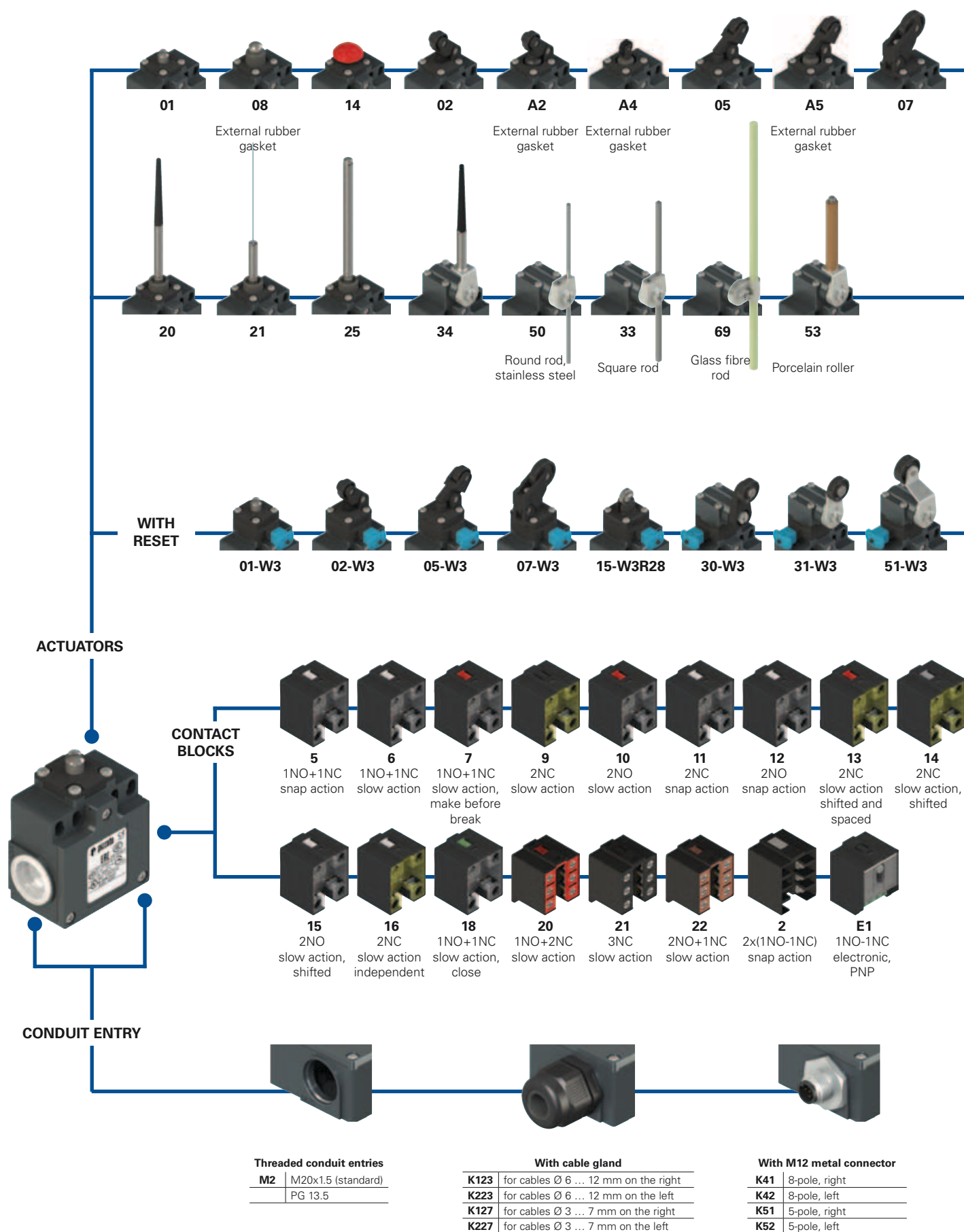
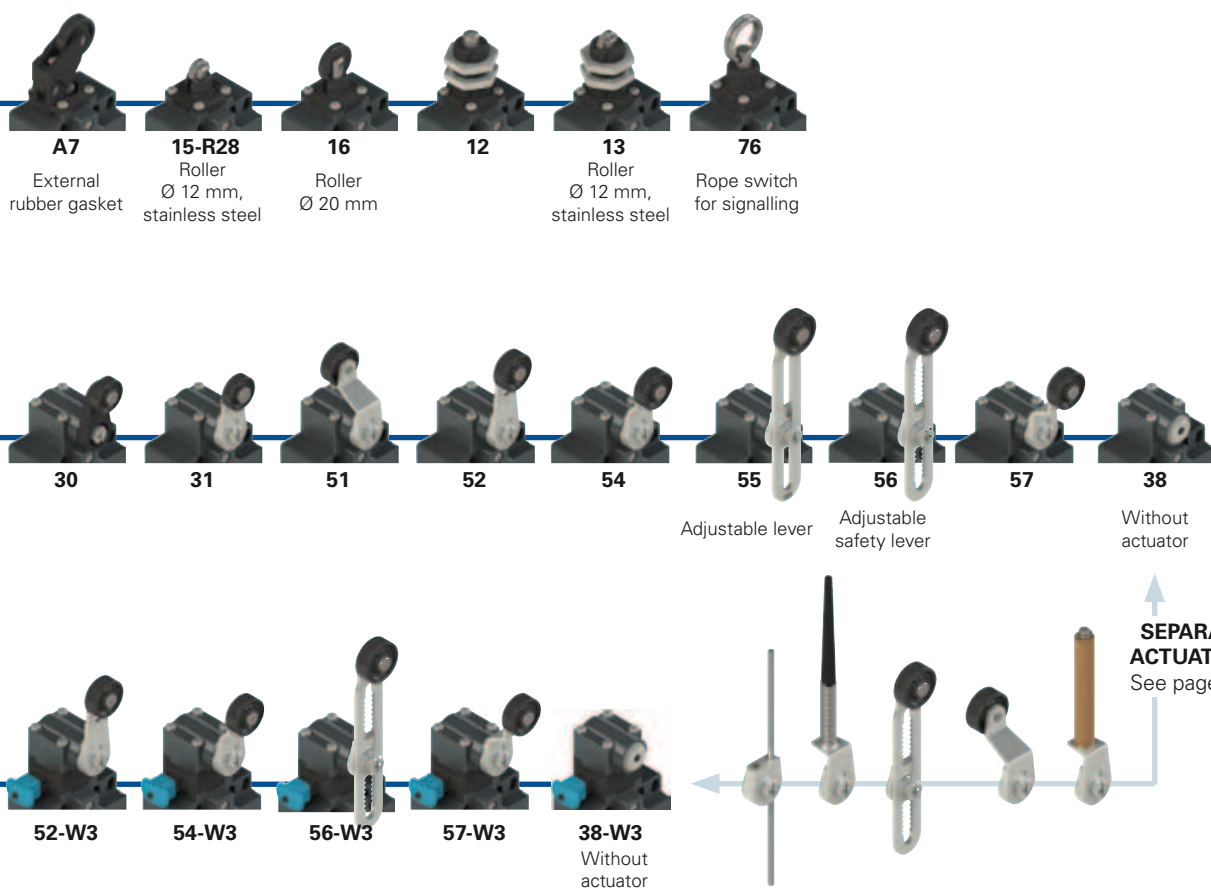


Selection diagram



product options

Sold separately as accessory



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
FZ 502-W3GM2K51R23T6

Housing

FZ metal, two conduit entries

Contact block

5 1NO+1NC, snap action
6 1NO+1NC, slow action
7 1NO+1NC, slow action, make before break
... ..

Actuators

01 short plunger
02 roller lever
05 angled lever with roller
... ..

Reset

without reset (standard)
W3 simultaneous reset
W4 simultaneous reset, increased force

Contact type

silver contacts (standard)
G silver contacts, 1 µm gold coating (not for contact block 2)
G1 silver contacts, 2.5 µm gold coating (not for contact block 2, 20, 21, 22)

Ambient temperature

-25°C ... +80°C (standard)
T6 -40°C ... +80°C

Pre-installed cable glands or connectors

no cable gland or connector (standard)
K123 cable gland for cables Ø 6 ... 12 mm on the right
K51 M12 metal connector, 5-pole, right

For the complete list of possible combinations please contact our technical department.

Threaded conduit entry

M2 M20x1.5 (standard)
PG 13.5

Rollers

standard roller
R28 stainless steel Ø 12 mm (for actuators A4, 15)
R23 stainless steel Ø 14 mm (for actuators A2, 02, A5, 05, 30, 31, 51, 52, 54, 55, 56, 57)
R24 stainless steel Ø 20 mm (for actuators 30, 31, 51, 52, 54, 55, 56, 57)
R25 technopolymer, Ø 35 mm (for actuators 30, 31, 51, 52, 54, 55, 56, 57)
R5 rubber, Ø 40 mm (for actuators 30, 31, 51, 52, 54, 55, 56, 57)
R26 rubber, Ø 50 mm (for actuators 51, 52, 54, 55, 56, 57)
R27 rubber, protruding, Ø 50 mm (for actuators 55, 56)



Main features

- Metal housing, two conduit entries
- Protection degree IP67
- 17 contact blocks available
- 42 actuators available
- Versions with M12 connector
- Versions with gold-plated silver contacts

Quality marks:



IMO approval: EG609
 UL approval: E131787
 CCC approval: 2007010305229998
 EAC approval: RU C-IT.AJ35.B.00454

Technical data

Housing

Metal housing, powder-coated
 Two threaded conduit entries:
 Protection degree:

M20x1.5 (standard)
 IP67 acc. to EN 60529 with cable gland presenting same or higher protection degree

General data

Ambient temperature:
 Max. actuation frequency:
 Mechanical endurance:
 Mounting position:
 Safety parameter B_{10D} :
 Mechanical interlock, not coded:
 Tightening torques for installation:

-25°C ... +80°C
 3600 operating cycles/hour
 20 million operating cycles
 any
 40,000,000 for NC contacts
 type 1 acc. to EN ISO 14119
 see page 211-222

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 blocks 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 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, UL 508, CSA 22.2 No.14.

Approvals:

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

Compliance with the requirements of:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/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  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 tables 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** shown in the travel diagrams on page 216. Actuate the switch **at least with the positive opening force**, reported in brackets below each article, next to the actuating force value.

 **If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 211 to 222.**

Electrical data			Utilization category			
without connector	Thermal current (I_{th}):	10 A	Alternating current: AC15 (50÷60 Hz)			
	Rated insulation voltage (U_i):	500 Vac 600 Vdc 400 Vac 500 Vdc (contact blocks 2, 11, 12, 20, 21, 22, 33, 34)	Ue (V)	250	400	500
	Rated impulse withstand voltage (U_{imp}):	6 kV 4 kV (contact blocks 20, 21, 22, 33, 34)	Ie (A)	6	4	1
	Conditional short circuit current:	1000 A acc. to EN 60947-5-1	Direct current: DC13			
	Protection against short circuits:	type aM fuse 10 A 500 V	Ue (V)	24	125	250
	Pollution degree:	3	Ie (A)	6	1.1	0.4
with M12 connector 5-pole	Thermal current (I_{th}):	4 A	Alternating current: AC15 (50÷60 Hz)			
	Rated insulation voltage (U_i):	250 Vac 300 Vdc	Ue (V)	24	120	250
	Protection against short circuits:	type gG fuse 4 A 500 V	Ie (A)	4	4	4
	Pollution degree:	3	Direct current: DC13			
			Ue (V)	24	125	250
			Ie (A)	4	1.1	0.4
with M12 connector 8-pole	Thermal current (I_{th}):	2 A	Alternating current: AC15 (50÷60 Hz)			
	Rated insulation voltage (U_i):	30 Vac 36 Vdc	Ue (V)	24		
	Protection against short circuits:	type gG fuse 2 A 500 V	Ie (A)	2		
	Pollution degree:	3	Direct current: DC13			
			Ue (V)	24		
			Ie (A)	2		

**Features approved by IMO**

Rated insulation voltage (U_i): 500 Vac
400 Vac (for contact blocks 2, 11, 12, 20, 21, 22, 33, 34)
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
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 (U_o): 400 Vac (50 Hz)
Operating current (I_o): 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 compliance with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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

Features approved by UL

Utilization category Q300 (69 VA, 125-250 Vdc)
A600 (720 VA, 120-600 Vac)
Housing features type 1, 4X, 12, 13
For all contact blocks except 2 and 3 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).
For contact blocks 2 and 3 use 60 or 75 °C copper (Cu) conductors, rigid or flexible, wire size 14 AWG. Tightening torque for terminal screws of 12 lb in (1.4 Nm).
In compliance with standard: UL 508, CSA 22.2 No.14

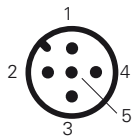
Please contact our technical department for the list of approved products.

Wiring 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
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
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 to 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-pole

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

Contact type:

- R** = snap action
L = slow action
LO = slow action make before break
LS = slow action shifted
LV = slow action shifted and spaced
LI = slow action independent
LA = slow action close
 = electronic PNP

Contact block

5	R	FZ 501-M2  1NO+1NC	FZ 502-M2  1NO+1NC	FZ 5A2-M2  1NO+1NC	FZ 5A4-M2  1NO+1NC
6	L	FZ 601-M2  1NO+1NC	FZ 602-M2  1NO+1NC	FZ 6A2-M2  1NO+1NC	FZ 6A4-M2  1NO+1NC
7	LO	FZ 701-M2  1NO+1NC	FZ 702-M2  1NO+1NC	FZ 7A2-M2  1NO+1NC	FZ 7A4-M2  1NO+1NC
9	L	FZ 901-M2  2NC	FZ 902-M2  2NC	FZ 9A2-M2  2NC	FZ 9A4-M2  2NC
10	L	FZ 1001-M2 2NO	FZ 1002-M2 2NO	FZ 10A2-M2 2NO	FZ 10A4-M2 2NO
11	R	FZ 1101-M2  2NC	FZ 1102-M2  2NC	FZ 11A2-M2  2NC	FZ 11A4-M2  2NC
12	R	FZ 1201-M2 2NO	FZ 1202-M2 2NO	FZ 12A2-M2 2NO	FZ 12A4-M2 2NO
13	LV	FZ 1301-M2  2NC	FZ 1302-M2  2NC	FZ 13A2-M2  2NC	FZ 13A4-M2  2NC
14	LS	FZ 1401-M2  2NC	FZ 1402-M2  2NC	FZ 14A2-M2  2NC	FZ 14A4-M2  2NC
15	LS	FZ 1501-M2 2NO	FZ 1502-M2 2NO	FZ 15A2-M2 2NO	FZ 15A4-M2 2NO
18	LA	FZ 1801-M2  1NO+1NC	FZ 1802-M2  1NO+1NC	FZ 18A2-M2  1NO+1NC	FZ 18A4-M2  1NO+1NC
20	L	FZ 2001-M2  1NO+2NC	FZ 2002-M2  1NO+2NC	FZ 20A2-M2  1NO+2NC	FZ 20A4-M2  1NO+2NC
21	L	FZ 2101-M2  3NC	FZ 2102-M2  3NC	FZ 21A2-M2  3NC	FZ 21A4-M2  3NC
22	L	FZ 2201-M2  2NO+1NC	FZ 2202-M2  2NO+1NC	FZ 22A2-M2  2NO+1NC	FZ 22A4-M2  2NO+1NC
2	R	FZ 201-M2 2x(1NO-1NC)	FZ 202-M2 2x(1NO-1NC)	FZ 2A2-M2 2x(1NO-1NC)	FZ 2A4-M2 2x(1NO-1NC)
E1		FZ E101-M2 1NO-1NC	FZ E102-M2 1NO-1NC	FZ E1A2-M2 1NO-1NC	FZ E1A4-M2 1NO-1NC
Max. speed		page 215 - type 4	page 215 - type 3	page 215 - type 3	page 215 - type 5
Actuating force		8 N (25 N )	6 N (25 N )	4.3 N (25 N )	4.3 N (25 N )
Travel diagrams		page 216 - group 1	page 216 - group 2	page 216 - group 2	page 216 - group 1

		With stainless steel roller on request	With external rubber gasket With stainless steel roller on request	With external rubber gasket
Contact block				
5	R	FZ 505-M2 → 1NO+1NC	FZ 5A5-M2 → 1NO+1NC	FZ 507-M2 → 1NO+1NC
6	L	FZ 605-M2 → 1NO+1NC	FZ 6A5-M2 → 1NO+1NC	FZ 607-M2 → 1NO+1NC
7	LO	FZ 705-M2 → 1NO+1NC	FZ 7A5-M2 → 1NO+1NC	FZ 707-M2 → 1NO+1NC
9	L	FZ 905-M2 → 2NC	FZ 9A5-M2 → 2NC	FZ 907-M2 → 2NC
10	L	FZ 1005-M2 2NO	FZ 10A5-M2 2NO	FZ 1007-M2 2NO
11	R	FZ 1105-M2 → 2NC	FZ 11A5-M2 → 2NC	FZ 1107-M2 → 2NC
12	R	FZ 1205-M2 2NO	FZ 12A5-M2 2NO	FZ 1207-M2 2NO
13	LV	FZ 1305-M2 → 2NC	FZ 13A5-M2 → 2NC	FZ 1307-M2 → 2NC
14	LS	FZ 1405-M2 → 2NC	FZ 14A5-M2 → 2NC	FZ 1407-M2 → 2NC
15	LS	FZ 1505-M2 2NO	FZ 15A5-M2 2NO	FZ 1507-M2 2NO
18	LA	FZ 1805-M2 → 1NO+1NC	FZ 18A5-M2 → 1NO+1NC	FZ 1807-M2 → 1NO+1NC
20	L	FZ 2005-M2 → 1NO+2NC	FZ 20A5-M2 → 1NO+2NC	FZ 2007-M2 → 1NO+2NC
21	L	FZ 2105-M2 → 3NC	FZ 21A5-M2 → 3NC	FZ 2107-M2 → 3NC
22	L	FZ 2205-M2 → 2NO+1NC	FZ 22A5-M2 → 2NO+1NC	FZ 2207-M2 → 2NO+1NC
2	R	FZ 205-M2 2x(1NO-1NC)	FZ 2A5-M2 2x(1NO-1NC)	FZ 207-M2 2x(1NO-1NC)
E1		FZ E105-M2 1NO-1NC	FZ E1A5-M2 1NO-1NC	FZ E107-M2 1NO-1NC
Max. speed		page 215 - type 3	page 215 - type 3	page 215 - type 3
Actuating force		6 N (25 N →)	4.3 N (25 N →)	4 N (25 N →)
Travel diagrams		page 216 - group 2	page 216 - group 2	page 216 - group 3

All values in the drawings are in mm



Contact type:

- R** = snap action
L = slow action
LO = slow action
break
LS = slow action
shifted
LV = slow action
shifted and
spaced
LI = slow action
independent
LA = slow action
close
 = electronic
PNP

Contact block

With external rubber gasket				
5	R FZ 508-M2 → 1NO+1NC	FZ 512-M2 → 1NO+1NC	FZ 513-M2 → 1NO+1NC	FZ 514-M2 → 1NO+1NC
6	L FZ 608-M2 → 1NO+1NC	FZ 612-M2 → 1NO+1NC	FZ 613-M2 → 1NO+1NC	FZ 614-M2 → 1NO+1NC
7	LO FZ 708-M2 → 1NO+1NC	FZ 712-M2 → 1NO+1NC	FZ 713-M2 → 1NO+1NC	FZ 714-M2 → 1NO+1NC
9	L FZ 908-M2 → 2NC	FZ 912-M2 → 2NC	FZ 913-M2 → 2NC	FZ 914-M2 → 2NC
10	L FZ 1008-M2 2NO	FZ 1012-M2 2NO	FZ 1013-M2 2NO	FZ 1014-M2 2NO
11	R FZ 1108-M2 → 2NC	FZ 1112-M2 → 2NC	FZ 1113-M2 → 2NC	FZ 1114-M2 → 2NC
12	R FZ 1208-M2 2NO	FZ 1212-M2 2NO	FZ 1213-M2 2NO	FZ 1214-M2 2NO
13	LV FZ 1308-M2 → 2NC	FZ 1312-M2 → 2NC	FZ 1313-M2 → 2NC	FZ 1314-M2 → 2NC
14	LS FZ 1408-M2 → 2NC	FZ 1412-M2 → 2NC	FZ 1413-M2 → 2NC	FZ 1414-M2 → 2NC
15	LS FZ 1508-M2 2NO	FZ 1512-M2 2NO	FZ 1513-M2 2NO	FZ 1514-M2 2NO
18	LA FZ 1808-M2 → 1NO+1NC	FZ 1812-M2 → 1NO+1NC	FZ 1813-M2 → 1NO+1NC	FZ 1814-M2 → 1NO+1NC
20	L FZ 2008-M2 → 1NO+2NC	FZ 2012-M2 → 1NO+2NC	FZ 2013-M2 → 1NO+2NC	FZ 2014-M2 → 1NO+2NC
21	L FZ 2108-M2 → 3NC	FZ 2112-M2 → 3NC	FZ 2113-M2 → 3NC	FZ 2114-M2 → 3NC
22	L FZ 2208-M2 → 2NO+1NC	FZ 2212-M2 → 2NO+1NC	FZ 2213-M2 → 2NO+1NC	FZ 2214-M2 → 2NO+1NC
2	R FZ 208-M2 2x(1NO-1NC)	FZ 212-M2 2x(1NO-1NC)	FZ 213-M2 2x(1NO-1NC)	FZ 214-M2 2x(1NO-1NC)
E1	FZ E108-M2 1NO-1NC	FZ E112-M2 1NO-1NC	FZ E113-M2 1NO-1NC	FZ E114-M2 1NO-1NC
Max. speed	page 215 - type 4	page 215 - type 4	page 215 - type 2	page 215 - type 4
Actuating force	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams	page 216 - group 1	page 216 - group 1	page 216 - group 1	page 216 - group 1

With external rubber gasket				
5	R FZ 515-M2R28 → 1NO+1NC	FZ 516-M2 → 1NO+1NC	FZ 520-M2 1NO+1NC	FZ 521-M2 1NO+1NC
6	L FZ 615-M2R28 → 1NO+1NC	FZ 616-M2 → 1NO+1NC		
7	LO FZ 715-M2R28 → 1NO+1NC	FZ 716-M2 → 1NO+1NC		
9	L FZ 915-M2R28 → 2NC	FZ 916-M2 → 2NC		
10	L FZ 1015-M2R28 2NO	FZ 1016-M2 2NO	FZ 1020-M2 2NO	FZ 1021-M2 2NO
11	R FZ 1115-M2R28 → 2NC	FZ 1116-M2 → 2NC		
12	R FZ 1215-M2R28 2NO	FZ 1216-M2 2NO	FZ 1220-M2 2NO	FZ 1221-M2 2NO
13	LV FZ 1315-M2R28 → 2NC	FZ 1316-M2 → 2NC		
14	LS FZ 1415-M2R28 → 2NC	FZ 1416-M2 → 2NC		
15	LS FZ 1515-M2R28 2NO	FZ 1516-M2 2NO		
18	LA FZ 1815-M2R28 → 1NO+1NC	FZ 1816-M2 → 1NO+1NC	FZ 1820-M2 1NO+1NC	FZ 1821-M2 1NO+1NC
20	L FZ 2015-M2R28 → 1NO+2NC	FZ 2016-M2 → 1NO+2NC	FZ 2020-M2 1NO+2NC	FZ 2021-M2 1NO+2NC
21	L FZ 2115-M2R28 → 3NC	FZ 2116-M2 → 3NC	FZ 2120-M2 3NC	FZ 2121-M2 3NC
22	L FZ 2215-M2R28 → 2NO+1NC	FZ 2216-M2 → 2NO+1NC	FZ 2220-M2 2NO+1NC	FZ 2221-M2 2NO+1NC
2	R FZ 215-M2R28 2x(1NO-1NC)	FZ 216-M2 2x(1NO-1NC)	FZ 220-M2 2x(1NO-1NC)	FZ 221-M2 2x(1NO-1NC)
E1	FZ E115-M2R28 1NO-1NC	FZ E116-M2 1NO-1NC	FZ E120-M2 1NO-1NC	FZ E121-M2 1NO-1NC
Max. speed	page 215 - type 2	page 215 - type 2	1 m/s	1 m/s
Actuating force	8 N (25 N →)	8 N (25 N →)	0.07 Nm	0.07 Nm
Travel diagrams	page 216 - group 1	page 216 - group 1	page 216 - group 4	page 216 - group 4

All values in the drawings are in mm

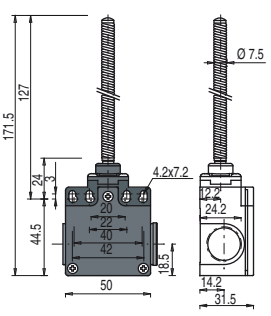
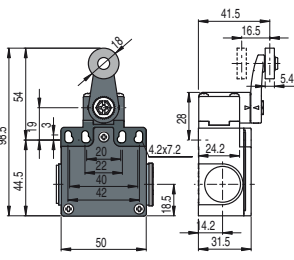
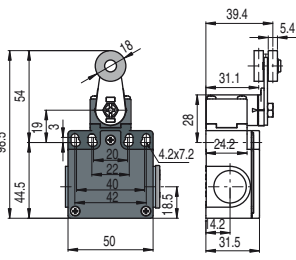
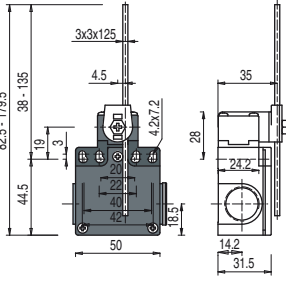
Accessories See page 197

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

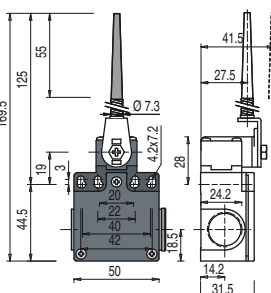
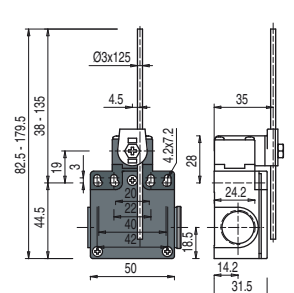
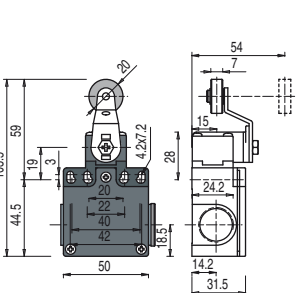
Contact type:

- R** = snap action
L = slow action
LO = slow action make before break
LS = slow action shifted
LV = slow action shifted and spaced
LI = slow action independent
LA = slow action close
 = electronic PNP

Contact block

	With external rubber gasket	With Ø 20 mm stainless steel roller on request	Other rollers available. See on page 102	Square rod, 3x3 mm
				
5	R FZ 525-M2 1NO+1NC	FZ 530-M2  1NO+1NC	FZ 531-M2  1NO+1NC	FZ 533-M2 1NO+1NC
6	L	FZ 630-M2  1NO+1NC	FZ 631-M2  1NO+1NC	FZ 633-M2 1NO+1NC
7	LO	FZ 730-M2  1NO+1NC	FZ 731-M2  1NO+1NC	FZ 733-M2 1NO+1NC
9	L	FZ 930-M2  2NC	FZ 931-M2  2NC	FZ 933-M2 2NC
10	L FZ 1025-M2 2NO	FZ 1030-M2 2NO	FZ 1031-M2 2NO	FZ 1033-M2 2NO
11	R	FZ 1130-M2  2NC	FZ 1131-M2  2NC	FZ 1133-M2 2NC
12	R FZ 1225-M2 2NO	FZ 1230-M2 2NO	FZ 1231-M2 2NO	FZ 1233-M2 2NO
13	LV	FZ 1330-M2  2NC	FZ 1331-M2  2NC	FZ 1333-M2 2NC
14	LS	FZ 1430-M2  2NC	FZ 1431-M2  2NC	FZ 1433-M2 2NC
15	LS	FZ 1530-M2 2NO	FZ 1531-M2 2NO	FZ 1533-M2 2NO
16	LI	FZ 1630-M2  2NC	FZ 1631-M2  2NC	FZ 1633-M2 2NC
18	LA FZ 1825-M2 1NO+1NC	FZ 1830-M2  1NO+1NC	FZ 1831-M2  1NO+1NC	FZ 1833-M2 1NO+1NC
20	L FZ 2025-M2 1NO+2NC	FZ 2030-M2  1NO+2NC	FZ 2031-M2  1NO+2NC	FZ 2033-M2 1NO+2NC
21	L FZ 2125-M2 3NC	FZ 2130-M2  3NC	FZ 2131-M2  3NC	FZ 2133-M2 3NC
22	L FZ 2225-M2 2NO+1NC	FZ 2230-M2  2NO+1NC	FZ 2231-M2  2NO+1NC	FZ 2233-M2 2NO+1NC
2	R FZ 225-M2 2x(1NO-1NC)	FZ 230-M2 2x(1NO-1NC)	FZ 231-M2 2x(1NO-1NC)	FZ 233-M2 2x(1NO-1NC)
E1	 FZ E125-M2 1NO-1NC	FZ E130-M2 1NO-1NC	FZ E131-M2 1NO-1NC	FZ E133-M2 1NO-1NC
Max. speed	1 m/s	page 215 - type 1	page 215 - type 1	1.5 m/s
Actuating force	0.12 Nm	0.06 Nm (0.25 Nm )	0.06 Nm (0.25 Nm )	0.06 Nm
Travel diagrams	page 216 - group 4	page 216 - group 5	page 216 - group 5	page 216 - group 5

Contact block

	Round rod, Ø 3 mm, stainless steel	Other rollers available. See on page 102	Other rollers available. See on page 102
			
5	R FZ 534-M2 1NO+1NC	FZ 550-M2 1NO+1NC	FZ 551-M2  1NO+1NC
6	L FZ 634-M2 1NO+1NC	FZ 650-M2 1NO+1NC	FZ 651-M2  1NO+1NC
7	LO FZ 734-M2 1NO+1NC	FZ 750-M2 1NO+1NC	FZ 751-M2  1NO+1NC
9	L FZ 934-M2 2NC	FZ 950-M2 2NC	FZ 951-M2  2NC
10	L FZ 1034-M2 2NO	FZ 1050-M2 2NO	FZ 1051-M2 2NO
11	R FZ 1134-M2 2NC	FZ 1150-M2 2NC	FZ 1151-M2  2NC
12	R FZ 1234-M2 2NO	FZ 1250-M2 2NO	FZ 1251-M2 2NO
13	LV FZ 1334-M2 2NC	FZ 1350-M2 2NC	FZ 1351-M2  2NC
14	LS FZ 1434-M2 2NC	FZ 1450-M2 2NC	FZ 1451-M2  2NC
15	LS FZ 1534-M2 2NO	FZ 1550-M2 2NO	FZ 1551-M2 2NO
16	LI FZ 1634-M2 2NC	FZ 1650-M2 2NC	FZ 1651-M2  2NC
18	LA FZ 1834-M2 1NO+1NC	FZ 1850-M2 1NO+1NC	FZ 1851-M2  1NO+1NC
20	L FZ 2034-M2 1NO+2NC	FZ 2050-M2 1NO+2NC	FZ 2051-M2  1NO+2NC
21	L FZ 2134-M2 3NC	FZ 2150-M2 3NC	FZ 2151-M2  3NC
22	L FZ 2234-M2 2NO+1NC	FZ 2250-M2 2NO+1NC	FZ 2251-M2  2NO+1NC
2	R FZ 234-M2 2x(1NO-1NC)	FZ 250-M2 2x(1NO-1NC)	FZ 251-M2 2x(1NO-1NC)
E1	 FZ E134-M2 1NO-1NC	FZ E150-M2 1NO-1NC	FZ E151-M2 1NO-1NC
Max. speed	1.5 m/s	1.5 m/s	page 215 - type 1
Actuating force	0.06 Nm	0.06 Nm	0.06 Nm (0.25 Nm )
Travel diagrams	page 216 - group 5	page 216 - group 5	page 216 - group 5

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
LI = slow action independent
LA = slow action close
 = electronic PNP

Contact block

	Porcelain roller	Other rollers available. See on page 102	Other rollers available. See on page 102	Other rollers available. See on page 102
5	R FZ 553-E0M2V9	1NO+1NC	FZ 554-M2	1NO+1NC
6	L FZ 653-E0M2V9	1NO+1NC	FZ 654-M2	1NO+1NC
7	LO FZ 753-E0M2V9	1NO+1NC	FZ 754-M2	1NO+1NC
9	L FZ 953-E0M2V9	2NC	FZ 954-M2	2NC
10	L FZ 1053-E0M2V9	2NO	FZ 1054-M2	2NO
11	R FZ 1253-E0M2V9	2NO	FZ 1154-M2	2NC
12	R FZ 1253-E0M2V9	2NO	FZ 1254-M2	2NO
13	LV FZ 1353-E0M2V9	2NC	FZ 1354-M2	2NC
14	LS FZ 1453-E0M2V9	2NC	FZ 1454-M2	2NC
15	LS FZ 1553-E0M2V9	2NO	FZ 1554-M2	2NO
16	LI FZ 1653-E0M2V9	2NC	FZ 1654-M2	2NC
18	LA FZ 1853-E0M2V9	1NO+1NC	FZ 1854-M2	1NO+1NC
20	L FZ 2053-E0M2V9	1NO+2NC	FZ 2054-M2	1NO+2NC
21	L FZ 2153-E0M2V9	3NC	FZ 2154-M2	3NC
22	L FZ 2253-E0M2V9	2NO+1NC	FZ 2254-M2	2NO+1NC
2	R FZ 253-E0M2	2x(1NO-1NC)	FZ 254-M2	2x(1NO-1NC)
E1	FZ E153-E0M2V9	1NO-1NC	FZ E154-M2	1NO-1NC
Max. speed	0.5 m/s	page 215 - type 1	page 215 - type 1	page 215 - type 1
Actuating force	0.03 Nm (0.25 Nm)	0.06 Nm (0.25 Nm)	0.06 Nm (0.25 Nm)	0.06 Nm (0.25 Nm)
Travel diagrams	page 216 - group 6	page 216 - group 5	page 216 - group 5	page 216 - group 5

	Other rollers available. See on page 102	Glass fibre rod	Rope switch for signalling
Contact block			
5	R FZ 557-M2 → 1NO+1NC	FZ 569-M2 1NO+1NC	FZ 576-M2 1NO+1NC
6	L FZ 657-M2 → 1NO+1NC	FZ 669-M2 1NO+1NC	FZ 676-M2 1NO+1NC
7	LO FZ 757-M2 → 1NO+1NC	FZ 769-M2 1NO+1NC	FZ 776-M2 1NO+1NC
9	L FZ 957-M2 → 2NC	FZ 969-M2 2NC	FZ 976-M2 2NO
10	L FZ 1057-M2 2NO	FZ 1069-M2 2NO	FZ 1076-M2 2NC
11	R FZ 1157-M2 → 2NC	FZ 1169-M2 2NC	FZ 1176-M2 2NO
12	R FZ 1257-M2 2NO	FZ 1269-M2 2NO	FZ 1276-M2 2NC
13	LV FZ 1357-M2 → 2NC	FZ 1369-M2 2NC	FZ 1376-M2 2NO
14	LS FZ 1457-M2 → 2NC	FZ 1469-M2 2NC	FZ 1476-M2 2NO
15	LS FZ 1557-M2 2NO	FZ 1569-M2 2NO	FZ 1576-M2 2NC
16	LI FZ 1657-M2 → 2NC	FZ 1669-M2 2NC	
18	LA FZ 1857-M2 → 1NO+1NC	FZ 1869-M2 1NO+1NC	FZ 1876-M2 1NO+1NC
20	L FZ 2057-M2 → 1NO+2NC	FZ 2069-M2 1NO+2NC	FZ 2076-M2 2NO+1NC
21	L FZ 2157-M2 → 3NC	FZ 2169-M2 3NC	FZ 2176-M2 3NO
22	L FZ 2257-M2 → 2NO+1NC	FZ 2269-M2 2NO+1NC	FZ 2276-M2 1NO+2NC
2	R FZ 257-M2 2x(1NO-1NC)	FZ 269-M2 2x(1NO-1NC)	FZ 276-M2 2x(1NO-1NC)
E1	FZ E157-M2 1NO-1NC	FZ E169-M2 1NO-1NC	
Max. speed	page 215 - type 1	1.5 m/s	0.5 m/s
Actuating force	0.06 Nm (0.25 Nm →)	0.06 Nm	initial 20 N - final 40 N
Travel diagrams	page 216 - group 5	page 216 - group 5	page 216 - group 7

(1) Positive opening only with actuator set to max. See page 101.

All values in the drawings are in mm

Accessories See page 197

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



Pizzato Elettrica has developed a reset device code W3 to make perfectly simultaneous the actuator and the contact block tripping. This device consists in a block to be mounted between the body and the head of the switch that can be rotated independently from the head. This new device offers the following advantages:

- The reset device can be integrated into almost all standard actuator heads
- Contact blocks with snap action are no more necessary because the tripping movement is executed by the reset device itself
- The reset device can be rotated independently from the head ensuring maximum flexibility during installation
- Two actuating forces: standard and increased for vibration applications
- Mechanical endurance: 1 million operating cycles.

Contact type:

R = snap action
L = slow action

Contact block

		With stainless steel roller on request		With stainless steel roller on request	
6	L	FZ 601-W3M2	➔ 1NO+1NC	FZ 602-W3M2	➔ 1NO+1NC
9	L	FZ 901-W3M2	➔ 2NC	FZ 902-W3M2	➔ 2NC
10	L	FZ 1001-W3M2	2NO	FZ 1002-W3M2	2NO
20	L	FZ 2001-W3M2	➔ 1NO+2NC	FZ 2002-W3M2	➔ 1NO+2NC
21	L	FZ 2101-W3M2	➔ 3NC	FZ 2102-W3M2	➔ 3NC
22	L	FZ 2201-W3M2	➔ 2NO+1NC	FZ 2202-W3M2	➔ 2NO+1NC
2	R	FZ 201-W3M2	2NO+2NC	FZ 202-W3M2	2NO+2NC
Max. speed		page 215 - type 4		page 215 - type 3	
Actuating force		4.5 N (25 N ➔)		4 N (25 N ➔)	
Travel diagrams		page 217 - group 1		page 217 - group 2	

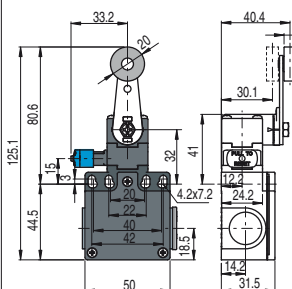
		With Ø 20 mm stainless steel roller on request		Other rollers available. See on page 102	
6	L	FZ 615-W3M2R28	➔ 1NO+1NC	FZ 630-W3M2	➔ 1NO+1NC
9	L	FZ 915-W3M2R28	➔ 2NC	FZ 930-W3M2	➔ 2NC
10	L	FZ 1015-W3M2R28	2NO	FZ 1030-W3M2	2NO
20	L	FZ 2015-W3M2R28	➔ 1NO+2NC	FZ 2030-W3M2	➔ 1NO+2NC
21	L	FZ 2115-W3M2R28	➔ 3NC	FZ 2130-W3M2	➔ 3NC
22	L	FZ 2215-W3M2R28	➔ 2NO+1NC	FZ 2230-W3M2	➔ 2NO+1NC
2	R	FZ 215-W3M2R28	2NO+2NC	FZ 230-W3M2	2NO+2NC
Max. speed		page 215 - type 2		page 215 - type 1	
Actuating force		4.5 N (25 N ➔)		0.07 Nm (0.25 Nm ➔)	
Travel diagrams		page 217 - group 1		page 217 - group 4	

All values in the drawings are in mm

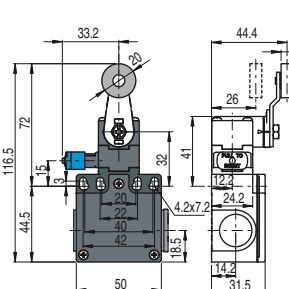
Contact type:

R = snap action
L = slow action

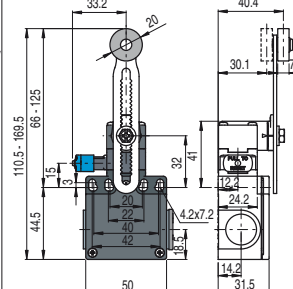
Other rollers available. See on page 102



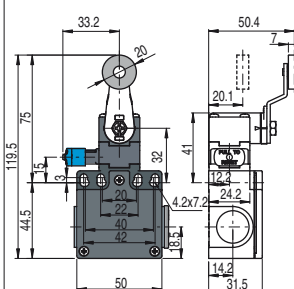
Other rollers available. See on page 102



Other rollers available. See on page 102



Other rollers available. See on page 102

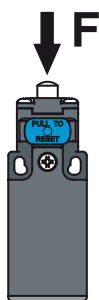


Contact block

6	L	FZ 652-W3M2	➔ 1NO+1NC
9	L	FZ 952-W3M2	➔ 2NC
10	L	FZ 1052-W3M2	2NO
20	L	FZ 2052-W3M2	➔ 1NO+2NC
21	L	FZ 2152-W3M2	➔ 3NC
22	L	FZ 2252-W3M2	➔ 2NO+1NC
2	R	FZ 252-W3M2	2NO+2NC
Max. speed		page 215 - type 1	
Actuating force		0.07 Nm (0.25 Nm ➔)	
Travel diagrams		page 217 - group 4	

All values in the drawings are in mm

Increased actuating force



The switch can be delivered with increased actuating force (option W4). Ideal for vibration applications.

Actuators	Actuating force
01, 14, 15, 16	7 N
02, 05	6 N
07	3.5 N
30 ... 57	0.08 Nm

To order the switch with reset and increased actuating force, replace the -W3 option with -W4 in the order code.

Example: FZ 601-W3M2 ➔ FZ 601-W4M2

Position switches with swivelling lever without actuator

All values in the drawings are in mm

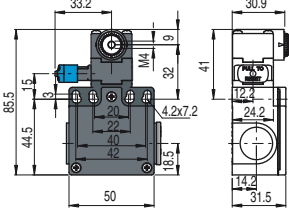
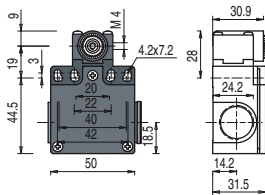
Contact type:

- R** = snap action
L = slow action
LO = slow action make before break
LS = slow action shifted
LV = slow action shifted and spaced
LI = slow action independent
LA = slow action close
 = electronic PNP

Contact block

5	R	FZ 538-M2	➔ 1NO+1NC	
6	L	FZ 638-M2	➔ 1NO+1NC	FZ 638-W3M2 ➔ 1NO+1NC
7	LO	FZ 738-M2	➔ 1NO+1NC	
9	L	FZ 938-M2	➔ 2NC	FZ 938-W3M2 ➔ 2NC
10	L	FZ 1038-M2	2NO	FZ 1038-W3M2 2NO
11	R	FZ 1138-M2	➔ 2NC	
12	R	FZ 1238-M2	2NO	
13	LV	FZ 1338-M2	➔ 2NC	
14	LS	FZ 1438-M2	➔ 2NC	
15	LS	FZ 1538-M2	2NO	
16	LI	FZ 1638-M2	➔ 2NC	
18	LA	FZ 1838-M2	➔ 1NO+1NC	
20	L	FZ 2038-M2	➔ 1NO+2NC	FZ 2038-W3M2 ➔ 1NO+2NC
21	L	FZ 2138-M2	➔ 3NC	FZ 2138-W3M2 ➔ 3NC
22	L	FZ 2238-M2	➔ 2NO+1NC	FZ 2238-W3M2 ➔ 2NO+1NC
2	R	FZ 238-M2	2x(1NO-1NC)	FZ 238-W3M2 2NO+2NC
E1		FZ E138-M2	1NO-1NC	
Actuating force		0.06 Nm (0.25 Nm ➔)		0.07 Nm (0.25 Nm ➔)
Travel diagrams		page 216 - group 5		page 217 - group 4

With manual reset knob



IMPORTANT

For safety applications: join only switches and actuators marked with symbol ⊕ next to the product code. For more information about safety applications see details on page 211.

Separate actuators

All values in the drawings are in mm

IMPORTANT: These separate actuators can be used only with items of the FR, FM, FX, FZ and FK series.

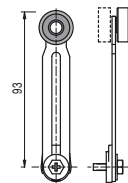
Technopolymer roller Ø 18 mm	Technopolymer roller Ø 18 mm	Adjustable square rod, 3x3x125 mm	Flexible rod with pointed end	Adjustable round rod Ø 3x125 mm	Technopolymer roller Ø 20 mm	
VF LE30 ➔	VF LE31 ➔	VF LE33	VF LE34	VF LE50	VF LE51 ➔	
Technopolymer roller Ø 20 mm	Porcelain roller	Technopolymer roller Ø 20 mm	Adjustable actuator with technopolymer roller	Adjustable safety actuator with technopolymer roller	Technopolymer roller Ø 20 mm	Adjustable glass fibre rod
VF LE52 ➔	VF LE53 ➔ ⁽²⁾	VF LE54 ➔	VF LE55 ➔ ⁽¹⁾	VF LE56 ➔	VF LE57 ➔	VF LE69

⁽¹⁾ Actuator VF LE55 can only be used in safety applications if adjusted to its max. length, as shown in the figure to the right.

If an adjustable lever is required for safety applications, use the VF LE56 adjustable safety lever.

⁽²⁾ The position switch obtained by assembling switch FZ •38-M2 (e.g. FZ 538-M2, FZ 638-M2...) with actuator VF LE53 will not present the same travel diagrams and actuating forces as switch FZ •53 E0M2V9 (e.g. FZ 553-E0M2V9, FZ 653-E0M2V9...).

⁽⁴⁾ The actuator cannot be rotated to the inside because it will hit the switch head upon actuation.



Items with code on green background are stock items

Accessories See page 197

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



Special separate actuators

All values in the drawings are in mm

IMPORTANT: These separate actuators can be used only with items of the FR, FM, FX, FZ and FK series.

Stainless steel rollers, Ø 20 mm

VF LE31-R24 →	VF LE51-R24 →	VF LE52-R24 →	VF LE54-R24 →	VF LE55-R24 → (1)	VF LE56-R24 →	VF LE57-R24 →

Technopolymer rollers, Ø 35 mm

VF LE31-R25 → (4)	VF LE51-R25 → (4)	VF LE52-R25 →	VF LE54-R25 → (4)	VF LE55-R25 → (1)	VF LE56-R25 →	VF LE57-R25 →

Rubber rollers, Ø 40 mm

VF LE31-R5 → (4)	VF LE51-R5 → (4)	VF LE52-R5 →	VF LE54-R5 → (4)	VF LE55-R5 → (1)	VF LE56-R5 →	VF LE57-R5 → (4)

Rubber rollers, Ø 50 mm

VF LE51-R26 → (4)	VF LE52-R26 → (4)	VF LE54-R26 → (4)	VF LE55-R26 → (1)	VF LE56-R26 →	VF LE57-R26 → (4)

Protruding rubber rollers, Ø 50 mm

VF LE55-R27 → (1)	VF LE56-R27 →

Items with code on **green** background are stock items

Accessories See page 197

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