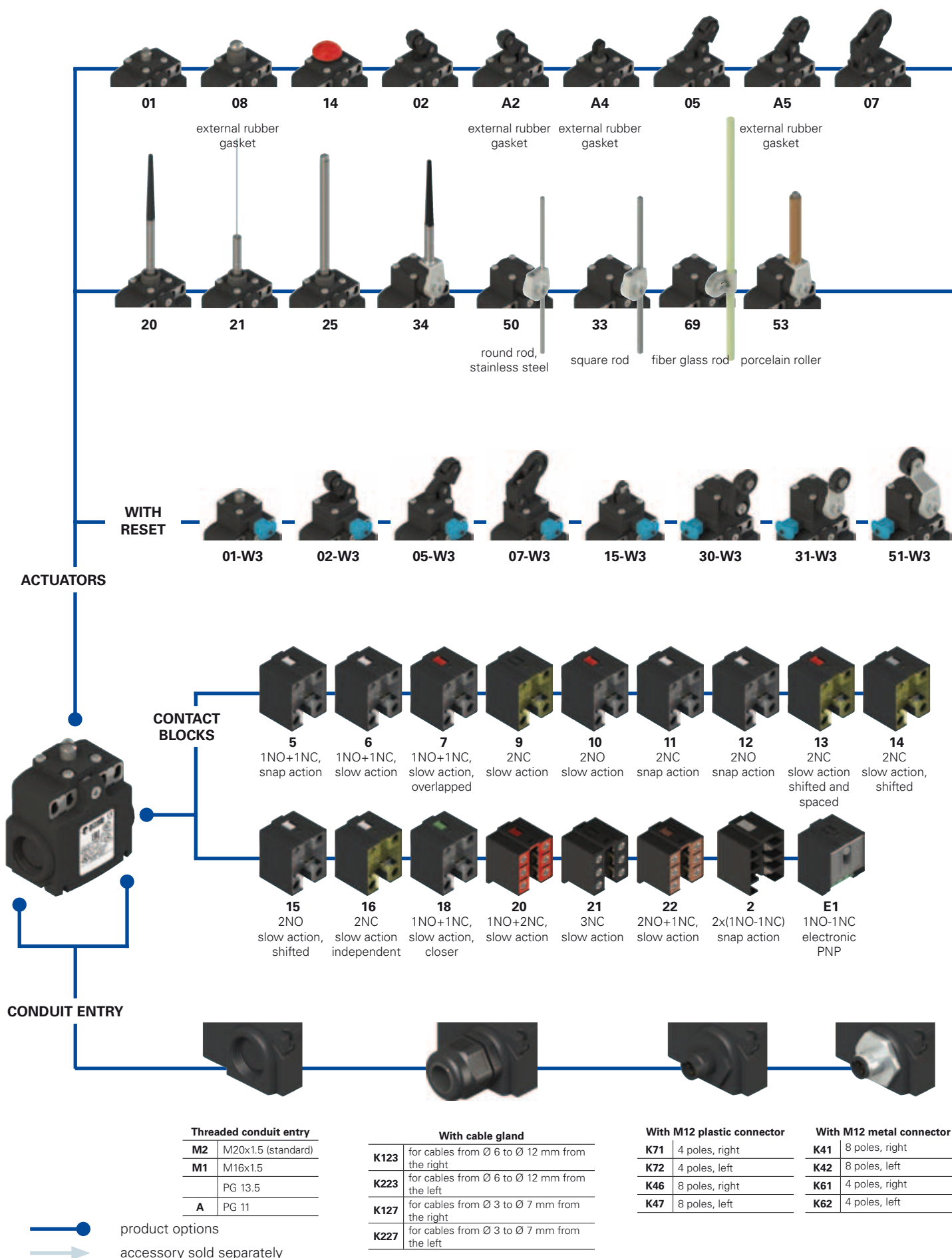
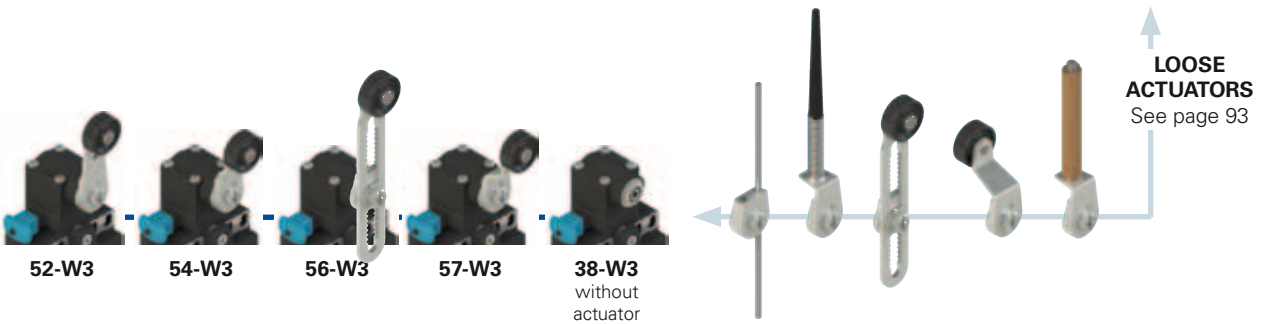
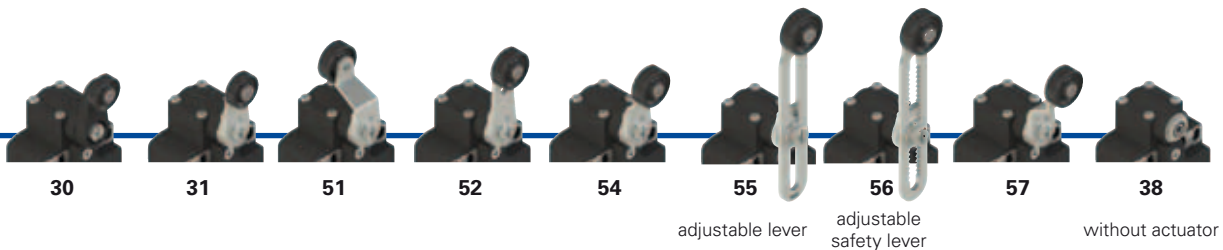
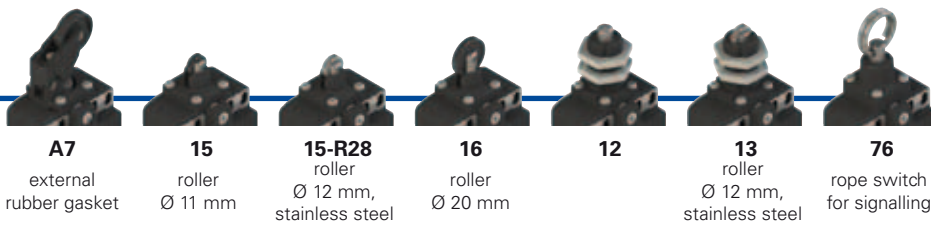


Selection diagram




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
FX 502-W3XGM2K71R23T6

Housing	
FX	technopolymer, two conduit entries

Contact blocks	
5	1NO+1NC, snap action
6	1NO+1NC, slow action
7	1NO+1NC, slow action, overlapped
...

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

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

External metallic parts	
	zinc-plated steel (standard)
X	stainless steel

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

Pre-installed cable glands or connectors	
	without cable gland or connector (standard)
K123	cable gland for cables from Ø 6 to Ø 12 mm from the right
K71	M12 plastic connector, 4 poles, right

Please contact our technical service for the complete list of possible combinations.

Threaded conduit entry	
M2	M20x1.5 (standard)
M1	M16x1.5
	PG 13.5
A	PG11
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)

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating (not for contact block 2)



Main features

- Technopolymer housing, two conduit entries
- Protection degree IP67
- 17 contact blocks available
- 43 actuators available
- Versions with stainless steel external parts
- Versions with M12 connector
- Versions with gold-plated silver contacts

Markings and quality marks:



IMQ approval:	EG610
UL approval:	E131787
CCC approval:	2007010305230013
EAC approval:	RU C-IT DM94.B.01024

Technical data

Housing

Housing made of fiber glass reinforced technopolymer, self-extinguishing, shock-proof and with double insulation:
 Two knock-out 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/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, 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 connector M12, 4 poles	Thermal current (I _{th}):	4 A
	Rated insulation voltage (U _i):	250 Vac 300 Vdc
	Protection against short circuits: Pollution degree:	fuse 4 A 500 V type gG 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 connector M12, 8 poles	Thermal current (I _{th}):	2 A
	Rated insulation voltage (U _i):	30 Vac 36 Vdc
	Protection against short circuits: Pollution degree:	fuse 2 A 500 V type gG 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 IMQ

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_e): 400 Vac (50 Hz)
 Operating current (I_e): 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

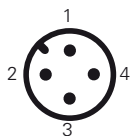
Please contact our technical service for the list of approved products.

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, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 4 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								
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, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 4 poles	M12 connector, 8 poles	M12 connector, 8 poles	M12 connector, 8 poles	M12 connector, 4 poles	M12 connector, 4 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
				NO 7-8	NC 7-8	NO 7-8		

Contact block E1
PNP



M12 connector, 4 poles

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

Position switches FX 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
- E1** = electronic PNP

Contact blocks

		With stainless steel roller on request	With external rubber gasket With stainless steel roller on request	With external rubber gasket With Ø 12 mm stainless steel roller on request
5	R FX 501-M2	1NO+1NC	FX 502-M2 1NO+1NC	FX 5A2-M2 1NO+1NC
6	L FX 601-M2	1NO+1NC	FX 602-M2 1NO+1NC	FX 6A2-M2 1NO+1NC
7	LO FX 701-M2	1NO+1NC	FX 702-M2 1NO+1NC	FX 7A2-M2 1NO+1NC
9	L FX 901-M2	2NC	FX 902-M2 2NC	FX 9A2-M2 2NC
10	L FX 1001-M2	2NO	FX 1002-M2 2NO	FX 10A2-M2 2NO
11	R FX 1101-M2	2NC	FX 1102-M2 2NC	FX 11A2-M2 2NC
12	R FX 1201-M2	2NO	FX 1202-M2 2NO	FX 12A2-M2 2NO
13	LV FX 1301-M2	2NC	FX 1302-M2 2NC	FX 13A2-M2 2NC
14	LS FX 1401-M2	2NC	FX 1402-M2 2NC	FX 14A2-M2 2NC
15	LS FX 1501-M2	2NO	FX 1502-M2 2NO	FX 15A2-M2 2NO
18	LA FX 1801-M2	1NO+1NC	FX 1802-M2 1NO+1NC	FX 18A2-M2 1NO+1NC
20	L FX 2001-M2	1NO+2NC	FX 2002-M2 1NO+2NC	FX 20A2-M2 1NO+2NC
21	L FX 2101-M2	3NC	FX 2102-M2 3NC	FX 21A2-M2 3NC
22	L FX 2201-M2	2NO+1NC	FX 2202-M2 2NO+1NC	FX 22A2-M2 2NO+1NC
2	R FX 201-M2	2x(1NO-1NC)	FX 202-M2 2x(1NO-1NC)	FX 2A2-M2 2x(1NO-1NC)
E1	E1 FX E101-M2	1NO-1NC	FX E102-M2 1NO-1NC	FX 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 stainless steel roller on request	With external rubber gasket	With external rubber gasket
5	R FX 505-M2	1NO+1NC	FX 5A5-M2 1NO+1NC	FX 507-M2 1NO+1NC
6	L FX 605-M2	1NO+1NC	FX 6A5-M2 1NO+1NC	FX 607-M2 1NO+1NC
7	LO FX 705-M2	1NO+1NC	FX 7A5-M2 1NO+1NC	FX 707-M2 1NO+1NC
9	L FX 905-M2	2NC	FX 9A5-M2 2NC	FX 907-M2 2NC
10	L FX 1005-M2	2NO	FX 10A5-M2 2NO	FX 1007-M2 2NO
11	R FX 1105-M2	2NC	FX 11A5-M2 2NC	FX 1107-M2 2NC
12	R FX 1205-M2	2NO	FX 12A5-M2 2NO	FX 1207-M2 2NO
13	LV FX 1305-M2	2NC	FX 13A5-M2 2NC	FX 1307-M2 2NC
14	LS FX 1405-M2	2NC	FX 14A5-M2 2NC	FX 1407-M2 2NC
15	LS FX 1505-M2	2NO	FX 15A5-M2 2NO	FX 1507-M2 2NO
18	LA FX 1805-M2	1NO+1NC	FX 18A5-M2 1NO+1NC	FX 1807-M2 1NO+1NC
20	L FX 2005-M2	1NO+2NC	FX 20A5-M2 1NO+2NC	FX 2007-M2 1NO+2NC
21	L FX 2105-M2	3NC	FX 21A5-M2 3NC	FX 2107-M2 3NC
22	L FX 2205-M2	2NO+1NC	FX 22A5-M2 2NO+1NC	FX 2207-M2 2NO+1NC
2	R FX 205-M2	2x(1NO-1NC)	FX 2A5-M2 2x(1NO-1NC)	FX 207-M2 2x(1NO-1NC)
E1	E1 FX E105-M2	1NO-1NC	FX E1A5-M2 1NO-1NC	FX 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

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

Accessories See page 225

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

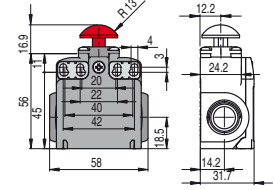
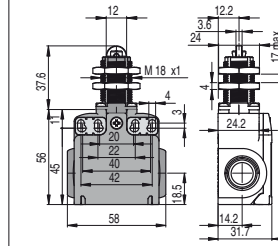
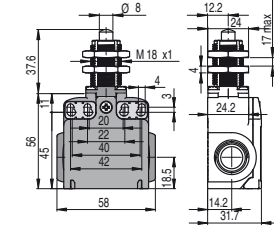
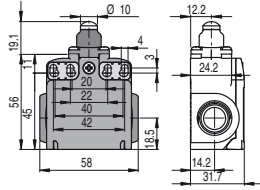


Contact type:

- 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
- E** = electronic PNP

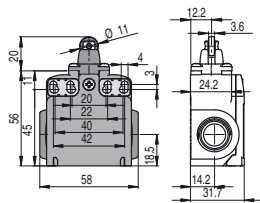
Contact blocks

With external rubber gasket

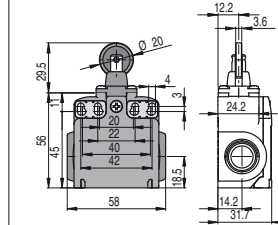
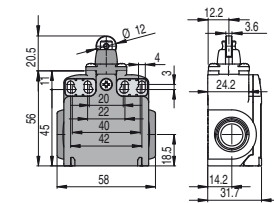


5	R	FX 508-M2	1NO+1NC	FX 512-M2	1NO+1NC	FX 513-M2	1NO+1NC	FX 514-M2	1NO+1NC
6	L	FX 608-M2	1NO+1NC	FX 612-M2	1NO+1NC	FX 613-M2	1NO+1NC	FX 614-M2	1NO+1NC
7	LO	FX 708-M2	1NO+1NC	FX 712-M2	1NO+1NC	FX 713-M2	1NO+1NC	FX 714-M2	1NO+1NC
9	L	FX 908-M2	2NC	FX 912-M2	2NC	FX 913-M2	2NC	FX 914-M2	2NC
10	L	FX 1008-M2	2NO	FX 1012-M2	2NO	FX 1013-M2	2NO	FX 1014-M2	2NO
11	R	FX 1108-M2	2NC	FX 1112-M2	2NC	FX 1113-M2	2NC	FX 1114-M2	2NC
12	R	FX 1208-M2	2NO	FX 1212-M2	2NO	FX 1213-M2	2NO	FX 1214-M2	2NO
13	LV	FX 1308-M2	2NC	FX 1312-M2	2NC	FX 1313-M2	2NC	FX 1314-M2	2NC
14	LS	FX 1408-M2	2NC	FX 1412-M2	2NC	FX 1413-M2	2NC	FX 1414-M2	2NC
15	LS	FX 1508-M2	2NO	FX 1512-M2	2NO	FX 1513-M2	2NO	FX 1514-M2	2NO
18	LA	FX 1808-M2	1NO+1NC	FX 1812-M2	1NO+1NC	FX 1813-M2	1NO+1NC	FX 1814-M2	1NO+1NC
20	L	FX 2008-M2	1NO+2NC	FX 2012-M2	1NO+2NC	FX 2013-M2	1NO+2NC	FX 2014-M2	1NO+2NC
21	L	FX 2108-M2	3NC	FX 2112-M2	3NC	FX 2113-M2	3NC	FX 2114-M2	3NC
22	L	FX 2208-M2	2NO+1NC	FX 2212-M2	2NO+1NC	FX 2213-M2	2NO+1NC	FX 2214-M2	2NO+1NC
2	R	FX 208-M2	2x(1NO-1NC)	FX 212-M2	2x(1NO-1NC)	FX 213-M2	2x(1NO-1NC)	FX 214-M2	2x(1NO-1NC)
E1	E	FX E108-M2	1NO-1NC	FX E112-M2	1NO-1NC	FX E113-M2	1NO-1NC	FX E114-M2	1NO-1NC
Max. speed		page 239 - type 4		page 239 - type 4		page 239 - type 2		page 239 - type 4	
Min. force		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)	
Travel diagrams		page 240 - group 1		page 240 - group 1		page 240 - group 1		page 240 - group 1	

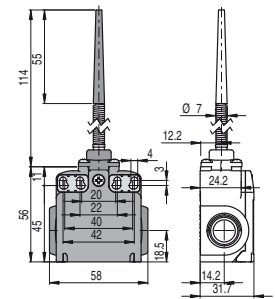
Roller, Ø 11 mm, technopolymer



Roller, Ø 12 mm, stainless steel



With external rubber gasket



Contact blocks

5	R	FX 515-M2	1NO+1NC	FX 515-M2R28	1NO+1NC	FX 516-M2	1NO+1NC	FX 520-M2	1NO+1NC
6	L	FX 615-M2	1NO+1NC	FX 615-M2R28	1NO+1NC	FX 616-M2	1NO+1NC		
7	LO	FX 715-M2	1NO+1NC	FX 715-M2R28	1NO+1NC	FX 716-M2	1NO+1NC		
9	L	FX 915-M2	2NC	FX 915-M2R28	2NC	FX 916-M2	2NC		
10	L	FX 1015-M2	2NO	FX 1015-M2R28	2NO	FX 1016-M2	2NO	FX 1020-M2	2NO
11	R	FX 1115-M2	2NC	FX 1115-M2R28	2NC	FX 1116-M2	2NC		
12	R	FX 1215-M2	2NO	FX 1215-M2R28	2NO	FX 1216-M2	2NO	FX 1220-M2	2NO
13	LV	FX 1315-M2	2NC	FX 1315-M2R28	2NC	FX 1316-M2	2NC		
14	LS	FX 1415-M2	2NC	FX 1415-M2R28	2NC	FX 1416-M2	2NC		
15	LS	FX 1515-M2	2NO	FX 1515-M2R28	2NO	FX 1516-M2	2NO		
18	LA	FX 1815-M2	1NO+1NC	FX 1815-M2R28	1NO+1NC	FX 1816-M2	1NO+1NC	FX 1820-M2	1NO+1NC
20	L	FX 2015-M2	1NO+2NC	FX 2015-M2R28	1NO+2NC	FX 2016-M2	1NO+2NC	FX 2020-M2	1NO+2NC
21	L	FX 2115-M2	3NC	FX 2115-M2R28	3NC	FX 2116-M2	3NC	FX 2120-M2	3NC
22	L	FX 2215-M2	2NO+1NC	FX 2215-M2R28	2NO+1NC	FX 2216-M2	2NO+1NC	FX 2220-M2	2NO+1NC
2	R	FX 215-M2	2x(1NO-1NC)	FX 215-M2R28	2x(1NO-1NC)	FX 216-M2	2x(1NO-1NC)	FX 220-M2	2x(1NO-1NC)
E1	E	FX E115-M2	1NO-1NC	FX E115-M2R28	1NO-1NC	FX E116-M2	1NO-1NC	FX E120-M2	1NO-1NC
Max. speed		page 239 - type 2		page 239 - type 2		page 239 - type 2		1 m/s	
Min. force		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)		0.07 Nm	
Travel diagrams		page 240 - group 1		page 240 - group 1		page 240 - group 1		page 240 - group 4	

All measures in the drawings are in mm

Items with code on green background are stock items

Accessories See page 225

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

Position switches FX 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 external rubber gasket	With Ø 20 mm stainless steel roller on request	Other rollers available. See on page 94
5	R FX 521-M2 1NO+1NC	FX 525-M2 1NO+1NC	FX 530-M2 ⊕ 1NO+1NC	FX 531-M2 ⊕ 1NO+1NC
6	L		FX 630-M2 ⊕ 1NO+1NC	FX 631-M2 ⊕ 1NO+1NC
7	LO		FX 730-M2 ⊕ 1NO+1NC	FX 731-M2 ⊕ 1NO+1NC
9	L		FX 930-M2 ⊕ 2NC	FX 931-M2 ⊕ 2NC
10	L FX 1021-M2 2NO	FX 1025-M2 2NO	FX 1030-M2 2NO	FX 1031-M2 2NO
11	R		FX 1130-M2 ⊕ 2NC	FX 1131-M2 ⊕ 2NC
12	R FX 1221-M2 2NO	FX 1225-M2 2NO	FX 1230-M2 2NO	FX 1231-M2 2NO
13	LV		FX 1330-M2 ⊕ 2NC	FX 1331-M2 ⊕ 2NC
14	LS		FX 1430-M2 ⊕ 2NC	FX 1431-M2 ⊕ 2NC
15	LS		FX 1530-M2 2NO	FX 1531-M2 2NO
16	LI		FX 1630-M2 ⊕ 2NC	FX 1631-M2 ⊕ 2NC
18	LA FX 1821-M2 1NO+1NC	FX 1825-M2 1NO+1NC	FX 1830-M2 ⊕ 1NO+1NC	FX 1831-M2 ⊕ 1NO+1NC
20	L FX 2021-M2 1NO+2NC	FX 2025-M2 1NO+2NC	FX 2030-M2 ⊕ 1NO+2NC	FX 2031-M2 ⊕ 1NO+2NC
21	L FX 2121-M2 3NC	FX 2125-M2 3NC	FX 2130-M2 ⊕ 3NC	FX 2131-M2 ⊕ 3NC
22	L FX 2221-M2 2NO+1NC	FX 2225-M2 2NO+1NC	FX 2230-M2 ⊕ 2NO+1NC	FX 2231-M2 ⊕ 2NO+1NC
2	R FX 221-M2 2x(1NO-1NC)	FX 225-M2 2x(1NO-1NC)	FX 230-M2 2x(1NO-1NC)	FX 231-M2 2x(1NO-1NC)
E1	⏏ FX E121-M2 1NO-1NC	FX E125-M2 1NO-1NC	FX E130-M2 1NO-1NC	FX E131-M2 1NO-1NC
Max. speed	1 m/s	1 m/s	page 239 - type 1	page 239 - type 1
Min. force	0.07 Nm	0.12 Nm	0.06 Nm (0.25 Nm ⊕)	0.06 Nm (0.25 Nm ⊕)
Travel diagrams	page 240 - group 4	page 240 - group 4	page 240 - group 5	page 240 - group 5

	Square rod, 3x3 mm	Round rod, Ø 3 mm, stainless steel	Other rollers available. See on page 94
5	R FX 533-M2 1NO+1NC	FX 534-M2 1NO+1NC	FX 550-M2 1NO+1NC
6	L FX 633-M2 1NO+1NC	FX 634-M2 1NO+1NC	FX 650-M2 1NO+1NC
7	LO FX 733-M2 1NO+1NC	FX 734-M2 1NO+1NC	FX 750-M2 1NO+1NC
9	L FX 933-M2 2NC	FX 934-M2 2NC	FX 950-M2 2NC
10	L FX 1033-M2 2NO	FX 1034-M2 2NO	FX 1050-M2 2NO
11	R FX 1133-M2 2NC	FX 1134-M2 2NC	FX 1150-M2 2NC
12	R FX 1233-M2 2NO	FX 1234-M2 2NO	FX 1250-M2 2NO
13	LV FX 1333-M2 2NC	FX 1334-M2 2NC	FX 1350-M2 2NC
14	LS FX 1433-M2 2NC	FX 1434-M2 2NC	FX 1450-M2 2NC
15	LS FX 1533-M2 2NO	FX 1534-M2 2NO	FX 1550-M2 2NO
16	LI FX 1633-M2 2NC	FX 1634-M2 2NC	FX 1650-M2 2NC
18	LA FX 1833-M2 1NO+1NC	FX 1834-M2 1NO+1NC	FX 1850-M2 1NO+1NC
20	L FX 2033-M2 1NO+2NC	FX 2034-M2 1NO+2NC	FX 2050-M2 1NO+2NC
21	L FX 2133-M2 3NC	FX 2134-M2 3NC	FX 2150-M2 3NC
22	L FX 2233-M2 2NO+1NC	FX 2234-M2 2NO+1NC	FX 2250-M2 2NO+1NC
2	R FX 233-M2 2x(1NO-1NC)	FX 234-M2 2x(1NO-1NC)	FX 250-M2 2x(1NO-1NC)
E1	⏏ FX E133-M2 1NO-1NC	FX E134-M2 1NO-1NC	FX E150-M2 1NO-1NC
Max. speed	1.5 m/s	1.5 m/s	1.5 m/s
Min. force	0.06 Nm	0.06 Nm	0.06 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



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

	Other rollers available. See on page 94	Porcelain roller	Other rollers available. See on page 94	Other rollers available. See on page 94
5	R FX 552-M2 (1NO+1NC)	FX 553-E0M2V9 (1NO+1NC)	FX 554-M2 (1NO+1NC)	FX 555-M2 (1) (1NO+1NC)
6	L FX 652-M2 (1NO+1NC)	FX 653-E0M2V9 (1NO+1NC)	FX 654-M2 (1NO+1NC)	FX 655-M2 (1) (1NO+1NC)
7	LO FX 752-M2 (1NO+1NC)	FX 753-E0M2V9 (1NO+1NC)	FX 754-M2 (1NO+1NC)	FX 755-M2 (1) (1NO+1NC)
9	L FX 952-M2 (2NC)	FX 953-E0M2V9 (2NC)	FX 954-M2 (2NC)	FX 955-M2 (1) (2NC)
10	L FX 1052-M2 (2NO)	FX 1053-E0M2V9 (2NO)	FX 1054-M2 (2NO)	FX 1055-M2 (2NO)
11	R FX 1152-M2 (2NC)	FX 1153-E0M2V9 (2NC)	FX 1154-M2 (2NC)	FX 1155-M2 (1) (2NC)
12	R FX 1252-M2 (2NO)	FX 1253-E0M2V9 (2NO)	FX 1254-M2 (2NO)	FX 1255-M2 (2NO)
13	LV FX 1352-M2 (2NC)	FX 1353-E0M2V9 (2NC)	FX 1354-M2 (2NC)	FX 1355-M2 (1) (2NC)
14	LS FX 1452-M2 (2NC)	FX 1453-E0M2V9 (2NC)	FX 1454-M2 (2NC)	FX 1455-M2 (1) (2NC)
15	LS FX 1552-M2 (2NO)	FX 1553-E0M2V9 (2NO)	FX 1554-M2 (2NO)	FX 1555-M2 (2NO)
16	LI FX 1652-M2 (2NC)	FX 1653-E0M2V9 (2NC)	FX 1654-M2 (2NC)	FX 1655-M2 (1) (2NC)
18	LA FX 1852-M2 (1NO+1NC)	FX 1853-E0M2V9 (1NO+1NC)	FX 1854-M2 (1NO+1NC)	FX 1855-M2 (1) (1NO+1NC)
20	L FX 2052-M2 (1NO+2NC)	FX 2053-E0M2V9 (1NO+2NC)	FX 2054-M2 (1NO+2NC)	FX 2055-M2 (1) (1NO+2NC)
21	L FX 2152-M2 (3NC)	FX 2153-E0M2V9 (3NC)	FX 2154-M2 (3NC)	FX 2155-M2 (1) (3NC)
22	L FX 2252-M2 (2NO+1NC)	FX 2253-E0M2V9 (2NO+1NC)	FX 2254-M2 (2NO+1NC)	FX 2255-M2 (1) (2NO+1NC)
2	R FX 252-M2 (2x(1NO-1NC))	FX 253-E0M2 (2x(1NO-1NC))	FX 254-M2 (2x(1NO-1NC))	FX 255-M2 (2x(1NO-1NC))
E1	A FX E152-M2 (1NO-1NC)	FX E153-E0M2V9 (1NO-1NC)	FX E154-M2 (1NO-1NC)	FX E155-M2 (1NO-1NC)
Max. speed	page 239 - type 1	0.5 m/s	page 239 - type 1	page 239 - type 1
Min. force	0.06 Nm (0.25 Nm (1))	0.03 Nm (0.25 Nm (1))	0.06 Nm (0.25 Nm (1))	0.06 Nm (0.25 Nm (1))
Travel diagrams	page 240 - group 5	page 240 - group 6	page 240 - group 5	page 240 - group 5

	Other rollers available. See on page 94	Other rollers available. See on page 94	Fiber glass rod	Rope switch for signalling
5	R FX 556-M2 (1NO+1NC)	FX 557-M2 (1NO+1NC)	FX 569-M2 (1NO+1NC)	FX 576-M2 (1NO+1NC)
6	L FX 656-M2 (1NO+1NC)	FX 657-M2 (1NO+1NC)	FX 669-M2 (1NO+1NC)	FX 676-M2 (1NO+1NC)
7	LO FX 756-M2 (1NO+1NC)	FX 757-M2 (1NO+1NC)	FX 769-M2 (1NO+1NC)	FX 776-M2 (1NO+1NC)
9	L FX 956-M2 (2NC)	FX 957-M2 (2NC)	FX 969-M2 (2NC)	FX 976-M2 (2NO)
10	L FX 1056-M2 (2NO)	FX 1057-M2 (2NO)	FX 1069-M2 (2NO)	FX 1076-M2 (2NC)
11	R FX 1156-M2 (2NC)	FX 1157-M2 (2NC)	FX 1169-M2 (2NC)	FX 1176-M2 (2NO)
12	R FX 1256-M2 (2NO)	FX 1257-M2 (2NO)	FX 1269-M2 (2NO)	FX 1276-M2 (2NC)
13	LV FX 1356-M2 (2NC)	FX 1357-M2 (2NC)	FX 1369-M2 (2NC)	FX 1376-M2 (2NO)
14	LS FX 1456-M2 (2NC)	FX 1457-M2 (2NC)	FX 1469-M2 (2NC)	FX 1476-M2 (2NO)
15	LS FX 1556-M2 (2NO)	FX 1557-M2 (2NO)	FX 1569-M2 (2NO)	FX 1576-M2 (2NC)
16	LI FX 1656-M2 (2NC)	FX 1657-M2 (2NC)	FX 1669-M2 (2NC)	FX 1676-M2 (2NO)
18	LA FX 1856-M2 (1NO+1NC)	FX 1857-M2 (1NC+1NO)	FX 1869-M2 (1NC+1NO)	FX 1876-M2 (1NO+1NC)
20	L FX 2056-M2 (1NO+2NC)	FX 2057-M2 (1NO+2NC)	FX 2069-M2 (1NO+2NC)	FX 2076-M2 (2NO+1NC)
21	L FX 2156-M2 (3NC)	FX 2157-M2 (3NC)	FX 2169-M2 (3NC)	FX 2176-M2 (3NO)
22	L FX 2256-M2 (2NO+1NC)	FX 2257-M2 (2NO+1NC)	FX 2269-M2 (2NO+1NC)	FX 2276-M2 (1NO+2NC)
2	R FX 256-M2 (2x(1NO-1NC))	FX 257-M2 (2x(1NO-1NC))	FX 269-M2 (2x(1NO-1NC))	FX 276-M2 (2x(1NO-1NC))
E1	A FX E156-M2 (1NO-1NC)	FX E157-M2 (1NO-1NC)	FX E169-M2 (1NO-1NC)	FX E176-M2 (1NO-1NC)
Max. speed	page 239 - type 1	page 239 - type 1	1.5 m/s	0.5 m/s
Min. force	0.06 Nm (0.25 Nm (1))	0.06 Nm (0.25 Nm (1))	0.06 Nm	initial 20 N - final 40 N
Travel diagrams	page 240 - group 5	page 240 - group 5	page 240 - group 5	page 240 - group 7

(1) Positive opening only with actuator set to max. See page 93.

All measures in the drawings are in mm

Accessories See page 225

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

Position switches FX series with reset

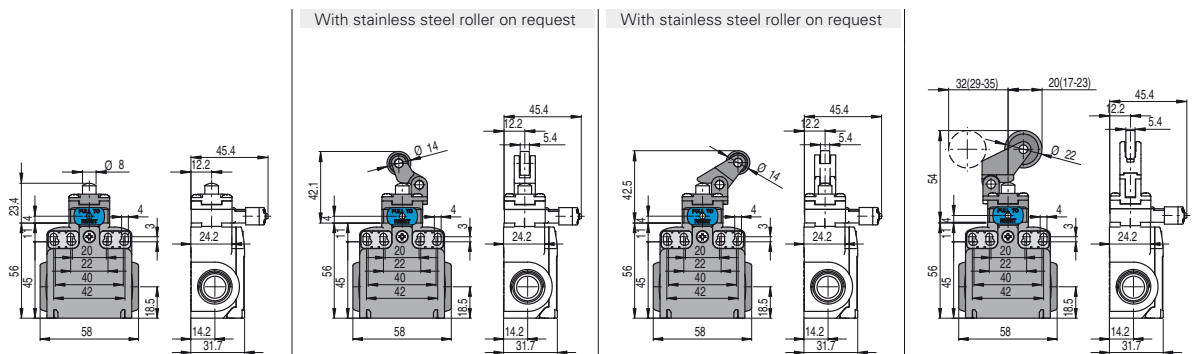


Pizzato Elettrica has developed a reset device code W3 to make perfectly simultaneous the actuator and the contact block tripping. The new device is a block inserted between the switch body and the head, and could be rotated independently from this last one. This new device has following advantages:

- 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.

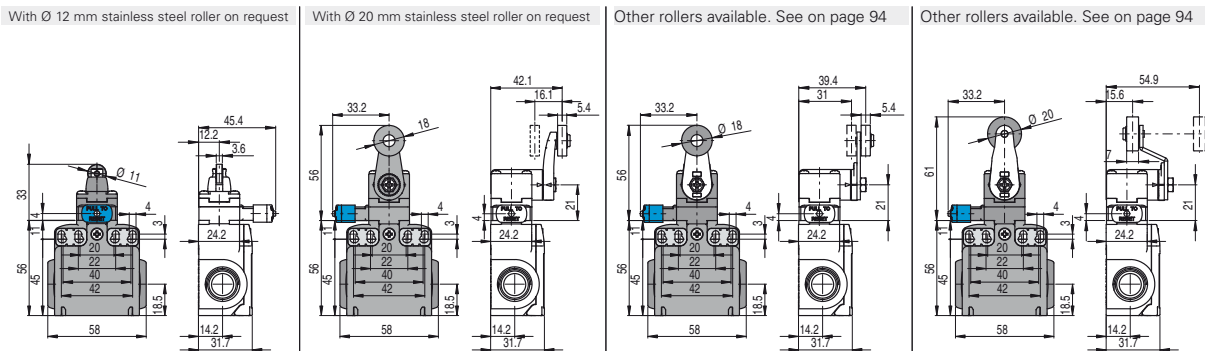
Contact type:

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



Contact blocks

6	L	FX 601-W3M2	↻ 1NO+1NC	FX 602-W3M2	↻ 1NO+1NC	FX 605-W3M2	↻ 1NO+1NC	FX 607-W3M2	↻ 1NO+1NC
9	L	FX 901-W3M2	↻ 2NC	FX 902-W3M2	↻ 2NC	FX 905-W3M2	↻ 2NC	FX 907-W3M2	↻ 2NC
10	L	FX 1001-W3M2	2NO	FX 1002-W3M2	2NO	FX 1005-W3M2	2NO	FX 1007-W3M2	2NO
20	L	FX 2001-W3M2	↻ 1NO+2NC	FX 2002-W3M2	↻ 1NO+2NC	FX 2005-W3M2	↻ 1NO+2NC	FX 2007-W3M2	↻ 1NO+2NC
21	L	FX 2101-W3M2	↻ 3NC	FX 2102-W3M2	↻ 3NC	FX 2105-W3M2	↻ 3NC	FX 2107-W3M2	↻ 3NC
22	L	FX 2201-W3M2	↻ 2NO+1NC	FX 2202-W3M2	↻ 2NO+1NC	FX 2205-W3M2	↻ 2NO+1NC	FX 2207-W3M2	↻ 2NO+1NC
2	R	FX 201-W3M2	2NO+2NC	FX 202-W3M2	2NO+2NC	FX 205-W3M2	2NO+2NC	FX 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 ↻)		4 N (25 N ↻)		4 N (25 N ↻)		2.5 N (25 N ↻)	
Travel diagrams		page 241 - group 1		page 241 - group 2		page 241 - group 2		page 241 - group 3	



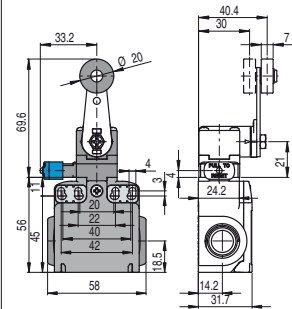
6	L	FX 615-W3M2	↻ 1NO+1NC	FX 630-W3M2	↻ 1NO+1NC	FX 631-W3M2	↻ 1NO+1NC	FX 651-W3M2	↻ 1NO+1NC
9	L	FX 915-W3M2	↻ 2NC	FX 930-W3M2	↻ 2NC	FX 931-W3M2	↻ 2NC	FX 951-W3M2	↻ 2NC
10	L	FX 1015-W3M2	2NO	FX 1030-W3M2	2NO	FX 1031-W3M2	2NO	FX 1051-W3M2	2NO
20	L	FX 2015-W3M2	↻ 1NO+2NC	FX 2030-W3M2	↻ 1NO+2NC	FX 2031-W3M2	↻ 1NO+2NC	FX 2051-W3M2	↻ 1NO+2NC
21	L	FX 2115-W3M2	↻ 3NC	FX 2130-W3M2	↻ 3NC	FX 2131-W3M2	↻ 3NC	FX 2151-W3M2	↻ 3NC
22	L	FX 2215-W3M2	↻ 2NO+1NC	FX 2230-W3M2	↻ 2NO+1NC	FX 2231-W3M2	↻ 2NO+1NC	FX 2251-W3M2	↻ 2NO+1NC
2	R	FX 215-W3M2	2NO+2NC	FX 230-W3M2	2NO+2NC	FX 231-W3M2	2NO+2NC	FX 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 ↻)		0.07 Nm (0.25 Nm ↻)		0.07 Nm (0.25 Nm ↻)		0.07 Nm (0.25 Nm ↻)	
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

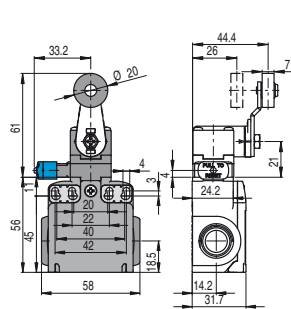
Contact type:

R = snap action
L = slow action

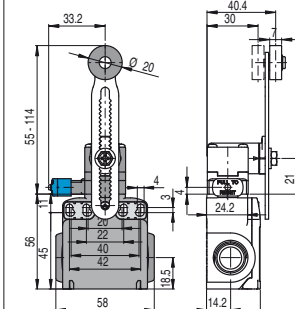
Other rollers available. See on page 94



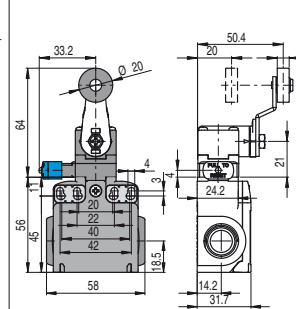
Other rollers available. See on page 94



Other rollers available. See on page 94



Other rollers available. See on page 94

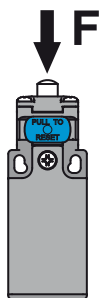


Contact blocks

6	L	FX 652-W3M2	⊕ 1NO+1NC	FX 654-W3M2	⊕ 1NO+1NC	FX 656-W3M2	⊕ 1NO+1NC	FX 657-W3M2	⊕ 1NO+1NC
9	L	FX 952-W3M2	⊕ 2NC	FX 954-W3M2	⊕ 2NC	FX 956-W3M2	⊕ 2NC	FX 957-W3M2	⊕ 2NC
10	L	FX 1052-W3M2	2NO	FX 1054-W3M2	2NO	FX 1056-W3M2	2NO	FX 1057-W3M2	2NO
20	L	FX 2052-W3M2	⊕ 1NO+2NC	FX 2054-W3M2	⊕ 1NO+2NC	FX 2056-W3M2	⊕ 1NO+2NC	FX 2057-W3M2	⊕ 1NO+2NC
21	L	FX 2152-W3M2	⊕ 3NC	FX 2154-W3M2	⊕ 3NC	FX 2156-W3M2	⊕ 3NC	FX 2157-W3M2	⊕ 3NC
22	L	FX 2252-W3M2	⊕ 2NO+1NC	FX 2254-W3M2	⊕ 2NO+1NC	FX 2256-W3M2	⊕ 2NO+1NC	FX 2257-W3M2	⊕ 2NO+1NC
2	R	FX 252-W3M2	2NO+2NC	FX 254-W3M2	2NO+2NC	FX 256-W3M2	2NO+2NC	FX 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.

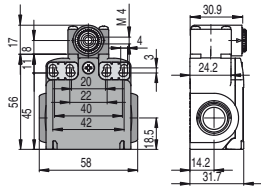
Actuators	Min. force
01, 14, 15, 16	7 N
02, 05	6 N
07	3.5 N
30 ... 57	0.08 Nm

Position switches with revolving lever without actuator

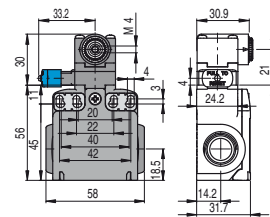
All measures in the drawings are in mm

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
- E** = 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	R	FX 538-M2	⊕ 1NO+1NC	
6	L	FX 638-M2	⊕ 1NO+1NC	FX 638-W3M2 ⊕ 1NO+1NC
7	LO	FX 738-M2	⊕ 1NO+1NC	
9	L	FX 938-M2	⊕ 2NC	FX 938-W3M2 ⊕ 2NC
10	L	FX 1038-M2	2NO	FX 1038-W3M2 2NO
11	R	FX 1138-M2	⊕ 2NC	
12	R	FX 1238-M2	2NO	
13	LV	FX 1338-M2	⊕ 2NC	
14	LS	FX 1438-M2	⊕ 2NC	
15	LS	FX 1538-M2	2NO	
16	LI	FX 1638-M2	⊕ 2NC	
18	LA	FX 1838-M2	⊕ 1NO+1NC	
20	L	FX 2038-M2	⊕ 1NO+2NC	FX 2038-W3M2 ⊕ 1NO+2NC
21	L	FX 2138-M2	⊕ 3NC	FX 2138-W3M2 ⊕ 3NC
22	L	FX 2238-M2	⊕ 2NO+1NC	FX 2238-W3M2 ⊕ 2NO+1NC
2	R	FX 238-M2	2x(1NO-1NC)	FX 238-W3M2 2NO+2NC
E1	E	FX E138-M2	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

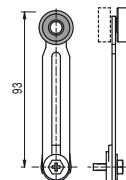
Loose actuators

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	
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 fiber glass 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 figure beside. If you need an adjustable lever for safety applications, use the adjustable safety lever VF LE56.
- ⁽²⁾ The position switch obtained by assembling switch FX •38-M2 (e.g. FX 538-M2, FX 638-M2...) with actuator VF LE53 will not present the same travel diagrams and actuating forces as switch FX •53-E0M2V9 (e.g. FX 553-E0M2V9, FX 653-E0M2V9...).
- ⁽⁴⁾ 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



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