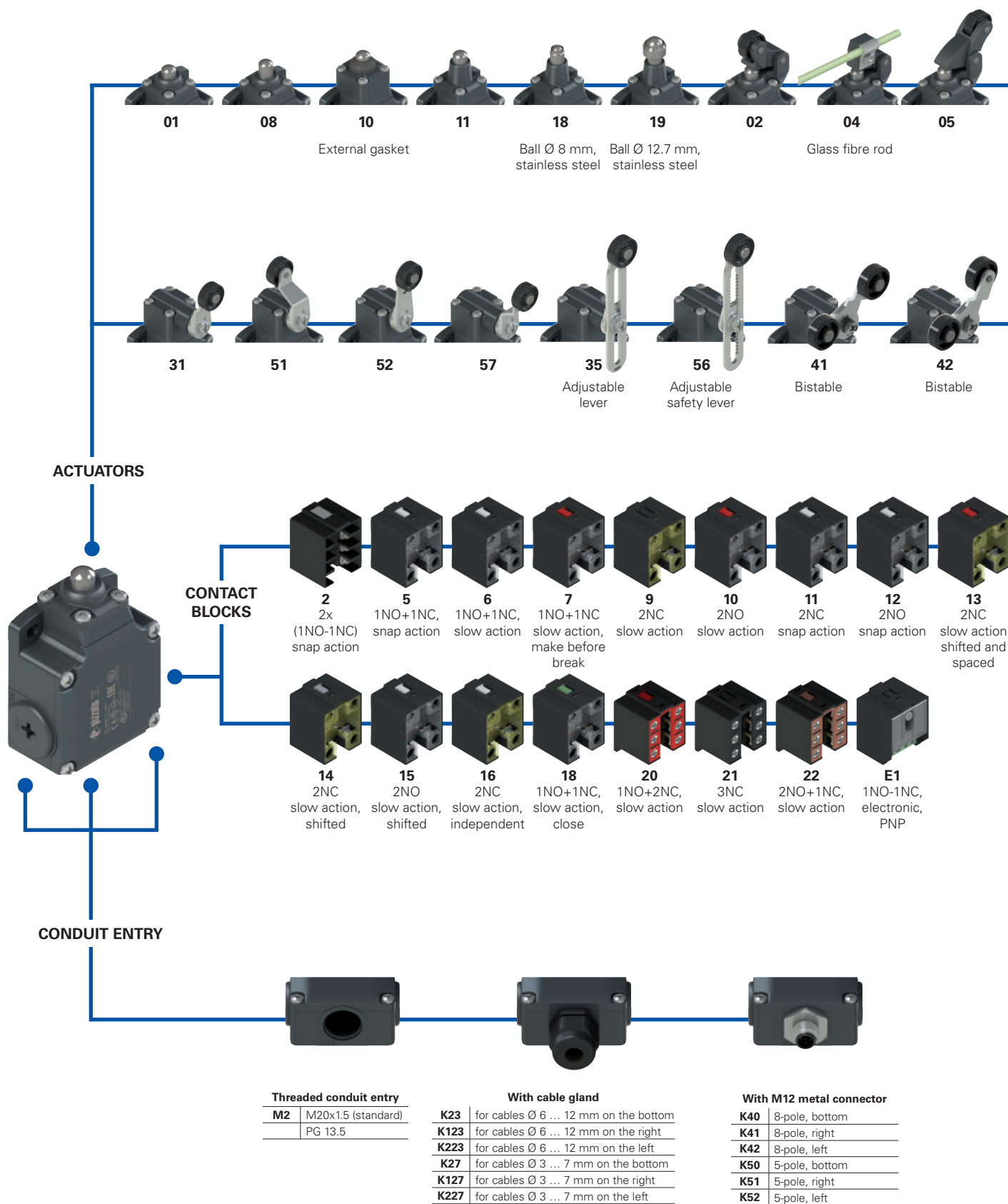
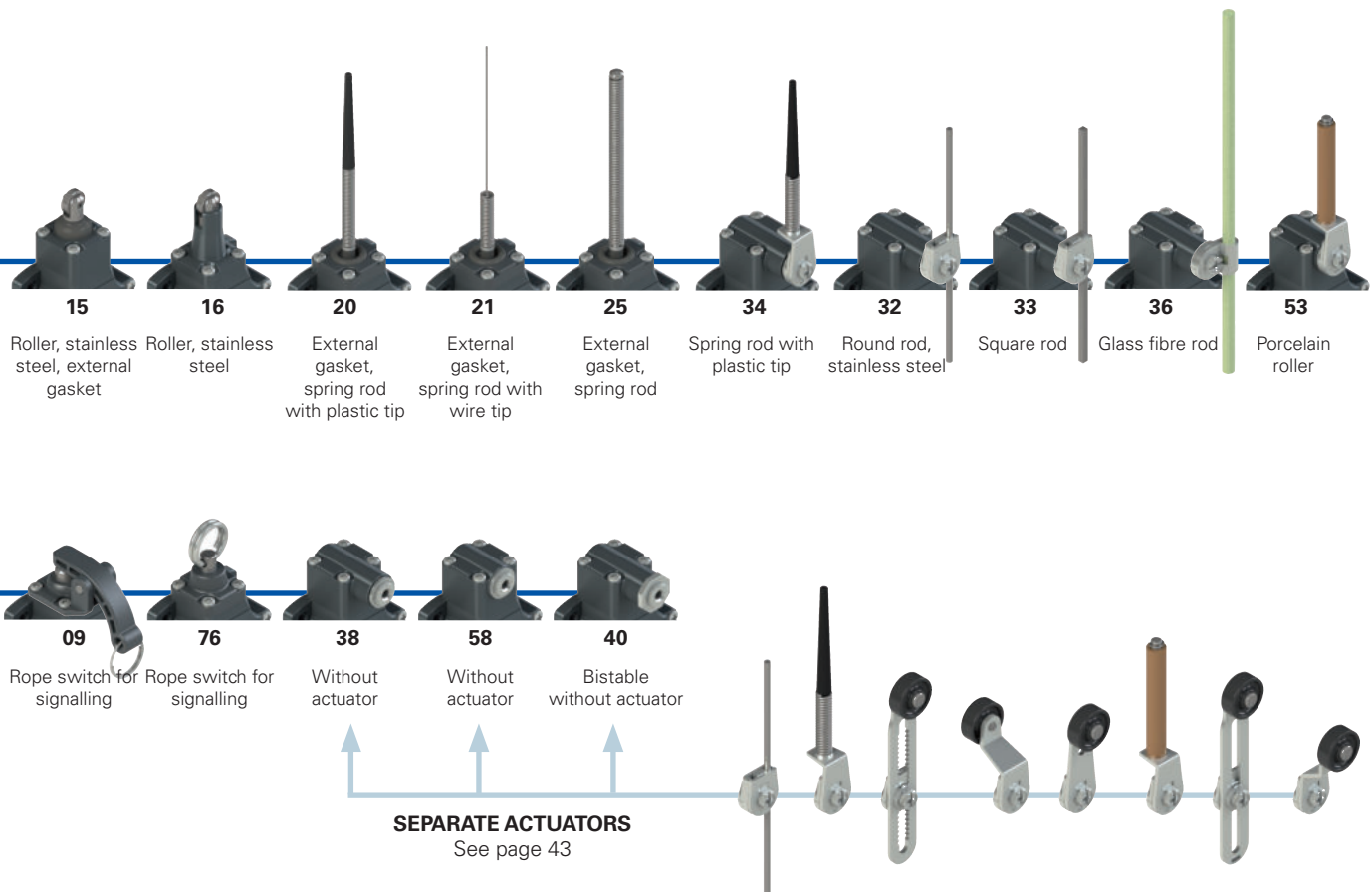


Selection diagram



—●— 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
FL 502-GM2K50R24T6

Housing

FL metal, three 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
...	

Contact type

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

Threaded conduit entry

M2	M20x1.5 (standard)
	PG 13.5

Ambient temperature

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

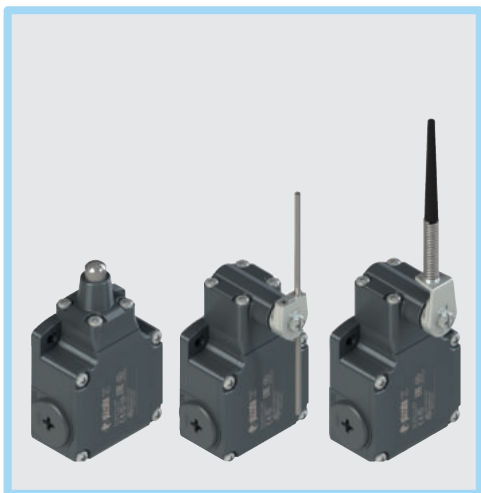
Rollers

	standard roller
R24	stainless steel Ø 20 mm (for actuators 02, 05, 31, 35, 51, 52, 56, 57)
R25	technopolymer, Ø 35 mm (for actuators 31, 35, 51, 52, 56, 57)
R5	rubber, Ø 40 mm (for actuators 31, 35, 51, 52, 56, 57)
R26	rubber, Ø 50 mm (for actuators 31, 35, 51, 52, 56, 57)
R27	rubber, protruding, Ø 50 mm (for actuators 35 and 56)

Pre-installed cable glands or connectors

	no cable gland or connector (standard)
K23	cable gland for cables Ø 6 ... 12 mm
K50	M12 metal connector, 5-pole

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



Main features

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

Technical data

Housing

Metal housing, powder-coated
Three threaded conduit entries:
Protection degree acc. to EN 60529:

M20x1.5 (standard)
IP67 with cable gland of equal or higher protection degree

General data

Ambient temperature:

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

Max. actuation frequency:

3600 operating cycles/hour

Mechanical endurance:

20 million operating cycles

Mounting position:

any

Safety parameter B_{10D} :

40,000,000 for NC contacts

Mechanical interlock, not coded:

type 1 acc. to EN ISO 14119

Tightening torques for installation:

see page 225

Wire cross-sections and

wire stripping lengths:

see page 243

In compliance with standards:

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

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB/T14048.5-2017.

Compliance with the requirements of:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU,

RoHS Directive 2011/65/EU.

Positive contact opening in conformity with standards:

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

Quality marks:



IMQ approval: EG605
UL approval: E131787
CCC approval: 2007010305230000
EAC approval: RU C-IT.AQ35.B.00454

Installation for safety applications:

Use only switches marked with the symbol next to the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as required by **EN ISO 14119, paragraph 5.4** for specific interlock applications and **EN ISO 13849-2 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 226. 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 223 to 236.

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)	Ue (V)	250	400
	Rated impulse withstand voltage (U_{imp}):	6 kV 4 kV (contact blocks 20, 21, 22)	Ie (A)	6	4
	Conditional short circuit current: Protection against short circuits: Pollution degree:	1000 A acc. to EN 60947-5-1 type aM fuse 10 A 500 V 3	Direct current: DC13		
with M12 connector, 5-pole	Thermal current (I_{th}):	4 A	Ue (V)	24	120
	Rated insulation voltage (U_i):	250 Vac 300 Vdc	Ie (A)	4	4
	Protection against short circuits:	type gG fuse 4 A 500 V	Direct current: DC13		
	Pollution degree:	3	Ue (V)	24	125
with M12 connector, 8-pole	Thermal current (I_{th}):	2 A	Ue (V)	24	
	Rated insulation voltage (U_i):	30 Vac 36 Vdc	Ie (A)	2	
	Protection against short circuits:	type gG fuse 2 A 500 V	Direct current: DC13		
	Pollution degree:	3	Ue (V)	24	

**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_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 compliance with standards: EN 60947-1, EN 60947-5-1, 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

Electrical Ratings: Q300 pilot duty (69 VA, 125-250 V dc)
 A600 pilot duty (720 VA, 120-600 V ac)
 Environmental Ratings: Types 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).

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

Wiring diagram for M12 connectors

Contact block 2 2x(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-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole
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 1NO+2NC	Contact block 21 3NC	Contact block 22 2NO+1NC	Contact block 33 1NO+1NC	Contact block 34 2NC
M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 5-pole	M12 connector, 8-pole	M12 connector, 8-pole	M12 connector, 8-pole	M12 connector, 5-pole	M12 connector, 5-pole
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

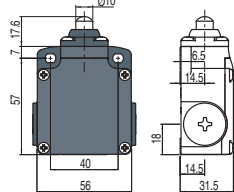
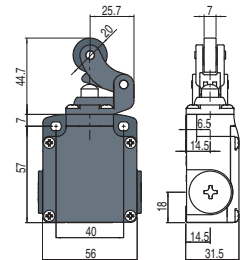
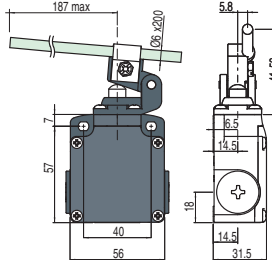
M12 connector, 5-pole

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

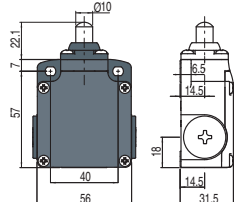
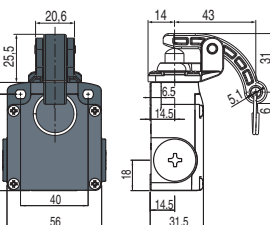
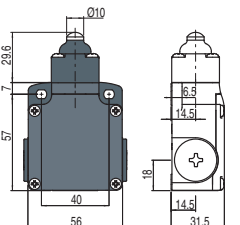
Contact block

		With stainless steel roller on request		With stainless steel roller on request	
					
2	R	FL 201-M2	2x(1NO-1NC)	FL 202-M2	2x(1NO-1NC)
5	R	FL 501-M2	1NO+1NC	FL 502-M2	1NO+1NC
6	L	FL 601-M2	1NO+1NC	FL 602-M2	1NO+1NC
7	LO	FL 701-M2	1NO+1NC	FL 702-M2	1NO+1NC
9	L	FL 901-M2	2NC	FL 902-M2	2NC
10	L	FL 1001-M2	2NO	FL 1002-M2	2NO
11	R	FL 1101-M2	2NC	FL 1102-M2	2NC
12	R	FL 1201-M2	2NO	FL 1202-M2	2NO
13	LV	FL 1301-M2	2NC	FL 1302-M2	2NC
14	LS	FL 1401-M2	2NC	FL 1402-M2	2NC
15	LS	FL 1501-M2	2NO	FL 1502-M2	2NO
18	LA	FL 1801-M2	1NO+1NC	FL 1802-M2	1NO+1NC
20	L	FL 2001-M2	1NO+2NC	FL 2002-M2	1NO+2NC
21	L	FL 2101-M2	3NC	FL 2102-M2	3NC
22	L	FL 2201-M2	2NO+1NC	FL 2202-M2	2NO+1NC
E1		FL E101-M2	1NO-1NC	FL E102-M2	1NO-1NC
Max. speed		page 225 - type 4		0.5 m/s	
Actuating force		8 N (25 N)		0.17 Nm	
Travel diagrams		page 226 - group 1		page 226 - group 1	

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

		Rope switch for signalling		External gasket	
					
2	R	FL 208-M2	2x(1NO-1NC)	FL 210-M2	2x(1NO-1NC)
5	R	FL 508-M2	1NO+1NC	FL 510-M2	1NO+1NC
6	L	FL 608-M2	1NO+1NC	FL 610-M2	1NO+1NC
7	LO	FL 708-M2	1NO+1NC	FL 710-M2	1NO+1NC
9	L	FL 908-M2	2NC	FL 910-M2	2NC
10	L	FL 1008-M2	2NO	FL 1010-M2	2NO
11	R	FL 1108-M2	2NC	FL 1110-M2	2NC
12	R	FL 1208-M2	2NO	FL 1210-M2	2NO
13	LV	FL 1308-M2	2NC	FL 1310-M2	2NC
14	LS	FL 1408-M2	2NC	FL 1410-M2	2NC
15	LS	FL 1508-M2	2NO	FL 1510-M2	2NO
18	LA	FL 1808-M2	1NO+1NC	FL 1810-M2	1NO+1NC
20	L	FL 2008-M2	1NO+2NC	FL 2010-M2	1NO+2NC
21	L	FL 2108-M2	3NC	FL 2110-M2	3NC
22	L	FL 2208-M2	2NO+1NC	FL 2210-M2	2NO+1NC
E1		FL E108-M2	1NO-1NC	FL E110-M2	1NO-1NC
Max. speed		page 225 - type 4		0.5 m/s	
Actuating force		8 N (25 N)		11 N (25 N)	
Travel diagrams		page 226 - group 1		page 226 - group 1	



Contact type	External gasket		Ball, Ø 8 mm, stainless steel		Ball, Ø 12.7 mm, stainless steel	
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						
2	R	FL 215-M2 2x(1NO-1NC)	FL 216-M2 2x(1NO-1NC)	FL 218-M2 2x(1NO-1NC)	FL 219-M2 2x(1NO-1NC)	
5	R	FL 515-M2 1NO+1NC	FL 516-M2 1NO+1NC	FL 518-M2 1NO+1NC	FL 519-M2 1NO+1NC	
6	L	FL 615-M2 1NO+1NC	FL 616-M2 1NO+1NC	FL 618-M2 1NO+1NC	FL 619-M2 1NO+1NC	
7	LO	FL 715-M2 1NO+1NC	FL 716-M2 1NO+1NC	FL 718-M2 1NO+1NC	FL 719-M2 1NO+1NC	
9	L	FL 915-M2 2NC	FL 916-M2 2NC	FL 918-M2 2NC	FL 919-M2 2NC	
10	L	FL 1015-M2 2NO	FL 1016-M2 2NO	FL 1018-M2 2NO	FL 1019-M2 2NO	
11	R	FL 1115-M2 2NC	FL 1116-M2 2NC	FL 1118-M2 2NC	FL 1119-M2 2NC	
12	R	FL 1215-M2 2NO	FL 1216-M2 2NO	FL 1218-M2 2NO	FL 1219-M2 2NO	
13	LV	FL 1315-M2 2NC	FL 1316-M2 2NC	FL 1318-M2 2NC	FL 1319-M2 2NC	
14	LS	FL 1415-M2 2NC	FL 1416-M2 2NC	FL 1418-M2 2NC	FL 1419-M2 2NC	
15	LS	FL 1515-M2 2NO	FL 1516-M2 2NO	FL 1518-M2 2NO	FL 1519-M2 2NO	
18	LA	FL 1815-M2 1NO+1NC	FL 1816-M2 1NO+1NC	FL 1818-M2 1NO+1NC	FL 1819-M2 1NO+1NC	
20	L	FL 2015-M2 1NO+2NC	FL 2016-M2 1NO+2NC	FL 2018-M2 1NO+2NC	FL 2019-M2 1NO+2NC	
21	L	FL 2115-M2 3NC	FL 2116-M2 3NC	FL 2118-M2 3NC	FL 2119-M2 3NC	
22	L	FL 2215-M2 2NO+1NC	FL 2216-M2 2NO+1NC	FL 2218-M2 2NO+1NC	FL 2219-M2 2NO+1NC	
E1		FL E115-M2 1NO-1NC	FL E116-M2 1NO-1NC	FL E118-M2 1NO-1NC	FL E119-M2 1NO-1NC	
Max. speed	page 225 - type 2		page 225 - type 2		page 225 - type 4	
Actuating force	11 N (25 N)		8 N (25 N)		8 N (25 N)	
Travel diagrams	page 226 - group 1		page 226 - group 1		page 226 - group 1	

Contact type	External gasket		External gasket		External gasket		Other rollers available. See page 44	
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								
2	R	FL 220-M2 2x(1NO-1NC)	FL 221-M2 2x(1NO-1NC)	FL 225-M2 2x(1NO-1NC)	FL 231-M2 2x(1NO-1NC)			
5	R	FL 520-M2 1NO+1NC	FL 521-M2 1NO+1NC	FL 525-M2 1NO+1NC	FL 531-M2 1NO+1NC			
6	L	/	/	/	FL 631-M2 1NO+1NC			
7	LO	/	/	/	FL 731-M2 1NO+1NC			
9	L	/	/	/	FL 931-M2 2NC			
10	L	FL 1020-M2 2NO	FL 1021-M2 2NO	FL 1025-M2 2NO	FL 1031-M2 2NO			
11	R	/	/	/	FL 1131-M2 2NC			
12	R	/	/	/	FL 1231-M2 2NO			
13	LV	/	/	/	FL 1331-M2 2NC			
14	LS	/	/	/	FL 1431-M2 2NC			
15	LS	/	/	/	FL 1531-M2 2NO			
16	LI	/	/	/	FL 1631-M2 2NC			
18	LA	FL 1820-M2 1NO+1NC	FL 1821-M2 1NO+1NC	FL 1825-M2 1NO+1NC	FL 1831-M2 1NO+1NC			
20	L	FL 2020-M2 1NO+2NC	FL 2021-M2 1NO+2NC	FL 2025-M2 1NO+2NC	FL 2031-M2 1NO+2NC			
21	L	FL 2120-M2 3NC	FL 2121-M2 3NC	FL 2125-M2 3NC	FL 2131-M2 3NC			
22	L	FL 2220-M2 2NO+1NC	FL 2221-M2 2NO+1NC	FL 2225-M2 2NO+1NC	FL 2231-M2 2NO+1NC			
E1		FL E120-M2 1NO-1NC	FL E121-M2 1NO-1NC	FL E125-M2 1NO-1NC	FL E131-M2 1NO-1NC			
Max. speed	1 m/s		1 m/s		1 m/s		page 225 - type 1	
Actuating force	0.09 Nm		0.08 Nm		0.14 Nm		0.1 Nm (0.25 Nm)	
Travel diagrams	page 226 - group 3		page 226 - group 3		page 226 - group 3		page 226 - group 4	

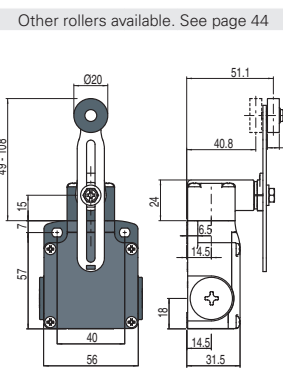
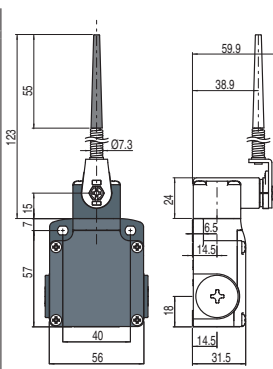
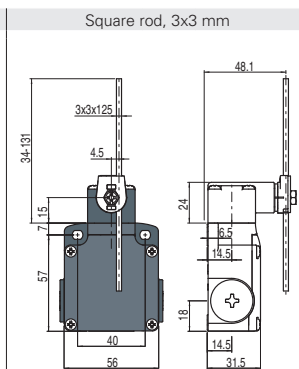
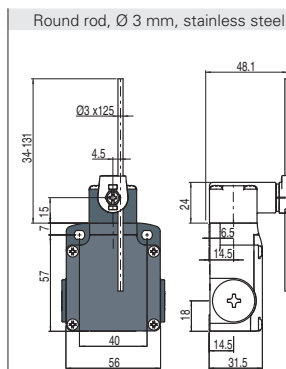
All values in the drawings are in mm

Accessories See page 207

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

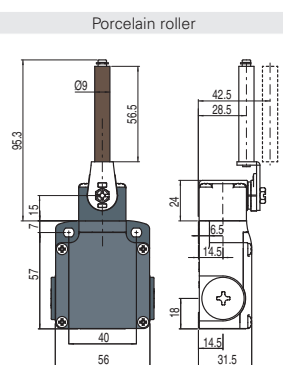
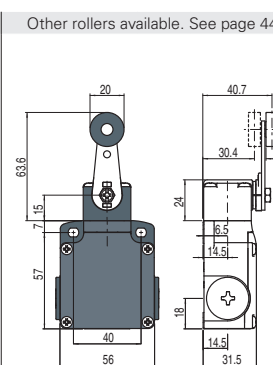
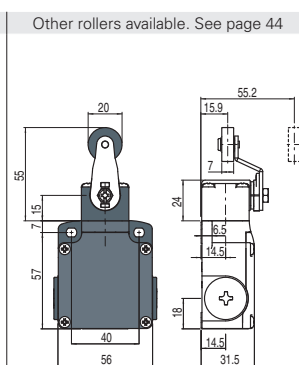
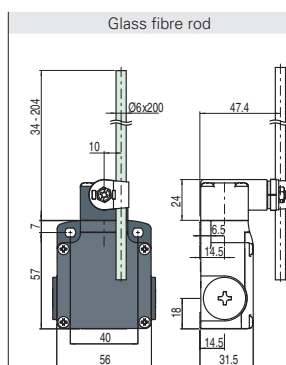
Contact block



		Round rod, Ø 3 mm, stainless steel	Square rod, 3x3 mm		Other rollers available. See page 44		Other rollers available. See page 44
2	R	FL 232-M2	2x(1NO-1NC)	FL 233-M2	2x(1NO-1NC)	FL 234-M2	2x(1NO-1NC)
5	R	FL 532-M2	1NO+1NC	FL 533-M2	1NO+1NC	FL 534-M2	1NO+1NC
6	L	FL 632-M2	1NO+1NC	FL 633-M2	1NO+1NC	FL 634-M2	1NO+1NC
7	LO	FL 732-M2	1NO+1NC	FL 733-M2	1NO+1NC	FL 734-M2	1NO+1NC
9	L	FL 932-M2	2NC	FL 933-M2	2NC	FL 934-M2	2NC
10	L	FL 1032-M2	2NO	FL 1033-M2	2NO	FL 1034-M2	2NO
11	R	FL 1132-M2	2NC	FL 1133-M2	2NC	FL 1134-M2	2NC
12	R	FL 1232-M2	2NO	FL 1233-M2	2NO	FL 1234-M2	2NO
13	LV	FL 1332-M2	2NC	FL 1333-M2	2NC	FL 1334-M2	2NC
14	LS	FL 1432-M2	2NC	FL 1433-M2	2NC	FL 1434-M2	2NC
15	LS	FL 1532-M2	2NO	FL 1533-M2	2NO	FL 1534-M2	2NO
16	LI	FL 1632-M2	2NC	FL 1633-M2	2NC	FL 1634-M2	2NC
18	LA	FL 1832-M2	1NO+1NC	FL 1833-M2	1NO+1NC	FL 1834-M2	1NO+1NC
20	L	FL 2032-M2	1NO+2NC	FL 2033-M2	1NO+2NC	FL 2034-M2	1NO+2NC
21	L	FL 2132-M2	3NC	FL 2133-M2	3NC	FL 2134-M2	3NC
22	L	FL 2232-M2	2NO+1NC	FL 2233-M2	2NO+1NC	FL 2234-M2	2NO+1NC
E1	△	FL E132-M2	1NO-1NC	FL E133-M2	1NO-1NC	FL E134-M2	1NO-1NC
Max. speed		1.5 m/s	1.5 m/s	1 m/s	page 225 - type 1	0.1 Nm (0.25 Nm $\ominus$)	0.1 Nm (0.25 Nm $\ominus$)
Actuating force		0.1 Nm	0.1 Nm	0.1 Nm	page 226 - group 4	page 226 - group 4	page 226 - group 4
Travel diagrams		page 226 - group 4	page 226 - group 4	page 226 - group 4	page 226 - group 4	page 226 - group 4	page 226 - group 4

- 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



		Glass fibre rod	Other rollers available. See page 44	Other rollers available. See page 44	Porcelain roller
2	R	FL 236-M2	2x(1NO-1NC)	FL 251-M2	2x(1NO-1NC)
5	R	FL 536-M2	1NO+1NC	FL 551-M2	1NO+1NC
6	L	FL 636-M2	1NO+1NC	FL 651-M2	1NO+1NC
7	LO	FL 736-M2	1NO+1NC	FL 751-M2	1NO+1NC
9	L	FL 936-M2	2NC	FL 951-M2	2NC
10	L	FL 1036-M2	2NO	FL 1051-M2	2NO
11	R	FL 1136-M2	2NC	FL 1151-M2	2NC
12	R	FL 1236-M2	2NO	FL 1251-M2	2NO
13	LV	FL 1336-M2	2NC	FL 1351-M2	2NC
14	LS	FL 1436-M2	2NC	FL 1451-M2	2NC
15	LS	FL 1536-M2	2NO	FL 1551-M2	2NO
16	LI	FL 1636-M2	2NC	/	/
18	LA	FL 1836-M2	1NO+1NC	FL 1851-M2	1NO+1NC
20	L	FL 2036-M2	1NO+2NC	FL 2051-M2	1NO+2NC
21	L	FL 2136-M2	3NC	FL 2151-M2	3NC
22	L	FL 2236-M2	2NO+1NC	FL 2251-M2	2NO+1NC
E1	△	FL E136-M2	1NO-1NC	FL E151-M2	1NO-1NC
Max. speed		1.5 m/s	page 225 - type 1	page 225 - type 1	0.5 m/s
Actuating force		0.1 Nm	0.06 Nm (0.25 Nm $\ominus$)	0.06 Nm (0.25 Nm $\ominus$)	0.03 Nm (0.25 Nm $\ominus$)
Travel diagrams		page 226 - group 4	page 226 - group 4	page 226 - group 4	page 226 - group 5

(1) Positive opening only with actuator set to max. See page 44.

All values in the drawings are in mm

Accessories See page 207

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



Contact type	Other rollers available. See page 44		Other rollers available. See page 44		With stainless steel rollers on request	With stainless steel rollers on request
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						
2 R	FL 256-M2	2x(1NO-1NC)	FL 257-M2	2x(1NO-1NC)	/	/
5 R	FL 556-M2	1NO+1NC	FL 557-M2	1NO+1NC	FL 541-M2	FL 542-M2
6 L	FL 656-M2	1NO+1NC	FL 657-M2	1NO+1NC	 Bistable switch with lyra lever, single track S = mechanical switching point positive opening on contacts 21-22 only	 Bistable switch with lyra lever, dual track S = mechanical switching point positive opening on contacts 21-22 only
7 LO	FL 756-M2	1NO+1NC	FL 757-M2	1NO+1NC		
9 L	FL 956-M2	2NC	FL 957-M2	2NC		
10 L	FL 1056-M2	2NO	FL 1057-M2	2NO		
11 R	FL 1156-M2	2NC	FL 1157-M2	2NC		
12 R	FL 1256-M2	2NO	FL 1257-M2	2NO		
13 LV	FL 1356-M2	2NC	FL 1357-M2	2NC		
14 LS	FL 1456-M2	2NC	FL 1457-M2	2NC		
15 LS	FL 1556-M2	2NO	FL 1557-M2	2NO		
16 LI	FL 1656-M2	2NC	FL 1657-M2	2NC		
18 LA	FL 1856-M2	1NO+1NC	FL 1857-M2	1NO+1NC		
20 L	FL 2056-M2	1NO+2NC	FL 2057-M2	1NO+2NC		
21 L	FL 2156-M2	3NC	FL 2157-M2	3NC		
22 L	FL 2256-M2	2NO+1NC	FL 2257-M2	2NO+1NC		
E1	FL E156-M2	1NO-1NC	FL E157-M2	1NO-1NC		
Max. speed	page 225 - type 1		page 225 - type 1		0.5 m/s with cam at 30°	0.5 m/s with cam at 30°
Actuating force	0.1 Nm (0.25 Nm)		0.1 Nm (0.25 Nm)		0.21 Nm (0.36 Nm)	0.21 Nm (0.36 Nm)
Travel diagrams	page 226 - group 4		page 226 - group 4		/	/

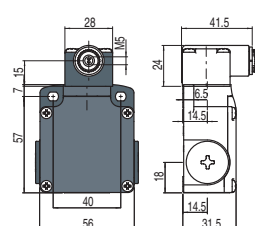
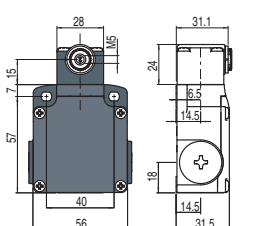
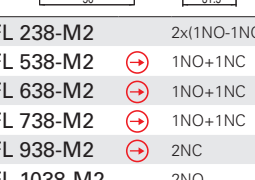
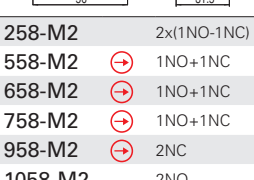
Contact type	Rope switch for signalling	
R = snap action L = slow action LO = slow action make before break LS = slow action shifted LV = slow action shifted and spaced LI = slow action independent LA = slow action close = electronic PNP		
Contact block		
2 R	FL 276-M2	2x(1NO-1NC)
5 R	FL 576-M2	1NO+1NC
6 L	FL 676-M2	1NO+1NC
7 LO	FL 776-M2	1NO+1NC
9 L	FL 976-M2	2NO
10 L	FL 1076-M2	2NC
11 R	FL 1176-M2	2NO
12 R	FL 1276-M2	2NC
13 LV	FL 1376-M2	2NO
14 LS	FL 1476-M2	2NO
15 LS	FL 1576-M2	2NC
16 LI	/	
18 LA	FL 1876-M2	1NO+1NC
20 L	FL 2076-M2	2NO+1NC
21 L	FL 2176-M2	3NO
22 L	FL 2276-M2	1NO+2NC
E1	/	
Max. speed	0.5 m/s	
Actuating force	initial 20 N - final 40 N	
Travel diagrams	page 226 - group 6	

All values in the drawings are in mm

Accessories See page 207

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

Position switches with swivelling lever without actuator

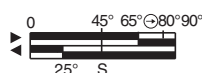
		Regular head		Compact head	
Contact type					
Contact block					
2	R	FL 238-M2	2x(1NO-1NC)	FL 258-M2	2x(1NO-1NC)
5	R	FL 538-M2	1NO+1NC	FL 558-M2	1NO+1NC
6	L	FL 638-M2	1NO+1NC	FL 658-M2	1NO+1NC
7	LO	FL 738-M2	1NO+1NC	FL 758-M2	1NO+1NC
9	L	FL 938-M2	2NC	FL 958-M2	2NC
10	L	FL 1038-M2	2NO	FL 1058-M2	2NO
11	R	FL 1138-M2	2NC	FL 1158-M2	2NC
12	R	FL 1238-M2	2NO	FL 1258-M2	2NO
13	LV	FL 1338-M2	2NC	FL 1358-M2	2NC
14	LS	FL 1438-M2	2NC	FL 1458-M2	2NC
15	LS	FL 1538-M2	2NO	FL 1558-M2	2NO
16	LI	FL 1638-M2	2NC	/	
18	LA	FL 1838-M2	1NO+1NC	FL 1858-M2	1NO+1NC
20	L	FL 2038-M2	1NO+2NC	FL 2058-M2	1NO+2NC
21	L	FL 2138-M2	3NC	FL 2158-M2	3NC
22	L	FL 2238-M2	2NO+1NC	FL 2258-M2	2NO+1NC
E1		FL E138-M2	1NO-1NC	FL E158-M2	1NO-1NC
Actuating force		0.1 Nm (0.25 Nm )		0.06 Nm (0.25 Nm )	
Travel diagrams		page 226 - group 4		page 226 - group 4	

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 223.

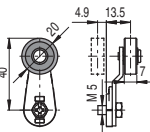
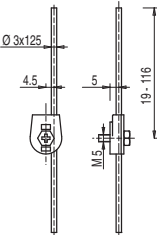
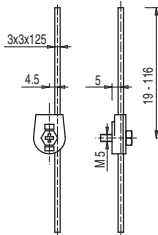
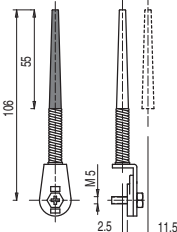
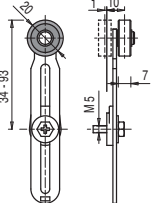
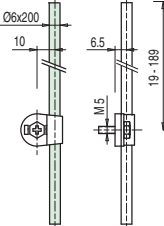
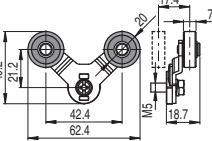
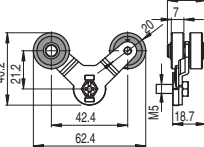
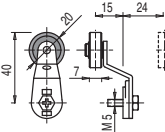
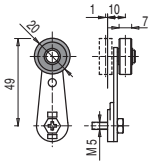
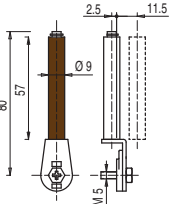
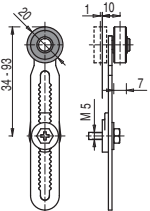
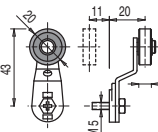
Bistable switch



S = mechanical switching point
positive opening on contacts 21-22 only

Separate actuators

IMPORTANT: These separate actuators can be used only with items of the FD, FP, FL, FC series.

Technopolymer roller Ø 20 mm	Adjustable round rod Ø 3x125 mm	Adjustable square rod, 3x3x125 mm	Spring rod with plastic tip	Adjustable actuator with technopolymer roller	Adjustable glass fibre rod	
						
VF L31 ➡	VF L32 (3)	VF L33 (3)	VF L34	VF L35 ➡ (1) (3)	VF L36 (3)	
Lyra actuator, single track	Lyra actuator, dual track	Technopolymer roller, Ø 20 mm	Technopolymer roller, Ø 20 mm	Porcelain roller	Adjustable safety actuator with technopolymer roller	Technopolymer roller, Ø 20 mm
						
VF L41 ➡	VF L42 ➡	VF L51 ➡	VF L52 ➡	VF L53 ➡ (2)	VF L56 ➡ (3)	VF L57 ➡

All values in the drawings are in mm

Accessories See page 207

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



Special separate actuators

IMPORTANT: These separate actuators can be used only with items of the FD, FP, FL, FC series.

Stainless steel rollers, Ø 20 mm

VF L31-R24 (1)	VF L35-R24 (1) (3)	VF L51-R24 (1)	VF L52-R24 (1)	VF L56-R24 (3)	VF L57-R24 (1)

Technopolymer rollers, Ø 35 mm

VF L31-R25 (4)	VF L35-R25 (1) (3)	VF L51-R25 (4)	VF L52-R25 (1)	VF L56-R25 (3)	VF L57-R25 (1)

Rubber rollers, Ø 40 mm

VF L31-R5 (4)	VF L35-R5 (1) (3)	VF L51-R5 (4)	VF L52-R5 (1)	VF L56-R5 (3)	VF L57-R5 (4)

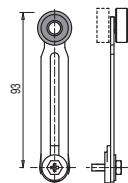
Rubber rollers, Ø 50 mm

VF L31-R26 (4)	VF L35-R26 (1) (3)	VF L51-R26 (4)	VF L52-R26 (4)	VF L56-R26 (3)	VF L57-R26 (4)

Protruding rubber rollers, Ø 50 mm

VF L35-R27 (1) (3)	VF L56-R27 (3)

- (1) Actuator VF L35 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 L56 adjustable safety lever.
- (2) The position switch obtained by assembling switch FL •58-M2 (e.g. FL 558-M2, FL 658-M2, ...) with actuator VF L53 will not present the same travel diagrams and actuating forces as switch FL •53-E11M2V9 (e.g. FL 553-E11M2V9, FL 653-E11M2V9, ...)
- (3) If installed with switch FL •58-M2 (e.g. FL 558-M2, FL 658-M2...) the actuator may hit the housing of the switch upon actuation. This possible interference depends on the fixing position of actuator and switch head.
- (4) The actuator cannot be rotated to the inside because it will hit the switch head upon actuation.



All values in the drawings are in mm

Accessories See page 207

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