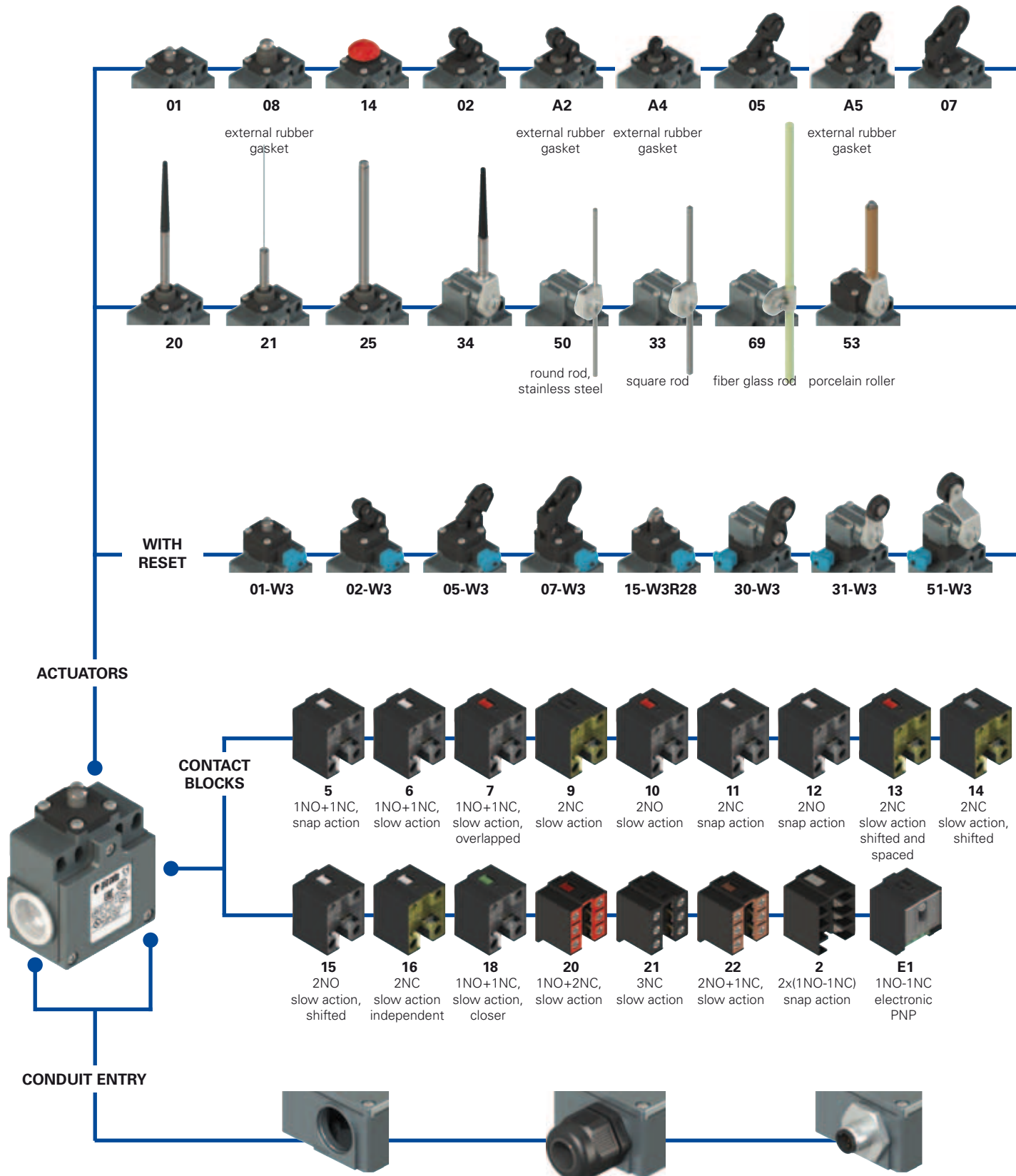


Selection diagram



**Threaded conduit entries**

<b>M2</b>	M20x1.5 (standard) PG 13.5
-----------	-------------------------------

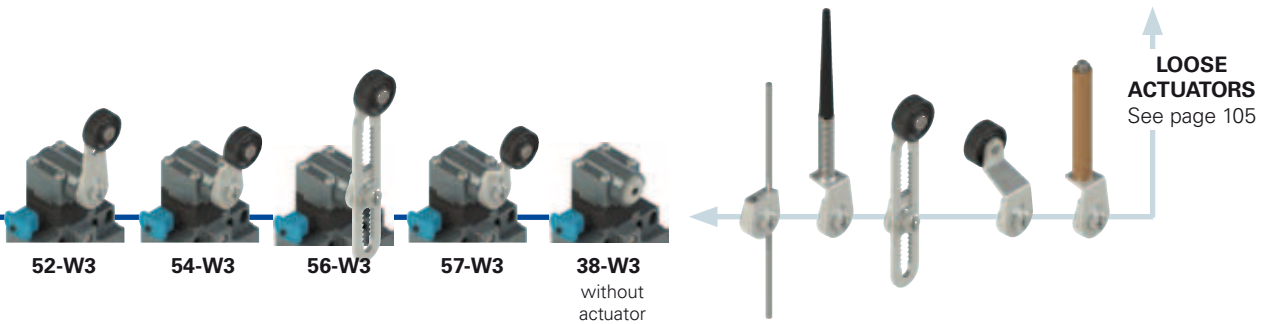
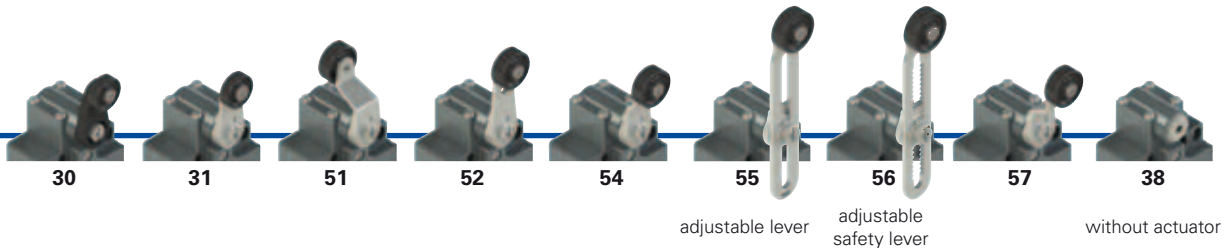
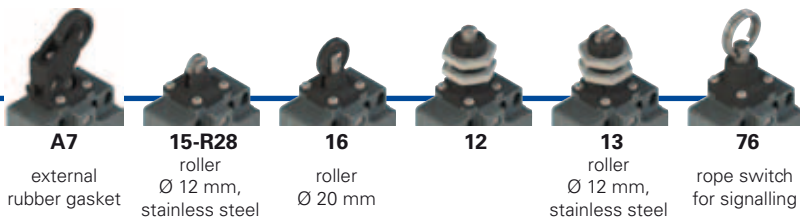
**With cable gland**

<b>K123</b>	for cables from Ø 6 to Ø 12 mm from the right
<b>K223</b>	for cables from Ø 6 to Ø 12 mm from the left
<b>K127</b>	for cables from Ø 3 to Ø 7 mm from the right
<b>K227</b>	for cables from Ø 3 to Ø 7 mm from the left

**With M12 metal connector**

<b>K41</b>	8 poles, right
<b>K42</b>	8 poles, left
<b>K51</b>	5 poles, right
<b>K52</b>	5 poles, left

● product options  
 → accessory sold separately


**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**

<b>Housing</b>		<b>Ambient temperature</b>	
<b>FZ</b>	metal, two conduit entries		-25°C ... +80°C (standard)
<b>Contact blocks</b>		<b>T6</b>	-40°C ... +80°C
<b>5</b>	1NO+1NC, snap action	<b>Pre-installed cable glands or connectors</b>	
<b>6</b>	1NO+1NC, slow action		without cable gland or connector (standard)
<b>7</b>	1NO+1NC, slow action, overlapped	<b>K123</b>	cable gland for cables from Ø 6 to Ø 12 mm from the right
...	.....	<b>K51</b>	M12 metal connector, 5 poles, right
<b>Actuators</b>		Please contact our technical service for the complete list of possible combinations.	
<b>01</b>	short plunger	<b>Threaded conduit entry</b>	<b>Rollers</b>
<b>02</b>	roller lever	<b>M2</b>	M20x1.5 (standard)
<b>05</b>	angled roller lever		PG 13.5
...	.....		
<b>Reset</b>			
	without reset (standard)		<b>R28</b>
<b>W3</b>	simultaneous reset		stainless steel, Ø 12 mm (for actuators A4, 15)
<b>W4</b>	simultaneous reset, increased force		<b>R23</b>
			stainless steel, Ø 14 mm (for actuators A2, 02, A5, 05, 30, 31, 51, 52, 54, 55, 56, 57)
			<b>R24</b>
			stainless steel, Ø 20 mm (for actuators 30, 31, 51, 52, 54, 55, 56, 57)
			<b>R25</b>
			technopolymer, Ø 35 mm (for actuators 30, 31, 51, 52, 54, 55, 56, 57)
			<b>R5</b>
			rubber, Ø 40 mm (for actuators 30, 31, 51, 52, 54, 55, 56, 57)
			<b>R26</b>
			rubber, Ø 50 mm (for actuators 51, 52, 54, 55, 56, 57)
			<b>R27</b>
			rubber, protruding, Ø 50 mm (for actuators 55, 56)
<b>Contact type</b>			
	silver contacts (standard)		
<b>G</b>	silver contacts with 1 µm gold coating (not for contact block 2)		



### 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

### Markings and quality marks:



IMO approval:	EG609
UL approval:	E131787
CCC approval:	2007010305229998
EAC approval:	RU C-IT ДМ94.В.01024

### Technical data

#### Housing

Metal housing, baked powder coating	
Two threaded conduit entries:	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. actuation frequency:	3600 operating cycles <sup>1</sup> /hour
Mechanical endurance:	20 million operating cycles <sup>1</sup>
Mounting position:	any
Safety parameters:	
B <sub>10d</sub> :	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
<small>(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1.</small>	

#### Cable cross section (flexible copper strands)

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

#### In conformity 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.

#### 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 <sub>th</sub> ):	10 A
	Rated insulation voltage (U <sub>i</sub> ):	500 Vac 600 Vdc 400 Vac 500 Vdc (contact blocks 2, 11, 12, 20, 21, 22, 33, 34)
	Rated impulse withstand voltage (U <sub>imp</sub> ):	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 <sub>th</sub> ):	4 A
	Rated insulation voltage (U <sub>i</sub> ):	250 Vac 300 Vdc
	Protection against short circuits: Pollution degree:	type gG fuse 4 A 500 V 3
with M12 connector 8 poles	Thermal current (I <sub>th</sub> ):	2 A
	Rated insulation voltage (U <sub>i</sub> ):	30 Vac 36 Vdc
	Protection against short circuits: Pollution degree:	type gG fuse 2 A 500 V 3
		Alternating current: AC15 (50±60 Hz)
		U <sub>e</sub> (V) 250 400 500
		I <sub>e</sub> (A) 6 4 1
		Direct current: DC13
		U <sub>e</sub> (V) 24 125 250
		I <sub>e</sub> (A) 6 1.1 0.4
		Alternating current: AC15 (50±60 Hz)
		U <sub>e</sub> (V) 24 120 250
		I <sub>e</sub> (A) 4 4 4
		Direct current: DC13
		U <sub>e</sub> (V) 24 125 250
		I <sub>e</sub> (A) 4 1.1 0.4
		Alternating current: AC15 (50±60 Hz)
		U <sub>e</sub> (V) 24
		I <sub>e</sub> (A) 2
		Direct current: DC13
		U <sub>e</sub> (V) 24
		I <sub>e</sub> (A) 2



### Characteristics approved by IMQ

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<sub>imp</sub>): 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.
NO	3-4	NC	1-2	NC	1-2	NC	1-2	NO	1-2
NC	5-6	NO	3-4	NO	3-4	NO	3-4	NC	1-2
NC	7-8	ground	5	ground	5	ground	5	ground	5
NO	1-2							NC (1°)	1-2
								NC (2°)	3-4
								ground	5

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.
NC (1°)	1-2	NO (1°)	1-2	NC, lever at the right	1-2	NC	3-4	NC	1-2
NC (2°)	3-4	NO (2°)	3-4	NC, lever to the left	3-4	NC	5-6	NO	3-4
ground	5	ground	5	ground	5	NO	7-8	ground	5
						ground	1	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

# Position switches FZ series

Contact type:

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

Contact blocks

	With stainless steel roller on request	With external rubber gasket	With external rubber gasket
5	<b>R</b> FZ 501-M2 1NO+1NC	<b>R</b> FZ 502-M2 1NO+1NC	<b>R</b> FZ 5A2-M2 1NO+1NC
6	<b>L</b> FZ 601-M2 1NO+1NC	<b>L</b> FZ 602-M2 1NO+1NC	<b>L</b> FZ 6A2-M2 1NO+1NC
7	<b>LO</b> FZ 701-M2 1NO+1NC	<b>LO</b> FZ 702-M2 1NO+1NC	<b>LO</b> FZ 7A2-M2 1NO+1NC
9	<b>L</b> FZ 901-M2 2NC	<b>L</b> FZ 902-M2 2NC	<b>L</b> FZ 9A2-M2 2NC
10	<b>L</b> FZ 1001-M2 2NO	<b>L</b> FZ 1002-M2 2NO	<b>L</b> FZ 10A2-M2 2NO
11	<b>R</b> FZ 1101-M2 2NC	<b>R</b> FZ 1102-M2 2NC	<b>R</b> FZ 11A2-M2 2NC
12	<b>R</b> FZ 1201-M2 2NO	<b>R</b> FZ 1202-M2 2NO	<b>R</b> FZ 12A2-M2 2NO
13	<b>LV</b> FZ 1301-M2 2NC	<b>LV</b> FZ 1302-M2 2NC	<b>LV</b> FZ 13A2-M2 2NC
14	<b>LS</b> FZ 1401-M2 2NC	<b>LS</b> FZ 1402-M2 2NC	<b>LS</b> FZ 14A2-M2 2NC
15	<b>LS</b> FZ 1501-M2 2NO	<b>LS</b> FZ 1502-M2 2NO	<b>LS</b> FZ 15A2-M2 2NO
18	<b>LA</b> FZ 1801-M2 1NO+1NC	<b>LA</b> FZ 1802-M2 1NO+1NC	<b>LA</b> FZ 18A2-M2 1NO+1NC
20	<b>L</b> FZ 2001-M2 1NO+2NC	<b>L</b> FZ 2002-M2 1NO+2NC	<b>L</b> FZ 20A2-M2 1NO+2NC
21	<b>L</b> FZ 2101-M2 3NC	<b>L</b> FZ 2102-M2 3NC	<b>L</b> FZ 21A2-M2 3NC
22	<b>L</b> FZ 2201-M2 2NO+1NC	<b>L</b> FZ 2202-M2 2NO+1NC	<b>L</b> FZ 22A2-M2 2NO+1NC
2	<b>R</b> FZ 201-M2 2x(1NO-1NC)	<b>R</b> FZ 202-M2 2x(1NO-1NC)	<b>R</b> FZ 2A2-M2 2x(1NO-1NC)
E1	<b>PNP</b> FZ E101-M2 1NO-1NC	<b>PNP</b> FZ E102-M2 1NO-1NC	<b>PNP</b> FZ E1A2-M2 1NO-1NC
Max. speed	page 239 - type 4	page 239 - type 3	page 239 - type 3
Min. force	8 N (25 N ⊕)	6 N (25 N ⊕)	4.3 N (25 N ⊕)
Travel diagrams	page 240 - group 1	page 240 - group 2	page 240 - group 2

	With stainless steel roller on request	With external rubber gasket	With external rubber gasket
5	<b>R</b> FZ 505-M2 1NO+1NC	<b>R</b> FZ 5A5-M2 1NO+1NC	<b>R</b> FZ 507-M2 1NO+1NC
6	<b>L</b> FZ 605-M2 1NO+1NC	<b>L</b> FZ 6A5-M2 1NO+1NC	<b>L</b> FZ 607-M2 1NO+1NC
7	<b>LO</b> FZ 705-M2 1NO+1NC	<b>LO</b> FZ 7A5-M2 1NO+1NC	<b>LO</b> FZ 707-M2 1NO+1NC
9	<b>L</b> FZ 905-M2 2NC	<b>L</b> FZ 9A5-M2 2NC	<b>L</b> FZ 907-M2 2NC
10	<b>L</b> FZ 1005-M2 2NO	<b>L</b> FZ 10A5-M2 2NO	<b>L</b> FZ 1007-M2 2NO
11	<b>R</b> FZ 1105-M2 2NC	<b>R</b> FZ 11A5-M2 2NC	<b>R</b> FZ 1107-M2 2NC
12	<b>R</b> FZ 1205-M2 2NO	<b>R</b> FZ 12A5-M2 2NO	<b>R</b> FZ 1207-M2 2NO
13	<b>LV</b> FZ 1305-M2 2NC	<b>LV</b> FZ 13A5-M2 2NC	<b>LV</b> FZ 1307-M2 2NC
14	<b>LS</b> FZ 1405-M2 2NC	<b>LS</b> FZ 14A5-M2 2NC	<b>LS</b> FZ 1407-M2 2NC
15	<b>LS</b> FZ 1505-M2 2NO	<b>LS</b> FZ 15A5-M2 2NO	<b>LS</b> FZ 1507-M2 2NO
18	<b>LA</b> FZ 1805-M2 1NO+1NC	<b>LA</b> FZ 18A5-M2 1NO+1NC	<b>LA</b> FZ 1807-M2 1NO+1NC
20	<b>L</b> FZ 2005-M2 1NO+2NC	<b>L</b> FZ 20A5-M2 1NO+2NC	<b>L</b> FZ 2007-M2 1NO+2NC
21	<b>L</b> FZ 2105-M2 3NC	<b>L</b> FZ 21A5-M2 3NC	<b>L</b> FZ 2107-M2 3NC
22	<b>L</b> FZ 2205-M2 2NO+1NC	<b>L</b> FZ 22A5-M2 2NO+1NC	<b>L</b> FZ 2207-M2 2NO+1NC
2	<b>R</b> FZ 205-M2 2x(1NO-1NC)	<b>R</b> FZ 2A5-M2 2x(1NO-1NC)	<b>R</b> FZ 207-M2 2x(1NO-1NC)
E1	<b>PNP</b> FZ E105-M2 1NO-1NC	<b>PNP</b> FZ E1A5-M2 1NO-1NC	<b>PNP</b> FZ E107-M2 1NO-1NC
Max. speed	page 239 - type 3	page 239 - type 3	page 239 - type 3
Min. force	6 N (25 N ⊕)	4.3 N (25 N ⊕)	4 N (25 N ⊕)
Travel diagrams	page 240 - group 2	page 240 - group 2	page 240 - group 3

All measures in the drawings are in mm

Accessories See page 225

→ The 2D/3D files are available at [www.pizzato.com](http://www.pizzato.com)





# Position switches FZ series

- Contact type:
- R** = snap action
  - L** = slow action
  - LO** = slow action overlapped
  - LS** = slow action shifted
  - LV** = slow action shifted and spaced
  - LI** = slow action independent
  - LA** = slow action closer
  - ⏏** = electronic PNP

Contact blocks

	With external rubber gasket	With Ø 20 mm stainless steel roller on request	Other rollers available. See on page 106	Square rod, 3x3 mm
5	<b>R</b> FZ 525-M2 1NO+1NC	FZ 530-M2 ⊕ 1NO+1NC	FZ 531-M2 ⊕ 1NO+1NC	FZ 533-M2 1NO+1NC
6	<b>L</b> FZ 625-M2 1NO+1NC	FZ 630-M2 ⊕ 1NO+1NC	FZ 631-M2 ⊕ 1NO+1NC	FZ 633-M2 1NO+1NC
7	<b>LO</b> FZ 725-M2 1NO+1NC	FZ 730-M2 ⊕ 1NO+1NC	FZ 731-M2 ⊕ 1NO+1NC	FZ 733-M2 1NO+1NC
9	<b>L</b> FZ 925-M2 2NC	FZ 930-M2 ⊕ 2NC	FZ 931-M2 ⊕ 2NC	FZ 933-M2 2NC
10	<b>L</b> FZ 1025-M2 2NO	FZ 1030-M2 2NO	FZ 1031-M2 2NO	FZ 1033-M2 2NO
11	<b>R</b> FZ 1125-M2 2NC	FZ 1130-M2 ⊕ 2NC	FZ 1131-M2 ⊕ 2NC	FZ 1133-M2 2NC
12	<b>R</b> FZ 1225-M2 2NO	FZ 1230-M2 2NO	FZ 1231-M2 2NO	FZ 1233-M2 2NO
13	<b>LV</b> FZ 1325-M2 2NC	FZ 1330-M2 ⊕ 2NC	FZ 1331-M2 ⊕ 2NC	FZ 1333-M2 2NC
14	<b>LS</b> FZ 1425-M2 2NC	FZ 1430-M2 ⊕ 2NC	FZ 1431-M2 ⊕ 2NC	FZ 1433-M2 2NC
15	<b>LS</b> FZ 1525-M2 2NO	FZ 1530-M2 2NO	FZ 1531-M2 2NO	FZ 1533-M2 2NO
16	<b>LI</b> FZ 1625-M2 2NC	FZ 1630-M2 ⊕ 2NC	FZ 1631-M2 ⊕ 2NC	FZ 1633-M2 2NC
18	<b>LA</b> FZ 1825-M2 1NO+1NC	FZ 1830-M2 ⊕ 1NO+1NC	FZ 1831-M2 ⊕ 1NO+1NC	FZ 1833-M2 1NO+1NC
20	<b>L</b> FZ 2025-M2 1NO+2NC	FZ 2030-M2 ⊕ 1NO+2NC	FZ 2031-M2 ⊕ 1NO+2NC	FZ 2033-M2 1NO+2NC
21	<b>L</b> FZ 2125-M2 3NC	FZ 2130-M2 ⊕ 3NC	FZ 2131-M2 ⊕ 3NC	FZ 2133-M2 3NC
22	<b>L</b> FZ 2225-M2 2NO+1NC	FZ 2230-M2 ⊕ 2NO+1NC	FZ 2231-M2 ⊕ 2NO+1NC	FZ 2233-M2 2NO+1NC
2	<b>R</b> 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	<b>⏏</b> 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 239 - type 1	page 239 - type 1	1.5 m/s
Min. force	0.12 Nm	0.06 Nm (0.25 Nm ⊕)	0.06 Nm (0.25 Nm ⊕)	0.06 Nm
Travel diagrams	page 240 - group 4	page 240 - group 5	page 240 - group 5	page 240 - group 5

	Round rod, Ø 3 mm, stainless steel	Other rollers available. See on page 106	Other rollers available. See on page 106
5	<b>R</b> FZ 534-M2 1NO+1NC	FZ 550-M2 1NO+1NC	FZ 551-M2 ⊕ 1NO+1NC
6	<b>L</b> FZ 634-M2 1NO+1NC	FZ 650-M2 1NO+1NC	FZ 651-M2 ⊕ 1NO+1NC
7	<b>LO</b> FZ 734-M2 1NO+1NC	FZ 750-M2 1NO+1NC	FZ 751-M2 ⊕ 1NO+1NC
9	<b>L</b> FZ 934-M2 2NC	FZ 950-M2 2NC	FZ 951-M2 ⊕ 2NC
10	<b>L</b> FZ 1034-M2 2NO	FZ 1050-M2 2NO	FZ 1051-M2 2NO
11	<b>R</b> FZ 1134-M2 2NC	FZ 1150-M2 2NC	FZ 1151-M2 ⊕ 2NC
12	<b>R</b> FZ 1234-M2 2NO	FZ 1250-M2 2NO	FZ 1251-M2 2NO
13	<b>LV</b> FZ 1334-M2 2NC	FZ 1350-M2 2NC	FZ 1351-M2 ⊕ 2NC
14	<b>LS</b> FZ 1434-M2 2NC	FZ 1450-M2 2NC	FZ 1451-M2 ⊕ 2NC
15	<b>LS</b> FZ 1534-M2 2NO	FZ 1550-M2 2NO	FZ 1551-M2 2NO
16	<b>LI</b> FZ 1634-M2 2NC	FZ 1650-M2 2NC	FZ 1651-M2 ⊕ 2NC
18	<b>LA</b> FZ 1834-M2 1NO+1NC	FZ 1850-M2 1NO+1NC	FZ 1851-M2 ⊕ 1NO+1NC
20	<b>L</b> FZ 2034-M2 1NO+2NC	FZ 2050-M2 1NO+2NC	FZ 2051-M2 ⊕ 1NO+2NC
21	<b>L</b> FZ 2134-M2 3NC	FZ 2150-M2 3NC	FZ 2151-M2 ⊕ 3NC
22	<b>L</b> FZ 2234-M2 2NO+1NC	FZ 2250-M2 2NO+1NC	FZ 2251-M2 ⊕ 2NO+1NC
2	<b>R</b> FZ 234-M2 2x(1NO-1NC)	FZ 250-M2 2x(1NO-1NC)	FZ 251-M2 2x(1NO-1NC)
E1	<b>⏏</b> 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 239 - type 1
Min. force	0.06 Nm	0.06 Nm	0.06 Nm (0.25 Nm ⊕)
Travel diagrams	page 240 - group 5	page 240 - group 5	page 240 - group 5

All measures in the drawings are in mm

Accessories See page 225

→ The 2D/3D files are available at [www.pizzato.com](http://www.pizzato.com)



Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
- A** = electronic PNP

Contact blocks

	Porcelain roller	Other rollers available. See on page 106	Other rollers available. See on page 106	Other rollers available. See on page 106
5	<b>R</b> FZ 553-E0M2V9	1NO+1NC	FZ 554-M2	1NO+1NC
6	<b>L</b> FZ 653-E0M2V9	1NO+1NC	FZ 654-M2	1NO+1NC
7	<b>LO</b> FZ 753-E0M2V9	1NO+1NC	FZ 754-M2	1NO+1NC
9	<b>L</b> FZ 953-E0M2V9	2NC	FZ 954-M2	2NC
10	<b>L</b> FZ 1053-E0M2V9	2NO	FZ 1054-M2	2NO
11	<b>R</b> FZ 1253-E0M2V9	2NO	FZ 1154-M2	2NC
12	<b>R</b> FZ 1253-E0M2V9	2NO	FZ 1254-M2	2NO
13	<b>LV</b> FZ 1353-E0M2V9	2NC	FZ 1354-M2	2NC
14	<b>LS</b> FZ 1453-E0M2V9	2NC	FZ 1454-M2	2NC
15	<b>LS</b> FZ 1553-E0M2V9	2NO	FZ 1554-M2	2NO
16	<b>LI</b> FZ 1653-E0M2V9	2NC	FZ 1654-M2	2NC
18	<b>LA</b> FZ 1853-E0M2V9	1NO+1NC	FZ 1854-M2	1NO+1NC
20	<b>L</b> FZ 2053-E0M2V9	1NO+2NC	FZ 2054-M2	1NO+2NC
21	<b>L</b> FZ 2153-E0M2V9	3NC	FZ 2154-M2	3NC
22	<b>L</b> FZ 2253-E0M2V9	2NO+1NC	FZ 2254-M2	2NO+1NC
2	<b>R</b> FZ 253-E0M2	2x(1NO-1NC)	FZ 254-M2	2x(1NO-1NC)
E1	<b>A</b> FZ E153-E0M2V9	1NO-1NC	FZ E154-M2	1NO-1NC
Max. speed	0.5 m/s	page 239 - type 1	page 239 - type 1	page 239 - type 1
Min. 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 240 - group 6	page 240 - group 5	page 240 - group 5	page 240 - group 5

Contact blocks

	Other rollers available. See on page 106	Fiber glass rod	Rope switch for signalling
5	<b>R</b> FZ 557-M2	1NO+1NC	FZ 576-M2
6	<b>L</b> FZ 657-M2	1NO+1NC	FZ 676-M2
7	<b>LO</b> FZ 757-M2	1NO+1NC	FZ 776-M2
9	<b>L</b> FZ 957-M2	2NC	FZ 976-M2
10	<b>L</b> FZ 1057-M2	2NO	FZ 1076-M2
11	<b>R</b> FZ 1157-M2	2NC	FZ 1176-M2
12	<b>R</b> FZ 1257-M2	2NO	FZ 1276-M2
13	<b>LV</b> FZ 1357-M2	2NC	FZ 1376-M2
14	<b>LS</b> FZ 1457-M2	2NC	FZ 1476-M2
15	<b>LS</b> FZ 1557-M2	2NO	FZ 1576-M2
16	<b>LI</b> FZ 1657-M2	2NC	
18	<b>LA</b> FZ 1857-M2	1NO+1NC	FZ 1876-M2
20	<b>L</b> FZ 2057-M2	1NO+2NC	FZ 2076-M2
21	<b>L</b> FZ 2157-M2	3NC	FZ 2176-M2
22	<b>L</b> FZ 2257-M2	2NO+1NC	FZ 2276-M2
2	<b>R</b> FZ 257-M2	2x(1NO-1NC)	FZ 276-M2
E1	<b>A</b> FZ E157-M2	1NO-1NC	FZ E169-M2
Max. speed	page 239 - type 1	1.5 m/s	0.5 m/s
Min. force	0.06 Nm (0.25 Nm ⊕)	0.06 Nm	initial 20 N - final 40 N
Travel diagrams	page 240 - group 5	page 240 - group 5	page 240 - group 7

(1) Positive opening only with actuator set to max. See page 105.

All measures in the drawings are in mm

Accessories See page 225

The 2D/3D files are available at [www.pizzato.com](http://www.pizzato.com)



# Position switches FZ series with reset



Pizzato Elettrica has developed a reset device code W3 to make perfectly simultaneous the actuator and the contact block tripping. The new device is a block inserted between the switch body and the head, and could be rotated independently from this last one. This new device has 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 made by the reset device itself
- The reset device can be rotated independently from the head for maximum flexibility during installation
- Two driving forces: standard and increased for applications with vibrations
- Mechanical endurance: 1 million operating cycles.

Contact type:		With stainless steel roller on request		With stainless steel roller on request		With stainless steel roller on request			
<b>R</b> = snap action <b>L</b> = slow action									
Contact blocks		With stainless steel roller on request		With stainless steel roller on request		With stainless steel roller on request			
6	<b>L</b> FZ 601-W3M2	1NO+1NC	FZ 602-W3M2	1NO+1NC	FZ 605-W3M2	1NO+1NC	FZ 607-W3M2	1NO+1NC	
9	<b>L</b> FZ 901-W3M2	2NC	FZ 902-W3M2	2NC	FZ 905-W3M2	2NC	FZ 907-W3M2	2NC	
10	<b>L</b> FZ 1001-W3M2	2NO	FZ 1002-W3M2	2NO	FZ 1005-W3M2	2NO	FZ 1007-W3M2	2NO	
20	<b>L</b> FZ 2001-W3M2	1NO+2NC	FZ 2002-W3M2	1NO+2NC	FZ 2005-W3M2	1NO+2NC	FZ 2007-W3M2	1NO+2NC	
21	<b>L</b> FZ 2101-W3M2	3NC	FZ 2102-W3M2	3NC	FZ 2105-W3M2	3NC	FZ 2107-W3M2	3NC	
22	<b>L</b> FZ 2201-W3M2	2NO+1NC	FZ 2202-W3M2	2NO+1NC	FZ 2205-W3M2	2NO+1NC	FZ 2207-W3M2	2NO+1NC	
2	<b>R</b> FZ 201-W3M2	2NO+2NC	FZ 202-W3M2	2NO+2NC	FZ 205-W3M2	2NO+2NC	FZ 207-W3M2	2NO+2NC	
Max. speed	page 239 - type 4		page 239 - type 3		page 239 - type 3		page 239 - type 3		
Min. force	4.5 N (25 N $\ominus$ )		4 N (25 N $\ominus$ )		4 N (25 N $\ominus$ )		2.5 N (25 N $\ominus$ )		
Travel diagrams	page 241 - group 1		page 241 - group 2		page 241 - group 2		page 241 - group 3		

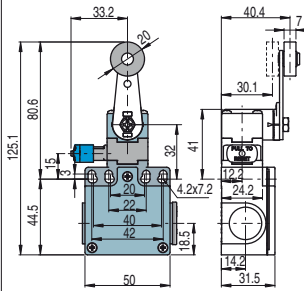
With Ø 12 mm stainless steel roller on request		With Ø 12 mm stainless steel roller on request		Other rollers available. See on page 106		Other rollers available. See on page 106		
Contact blocks		With Ø 12 mm stainless steel roller on request		Other rollers available. See on page 106		Other rollers available. See on page 106		
6	<b>L</b> FZ 615-W3M2R28	1NO+1NC	FZ 630-W3M2	1NO+1NC	FZ 631-W3M2	1NO+1NC	FZ 651-W3M2	1NO+1NC
9	<b>L</b> FZ 915-W3M2R28	2NC	FZ 930-W3M2	2NC	FZ 931-W3M2	2NC	FZ 951-W3M2	2NC
10	<b>L</b> FZ 1015-W3M2R28	2NO	FZ 1030-W3M2	2NO	FZ 1031-W3M2	2NO	FZ 1051-W3M2	2NO
20	<b>L</b> FZ 2015-W3M2R28	1NO+2NC	FZ 2030-W3M2	1NO+2NC	FZ 2031-W3M2	1NO+2NC	FZ 2051-W3M2	1NO+2NC
21	<b>L</b> FZ 2115-W3M2R28	3NC	FZ 2130-W3M2	3NC	FZ 2131-W3M2	3NC	FZ 2151-W3M2	3NC
22	<b>L</b> FZ 2215-W3M2R28	2NO+1NC	FZ 2230-W3M2	2NO+1NC	FZ 2231-W3M2	2NO+1NC	FZ 2251-W3M2	2NO+1NC
2	<b>R</b> FZ 215-W3M2R28	2NO+2NC	FZ 230-W3M2	2NO+2NC	FZ 231-W3M2	2NO+2NC	FZ 251-W3M2	2NO+2NC
Max. speed	page 239 - type 2		page 239 - type 1		page 239 - type 1		page 239 - type 1	
Min. force	4.5 N (25 N $\ominus$ )		0.07 Nm (0.25 Nm $\ominus$ )		0.07 Nm (0.25 Nm $\ominus$ )		0.07 Nm (0.25 Nm $\ominus$ )	
Travel diagrams	page 241 - group 1		page 241 - group 4		page 241 - group 4		page 241 - group 4	

All measures in the drawings are in mm

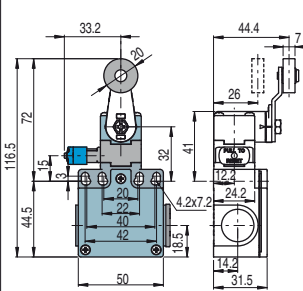
Contact type:

**R** = snap action  
**L** = slow action

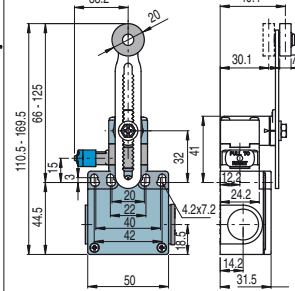
Other rollers available. See on page 106



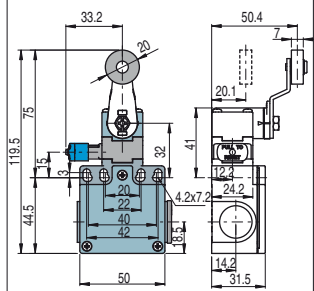
Other rollers available. See on page 106



Other rollers available. See on page 106



Other rollers available. See on page 106

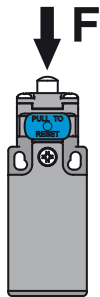


Contact blocks

6	<b>L</b>	FZ 652-W3M2	⊕	1NO+1NC	FZ 654-W3M2	⊕	1NO+1NC	FZ 656-W3M2	⊕	1NO+1NC	FZ 657-W3M2	⊕	1NO+1NC
9	<b>L</b>	FZ 952-W3M2	⊕	2NC	FZ 954-W3M2	⊕	2NC	FZ 956-W3M2	⊕	2NC	FZ 957-W3M2	⊕	2NC
10	<b>L</b>	FZ 1052-W3M2		2NO	FZ 1054-W3M2		2NO	FZ 1056-W3M2		2NO	FZ 1057-W3M2		2NO
20	<b>L</b>	FZ 2052-W3M2	⊕	1NO+2NC	FZ 2054-W3M2	⊕	1NO+2NC	FZ 2056-W3M2	⊕	1NO+2NC	FZ 2057-W3M2	⊕	1NO+2NC
21	<b>L</b>	FZ 2152-W3M2	⊕	3NC	FZ 2154-W3M2	⊕	3NC	FZ 2156-W3M2	⊕	3NC	FZ 2157-W3M2	⊕	3NC
22	<b>L</b>	FZ 2252-W3M2	⊕	2NO+1NC	FZ 2254-W3M2	⊕	2NO+1NC	FZ 2256-W3M2	⊕	2NO+1NC	FZ 2257-W3M2	⊕	2NO+1NC
2	<b>R</b>	FZ 252-W3M2		2NO+2NC	FZ 254-W3M2		2NO+2NC	FZ 256-W3M2		2NO+2NC	FZ 257-W3M2		2NO+2NC
Max. speed		page 239 - type 1			page 239 - type 1			page 239 - type 1			page 239 - type 1		
Min. force		0.07 Nm (0.25 Nm ⊕)			0.07 Nm (0.25 Nm ⊕)			0.07 Nm (0.25 Nm ⊕)			0.07 Nm (0.25 Nm ⊕)		
Travel diagrams		page 241 - group 4			page 241 - group 4			page 241 - group 4			page 241 - group 4		

All measures in the drawings are in mm

### Increased actuating force



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

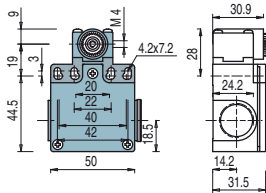
Actuators	Min. force
01, 14, 15, 16	7 N
02, 05	6 N
07	3.5 N
30 ... 57	0.08 Nm

## Position switches with revolving lever without actuator

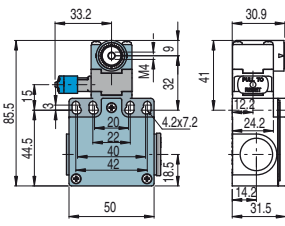
All measures in the drawings are in mm

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
- ⏏** = electronic PNP



With manual reset knob



### IMPORTANT

**For safety applications:** join only switches and actuators marked with symbol ⊕ aside the product code.  
For more information about safety applications see details on page 235.

Contact blocks

5	<b>R</b>	<b>FZ 538-M2</b>	⊕ 1NO+1NC	
6	<b>L</b>	<b>FZ 638-M2</b>	⊕ 1NO+1NC	<b>FZ 638-W3M2</b> ⊕ 1NO+1NC
7	<b>LO</b>	<b>FZ 738-M2</b>	⊕ 1NO+1NC	
9	<b>L</b>	<b>FZ 938-M2</b>	⊕ 2NC	<b>FZ 938-W3M2</b> ⊕ 2NC
10	<b>L</b>	<b>FZ 1038-M2</b>	2NO	<b>FZ 1038-W3M2</b> 2NO
11	<b>R</b>	<b>FZ 1138-M2</b>	⊕ 2NC	
12	<b>R</b>	<b>FZ 1238-M2</b>	2NO	
13	<b>LV</b>	<b>FZ 1338-M2</b>	⊕ 2NC	
14	<b>LS</b>	<b>FZ 1438-M2</b>	⊕ 2NC	
15	<b>LS</b>	<b>FZ 1538-M2</b>	2NO	
16	<b>LI</b>	<b>FZ 1638-M2</b>	⊕ 2NC	
18	<b>LA</b>	<b>FZ 1838-M2</b>	⊕ 1NO+1NC	
20	<b>L</b>	<b>FZ 2038-M2</b>	⊕ 1NO+2NC	<b>FZ 2038-W3M2</b> ⊕ 1NO+2NC
21	<b>L</b>	<b>FZ 2138-M2</b>	⊕ 3NC	<b>FZ 2138-W3M2</b> ⊕ 3NC
22	<b>L</b>	<b>FZ 2238-M2</b>	⊕ 2NO+1NC	<b>FZ 2238-W3M2</b> ⊕ 2NO+1NC
2	<b>R</b>	<b>FZ 238-M2</b>	2x(1NO-1NC)	<b>FZ 238-W3M2</b> 2NO+2NC
E1	<b>⏏</b>	<b>FZ E138-M2</b>	1NO-1NC	
Min. force		0.06 Nm (0.25 Nm ⊕)		0.07 Nm (0.25 Nm ⊕)
Travel diagrams		page 240 - group 5		page 241 - group 4

All measures in the drawings are in mm

## Loose actuators

All measures in the drawings are in mm

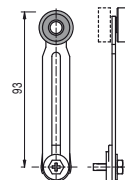
**IMPORTANT:** These loose actuators can be used with items of series FR, FM, FX, FZ and FK only.

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	
<b>VF LE30</b> ⊕	<b>VF LE31</b> ⊕	<b>VF LE33</b>	<b>VF LE34</b>	<b>VF LE50</b>	<b>VF LE51</b> ⊕	
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 fiber glass rod
<b>VF LE52</b> ⊕	<b>VF LE53</b> ⊕ <sup>(2)</sup>	<b>VF LE54</b> ⊕	<b>VF LE55</b> ⊕ <sup>(1)</sup>	<b>VF LE56</b> ⊕	<b>VF LE57</b> ⊕	<b>VF LE69</b>

<sup>(1)</sup> Actuator VF LE55 can only be used in safety applications if adjusted to its max. length, as shown in figure beside. If you need an adjustable lever for safety applications, use the adjustable safety lever VF LE56.

<sup>(2)</sup> 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...).

<sup>(4)</sup> The actuator cannot be rotated to the inside because it will mechanically interfere with the switch head.



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

**Accessories** See page 225

→ The 2D/3D files are available at [www.pizzato.com](http://www.pizzato.com)



### Special loose actuators

All measures in the drawings are in mm

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

#### Stainless steel rollers, Ø 20 mm

VF LE31-R24 (4)	VF LE51-R24 (4)	VF LE52-R24 (4)	VF LE54-R24 (4)	VF LE55-R24 (1)	VF LE56-R24 (4)	VF LE57-R24 (4)

#### Technopolymer rollers, Ø 35 mm

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

#### Rubber rollers, Ø 40 mm

VF LE31-R5 (4)	VF LE51-R5 (4)	VF LE52-R5 (4)	VF LE54-R5 (4)	VF LE55-R5 (1)	VF LE56-R5 (4)	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 (4)	VF LE57-R26 (4)

#### Protruding rubber rollers, Ø 50 mm

VF LE55-R27 (1)	VF LE56-R27 (4)

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

Accessories See page 225

The 2D/3D files are available at [www.pizzato.com](http://www.pizzato.com)