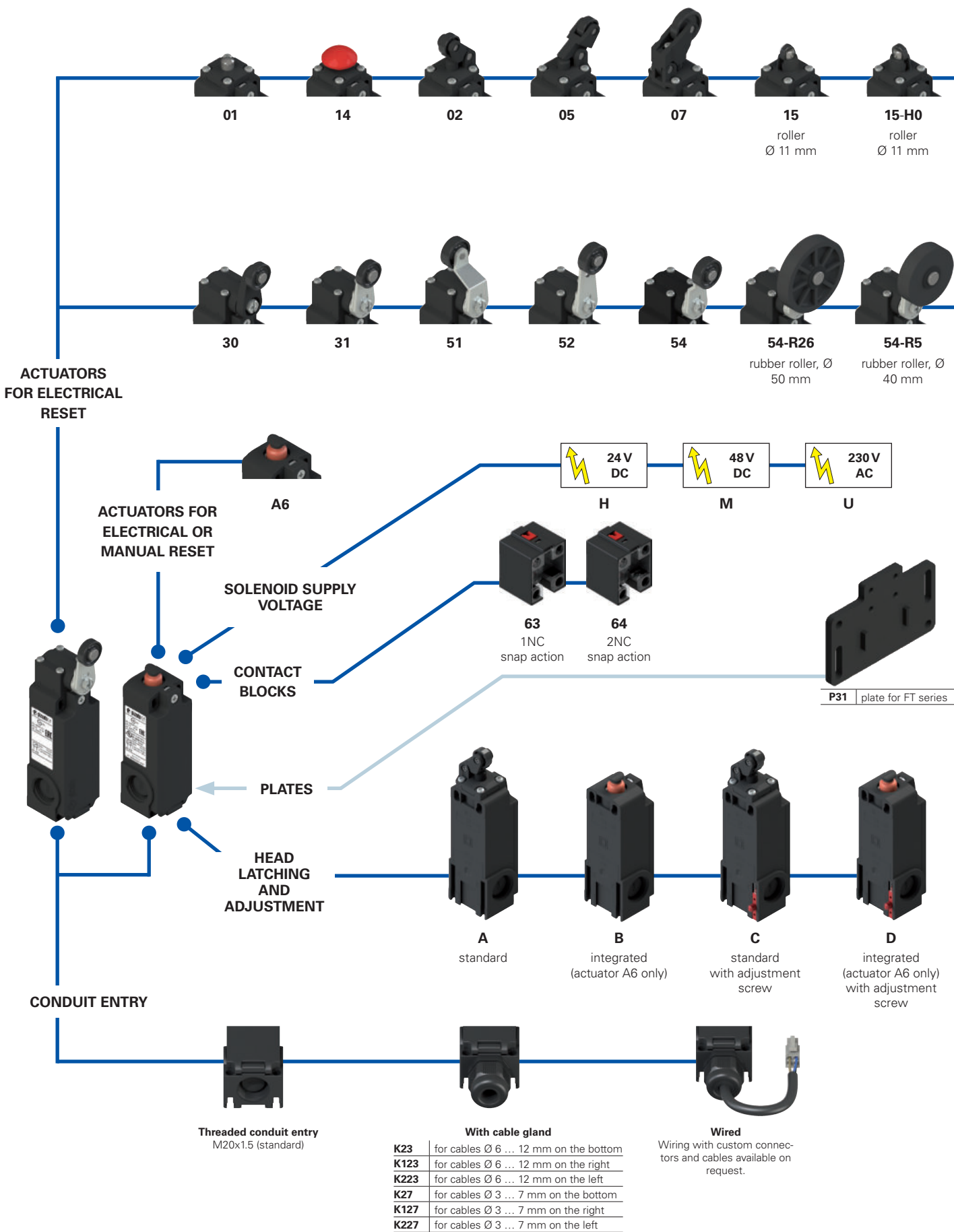


Selection diagram



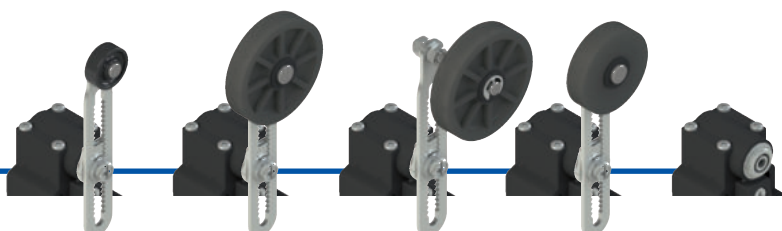


16
roller
Ø 20 mm

16-H0
roller
Ø 20 mm

12

13



56

56-R26
adjustable safety
lever with rubber
roller, Ø 50 mm

56-R27
adjustable safety
lever with rubber
roller, Ø 50 mm,
protruding

56-R5
adjustable safety
lever with rubber
roller, Ø 40 mm

38

**SEPARATE
ACTUATORS**
See page 45



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
FT 2A6454AH-E27GK23P31T9R26

Housing

FT technopolymer, three conduit entries

Head latching and adjustment

| | |
|----------|---|
| A | standard |
| B | integrated (actuator A6 only) |
| C | standard with adjustment screw |
| D | integrated (actuator A6 only) with adjustment screw |

Contact blocks

| | |
|-----------|------------------|
| 63 | 1NC, snap action |
| 64 | 2NC, snap action |

Actuators

| | |
|-----------|-------------------------------------|
| A6 | plunger with catch for manual reset |
| 01 | short plunger |
| 02 | roller lever |
| 05 | angled lever with roller |
| ... | |

Solenoid supply voltage

| | |
|----------|--|
| H | 24 Vdc 4.2 A (100 W) |
| M | 48 Vdc 2.1 A (100 W) |
| U | 230 Vac 0.5 A (115 W) |
| K | 48 Vdc 0.75 A (36 W) (only with reduced actuating force E28) |
| J | 24 Vdc 1.5 A (36 W) (only with reduced actuating force E28) |

Rollers

| | |
|------------|------------------------------------|
| | standard roller |
| R5 | rubber roller, Ø 40 mm |
| R26 | rubber roller, Ø 50 mm |
| R27 | rubber roller, protruding, Ø 50 mm |

Ambient temperature

| | |
|-----------|----------------------------|
| | -25°C ... +50°C (standard) |
| T9 | -40°C ... +50°C |

Fixing plates

| | |
|------------|--------------------------|
| | without plate (standard) |
| P31 | with VF SFP3 plate |

Pre-installed cable glands

| | |
|------------|--------------------------|
| K23 | for cables Ø 6 ... 12 mm |
| K27 | for cables Ø 3 ... 7 mm |

For the complete list of possible combinations please contact our sales department

Contact type

| | |
|-----------|--|
| | silver contacts (standard) |
| G | silver contacts with 1 µm gold coating |
| G1 | silver contacts with 2.5 µm gold coating |

Actuating force

| | |
|------------|--------------------------|
| E27 | standard actuating force |
| E26 | reduced actuating force |
| E28 | reduced actuating force |



Main features

- Versions with different actuating forces
- Versions with system for adjustment of the switching point
- Technopolymer housing, three knock-out conduit entries
- Protection degree IP67


Quality marks:



UL approval: E131787
EAC approval: RU C-IT.AD35.B.00454

Technical data

Housing

Housing made of glass fibre reinforced technopolymer, self-extinguishing, shock-proof and with double insulation: 
Three knock-out threaded conduit entries: M20x1.5
Protection degree acc. to EN 60529: IP67 with cable gland of equal or higher protection degree

General data

Ambient temperature: -25°C ... +50°C
-40°C ... +50°C (T9 option)
Mechanical endurance: 50,000 operating cycles
Mounting position: any
Safety parameter B_{10D}: 100.000 for NC contacts
Mechanical interlock, not coded: type 1 acc. to EN ISO 14119
Tightening torques for installation: see page 141
Wire cross-sections and wire stripping lengths: see page 153

Solenoid

Operating voltage (U_e) and current (I_e):
24 Vdc ±10%; 4.2 A (100 W)
24 Vdc ±10%; 1.5 A (36 W)
48 Vdc ±10%; 2.1 A (100 W)
48 Vdc ±10%; 0.75 A (36 W)
230 Vdc ±10%; 0.5 A (115 W)
Solenoid protection 24 Vdc (4.2 A): Type F fuse 5 A
Solenoid protection 24 Vdc (1.5 A): Type F fuse 2 A
Solenoid protection 48 Vdc (2.1 A): Type F fuse 2.5 A
Solenoid protection 48 Vdc (0.75 A): Type F fuse 1 A
Solenoid protection 230 Vac (0.5 A): Type F fuse 0.8 A
Power supply time: minimum 0.2 s, maximum 0.5 s
Time without power supply: minimum 30 s
Max. operating frequency: 118 operating cycles/hour

In compliance with standards:

EN 60947-5-1, IEC 60947-5-1, EN IEC 63000, EN 81-20, EN 81-50, UL 508, CSA 22.2 No. 14


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  next to the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as 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 142. 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 139 to 146.**

Electrical data

Utilization category

Thermal current (I_{th}): 10 A
Rated insulation voltage (U_i): 500 Vac 600 Vdc
Rated impulse withstand voltage (U_{imp}): 6 kV
Conditional short circuit current: 1000 A acc. to EN 60947-5-1
Protection against short circuits: type aM fuse 10 A 500 V
Pollution degree: 3

Alternating current: AC15 (50 ... 60 Hz)
U_e (V) 250 400 500
I_e (A) 6 4 1
Direct current: DC13
U_e (V) 24 125 250
I_e (A) 3 0.55 0.3

Features approved by UL

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

Environmental Ratings: Types 1, 4X, 12, 13

For all contact blocks 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.

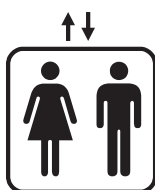
Please contact our technical department for the list of approved products.

Introduction



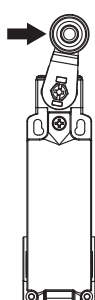
The FT series safety switches with reset retain their switching state when operated: their reset occurs electrically through the integrated solenoid. Thanks to this special feature, the switch can be remotely reset without having to go physically near it. Available with multiple actuators, they are able to adapt to a wide variety of applications, particularly in the area of lifts, speed limiters and, more generally, in the world of security. Some models may also be manually reset.

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.
- All switches meet requirements laid down by the new standards for safety contacts

Reduced actuating force (E26/E28)



FT series switches can be supplied with reduced actuating force on request:

| Actuator | Force |
|----------------------------|---------------------|
| A6 | 3.5 N (25 N ⊖) |
| 01, 12, 13, 14, 15, 16 | 5.5 N (25 N ⊖) |
| 02, 05 | 3.6 N (25 N ⊖) |
| 07 | 2.1 N (25 N ⊖) |
| 30, 31, 38, 51, 52, 54, 56 | 0.06 Nm (0.25 Nm ⊖) |

Protection degree IP67

IP67

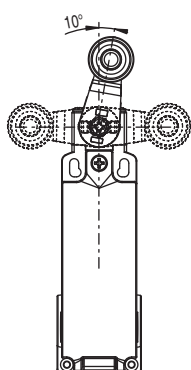
All switches of these series have protection degree IP67.

Adjustable safety lever



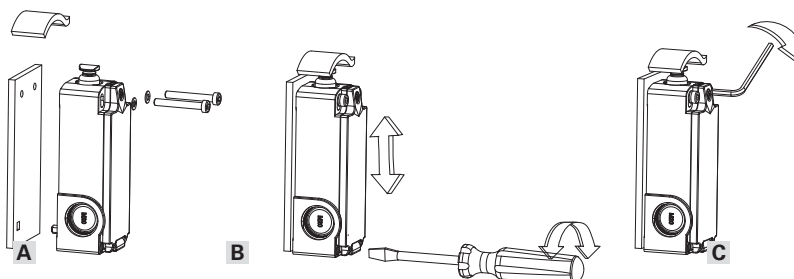
The adjustable lever code 56 (and variants) is provided with a notching that prevents the sliding also in case the fastening screw becomes loose.

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.

Versions with adjustment system (housings C, D, E, F)



Pizzato Elettrica introduces a new adjustment system, built into the switch, designed specifically for speed limiter applications.

This system allows very fine and sensitive adjustment of the switch position along the vertical axis.

Features:

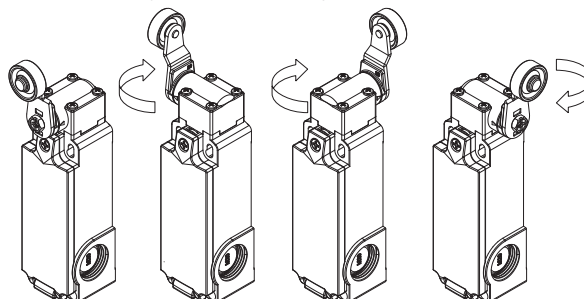
- ease of installation and adjustment;
- ability to carry out highly precise vertical adjustment;
- broad adjustment range (up to 4mm);
- captive elements.

Operation:

- Make a hole in the switch fixing plate, for insertion of the adjustment pin on the back of the switch itself. Insert switch to speed limiter, without obstructing the two fixing screws.
- Adjust the position of the switch, using the screw on the front.
- Finally, secure the switch body to the speed limiter.

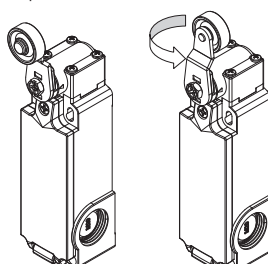
Head with variable orientation

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



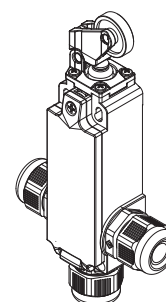
Reversible levers

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.



Cable outlets

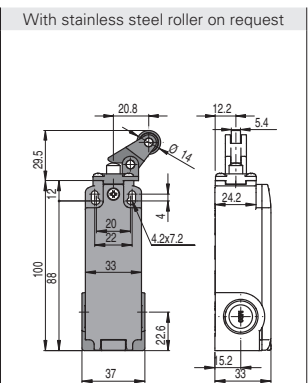
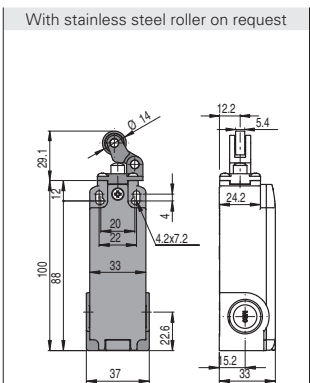
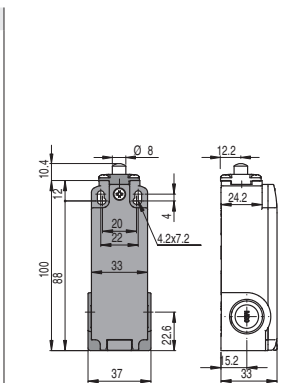
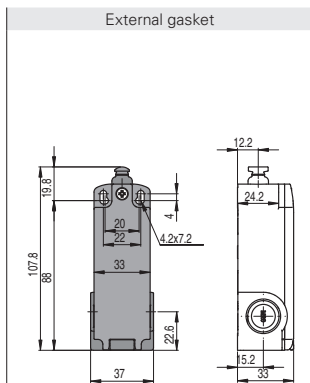
Switches available with cable outlets in various directions, for use in the most confined of spaces.



FT series switches with electrical reset

Contact type:

R = snap action

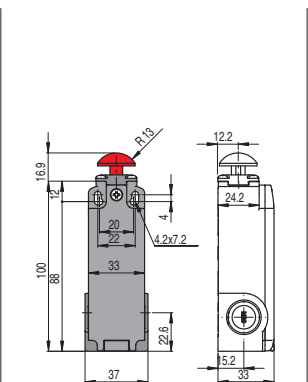
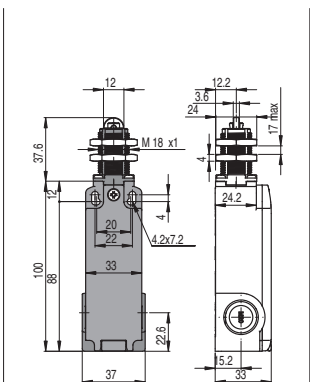
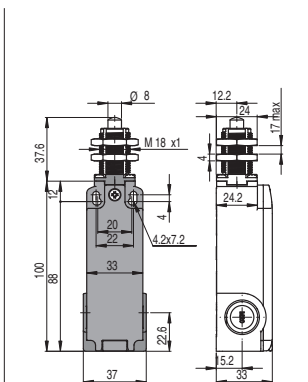
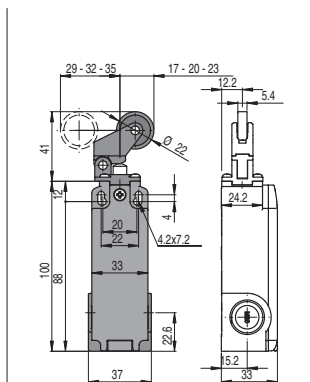


Contact blocks

| | | | | | | | | | | | | | |
|-----------------|----------|---------------------|---|-----|---------------------|---|-----|---------------------|---|-----|---------------------|---|-----|
| 63 | R | FT 2B63A6AH-E27 | ➔ | 1NC | FT 2A6301AH-E27 | ➔ | 1NC | FT 2A6302AH-E27 | ➔ | 1NC | FT 2A6305AH-E27 | ➔ | 1NC |
| 64 | R | FT 2B64A6AH-E27 | ➔ | 2NC | FT 2A6401AH-E27 | ➔ | 2NC | FT 2A6402AH-E27 | ➔ | 2NC | FT 2A6405AH-E27 | ➔ | 2NC |
| Max. speed | | page 141 - type 4 | | | page 141 - type 4 | | | page 141 - type 3 | | | page 141 - type 3 | | |
| Actuating force | | 5 N (25 N ➔) | | | 6 N (25 N ➔) | | | 5 N (25 N ➔) | | | 5 N (25 N ➔) | | |
| Travel diagrams | | page 142 - group 1d | | | page 142 - group 2d | | | page 142 - group 3d | | | page 142 - group 3d | | |

Contact type:

R = snap action

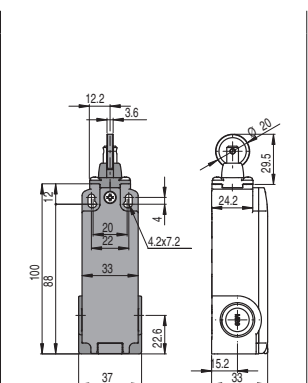
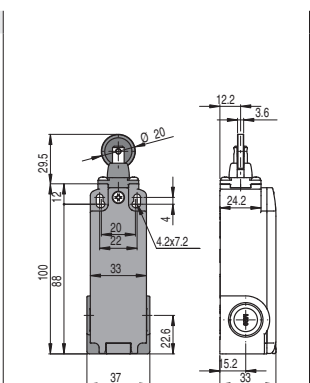
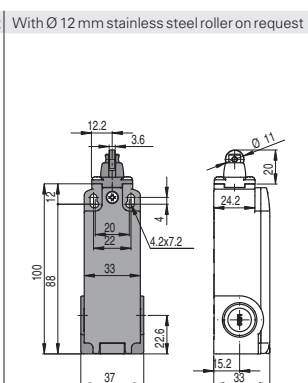
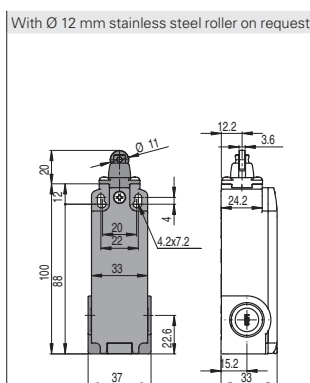


Contact blocks

| | | | | | | | | | | | | | |
|-----------------|----------|---------------------|---|-----|---------------------|---|-----|---------------------|---|-----|---------------------|---|-----|
| 63 | R | FT 2A6307AH-E27 | ➔ | 1NC | FT 2A6312AH-E27 | ➔ | 1NC | FT 2A6313AH-E27 | ➔ | 1NC | FT 2A6314AH-E27 | ➔ | 1NC |
| 64 | R | FT 2A6407AH-E27 | ➔ | 2NC | FT 2A6412AH-E27 | ➔ | 2NC | FT 2A6413AH-E27 | ➔ | 2NC | FT 2A6414AH-E27 | ➔ | 2NC |
| Max. speed | | page 141 - type 3 | | | page 141 - type 4 | | | page 141 - type 2 | | | page 141 - type 4 | | |
| Actuating force | | 3 N (25 N ➔) | | | 6 N (25 N ➔) | | | 6 N (25 N ➔) | | | 6 N (25 N ➔) | | |
| Travel diagrams | | page 142 - group 4d | | | page 142 - group 2d | | | page 142 - group 2d | | | page 142 - group 2d | | |

Contact type:

R = snap action



Contact blocks

| | | | | | | | | | | | | | |
|-----------------|----------|---------------------|---|-----|---------------------|---|-----|---------------------|---|-----|---------------------|---|-----|
| 63 | R | FT 2A6315AH-E27 | ➔ | 1NC | FT 2A6315AH-E27H0 | ➔ | 1NC | FT 2A6316AH-E27 | ➔ | 1NC | FT 2A6316AH-E27H0 | ➔ | 1NC |
| 64 | R | FT 2A6415AH-E27 | ➔ | 2NC | FT 2A6415AH-E27H0 | ➔ | 2NC | FT 2A6416AH-E27 | ➔ | 2NC | FT 2A6416AH-E27H0 | ➔ | 2NC |
| Max. speed | | page 141 - type 2 | | | page 141 - type 2 | | | page 141 - type 2 | | | page 141 - type 2 | | |
| Actuating force | | 6 N (25 N ➔) | | | 6 N (25 N ➔) | | | 6 N (25 N ➔) | | | 6 N (25 N ➔) | | |
| Travel diagrams | | page 142 - group 2d | | | page 142 - group 2d | | | page 142 - group 2d | | | page 142 - group 2d | | |

All values in the drawings are in mm

Accessories See page 135

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



| | | | | |
|---|--|--------------------------------------|--------------------------------------|--------------------------------------|
| Contact type: R = snap action | With $\varnothing 20$ mm stainless steel roller on request | Other rollers available. See page 45 | Other rollers available. See page 45 | Other rollers available. See page 45 |
| | | | | |
| Contact blocks | | | | |
| 63 R | FT 2A6330AH-E27 \rightarrow 1NC | FT 2A6331AH-E27 \rightarrow 1NC | FT 2A6351AH-E27 \rightarrow 1NC | FT 2A6352AH-E27 \rightarrow 1NC |
| 64 R | FT 2A6430AH-E27 \rightarrow 2NC | FT 2A6431AH-E27 \rightarrow 2NC | FT 2A6451AH-E27 \rightarrow 2NC | FT 2A6452AH-E27 \rightarrow 2NC |
| Max. speed | page 141 - type 1 | page 141 - type 1 | page 141 - type 1 | page 141 - type 1 |
| Actuating force | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) |
| Travel diagrams | page 142 - group 5d | page 142 - group 5d | page 142 - group 5d | page 142 - group 5d |

| | | | |
|---|-----------------------------------|--------------------------------------|-------------------------------------|
| Contact type: R = snap action | | | |
| Contact blocks | | | |
| 63 R | FT 2A6354AH-E27 \rightarrow 1NC | FT 2A6354AH-E27R26 \rightarrow 1NC | FT 2A6354AH-E27R5 \rightarrow 1NC |
| 64 R | FT 2A6454AH-E27 \rightarrow 2NC | FT 2A6454AH-E27R26 \rightarrow 2NC | FT 2A6454AH-E27R5 \rightarrow 2NC |
| Max. speed | page 141 - type 1 | page 141 - type 1 | page 141 - type 1 |
| Actuating force | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) |
| Travel diagrams | page 142 - group 5d | page 142 - group 5d | page 142 - group 5d |

| | | | | |
|---|-----------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|
| Contact type: R = snap action | | | | |
| Contact blocks | | | | |
| 63 R | FT 2A6356AH-E27 \rightarrow 1NC | FT 2A6356AH-E27R26 \rightarrow 1NC | FT 2A6356AH-E27R27 \rightarrow 1NC | FT 2A6356AH-E27R5 \rightarrow 1NC |
| 64 R | FT 2A6456AH-E27 \rightarrow 2NC | FT 2A6456AH-E27R26 \rightarrow 2NC | FT 2A6456AH-E27R27 \rightarrow 2NC | FT 2A6456AH-E27R5 \rightarrow 2NC |
| Max. speed | page 141 - type 1 | page 141 - type 1 | page 141 - type 1 | page 141 - type 1 |
| Actuating force | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) | 0.08 Nm (0.25 Nm \rightarrow) |
| Travel diagrams | page 142 - group 5d | page 142 - group 5d | page 142 - group 5d | page 142 - group 5d |

All values in the drawings are in mm

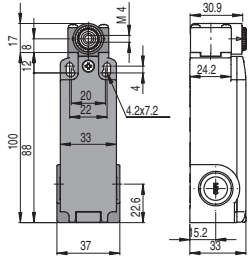
Accessories See page 135

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

Position switches with swivelling lever without actuator

Contact type:

R = snap action



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 139.

Contact blocks

| | | | | |
|-----------------|----------|---------------------|---|-----|
| 63 | R | FT 2A6338AH-E27 | ⊕ | 1NC |
| 64 | R | FT 2A6438AH-E27 | ⊕ | 2NC |
| Actuating force | | 0.08 Nm (0.25 Nm) ⊕ | | |
| Travel diagrams | | page 142 - group 5d | | |

Special separate actuators

IMPORTANT: These separate actuators can be used only with items of the FT series.

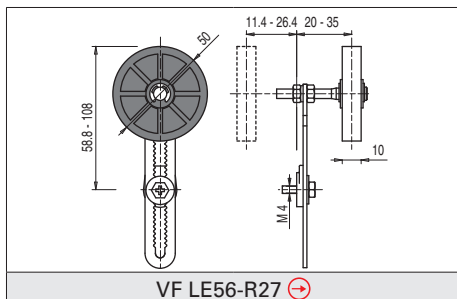
Rubber rollers, Ø 40 mm

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

Rubber rollers, Ø 50 mm

| | | | | |
|-------------------|-------------------|-------------------|---------------|-------------------|
| | | | | |
| VF LE51-R26 ⊕ (4) | VF LE52-R26 ⊕ (4) | VF LE54-R26 ⊕ (4) | VF LE56-R26 ⊕ | VF LE57-R26 ⊕ (4) |

Protruding rubber rollers, Ø 50 mm



(4) The actuator cannot be rotated to the inside because it will hit the switch head upon actuation.