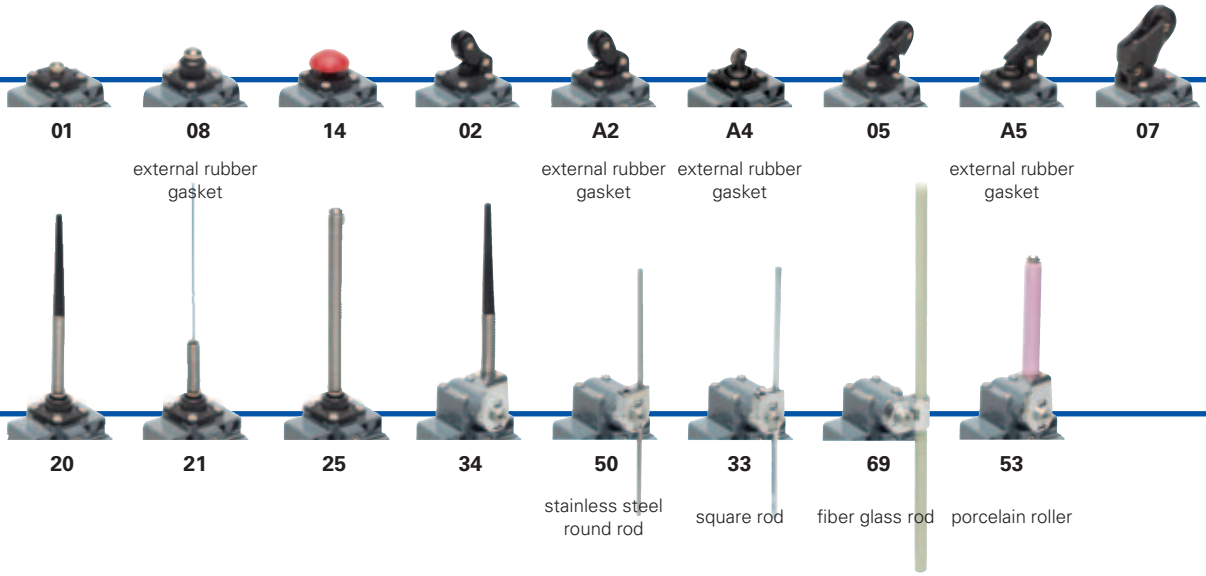
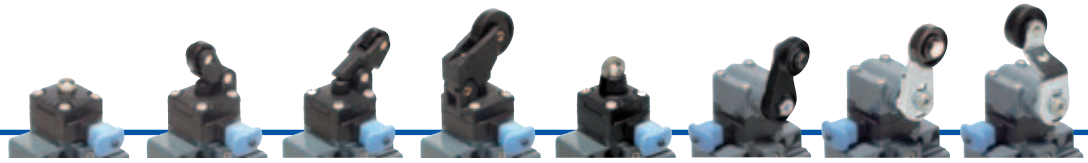
Selection diagram



01 | **08** external rubber gasket | **14** | **02** | **A2** external rubber gasket | **A4** external rubber gasket | **05** | **A5** external rubber gasket | **07**

20 | **21** | **25** | **34** | **50** stainless steel round rod | **33** square rod | **69** fiber glass rod | **53** porcelain roller

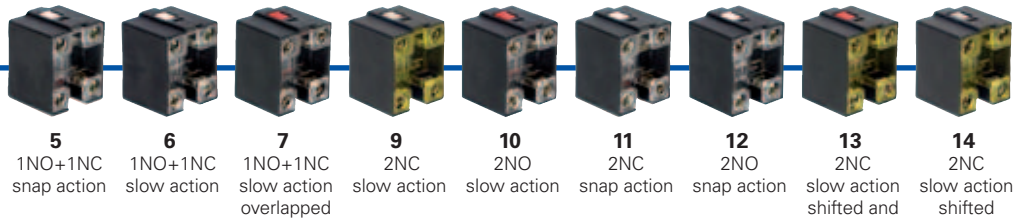
WITH RESET



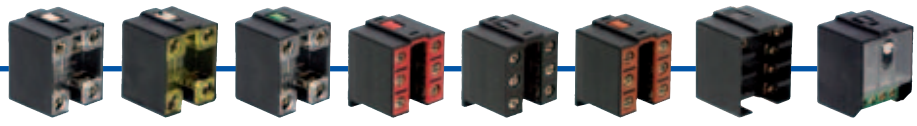
01-W3 | **02-W3** | **05-W3** | **07-W3** | **15-W3** | **30-W3** | **31-W3** | **51-W3**

ACTUATORS

CONTACT BLOCKS



5 1NO+1NC snap action | **6** 1NO+1NC slow action | **7** 1NO+1NC slow action overlapped | **9** 2NC slow action | **10** 2NO slow action | **11** 2NC snap action | **12** 2NO snap action | **13** 2NC slow action shifted and spaced | **14** 2NC slow action shifted



15 2NO slow action shifted | **16** 2NC slow action independent | **18** 1NO+1NC slow action closer | **20** 1NO+2NC slow action | **21** 3NC slow action | **22** 2NO+1NC slow action | **2** 2x(1NO-1NC) snap action | **E1** 1NO-1NC electronic PNP

CONDUIT ENTRIES

Threaded conduit entries

	PG 13,5 (standard)
M2	M20x1,5

With assembled cable gland

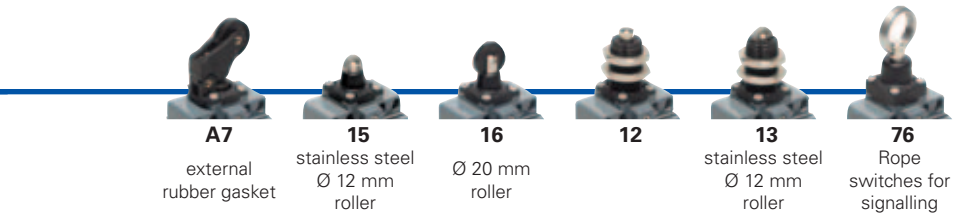
K121	for Ø 6 to Ø 12 mm cables range, from right
K221	for Ø 6 to Ø 12 mm cables range, from left
K125	for Ø 3 to Ø 7 mm cables range, from right
K225	for Ø 3 to Ø 7 mm cables range, from left

With M12 metal connector assembled and wired

K41	8 poles from right
K42	8 poles from left
K51	5 poles from right
K52	5 poles from left

product option

accessory sold separately



A7 external rubber gasket

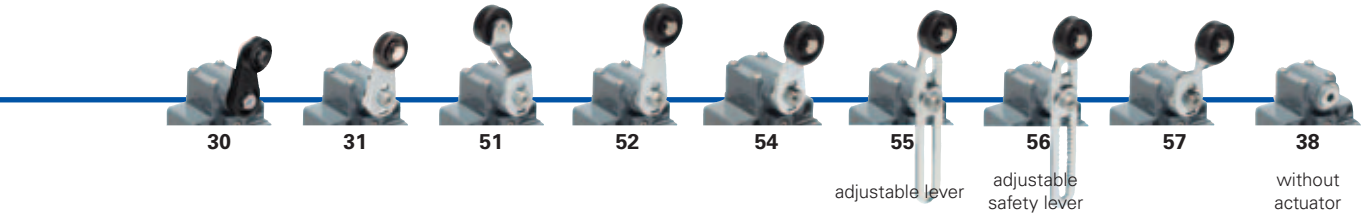
15 stainless steel Ø 12 mm roller

16 Ø 20 mm roller

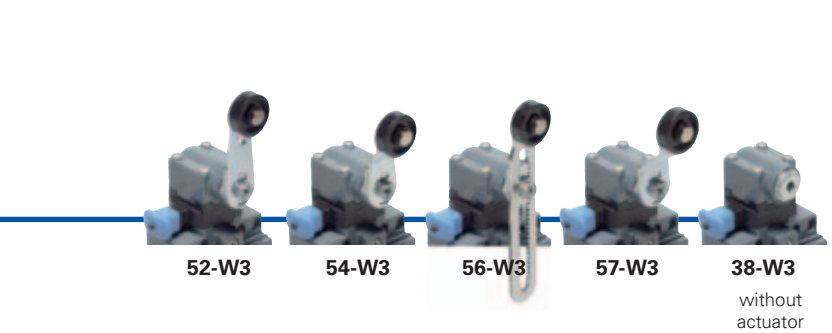
12

13 stainless steel Ø 12 mm roller

76 Rope switches for signalling



30 **31** **51** **52** **54** **55** adjustable lever **56** adjustable safety lever **57** **38** without actuator



52-W3 **54-W3** **56-W3** **57-W3** **38-W3** without actuator

LOOSE ACTUATORS
See page 2/87

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

FZ 502-1W3GM2K51

Housing

FZ	Metal housing, 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	offset roller lever
...	.....

Suffix

	no suffix (standard)
1	with stainless steel roller: - Ø 14 mm for actuators A2, 02, A5, 05 - Ø 20 mm for actuators 30, 31, 51, 52, 54, 55, 56, 57
2	with Ø 35 mm polymer roller (see special loose actuators on page 2/88)
3	with Ø 50 mm rubber roller (see special loose actuators on page 2/88)
4	with Ø 50 mm overhanging rubber roller (see special loose actuators on page 2/88)

Reset hooking

	without reset (standard)
W3	simultaneous reset hooking

Contacts type

	silver contacts (standard)
G	silver contacts gold plated 1 µm (contact block 2 excluded)

Threaded conduit entry

	PG 13,5 (standard)
M2	M20x1,5

Preinstalled cable gland or connectors

	no cable gland or connector (standard)
K121	with right assembled cable gland suitable for Ø 6 to Ø 12 mm cables range
...	.....
K51	with 5 poles M12 metal connector from right
...	.....

For the complete list of all combinations, please contact our technical office.

Main data

- Metal housing, two conduit entries
- Protection degree IP67
- 17 contact blocks available
- 42 actuators available
- M12 assembled connector versions
- Silver contacts gold plated versions

Markings and quality marks:

Approval IMQ: EG609
Approval UL: E131787
Approval CCC: 2007010305229998
Approval EZU: 1010151

Technical data

Housing
Metal housing, coated with baked epoxy powder
Two threaded conduit entries
Protection degree: IP67 according to EN 60529

General data
Ambient temperature: from -25°C to +80°C
Version for operation in ambient temperature from -40°C to +80° C on request
Max operating frequency: 3600 operations cycles[1]/hour
Mechanical endurance: 20 million operations cycles[1]
Assembling position: any
Driving torque for installation: see pages 6/1-6/10
(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 20, 21, 22, 33, 34:	min.	1 x 0,34 mm²	(1 x AWG 22)
	max.	2 x 1,5 mm²	(2 x AWG 16)
Contact blocks 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18:	min.	1 x 0,5 mm²	(1 x AWG 20)
	max.	2 x 2,5 mm²	(2 x AWG 14)
Contact block 2:	min.	1 x 0,5 mm²	(1 x AWG 20)
	max.	2 x 1,5 mm²	(2 x AWG 16)

In conformity with standards:
IEC 60947-5-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, IEC 60529, EN 60529, NFC 63-140, VDE 0660-200, VDE 0113, CENELEC EN 50013.
Approvals:
IEC 60947-5-1, UL 508, GB14048.5-2001

In conformity with requirements requested by:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

Installation for safety applications:
Use only switches marked with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 6/6. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

⚠ **If not expressly indicated in this chapter, for the right installation and the correct utilization of all articles see requirements indicated from page 6/1 to page 6/10.**

Electrical data			Utilization categories
without connector	Thermal current (Ith):	10 A	Alternate current: AC15 (50...60 Hz)
	Rated insulation voltage (Ui):	500 Vac 600 Vdc 400 Vac 500 Vdc for contact blocks 20, 21, 22, 33, 34	Ue (V) 250 400 500 Ie (A) 6 4 1 Direct current: DC13
	Conditional shot circuit current:	1000 A according to EN 60947-5-1	Ue (V) 24 125 250
	Protection against short circuits:	fuse 10 A 500 V type aM	Ie (A) 6 1,1 0,4
	Pollution degree:	3	
with 5 poles M12 connector	Thermal current (Ith):	4 A	Alternate current: AC15 (50...60 Hz)
	Rated insulation voltage (Ui):	250 Vac 300 Vdc	Ue (V) 24 120 250
	Protection against short circuits:	fuse 4 A 500 V type gG	Ie (A) 4 4 4
	Pollution degree:	3	Direct current: DC13 Ue (V) 24 125 250 Ie (A) 4 1,1 0,4
with 8 poles M12 connector	Thermal current (Ith):	2 A	Alternate current: AC15 (50...60 Hz)
	Rated insulation voltage (Ui):	30 Vac 36 Vdc	Ue (V) 24
	Protection against short circuits:	fuse 2 A 500 V type gG	Ie (A) 2
	Pollution degree:	3	Direct current: DC13 Ue (V) 24 Ie (A) 2

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 Vac
400 Vac for contact blocks 20, 21, 22, 33, 34
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 Vac (50 Hz)
Operation 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 block 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 and subsequent modifications and completions, fundamental requirements of the Low Voltage Directive 2006/95/CE and subsequent modifications and completions.

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

Data type approved by UL

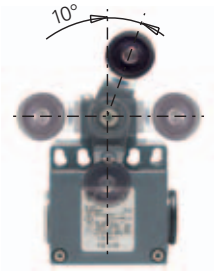
Utilization categories Q300 (69 VA, 125-250 Vdc)
A600 (720 VA, 120-600 Vac)
Data of the housing type 1, 4X "indoor use only", 12, 13
For all contact blocks except 2 and 3 use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7,1 lb in (0.8 Nm).
For contact blocks 2 and 3 use 60 or 75 °C copper (Cu) conductor and wire size No. 14 AWG. Terminal tightening torque of 12 lb in (1.4 Nm).

In conformity with standard: UL 508

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

Adjustable levers

In switches with revolving lever it is possible to adjust the lever with 10° steps for the whole 360° range. The positive movement transmission is always guaranteed thanks to the particular geometrical coupling between the lever and the revolving shaft as prescribed for safety applications by the German standard BG-GS-ET-15.



Overturning levers

It's possible to fasten the lever on switches on straight or reverse side, maintaining the positive coupling.
In this way it is possible to obtain two different work plans of the lever.

Rotating heads

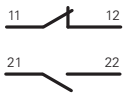
In all switches, it is possible to rotate the head in 90° steps.

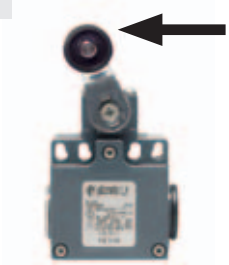
Working operation of contact block 16 with independent contacts

The contact block 16 has two NC contacts**, both with positive opening** activated independently according to the lever turning direction.

Lever turned to left

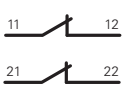
Contacts diagram





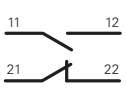
Lever not turned

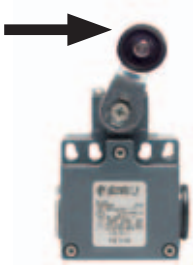
Contacts diagram



Lever turned to right

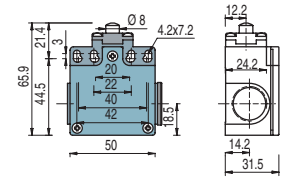
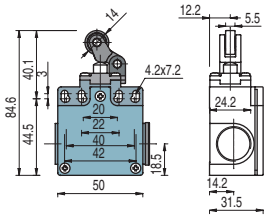
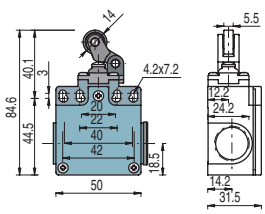
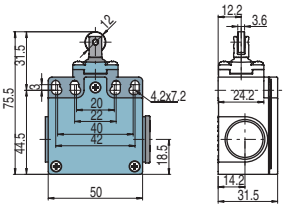
Contacts diagram

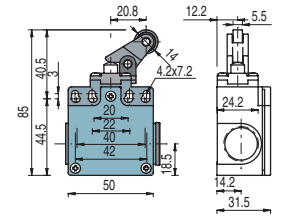
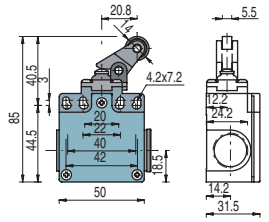
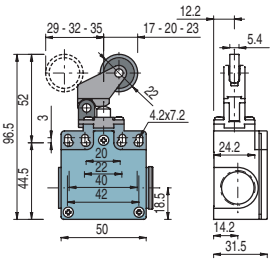
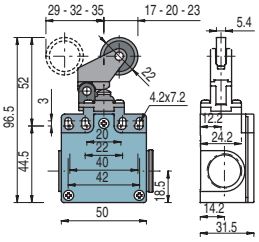




Contacts type:

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

Contact blocks								
		With stainless steel roller on request 		With external rubber gasket With stainless steel roller on request 				With external rubber gasket 
5	R	FZ 505	1NO+1NC	FZ 5A5	1NO+1NC	FZ 507	1NO+1NC	FZ 5A7	1NO+1NC
6	L	FZ 605	1NO+1NC	FZ 6A5	1NO+1NC	FZ 607	1NO+1NC	FZ 6A7	1NO+1NC
7	LO	FZ 705	1NO+1NC	FZ 7A5	1NO+1NC	FZ 707	1NO+1NC	FZ 7A7	1NO+1NC
9	L	FZ 905	2NC	FZ 9A5	2NC	FZ 907	2NC	FZ 9A7	2NC
10	L	FZ 1005	2NO	FZ 10A5	2NO	FZ 1007	2NO	FZ 10A7	2NO
11	R	FZ 1105	2NC	FZ 11A5	2NC	FZ 1107	2NC	FZ 11A7	2NC
12	R	FZ 1205	2NO	FZ 12A5	2NO	FZ 1207	2NO	FZ 12A7	2NO
13	LV	FZ 1305	2NC	FZ 13A5	2NC	FZ 1307	2NC	FZ 13A7	2NC
14	LS	FZ 1405	2NC	FZ 14A5	2NC	FZ 1407	2NC	FZ 14A7	2NC
15	LS	FZ 1505	2NO	FZ 15A5	2NO	FZ 1507	2NO	FZ 15A7	2NO
18	LA	FZ 1805	1NO+1NC	FZ 18A5	1NO+1NC	FZ 1807	1NO+1NC	FZ 18A7	1NO+1NC
20	L	FZ 2005	1NO+2NC	FZ 20A5	1NO+2NC	FZ 2007	1NO+2NC	FZ 20A7	1NO+2NC
21	L	FZ 2105	3NC	FZ 21A5	3NC	FZ 2107	3NC	FZ 21A7	3NC
22	L	FZ 2205	2NO+1NC	FZ 22A5	2NO+1NC	FZ 2207	2NO+1NC	FZ 22A7	2NO+1NC
2	R	FZ 205	2x(1NO-1NC)	FZ 2A5	2x(1NO-1NC)	FZ 207	2x(1NO-1NC)	FZ 2A7	2x(1NO-1NC)
E1		FZ E105	1NO-1NC	FZ E1A5	1NO-1NC	FZ E107	1NO-1NC	FZ E1A7	1NO-1NC
Max speed		page 6/5 - type 3		page 6/5 - type 3		page 6/5 - type 3		page 6/5 - type 3	
Min. force		6 N (25 N ⊕)		4,3 N (25 N ⊕)		4 N (25 N ⊕)		3 N (25 N ⊕)	
Travel diagrams		page 6/6 - group 2		page 6/6 - group 2		page 6/6 - group 3		page 6/6 - group 3	

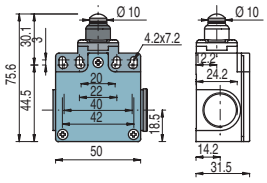
Accessories See page 5/1

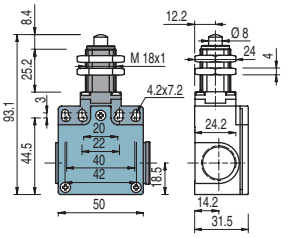
All measures in the drawings are in mm

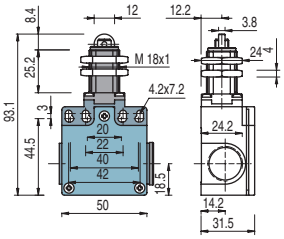
Contacts type:

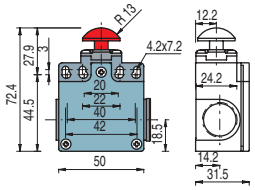
R = snap action
L = slow action
LO = slow action overlapped
LS = slow action shifted
LV = slow action shifted and spaced
LI = slow action independent
LA = slow action closer
= electronic PNP

With external rubber gasket



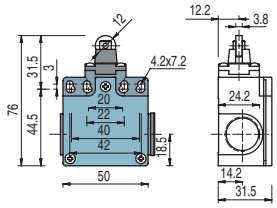


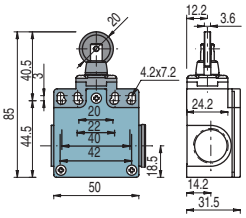




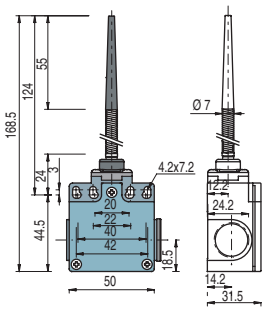
Contact blocks								
5	R	FZ 508	1NO+1NC	FZ 512	1NO+1NC	FZ 513	1NO+1NC	FZ 514	1NO+1NC
6	L	FZ 608	1NO+1NC	FZ 612	1NO+1NC	FZ 613	1NO+1NC	FZ 614	1NO+1NC
7	LO	FZ 708	1NO+1NC	FZ 712	1NO+1NC	FZ 713	1NO+1NC	FZ 714	1NO+1NC
9	L	FZ 908	2NC	FZ 912	2NC	FZ 913	2NC	FZ 914	2NC
10	L	FZ 1008	2NO	FZ 1012	2NO	FZ 1013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

Ø 12 mm stainless steel roller

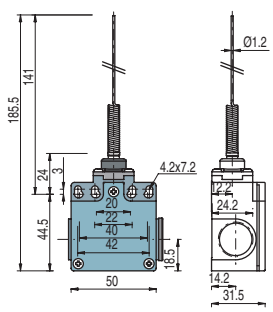




With external rubber gasket



With external rubber gasket

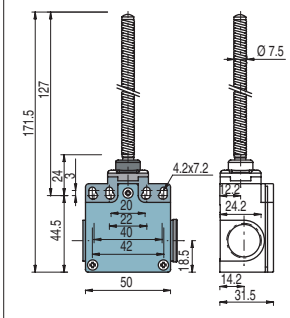
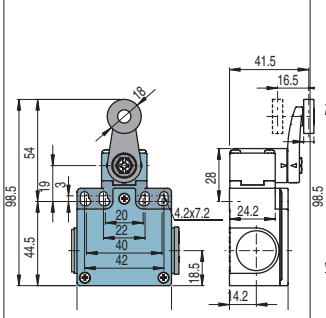
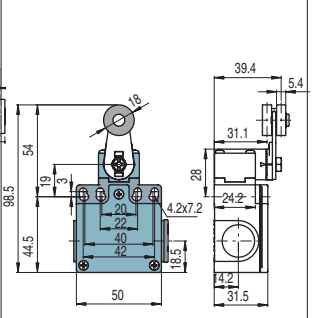
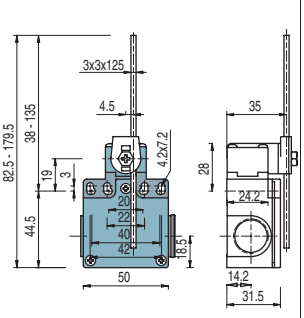


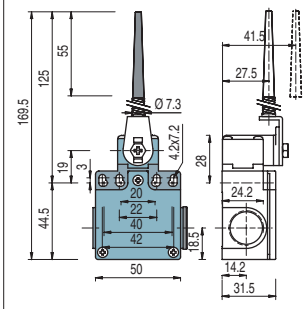
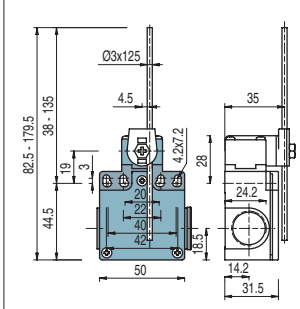
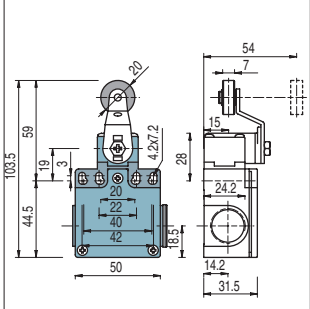
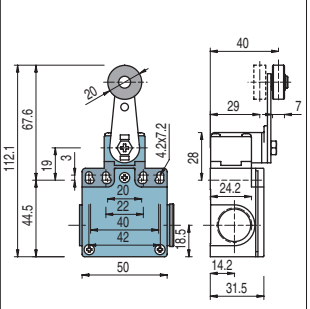
Contact blocks									
5	R	FZ 515	1NO+1NC	FZ 516	1NO+1NC	FZ 520	1NO+1NC	FZ 521	1NO+1NC
6	L	FZ 615	1NO+1NC	FZ 616	1NO+1NC				
7	LO	FZ 715	1NO+1NC	FZ 716	1NO+1NC				
9	L	FZ 915	2NC	FZ 916	2NC				
10	L	FZ 1015	2NO	FZ 1016	2NO	FZ 1020	2NO	FZ 1021	2NO
11	R	FZ 1115	2NC	FZ 1116	2NC				
12	R	FZ 1215	2NO	FZ 1216	2NO	FZ 1220	2NO	FZ 1221	2NO
13	LV	FZ 1315	2NC	FZ 1316	2NC				
14	LS	FZ 1415	2NC	FZ 1416	2NC				
15	LS	FZ 1515	2NO	FZ 1516	2NO				
18	LA	FZ 1815	1NO+1NC	FZ 1816	1NO+1NC	FZ 1820	1NO+1NC	FZ 1821	1NO+1NC
20	L	FZ 2015	1NO+2NC	FZ 2016	1NO+2NC	FZ 2020	1NO+2NC	FZ 2021	1NO+2NC
21	L	FZ 2115	3NC	FZ 2116	3NC	FZ 2120	3NC	FZ 2121	3NC
22	L	FZ 2215	2NO+1NC	FZ 2216	2NO+1NC	FZ 2220	2NO+1NC	FZ 2221	2NO+1NC
2	R	FZ 215	2x(1NO-1NC)	FZ 216	2x(1NO-1NC)	FZ 220	2x(1NO-1NC)	FZ 221	2x(1NO-1NC)
E1		FZ E115	1NO-1NC	FZ E116	1NO-1NC	FZ E120	1NO-1NC	FZ E121	1NO-1NC
Max speed		page 6/5 - type 2		page 6/5 - type 2		1 m/s		1 m/s	
Min. force		8 N (25 N ⊕)		8 N (25 N ⊕)		0,07 Nm		0,07 Nm	
Travel diagrams		page 6/6 - group 1		page 6/6 - group 1		page 6/6 - group 4		page 6/6 - group 4	

Items with code on the **green** background are available in stock

Contacts 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

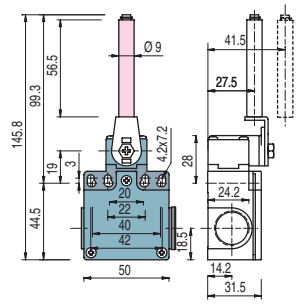
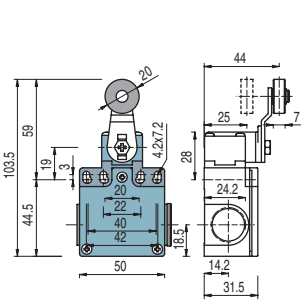
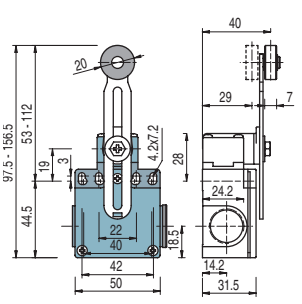
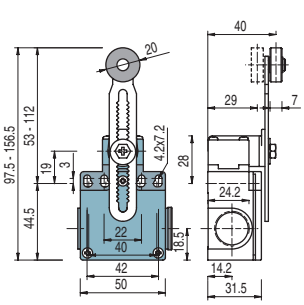
Contact blocks		With external rubber gasket		With Ø 20 mm stainless steel roller on request		Other rollers available. See page 2/88		3x3 mm square rod	
									
5	R	FZ 525	1NO+1NC	FZ 530	1NO+1NC	FZ 531	1NO+1NC	FZ 533	1NO+1NC
6	L			FZ 630	1NO+1NC	FZ 631	1NO+1NC	FZ 633	1NO+1NC
7	LO			FZ 730	1NO+1NC	FZ 731	1NO+1NC	FZ 733	1NO+1NC
9	L			FZ 930	2NC	FZ 931	2NC	FZ 933	2NC
10	L	FZ 1025	2NO	FZ 1030	2NO	FZ 1031	2NO	FZ 1033	2NO
11	R			FZ 1130	2NC	FZ 1131	2NC	FZ 1133	2NC
12	R	FZ 1225	2NO	FZ 1230	2NO	FZ 1231	2NO	FZ 1233	2NO
13	LV			FZ 1330	2NC	FZ 1331	2NC	FZ 1333	2NC
14	LS			FZ 1430	2NC	FZ 1431	2NC	FZ 1433	2NC
15	LS			FZ 1530	2NO	FZ 1531	2NO	FZ 1533	2NO
16	LI			FZ 1630	2NC	FZ 1631	2NC	FZ 1633	2NC
18	LA	FZ 1825	1NO+1NC	FZ 1830	1NO+1NC	FZ 1831	1NO+1NC	FZ 1833	1NO+1NC
20	L	FZ 2025	1NO+2NC	FZ 2030	1NO+2NC	FZ 2031	1NO+2NC	FZ 2033	1NO+2NC
21	L	FZ 2125	3NC	FZ 2130	3NC	FZ 2131	3NC	FZ 2133	3NC
22	L	FZ 2225	2NO+1NC	FZ 2230	2NO+1NC	FZ 2231	2NO+1NC	FZ 2233	2NO+1NC
2	R	FZ 225	2x(1NO-1NC)	FZ 230	2x(1NO-1NC)	FZ 231	2x(1NO-1NC)	FZ 233	2x(1NO-1NC)
E1		FZ E125	1NO-1NC	FZ E130	1NO-1NC	FZ E131	1NO-1NC	FZ E133	1NO-1NC
Max speed		1 m/s		page 6/5 - type 1		page 6/5 - 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 6/6 - group 4		page 6/6 - group 5		page 6/6 - group 5		page 6/6 - group 5	

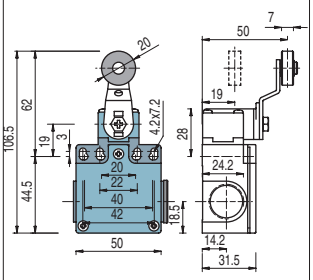
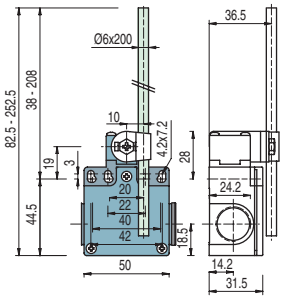
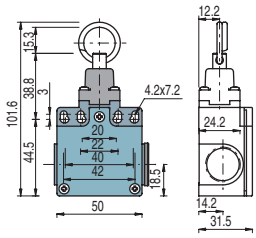
Contact blocks				Ø 3 mm stainless steel round rod		Other rollers available. See page 2/88		Other rollers available. See page 2/88	
									
5	R	FZ 534	1NO+1NC	FZ 550	1NO+1NC	FZ 551	1NO+1NC	FZ 552	1NO+1NC
6	L	FZ 634	1NO+1NC	FZ 650	1NO+1NC	FZ 651	1NO+1NC	FZ 652	1NO+1NC
7	LO	FZ 734	1NO+1NC	FZ 750	1NO+1NC	FZ 751	1NO+1NC	FZ 752	1NO+1NC
9	L	FZ 934	2NC	FZ 950	2NC	FZ 951	2NC	FZ 952	2NC
10	L	FZ 1034	2NO	FZ 1050	2NO	FZ 1051	2NO	FZ 1052	2NO
11	R	FZ 1134	2NC	FZ 1150	2NC	FZ 1151	2NC	FZ 1152	2NC
12	R	FZ 1234	2NO	FZ 1250	2NO	FZ 1251	2NO	FZ 1252	2NO
13	LV	FZ 1334	2NC	FZ 1350	2NC	FZ 1351	2NC	FZ 1352	2NC
14	LS	FZ 1434	2NC	FZ 1450	2NC	FZ 1451	2NC	FZ 1452	2NC
15	LS	FZ 1534	2NO	FZ 1550	2NO	FZ 1551	2NO	FZ 1552	2NO
16	LI	FZ 1634	2NC	FZ 1650	2NC	FZ 1651	2NC	FZ 1652	2NC
18	LA	FZ 1834	1NO+1NC	FZ 1850	1NO+1NC	FZ 1851	1NO+1NC	FZ 1852	1NO+1NC
20	L	FZ 2034	1NO+2NC	FZ 2050	1NO+2NC	FZ 2051	1NO+2NC	FZ 2052	1NO+2NC
21	L	FZ 2134	3NC	FZ 2150	3NC	FZ 2151	3NC	FZ 2152	3NC
22	L	FZ 2234	2NO+1NC	FZ 2250	2NO+1NC	FZ 2251	2NO+1NC	FZ 2252	2NO+1NC
2	R	FZ 234	2x(1NO-1NC)	FZ 250	2x(1NO-1NC)	FZ 251	2x(1NO-1NC)	FZ 252	2x(1NO-1NC)
E1		FZ E134	1NO-1NC	FZ E150	1NO-1NC	FZ E151	1NO-1NC	FZ E152	1NO-1NC
Max speed		1,5 m/s		1,5 m/s		page 6/5 - type 1		page 6/5 - type 1	
Min. force		0,06 Nm		0,06 Nm		0,06 Nm (0,25 Nm ⊕)		0,06 Nm (0,25 Nm ⊕)	
Travel diagrams		page 6/6 - group 5		page 6/6 - group 5		page 6/6 - group 5		page 6/6 - group 5	

Accessories See page 5/1

Contacts 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		Porcelain roller		Other rollers available. See page 2/88		Other rollers available. See page 2/88		Other rollers available. See page 2/88	
									
5	R	FZ 553-E0V9	1NO+1NC	FZ 554	1NO+1NC	FZ 555	(1) 1NO+1NC	FZ 556	1NO+1NC
6	L	FZ 653-E0V9	1NO+1NC	FZ 654	1NO+1NC	FZ 655	(1) 1NO+1NC	FZ 656	1NO+1NC
7	LO	FZ 753-E0V9	1NO+1NC	FZ 754	1NO+1NC	FZ 755	(1) 1NO+1NC	FZ 756	1NO+1NC
9	L	FZ 953-E0V9	2NC	FZ 954	2NC	FZ 955	(1) 2NC	FZ 956	2NC
10	L	FZ 1053-E0V9	2NO	FZ 1054	2NO	FZ 1055	2NO	FZ 1056	2NO
11	R			FZ 1154	2NC	FZ 1155	(1) 2NC	FZ 1156	2NC
12	R	FZ 1253-E0V9	2NO	FZ 1254	2NO	FZ 1255	2NO	FZ 1256	2NO
13	LV	FZ 1353-E0V9	2NC	FZ 1354	2NC	FZ 1355	(1) 2NC	FZ 1356	2NC
14	LS	FZ 1453-E0V9	2NC	FZ 1454	2NC	FZ 1455	(1) 2NC	FZ 1456	2NC
15	LS	FZ 1553-E0V9	2NO	FZ 1554	2NO	FZ 1555	2NO	FZ 1556	2NO
16	LI			FZ 1654	2NC	FZ 1655	(1) 2NC	FZ 1656	2NC
18	LA	FZ 1853-E0V9	1NO+1NC	FZ 1854	1NO+1NC	FZ 1855	1NO+1NC	FZ 1856	1NO+1NC
20	L	FZ 2053-E0V9	1NO+2NC	FZ 2054	1NO+2NC	FZ 2055	(1) 1NO+2NC	FZ 2056	1NO+2NC
21	L	FZ 2153-E0V9	3NC	FZ 2154	3NC	FZ 2155	(1) 3NC	FZ 2156	3NC
22	L	FZ 2253-E0V9	2NO+1NC	FZ 2254	2NO+1NC	FZ 2255	(1) 2NO+1NC	FZ 2256	2NO+1NC
2	R	FZ 253-E0	2x(1NO-1NC)	FZ 254	2x(1NO-1NC)	FZ 255	2x(1NO-1NC)	FZ 256	2x(1NO-1NC)
E1		FZ E153-E0V9	1NO-1NC	FZ E154	1NO-1NC	FZ E155	1NO-1NC	FZ E156	1NO-1NC
Max speed		0,5 m/s		page 6/5 - type 1		page 6/5 - type 1		page 6/5 - 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 6/6 - group 6		page 6/6 - group 5		page 6/6 - group 5		page 6/6 - group 5	

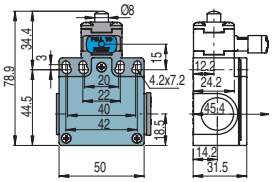
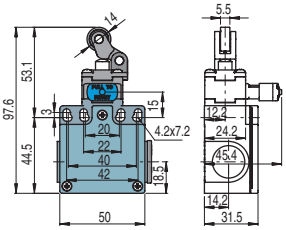
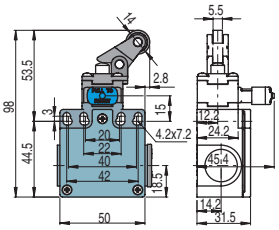
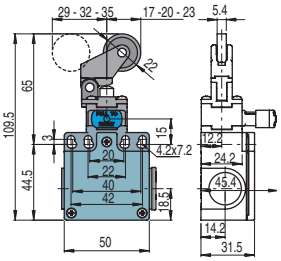
Contact blocks		Other rollers available. See page 2/88		Fiber glass rod		Rope switches for signalling	
							
5	R	FZ 557	1NO+1NC	FZ 569	1NO+1NC	FZ 576	1NO+1NC
6	L	FZ 657	1NO+1NC	FZ 669	1NO+1NC	FZ 676	1NO+1NC
7	LO	FZ 757	1NO+1NC	FZ 769	1NO+1NC	FZ 776	1NO+1NC
9	L	FZ 957	2NC	FZ 969	2NC	FZ 976	2NO
10	L	FZ 1057	2NO	FZ 1069	2NO	FZ 1076	2NC
11	R	FZ 1157	2NC	FZ 1169	2NC	FZ 1176	2NO
12	R	FZ 1257	2NO	FZ 1269	2NO	FZ 1276	2NC
13	LV	FZ 1357	2NC	FZ 1369	2NC	FZ 1376	2NO
14	LS	FZ 1457	2NC	FZ 1469	2NC	FZ 1476	2NO
15	LS	FZ 1557	2NO	FZ 1569	2NO	FZ 1576	2NC
16	LI	FZ 1657	2NC	FZ 1669	2NC		
18	LA	FZ 1857	1NO+1NC	FZ 1869	1NO+1NC	FZ 1876	1NO+1NC
20	L	FZ 2057	1NO+2NC	FZ 2069	1NO+2NC	FZ 2076	2NO+1NC
21	L	FZ 2157	3NC	FZ 2169	3NC	FZ 2176	3NO
22	L	FZ 2257	2NO+1NC	FZ 2269	2NO+1NC	FZ 2276	1NO+2NC
2	R	FZ 257	2x(1NO-1NC)	FZ 269	2x(1NO-1NC)	FZ 276	2x(1NO-1NC)
E1		FZ E157	1NO-1NC	FZ E169	1NO-1NC		
Max speed		page 6/5 - 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 6/6 - group 5		page 6/6 - group 5		page 6/6 - group 7	

Items with code on the **green** background are available in stock

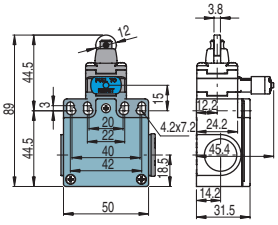
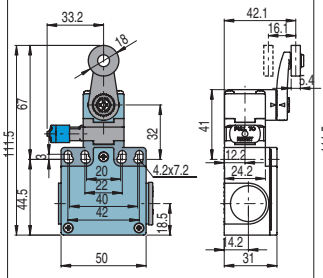
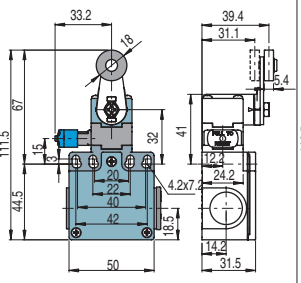
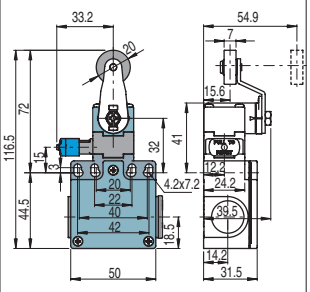
(1) Positive opening only with lever adjusted on the max. See page 2/87

Pizzato Elettrica has developed an innovative 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 integrate in any standard actuation head
* Contact blocks with snap action are no more necessary because the tripping movement is made by the reset device itself
* Unlike some previous versions, the reset device can be rotated independently from the head for the maximum flexibility during the assembling.

Contacts type:
R = snap action
L = slow action

Contact blocks					
			With stainless steel roller on request 	With stainless steel roller on request 	
6	L	FZ 601-W3 1NO+1NC	FZ 602-W3 1NO+1NC	FZ 605-W3 1NO+1NC	FZ 607-W3 1NO+1NC
9	L	FZ 901-W3 2NC	FZ 902-W3 2NC	FZ 905-W3 2NC	FZ 907-W3 2NC
10	L	FZ 1001-W3 2NO	FZ 1002-W3 2NO	FZ 1005-W3 2NO	FZ 1007-W3 2NO
20	L	FZ 2001-W3 1NO+2NC	FZ 2002-W3 1NO+2NC	FZ 2005-W3 1NO+2NC	FZ 2007-W3 1NO+2NC
21	L	FZ 2101-W3 3NC	FZ 2102-W3 3NC	FZ 2105-W3 3NC	FZ 2107-W3 3NC
22	L	FZ 2201-W3 2NO+1NC	FZ 2202-W3 2NO+1NC	FZ 2205-W3 2NO+1NC	FZ 2207-W3 2NO+1NC
2	R	FZ 201-W3 2NO+2NC	FZ 202-W3 2NO+2NC	FZ 205-W3 2NO+2NC	FZ 207-W3 2NO+2NC
Max speed		page 6/5 - type 4	page 6/5 - type 3	page 6/5 - type 3	page 6/5 - type 3
Min. force		8 N (25 N →)	6 N (25 N →)	6 N (25 N →)	4 N (25 N →)
Travel diagrams		page 6/7 - group 1	page 6/7 - group 2	page 6/7 - group 2	page 6/7 - group 3

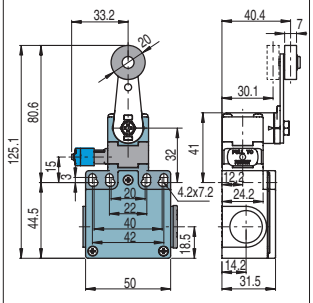
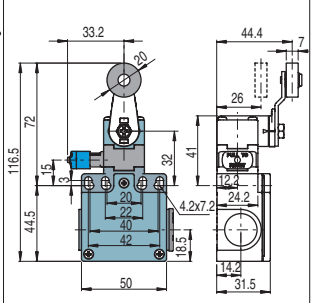
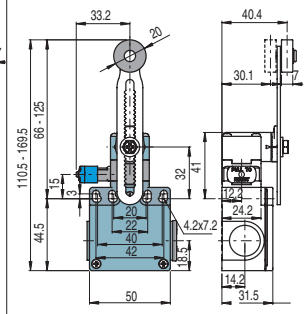
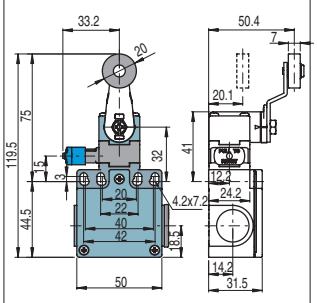
C

Contact blocks			With Ø 20 mm stainless steel roller on request	Other rollers available. See page 2/88	Other rollers available. See page 2/88
					
6	L	FZ 615-W3 1NO+1NC	FZ 630-W3 1NO+1NC	FZ 631-W3 1NO+1NC	FZ 651-W3 1NO+1NC
9	L	FZ 915-W3 2NC	FZ 930-W3 2NC	FZ 931-W3 2NC	FZ 951-W3 2NC
10	L	FZ 1015-W3 2NO	FZ 1030-W3 2NO	FZ 1031-W3 2NO	FZ 1051-W3 2NO
20	L	FZ 2015-W3 1NO+2NC	FZ 2030-W3 1NO+2NC	FZ 2031-W3 1NO+2NC	FZ 2051-W3 1NO+2NC
21	L	FZ 2115-W3 3NC	FZ 2130-W3 3NC	FZ 2131-W3 3NC	FZ 2151-W3 3NC
22	L	FZ 2215-W3 2NO+1NC	FZ 2230-W3 2NO+1NC	FZ 2231-W3 2NO+1NC	FZ 2251-W3 2NO+1NC
2	R	FZ 215-W3 2NO+2NC	FZ 230-W3 2NO+2NC	FZ 231-W3 2NO+2NC	FZ 251-W3 2NO+2NC
Max speed		page 6/5 - type 2	page 6/5 - type 1	page 6/5 - type 1	page 6/5 - type 1
Min. force		8 N (25 N →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)
Travel diagrams		page 6/7 - group 1	page 6/7 - group 4	page 6/7 - group 4	page 6/7 - group 4

Accessories See page 5/1

Contacts type:

R = snap action
L = slow action

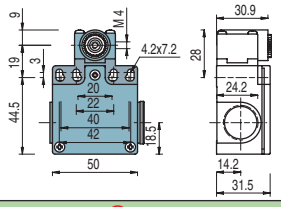
Contact blocks		Other rollers available. See page 2/88	Other rollers available. See page 2/88	Other rollers available. See page 2/88	Other rollers available. See page 2/88
					
6	L	FZ 652-W3 → 1NO+1NC	FZ 654-W3 → 1NO+1NC	FZ 656-W3 → 1NO+1NC	FZ 657-W3 → 1NO+1NC
9	L	FZ 952-W3 → 2NC	FZ 954-W3 → 2NC	FZ 956-W3 → 2NC	FZ 957-W3 → 2NC
10	L	FZ 1052-W3 2NO	FZ 1054-W3 2NO	FZ 1056-W3 2NO	FZ 1057-W3 2NO
20	L	FZ 2052-W3 → 1NO+2NC	FZ 2054-W3 → 1NO+2NC	FZ 2056-W3 → 1NO+2NC	FZ 2057-W3 → 1NO+2NC
21	L	FZ 2152-W3 → 3NC	FZ 2154-W3 → 3NC	FZ 2156-W3 → 3NC	FZ 2157-W3 → 3NC
22	L	FZ 2252-W3 → 2NO+1NC	FZ 2254-W3 → 2NO+1NC	FZ 2256-W3 → 2NO+1NC	FZ 2257-W3 → 2NO+1NC
2	R	FZ 252-W3 2NO+2NC	FZ 254-W3 2NO+2NC	FZ 256-W3 2NO+2NC	FZ 257-W3 2NO+2NC
Max speed		page 6/5 - type 1	page 6/5 - type 1	page 6/5 - type 1	page 6/5 - type 1
Min. force		0,06 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 6/7 - group 4	page 6/7 - group 4	page 6/7 - group 4	page 6/7 - group 4

Items with code on the **green** background are available in stock

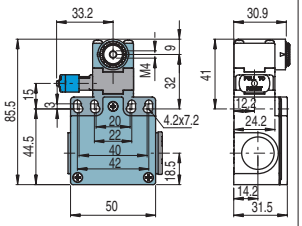
Position switches with revolving lever without actuator

Contacts 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



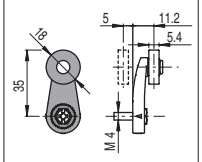
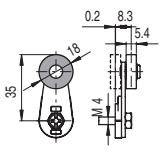
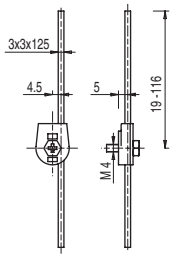
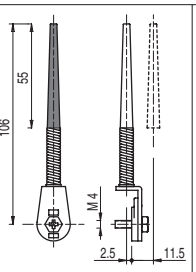
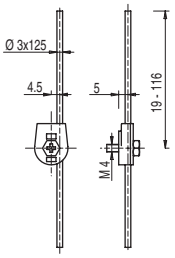
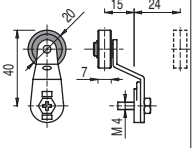
Contact blocks			
5	R	FZ 538 → 1NO+1NC	
6	L	FZ 638 → 1NO+1NC	FZ 638-W3 → 1NO+1NC
7	LO	FZ 738 → 1NO+1NC	
9	L	FZ 938 → 2NC	FZ 938-W3 → 2NC
10	L	FZ 1038 2NO	FZ 1038-W3 2NO
11	R	FZ 1138 → 2NC	
12	R	FZ 1238 2NO	
13	LV	FZ 1338 → 2NC	
14	LS	FZ 1438 → 2NC	
15	LS	FZ 1538 2NO	
16	LI	FZ 1638 → 2NC	
18	LA	FZ 1838 → 1NO+1NC	
20	L	FZ 2038 → 1NO+2NC	FZ 2038-W3 → 1NO+2NC
21	L	FZ 2138 → 3NC	FZ 2138-W3 → 3NC
22	L	FZ 2238 → 2NO+1NC	FZ 2238-W3 → 2NO+1NC
2	R	FZ 238 2x(1NO-1NC)	FZ 238-W3 2NO+2NC
E1		FZ E138 1NO-1NC	
Min. force		0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)
Travel diagrams		page 6/6 - group 5	page 6/7 - group 4

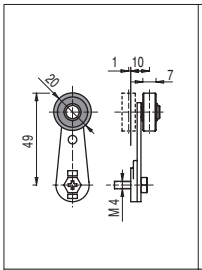
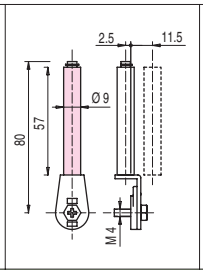
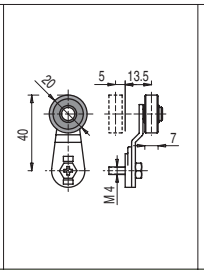
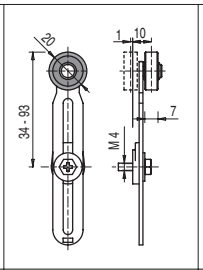
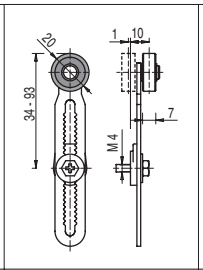
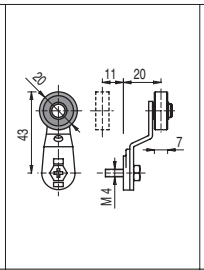
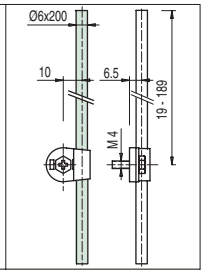
IMPORTANT
For safety applications: join only switches and actuators marked with symbol →.
For more information about safety applications see page 6/1.

Loose actuators

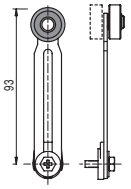
10 pcs pack

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

Ø 18 mm roller	Ø 18 mm roller	Adjustable square rod 3x3x125 mm	Flexible rod actuator	Adjustable round rod Ø 3x125 mm	Polymer roller Ø 20 mm
					
VF LE30 →	VF LE31 →	VF LE33	VF LE34	VF LE50	VF LE51 →

Polymer roller Ø 20 mm	Porcelain roller	Polymer roller Ø 20 mm	Adjustable actuator with polymer roller	Adjustable safety actuator with polymer roller	Polymer roller Ø 20 mm	Adjustable fiber glass rod
						
VF LE52 →	VF LE53 → (2)	VF LE54 →	VF LE55 → (1)	VF LE56 →	VF LE57 →	VF LE69

- Only orders for multiple quantities of the packs are accepted.
- (1) Actuator VF LE55 suits to safety applications only if adjusted to its max length, as you can see 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 the switch FZ •38 (e.g. FZ 538, FZ 638) with the actuator VF LE53 will not present the same travel diagrams and actuating forces as the position switch FZ •53-E0V9 (e.g. FZ 553-E0V9, FZ 653-E0V9...).
- (4) The actuator cannot be oriented to inside direction because it will mechanically interfere with the switch head.



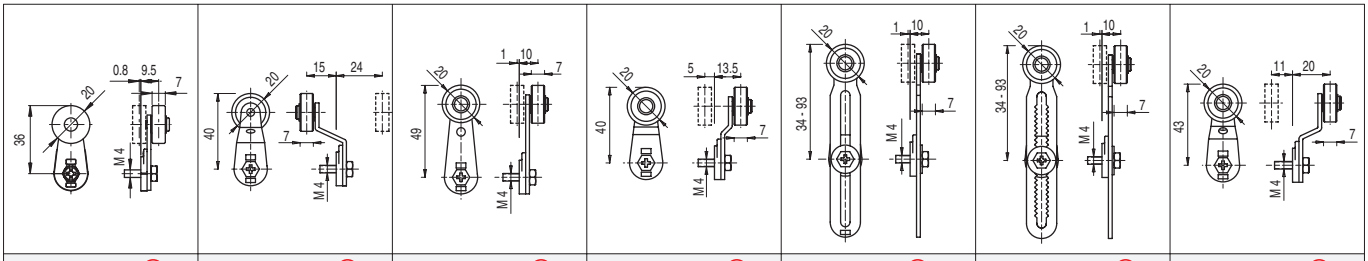
Accessories See page 5/1

Special loose actuators

10 pcs pack

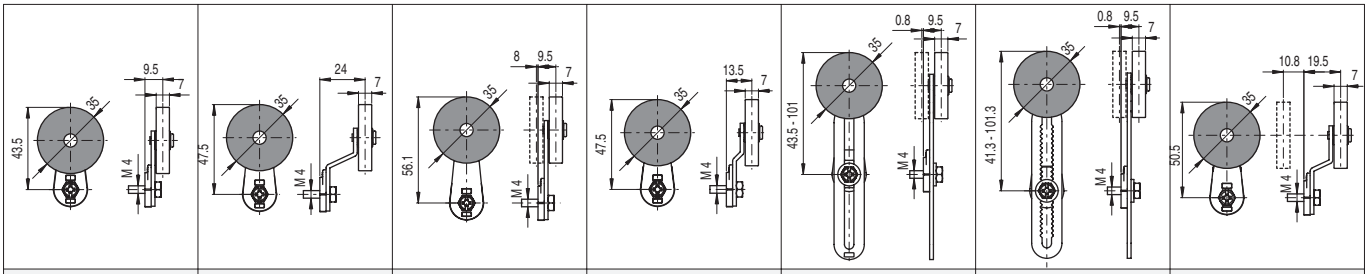
IMPORTANT: These loose actuators can be used with items of series FR, FM, FX, FZ, FK only

Ø 20 mm stainless steel rollers



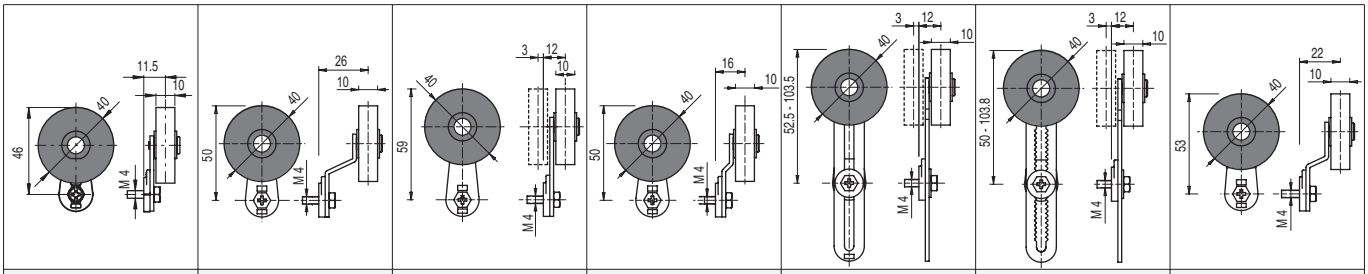
VF LE31-1 | VF LE51-1 | VF LE52-1 | VF LE54-1 | VF LE55-1 (1) | VF LE56-1 | VF LE57-1

Ø 35 mm polymer rollers



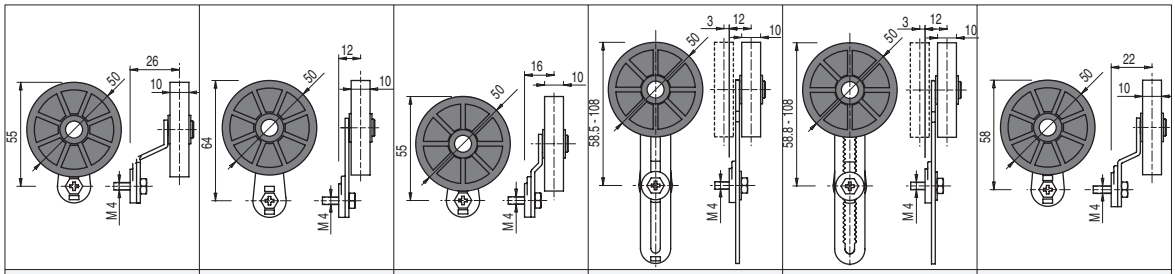
VF LE31-2 (4) | VF LE51-2 (4) | VF LE52-2 | VF LE54-2 (4) | VF LE55-2 (1) | VF LE56-2 | VF LE57-2

Ø 40 mm rubber rollers



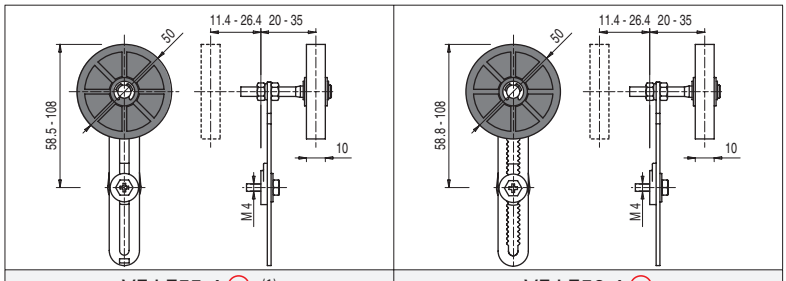
VF LE31-R5 (4) | VF LE51-R5 (4) | VF LE52-R5 | VF LE54-R5 (4) | VF LE55-R5 (1) | VF LE56-R5 | VF LE57-R5 (4)

Ø 50 mm rubber rollers



VF LE51-3 (4) | VF LE52-3 (4) | VF LE54-3 (4) | VF LE55-3 (1) | VF LE56-3 | VF LE57-3 (4)

Ø 50 mm overhanging rubber rollers



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

Items with code on the **green** background are available in stock