG.
 Tightening torque for terminal screws of 7.1 lb in (0.8 Nm).

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

Features approved by IMQ

Rated insulation voltage (U_i):
 500 Vac (for contact blocks [B] 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 18, 19, 66, 67)
 400 Vac (for contact blocks [B] 11, 37)
 Conventional free air thermal current (I_{th}): 10 A
 Protection against short circuits: type aM fuse 10 A 500 V
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Protection degree of the housing: IP20
 MV terminals (screw terminals)
 Pollution degree: 3
 Utilization category: AC15
 Operating voltage (U_e): 400 Vac (50/60 Hz)
 Operating current (I_e): 4 A
 Forms of the contact element: Zb, Y+Y, X+X, Y, X
 Positive opening contacts on contact blocks [B] 5, 6, 7, 9, 11, 13, 14, 17, 18, 19, 37, 66
 In compliance with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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Description

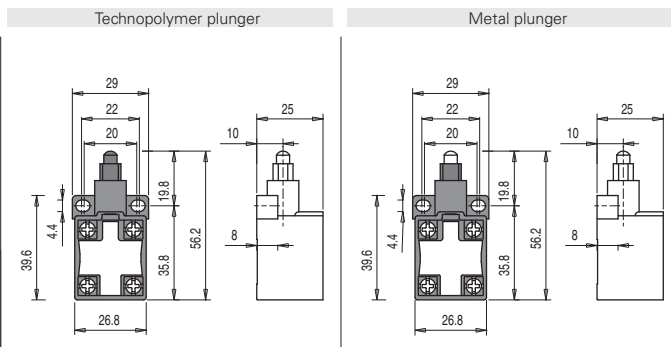

Contact block with captive screws, finger protection and self-lifting clamping screw plates. Provided with positive opening NC contacts for safety applications. Provided with twin bridge contacts, they are particularly suitable for high-reliability applications. Suitable for installation inside PA, PX and PC series foot switches (for more information see the General Catalogue HMI).

Dimensional drawings

All values in the drawings are in mm

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LA** = slow action close



Contact type	Technopolymer plunger		Metal plunger		Travel diagram
	Article	Contacts	Article	Contacts	
R	VF B501	1NO+1NC	VF B502	1NO+1NC	
L	VF B601	1NO+1NC	VF B602	1NO+1NC	
LO	VF B701	1NO+1NC	VF B702	1NO+1NC	
L	VF B901	2NC	VF B902	2NC	
L	VF B1001	2NO	VF B1002	2NO	
R	VF B1101	2NC	VF B1102	2NC	
R	VF B1201	2NO	VF B1202	2NO	
LV	VF B1301	2NC	VF B1302	2NC	
LS	VF B1401	2NC	VF B1402	2NC	
LS	VF B1501	2NO	VF B1502	2NO	
LA	VF B1801	1NO+1NC	VF B1802	1NO+1NC	
L	VF B3701	1NO+1NC	VF B3702	1NO+1NC	
L	VF B6601	1NC	VF B6602	1NC	
L	VF B6701	1NO	VF B6702	1NO	
Max. speed	0.5 m/s		0.5 m/s		
Actuating force	8 N (20 N)		8 N (20 N)		

Legend

- Closed contact
- Open contact
- Positive opening travel acc. to IEC 60947-5-1
- Pressing the switch
- Releasing the switch

Code structure

article
options
VF B501-G

Contact block	
5	1NO+1NC, snap action
6	1NO+1NC, slow action
7	1NO+1NC, slow action, make before break
9	2NC, slow action
10	2NO, slow action
11	2NC, snap action
12	2NO, snap action
...

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating
G1	silver contacts with 2.5 µm gold coating

Actuators	
01	with technopolymer plunger (standard)
02	with metal plunger

→ The 2D and 3D files are available at www.pizzato.com