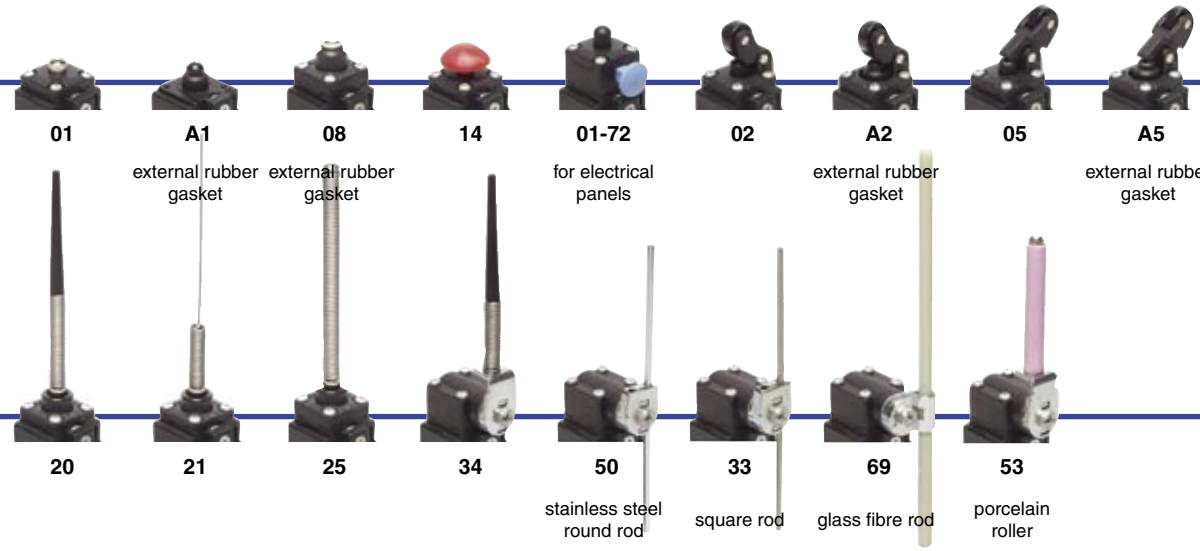
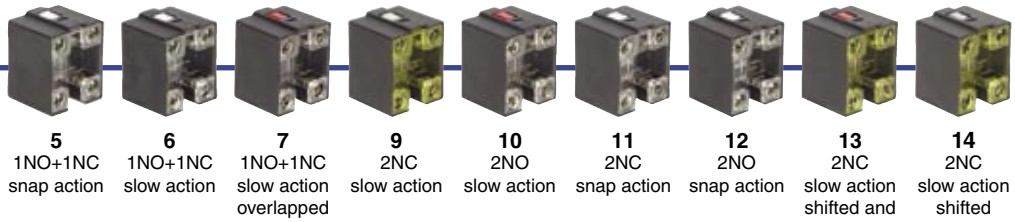
Selection diagram



WITH RESET

ACTUATORS

CONTACT BLOCKS



CONDUIT ENTRY

Threaded conduit entry

	PG 13,5 (standard)
A	PG 11
M1	M16x1,5
M2	M20x1,5
M3	1/2 NPT

With assembled cable gland

K21	for Ø 6 to Ø 12 mm cables range
K25	for Ø 3 to Ø 7 mm cables range

With M12 plastic connector assembled and wired

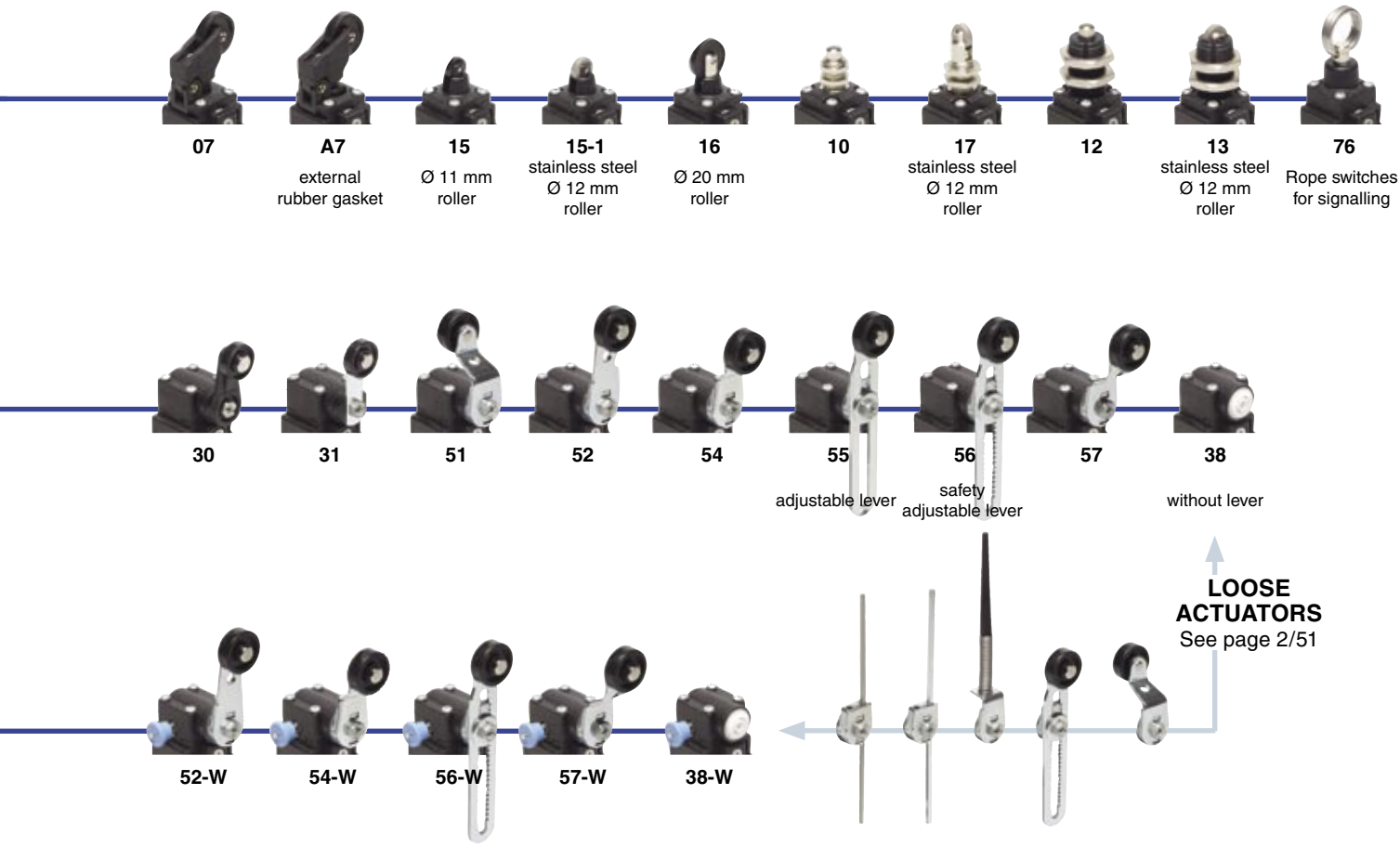
K70	4 poles from bottom

With M12 metal connector assembled and wired

K40	8 poles from bottom
K60	4 poles from bottom

product option

accessory sold separately



Code structure

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

FR 502-1WXGM2K70

Housing

FR	polymer housing, one conduit entry

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 12 mm for actuator 15 - Ø 14 mm for actuators A2, 02, A5, 05 - Ø 20 mm for actuators 31, 51, 52, 54, 55, 56, 57
2	with Ø 35 mm polymer roller (see special loose actuators on page 2/52)
3	with Ø 50 mm rubber roller (see special loose actuators on page 2/52)
4	with Ø 50 mm overhanging rubber roller (see special loose actuators on page 2/52)

Reset hooking

	without reset (standard)
W	normal reset hooking
W1	shorter reset hooking

External metallic parts

	zinc plated steel (standard)
X	stainless steel

Contacts type

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

Threaded conduit entry

	PG 13,5 (standard)
A	PG 11
M1	M16x1,5
M2	M20x1,5
M3	1/2 NPT

Preinstalled cable gland or connectors

	no cable gland or connector (standard)
K21	with assembled cable gland suitable for Ø 6 to Ø 12 mm cables range
K40	with M12 metal connector assembled and wired, 8 poles (only for contact blocks 2, 20, 21, 22)
...	.....

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

Main data

- Polymer housing, one conduit entry
- Protection degree IP67
- 17 contact blocks available
- 43 actuators available
- External stainless steel parts versions
- M12 assembled connector versions
- Silver contacts gold plated versions

Markings and quality marks:

Approval IMQ: EG610
Approval UL: E131787
Approval CSA: LA 93682-1
Approval EZU: 1010151

Technical data

Housing
Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
One threaded conduit entry
Protection degree: IP67 NEW

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

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by IEC 947-5-1 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 947-5-1, IEC 337-1, EN 60947-5-1, CEI EN 60947-5-1, CEI 17-45, EN 50047, CEI 17-33, IEC 204-1, EN 60204-1, CEI 44-5, EN 1088, EN ISO 12100-1, EN ISO 12100-2, IEC 529, EN 60529, CEI 70-1, NFC 63-140, VDE 0660-200, VDE 0113, CENELEC EN 50013.
Approvals:
IEC 947-5-1, UL 508, CSA C22-2 nr.14.

In conformity with requirements requested by:
Low Voltage Directive 73/23/EEC and subsequent modifications and completions.
Machinery Directive 98/37/EEC.
Electromagnetic Compatibility 89/336/EEC and subsequent modifications and completions.
Positive contact opening in conformity with standards:
IEC 947-5-1, EN 60947-5-1, CEI 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 CEI 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 6/15. 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.

⚠ **For the correct installation of all articles, please see "Utilization requirements" chapter, from page 6/1 to page 6/4.**

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

Data type approved by IMQ 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, 12, 13, 14, 16, 18, 20, 21, 22, 33, 34
In conformity with standards: EN60947-1, EN 60947-5-1 and subsequent modifications and completions, fundamental requirements of the Low Voltage Directive 73/23 EEC and subsequent modifications and completions.

Please contact our technical service for the list of type 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
In conformity with standard: UL 508
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.
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.

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

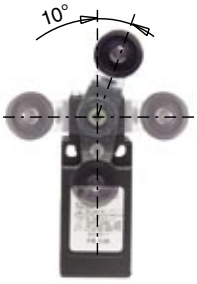
Data type approved by CSA

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
In conformity with standard: CSA C22-2 nr.14

Please contact our technical service for the list of type 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

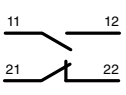
Contacts diagram

Lever not turned

Contacts diagram

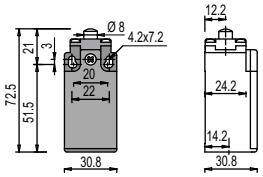
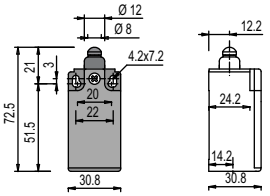
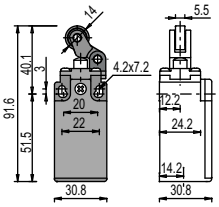
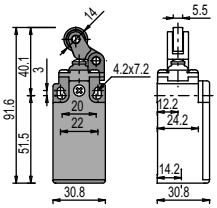
Lever turned to right

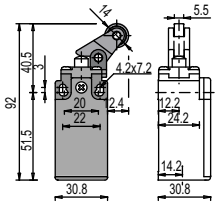
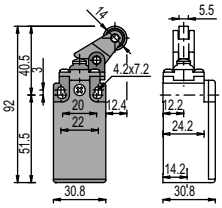
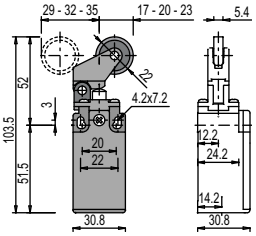
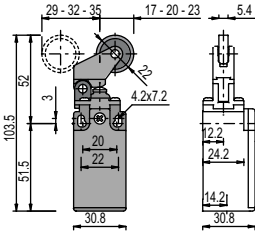
Contacts diagram



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 external rubber gasket		With stainless steel roller on request		With external rubber gasket With stainless steel roller on request
								
5	R	FR 501	1NO+1NC	FR 5A1	1NO+1NC	FR 502	1NO+1NC	FR 5A2	1NO+1NC
6	L	FR 601	1NO+1NC	FR 6A1	1NO+1NC	FR 602	1NO+1NC	FR 6A2	1NO+1NC
7	LO	FR 701	1NO+1NC	FR 7A1	1NO+1NC	FR 702	1NO+1NC	FR 7A2	1NO+1NC
9	L	FR 901	2NC	FR 9A1	2NC	FR 902	2NC	FR 9A2	2NC
10	L	FR 1001	2NO	FR 10A1	2NO	FR 1002	2NO	FR 10A2	2NO
11	R	FR 1101	2NC	FR 11A1	2NC	FR 1102	2NC	FR 11A2	2NC
12	R	FR 1201	2NO	FR 12A1	2NO	FR 1202	2NO	FR 12A2	2NO
13	LV	FR 1301	2NC	FR 13A1	2NC	FR 1302	2NC	FR 13A2	2NC
14	LS	FR 1401	2NC	FR 14A1	2NC	FR 1402	2NC	FR 14A2	2NC
15	LS	FR 1501	2NO	FR 15A1	2NO	FR 1502	2NO	FR 15A2	2NO
18	LA	FR 1801	1NO+1NC	FR 18A1	1NO+1NC	FR 1802	1NO+1NC	FR 18A2	1NO+1NC
20	L	FR 2001	1NO+2NC	FR 20A1	1NO+2NC	FR 2002	1NO+2NC	FR 20A2	1NO+2NC
21	L	FR 2101	3NC	FR 21A1	3NC	FR 2102	3NC	FR 21A2	3NC
22	L	FR 2201	2NO+1NC	FR 22A1	2NO+1NC	FR 2202	2NO+1NC	FR 22A2	2NO+1NC
2	R	FR 201	2x(1NO-1NC)			FR 202	2x(1NO-1NC)	FR 2A2	2x(1NO-1NC)
E1		FR E101	1NO-1NC	FR E1A1	1NO-1NC	FR E102	1NO-1NC	FR E1A2	1NO-1NC
Max speed		page 6/3 - type 4		page 6/3 - type 4		page 6/3 - type 3		page 6/3 - type 3	
Min. force		8 N (25 N ⊖)		6 N (25 N ⊖)		6 N (25 N ⊖)		4,3 N (25 N ⊖)	
Travel diagrams		page 6/15 - group 1		page 6/15 - group 1		page 6/15 - group 2		page 6/15 - 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	FR 505	1NO+1NC	FR 5A5	1NO+1NC	FR 507	1NO+1NC	FR 5A7	1NO+1NC
6	L	FR 605	1NO+1NC	FR 6A5	1NO+1NC	FR 607	1NO+1NC	FR 6A7	1NO+1NC
7	LO	FR 705	1NO+1NC	FR 7A5	1NO+1NC	FR 707	1NO+1NC	FR 7A7	1NO+1NC
9	L	FR 905	2NC	FR 9A5	2NC	FR 907	2NC	FR 9A7	2NC
10	L	FR 1005	2NO	FR 10A5	2NO	FR 1007	2NO	FR 10A7	2NO
11	R	FR 1105	2NC	FR 11A5	2NC	FR 1107	2NC	FR 11A7	2NC
12	R	FR 1205	2NO	FR 12A5	2NO	FR 1207	2NO	FR 12A7	2NO
13	LV	FR 1305	2NC	FR 13A5	2NC	FR 1307	2NC	FR 13A7	2NC
14	LS	FR 1405	2NC	FR 14A5	2NC	FR 1407	2NC	FR 14A7	2NC
15	LS	FR 1505	2NO	FR 15A5	2NO	FR 1507	2NO	FR 15A7	2NO
18	LA	FR 1805	1NO+1NC	FR 18A5	1NO+1NC	FR 1807	1NO+1NC	FR 18A7	1NO+1NC
20	L	FR 2005	1NO+2NC	FR 20A5	1NO+2NC	FR 2007	1NO+2NC	FR 20A7	1NO+2NC
21	L	FR 2105	3NC	FR 21A5	3NC	FR 2107	3NC	FR 21A7	3NC
22	L	FR 2205	2NO+1NC	FR 22A5	2NO+1NC	FR 2207	2NO+1NC	FR 22A7	2NO+1NC
2	R	FR 205	2x(1NO-1NC)	FR 2A5	2x(1NO-1NC)	FR 207	2x(1NO-1NC)	FR 2A7	2x(1NO-1NC)
E1		FR E105	1NO-1NC	FR E1A5	1NO-1NC	FR E107	1NO-1NC	FR E1A7	1NO-1NC
Max speed		page 6/3 - type 3		page 6/3 - type 3		page 6/3 - type 3		page 6/3 - type 3	
Min. force		6 N (25 N ⊖)		4,3 N (25 N ⊖)		4 N (25 N ⊖)		3 N (25 N ⊖)	
Travel diagrams		page 6/15 - group 2		page 6/15 - group 2		page 6/15 - group 3		page 6/15 - group 3	

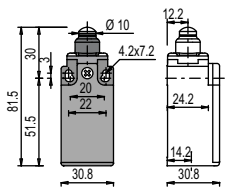
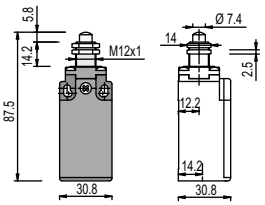
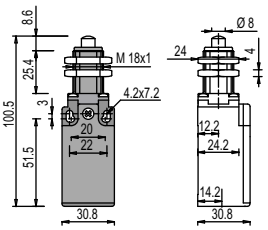
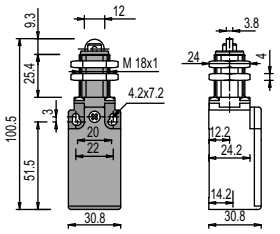
Accessories
See page 5/1

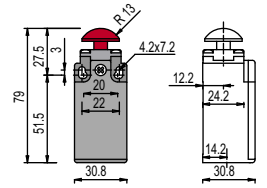
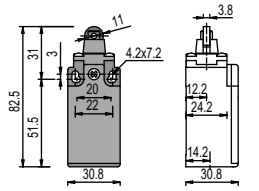
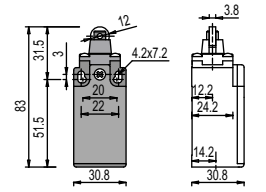
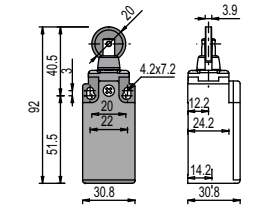
Items with code on the **green** background are available in stock

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

Contact blocks		With external rubber gasket	Fixed only by threaded head in vertical position		
					
5	R	FR 508 1NO+1NC	FR 510 1NO+1NC	FR 512 1NO+1NC	FR 513 1NO+1NC
6	L	FR 608 1NO+1NC	FR 610 1NO+1NC	FR 612 1NO+1NC	FR 613 1NO+1NC
7	LO	FR 708 1NO+1NC	FR 710 1NO+1NC	FR 712 1NO+1NC	FR 713 1NO+1NC
9	L	FR 908 2NC	FR 910 2NC	FR 912 2NC	FR 913 2NC
10	L	FR 1008 2NO	FR 1010 2NO	FR 1012 2NO	FR 1013 2NO
11	R	FR 1108 2NC	FR 1110 2NC	FR 1112 2NC	FR 1113 2NC
12	R	FR 1208 2NO	FR 1210 2NO	FR 1212 2NO	FR 1213 2NO
13	LV	FR 1308 2NC	FR 1310 2NC	FR 1312 2NC	FR 1313 2NC
14	LS	FR 1408 2NC	FR 1410 2NC	FR 1412 2NC	FR 1413 2NC
15	LS	FR 1508 2NO	FR 1510 2NO	FR 1512 2NO	FR 1513 2NO
18	LA	FR 1808 1NO+1NC	FR 1810 1NO+1NC	FR 1812 1NO+1NC	FR 1813 1NO+1NC
20	L	FR 2008 1NO+2NC	FR 2010 1NO+2NC	FR 2012 1NO+2NC	FR 2013 1NO+2NC
21	L	FR 2108 3NC	FR 2110 3NC	FR 2112 3NC	FR 2113 3NC
22	L	FR 2208 2NO+1NC	FR 2210 2NO+1NC	FR 2212 2NO+1NC	FR 2213 2NO+1NC
2	R	FR 208 2x(1NO-1NC)	FR 210 2x(1NO-1NC)	FR 212 2x(1NO-1NC)	FR 213 2x(1NO-1NC)
E1		FR E108 1NO-1NC	FR E110 1NO-1NC	FR E112 1NO-1NC	FR E113 1NO-1NC
Max speed		page 6/3 - type 4	page 6/3 - type 4	page 6/3 - type 4	page 6/3 - type 2
Min. force		8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)
Travel diagrams		page 6/15 - group 1	page 6/15 - group 1	page 6/15 - group 1	page 6/15 - group 1

Contact blocks			Ø 11 mm polymer roller	Ø 12 mm stainless steel roller	
					
5	R	FR 514 1NO+1NC	FR 515 1NO+1NC	FR 515-1 1NO+1NC	FR 516 1NO+1NC
6	L	FR 614 1NO+1NC	FR 615 1NO+1NC	FR 615-1 1NO+1NC	FR 616 1NO+1NC
7	LO	FR 714 1NO+1NC	FR 715 1NO+1NC	FR 715-1 1NO+1NC	FR 716 1NO+1NC
9	L	FR 914 2NC	FR 915 2NC	FR 915-1 2NC	FR 916 2NC
10	L	FR 1014 2NO	FR 1015 2NO	FR 1015-1 2NO	FR 1016 2NO
11	R	FR 1114 2NC	FR 1115 2NC	FR 1115-1 2NC	FR 1116 2NC
12	R	FR 1214 2NO	FR 1215 2NO	FR 1215-1 2NO	FR 1216 2NO
13	LV	FR 1314 2NC	FR 1315 2NC	FR 1315-1 2NC	FR 1316 2NC
14	LS	FR 1414 2NC	FR 1415 2NC	FR 1415-1 2NC	FR 1416 2NC
15	LS	FR 1514 2NO	FR 1515 2NO	FR 1515-1 2NO	FR 1516 2NO
18	LA	FR 1814 1NO+1NC	FR 1815 1NO+1NC	FR 1815-1 1NO+1NC	FR 1816 1NO+1NC
20	L	FR 2014 1NO+2NC	FR 2015 1NO+2NC	FR 2015-1 1NO+2NC	FR 2016 1NO+2NC
21	L	FR 2114 3NC	FR 2115 3NC	FR 2115-1 3NC	FR 2116 3NC
22	L	FR 2214 2NO+1NC	FR 2215 2NO+1NC	FR 2215-1 2NO+1NC	FR 2216 2NO+1NC
2	R	FR 214 2x(1NO-1NC)	FR 215 2x(1NO-1NC)	FR 215-1 2x(1NO-1NC)	FR 216 2x(1NO-1NC)
E1		FR E114 1NO-1NC	FR E115 1NO-1NC	FR E115-1 1NO-1NC	FR E116 1NO-1NC
Max speed		page 6/3 - type 4	page 6/3 - type 2	page 6/3 - type 2	page 6/3 - type 2
Min. force		8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)
Travel diagrams		page 6/15 - group 1	page 6/15 - group 1	page 6/15 - group 1	page 6/15 - group 1

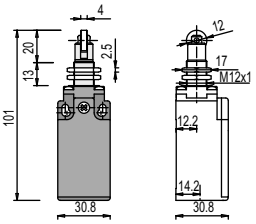
Accessories
See page 5/1

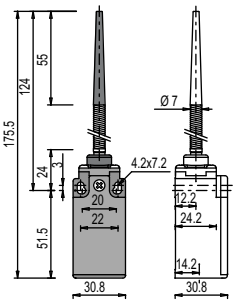
Items with code on the **green** background are available in stock

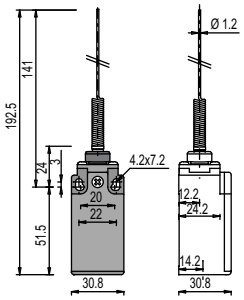
Contacts type:

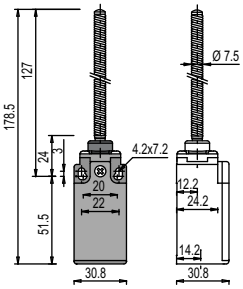
- R = snap action
- L = slow action
- LO = slow action overlapped
- LS = slow action shifted
- LV = slow action shifted and spaced
- LI = slow action independent
- LA = slow action closer
- = electronic PNP

Fixed only by threaded head in vertical position



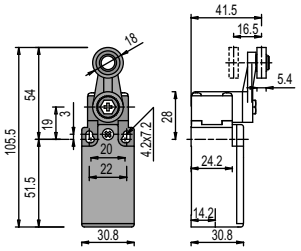


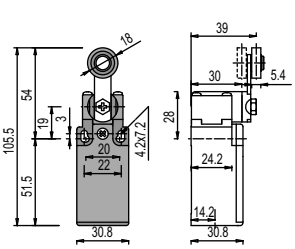




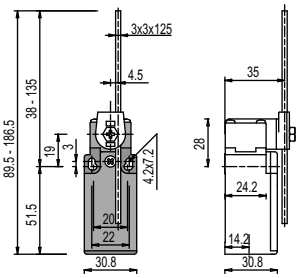
Contact blocks								
5	R	FR 517	1NO+1NC	FR 520	1NO+1NC	FR 521	1NO+1NC	FR 525	1NO+1NC
6	L	FR 617	1NO+1NC						
7	LO	FR 717	1NO+1NC						
9	L	FR 917	2NC						
10	L	FR 1017	2NO	FR 1020	2NO	FR 1021	2NO	FR 1025	2NO
11	R	FR 1117	2NC						
12	R	FR 1217	2NO	FR 1220	2NO	FR 1221	2NO	FR 1225	2NO
13	LV	FR 1317	2NC						
14	LS	FR 1417	2NC						
15	LS	FR 1517	2NO						
18	LA	FR 1817	1NO+1NC	FR 1820	1NO+1NC	FR 1821	1NO+1NC	FR 1825	1NO+1NC
20	L	FR 2017	1NO+2NC	FR 2020	1NO+2NC	FR 2021	1NO+2NC	FR 2025	1NO+2NC
21	L	FR 2117	3NC	FR 2120	3NC	FR 2121	3NC	FR 2125	3NC
22	L	FR 2217	2NO+1NC	FR 2220	2NO+1NC	FR 2221	2NO+1NC	FR 2225	2NO+1NC
2	R	FR 217	2x(1NO-1NC)	FR 220	2x(1NO-1NC)	FR 221	2x(1NO-1NC)	FR 225	2x(1NO-1NC)
E1		FR E117	1NO-1NC	FR E120	1NO-1NC	FR E121	1NO-1NC	FR E125	1NO-1NC
Max speed		page 6/3 - type 2		1 m/s		1 m/s		1 m/s	
Min. force		8 N (25 N)		0,06 Nm		0,04 Nm		0,11 Nm	
Travel diagrams		page 6/15 - group 1		page 6/15 - group 4		page 6/15 - group 4		page 6/15 - group 4	

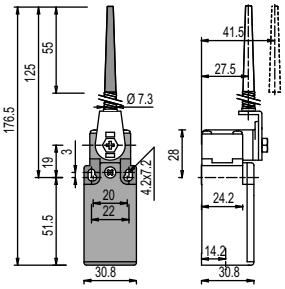
Other rollers available. See page 2/52





3x3 mm square rod





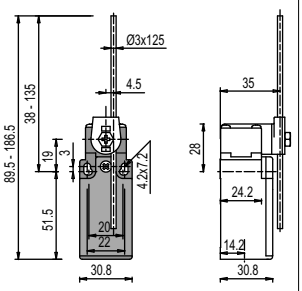
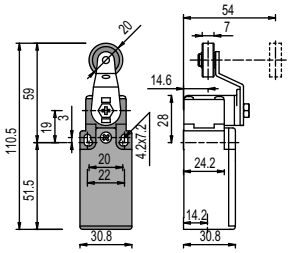
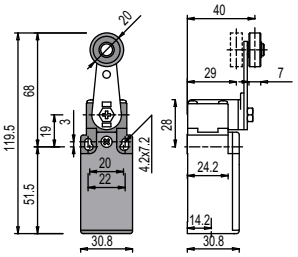
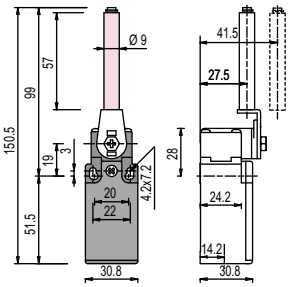
Contact blocks								
5	R	FR 530	1NO+1NC	FR 531	1NO+1NC	FR 533	1NO+1NC	FR 534	1NO+1NC
6	L	FR 630	1NO+1NC	FR 631	1NO+1NC	FR 633	1NO+1NC	FR 634	1NO+1NC
7	LO	FR 730	1NO+1NC	FR 731	1NO+1NC	FR 733	1NO+1NC	FR 734	1NO+1NC
9	L	FR 930	2NC	FR 931	2NC	FR 933	2NC	FR 934	2NC
10	L	FR 1030	2NO	FR 1031	2NO	FR 1033	2NO	FR 1034	2NO
11	R	FR 1130	2NC	FR 1131	2NC	FR 1133	2NC	FR 1134	2NC
12	R	FR 1230	2NO	FR 1231	2NO	FR 1233	2NO	FR 1234	2NO
13	LV	FR 1330	2NC	FR 1331	2NC	FR 1333	2NC	FR 1334	2NC
14	LS	FR 1430	2NC	FR 1431	2NC	FR 1433	2NC	FR 1434	2NC
15	LS	FR 1530	2NO	FR 1531	2NO	FR 1533	2NO	FR 1534	2NO
16	LI	FR 1630	2NC	FR 1631	2NC	FR 1633	2NC	FR 1634	2NC
18	LA	FR 1830	1NO+1NC	FR 1831	1NO+1NC	FR 1833	1NO+1NC	FR 1834	1NO+1NC
20	L	FR 2030	1NO+2NC	FR 2031	1NO+2NC	FR 2033	1NO+2NC	FR 2034	1NO+2NC
21	L	FR 2130	3NC	FR 2131	3NC	FR 2133	3NC	FR 2134	3NC
22	L	FR 2230	2NO+1NC	FR 2231	2NO+1NC	FR 2233	2NO+1NC	FR 2234	2NO+1NC
2	R	FR 230	2x(1NO-1NC)	FR 231	2x(1NO-1NC)	FR 233	2x(1NO-1NC)	FR 234	2x(1NO-1NC)
E1		FR E130	1NO-1NC	FR E131	1NO-1NC	FR E133	1NO-1NC	FR E134	1NO-1NC
Max speed		page 6/3 - type 1		page 6/3 - type 1		1,5 m/s		1,5 m/s	
Min. force		0,1 Nm (0,25 Nm)		0,1 Nm (0,25 Nm)		0,1 Nm		0,1 Nm	
Travel diagrams		page 6/15 - group 5		page 6/15 - group 5		page 6/15 - group 5		page 6/15 - group 5	

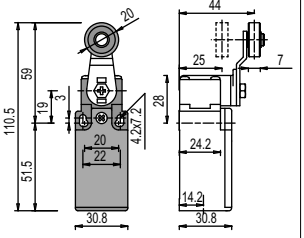
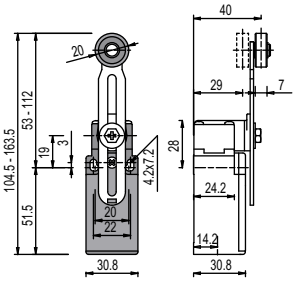
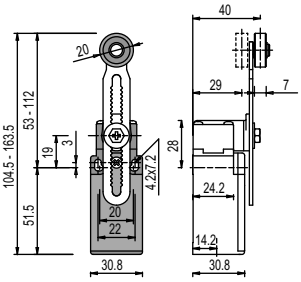
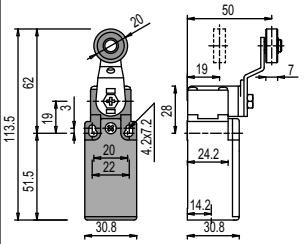
Accessories
See page 5/1

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		Ø 3 mm stainless steel round rod	Other rollers available. See page 2/52	Other rollers available. See page 2/52	Porcelain roller
					
5	R	FR 550 1NO+1NC	FR 551 ⊖ 1NO+1NC	FR 552 ⊖ 1NO+1NC	FR 553-E0V9 ⊖ 1NO+1NC
6	L	FR 650 1NO+1NC	FR 651 ⊖ 1NO+1NC	FR 652 ⊖ 1NO+1NC	FR 653-E0V9 ⊖ 1NO+1NC
7	LO	FR 750 1NO+1NC	FR 751 ⊖ 1NO+1NC	FR 752 ⊖ 1NO+1NC	FR 753-E0V9 ⊖ 1NO+1NC
9	L	FR 950 2NC	FR 951 ⊖ 2NC	FR 952 ⊖ 2NC	FR 953-E0V9 ⊖ 2NC
10	L	FR 1050 2NO	FR 1051 2NO	FR 1052 2NO	FR 1053-E0V9 2NO
11	R	FR 1150 2NC	FR 1151 ⊖ 2NC	FR 1152 ⊖ 2NC	
12	R	FR 1250 2NO	FR 1251 2NO	FR 1252 2NO	FR 1253-E0V9 2NO
13	LV	FR 1350 2NC	FR 1351 ⊖ 2NC	FR 1352 ⊖ 2NC	FR 1353-E0V9 ⊖ 2NC
14	LS	FR 1450 2NC	FR 1451 ⊖ 2NC	FR 1452 ⊖ 2NC	FR 1453-E0V9 ⊖ 2NC
15	LS	FR 1550 2NO	FR 1551 2NO	FR 1552 2NO	FR 1553-E0V9 2NO
16	LI	FR 1650 2NC	FR 1651 ⊖ 2NC	FR 1652 ⊖ 2NC	
18	LA	FR 1850 1NO+1NC	FR 1851 ⊖ 1NO+1NC	FR 1852 ⊖ 1NO+1NC	FR 1853-E0V9 ⊖ 1NO+1NC
20	L	FR 2050 1NO+2NC	FR 2051 ⊖ 1NO+2NC	FR 2052 ⊖ 1NO+2NC	FR 2053-E0V9 ⊖ 1NO+2NC
21	L	FR 2150 3NC	FR 2151 ⊖ 3NC	FR 2152 ⊖ 3NC	FR 2153-E0V9 ⊖ 3NC
22	L	FR 2250 2NO+1NC	FR 2251 ⊖ 2NO+1NC	FR 2252 ⊖ 2NO+1NC	FR 2253-E0V9 ⊖ 2NO+1NC
2	R	FR 250 2x(1NO-1NC)	FR 251 2x(1NO-1NC)	FR 252 2x(1NO-1NC)	FR 253-E0 2x(1NO-1NC)
E1		FR E150 1NO-1NC	FR E151 1NO-1NC	FR E152 1NO-1NC	FR E153-E0V9 1NO-1NC
Max speed		1,5 m/s	page 6/3 - type 1	page 6/3 - type 1	0,5 m/s
Min. force		0,1 Nm	0,1 Nm (0,25 Nm ⊖)	0,1 Nm (0,25 Nm ⊖)	0,06 Nm (0,25 Nm ⊖)
Travel diagrams		page 6/15 - group 5	page 6/15 - group 5	page 6/15 - group 5	page 6/15 - group 6

Contact blocks		Other rollers available. See page 2/52	Other rollers available. See page 2/52	Other rollers available. See page 2/52	Other rollers available. See page 2/52
					
5	R	FR 554 ⊖ 1NO+1NC	FR 555 ⊖ (1) 1NO+1NC	FR 556 ⊖ 1NO+1NC	FR 557 ⊖ 1NO+1NC
6	L	FR 654 ⊖ 1NO+1NC	FR 655 ⊖ (1) 1NO+1NC	FR 656 ⊖ 1NO+1NC	FR 657 ⊖ 1NO+1NC
7	LO	FR 754 ⊖ 1NO+1NC	FR 755 ⊖ (1) 1NO+1NC	FR 756 ⊖ 1NO+1NC	FR 757 ⊖ 1NO+1NC
9	L	FR 954 ⊖ 2NC	FR 955 ⊖ (1) 2NC	FR 956 ⊖ 2NC	FR 957 ⊖ 2NC
10	L	FR 1054 2NO	FR 1055 2NO	FR 1056 2NO	FR 1057 2NO
11	R	FR 1154 ⊖ 2NC	FR 1155 ⊖ (1) 2NC	FR 1156 ⊖ 2NC	FR 1157 ⊖ 2NC
12	R	FR 1254 2NO	FR 1255 2NO	FR 1256 2NO	FR 1257 2NO
13	LV	FR 1354 ⊖ 2NC	FR 1355 ⊖ (1) 2NC	FR 1356 ⊖ 2NC	FR 1357 ⊖ 2NC
14	LS	FR 1454 ⊖ 2NC	FR 1455 ⊖ (1) 2NC	FR 1456 ⊖ 2NC	FR 1457 ⊖ 2NC
15	LS	FR 1554 2NO	FR 1555 2NO	FR 1556 2NO	FR 1557 2NO
16	LI	FR 1654 ⊖ 2NC	FR 1655 ⊖ (1) 2NC	FR 1656 ⊖ 2NC	FR 1657 ⊖ 2NC
18	LA	FR 1854 ⊖ 1NO+1NC	FR 1855 ⊖ (1) 1NO+1NC	FR 1856 ⊖ 1NO+1NC	FR 1857 ⊖ 1NO+1NC
20	L	FR 2054 ⊖ 1NO+2NC	FR 2055 ⊖ (1) 1NO+2NC	FR 2056 ⊖ 1NO+2NC	FR 2057 ⊖ 1NO+2NC
21	L	FR 2154 ⊖ 3NC	FR 2155 ⊖ (1) 3NC	FR 2156 ⊖ 3NC	FR 2157 ⊖ 3NC
22	L	FR 2254 ⊖ 2NO+1NC	FR 2255 ⊖ (1) 2NO+1NC	FR 2256 ⊖ 2NO+1NC	FR 2257 ⊖ 2NO+1NC
2	R	FR 254 2x(1NO-1NC)	FR 255 2x(1NO-1NC)	FR 256 2x(1NO-1NC)	FR 257 2x(1NO-1NC)
E1		FR E154 1NO-1NC	FR E155 1NO-1NC	FR E156 1NO-1NC	FR E157 1NO-1NC
Max speed		page 6/3 - type 1	page 6/3 - type 1	page 6/3 - type 1	page 6/3 - type 1
Min. force		0,1 Nm (0,25 Nm ⊖)	0,1 Nm (0,25 Nm ⊖)	0,1 Nm (0,25 Nm ⊖)	0,1 Nm (0,25 Nm ⊖)
Travel diagrams		page 6/15 - group 5	page 6/15 - group 5	page 6/15 - group 5	page 6/15 - group 5

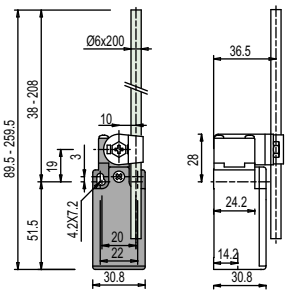
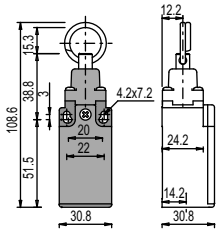
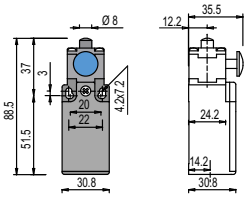
Accessories
See page 5/1

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

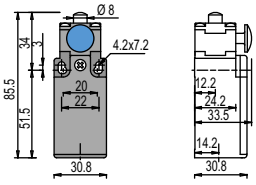
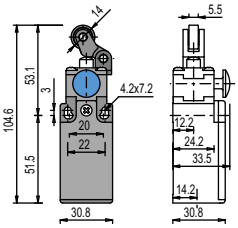
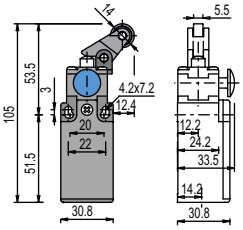
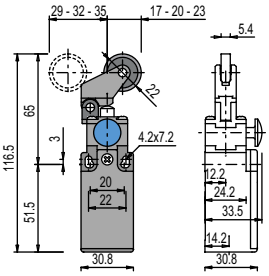
(1) Positive opening only with lever adjusted on the max. See page 2/51

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		Glass fibre rod		Rope switches for signalling			
							
5	R	FR 569	1NO+1NC	FR 576	1NO+1NC		FR 501-72 → 1NO+1NC
6	L	FR 669	1NO+1NC	FR 676	1NO+1NC		
7	LO	FR 769	1NO+1NC	FR 776	1NO+1NC		
9	L	FR 969	2NC	FR 976	2NO		
10	L	FR 1069	2NO	FR 1076	2NC		FR 1001-72 2NO
11	R	FR 1169	2NC	FR 1176	2NO		This switch can be installed on doors of electrical boards. It is used to switch on possible signal devices, once the door is open (e.g. three-phase flashing devices, etc.) The operator assigned to the board maintenance may simulate the closing of the door by pushing the blue push button. At the end of the maintenance the functionality of the switch will be automatically restablished easily by closing the door of the board.
12	R	FR 1269	2NO	FR 1276	2NC		
13	LV	FR 1369	2NC	FR 1376	2NO		
14	LS	FR 1469	2NC	FR 1476	2NO		
15	LS	FR 1569	2NO	FR 1576	2NC		
16	LI	FR 1669	2NC				
18	LA	FR 1869	1NO+1NC	FR 1876	1NO+1NC		
20	L	FR 2069	1NO+2NC	FR 2076	2NO+1NC		
21	L	FR 2169	3NC	FR 2176	3NO		
22	L	FR 2269	2NO+1NC	FR 2276	1NO+2NC		
2	R	FR 269	2x(1NO-1NC)	FR 276	2x(1NO-1NC)		
E1		FR E169	1NO-1NC				
Max speed		1,5 m/s		0,5 m/s			page 6/3 - type 4
Min. force		0,1 Nm		initial 20 N - final 40 N			8 N (25 N →)
Travel diagrams		page 6/15 - group 5		page 6/15 - group 7			page 6/15 - group 1

Position switches **FR** series with reset

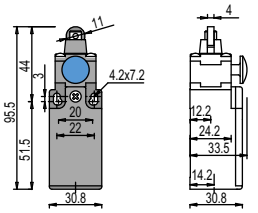
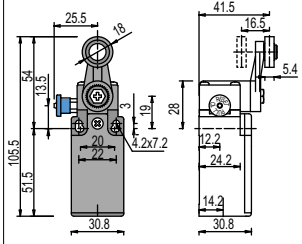
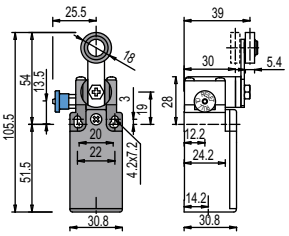
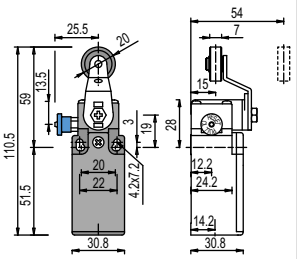
Contact blocks				With stainless steel roller on request		With stainless steel roller on request			
									
5	R	FR 501-W	→ 1NO+1NC	FR 502-W	→ 1NO+1NC	FR 505-W	→ 1NO+1NC	FR 507-W	→ 1NO+1NC
6	L	FR 601-W	→ 1NO+1NC	FR 602-W	→ 1NO+1NC	FR 605-W	→ 1NO+1NC	FR 607-W	→ 1NO+1NC
7	LO	FR 701-W	→ 1NO+1NC	FR 702-W	→ 1NO+1NC	FR 705-W	→ 1NO+1NC	FR 707-W	→ 1NO+1NC
9	L	FR 901-W	→ 2NC	FR 902-W	→ 2NC	FR 905-W	→ 2NC	FR 907-W	→ 2NC
10	L	FR 1001-W	2NO	FR 1002-W	2NO	FR 1005-W	2NO	FR 1007-W	2NO
11	R	FR 1101-W	→ 2NC	FR 1102-W	→ 2NC	FR 1105-W	→ 2NC	FR 1107-W	→ 2NC
12	R	FR 1201-W	2NO	FR 1202-W	2NO	FR 1205-W	2NO	FR 1207-W	2NO
13	LV	FR 1301-W	→ 2NC	FR 1302-W	→ 2NC	FR 1305-W	→ 2NC	FR 1307-W	→ 2NC
14	LS	FR 1401-W	→ 2NC	FR 1402-W	→ 2NC	FR 1405-W	→ 2NC	FR 1407-W	→ 2NC
15	LS	FR 1501-W	2NO	FR 1502-W	2NO	FR 1505-W	2NO	FR 1507-W	2NO
18	LA	FR 1801-W	→ 1NO+1NC	FR 1802-W	→ 1NO+1NC	FR 1805-W	→ 1NO+1NC	FR 1807-W	→ 1NO+1NC
20	L	FR 2001-W	→ 1NO+2NC	FR 2002-W	→ 1NO+2NC	FR 2005-W	→ 1NO+2NC	FR 2007-W	→ 1NO+2NC
21	L	FR 2101-W	→ 3NC	FR 2102-W	→ 3NC	FR 2105-W	→ 3NC	FR 2107-W	→ 3NC
22	L	FR 2201-W	→ 2NO+1NC	FR 2202-W	→ 2NO+1NC	FR 2205-W	→ 2NO+1NC	FR 2207-W	→ 2NO+1NC
2	R	FR 201-W	2x(1NO-1NC)	FR 202-W	2x(1NO-1NC)	FR 205-W	2x(1NO-1NC)	FR 207-W	2x(1NO-1NC)
Max speed		page 6/3 - type 4		page 6/3 - type 3		page 6/3 - type 3		page 6/3 - type 3	
Min. force		8 N (25 N →)		6 N (25 N →)		6 N (25 N →)		4 N (25 N →)	
Travel diagrams		page 6/16 - group 1		page 6/16 - group 2		page 6/16 - group 2		page 6/16 - group 3	

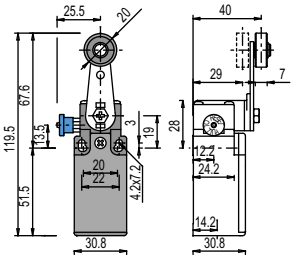
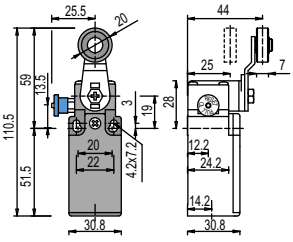
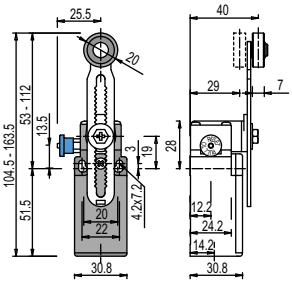
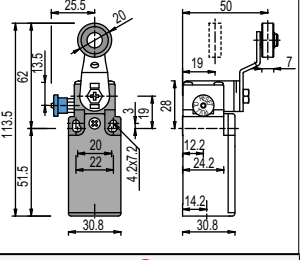
Accessories
See page 5/1

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 stainless steel roller on request		On request roller with different diameter roller made of polymer, rubber or metal	On request roller with different diameter roller made of polymer, rubber or metal
					
5	R	FR 515-W → 1NO+1NC	FR 530-W → 1NO+1NC	FR 531-W → 1NO+1NC	FR 551-W → 1NO+1NC
6	L	FR 615-W → 1NO+1NC	FR 630-W → 1NO+1NC	FR 631-W → 1NO+1NC	FR 651-W → 1NO+1NC
7	LO	FR 715-W → 1NO+1NC	FR 730-W → 1NO+1NC	FR 731-W → 1NO+1NC	FR 751-W → 1NO+1NC
9	L	FR 915-W → 2NC	FR 930-W → 2NC	FR 931-W → 2NC	FR 951-W → 2NC
10	L	FR 1015-W 2NO	FR 1030-W 2NO	FR 1031-W 2NO	FR 1051-W 2NO
11	R	FR 1115-W → 2NC	FR 1130-W → 2NC	FR 1131-W → 2NC	FR 1151-W → 2NC
12	R	FR 1215-W 2NO	FR 1230-W 2NO	FR 1231-W 2NO	FR 1251-W 2NO
13	LV	FR 1315-W → 2NC	FR 1330-W → 2NC	FR 1331-W → 2NC	FR 1351-W → 2NC
14	LS	FR 1415-W → 2NC	FR 1430-W → 2NC	FR 1431-W → 2NC	FR 1451-W → 2NC
15	LS	FR 1515-W 2NO	FR 1530-W 2NO	FR 1531-W 2NO	FR 1551-W 2NO
18	LA	FR 1815-W → 1NO+1NC	FR 1830-W → 1NO+1NC	FR 1831-W → 1NO+1NC	FR 1851-W → 1NO+1NC
20	L	FR 2015-W → 1NO+2NC	FR 2030-W → 1NO+2NC	FR 2031-W → 1NO+2NC	FR 2051-W → 1NO+2NC
21	L	FR 2115-W → 3NC	FR 2130-W → 3NC	FR 2131-W → 3NC	FR 2151-W → 3NC
22	L	FR 2215-W → 2NO+1NC	FR 2230-W → 2NO+1NC	FR 2231-W → 2NO+1NC	FR 2251-W → 2NO+1NC
2	R	FR 215-W 2x(1NO-1NC)	FR 230-W 2x(1NO-1NC)	FR 231-W 2x(1NO-1NC)	FR 251-W 2x(1NO-1NC)
Max speed		page 6/3 - type 2	page 6/3 - type 1	page 6/3 - type 1	page 6/3 - type 1
Min. force		8 N (25 N →)	0,1 Nm (0,25 Nm →)	0,1 Nm (0,25 Nm →)	0,1 Nm (0,25 Nm →)
Travel diagrams		page 6/16 - group 1	page 6/16 - group 4	page 6/16 - group 4	page 6/16 - group 4

Contact blocks		On request roller with different diameter roller made of polymer, rubber or metal	On request roller with different diameter roller made of polymer, rubber or metal	On request roller with different diameter roller made of polymer, rubber or metal	On request roller with different diameter roller made of polymer, rubber or metal
					
5	R	FR 552-W → 1NO+1NC	FR 554-W → 1NO+1NC	FR 556-W → 1NO+1NC	FR 557-W → 1NO+1NC
6	L	FR 652-W → 1NO+1NC	FR 654-W → 1NO+1NC	FR 656-W → 1NO+1NC	FR 657-W → 1NO+1NC
7	LO	FR 752-W → 1NO+1NC	FR 754-W → 1NO+1NC	FR 756-W → 1NO+1NC	FR 757-W → 1NO+1NC
9	L	FR 952-W → 2NC	FR 954-W → 2NC	FR 956-W → 2NC	FR 957-W → 2NC
10	L	FR 1052-W 2NO	FR 1054-W 2NO	FR 1056-W 2NO	FR 1057-W 2NO
11	R	FR 1152-W → 2NC	FR 1154-W → 2NC	FR 1156-W → 2NC	FR 1157-W → 2NC
12	R	FR 1252-W 2NO	FR 1254-W 2NO	FR 1256-W 2NO	FR 1257-W 2NO
13	LV	FR 1352-W → 2NC	FR 1354-W → 2NC	FR 1356-W → 2NC	FR 1357-W → 2NC
14	LS	FR 1452-W → 2NC	FR 1454-W → 2NC	FR 1456-W → 2NC	FR 1457-W → 2NC
15	LS	FR 1552-W 2NO	FR 1554-W 2NO	FR 1556-W 2NO	FR 1557-W 2NO
18	LA	FR 1852-W → 1NO+1NC	FR 1854-W → 1NO+1NC	FR 1856-W → 1NO+1NC	FR 1857-W → 1NO+1NC
20	L	FR 2052-W → 1NO+2NC	FR 2054-W → 1NO+2NC	FR 2056-W → 1NO+2NC	FR 2057-W → 1NO+2NC
21	L	FR 2152-W → 3NC	FR 2154-W → 3NC	FR 2156-W → 3NC	FR 2157-W → 3NC
22	L	FR 2252-W → 2NO+1NC	FR 2254-W → 2NO+1NC	FR 2256-W → 2NO+1NC	FR 2257-W → 2NO+1NC
2	R	FR 252-W 2x(1NO-1NC)	FR 254-W 2x(1NO-1NC)	FR 256-W 2x(1NO-1NC)	FR 257-W 2x(1NO-1NC)
Max speed		page 6/3 - type 1	page 6/3 - type 1	page 6/3 - type 1	page 6/3 - type 1
Min. force		0,1 Nm (0,25 Nm →)	0,1 Nm (0,25 Nm →)	0,1 Nm (0,25 Nm →)	0,1 Nm (0,25 Nm →)
Travel diagrams		page 6/16 - group 4	page 6/16 - group 4	page 6/16 - group 4	page 6/16 - group 4

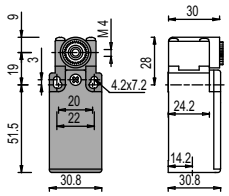
Accessories
See page 5/1

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

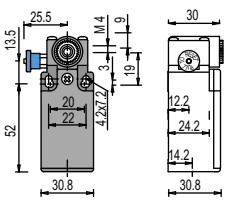
Position switches with revolving lever without actuator

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

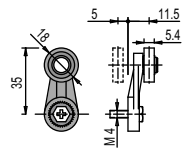
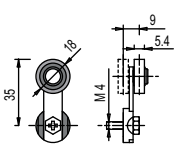
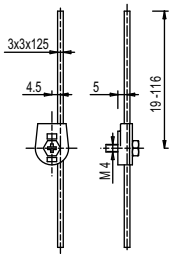
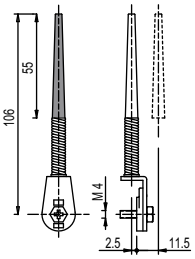
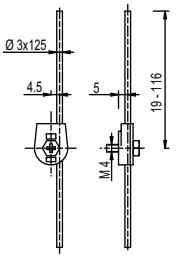
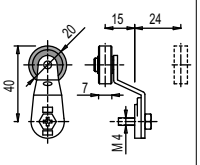
IMPORTANT
For safety applications: join only switches and actuators marked with symbol ⊖.
For more information about safety applications see page 6/1.

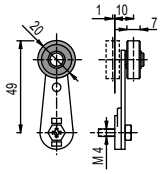
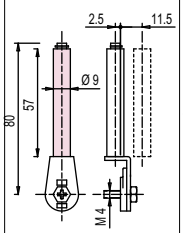
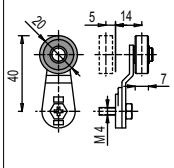
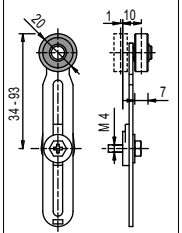
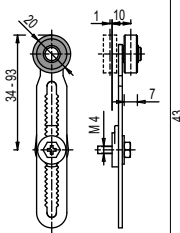
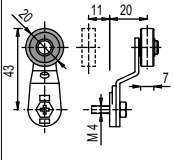
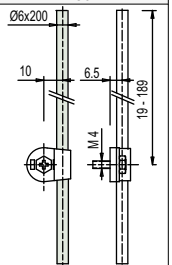
Items with code on the **green** background are available in stock

Accessories
See page 5/1

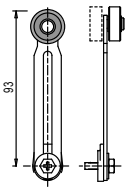
Loose actuators

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
10 pcs pack						
Article	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 glass fibre rod
10 pcs pack							
Article	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 FR •38 (e.g. FR 538, FR 638) with the actuator VF LE53 will not present the same travel diagrams and actuating forces as the position switch FR •53-E0V9 (e.g. FR 553-E0V9, FR 653-E0V9...).
- (4) The actuator cannot be oriented to inside direction because it will mechanically interfere with the switch head.

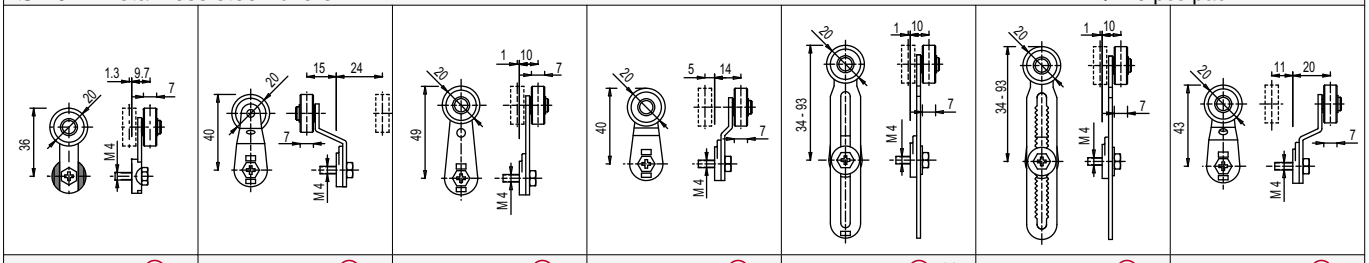


Special loose actuators

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

Ø 20 mm stainless steel rollers

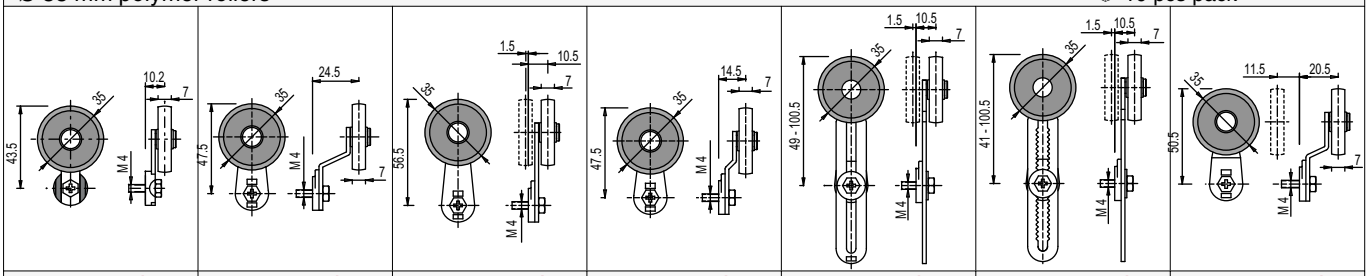
10 pcs pack



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

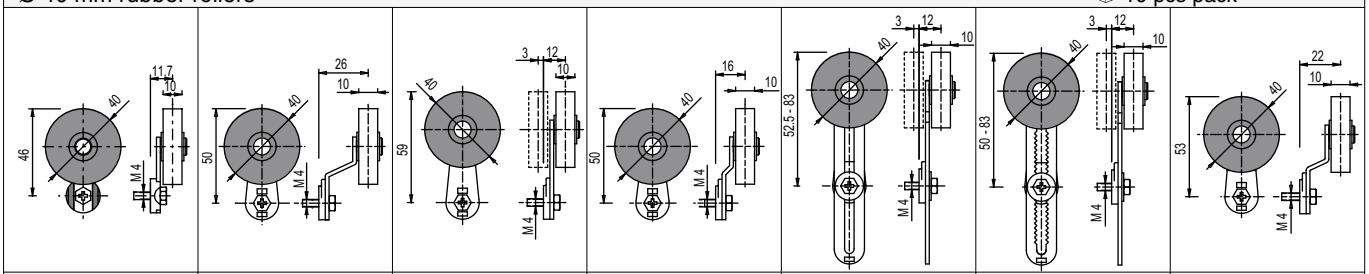
10 pcs pack



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

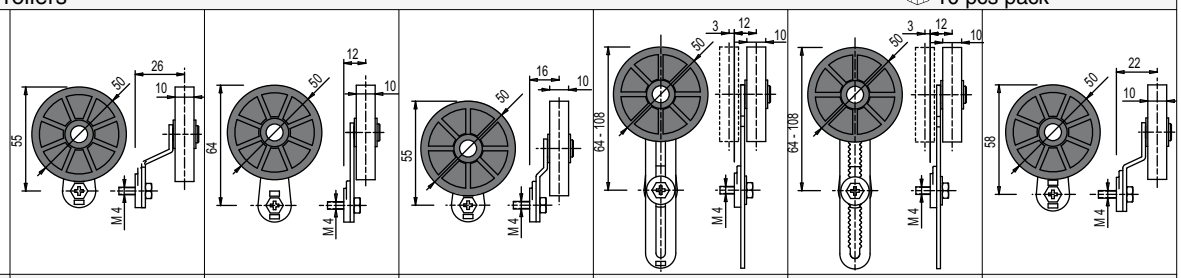
10 pcs pack



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

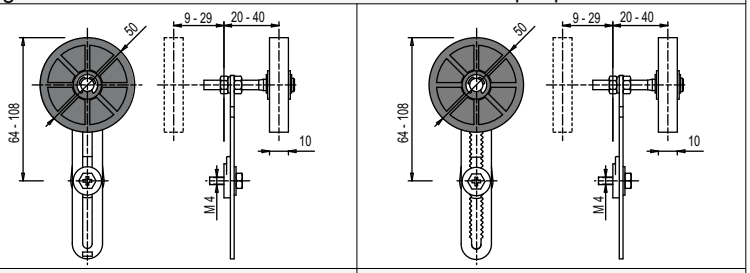
10 pcs pack



	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

10 pcs pack



	VF LE55-4 (1)	VF LE56-4