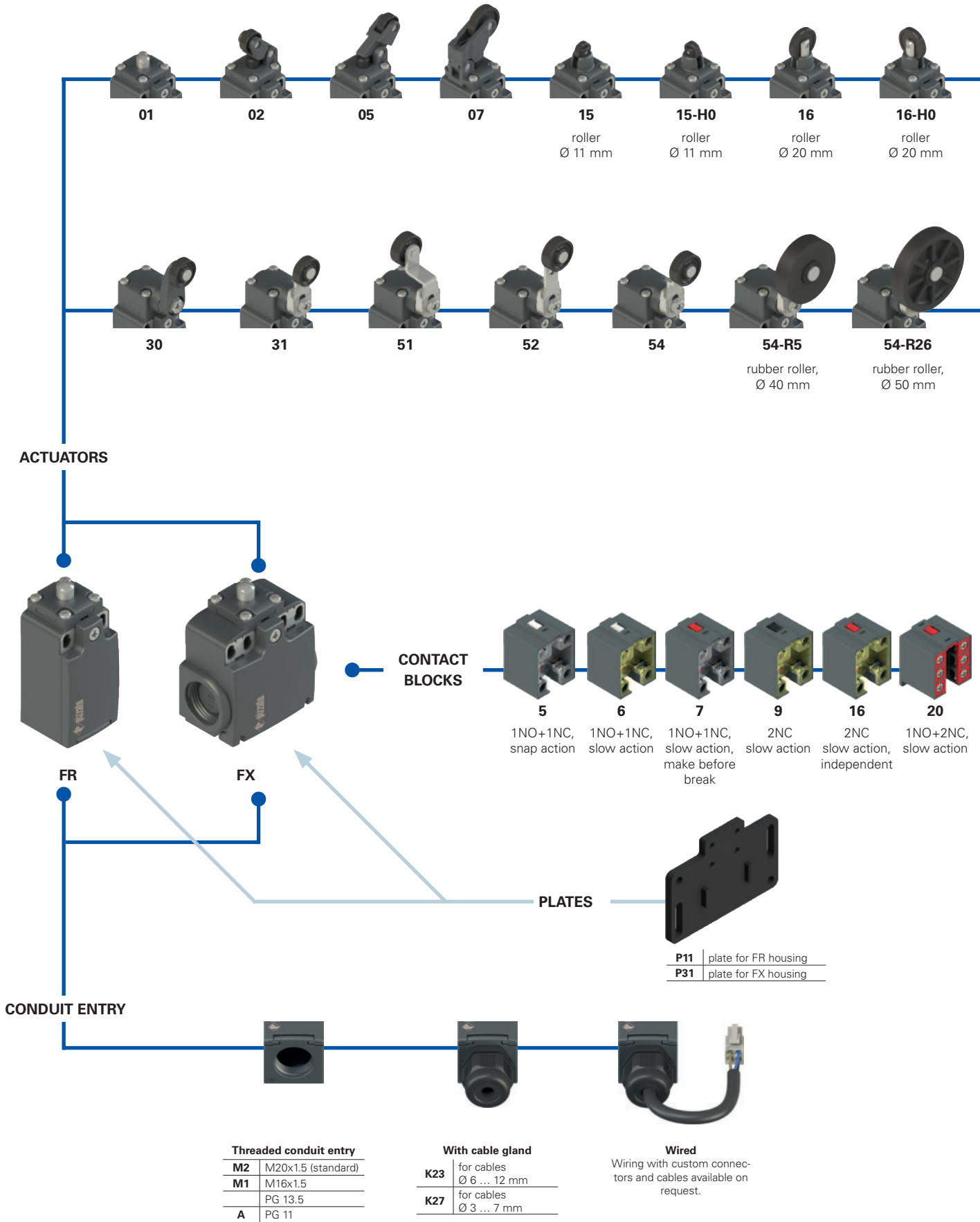
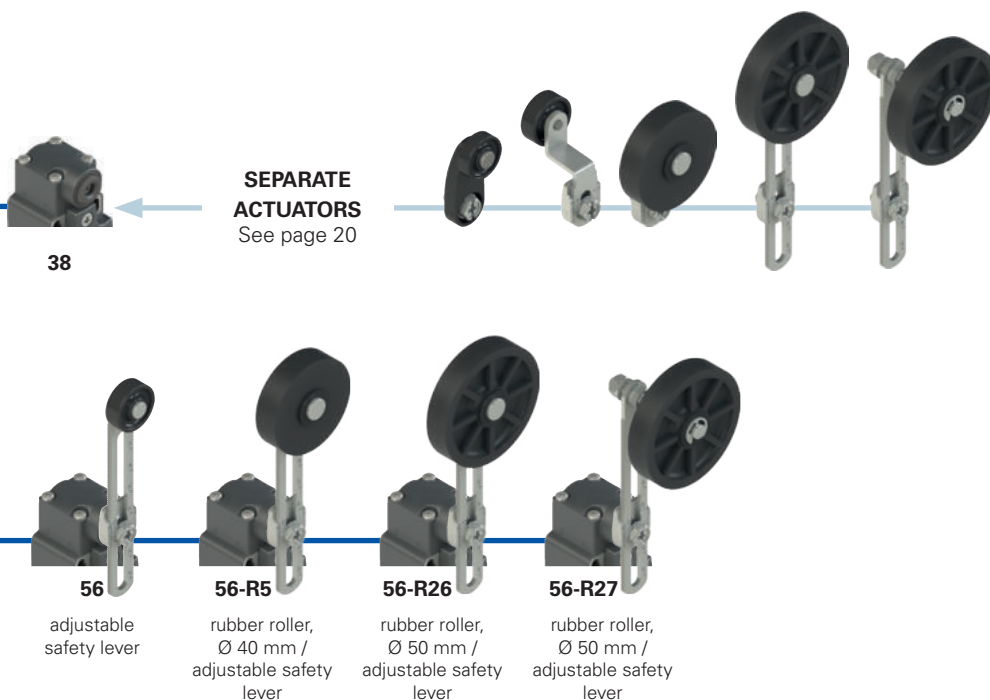


Selection diagram




**38**
**SEPARATE ACTUATORS**  
See page 20

**56**

adjustable safety lever

**56-R5**

rubber roller, Ø 40 mm / adjustable safety lever

**56-R26**

rubber roller, Ø 50 mm / adjustable safety lever

**56-R27**

rubber roller, Ø 50 mm / adjustable safety lever

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

article	option	options
<b>FR 654</b>	<b>-GM2</b>	<b>K23P11R26T6</b>

Housing	
<b>FR</b>	technopolymer, one conduit entry
<b>FX</b>	technopolymer, two conduit entries

Contact block	
<b>5</b>	1NO+1NC, snap action
<b>6</b>	1NO+1NC, slow action
<b>7</b>	1NO+1NC, slow action, make before break
<b>9</b>	2NC, slow action
<b>16</b>	2NC, slow action, independent
<b>20</b>	1NO+2NC, slow action

Actuators	
<b>01</b>	short plunger
<b>02</b>	roller lever
<b>05</b>	angled lever with roller
...	...

Contact type	
	silver contacts (standard)
<b>G</b>	silver contacts with 1 µm gold coating
<b>G1</b>	silver contacts, 2.5 µm gold coating (not for contact block 20)

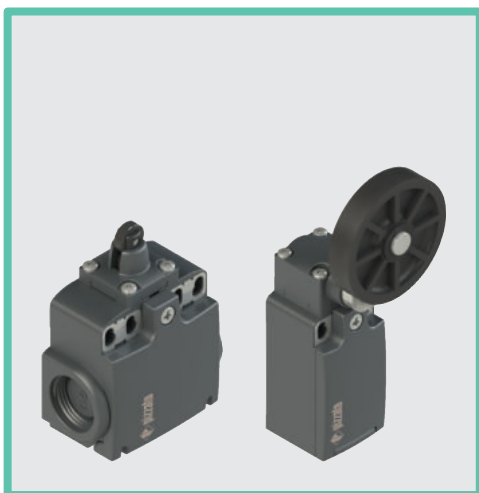
Ambient temperature	
	-25°C ... +80°C (standard)
<b>T6</b>	-40°C ... +80°C

Rollers	
	standard roller
<b>R5</b>	rubber roller, Ø 40 mm
<b>R26</b>	rubber roller, Ø 50 mm
<b>R27</b>	rubber roller, protruding, Ø 50 mm

Fixing plates	
	without plate (standard)
<b>P11</b>	with VF SFP1 plate for FR housing
<b>P31</b>	with VF SFP3 plate for FX housing

Threaded conduit entry	
<b>M2</b>	M20x1.5 (standard)
<b>M1</b>	M16x1.5
	PG 13.5
<b>A</b>	PG 11

Pre-installed cable glands	
<b>K23</b>	for cables Ø 6 ... 12 mm
<b>K27</b>	for cables Ø 3 ... 7 mm



### Main features

- Technopolymer housing, from one to two conduit entries
- Hinged cover, fixed with single captive screw
- Metal plates on mounting holes of the housing
- Protection degree IP67 and IP69K
- Wired versions
- Versions with gold-plated silver contacts

### Quality marks:



IMQ approval:	EG610
UL approval:	E131787
CCC approval:	2021000305000101
EAC approval:	RU C-IT.YT03.B.00035/19

### Technical data

#### Housing

Housing made of glass fibre reinforced technopolymer, self-extinguishing, shock-proof and with double insulation: 

FR series, one conduit entry:	M20x1.5 (standard)
FX series, two knock-out threaded conduit entries:	M20x1.5 (standard)
Protection degree:	IP67 acc. to EN 60529 with cable gland of equal or higher protection degree IP69K acc. to ISO 20653 with cable gland of equal or higher protection degree

#### General data

Ambient temperature:	-25°C ... +80°C (standard) -40°C ... +80°C (T6 option)
Max. operating frequency:	3600 operating cycles/hour
Mechanical endurance:	20 million operating cycles
Mounting position:	any
Safety parameter B <sub>10D</sub> :	40,000,000 for NC contacts
Mechanical interlock, not coded:	type 1 acc. to EN ISO 14119
Tightening torques for installation:	see page 155
Wire cross-sections and wire stripping lengths:	see page 169

#### In compliance with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 50047, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, EN IEC 63000, EN 81-20, EN 81-50, UL 508, CSA 22.2 No.14

#### Approvals:

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


#### Compliance with the requirements of:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/EU, RoHS Directive 2011/65/EU.

#### Positive contact opening in conformity with standards:

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

### Installation for safety applications:

Use only switches marked with the  symbol beside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in **standard EN 81-20 par. 5.11.2.2.1**. Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams on page 156. Actuate the switch **at least with the positive opening force**, reported in brackets below each article, next to the actuating force value.

**⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 153 to 162.**

Electrical data		Utilization category
Thermal current (I <sub>th</sub> ):	10 A	Alternating current: AC15 (50÷60 Hz)
Rated insulation voltage (U <sub>i</sub> ):	500 Vac 600 Vdc	U <sub>e</sub> (V) 250 400 500
	400 Vac 500 Vdc (contact block 20)	I <sub>e</sub> (A) 6 4 1
Rated impulse withstand voltage (U <sub>imp</sub> ):	6 kV	Direct current: DC13
	4 kV (contact block 20)	U <sub>e</sub> (V) 24 125 250
Conditional short circuit current:	1000 A acc. to EN 60947-5-1	I <sub>e</sub> (A) 3 0.55 0.3
Protection against short circuits:	type aM fuse 10 A 500 V	
Pollution degree:	3	

### Features approved by IMQ

Rated insulation voltage (U <sub>i</sub> ):	500 Vac 400 Vac (for contact block 20)
Conventional free air thermal current (I <sub>th</sub> ):	10 A
Protection against short circuits:	type aM fuse 10 A 500 V
Rated impulse withstand voltage (U <sub>imp</sub> ):	6 kV 4 kV (for contact block 20)
Protection degree of the housing:	IP67
MV terminals (screw terminals)	
Pollution degree:	3
Utilization category:	AC15
Operating voltage (U <sub>e</sub> ):	400 Vac (50 Hz)
Operating current (I <sub>e</sub> ):	3 A
Forms of the contact element:	Zb, Y+Y, Y+Y+X
Positive opening contacts on contact blocks	5, 6, 7, 9, 16, 20
In compliance with standards:	EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU

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

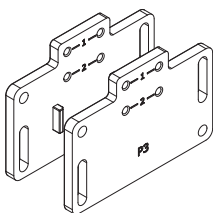
### Features approved by UL

Electrical Ratings:	Q300 pilot duty (69 VA, 125-250 V dc) A600 pilot duty (720 VA, 120-600 V ac)
Environmental Ratings:	FR: Types 1, 4X FX: Types 1, 4X, 12, 13
For all contact blocks use 60 or 75°C copper (Cu) conductors, rigid or flexible, wire size 12, 14 AWG. Tightening torque for terminal screws of 7.1 lb in (0.8 Nm).	
The hub is to be connected to the conduit before the hub is connected to the enclosure.	

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

**Compliant with EN 81-20 and EN 81-50**


- Safety contacts in compliance with EN 60947-5-1, annex K.
- Protection degree higher than IP4x.
- Mechanical service life > 10<sup>6</sup> cycles.

**Adapter plates**


Fixing plate with large slotted holes for switching point adjustment. Developed for backwards compatibility with previous products. Each

plate is provided with two pairs of mounting holes, one for standard switches and one for switches with reset device. The actuator thus always has the same actuating point.

**Protection degrees IP67 and IP69K**

# IP69K IP67

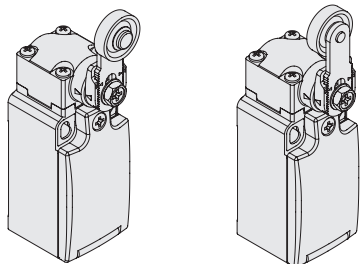
These devices are designed to be used under the toughest environmental conditions, and they pass the IP67 immersion test acc. to EN 60529. They

can therefore be used in all environments where the maximum degree of protection is required for the housing. All switches with actuator that do not have an external rubber hood also have a protection degree of IP69K in accordance with ISO 20653, and can be used on machinery subject to washing with water jets at 100 bar and 80°C.

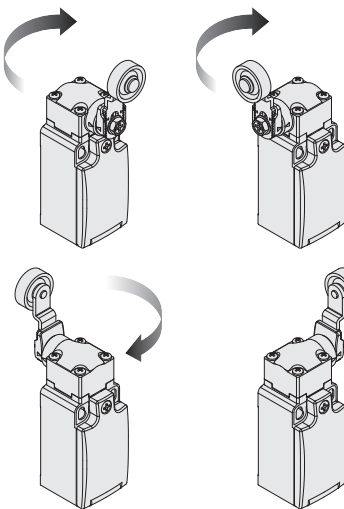
**Reversible levers**

For switches with swivelling lever, the lever can be fastened on straight or reverse side maintaining the positive coupling.

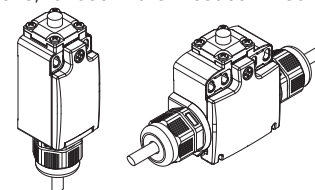
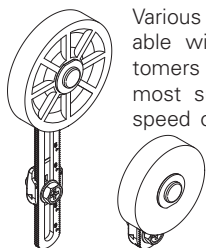
In this way two different working planes of the lever are possible.


**Head with variable orientation**

The head of all switches is adjustable in 90° steps.


**Cable outlets**

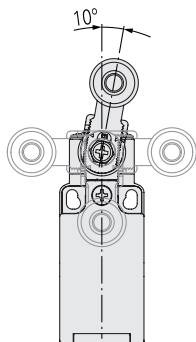
Switches available with cable outlets in various directions, for use in the most confined of spaces.


**Rubber rollers**


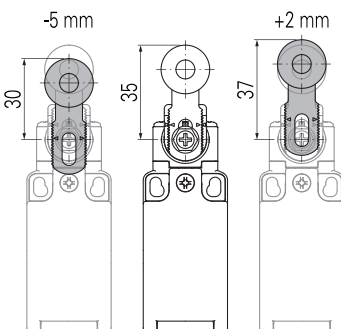
Various actuators are available with rubber rollers. Customers can therefore use the most suitable product for the speed of their particular lift, to reduce cabin noise to a minimum.

**Metal fixing plates**

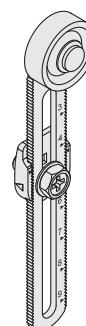
The technopolymer switches of the series FR, FK and FX are equipped with two robust metal plates on the mounting holes of the housings. This enables more reliable fixing of the switch without using washers under the screws. The fixing plates are made of thick zinc-plated steel; they are also available in stainless steel on request ("X" versions).

**Adjustable levers**


For switches with swivelling lever, the lever can be adjusted in 10° steps over the entire 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.



The switches equipped with swivelling lever with roller enable adjustment of lever height, along the length of the actuator, with increments of 1 mm. This enables compensation for variability of the fixings or structural work and precise final adjustment.

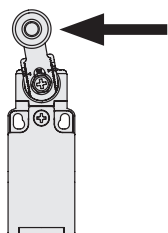
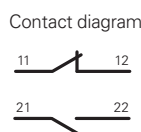
**Adjustable safety lever**


The adjustable lever code 56 (and variants) is provided with a notching that prevents the sliding also in case the fastening screw becomes loose.

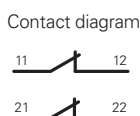
**Operation of contact block 16 with independent contacts**

The contact block 16 is provided with two NC contacts, **both with positive opening**, that can be independently switched depending on the lever turning direction.

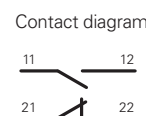
Lever turned to left



Lever not actuated



Lever turned to right


**Extended temperature range**

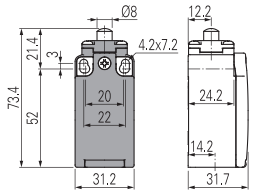
# -40°C

These devices are also available in a special version suitable for an ambient operating temperature range from -40°C up to +80°C. They can therefore be used for applications in cold stores, sterilisers, and other equipment operated in very low-temperature environments. The special materials used to produce these versions retain their characteristics even under these conditions, thereby expanding the installation possibilities.

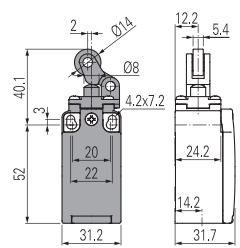
# FR, FX series position switches

Contact type:

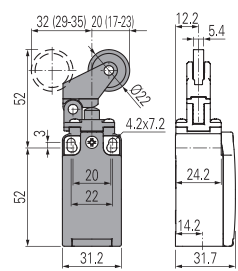
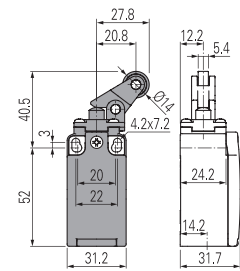
- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent



With stainless steel roller on request



With stainless steel roller on request

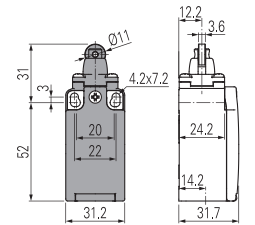


Contact block

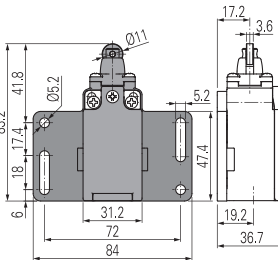
5	<b>R</b>	FR 501-M2	⊕	1NO+1NC	FR 502-M2	⊕	1NO+1NC	FR 505-M2	⊕	1NO+1NC	FR 507-M2	⊕	1NO+1NC
6	<b>L</b>	FR 601-M2	⊕	1NO+1NC	FR 602-M2	⊕	1NO+1NC	FR 605-M2	⊕	1NO+1NC	FR 607-M2	⊕	1NO+1NC
7	<b>LO</b>	FR 701-M2	⊕	1NO+1NC	FR 702-M2	⊕	1NO+1NC	FR 705-M2	⊕	1NO+1NC	FR 707-M2	⊕	1NO+1NC
9	<b>L</b>	FR 901-M2	⊕	2NC	FR 902-M2	⊕	2NC	FR 905-M2	⊕	2NC	FR 907-M2	⊕	2NC
16	<b>LI</b>	/		/	/		/	/		/	/		
20	<b>L</b>	FR 2001-M2	⊕	1NO+2NC	FR 2002-M2	⊕	1NO+2NC	FR 2005-M2	⊕	1NO+2NC	FR 2007-M2	⊕	1NO+2NC
Max. speed		page 155 - type 4		page 155 - type 3		page 155 - type 3		page 155 - type 3		page 155 - type 3			
Actuating force		8 N (25 N ⊕)		6 N (25 N ⊕)		6 N (25 N ⊕)		6 N (25 N ⊕)		4 N (25 N ⊕)			
Travel diagrams		page 156 - group 1a		page 156 - group 2a		page 156 - group 2a		page 156 - group 2a		page 156 - group 3a			

Contact type:

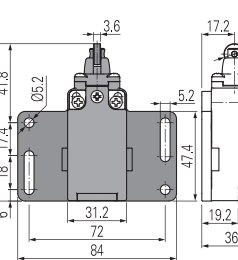
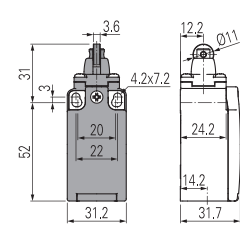
- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent



With Ø 12 mm stainless steel roller on request



With Ø 12 mm stainless steel roller on request

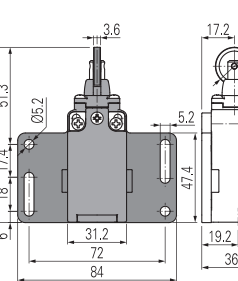
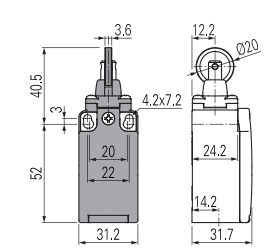
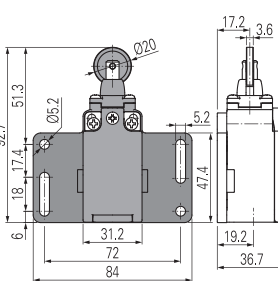
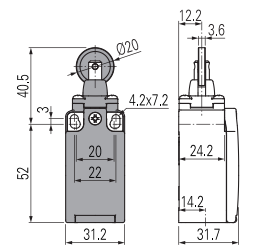


Contact block

5	<b>R</b>	FR 515-M2	⊕	1NO+1NC	FR 515-M2P11	⊕	1NO+1NC	FR 515-H0M2	⊕	1NO+1NC	FR 515-H0M2P11	⊕	1NO+1NC
6	<b>L</b>	FR 615-M2	⊕	1NO+1NC	FR 615-M2P11	⊕	1NO+1NC	FR 615-H0M2	⊕	1NO+1NC	FR 615-H0M2P11	⊕	1NO+1NC
7	<b>LO</b>	FR 715-M2	⊕	1NO+1NC	FR 715-M2P11	⊕	1NO+1NC	FR 715-H0M2	⊕	1NO+1NC	FR 715-H0M2P11	⊕	1NO+1NC
9	<b>L</b>	FR 915-M2	⊕	2NC	FR 915-M2P11	⊕	2NC	FR 915-H0M2	⊕	2NC	FR 915-H0M2P11	⊕	2NC
16	<b>LI</b>	/		/	/		/	/		/	/		
20	<b>L</b>	FR 2015-M2	⊕	1NO+2NC	FR 2015-M2P11	⊕	1NO+2NC	FR 2015-H0M2	⊕	1NO+2NC	FR 2015-H0M2P11	⊕	1NO+2NC
Max. speed		page 155 - type 2		page 155 - type 2		page 155 - type 2		page 155 - type 2		page 155 - type 2			
Actuating force		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)			
Travel diagrams		page 156 - group 1a		page 156 - group 1a		page 156 - group 1a		page 156 - group 1a		page 156 - group 1a			

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent



Contact block

5	<b>R</b>	FR 516-M2	⊕	1NO+1NC	FR 516-M2P11	⊕	1NO+1NC	FR 516-H0M2	⊕	1NO+1NC	FR 516-H0M2P11	⊕	1NO+1NC
6	<b>L</b>	FR 616-M2	⊕	1NO+1NC	FR 616-M2P11	⊕	1NO+1NC	FR 616-H0M2	⊕	1NO+1NC	FR 616-H0M2P11	⊕	1NO+1NC
7	<b>LO</b>	FR 716-M2	⊕	1NO+1NC	FR 716-M2P11	⊕	1NO+1NC	FR 716-H0M2	⊕	1NO+1NC	FR 716-H0M2P11	⊕	1NO+1NC
9	<b>L</b>	FR 916-M2	⊕	2NC	FR 916-M2P11	⊕	2NC	FR 916-H0M2	⊕	2NC	FR 916-H0M2P11	⊕	2NC
16	<b>LI</b>	/		/	/		/	/		/	/		
20	<b>L</b>	FR 2016-M2	⊕	1NO+2NC	FR 2016-M2P11	⊕	1NO+2NC	FR 2016-H0M2	⊕	1NO+2NC	FR 2016-H0M2P11	⊕	1NO+2NC
Max. speed		page 155 - type 2		page 155 - type 2		page 155 - type 2		page 155 - type 2		page 155 - type 2			
Actuating force		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)		8 N (25 N ⊕)			
Travel diagrams		page 156 - group 1a		page 156 - group 1a		page 156 - group 1a		page 156 - group 1a		page 156 - group 1a			

All values in the drawings are in mm

Accessories See page 149

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



Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent

	With Ø 12 mm stainless steel roller on request	With Ø 12 mm stainless steel roller on request	With Ø 12 mm stainless steel roller on request	With Ø 12 mm stainless steel roller on request
Contact block				
5	<b>R</b> FX 515-M2	<b>R</b> FX 515-M2P31	<b>R</b> FX 515-H0M2	<b>R</b> FX 515-H0M2P31
6	<b>L</b> FX 615-M2	<b>L</b> FX 615-M2P31	<b>L</b> FX 615-H0M2	<b>L</b> FX 615-H0M2P31
7	<b>LO</b> FX 715-M2	<b>LO</b> FX 715-M2P31	<b>LO</b> FX 715-H0M2	<b>LO</b> FX 715-H0M2P31
9	<b>L</b> FX 915-M2	<b>L</b> FX 915-M2P31	<b>L</b> FX 915-H0M2	<b>L</b> FX 915-H0M2P31
16	<b>LI</b> /	/	/	/
20	<b>L</b> FX 2015-M2	<b>L</b> FX 2015-M2P31	<b>L</b> FX 2015-H0M2	<b>L</b> FX 2015-H0M2P31
Max. speed	page 155 - type 2			
Actuating force	8 N (25 N)			
Travel diagrams	page 156 - group 1a			

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent

	With Ø 12 mm stainless steel roller on request	With Ø 12 mm stainless steel roller on request	With Ø 12 mm stainless steel roller on request	With Ø 12 mm stainless steel roller on request
Contact block				
5	<b>R</b> FX 516-M2	<b>R</b> FX 516-M2P31	<b>R</b> FX 516-H0M2	<b>R</b> FX 516-H0M2P31
6	<b>L</b> FX 616-M2	<b>L</b> FX 616-M2P31	<b>L</b> FX 616-H0M2	<b>L</b> FX 616-H0M2P31
7	<b>LO</b> FX 716-M2	<b>LO</b> FX 716-M2P31	<b>LO</b> FX 716-H0M2	<b>LO</b> FX 716-H0M2P31
9	<b>L</b> FX 916-M2	<b>L</b> FX 916-M2P31	<b>L</b> FX 916-H0M2	<b>L</b> FX 916-H0M2P31
16	<b>LI</b> /	/	/	/
20	<b>L</b> FX 2016-M2	<b>L</b> FX 2016-M2P31	<b>L</b> FX 2016-H0M2	<b>L</b> FX 2016-H0M2P31
Max. speed	page 155 - type 2			
Actuating force	8 N (25 N)			
Travel diagrams	page 156 - group 1a			

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent

	With Ø 20 mm stainless steel roller on request	Other rollers available. See page 20	Other rollers available. See page 20	Other rollers available. See page 20
Contact block				
5	<b>R</b> FR 530-M2	<b>R</b> FR 531-M2	<b>R</b> FR 551-M2	<b>R</b> FR 552-M2
6	<b>L</b> FR 630-M2	<b>L</b> FR 631-M2	<b>L</b> FR 651-M2	<b>L</b> FR 652-M2
7	<b>LO</b> FR 730-M2	<b>LO</b> FR 731-M2	<b>LO</b> FR 751-M2	<b>LO</b> FR 752-M2
9	<b>L</b> FR 930-M2	<b>L</b> FR 931-M2	<b>L</b> FR 951-M2	<b>L</b> FR 952-M2
16	<b>LI</b> FR 1630-M2	<b>LI</b> FR 1631-M2	<b>LI</b> FR 1651-M2	<b>LI</b> FR 1652-M2
20	<b>L</b> FR 2030-M2	<b>L</b> FR 2031-M2	<b>L</b> FR 2051-M2	<b>L</b> FR 2052-M2
Max. speed	page 155 - type 1			
Actuating force	0.06 Nm (0.25 Nm)			
Travel diagrams	page 156 - group 4a			

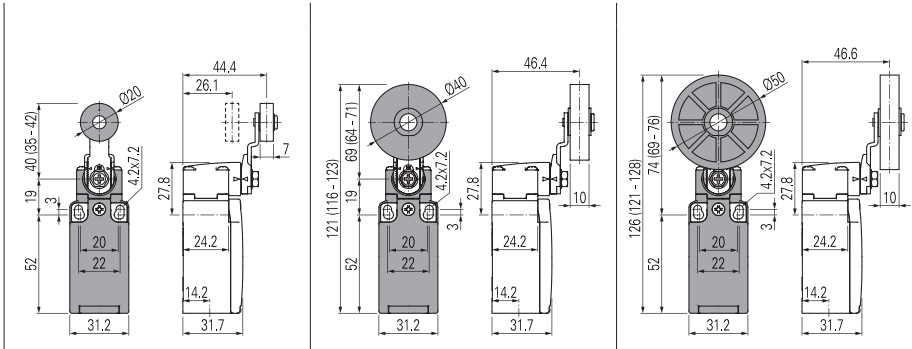
All values in the drawings are in mm

Accessories See page 149

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

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent

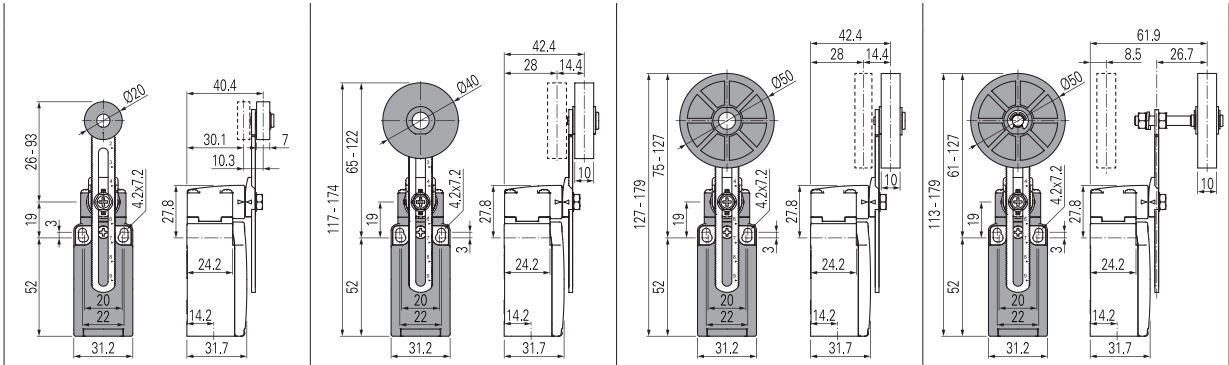


Contact block

5	<b>R</b>	FR 554-M2	⊕	1NO+1NC	FR 554-M2R5	⊕	1NO+1NC	FR 554-M2R26	⊕	1NO+1NC
6	<b>L</b>	FR 654-M2	⊕	1NO+1NC	FR 654-M2R5	⊕	1NO+1NC	FR 654-M2R26	⊕	1NO+1NC
7	<b>LO</b>	FR 754-M2	⊕	1NO+1NC	FR 754-M2R5	⊕	1NO+1NC	FR 754-M2R26	⊕	1NO+1NC
9	<b>L</b>	FR 954-M2	⊕	2NC	FR 954-M2R5	⊕	2NC	FR 954-M2R26	⊕	2NC
16	<b>LI</b>	FR 1654-M2	⊕	2NC	FR 1654-M2R5	⊕	2NC	FR 1654-M2R26	⊕	2NC
20	<b>L</b>	FR 2054-M2	⊕	1NO+2NC	FR 2054-M2R5	⊕	1NO+2NC	FR 2054-M2R26	⊕	1NO+2NC
Max. speed	page 155 - type 1		page 155 - type 1		page 155 - type 1		page 155 - type 1		page 155 - type 1	
Actuating 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 ⊕)		0.06 Nm (0.25 Nm ⊕)	
Travel diagrams	page 156 - group 4a		page 156 - group 4a		page 156 - group 4a		page 156 - group 4a		page 156 - group 4a	

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action, make before break
- LI** = slow action, independent



Contact block

5	<b>R</b>	FR 556-M2	⊕	1NO+1NC	FR 556-M2R5	⊕	1NO+1NC	FR 556-M2R26	⊕	1NO+1NC	FR 556-M2R27	⊕	1NO+1NC
6	<b>L</b>	FR 656-M2	⊕	1NO+1NC	FR 656-M2R5	⊕	1NO+1NC	FR 656-M2R26	⊕	1NO+1NC	FR 656-M2R27	⊕	1NO+1NC
7	<b>LO</b>	FR 756-M2	⊕	1NO+1NC	FR 756-M2R5	⊕	1NO+1NC	FR 756-M2R26	⊕	1NO+1NC	FR 756-M2R27	⊕	1NO+1NC
9	<b>L</b>	FR 956-M2	⊕	2NC	FR 956-M2R5	⊕	2NC	FR 956-M2R26	⊕	2NC	FR 956-M2R27	⊕	2NC
16	<b>LI</b>	FR 1656-M2	⊕	2NC	FR 1656-M2R5	⊕	2NC	FR 1656-M2R26	⊕	2NC	FR 1656-M2R27	⊕	2NC
20	<b>L</b>	FR 2056-M2	⊕	1NO+2NC	FR 2056-M2R5	⊕	1NO+2NC	FR 2056-M2R26	⊕	1NO+2NC	FR 2056-M2R27	⊕	1NO+2NC
Max. speed	page 155 - type 1		page 155 - type 1		page 155 - type 1		page 155 - type 1		page 155 - type 1		page 155 - type 1		
Actuating 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 ⊕)		0.06 Nm (0.25 Nm ⊕)		0.06 Nm (0.25 Nm ⊕)		
Travel diagrams	page 156 - group 4a		page 156 - group 4a		page 156 - group 4a		page 156 - group 4a		page 156 - group 4a		page 156 - group 4a		

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

All values in the drawings are in mm

Accessories See page 149

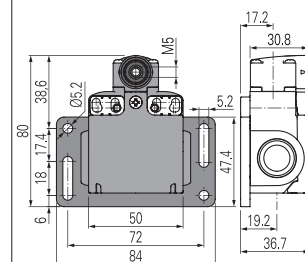
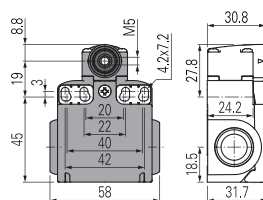
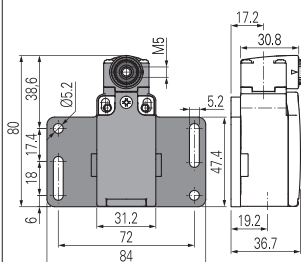
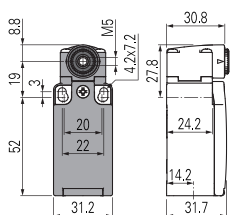
→ The 2D and 3D files are available at [www.pizzato.com](http://www.pizzato.com)



## Position switches with swivelling lever without actuator

Contact type:

- R** = snap action  
**L** = slow action  
**LO** = slow action, make before break  
**LI** = slow action, independent



Contact block

5	<b>R</b>	FR 538-M2	➔	1NO+1NC	FR 538-M2P11	➔	1NO+1NC	FX 538-M2	➔	1NO+1NC	FX 538-M2P31	➔	1NO+1NC
6	<b>L</b>	FR 638-M2	➔	1NO+1NC	FR 638-M2P11	➔	1NO+1NC	FX 638-M2	➔	1NO+1NC	FX 638-M2P31	➔	1NO+1NC
7	<b>LO</b>	FR 738-M2	➔	1NO+1NC	FR 738-M2P11	➔	1NO+1NC	FX 738-M2	➔	1NO+1NC	FX 738-M2P31	➔	1NO+1NC
9	<b>L</b>	FR 938-M2	➔	2NC	FR 938-M2P11	➔	2NC	FX 938-M2	➔	2NC	FX 938-M2P31	➔	2NC
16	<b>LI</b>	FR 1638-M2	➔	2NC	FR 1638-M2P11	➔	2NC	FX 1638-M2	➔	2NC	FX 1638-M2P31	➔	2NC
20	<b>L</b>	FR 2038-M2	➔	1NO+2NC	FR 2038-M2P11	➔	1NO+2NC	FX 2038-M2	➔	1NO+2NC	FX 2038-M2P31	➔	1NO+2NC
Actuating 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 156 - group 4a			page 156 - group 4a			page 156 - group 4a			page 156 - group 4a		

### IMPORTANT

**For safety applications:** join only switches and actuators marked with symbol ➔ next to the product code.

For more information about safety applications see details on page 153.

## Special separate actuators

IMPORTANT: These separate actuators can be used only with items of the FR, FX series.

### Rubber rollers, Ø 40 mm

VN A00KB-R5 ➔ <sup>(1)</sup>	VN A00KE-R5 ➔ <sup>(1)</sup>	VN A00KF-R5 ➔ <sup>(1)</sup>	VN A00KG-R5 ➔ <sup>(1)</sup>	VN A00KH-R5 ➔ <sup>(1)</sup>	VN A00KP-R5 ➔ <sup>(1)</sup>

### Rubber rollers, Ø 50 mm

VN A00KE-R26 ➔ <sup>(1)</sup>	VN A00KF-R26 ➔ <sup>(1)</sup>	VN A00KG-R26 ➔ <sup>(1)</sup>	VN A00KH-R26 ➔ <sup>(1)</sup>

### Protruding rubber rollers, Ø 50 mm

VN A00KP-R27 ➔ <sup>(1)</sup>

- <sup>(1)</sup> The actuator cannot be rotated to the inside because it will hit the switch head upon actuation.

**Note:** To check the correspondence with previous lever codes, please consult the table "Changed article codes" on page 171. Example: VF LE31-R5 -> VN A00KB-R5.