



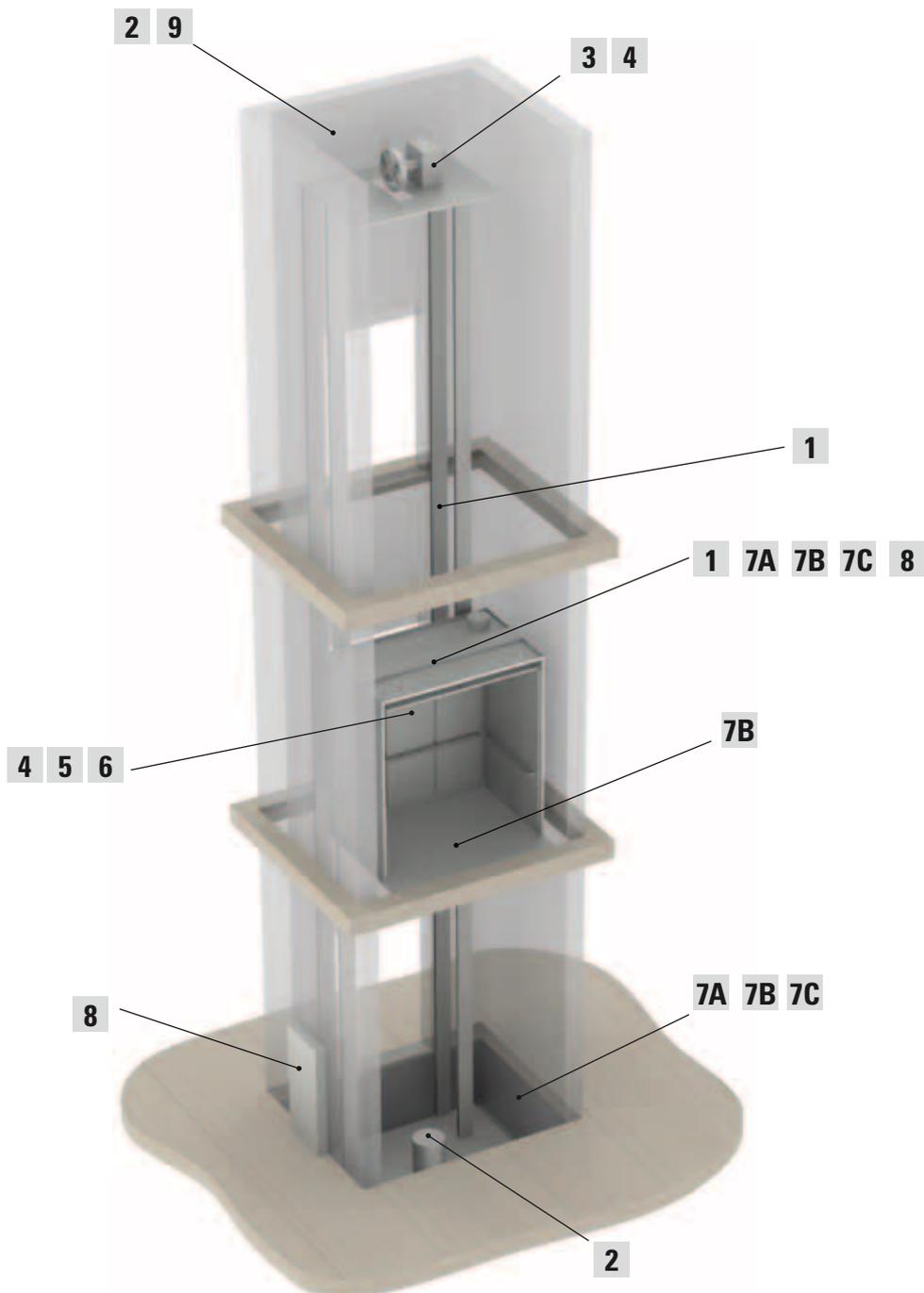
Presentation



Pizzato Elettrica position switches are used since many years in lift sector, due to their reliability and quality/price ratio. Some of the items presented here have been selected by the most important multinationals lift companies as first choice products and therefore used worldwide. The range of traditional position switches which could be used in the lift sector is very wide and therefore on next pages there are indicated only some Pizzato Elettrica products, selected from the ones which are usually used in this sector. The company in any case is able to offer other types of switches or special versions to satisfy customer requirements.

Pizzato Elettrica has also developed some products specifically for the lift sector, like switches for over-speed devices or automatic floor levelling operation devices.

All the products shown in this catalogue are produced completely by the company Pizzato Elettrica with the passion for the quality which distinguish the company.



1A Position switches



page 13

1B Position switches



page 21

2 Switches with manual reset



page 29

3 Switches for over-speed devices with manual reset



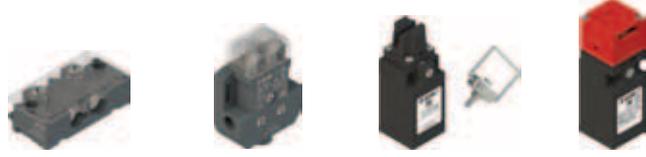
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4 Switches with electrical reset



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5 Door switches



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6 Operators switches MK series



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7A EL AC control stations



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7B EL AN control stations



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7C EL AD control stations



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8 Automatic floor levelling op. safety modules



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9 Signalling switches



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10 Appendix

Accessories ▶ 127

11 Switches utilization requirements ▶ 131
 Alphanumeric index ▶ 139
 General terms and conditions of sale ▶ 141



MORE THAN 200 PROFESSIONALS WITH PASSION

It is people, with their professionalism and dedication that make a great company. This profound conviction has always guided Pizzato Elettrica in its choice of employees and partners. Today, Giuseppe and Marco Pizzato lead a tireless team providing the fastest and most efficient response to the demands of the market. This team has grown since the year 2000 and has achieved a considerable increase in business in all the countries where Pizzato Elettrica is present.

The various strategic sectors of the business are headed by professionals with significant experience and expertise. Many of these people have developed over years with the company. Others are experts in their specific field and have integrated personal experience with the Pizzato Elettrica ethos to extend the company's capability and knowledge.



From the design office to the technical assistance department, from managers to workers, every employee believes in the company and its future. Pizzato Elettrica employees all give the best of themselves secure in the knowledge they are the fundamental elements of a highly valuable enterprise.



100% MADE IN ITALY

Pizzato Elettrica is one of the leading European manufacturers of position switches, microswitches, safety devices, safety modules, foot switches, control and signalling devices, and devices for elevators.

An entrepreneurial company such as Pizzato Elettrica bases its foundations on a solid and widely shared value system. The pillars that form the basis of the company's work have remained constant, and constitute the fundamental guiding principles for all company activities.

PASSION FOR QUALITY

Passion for product quality, orientation towards excellence, innovation, and continuous development, represent the key principles of Pizzato Elettrica's everyday work.

Anyone using Pizzato Elettrica's products does so in the certainty that these devices are of certified quality, since they are the result of a process that is scrupulously controlled at every stage of the production.

The company's goal is to offer the market safe, reliable, and innovative solutions.

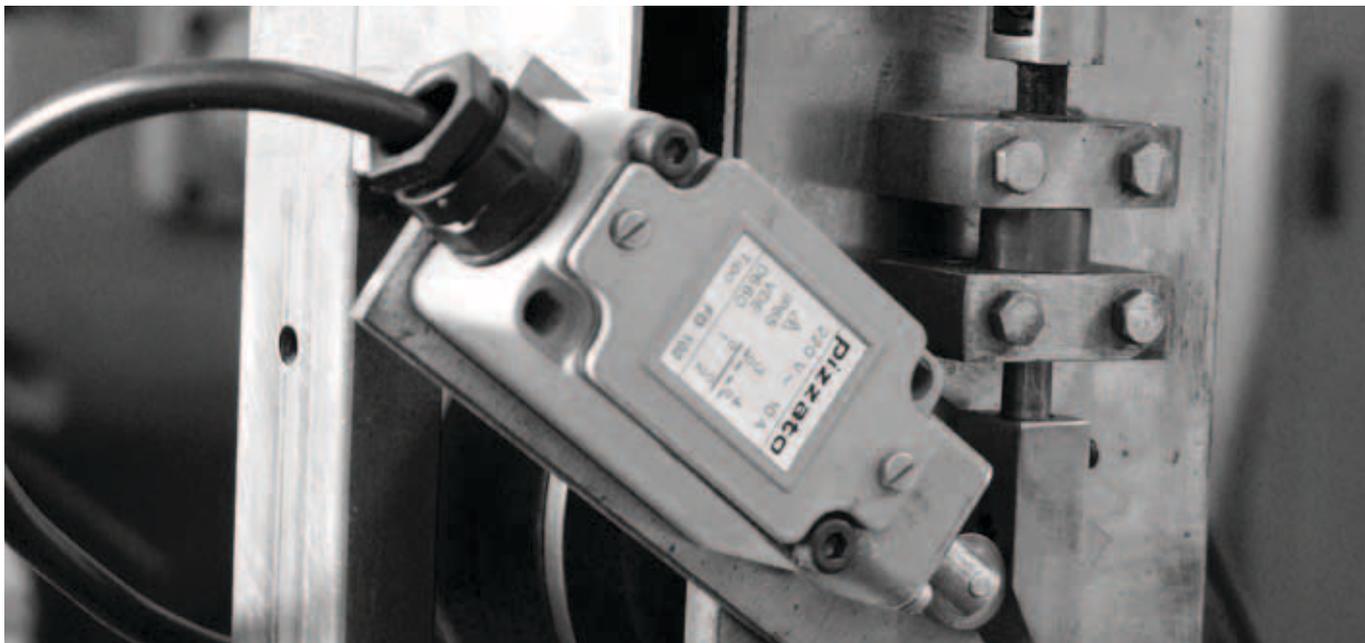
CARE FOR THE CUSTOMER

In order to be successful, a product must respond to the specific needs of those who will use it. Market developments must be carefully monitored in order to understand, in advance, which new applications will prove themselves truly useful. This is why Pizzato Elettrica has always cultivated close synergies with the companies that have chosen them as a supplier, using this continuous dialogue to identify the potential developments of the own product range in order to make it highly flexible, complete and capable to respond to the most diverse needs.

100% MADE IN ITALY

All Pizzato Elettrica products are designed, developed, and tested entirely at the 7 company plants in Marostica, in the province of Vicenza in Italy. The company is thus able to meet specific customer requirements at all times, by offering a comprehensive range of products and technologically advanced solutions.





1984: AN ENTREPRENEURIAL STORY BEGINS

1984

The company Pizzato di Pizzato B. & C. snc. manufacturer of position switches is founded.

1988

The company becomes a limited liability partnership, and is renamed Pizzato Elettrica, a brand shortly destined to become renowned and valued nationwide. Also in the year 1988, the first company-owned plant geared towards mechanical processing was built. By the end of the decade, thanks to the development of quality products and the experience built on the Italian market, Pizzato Elettrica turns to the international market.

1995

Building of the second plant geared towards the moulding of plastic materials. Development of the position switch range continues in parallel. Start of significant years in terms of safety devices planning. The safety sector becomes a key sector to the company.

1998

Construction of the third plant, housing the assembly department.

2002

New millennium starts with quality certifications: achievement of the ISO 9001:2000 certification. Launching of the first safety modules. Construction of the new headquarters and logistics site; currently the company head office. Continued expansion of the industrial safety and automation product range.

2007

Pizzato Elettrica faces their first generational change: Giuseppe and Marco Pizzato take over the company directorship.

2010

Extension of Pizzato Elettrica product portfolio, with the launch of the innovative EROUND line consisting of control and signalling devices. This product range accompanies position switches and safety devices, thus offering complete solutions to customers.

2012

Introduction of Gemnis Studio, the first software produced by Pizzato Elettrica. A graphic development environment for the creation, simulation, and debugging of programs that can be integrated in the Gemnis line modules.

2013

Foundation of first subsidiary of Pizzato Elettrica, Pizzato Deutschland GmbH, in Germany.

2014

A new production facility dedicated to switches and automatic machines is opened, spanning a surface area of 6000 m².

2016

Foundation of second subsidiary of Pizzato Elettrica, Pizzato France SARL, in France.

The new NS series of safety switches with electromagnets and RFID technology is introduced, fruit of the company's experience, spanning more than thirty years in the field of industrial safety. To date it is the state of the art in its industry.

2017

The company continues to expand and now includes an additional production facility, the new location of the offices in the sales network.

Today

Giuseppe and Marco Pizzato lead a company in constant growth in terms of new product launches, number of employees (more than 200 employees at present), turnover, and new markets. Pizzato Elettrica is continuing their new product internationalisation and development process.



70,000,000 PARTS SOLD WORLDWIDE

Pizzato Elettrica's product catalogue contains more than 7,000 articles, with more than 1,300 special codes developed for devices personalised according to clients' specific needs.

Pizzato Elettrica devices can be grouped, according to typology, into three main macro-categories:

- **POSITION SWITCHES.** Pizzato Elettrica position switches are daily installed in every type of industrial machinery all over the world for applications in the sector of wood, metal, plastic, automotive, packaging, lifting, medicinal, naval, etc. In order to be used in a such wide variety of sectors and countries, Pizzato Elettrica position switches are made to be assembled in a lot of configurations thanks to the various body shapes, dozens of contact blocks, hundreds of actuators and materials, forces, assembling versions.

Pizzato Elettrica can offer one of the widest product range of position switches in the world. Moreover, the use of high quality materials, high reliability technologies (e.g. twin bridge contact blocks) as well as the IP67 protection degree make this range of position switches one of the most technologically evolved.

- **SAFETY DEVICES.** The company Pizzato Elettrica has been one of the first Italian companies developing dedicated items for this sector, creating and patenting dozens of innovative products, thus becoming one of the main European manufacturers of safety devices. The wide range of specific products for machine safety completely designed and assembled in our company premises in Marostica (VI) - Italy, has been extended by the introduction of coded magnetic sensors, solenoid switches provided with emergency release devices, safety hinge switches and safety handles. Recent products include the safety sensors with RFID technology of the ST series, the stainless steel hinge safety switches of the HX series, the RFID safety switches with block of the NG series, the safety handle of the P-KUBE 2 line and the safety switches with electromagnets and RFID technology of the NS series.

- **MAN-MACHINE INTERFACE.** Thanks to the introduction of the EROUND control and signalling devices, Pizzato Elettrica has remarkably widened their offer within the man-machine interface sector.

Thanks to the new design, the care for details and the elegance of the product combined with its maximum safety and reliability, this series is one of the most complete and cutting-edge on the market.

Our company offers a wide range of products that includes single and modular foot switches with many patented joining kits.

In order to satisfy its customers' needs and requests, Pizzato Elettrica offers a lot of accessories purposely designed not only to complete their wide range of products, but also to help device installation on machineries.





12 MILLION CERTIFIED PRODUCT CODES

A simple brand isn't enough: the company is aiming for the Pizzato Elettrica brand to be widely recognised as a synonym for absolute quality and certainty.

A result that has been reached and consolidated over the years, updating and expanding the series of certifications obtained from the most important Italian and international control organisations. Product quality is assessed by five accredited external bodies: IMQ, UL, CCC, TÜV SÜD, EAC. These bodies lay out high technical and qualitative standards for the company to achieve and maintain, verified yearly with seven different inspections: these are performed, without prior notice, by qualified inspectors, who extract samples of products and materials destined for sale from plants, or from the market directly, to subject them to apposite tests.

- **CE MARK.** All Pizzato Elettrica products bear the CE marking in conformity with the European Directives in force.
- **ISO 9001 CERTIFICATION.** The company's production system complies with national UNI EN ISO 9001 and international ISO 9001 standards. The certification covers all of the company's plants and their production and managerial activities: entry checks, technical, purchasing and commercial department activities, manufacturing operations assessments, final pre-shipping product tests and checks, equipment reviews and the management of the metrological lab.
- **CERTIFICATION OF COMPANY QUALITY SYSTEMS.** Pizzato Elettrica has obtained the certificate of compliance with the UNI EN ISO 9000 regulations in force in Italy and abroad. It is issued by a recognised independent body that guarantees the quality and reliability of the service offered to clients worldwide.
- **CSQ, CISQ AND IQNET.** The CSQ system is part of the CISQ (Italian Certification of Quality Systems) federation, which consists of the primary certification bodies operating in Italy in the various product sectors. CISQ is the Italian representative body within IQNet, the biggest international Quality Systems and Company Management certification network, which is adhered to by 25 certification organs in as many countries.





TRADE FAIRS AND EVENTS

TRADE FAIRS

Pizzato Elettrica regularly participates to many trade fairs in Italy and abroad, presenting in this way to the market the products, the latest news, etc.

EVENTS

Besides offering qualified technical assistance, Pizzato Elettrica presents itself as a dynamic partner who is attentive to the needs of its customers. For this reason, the company organises several meetings and training courses with particular attention to the regulatory aspect of machinery safety.

MULTILINGUAL DOCUMENTATION

Pizzato Elettrica provides its customers with a wide range of technical documentation available in several languages: Italian, English, German, French, Spanish, etc.

From the general catalogue to the detailed brochures, from leaflets of new products to price lists and DVDs, Pizzato Elettrica customers can find in a quick and exact way all the information concerning products, the technical characteristics and functionality, the proper installation methods, application examples, etc.





NEW WEBSITE

To remain in line with its objectives and strategies, Pizzato Elettrica has also decided to renew their image online by designing and creating a new website.

The aim was therefore to create a more modern website: one that would be technologically competitive and feature eye-catching graphics but would also offer users detailed, up-to-date contents.

The main characteristics of version 2.0 of the website www.pizzato.com are therefore as follows:

SEARCH USING FILTERS

The product section has been extended and a decision was made to enhance it with several new aspects. Firstly, the use of filters, to aid customers as they search for products, and guide them in creating the item that best suits their requirements by enabling them to choose its characteristics.

RESPONSIVE DESIGN

Another significant characteristic is the compatibility of this new website with all kinds of devices. Indeed, it is a responsive site, capable of automatically adapting its graphic layout to suit the device with which it is viewed and so minimising the need for the user to resize and scroll the contents.

BROWSABLE, DOWNLOADABLE CATALOGUE

Users can also download our full catalogue or alternatively browse it directly online, an extremely handy solution for those wishing to consult our range of products simply and rapidly.

HIGH RESOLUTION IMAGES

The information provided for each one of our products is complete with high resolution images to offer visitors to the website a clear, accurate view of our items in close detail, also offering them the possibility to zoom in and out on the image.

LARGE VIDEO SECTION

The large video section of the website is capable of showcasing the main characteristics, functions and use of the various products.



TECHNICAL AND SALES ASSISTANCE



TECHNICAL DEPARTMENT

The Pizzato Elettrica technical department provides direct technical and qualified assistance in Italian and English, helping in this way the customers to choose the suitable product for their own application explaining the characteristics and the correct installation.

Office hours: Monday to Friday
08 am - 12 pm / 02 pm - 06 pm CET
Phone: +39.0424.470.930
fax: +39.0424.470.955
e-mail: tech@pizzato.com

Spoken languages:  | 



SALES DEPARTMENT

Among the strengths in the company relationship with the commercial network, the direct assistance guaranteed in five languages: Italian, English, French, German and Spanish. A service that confirms Pizzato Elettrica quality and attention to the needs of customers from around the world.

Office hours: Monday to Friday
08 am - 12 pm / 02 pm - 06 pm CET
Phone: +39.0424.470.930
fax: +39.0424.470.955
e-mail: info@pizzato.com

Spoken languages:  |  |  |  | 



EL AD series control stations

- Enlarged outline which allows to employ many more devices
- Wide choice of available covers
- Easy wiring thanks to the cable-entries on the cover
- Sturdy protection guards
- Up to 6 lateral knock out conduit cable-entries M20-M25-M16 and 4 bottom knock out conduit cable-entries M20
- Easier grip of the control station thanks to the knurled base

► 93



EL AD series reduced-height control stations

- 60mm-reduced height versions, suitable for reduced spaces in the lift shaft
- Standard-sized contact blocks and devices
- Wall fixing hook
- Built-in devices and sockets

► 93



Products in accordance with standards EN 81-20 and EN 81-50

- International standards EN 81-20 and EN 81-50 establish new, updated technical and safety directives and represent an important step forward in the construction and installation of lifts
- Pizzato Elettrica lift products are updated in accordance with the most recent standards EN 81-20 and EN 81-50, thus offering specific, cutting-edge solutions to the market
- All switches are in compliance with the requirements set by the new standards on safety contacts.



Signalling boxes in compliance with standards EN 81-20 and EN 81-50

- 12Vac/dc or 24Vac/dc signalling boxes with illuminated discs and buzzers
- Signalling through blinking yellow-light illuminated disc
- Signalling through continuous white-light illuminated disc with 5 lux-intensity from 1m away, as required in paragraph 5.4.10.4 of standard EN 81-20
- Continuous or pulsing sound buzzers with a minimum of 55dB-sound intensity level from 1m away, as required in paragraph 5.12.1.8.3 of standard EN 81-20 reference G

► 77



Lockable protection for bypass device

- Lockable protection for bypass device for the maintenance of the contacts of landing doors, cabin doors and door lock devices, as required in paragraph 5.12.1.8 of standard EN 81-20
- Mobile click cover for protection against unintended use
- Device-locking possible through padlocks
- The lockable protection can be installed on Pizzato's EL series control stations or on any electric panel with holes

► 105

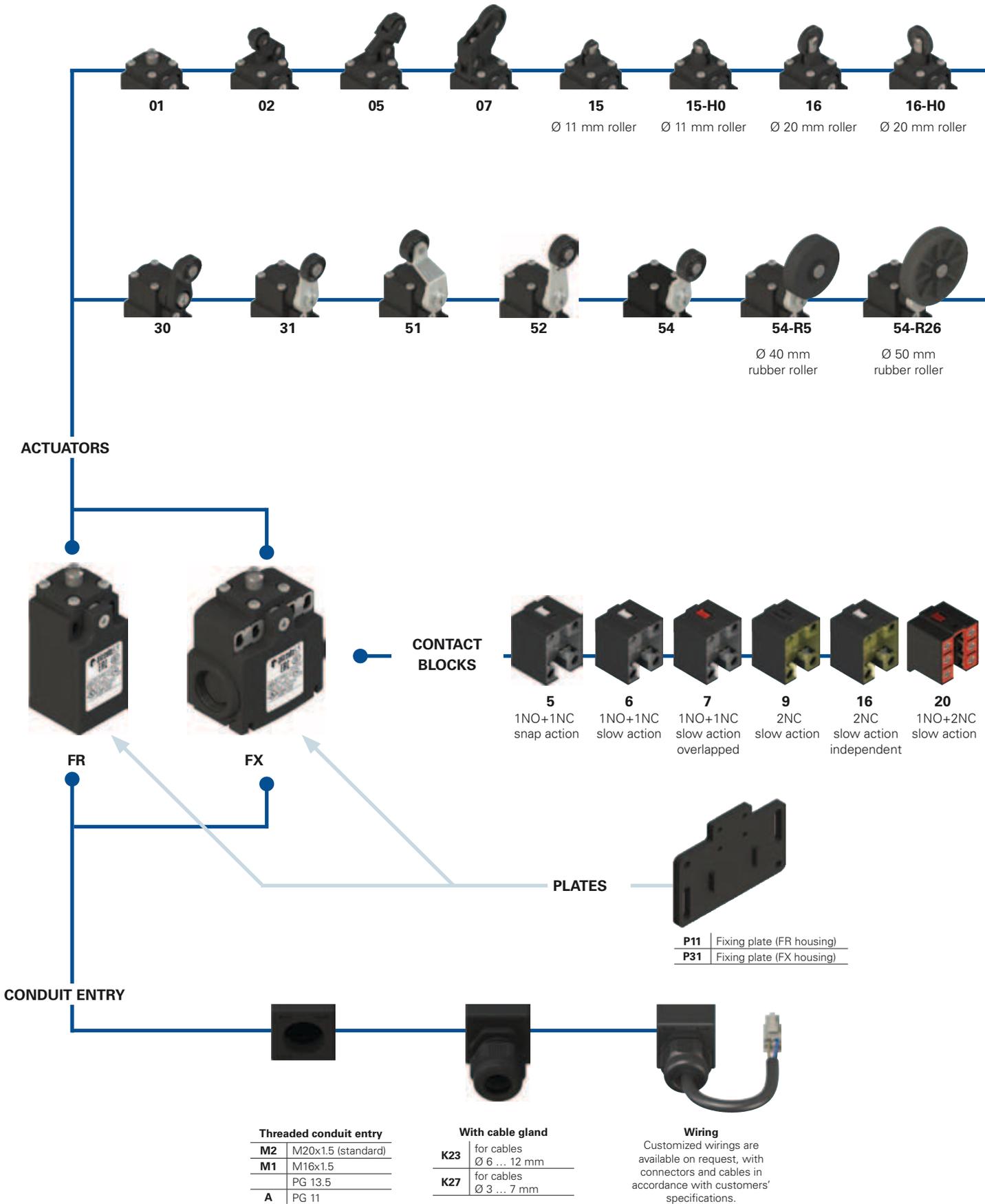


Holder for EL AC series control stations

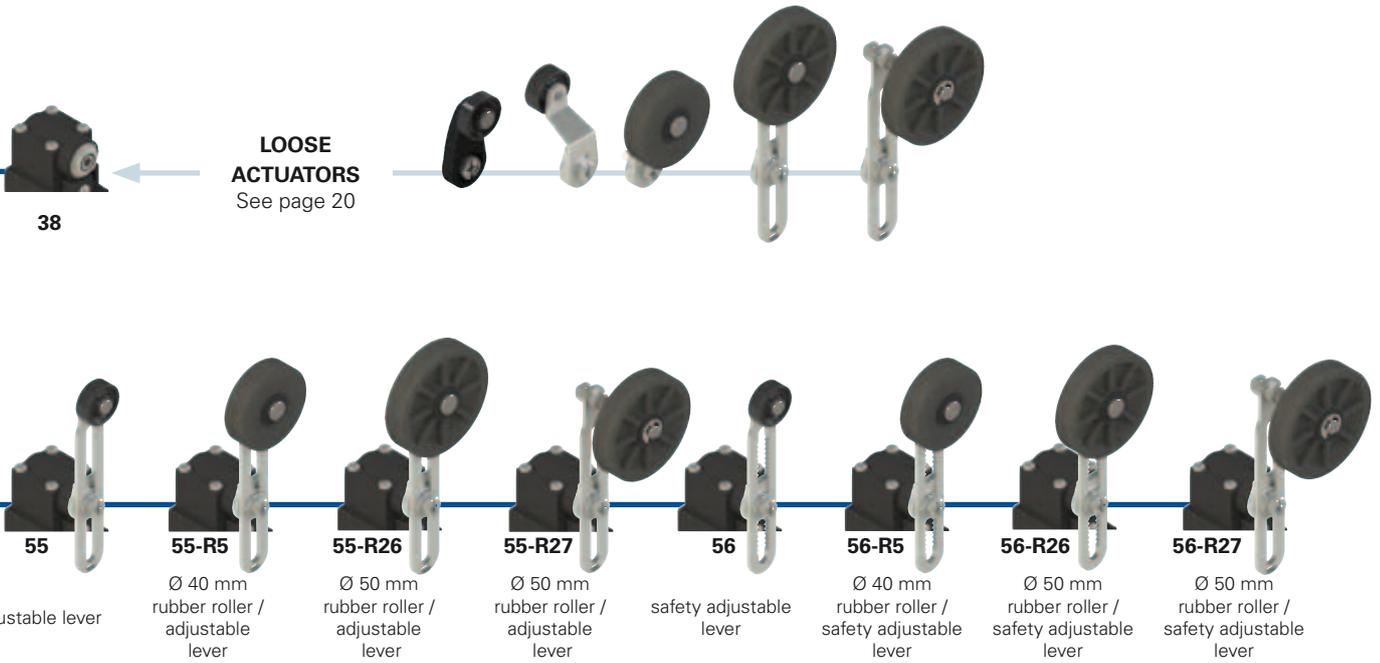
- EL AC control stations can be installed on the wall thanks to the appropriate holder
- The reinforced structure and curved design of the holder ensure both an easy insertion and a solid protection for the control station
- The click fastener indicates whether the control station has been correctly inserted and may not slip out of the holder

► 105

Selection diagram



● product option
 → accessory sold separately



LOOSE ACTUATORS
See page 20

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55

adjustable lever

55-R5

Ø 40 mm rubber roller / adjustable lever

55-R26

Ø 50 mm rubber roller / adjustable lever

55-R27

Ø 50 mm rubber roller / adjustable lever

56

safety adjustable lever

56-R5

Ø 40 mm rubber roller / safety adjustable lever

56-R26

Ø 50 mm rubber roller / safety adjustable lever

56-R27

Ø 50 mm rubber roller / safety adjustable 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
FR 655-GM2K23P11R26T6

Housing	
FR	polymer housing, one conduit entry
FX	polymer housing, two conduit entries

Contact blocks	
5	1NO+1NC, snap action
6	1NO+1NC, slow action
7	1NO+1NC, slow action overlapped
9	2NC, slow action
16	2NC, slow action independent
20	1NO+2NC, slow action

Actuators	
01	short plunger
02	roller lever
05	offset roller lever
...

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating
G1	silver contacts with 2,5 µm gold coating (not for contact block 20)

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

Rollers	
	standard roller
R5	with Ø 40 mm rubber roller
R26	with Ø 50 mm rubber roller
R27	with Ø 50 mm overhanging rubber roller

Fixing plate	
	without fixing plate (standard)
P11	supplied with plate VF SFP1 for FR housing
P31	supplied with plate VF SFP3 for FX housing

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

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



Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- External stainless steel parts versions
- Wired versions
- Silver contacts gold plated versions

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: 

FR series one threaded conduit entry: M20x1.5 (standard)

FX series two knock-out threaded conduit entries: M20x1.5 (standard)

Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 20 million operations cycles
 Assembling position: any
 Safety parameters B_{10D} : 40,000,000 for NC contacts
 Mechanical interlock, not coded: type 1 according to EN ISO 14119
 Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 20:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max.	2 x 1.5 mm ²	(2 x AWG 16)
Contact blocks 5, 6, 7, 9, 16:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 2.5 mm ²	(2 x AWG 14)

In conformity 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 81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/UE.

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 . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 134. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc (contacts block 20)
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contact blocks 20
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 400 Vac (for contacts block 20)
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contacts block 20
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_o): 400 Vac (50 Hz)
 Operation current (I_o): 3 A
 Forms of the contact element: Zb, Y+Y, Y+Y+X
 Positive opening of contacts on contact block 5, 6, 7, 9, 16, 20
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

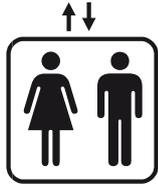
Please contact our technical service for the list of type approved products.

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, UL 508, CSA 22.2 No.14.

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

According to EN 81-20 and EN 81-50



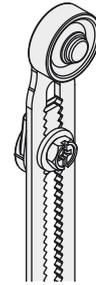
- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10⁶ cycles.

Protection degree IP 67

IP67

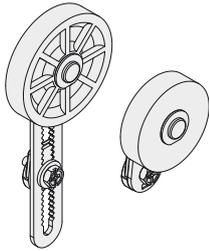
These series switches are all IP 67 rated.

Safety lever



The adjustable lever code 56 (and variants) is supplied with an indentation which blocks the lever slipping in case of fixing screw release.

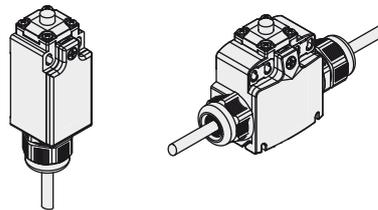
Rubber rollers



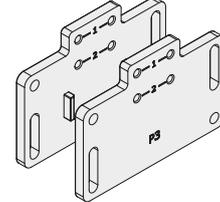
Different actuators with rubber rollers are available. The client can choose the most suitable product depending on lift speed in order to reduce the noise inside the cabin.

Conduit entries

Switches with conduit entries in several directions are available, for applications also in restricted spaces.



Adaptive plates

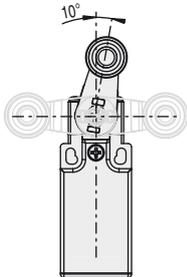


Adaptive plates provided with long slots for the adjustment of the actuating point, developed for compatibility with old products.

Every plate has a double couple of switch fixing holes, one for standard switches and the other one for switches with reset device. In this way the actuator will always have the same actuating point.

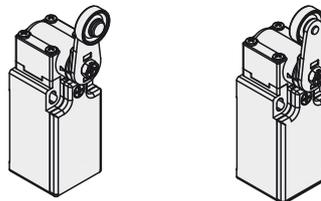
Adjustable levers

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.



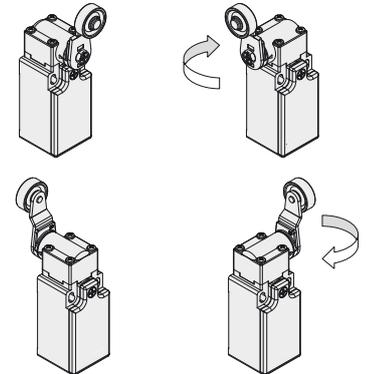
Overturning levers

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

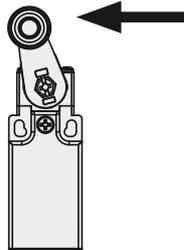
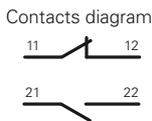
In all switches, it is possible to rotate the head in 90° steps.



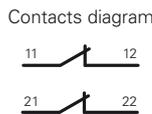
Working operation of contact block 16 with independent contacts

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

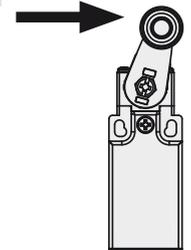
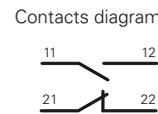
Lever turned to left



Lever not turned



Lever turned to right



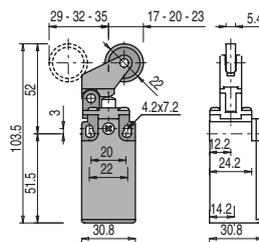
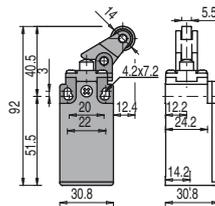
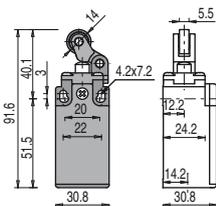
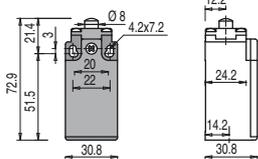
Extended temperature range

-40°C

This range of switches is also available in a special version with an ambient operating temperature range of -40°C to +80°C. This is particularly useful for applications in cold stores, sterilisers and other low temperature environments. The materials used in the production of these switches maintain the standard operating parameters even over this temperature range, further increasing application possibilities.

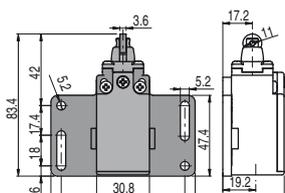
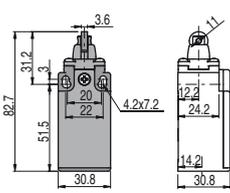
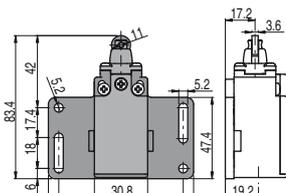
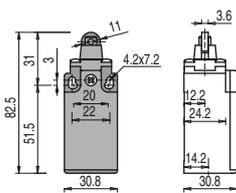
Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent



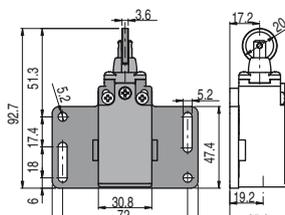
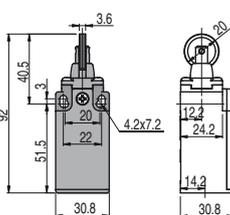
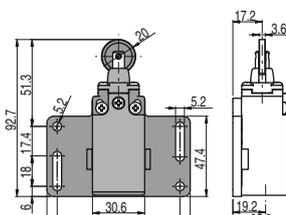
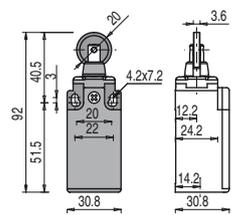
Contact blocks

5	R	FR 501-M2 (R) 1NO+1NC	FR 502-M2 (R) 1NO+1NC	FR 505-M2 (R) 1NO+1NC	FR 507-M2 (R) 1NO+1NC
6	L	FR 601-M2 (L) 1NO+1NC	FR 602-M2 (L) 1NO+1NC	FR 605-M2 (L) 1NO+1NC	FR 607-M2 (L) 1NO+1NC
7	LO	FR 701-M2 (LO) 1NO+1NC	FR 702-M2 (LO) 1NO+1NC	FR 705-M2 (LO) 1NO+1NC	FR 707-M2 (LO) 1NO+1NC
9	L	FR 901-M2 (L) 2NC	FR 902-M2 (L) 2NC	FR 905-M2 (L) 2NC	FR 907-M2 (L) 2NC
16	LI				
20	L	FR 2001-M2 (L) 1NO+2NC	FR 2002-M2 (L) 1NO+2NC	FR 2005-M2 (L) 1NO+2NC	FR 2007-M2 (L) 1NO+2NC
Max speed		page 133 - type 4	page 133 - type 3	page 133 - type 3	page 133 - type 3
Actuating force		8 N (25 N (R))	6 N (25 N (R))	6 N (25 N (R))	4 N (25 N (R))
Travel diagrams		page 134 - group 1a	page 134 - group 2a	page 134 - group 2a	page 134 - group 3a



Contact blocks

5	R	FR 515-M2 (R) 1NO+1NC	FR 515-M2P11 (R) 1NO+1NC	FR 515-H0M2 (R) 1NO+1NC	FR 515-H0M2P11 (R) 1NO+1NC
6	L	FR 615-M2 (L) 1NO+1NC	FR 615-M2P11 (L) 1NO+1NC	FR 615-H0M2 (L) 1NO+1NC	FR 615-H0M2P11 (L) 1NO+1NC
7	LO	FR 715-M2 (LO) 1NO+1NC	FR 715-M2P11 (LO) 1NO+1NC	FR 715-H0M2 (LO) 1NO+1NC	FR 715-H0M2P11 (LO) 1NO+1NC
9	L	FR 915-M2 (L) 2NC	FR 915-M2P11 (L) 2NC	FR 915-H0M2 (L) 2NC	FR 915-H0M2P11 (L) 2NC
16	LI				
20	L	FR 2015-M2 (L) 1NO+2NC	FR 2015-M2P11 (L) 1NO+2NC	FR 2015-H0M2 (L) 1NO+2NC	FR 2015-H0M2P11 (L) 1NO+2NC
Max speed		page 133 - type 2	page 133 - type 2	page 133 - type 2	page 133 - type 2
Actuating force		8 N (25 N (R))	8 N (25 N (R))	8 N (25 N (R))	8 N (25 N (R))
Travel diagrams		page 134 - group 1a	page 134 - group 1a	page 134 - group 1a	page 134 - group 1a



Contact blocks

5	R	FR 516-M2 (R) 1NO+1NC	FR 516-M2P11 (R) 1NO+1NC	FR 516-H0M2 (R) 1NO+1NC	FR 516-H0M2P11 (R) 1NO+1NC
6	L	FR 616-M2 (L) 1NO+1NC	FR 616-M2P11 (L) 1NO+1NC	FR 616-H0M2 (L) 1NO+1NC	FR 616-H0M2P11 (L) 1NO+1NC
7	LO	FR 716-M2 (LO) 1NO+1NC	FR 716-M2P11 (LO) 1NO+1NC	FR 716-H0M2 (LO) 1NO+1NC	FR 716-H0M2P11 (LO) 1NO+1NC
9	L	FR 916-M2 (L) 2NC	FR 916-M2P11 (L) 2NC	FR 916-H0M2 (L) 2NC	FR 916-H0M2P11 (L) 2NC
16	LI				
20	L	FR 2016-M2 (L) 1NO+2NC	FR 2016-M2P11 (L) 1NO+2NC	FR 2016-H0M2 (L) 1NO+2NC	FR 2016-H0M2P11 (L) 1NO+2NC
Max speed		page 133 - type 2	page 133 - type 2	page 133 - type 2	page 133 - type 2
Actuating force		8 N (25 N (R))	8 N (25 N (R))	8 N (25 N (R))	8 N (25 N (R))
Travel diagrams		page 134 - group 1a	page 134 - group 1a	page 134 - group 1a	page 134 - group 1a

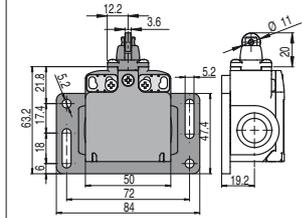
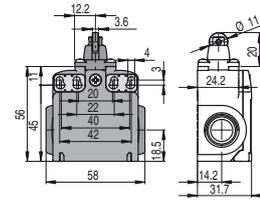
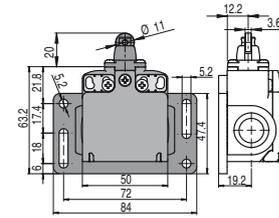
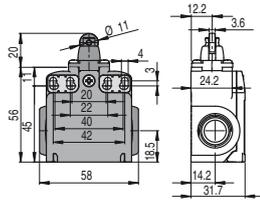
Items with code on the **green** background are available in stock

Accessories See page 127

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

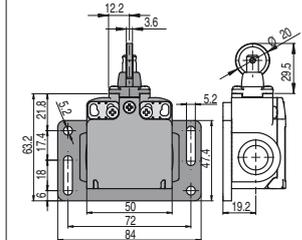
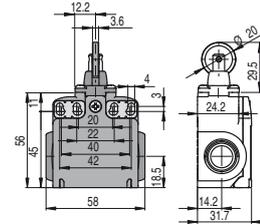
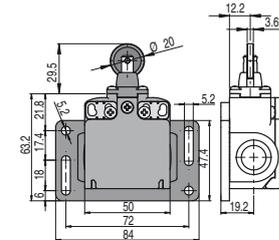
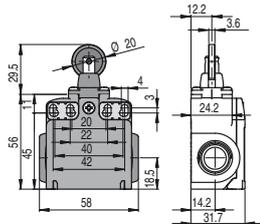
Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent



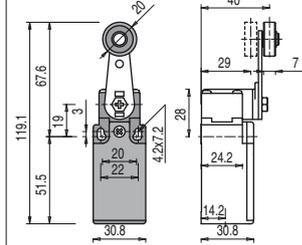
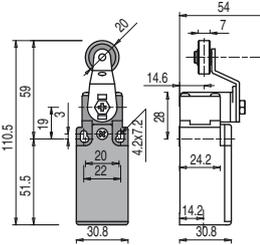
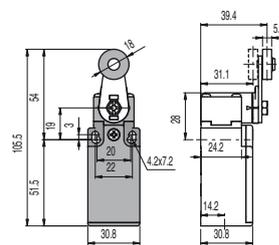
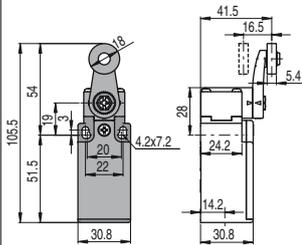
Contact blocks

5	R	FX 515-M2 → 1NO+1NC	FX 515-M2P31 → 1NO+1NC	FX 515-H0M2 → 1NO+1NC	FX 515-H0M2P31 → 1NO+1NC
6	L	FX 615-M2 → 1NO+1NC	FX 615-M2P31 → 1NO+1NC	FX 615-H0M2 → 1NO+1NC	FX 615-H0M2P31 → 1NO+1NC
7	LO	FX 715-M2 → 1NO+1NC	FX 715-M2P31 → 1NO+1NC	FX 715-H0M2 → 1NO+1NC	FX 715-H0M2P31 → 1NO+1NC
9	L	FX 915-M2 → 2NC	FX 915-M2P31 → 2NC	FX 915-H0M2 → 2NC	FX 915-H0M2P31 → 2NC
16	LI				
20	L	FX 2015-M2 → 1NO+2NC	FX 2015-M2P31 → 1NO+2NC	FX 2015-H0M2 → 1NO+2NC	FX 2015-H0M2P31 → 1NO+2NC
Max speed		page 133 - type 2	page 133 - type 2	page 133 - type 2	page 133 - type 2
Actuating force		8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams		page 134 - group 1a	page 134 - group 1a	page 134 - group 1a	page 134 - group 1a



Contact blocks

5	R	FX 516-M2 → 1NO+1NC	FX 516-M2P31 → 1NO+1NC	FX 516-H0M2 → 1NO+1NC	FX 516-H0M2P31 → 1NO+1NC
6	L	FX 616-M2 → 1NO+1NC	FX 616-M2P31 → 1NO+1NC	FX 616-H0M2 → 1NO+1NC	FX 616-H0M2P31 → 1NO+1NC
7	LO	FX 716-M2 → 1NO+1NC	FX 716-M2P31 → 1NO+1NC	FX 716-H0M2 → 1NO+1NC	FX 716-H0M2P31 → 1NO+1NC
9	L	FX 916-M2 → 2NC	FX 916-M2P31 → 2NC	FX 916-H0M2 → 2NC	FX 916-H0M2P31 → 2NC
16	LI				
20	L	FX 2016-M2 → 1NO+2NC	FX 2016-M2P31 → 1NO+2NC	FX 2016-H0M2 → 1NO+2NC	FX 2016-H0M2P31 → 1NO+2NC
Max speed		page 133 - type 2	page 133 - type 2	page 133 - type 2	page 133 - type 2
Actuating force		8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams		page 134 - group 1a	page 134 - group 1a	page 134 - group 1a	page 134 - group 1a



Contact blocks

5	R	FR 530-M2 → 1NO+1NC	FR 531-M2 → 1NO+1NC	FR 551-M2 → 1NO+1NC	FR 552-M2 → 1NO+1NC
6	L	FR 630-M2 → 1NO+1NC	FR 631-M2 → 1NO+1NC	FR 651-M2 → 1NO+1NC	FR 652-M2 → 1NO+1NC
7	LO	FR 730-M2 → 1NO+1NC	FR 731-M2 → 1NO+1NC	FR 751-M2 → 1NO+1NC	FR 752-M2 → 1NO+1NC
9	L	FR 930-M2 → 2NC	FR 931-M2 → 2NC	FR 951-M2 → 2NC	FR 952-M2 → 2NC
16	LI	FR 1630-M2 → 2NC	FR 1631-M2 → 2NC	FR 1651-M2 → 2NC	FR 1652-M2 → 2NC
20	L	FR 2030-M2 → 1NO+2NC	FR 2031-M2 → 1NO+2NC	FR 2051-M2 → 1NO+2NC	FR 2052-M2 → 1NO+2NC
Max speed		page 133 - type 1			
Actuating force		0.06 Nm (0.25 Nm →)			
Travel diagrams		page 134 - group 4a			

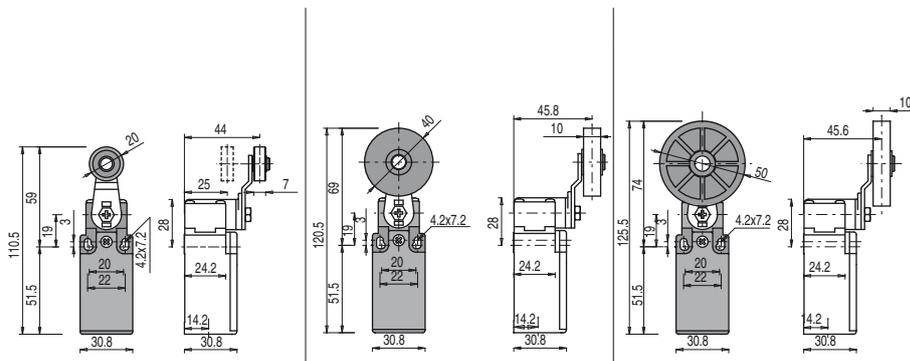
→ The 2D/3D files are available at www.pizzato.com

Accessories See page 127

Items with code on the green background are available in stock

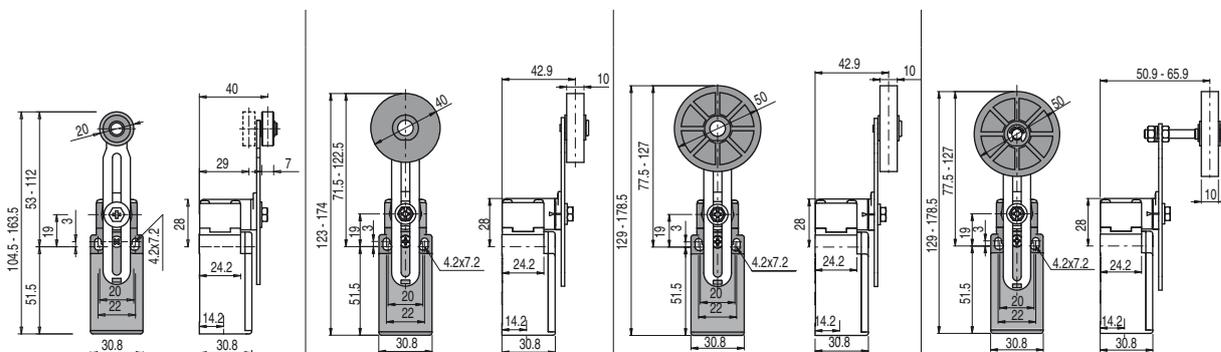
Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent



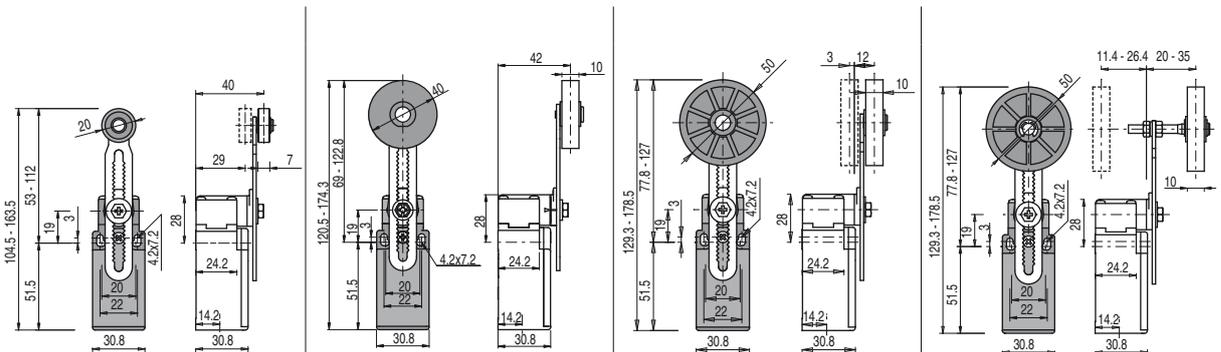
Contact blocks

5	R	FR 554-M2 (R) 1NO+1NC	FR 554-M2R5 (R) 1NO+1NC	FR 554-M2R26 (R) 1NO+1NC
6	L	FR 654-M2 (L) 1NO+1NC	FR 654-M2R5 (L) 1NO+1NC	FR 654-M2R26 (L) 1NO+1NC
7	LO	FR 754-M2 (LO) 1NO+1NC	FR 754-M2R5 (LO) 1NO+1NC	FR 754-M2R26 (LO) 1NO+1NC
9	L	FR 954-M2 (L) 2NC	FR 954-M2R5 (L) 2NC	FR 954-M2R26 (L) 2NC
16	LI	FR 1654-M2 (LI) 2NC	FR 1654-M2R5 (LI) 2NC	FR 1654-M2R26 (LI) 2NC
20	L	FR 2054-M2 (L) 1NO+2NC	FR 2054-M2R5 (L) 1NO+2NC	FR 2054-M2R26 (L) 1NO+2NC
Max speed		page 133 - type 1	page 133 - type 1	page 133 - type 1
Actuating force		0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))
Travel diagrams		page 134 - group 4a	page 134 - group 4a	page 134 - group 4a



Contact blocks

5	R	FR 555-M2 (R) (1) 1NO+1NC	FR 555-M2R5 (R) (1) 1NO+1NC	FR 555-M2R26 (R) (1) 1NO+1NC	FR 555-M2R27 (R) (1) 1NO+1NC
6	L	FR 655-M2 (L) (1) 1NO+1NC	FR 655-M2R5 (L) (1) 1NO+1NC	FR 655-M2R26 (L) (1) 1NO+1NC	FR 655-M2R27 (L) (1) 1NO+1NC
7	LO	FR 755-M2 (LO) (1) 1NO+1NC	FR 755-M2R5 (LO) (1) 1NO+1NC	FR 755-M2R26 (LO) (1) 1NO+1NC	FR 755-M2R27 (LO) (1) 1NO+1NC
9	L	FR 955-M2 (L) (1) 2NC	FR 955-M2R5 (L) (1) 2NC	FR 955-M2R26 (L) (1) 2NC	FR 955-M2R27 (L) (1) 2NC
16	LI	FR 1655-M2 (LI) (1) 2NC	FR 1655-M2R5 (LI) (1) 2NC	FR 1655-M2R26 (LI) (1) 2NC	FR 1655-M2R27 (LI) (1) 2NC
20	L	FR 2055-M2 (L) (1) 1NO+2NC	FR 2055-M2R5 (L) (1) 1NO+2NC	FR 2055-M2R26 (L) (1) 1NO+2NC	FR 2055-M2R27 (L) (1) 1NO+2NC
Max speed		page 133 - type 1	page 133 - type 1	page 133 - type 1	page 133 - type 1
Actuating force		0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))
Travel diagrams		page 134 - group 4a	page 134 - group 4a	page 134 - group 4a	page 134 - group 4a



Contact blocks

5	R	FR 556-M2 (R) 1NO+1NC	FR 556-M2R5 (R) 1NO+1NC	FR 556-M2R26 (R) 1NO+1NC	FR 556-M2R27 (R) 1NO+1NC
6	L	FR 656-M2 (L) 1NO+1NC	FR 656-M2R5 (L) 1NO+1NC	FR 656-M2R26 (L) 1NO+1NC	FR 656-M2R27 (L) 1NO+1NC
7	LO	FR 756-M2 (LO) 1NO+1NC	FR 756-M2R5 (LO) 1NO+1NC	FR 756-M2R26 (LO) 1NO+1NC	FR 756-M2R27 (LO) 1NO+1NC
9	L	FR 956-M2 (L) 2NC	FR 956-M2R5 (L) 2NC	FR 956-M2R26 (L) 2NC	FR 956-M2R27 (L) 2NC
16	LI	FR 1656-M2 (LI) 2NC	FR 1656-M2R5 (LI) 2NC	FR 1656-M2R26 (LI) 2NC	FR 1656-M2R27 (LI) 2NC
20	L	FR 2056-M2 (L) 1NO+2NC	FR 2056-M2R5 (L) 1NO+2NC	FR 2056-M2R26 (L) 1NO+2NC	FR 2056-M2R27 (L) 1NO+2NC
Max speed		page 133 - type 1	page 133 - type 1	page 133 - type 1	page 133 - type 1
Actuating force		0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))	0.06 Nm (0.25 Nm (R))
Travel diagrams		page 134 - group 4a	page 134 - group 4a	page 134 - group 4a	page 134 - group 4a

(1) Positive opening only with lever adjusted on the max.

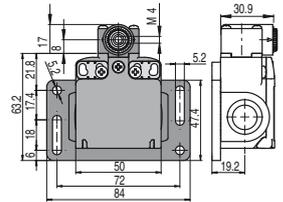
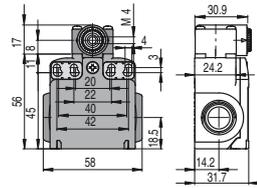
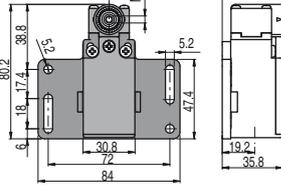
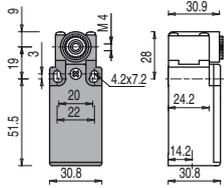
Accessories See page 127

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

Position switches with roller lever without actuator

Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent



Contact blocks

5	R	FR 538-M2 (1NO+1NC)	FR 538-M2P11 (1NO+1NC)	FX 538-M2 (1NO+1NC)	FX 538-M2P31 (1NO+1NC)
6	L	FR 638-M2 (1NO+1NC)	FR 638-M2P11 (1NO+1NC)	FX 638-M2 (1NO+1NC)	FX 638-M2P31 (1NO+1NC)
7	LO	FR 738-M2 (1NO+1NC)	FR 738-M2P11 (1NO+1NC)	FX 738-M2 (1NO+1NC)	FX 738-M2P31 (1NO+1NC)
9	L	FR 938-M2 (2NC)	FR 938-M2P11 (2NC)	FX 938-M2 (2NC)	FX 938-M2P31 (2NC)
16	LI	FR 1638-M2 (2NC)	FR 1638-M2P11 (2NC)	FX 1638-M2 (2NC)	FX 1638-M2P31 (2NC)
20	L	FR 2038-M2 (1NO+2NC)	FR 2038-M2P11 (1NO+2NC)	FX 2038-M2 (1NO+2NC)	FX 2038-M2P31 (1NO+2NC)
Max speed		page 133 - type 1	page 133 - type 1	page 133 - type 1	page 133 - 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 (↻))
Travel diagrams		page 134 - group 4a	page 134 - group 4a	page 134 - group 4a	page 134 - group 4a

IMPORTANT

For safety applications: join only switches and actuators marked with symbol (↻).

Special loose actuators

All measures in the drawings are in mm

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

Ø 40 mm rubber rollers

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

Ø 50 mm rubber rollers

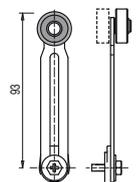
VF LE51-R26 (↻) (4)	VF LE52-R26 (↻) (4)	VF LE54-R26 (↻) (4)	VF LE55-R26 (↻) (1)	VF LE56-R26 (↻)	VF LE57-R26 (↻) (4)

Ø 50 mm overhanging rubber rollers

VF LE55-R27 (↻) (1)	VF LE56-R27 (↻)

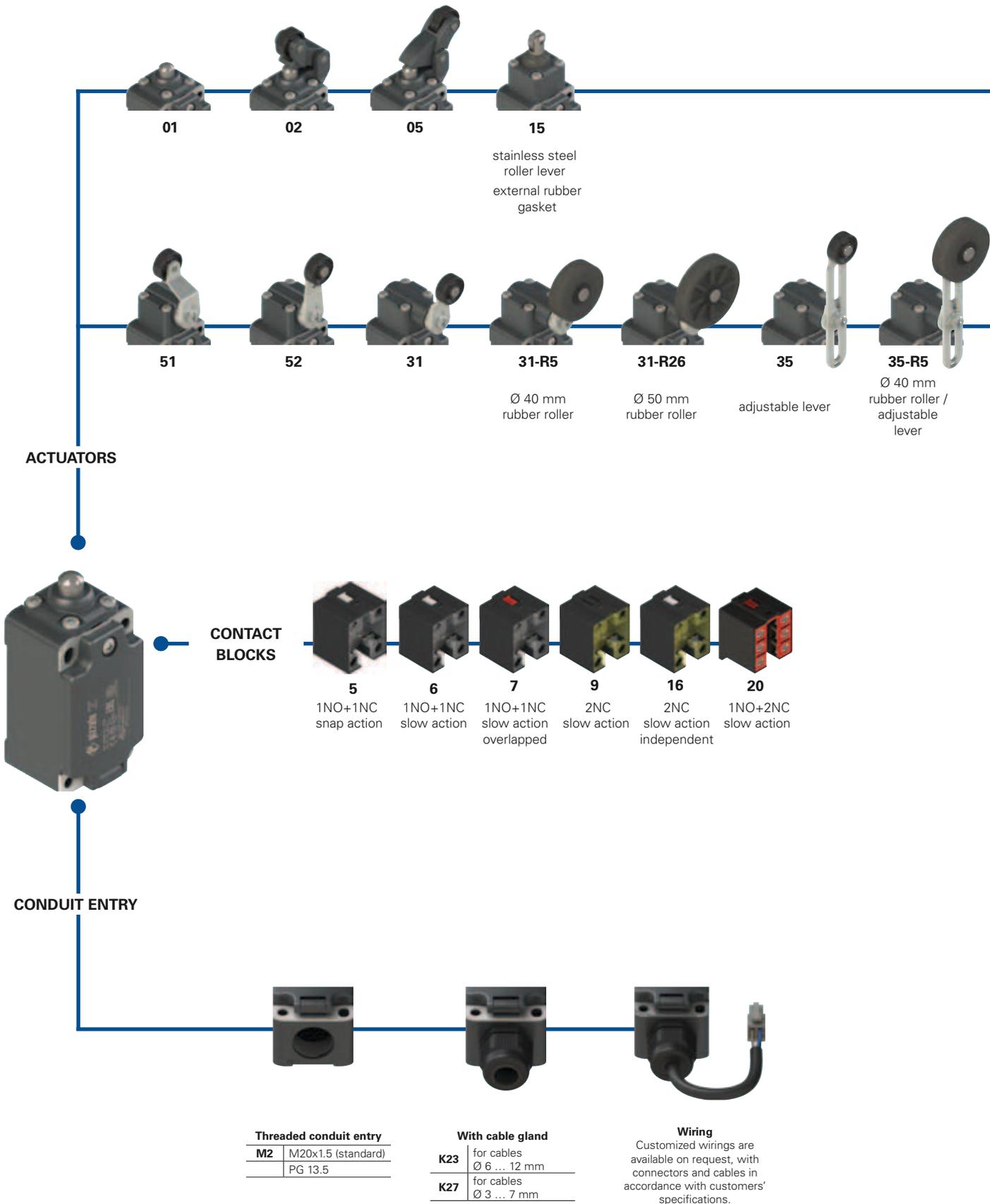
- (1) Actuator VF LE55 suits to safety applications only if adjusted to its max length, as you can see in figure beside. If you need an adjustable lever for safety applications, use the adjustable safety lever VF LE56.

- (4) The actuator cannot be oriented to inside direction because it will mechanically interfere with the switch head.

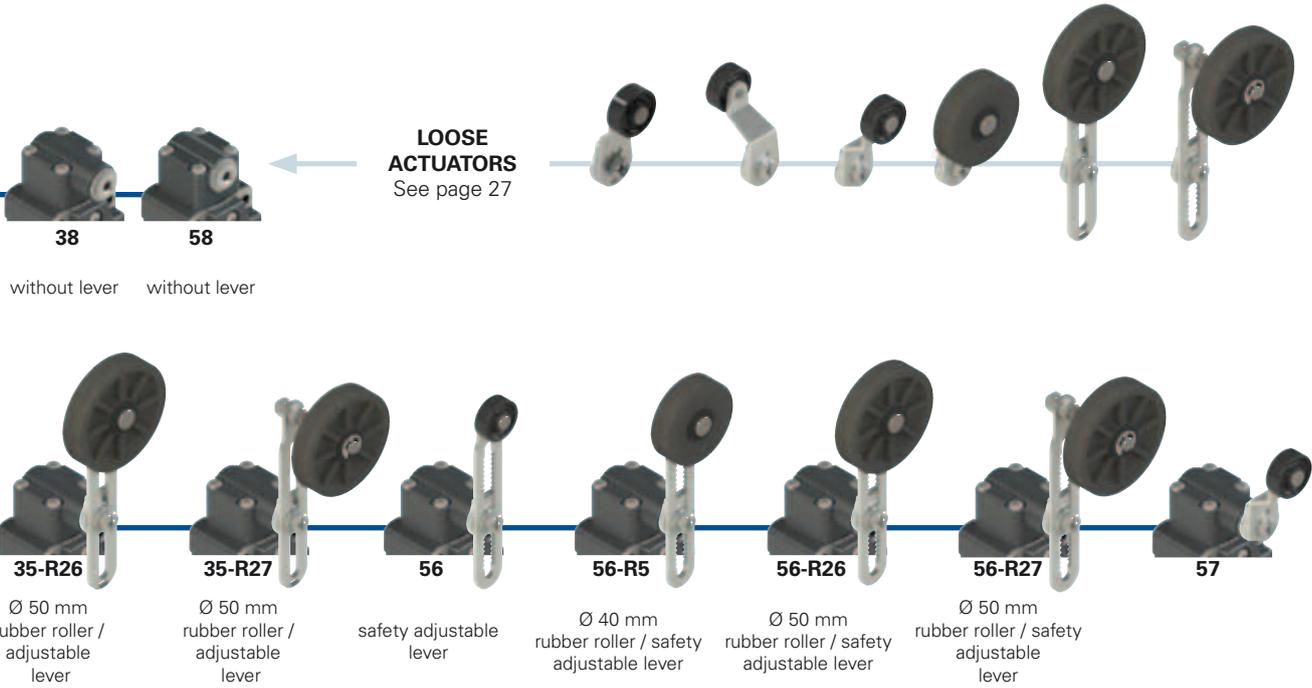


Items with code on the **green** background are available in stock

Selection diagram



—●— product option
 —▶— accessory sold separately



LOOSE ACTUATORS
See page 27

38 **58**
without lever without lever

35-R26 **35-R27** **56** **56-R5** **56-R26** **56-R27** **57**

Ø 50 mm rubber roller / adjustable lever Ø 50 mm rubber roller / adjustable lever safety adjustable lever Ø 40 mm rubber roller / safety adjustable lever Ø 50 mm rubber roller / safety adjustable lever Ø 50 mm rubber roller / safety adjustable 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
FP 635-GM2K23R26T6

Housing	
FP	polymer housing, one conduit entry

Contact blocks	
5	1NO+1NC, snap action
6	1NO+1NC, slow action
7	1NO+1NC, slow action overlapped
9	2NC, slow action
16	2NC, slow action independent
20	1NO+2NC, slow action

Actuators	
01	short plunger
02	roller lever
05	offset roller lever
...

Threaded conduit entry	
M2	M20x1.5 (standard) PG 13.5

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating
G1	silver contacts with 2,5 µm gold coating (not for contact block 20)

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

Rollers	
	standard roller
R5	with Ø 40 mm rubber roller
R26	with Ø 50 mm rubber roller
R27	with Ø 50 mm overhanging rubber roller

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



Main data

- Polymer housing, one conduit entry
- Protection degree IP67
- External stainless steel parts versions
- Wired versions
- Silver contacts gold plated versions

Quality marks:



Approval IMQ: EG606
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230014
 Approval EAC: RU C-IT.AQ35.B.00454

Installation for safety applications:

Use only switches marked with the symbol \ominus . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 136. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: \square
 One threaded conduit entry: M20x1.5 (standard)
 Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 20 million operations cycles
 Assembling position: any
 Safety parameters B_{10D} : 40,000,00 for NC contacts
 Mechanical interlock, not coded: type 1 according to EN ISO 14119
 Driving torque for installation: see page 135

Cross section of the conductors (flexible copper wire)

Contact blocks 20:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max.	2 x 1.5 mm ²	(2 x AWG 16)
Contact blocks 5, 6, 7, 9, 16:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 2.5 mm ²	(2 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 50041, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, 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, GB14048.5-2001.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/EU

Positive contact opening in conformity with standards:

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

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc (contacts block 20)
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contact blocks 20
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 400 Vac for contacts block 20
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contacts block 20
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_o): 400 Vac (50 Hz)
 Operation current (I_o): 3 A
 Forms of the contact element: Zb, Y+Y, Y+Y+X
 Positive opening of contacts on contact block 5, 6, 7, 9, 16, 20
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

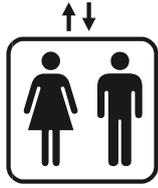
Please contact our technical service for the list of type approved products.

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, CSA 22.2 N°14.

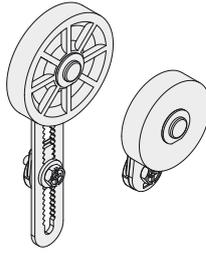
Please contact our technical service for the list of approved products.

According to EN 81-20 and EN 81-50



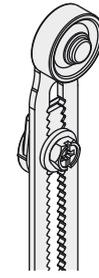
- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10⁶ cycles.

Rubber rollers



Different actuators with rubber rollers are available. The client can choose the most suitable product depending on lift speed in order to reduce the noise inside the cabin.

Safety lever



The adjustable lever code 56 (and variants) is supplied with an indentation which blocks the lever slipping in case of fixing screw release.

Protection degree IP 67

IP67

These series switches are all IP 67 rated.

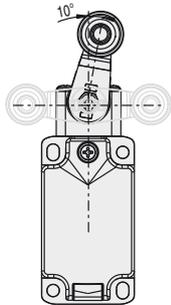
Extended temperature range

-40°C

This range of switches is also available in a special version with an ambient operating temperature range of -40°C to +80°C. This is particularly useful for applications in cold stores, sterilisers and other low temperature environments.

Adjustable levers

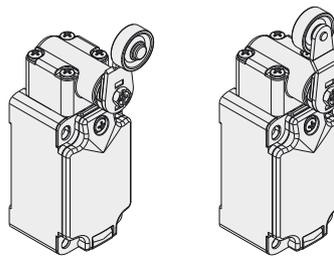
In switches with revolving lever it is possible to adjust the lever with 10° steps for the whole 360° range. The positive movement transmission is always guaranteed thanks to the particular geometrical coupling between the lever and the revolving shaft as prescribed for safety applications by the German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



Overturning levers

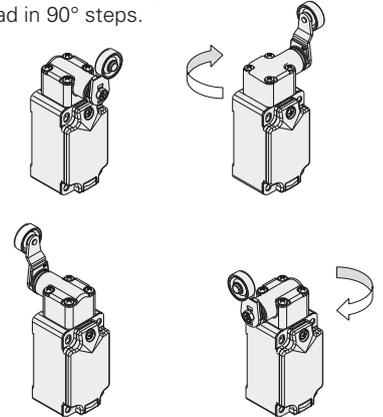
It's possible to fasten the lever on switches on straight or reverse side, maintaining the positive coupling.

In this way it is possible to obtain two different work plans of the lever.



Rotating heads

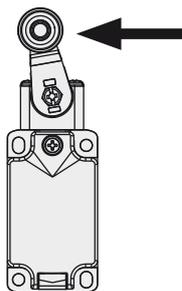
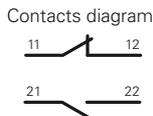
In all switches, it is possible to rotate the head in 90° steps.



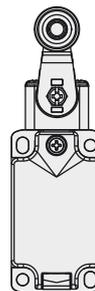
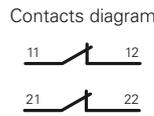
Working operation of contact block 16 with independent contacts

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

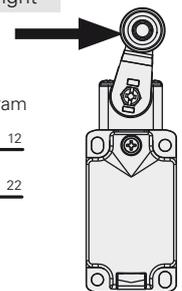
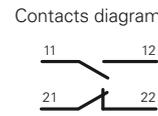
Lever turned to left



Lever not turned

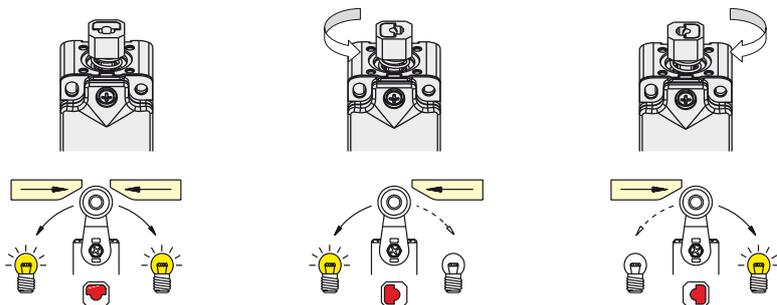
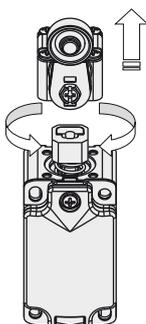


Lever turned to right



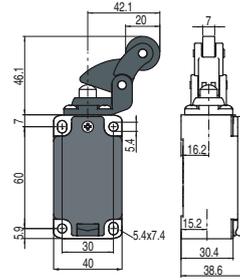
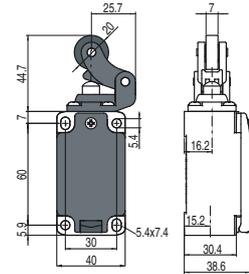
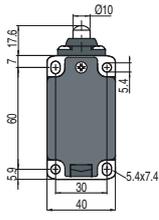
Unidirectional heads

In the switches with revolving lever, it is possible to select the directional operation by removing the four screws of the head and revolving the internal piston (contact block 16 excluded).

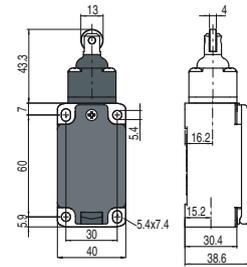


Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent

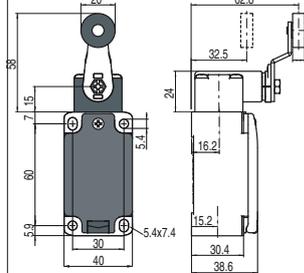
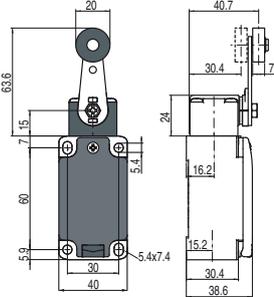
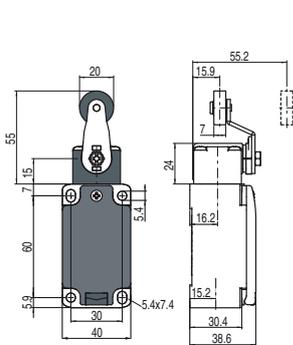


With external rubber gasket



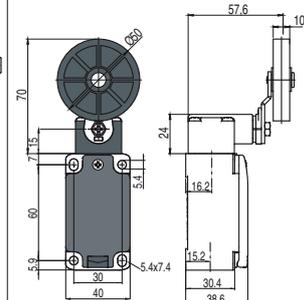
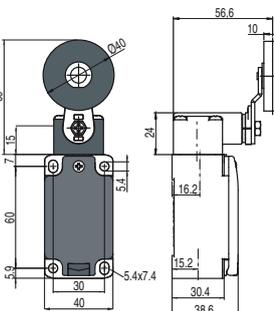
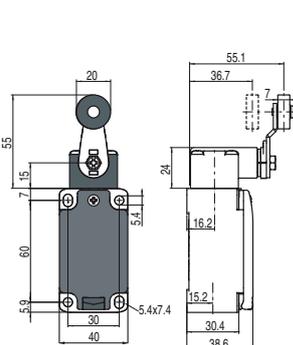
Contact blocks

5	R	FP 501-M2	1NO+1NC	FP 502-M2	1NO+1NC	FP 505-M2	1NO+1NC	FP 515-M2	1NO+1NC
6	L	FP 601-M2	1NO+1NC	FP 602-M2	1NO+1NC	FP 605-M2	1NO+1NC	FP 615-M2	1NO+1NC
7	LO	FP 701-M2	1NO+1NC	FP 702-M2	1NO+1NC	FP 705-M2	1NO+1NC	FP 715-M2	1NO+1NC
9	L	FP 901-M2	2NC	FP 902-M2	2NC	FP 905-M2	2NC	FP 915-M2	2NC
16	LI	/	/	/	/	/	/	/	/
20	L	FP 2001-M2	1NO+2NC	FP 2002-M2	1NO+2NC	FP 2005-M2	1NO+2NC	FP 2015-M2	1NO+2NC
Max speed		page 135 - type 4		page 135 - type 3		page 135 - type 3		page 135 - type 2	
Actuating force		8 N (25 N)		6 N (25 N)		6 N (25 N)		11 N (25 N)	
Travel diagrams		page 136 - group 1b		page 136 - group 2b		page 136 - group 2b		page 136 - group 1b	



Contact blocks

5	R	FP 551-M2	1NO+1NC	FP 552-M2	1NO+1NC	FP 557-M2	1NO+1NC
6	L	FP 651-M2	1NO+1NC	FP 652-M2	1NO+1NC	FP 657-M2	1NO+1NC
7	LO	FP 751-M2	1NO+1NC	FP 752-M2	1NO+1NC	FP 757-M2	1NO+1NC
9	L	FP 951-M2	2NC	FP 952-M2	2NC	FP 957-M2	2NC
16	LI	/	/	/	/	FP 1657-M2	2NC
20	L	FP 2051-M2	1NO+2NC	FP 2052-M2	1NO+2NC	FP 2057-M2	1NO+2NC
Max speed		page 135 - type 1		page 135 - type 1		page 135 - type 1	
Actuating force		0.06 Nm (0.25 Nm)		0.06 Nm (0.25 Nm)		0,06 Nm (0,25 Nm)	
Travel diagrams		page 136 - group 3b		page 136 - group 3b		page 136 - group 3b	



Contact blocks

5	R	FP 531-M2	1NO+1NC	FP 531-M2R5	1NO+1NC	FP 531-M2R26	1NO+1NC
6	L	FP 631-M2	1NO+1NC	FP 631-M2R5	1NO+1NC	FP 631-M2R26	1NO+1NC
7	LO	FP 731-M2	1NO+1NC	FP 731-M2R5	1NO+1NC	FP 731-M2R26	1NO+1NC
9	L	FP 931-M2	2NC	FP 931-M2R5	2NC	FP 931-M2R26	2NC
16	LI	FP 1631-M2	2NC	FP 1631-M2R5	2NC	FP 1631-M2R26	2NC
20	L	FP 2031-M2	1NO+2NC	FP 2031-M2R5	1NO+2NC	FP 2031-M2R26	1NO+2NC
Max speed		page 135 - type 1		page 135 - type 1		page 135 - type 1	
Actuating force		0.1 Nm (0.25 Nm)		0.1 Nm (0.25 Nm)		0.1 Nm (0.25 Nm)	
Travel diagrams		page 136 - group 3b		page 136 - group 3b		page 136 - group 3b	

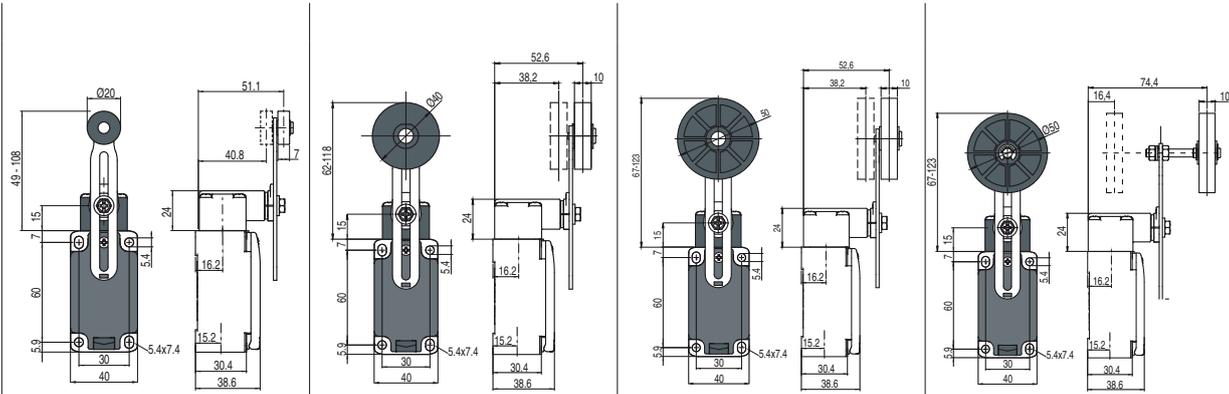
Items with code on the **green** background are available in stock

Accessories See page 127

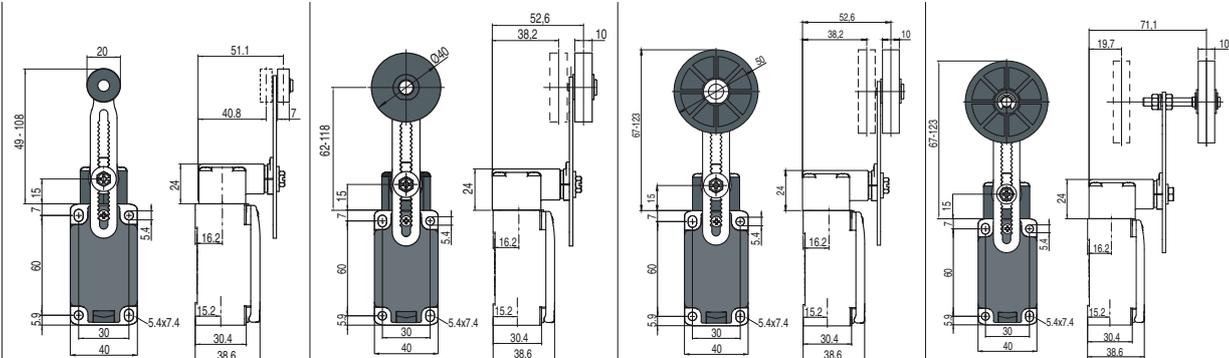
→ The 2D/3D files are available at www.pizzato.com

Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent



5	R	FP 535-M2 (1) 1NO+1NC	FP 535-M2R5 (1) 1NO+1NC	FP 535-M2R26 (1) 1NO+1NC	FP 535-M2R27 (1) 1NO+1NC
6	L	FP 635-M2 (1) 1NO+1NC	FP 635-M2R5 (1) 1NO+1NC	FP 635-M2R26 (1) 1NO+1NC	FP 635-M2R27 (1) 1NO+1NC
7	LO	FP 735-M2 (1) 1NO+1NC	FP 735-M2R5 (1) 1NO+1NC	FP 735-M2R26 (1) 1NO+1NC	FP 735-M2R27 (1) 1NO+1NC
9	L	FP 935-M2 (1) 2NC	FP 935-M2R5 (1) 2NC	FP 935-M2R26 (1) 2NC	FP 935-M2R27 (1) 2NC
16	LI	FP 1635-M2 (1) 2NC	FP 1635-M2R5 (1) 2NC	FP 1635-M2R26 (1) 2NC	FP 1635-M2R27 (1) 2NC
20	L	FP 2035-M2 (1) 1NO+2NC	FP 2035-M2R5 (1) 1NO+2NC	FP 2035-M2R26 (1) 1NO+2NC	FP 2035-M2R27 (1) 1NO+2NC
Max speed		page 135 - type 1	page 135 - type 1	page 135 - type 1	page 135 - type 1
Actuating force		0.1 Nm (0.25 Nm (1))	0.1 Nm (0.25 Nm (1))	0.1 Nm (0.25 Nm (1))	0.1 Nm (0.25 Nm (1))
Travel diagrams		page 136 - group 3b	page 136 - group 3b	page 136 - group 3b	page 136 - group 3b



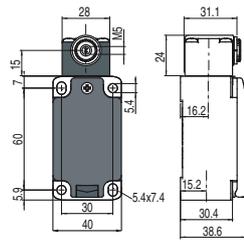
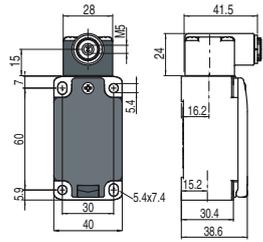
5	R	FP 556-M2 (1) 1NO+1NC	FP 556-M2R5 (1) 1NO+1NC	FP 556-M2R26 (1) 1NO+1NC	FP 556-M2R27 (1) 1NO+1NC
6	L	FP 656-M2 (1) 1NO+1NC	FP 656-M2R5 (1) 1NO+1NC	FP 656-M2R26 (1) 1NO+1NC	FP 656-M2R27 (1) 1NO+1NC
7	LO	FP 756-M2 (1) 1NO+1NC	FP 756-M2R5 (1) 1NO+1NC	FP 756-M2R26 (1) 1NO+1NC	FP 756-M2R27 (1) 1NO+1NC
9	L	FP 956-M2 (1) 2NC	FP 956-M2R5 (1) 2NC	FP 956-M2R26 (1) 2NC	FP 956-M2R27 (1) 2NC
16	LI	FP 1656-M2 (1) 2NC	FP 1656-M2R5 (1) 2NC	FP 1656-M2R26 (1) 2NC	FP 1656-M2R27 (1) 2NC
20	L	FP 2056-M2 (1) 1NO+2NC	FP 2056-M2R5 (1) 1NO+2NC	FP 2056-M2R26 (1) 1NO+2NC	FP 2056-M2R27 (1) 1NO+2NC
Max speed		page 135 - type 1	page 135 - type 1	page 135 - type 1	page 135 - type 1
Actuating force		0.1 Nm (0.25 Nm (1))	0.1 Nm (0.25 Nm (1))	0.1 Nm (0.25 Nm (1))	0.1 Nm (0.25 Nm (1))
Travel diagrams		page 136 - group 3b	page 136 - group 3b	page 136 - group 3b	page 136 - group 3b

(1) Positive opening only with lever adjusted on the max.

Position switches with roller lever without actuator

Contacts type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LI** = slow action independent



IMPORTANT

For safety applications: join only switches and actuators marked with symbol

Contact blocks

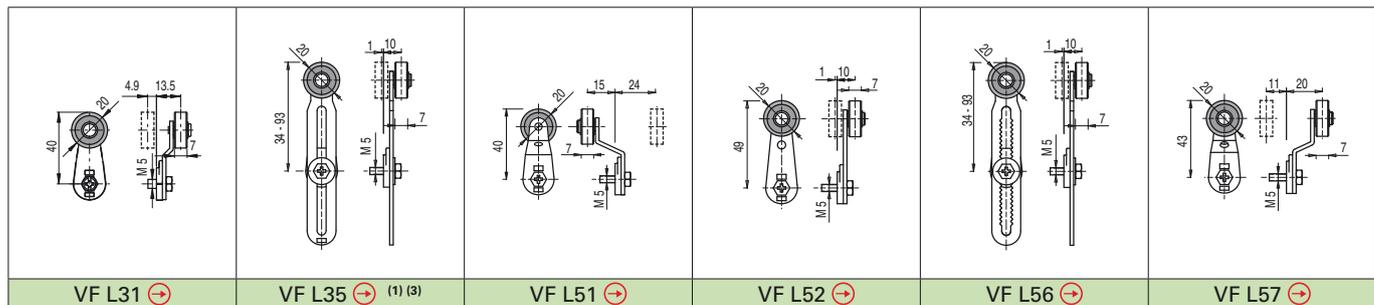
5	R	FP 538-M2		1NO+1NC	FP 558-M2		1NO+1NC
6	L	FP 638-M2		1NO+1NC	FP 658-M2		1NO+1NC
7	LO	FP 738-M2		1NO+1NC	FP 758-M2		1NO+1NC
9	L	FP 938-M2		2NC	FP 958-M2		2NC
16	LI	FP 1638-M2		2NC			
20	L	FP 2038-M2		1NO+2NC	FP 2058-M2		1NO+2NC
Max speed		page 135 - type 1		page 135 - type 1			
Actuating force		0.1 Nm (0.25 Nm)		0.06 Nm (0.25 Nm)			
Travel diagrams		page 136 - group 3b		page 136 - group 3b			

Loose actuators

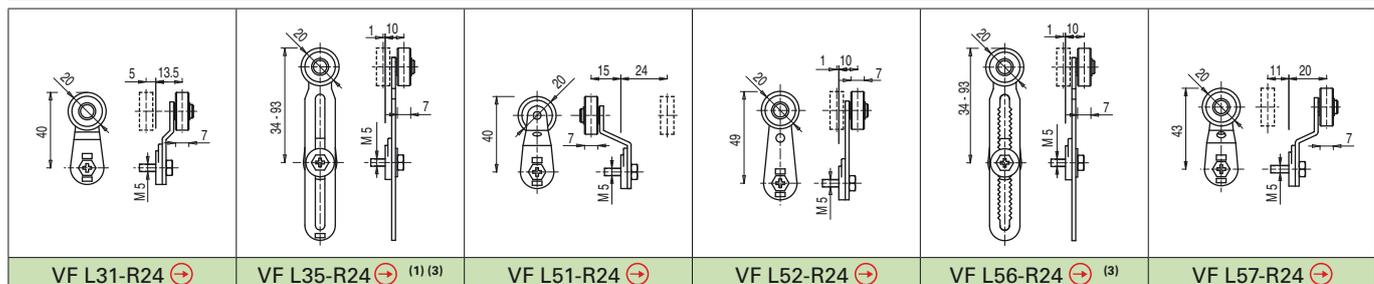
All measures in the drawings are in mm

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

Black tecopolymer rollers, Ø 20 mm



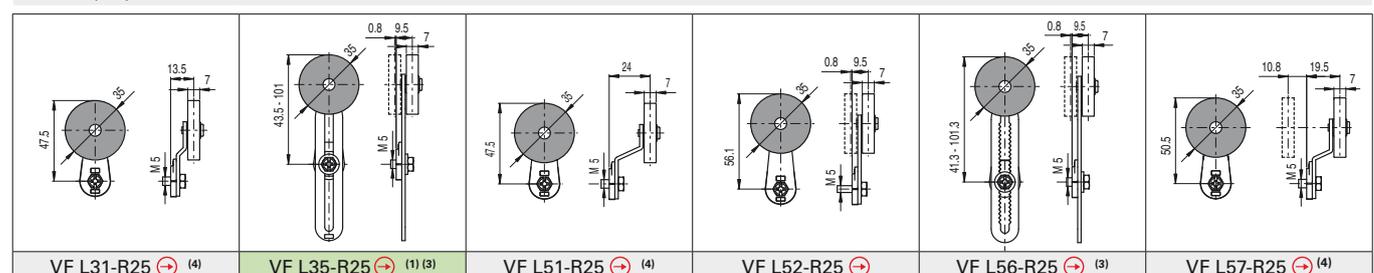
Stainless steel rollers, Ø 20 mm



Special loose actuators

All measures in the drawings are in mm

Technopolymer rollers, Ø 35 mm



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

Accessories See page 127

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

Ø 40 mm rubber rollers

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

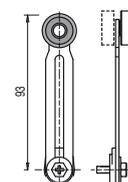
Ø 50 mm rubber rollers

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

Ø 50 mm overhanging rubber rollers

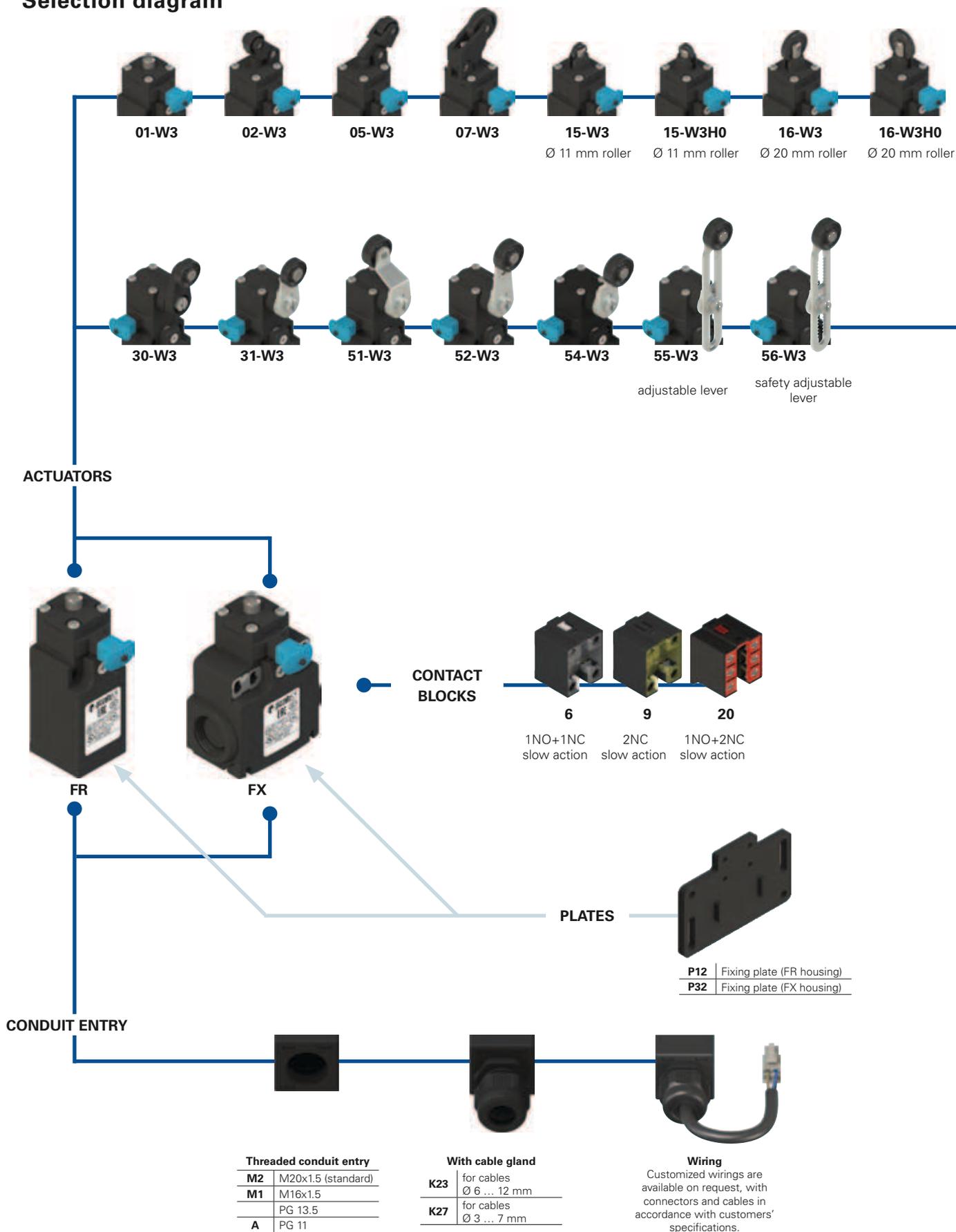
VF L35-R27 (1) (3)	VF L56-R27 (3)

- (1) Actuator VF L35 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 L56.
- (3) If it is installed with switch FP •58 (e.g. FP 558, FP 658..), the actuator can mechanically interfere with the housing of the switch. The interference could happen or not according to the actuator and the head fixing position.
- (4) The actuator cannot be oriented to inside direction because it will mechanically interfere with the switch head.



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

Selection diagram



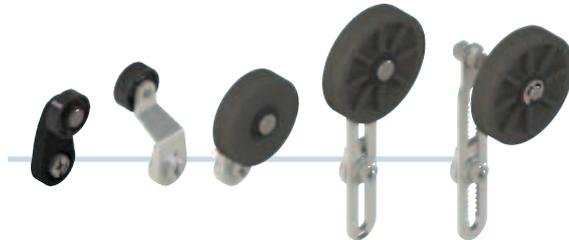
● product option
 → accessory sold separately



38-W3

without lever

LOOSE ACTUATORS
See page 36



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
FR 655-W3GM2K23P12R26T6

Housing				Ambient temperature	
FR	polymer housing, one conduit entry				-25°C ... +80°C (standard)
FX	polymer housing, two conduit entries			T6	-40°C ... +80°C
Contact blocks				Rollers	
6	1NO+1NC, slow action				standard roller
9	2NC, slow action			R5	with Ø 40 mm rubber roller
20	1NO+2NC, slow action			R26	with Ø 50 mm rubber roller
Actuators				R27	with Ø 50 mm overhanging rubber roller
01	short plunger			Fixing plate	
02	roller lever				without plate (standard)
05	offset roller lever			P12	supplied with plate VF SFP1 for FR housing
...			P32	supplied with plate VF SFP3 for FX housing
Reset hooking				Pre-installed cable glands	
W3	simultaneous reset (standard)			K23	for cables Ø 6 ... 12 mm
W4	simultaneous reset with increased force			K27	for cables Ø 3 ... 7 mm
Contact type				Threaded conduit entry	
	silver contacts (standard)			M2	M20x1.5 (standard)
G	silver contacts with 1 µm gold coating			M1	M16x1.5
G1	silver contacts with 2,5 µm gold coating (not for contact block 20)				PG 13.5
				A	PG 11



Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- External stainless steel parts versions
- Wired versions
- Silver contacts gold plated versions

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.AQ35.B.00454

Installation for safety applications:

Use only switches marked with the symbol \ominus . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-R262) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 134. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: \square
 FR series one threaded conduit entry: M20x1.5 (standard)
 FX series two knock-out threaded conduit entries: M20x1.5 (standard)
 Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 20 million operations cycles
 Assembling position: any
 Safety parameters B_{10D} : 40,000,00 for NC contacts
 Mechanical interlock, not coded: type 1 according to EN ISO 14119
 Driving torque for installation: see pagina 133

Cross section of the conductors (flexible copper wire)

Contact blocks 20:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max.	2 x 1.5 mm ²	(2 x AWG 16)
Contact blocks 6, 9:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 2.5 mm ²	(2 x AWG 14)

In conformity 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 81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with requirements requested by:

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

Positive contact opening in conformity with standards:

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

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc for contacts block 20
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contact blocks 20
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 400 Vac for contacts block 20
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contacts block 20
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_o): 400 Vac (50 Hz)
 Operation current (I_o): 3 A
 Forms of the contact element: Zb, Y+Y, Y+Y+X
 Positive opening of contacts on contact block 6, 9, 20
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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

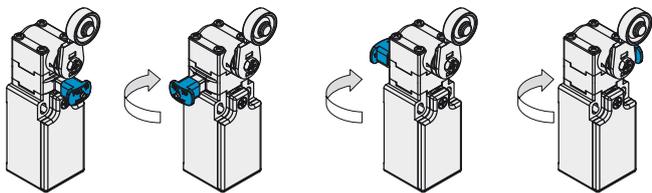
Data type approved by UL

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, CSA 22.2 No.14

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

Rotating reset device

The device can be rotated independently from the above actuator, making the product highly flexible in the positioning. The reset is obtained by pulling back the blue button, as prescribed by standards, to avoid that unwanted objects could reset it accidentally.

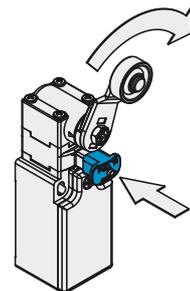


W3 simultaneous reset device

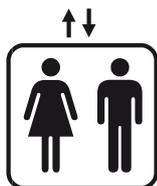
Pizzato Elettrica has developed and patented an innovative reset device.

By activating the switch this device forces the simultaneous electrical contacts tripping and the reset system hooking.

Therefore contact blocks with snap action are no more necessary and will not occur anymore problems caused by small differences between reset button hooking and contacts opening.



According to EN 81-20 and EN 81-50



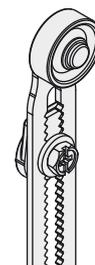
- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10⁶ cycles.

Protection degree IP67

IP67

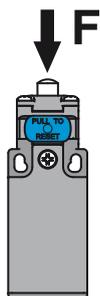
These series switches are all IP 67 rated.

Safety lever



The adjustable lever code 56 (and variants) is supplied with an indentation which blocks the lever slipping in case of fixing screw release.

Increased actuating force

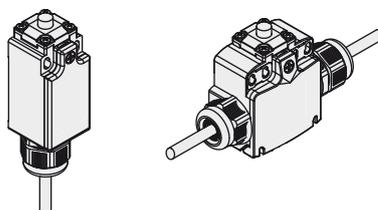


The switch can be supplied with an increased actuating force (option W4); ideal for applications with vibrations.

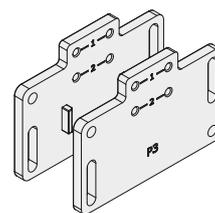
Actuator	Force
01, 14, 15, 16	7 N
02, 05	6 N
07	3.5 N
30 ... 56	0.08 Nm

Conduit entries

Switches with conduit entries in several directions are available, for applications also in restricted spaces.



Adaptive plates

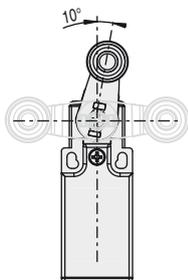


Adaptive plates provided with long slots for the adjustment of the actuating point, developed for compatibility with old products.

Every plate has a double couple of switch fixing holes, one for standard switches and the other one for switches with reset device. In this way the actuator will always have the same actuating point.

Adjustable levers

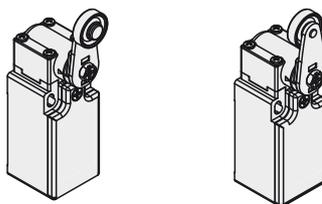
In switches with revolving lever it is possible to adjust the lever with 10° steps for the whole 360° range. The positive movement transmission is always guaranteed thanks to the particular geometrical coupling between the lever and the revolving shaft as prescribed for safety applications by the German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



Overturning levers

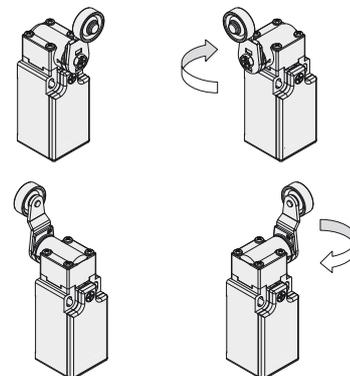
It's possible to fasten the lever on switches on straight or reverse side, maintaining the positive coupling.

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.



Extended temperature range

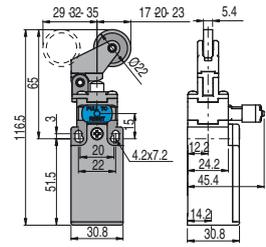
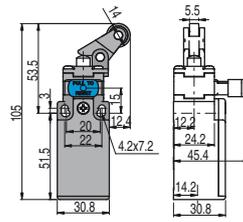
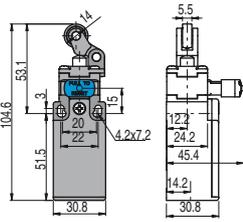
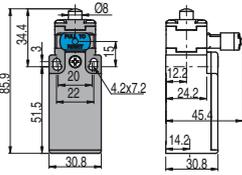
-40°C

This range of switches is also available in a special version with an ambient operating temperature range of -40°C to +80°C. This is particularly useful for applications in cold stores, sterilisers and other low temperature environments. The materials used in the production of these switches maintain the standard operating parameters even over this temperature range, further increasing application possibilities.

Switches with manual reset

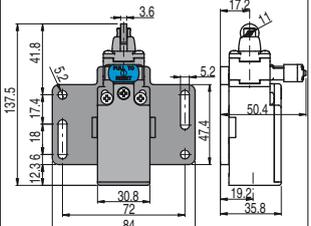
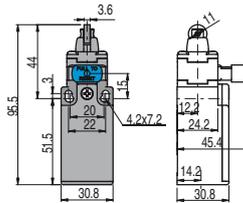
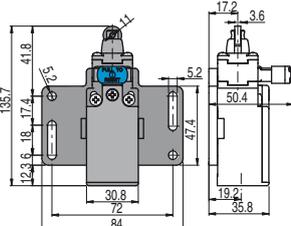
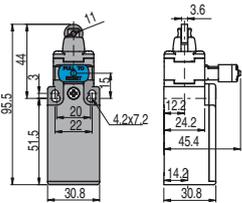
Contacts type:

L = slow action



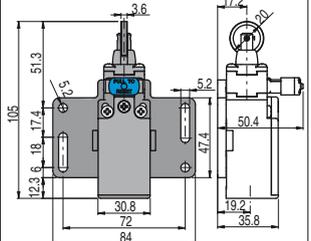
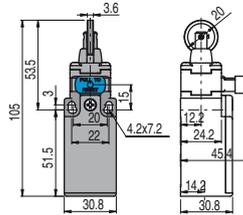
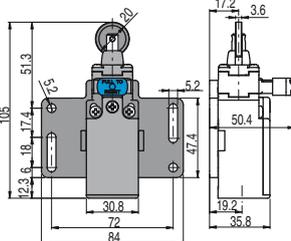
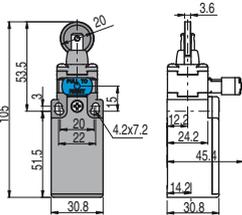
Contact blocks

6	L	FR 601-W3M2	➔ 1NO+1NC	FR 602-W3M2	➔ 1NO+1NC	FR 605-W3M2	➔ 1NO+1NC	FR 607-W3M2	➔ 1NO+1NC
9	L	FR 901-W3M2	➔ 2NC	FR 902-W3M2	➔ 2NC	FR 905-W3M2	➔ 2NC	FR 907-W3M2	➔ 2NC
20	L	FR 2001-W3M2	➔ 1NO+2NC	FR 2002-W3M2	➔ 1NO+2NC	FR 2005-W3M2	➔ 1NO+2NC	FR 2007-W3M2	➔ 1NO+2NC
Max speed		page 133 - type 4		page 133 - type 3		page 133 - type 3		page 133 - type 3	
Actuating force		4.5 N (25 N ➔)		4 N (25 N ➔)		4 N (25 N ➔)		2.5 N (25 N ➔)	
Travel diagrams		page 134 - group 1c		page 134 - group 2c		page 134 - group 2c		page 134 - group 3c	



Contact blocks

6	L	FR 615-W3M2	➔ 1NO+1NC	FR 615-W3M2P12	➔ 1NO+1NC	FR 615-W3H0M2	➔ 1NO+1NC	FR 615-W3H0M2P12	➔ 1NO+1NC
9	L	FR 915-W3M2	➔ 2NC	FR 915-W3M2P12	➔ 2NC	FR 915-W3H0M2	➔ 2NC	FR 915-W3H0M2P12	➔ 2NC
20	L	FR 2015-W3M2	➔ 1NO+2NC	FR 2015-W3M2P12	➔ 1NO+2NC	FR 2015-W3H0M2	➔ 1NO+2NC	FR 2015-W3H0M2P12	➔ 1NO+2NC
Max speed		page 133 - type 2		page 133 - type 2		page 133 - type 2		page 133 - type 2	
Actuating force		4.5 N (25 N ➔)		4.5 N (25 N ➔)		4.5 N (25 N ➔)		4.5 N (25 N ➔)	
Travel diagrams		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c	



Contact blocks

6	L	FR 616-W3M2	➔ 1NO+1NC	FR 616-W3M2P12	➔ 1NO+1NC	FR 616-W3H0M2	➔ 1NO+1NC	FR 616-W3H0M2P12	➔ 1NO+1NC
9	L	FR 916-W3M2	➔ 2NC	FR 916-W3M2P12	➔ 2NC	FR 916-W3H0M2	➔ 2NC	FR 916-W3H0M2P12	➔ 2NC
20	L	FR 2016-W3M2	➔ 1NO+2NC	FR 2016-W3M2P12	➔ 1NO+2NC	FR 2016-W3H0M2	➔ 1NO+2NC	FR 2016-W3H0M2P12	➔ 1NO+2NC
Max speed		page 133 - type 2		page 133 - type 2		page 133 - type 2		page 133 - type 2	
Actuating force		4.5 N (25 N ➔)		4.5 N (25 N ➔)		4.5 N (25 N ➔)		4.5 N (25 N ➔)	
Travel diagrams		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c	

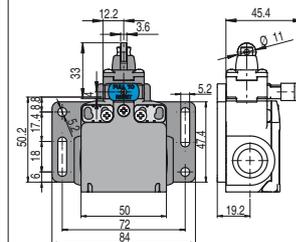
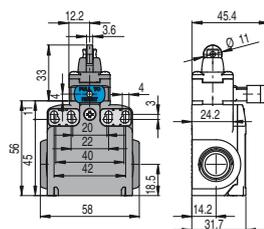
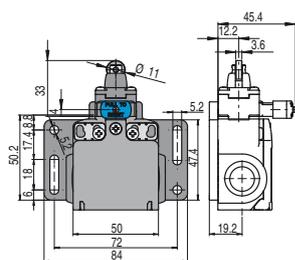
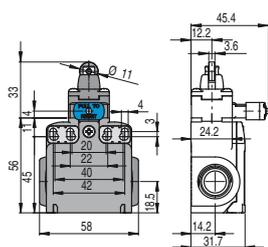
Items with code on the green background are available in stock

Accessories See page 127

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

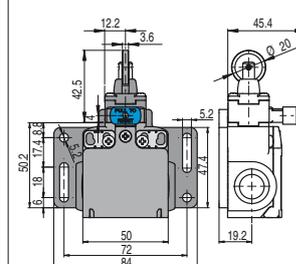
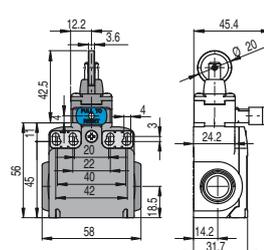
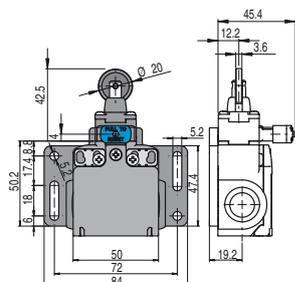
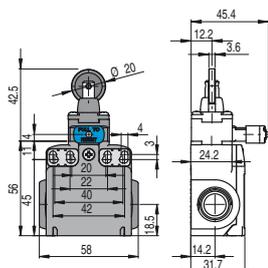
Contacts type:

L = slow action



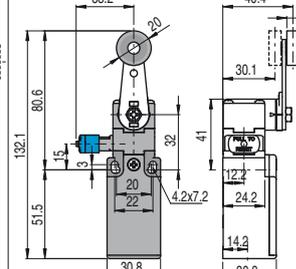
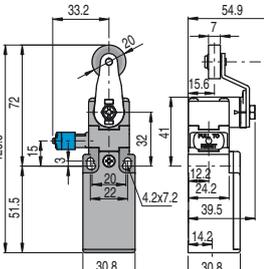
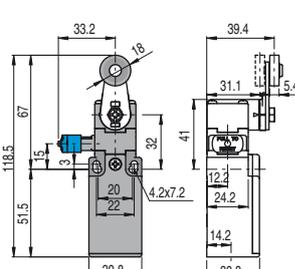
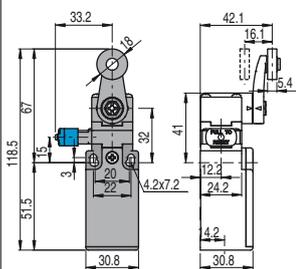
Contact blocks

6	L	FX 615-W3M2	⊕ 1NO+1NC	FX 615-W3M2P32	⊕ 1NO+1NC	FX 615-W3H0M2	⊕ 1NO+1NC	FX 615-W3H0M2P32	⊕ 1NO+1NC
9	L	FX 915-W3M2	⊕ 2NC	FX 915-W3M2P32	⊕ 2NC	FX 915-W3H0M2	⊕ 2NC	FX 915-W3H0M2P32	⊕ 2NC
20	L	FX 2015-W3M2	⊕ 1NO+2NC	FX 2015-W3M2P32	⊕ 1NO+2NC	FX 2015-W3H0M2	⊕ 1NO+2NC	FX 2015-W3H0M2P32	⊕ 1NO+2NC
Max speed		page 133 - type 2		page 133 - type 2		page 133 - type 2		page 133 - type 2	
Actuating force		4.5 N (25 N ⊕)		4.5 N (25 N ⊕)		4.5 N (25 N ⊕)		4.5 N (25 N ⊕)	
Travel diagrams		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c	



Contact blocks

6	L	FX 616-W3M2	⊕ 1NO+1NC	FX 616-W3M2P32	⊕ 1NO+1NC	FX 616-W3H0M2	⊕ 1NO+1NC	FX 616-W3H0M2P32	⊕ 1NO+1NC
9	L	FX 916-W3M2	⊕ 2NC	FX 916-W3M2P32	⊕ 2NC	FX 916-W3H0M2	⊕ 2NC	FX 916-W3H0M2P32	⊕ 2NC
20	L	FX 2016-W3M2	⊕ 1NO+2NC	FX 2016-W3M2P32	⊕ 1NO+2NC	FX 2016-W3H0M2	⊕ 1NO+2NC	FX 2016-W3H0M2P32	⊕ 1NO+2NC
Max speed		page 133 - type 2		page 133 - type 2		page 133 - type 2		page 133 - type 2	
Actuating force		4.5 N (25 N ⊕)		4.5 N (25 N ⊕)		4.5 N (25 N ⊕)		4.5 N (25 N ⊕)	
Travel diagrams		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c		page 134 - group 1c	

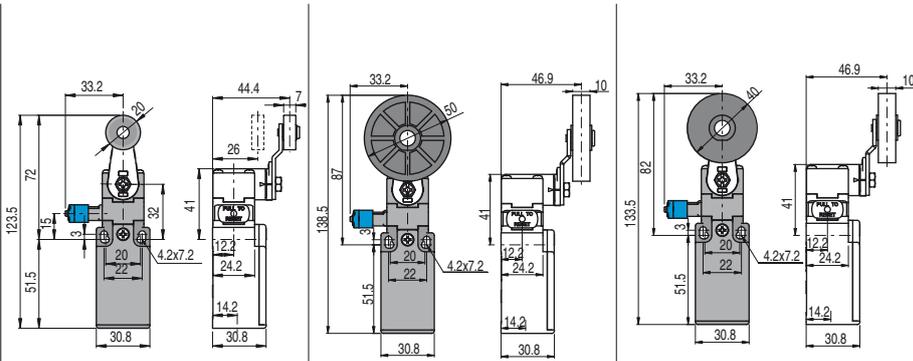


Contact blocks

6	L	FR 630-W3M2	⊕ 1NO+1NC	FR 631-W3M2	⊕ 1NO+1NC	FR 651-W3M2	⊕ 1NO+1NC	FR 652-W3M2	⊕ 1NO+1NC
9	L	FR 930-W3M2	⊕ 2NC	FR 931-W3M2	⊕ 2NC	FR 951-W3M2	⊕ 2NC	FR 952-W3M2	⊕ 2NC
20	L	FR 2030-W3M2	⊕ 1NO+2NC	FR 2031-W3M2	⊕ 1NO+2NC	FR 2051-W3M2	⊕ 1NO+2NC	FR 2052-W3M2	⊕ 1NO+2NC
Max speed		page 133 - type 1		page 133 - type 1		page 133 - type 1		page 133 - type 1	
Actuating force		0.07 Nm (0.25 Nm ⊕)		0.07 Nm (0.25 Nm ⊕)		0.07 Nm (0.25 Nm ⊕)		0.07 Nm (0.25 Nm ⊕)	
Travel diagrams		page 134 - group 4c		page 134 - group 4c		page 134 - group 4c		page 134 - group 4c	

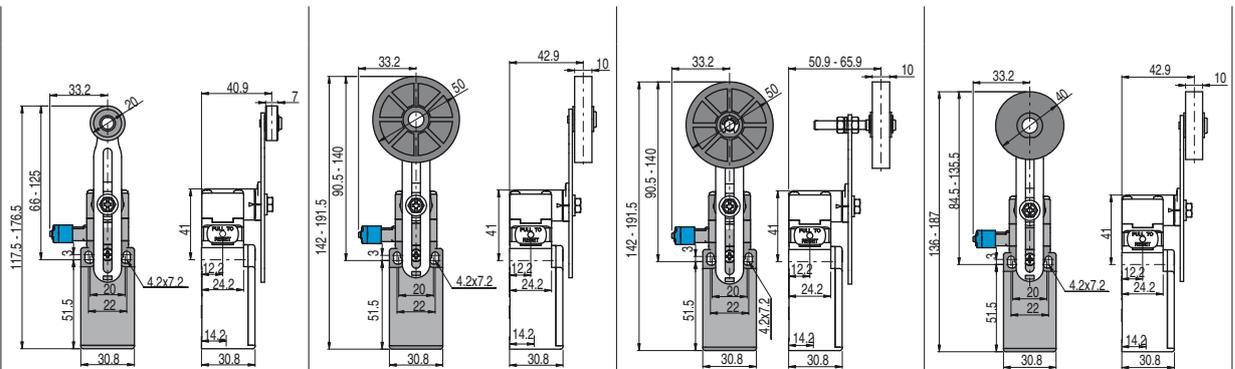
Contacts type:

L = slow action



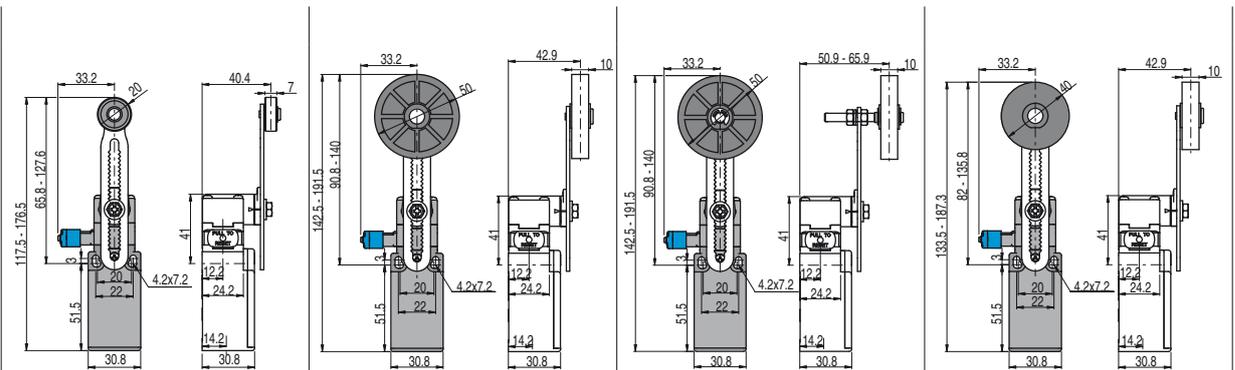
Contact blocks

6	L	FR 654-W3M2	➔	1NO+1NC	FR 654-W3M2R26	➔	1NO+1NC	FR 654-W3M2R5	➔	1NO+1NC
9	L	FR 954-W3M2	➔	2NC	FR 954-W3M2R26	➔	2NC	FR 954-W3M2R5	➔	2NC
20	L	FR 2054-W3M2	➔	1NO+2NC	FR 2054-W3M2R26	➔	1NO+2NC	FR 2054-W3M2R5	➔	1NO+2NC
Max speed		page 133 - type 1			page 133 - type 1			page 133 - type 1		
Actuating force		0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)		
Travel diagrams		page 134 - group 4c			page 134 - group 4c			page 134 - group 4c		



Contact blocks

6	L	FR 655-W3M2	➔ ⁽¹⁾	1NO+1NC	FR 655-W3M2R26	➔ ⁽¹⁾	1NO+1NC	FR 655-W3M2R27	➔ ⁽¹⁾	1NO+1NC	FR 655-W3M2R5	➔ ⁽¹⁾	1NO+1NC
9	L	FR 955-W3M2	➔ ⁽¹⁾	2NC	FR 955-W3M2R26	➔ ⁽¹⁾	2NC	FR 955-W3M2R27	➔ ⁽¹⁾	2NC	FR 955-W3M2R5	➔ ⁽¹⁾	2NC
20	L	FR 2055-W3M2	➔ ⁽¹⁾	1NO+1NC	FR 2055-W3M2R26	➔ ⁽¹⁾	1NO+2NC	FR 2055-W3M2R27	➔ ⁽¹⁾	1NO+2NC	FR 2055-W3M2R5	➔ ⁽¹⁾	1NO+2NC
Max speed		page 133 - type 1			page 133 - type 1			page 133 - type 1			page 133 - type 1		
Actuating force		0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)		
Travel diagrams		page 134 - group 4c			page 134 - group 4c			page 134 - group 4c			page 134 - group 4c		



Contact blocks

6	L	FR 656-W3M2	➔	1NO+1NC	FR 656-W3M2R26	➔	1NO+1NC	FR 656-W3M2R27	➔	1NO+1NC	FR 656-W3M2R5	➔	1NO+1NC
9	L	FR 956-W3M2	➔	2NC	FR 956-W3M2R26	➔	2NC	FR 956-W3M2R27	➔	2NC	FR 956-W3M2R5	➔	2NC
20	L	FR 2056-W3M2	➔	1NO+2NC	FR 2056-W3M2R26	➔	1NO+2NC	FR 2056-W3M2R27	➔	1NO+2NC	FR 2056-W3M2R5	➔	1NO+2NC
Max speed		page 133 - type 1			page 133 - type 1			page 133 - type 1			page 133 - type 1		
Actuating force		0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)		
Travel diagrams		page 134 - group 4c			page 134 - group 4c			page 134 - group 4c			page 134 - group 4c		

⁽¹⁾ Positive opening only with lever adjusted on the max.



Main features

Safety switch designed for over-speed governors where a high sensibility and a low actuating force are required.

Operation: the actuator of the switch has to be pressed up to the tripping point. Then the actuator snaps to the end of the travel, up to end of travel.

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation:
 One threaded conduit entry: M20x1.5 (standard)
 Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 1 million operations cycles (FR 5A3-M2 / FR 11A3-M2)
 50,000 operations cycles (FR 17A3-M2 / FR 19A3-M2)
 Assembling position: any
 Safety parameters B_{10D} for NC contacts: 2,000,000 (FR 5A3-M2 / FR 11A3-M2)
 100,000 (FR 17A3-M2 / FR 19A3-M2)
 Mechanical interlock, not coded: type 1 according to EN ISO 14119
 Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 5, 11, 17:
 min. 1 x 0.5 mm² (1 x AWG 20)
 max. 2 x 2.5 mm² (2 x AWG 14)

In conformity 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, EN81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/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 \ominus . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 134. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc (contacts block 11)
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 400 Vac for contacts block 11
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_e): 400 Vac (50 Hz)
 Operation current (I_e): 3 A
 Forms of the contact element: Zb, Y+Y, Y+Y+X
 Positive opening of contacts on contact block 5, 11, 17, 19
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

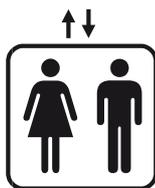
Please contact our technical service for the list of type approved products.

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, CSA 22.2 No.14.

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

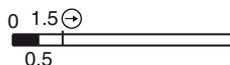
According to EN 81-20 and EN 81-50



- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- All switches are in compliance with the requirements set by the new standards on safety contacts.

Contact blocks 17 and 19

Pizzato Elettrica has developed innovative contact blocks, designed to offer a very short pre-travel and low actuating forces, as requested in modern over-speed devices.



Increased actuating force



The contact block 19 can be supplied on request with a increased actuating force 4 or 6 N, suitable for applications with strong vibrations.

Protection degree IP 67

IP67

These series switches are all IP 67 rated.

Code structure

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

article options options
FR 19A3-E26GM2K23P11T6

Housing	FR polymer housing, one conduit entry	Ambient temperature	-25°C ... +80°C (standard)
Contact blocks	5 1NO+1NC, snap action 11 2NC, snap action 17 1NC, snap action 19 2NC, snap action	T6	-40°C ... +80°C
Actuators	A3 short plunger	Fixing plate	without plate (standard) P11 with plate VF SFP1
Actuation force	standard actuation force E26 actuation force 4 N (19 N ⊕) (contact block 19 only) E27 actuation force 6 N (21 N ⊕) (contact block 19 only)	Threaded conduit entry	M2 M20x1.5 (standard) M1 M16x1.5 PG 13.5 A PG 11 K23 for cables Ø 6 ... 12 mm K27 for cables Ø 3 ... 7 mm
		Threaded conduit entry	
		Contact type	silver contacts (standard) G silver contacts with 1 µm gold coating G1 silver contacts with 2,5 µm gold coating

Dimensional drawings

All measures in the drawings are in mm

Contacts type:

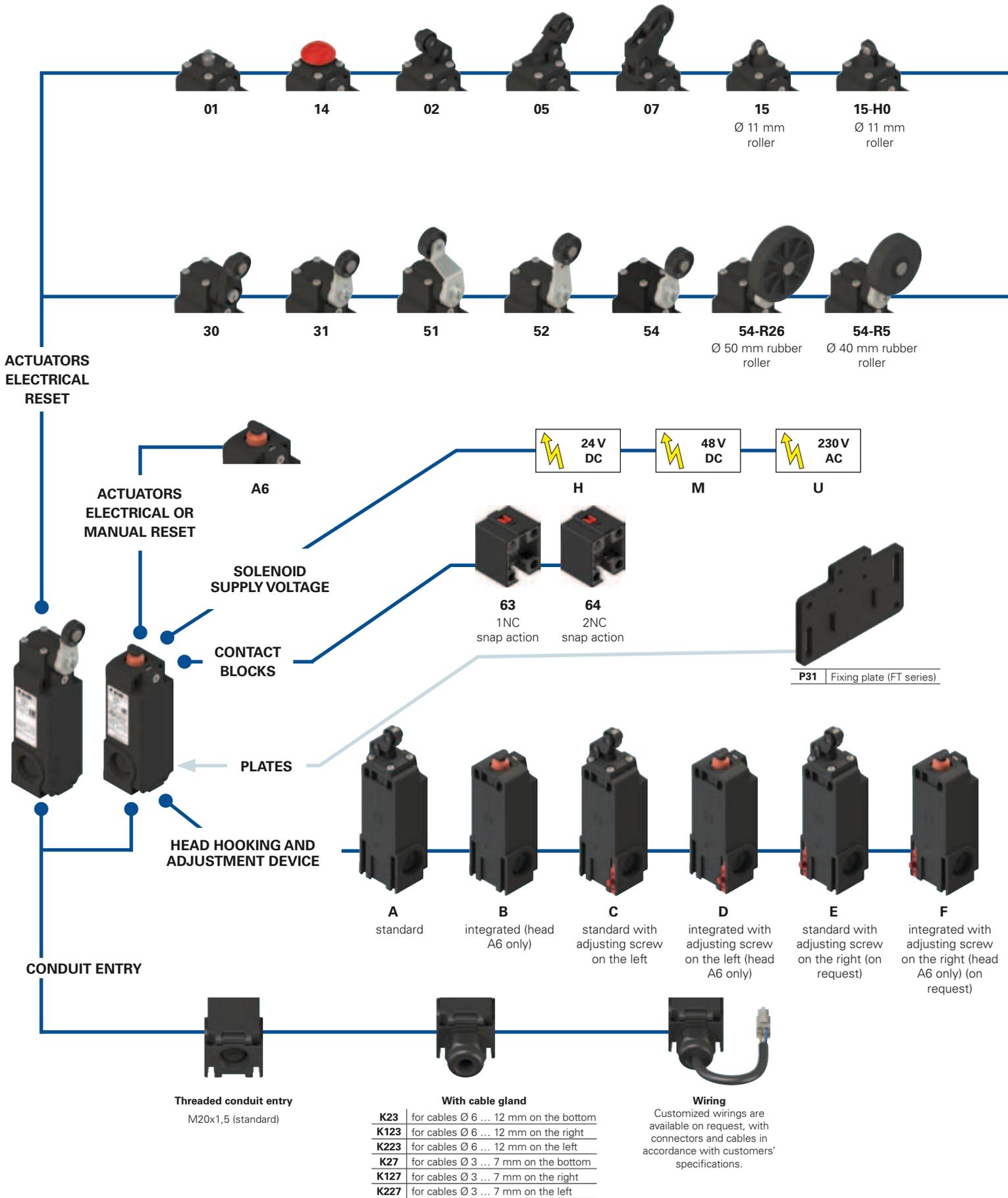
R = snap action

5 R FR 5A3-M2 ⊕ 1NO+1NC	11 R FR 11A3-M2 ⊕ 2NC	17 R FR 17A3-M2 ⊕ 1NC	19 R FR 19A3-M2 ⊕ 2NC
Max speed	0.5 m/s	0.5 m/s	0.5 m/s
Actuating force	3.5 N (25 N ⊕)	3.5 N (25 N ⊕)	2 N (25 N ⊕)
Travels diagrams			

Legend

■ Closed contact | □ Opened contact | ⊕40° Positive opening travel

Selection diagram





16
Ø 20 mm
roller

16-H0
Ø 20 mm
roller

12

13



56

56-R26

safety adjustable
lever with Ø 50
mm rubber roller

56-R27

safety adjustable
lever with Ø 50
mm overhanging
rubber roller

56-R5

safety adjustable
lever with Ø 40
mm rubber roller

38

**LOOSE
ACTUATORS**
See page 45

Code structure

article options

FT 2A6454AH-E27GK23P31R26

Housing	
FT	polymer housing, three conduit entries

Head hooking and adjustment device	
A	standard
B	integrated (actuator A6 only)
C	standard with adjusting screw on the left
D	integrated with adjusting screw on the left (actuator A6 only)
E	standard with adjusting screw on the left (on request)
F	integrated with adjusting screw on the left (actuator A6 only) (on request)

Contact blocks	
63	1NC, snap action
64	2NC, snap action

Actuators	
A6	plunger with manual reset
01	short plunger
02	roller lever
05	offset roller lever
...

Rollers	
	standard roller
R5	with Ø 40 mm rubber roller
R26	with Ø 50 mm rubber roller
R27	with Ø 50 mm overhanging rubber roller

Fixing plate	
	without plate (standard)
P31	supplied with plate VF SFP3

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

Actuation force	
E27	Standard actuating force
E26	Reduced actuating force
E28	Reduced actuating force

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) (reduced actuating force E28) only
J	24 Vdc 1.5 A (36 W) (reduced actuating force E28) only



Main data

- Different actuating force versions
- Versions with adjusting screw
- Polymer housing, with one or two conduit entries
- Protection degree IP67

Quality marks:



Approval UL: E131787
Approval EAC: RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: 
Three knock-out threaded conduit entries: M20 x1.5
Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +50°C
Version for operation in ambient temperature from -40°C to +50°C on request
Mechanical endurance: 50,000 operations cycles
Assembling position: any
Safety parameters B_{10D} : 100,000 for NC contacts
Mechanical interlock, not coded: type 1 according to EN ISO 14119
Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 63, 64: min. 1 x 0.34 mm² (1 x AWG 22)
max. 2 x 1.5 mm² (2 x AWG 16)

Solenoid

Rated operational 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 Vac ±10%; 0.5 A (115 W)

Solenoid protection 24 Vdc (4.2 A): fuse 5 A type F
Solenoid protection 24 Vdc (1.5 A): fuse 2 A type F
Solenoid protection 48 Vdc (2.1 A): fuse 2.5 A type F
Solenoid protection 48 Vdc (0.75 A): fuse 1 A type F
Solenoid protection 230 Vac (0.5 A): fuse 0.8 A, type F
Power supply time: min. 0.2 s, max 0.5 s
Time without power supply: min. 30 s
Max operating frequency: 118 operations cycles/hour

In conformity with standards:

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

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/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 . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 134. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

 **If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.**

Electrical data

Utilization categories

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 according to EN 60947-5-1
Protection against short circuits: fuse 10 A 500 V type aM
Pollution degree: 3

Alternate 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) 6 1.1 0.4

Data type approved by UL

Utilization categories Q300 (69 VA, 125-250 Vdc)
A600 (720 VA, 120-600 Vac)
Data of the housing type 1, 4X "indoor use only", 12, 13
For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
In conformity with standard: UL 508, CSA 22.2 No.14.

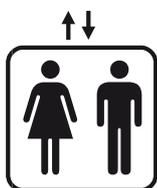
Please contact our technical service for the list of approved products.

Introduction



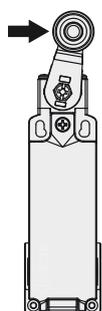
When the FT series safety switches with reset are operated they remain switched and they reset electrically through the integrated solenoid. Thanks to this feature it's possible to remote reset the switch without being physically near it. They are available with different actuators and are adapt to many applications, particularly to the lift, the over-speed governor and generally to the safety field. Some items can also be supplied with the manual reset.

According to EN 81-20 and EN 81-50



- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- All switches are in compliance with the requirements set by the new standards on safety contacts.

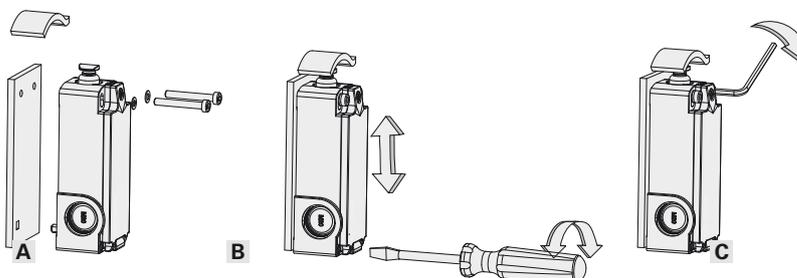
Reduced actuating force (E26/E28)



On request FT series switches can be supplied with a reduced actuating force.

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,	0.06 Nm
51, 52, 54, 56	(0.25 Nm ⊖)

Adjustment system version (C, D, E, F housing)



Pizzato Elettrica introduces a new integrated adjustment system designed purposely for applications on over-speed devices. The system allows a fine and sensitive adjustment of the switch position along its vertical axis.

Characteristics:

- Easy installation and adjustment
- Accurate vertical adjustment
- Wide adjustment travel (up to 4 mm)
- Unlosable components

Operation:

- Make a hole in the fixing plate to insert the adjusting pin on the back of the switch. Apply the switch to the over-speed device without blocking the two fixing screws.
- Adjust the switch position by the screw on the front.
- Finally lock the switch body to the over-speed device.

Protection degree IP 67

IP67

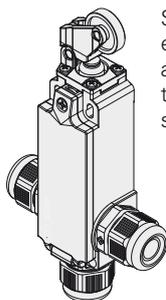
These series switches are all IP67 rated.

Safety lever



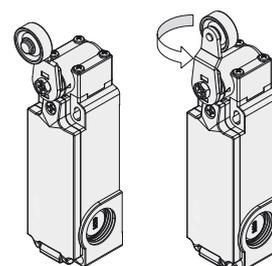
The adjustable lever code 56 (and variants) is supplied with an indentation which blocks the lever slipping in case of fixing screw release.

Conduit entries



Switches with conduit entries in several directions are available, for applications also in restricted spaces.

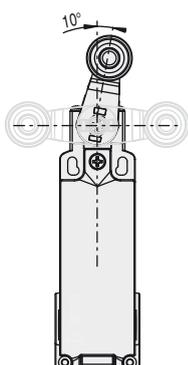
Overturning levers



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.

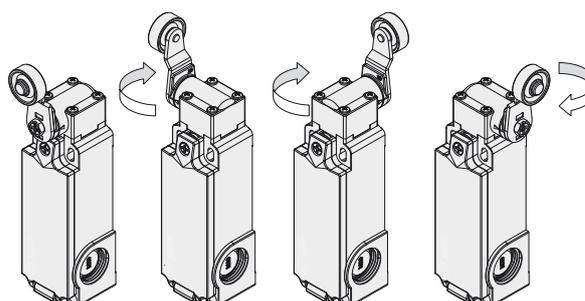
Adjustable levers

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.



Rotating heads

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

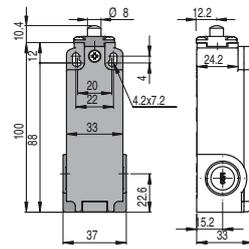
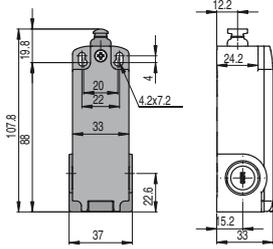


Switches with electrical reset FT series

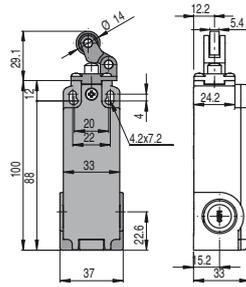
Contacts type:

R = snap action

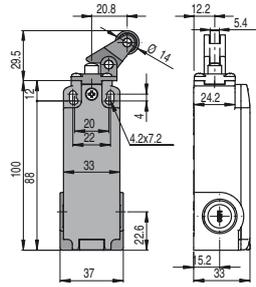
With external rubber gasket



With stainless steel roller on request

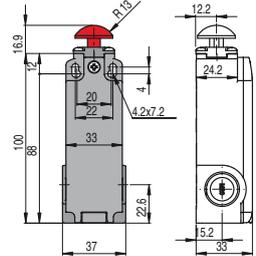
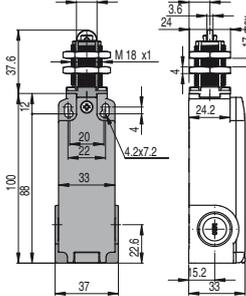
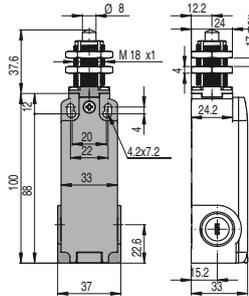
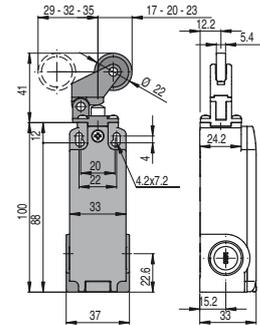


With stainless steel roller on request



Contact blocks

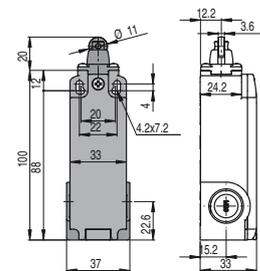
63	R	FT 2B63A6AH-E27	⊕ 1NC	FT 2A6301AH-E27	⊕ 1NC	FT 2A6302AH-E27	⊕ 1NC	FT 2A6305AH-E27	⊕ 1NC
64	R	FT 2B64A6AH-E27	⊕ 2NC	FT 2A6401AH-E27	⊕ 2NC	FT 2A6402AH-E27	⊕ 2NC	FT 2A6405AH-E27	⊕ 2NC
Max speed	page 133 - type 4			page 133 - type 4		page 133 - type 3		page 133 - type 3	
Actuating force	5 N (25 N ⊕)			6 N (25 N ⊕)		5 N (25 N ⊕)		5 N (25 N ⊕)	
Travel diagrams	page 134 - group 1d			page 134 - group 2d		page 134 - group 3d		page 134 - group 3d	



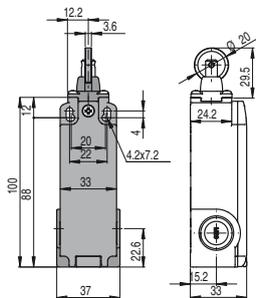
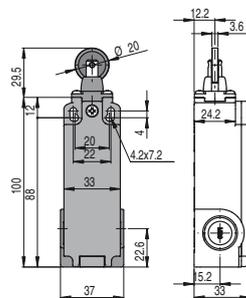
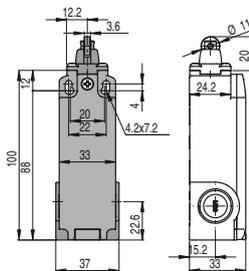
Contact blocks

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 133 - type 2			page 133 - type 4		page 133 - type 2		page 133 - type 2	
Actuating force	3 N (25 N ⊕)			6 N (25 N ⊕)		6 N (25 N ⊕)		6 N (25 N ⊕)	
Travel diagrams	page 134 - group 4d			page 134 - group 2d		page 134 - group 2d		page 134 - group 2d	

On request Ø 12 mm stainless steel roller



On request Ø 12 mm stainless steel roller



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 133 - type 2			page 133 - type 2		page 133 - type 2		page 133 - type 2	
Actuating force	6 N (25 N ⊕)			6 N (25 N ⊕)		6 N (25 N ⊕)		6 N (25 N ⊕)	
Travel diagrams	page 134 - group 2d			page 134 - group 2d		page 134 - group 2d		page 134 - group 2d	

Contacts type:
R = snap action

	With Ø 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
Contacts type:				
Contact blocks				
63 R	FT 2A6330AH-E27 → 1NC	FT 2A6331AH-E27 → 1NC	FT 2A6351AH-E27 → 1NC	FT 2A6352AH-E27 → 1NC
64 R	FT 2A6430AH-E27 → 2NC	FT 2A6431AH-E27 → 2NC	FT 2A6451AH-E27 → 2NC	FT 2A6452AH-E27 → 2NC
Max speed	page 133 - type 1	page 133 - type 1	page 133 - type 1	page 133 - type 1
Actuating force	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)
Travel diagrams	page 134 - group 5d	page 134 - group 5d	page 134 - group 5d	page 134 - group 5d

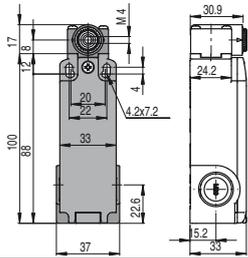
Contact blocks			
63 R	FT 2A6354AH-E27 → 1NC	FT 2A6354AH-E27R26 → 1NC	FT 2A6354AH-E27R5 → 1NC
64 R	FT 2A6454AH-E27 → 2NC	FT 2A6454AH-E27R26 → 2NC	FT 2A6454AH-E27R5 → 2NC
Max speed	page 133 - type 1	page 133 - type 1	page 133 - type 1
Actuating force	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)
Travel diagrams	page 134 - group 5d	page 134 - group 5d	page 134 - group 5d

Contact blocks				
63 R	FT 2A6356AH-E27 → 1NC	FT 2A6356AH-E27R26 → 1NC	FT 2A6356AH-E27R27 → 1NC	FT 2A6356AH-E27R5 → 1NC
64 R	FT 2A6456AH-E27 → 2NC	FT 2A6456AH-E27R26 → 2NC	FT 2A6456AH-E27R27 → 2NC	FT 2A6456AH-E27R5 → 2NC
Max speed	page 133 - type 1	page 133 - type 1	page 133 - type 1	page 133 - type 1
Actuating force	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)	0.08 Nm (0.25 Nm →)
Travel diagrams	page 134 - group 5d	page 134 - group 5d	page 134 - group 5d	page 134 - group 5d

Position switches with roller lever without actuator

Contacts type:

R = snap action



Contact blocks

63	R	FT 2A6338AH-E27	1NC
64	R	FT 2A6438AH-E27	2NC
Max speed	page 133 - type 2		
Actuating force	0.08 Nm (0.25 Nm)		
Travel diagrams	page 134 - group 5d		

IMPORTANT

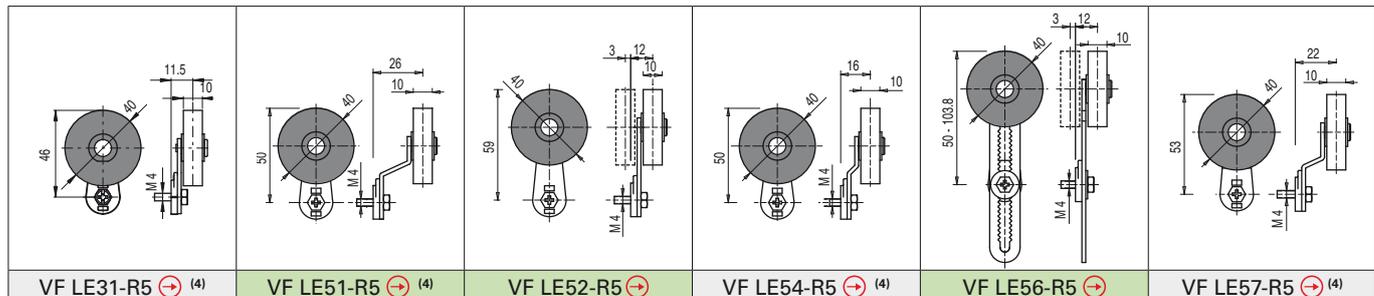
For safety applications: join only switches and actuators marked with symbol ⊕.

Special loose actuators

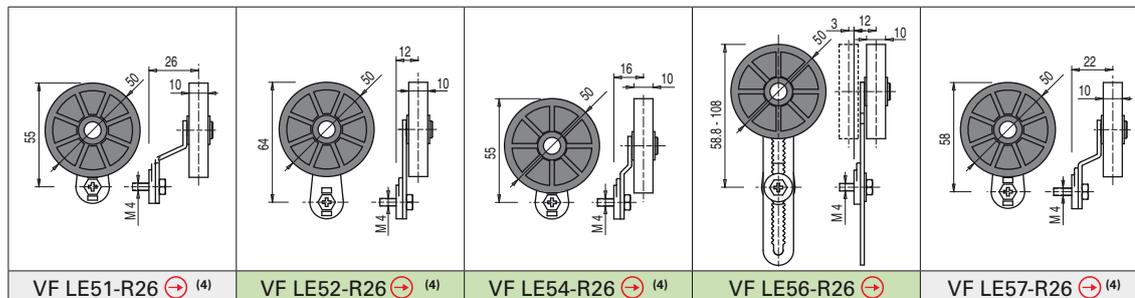
All measures in the drawings are in mm

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

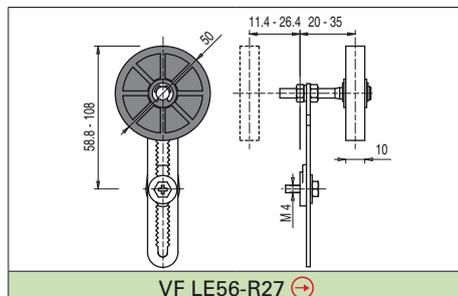
Ø 40 mm rubber rollers



Ø 50 mm rubber rollers



Ø 50 mm overhanging rubber rollers

⁽⁴⁾ The actuator cannot be oriented to inside direction because it will mechanically interfere with the switch head.Items with code on the **green** background are available in stock

Accessories See page 127

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



Main data

- Housing made of glass-reinforced polymer, self-extinguishing
- Self-cleaning contacts made of solid silver
- Possibility of application with the cable side close to the wall
- Frontal actuation
- Protection degree from IP00 to IP20
- Transparent cover

Quality marks:



Approval IMQ-UNI: CA50.00541
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.A.135.B.00454

Technical data

Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin
 Protection degree: IP00 according to EN 60529 (DS A•5VA)
 IP20 according to EN 60529 (DS A•1VA)

General data

Ambient temperature: -30°C ... +80°C
 (humidity ≤ 95%, without condensation)
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 10 millions of operations cycles (DS A•1VA)
 5 millions of operations cycles (DS A•5VA)
 Mechanical interlock, not coded: type 1 according to EN ISO 14119
 Safety parameters B_{10D} : 20,000,000 (DS A•1VA)
 10,000,000 (DS A•5VA)
 Max actuating speed: 0.5 m/s
 Min. actuating speed: 1 mm/s
 Actuating force: 1.2 ... 2.1 N (DS A•1VA)
 1.2 ... 1.7 N (DS A•5VA)
 With reduced actuating force on request: 0.8 ... 1.3 N (DS A•1VA)
 0.8 ... 1.1 N (DS A•5VA)
 Driving torque for installation: see page 137
 Fixing screw: M4 self-tapping screw
 Available on request versions with longer fixing screw

Cross section of the conductors (flexible copper wire)

min. 1 x 0.5 mm² (1 x AWG 20)
 max. 1 x 2.5 mm² (1 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 60529, EN ISO 14119, EN 60529, 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, GB14048.5-2001.

In conformity with requirements requested by:

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

Positive contact opening in conformity with standards:

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

Electrical data

Thermal current (I_{th}): 4 A
 Rated insulation voltage (U_i): 500 Vac
 Rated impulse with stand voltage (U_{imp}): 6 kV
 Protection against short circuits: fuse 4 A
 500 V type gG
 Pollution degree: 3

According
 EN 60947-5-1

EN 81-20 par. 5.11.2.2

Utilization categories:

AC15 (50, 60 Hz)

U_e (V) 120 250

I_e (A) 3 3

DC13

U_e (V) 125 250

I_e (A) 0.55 0.27

According

EN 81-50 par. 5.2.2.4

Utilization categories:

AC (50, 60 Hz)

U_e (V) 230 Vac

I_e (A) 2 A

DC:

U_e (V) 200 Vdc

I_e (A) 2 A

According

EN 81-50 par.

5.2.2.2.2

Utilization categories:

AC (50, 60 Hz)

U_e (V) 230 Vac

I_e (A) 2 A

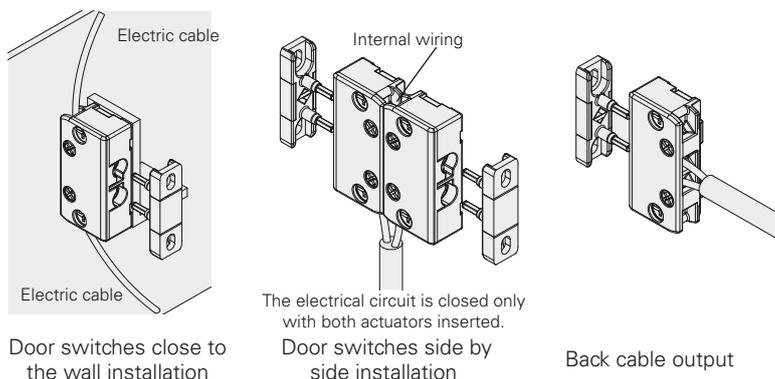
DC:

U_e (V) 125 Vdc

I_e (A) 0.5 A

Application examples

These devices have several cable outputs to allow installation also in restricted spaces, for example:



Data type approved by UL

Utilization categories Q300 (69 VA, 125-250 Vdc), 120-240 Vac, 3 A pilot duty, 5 A thermal current

For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG.
 Terminal tightening torque of 7.1 lb in (0.8 Nm).

In conformity with standard: UL 508, CSA 22.2 No.14.

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

Dimensional drawings

10 pcs packs

	Door switches with internal contacts		Door switches with external contacts	
	Switch without actuator	Switch without actuator	Switch without actuator	Switch without actuator
Slow action contacts	DS AA1VA 1NC	DS AE1VA 1NC	DS AA5VA 1NC	DS AE5VA 1NC
Max actuating travel	8 mm	8 mm	6 mm	6 mm
Travels diagrams				

Legend

Closed contact | Opened contact | 40° Positive opening travel

All measures in the drawings are in mm

Actuators for door switches with internal contacts

10 pcs packs

Article	Description	Article	Description
DS KA1A	Straight actuator	DS KB1A	Right-angled actuator
DS KA2A	Straight actuator	DS KB2A	Right-angled actuator
DS KA3A	Straight actuator	DS KB3A	Right-angled actuator

Actuator for door switches with external contacts

10 pcs packs

Article	Description
DS KP5A	Plane actuator

Centering device

100 pcs packs

Article	Description
VD CE1A20	Centering device

The centering device can be used on actuators type DS KA•• and DS KB••. It grants an easy centering of the actuators on DS A•1VA switches during the fitting stage

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

Accessories See page 127

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



Main data

- Housing made of glass-reinforced polymer, self-extinguishing
- Self-cleaning contacts made of solid silver
- Three wiring possibilities
- Protection degree IP20
- Transparent cover

Quality marks:



Approval IMQ-UNI: CA50.00541
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.A135.B.00454

Technical data

Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin
 Protection degree: IP20 according to EN 60529

General data

Ambient temperature: -30°C ... +80°C
 (humidity ≤ 95%, without condensation)
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 20 millions of operations cycles
 Mechanical interlock, not coded: type 1 acc. to EN ISO 14119
 Safety parameters B_{10D} : 40,000,000 for NC contacts
 Max actuating speed: 0.5 m/s
 Min. actuating speed: 1 mm/s
 Max actuating force: 1.5 N
 Driving torque for installation: see page 137

Cross section of the conductors (flexible copper wire)

min. 1 x 0.5 mm² (1 x AWG 20)
 max. 1 x 2.5 mm² (1 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 60529, EN ISO 14119, EN 60529, 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, GB14048.5-2001.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2014/33/UE.

Positive contact opening in conformity with standards:

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

Electrical data

Thermal current (I_{th}): 6 A
 Rated insulation voltage (U_i): 500 Vac
 Rated impulse with stand voltage (U_{imp}): 6 kV
 Protection against short circuits: fuse 6 A
 500 V type G G
 Pollution degree: 3

According

EN 60947-5-1
 EN 81-20 par. 5.11.2.2
 Utilization categories:
 AC15 (50, 60 Hz)
 U_e (V) 120 250
 I_e (A) 3 3
 DC13
 U_e (V) 125 250
 I_e (A) 0.8 0.45

According

EN 81-50
 par. 5.2.2.2.2
 AC (50, 60 Hz)
 230 Vac
 2 A
 DC:
 200 Vdc
 2 A

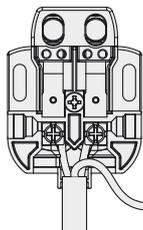
According

EN 81-50
 par. F.1.2.2.1.1
 AC (50, 60 Hz)
 230 Vdc
 2 A
 DC:
 125 Vdc
 1 A

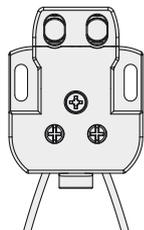
According

UL508
 Ratings:
 AC (50, 60 Hz)
 C300
 DC:
 Q300

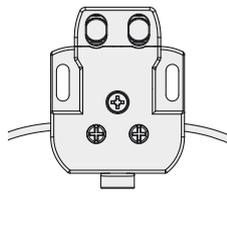
Three wiring possibilities



Standard wiring



Fast bottom wiring



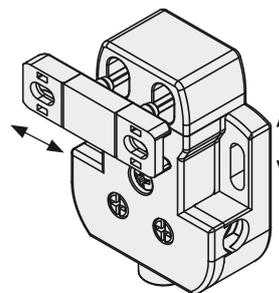
Fast lateral wiring

With a bipolar cable through the central hole on the housing bottom. Furthermore, using a three-pole cable it is possible to use the lateral hole with a wire for earthing other metal parts.

With two monopolar cables through two holes on the housing bottom. During this operation there is no need to open the contact cover.

With two monopolar cables through two holes on the housing sides. During this operation there is no need to open the contact cover.

Transparent head and slotted holes

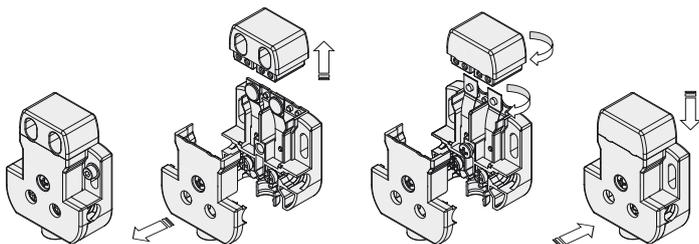


Transparent head on all sides in order to allow adjustment and centering of the actuator with the contacts.

The slotted holes on the actuator and on the contact housing allow to obtain a correct alignment between these two devices.

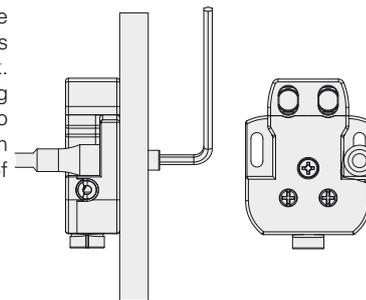
Rotating heads

By rotating the head and the contact reeds of 180° it is possible to transform a door switch with frontal actuation into a door switch with actuation from back. The whole operation is possible by simply unscrewing three screws.



Housing back fixing

The particular shape of the housing allows fixing from the back. In fact near the fixing holes it is possible to fit a tubular wrench in order to keep hold of the nut while fixing.



Dimensional drawings

10 pcs packs

	frontal actuation	back actuation
	Switch without actuator	Switch without actuator
	A= Direction for inserting the actuator	A= Direction for inserting the actuator
Slow action contacts	DS CH1VA0 1NC	DS CN1VA0 1NC
Max actuating travel	6 mm	6 mm
Travels diagrams		

Legend

— Closed contact | — Opened contact | ⊕40° Positive opening travel

All measures in the drawings are in mm

Centering device

100 pcs packs

Article	Description
VD CE1A20	Centering device
	The centering device can be used on actuators type DS KA●● and DS KB●●. It grants an easy centering of the actuators on DS C●1VA switches during the fitting stage

Actuators

10 pcs packs

Article	Description	Article	Description
DS KA1A	Straight actuator	DS KB1A	Right-angled actuator
DS KA2A	Straight actuator	DS KB2A	Right-angled actuator
DS KA3A	Straight actuator	DS KB3A	Right-angled actuator

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

Accessories See page 127

Items with code on the green background are available in stock



Main data

- Reduced actuating force
- Protection degree IP67
- Polymer housing, one or two conduit entries
- Possibility of fixing the actuator in 2 perpendicular positions with respect to each other

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.A435.B.00454

Installation for safety applications:

Use only switches marked with the symbol \ominus . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the actuating force.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Technical data

Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation \square

FR series one knock-out threaded conduit entry: M20x1.5 (M16x1.5 on request)

FX series two knock-out threaded conduit entries: M20x1.5 (M16x1.5 on request)

Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Version for operation in ambient temperature from -40°C to +80° C on request
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 10 million operations cycles
 Mechanical interlock, not coded: type 1 acc. to EN ISO 14119
 Safety parameters B_{10D} : 20,000,000 for NC contacts
 Max actuating speed: 0.5 m/s
 Min. actuating speed: 1 mm/s
 Assembling position: any
 Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 38, 39: min. 1 x 0.5 mm² (1 x AWG 20)
 max. 2 x 2.5 mm² (2 x AWG 14)

In conformity 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 81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, Lift Directive 2017/33/EU.

Positive contact opening in conformity with standards:

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

Electrical data

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 according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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) 6 1.1 0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_e): 400 Vac (50 Hz)
 Operation current (I_e): 3 A
 Forms of the contact element: Y, Y+Y
 Positive opening of contacts on contact block 38, 39
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, CSA 22.2 No.14

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

Dimensional drawings

All measures in the drawings are in mm

Contacts type:

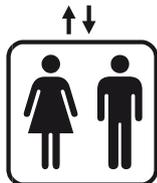
L = slow action

Contact blocks	FR 38B1-D30M2 \oplus 1NC	FR 39B1-D30M2 \oplus 2NC	FX 38B1-D30M2 \oplus 1NC	FX 39B1-D30M2 \oplus 2NC
Actuating force	3 N (25 N \oplus)	4.2 N (25 N \oplus)	3 N (25 N \oplus)	4.2 N (25 N \oplus)
Travels diagrams				

Legend

Closed contact | Opened contact | $\oplus 40^\circ$ Positive opening travel

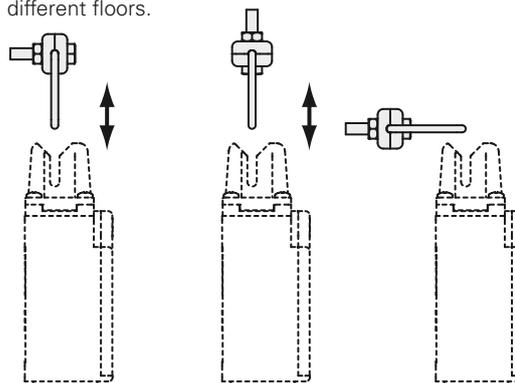
According to EN 81-20 and EN 81-50



- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10^6 cycles.

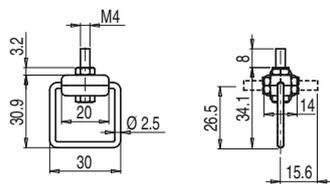
Adjustable actuator

It is possible to fix the actuator in two positions perpendicular to each other. Furthermore it is possible to operate the switch from different floors.



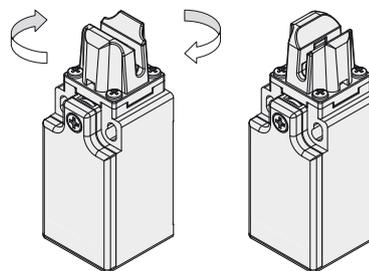
Separate actuator

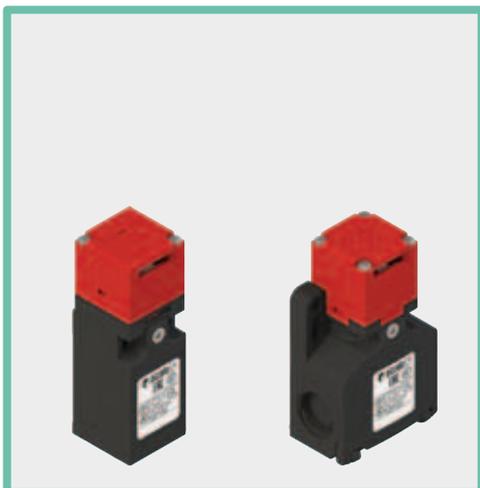
Article	Description
VF KEYD30	Adjustable actuator



Rotating heads

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





Main data

- Polymer housing, from one to three conduit entries
- Protection degree IP67
- 6 stainless steel actuators available
- M12 assembled connector versions
- Silver contacts gold plated versions

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: 
 FR series one threaded conduit entry: M20x1.5 (M16x1.5 on request)
 FK series one threaded conduit entry: M16x1.5
 FX series two knock out threaded conduit entries: M20x1.5 (M16x1.5 on request)
 FW series three knock out threaded conduit entries: M20x1.5
 Protection degree: IP67 according to EN 60529 (electrical contacts) with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Version for operation in ambient temperature from -40°C to +80°C on request
 Max operating frequency: 3600 operations cycles/hour
 Mechanical endurance: 1 million of operations cycles
 Mechanical interlock, coded: type 2 acc. to EN ISO 14119
 Coding level: Low acc. to EN ISO 14119
 Safety parameters B_{10D} : 2,000,000 for NC contacts
 Max actuating speed: 0.5 m/s
 Min. actuating speed: 1 mm/s
 Actuator extraction force: 10 N
 Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 20, 33, 34:	min. 1 x 0.34 mm ²	(1 x AWG 22)
	max. 2 x 1.5 mm ²	(2 x AWG 16)
Contact blocks 6:	min. 1 x 0.5 mm ²	(1 x AWG 20)
	max. 2 x 2.5 mm ²	(2 x AWG 14)

In conformity 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, EN81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with requirements requested by:

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

Positive contact opening in conformity with standards:

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

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc (contacts block 20, 33, 34)
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contact blocks 20, 33, 34
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 400 Vac contact blocks 20, 33, 34
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV Vac contact blocks 20, 33, 34
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_o): 400 Vac (50 Hz)
 Operation current (I_o): 3 A
 Forms of the contact element: Zb, Y+Y
 Positive opening of contacts on contact block 6, 20, 33, 34
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, UL 508, CSA 22.2 No.14

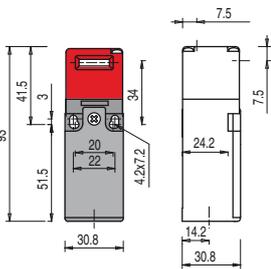
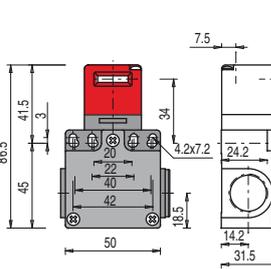
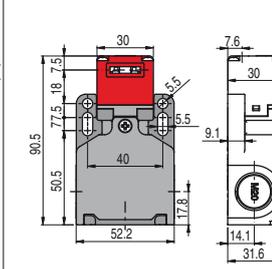
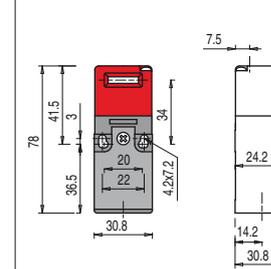
Please contact our technical service for the list of approved products.

Dimensional drawings

All measures in the drawings are in mm

Contacts type:
L = slow action

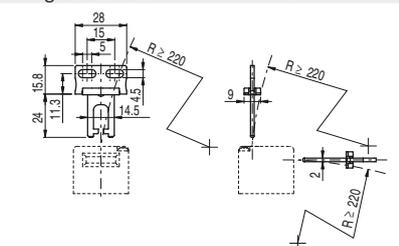
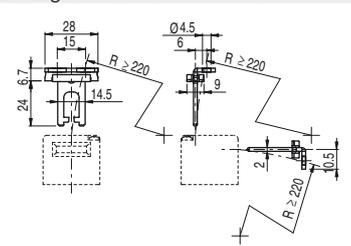
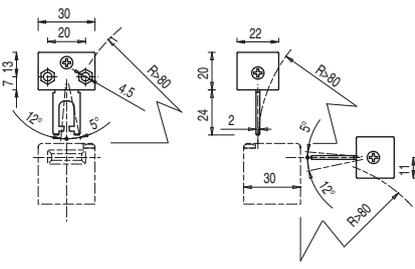
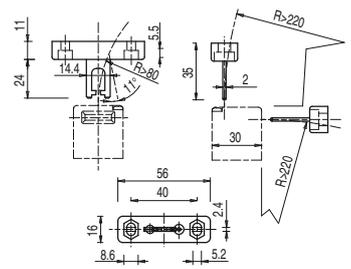
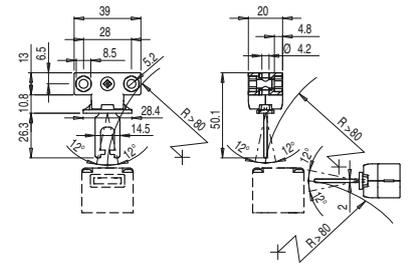
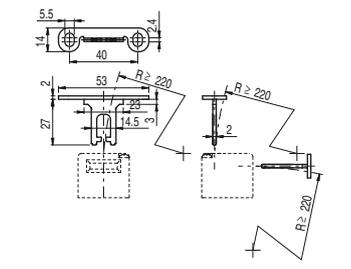
Contact blocks

	polymer housing Switch without actuator			
6 L				
20 L	FR 2093-M2 	FX 2093-M2 	FW 2092-M2 	FK 3493-M1 
33 L			FW 3392-M2 	
34 L			FW 3492-M2 	
Actuating force	10 N (18 N )	10 N (18 N )	10 N (18 N )	10 N (18 N )
Travel diagrams	page 134 - group 1e			

Actuators stainless steel

10 pcs packs

IMPORTANT: These actuators must be used with FR, FX, FK e FW (e.g. FR 693).

Article	Description	Article	Description
VF KEYD	Straight actuator 	VF KEYD1	Right-angled actuator 
VF KEYD3	Jointed actuator adjustable in two directions 	VF KEYD7	Jointed actuator adjustable in one direction 
VF KEYD8	Universal actuator 	VF KEYD10	Shaped actuator 

Actuator adjustable in two directions for doors with reduced dimensions.

Actuator adjustable in one direction for doors with reduced dimensions.

Joined and two directions adjustable actuator for doors with reduced dimensions.

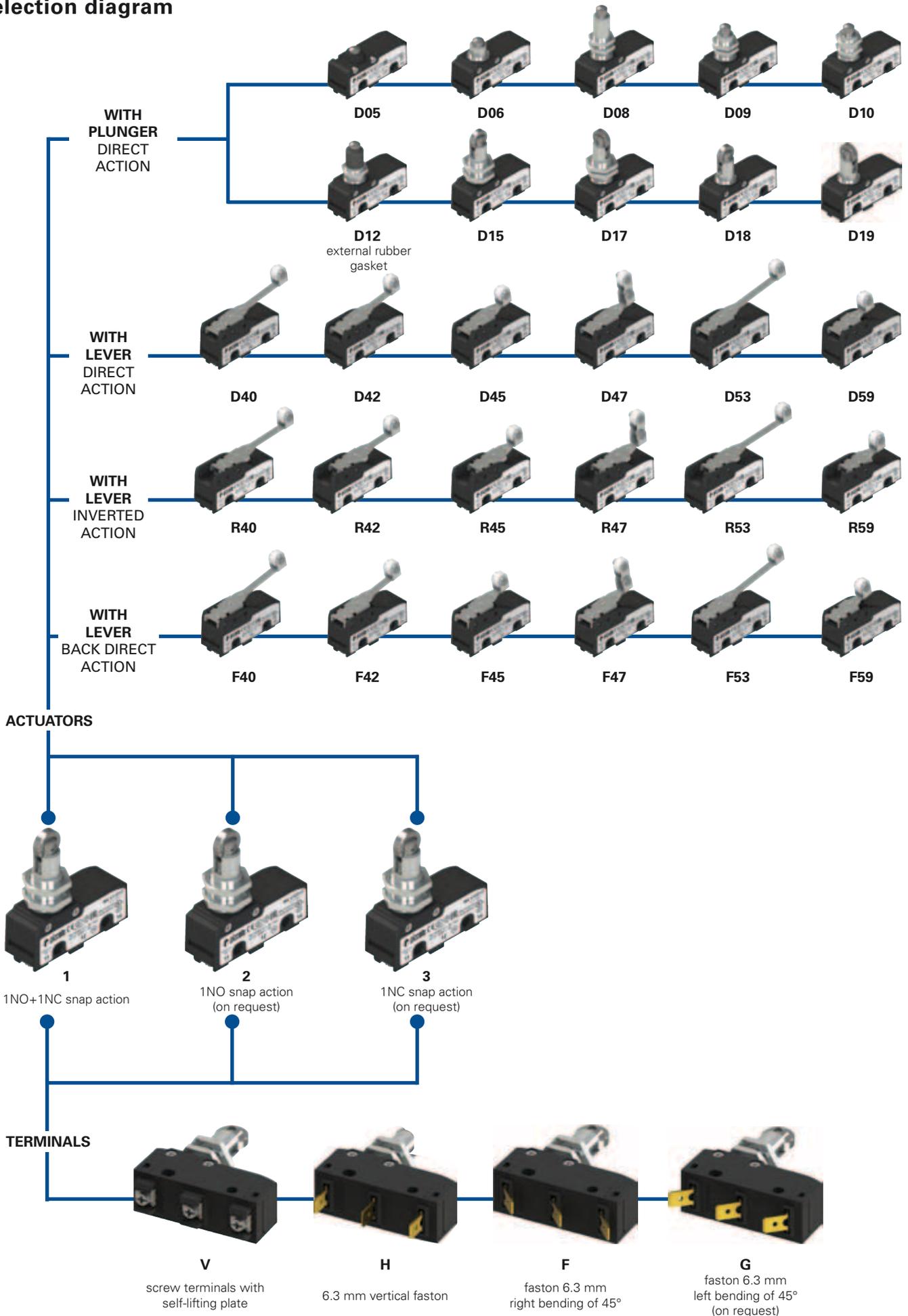
The actuator has two couples of fixing holes and it is possible to rotate by 90° the actuator-working plan.

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

Accessories See page 127

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

Selection diagram



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	
MK V12D40		-GR16T6	
Terminals type V screw terminals with self-lifting late H vertical faston terminals F with faston, right bending of 45° G with faston, left bending of 45° (on request)		Ambient temperature -25°C ... +85°C (standard) T6 -40°C ... +85°C	
Contact block 1 1NO+1NC, snap action 2 1NO, snap action (on request) 3 1NC, snap action (on request)		Suffix standard R16 Ø 9.5x4 mm metal roller (for actuator 40, 42 .45 47, 53, 59) R10 Ø 9.8x8.4 mm polymer roller (for actuator 40, 42 .45, 53)	
Max protection degree 1 IP40 (with protection) 2 IP65 (with protection)		Contacts type silver contacts (standard) G silver contacts gold plated 1 µm	
Actuation type D direct action R inverted action F back direct action		Actuator 01 with pin 02 with pin 03 with small push button	



Main data

- Polymer housing
- Protection degree IP20, IP40 or IP65
- 4 terminal types available
- Versions with positive opening ⊕
- Silver contacts gold plated versions
- Terminal covers with wire trap cable gland

Quality marks:



IMQ approval:	CA02.05772
UL approval:	E131787
CCC approval:	2013010305604291
EAC approval:	RU C-IT.AQ35.B.00454

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) as stated in the **standard EN 81-20 par. 5.11.2.2.1**. The switch must be actuated with **at least up to the positive opening travel (FAP)** near the code article. The switch must be actuated **at least with the positive opening force (CAP)**, near the code article.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Technical data

Housing

Housing made of glass fiber reinforced technopolymer, self-extinguishing and shock-proof.

Protection degree acc. to EN 60529:	IP00 without terminal cover IP20 (with terminal cover VF C01, VF C03) IP40 (with terminal cover VF MKC•1•, VF C02) IP65 (with terminal cover VF MKC•22 + MK V•2••• or VF MKC•23 + MK H•2•••)
-------------------------------------	---

General data

Ambient temperature:	-25°C ... +85°C
Max. actuation frequency:	3600 operating cycles/hour
Mechanical endurance:	10 million operating cycles
Safety parameters B _{10D} :	20,000,000 for NC contacts
Tightening torques for installation:	see pages 137

Cross section of the conductors (flexible copper wire)

MK series:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max.	2 x 1.5 mm ²	(2 x AWG 16)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, IEC 60529, EN 60529, EN 60947-1, IEC 60947-1.

Approvals:

UL 508, CSA 22.2 No.14, EN 60947-1, EN 60947-5-1.

In conformity with requirements requested by:

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

Positive contact opening in conformity with standards:

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

Electrical data

Thermal current (I _{th}):	16 A
Rated insulation voltage (U _i):	250 Vac 300 Vdc
Rated impulse withstand voltage (U _{imp}):	4 kV
Conditional short circuit current:	1000 A according to EN 60947-5-1
Protection against short circuits:	fuse 16 A 250 V type gG
Pollution degree:	3
Dielectric strength	2000 Vac/min.

Utilization categories

Alternate current: AC15 (50 ... 60 Hz)			
U _e (V)	250	120	
I _e (A)	4	6	
Direct current: DC13			
U _e (V)	24	125	250
I _e (A)	5	0.5	0.3

Characteristics approved by IMQ and CCC

Rated insulation voltage (U_i): 250 Vac
Conventional free air thermal current (I_{th}): 16 A
Protection against short circuits: type gG fuse 16 A 250 V
Rated impulse withstand voltage (U_{imp}): 4 kV
Conditional short circuit current: 1000 A
Protection degree of the housing: IP00
Terminals: screw terminals/faston
Pollution degree: 3
Utilization category: AC15
Operating voltage (U_o): 250 Vac (50 Hz)
Operating current (I_o): 5 A
Forms of the contact element: X; Y; C
Positive opening of contacts on contact blocks: 1, 3
In conformity with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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

Characteristics approved by UL

Utilization categories Q300 (69 VA, 125-250 Vdc)
A300 (720 VA, 120 ... 300 Vac)

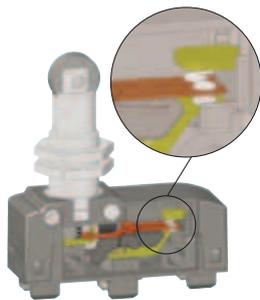
In conformity with standard: UL 508, CSA 22.2 No.14

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

Contact block reliability

The electrical contact on new microswitch has been realized with higher reliability technology, thanks to the double and redundant shape

For high quantity it's possible to supply the microswitch only with the contact NO or NC, in order to minimize purchase costs.

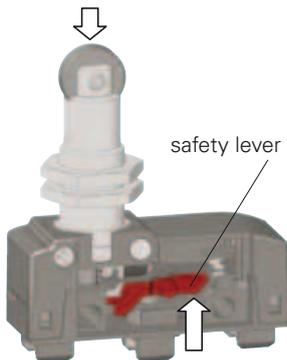


Protection degree IP65

IP65

The housing of the new microswitch provides the possibility to seat gaskets in order to seal the device against fine dusts or liquids up to IP65 degree. To obtain the protection degree match the appropriate version of the microswitch IP65 with the IP65 terminal cover.

Microswitches for safety applications



All microswitches that have the symbol beside the code are with positive opening, therefore suitable for safety applications.



These microswitches are provided with a rigid connection between push button and NC contacts, which are opened by force through a strong/sturdy internal safety lever.

The positive opening has been realised in conformity with the standard IEC 60947-5-1, enclosure K, therefore these microswitches are suitable for the installation for people's protection.

Clamping screw plates for different diameter cables (MK V)



These clamping screw plates have a particular "roofing tile" structure and are connected loosely to the clamping screw. In this way, during the wires fixing, the clamping screw plate is able to suit to cables of different diameter (see picture) and tends to tighten the wires toward the screw instead of permitting them to escape towards the outside.

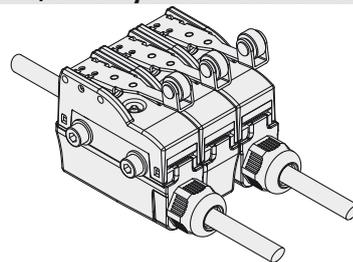
According to EN 81-20 and EN 81-50



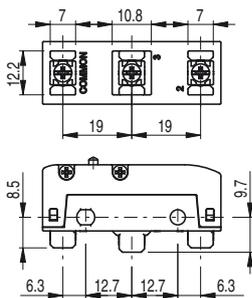
- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10⁶ cycles.

Terminal covers with wire trap cable gland, side by side installable

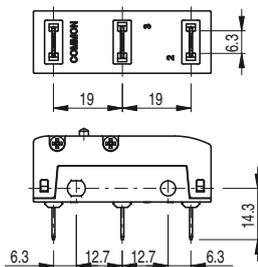
New terminal covers supplied with wire trap cable gland are provided for the protection degree up to IP65. These terminal covers are snap-in assembled and they have small dimensions in the microswitch profile, it's possible to install them also on microswitches fixed side by side.



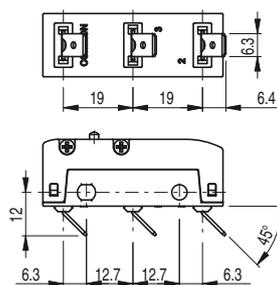
Terminals outline dimension



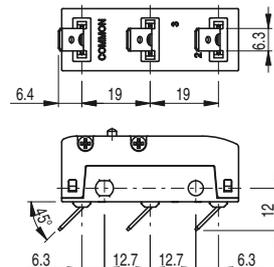
Screw terminals **V** with plate



Vertical faston **H** terminals



faston terminals **F**, right bending

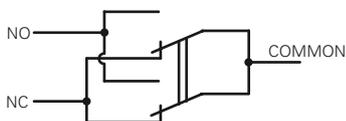


faston terminals **G**, left bending (on request)

Note: H vertical faston terminals can be bent according to one's installation requirements.

We recommend to bend the faston with an angle not higher than 45° and to carry out this operation no more than 5 times.

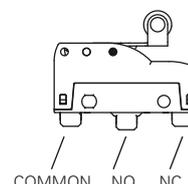
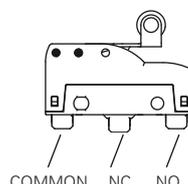
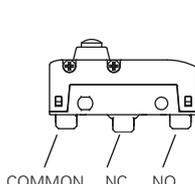
Wire diagram



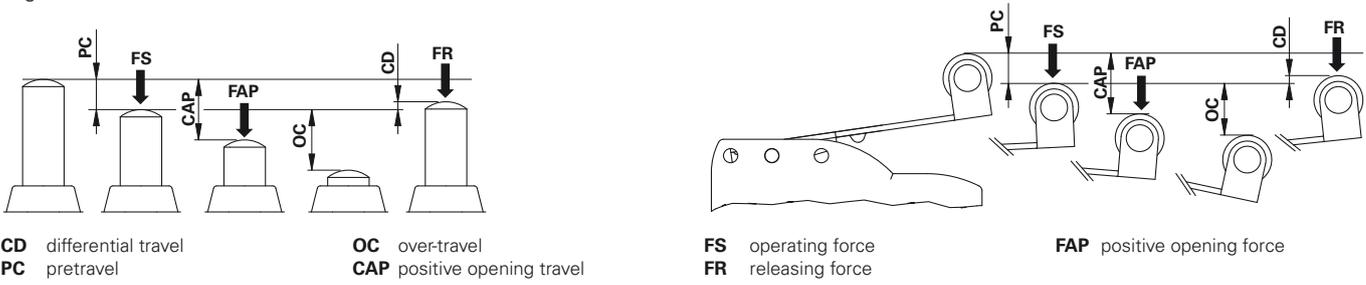
Contacts with single interruption and double contacts

With direct and back direct action (F, D)

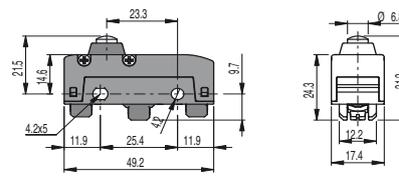
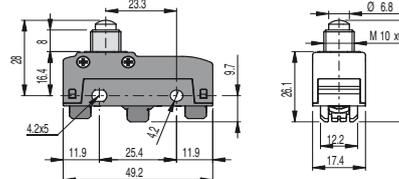
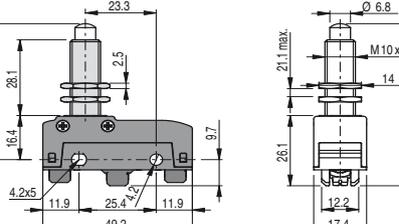
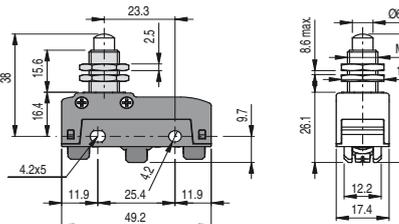
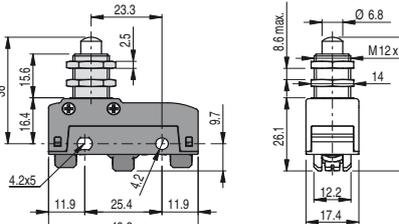
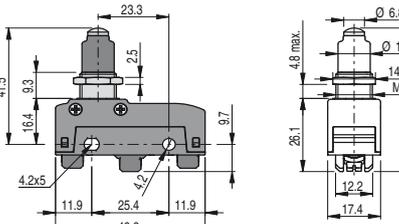
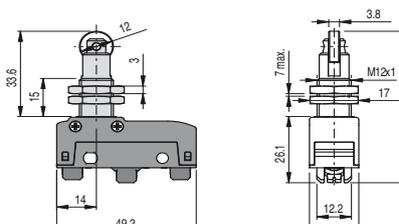
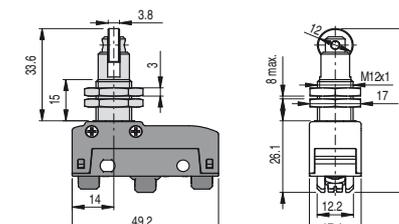
With inverted action (R)



Legend



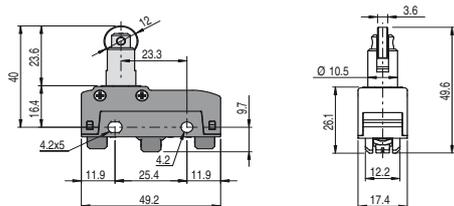
Microswitches with direct action

 <p>MK V11D05 (1NO+1NC)</p> <p>PC 0,5 mm OC 2 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 1</p>	 <p>MK V11D06 (1NO+1NC)</p> <p>PC 0,5 mm OC 3 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 1</p>
 <p>MK V11D08 (1NO+1NC)</p> <p>PC 0,5 mm OC 5,5 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 1</p>	 <p>MK V11D09 (1NO+1NC)</p> <p>PC 0,5 mm OC 5,5 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 1</p>
 <p>MK V11D10 (1NO+1NC)</p> <p>PC 0,5 mm OC 5,5 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 1</p> <p>Fixed only by threaded head</p>	 <p>MK V11D12 (1NO+1NC)</p> <p>PC 0,5 mm OC 5,5 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4,5 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 1</p> <p>Fixed only by threaded head</p>
 <p>MK V11D15 (1NO+1NC)</p> <p>PC 0,5 mm OC 5,5 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 2</p>	 <p>MK V11D17 (1NO+1NC)</p> <p>PC 0,5 mm OC 5,5 mm CD 0,05 mm CAP 2,2 mm</p> <p>FS 4 N FR 3 N FAP 20 N</p> <p>Max and min. speed page 137 - type 2</p>

Items with code on the green background are available in stock

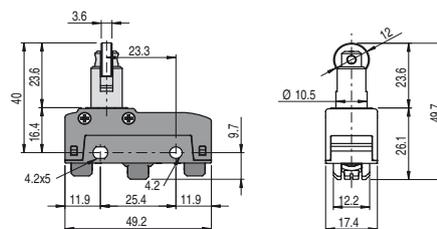
Accessories See page 127

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



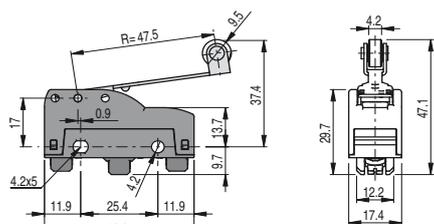
MK V11D18 1NO+1NC	PC	0,5 mm	FS	4 N
	OC	5,5 mm	FR	3 N
	CD	0,05 mm	FAP	20 N
	CAP	2,2 mm		

Max and min. speed page 137 - type 2



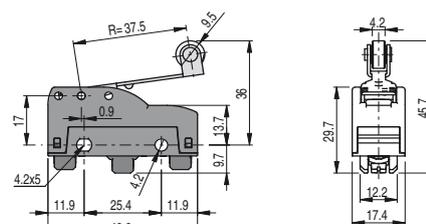
MK V11D19 1NO+1NC	PC	0,5 mm	FS	4 N
	OC	5,5 mm	FR	3 N
	CD	0,05 mm	FAP	20 N
	CAP	2,2 mm		

Max and min. speed page 137 - type 2



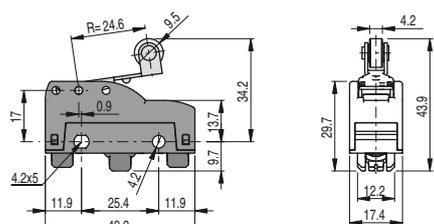
MK V11D40 1NO+1NC	PC	8,2 mm	FS	0,86 N
	OC	6,1 mm	FR	0,66 N
	CD	0,8 mm		

Max and min. speed page 137 - type 6



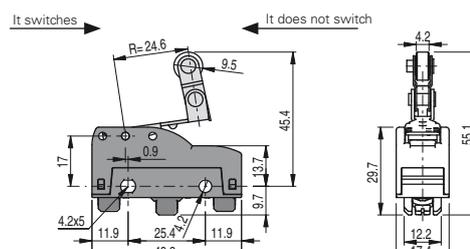
MK V11D42 1NO+1NC	PC	6,5 mm	FS	1,09 N
	OC	4,8 mm	FR	0,84 N
	CD	0,6 mm		

Max and min. speed page 137 - type 6



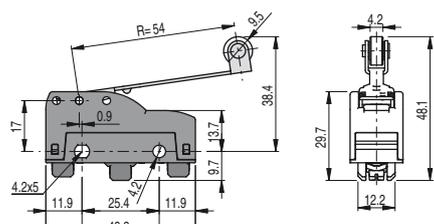
MK V11D45 1NO+1NC	PC	4,5 mm	FS	1,66 N
	OC	3,2 mm	FR	1,28 N
	CD	0,4 mm		

Max and min. speed page 137 - type 6



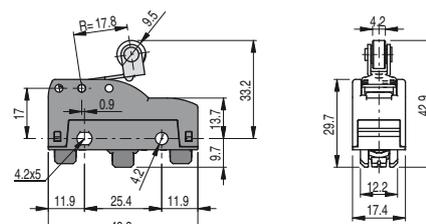
MK V11D47 1NO+1NC	PC	4,2 mm	FS	1,66 N
	OC	2,8 mm	FR	1,28 N
	CD	0,4 mm		

Max and min. speed page 137 - type 6



MK V11D53 1NO+1NC	PC	7,7 mm	FS	0,76 N
	OC	7,8 mm	FR	0,58 N
	CD	0,9 mm		

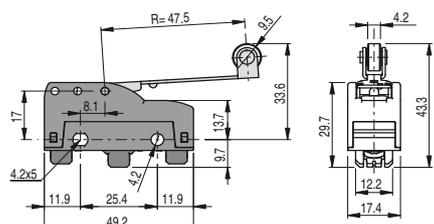
Max and min. speed page 137 - type 6



MK V11D59 1NO+1NC	PC	2,3 mm	FS	2,3 N
	OC	4,5 mm	FR	1,77 N
	CD	0,2 mm		

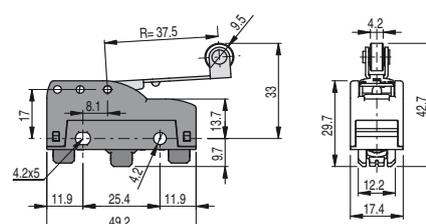
Max and min. speed page 137 - type 6

Microswitches with inverted action



MK V11R40 1NO+1NC	PC	2,8 mm	FS	0,8 N
	OC	10,9 mm	FR	0,5 N
	CD	0,45 mm		

Max and min. speed page 137 - type 7



MK V11R42 1NO+1NC	PC	2,7 mm	FS	1,2 N
	OC	8,4 mm	FR	1,7 N
	CD	0,5 mm		

Max and min. speed page 137 - type 7

MK V11R45	1NO+1NC PC 1,5 mm OC 5,5 mm CD 0,3 mm	FS 1,7 N FR 1 N	
Max and min. speed page 137 - type 7		Max and min. speed page 137 - type 7	

MK V11R53	1NO+1NC PC 3,6 mm OC 11,2 mm CD 0,5 mm	FS 0,8 N FR 0,4 N	
Max and min. speed page 137 - type 7		Max and min. speed page 137 - type 7	

Microswitches with back direct action

MK V11F40	1NO+1NC PC 2,1 mm OC 8,3 mm CD 0,25 mm	FS 0,85 N FR 0,65 N	
Max and min. speed page 137 - type 8		Max and min. speed page 137 - type 8	

MK V11F45	1NO+1NC PC 1,1 mm OC 4,9 mm CD 0,1 mm CAP 6,3 mm	FS 1,5 N FR 0,9 N FAP 6,9 N	
Max and min. speed page 137 - type 8		Max and min. speed page 137 - type 8	

MK V11F53	1NO+1NC PC 2,5 mm OC 9,3 mm CD 0,3 mm	FS 0,7 N FR 0,6 N	
Max and min. speed page 137 - type 8		Max and min. speed page 137 - type 8	

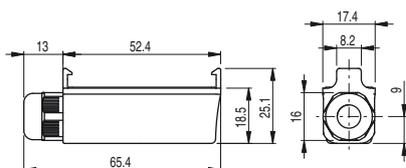
Items with code on the green background are available in stock

Accessories See page 127

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

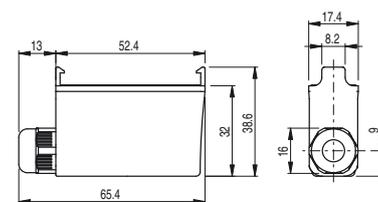
Protections (terminal covers)

10 pcs. packs



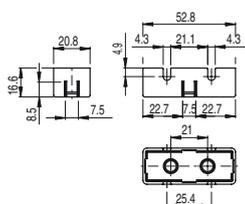
Protective terminal cover for screw terminals snap-in assembled and with wiretrap cable gland. Allows the stacked installation of switches.

Article	Description	Protection degree
VF MKCV11	Protective terminal cover without gasket for multipolar cables from \varnothing 5 to \varnothing 7.5 mm	IP40
VF MKCV12	Protective terminal cover without gasket for multipolar cables from \varnothing 4 to \varnothing 7.5 mm	IP40
VF MKCV13	Protective terminal cover without gasket for multipolar cables from \varnothing 2 to \varnothing 5.5 mm	IP40
VF MKCV22	Protective terminal cover with gasket for multipolar cables from \varnothing 4 to \varnothing 7.5 mm	IP65
VF MKCV23	Protective terminal cover with gasket for multipolar cables from \varnothing 2 to \varnothing 5.5 mm	IP65

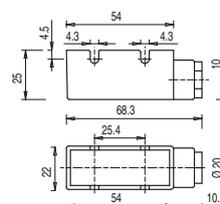


Protective terminal cover for vertical faston terminals with wiretrap cable gland, snap-in attachment. Allows the stacked installation of switches.

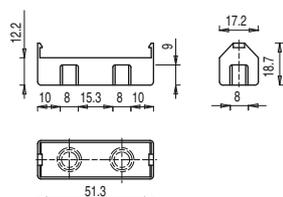
Article	Description	Protection degree
VF MKCH11	Protective terminal cover without gasket for multipolar cables from \varnothing 5 to \varnothing 7.5 mm	IP40
VF MKCH12	Protective terminal cover without gasket for multipolar cables from \varnothing 4 to \varnothing 7.5 mm	IP40
VF MKCH13	Protective terminal cover without gasket for multipolar cables from \varnothing 2 to \varnothing 5.5 mm	IP40
VF MKCH22	Protective terminal cover with gasket for multipolar cables from \varnothing 4 to \varnothing 7.5 mm	IP65
VF MKCH23	Protective terminal cover with gasket for multipolar cables from \varnothing 2 to \varnothing 5.5 mm	IP65



Article	Description	Protection degree
VF C01	Protective terminal cover for screw terminals	IP20



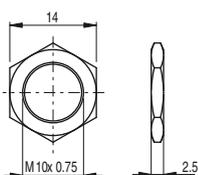
Article	Description	Protection degree
VF C02	Protective terminal cover for screw terminals with cable gland PG9 for multipolar cables from \varnothing 5 to \varnothing 7 mm	IP40



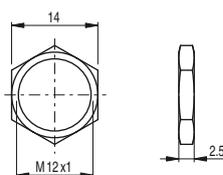
Article	Description	Protection degree
VF C03	Protective terminal cover for screw terminals, snap-in attachment. Allows the stacked installation of switches	IP20

Accessories

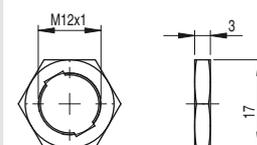
10 pcs. packs



Article	Description
VF AC83	Hexagonal threaded nut for microswitches with actuators D06, D08, D09



Article	Description
VF AC72	Hexagonal threaded nut for microswitches with actuators D10, D12, D13

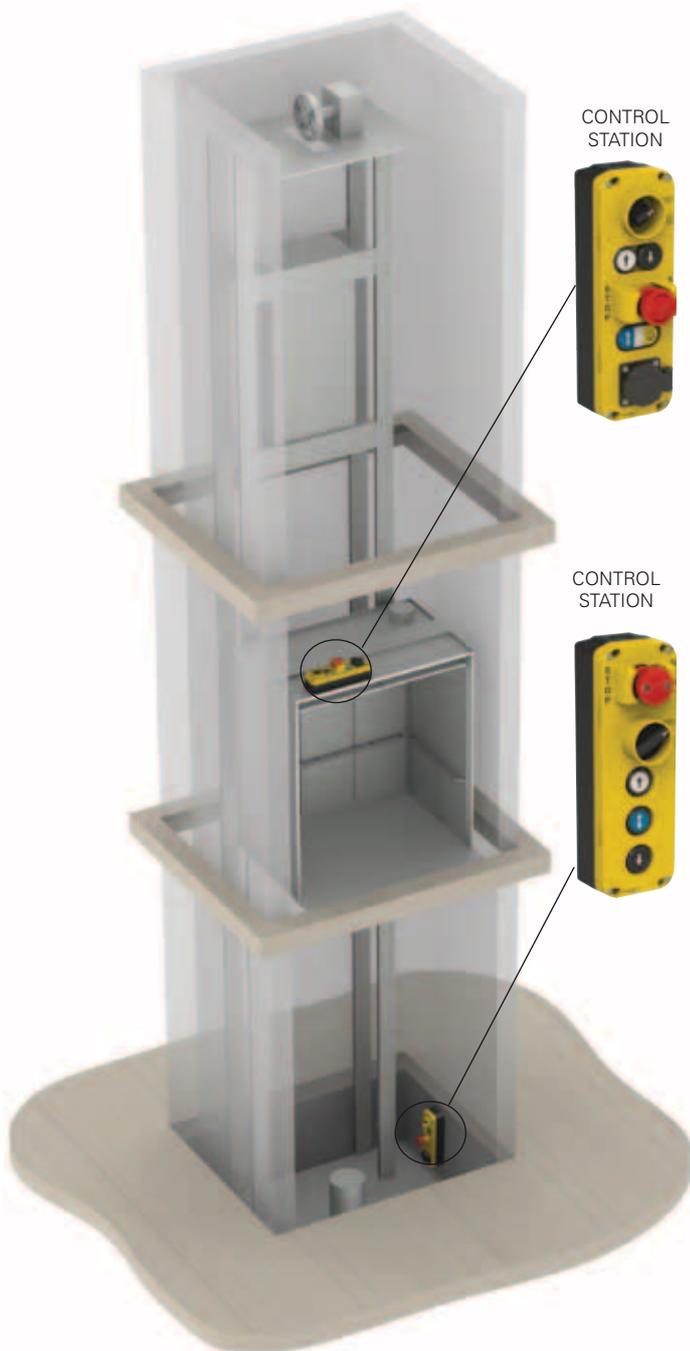


Article	Description
AC 35	Hexagonal threaded nut notched for microswitches with actuators D15, D16

Items with code on **green** background are stock items

Accessories See page 127

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



Introduction

With its experience and knowledge gained in decades of activity in the field of automation and safety, Pizzato Elettrica confirms its ability to propose innovative solutions in new sectors too. Its range is both absolutely functional and flexible to use, as well as aesthetically linear and detailed.

Pizzato Elettrica's EL AC series lift control stations convey these features and use the EROUND line control and signaling devices.

EL AC lift control stations are designed to drive the lift movement during control and maintenance operations.

According to EN 81-20 and EN 81-50 standards

International standards EN 81-20 and EN 81-50 establish new, updated technical and safety directives and represent an important step forward in the construction and installation of lifts.

The range of EL control and signalling stations was conceived to be in full compliance with the requirements set by these standards.

Holder

EL AC control stations can be installed on the wall thanks to the appropriate VE SF series holder. This accessory is a fast and safe place to fix the box when the operator is not using it.

Its reinforced structure and curved design ensure both an easy insertion and a solid protection for the box.

The click fastener indicates whether the box has been inserted correctly and may not slip out of the holder.



Modularity



Lift control stations have been conceived as a customizable product, providing the widest and most versatile choice in the combination of applicable devices.

Several configuration options are possible thanks to the innovative mold with modular, exchangeable elements (registered patent) which allows free arrangement of the perforated holes and shapes for housing various devices; this modular mold is employed to create the whole cover, which is just one solid piece produced by means of a single moulding process.

Sturdiness

The devices are guaranteed protection against knocks and treading both by the side-hinged cover (in the relevant versions) and the choice of recessed pushbuttons, thus not protruding from the control station surface. Moreover, the use of sturdy guards for particularly bulky auxiliary control devices, such as the emergency pushbutton or the selector, makes the product suitable for especially heavy-duty installation areas.



Cam switch and selector



In control station EL AC series can be installed rotary cam switches as an alternative to the selectors.

The cam switch is matched with a wide ergonomic actuation knob, available in versions with two and three stay-put positions; it can also be configured with contact diagrams according to customer requirements up to a maximum number of 8 contacts.

The covers dedicated to house the cam switches provide a suitable slot with protection guard.

Equipped with gasket below the knob provides an IP67 protection degree.

Tread-safe

The dual function of the side-hinged cover is to protect the devices from dust and dirt and to safeguard them against knocks and stresses (up to 100 kg max.). Its particular outline allows the emergency button to be freely activated, at the same time granting protection even in the case where an incautious maintenance operator should



inadvertently tread on the control station. The devices fitted to the station will not be affected thanks to the design of the protection cover, which allows the pressure exerted to be discharged onto the sturdy control station structure.

Custom wiring

Lift control stations can be supplied with wiring, following customers' specifications both for cables and connectors to be used. This further customization, in accordance with customers' needs, makes the control stations ready for the final installation.



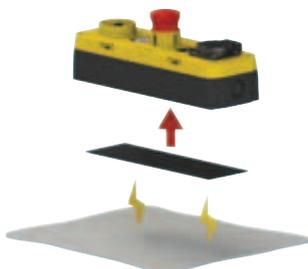
Design

The outline of the lower lift control station perfectly matches that of the protection cover, thus forming a single body distinguished by the absence of protruding elements.

This allows the station to be used in the increasingly frequent cases where a satisfactory aesthetic result is desired, especially in structures using large glazed surfaces which leave the lift cabin in full view.



Magnetic bases



All control stations EL AC series can be supplied with a magnetic base applied to the bottom of the box; in this way it will be possible to anchor the control stations to metal walls and surfaces in a removable manner without needing to drill. Adhesive magnetic bases can be applied at a later time.

Electrical socket

The inside of the electrical socket is protected against the risk of accidental contact by means of a removable cover.

Available in different types, it can be perfectly adapted to the standards in force in the country where the lift is installed.



Possibility of separate purchasing of the protection cover

For the control stations featuring a centrally positioned emergency push button without protruding guards, it is possible to add a side-hinged protection cover at a later stage, as this can be purchased as an accessory, separate from the control station.



Two heights

The EL AC series control stations by Pizzato Elettrica are available both with high base (2 levels of contacts) and with low base (1 level of contacts) thus considerably increasing the number of possible applications of the products.



2 levels of contacts

1 level of contacts

LASER marking



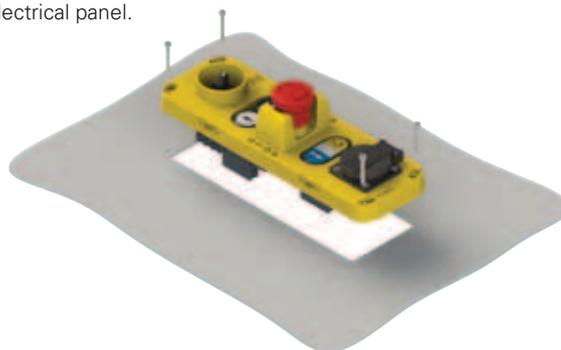
Pizzato Elettrica has introduced a new LASER marking system for control stations EL AC series. Thanks to this system, which excludes the use of pad printing or labels, product marking is indelible and durable.

LASER markings for control stations EL AC series are now enriched with pictograms and

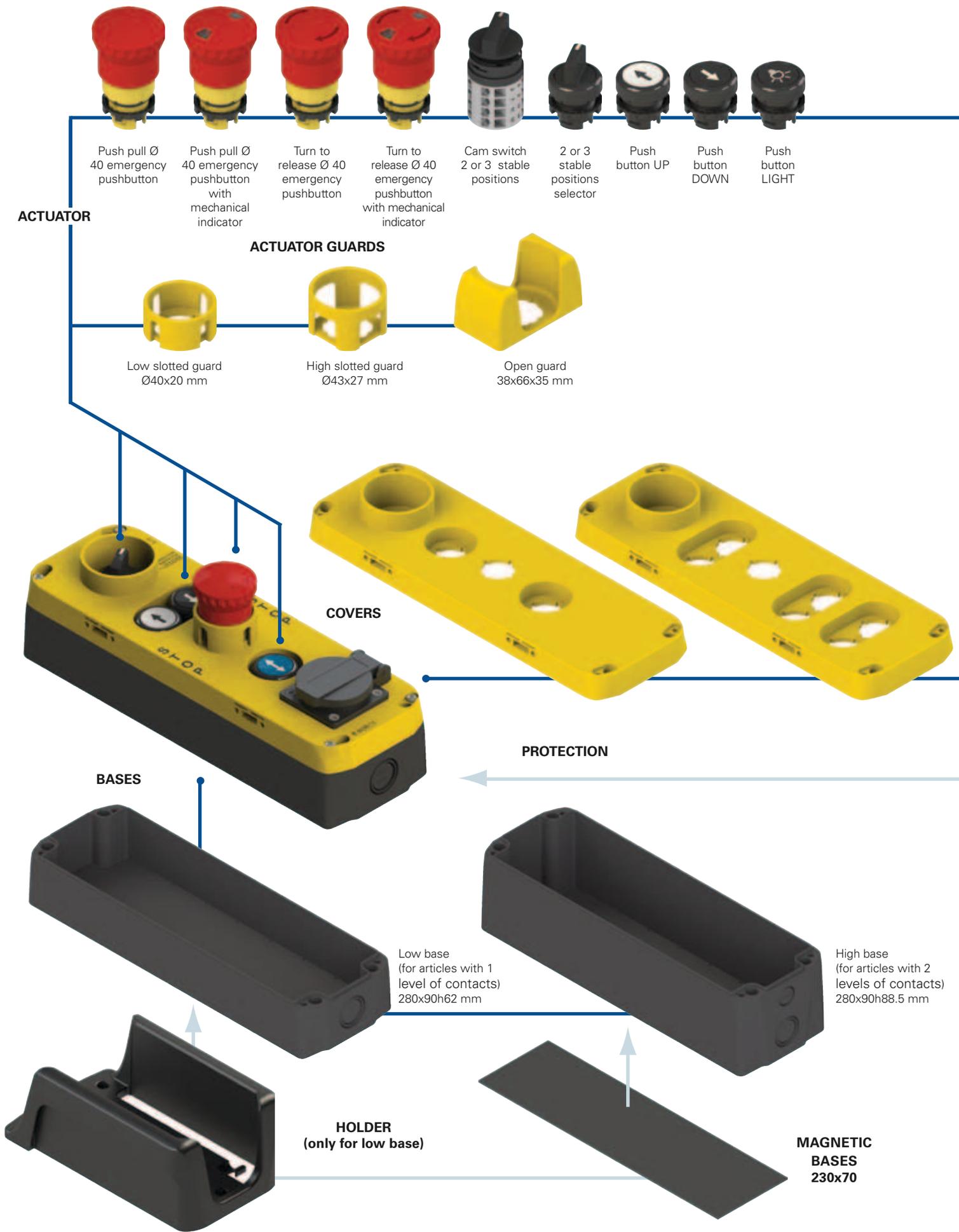
symbols according to new standard EN 81-20; control stations can also be customized with indications, symbols and customer logos.

Cover without base

The EL AC series control stations are also available with a cover not provided with base. This version has been especially designed to allow direct fixing of the control station on a wall or onto the electrical panel.

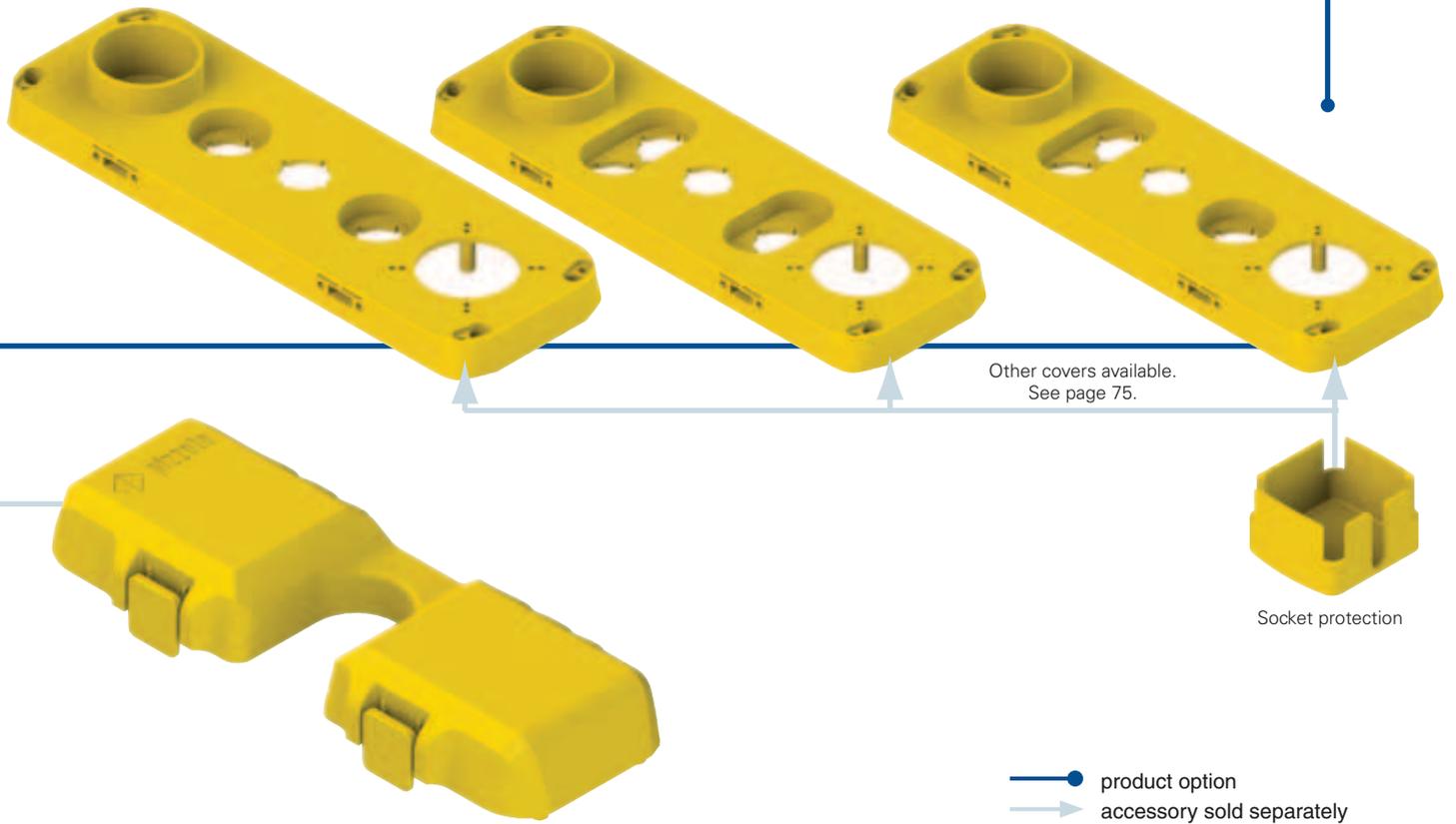


Selection diagram





SOCKETS



Other covers available. See page 75.

Socket protection

—●— 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.

EL AC27010

Box shape	
7	base 280 x 90 mm

Configuration progressive number	
010	configuration 010
011	configuration 011
012	configuration 012
...

**Main data**

- Different configurations available
- Tread-safe protection
- Protection degree IP54, IP65 or IP67
- Internal and external fixing
- Built-in devices or protected by guards
- Customized sockets

Markings and quality marks (enclosures):

Approval RU C-IT.A.35.B.00454

Markings and quality marks (contact blocks):

Approval IMQ: CA02.04805

Approval UL: E131787

Approval CCC: 2013010305631156

Approval EAC: RU C-IT.A.35.B.00454

Technical data**Housing**

Made of shock-proof, self-extinguishing polymer with double insulation, UV resistant.

High base:

2 lateral knock out conduit entries: M20 - M25 - PG 13.5 - 1/2 NPT

2 lateral knock out conduit entries: M16 - PG 11

6 bottom knock out conduit entries: M20 - PG 13.5 - 1/2 NPT

Low base:

2 lateral knock out conduit entries: M20 - M25 - PG 13.5 - 1/2 NPT

2 bottom knock out conduit entries: M20 - M25 - PG 13.5 - 1/2 NPT

Base colour: Black RAL 9005

Cover colour: Yellow RAL 1023 (standard)

Black RAL 9005 (on request)

Yellow RAL 1023 (standard)

Black RAL 9005 (on request)

Screws materials: Galvanized steel, stainless steel on request

Protection degree: IP54 according to EN 60529 (standard)

IP65 according to EN 60529 (on request)

IP67 according to EN 60529 with cable gland having

equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C

Cover screws driving torque: 1 ... 1.4 Nm

In conformity with standards:

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

⚠ 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: 1-2) as stated in the standard EN 81-20 par. 5.11.2.2.1.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU, and EMC Directive 2014/30/EU and Lift Directive 2014/33/EU.

Positive contact opening in conformity with standards:

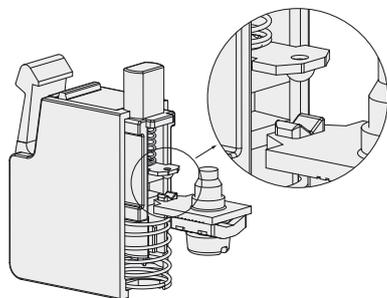
IEC 60947-5-1, EN 60947-5-1.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on page 111..**Electrical data**

Thermal current (I_{th}):	10 A
Rated insulation voltage (U_i):	500 Vac/dc
Protection against short circuits:	fuse 10 A 500 V type gG/gL
Rated impulse withstand voltage (U_{imp}):	8 kV
Pollution degree:	3

Utilization categories

Alternate current: AC15 (50÷60 Hz)					
U_e (V)	24	48	120	250	400
I_e (A)	6	6	6	6	3
Direct current: DC13					
U_e (V)	24	48	125	250	
I_e (A)	2.5	1.3	0.6	0.3	

High reliability self-cleaning contacts

“V shape” self-cleaning contacts with quadruple contact points. This shape, thanks to its quadruple support, allows to reduce the probability of contact wrong switching. Furthermore it highly improves the contacts reliability in case of dust (registered patent).

Positive opening

NC contact blocks are suitable for safety application, with positive opening contacts according to IEC 60947-5-1.

Characteristics approved by UL

Utilization categories:	A600 pilot duty (720 VA, 120 ... 600 Vac) Q300 pilot duty (69 A, 125 ... 250 Vdc)
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Characteristics approved by IMQ

Rated insulation voltage (U_i):	500 V
Conventional free air thermal current (I_{th}):	10 A
Thermal current in enclosure (I_{the}):	10 A
Rated impulse withstand voltage (U_{imp}):	8 kV
Protection degree of the housing:	IP20
Terminals:	screw terminals
Utilization category:	AC15
Operating voltage (U_e):	400 Vac (50/60 Hz)

Operating current (I_e):	3 A
Forms of the contact element:	X, Y
Positive opening of contacts on contact blocks	01G, 01K
In conformity with standards:	EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2014/35/EU.

Notes:
- Use 60° or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 12-20.
- Terminal tightening torque of 7.1 Lb In (0.8 Nm).

EL AC27029



	DEVICES	CONTACTS	WIRING LAYOUT
	 Short handle selector 3 stay-put positions, black colour, with guard	4 NO	NORMAL
	0		
	INSPECTION		
	 Pushbutton UP flush, spring-return, white colour	2NO	
	 Emergency pushbutton Ø 40 turn to release, with guard	1NC	
	 Pushbutton DOWN flush, spring-return, black colour	2NO	
	 Schuko socket 16A 250 Vac with internal protection		

EL AC27433



	DEVICES	CONTACTS	WIRING LAYOUT
	 Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC	
	 Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+4NC	NORMAL
			INSPECTION
	 Pushbutton UP flush, spring-return, white colour	1NO+1NC	
	 Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	 Pushbutton DOWN flush, spring-return, black colour	1NO+1NC	

EL AC27616



	DEVICES	CONTACTS	WIRING LAYOUT
	 Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL
			INSPECTION
	 Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	 Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	 Emergency pushbutton Ø 40 turn to release, with guard	2NC	
	 Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	 Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	 Schuko socket 16A 250 Vac with internal protection		

EL AC27620



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM projecting, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27615



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator with guard	1NC	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Short handle selector 2 stay-put positions , black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27617



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 turn to release, with mechanical indicator, with guard	1NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Short handle selector 3 positions, black colour, with guard, spring-return left, stay-put, spring-return right	2NO	

EL AC27622



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL INSPECTION
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	WHITE luminous disc white fixed light 5 LUX	24 Vac/dc	
	Buzzer, continuous alarm open lens, black colour	24 Vac/dc	

EL AC27619



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	3NO+3NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	2NC	
	Pushbutton ENABLE flush, spring-return, blue colour	2NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	

EL AC27618



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	3NO+3NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	2NC	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27025



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	3NO+3NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Emergency pushbutton Ø 40 turn to release, with guard	1NC	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton ENABLE flush, spring-return, blue colour	2NO	
	Short handle selector 3 positions, black colour, spring-return left, stay-put, spring-return right	2NO	

EL AC27613



	DEVICES	CONTACTS	WIRING LAYOUT
	Cam switch Ø 42 2 stay-put positions, black colour, with guard	3NO+3NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27058



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	3NO+3NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Emergency pushbutton Ø 40 turn to release, with guard	1NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM projecting, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27048



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Emergency pushbutton Ø 40 turn to release, with guard	2NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27623



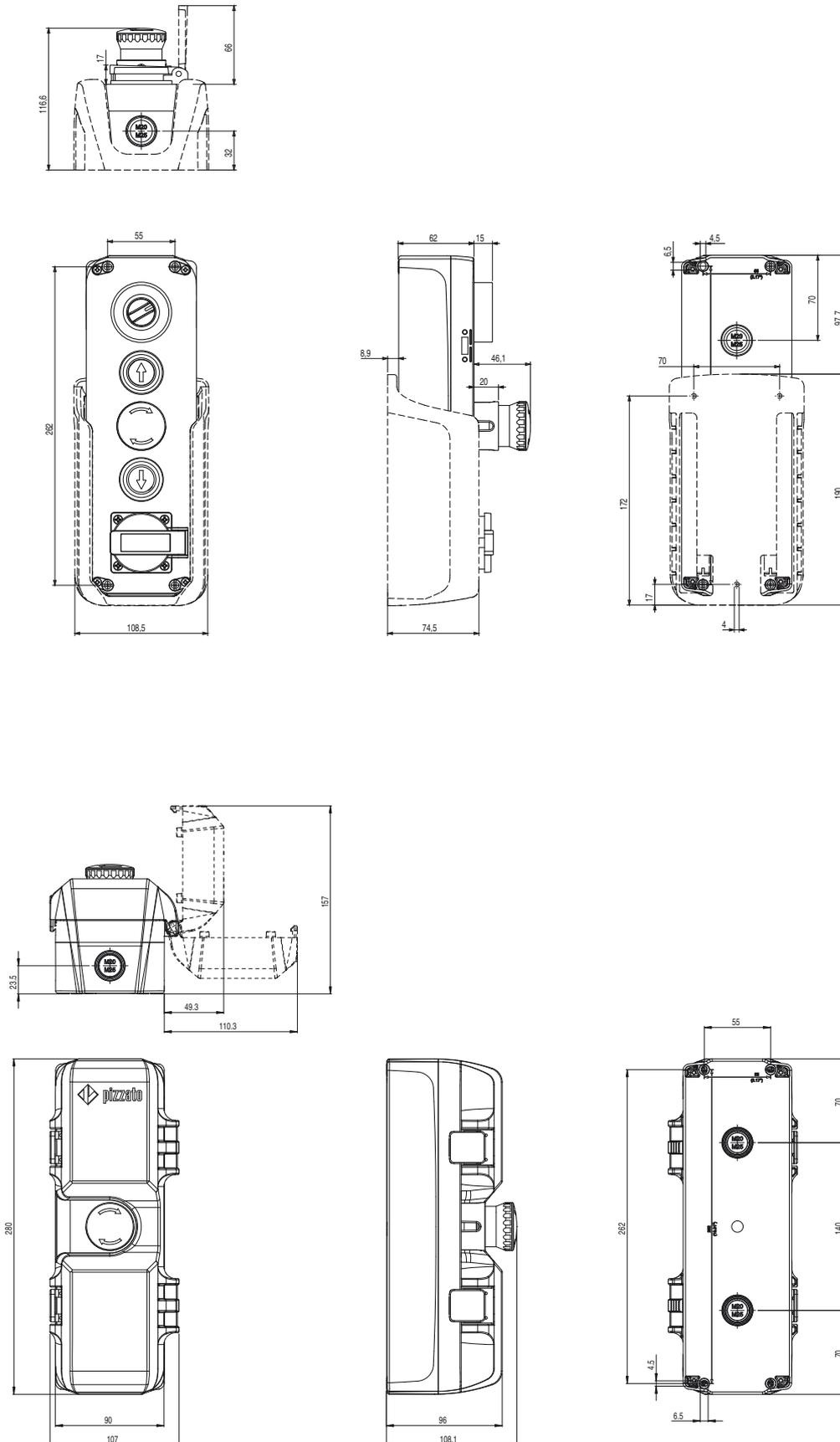
	DEVICES	CONTACTS	WIRING LAYOUT
	Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Emergency pushbutton Ø 40 turn to release, with guard	2NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AC27614



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	3NO+3NC	NORMAL INSPECTION
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	2NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

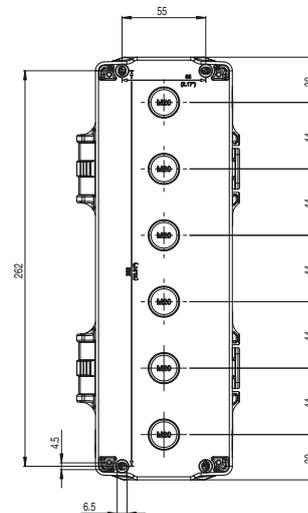
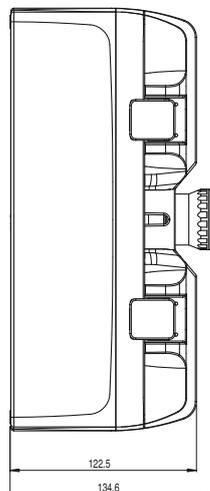
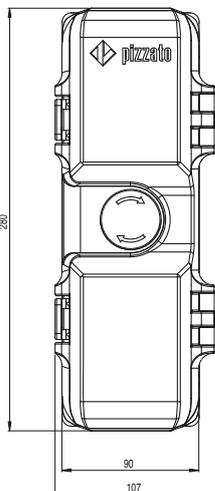
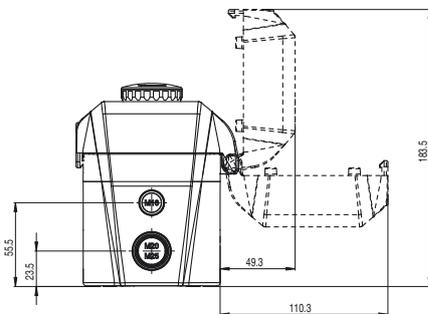
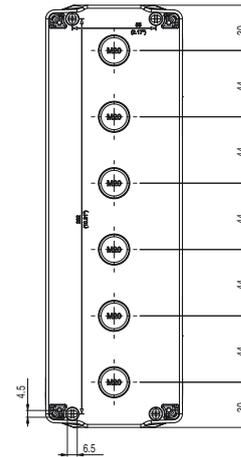
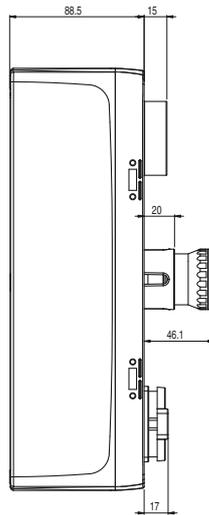
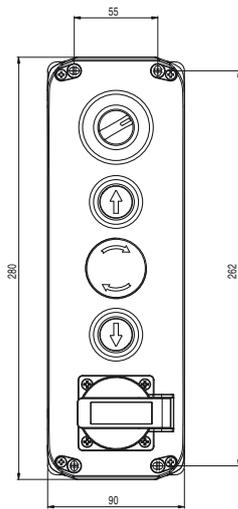
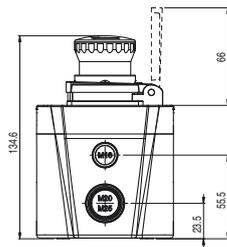
Lift control stations with low base EL AC27••• series dimensions



All measures in the drawings are in mm

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

Lift control stations with high base EL AC27... series dimensions

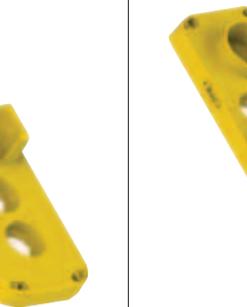


Selection table of covers EL AC series (versions for selector)

WARNING: Internal code is not an article. Loose covers are not available for sale

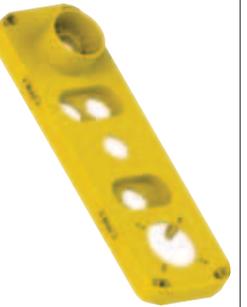
					
Internal code	25001	25068	25074	25075	25076

					
Internal code	25081	25103	25116	25125	25129

				
Internal code	25131	25146	25150	25154

Selection table of covers EL AC series (versions for cam switch)

WARNING: Internal code is not an article. Loose covers are not available for sale

					
Internal code	25130	25131	25138	25153	25162

Selection table of covers EL AC series (versions for selector)

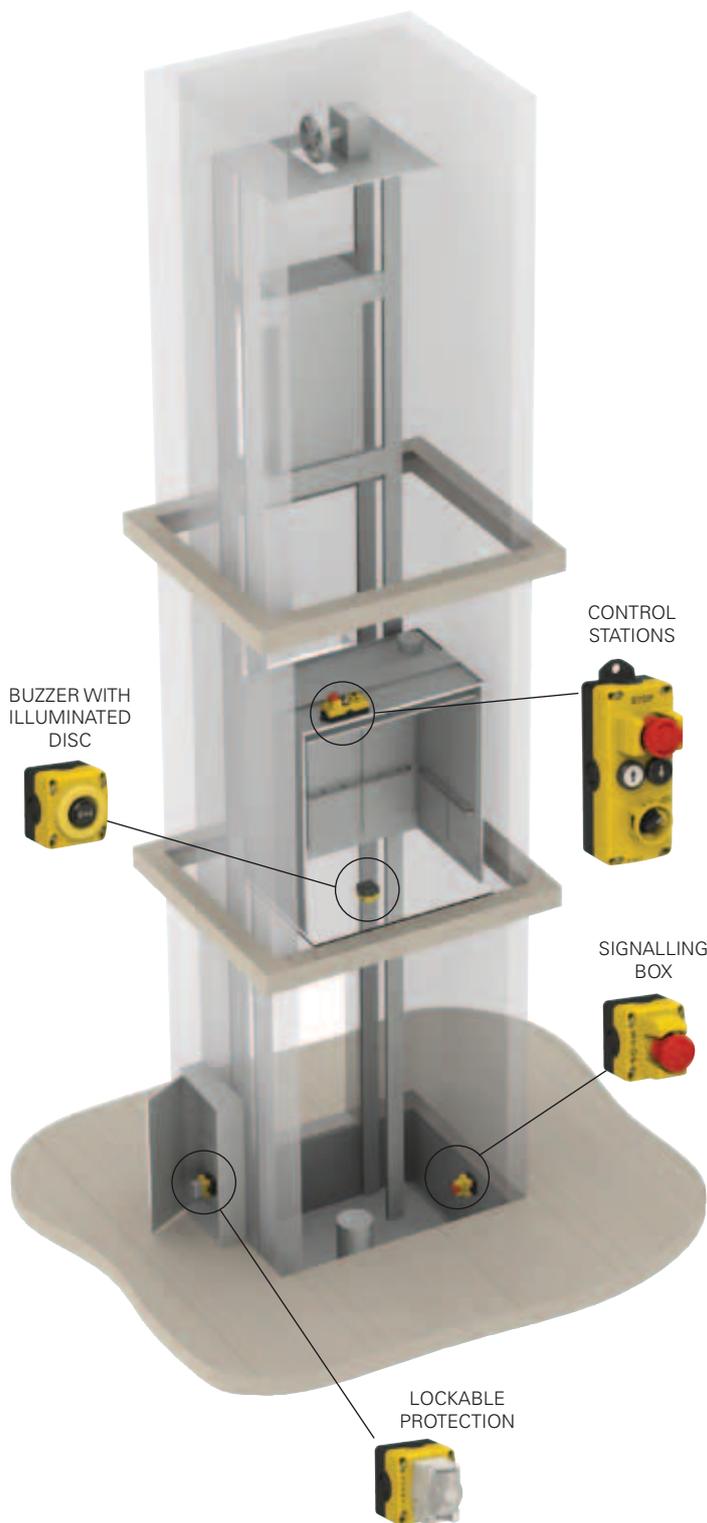
WARNING: Internal code is not an article. Loose covers are not available for sale

					
Internal code	25060	25101	25118	25119	25120

Selection table of covers EL AC series (versions for cam switch)

WARNING: Internal code is not an article. Loose covers are not available for sale

	
Internal code	25163



Cam switch and selector



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Equipped with gasket below the knob provides an IP67 protection degree.

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The range of EL control and signalling stations was conceived to be in full compliance with the requirements set by these standards.

Modularity

Lift control stations have been conceived as a customizable product, providing the widest and most versatile choice in the combination of applicable devices.

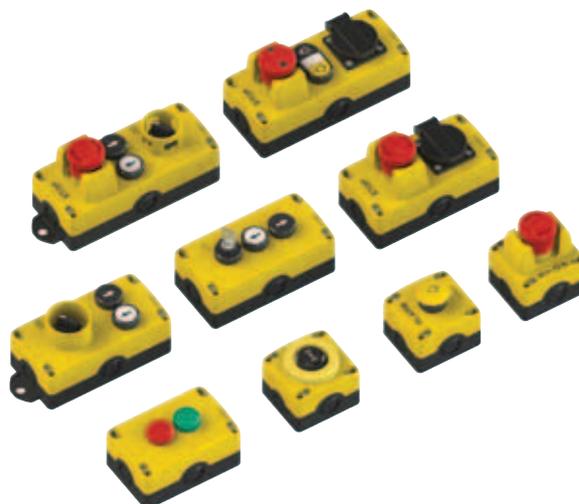
Several configuration options are possible thanks to the innovative mold with modular, exchangeable elements (registered patent) which allows free arrangement of the perforated holes and shapes for housing various devices; this modular mold is employed to create the whole cover, which is just one solid piece produced by means of a single moulding process.



Wide range

The range of EL AN series control stations includes 4 dimensions and several configurations.

The outlines and details of the new EL AN series control stations have been accurately designed, which contributes to an attractive aesthetic result.



Tread-safe

EL AN series control stations can bear any impact and stress thanks to their specific design and resistant materials, fitted for heavy-duty application.



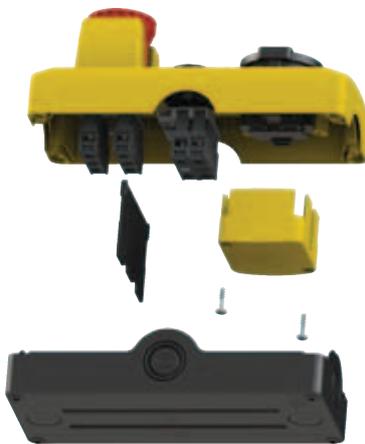
Custom wiring

Lift control stations can be supplied with wiring, following customers' specifications both for cables and connectors to be used. This further customization, in accordance with customers' needs, makes the control stations ready for the final installation.

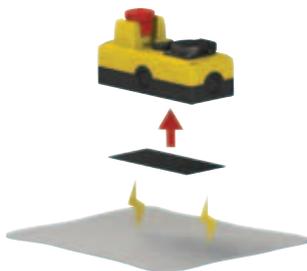


Electrical socket

The inside of the electrical socket is protected against the risk of accidental contact by means of a special removable cover. A separator (applicable in different positions) is available, to be used to separate those parts of the control stations having different voltage. The electrical socket is always fitted to the top of the control station and not to the side, so as to make its use more convenient and its position more readily identifiable. Available in different types, it perfectly adapts to the standards in force in the country where the lift is installed.



Magnetic bases



All control stations EL AN series can be supplied with a magnetic base applied to the bottom of the box; in this way it will be possible to anchor the control stations to metal walls and surfaces in a removable manner without needing to drill. Adhesive magnetic bases can be applied at a later time.

Lockable protection for bypass device

In paragraph 5.12.1.8 of standard UNI EN 81-20:2014, a bypass device is required for the maintenance of the contacts of landing doors, cabin doors and door lock devices. This device must be placed in the control or emergency panel and must be a switch protected against unintended use through mechanically movable means.

Pizzato's VE GG series bypass device consists of a solid protection with a mobile cover, which can be easily closed and locked with one or two padlocks.

For an easier opening and closing, the cover can be moved from one click position to another: fully open and fully closed.

Therefore, the cover will not open inadvertently, because it must be manually released.

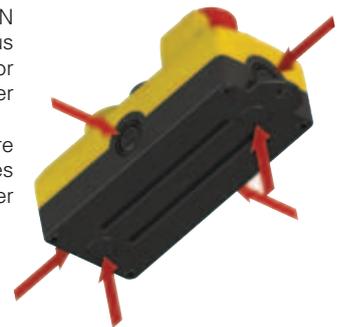
Pizzato's bypass can be installed on EL series control stations or on any panel having fixing screw holes, as indicated.



Cable entries

The control station EL AN base features numerous possible knockout entries for the passage of cables, in order to ensure easy wiring.

The control stations feature four inlets on the side faces and two inlets on the lower face.



LASER marking



Pizzato Elettrica has introduced a new LASER marking system for control stations EL AN series.

Thanks to this system, which excludes the use of pad printing or labels, product marking is indelible and durable.

LASER markings for control stations EL AC series are now enriched with pictograms and symbols according to new standard 81-20; control stations can also be customized with indications, symbols and customer logos.

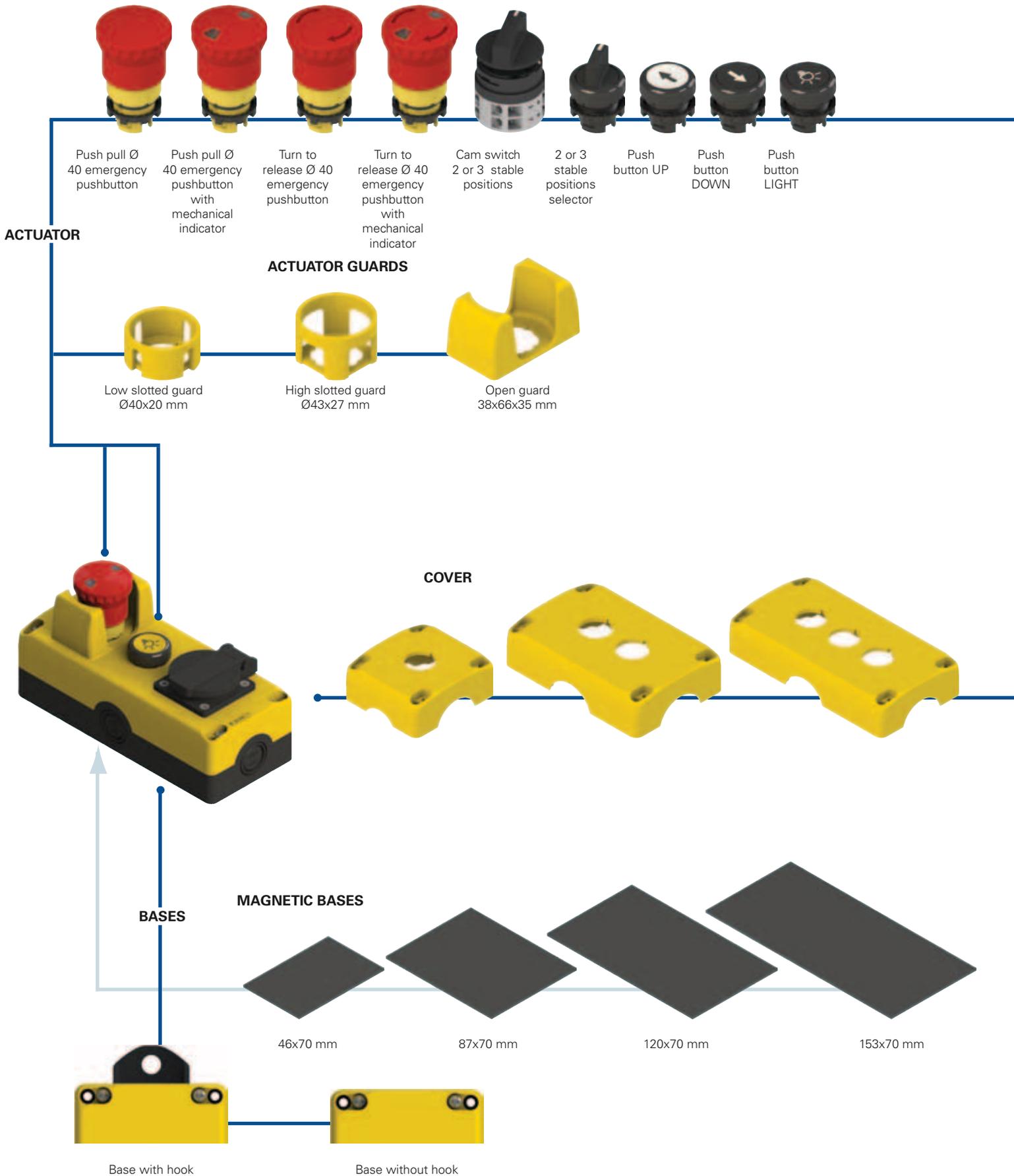
Visual and sound signalling

EL series control stations can be equipped with visual and sound-signalling devices, always in compliance with the requirements set by the standard EN 81-20.

EL series control and signalling stations can be provided with white-light illuminated devices with 5lux-intensity from 1m away, blinking yellow-light illuminated devices and buzzers with continuous or pulsing sound and a minimum of 55dB sound intensity level from 1m away.



Selection diagram



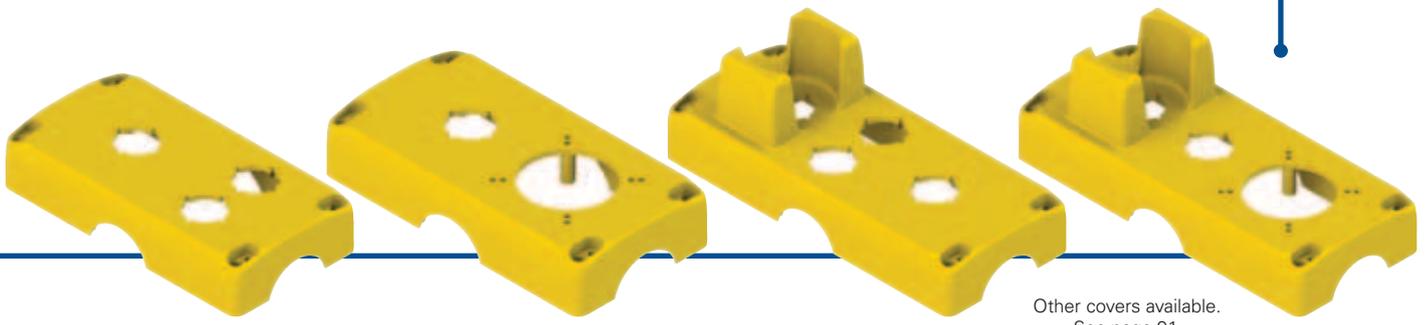


Push button ALARM Push button ENABLE 2 positions key selector Double pushbutton UP DOWN Double pushbutton ALARM LIGHT Triple pushbutton ENABLE ALARM LIGHT Triple pushbutton UP ALARM DOWN Quadruple pushbutton Indicator light Buzzer Luminous disc

SOCKETS



China/Australia Europe schuko USA France England Swiss



Other covers available. See page 91.



Socket protection

● 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.

EL AN23000

Box shape	
1	72x80h56 mm
2	120x80h56 mm
3	153x80h56 mm
4	186x80h56 mm

Configuration progressive number	
000	configuration 000
001	configuration 001
...	...



Main data

- Different configurations available
- Protection degree up to IP69K
- Actuator guards
- Internal and external fixing
- Customized sockets
- Retained screws

Markings and quality marks (enclosures):



Approval EAC: RU C-IT.A.135.B.00454

Markings and quality marks (contact blocks):



Approval IMQ: CA02.04805

Approval UL: E131787

Approval CCC: 2013010305631156

Approval EAC: RU C-IT.A.135.B.00454

Technical data

Housing

Made of shock-proof, self-extinguishing polymer with double insulation, UV resistant, 1 element box:

2 lateral knock out conduit entries: M20 - M25 - PG 13.5 - 1/2 NPT

2 lateral knock out conduit entries: M20 - PG 13.5 - 1/2 NPT

2 bottom knock out conduit entries: M16 - PG 11

2 or more elements boxes:

4 lateral knock out conduit entries: M20 - M25 - PG 13.5 - 1/2 NPT

2 bottom knock out conduit entries: M20 - PG 13.5 - 1/2 NPT

Base colour: Black RAL 9005

Cover colour: Yellow RAL 1023

Screws materials: Galvanized steel, stainless steel on request

Protection degree: IP54 according to EN 60529 (standard)

IP65 according to EN 60529 (on request)

IP67 according to EN 60529 (on request)

IP69K according to ISO 20653 with cable gland

having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C

Cover screws driving torque: 1 ... 1.4 Nm

In conformity with standards:

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

⚠ 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: 1-2) as stated in the standard EN 81-20 par. 5.11.2.2.1.

In conformity with requirements requested by:

Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU and Lift Directive 2014/33/EU.

Positive contact opening in conformity with standards:

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

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on page 111.

Electrical data

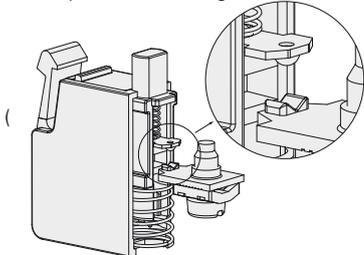
Thermal current (I_{th}):	10 A
Rated insulation voltage (U):	500 Vac/dc
Protection against short circuits:	fuse 10 A 500 V type gG/gL
Rated impulse withstand voltage (U_{imp}):	8 kV
Pollution degree:	3

Utilization categories

Alternate current: AC15 (50÷60 Hz)					
U_e (V)	24	48	120	250	400
I_e (A)	6	6	6	6	3
Direct current: DC13					
U_e (V)	24	48	125	250	
I_e (A)	2.5	1.3	0.6	0.3	

High reliability self-cleaning contacts

"V shape" self-cleaning contacts with quadruple contact points.



This shape, thanks to its quadruple support, allows to reduce the probability of contact wrong switching. Furthermore it highly improves the contacts reliability in case of dust registered patent).

Positive opening

NC contact blocks are suitable for safety application, with positive opening contacts according to IEC 60947-5-1.

Characteristics approved by UL

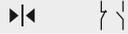
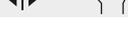
Utilization categories:	A600 pilot duty (720 VA, 120 ... 600 Vac) Q300 pilot duty (69 A, 125 ... 250 Vdc)
-------------------------	--

Characteristics approved by IMQ

Rated insulation voltage (U):	500 V	Operating current (I_e):	3 A
Conventional free air thermal current (I_{th}):	10 A	Forms of the contact element:	X, Y
Thermal current in enclosure (I_{the}):	10 A	Positive opening of contacts on contact blocks	01G, 01K
Rated impulse withstand voltage (U_{imp}):	8 kV	In conformity with standards:	EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2014/35/EU.
Protection degree of the housing:	IP20		
Terminals:	screw terminals		
Utilization category:	AC15		
Operating voltage (U_e):	400 Vac (50/60 Hz)		

Notes:
- Use 60° or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 12-20.
- Terminal tightening torque of 7.1 Lb In (0.8 Nm).

EL AN21256		DEVICES	CONTACTS	WIRING LAYOUT
		Emergency pushbutton Ø 40 push-pull, with guard	1NC	
EL AN21223		DEVICES	CONTACTS	WIRING LAYOUT
		Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC	
EL AN21224		DEVICES	CONTACTS	WIRING LAYOUT
		Emergency pushbutton Ø 40 turn to release, with guard	1NC	
EL AN21257		DEVICES	CONTACTS	WIRING LAYOUT
		Emergency pushbutton Ø 40 turn to release, with mechanical indicator, with guard	1NC	
EL AN21365		DEVICES	CONTACTS	WIRING LAYOUT
		Mushroom pushbutton ALARM Ø 36 spring-return, yellow colour	1NO	

EL AN21255	DEVICES	CONTACTS	WIRING LAYOUT	
	 Short handle selector door 3 stay-put positions, black colour, with guard	2NO		
			0	
				

EL AN21366	DEVICES	CONTACTS	WIRING LAYOUT	
	 Short handle selector 2 stay-put positions, black colour, with lockable protection for bypass	1NO	NORMAL	
			BYPASS	

EL AN21369	DEVICES	CONTACTS	WIRING LAYOUT
	 WHITE luminous disc white fixed light 5 LUX	24 Vac/dc	 LED
	Black closure cap		

EL AN21367	DEVICES	CONTACTS	WIRING LAYOUT
	 WHITE luminous disc white fixed light 5 LUX	24 Vac/dc	 LED
	 Mushroom pushbutton ALARM Ø 36 spring-return, yellow colour	1NO	

EL AN21348	DEVICES	CONTACTS	WIRING LAYOUT
	 YELLOW luminous disc yellow flashing light	24 Vac/dc	 LED
	 Buzzer, continuous alarm open lens, black colour	24 Vac/dc	

EL AN22012



	DEVICES	CONTACTS	WIRING LAYOUT
	Monolithic indicator light Ø 30 red colour	Red led 12...30 Vac/dc	
	Monolithic indicator light Ø 30 green colour	Green led 12...30 Vac/dc	

EL AN22036



	DEVICES	CONTACTS	WIRING LAYOUT
	Schuko socket 16A 250 Vac		

EL AN22050



	DEVICES	CONTACTS	WIRING LAYOUT
STOP 	Emergency pushbutton Ø 40 turn to release, with mechanical indicator	1NC	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	

EL AN22049



	DEVICES	CONTACTS	WIRING LAYOUT
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	Indicator light Ø 30 red colour, flashing	Red led 12...30 Vac/dc	

EL AN23040



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 turn to release	1NC	
	Pushbutton UP flush, spring-return, white colour	1NO	
	Pushbutton DOWN flush, spring-return, black colour	1NO	

EL AN23072



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator	1NC	
	Pushbutton LIGHT flush, spring-return, yellow colour	1NO	

EL AN23023



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 turn to release, with guard	1NC	
	Schuko socket 16A 250 Vac with internal protection		

EL AN23118



	DEVICES	CONTACTS	WIRING LAYOUT				
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC					
	Short handle selector 2 stay-put positions, black colour, with guard	1NO+1NC	<table border="0"> <tr> <td>NORMAL</td> <td></td> </tr> <tr> <td>INSPECTION</td> <td></td> </tr> </table>	NORMAL		INSPECTION	
NORMAL							
INSPECTION							
	Pushbutton UP flush, spring-return, white colour	2NO					
	Pushbutton DOWN flush, spring-return, black colour	2NO					

EL AN23052



	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL INSPECTION
	 Pushbutton UP flush, spring-return, white colour	1NO	
	 Pushbutton DOWN flush, spring-return, black colour	1NO	

EL AN23116



	DEVICES	CONTACTS	WIRING LAYOUT
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	 YELLOW luminous disc yellow flashing light	24Vac/dc	
	 Pushbutton ALARM flush, spring-return, yellow colour	1NO	

EL AN23117



	DEVICES	CONTACTS	WIRING LAYOUT
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	 Monolithic indicator light Ø 30 red colour	Red led 12...30 Vac/dc	
	 Pushbutton ALARM flush, spring-return, yellow colour	1NO	

EL AN23119



	DEVICES	CONTACTS	WIRING LAYOUT
	WHITE luminous disc white fixed light 5 LUX	24Vac/dc	
	 Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AN24025



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 push-pull, with mechanical indicator, with guard	1NC	
	Illuminated Pushbutton LIGHT flush, spring-return, yellow colour	1NO White led 12...30 Vac/dc	
	Schuko socket 16A 250 Vac with internal protection		

EL AN24026



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 push-pull, with mechanical indicator, with guard	1NC	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AN24028



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 push-pull, with mechanical indicator, with guard	1NC	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AN24111



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 turn to release, with guard	1NC	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL 
			INSPECTION 

EL AN24201



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with guard	1NC	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL INSPECTION

EL AN24202



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with guard	1NC	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+3NC	NORMAL INSPECTION
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	

EL AN24203



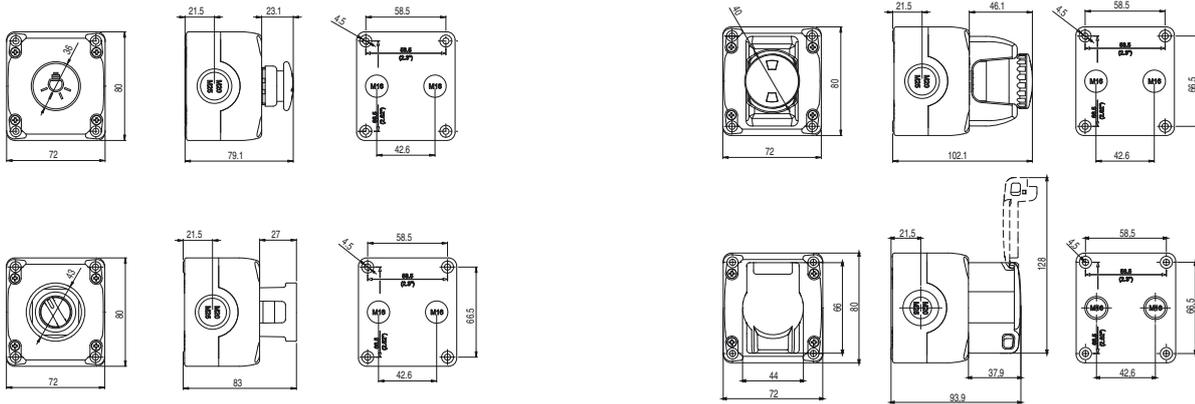
	DEVICES	CONTACTS	WIRING LAYOUT
	Short handle selector 2 stay-put positions, black colour	1NO+1NC	0 1
	Short handle selector 2 stay-put positions, red colour	1NO+1NC	0 1
	Monolithic indicator light Ø 30 green colour	Green led 12...30 Vac/dc	
	Pushbutton UP flush, spring-return, white colour	1NO	
	Pushbutton DOWN flush, spring-return, black colour	1NO	

EL AN24204

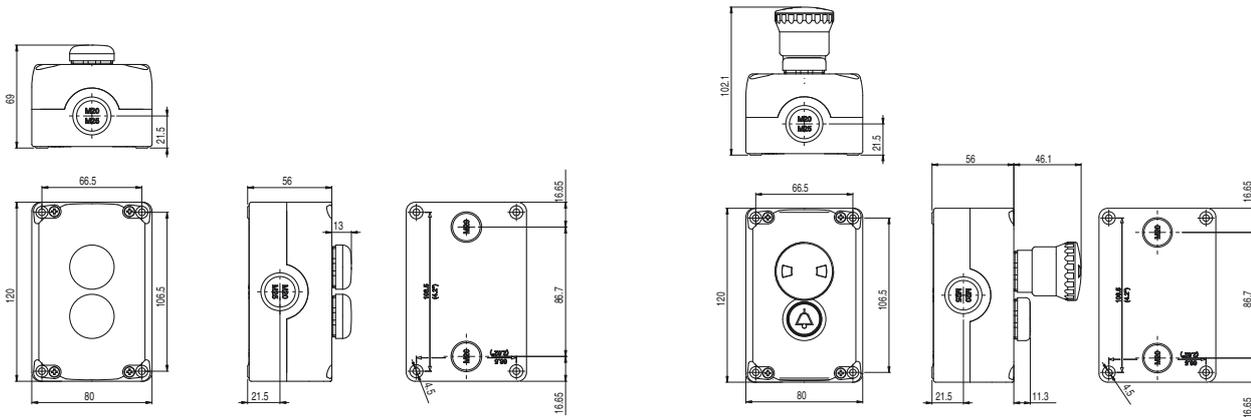


	DEVICES	CONTACTS	WIRING LAYOUT
	WHITE luminous disc white fixed light 5 LUX	24Vac/dc	
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	Monolithic indicator light Ø 30 red colour	Red led 12...30 Vac/dc	
	Monolithic indicator light Ø 30 green colour	Green led 12...30 Vac/dc	
	Schuko socket 16A 250 Vac with internal protection		

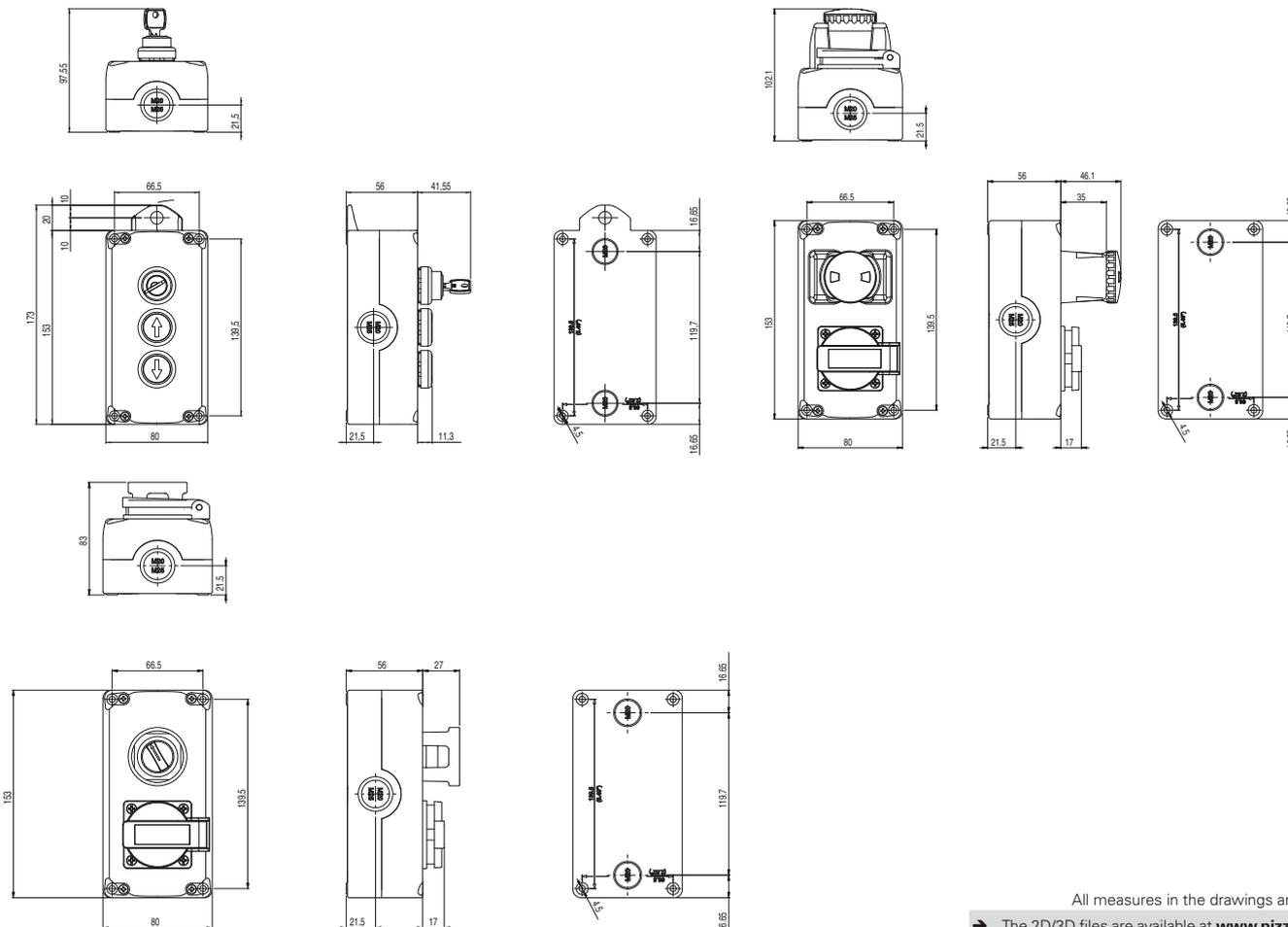
Lift control stations EL AN 21••• series dimensions



Lift control stations EL AN 22••• series dimensions

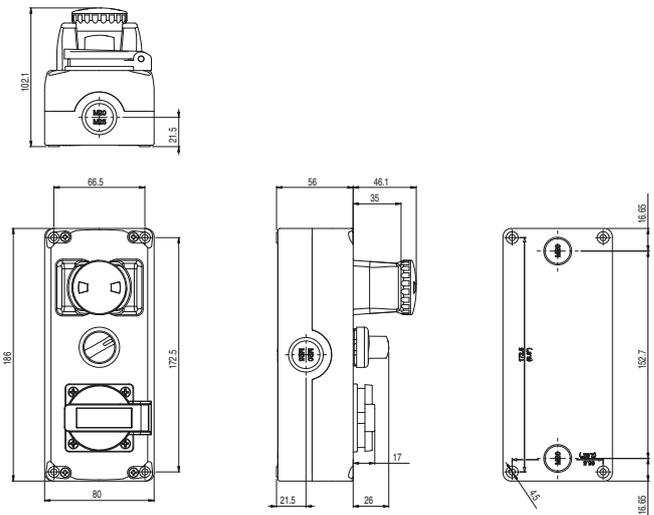
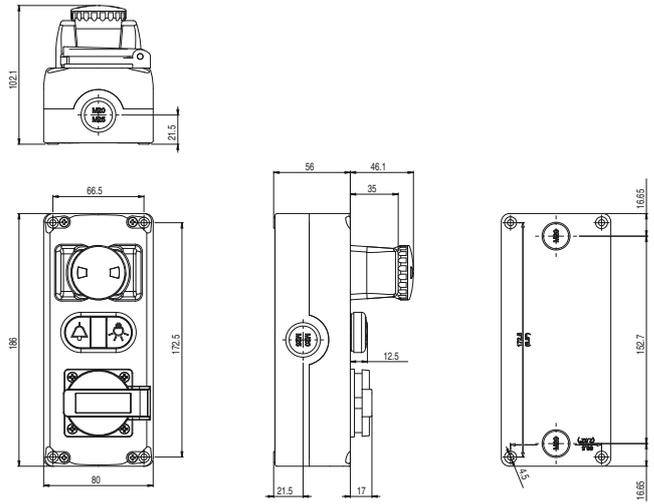
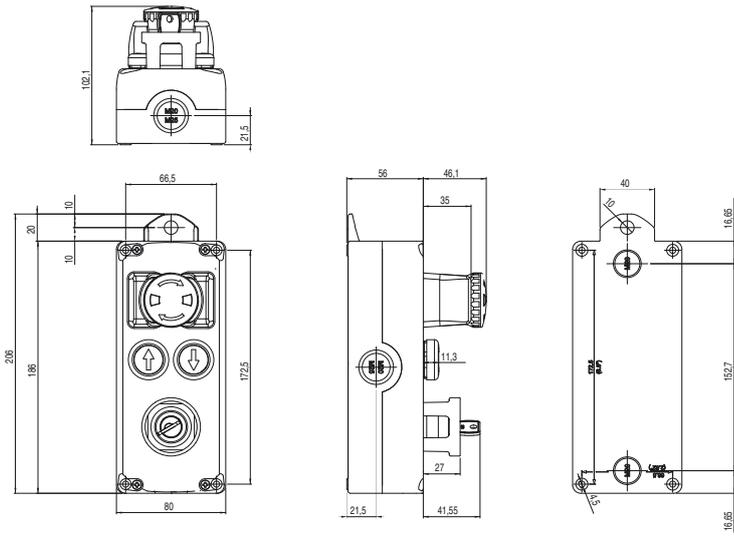


Lift control stations EL AN 23••• series dimensions



All measures in the drawings are in mm
 → The 2D/3D files are available at www.pizzato.com

Lift control stations EL AN 24... dimensions



All measures in the drawings are in mm

Selection table of covers EL AN 21••• series

WARNING: Internal code is not an article. Loose covers are not available for sale

		
Internal code	24151	24159

Selection table of covers EL AN 22••• series

WARNING: Internal code is not an article. Loose covers are not available for sale

		
Internal code	24201	24210

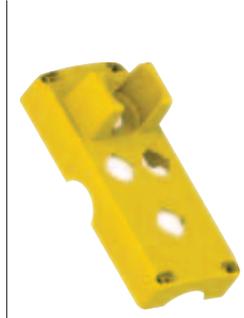
Lift control stations EL AN 23••• series dimensions (versions for selector)

WARNING: Internal code is not an article. Loose covers are not available for sale

					
Internal code	24251	24258	24260	24262	24263

Selection table of covers EL AN 24... series (versions for selector)

WARNING: Internal code is not an article. Loose covers are not available for sale

					
Internal code	24301	24310	24313	24315	24316
					
Internal code	24326				

Selection table of covers EL AN 24... series (versions for cam switch)

WARNING: Internal code is not an article. Loose covers are not available for sale

	
Internal code	24317

Introduction

With its experience and knowledge gained in decades of activity in the field of automation and safety, Pizzato Elettrica confirms its ability to propose innovative solutions in new sectors too. Its range is both absolutely functional and flexible to use, as well as aesthetically linear and detailed.

Pizzato Elettrica's EL AD series lift control stations convey these features and use the EROUND line control and signaling devices.

EL AD lift control stations are designed to drive the lift movement during control and maintenance operations.

According to EN 81-20 and EN 81-50 standards

International standards EN 81-20 and EN 81-50 establish new, updated technical and safety directives and represent an important step forward in the construction and installation of lifts.

The range of EL control and signalling stations was conceived to be in full compliance with the requirements set by these standards.



Reduced height

More and more optimised spaces in the lift shaft have led to the need for boxes conceived for reduced height lifts.

However, this requirement must not compromise the solidness, reliability and practicality of manually operated devices.

Pizzato has managed to combine these features by offering the innovative vertical version of the new EL AD series box: it has a maximum height of 60mm, yet it is equipped with standard contact units, built-in devices (including an electrical socket), an emergency button and a big selector, the latter two with solid protections.

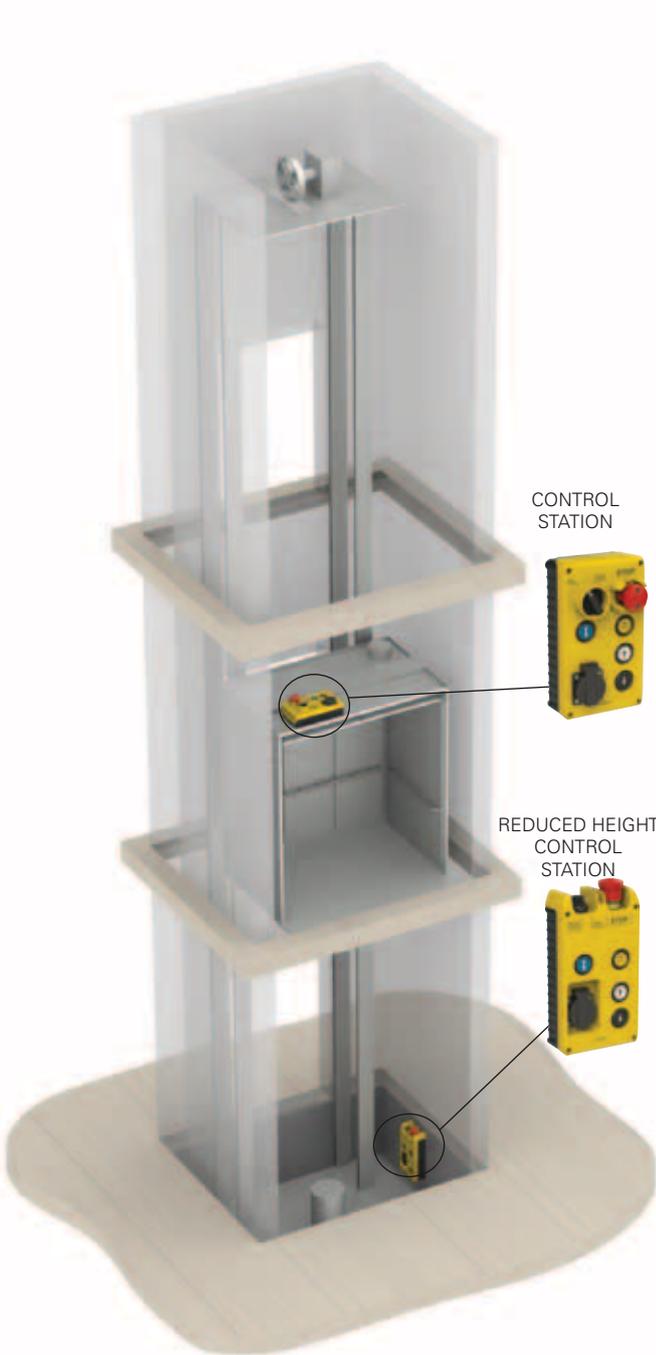


Modularity



Lift control stations have been conceived as a customizable product, providing the widest and most versatile choice in the combination of applicable devices.

Several configuration options are possible thanks to the innovative mold with modular, exchangeable elements (registered patent) which allows free arrangement of the perforated holes and shapes for housing various devices; this modular mold is employed to create the whole cover, which is just one solid piece produced by means of a single moulding process.



Sturdiness



The solid structure of the station, made of stout and thick materials, and the built-in buttons, not projecting from the surface, protect the devices from being hit or stepped on. In addition, solid protections for the

bigger control devices, such as emergency buttons and selectors, make the product suitable for the harshest environments.

Also in the 60mm-reduced height version, two solid protections surround the two top-mounted devices.

Easy cabling

The modern and agreeable product design ensures both technical and practical advantages, the first of which is an easy-wiring process. As a matter of fact, the control station not only features 4 cable-entries on the lower face, but also a maximum of 6 cable-entries on the enclosure's cover.

Thanks to the cover cable-entries, actuating devices, wiring and cable-inlets are all on the same side of the enclosure, thus simplifying and accelerating the process of wiring and closing the control station.



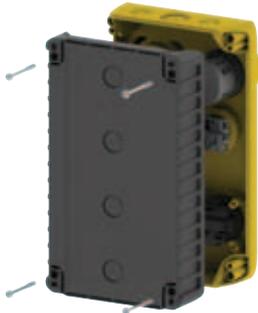
Custom wiring

Lift control stations can be supplied with wiring, following customers' specifications both for cables and connectors to be used. This further customization, in accordance with customers' needs, makes the control stations ready for the final installation.



Rear fastening of the cover

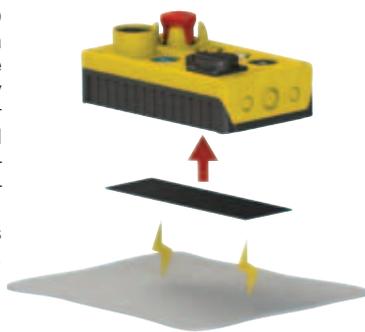
The cover's fixing screws are positioned behind the station, so they are not visible. Moreover, the station can only be opened after removing it from the wall where it is fixed, making tampering more difficult.



Magnetic bases

All control stations EL AD series can be supplied with a magnetic base applied to the bottom of the box; in this way it will be possible to anchor the control stations to metal walls and surfaces in a removable manner without needing to drill.

Adhesive magnetic bases can be applied at a later time.



Electrical socket

The inside of the electrical socket is protected against the risk of accidental contact by means of a removable cover.

Available in different types, it can be perfectly adapted to the standards in force in the country where the lift is installed.



Fixing hook

The special design of the 60mm-reduced height station has also been conceived in order to get a practical fixing hook between the two top-mounted devices. Through this solid hook, the control station can be hung on a wall easily.



Shaped base

On the station's base, a knurling allows an easier grip for grabbing and handling the station.



LASER marking

Pizzato Elettrica has introduced a new LASER marking system for control stations EL AD series.

Thanks to this system, which excludes the use of pad printing or labels, product marking is indelible and durable.

LASER markings for control stations EL AD series are now enriched with pictograms and symbols according to new standard 81-20; control stations can also be customized with indications, symbols and customer logos.



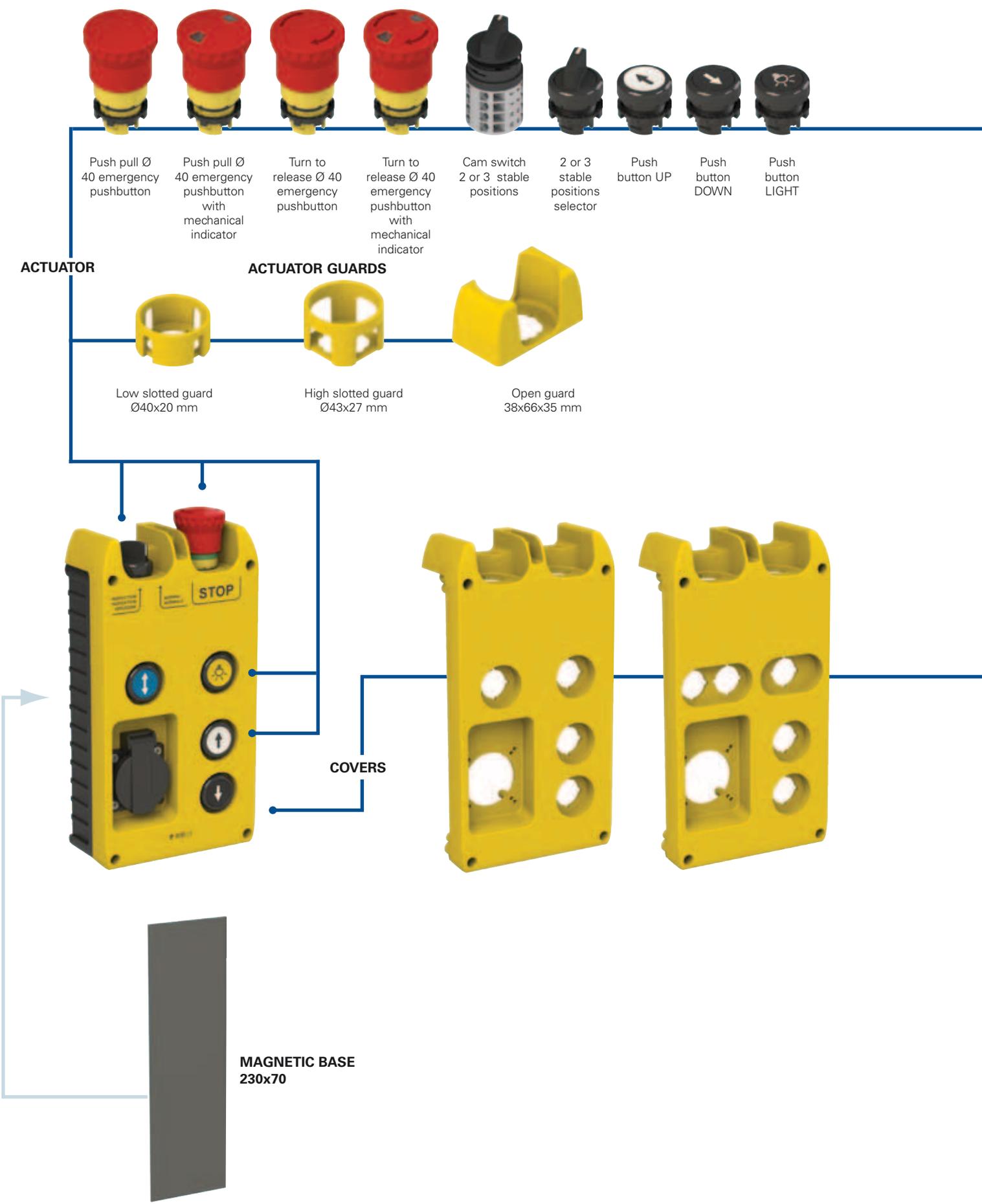
Cam switch and selector



In control station EL AC series can be installed rotary cam switches as an alternative to the selectors. The cam switch is matched with a wide ergonomic actuation knob, available in versions with two and three stay-put positions; it can also be configured with contact diagrams according to customer requirements up to a maximum number of 8 contacts.

The covers dedicated to house the cam switches provide a suitable slot with protection guard. Equipped with gasket below the knob provides an IP67 protection degree.

Selection diagram



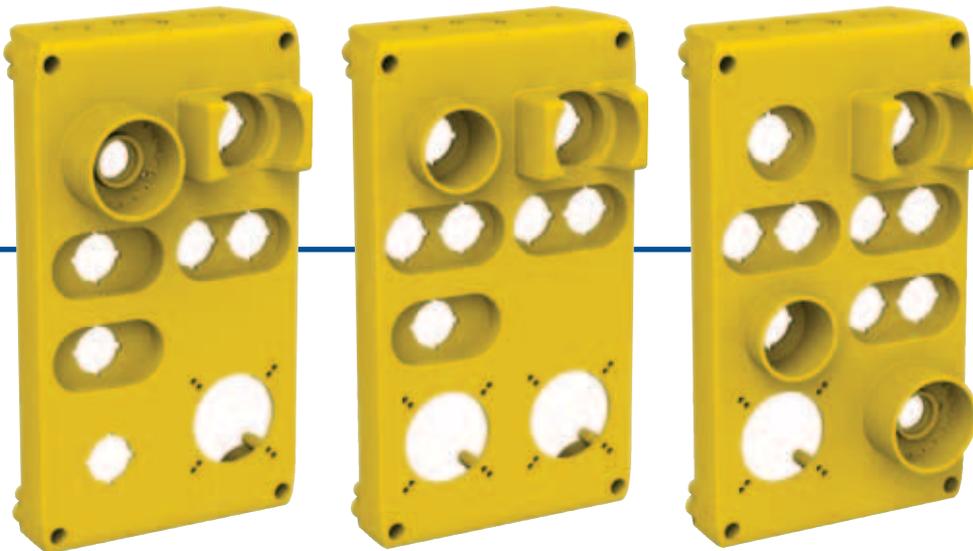


Push button ALARM Push button ENABLE 2 positions key selector Double pushbutton UP DOWN Double pushbutton ALARM LIGHT Triple pushbutton ENABLE ALARM LIGHT Triple pushbutton UP ALARM DOWN Quadruple pushbutton Indicator light Buzzer Luminous disc

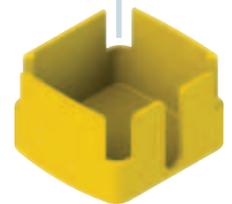
SOCKETS



China/Australia Europe schuko USA France England Swiss



Other covers available. See page 103.



Socket protection

—●— 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.

EL AD23010

Box shapes

1	240 x 160 mm (standard height)
3	260 x 160 mm (60mm height)

Configuration progressive number

010	configuration 010
011	configuration 011
012	configuration 012
...



Main data

- Reduced height version (60mm)
- Inputs on cover for easy wiring
- Multiple configurations available
- Degree of protection up to IP69K
- Devices embedded or guarded
- Customizable electric socket

Markings and quality marks (enclosures):



Approval EAC: RU C-IT.AD35.B.00454

Markings and quality marks (contact blocks):



Approval IMQ: CA02.04805

Approval UL: E131787

Approval CCC: 2013010305631156

Approval EAC: RU C-IT.AD35.B.00454

Technical data

Housing

Made of shock-proof, self-extinguishing polymer with double insulation, UV resistant,

Cover:

Standard version:

2 lateral knock out conduit entries: M20 - M25 - PG 13,5 - 1/2 NPT

4 lateral knock out conduit entries: M16 - PG 11

Reduced height version:

1 lateral knock out conduit entries: M20 - M25 - PG 13,5 - 1/2 NPT

2 lateral knock out conduit entries: M16 - PG 11

Base:

4 ingressi inferiori passanti a sfondamento: M20 - PG 13,5 - 1/2 NPT

Base colour:

Black RAL 9005

Cover colour:

Yellow RAL 1023 (standard)

Screws materials:

Galvanized steel, stainless steel on request

Protection degree:

IP40 according to EN 60529 (standard)

IP54 according to EN 60529 (on request) according to EN 60529

IP65 according to EN 60529 (on request)

IP67 according to EN 60529 (on request)

IP69K according to ISO 20653 (on request) with

having equal or higher protection degree

cable gland

General data

Ambient temperature:

-25°C ... +80°C

Cover screws driving torque:

1 ... 1.4 Nm

In conformity with standards:

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

⚠ 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: 1-2) as stated in the standard EN 81-20 par. 5.11.2.2.1.

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2014/30/EC.

Positive contact opening in conformity with standards:

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

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on page 111.

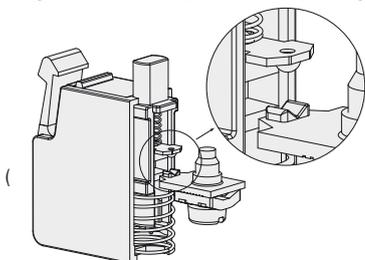
Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 Vac/dc
Protection against short circuits:	fuse 10 A 500 V type gG/gL
Rated impulse withstand voltage (U _{imp}):	8 kV
Pollution degree:	3

Utilization categories

Alternate current: AC15 (50÷60 Hz)					
Ue (V)	24	48	120	250	400
Ie (A)	6	6	6	6	3
Direct current: DC13					
Ue (V)	24	48	125	250	
Ie (A)	2.5	1.3	0.6	0.3	

High reliability self-cleaning contacts



"V shape" self-cleaning contacts with quadruple contact points. This shape, thanks to its quadruple support, allows to reduce the probability of contact wrong switching. Furthermore it highly improves the contacts reliability in case of dust registered patent).

Positive opening

NC contact blocks are suitable for safety application, with positive opening contacts according to IEC 60947-5-1.

Characteristics approved by UL

Utilization categories:	A600 pilot duty (720 VA, 120 ... 600 Vac) Q300 pilot duty (69 A, 125 ... 250 Vdc)
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Characteristics approved by IMQ

Rated insulation voltage (Ui):	500 V
Conventional free air thermal current (Ith):	10 A
Thermal current in enclosure (Ithe):	10 A
Rated impulse withstand voltage (U _{imp}):	8 kV
Protection degree of the housing:	IP20
Terminals:	screw terminals
Utilization category:	AC15
Operating voltage (Ue):	400 Vac (50/60 Hz)

Operating current (Ie):	3 A
Forms of the contact element:	X, Y
Positive opening of contacts on contact blocks:	01G, 01K
In conformity with standards:	EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

Notes:

- Use 60° or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 12-20.

- Terminal tightening torque of 7.1 Lb In (0.8 Nm).

EL AD23004



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 turn to release, with green indication, with guard	1NC	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Pushbutton LIGHT flush spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AD23007



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 turn to release, with green indication, with guard	2NC	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Monolithic indicator light Ø 30 red colour	Red led 12...30 Vac/dc	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Schuko socket 16A 250 Vac with internal protection		

EL AD23006



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 turn to release, with green indication, with guard	2NC	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	Monolithic indicator light Ø 30 white colour	White led 12...30 Vac/dc	
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton CLOSE flush, spring-return, black colour	1NO	
	Pushbutton OPEN flush, spring-return, white colour	1NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	

EL AD21002



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	1NC	
	Cam switch 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Pushbutton LIGHT flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

EL AD21006



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with guard	2NC	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		
	USA socket 15A 125 Vac with internal protection		

EL AD21008



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with guard	2NC	
	Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+4NC	NORMAL  INSPECTION 
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	WHITE luminous disc white fixed light 5 LUX	24Vac/dc	
	Schuko socket 16A 250 Vac with internal protection		

EL AD21007



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø40 push-pull, with mechanical indicator, with guard	2NC	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Schuko socket 16A 250 Vac with internal protection		

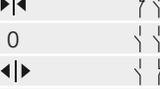
EL AD21004



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 turn to release, with mechanical indicator, with guard	1NC	
	Short handle selector 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton UP flush, spring-return, white colour	2NO	
	Pushbutton DOWN flush, spring-return, black colour	2NO	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Schuko socket 16A 250 Vac with internal protection		

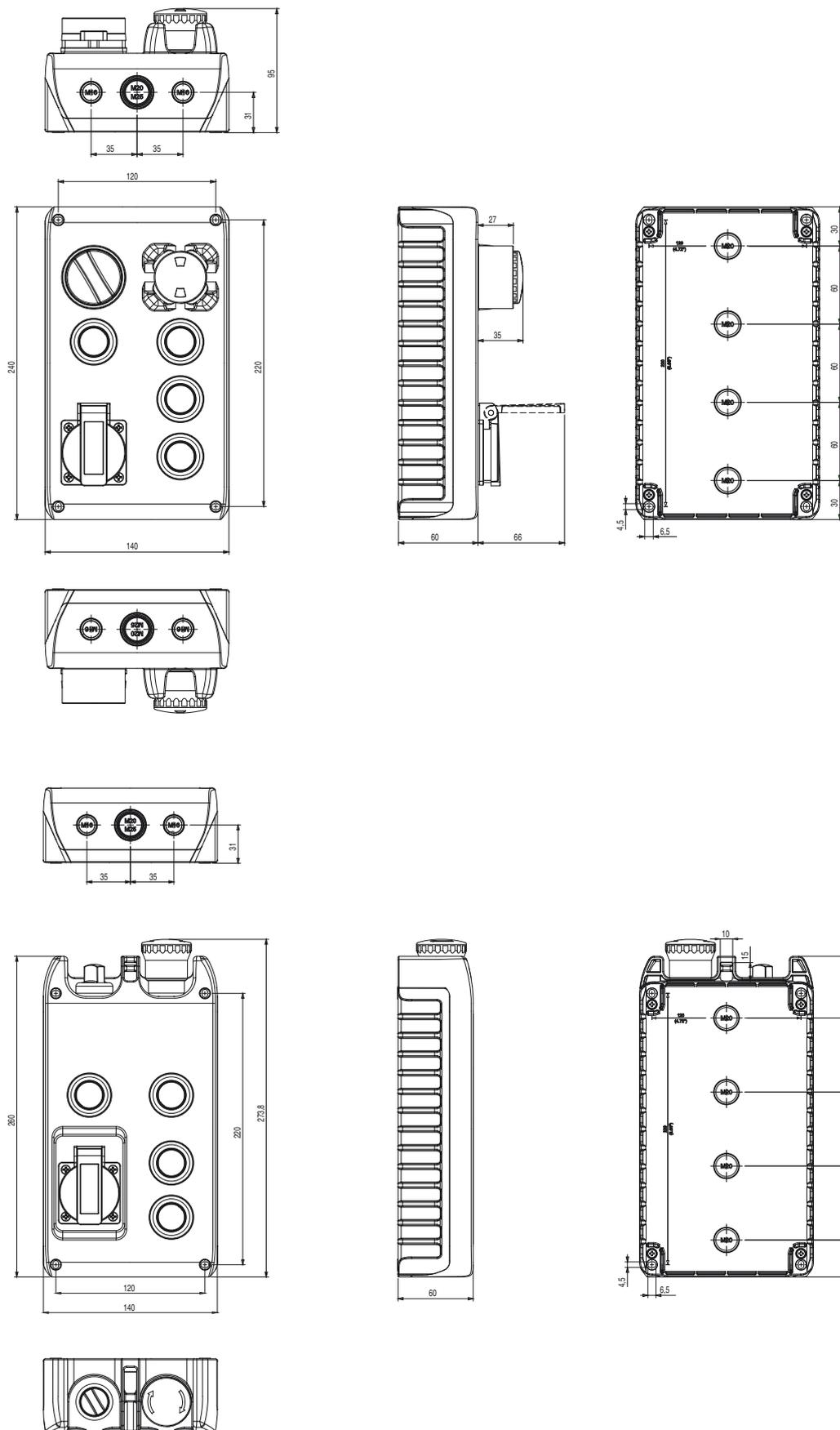
EL AD21005



	DEVICES	CONTACTS	WIRING LAYOUT
	Emergency pushbutton Ø 40 push-pull, with mechanical indicator, with guard	2NC	
	Cam switch Ø 42 2 stay-put positions, black colour, with guard	2NO+2NC	NORMAL  INSPECTION 
	Pushbutton ALARM flush, spring-return, yellow colour	1NO	
	Pushbutton LIGHT flush, spring-return, black colour	1NO	
	Short handle selector 3 positions, black colour, with guard, spring-return left, stay-put, spring-return right	2NO	
	Buzzer, continuous alarm open lens, black colour	24Vac/dc	
	Monolithic indicator light Ø 30 white colour	Led bianco 12...30 Vac/dc	
	Schuko socket 16A 250 Vac with internal protection		
	Pushbutton UP flush, spring-return, white colour	2NO+1NC	
	Pushbutton DOWN flush, spring-return, black colour	2NO+1NC	
	Pushbutton ENABLE flush, spring-return, blue colour	1NO	

Lift control stations EL AD series dimensions

All measures in the drawings are in mm

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

Selection table of covers EL AD series (versions for selector)

WARNING: Internal code is not an article. Loose covers are not available for sale

					
Internal code	25502	25523	25527	25519	25526

Selection table of covers EL AD series (versions for cam switch)

WARNING: Internal code is not an article. Loose covers are not available for sale

			
Internal code	25501	25522	25524

Slotted protection guard

Article	Description
VE GP22A5A	Cylindrical yellow protection guard with 4 slots \varnothing 40x20 mm

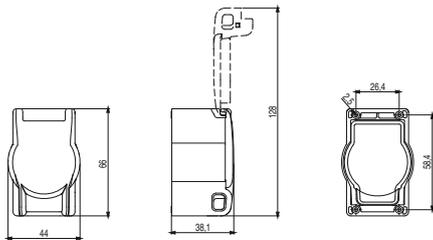
It does not alter the device IP protection degree.

Open protection guard

Article	Description
VE GP22F5A	Rectangular open yellow 66x38 h35 mm protection guard. Complete with 4 screws (for panels of thickness from 1 to 3.5mm).

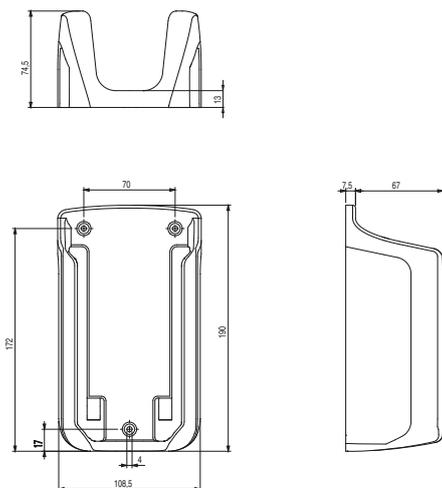
Bypass

Article	Description
VE GG3EA7A	Lockable protection with 4 screws (for panels from 1 to 3,5 mm thickness)



Holder

Article	Description
VE SF12AD1003A	Holder for EL AC••••• boxes with low base



Cylindrical protection guard

Article	Description
VE GP22B5A	Cylindrical yellow \varnothing 43x27 mm protection guard

Not suitable for emergency pushbuttons E2 1PE••••• series
It does not alter the device IP protection degree.

Blanking plug

10 pcs packs

Article	Description
E2 1TA1A110	Black blanking plug for \varnothing 22 mm holes

Technical data:

Body and nut material: polymer
Protection degree: IP67 and IP69K
Driving torque: from 2 to 2.5 Nm

Sockets with protection IP54

Article	Shape	Description
VE PE1E1AA1		Europe Schuko + Italy IEC 60884-1 with children protection 16 A 250 Vac
VE PE1E1BA1		USA UL498/NEMA5-15 CSA22.2 nr.42 15 A 125 Vac
VE PE1E1CA1		France CEE 7/V IEC 60884-1 NFC 61314 with children protection 16 A 250 Vac
VE PE1E1DA1		England BS1363 with children protection 13 A 250 Vac
VE PE1E1EA1		Swiss IEC 60884-1 SEV 1011 10 A 250 Vac
VE PE1E1FA1		Australia / China AS/NZS 3112 15A 250 Vac

Sockets complete with 4 fixing screws

Internal socket protection

Article	Description
VE GG2BA5A	Yellow socket protection

Protection complete with 2 screws for fixing under the socket, inside the control stations.

Cover protection

Article	Description
VE GG2CA5A	Yellow cover protection
VE GG2CB5A	Yellow cover protection (IP65)
VE GG2CA1A	Black cover protection (on request)

Hinges and fixing screws kit, only for control stations EL AC•••••.

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

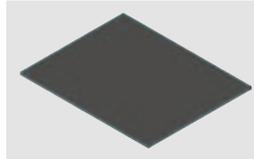
Separator



Article	Description
VE GG2DA1A	Separator

Separator applicable in different positions, to be used to separate those internal parts of the control stations having different voltage. Only for control stations EL AN●●●●.

Magnetic bases



Adhesive magnetic bases in plastoferrite to be applied on the bottom of the control stations EL AC●●●●, EL AN●●●● and EL AD●●●● allowing to anchor them to metal surfaces.

Article	Description
VE BM2B46X70	46x70 mm for EL AN21●●● boxes
VE BM2B87X70	87x70 mm for EL AN22●●● boxes
VE BM2B120X70	120x70 mm for EL AN23●●● boxes
VE BM2B153X70	153x70 mm for EL AN24●●● boxes
VE BM2B230X70	230x70 mm for EL AC27●●● boxes and EL AD ●●●●

Emergency pushbuttons



Body colour and marking	Actuator colour	Push-pull	Rotary release	Windowed push-pull	Windowed rotary release	Key release Key coding PY333
yellow	red	E2 1PEPZ4531	E2 1PERZ4531	E2 1PEPF4531	E2 1PERF4531	E2 1PEBZ4531
yellow with green indication	red	E2 1PEPZ4731	E2 1PERZ4731	E2 1PEPF4731	E2 1PERF4731	E2 1PEBZ4731
yellow	black	E2 1PEPZ4511	E2 1PERZ4511	-	-	E2 1PEBZ4511

Selectors



Actuator colour and marking	Position	2 positions Black ring	Actuator colour and marking	Position	3 positions Black ring
black	∨	E2 1SE12AVA11AB	black	∇	E2 1SE13ACE11AB

Key selectors



Actuator colour and marking	Position	2 positions Black ring
black	∨	E2 1SC2AVA11AA

Legend

- ∨ Stay-put
- ∇ Spring-return
- ⊗ Key withdrawal position

Illuminated disc

colour and marking	Article	Description
	VE DL1A2A00	White illuminated disc, Ø 60 mm, 24 Vac/dc, no marking, 5 LUX
	VE DL1A5A00	Yellow illuminated disc, Ø 60 mm, 24 Vac/dc, no marking
	VE DL1A5A13	Yellow illuminated disc, Ø 60 mm, 24 Vac/dc, with marking: ∨ ∨ ∨ ∨

Blinking illuminated disc

colour and marking	Article	Description
	VE DL1A2L00	White illuminated disc, blinking (0.5s on 0.5s off), Ø 60 mm, 24 Vac/dc, no marking, 5 LUX
	VE DL1A5L00	Yellow illuminated disc, blinking (0.5s on 0.5s off), Ø 60 mm, 24 Vac/dc, no marking
	VE DL1A5L13	Yellow illuminated disc, blinking (0.5s on 0.5s off), Ø 60 mm, 24 Vac/dc, with marking: ∨ ∨ ∨ ∨

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

Double pushbuttons



Actuator colour and marking		Flush upper pushbutton Projecting central pushbutton Flush lower pushbutton	
		Function	Black ring
	"→" black pushbutton	DOWN	E2 1PDRL1AABS
	white indicator light		
	"←" white pushbutton	UP	
	"↑" white pushbutton	UP	E2 1PDRL1AABN
	white indicator light		
	"↓" black pushbutton	DOWN	
	△ yellow pushbutton	ALARM	E2 1PDRL1AADJ
	white indicator light		
	↕ blue pushbutton	ENABLE	
	☀ black pushbutton	LIGHT	E2 1PDRL1AABR
	white indicator light		
	△ yellow pushbutton	ALARM	
	☀ black pushbutton	LIGHT	E2 1PDRL1AADL
	white indicator light		
	↕ blue pushbutton	ENABLE	

Triple pushbuttons



Actuator colour and marking		Flush upper pushbutton Projecting central pushbutton Flush lower pushbutton	
		Function	Black ring
	☀ black pushbutton	LIGHT	E2 1PTRS1AADK
	△ yellow pushbutton	ALARM	
	↕ blue pushbutton	ENABLE	
	"→" black pushbutton	DOWN	E2 1PTRS1AABK
	△ yellow pushbutton	ALARM	
	"←" white pushbutton	UP	

Flush and mushroom pushbutton



Actuator colour and marking	Function	Flush Pushbuttons	Flush Ø 36 mm mushroom pushbuttons
		Black ring	Black ring
 white	UP	E2 1PU2R221L7	/
 black	DOWN	E2 1PU2R121L8	/
 black	LIGHT	E2 1PU2R121L16	E2 1PU2F141L16
 yellow	LIGHT	E2 1PU2R521L16	E2 1PU2F541L16
 yellow	ALARM	E2 1PU2R521L14	E2 1PU2F541L14
 blue	ENABLE	E2 1PU2R621L170	/

Quadruple pushbuttons



Actuator colour and marking (starting from the top and clockwise)		flush upper pushbutton flush right pushbutton flush lower pushbutton flush left pushbutton	
		Function	black ring
	↑ white pushbutton	UP	E2 1PQFA1QAAQ
	☀ black pushbutton	LIGHT	
	↓ black pushbutton	DOWN	
	△ yellow pushbutton	ALARM	E2 1PQFA1QAAS
	"↑" white pushbutton	UP	
	☀ black pushbutton	LIGHT	
	"↓" black pushbutton	DOWN	E2 1PQFA1QAAR
	↕ blue pushbutton	ENABLE	
	↑ white pushbutton	UP	
	△ yellow pushbutton	ALARM	E2 1PQFA1QAAR
	↓ black pushbutton	DOWN	
	↕ blue pushbutton	ENABLE	

Monolithic illuminated indicator

10 pcs packs



LED colour	Operation voltage		
	12 ... 30 Vac/dc	120 Vac	230 Vac
white	E6 1IL1A2110	E6 1IL7A2110	E6 1IL8A2110
red	E6 1IL1A3110	E6 1IL7A3110	E6 1IL8A3110
green	E6 1IL1A4110	E6 1IL7A4110	E6 1IL8A4110
yellow	E6 1IL1A5110	E6 1IL7A5110	E6 1IL8A5110
blue	E6 1IL1A6110	E6 1IL7A6110	E6 1IL8A6110
orange	E6 1IL1A8110	E6 1IL7A8110	E6 1IL8A8110

Buzzer

Tipologia di suono	Type and supply voltages	With holes	Without holes
		continuous	12 Vac/dc
pulsing	24 Vac/dc	E6 1IS6A1CV1B	E6 1IS6B1CV1B
	12 Vac/dc	E6 1IS5A1PV1B	E6 1IS5B1PV1B
	24 Vac/dc	E6 1IS6A1PV1B	E6 1IS6B1PV1B

Sound level: > 55dB at 1m

USB socket

Back connection	Front connection USB 2.0 Type A integrated female socket black ring	
USB Type A integrated female socket	E2 1USB1CAK	/
outlet with cable in PVC (1.8 m long) and USB Type A male socket	/	E2 1USB1CN1.8
outlet with cable in PVC (3 m long) and USB Type A male connector	/	E2 1USB1CN3
outlet with cable in PVC (5 m long) and USB Type A male connector	/	E2 1USB1CN5

RJ45 socket

Back connection	Front connection RJ45 integrated female socket black ring	
RJ45 integrated female socket	E2 1RJ451AAK	/
Output with cable in PVC (1 m long) and RJ45 male connector	/	E2 1RJ451AN1
Output with cable in PVC (2.5 m long) and RJ45 male connector	/	E2 1RJ451AN2.5

DIN rail adapter

10 pcs packs

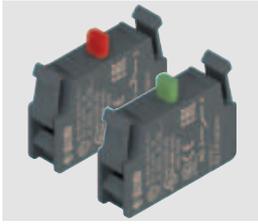


Article	Description
VE AD3PF9A0	Adapter with Ø22 hole for front fixing on DIN rail of control and signalling devices EROUND series.

Not suitable for cam switches and quadruple pushbuttons

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

Contact blocks



Article	Contacts
E2 CP01G2V1	Slow action 1NC ⊕
E2 CP10G2V1	Slow action 1NO
E2 CP01K2V1	Lagging slow action 1NC ⊕
E2 CP10L2V1	Leading slow action 1NO

General data

Protection degree: IP20 according to IEC 60529
 Ambient temperature: -40°C ... +80°C
 Mechanical endurance: 20 million operations cycles
 Max operating frequency: 3600 operations cycles/hour
 Contacts material: silver contacts
 Contacts form: "V shape" self-cleaning contacts with quadruple contact points
 Screw terminal driving torque: 0.6 ... 0.8 Nm

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac/dc
 Protection against short circuits: type gG/gL fuse 10 A 500 V
 Rated impulse withstand voltage (U_{imp}): 8 kV
 Pollution degree: 3

Utilization category

Alternating current: AC15 (50 ... 60 Hz)

U_e (V)	24	48	120	250	400
I_e (A)	6	6	6	6	3

 Direct current: DC13

U_e (V)	24	48	125	250
I_e (A)	2.5	1.3	0.6	0.3

Contact blocks



Article	Contacts
E2 CP01S2V1	slow self-monitored action 1NC ⊕

General data

Protection degree: IP20 according to IEC 60529
 Ambient temperature: -40°C ... +80°C
 Mechanical endurance: 20 million operations cycles
 Max operating frequency: 3600 operations cycles/hour
 Contacts material: silver contacts
 Contacts form: "V shape" self-cleaning contacts with quadruple contact points
 Screw terminal driving torque: 0.6 ... 0.8 Nm

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 250 Vac/dc
 Protection against short circuits: type gG/gL fuse 10 A 500 V
 Rated impulse withstand voltage (U_{imp}): 4 kV
 Pollution degree: 3

Utilization category

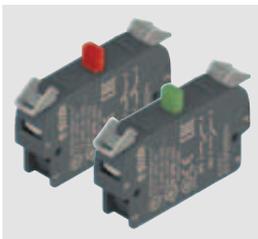
Alternating current: AC15 (50 ... 60 Hz)

U_e (V)	24	48	120	250
I_e (A)	6	6	6	6

 Direct current: DC13

U_e (V)	24	48	125	250
I_e (A)	2.5	1.3	0.6	0.3

Contact blocks



Article	Contacts
E2 CP11G2V1	Slow action 1NO+1NC ⊕
E2 CP20G2V1	Slow action 2NO
E2 CP02G2V1	Slow action 2NC ⊕

General data

Protection degree: IP20 according to IEC 60529
 Ambient temperature: -40°C ... +80°C
 Mechanical endurance: 20 million operations cycles
 Max operating frequency: 3600 operations cycles/hour
 Contacts material: silver contacts
 Contacts form: "V shape" self-cleaning contacts with quadruple contact points
 Screw terminal driving torque: 0.6 ... 0.8 Nm

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 250 Vac/dc
 Protection against short circuits: type gG/gL fuse 10 A 500 V
 Rated impulse withstand voltage (U_{imp}): 4 kV
 Pollution degree: 3

Utilization category

Alternating current: AC15 (50=60 Hz)

U_e (V)	24	48	120	250
I_e (A)	6	6	6	6

 Direct current: DC13

U_e (V)	24	48	125	250
I_e (A)	2.5	1.3	0.6	0.3

LED holders



LED colour	Actuator colour	Operation voltage		
		12 ... 30 Vac/dc	120 Vac	230 Vac
white	white / yellow	E2 LP1A2V1	E2 LP3A2V1	E2 LP4A2V1
red	red	E2 LP1A3V1	E2 LP3A3V1	E2 LP4A3V1
green	green	E2 LP1A4V1	E2 LP3A4V1	E2 LP4A4V1
blue	blue	E2 LP1A6V1	E2 LP3A6V1	E2 LP4A6V1
orange	orange	E2 LP1A8V1	E2 LP3A8V1	E2 LP4A8V1

General data

Protection degree: IP20 according to IEC 60529
 Ambient temperature: -25°C ... +70°C
 Endurance: 100.000 hours (at rated voltage and ambient temperature +25 °C)
 Operation voltage:
 12 ... 30 Vac/dc; 5 ... 15 mA
 102 ... 138 Vac; 10 ... 12 mA
 195 ... 264 Vac; 9 ... 10 mA
 Screw terminal driving torque: 0.6 ... 0.8 Nm

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

Fixing ring **20 pcs packs**

	Article	Description
	VE GF121A	Polymer fixing ring
	VE GF720A	Metal fixing ring

Fixing tool

	Article	Description
	VE CH121A1	Polymer fixing tool for VE GF ●●●● fixing rings

Fixing adapter**10 pcs packs**

Article	Description
E2 1BAC11	Fixing adapter with 3 positions for E2 CP contact block and E2 LP LED holder



Article	Description
E2 1BAC21	Fixing adapter with 4 positions for E2 CP contact block

Can be exclusively combined with selectors E2 ●SE●●●●●●●●, key selectors E2 ●SC●●●●●●●●, pushbuttons E2 ●PU●●●●●●●●, double pushbuttons E2 ●PD●●●●●●●●, emergency pushbuttons E2 1PE●●●●●●●●, configured in the appropriate versions for adapters with 4 positions. Combined with quadruple buttons E2 ●PQ ●●●●●●●● and joystick E2 ●MA ●●●●●●●●

Cam switches**General data**

Protection degree according to IEC 60529: IP67 only if installed on appropriate cover
IP20 on the terminals

Ambient temperature: -20°C +50°C

Mechanical endurance: 500.000 operation cycles at 120 operation cycles/hour

Contacts material: silver contacts

Screw terminal driving torque: 1,2 Nm

Thermal current (I_{th}): 25 A

Rated insulation voltage (U_i): 690 Vac

Rated impulse withstand voltage (U_{imp}): 6 kV

Flexible conductor section:: 0,5... 2,5 mm²

Contacts								Position	Article
1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16		
NC	NO	-	-	-	-	-	-		EH B2A11B-P01
NC	NO	NC	NO	-	-	-	-		EH B2A22B-P01
NO	NO	NC	NC	NC	NC	-	-		EH B2A24B-P01
NC	NO	NC	NO	NC	NO	-	-		EH B2A33B-P01
NO	NC	NO	NC	NO	NC	NC	NC		EH B2A35B-P01

Please note: only available already assembled on control stations.

Rated operation current I _e : alternate current (50/60 Hz)						
Vac	AC-21A (A)	AC-22A (A)	AC23A		AC-3	
			1PH	3PH	1PH	3PH
110-120	25	/	0,5 Kw	/	0,4	/
220-240	25	/	0,9 Kw	2,6 Kw	0,75 Kw	2,2 Kw
380-400	25	/	1,5 Kw	7,5 Kw	1,3 Kw	5,5 Kw

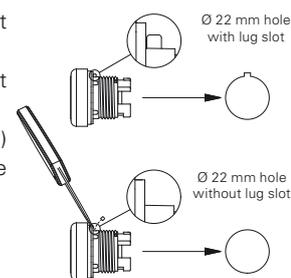
Items with code on the **green** background are available in stock

Alignment lug

The mounting reference dowel on the external diameter of all EROUND line devices enables perfect device alignment and mounting on the panel, while avoiding rotations.

In case of use on holes without reference notches, simply remove the dowel with a slight leverage effect using a screwdriver, making sure that the seal gasket does not get damaged.

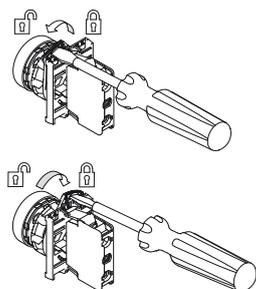
The removal of the reference dowel, is not advisable for the selectors (series E2 •SE, E2 •SL, E2 •SC) and emergency buttons (series E2 •PE) with rotary release, as these devices are subject to rotary-type actuation.



Device connection to the fixing adapter

After its installation on the panel using the special ring, the control device can be fixed to the mounting adapter by turning the locking lever. The lever reports the free position (lock open) and locked position (lock closed) indications.

The locking lever rotation can be made smoother by using a flat-head screwdriver.

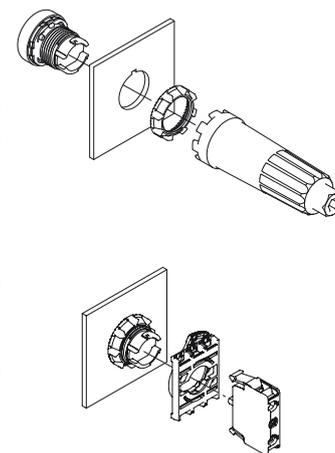


Panel fixing

The control and signalling devices have to be fixed on the rear of the panel with a fixing ring. This has to be tightened with the special fixing key which is supplied as an accessory.

The tightening torque for a correct fixing must be between 2 and 2.5 Nm.

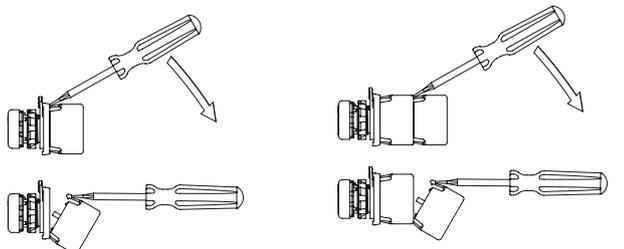
Once the fixing ring has been tightened, the mounting adapter and then the contact blocks or LED units can be mounted on the panel.



Contact and LED holders hooking

Contact blocks and LED units are provided with two snap-in mounting flaps that ensure a stable fixing between them and the mounting adapter (in the panel mounting version), or between them and the base of the housing (in the base mounting version). The panel contact blocks can be connected to each other, up to three, in observance of the limits specified for each actuator in the respective chapter.

Contact blocks and LED units can be quickly disassembled by using a flat-head screwdriver to leverage on the connection flaps.



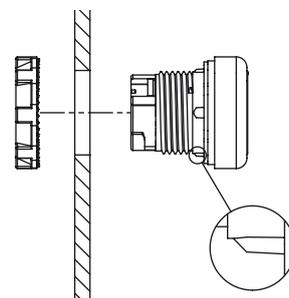
Contact block release from collar

Contact block release from other block

Gasket

Thanks to its design, the seal gasket ensures a pre-fixing on the panel.

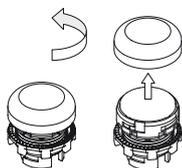
This allows to mount the ring without having to hold the device in position.



Lenses for indicator lights E2

The E2 indicator lights are provided with lenses of different colours which are interchangeable. The lenses can be fixed and removed by simply turning them clockwise and anticlockwise without needing any tool.

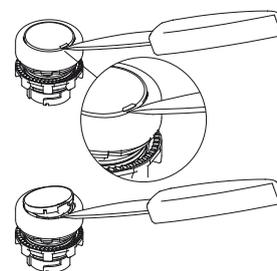
For a good chromatic output, it is necessary a correct combination of lens and LED holder colours.



Lenses for illuminated pushbuttons

Pushbuttons and illuminated pushbuttons can have interchangeable lenses too.

Their lens can be removed by putting a pointed tool under the notch on the lens external diameter and levering it.



General prescription

The product was designed to be installed on switching cabinets or housings containing electrical circuits. All electrical components and devices of the EROUND series that are to be installed inside switching cabinets or enclosures (e.g. E2 CP, E2 CF, E2 LP, E2 LF), are not provided with suitable protections against: water, high quantities of dust, condensation, humidity, steam, corrosive agents, explosive gases, flammable gases or other polluting agents. The protection degree of switching cabinets or enclosures shall ensure the necessary protection to the electrical components of the EROUND series inside them, depending on the application area.

Impacts and vibrations

- Avoid collisions with devices. Excessive impacts and vibrations could not guarantee the correct working of the device.

Devices utilization

- All devices of the EROUND series are hand operated.
- Do not apply excessive force to the device once it has reached the end of its actuation travel.
- Do not exceed the maximum actuation travel.
- Do not disassemble or try to repair the device, in case of defect or fault replace the entire device.
- In case the device is deformed or damaged it must be entirely replaced. Correct operation cannot be guaranteed when the device is deformed or damaged.
- Always attach the following instructions to the manual of the machine in which the device is installed.
- These operating instructions must be kept available for consultation at any time and for the whole period of use of the device.
- All linear dimensions of technical drawings and travel diagrams reported in this catalogue are expressed in millimetres, while angular dimensions are expressed in degrees.

Wiring and installation

- Installation must be carried out by qualified staff only.
- Observe minimum distances between devices.
- Observe the tightening torques.
- Keep the electrical load below the value specified by the utilization category.
- Disconnect the power before to work on the contacts, also during the wiring.
- Do not paint or varnish the devices.
- Devices can only be installed on perforated surfaces with a thickness of between 1 mm and 6 mm that comply with the IEC 60947-5-1 standard.
- The protection degree and the correct operation are only guaranteed if the product is installed on a level and smooth surface and if the diameter of the holes is compliant with the IEC 60947-5-1 standard.
- After and during the installation do not pull the electrical cables connected to the contact blocks. Due to high traction on the electrical cables, the contact blocks could detach from the actuator.
- During the coupling and uncoupling of the contact blocks from the mounting adapter or from the base, do not deform or put excessive stress on the coupling flaps. A possible deformation of the flaps could cause the detachment of the contact blocks from their mounting adapter.
- The housings in the EA and ES series are fitted with knock-out holes for the passage of electrical cables. Open these holes using a suitable tool to avoid damaging the housing. Refrain from using housings damaged or cracked as a result of erroneous manoeuvres performed when opening the knock-out holes. After opening the hole, remove any plastic residues and insert a cable gland (or similar device) into the hole with a degree of protection equal or superior to that of the housing.
- After installation and before commissioning of the machine, verify:
 - the correct operation of the device;
 - the correct and full locking of the E2 1BAC•• mounting adapter to the device;
 - the correct coupling of the contact blocks.
- Periodically check for correct device operation.
- Do not deform or modify the device for any reason.
- Before installation, make sure the device is not damaged in any part.
- Refrain from opening, disassembling or attempting to repair the device and replace it immediately if it appears to be damaged.
- Should the installer be unable to fully understand the utilization requirements, the product must not be installed and the necessary assistance may be requested.

Do not use in the following environments:

- Environments where dust and dirt can cover the device and by sedimentation stop its correct working.
- Environment where sudden temperature changes cause condensation.
- Environments where coatings of ice may form on the device.
- Environments where the application causes knocks or vibrations that could damage the device.
- In environments with the presence of explosive or flammable gases.
- In environments containing strongly aggressive chemicals, where the products used coming into contact with the device may impair its physical or functional integrity.

Utilization limits

- Use the devices following the instructions, complying with their operation limits and the standards in force.
- The devices have specific application limits (min. and max. ambient temperature, mechanical endurance, protection degree, etc.) These limits are met by the different devices only if considered individually and not if combined with each other. For further information contact our technical department.
- The utilization implies knowledge of and compliance with following standards: IEC 60204-1, IEC 60947-5-1, ISO 12100.
- Please contact our technical department for information and assistance (phone +39.0424.470.930 / fax +39.0424.470.955 / e-mail tech@pizzato.com) in the following cases:
 - Cases not mentioned in the present utilization requirements.
 - In nuclear power stations, trains, air planes, cars, incinerators, medical devices or any application where the safety of two or more persons depends on the correct operation of the device.

Additional prescription for safety application

Provided that all previous requirements for the devices installed with operator protection function are fulfilled, further additional prescriptions have to be observed:

- The utilization implies knowledge of and compliance with following standards: IEC 60204-1, IEC 60947-5-1, EN 60954-1, EN ISO 13849-1, EN 62061, EN ISO 12100.
- In emergency buttons the safety circuit must be connected to the .1-.2 NC contacts with the actuator in rest position. The auxiliary contacts NO .3-.4 must be used in signalling circuits only.
- The protection fuse (or equivalent device) must be always connected in series with the NC .1-.2 contacts of the safety circuit.
- Periodically verify the correct working of the safety devices; the periodicity of this verification is settled by the machine manufacturer based on the machine danger degree and it does not have to be less than one a year.
- After installation and before commissioning of the machine, verify:
 - the correct operation of the device;
 - the correct and full locking of the E2 1BAC•• mounting adapter;
 - the correct coupling of the contact blocks.
- For the E2 •PEBZ•••• emergency buttons with key release do not leave the key inserted. A possible sudden activation of the emergency button with the key inserted could cause injuries to the operator.
- All the safety devices installed on the machine (e.g. emergency button, stop button, automatic/manual mode selector etc...) have a limited endurance. Although still functioning, after 20 years from the date of manufacture the device must be replaced completely. The date of manufacture is placed next to the product code, on the label attached to the packing. In case of particularly adverse weather conditions, the endurance of the device can be drastically reduced over time. Regularly check that the safety devices are working properly and if required, replace them, even prior to the above-mentioned expiry date.
- The device is provided with external marking on its packaging. Marking includes: Producer trademark, product code, batch number and date of manufacture. The batch's first letter refers to the month of manufacture (A=January, B=February, etc.). The second and third digits refer to the year of manufacture (17=2017, 18=2018, etc...).
- If the device is used for safety applications, inadequate installation or tampering can cause people serious injuries and even death.
- These devices must not be bypassed, removed, turned or disabled in any other way.
- If the machine where the device is installed is used for a purpose other than that specified by the producer, the device may not provide the operator with efficient protection.
- The safety category of the system comprising the safety device also depends on external devices and their connection. Check that the device is capable of performing the safety function envisaged by the risk analysis of the machine, as provided by EN ISO 13849-1.



Safety modules for the lift automatic floor levelling operation according to EN 81

Main functions

- For safety applications up to SIL 3 / PL e
- Choice between automatic start, manual start or monitored start
- Connection of the input channels to opposite potentials
- Small 22.5 mm housing
- Output contacts:
2 safety NO contacts, 1 auxiliary NO opto-isolated
- Supply voltages: 24 Vac/dc
- Brief power failure insensitiveness

Utilization categories

Alternating current: AC15 (50...60 Hz)

U_e (V) 230

I_e (A) 3

Direct current: DC13 (6 op. cycles/minute)

U_e (V) 24

I_e (A) 4

Quality marks:



Certificate Of Compliance IMQ n. 340 (EN 81-20:2014;

EN 81-1:1998+A3:2009; EN 81-2:1998+A3:2009)

EC type Examination Certificate: IMQ CP 432 DM
(Machinery Directive)

Approval UL: E131787

Approval EAC: RU C-IT.AD35.B.00454

Approval CCC: 2013010305640211

Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

EMC Directive 2014/30/EC

Lift Directive 2014/33/EU

Technical data

Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 116

General data

SIL level (SIL CL):

up to SIL 3 according to EN IEC 62061

Performance Level (PL):

up to PL e according to EN ISO 13849-1

Safety category:

up to cat. 4 according to EN ISO 13849-1

MTTF_D:

227 years

DC:

High

PFH_D:

1.18×10^{-10}

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

>10 millions of operations

Electrical endurance:

>100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (U_{imp}):

4 kV

Rated insulation voltage (U_i):

250 V

Over-voltage category:

II

Weight:

0.2 kg

Power supply

Rated operating voltage (U_n):

24 Vac/dc; $\pm 15\%$; 50...60 Hz

Max residual ripple in DC:

10%

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2.5W

Control circuit

Protection against short circuits:

resistance PTC, $I_h=0.5 A$

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Max input resistance:

$\leq 50 \Omega$

Current for each input:

< 40 mA

Min. period of start impulse t_{MIN} :

> 50 ms

Operating time t_A :

< 120 ms

Releasing time t_{R1} :

< 15 ms

Releasing time in absence of power supply t_R :

< 65 ms

Simultaneity time t_c :

infinite

Operating time on energisation

< 300 ms

Auxiliary signalling circuit

Auxiliary Output (Y43-Y44):

1NO opto-isolated

Rated operational voltage (U_o):

24 Vdc

Rated operational current (I_o):

25 mA

Rated impulse withstand voltage (U_{imp}):

4 kV

Reaction time t_{R2} :

< 1 ms

In conformity with standards:

EN 60204-1, EN ISO 13855, EN 1037, EN ISO 12100, EN ISO 13850, EN 60529,

EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-1, EN ISO 13849-1,

EN ISO 13849-2, EN 62061, EN 81-20, EN 81-50, UL 508, CSA C22.2 n° 14-95

Output circuit

Output contacts:

2 safety NO contacts,

Contacts type:

forced guided contacts

Contacts material:

silver alloy, gold plated

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I_{th} :

6 A

Max currents sum ΣI_{th2} :

36 A²

Min. current:

10 mA

Contacts resistance:

$\leq 100 m\Omega$

Contact protection fuse:

4 A, F type

Code structure

CS AR-91V024

Kind of connection

V screw terminals

M connector with screw terminals

X connector with spring terminals

Supply voltage

024 24 Vac/dc

Data type approved by UL

Rated operating voltage (U_n): 24 Vac/dc; 50...60 Hz

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2.5 W

Max switching voltage: 230 Vac

Max switching current per contact: 6 A

Utilization category: C300

Notes:

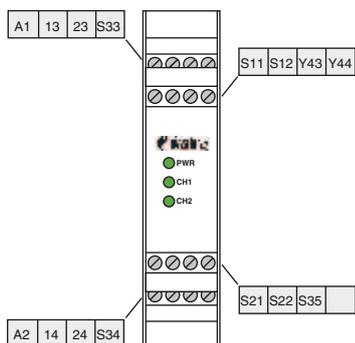
- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb-In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

Safety module CS AR-91

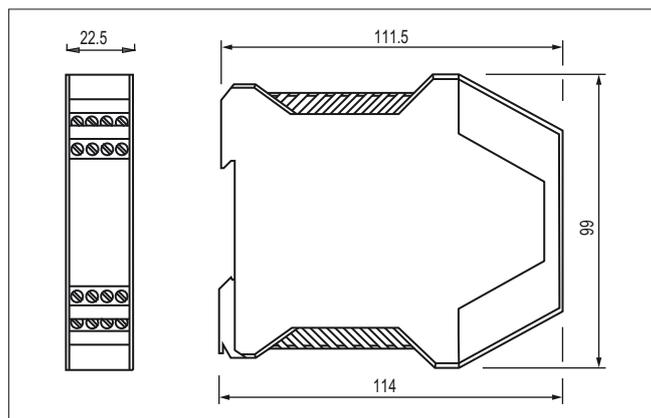
Terminals layout



Brief power failure and supply voltage variation

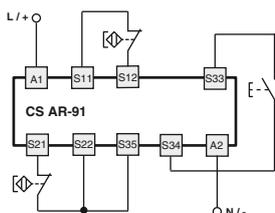
The CS AR-91 safety module has a voltage drop sensor inside which provides the protection and safety of the safety relays internal state in case of brief power failure, in order to avoid unwanted switching state as to the inputs state. Once the input voltage is reset the equipment always restarts correctly and coherently with the inputs state. When a brief power failure occurs the safety module keeps its standard performance. If the power failure lasts longer the safety outputs open and they will reset with the automatic start after the voltage is back while in case of manual or monitored start the system must be reset by the operator.

Dimensions



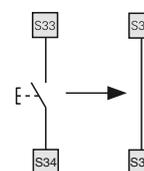
Inputs configuration

Emergency stop
Input configuration with magnetic sensors
2 channels



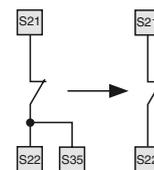
Automatic start

As regards the indicated diagrams, in order to activate the module with the automatic start, you have to bypass the start button between S33 and S34 terminals.



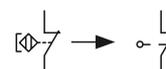
Monitored start

As regards the indicated diagrams, in order to activate the module with the monitored start, you have to remove the connection between S22 and S35 terminals.

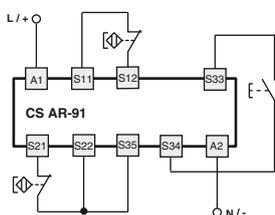


Electromechanical switches

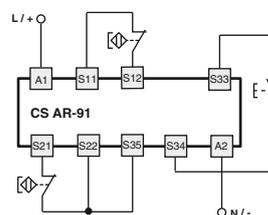
The safety module can control both magnetic sensors and electromechanical switches, replacing the sensors contacts with switches contacts.



Emergency stop
Input configuration with magnetic sensors
2 channels



Emergency stop
Input configuration with magnetic sensors
2 channels





Safety modules for the lift automatic floor levelling operation according to EN 81

Main functions

- For safety applications up to SIL 3 / PL e
- Choice between automatic start or manual start
- Connection of the input channels to opposite potentials
- Small 22.5 mm housing
- Output contacts:
3 NO safety contacts. 1 NC auxiliary contact.
- Supply voltages: 24 Vac/dc
- Brief power failure insensitiveness

Utilization categories

Alternating current: AC15 (50...60 Hz)

U_e (V) 230

I_e (A) 3

Direct current: DC13 (6 op. cycles/minute)

U_e (V) 24

I_e (A) 4

Quality marks:



Certificate Of Compliance IMQ n. 340 (EN 81-20:2014;

EN 81-1:1998+A3:2009; EN 81-2:1998+A3:2009)

EC type Examination Certificate: IMQ CP 432 DM
(Machinery Directive)

Type Examination Certificaten.236
(Machinery Directive)

Approval UL: E131787

Approval EAC: RU C-IT.AД35.B.00454

Approval CCC: 2013010305640211

Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

EMC Directive 2014/30/EC

Lift Directive 2014/33/EU

Technical data

Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 118

General data

SIL level (SIL CL):

up to SIL 3 according to EN IEC 62061

Performance Level (PL):

up to PL e according to EN ISO 13849-1

Safety category:

up to cat. 4 according to EN ISO 13849-1

MTTF_D:

227 years

DC:

High

PFH_D:

1.34×10^{-10}

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

> 10 millions of operations

Electrical endurance:

> 100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (Uimp):

4 kV

Rated insulation voltage (Ui):

250 V

Over-voltage category:

II

Weight:

0.2 kg

Power supply

Rated operating voltage (U_n):

24 Vac/dc; $\pm 15\%$; 50...60 Hz

Max residual ripple in DC:

10%

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2.5 W

Control circuit

Protection against short circuits:

resistance PTC, $I_h=0.5 A$

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Max input resistance:

$\leq 50 \Omega$

Current for each input:

< 35 mA

Min. period of start impulse t_{MIN} :

> 50 ms

Operating time t_A :

< 130 ms

Releasing time t_{R1} :

< 20 ms

Releasing time in absence of power supply t_R :

< 60 ms

Simultaneity time t_c :

infinite

Operating time on energisation

< 300 ms

In conformity with standards:

EN 60204-1, EN ISO 13855, EN 1037, EN ISO 12100, EN ISO 13850, EN 60529,

EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-1, EN ISO 13849-1,

EN ISO 13849-2, EN 62061, EN 81-20, EN 81-50, UL 508, CSA C22.2 n° 14-95

Output circuit

Output contacts:

3 NO safety contacts

1 NC auxiliary contact.

Contacts type:

forced guided contacts

Contacts material:

silver alloy, gold plated

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I_{th} :

6 A

Max currents sum ΣI_{th}^2 :

36 A²

Min. current:

10 mA

Contacts resistance:

$\leq 100 m\Omega$

Contact protection fuse:

4 A, F type

Code structure

CS AR-93V024

Kind of connection

V screw terminals

M connector with screw terminals

X connector with spring terminals

Supply voltage

024 24 Vac/dc

Data type approved by UL

Rated operating voltage (U_n): 24 Vac/dc; 50...60 Hz

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2 W

Max switching voltage: 230 Vac

Max switching current per contact: 6 A

Utilization category: C300

Notes:

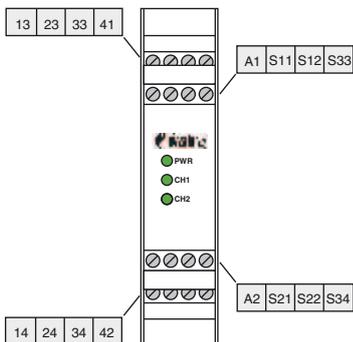
- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb-In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

Safety module CS AR-93

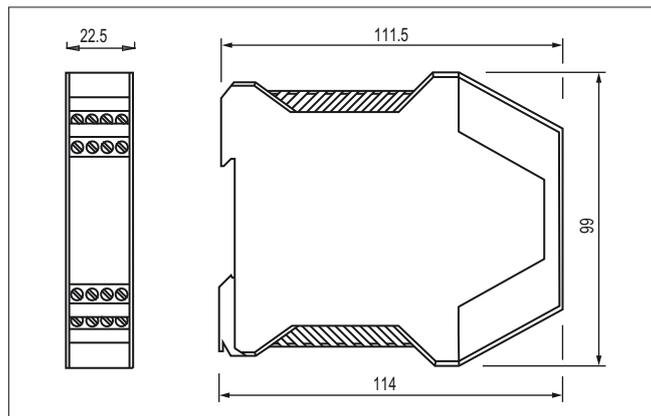
Terminals layout



Brief power failure and supply voltage variation

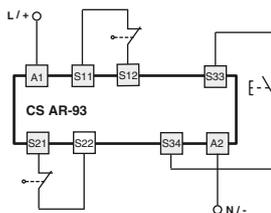
The CS AR-93 safety module has a voltage drop sensor inside which provides the protection and safety of the safety relays internal state in case of brief power failure, in order to avoid unwanted switching state as to the inputs state. Once the input voltage is reset the equipment always restarts correctly and coherently with the inputs state. When a brief power failure occurs the safety module keeps its standard performance. If the power failure lasts longer the safety outputs open and they will reset with the automatic start after the voltage is back while in case of manual or monitored start the system must be reset by the operator.

Dimensions



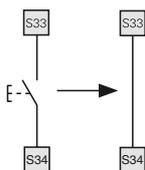
Inputs configuration

Emergency stop
Input configuration with magnetic sensors
2 channels



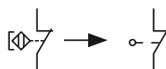
Automatic start

As regards the indicated diagrams, in order to activate the module with the automatic start, you have to bypass the start button between S33 and S34 terminals.



Electromechanical switches

The safety module can control both magnetic sensors and electromechanical switches, replacing the sensors contacts with switches contacts.





Safety modules for the lift automatic floor levelling operation according to EN 81

Main functions

- For safety applications up to SIL 3 / PL e
- Choice between automatic start, manual start or monitored start
- Connection of the input channels to opposite potentials
- Small 22.5 mm housing
- Output contacts: 2 safety NO contacts
- Supply voltages: 24 Vac/dc, 12 Vdc
- Brief power failure insensitiveness

Utilization categories

Alternating current: AC15 (50...60 Hz)

U_e (V) 230

I_e (A) 3

Direct current: DC13 (6 op. cycles/minute)

U_e (V) 24

I_e (A) 4

Quality marks:



Certificate Of Compliance IMQ n. 340 (EN 81-20:2014;

EN 81-1:1998+A3:2009; EN 81-2:1998+A3:2009)

EC type Examination Certificate: IMQ CP 432 DM (Machinery Directive)

Type Examination Certificaten.236 (Machinery Directive)

Approval UL: E131787

Approval EAC: RU C-IT.AД35.B.00454

Approval CCC: 2013010305640211

Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

EMC Directive 2014/30/EC

Lift Directive 2014/33/EU

Technical data

Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree: IP40 (housing), IP20 (terminals)

Dimensions: see page 120

General data

SIL level (SIL CL): up to SIL 3 according to EN IEC 62061

Performance Level (PL): up to PL e according to EN ISO 13849-1

Safety category: up to cat. 4 according to EN ISO 13849-1

MTTF_D: 213 years (24 Vac/dc)

227 years (12 Vdc)

DC: High

PFH_D: 5.62 x 10⁻⁹ (24 Vac/dc)

1.13 x 10⁻¹⁰ (12 Vdc)

Ambient temperature: -25°C...+55°C

Mechanical endurance: >10 millions of operations

Electrical endurance: >100.000 operations

Pollution degree: outside 3, inside 2

Rated impulse with stand voltage (U_{imp}): 4 kV

Rated insulation voltage (U_i): 250 V

Over-voltage category: II

Weight: 0.2 kg

Power supply

Rated operating voltage (U_n): 24 Vac/dc; ±15%; 50...60 Hz

12 Vdc; -10% ... +15%

Max residual ripple in DC: 10%

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2 W

Control circuit

Protection against short circuits: resistance PTC, I_h=0.5 A

intervention > 100 ms, reset > 3 s

Operating time of PTC: ≤ 25 Ω (24 Vac/dc), ≤ 15 Ω (12 Vdc)

Max input resistance: < 35 mA (24 Vac/dc), 65 mA (12 Vdc)

Current for each input: > 300 ms

Min. period of start impulse t_{MIN} : < 60 ms

Operating time t_A : < 20 ms

Releasing time t_{R1} : < 120 ms (24 Vac/dc), 70 ms (12 Vdc)

Releasing time in absence of power supply t_R : infinite

Simultaneity time t_C : < 200 ms (24 Vac/dc), 400 ms (12 Vdc)

Operating time on energisation

In conformity with standards:

EN 60204-1, EN ISO 13855, EN 1037, EN ISO 12100, EN ISO 13850, EN 60529,

EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-1, EN ISO 13849-1,

EN ISO 13849-2, EN 62061, EN 81-20, EN 81-50, UL 508, CSA C22.2 n° 14-95

Output circuit

Output contacts: 2 safety NO contacts,

Contacts type: forced guided contacts

Contacts material: silver alloy, gold plated

Max switching voltage: 230/240 Vac; 300 Vdc

Max switching current per contact: 6 A

Conventional free air thermal current I_{th}: 6 A

Max currents sum ΣI_{th}^2 : 36 A²

Min. current: 10 mA

Contacts resistance: ≤ 100 mΩ

Contact protection fuse: 4 A, F type

Code structure

CS AR-94V024

Kind of connection	
V	screw terminals
M	connector with screw terminals
X	connector with spring terminals

Supply voltage	
024	24 Vac/dc
U12	12 Vdc

Data type approved by UL

Rated operating voltage (U_n):	24 Vac/dc; 50...60 Hz
Rated power consumption AC:	< 5 VA
Rated power consumption DC:	< 2 W
Max switching voltage:	230 Vac
Max switching current per contact:	6 A
Utilization category	C300

Notes:

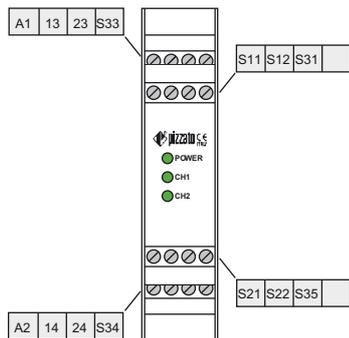
- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb-In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

Safety module CS AR-94

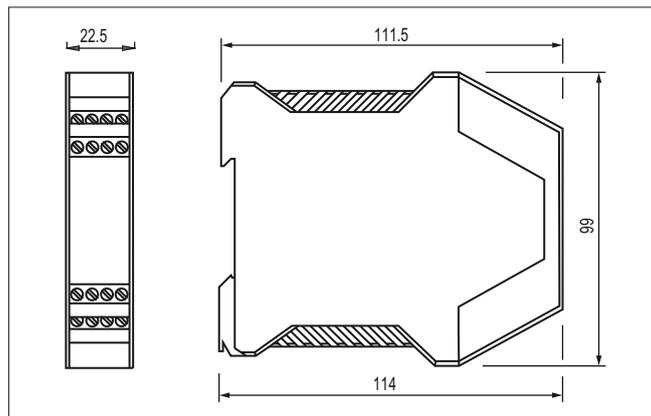
Terminals layout



Brief power failure and supply voltage variation

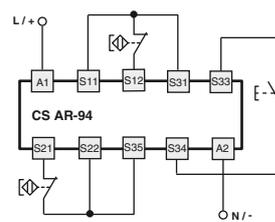
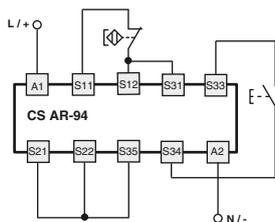
The CS AR-94 safety module has a voltage drop sensor inside which provides the protection and safety of the safety relays internal state in case of brief power failure, in order to avoid unwanted switching state as to the inputs state. Once the input voltage is reset the equipment always restarts correctly and coherently with the inputs state. When a brief power failure occurs the safety module keeps its standard performance. If the power failure lasts longer the safety outputs open and they will reset with the automatic start after the voltage is back while in case of manual or monitored start the system must be reset by the operator.

Dimensions



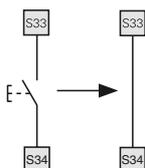
Inputs configuration

Emergency stop	
Input configuration with magnetic sensors	
1 channel	2 channels



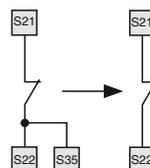
Automatic start

As regards the indicated diagrams, in order to activate the module with the automatic start, you have to bypass the start button between S33 and S34 terminals.



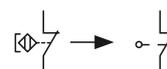
Monitored start

As regards the indicated diagrams, in order to activate the module with the monitored start, you have to remove the connection between S22 and S35 terminals.



Electromechanical switches

The safety module can control both magnetic sensors and electromechanical switches, replacing the sensors contacts with switches contacts.





Safety modules for the lift automatic floor levelling operation according to EN 81

Main functions

- For safety applications up to SIL 3 / PL e
- Choice between automatic start, manual start or monitored start
- Connection of the input channels to opposite potentials
- Small 22.5 x 88.5h mm housing
- Output contacts:
2 safety NO contacts
- Supply voltages: 24 Vac/dc
- Brief power failure insensitiveness

Utilization categories

Alternate current: AC15 (50...60 Hz)

U_e (V) 230

I_e (A) 3

Direct current: DC13

U_e (V) 24

I_e (A) 4

Quality marks:



Certificate Of Compliance IMQ n. 340 (EN 81-20:2014;

EN 81-1:1998+A3:2009; EN 81-2:1998+A3:2009)

Type Examination Certificaten.236

(Machinery Directive)

Approval UL: E131787

Approval EAC: RU C-IT.A.135.B.00454

Approval CCC: 2013010305640211

Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

EMC Directive 2014/30/EC

Lift Directive 2014/33/EU

Technical data

Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 122

General data

SIL level (SIL CL):

up to SIL 3 according to EN IEC 62061

Performance Level (PL):

up to PL e according to EN ISO 13849-1

Safety category:

up to cat. 4 according to EN ISO 13849-1

MTTF_D:

213 years

DC:

High

PFH_D:

5.42×10^{-9}

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

>10 millions of operations

Electrical endurance:

>100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (U_{imp}):

4 kV

Rated insulation voltage (U_i):

250 V

Over-voltage category:

II

Weight:

0.2 kg

Power supply

Rated operating voltage (U_n):

24 Vac/dc; $\pm 15\%$; 50...60 Hz

Max residual ripple in DC:

10%

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2 W

Control circuit

Protection against short circuits:

resistance PTC, $I_h=0.5 A$

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Max input resistance:

$\leq 25 \Omega$

Current for each input:

< 35 mA

Min. period of start impulse t_{MIN} :

> 300 ms

Operating time t_A :

< 60 ms

Releasing time t_{R1} :

< 20 ms

Releasing time in absence of power supply t_R :

< 100 ms

Simultaneity time t_C :

infinite

Operating time on energisation

< 200 ms

In conformity with standards:

EN 60204-1, EN ISO 13855, EN 1037, EN ISO 12100, EN ISO 13850, EN 60529,

EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-1, EN ISO 13849-1,

EN ISO 13849-2, EN 62061, EN 81-20, EN 81-50, UL 508, CSA C22.2 n° 14-95

Output circuit

Output contacts:

2 safety NO contacts,

Contacts type:

forced guided contacts

Contacts material:

silver alloy, gold plated

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I_{th} :

6 A

Max currents sum ΣI_{th}^2 :

36 A²

Min. current:

10 mA

Contacts resistance:

$\leq 100 m\Omega$

Contact protection fuse:

4 A, F type

Code structure

CS AR-95V024

Kind of connection

V screw terminals

M connector with screw terminals

X connector with spring terminals

Supply voltage

024 24 Vac/dc

Data type approved by UL

Rated operating voltage (U_n): 24 Vac/dc; 50...60 Hz

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2 W

Max switching voltage: 230 Vac

Max switching current per contact: 6 A

Utilization category: C300

Notes:

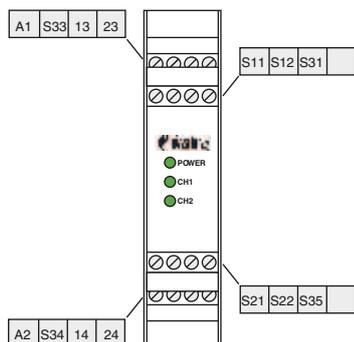
- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb-In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

Safety module CS AR-95

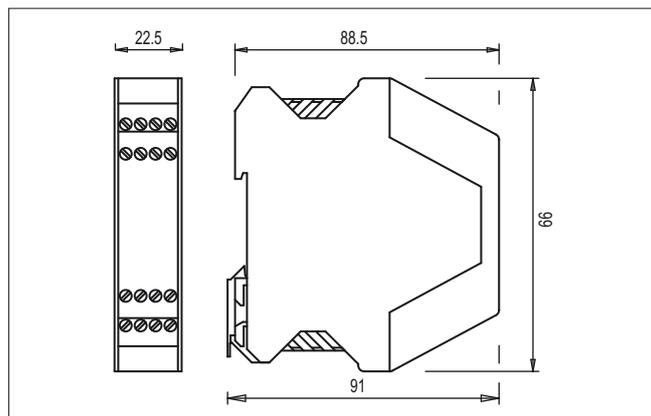
Terminals layout



Brief power failure and supply voltage variation

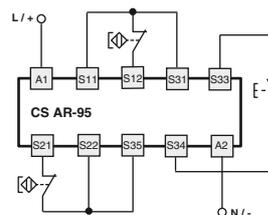
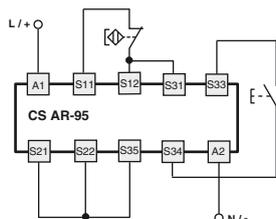
The CS AR-95 safety module has a voltage drop sensor inside which provides the protection and safety of the safety relays internal state in case of brief power failure, in order to avoid unwanted switching state as to the inputs state. Once the input voltage is reset the equipment always restarts correctly and coherently with the inputs state. When a brief power failure occurs the safety module keeps its standard performance. If the power failure lasts longer the safety outputs open and they will reset with the automatic start after the voltage is back while in case of manual or monitored start the system must be reset by the operator.

Dimensions



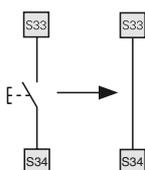
Inputs configuration

Emergency stop	
Input configuration with magnetic sensors	
1 channel	2 channels



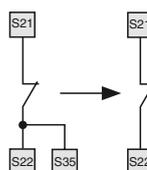
Automatic start

As regards the indicated diagrams, in order to activate the module with the automatic start, you have to bypass the start button between S33 and S34 terminals.



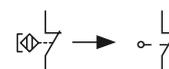
Monitored start

As regards the indicated diagrams, in order to activate the module with the monitored start, you have to remove the connection between S22 and S35 terminals.



Electromechanical switches

The safety module can control both magnetic sensors and electromechanical switches, replacing the sensors contacts with switches contacts.





Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- M12 assembled connector versions
- In conformity with EN 81

Quality marks:



Approval IMQ:	EG610
Approval IMQ-UNI:	CA50.00662
Approval UL:	E131787
Approval CCC:	2007010305230013
Approval EAC:	RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: 

FR series one threaded conduit entry: M20x1.5 (standard)

FX series two knock-out threaded conduit entries: M20x1.5 (standard)

Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

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/hour

Mechanical endurance: 1 million operations cycles

Assembling position: any

Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 5:	min. 1 x 0.5 mm ²	(1 x AWG 20)
	max. 2 x 2.5 mm ²	(2 x AWG 14)

In conformity 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 81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

Electrical endurance

Type of load:	20 single tube neon lamp 36 W / 230 V (connected in parallel)
Frequency:	10 s ON / 10 s OFF
Max number of cycles:	100,000

In conformity with requirements requested by:

Low Voltage Directive 2014/35/Eu, EMC Directive 2014/30/EU and Lift Directive 2014/33/EU.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.

Electrical data

Thermal current (I_{th}):	10 A
Rated insulation voltage (U_i):	500 Vac 600 Vdc 400 Vac 500 Vdc for contacts block 11, 12
Rated impulse withstand voltage (U_{imp}):	6 kV
Conditional short circuit current:	1000 A according to EN 60947-5-1
Protection against short circuits:	fuse 10 A 500 V type aM
Pollution degree:	3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
400 Vac (for contacts block 11, 12)

Thermal current (I_{th}): 10 A

Protection against short circuits: fuse 10 A 500 V type aM

Rated impulse withstand voltage (U_{imp}): 6 kV

Protection degree: IP67

MV terminals (screw clamps)

Pollution degree 3

Utilization category: AC15

Operation voltage (U_o): 400 Vac (50 Hz)

Operation current (I_o): 3 A

Forms of the contact element: Zb, Y+Y, X+X

In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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

For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
In conformity with standard: UL 508, CSA 22.2 No.14.

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

Introduction

The FR 573 switch has been specifically studied to control the lift shaft lights. The norm EN 81-20 paragraphs 5.2.1.5 states the necessity to have a light switching point next to the working area access and in the machines room.

To comply with this prescription usually at every floor there are installed lightning points which control a step relay with its considerable costs due to the number of the control points and their wiring. The switch FR 573 itself allows to control the shaft lights through its own wiring, without any need of different lightning points, relays or wiring.

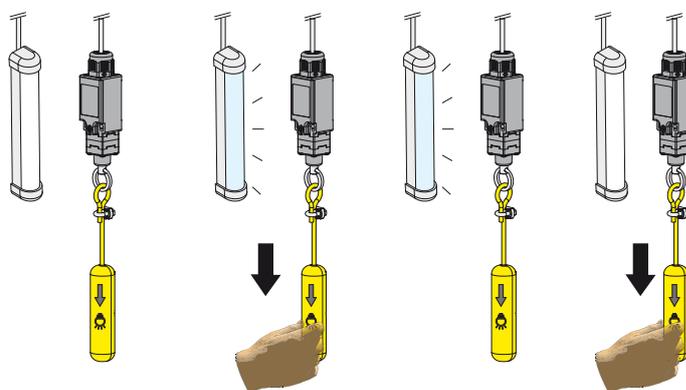
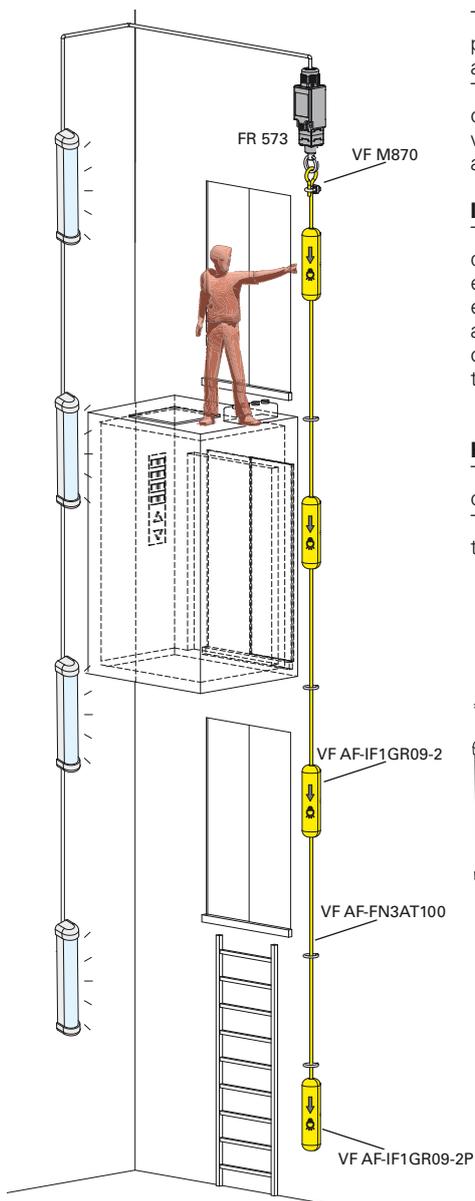
Installation:

The switch is fixed to the superior part of the lift shaft and it's connected to a rope which goes down in the shaft next to the cabin. The rope has to be guided through rings in order to avoid the excessive oscillation caused by the cabin windage. At regular intervals along the rope, usually at every floor, an indicator is fixed to make the rope and its function clearly visible. The last indicator at the end of the rope has a weight inside to keep the rope tight. This way the operator on the cabin roof or in any position along the shaft has the possibility to operate the switch by pulling the practical indicator or the rope itself.

How it functions:

The switch FR 573 has a stable position function, which means that the first operation closes the contacts; the following one opens them and so on.

To switch the shaft light on it is sufficient to pull the rope; to switch it off just repeat the operation.

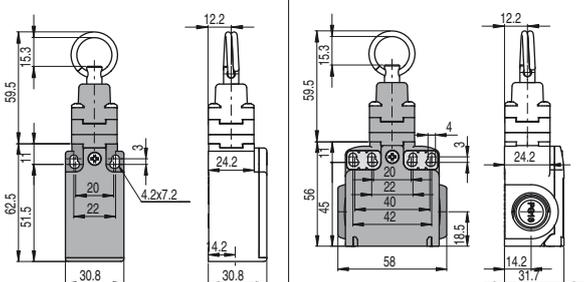


Dimensional drawings

All measures in the drawings are in mm

Contacts type:

R = snap action



Contact blocks

	FR 573-M2	1NO+1NC	FX 573-M2	1NO+1NC	
5	R				
11	R	FR 1173-M2	2NO	FX 1173-M2	2NO
12	R	FR 1273-M2	2NC	FX 1273-M2	2NC
Max speed	0.5 m/s		0.5 m/s		
Actuating force	initial 20 N - final 40 N		initial 20 N - final 40 N		

Accessories

Article	Description
VF AF-IF1GR09-2P	End clamp for rope fixing
VF AF-IF1GR09-2	Intermediate rope function indicators
	Rope function indicators. Screw tightening torque Closure: 0.8 ... 1.0 Nm
Article	Description
VF AF-FN3AT100	100 m rope
	Yellow/transparent rope roll, Ø 3 mm, with a brass-plated steel core and a PVC coating.
Article	Description
VF M870	Rope extremity clamp

Accessories See page 127

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

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



Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- M12 assembled connector versions
- Silver contacts gold plated versions

Quality marks:



Approval IMQ: EG610
 Approval IMQ-UNI: CA50.00662
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval EAC: RU C-IT.AQ35.B.00454

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation: 
 FR series one threaded conduit entry: M20x1.5 (standard)
 FX series two knock-out threaded conduit entries: M20x1.5 (standard)
 Protection degree: IP67 according to EN 60529 with cable gland having equal or higher protection degree

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/hour
 Mechanical endurance: 20 million operations cycles
 Assembling position: any
 Driving torque for installation: see page 133

Cross section of the conductors (flexible copper wire)

Contact blocks 5, 9:
 min. 1 x 0.5 mm² (1 x AWG 20)
 max. 2 x 2.5 mm² (2 x AWG 14)

In conformity 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 81-20, EN 81-50, UL 508, CSA 22.2 No.14

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with requirements requested by:

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

 **If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 131 to 138.**

Electrical data

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 according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate 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)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_e): 400 Vac (50 Hz)
 Operation current (I_e): 3 A
 Forms of the contact element: Zb, Y+Y
 In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508, CSA 22.2 No.14.

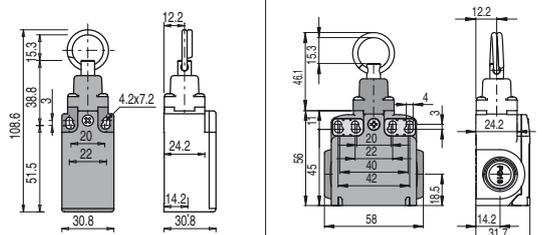
Please contact our technical service for the list of approved products.

Dimensional drawings

All measures in the drawings are in mm

Contacts type:

R = snap action
L = slow action



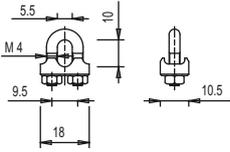
Contact blocks

5	R	FR 576-M2 1NO+1NC	FX 576-M2 1NO+1NC
9	L	FR 976-M2 2NO	FX 976-M2 2NO
Max speed		0.5 m/s	0.5 m/s
Actuating force		initial 20 N - final 40 N	initial 20 N - final 40 N

Accessories

Article	Description
VF AF-IF1GR09-2P	End clamp for rope fixing
VF AF-IF1GR09-2	Intermediate rope function indicators
	Rope function indicators.

Article	Description
VF AF-FN3AT100	100 m rope
	Yellow/transparent rope roll, Ø 3 mm, with a brass-plated steel core and a PVC coating.

Article	Description
VF M870	Rope extremity clamp
	

Strain relief cable glands

Packs of 10 pcs.

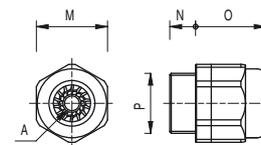


This particular design ensures high resistance to traction of the cable glands. All cable glands are also suitable for a wide range of cable diameters.

Suitable for circular cross-section cables only.

Technical data:

Body and ring material: technopolymer without halogen
 Protection degree: IP67 acc. to EN 60529
 Tightening torque: 3 ... 4 Nm (PG 13.5/M20/M25)
 2 ... 2.5 Nm (PG 11/M16)



	Article	Description	A	Ø _M	N	O	P
Metric threads	VF PAM25C7N	Cable gland M25x1.5 for a cable from Ø 10 to Ø 17 mm	○	30	10	28	M25x1.5
	VF PAM20C6N	M20x1.5 cable gland for one cable Ø 6 ... 12 mm	○	24	9	24	M20x1.5
	VF PAM20C5N	M20x1.5 cable gland for one cable Ø 5 ... 10 mm	○	24	9	24	M20x1.5
	VF PAM20C3N	M20x1.5 cable gland for one cable Ø 3 ... 7 mm	○	24	9	24	M20x1.5
	VF PAM16C5N	M16x1.5 cable gland for one cable Ø 5 ... 10 mm	○	22	7.5	23	M16x1.5
	VF PAM16C4N	M16x1.5 cable gland for one cable Ø 4 ... 8 mm	○	22	7.5	23	M16x1.5
	VF PAM16C3N	M16x1.5 cable gland for one cable Ø 3 ... 7 mm	○	22	7.5	23	M16x1.5
	VF PAM20CBN	M20x1.5 multi-hole cable gland for 2 cables Ø 3 ... 5 mm	⊗	24	9	23	M20x1.5
	VF PAM20CDN	M20x1.5 multi-hole cable gland for 3 cables Ø 1 ... 4 mm	⊗	24	9	23	M20x1.5
	VF PAM20CEN	M20x1.5 multi-hole cable gland for 3 cables Ø 3 ... 5 mm	⊗	24	9	23	M20x1.5
	VF PAM20CFN	M20x1.5 multi-hole cable gland for 4 cables Ø 1 ... 4 mm	⊗	22	9	23	M20x1.5
	Threads PG	VF PAP13C6N	PG 13.5 cable gland for one cable from Ø 6 ... 12 mm	○	24	9	24
VF PAP13C5N		PG 13.5 cable gland for one cable from Ø 5 ... 10 mm	○	24	9	24	PG 13.5
VF PAP13C3N		PG 13.5 cable gland for one cable from Ø 3 ... 7 mm	○	24	9	24	PG 13.5
VF PAP11C5N		PG 11 cable gland for one cable from Ø 5 ... 10 mm	○	22	7.5	23	PG 11
VF PAP11C4N		PG 11 cable gland for one cable from Ø 4 ... 8 mm	○	22	7.5	23	PG 11
VF PAP11C3N		PG 11 cable gland for one cable from Ø 3 ... 7 mm	○	22	7.5	23	PG 11

Thread adapters

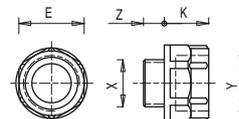
100 pcs. packs



Thread adapters make it possible to fulfil requests for switches with a different thread to those generally found in stock. This means it is possible to offer customers a single product type with various threaded connections, while only having to stock the product itself and many kinds of adapters.

Technical data:

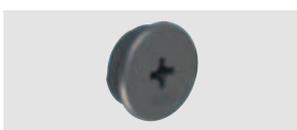
Body material: reinforced technopolymer with glass fibre
 Tightening torque: 3 ... 4 Nm



Article	Description	X	Y	Z	K	Ø _E
VF ADPG13-PG11	Adapter from PG 13.5 to PG 11	PG 13.5	PG 11	9	12	22
VF ADPG13-M20	Adapter from PG 13.5 to M20x1.5	PG 13.5	M20x1.5	9	14	24
VF ADPG13-1/2NPT	Adapter from PG 13.5 to 1/2 NPT	PG 13.5	1/2 NPT	9	14	24
VF ADPG11-1/2NPT	Adapter from PG 11 to 1/2 NPT	PG 11	1/2 NPT	7	14	24
VF ADPG11-PG13	Adapter from PG 11 to PG 13.5	PG 11	PG 13.5	7	14	24
VF ADM20-1/2NPT	Adapter from M20 x 1.5 to 1/2 NPT	M20 x 1.5	1/2 NPT	9	14	24

Protection caps

10 pcs. packs

**Technical data:**

Body material: self-extinguishing technopolymer
 Protection degree: IP67 in accordance with EN 60529 and IP69K in accordance with ISO 20653
 Tightening torque: from 1.2 to 1.6 Nm
 Impronta a croce: PH3



Article	Description	A	B
VF PTM20	Protection cap M20x1,5	24	M20x1.5
VF PTG13.5	Protection cap PG13,5	24	PG 13.5

Items with code on green background are stock items

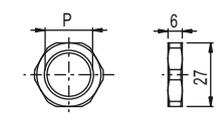
All measures in the drawings are in mm

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

Plastic nuts, threaded 10 pcs. packs



Technical data:
 Body material: technopolymer
 Tightening torque: 1.2 ... 2 Nm

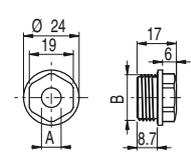


	Article	Description	S	CH	P
Plastic	VF DFPM25	Plastic nut, threaded, M25x1.5	6	32	M25x1.5
	VF DFPM20	Plastic nut, threaded, M20x1.5	6	27	M20x1.5
	VF DFPM16	Plastic nut, threaded, M16x1.5	5	22	M16x1.5
	VF DFPP13	Plastic nut, threaded, PG13.5	6	27	PG 13.5
Metal	VF DFMM20	M20x1.5 threaded nut in nickel-plated brass	3	23	M20x1.5

Chock plugs 100 pcs. packs



Technical data:
 Body material: technopolymer
 Protection degree: IP54 acc. to EN 60529
 Tightening torque: 0.8 ... 1 Nm



Notes: Use a socket wrench for tightening.

Article	Description	A	B
VF PFM20C8N	Cable gland cap for Ø 8 ... Ø 12 mm cable, threaded M20x1.5	7.5	M20x1.5
VF PFM20C4N	Cable gland cap for Ø 4 ... Ø 8 mm cable, threaded M20x1.5	3.5	M20x1.5

Safety screws Torx 10 pcs. packs



Pan head screws with Torx fitting and pin, stainless steel.
 Where required for applications conforming to EN ISO 14119 use a thread locker.

Article	Description
VF VAM4X10BX-X	M4x10 screw, with Torx T20 fitting, AISI 304
VF VAM4X15BX-X	M4x15 screw, with Torx T20 fitting, AISI 304
VF VAM4X20BX-X	M4x20 screw, with Torx T20 fitting, AISI 304
VF VAM4X25BX-X	M4x25 screw, with Torx T20 fitting, AISI 304
VF VAM4X30BX-X	M4x30 screw, with Torx T20 fitting, AISI 304
VF VAM5X10BX-X	M5x10 screw, with Torx T25 fitting, AISI 304
VF VAM5X15BX-X	M5x15 screw, with Torx T25 fitting, AISI 304
VF VAM5X20BX-X	M5x20 screw, with Torx T25 fitting, AISI 304
VF VAM5X25BX-X	M5x25 screw, with Torx T25 fitting, AISI 304
VF VAM5X35BX-X	M5x35 screw, with Torx T25 fitting, AISI 304
VF VAM5X45BX-X	M5x45 screw, with Torx T25 fitting, AISI 304

Safety screws One-Way 10 pcs. packs



Pan head screws with OneWay fitting in stainless steel.
 This screw type cannot be removed or tampered with using common tools. Ideal for fixing safety device actuators in accordance with EN ISO 14119.

Article	Description
VF VAM4X10BW-X	M4x10 screw, with OneWay fitting, AISI 304
VF VAM4X15BW-X	M4x15 screw, with OneWay fitting, AISI 304
VF VAM4X20BW-X	M4x20 screw, with OneWay fitting, AISI 304
VF VAM4X25BW-X	M4x25 screw, with OneWay fitting, AISI 304
VF VAM5X10BW-X	M5x10 screw, with OneWay fitting, AISI 304
VF VAM5X15BW-X	M5x15 screw, with OneWay fitting, AISI 304
VF VAM5X20BW-X	M5x20 screw, with OneWay fitting, AISI 304
VF VAM5X25BW-X	M5x25 screw, with OneWay fitting, AISI 304

Bits for Torx safety screws



Bits for Torx safety screws with pin with 1/4" hexagonal connection

Article	Description
VF VAIT1T20	Bits for M4 screws with Torx T20 fitting
VF VAIT1T25	Bits for M5 screws with Torx T25 fitting
VF VAIT1T30	Bits for M6 screws with Torx T30 fitting

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

Fixing plates



Metal fixing plate, designed to fix rope switches on the ceiling.
The plate is provided with many fixing holes suitable for all series of switches. It is supplied without screws.

Article	Description
VF SFP2	Ceiling fixing plate

Fixing plates



Fixing plate (complete with fastening screws) provided with long slots for the adjustment of the operating point.

Every plate has a double couple of fixing holes, one for standard switches and the other one for switches with reset device. In this way the actuator will always have the same actuating point.

Article	Description
VF SFP1	Fixing plate (FR series)
VF SFP3	Fixing plate (FX series)

LED signalling lights

Packs of 5 pcs.



These signalling lights with high luminosity LEDs are used for signalling that an electric contact has changed its state inside the switch. They can be installed only on switches of the FL, FX, FZ, FW, FG, NG or FS series by screwing them on one of the conduit entries not used for electric cables. They can be used for many different purposes: for example, in combination with a rope switch (e.g. FL 1878-M2) they can be used to signal (even from a distance) if the switch has been actuated.

In combination with safety switches with separate actuator (e.g. FL 693-M2), they can instead be used to signal whether or not the protection is closed correctly. In combination with solenoid safety switches (FS, FG or NG series), they can signal if the protection is locked or unlocked. If they are combined with any switch of the FL, FX, FW or FZ series they can be used to calibrate the actuator. The inner part can rotate in such a way that it can be wired and screwed on the switch without any risk of twisting the wires.

Technical data:

Protection degree:

IP67 acc. to EN 60529 and IP69K acc. to ISO 20653

Ambient temperature:

-25°C ... +70°C

Operating voltage U_n :

24 Vac/dc

120 Vac

230 Vac

Tolerance on the supply voltages:

 $\pm 15\%$ of U_n

Operating current:

10 mA

Connection system:

PUSH-IN spring type

Cross-section of rigid/flexible wires w. wire-end sleeve:

min. 1 x 0.34 mm² (1 x AWG 24)max. 1 x 1.5 mm² (1 x AWG 16)

Wire cross-section with pre-insulated wire-end sleeve:

min. 1 x 0.34 mm² (1 x AWG 24)max. 1 x 0.75 mm² (1 x AWG 18)

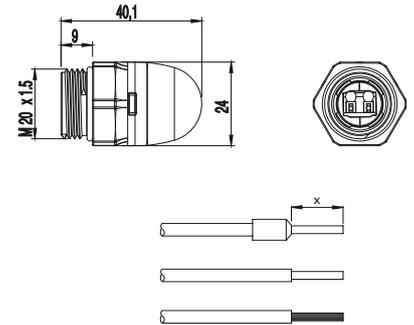
Cable stripping length (x):

min.: 8 mm

max.: 12 mm

Tightening torque:

1.2 ... 2 Nm

**Code structure****Attention!** The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.**VF SL1A3PA1****Operating voltage**

1	24 Vac/dc
3	120 Vac
4	230 Vac

Type of light source

A	standard LED with continuous light
----------	------------------------------------

Body design

A	Total height 40 mm, spherical lens, threading M20x1.5mm
----------	---

Connection type

P	PUSH-IN terminal strip
----------	------------------------

Lens colour

2	White
3	Red
4	Green
5	Yellow

Stock items

VF SL1A3PA1
VF SL1A5PA1

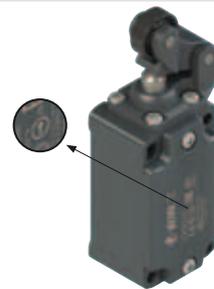
Items with code on **green** background are stock items

All measures in the drawings are in mm

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

Installation of single switches with safety functions

- Use **only** switches with the symbol  (see figure on the side).
- Connect the safety circuit to **the NC normally closed contacts (11-12, 21-22 or 31-32)**.
- **The NO normally open contacts (13-14, 23-24, 33-34)** should be used **only for signalling**; these contacts are not to be connected with the safety circuit. However, if two or more switches are used on the same guard, a connection can be established between the NO contacts and the safety circuit. In this case at least one of the two switches must have positive opening and a normally closed contact NC (11-12, 21-22 or 31-32) must be connected to the safety circuit.
- Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams with symbol .
- The actuation system must be able to exert a force that is greater than the **positive opening force**, as specified in brackets below each article, next to the minimum force value.
- The device must be affixed in compliance with EN ISO 14119.



Whenever the machine guard is opened and during the whole opening travel, **the switch must be pressed directly** (fig. 1) **or through a rigid connection** (fig. 2).

Only in this way the positive opening of the normally closed NC contacts (11-12, 21-22, 31-32) is guaranteed.

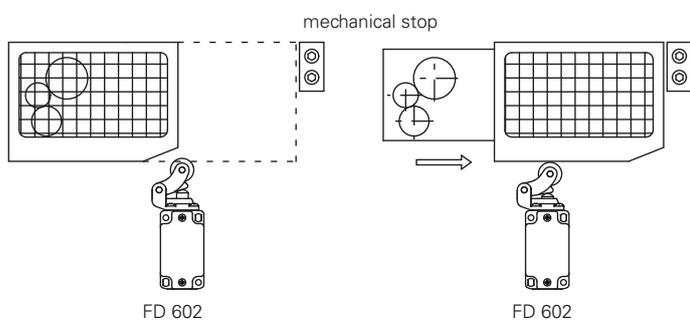
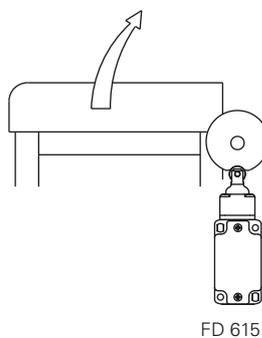
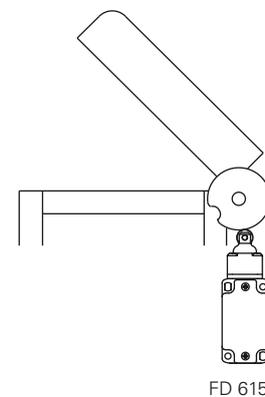


Fig.1



FD 615



FD 615

Fig.2

In safety applications with only one switch for each guard, the switches **must never be activated by a release** (fig. 3 and 4) **or through a non rigid connection** (i.e. by a spring).

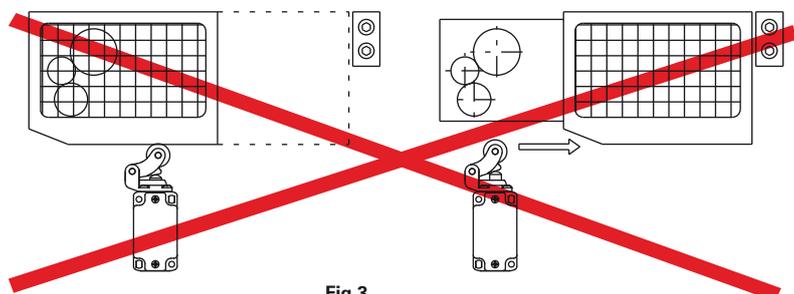


Fig.3

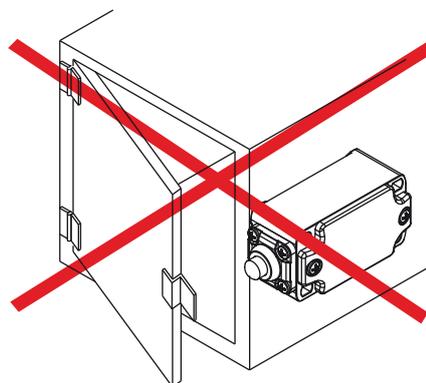
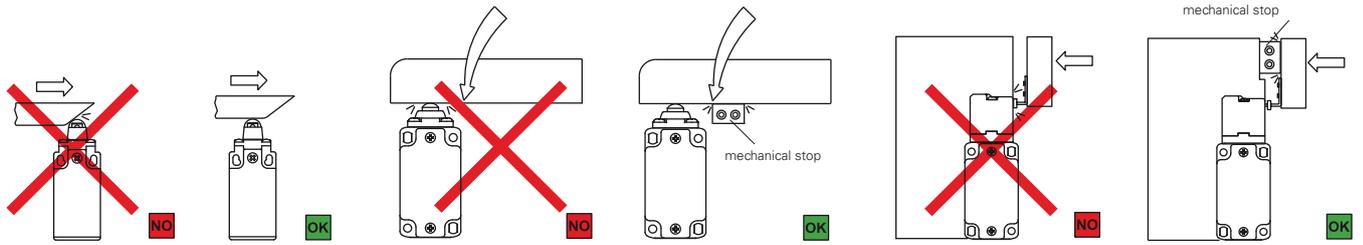


Fig.4

Mechanical stop

Acc. to EN ISO 14119 paragraph 5.2 letter h: "the position sensors must not be used as mechanical stop"



The actuator must not exceed the max. travel as indicated in the travel diagrams.

The guard must not use the switch head as a mechanical stop.

The actuator must not strike directly against the switch head.

Actuation modes

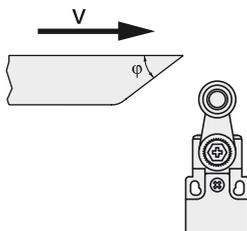
Recommended application	Application to avoid This application is possible, but increased mechanical stress may shorten the operating life of the switch	Forbidden application

Switches for normal duty FR-FX-FK-FT series

Maximum and minimum actuation speed

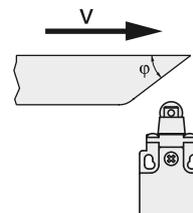
Lever with roller - Type 1

φ	Vmax (m/s)	Vmin (mm/s)	
		L	R
15°	2.5	9	0.07
30°	1.5	8	
45°	1	7	
60°	0.75	7	



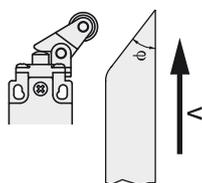
Plunger with roller - Type 2

φ	Vmax (m/s)	Vmin (mm/s)	
		L	R
15°	1	4	0.04
30°	0.5	2	0.02
45°	0.3	1	0.01



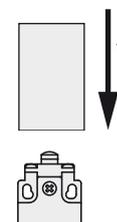
Lever with roller - Type 3

φ	Vmax (m/s)	Vmin (mm/s)	
		L	R
15°	1	5	0.05
30°	0.5	2.5	0.025
45°	0.3	1.5	0.015



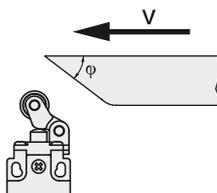
Plunger - Type 4

Vmax (m/s)	Vmin (mm/s)	Vmin (mm/s)
	L	R
0.5	1	0.01



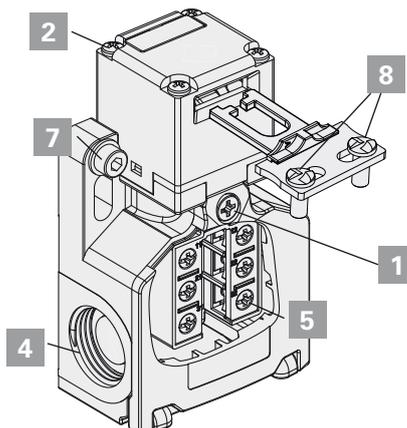
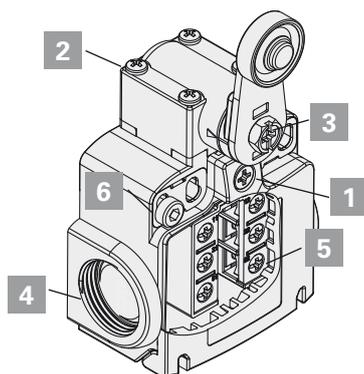
Contacts type:

R = snap action
L = slow action



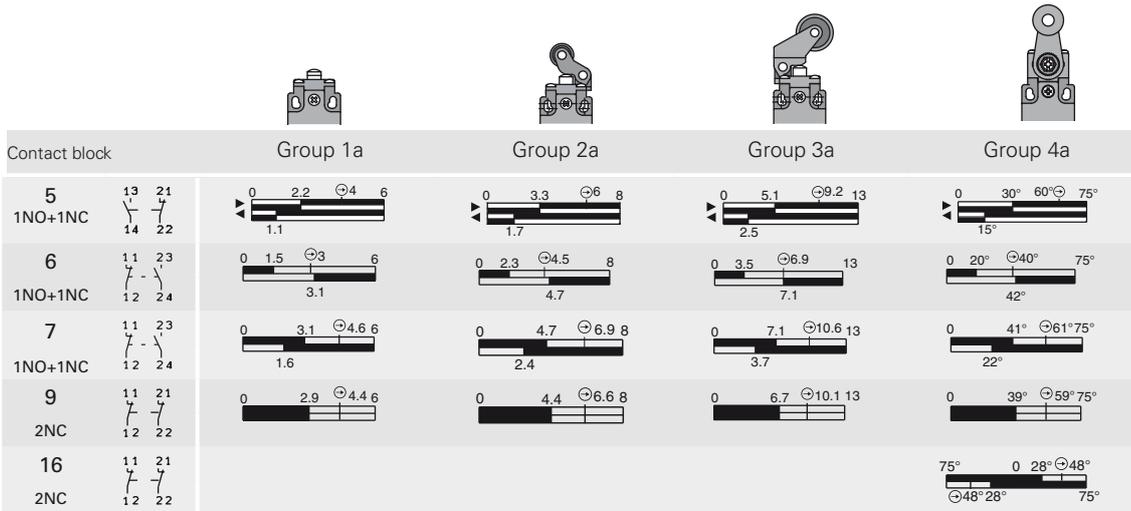
Driving torques

- Cover screws **1** **0.7 ... 0.9 Nm**
- Head screws **2** **0.5 ... 0.7 Nm**
- Lever screws **3** **0.7 ... 0.9 Nm**
- Protection plugs **4** **1.2 ... 1.6 Nm**
- Contact blocks screws **5** **0.6 ... 0.8 Nm**
- M4 screws or the housing fastening with washer (FR-FK series) **6** **2 ... 2,5 Nm**
- M5 screws or the housing fastening with washer (FW series) **7** **2 ... 2,5 Nm**
- Actuator screws VF KEY **8** **1,2 ... 1,6 Nm**

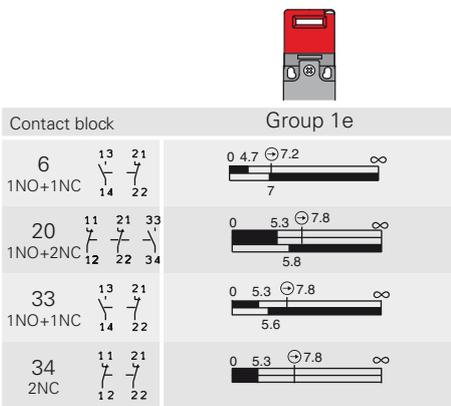


Switches for normal duty FR-FX series

Travel diagrams FR-FX series



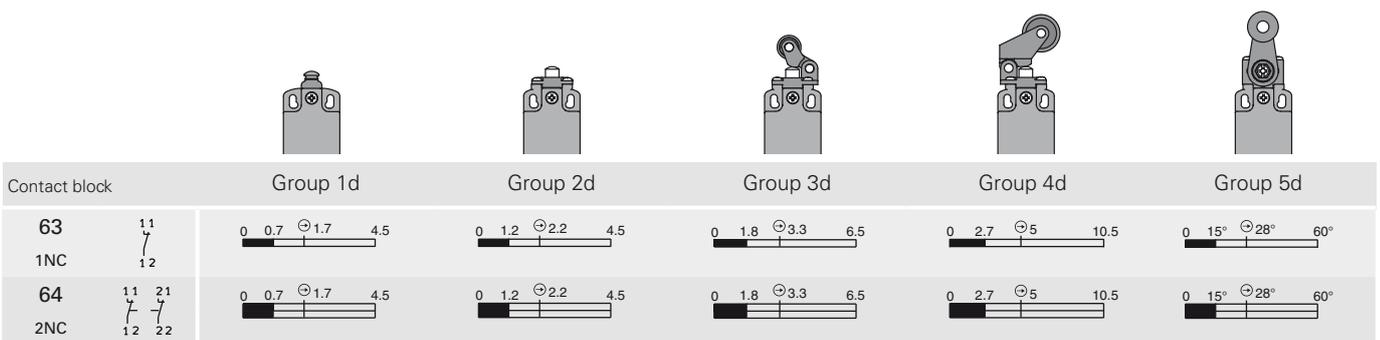
Travel diagrams FR-FX-FK-FW series



Legend

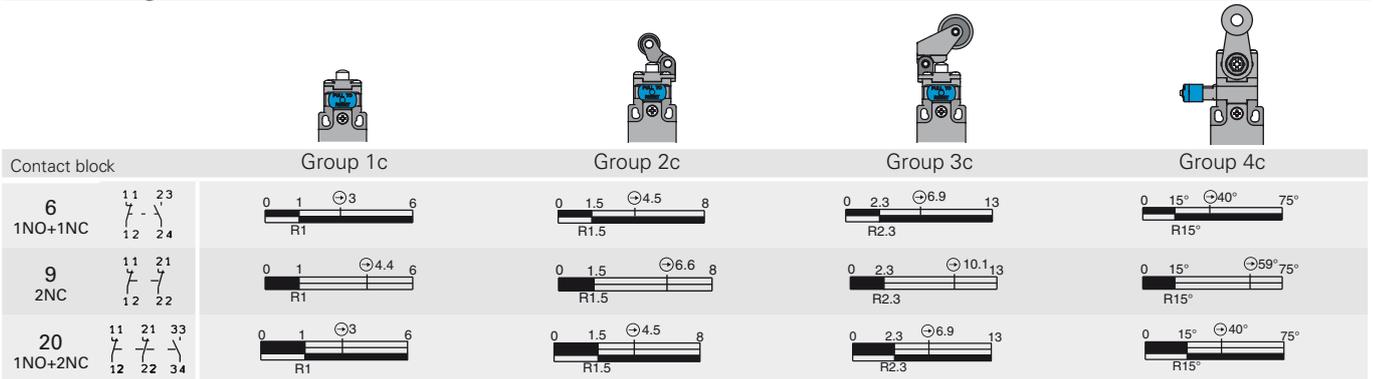
- Closed contact
- Opened contact
- Positive opening travel

Travel diagrams FT series



Switches for normal application with reset, FR - FX series

Travel diagrams

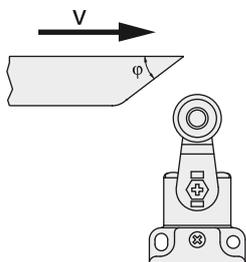


Switches for heavy duty FP series

Maximum and minimum actuation speed

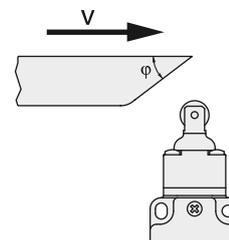
Lever with roller - Type 1

φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	2.5	9	
30°	1.5	8	0.07
45°	1	7	
60°	0.75	7	



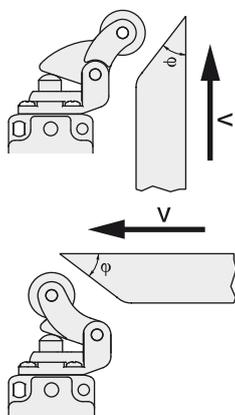
Plunger with roller - Type 2

φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	1	4	0.04
30°	0.5	2	0.02
45°	0.3	1	0.01



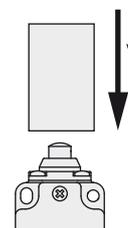
Lever with roller - Type 3

φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	1	5	0.05
30°	0.5	2.5	0.025
45°	0.3	1.5	0.015



Plunger - Type 4

Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
0.5	1	0.01

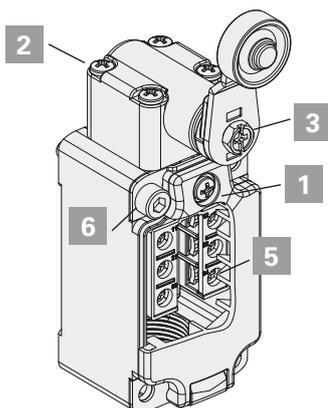


Contacts type:

- R** = snap action
- L** = slow action

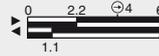
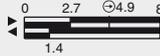
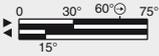
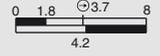
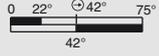
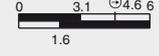
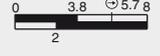
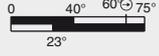
Driving torques

- Cover screws **1** **0.8 ... 1.2 Nm**
- Head screws **2** **0.8 ... 1.2 Nm**
- Lever screws **3** **0.8 ... 1.2 Nm**
- Contact blocks screws **5** **0.6 ... 0.8 Nm**
- M5 screws or the housing fastening **6** **2 ... 3 Nm**



Switches for heavy duty FP series

Diagrams table

				
Contact block		Group 1b	Group 2b	Group 3b
5 1NO+1NC				
6 1NO+1NC				
7 1NO+1NC				
9 2NC				
16 2NC		/	/	

Legend

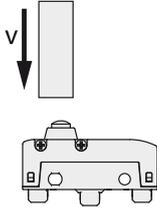
-  Closed contact
-  Opened contact
-  Positive opening travel

Microswitches MK series

Max and min. actuating speed

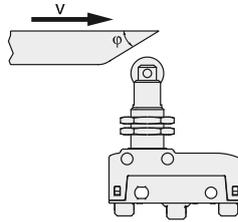
Plunger - Type 1

Vmax (m/s)	Vmin (mm/s)
0.5	0.05



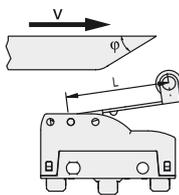
Roller plunger - Type 2

ϕ	Vmax (m/s)	Vmin (mm/s)
15°	0.6	0.2
30°	0.3	0.1
45°	0.1	0.05



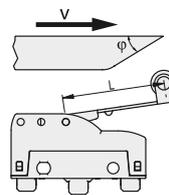
Roller lever with direct action (D) - Type 6

ϕ	Vmax (m/s)	Vmin (mm/s)
15°	0.1 x L	0.0664 x L
30°	0.05 x L	0.0332 x L
45°	0.03 x L	0.0166 x L



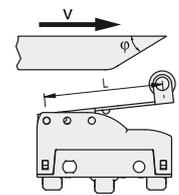
Roller lever with inverted action (R) - Type 7

ϕ	Vmax (m/s)	Vmin (mm/s)
15°	0.048 x L	0.0332 x L
30°	0.024 x L	0.0166 x L
45°	0.015 x L	0.0083 x L

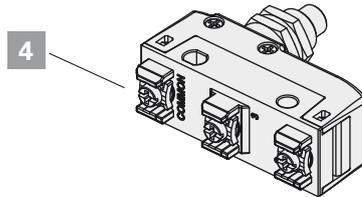
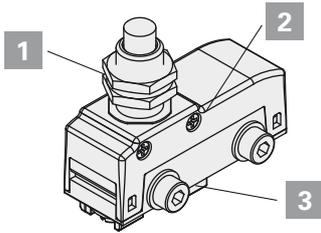


Roller lever with back direct action (F) - Type 8

ϕ	Vmax (m/s)	Vmin (mm/s)
15°	0.032 x L	0.0188 x L
30°	0.016 x L	0.0094 x L
45°	0.01 x L	0.0047 x L

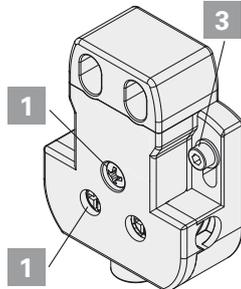
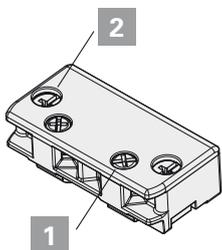


Driving torques



- Fastening dice **1** **2 ... 3 Nm**
 - Head screws **2** **0,4 ... 0,5 Nm**
 - Terminals screws **4** **0,6 ... 0,8 Nm**
 - Body fastening screw **3** **0,8 ... 1,2 Nm**
(with washer)
- Attention: A tightening torque higher than 1.2 Nm can cause the breaking of the microswitch.

Driving torques DS series



- Terminals screws **1** **0,8 ... 1,2 Nm**
- Fixing screws **2** **2 ... 3 Nm**
- Fixing screws **3** **1 ... 2 Nm**
(with washer)

General requirements

The device is designed to be installed on industrial machineries.

The installation must be performed only by qualified staff aware of the regulations in force in the country of installation.

The device must be used exactly as supplied, properly fixed to the machine and wired.

It is not allowed to disassemble the product and use only parts of the same, the device is designed to be used in its assembly as supplied. It is prohibited to modify the device, even slightly e.g.: replace parts of it, drill it, lubricate it, clean it with gasoline or gas oil or any aggressive chemical agents.

The protection degree of the device refers to the electrical contacts only. Carefully evaluate all the polluting agents present in the application before installing the device, since the IP protection degree refers exclusively to agents such as dust and water according to EN 60529. Thus the device may not be suitable for installation in environments with dust in high quantity, condensation, humidity, steam, corrosive and chemical agents, flammable or explosive gas, flammable or explosive dust or other polluting agents.

Some devices are provided with a housing with openings for connecting the electrical cables. To guarantee an adequate protection degree of the device, the opening that the wiring passes through must be protected against the penetration of harmful materials by means of an appropriate seal. Proper wiring therefore requires the use of cable glands, connectors or other devices with IP protection degree that is equal to or greater than that of the device.

Store the products in their original packaging, in a dry place with temperature between -40° C and +70°C

Failure to comply with these requirements or incorrect use during operation can lead to the damage of the device and the loss of the function performed by the device itself. This will result in termination of the warranty on the item and will release the manufacturer from any liability.

All linear dimensions of technical drawings and travel diagrams reported in this catalogue are expressed in millimetres, while angular dimensions are expressed in degrees.

Using the devices

- Before use, check if the national rules provide for further requirements in addition to those given here.
- Before installation, make sure the device is not damaged in any part.
- All devices are designed for actuation by moving parts of industrial machines.
- Do not use the device as mechanical stop of the actuator.
- Do not apply excessive force to the device once it has reached the end of its actuation travel.
- Do not exceed the maximum actuation travel.
- Avoid contact of the device with corrosive fluids.
- Do not stress the device with bending and torsion.
- Do not disassemble or try to repair the device, in case of defect or fault replace the entire device.
- In case the device is deformed or damaged it must be entirely replaced. Correct operation cannot be guaranteed when the device is deformed or damaged.
- Always attach the following instructions to the manual of the machine in which the device is installed.
- If specific operating instructions exist for a device (supplied or downloadable from www.pizzato.com), they must always be included with the machine manual and be available for the entire service life of the machine.
- These operating instructions must be kept available for consultation at any time and for the whole period of use of the device.

Wiring and installation

- Installation must be carried out by qualified staff only.
- Use of the device is limited to function as a control switch.
- Observe minimum distances between devices (if provided).
- Comply with the tightening torques indicated in this catalogue.
- Keep the electrical load below the value specified by the respective utilization category.
- Disconnect the power before to work on the contacts, also during the wiring.
- Do not paint or varnish the devices.
- Install the product on flat and clean surfaces only.
- Do not bend or deform the device during installation.
- Never use the device as support for other machine components (cable ducts, tubes, etc.)
- For installation on the machine, use the intended bore holes in the housing. The device must be fixed with screws of adequate length and resistance to the expected stress. At least two screws must be used to fix the housing to the machine.
- After and during installation, do not pull the electrical cables connected to the device. If excessive tension is applied to the cables (that is not supported by an appropriate cable gland), the contact block may be damaged.
- During wiring comply with the following requirements:
 - For terminals (if present), comply with the minimum and maximum cross-sections of the conductors.
 - Tighten the electrical terminals with the torque indicated in this catalogue (if present).

- Do not introduce polluting agents into the device as: talc, lubricants for cable sliding, powder separating agents for multipolar cables, small strands of copper and other pollutants that could affect the proper functioning of the device.
- Before closing the device cover (if present) verify the correct positioning of the gaskets.
- Verify that the electrical cables, wire-end sleeves, cable numbering systems and any other parts do not obstruct the cover from closing correctly or if pressed between them do not damage or compress the internal contact block.
- For devices with integrated cable, the free end of the cable must be properly connected inside a protected housing. The electrical cable must be properly protected from cuts, impacts, abrasion, etc.
- After installation and before commissioning of the machine, verify:
 - the correct operation of the device and all its parts;
 - the correct wiring and tightening of all screws;
 - the actuating travel of the actuator must be shorter than the maximum travel allowed by the device.
- After installation, periodically check for correct device operation.

Do not use in following environments:

- Environments where dust and dirt can cover the device and by sedimentation stop its correct working.
- Environment where sudden temperature changes cause condensation.
- Environments where coatings of ice may form on the device.
- Environments where the application causes knocks or vibrations that could damage the device.
- Environment with presence of explosive or flammable gas or dust.

Limits of use

- Use the devices following the instructions, complying with their operation limits and the standards in force.
- The devices have specific application limits (min. and max. ambient temperature, mechanical endurance, protection degree, utilisation category, etc.) These limits are met by the different devices only if considered individually and not if combined with each other. For further information contact our technical department.
- The utilization implies knowledge of and compliance with following standards: EN 60204-1, EN 60947-5-1, ISO 12100, EN ISO 14119.
- Please contact our technical department for information and assistance (phone +39.0424.470.930 / fax +39.0424.470.955 / e-mail tech@pizzato.com) in the following cases:
 - Cases not mentioned in the present utilization requirements.
 - In nuclear power stations, trains, airplanes, cars, incinerators, medical devices or any application where the safety of two or more persons depend on the correct operation of the device.

Additional requirements for safety applications

Provided that all previous requirements for the devices are fulfilled, for installations with operator protection function additional requirements must be observed:

- The utilization implies knowledge of and compliance with following standards: IEC 60204-1, IEC 60947-5-1, ISO 12100, EN ISO 14119, EN 62061, EN ISO 13849-1, EN ISO 13850.
- The protection fuse (or equivalent device) must be always connected in series with the NC contacts of the safety circuit.
- Periodically verify the correct working of the safety devices; the periodicity of this verification is settled by the machine manufacturer based on the machine danger degree and it does not have to be less than one a year.
- After installation and before commissioning of the machine, verify:
 - the correct operation of the device and all its parts;
 - the correct wiring and tightening of all screws;
 - the actuating travel of the actuator must be shorter than the maximum travel allowed by the device;
 - the actuating travel of the actuator must be greater than the positive opening travel;
 - the actuation system must be able to exert a force that is greater than the positive opening force.
- Devices with a safety function have a limited service life. Although still functioning, after 20 years from the date of manufacture the device must be replaced completely. The production date can be derived from the production batch on the item. Example: A18 FD7-411. The batch's first letter refers to the month of manufacture (A=January, B=February, etc.). The second and third letters refer to the year (18=2018, 19=2019, etc.).

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DS KB3A	47	E6 11S6A1PV1B	105	FP 531-M2	21	FR 1656-M2R26	13	FR 602-M2	13
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E2 1ITA1A110	105	E6 11S6B1PV1B	105	FP 535-M2R5	21	FR 2002-M2	13	FR 607-M2	13
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E2 1PDR1AABR	105	EL AC27029	63	FP 535-M2R27	21	FR 2007-M2	13	FR 615-M2	13
E2 1PDR1AABS	105	EL AC27048	63	FP 538-M2	21	FR 2015-H0M2	13	FR 615-H0M2	13
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E2 1PTRS1AADK	105	EL AC27614	63	FP 556-M2R5	21	FR 2016-H0M2	13	FR 615-W3H0M2	29
E2 1PEB24531	105	EL AC27615	63	FP 556-M2R26	21	FR 2016-H0M2P11	13	FR 615-W3H0M2P12	29
E2 1PEB24731	105	EL AC27616	63	FP 556-M2R27	21	FR 2016-M2	13	FR 615-W3M2P12	29
E2 1PEB24511	105	EL AC27617	63	FP 557-M2	21	FR 2016-M2P11	13	FR 616-M2	13
E2 1PEPF4531	105	EL AC27618	63	FP 558-M2	21	FR 2030-M2	13	FR 616-H0M2	13
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E2 1PEPZ4531	105	EL AC27620	63	FP 602-M2	21	FR 2038-M2	13	FR 616-M2P11	13
E2 1PEPZ4731	105	EL AC27622	63	FP 605-M2	21	FR 2038-M2P11	13	FR 616-W3M2	29
E2 1PEPZ4511	105	EL AC27623	63	FP 615-M2	21	FR 2051-M2	13	FR 616-W3H0M2	29
E2 1PERF4531	105	EL AN21223	77	FP 631-M2	21	FR 2052-M2	13	FR 616-W3H0M2P12	29
E2 1PERF4731	105	EL AN21224	77	FP 631-M2R26	21	FR 2054-M2	13	FR 616-W3M2P12	29
E2 1PERZ4531	105	EL AN21255	77	FP 631-M2R5	21	FR 2054-M2R26	13	FR 630-M2	13
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E2 1PQFA1QAAA	105	EL AN21348	77	FP 635-M2R27	21	FR 2055-M2R26	13	FR 631-W3M2	29
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E2 1PQFA1QAAAS	105	EL AN21366	77	FP 638-M2	21	FR 2055-M2R5	13	FR 638-M2P11	13
E2 1PU2F141L16	105	EL AN21367	77	FP 651-M2	21	FR 2056-M2	13	FR 638-W3M2	29
E2 1PU2F541L14	105	EL AN21369	77	FP 652-M2	21	FR 2056-M2R26	13	FR 651-M2	13
E2 1PU2R521L16	105	EL AN22012	77	FP 656-M2	21	FR 2056-M2R27	13	FR 651-W3M2	29
E2 1PU2R541L16	105	EL AN22036	77	FP 656-M2R26	21	FR 2056-M2R5	13	FR 652-M2	13
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E2 1PU2R221L7	105	EL AN22050	77	FP 656-M2R5	21	FR 2001-W3M2	29	FR 654-M2	13
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E2 1SC12AVA11AA	105	EL AN23119	77	FP 731-M2R26	21	FR 2016-W3M2	29	FR 655-W3M2R26	29
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E2 1USB1CAK	105	EL AN24028	77	FP 735-M2R26	21	FR 2016-W3M2P12	29	FR 655-M2R5	13
E2 1USB1CN1.8	105	EL AN24111	77	FP 735-M2R27	21	FR 2030-W3M2	29	FR 655-W3M2R5	29
E2 1USB1CN3	105	EL AN24201	77	FP 735-M2R5	21	FR 2031-W3M2	29	FR 655-W3M2	29
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E2 CP01G2V1	105	EL AN24203	77	FP 751-M2	21	FR 2051-W3M2	29	FR 656-M2R26	13
E2 CP01S2V1	105	EL AN24204	77	FP 752-M2	21	FR 2052-W3M2	29	FR 656-W3M2R26	29
E2 CP01K2V1	105	EL AD21002	93	FP 756-M2	21	FR 2054-W3M2R26	29	FR 656-M2R27	13
E2 CP02G2V1	105	EL AD21004	93	FP 756-M2R26	21	FR 2054-M2R5	13	FR 656-W3M2R27	29
E2 CP10G2V1	105	EL AD21005	93	FP 756-M2R27	21	FR 2054-W3M2R5	29	FR 656-M2R5	13
E2 CP11G2V1	105	EL AD21006	93	FP 756-M2R5	21	FR 2054-W3M2	29	FR 656-W3M2R5	29
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E2 LP1A8V1	105	FP 1635-M2R26	21	FP 935-M2R27	21	FR 502-M2	13	FR 716-H0M2	13
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E2 LP3A3V1	105	FP 1635-M2R5	21	FP 938-M2	21	FR 507-M2	13	FR 716-M2P11	13
E2 LP3A4V1	105	FP 1638-M2	21	FP 951-M2	21	FR 515-H0M2	13	FR 730-M2	13
E2 LP3A6V1	105	FP 1656-M2	21	FP 952-M2	21	FR 515-H0M2P11	13	FR 731-M2	13
E2 LP3A8V1	105	FP 1656-M2R26	21	FP 956-M2	21	FR 515-M2	13	FR 738-M2	13
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E2 LP4A3V1	105	FP 1656-M2R5	21	FP 956-M2R27	21	FR 516-H0M2	13	FR 751-M2	13
E2 LP4A4V1	105	FP 2001-M2	21	FP 956-M2R5	21	FR 516-H0M2P11	13	FR 752-M2	13
E2 LP4A6V1	105	FP 2002-M2	21	FP 957-M2	21	FR 516-M2	13	FR 754-M2	13
E2 LP4A8V1	105	FP 2005-M2	21	FP 958-M2	21	FR 516-M2P11	13	FR 754-M2R26	13
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FR 756-M2R27	13	FT 2A6356AH-E27R5	39	FX 616-W3M2P32	29	VE GG2DA1A	105	VF LE57-R26	13
FR 756-M2R5	13	FT 2A6338AH-E27	39	FX 638-M2	13	VE GG3EA7A	105	VF LE57-R27	13
FR 901-M2	13	FT 2B64A6AH-E27	39	FX 638-M2P31	13	VE GP22A5A	105	VF M870	123
FR 901-W3M2	29	FT 2A6401AH-E27	39	FX 638-W3M2	29	VE GP22B5A	105	VF MKCH11	55
FR 902-M2	13	FT 2A6402AH-E27	39	FX 693-M2	53	VE GP22F5A	105	VF MKCH12	55
FR 902-W3M2	29	FT 2A6405AH-E27	39	FX 715-M2	13	VE PE1E1AA1	105	VF MKCH13	55
FR 905-M2	13	FT 2A6407AH-E27	39	FX 715-H0M2	13	VE PE1E1BA1	105	VF MKCH22	55
FR 905-W3M2	29	FT 2A6412AH-E27	39	FX 715-H0M2P31	13	VE PE1E1CA1	105	VF MKCH23	55
FR 907-M2	13	FT 2A6413AH-E27	39	FX 715-M2P31	13	VE PE1E1DA1	105	VF MKCV11	55
FR 907-W3M2	29	FT 2A6414AH-E27	39	FX 716-M2	13	VE PE1E1EA1	105	VF MKCV12	55
FR 915-M2	13	FT 2A6415AH-E27	39	FX 716-H0M2	13	VE PE1E1FA1	105	VF MKCV13	55
FR 915-H0M2	13	FT 2A6415AH-E27H0	39	FX 716-H0M2P31	13	VE SF12AD1003A	105	VF MKCV22	55
FR 915-H0M2P11	13	FT 2A6416AH-E27	39	FX 716-M2P31	13	VF ADM20-1/2NPT	127	VF MKCV23	55
FR 915-M2P11	13	FT 2A6416AH-E27H0	39	FX 738-M2	13	VF ADPG11-1/2NPT	127	VF PAM16C3N	127
FR 915-W3M2	29	FT 2A6430AH-E27	39	FX 738-M2P31	13	VF ADPG11-PG13	127	VF PAM16C4N	127
FR 915-W3H0M2	29	FT 2A6431AH-E27	39	FX 915-M2	13	VF ADPG13-1/2NPT	127	VF PAM16C5N	127
FR 915-W3H0M2P12	29	FT 2A6438AH-E27	39	FX 915-H0M2	13	VF ADPG13-M20	127	VF PAM20C3N	127
FR 915-W3H0M2P12	29	FT 2A6451AH-E27	39	FX 915-H0M2P31	13	VF ADPG13-PG11	127	VF PAM20C5N	127
FR 916-M2	13	FT 2A6452AH-E27	39	FX 915-M2P31	13	VF AF-FN3AT100	123	VF PAM20C6N	127
FR 916-H0M2	13	FT 2A6454AH-E27	39	FX 915-W3M2	29	VF AF-IF1GR09-2	123	VF PAM25C7N	127
FR 916-H0M2P11	13	FT 2A6454AH-E27R26	39	FX 915-W3H0M2	29	VF AF-IF1GR09-2P	123	VF PAM20CBN	127
FR 916-M2P11	13	FT 2A6454AH-E27R5	39	FX 915-W3H0M2P32	29	VF AC72	55	VF PAM20CDN	127
FR 916-W3M2	29	FT 2A6456AH-E27	39	FX 915-W3M2P32	29	VF AC83	55	VF PAM20CEN	127
FR 916-W3H0M2	29	FT 2A6456AH-E27R26	39	FX 916-M2	13	VF C01	55	VF PAM20CFN	127
FR 916-W3H0M2P12	29	FT 2A6456AH-E27R27	39	FX 916-H0M2	13	VF C02	55	VF PAP11C3N	127
FR 916-W3M2P12	29	FT 2A6456AH-E27R5	39	FX 916-H0M2P31	13	VF C03	55	VF PAP11C4N	127
FR 930-M2	13	FT 2A6438AH-E27	39	FX 916-M2P31	13	VF DFMM20	127	VF PAP11C5N	127
FR 930-W3M2	29	FW 692-M2	53	FX 916-W3M2	29	VF DFPM16	127	VF PAP13C3N	127
FR 931-M2	13	FW 2092-M2	53	FX 916-W3H0M2	29	VF DFPM20	127	VF PAP13C5N	127
FR 931-W3M2	29	FW 3392-M2	53	FX 916-W3H0M2P32	29	VF DFPM25	127	VF PAP13C6N	127
FR 938-M2	13	FW 3492-M2	53	FX 916-W3M2P32	29	VF DFPP13	127	VF PFM20C4N	127
FR 938-M2P11	13	FX 1173-M2	123	FX 938-M2	13	VF KEYD	53	VF PFM20C8N	127
FR 938-W3M2	29	FX 1273-M2	123	FX 938-M2P31	13	VF KEYD1	53	VF PTG13.5	127
FR 951-M2	13	FX 1638-M2	13	FX 938-W3M2	29	VF KEYD3	53	VF PTM20	127
FR 951-W3M2	29	FX 1638-M2P31	13	FX 976-M2	123	VF KEYD7	53	VF SFP1	127
FR 952-M2	13	FX 2015-H0M2	13	MK V11D05	55	VF KEYD8	53	VF SFP2	127
FR 952-W3M2	29	FX 2015-H0M2P31	13	MK V11D06	55	VF KEYD10	53	VF SFP3	127
FR 954-M2	13	FX 2015-M2	13	MK V11D08	55	VF KEYD30	51	VF SL1A3PA1	127
FR 954-M2R26	13	FX 2015-M2P31	13	MK V11D09	55	VF L31	21	VF SL1A5PA1	127
FR 954-W3M2R26	29	FX 2016-H0M2	13	MK V11D10	55	VF L31-R24	21	VF VAIT1T20	127
FR 954-M2R5	13	FX 2016-H0M2P31	13	MK V11D12	55	VF L31-R25	21	VF VAIT1T25	127
FR 954-W3M2R5	29	FX 2016-M2	13	MK V11D15	55	VF L31-R26	21	VF VAIT1T30	127
FR 954-W3M2	29	FX 2016-M2P31	13	MK V11D17	55	VF L31-R5	21	VF VAM4X10BW-X	127
FR 955-M2	13	FX 2038-M2	13	MK V11D18	55	VF L35	21	VF VAM4X15BW-X	127
FR 955-M2R26	13	FX 2038-M2P31	13	MK V11D19	55	VF L35-R24	21	VF VAM4X20BW-X	127
FR 955-W3M2R26	29	FX 2093-M2	13	MK V11D40	55	VF L35-R25	21	VF VAM4X25BW-X	127
FR 955-M2R27	13	FX 2015-W3M2	29	MK V11D42	55	VF L35-R26	21	VF VAM5X10BW-X	127
FR 955-W3M2R27	29	FX 2015-W3H0M2	29	MK V11D45	55	VF L35-R27	21	VF VAM5X15BW-X	127
FR 955-M2R5	13	FX 2015-W3H0M2P32	29	MK V11D47	55	VF L35-R5	21	VF VAM5X20BW-X	127
FR 955-W3M2R5	29	FX 2015-W3M2P32	29	MK V11D53	55	VF L51	21	VF VAM5X25BW-X	127
FR 955-W3M2	29	FX 2016-W3M2	29	MK V11D59	55	VF L51-R24	21	VF VAM4X10BX-X	127
FR 956-M2	13	FX 2016-W3H0M2	29	MK V11F40	55	VF L51-R25	21	VF VAM4X15BX-X	127
FR 956-M2R26	13	FX 2016-W3H0M2P32	29	MK V11F42	55	VF L51-R26	21	VF VAM4X20BX-X	127
FR 956-W3M2R26	29	FX 2016-W3M2P32	29	MK V11F45	55	VF L51-R5	21	VF VAM4X25BX-X	127
FR 956-M2R27	13	FX 38B1-D30M2	51	MK V11F47	55	VF L52	21	VF VAM4X30BX-X	127
FR 956-W3M2R27	29	FX 39B1-D30M2	51	MK V11F53	55	VF L52-R24	21	VF VAM5X10BX-X	127
FR 956-M2R5	13	FX 515-H0M2	13	MK V11F59	55	VF L52-R25	21	VF VAM5X15BX-X	127
FR 956-W3M2R5	29	FX 515-H0M2P31	13	MK V11R40	55	VF L52-R26	21	VF VAM5X20BX-X	127
FR 956-W3M2	29	FX 515-M2	13	MK V11R42	55	VF L52-R5	21	VF VAM5X25BX-X	127
FR 976-M2	123	FX 515-M2P31	13	MK V11R45	55	VF L56	21	VF VAM5X35BX-X	127
FT 2B63A6AH-E27	39	FX 516-H0M2	13	MK V11R47	55	VF L56-R24	21	VF VAM5X45BX-X	127
FT 2B64A6AH-E27	39	FX 516-H0M2P31	13	MK V11R53	55	VF L56-R25	21		
FT 2A6301AH-E27	39	FX 516-M2	13	MK V11R59	55	VF L56-R26	21		
FT 2A6302AH-E27	39	FX 516-M2P31	13	VD CE1A20	48	VF L56-R27	21		
FT 2A6305AH-E27	39	FX 538-M2	13	VE AD3PF9A0	105	VF L56-R5	21		
FT 2A6307AH-E27	39	FX 538-M2P31	13	VE BM2B46X70	105	VF L57	21		
FT 2A6312AH-E27	39	FX 573-M2	123	VE BM2B87X70	105	VF L57-R24	21		
FT 2A6313AH-E27	39	FX 576-M2	123	VE BM2B120X70	105	VF L57-R25	21		
FT 2A6314AH-E27	39	FX 615-M2	13	VE BM2B153X70	105	VF L57-R26	21		
FT 2A6315AH-E27	39	FX 615-H0M2	13	VE BM2B230X70	105	VF L57-R5	21		
FT 2A6315AH-E27H0	39	FX 615-H0M2P31	13	VE CH121A1	105	VF LE31-R5	13		
FT 2A6316AH-E27	39	FX 615-M2P31	13	VE DL1A2A00	105	VF LE51-R26	13		
FT 2A6316AH-E27H0	39	FX 615-W3M2	29	VE DL1A2L00	105	VF LE51-R5	13		
FT 2A6330AH-E27	39	FX 615-W3H0M2	29	VE DL1A5A00	105	VF LE52-R26	13		
FT 2A6331AH-E27	39	FX 615-W3H0M2P32	29	VE DL1A5L00	105	VF LE52-R5	13		
FT 2A6351AH-E27	39	FX 615-W3M2P32	29	VE DL1A5A13	105	VF LE54-R26	13		
FT 2A6352AH-E27	39	FX 616-M2	13	VE DL1A5L13	105	VF LE54-R5	13		
FT 2A6354AH-E27	39	FX 616-H0M2	13	VE GF121A	105	VF LE55-R26	13		
FT 2A6354AH-E27R26	39	FX 616-H0M2P31	13	VE GF720A	105	VF LE55-R27	13		
FT 2A6354AH-E27R5	39	FX 616-M2P31	13	VE GG2BA5A	105	VF LE55-R5	13		
FT 2A6356AH-E27	39	FX 616-W3M2	29	VE GG2CA1A	105	VF LE56-R26	13		

Order procedures:

Purchasing orders must always be sent in writing (fax, e-mail). We reserve the right to not accept e-mail orders in case of missing characteristics necessary to correctly identify the sender or to not process them in case of virus infected attachments or attachments of dubious origin.

Minimum order amount:

Unless specifically agreed, the minimum order amount for deliveries is EUR 200 net (VAT excluded). For orders of less than EUR 200, a EUR 10 fee will be deducted towards the costs if the delivery occurs in Italy and San Marino; for deliveries abroad, the fee will be EUR 30.

Prices:

The prices quoted in the price list do not include VAT, custom taxes or any other charges. Unless otherwise agreed, the prices quoted in the price list are not binding and may undergo changes without prior notice.

Order quantities:

Some products are shipped in packs. The ordered quantities of these items must be multiples of the quantities contained in the packages.

Order cancellation/changes:

Order changes might be accepted depending on the job order status. Changes or cancellation of special article orders will not be accepted.

Supply:

The supply includes only what is expressly stated in the order confirmation. As per article 1461 of the Italian Civil Code, we reserve the right to stop supply in case of changes in the customer's financial standing.

Delivery:

The delivery is indicated in the order confirmation and reports the period in which the goods can be available at the factories of Pizzato Elettrica and not the date of arrival at the customer's premises. This date is an approximate value and cannot be used as a reason of the order non-fulfilment.

Packaging:

Packaging is free. For more than six boxes pallets can be necessary for the transport.

Shipment:

Goods always travel at risk of the buyer, even if the goods are sold carriage paid. The customer must check that the forwarder delivers the number of boxes indicated in the delivery note, that the boxes are intact and that the weight corresponds to what is stated in the documents. In case of any inconsistencies, always accept the goods SUBJECT TO VERIFICATION, clearly specifying the type of damage. Any discrepancy or mistakes should be reported in writing within 8 days of receipt of the goods at info@pizzato.com.

Warranty:

The warranty has a validity of 12 months starting from the delivery date of the material. The warranty does not cover improper use of the material, negligence or wrong installation/assembling. The warranty does not cover parts subjected to wear or products used beyond the technological limits described in the catalogue, or items that have not received the right maintenance. Pizzato Elettrica engages itself to repair and/or replace parts or the complete product for those elements that present evident manufacturing defects, provided that they are still covered by warranty. Pizzato Elettrica is only responsible for the value of the product and requests for compensation due to machine downtime, repairs or costs for direct or indirect damages resulting from product malfunctions will not be accepted, even if these occur during the warranty period. It is the responsibility of the manufacturer to evaluate the importance of the products used and the possible damage caused by their malfunction and to adopt the necessary technical measures to minimize consequences on machines also for personal safety purposes (redundancy systems, self-controlled systems, etc). The warranty will be subject to the customer's compliance with the payment terms.

Any samples provided free of charge or bearing the phrase "SAMPLE" must be considered as purely demonstrative and are not covered by the guarantee.

Products:

Products can be subjected to technical improvements in any moment without prior notice.

Payment terms:

Payments should be settled within the terms agreed in the order confirmation. The payment method is always at the risk of the buyer, regardless of the means chosen. In case of delayed payment, Pizzato Elettrica reserves the right to stop the delivery of any current orders and charge interest at the rate envisaged by European Directive 2011/7/EU. Any technical or commercial complaints do not entitle the claimant to suspend the due payments.

Returns:

Any products returned for any reason will not be accepted unless they are previously APPROVED and AUTHORISED in writing.

Otherwise, Pizzato Elettrica reserves the right to reject the goods and return them "freight collect" at the expense of the buyer, in the same way by which they were forwarded. Returns have to be sent back within 3 months from the authorization date and no later. After this period, returns will not be accepted. The request to return goods will lead to their sales price being devalued and will be considered if relative to standard items and materials delivered no more than 12 months ago. The returned goods and the relative packaging must be intact and free from damage.

Ownership:

The delivered products remain property of Pizzato Elettrica until full settlement of the invoices.

Proper Law:

The Court of Vicenza shall have jurisdiction in any disputes.

For the updated terms of sale, please consult the website www.pizzato.com

Any information or application example, included the connection diagrams, described in this document are to be intended as purely descriptive. The choice and application of the products in conformity with the standards, in order to avoid damage to persons or goods, is the user's responsibility. The drawings and data contained in this catalogue are not binding and we reserve the right, in order to improve the quality of our products, to modify them at any time without prior notice. They are also our property and may be reproduced only with our written permission.



General Catalogue
Detection



General Catalogue
HMI



General Catalogue
Safety



General Catalogue
LIFT



DVD



Web
www.pizzato.com



PASSION FOR QUALITY

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