pizzato elettrica

LIFT General Catalog

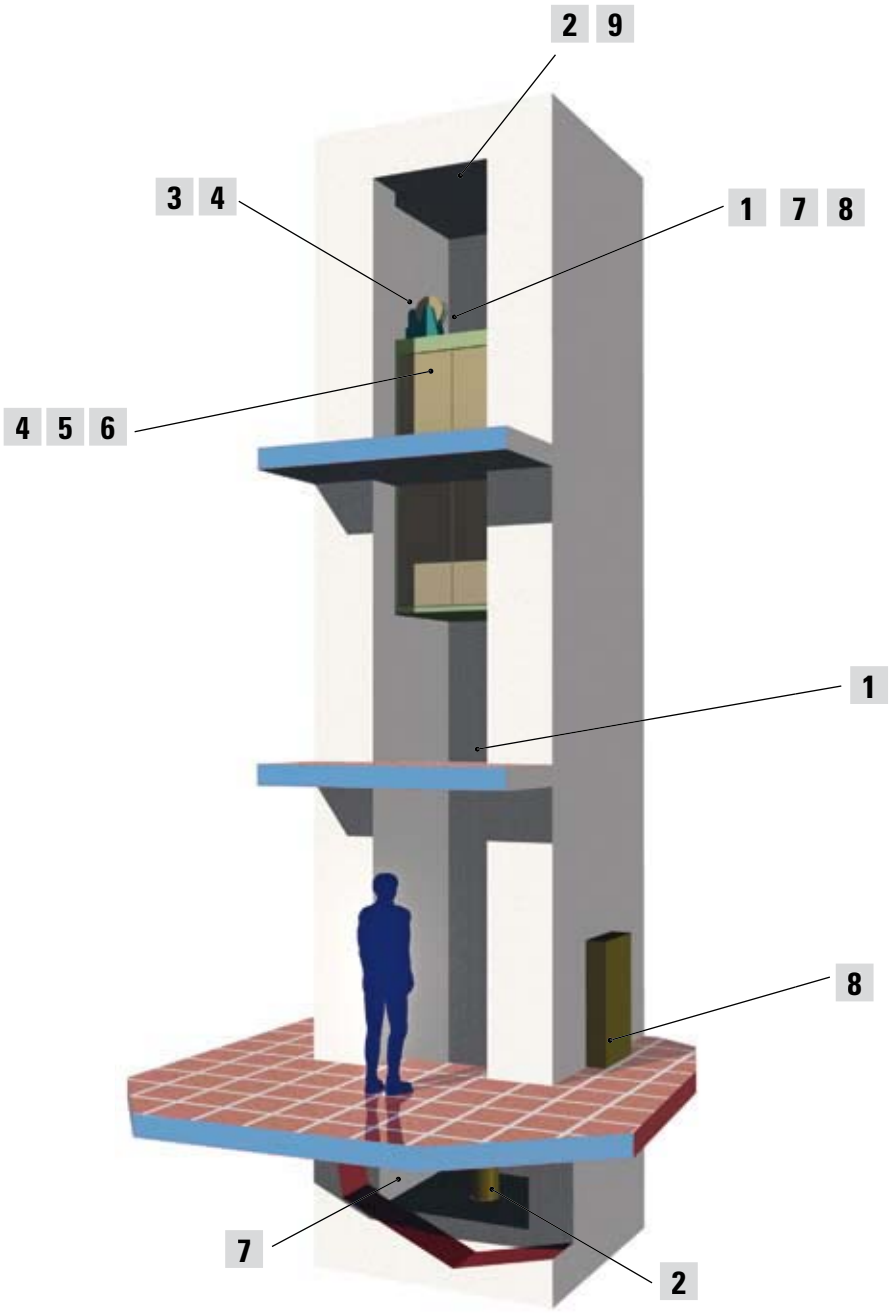
2012
2013

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.
The latest innovations of 2011 are the new lift control stations EL AC and EL AN series.

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



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1B Position switches



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2 Switches with manual reset







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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 Operator switches


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7A EL AC Lift control stations


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7B EL AN Lift control stations



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8 Automatic floor levelling op. devices


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9 Signalling switches

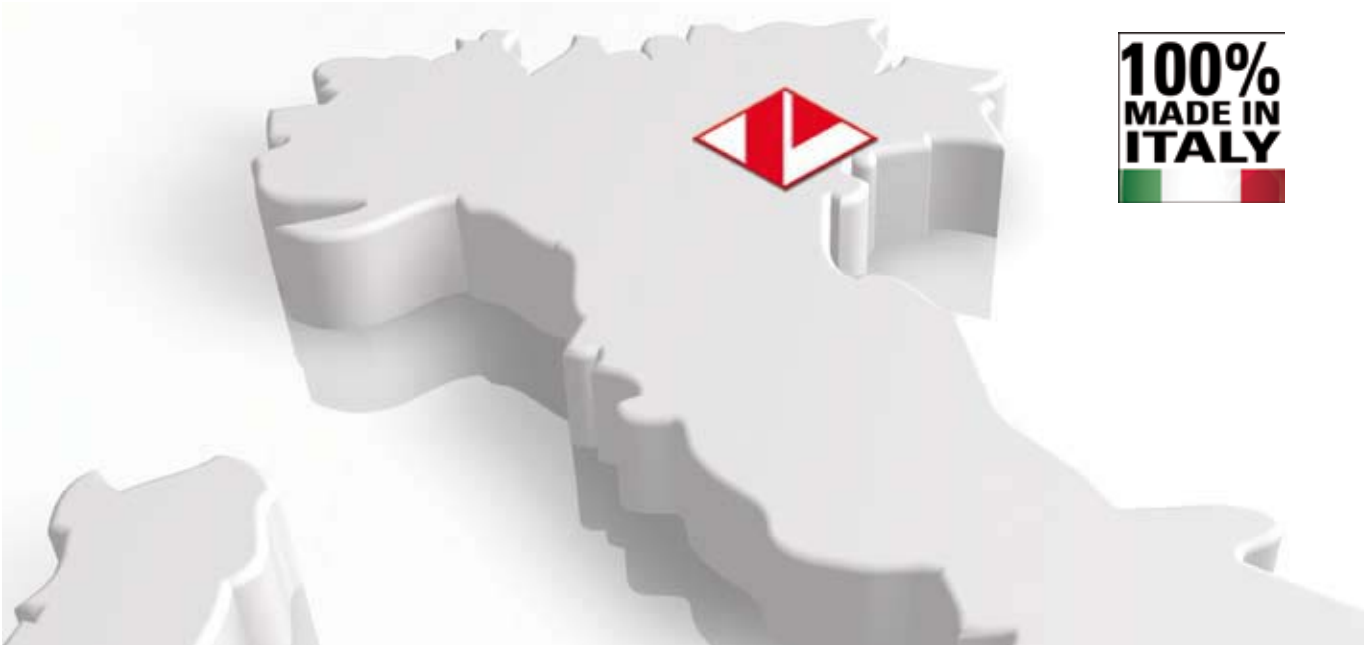

page **105**

140 PASSIONATE PROFESSIONALS

It is people, with their professionalism and dedication that make a great company. This profound conviction has always guided Pizzato Elettrica in their choice of employees and collaborators. 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 60% 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

An entrepreneurial company such as Pizzato Elettrica, which has grown day after day thanks to the "culture of doing" of a family that benefited from approaching its work with tenacity, intelligence and far-sightedness, has its foundations in a system of solid and deeply-shared values. The pillars that form the basis of the company's work have remained constant and constitute Pizzato Elettrica's fundamental guiding principles.

• TERRITORIAL ROOTS. Pizzato Elettrica is a successful example of the ripe entrepreneurship that characterises the North-East of Italy and Veneto in particular, an area that is tellingly referred to as "Italy's locomotive". The territory is highly productive in every sector, from agriculture to high technology, and makes a fundamental contribution to the generation of Italian wealth; where 100 is the average per capita value added produced at the national level, the figure here has consistently been between 110 and 135. The productivity rate is among the highest in Europe and originates from a tradition of diffuse and markedly export-oriented entrepreneurship.

• ORIENTATION TO EXCELLENCE. Innovation and development: this company philosophy is at the heart of the operations and product quality assessments that Pizzato Elettrica performs in a 360 degree manner, and is also manifest in the heightened propensity for research and innovation that characterises its design work. Every product development in Pizzato Elettrica is born with the aim of bringing a secure, reliable and innovative choice to the market: those using Pizzato Elettrica products do so in the certainty that they are of certified quality as fruits of a process that is scrupulously controlled at every stage.

• ATTENTION TO THE CLIENT. In order to be successful, a product must respond to the specific needs of those who will use it: quality alone is not enough. Market developments must be carefully monitored so that one can understand, in advance, which new applications will prove truly useful. This is why Pizzato Elettrica has always cultivated close synergies with the companies that choose it as a supplier, using this continuous dialogue to identify the potential developments of its product range so as to render it highly flexible, complete and able to offer optimal solutions to diverse needs.

1984: AN ENTREPRENEURIAL STORY BEGINS

16 November 1984. This is the date that marks the beginning of a long entrepreneurial story: the story of a family that was able to build a company and allow it to grow consistently, one step at a time, to reach important results, guided by a profound work ethic and a marked spirit of initiative.

• 80s. The company was initially called Pizzato, owned by the Pizzato B. & C. general partnership with headquarters in Marostica. It was immediately able to assert itself on the market thanks to the quality of its products. In the short space of 4 years, the firm had already developed to the point of making a fundamental upgrade: on 18 April 1988, it became Ltd. company and was re-named Pizzato Elettrica, a brand shortly destined to become renowned and appreciated nationwide. During the same year, its 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 turned to the international market: in 1989, the commercialisation of products was extended to the USA.

• 90s. The range of products continued to be upgraded and specialised with the introduction of new machinery and the growing input of technology. In 1994, Pizzato Elettrica introduced its first line of prewired switches with immediate success. 1996 and 1997 were important years in the development of safety devices, a sector that became strategic when new European directives on working environments were introduced. Pizzato Elettrica immediately became an Italian leader in this regard, thanks to its evolved safety switches and switches with solenoid. Meanwhile (1995), its second plant, geared towards the moulding of plastic materials, was also born. The brand was now ready to approach the new frontiers of the international market: South Africa in 1995 and Australia in 1997.

As a confirmation of its innovative spirit, Pizzato Elettrica was among the first companies to believe in the strong potential of the Web, presenting itself online with a well-constructed and multi-functional site as early as 1996. This exciting, constant growth culminated in 1998 with the construction of the third plant, dedicated to the assembly department.

• 00s. The new millennium heralded the search for quality certifications: the ISO 9002 was achieved in April 2000, followed by the ISO 9001:2000 achieved in November 2002. In the meanwhile, technological evolution continued: in 2000, the design studio began using CAD 3D systems. This allowed new avant garde product models to be developed, such as safety modules (2002) and switches conforming to the European ATEX directives (2005), laid out for equipment operating in potentially explosive environments.

Pizzato Elettrica was now a firm with global reach, as confirmed by the construction of the new headquarters and logistics plant in 2002 and the company's arrival on a future strategic market, China, in 2005.

In 2006, the HP switch, the result of an innovative engineering design project combining safety and style in a single product, was introduced to the market. The Palladio line was selected by the judging panel of the "Innovation&Design Award 2007" as one of the industrial products most distinguished by its unique design and technological innovativeness.
In 2007, the company extended its range of products for machine safety, introducing two new series of magnetic safety sensors, suitable for the monitoring of protections and repairs.

The initial months of 2009 have witnessed the introduction of the new safety handle P-KUBE line and the new prewired modular switches NA-NB-NF series.

In 2010 Pizzato Elettrica introduced the new EROUND line control and signalling devices, therefore remarkably widening its offer within the man-machine interface sector. Created with the intent to improve the functionalities of the products already present in the market, the control and signalling devices of the EROUND line have technical characteristics so as to make the series one of the most complete in the industrial safety sector and in the man-machine interface sector.

40,000,000 PARTS SOLD WORLDWIDE

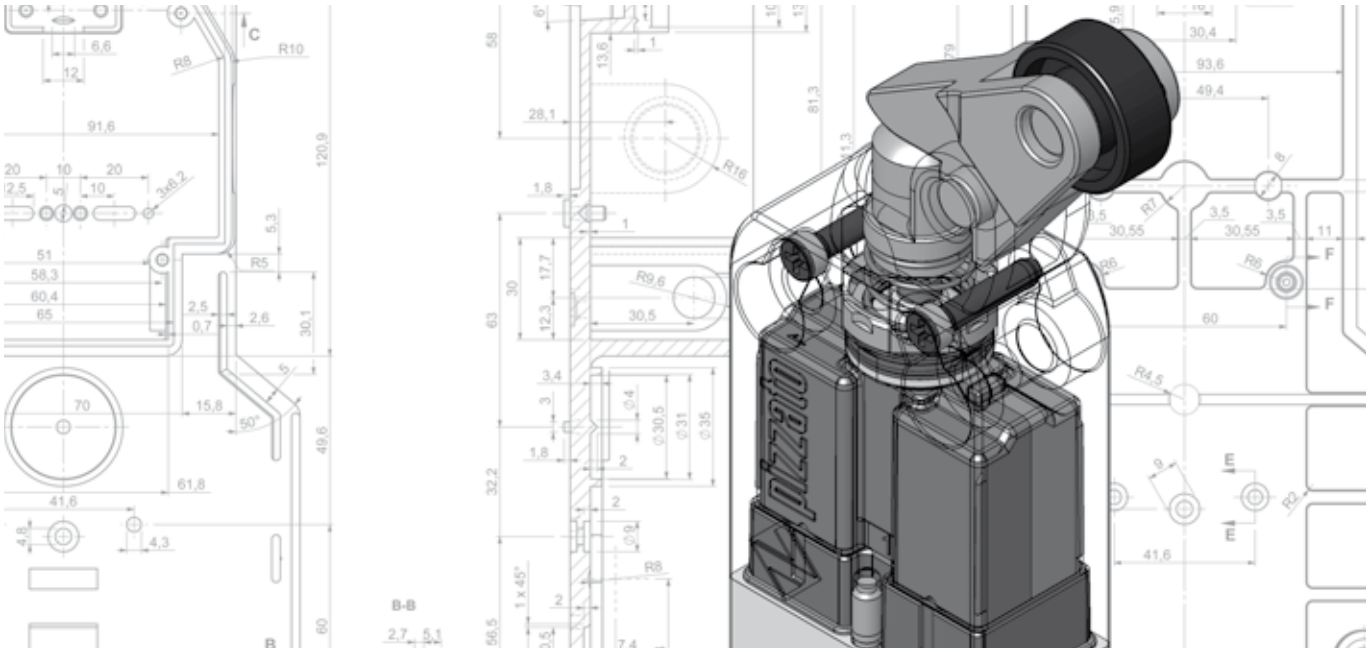
Pizzato Elettrica's product catalogue contains around 7,000 items, with over 1,000 special codes developed for devices personalised according to clients' specific needs.
Since its activity began, the company has sold more than 40,000,000 products worldwide.
Pizzato Elettrica devices can be grouped, according to typology, into 3 main macro-categories:

• POSITION SWITCHES. They are installed daily on any type of industrial machinery with applications in the wood, metal, plastic, elevator, automotive, naval etc. sectors.
In order to be effective not only in this vast variety of fields, but across the world, from the warm North African deserts to Iceland, the modular design of these units proves key: more than 10 basic shapes for the bodies, tens of contacts blocks, hundreds of actuators and varieties of materials, forces and assemblies, which, taken together, form one of the most extensive ranges on the global market. Since 2005, Pizzato Elettrica has also produced variants of its own switches with specific characteristics for ATEX approval and use in high temperature environments.

• SAFETY DEVICES. The introduction of the European Directives in the 90s marked a definitive turning point in the approach that any machine manufacturer must take with regard to worker safety. In collaboration with major manufacturers, a wide variety of safety switches was developed, which provided innovative, patented solutions, applying product regulations and guaranteeing the crucial need for reliability. Every new product then became the object of constant updates: the classic safety switch with separate actuator has already reached the "fourth generation", while the latest switches with solenoid have a body made entirely of metal and a 2500 Newton actuator holding force. There are many innovative devices currently being produced, after being created and developed entirely within the company: coded magnetic safety sensors and associated control modules; switches with solenoid with emergency release device with new supply voltages; hinged safety switches; accessories for rope switches. In recent years, as a natural complement to switches, over 100 safety modules have also been designed.

• MAN-MACHINE INTERFACE. Thanks to the recent introduction of the EROUND control and signalling devices, Pizzato Elettrica widens its offer in the man-machine interface sector. The new design, the attention to details and the elegance of the product combined with its maximum safety and reliability, take the series to the forefront of the market. The wide range that our Company offers in the man-machine interface sector includes single and modular footswitches with many patented joint kits.

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



120 NEW PROJECTS COMPLETED

There's a key word in the development of latest-generation devices: Mechatronics. This new science has grown in recent years, reaching some of the most important research centres, both national and international, right here in Veneto. It is based on the fusion of the principles of Mechanics with those of Electronics in the design of instruments that guarantee great precision, high performance, versatility and constant improvement.

This is why, in recent years, all new models have indeed been created following careful Mechatronics studies, undertaken directly by the highly specialised technicians and engineers that form part of the R&D department.

The evolution of Pizzato Elettrica's product lines thus proceeds on a double platform: on one side, there are the internally-researched innovative materials and technologies; on the other, the particular needs that emerge from continuous dialogue with big competitors and, above all, clients.
Indeed, requests for specific personalisations of a product are quite common: Pizzato Elettrica's duty is to respond to these needs as best it can, guaranteeing maximum flexibility and openness with regards to 'custom made' projects too.

10 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.

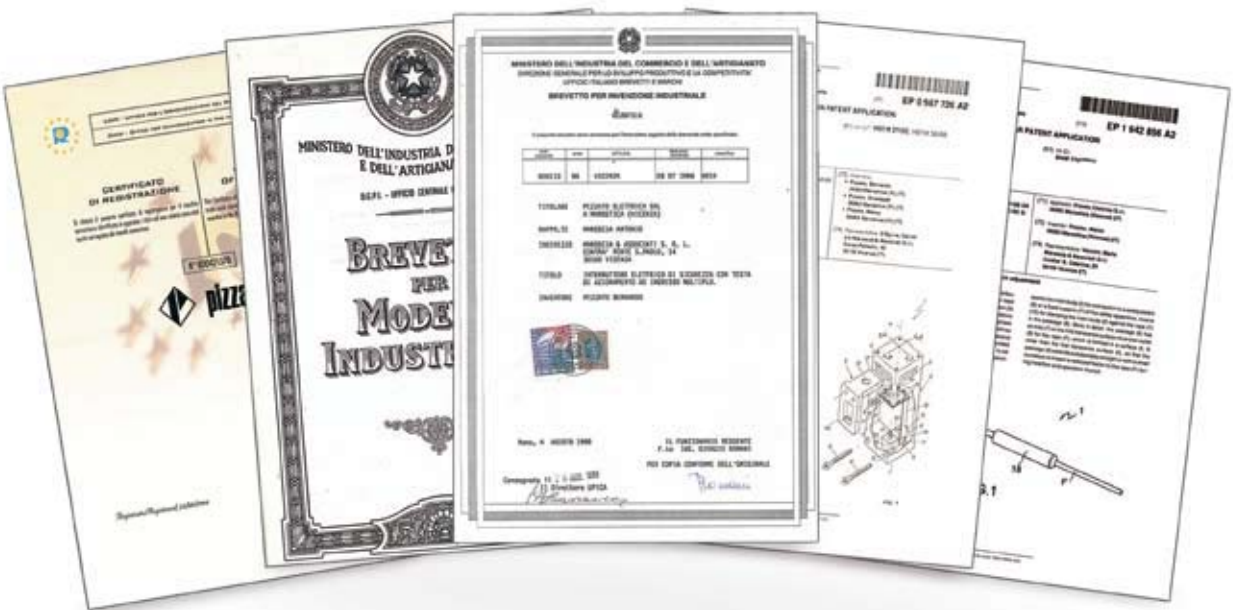
A result that has been reached and consolidated over the years, updating and expanding the series of certifications obtained from the most important Italian and international control organs. Product quality is assessed by five accredited external bodies: IMQ, UL, CCC, EZU and TÜV. These bodies lay out 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 mark, in concordance with the European Directives.

• ISO 9001:2000 CERTIFICATION. The company's production system conforms with national UNI EN ISO 9001:2000 and international ISO 9001:2000 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 and its various product sectors. CISQ is the Italian representative within IQNet, the biggest international Quality Systems and Company Management certification network, which is adhered to by 25 certification organs in as many countries.

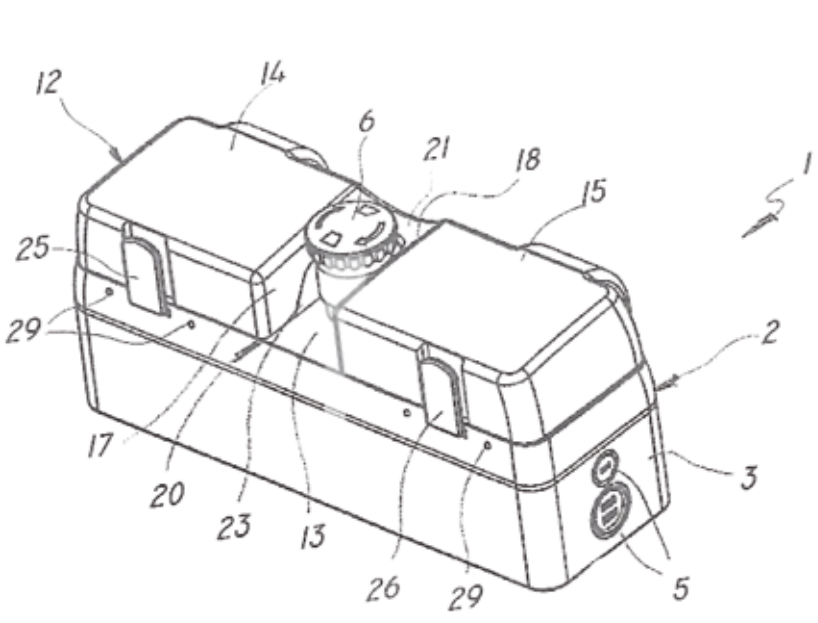


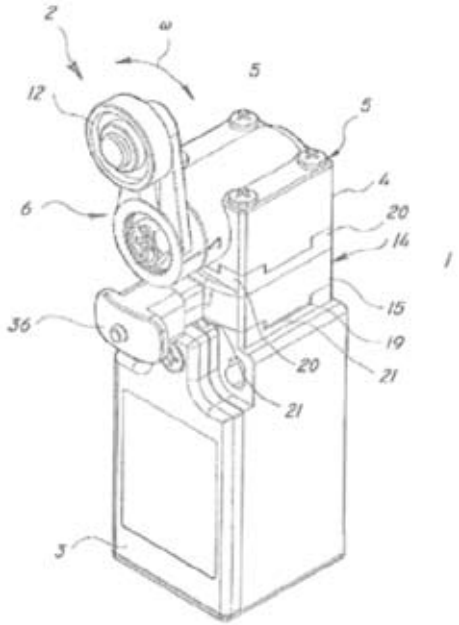
100 REGISTERED PATENTS

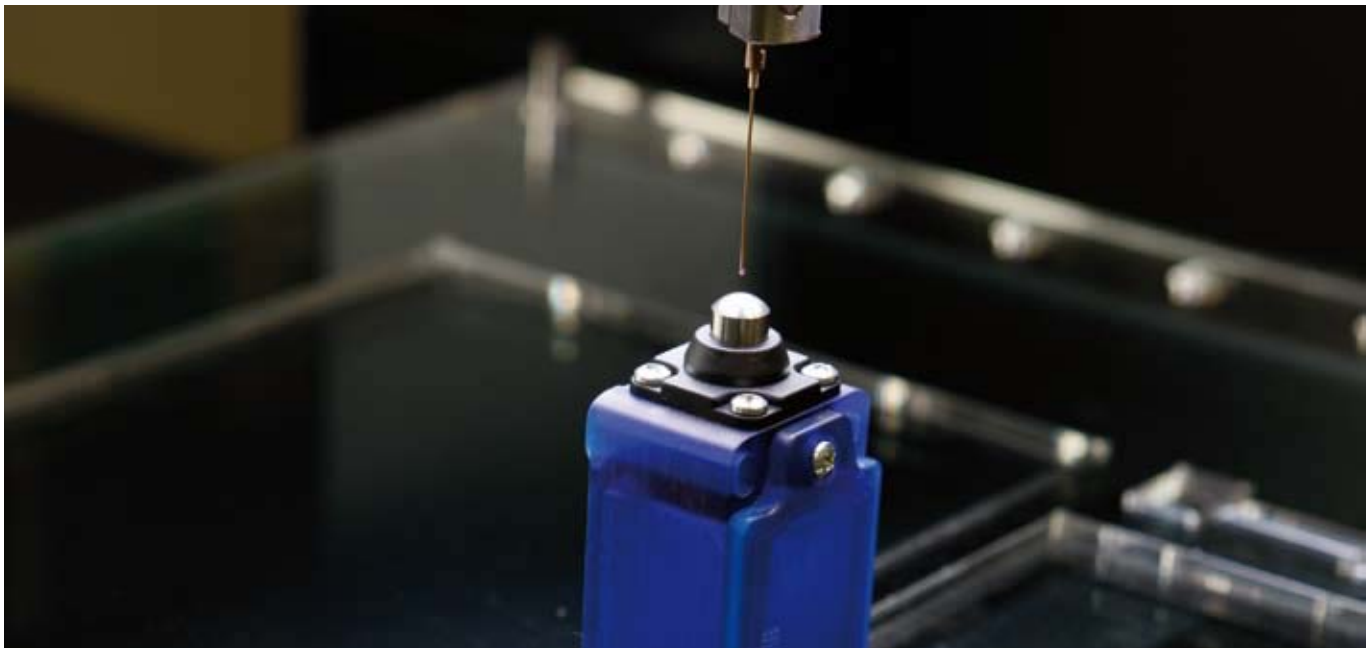
The fact that Pizzato Elettrica has, over 27 years, been able to take on a leadership role at the European level is also a result of continuous research and innovation, which its labs and internal design studios undertake on a daily basis.

This is a strategic sector that is exploited to the maximum thanks to a constant process of innovation: indeed, this undoubtedly represents the most important value added. This is why, on average, Pizzato Elettrica develops 3 innovative projects to be covered by international patents each year: a route that the company has been following since its birth, immediately understanding the importance of registering and protecting ideas in order to approach the market with the added strength of being truly 'different' from its competitors.

The company's ideas are what have distinguished it and allowed it to come to occupy a highly important market position, through the tens of patents that have been developed and registered. An ever evolving know-how that is renewed daily, as demonstrated, for example, by the more recent innovations introduced in the safety device sector. This field is due to change significantly in the coming years through profound technological developments: a path that Pizzato Elettrica once again intends to take before time, outlining new principles destined to respond to the international market trends of the future.







20,800 HOURS DEDICATED TO RESEARCH PER YEAR

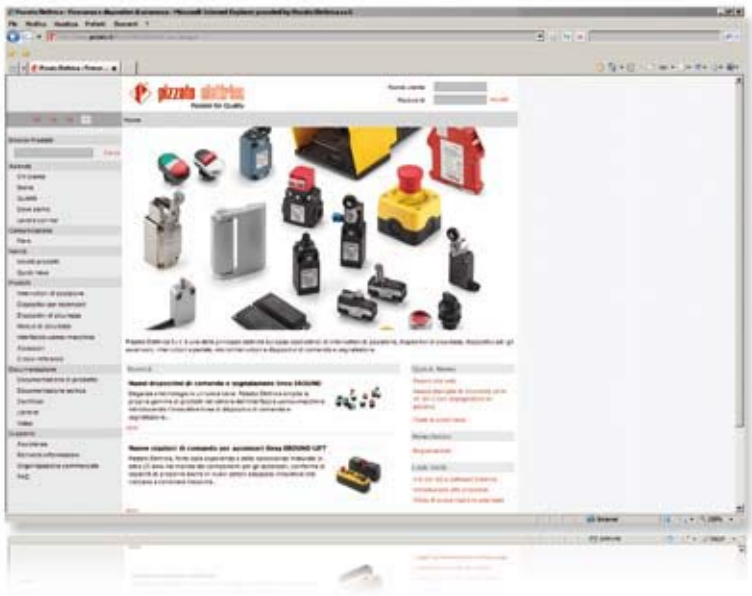
Behind every new product lies a careful research and design process that aims to find technologically advanced solutions that can improve the device.

This evolution would not have been possible if Pizzato Elettrica hadn't acquired increasingly well-adapted instruments over time, thus keeping pace with the latest technological frontiers. In this sense, the number of computers used daily within the company is particularly significant: an average of almost one computer per employee (workers included!) represents an exhaustive index of a highly computerised company.

The design effort utilises the most evolved 3D CAD software; the efficiency of the Electrical and Mechanical labs, which operate in strict synergy, allows for immediate assessments to be undertaken for the development and perfection of every functional aspect of the prototypes.

The switches undergo the most thorough of checks, which evaluate their efficiency in extreme conditions too: this ensures that Pizzato Elettrica's clients will have access to a genuinely safe, reliable product.

Measurements are taken using over 200 precision tools, which allow for every single component and every characteristic of the finished products to be evaluated: from measures of humidity and temperature to weight and force, to electrical levels, flammability, mechanical duration, magnetic characteristics, microscopic surveys, the level of IP protection and EMC electromagnetic compatibility.



1,000 TECHNICAL SUPPORT ANSWERS PER MONTH

Pizzato Elettrica sees itself as a company that is as attentive to customers needs as it is to the development of its products.

This is why significant resources have always been dedicated to the development of the technical assistance service, giving the company the role of a highly qualified technological partner that is able to fully support technicians and designers.

Pizzato Elettrica offices can be contacted by telephone from Monday to Friday and offer both information and advice relating to the choice of products, the technical characteristics and the correct installation, ensuring to the customers a direct technical assistance service.

WWW.PIZZATO.COM

Pizzato Elettrica was one of the first Italian firms of its sector to believe in Internet, developing a web site since 1996.

Pizzato Elettrica website, renewed in its graphics and contents and now available in four languages (Italian, English, French and German), is full of data, technical information and news on products and services supplied by our company.

- General Catalog in PDF format
- Certificates, brochures and leaflets of new products
- Research engine code
- List of new products
- Form to require technical and commercial information
- Article cross reference
- Frequently asked questions (FAQ)
- Company profile
- List of trade fairs
- Download 2D CAD drawings in DXF format
- Download 3D CAD drawings in STEP format
- Download Pizzato Elettrica libraries for the SISTEMA software
- Video section with installation examples
- Section dedicated to Machine Safety, explanations of standards and prescriptions for product operation.
- Quick News section, with all the latest news on products and services by Pizzato Elettrica
- Newsletter

MORE THAN 40 MEETINGS ORGANISED EACH YEAR

MEETINGS

Pizzato Elettrica, in addition to offering a qualified technical assistance, sees itself as dynamic company attentive to customers needs organising several meetings and training courses, with a particular focus on machinery safety standards.

EXHIBITIONS

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.

MULTILINGUAL DOCUMENTATION

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

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

60,000 PACKAGES SHIPPED PER YEAR

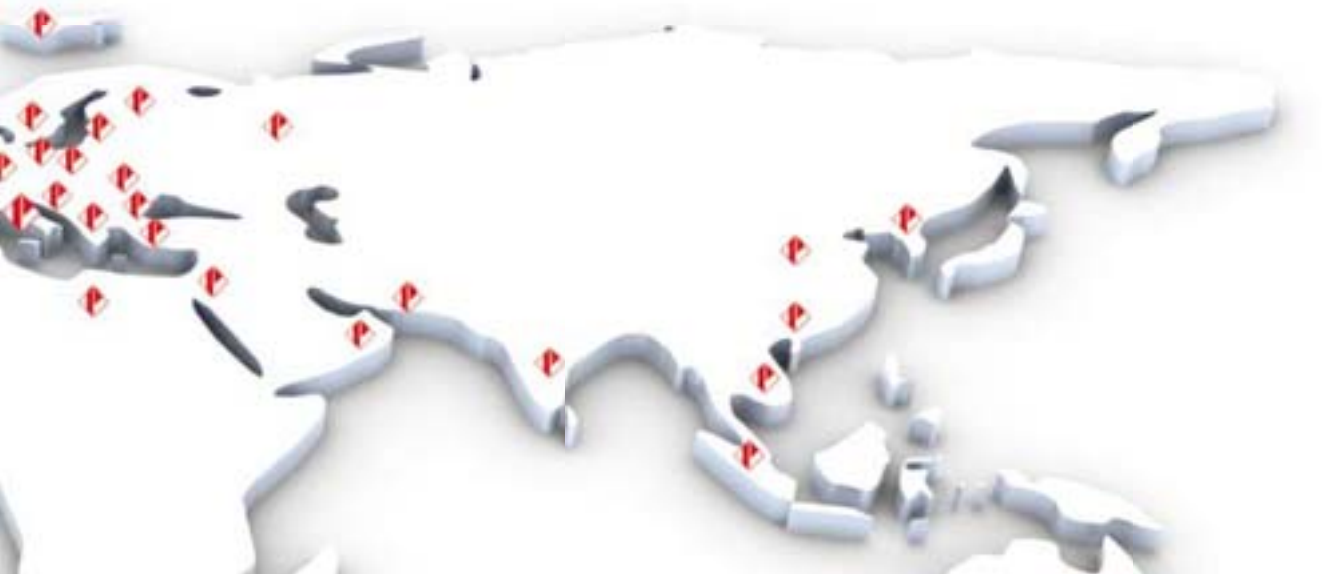
In order to be able to bring its products to distributors and clients operating all over the world, Pizzato Elettrica's guiding principles are speed and efficiency.

These objectives informed the company's creation of a computerised merchandise transfer system, which is managed automatically by an appositely developed company software that is geared towards specific operational needs.

Over 60,000 parcels are sorted by the logistic center each year: a significant volume of merchandise reflecting the needs of an evermore rapid and competitive market.

All shipments and transfers are traced via a barcode system that can immediately identify the contents of any parcel. A pre-arranged system that is easily modulated: this flexibility has also proved key in providing a quick response to particularly urgent shipment requests.

One of the strong points of the company's relations with the commercial network is the provision of guaranteed direct assistance in 6 languages: Italian, English, French, German, Spanish and Chinese. A service that confirms the quality and attention paid by Pizzato Elettrica to its clients worldwide.



TECHNICAL AND COMMERCIAL SERVICE

TECHNICAL OFFICE

Pizzato Elettrica technical offices provide a direct technical and qualified assistance in Italian and English, helping in this way the customers to choose the suitable product for their own application explaing the characteristics and the correct installation.

Office hours:	from Monday to Friday 08.00-12.00 / 14.00-18.00 CET
Phone:	+39.0424.470.930
Fax:	+39.0424.470.955
E-mail:	tech@pizzato.com
Spoken languages:	IT | EN

SALES OFFICES

Among the strenghs in the company relationship with the commercial network, the direct assistance guaranteed in 6 languages: Italian, English, French, German, Spanish and Chinese. A service that confirms Pizzato Elettrica quality and attention to customers needs from around the world.

Office hours:	from Monday to Friday 08.00-12.00 / 14.00-18.00 CET
Phone:	+39.0424.470.930
Fax:	+39.0424.470.955
E-mail:	info@pizzato.com
Spoken languages:	IT | EN | DE | FR | ES | CN

Lift control stations
EL AC series

- Available in different configurations which can be customised by the customer in terms of arrangement and types of auxiliary control devices
- Sturdiness of the control station and resistance against knocks or improper use ensured by sturdy guards
- Protection against dust, dirt, knocks or improper use ensured by a special side-hinged guard
- Particularly accurate design in terms of shape and details
- Available in the traditional yellow-black or all-black version and therefore suitable where a satisfactory aesthetic result is desired, especially in structures with large glazed surfaces which leave the lift cabin in full view
- Available with both low and high base
- Possibility of customising the control station with indications, inscriptions, symbols and logos
- The control stations feature our new control and signalling devices from the EROUND line and have IP67 protection degree
- Electrical socket protected against the risk of accidental contact with the inside by means of a special removable cover
- Electrical sockets available in different types to adapt to the standards in force in the country where the lift is installed
- Special through holes for the external fixing of the control station, allowing direct installation of the wired station without having to open the cover

▸ 67

Lift control stations
EL AN series

- Available in different configurations which can be customised by the customer in terms of arrangement and types of auxiliary control devices
- Sturdiness of the control station and resistance against knocks or improper use ensured by sturdy guards
- Range including 4 versions with different dimensions and several configurations
- Particularly accurate design in terms of shape and details
- Possibility of customising the control station with indications, inscriptions, symbols and logos
- The control stations feature our new control and signalling devices from the EROUND line and have IP67 protection degree
- Cable inlets on the 4 sides of the control station
- Electrical socket protected against the risk of accidental contact by means of a removable cover or a special partition
- Special through holes for the external fixing of the control station, allowing direct installation of the wired station without having to open the cover
- Special hook available on request to hang the control station on the wall or onto the electrical panel

▸ 81

Protected door switches with positive opening

- Protected door contact with positive opening according to EN 60947-5-1
- Protection degree IP67 according EN 60529
- Reduced actuating force
- Possibility of fixing the actuator in 2 perpendicular positions with respect to each other
- Head adjustable every 90°

▸ 55

Door switches with positive opening DS C series

- Transparent head: it allows the adjustment and the centering of the actuator with the contacts
- Slotted holes: the slotted holes on the actuator and on the contact housing allow to obtain a correct alignment between these two devices
- Front or back housing fixing device: the particular housing shape allows it to be fixed from either side
- Rotating head: 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 the back
- Three types of wiring available

▸ 53

Switches with electric reset FT series

- 3 supply voltages (24 Vdc, 48 Vdc, 230 Vac)
- New adjustment system integrated in the switch: this system, purposely designed for over-speed devices, allows a very sensitive adjustment of the switch position along its vertical axis
- Protection degree IP67

▸ 43

Safety modules CS AR-94 and CS AR-95

- Modules for on-floor levelling manoeuvring of the lift according to EN 81
- Choice between automatic start, manual start or monitored start
- Compact housings for the CS AR-95 series
- Output contacts: 2 safety NO contacts Brief power failure insensitiveness
- Supply voltages: 24 Vac/dc and 12 Vdc
- Brief power failure insensitiveness

▸ 101

Selection diagram

01 | **02** | **05** | **07** | **15** Ø 11 mm roller | **15-H0** Ø 11 mm roller | **16** Ø 20 mm roller | **16-H0** Ø 20 mm roller

30 | **31** | **51** | **52** | **54** | **54-R5** Ø 40 mm rubber roller | **54-3** Ø 50 mm rubber roller

ACTUATORS

FR | **FX**

CONTACT BLOCKS

6 1NO+1NC slow action | **7** 1NO+1NC slow action overlapped | **9** 2NC slow action | **16** 2NC slow action independent

PLATES

P11	Fixing plate (FR series)
P31	Fixing plate (FX series)

CONDUIT ENTRY

THREADED CONDUIT ENTRY | **WITH PRE-INSTALLED CABLE GLAND**

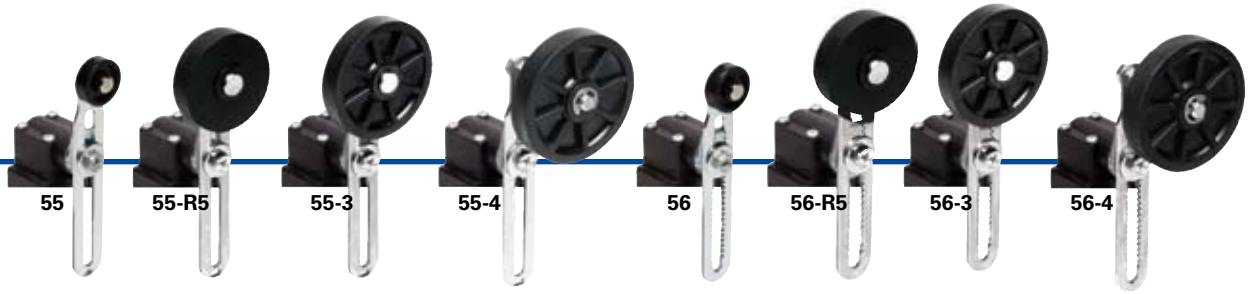
Versions with pre-installed cable glands or connectors available. For further information please contact the technical office

product option
accessory sold separately

38

LOOSE ACTUATORS

See page 24



55 adjustable lever

55-R5 Ø 40 mm rubber roller / adjustable lever

55-3 Ø 50 mm rubber roller / adjustable lever

55-4 Ø 50 mm rubber roller / adjustable lever

56 safety adjustable lever

56-R5 Ø 40 mm rubber roller / safety adjustable lever

56-3 Ø 50 mm rubber roller / safety adjustable lever

56-4 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 | options

FR 654-3GM2P11___

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

Ø 40 mm rubber roller	
	no roller (standard)
R5	with Ø 40 mm rubber roller

Contact blocks	
6	1NO+1NC, slow action
7	1NO+1NC, slow action overlapped
9	2NC, slow action
16	2NC, slow action indipendent

Fixing plate	
	without fixing plate (standard)
P11	supplied with fixing plate VF SFP1
P31	supplied with fixing plate VF SFP3

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

Threaded conduit entry	
	PG 13,5 (standard)
A	PG 11
M1	M16x1,5
M2	M20x1,5

Suffix	
	no suffix (standard)
3	with Ø 50 mm rubber roller
4	with Ø 50 mm overhanging rubber roller

Contacts type	
	silver contacts (standard)
G	silver contacts gold plated 1 µm

Position switches - **FR, FX series**

Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- External stainless steel parts versions
- M12 assembled connector versions
- Silver contacts gold plated versions

Markings and quality marks:

Approval IMQ: EG610
Approval UL: E131787
Approval CCC: 2007010305230013
Approval EZU: 101015
Approval GOST: POCC IT.AB24.B04512

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
FR series one threaded conduit entry
FX series two threaded conduit entries
Protection degree: IP67 according to EN 60529

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[1]/hour
Mechanical endurance: 20 million operations cycles[1]
Assembling position: any
Driving torque for installation: see page 113
(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 6, 7, 9, 16: 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 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-1, EN 81-2, NFC 63-140, VDE 0660-200, VDE 0113.

Approvals:

IEC 60947-5-1, UL 508, GB14048.5-2001

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Installation for safety applications:

Use only switches marked with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 114. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

Electrical data

Thermal current (Ith): 10 A
Rated insulation voltage (Ui): 500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}): 6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 VAC
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Rated impulse withstand voltage (Uimp): 6 kV
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 VAC (50 Hz)
Operation current (Ie): 3 A
Forms of the contact element: Zb, Y+Y
Positive opening of contacts on contact block 6, 7, 9, 16

In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

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

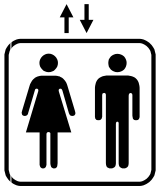
Data type approved by UL

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

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

EN 81 standard



On the following pages a selection of Pizzato Elettrica products which are used typically in the lift sector and in accordance with the standard EN81 is introduced.

Protection degree IP 67

IP67

These series switches are all IP 67 rated.

Safety lever LE56

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

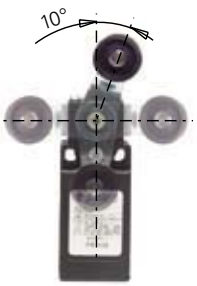
Switches with conduit entries in several directions are available, for applications also in restricted spaces.

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

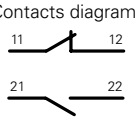
In all switches, it is possible to rotate the head in 90° steps.

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.

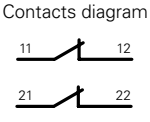
Lever turned to left

Contacts diagram



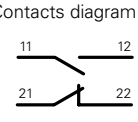
Lever not turned

Contacts diagram



Lever turned to right

Contacts diagram



Extended temperature range

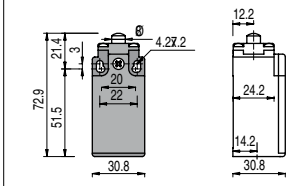
-40°C

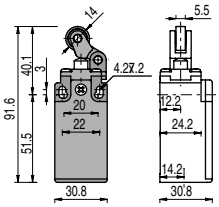
This range of switches is also available in a special version with an ambient operating temperature range of -40°C to +80°C. This is particularly useful for applications in cold stores, sterilisers and other low temperature environments. The materials used in the production of these switches maintain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

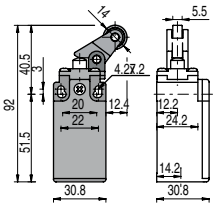
Position switches - **FR, FX series**

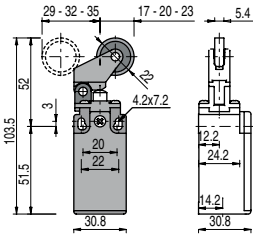
Contacts type:

L = slow action
LO = slow action overlapped
LI = slow action independent

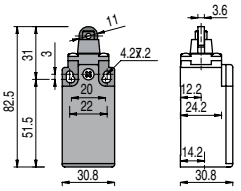


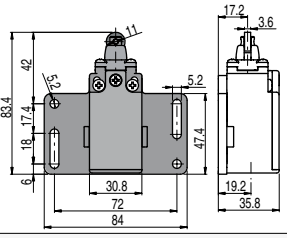


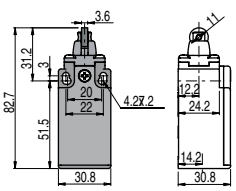


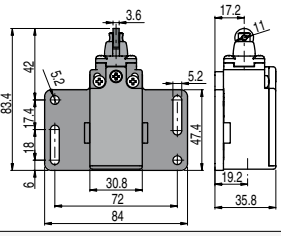


Contact blocks					
6	L	FR 601 ⊖ 1NO+1NC	FR 602 ⊖ 1NO+1NC	FR 605 ⊖ 1NO+1NC	FR 607 ⊖ 1NO+1NC
7	LO	FR 701 ⊖ 1NO+1NC	FR 702 ⊖ 1NO+1NC	FR 705 ⊖ 1NO+1NC	FR 707 ⊖ 1NO+1NC
9	L	FR 901 ⊖ 2NC	FR 902 ⊖ 2NC	FR 905 ⊖ 2NC	FR 907 ⊖ 2NC
16	LI				
Max speed		page 113 - type 4	page 113 - type 3	page 113 - type 3	page 113 - type 3
Min. force		8 N (25 N ⊖)	6 N (25 N ⊖)	6 N (25 N ⊖)	4 N (25 N ⊖)
Travel diagrams		page 114 - group 1a	page 114 - group 2a	page 114 - group 2a	page 114 - group 3a

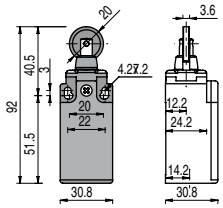


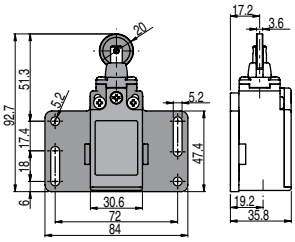


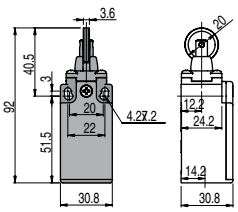


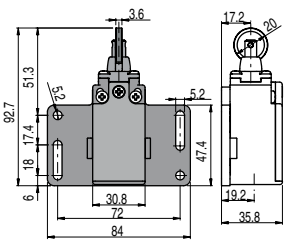


Contact blocks					
6	L	FR 615 ⊖ 1NO+1NC	FR 615-P11 ⊖ 1NO+1NC	FR 615-H0 ⊖ 1NO+1NC	FR 615-H0P11 ⊖ 1NO+1NC
7	LO	FR 715 ⊖ 1NO+1NC	FR 715-P11 ⊖ 1NO+1NC	FR 715-H0 ⊖ 1NO+1NC	FR 715-H0P11 ⊖ 1NO+1NC
9	L	FR 915 ⊖ 2NC	FR 915-P11 ⊖ 2NC	FR 915-H0 ⊖ 2NC	FR 915-H0P11 ⊖ 2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)
Travel diagrams		page 114 - group 1a	page 114 - group 1a	page 114 - group 1a	page 114 - group 1a









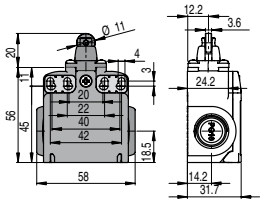
Contact blocks					
6	L	FR 616 ⊖ 1NO+1NC	FR 616-P11 ⊖ 1NO+1NC	FR 616-H0 ⊖ 1NO+1NC	FR 616-H0P11 ⊖ 1NO+1NC
7	LO	FR 716 ⊖ 1NO+1NC	FR 716-P11 ⊖ 1NO+1NC	FR 716-H0 ⊖ 1NO+1NC	FR 716-H0P11 ⊖ 1NO+1NC
9	L	FR 916 ⊖ 2NC	FR 916-P11 ⊖ 2NC	FR 916-H0 ⊖ 2NC	FR 916-H0P11 ⊖ 2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)
Travel diagrams		page 114 - group 1a	page 114 - group 1a	page 114 - group 1a	page 114 - group 1a

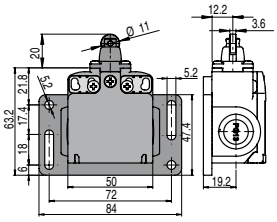
Accessories See page 109

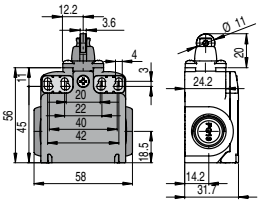
All measures in the drawings are in mm

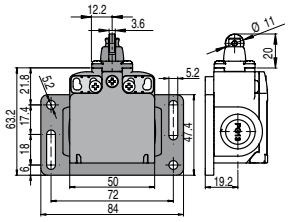
Contacts type:

L = slow action
LO = slow action overlapped
LI = slow action independent

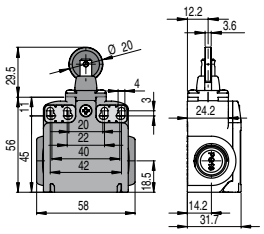


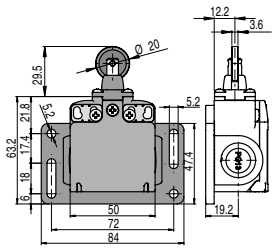


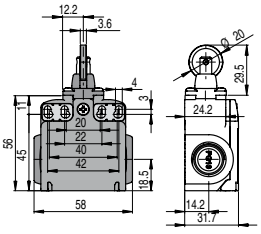


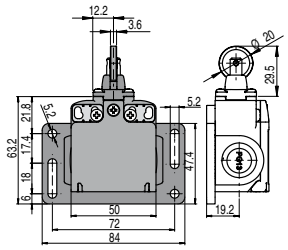


Contact blocks					
6	L	FX 615 → 1NO+1NC	FX 615-P31 → 1NO+1NC	FX 615-H0 → 1NO+1NC	FX 615-H0P31 → 1NO+1NC
7	LO	FX 715 → 1NO+1NC	FX 715-P31 → 1NO+1NC	FX 715-H0 → 1NO+1NC	FX 715-H0P31 → 1NO+1NC
9	L	FX 915 → 2NC	FX 915-P31 → 2NC	FX 915-H0 → 2NC	FX 915-H0P31 → 2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams		page 114 - group 1a	page 114 - group 1a	page 114 - group 1a	page 114 - group 1a

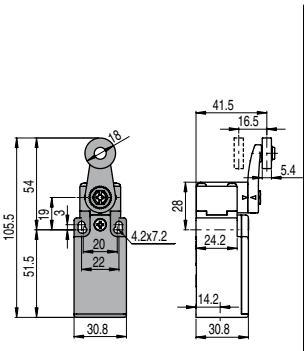


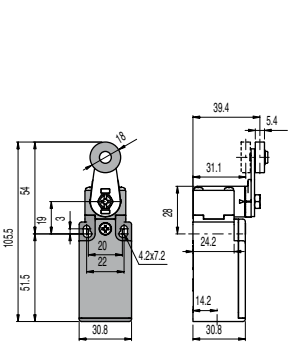


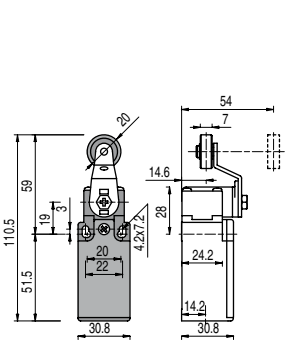


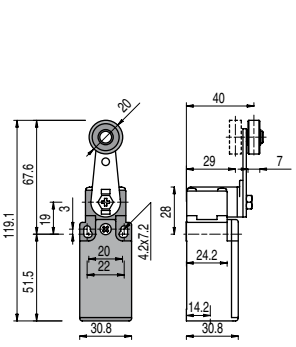


Contact blocks					
6	L	FX 616 → 1NO+1NC	FX 616-P31 → 1NO+1NC	FX 616-H0 → 1NO+1NC	FX 616-H0P31 → 1NO+1NC
7	LO	FX 716 → 1NO+1NC	FX 716-P31 → 1NO+1NC	FX 716-H0 → 1NO+1NC	FX 716-H0P31 → 1NO+1NC
9	L	FX 916 → 2NC	FX 916-P31 → 2NC	FX 916-H0 → 2NC	FX 916-H0P31 → 2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams		page 114 - group 1a	page 114 - group 1a	page 114 - group 1a	page 114 - group 1a









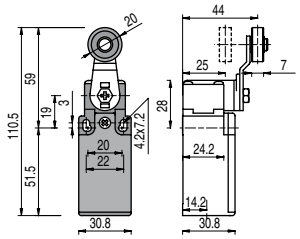
Contact blocks					
6	L	FR 630 → 1NO+1NC	FR 631 → 1NO+1NC	FR 651 → 1NO+1NC	FR 652 → 1NO+1NC
7	LO	FR 730 → 1NO+1NC	FR 731 → 1NO+1NC	FR 751 → 1NO+1NC	FR 752 → 1NO+1NC
9	L	FR 930 → 2NC	FR 931 → 2NC	FR 951 → 2NC	FR 952 → 2NC
16	LI	FR 1630 → 2NC	FR 1631 → 2NC	FR 1651 → 2NC	FR 1652 → 2NC
Max speed		page 113 - type 1	page 113 - type 1	page 113 - type 1	page 113 - type 1
Min. force		0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)
Travel diagrams		page 114 - group 4a	page 114 - group 4a	page 114 - group 4a	page 114 - group 4a

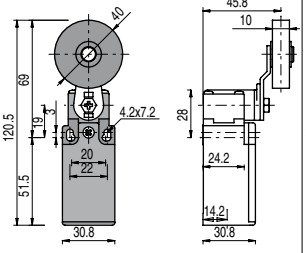
Items with code on the **green** background are available in stock

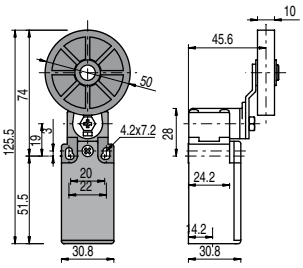
Position switches - **FR, FX series**

Contacts type:

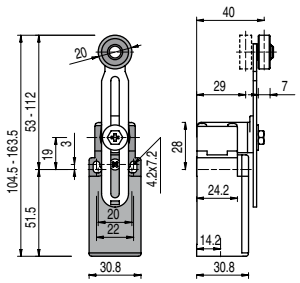
L = slow action
LO = slow action overlapped
LI = slow action independent

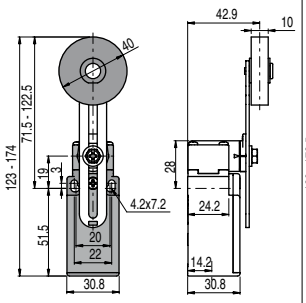


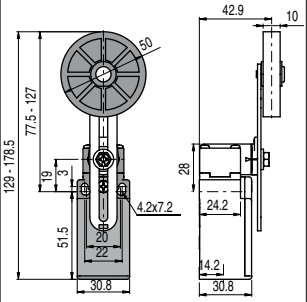


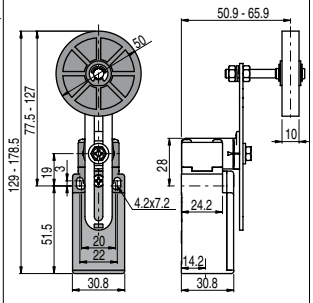


Contact blocks							
6	L	FR 654	1NO+1NC	FR 654-R5	1NO+1NC	FR 654-3	1NO+1NC
7	LO	FR 754	1NO+1NC	FR 754-R5	1NO+1NC	FR 754-3	1NO+1NC
9	L	FR 954	2NC	FR 954-R5	2NC	FR 954-3	2NC
16	LI	FR 1654	2NC	FR 1654-R5	2NC	FR 1654-3	2NC
Max speed		page 113 - type 1		page 113 - type 1		page 113 - type 1	
Min. force		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)	
Travel diagrams		page 114 - group 4a		page 114 - group 4a		page 114 - group 4a	

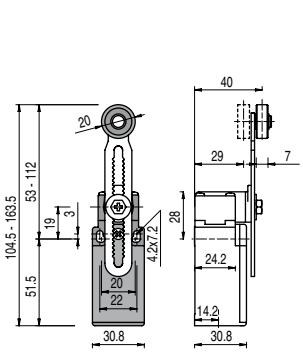


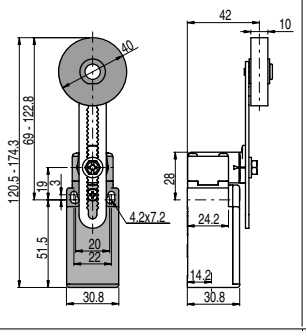


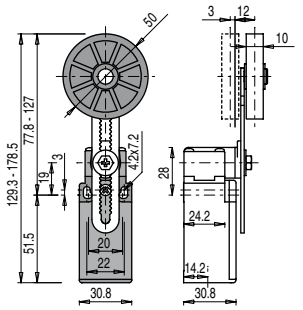


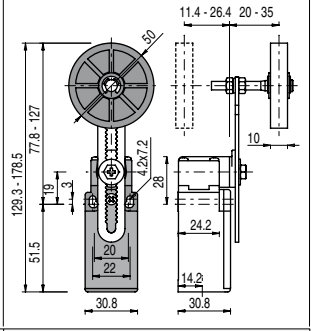


Contact blocks									
6	L	FR 655	(1) 1NO+1NC	FR 655-R5	(1) 1NO+1NC	FR 655-3	(1) 1NO+1NC	FR 655-4	(1) 1NO+1NC
7	LO	FR 755	(1) 1NO+1NC	FR 755-R5	(1) 1NO+1NC	FR 755-3	(1) 1NO+1NC	FR 755-4	(1) 1NO+1NC
9	L	FR 955	(1) 2NC	FR 955-R5	(1) 2NC	FR 955-3	(1) 2NC	FR 955-4	(1) 2NC
16	LI	FR 1655	(1) 2NC	FR 1655-R5	(1) 2NC	FR 1655-3	(1) 2NC	FR 1655-4	(1) 2NC
Max speed		page 113 - type 1		page 113 - type 1		page 113 - type 1		page 113 - type 1	
Min. force		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)	
Travel diagrams		page 114 - group 4a		page 114 - group 4a		page 114 - group 4a		page 114 - group 4a	









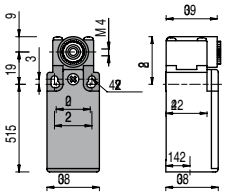
Contact blocks									
6	L	FR 656	1NO+1NC	FR 656-R5	1NO+1NC	FR 656-3	1NO+1NC	FR 656-4	1NO+1NC
7	LO	FR 756	1NO+1NC	FR 756-R5	1NO+1NC	FR 756-3	1NO+1NC	FR 756-4	1NO+1NC
9	L	FR 956	2NC	FR 956-R5	2NC	FR 956-3	2NC	FR 956-4	2NC
16	LI	FR 1656	2NC	FR 1656-R5	2NC	FR 1656-3	2NC	FR 1656-4	2NC
Max speed		page 113 - type 1		page 113 - type 1		page 113 - type 1		page 113 - type 1	
Min. force		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)	
Travel diagrams		page 114 - group 4a		page 114 - group 4a		page 114 - group 4a		page 114 - group 4a	

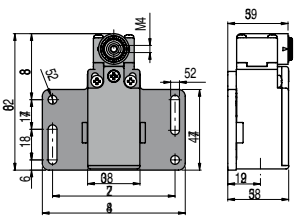
Accessories See page 109

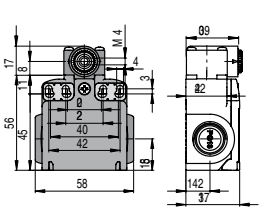
(1) Positive opening only with lever adjusted on the max.

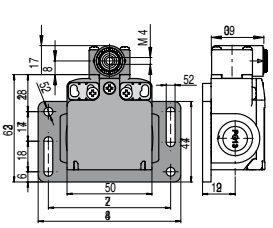
Contacts type:

L = slow action
LO = slow action overlapped
LI = slow action independent









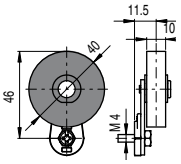
Contact blocks					
6	L	FR 638 → 1NO+1NC	FR 638-P11 → 1NO+1NC	FX 638 → 1NO+1NC	FX 638-P31 → 1NO+1NC
7	LO	FR 738 → 1NO+1NC	FR 738-P11 → 1NO+1NC	FX 738 → 1NO+1NC	FX 738-P31 → 1NO+1NC
9	L	FR 938 → 2NC	FR 938-P11 → 2NC	FX 938 → 2NC	FX 938-P31 → 2NC
16	LI	FR 1638 → 2NC	FR 1638-P11 → 2NC	FX 1638 → 2NC	FX 1638-P31 → 2NC
Max speed		page 113 - type 1	page 113 - type 1	page 113 - type 1	page 113 - type 1
Min. force		0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)
Travel diagrams		page 114 - group 4a	page 114 - group 4a	page 114 - group 4a	page 114 - group 4a

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

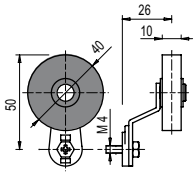
Special loose actuators

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

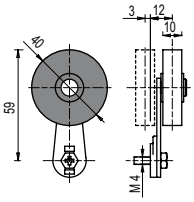
Ø 40 mm rubber rollers



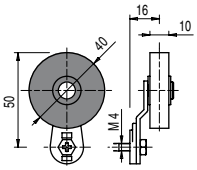
VF LE31-R5 → (4)



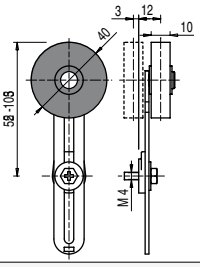
VF LE51-R5 → (4)



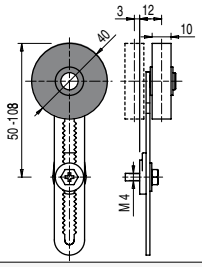
VF LE52-R5 →



VF LE54-R5 → (4)

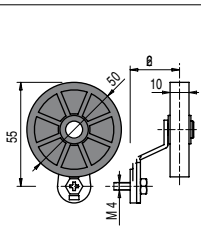


VF LE55-R5 → (1)

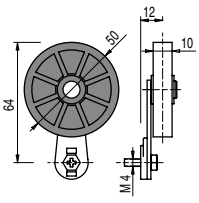


VF LE56-R5 →

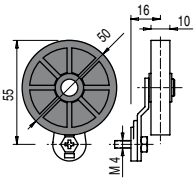
Ø 50 mm rubber rollers



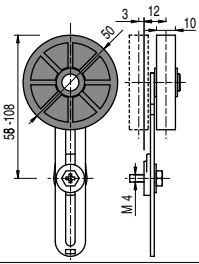
VF LE51-3 → (4)



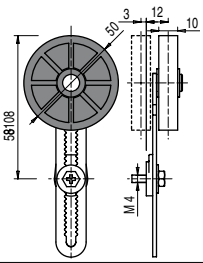
VF LE52-3 → (4)



VF LE54-3 → (4)

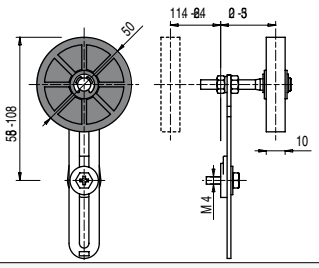


VF LE55-3 → (1)

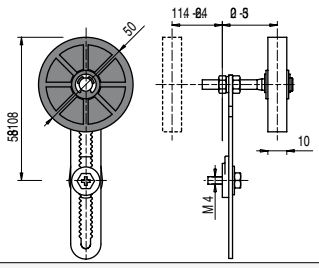


VF LE56-3 →

Ø 50 mm overhanging rubber rollers

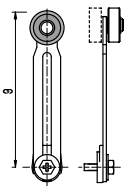


VF LE55-4 → (1)



VF LE56-4 →

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

→ 2D and 3D files available on **www.pizzato.com**

Selection diagram

01 **02** **05** **15**

stainless steel roller lever
external rubber gasket

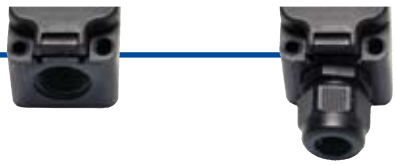
51 **52** **31** **31-R5** Ø 40 mm rubber roller **31-3** Ø 50 mm rubber roller

ACTUATORS

CONTACT BLOCKS

6 1NO+1NC slow action
7 1NO+1NC slow action overlapped
9 2NC slow action
16 2NC slow action independent

CONDUIT ENTRY

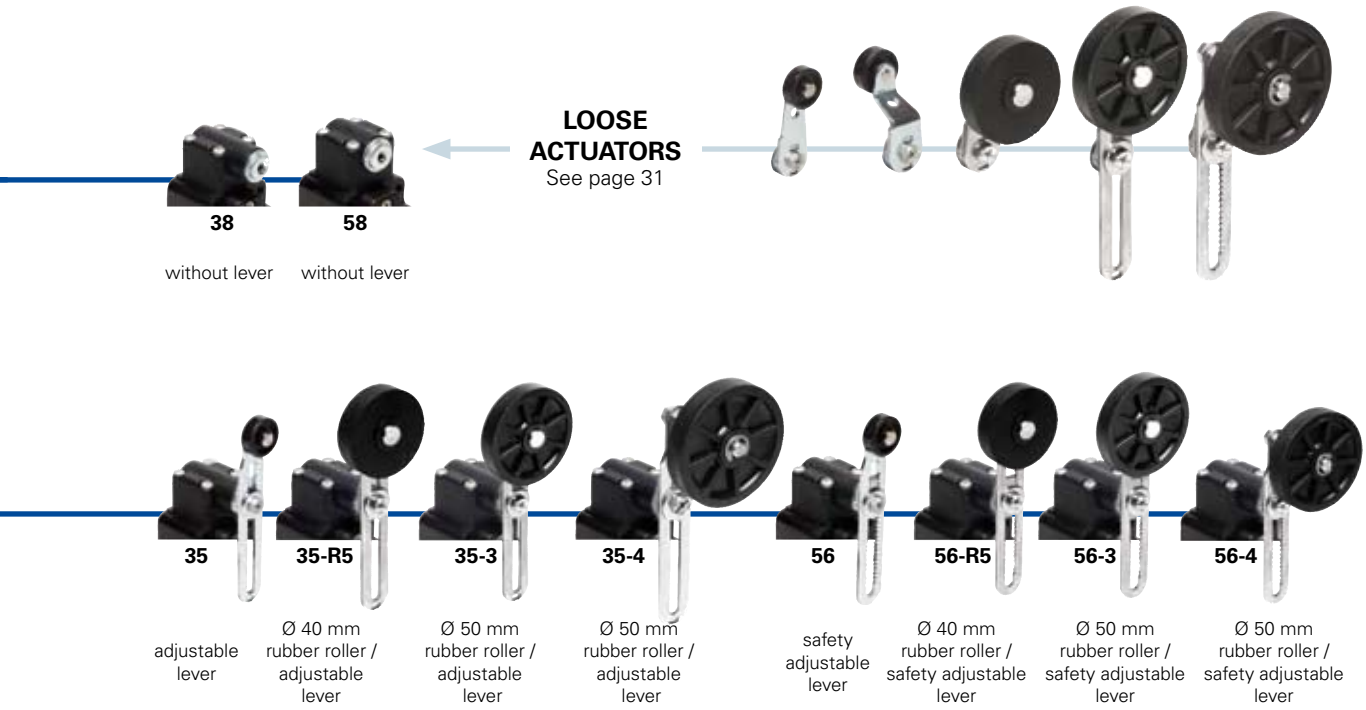


THREADED CONDUIT ENTRY

WITH PRE-INSTALLED CABLE GLAND

Versions with pre-installed cable glands or connectors available. For further information please contact the technical office

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.

article | options

FP 631-3GM2 ___

Housing	
FP	polymer housing, one conduit entry

Contact blocks	
6	1NO+1NC, slow action
7	1NO+1NC, slow action overlapped
9	2NC, slow action
16	2NC, slow action indipendent

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

Ø 40 mm rubber roller	
	no roller (standard)
R5	with Ø 40 mm rubber roller

Threaded conduit entry	
	PG 13,5 (standard)
M2	M20x1,5

Contacts type	
	silver contacts (standard)
G	silver contacts gold plated 1 µm

Suffix	
	no suffix (standard)
3	with Ø 50 mm rubber roller
4	with Ø 50 mm overhanging rubber roller

Position switches - **FP series**

Main data

- Polymer housing, one conduit entry
- Protection degree IP67
- External stainless steel parts versions
- M12 assembled connector versions
- Silver contacts gold plated versions

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
One threaded conduit entry
Protection degree: IP67 according to EN 60529

General data

Ambient temperature: -25°C ... +80°C
Version for operation in ambient temperature from -R270°C to +80° C on request
Max operating frequency: 3600 operations cycles[1]/hour
Mechanical endurance: 20 million operations cycles[1]
Assembling position: any
Driving torque for installation: see page 115
(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 6, 7, 9, 16:	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 50041, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-1, EN 81-2, NFC 63-140, VDE 0660-200, VDE 0113.
Approvals:
IEC 60947-5-1, UL 508, GB14048.5-2001

Markings and quality marks:

AB24

Approval IMQ: EG606
Approval UL: E131787
Approval CCC: 2007010305230014
Approval EZU: 1010151
Approval GOST: POCC IT.AB24.B04512

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

Installation for safety applications:
Use only switches marked with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-R262) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 116. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}):	6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 Vac
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Rated impulse withstand voltage (Uimp): 6 kV
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 Vac (50 Hz)
Operation current (Ie): 3 A
Forms of the contact element: Zb, Y+Y
Positive opening of contacts on contact block 6, 7, 9, 16

In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

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

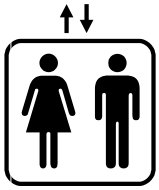
Data type approved by UL

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

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

EN 81 standard



On the following pages a selection of Pizzato Elettrica products which are used typically in the lift sector and in accordance with the standard EN81 is introduced.

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 L56

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.

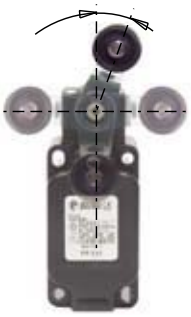
Extended temperature range

-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

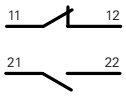
In all switches, it is possible to rotate the head in 90° steps.

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.

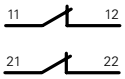
Lever turned to left

Contacts diagram



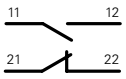
Lever not turned

Contacts diagram



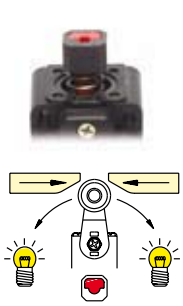
Lever turned to right

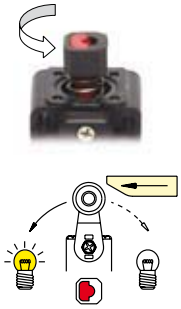
Contacts diagram

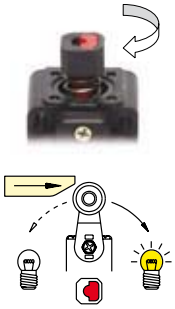


Unidirectional heads

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).



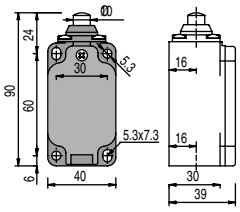


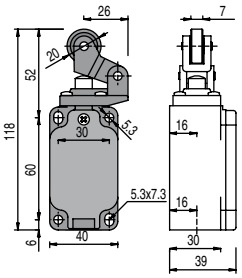


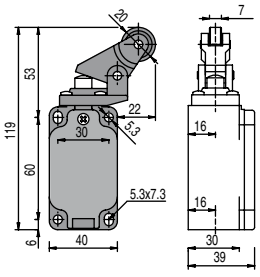
Position switches - **FP series**

Contacts type:

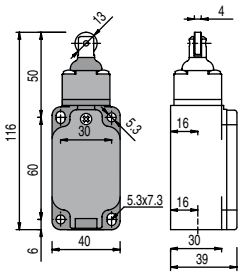
L = slow action
LO = slow action overlapped
LI = slow action independent



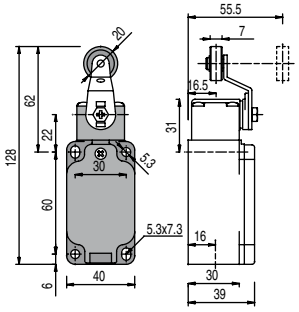


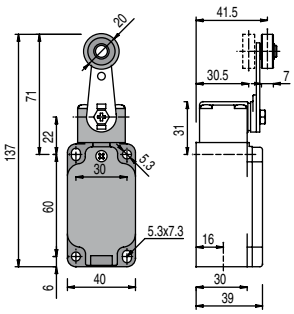


With external rubber gasket



Contact blocks							
6	L	FP 601	1NO+1NC	FP 602	1NO+1NC	FP 605	1NO+1NC	FP 615	1NO+1NC
7	LO	FP 701	1NO+1NC	FP 702	1NO+1NC	FP 705	1NO+1NC	FP 715	1NO+1NC
9	L	FP 901	2NC	FP 902	2NC	FP 905	2NC	FP 915	2NC
16	LI								
Max speed		page 115 - type 4		page 115 - type 3		page 115 - type 3		page 115 - type 2	
Min. force		8 N (25 N →)		6 N (25 N →)		6 N (25 N →)		11 N (25 N →)	
Travel diagrams		page 116 - group 1b		page 116 - group 2b		page 116 - group 2b		page 116 - group 1b	





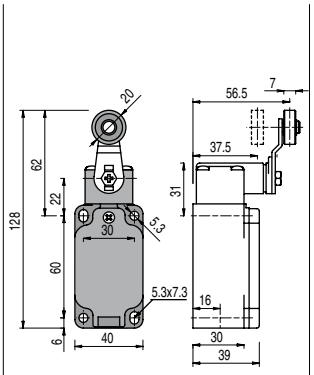
Contact blocks							
6	L	FP 651	1NO+1NC	FP 652	1NO+1NC		
7	LO	FP 751	1NO+1NC	FP 752	1NO+1NC		
9	L	FP 951	2NC	FP 952	2NC		
16	LI						
Max speed		page 115 - type 1		page 115 - type 1			
Min. force		0,06 Nm (0,25 Nm →)		0,06 Nm (0,25 Nm →)			
Travel diagrams		page 116 - group 3b		page 116 - group 3b			

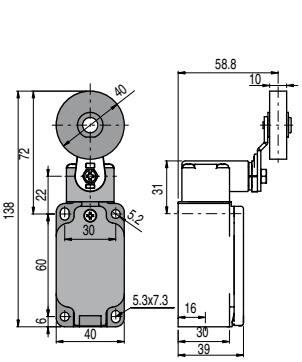
Accessories See page 109

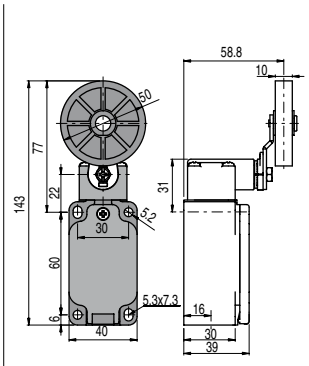
All measures in the drawings are in mm

Contacts type:

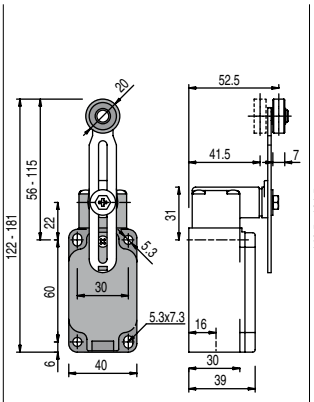
L = slow action
LO = slow action overlapped
LI = slow action independent

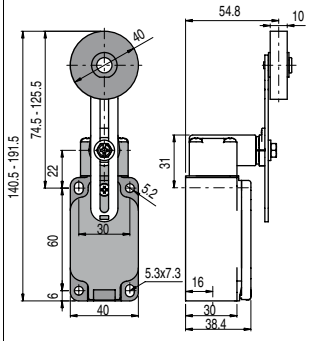


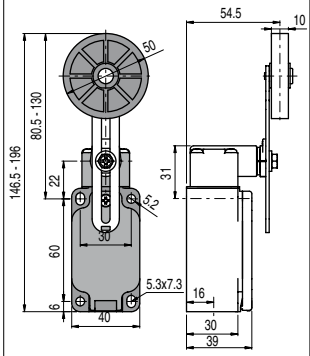


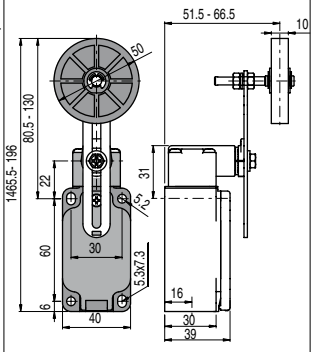


Contact blocks					
6	L	FP 631 ⇒ 1NO+1NC	FP 631-R5 ⇒ 1NO+1NC	FP 631-3 ⇒ 1NO+1NC	
7	LO	FP 731 ⇒ 1NO+1NC	FP 731-R5 ⇒ 1NO+1NC	FP 731-3 ⇒ 1NO+1NC	
9	L	FP 931 ⇒ 2NC	FP 931-R5 ⇒ 2NC	FP 931-3 ⇒ 2NC	
16	LI	FP 1631 ⇒ 2NC	FP 1631-R5 ⇒ 2NC	FP 1631-3 ⇒ 2NC	
Max speed		page 115 - type 1	page 115 - type 1	page 115 - type 1	
Min. force		0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)	
Travel diagrams		page 116 - group 3b	page 116 - group 3b	page 116 - group 3b	

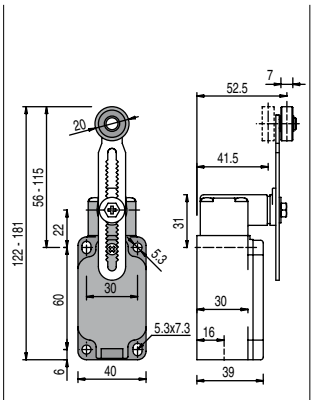


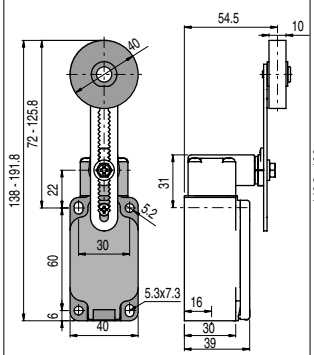


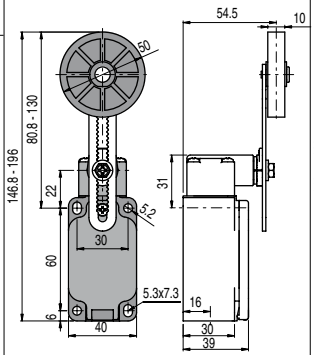


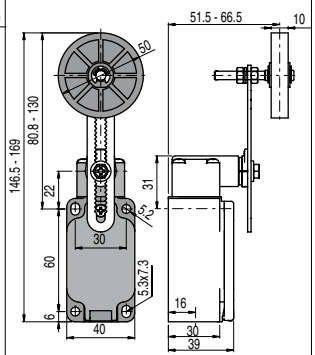


Contact blocks					
6	L	FP 635 ⇒ (1) 1NO+1NC	FP 635-R5 ⇒ (1) 1NO+1NC	FP 635-3 ⇒ (1) 1NO+1NC	FP 635-4 ⇒ (1) 1NO+1NC
7	LO	FP 735 ⇒ (1) 1NO+1NC	FP 735-R5 ⇒ (1) 1NO+1NC	FP 735-3 ⇒ (1) 1NO+1NC	FP 735-4 ⇒ (1) 1NO+1NC
9	L	FP 935 ⇒ (1) 2NC	FP 935-R5 ⇒ (1) 2NC	FP 935-3 ⇒ (1) 2NC	FP 935-4 ⇒ (1) 2NC
16	LI	FP 1635 ⇒ (1) 2NC	FP 1635-R5 ⇒ (1) 2NC	FP 1635-3 ⇒ (1) 2NC	FP 1635-4 ⇒ (1) 2NC
Max speed		page 115 - type 1	page 115 - type 1	page 115 - type 1	page 115 - type 1
Min. force		0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)
Travel diagrams		page 116 - group 3b	page 116 - group 3b	page 116 - group 3b	page 116 - group 3b









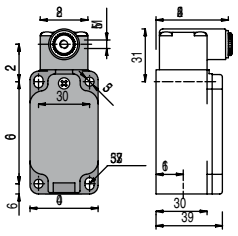
Contact blocks					
6	L	FP 656 ⇒ 1NO+1NC	FP 656-R5 ⇒ 1NO+1NC	FP 656-3 ⇒ 1NO+1NC	FP 656-4 ⇒ 1NO+1NC
7	LO	FP 756 ⇒ 1NO+1NC	FP 756-R5 ⇒ 1NO+1NC	FP 756-3 ⇒ 1NO+1NC	FP 756-4 ⇒ 1NO+1NC
9	L	FP 956 ⇒ 2NC	FP 956-R5 ⇒ 2NC	FP 956-3 ⇒ 2NC	FP 956-4 ⇒ 2NC
16	LI	FP 1656 ⇒ 2NC	FP 1656-R5 ⇒ 2NC	FP 1656-3 ⇒ 2NC	FP 1656-4 ⇒ 2NC
Max speed		page 115 - type 1	page 115 - type 1	page 115 - type 1	page 115 - type 1
Min. force		0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)	0,1 Nm (0,25 Nm ⇒)
Travel diagrams		page 116 - group 3b	page 116 - group 3b	page 116 - group 3b	page 116 - group 3b

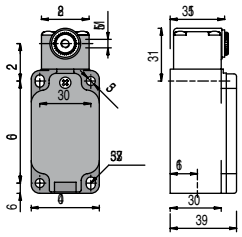
Items with code on the **green** background are available in stock

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

Contacts type:

L = slow action
LO = slow action overlapped
LI = slow action independent





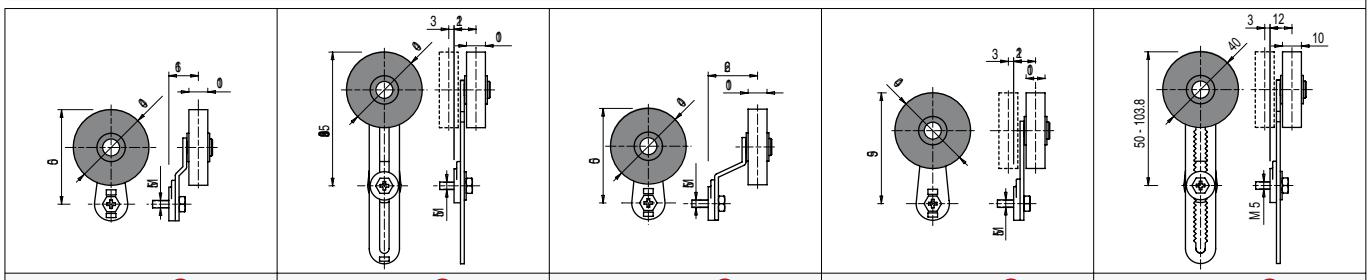
Contact blocks					
6	L	FP 638	1NO+1NC	FP 658	1NO+1NC
7	LO	FP 738	1NO+1NC	FP 758	1NO+1NC
9	L	FP 938	2NC	FP 958	2NC
16	LI	FP 1638	2NC		
Max speed		page 115 - type 1		page 115 - type 1	
Min. force		0,1 Nm (0,25 Nm ⊖)		0,06 Nm (0,25 Nm ⊖)	
Travel diagrams		page 116 - group 3b		page 116 - group 3b	

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

Special loose actuators

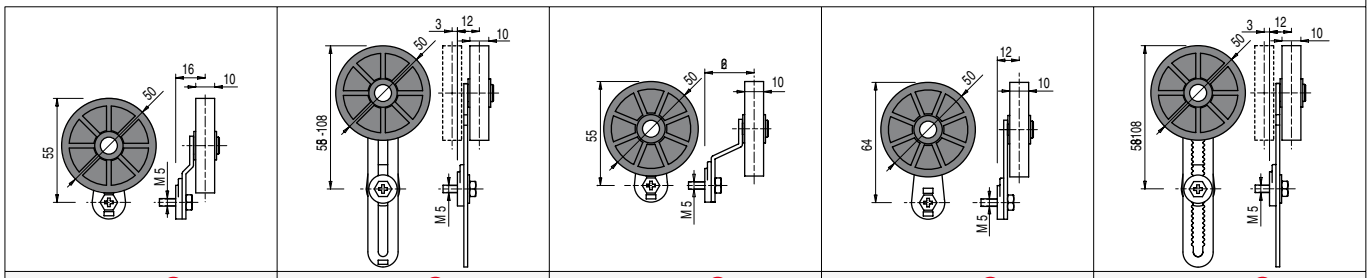
IMPORTANT: These loose actuators can be used with items of series FD, FP, FL, FC only.

Ø 40 mm rubber rollers



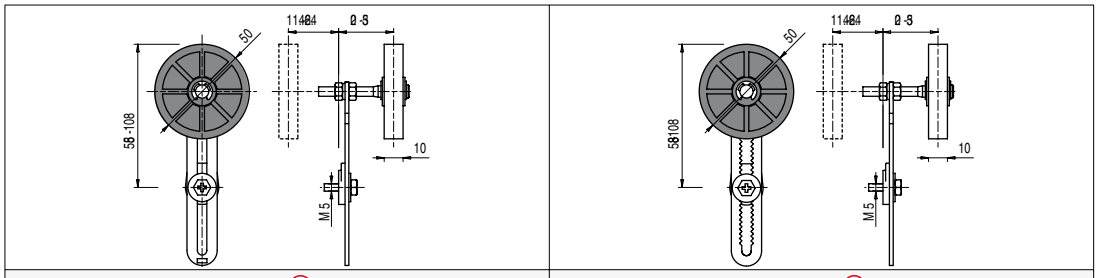
VF L31-R5 ⊖ (4) | VF L35-R5 ⊖ (1) (3) | VF L51-R5 ⊖ (4) | VF L52-R5 ⊖ | VF L56-R5 ⊖ (3)

Ø 50 mm rubber rollers

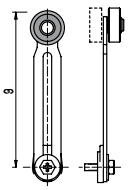


VF L31-3 ⊖ (4) | VF L35-3 ⊖ (1) (3) | VF L51-3 ⊖ (4) | VF L52-3 ⊖ (4) | VF L56-3 ⊖ (3)

Ø 50 mm overhanging rubber rollers



VF L35-4 ⊖ (1) (3) | VF L56-4 ⊖ (3)



- Only orders for multiple quantities of the packs are accepted.
- (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.

Accessories See page 109

Notes

Selection diagram

ACTUATORS

FR **FX**

CONTACT BLOCKS

6 1NO+1NC slow action

9 2NC slow action

20 1NO+2NC slow action

PLATES

P12	Fixing plate (FR series)
P32	Fixing plate (FX series)

CONDUIT ENTRY

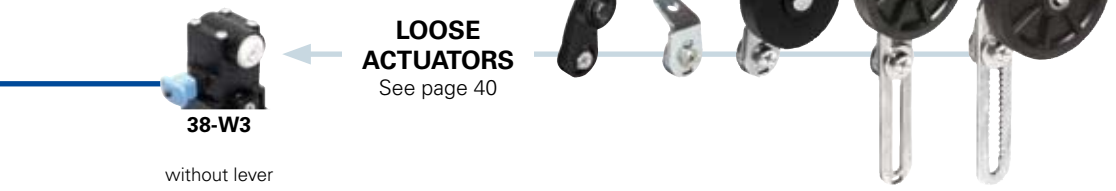
THREADED CONDUIT ENTRY

WITH PRE-INSTALLED CABLE GLAND

Versions with pre-installed cable glands or connectors available. For further information please contact the technical office

product option

accessory sold separately



38-W3

without lever

LOOSE ACTUATORS

See page 40

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

FR 654-3W3GM2P12

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

Contact blocks	
6	1NO+1NC, slow action
9	2NC, slow action
20	1NO+2NC, slow action

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

Suffix	
	no suffix (standard)
3	with Ø 50 mm rubber roller
4	with Ø 50 mm overhanging rubber roller

Reset hooking	
W3	simultaneous reset (standard)
W4	simultaneous reset with increased force

Contacts type	
	silver contacts (standard)
G	silver contacts gold plated 1 µm

Threaded conduit entry	
	PG 13,5 (standard)
A	PG 11
M1	M16x1,5
M2	M20x1,5

Fixing plate	
	without fixing plate (standard)
P12	supplied with fixing plate VF SFP1
P32	supplied with fixing plate VF SFP3

Ø 40 mm rubber roller	
	no roller (standard)
R5	with Ø 40 mm rubber roller

Switches with **manual reset**

Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- External stainless steel parts versions
- M12 assembled connector versions
- Silver contacts gold plated versions

Markings and quality marks:

Approval IMQ:	EG610
Approval UL:	E131787
Approval CCC:	2007010305230013
Approval EZU:	1010151
Approval GOST:	POCC IT.AB24.B04512

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
FR series one threaded conduit entry
FX series two threaded conduit entries

Protection degree:	IP67 according to EN 60529

General data

Ambient temperature:	-25°C ... +80°C

Version for operation in ambient temperature from -R270°C to +80° C on request

Max operating frequency:	3600 operations cycles[1]/hour
Mechanical endurance:	20 million operations cycles[1]
Assembling position:	any
Driving torque for installation:	see page 113

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 6, 9, 20:	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 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-1, EN 81-2, NFC 63-140, VDE 0660-200, VDE 0113.
Approvals:
IEC 60947-5-1, UL 508, GB14048.5-2001

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

Installation for safety applications:
Use only switches marked with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-R262) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 114. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 Vac 600 Vdc 400 Vac for contacts block 20
Rated impulse withstand voltage (U_{imp}):	6 kV 4 kV for contact blocks 20
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 Vac
400 Vac for contacts block 20
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Rated impulse withstand voltage (Uimp): 6 kV
4 kV for contacts block 20
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 Vac (50 Hz)
Operation current (Ie): 3 A
Forms of the contact element: 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+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

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).

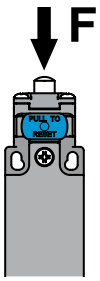
In conformity with standard: UL 508

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

W3 simultaneous reset devices

Pizzato Elettrica has developed and patented an innovative reset device that can be applied on the overwhelming majority of position switches.
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.
Moreover, the new 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.

Increased actuating force



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

Protection degree IP 67

IP67

These series switches are all IP 67 rated.

Safety lever LE56

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

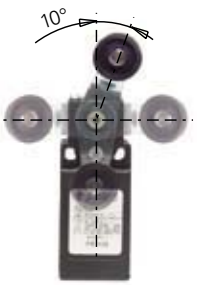
Switches with conduit entries in several directions are available, for applications also in restricted spaces.

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.

Extended temperature range

-40°C

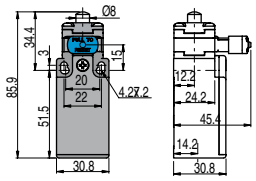
This range of switches is also available in a special version with an ambient operating temperature range of -40°C to +80°C. This is particularly useful for applications in cold stores, sterilisers and other low temperature environments. The materials used in the production of these switches maintain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

Switches with **manual reset**

Contacts type:

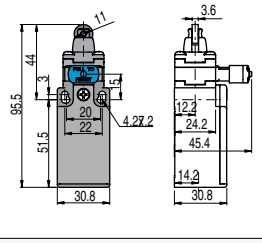
L = slow action

Contact blocks



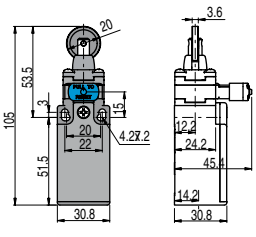
6	L	FR 601-W3 ⊖ 1NO+1NC	FR 602-W3 ⊖ 1NO+1NC	FR 605-W3 ⊖ 1NO+1NC	FR 607-W3 ⊖ 1NO+1NC
7	LO	FR 901-W3 ⊖ 2NC	FR 902-W3 ⊖ 2NC	FR 905-W3 ⊖ 2NC	FR 907-W3 ⊖ 2NC
9	L	FR 2001-W3 ⊖ 1NO+2NC	FR 2002-W3 ⊖ 1NO+2NC	FR 2005-W3 ⊖ 1NO+2NC	FR 2007-W3 ⊖ 1NO+2NC
16	LI				
Max speed		page 113 - type 4	page 113 - type 3	page 113 - type 3	page 113 - type 3
Min. force		8 N (25 N ⊖)	6 N (25 N ⊖)	6 N (25 N ⊖)	4 N (25 N ⊖)
Travel diagrams		page 114 - group 1c	page 114 - group 2c	page 114 - group 2c	page 114 - group 3c

Contact blocks



6	L	FR 615-W3 ⊖ 1NO+1NC	FR 615-W3P12 ⊖ 1NO+1NC	FR 615-W3H0 ⊖ 1NO+1NC	FR 615-W3H0P12 ⊖ 1NO+1NC
7	LO	FR 915-W3 ⊖ 2NC	FR 915-W3P12 ⊖ 2NC	FR 915-W3H0 ⊖ 2NC	FR 915-W3H0P12 ⊖ 2NC
9	L	FR 2015-W3 ⊖ 1NO+2NC	FR 2015-W3P12 ⊖ 1NO+2NC	FR 2015-W3H0 ⊖ 1NO+2NC	FR 2015-W3H0P12 ⊖ 1NO+2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)
Travel diagrams		page 114 - group 1c	page 114 - group 1c	page 114 - group 1c	page 114 - group 1c

Contact blocks



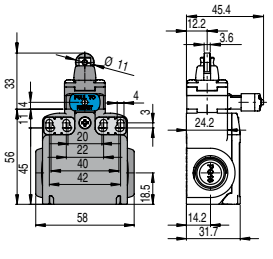
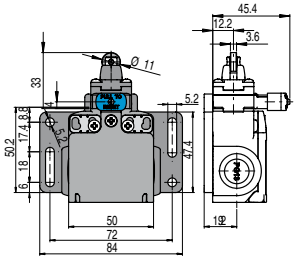
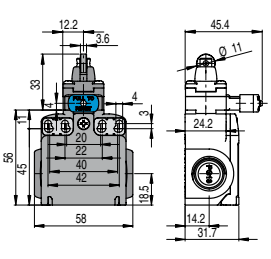
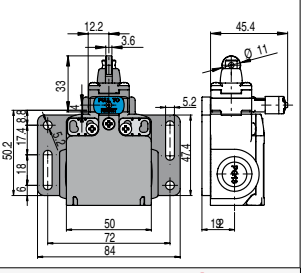
6	L	FR 616-W3 ⊖ 1NO+1NC	FR 616-W3P12 ⊖ 1NO+1NC	FR 616-W3H0 ⊖ 1NO+1NC	FR 616-W3H0P12 ⊖ 1NO+1NC
7	LO	FR 916-W3 ⊖ 2NC	FR 916-W3P12 ⊖ 2NC	FR 916-W3H0 ⊖ 2NC	FR 916-W3H0P12 ⊖ 2NC
9	L	FR 2016-W3 ⊖ 1NO+2NC	FR 2016-W3P12 ⊖ 1NO+2NC	FR 2016-W3H0 ⊖ 1NO+2NC	FR 2016-W3H0P12 ⊖ 1NO+2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)	8 N (25 N ⊖)
Travel diagrams		page 114 - group 1c	page 114 - group 1c	page 114 - group 1c	page 114 - group 1c

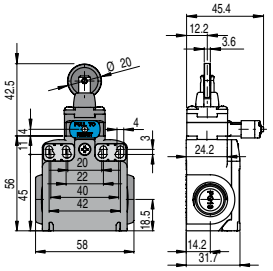
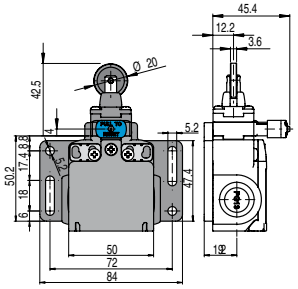
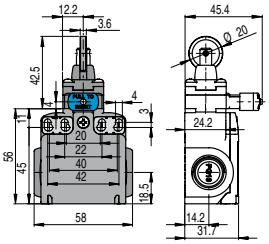
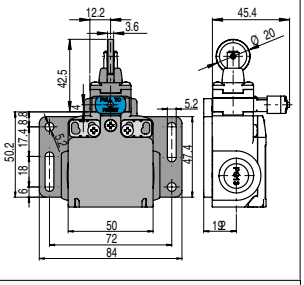
Accessories See page 109

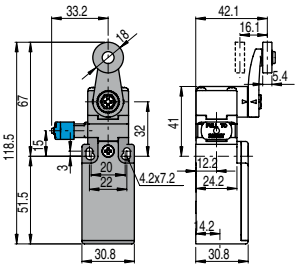
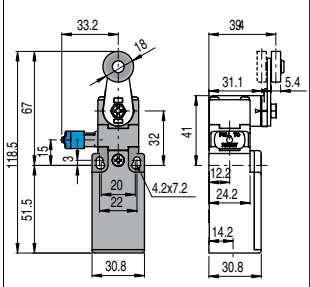
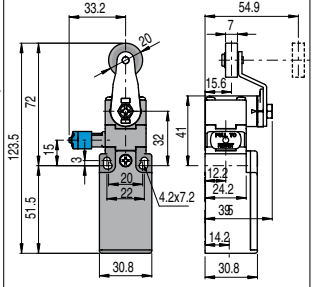
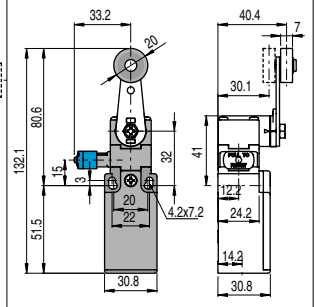
All measures in the drawings are in mm

Contacts type:

L = slow action

Contact blocks					
					
6	L	FX 615-W3 → 1NO+1NC	FX 615-W3P32 → 1NO+1NC	FX 615-W3H0 → 1NO+1NC	FX 615-W3H0P32 → 1NO+1NC
7	LO	FX 915-W3 → 2NC	FX 915-W3P32 → 2NC	FX 915-W3H0 → 2NC	FX 915-W3H0P32 → 2NC
9	L	FX 2015-W3 → 1NO+2NC	FX 2015-W3P32 → 1NO+2NC	FX 2015-W3H0 → 1NO+2NC	FX 2015-W3H0P32 → 1NO+2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams		page 114 - group 1c	page 114 - group 1c	page 114 - group 1c	page 114 - group 1c

Contact blocks					
					
6	L	FX 616-W3 → 1NO+1NC	FX 616-W3P32 → 1NO+1NC	FX 616-W3H0 → 1NO+1NC	FX 616-W3H0P32 → 1NO+1NC
7	LO	FX 916-W3 → 2NC	FX 916-W3P32 → 2NC	FX 916-W3H0 → 2NC	FX 916-W3H0P32 → 2NC
9	L	FX 2016-W3 → 1NO+2NC	FX 2016-W3P32 → 1NO+2NC	FX 2016-W3H0 → 1NO+2NC	FX 2016-W3H0P32 → 1NO+2NC
16	LI				
Max speed		page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force		8 N (25 N →)	8 N (25 N →)	8 N (25 N →)	8 N (25 N →)
Travel diagrams		page 114 - group 1c	page 114 - group 1c	page 114 - group 1c	page 114 - group 1c

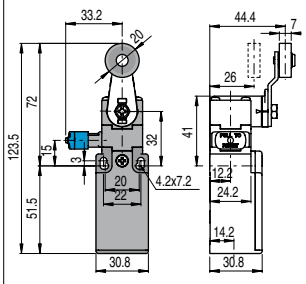
Contact blocks					
					
6	L	FR 630-W3 → 1NO+1NC	FR 631-W3 → 1NO+1NC	FR 651-W3 → 1NO+1NC	FR 652-W3 → 1NO+1NC
7	LO	FR 930-W3 → 2NC	FR 931-W3 → 2NC	FR 951-W3 → 2NC	FR 952-W3 → 2NC
9	L	FR 2030-W3 → 1NO+2NC	FR 2031-W3 → 1NO+2NC	FR 2051-W3 → 1NO+2NC	FR 2052-W3 → 1NO+2NC
16	LI				
Max speed		page 113 - type 1	page 113 - type 1	page 113 - type 1	page 113 - type 1
Min. force		0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)	0,06 Nm (0,25 Nm →)
Travel diagrams		page 114 - group 4c	page 114 - group 4c	page 114 - group 4c	page 114 - group 4c

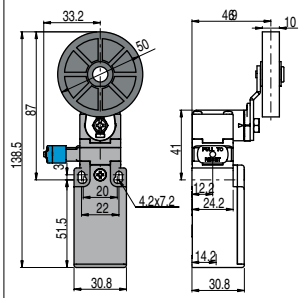
Items with code on the **green** background are available in stock

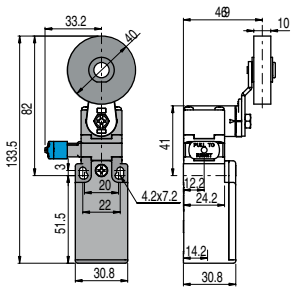
Switches with **manual reset**

Contacts type:

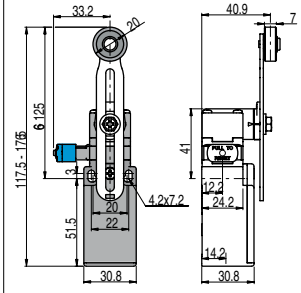
L = slow action

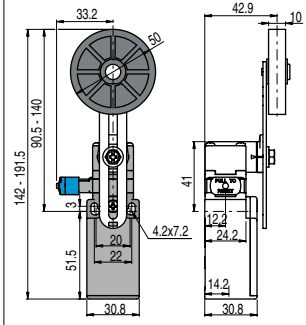


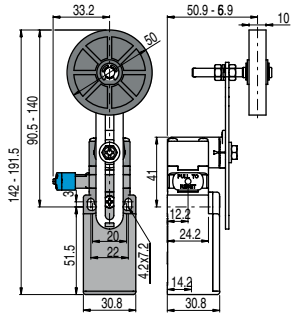


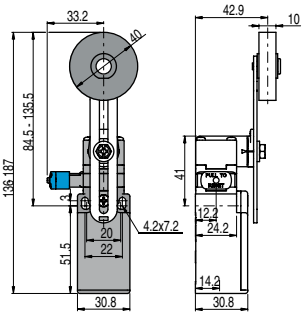


Contact blocks								
6	L	FR 654-W3	1NO+1NC	FR 654-3W3	1NO+1NC	FR 654-R5W3	1NO+1NC	
7	LO	FR 954-W3	2NC	FR 954-3W3	2NC	FR 954-R5W3	2NC	
9	L	FR 2054-W3	1NO+2NC	FR 2054-3W3	1NO+2NC	FR 2054-R5W3	1NO+2NC	
16	LI							
Max speed		page 113 - type 1		page 113 - type 1		page 113 - type 1		
Min. force		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		
Travel diagrams		page 114 - group 4c		page 114 - group 4c		page 114 - group 4c		

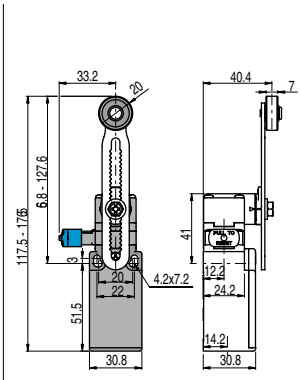


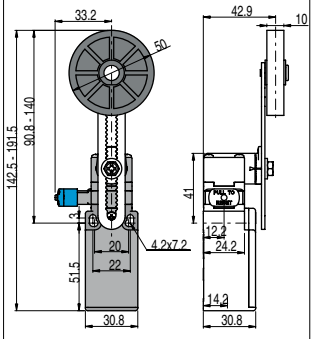


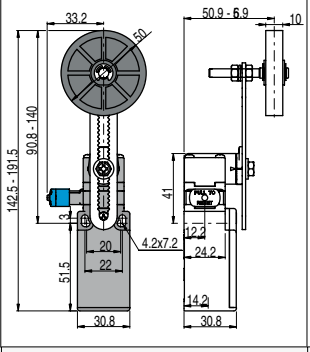


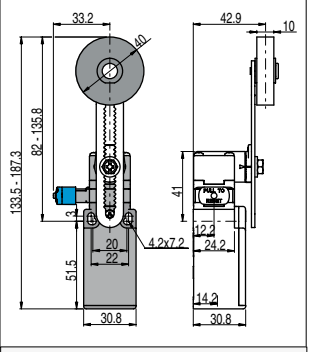


Contact blocks								
6	L	FR 655-W3	(1) 1NO+1NC	FR 655-3W3	(1) 1NO+1NC	FR 655-4W3	(1) 1NO+1NC	FR 655-R5W3 (1) 1NO+1NC
7	LO	FR 955-W3	(1) 2NC	FR 955-3W3	(1) 2NC	FR 955-4W3	(1) 2NC	FR 955-R5W3 (1) 2NC
9	L	FR 2055-W3	(1) 1NO+1NC	FR 2055-3W3	(1) 1NO+2NC	FR 2055-4W3	(1) 1NO+2NC	FR 2055-R5W3 (1) 1NO+2NC
16	LI							
Max speed		page 113 - type 1		page 113 - type 1		page 113 - type 1		page 113 - type 1
Min. force		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)
Travel diagrams		page 114 - group 4c		page 114 - group 4c		page 114 - group 4c		page 114 - group 4c









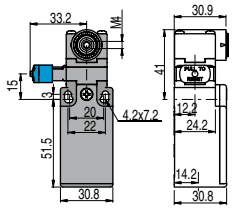
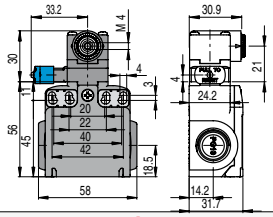
Contact blocks								
6	L	FR 656-W3	1NO+1NC	FR 656-3W3	1NO+1NC	FR 656-4W3	1NO+1NC	FR 656-R5W3 1NO+1NC
7	LO	FR 956-W3	2NC	FR 956-3W3	2NC	FR 956-4W3	2NC	FR 956-R5W3 2NC
9	L	FR 2056-W3	1NO+2NC	FR 2056-3W3	1NO+2NC	FR 2056-4W3	1NO+2NC	FR 2056-R5W3 1NO+2NC
16	LI							
Max speed		page 113 - type 1		page 113 - type 1		page 113 - type 1		page 113 - type 1
Min. force		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)		0,06 Nm (0,25 Nm)
Travel diagrams		page 114 - group 4c		page 114 - group 4c		page 114 - group 4c		page 114 - group 4c

Accessories See page 109

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

Position switches (reset hooking) with revolving lever without actuator

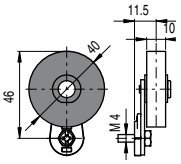
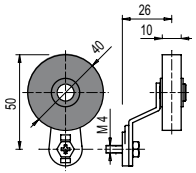
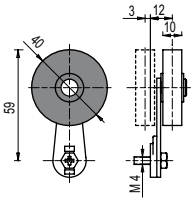
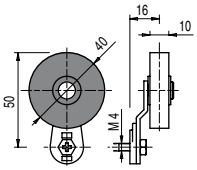
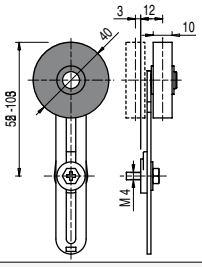
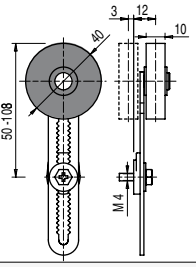
IMPORTANT
For safety applications: join only switches and actuators marked with symbol ⊖.

Contact blocks						
						
6	L	FR 638-W3 ⊖ 1NO+1NC	FX 638-W3 ⊖ 1NO+1NC			
7	LO	FR 938-W3 ⊖ 2NC	FX 938-W3 ⊖ 2NC			
9	L	FR 2038-W3 ⊖ 1NO+2NC	FX 2038-W3 ⊖ 1NO+2NC			
16	LI					
Max speed		page 113 - type 1	page 113 - type 1			
Min. force		0,06 Nm (0,25 Nm ⊖)	0,06 Nm (0,25 Nm ⊖)			
Travel diagrams		page 114 - group 4c	page 114 - group 4c			

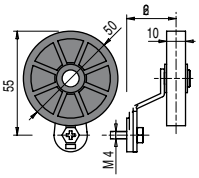
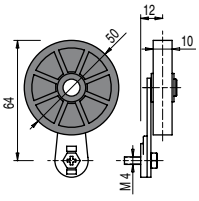
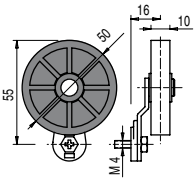
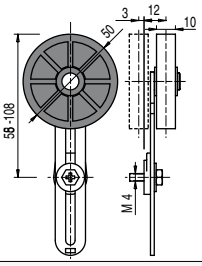
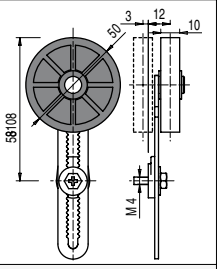
Special loose actuators

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

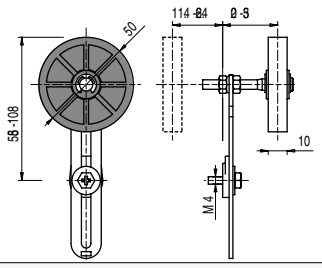
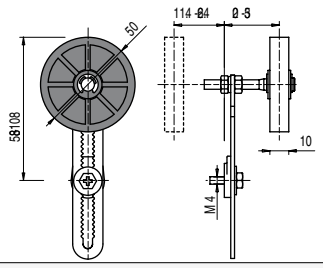
Ø 40 mm rubber rollers

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

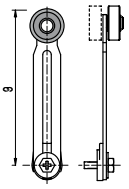
Ø 50 mm rubber rollers

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

Ø 50 mm overhanging rubber rollers

		
VF LE55-4 ⊖ (1)	VF LE56-4 ⊖	

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

➔ 2D and 3D files available on **www.pizzato.com**

Switches with **manual reset for over-speed devices**

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.

Markings and quality marks:

Approval IMQ: EG610
Approval UL: E131787
Approval CCC: 2007010305230013
Approval EZU: 1010151
Approval GOST: POCC IT.AB24.B04512

Technical data

Housing
Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
One threaded conduit entry
Protection degree: IP67 according to EN 60529

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[1]/hour
Mechanical endurance: 1 million operations cycles[1]
Assembling position: any
Driving torque for installation: see page 113
(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)
Contact blocks 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 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-1, EN 81-2, NFC 63-140, VDE 0660-200, VDE 0113.
Approvals:
IEC 60947-5-1, UL 508, GB14048.5-2001

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

Installation for safety applications:
Use only switches marked with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 35. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

Electrical data

Thermal current (Ith): 10 A
Rated insulation voltage (Ui): 500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}): 6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 Vac
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Rated impulse withstand voltage (Uimp): 6 kV
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 Vac (50 Hz)
Operation current (Ie): 3 A
Forms of the contact element: Zb, Y+Y, Y
Positive opening of contacts on contact block 5, 11, 17

In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

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

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

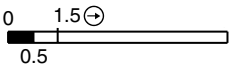
Protection degree IP 67

IP67

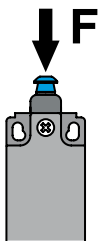
These series switches are all IP 67 rated.

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.

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

FR 19A3-E26GM2P11

Housing

FR	polymer housing, one conduit entry

Contact blocks

5	1NO+1NC, snap action
11	2NC, snap action
17	1NC, snap action
19	2NC, snap action

Actuators

A3	short plunger

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)

Fixing plate

	without fixing plate (standard)
P11	with fixing plate VF SFP1

Threaded conduit entry

	PG 13,5 (standard)
A	PG 11
M1	M16x1,5
M2	M20x1,5

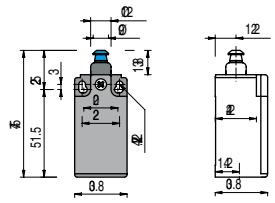
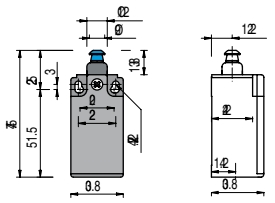
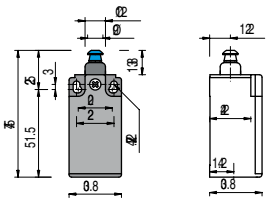
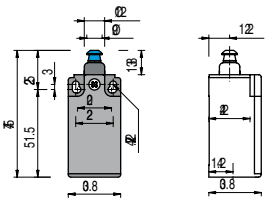
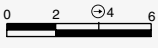
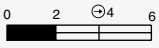
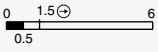
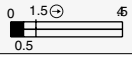
Contacts type

	silver contacts (standard)
G	silver contacts gold plated 1 µm

Dimensional drawings

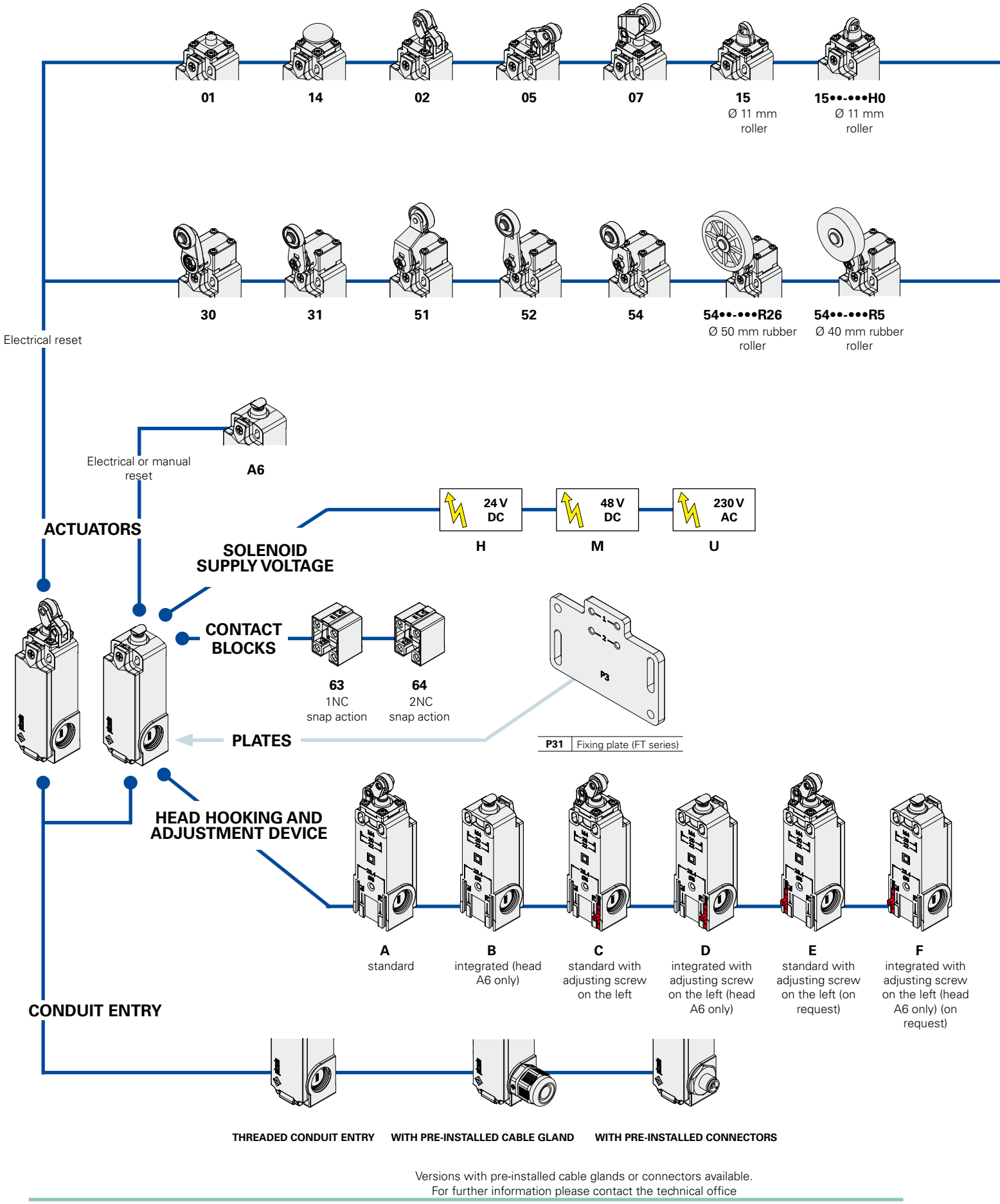
Contacts type:

R = snap action

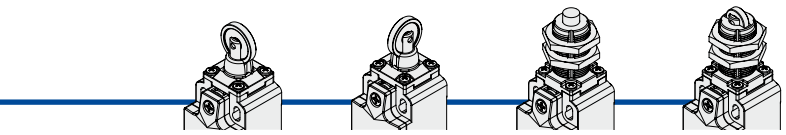
Contact blocks					
5	R	FR 5A3 ⊖ 1NO+1NC			
11	R		FR 11A3 ⊖ 2NC		
17	R			FR 17A3 ⊖ 1NC	
19	R				FR 19A3 ⊖ 2NC
Max speed		0,5 m/s	0,5 m/s	0,5 m/s	0,5 m/s
Min. force		3,5 N (18,5 N ⊖)	3,5 N (18,5 N ⊖)	1,5 N (17 N ⊖)	2 N (17 N ⊖)
Travels diagrams					

Accessories See page 109

Selection diagram



Versions with pre-installed cable glands or connectors available.
For further information please contact the technical office

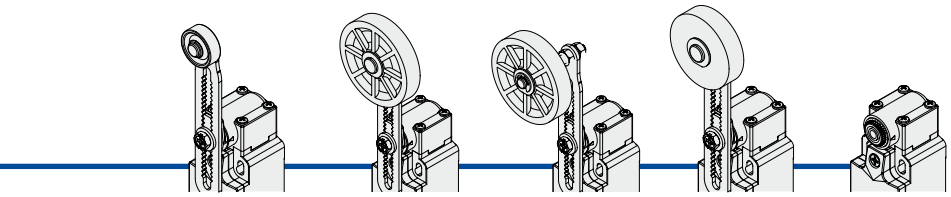


16
Ø 20 mm roller

16••-•••H0
Ø 20 mm roller

12

13



56

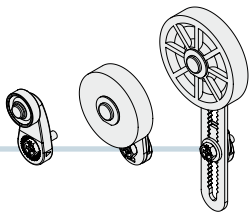
56••-•••R26
safety adjustable lever with Ø 50 mm rubber roller

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 49



Code structure

article | options

FT 2A6454AH-E27P31R26

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
...	.....

Roller

	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)
P31	supplied with fixing plate VF SFP3

Actuation force

E27	Standard actuating force
E26	Reduced actuating force
E28	Reduced actuating force (with K solenoid voltage only)

Solenoid supply voltage

H	24 Vdc 4,2 A
M	48 Vdc 2,1 A
U	230 Vac 0,5 A
K	48 Vdc 0,75 A

Switches with electrical reset **FT series**

Main data

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

Technical data

Housing

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

Three threaded conduit entries:	M20 x1,5
Protection degree:	IP67 according to EN 60529

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
Driving torque for installation:	see page 113

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 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 (Ue) and current (Ie):	24 Vdc ±10%; 4,2 A 48 Vdc ±10%; 2,1 A 48 Vdc ±10%; 0,75 A 230 Vac ±10%; 0,5 A
Solenoid duty cycle:	3% ED
Solenoid protection 24 Vdc (4,2 A):	fuse 5 A type F
Solenoid protection 48 Vdc (2,1 A):	fuse 3 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 81-1, EN 81-2

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

Markings and quality marks:

CE PCT AB24

Approval GOST: POCC IT.AB24.B04512

Installation for safety applications:
Use only switches marked with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams on page 114. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}):	6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

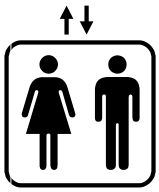
Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Introduction

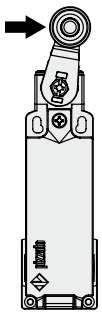
When the FT series safety switches with reset are operated they remain switched and they reset electrically through the integrated solenoid. Thanks to this feature it's possible to remote reset the switch without being physically near it. They are available with different actuators and are adapt to many 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.

EN 81 standard



On the following pages a selection of Pizzato Elettrica products which are used typically in the lift sector and in accordance with the standard EN81 is introduced.

Reduced actuating force -E26



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

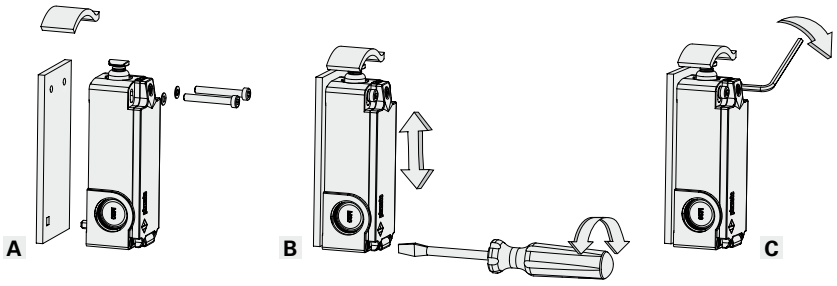
Actuator	Force
A6,	3,4 N (25 N ⊖)
01, 12, 13, 14, 15, 16	4,4 N (25 N ⊖)
02, 05	3,6 N (25 N ⊖)
07	2,1 N (25 N ⊖)
30, 31, 38, 51, 52, 54, 56	0,07 Nm (0,25 Nm ⊖)

Protection degree IP 67

IP67

These series switches are all IP 67 rated.

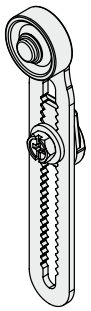
Adjustment system version (C, D, E, F housing)



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)
- Unloosable components

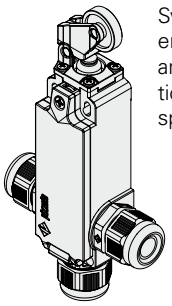
Operation:
A Make a hole in the fixing plate to insert the adjusting pin on the back of the switch. Apply the switch to the over-speed device without blocking the two fixing screws.
B Adjust the switch position by the screw on the front.
C Finally lock the switch body to the over-speed device.

Safety lever LE56



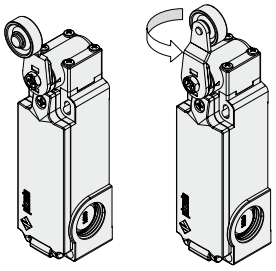
The adjustable lever code 56 (and variants) is supplied with an indentation which blocks the lever slipping in case of fixing screw release.

Conduit entries



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

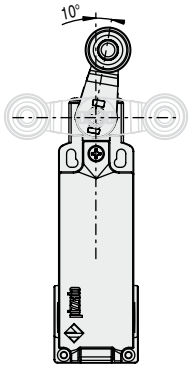
Overturning levers



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.

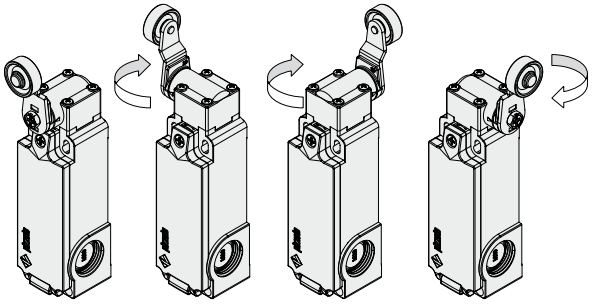
Adjustable levers

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.

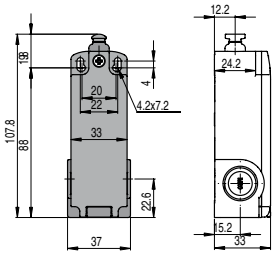
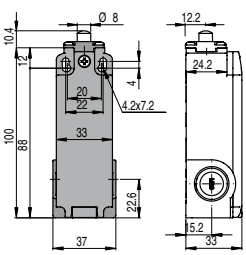
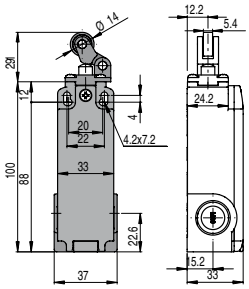
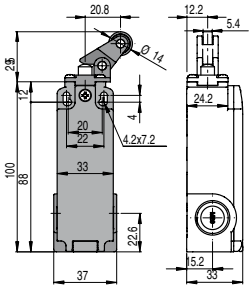


Switches with electrical reset **FT series**

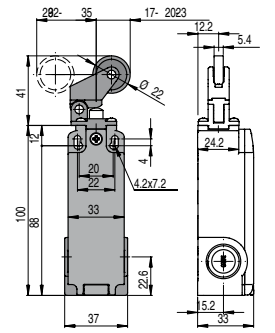
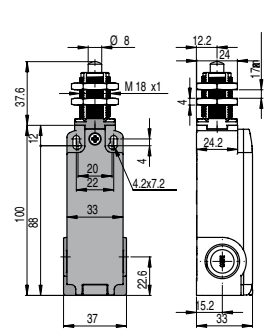
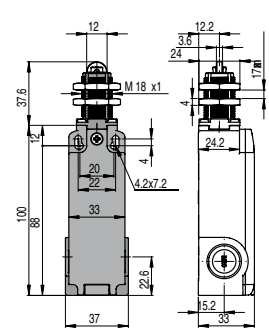
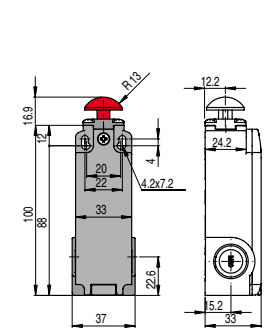
Contacts type:

R = snap action

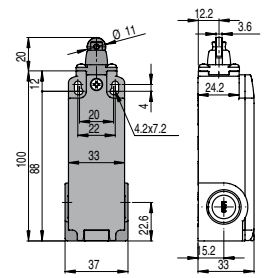
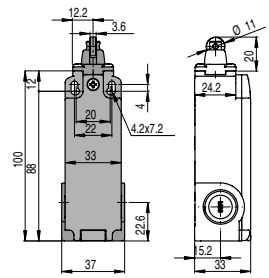
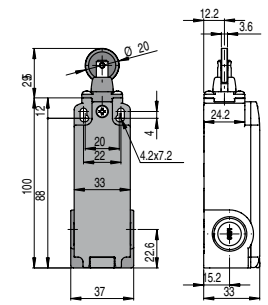
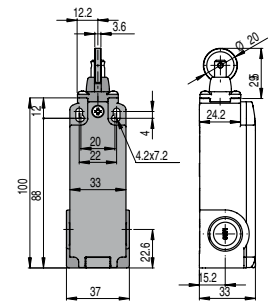
Contact blocks

	With external rubber gasket		With stainless steel roller on request	With stainless steel roller on request
				
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 113 - type 4	page 113 - type 4	page 113 - type 3	page 113 - type 3
Min. force	5 N (25 N →)	6 N (25 N →)	5 N (25 N →)	5 N (25 N →)
Travel diagrams	page 114 - group 1d	page 114 - group 2d	page 114 - group 3d	page 114 - 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 113 - type 2	page 113 - type 4	page 113 - type 2	page 113 - type 2
Min. force	3 N (25 N →)	6 N (25 N →)	6 N (25 N →)	6 N (25 N →)
Travel diagrams	page 114 - group 4d	page 114 - group 2d	page 114 - group 2d	page 114 - group 2d

Contact blocks

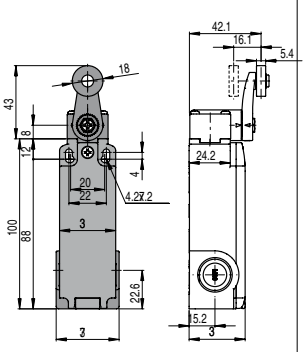
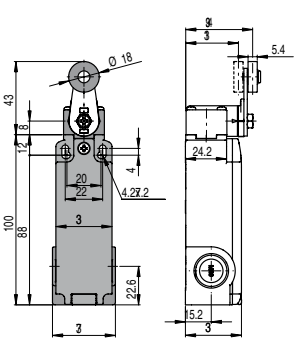
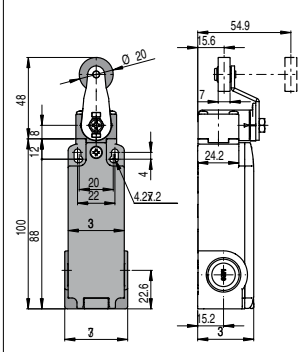
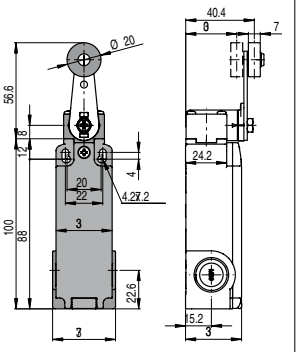
	On request Ø 12 mm stainless steel roller	On request Ø 12 mm stainless steel roller		
				
63 R	FT 2A6315AH-E27 → 1NC	FT 2A6315AH-E27H0 → 1NC	FT 2A6316AH-E27 → 1NC	FT 2A6316AH-E27H0 → 1NC
64 R	FT 2A6415AH-E27 → 2NC	FT 2A6415AH-E27H0 → 2NC	FT 2A6416AH-E27 → 2NC	FT 2A6416AH-E27H0 → 2NC
Max speed	page 113 - type 2	page 113 - type 2	page 113 - type 2	page 113 - type 2
Min. force	6 N (25 N →)	6 N (25 N →)	6 N (25 N →)	6 N (25 N →)
Travel diagrams	page 114 - group 2d	page 114 - group 2d	page 114 - group 2d	page 114 - group 2d

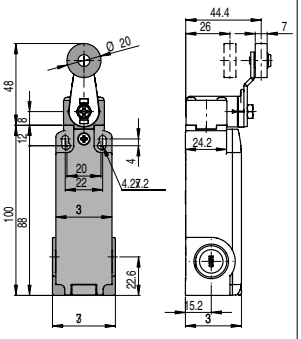
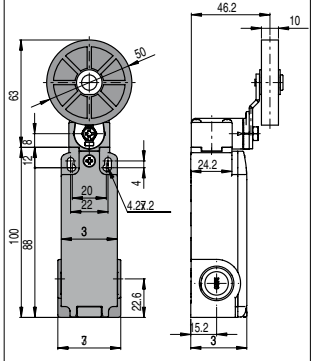
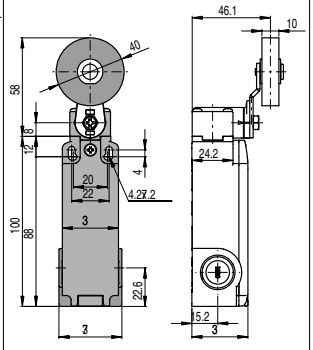
Accessories See page 109

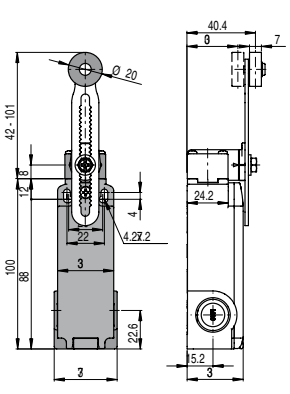
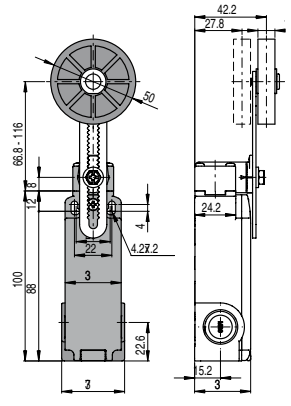
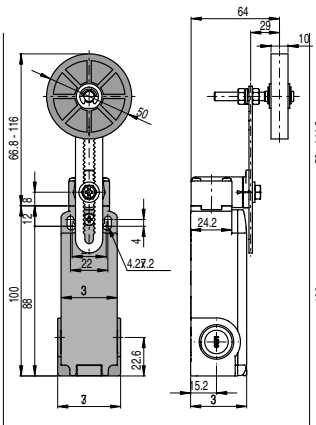
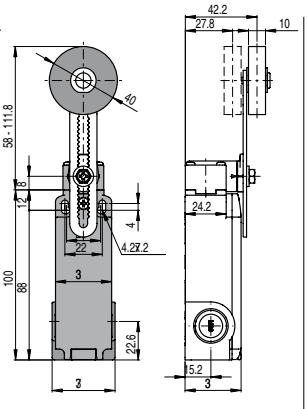
All measures in the drawings are in mm

Contacts type:

R = snap action

Contact blocks	With Ø 20 mm stainless steel roller on request	Other rollers available. See page 42	Other rollers available. See page 42	Other rollers available. See page 42
				
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 113 - type 1	page 113 - type 1	page 113 - type 1	page 113 - type 1
Min. 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 114 - group 5d	page 114 - group 5d	page 114 - group 5d	page 114 - 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 113 - type 1	page 113 - type 1	page 113 - type 1
Min. force	0,08 Nm (0,25 Nm →)	0,08 Nm (0,25 Nm →)	0,08 Nm (0,25 Nm →)
Travel diagrams	page 114 - group 5d	page 114 - group 5d	page 114 - group 5d

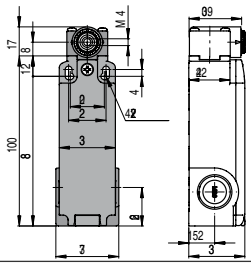
Contact blocks				
				
63 R	FT 2A6356AH-E27 → 1NC	FT 2A6356AH-E27R26 → 1NC	FT 2A6356AH-E27R27 → 1NC	FT 2A6356AH-E27R5 → 1NC
64 R	FT 2A6456AH-E27 → 2NC	FT 2A6456AH-E27R26 → 2NC	FT 2A6456AH-E27R27 → 2NC	FT 2A6456AH-E27R5 → 2NC
Max speed	page 113 - type 1	page 113 - type 1	page 113 - type 1	page 113 - type 1
Min. 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 114 - group 5d	page 114 - group 5d	page 114 - group 5d	page 114 - group 5d

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

Position switches with revolving lever without actuator

Contacts type:

R = snap action



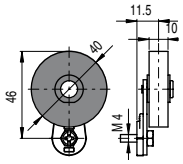
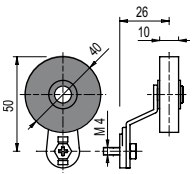
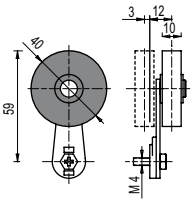
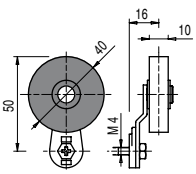
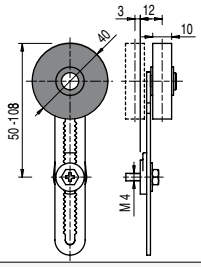
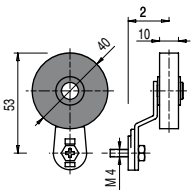
Contact blocks		
63 R	FT 2A6338AH-E27 ⊖	1NC
64 R	FT 2A6438AH-E27 ⊖	2NC
Max speed	page 113 - type 2	
Min. force	0,08 Nm (0,25 Nm ⊖)	
Travel diagrams	page 114 - group 5d	

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

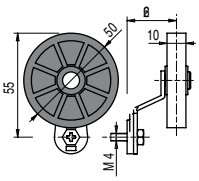
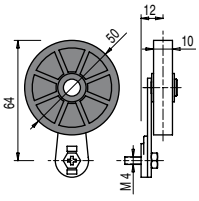
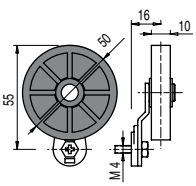
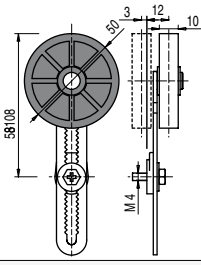
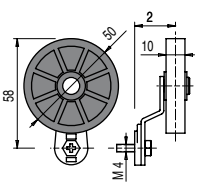
Special loose actuators

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

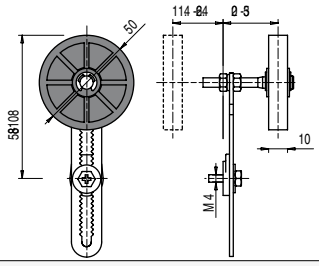
Ø 40 mm rubber rollers

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

Ø 50 mm rubber rollers

					
	VF LE51-R26 ⊖ (4)	VF LE52-R26 ⊖ (4)	VF LE54-R26 ⊖ (4)	VF LE56-R26 ⊖	VF LE57-R26 ⊖

Ø 50 mm overhanging rubber rollers

	
VF LE56-R27 ⊖	

- Only orders for multiple quantities of the packs are accepted.
- (4) The actuator cannot be oriented to inside direction because it will mechanically interfere with the switch head.

Accessories See page 109

Notes

Door switches with positive opening **DS A series**

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

Markings and quality marks:

Approval IMQ: CA50.00541
EN 81-1:2005
EN 81-2:2005
230 VAC - 2 A
Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

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[1]/hour
Mechanical endurance:	10 millions of operations cycles[1] (DS A•1VA)
	5 millions of operations cycles[1] (DS A•5VA)
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 116

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

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 60529, EN 81-1, EN 81-2

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

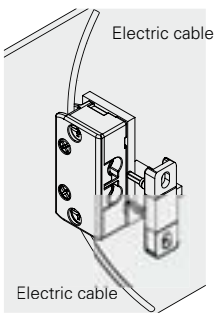
Electrical data

Thermal current (Ith):	4 A
Rated insulation voltage (Ui):	500 Vac
Rated impulse with stand voltage (Uimp):	6 KV
Protection against short circuits:	fuse 4 A 500 V type gG
Pollution degree:	3

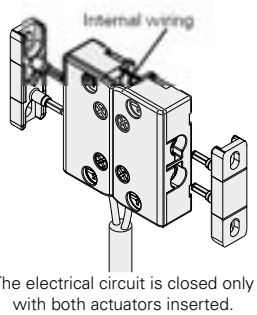
According EN 60947-5-1 EN 81 par. 14.1.2.2	According EN 81 par. F.1.2.4	According EN 81 par. F.1.2.2.1.1
Utilization categories:		
AC15 (50, 60 Hz)	AC (50, 60 Hz)	AC (50, 60 Hz)
Ue (V) 120 250	230 Vac	230 Vac
Ie (A) 3 3	2 A	2 A
DC13	DC:	DC:
Ue (V) 125 250	200 Vdc	125 Vdc
Ie (A) 0,55 0,27	2 A	0,5 A

Application examples DS A series

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

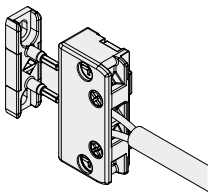


Door switches close to the wall installation



The electrical circuit is closed only with both actuators inserted.

Door switches side by side installation



Back cable output

Data type approved by UL

Utilization categories Q300 (69VA, 125-250Vdc), 120-240Vac, 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

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

Dimensional drawings

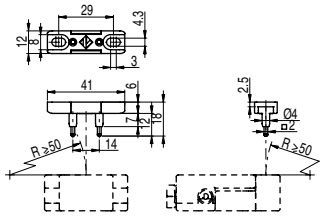
10 pcs packs

	Door switches with positive opening - internal contacts		Door switches with positive opening - 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

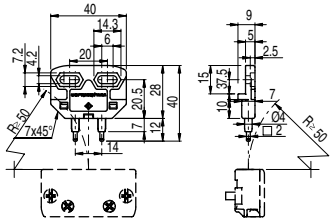
Actuators for door switches with internal contacts (DS A•1VA)

10 pcs packs

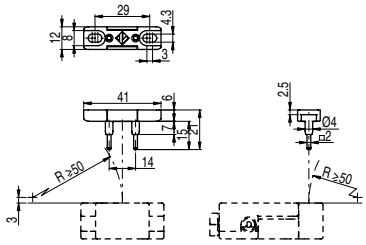
Article	Description
DS KA1A	Straight actuator



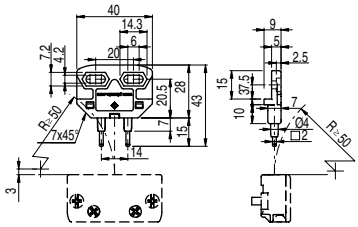
Article	Description
DS KB1A	Right-angled actuator



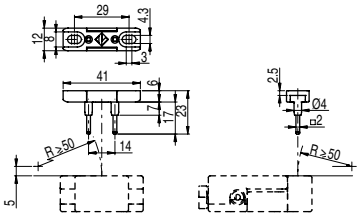
Article	Description
DS KA2A	Straight actuator



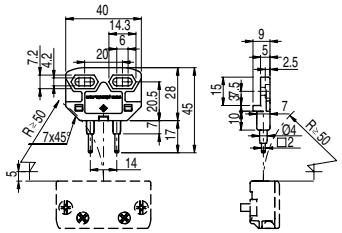
Article	Description
DS KB2A	Right-angled actuator



Article	Description
DS KA3A	Straight actuator



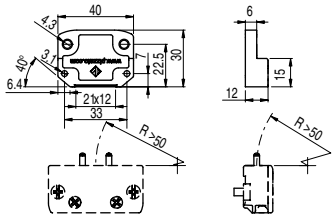
Article	Description
DS KB3A	Right-angled actuator



Actuators for door switches with external contacts (DS A•5VA)

10 pcs packs

Article	Description
DS KP5A	Plane actuator



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

Door switches with positive opening **DS C series**

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

Markings and quality marks:

AB24

Approval IMQ: CA50.00541
EN 81-1:2005
EN 81-2:2005
230 VAC - 2 A

Approval GOST: POCC IT.AB24.B04512

UL Certification pending

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[1]/hour
Mechanical endurance:	20 millions of operations cycles[1]
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 116

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

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 60529, EN 81-1, EN 81-2

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Positive contact opening in conformity with standards:

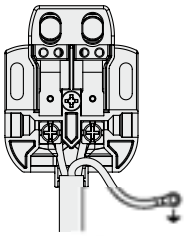
IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Electrical data

Thermal current (Ith):	6 A
Rated insulation voltage (Ui):	500 Vac
Rated impulse with stand voltage (Uimp):	6 KV
Protection against short circuits:	fuse 6 A 500 V type gG
Pollution degree:	3

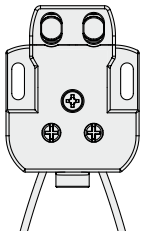
According EN 60947-5-1 EN 81 par. 14.1.2.2			According EN 81 par. F.1.2.4	According EN 81 par. F.1.2.2.1.1	According UL508
Utilization categories:					Ratings:
AC15 (50, 60 Hz)			AC (50, 60 Hz)	AC (50, 60 Hz)	AC (50, 60 Hz)
Ue (V)	120	250	230 Vac	230 Vdc	C300
Ie (A)	3	3	2 A	2 A	
DC13			DC:	DC:	DC:
Ue (V)	125	250	200 Vdc	125 Vdc	Q300
Ie (A)	0,8	0,45	2 A	1 A	

Three wiring possibilities



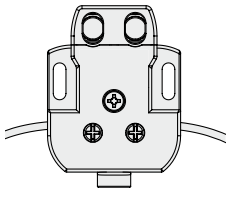
Standard wiring

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.



Fast bottom wiring

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



Fast lateral wiring

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

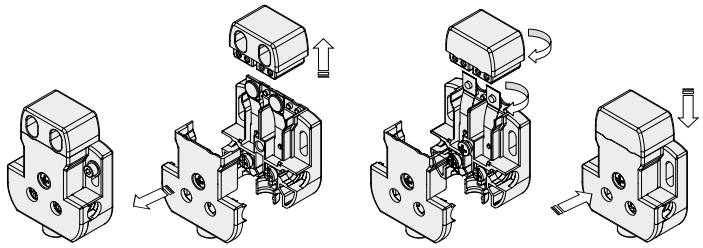
Transparent head on all sides in order to allow adjustment and centering of the actuator with the contacts.

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

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

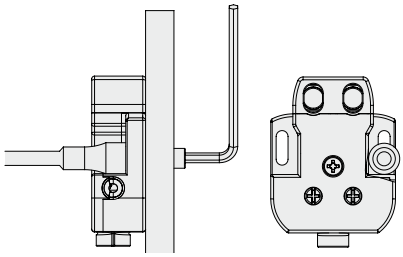
Rotating heads

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.



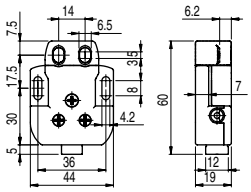
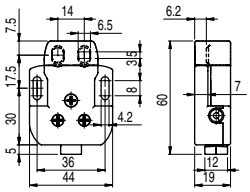
Housing back fixing

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

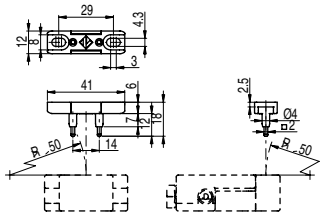
10 pcs packs

	frontal actuation	back actuation
	Switch without actuator	Switch without actuator
		
Slow action contacts	DS CH1VA0 1NC	DS CN1VA0 1NC
Max actuating travel	6 mm	6 mm

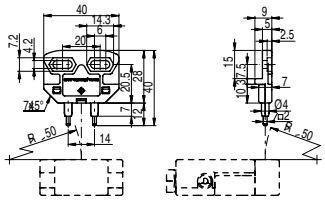
Actuators

10 pcs packs

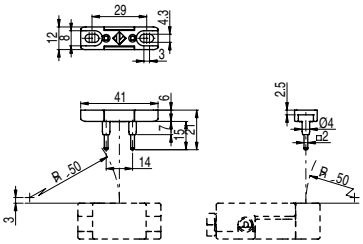
Article	Description
DS KA1A	Straight actuator



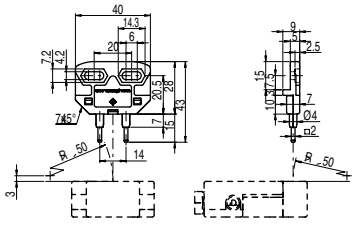
Article	Description
DS KB1A	Right-angled actuator



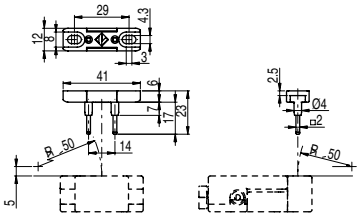
Article	Description
DS KA2A	Straight actuator



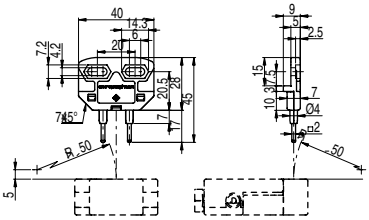
Article	Description
DS KB2A	Right-angled actuator



Article	Description
DS KA3A	Straight actuator



Article	Description
DS KB3A	Right-angled actuator



Protected door switches with positive opening

Main data

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

Markings and quality marks:

Approval GOST: POCC IT.AB24.B04512

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 ⧈

FR series one conduit entry:	M20x1,5 (M16x1,5 on request)
FX series two knock out conduit entries:	M20x1,5 (M16x1,5 on request)
Protection degree:	IP67 according to EN 60529

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[1]/hour
Mechanical endurance:	10 million operations cycles[1]
Max actuating speed:	0,5 m/s
Min. actuating speed:	1 mm/s
Assembling position:	any
Driving torque for installation:	see page 113

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 6, 7, 9, 16:	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 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-1, EN 81-2, NFC 63-140, VDE 0660-200, VDE 0113.

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Installation for safety applications:

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

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}):	6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

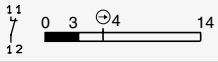
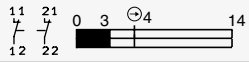
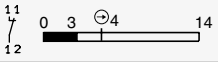
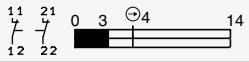
Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

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

Dimensional drawings

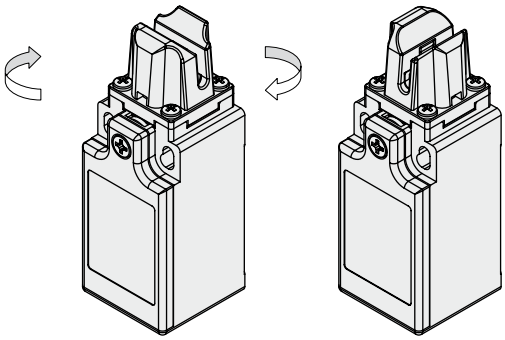
Contacts type:

R = snap action

Contact blocks				
R	FR 38B1-D30M2 ⊖ 1NC	FR 39B1-D30M2 ⊖ 2NC	FX 38B1-D30M2 ⊖ 1NC	FX 39B1-D30M2 ⊖ 2NC
Min. force	3 N (18 N ⊖)	4,2 N (19,2 N ⊖)	3 N (18 N ⊖)	4,2 N (19,2 N ⊖)
Travels diagrams				

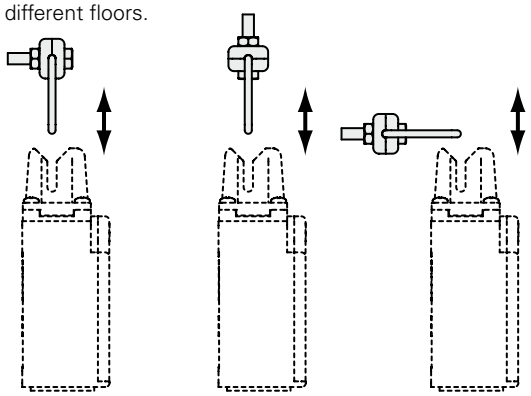
Rotating heads

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



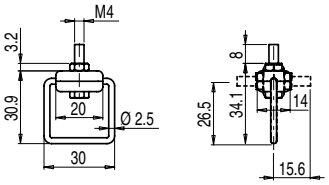
Adjustable actuator

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



Protected door switches with positive opening

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

Markings and quality marks:

Approval IMQ:	EG610 (FR-FX-FK series)
Approval UL:	E131787
Approval CCC:	2007010305230013 (FR-FX-FK series)
Approval EZU:	1010151
Approval GOST:	POCC IT.AB24.B04512

Technical data

Housing

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

FR series one conduit entry:	PG13,5(onrequestPG11/M16x1,5/M20x1,5)
FK series one conduit entry:	PG11 (on request M16x1,5)
FX series two knock out conduit entries:	PG13,5(onrequestPG11/M16x1,5/M20x1,5)
FW series three knock out conduit entries:	M20x1,5
Protection degree:	IP67 according to EN 60529 (electrical contacts)

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[1]/hour
Mechanical endurance:	1 million of operations cycles[1]
Max actuating speed:	0,5 m/s
Min. actuating speed:	1 mm/s
Actuator extraction force	10 N
Driving torque for installation:	see page 113

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 33, 34:	min.	1 x 0,34 mm²	(1 x AWG 22)
	max.	2 x 1,5 mm²	(2 x AWG 16)
Contact blocks 6, 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, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-1, EN 81-2, NFC 63-140, VDE 0660-200, VDE 0113, BG-GS-ET-15.
Approvals:
IEC 60947-5-1, UL 508, GB14048.5-2001

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

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 Vac 600 Vdc 400 Vac for contacts block 20
Rated impulse withstand voltage (U_{imp}):	6 kV 4 kV for contact blocks 20
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 Vac
400 Vac for contact blocks 33, 34
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Rated impulse withstand voltage (Uimp): 6 kV
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 Vac (50 Hz)
Operation current (Ie): 3 A
Forms of the contact element: Zb, Y+Y
Positive opening of contacts on contact block 6, 9, 33, 34

In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

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

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

Dimensional drawings

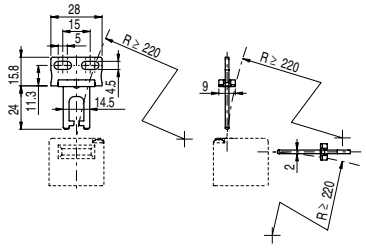
Contacts type: L = slow action	polymer housing Switch without actuator	polymer housing Switch without actuator	polymer housing Switch without actuator	polymer housing Switch without actuator
Contact blocks				
6 L	FR 693 → 1NO+1NC	FX 693 → 1NO+1NC		
9 L	FR 993 → 2NC	FX 993 → 2NC		
33 L			FW 3392-M2 → 1NO+1NC	FK 3393 → 1NO+1NC
34 L			FW 3492-M2 → 2NC	FK 3493 → 2NC
Min. force	10 N (18 N →)	10 N (18 N →)	10 N (18 N →)	10 N (18 N →)
Travel diagrams	page 114 - group 1e	page 114 - group 1e	page 114 - group 1e	page 114 - group 1e

Actuators stainless steel

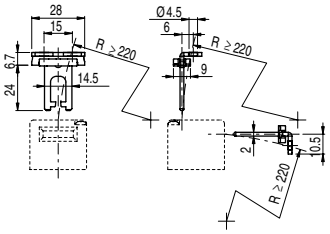
10 pcs packs

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

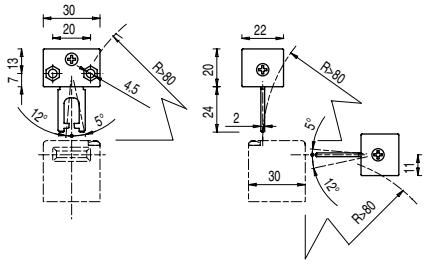
Article	Description
VF KEYD	Straight actuator



Article	Description
VF KEYD1	Right-angled actuator

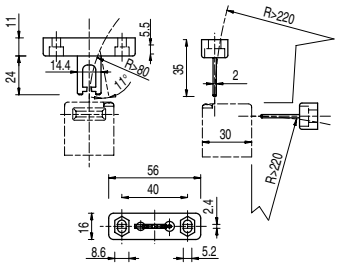


Article	Description
VF KEYD3	Jointed actuator adjustable in two directions



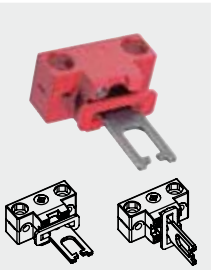
Actuator adjustable in two directions for doors with reduced dimensions.

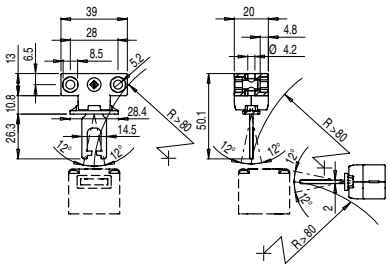
Article	Description
VF KEYD7	Jointed +in one direction



Actuator adjustable in one direction for doors with reduced dimensions.

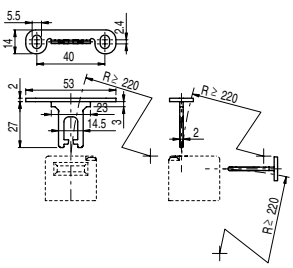
Article	Description
VF KEYD8	Universal actuator





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 the actuator-working plan (see picture).

Article	Description
VF KEYD10	Shaped actuator



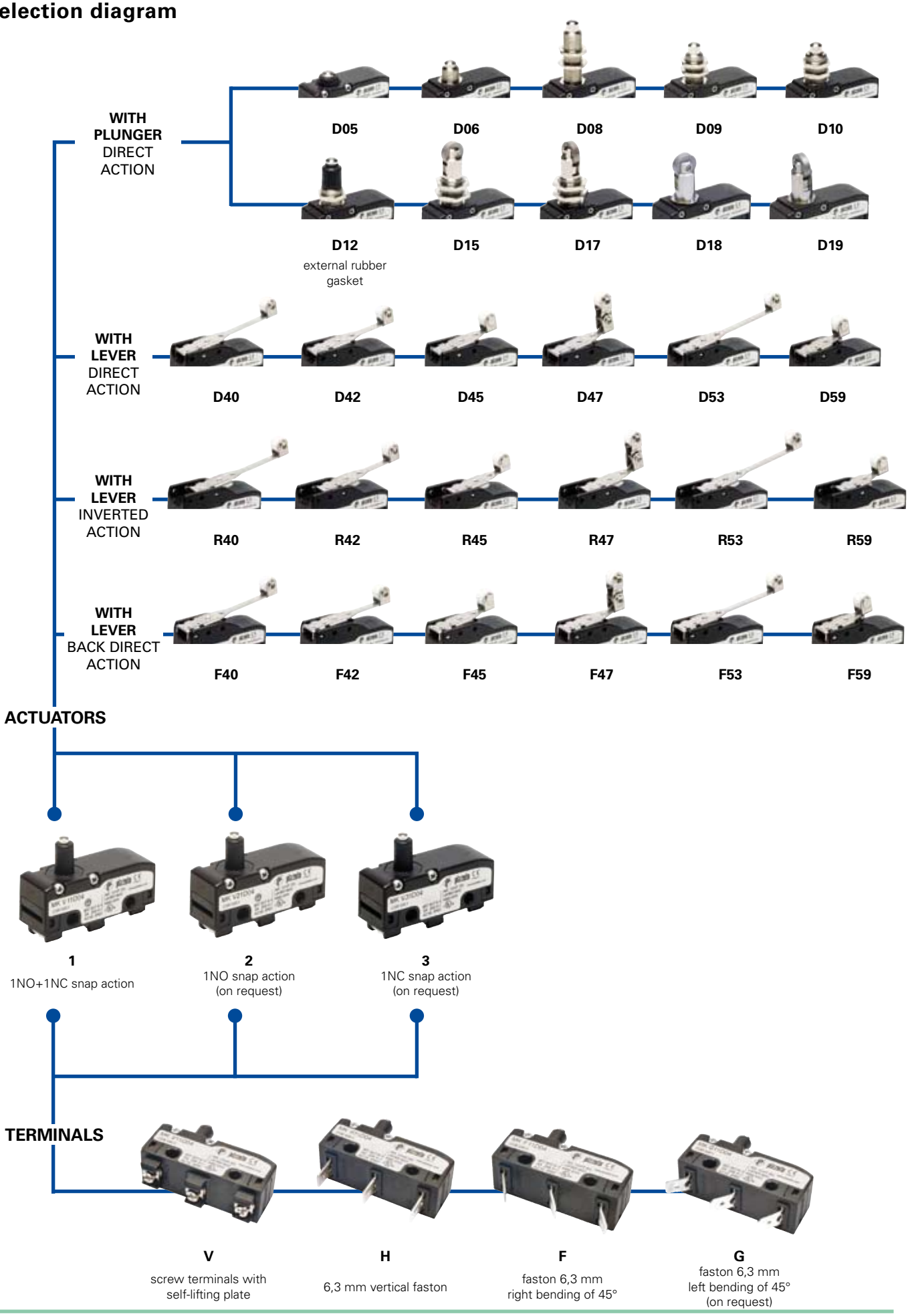
Accessories See page 109

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

→ 2D and 3D files available on **www.pizzato.com**

All measures in the drawings are in mm

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)

Contact block	
1	1NO+1NC, snap action
2	1NO, snap action (on request)
3	1NC, snap action (on request)

Max protection degree	
1	IP40 (with protection)
2	IP65 (with protection)

Actuation type	
D	direct action
R	inverted action
F	back direct action

Actuator	
01	with pin
02	with pin
03	with small push button
..	.....

Ambient temperature	
	-25°C ... +85°C (standard)
T6	-40°C ... +85°C

Suffix	
	no 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)

Contacts type	
	silver contacts (standard)
G	silver contacts gold plated 1 µm

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

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin.

Protection degree: IP20 (with protection VF C01 - VF C03)
IP40 (with protection VF MKC•1• - VF C02)
IP65 (with protection VF MKC•22 - VF MKC•23)
according to EN 60529

General data

Ambient temperature:	-25°C ... +85°C
Max operating frequency:	3600 operations cycles[1]/hour
Mechanical endurance:	10 million operations cycles[1]
Driving torque for installation:	see page 116

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

MK series:	min.	1 x 0,34 mm²	(1 x AWG 22)
	max	2 x 1,5 mm²	(2 x AWG 16)

In conformity with standards:
IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 60529, EN 60529.
Approvals:
UL 508

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

Markings and quality marks:

Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

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 60947-5-1, encl. K, par. 2**. 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.

Electrical data

Thermal current (Ith):	16 A
Rated insulation voltage (Ui):	250 Vac 300 Vdc
Rated impulse withstand voltage (U_{imp}):	4 kV
Conditional shot circuit current:	1000 A according to EN 60947-5-1
Protection against short circuits:	fuse 10 A 500 V type gG
Pollution degree:	3
Dielectric strength	2000 Vac/min.

Utilization categories

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

Ue (V)	250	120
Ie (A)	6	6

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	5	0,6	0,3

Data type approved by UL

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

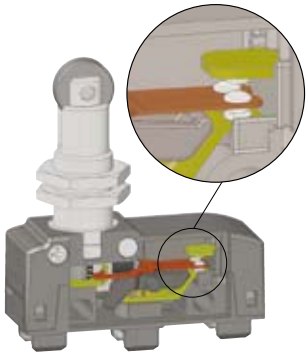
In conformity with standard: UL 508

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

Microswitches MK series

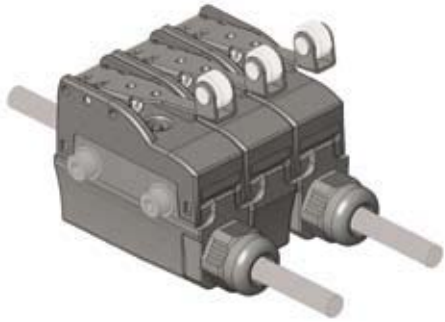
Microswitches of MK series have been developed in order to add new features to traditional and tested microswitches of Pizzato Elettrica (cross-reference at page 79). These new products have been designed with shapes and fixing perfectly interchangeable with the previous ones and with various additional functions useful to extend the applicatory field.

The main innovation of this series is the tripping mechanism evolved and modern, with qualitative features superior than solutions present on the market.
The electrical contact on new microswitch has been made with higher reliability technology, thanks to the double and redundant shape, and has the possibility to carry out operations with positive opening.
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.
Fastening terminals of conductors are more practical and allow the fixing of different diameter cables or the possibility to choice different bends of faston contacts. For high quantity it's possible to supply the microswitch only with the contact NO or NC, in order to minimize purchase costs.

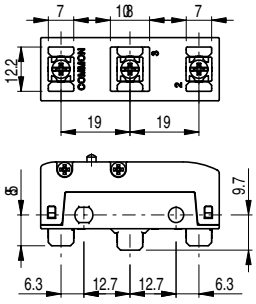


Terminal covers with wire trap cable gland, side by side installable

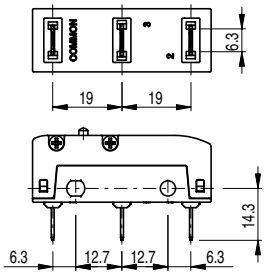
New terminal covers supplied with wire trap cable gland are provided for the protection degree up to IP65.
These terminal covers are snap-in assembled and they have small dimensions in the microswitch profile, it's possible to install them also on microswitches fixed side by side.
See page 55.



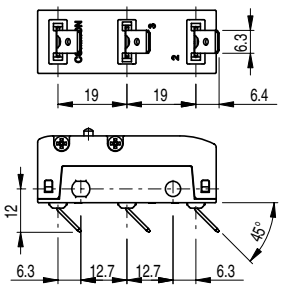
Terminals outline dimension



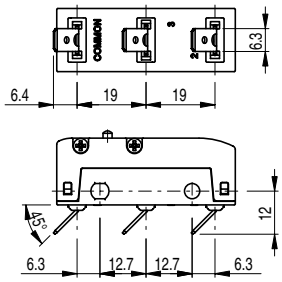
Screw terminals **V** with plate



Vertical faston **H** terminals



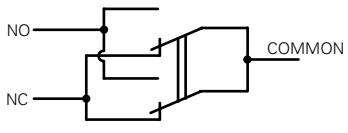
faston terminals **F**, right bending



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

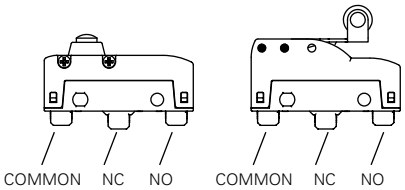
Note: H vertical faston terminals can be bent according to one's installation requirements.
We recommend to bend the faston with an angle not higher than 45° and to carry out this operation no more than 5 times.

Wire diagram

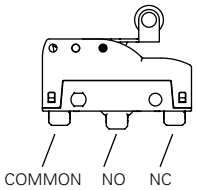


Contacts with single interruption and double contacts

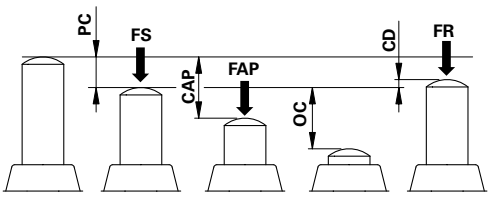
With direct and back direct action (F, D)



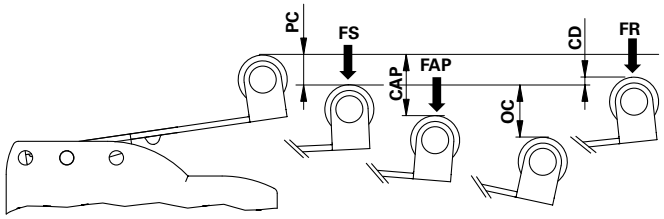
With inverted action (R)



Legend



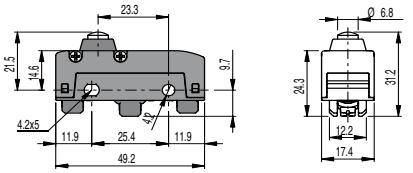
CD differential travel
PC pretravel
OC over-travel
CAP positive opening travel



FS operating force
FR releasing force
FAP positive opening force

Microswitches with direct action (All measures in the drawings are in mm)

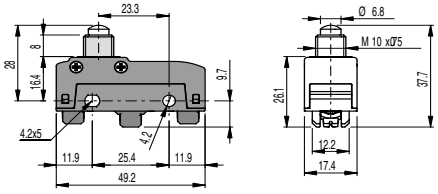
10 pcs packs



MK V11D05 1NO+1NC

PC	0,5 mm	FS	4 N
OC	2 mm	FR	3 N
CD	0,05 mm	FAP	20 N
CAP	2,2 mm		

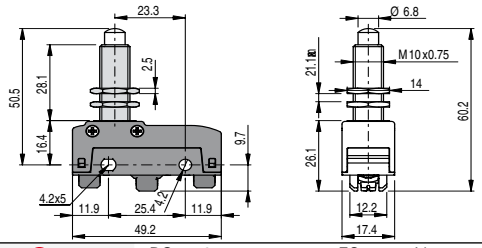
Max and min. speed page 116 - type 1



MK V11D06 1NO+1NC

PC	0,5 mm	FS	4 N
OC	3 mm	FR	3 N
CD	0,05 mm	FAP	20 N
CAP	2,2 mm		

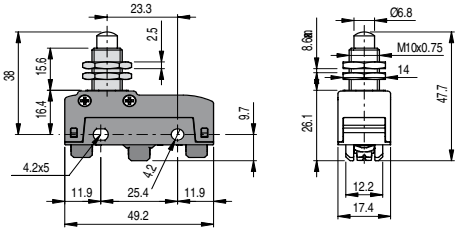
Max and min. speed page 116 - type 1



MK V11D08 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		

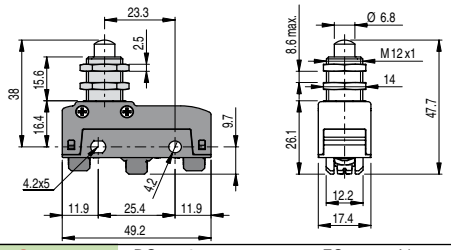
Max and min. speed page 116 - type 1



MK V11D09 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		

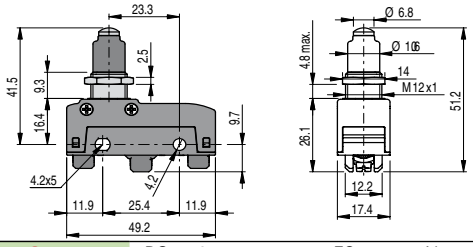
Max and min. speed page 116 - type 1



MK V11D10 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 116 - type 1

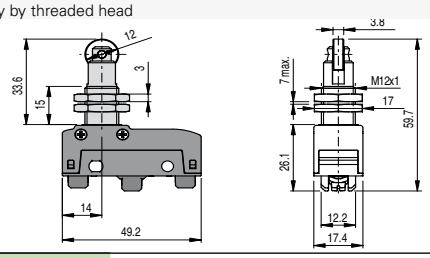


MK V11D12 1NO+1NC

PC	0,5 mm	FS	4,5 N
OC	5,5 mm	FR	3 N .
CD	0,05 mm	FAP	20 N
CAP	2,2 mm		

Max and min. speed page 116 - type 1

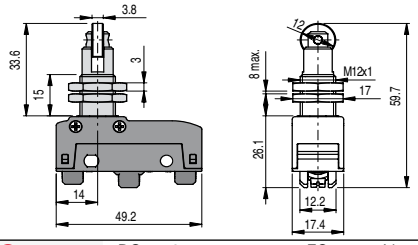
Fixed only by threaded head



MK V11D15 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 116 - type 2

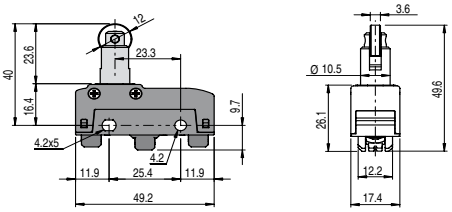


MK V11D17 1NO+1NC

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 116 - type 2

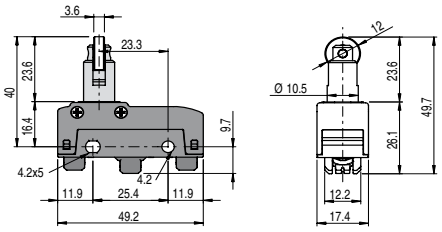
Items with code on the **green** background are available in stock



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		

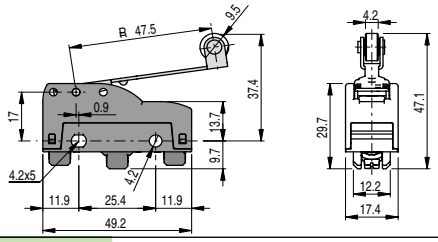
Max and min. speed page 116 - type 2



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		

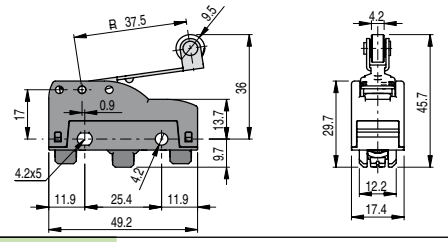
Max and min. speed page 116 - type 2



MK V11D40 1NO+1NC

PC	6,7 mm	FS	0,86 N
OC	7,8 mm	FR	0,66 N
CD	0,8 mm		

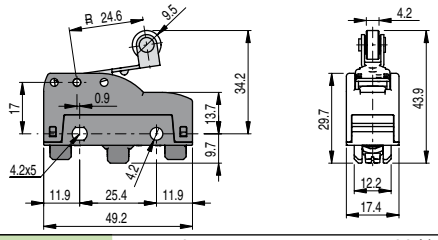
Max and min. speed page 116 - type 6



MK V11D42 1NO+1NC

PC	5,3 mm	FS	1,09 N
OC	5,7 mm	FR	0,84 N
CD	0,6 mm		

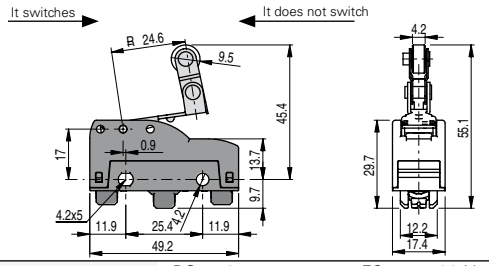
Max and min. speed page 116 - type 6



MK V11D45 1NO+1NC

PC	3,5 mm	FS	1,66 N
OC	4,5 mm	FR	1,28 N
CD	0,4 mm		

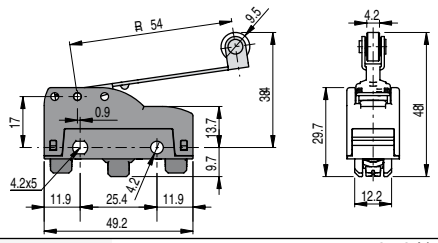
Max and min. speed page 116 - type 6



MK V11D47 1NO+1NC

PC	3,5 mm	FS	1,66 N
OC	4 mm	FR	1,28 N
CD	0,4 mm		

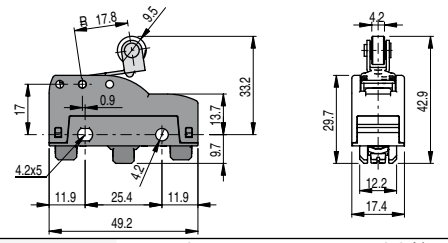
Max and min. speed page 116 - type 6



MK V11D53 1NO+1NC

PC	7,7 mm	FS	0,76 N
OC	8,9 mm	FR	0,58 N
CD	0,9 mm		

Max and min. speed page 116 - type 6

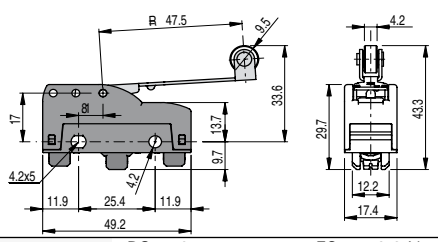


MK V11D59 1NO+1NC

PC	2,5 mm	FS	2,3 N
OC	4,5 mm	FR	1,77 N
CD	0,2 mm		

Max and min. speed page 116 - type 6

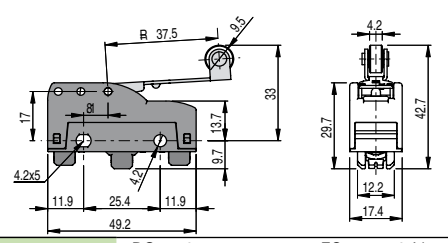
Microswitches with inverted action (All measures in the drawings are in mm)



MK V11R40 1NO+1NC

PC	3,4 mm	FS	0,8 N
OC	10,3 mm	FR	0,5 N
CD	0,7 mm		

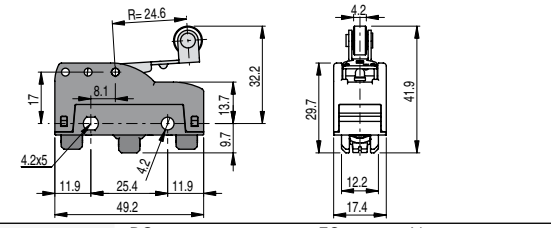
Max and min. speed page 116 - type 7



MK V11R42 1NO+1NC

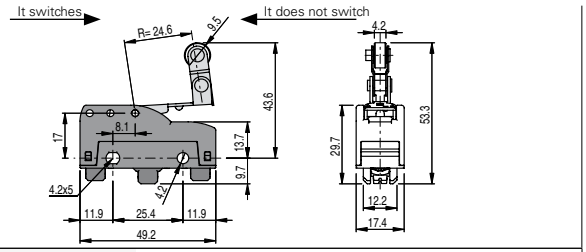
PC	2,7 mm	FS	1,2 N
OC	7,9 mm	FR	1,7 N
CD	0,5 mm		

Max and min. speed page 116 - type 7



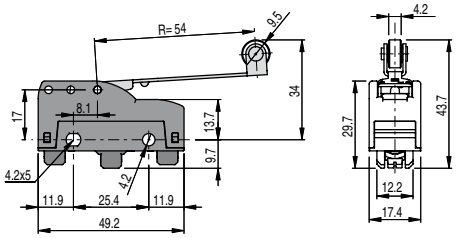
MK V11R45 1NO+1NC PC 1,5 mm FS 1,7 N
OC 5,5 mm FR 1 N
CD 0,3 mm

Max and min. speed page 116 - type 7



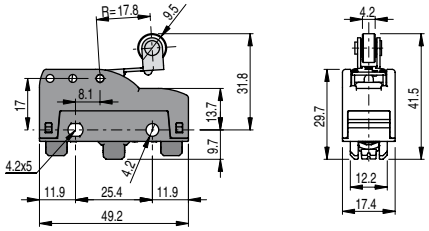
MK V11R47 1NO+1NC PC 1,7 mm FS 1,7 N
OC 5,3 mm FR 1 N
CD 0,3 mm

Max and min. speed page 116 - type 7



MK V11R53 1NO+1NC PC 4,3 mm FS 0,8 N
OC 11,6 mm FR 0,4 N
CD 0,8 mm

Max and min. speed page 116 - type 7

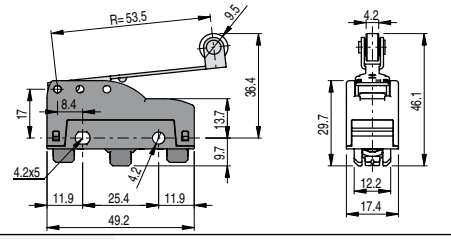


MK V11R59 1NO+1NC PC 1,5 mm FS 2,4 N
OC 3,9 mm FR 1,3 N
CD 0,3 mm

Max and min. speed page 116 - type 7

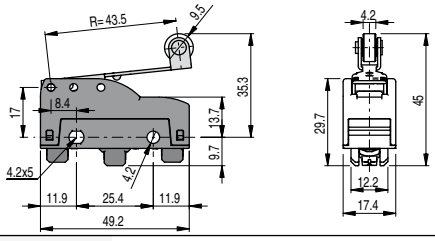
Microswitches with back direct action (All measures in the drawings are in mm)

10 pcs packs



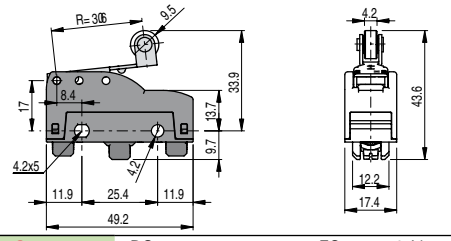
MK V11F40 1NO+1NC PC 2,4 mm FS 0,85 N
OC 10,4 mm FR 0,65 N
CD 0,25 mm

Max and min. speed page 116 - type 8



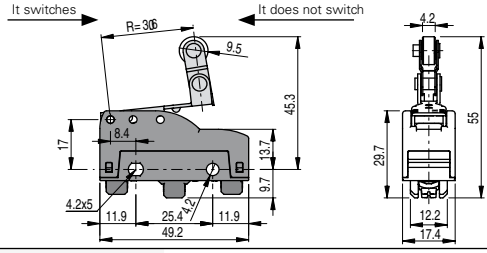
MK V11F42 ⊖ 1NO+1NC PC 1,6 mm FS 1 N
OC 8,4 mm FR 0,7 N
CD 0,2 mm FAP 4,9 N
CAP 9 mm

Max and min. speed page 116 - type 8



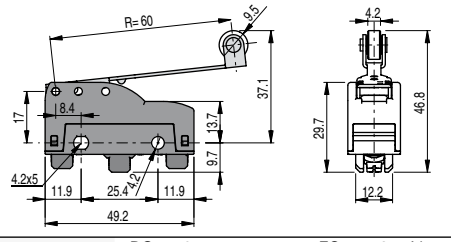
MK V11F45 ⊖ 1NO+1NC PC 1,1 mm FS 1,3 N
OC 6,6 mm FR 0,9 N
CD 0,1 mm FAP 6,9 N
CAP 6,3 mm

Max and min. speed page 116 - type 8



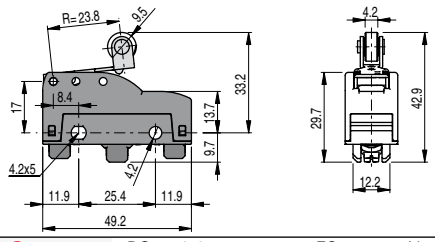
MK V11F47 ⊖ 1NO+1NC PC 1,1 mm FS 1,3 N
OC 5,6 mm FR 0,9 N
CD 0,1 mm FAP 6,9 N
CAP 6,3 mm

Max and min. speed page 116 - type 8



MK V11F53 1NO+1NC PC 2,5 mm FS 0,7 N
OC 11,5 mm FR 0,6 N
CD 0,3 mm

Max and min. speed page 116 - type 8

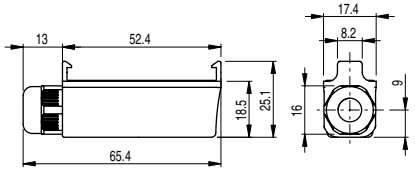


MK V11F59 ⊖ 1NO+1NC PC 0,8 mm FS 1,7 N
OC 5,2 mm FR 1,3 N
CD 0,08 mm FAP 8,9 N
CAP 4,9 mm

Max and min. speed page 116 - type 8

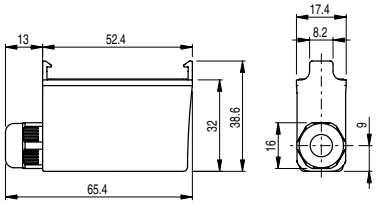
Protections (terminals covers)

10 pcs packs



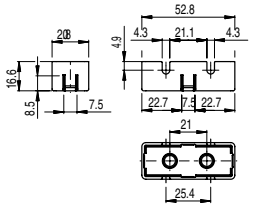
Protection terminal cover for screw terminals snap-in assembled and with wire trap cable gland. It allows the installation of more switches side by side.

Article	Description	Protection degree
VF MKCV11	Protection terminal cover without gasket for multipolar cables from Ø 5 to Ø 7,5 mm	IP40
VF MKCV12	Protection terminal cover without gasket for multipolar cables from Ø 4 to Ø 7,5 mm	IP40
VF MKCV13	Protection terminal cover without gasket for multipolar cables from Ø 2 to Ø 5 mm	IP40
VF MKCV22	Protection terminal cover with gasket for multipolar cables from Ø 4 to Ø 7,5 mm	IP65
VF MKCV23	Protection terminal cover with gasket for multipolar cables from Ø 2 to Ø 5 mm	IP65

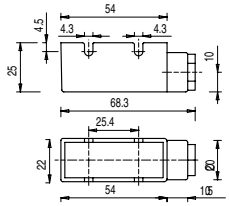


Protection terminal cover for vertical faston terminals snap-in assembled and with wire trap cable gland. It allows the installation of more switches side by side.

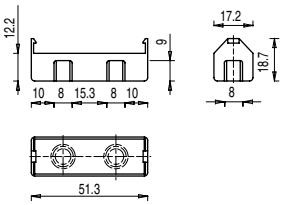
Article	Description	Protection degree
VF MKCH11	Protection terminal cover without gasket for multipolar cables from Ø 5 to Ø 7,5 mm	IP40
VF MKCH12	Protection terminal cover without gasket for multipolar cables from Ø 4 to Ø 7,5 mm	IP40
VF MKCH13	Protection terminal cover without gasket for multipolar cables from Ø 2 to Ø 5 mm	IP40
VF MKCH22	Protection terminal cover with gasket for multipolar cables from Ø 4 to Ø 7,5 mm	IP65
VF MKCH23	Protection terminal cover with gasket for multipolar cables from Ø 2 to Ø 5 mm	IP65



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



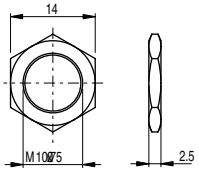
Article	Description	Protection degree
VF C02	Protection terminal cover for screw terminals with cable gland PG9 for multipolar cables from Ø 5 to Ø 7 mm	IP40



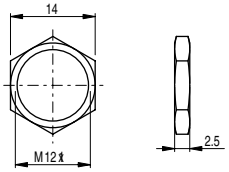
Article	Description	Protection degree
VF C03	Protection terminal cover for screw terminals snap-in assembled. It allows the installation of more switches side by side	IP20

Accessories

10 pcs packs



Article	Description
AC83	Hexagonal threaded nut M10 x 0,75 for microswitches



Article	Description
AC72	Hexagonal threaded nut M12 x 1 for microswitches

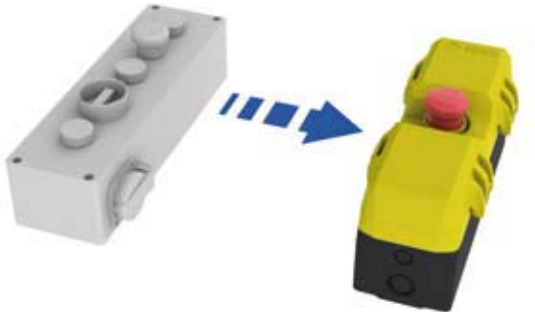
Items with code on the **green** background are available in stock

EL AC series lift control stations

Introduction

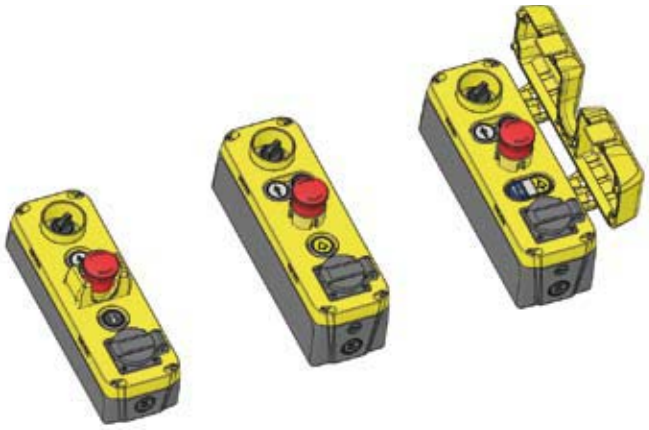
Backed by the experience and knowledge acquired in over 25 years of activity in the automation world, Pizzato Elettrica confirms its capacity of proposing, even in new sectors, innovative solutions which succeed in combining an extremely practical and flexible operation with an accurately detailed linear design. The new EL AC series lift control stations by Pizzato Elettrica incorporate these latest features, and they use articles from the EROUND line as control and signalling devices.
The EL AC series lift control stations have been designed to pilot the movement of lifts during control and maintenance operations.

Innovation



The EL AC series control stations by Pizzato Elettrica can be fitted with a new-concept flip-open protection cover, which allows the actuating devices to be safeguarded from knocks or dirt (often found in lift installation areas), while leaving the mushroom emergency button always accessible, even with the protection in the closed position. The cover is hinged on the right or the left side, and is provided with a snap system which prevents it from being closed unintentionally due to vibration.
Similarly, a closing system with a snap catch prevents it from being opened accidentally.

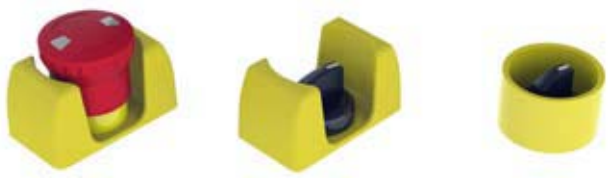
Modularity



The control stations intended to house the control and signalling devices have been designed with the precise objective to make them as user-friendly as possible for maintenance operators, as well as to provide the widest and most versatile choice in the combination of applicable devices.
These diverse options are made possible thanks to the innovative construction of the enclosures cover (registered patent) which allows free arrangement of the perforated holes and shapes for housing various devices; such insert elements make up the whole cover - just one solid piece produced by means of a single moulding process. In addition to this option, different types of guards can be fitted to protect the emergency button and the selector.
The lift control stations are therefore available with configurations which can be fully customised in terms of arrangement and types of auxiliary control devices; the number of possible variations is extremely high, i.e. over 100,000.

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.



Tread-safe

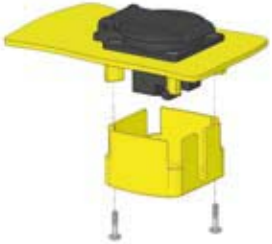
The dual function of the side-hinged cover is to protect the devices from dust and dirt and to safeguard them against knocks and stresses (up to 100 kg max.). Its particular outline allows the emergency button to be freely activated, at the same time granting protection even in the case where an incautious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

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. In order to further integrate them in the machinery to which they are fitted, the EL AC series lift control stations are also available in an all-black version, as well as the standard black-yellow version.

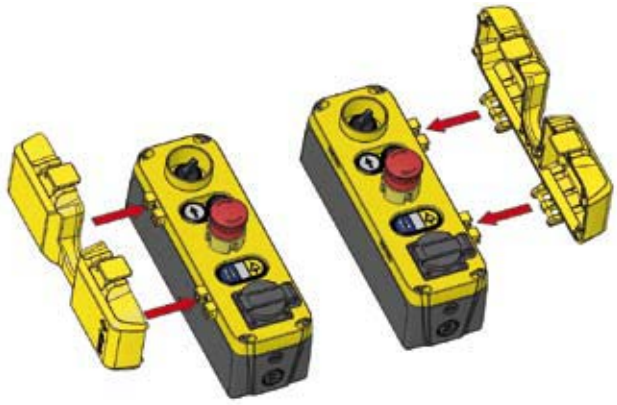
Electrical socket

The inside of the electrical socket is protected against the risk of accidental contact by means of a removable cover.
Furthermore, 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 can be perfectly adapted to the standards in force in the country where the lift is installed.



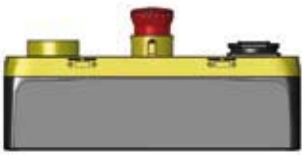
Possibility of separate purchasing of the protection cover

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.

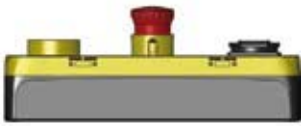


Two heights

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



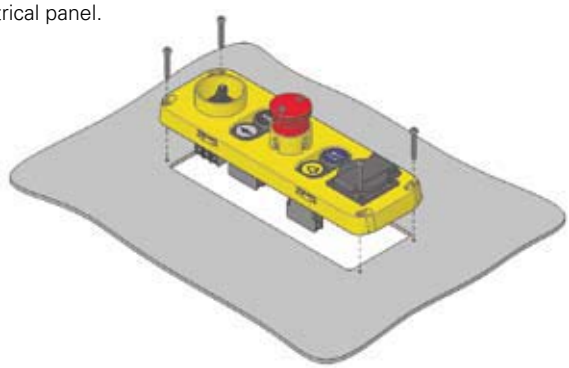
1 level of contacts

LASER marking

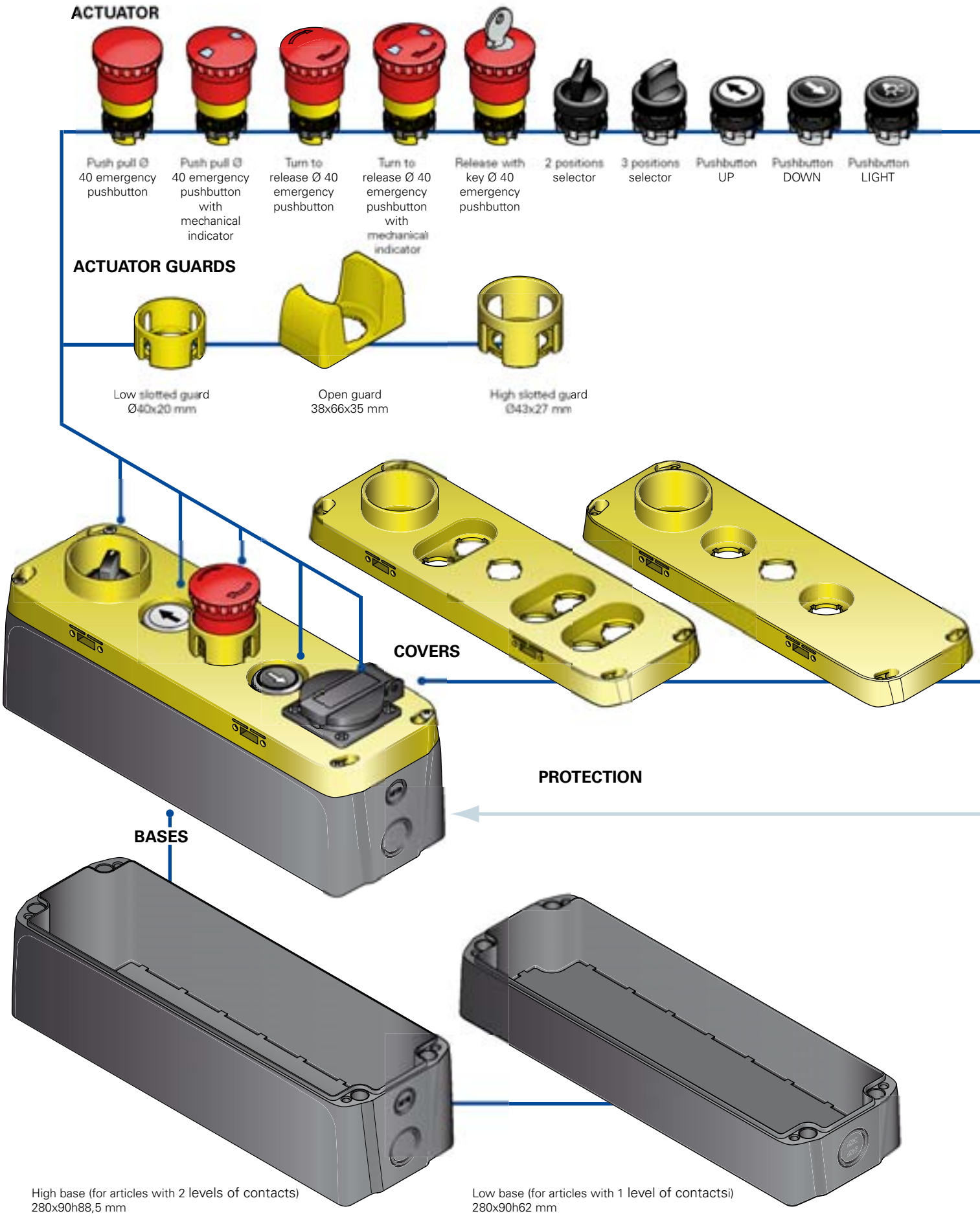
Pizzato Elettrica has implemented a new LASER marking system for the EL AC series control stations.
Thanks to this system, which exclude pad printing and labels, marking on the product is indelible and long lasting.
The EL AC series control stations can be customised with indications, symbols and customer logos, as well as with inscriptions available in several languages.

Cover without base

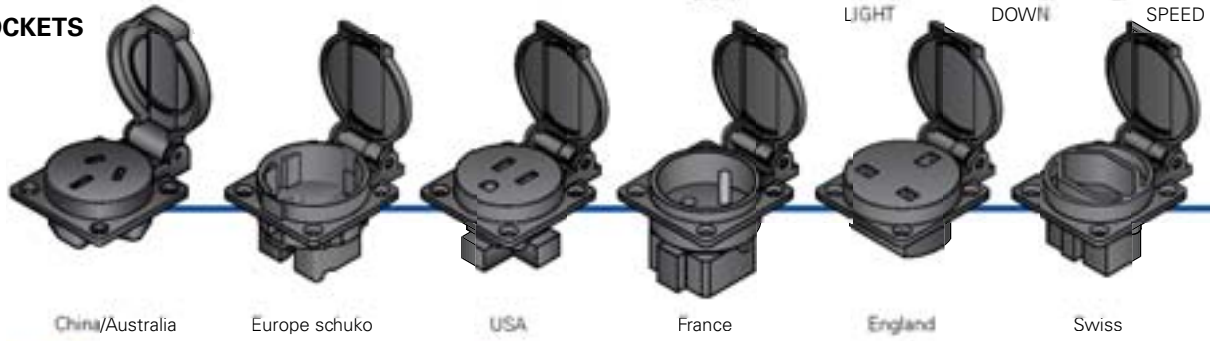
The EL AC series control stations are also available with a cover not provided with base. This version has been especially designed to allow direct fixing of the control station on a wall or onto the electrical panel.

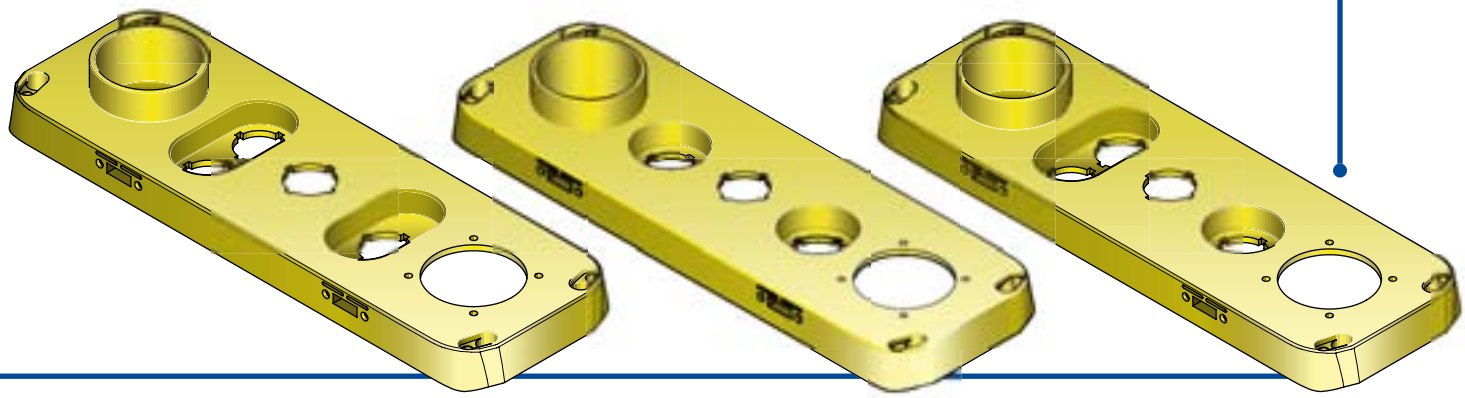


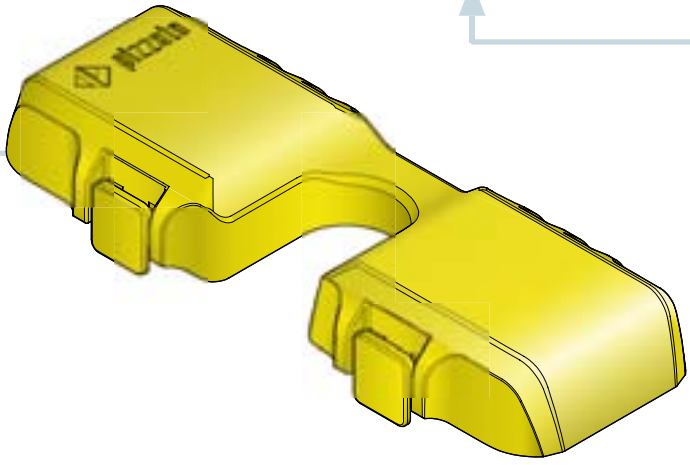
Selection diagram

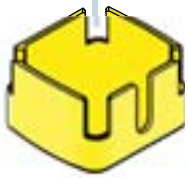


SOCKETS









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
...	.....

EL AC series lift control stations

Main data

- Different configurations available
- With error-proof protection
- Protection degree IP54 or IP65
- Internal and external fixing
- Built-in devices or protected by guards
- Customized sockets

Markings and quality marks (enclosures):

CE

Markings and quality marks (contact blocks):

CE c UL us PCT AB24

Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

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 Black RAL 9005
Protection colour:	Yellow RAL 1023 Black RAL 9005
Screws materials:	Galvanized steel, stainless steel on request
Protection degree:	IP54 (standard) according to IEC 60529 IP65 (on request) according to IEC 60529

General data

Ambient temperature:	-25°C ... +80°C
Cover screws driving torque:	1 ... 1,4 Nm

Devices assembling

Suit for assembling with control and signalling devices Ø 22 mm

In conformity with standards:

IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 N°14, EN 81-1, EN 81-2

⚠ 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 60947-5-1, encl. K, par. 2.

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	600 Vac/dc
Protection against short circuits:	fuse 10 A 500 V type gG/gL
Rated impulse Uimp:	6 kV
Pollution degree:	3

Utilization categories

Alternate current: AC15 (50÷60 Hz)

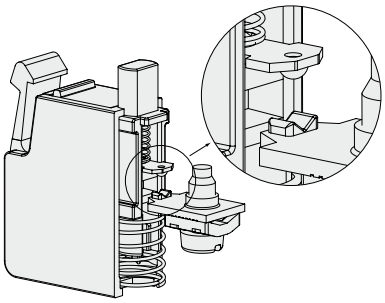
Ue (V)	24	48	120	250	400
Ie (A)	6	6	6	6	3

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	2,5	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).



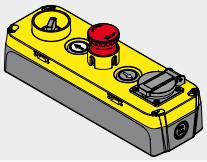
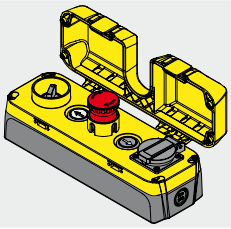
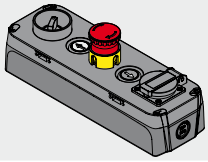
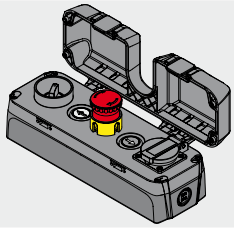
Positive opening

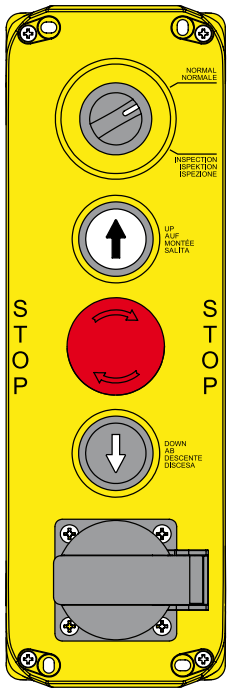
NC contact blocks are suitable for safety application, with positive opening contacts according to IEC 60947-5-1.

Data type approved by UL

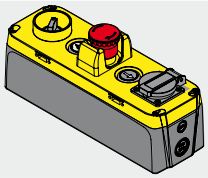
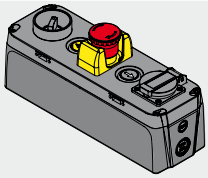
Utilization category: A600 pilot duty (720 VA, 120-600 Vac)
Q300 pilot duty (69 VA, 125-250 Vdc)

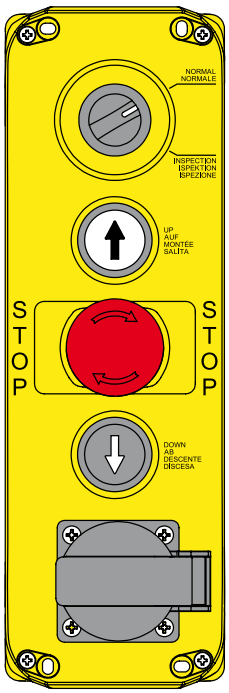
Note:
- Use copper wire (Cu) 60 or 75 °C rigid or flexible with cross section12-20 AWG.
- Terminals tightening torque 7,1 Lb In (0,8 Nm).

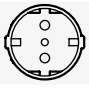
EL AC27010	EL AC27050	EL AC27030	EL AC27070
			



Description	Features			Wiring layout
Short handle selector - 2NO+1NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL 
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	INSPECTION 
Pushbutton UP - 2NO E2 1PU2R221L9	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton DOWN - 2NO E2 1PU2R121L10	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

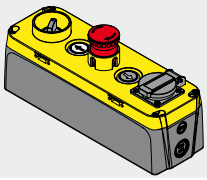
EL AC27011		EL AC27031	
			



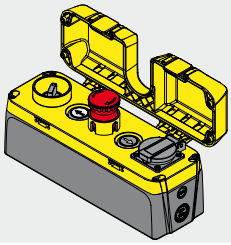
Description	Features			Wiring layout
Short handle selector - 2NO+2NC E2 1SE12AVA11AB	recessed, 2 stay-put positions black colour			NORMAL 
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	INSPECTION 
Pushbutton UP - 2NO E2 1PU2R221L9	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton DOWN - 2NO E2 1PU2R121L10	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

EL AC series lift control stations

EL AC27012



EL AC27052



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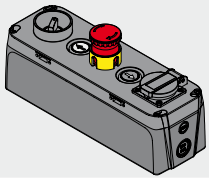
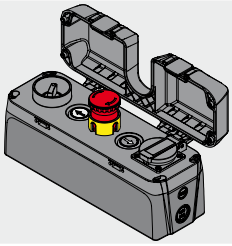
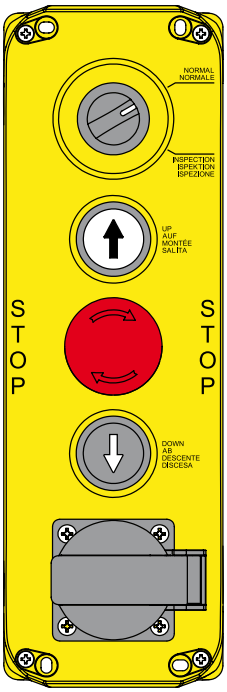


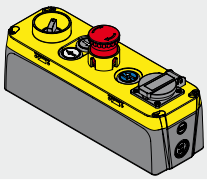
EL AC27072



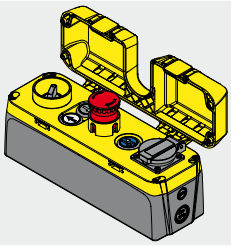


Description	Features			Wiring layout
Short handle selector - 3NO+3NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL / INSPECTION
Contacts 3x E2 CP10G2V1+ 3x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 1NO pos 6 1NC ⊖	pos 1 1NO pos 4 1NC ⊖	
Pushbutton UP - 2NO E2 1PU2R221L9	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton DOWN - 2NO E2 1PU2R121L10	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

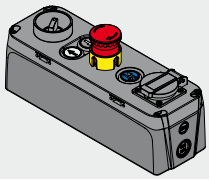
EL AC27013



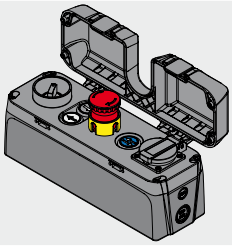
EL AC27053

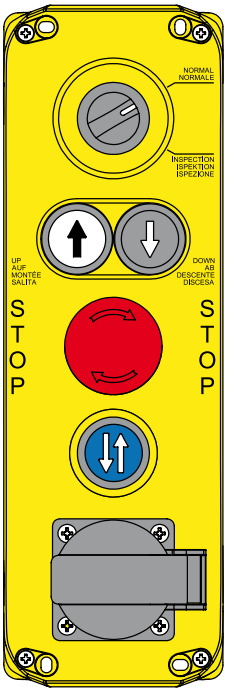


EL AC27033

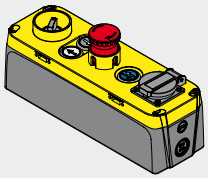
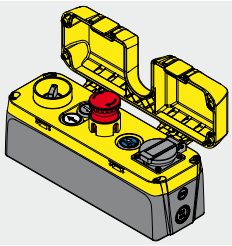
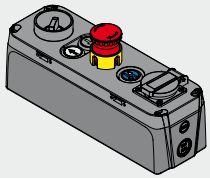
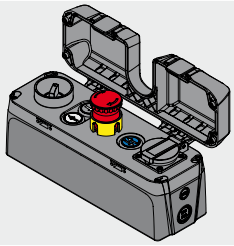


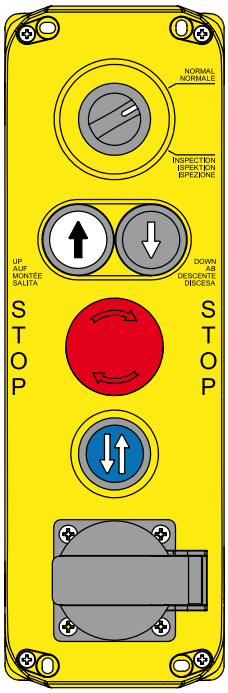
EL AC27073

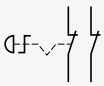


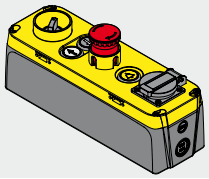
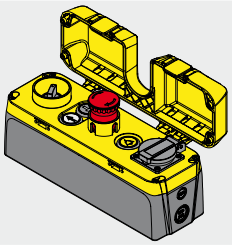
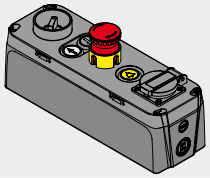
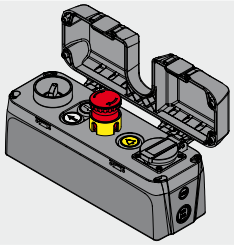


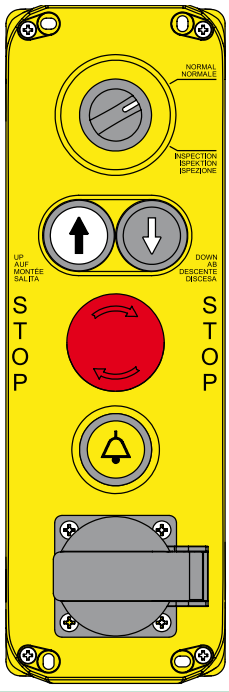
Description	Features			Wiring layout
Short handle selector - 3NO+3NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL / INSPECTION
Contacts 3x E2 CP10G2V1+ 3x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 1NO pos 6 1NC ⊖	pos 1 1NO pos 4 1NC ⊖	
Pushbutton UP - 2NO E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton DOWN - 2NO E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 2NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1	pos 2 1NC ⊖	pos 3 /	pos 1 1NC ⊖	
Pushbutton ENABLE - 2NO E2 1PU2R621L31	recessed, flush, spring-return, blue colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

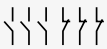
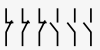
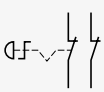
EL AC27014	EL AC27054	EL AC27034	EL AC27074
			



Description	Features			Wiring layout
Short handle selector - 2NO+2NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL 
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	INSPECTION 
Pushbutton UP - 2NO+2NC E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	
Pushbutton DOWN - 2NO+2NC E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	
Emergency pushbutton Ø 40 - 2NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1	pos 2 1NC ⊖	pos 3 /	pos 1 1NC ⊖	
Pushbutton ENABLE - 2NO E2 1PU2R621L31	recessed, flush, spring-return, blue colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

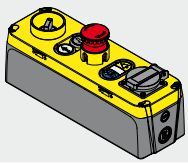
EL AC27015	EL AC27055	EL AC27035	EL AC27075
			

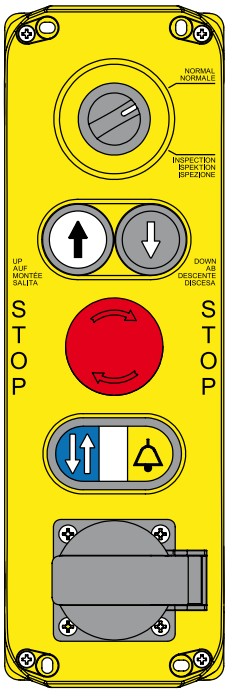


Description	Features			Wiring layout
Short handle selector - 3NO+3NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL 
Contacts 3x E2 CP10G2V1+ 3x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 1NO pos 6 1NC ⊖	pos 1 1NO pos 4 1NC ⊖	INSPECTION 
Pushbutton UP - 2NO E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton DOWN - 2NO E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 2NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1	pos 2 1NC ⊖	pos 3 /	pos 1 1NC ⊖	
Pushbutton ALARM - 1NO+1NC E2 1PU2R521L32	recessed, flush, spring-return, yellow colour			
Contacts 1x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 /	pos 1 1NC ⊖	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

EL AC series lift control stations

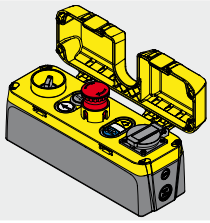
EL AC27016



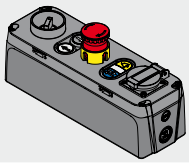


Description	Features			Wiring layout
Short handle selector - 3NO+3NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL / INSPECTION
Contacts 3x E2 CP10G2V1+ 3x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 1NO pos 6 1NC ⊖	pos 1 1NO pos 4 1NC ⊖	
Pushbutton UP - 2NO+1NC E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	
Pushbutton DOWN - 2NO+1NC E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	
Emergency pushbutton Ø 40 - 2NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1	pos 2 1NC ⊖	pos 3 /	pos 1 1NC ⊖	
Double pushbutton: **ENABLE - 2NO** **ALARM - 1NO** E2 1PDRL1AABM	recessed , flush, spring-return			
	blue pushbutton ENABLE	white indicator light	yellow pushbutton ALARM	
Contacts 3x E2 CP10G2V1	pos 2 1NO pos 5 1NO	pos 3 / pos 6 /	pos 1 1NO pos 4 /	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

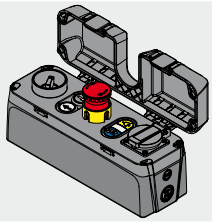
EL AC27056



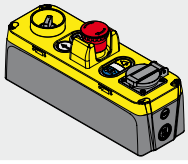
EL AC27036

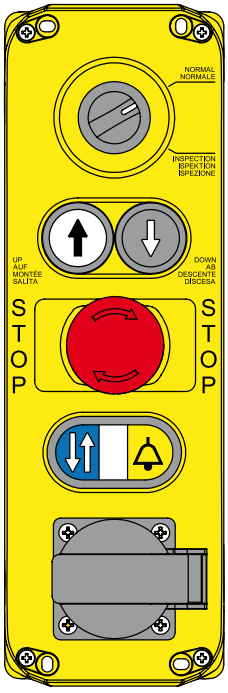


EL AC27076



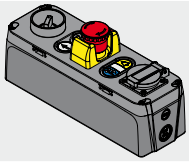
EL AC27017

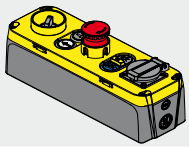
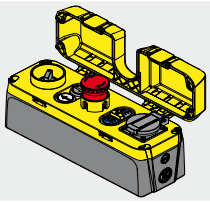
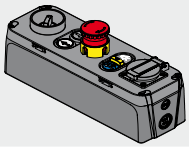
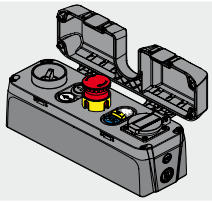


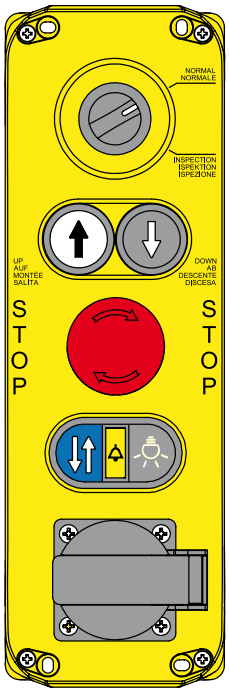


Description	Features			Wiring layout
Short handle selector - 2NO+2NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL / INSPECTION
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	
Pushbutton UP - 2NO+1NC E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	
Pushbutton DOWN - 2NO+1NC E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	
Emergency pushbutton Ø 40 - 2NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 2x E2 CP01G2V1	pos 2 1NC ⊖	pos 3 /	pos 1 1NC ⊖	
Double pushbutton: **ENABLE - 1NO** **ALARM - 1NO** E2 1PDRL1AABM	recessed , flush, spring-return			
	blue pushbutton ENABLE	white indicator light	yellow pushbutton ALARM	
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

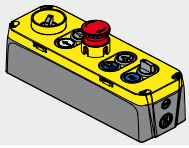
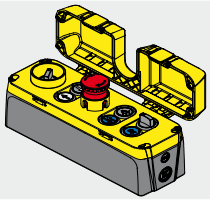
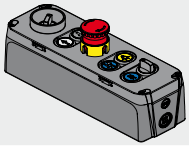
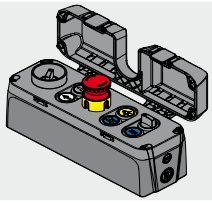
EL AC27037

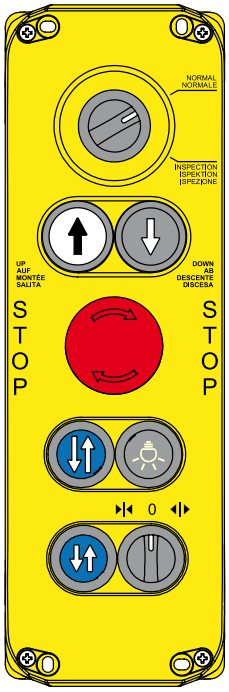


EL AC27018	EL AC27058	EL AC27038	EL AC27078
			



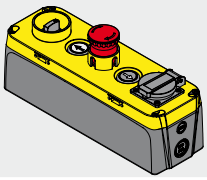
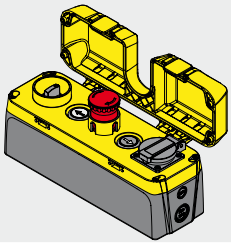
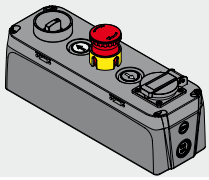
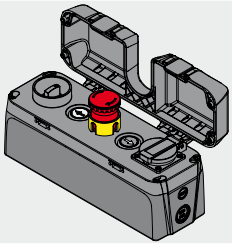
Description	Features			Wiring layout
Short handle selector - 3NO+3NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL / INSPECTION
Contacts 3x E2 CP10G2V1+ 3x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 1NO pos 6 1NC ⊖	pos 1 1NO pos 4 1NC ⊖	
Pushbutton UP - 2NO+1NC E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	
Pushbutton DOWN - 2NO+1NC E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 1NC ⊖	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Triple pushbutton: **ENABLE - 1NO** **ALARM - 1NO** **LIGHT - 1NO** E2 1PTRS1AABQ	recessed , flush, spring-return			
	blue pushbutton ENABLE	yellow pushbutton ALARM	black pushbutton LIGHT	
Contacts 3x E2 CP10G2V1	pos 2 1NO	pos 3 1NO	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

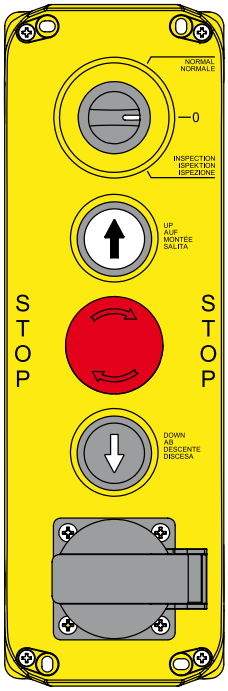
EL AC27019	EL AC27059	EL AC27039	EL AC27079
			



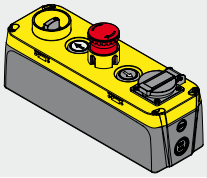
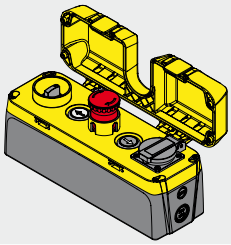
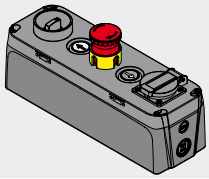
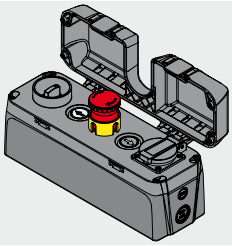
Description	Features			Wiring layout
Short handle selector - 3NO+3NC E2 1SE12AVA11AB	recessed, 2 stay-put positions, black colour			NORMAL / INSPECTION
Contacts 3x E2 CP10G2V1+ 3x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 1NO pos 6 1NC ⊖	pos 1 1NO pos 4 1NC ⊖	
Pushbutton UP - 2NO E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton DOWN - 2NO E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton ENABLE - 2NO E2 1PU2R621L25	recessed, flush, spring-return, blue colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton LIGHT - 1NO E2 1PU2R121L16	recessed, flush, spring-return, black colour			
Contact 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton ENABLE SLOW SPEED - 2NO E2 1PU2R621L58	recessed, flush, spring-return, blue colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Short handle selector DOOR - 2NO E2 1SE13ACA11AB	recessed, spring-return-stay-put-spring-return, black colour			▸|◂ / 0 / ◂|▸
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	

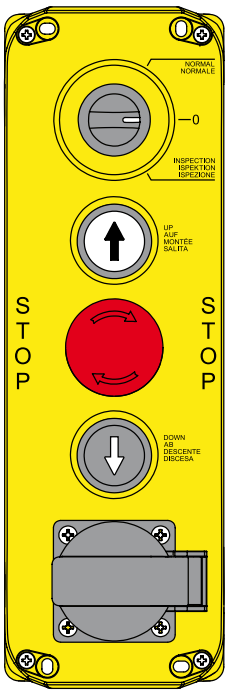
EL AC series lift control stations

EL AC27020	EL AC27060	EL AC27040	EL AC27080
			



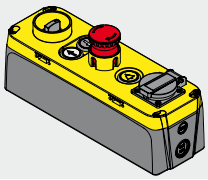
Description	Features			Wiring layout
Short handle selector - 4NO E2 1SE13ACE11AB	recessed, a 3 stay-put positions, black colour			NORMAL 0 INSPECTION
Contacts 4x E2 CP10G2V1	pos 2 1NO pos 5 1NO	pos 3 / pos 6 /	pos 1 1NO pos 4 1NO	
Pushbutton UP - 2NO E2 1PU2R221L9	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton DOWN - 2NO E2 1PU2R121L10	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

EL AC27021	EL AC27061	EL AC27041	EL AC27081
			

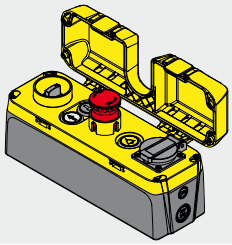


Description	Features			Wiring layout
Short handle selector - 4NO E2 1SE13ACE11AB	recessed, a 3 stay-put positions, black colour			NORMAL 0 INSPECTION
Contacts 4x E2 CP10G2V1	pos 2 1NO pos 5 1NO	pos 3 / pos 6 /	pos 1 1NO pos 4 1NO	
Pushbutton UP - 2NO+2NC E2 1PU2R221L9	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton DOWN - 2NO+2NC E2 1PU2R121L10	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1+ 2x E2 CP01G2V1	pos 2 1NO pos 5 1NC ⊖	pos 3 / pos 6 /	pos 1 1NO pos 4 1NC ⊖	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

EL AC27022



EL AC27062



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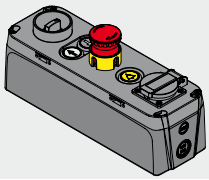

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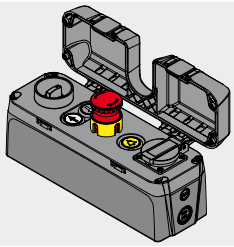
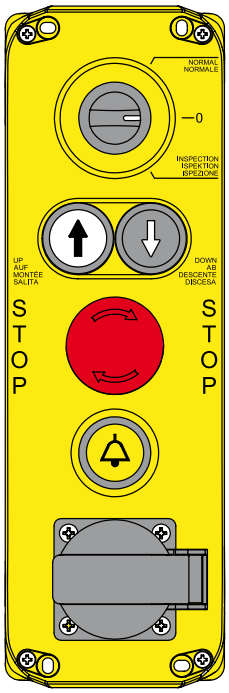
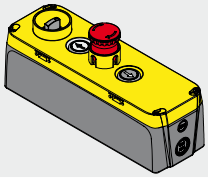




Description	Features			Wiring layout
Short handle selector - 4NO E2 1SE13ACE11AB	recessed, 3 stay-put positions, black colour			NORMAL
Contacts 4x E2 CP10G2V1	pos 2 1NO pos 5 1NO	pos 3 / pos 6 /	pos 1 1NO pos 4 1NO	0 INSPECTION
Pushbutton UP - 2NO E2 1PU2R221L7	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton DOWN - 2NO E2 1PU2R121L8	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 2NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1	pos 2 1NC ⊖	pos 3 /	pos 1 1NC ⊖	
Pushbutton ALARM - 1NO+1NC E2 1PU2R521L32	recessed, flush, spring-return, yellow colour			
Contacts 1x E2 CP10G2V1+ 1x E2 CP01G2V1	pos 2 1NO	pos 3 /	pos 1 1NC ⊖	
Europe socket VE PE1E1AA1	Schuko DIN 49440, 16 A 250 Vac, IP54, black colour			
Internal protection VE GG2BA5A	internal, yellow colour			

EL AC27023



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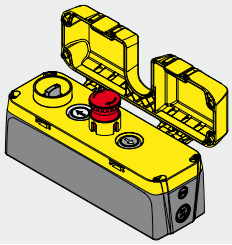

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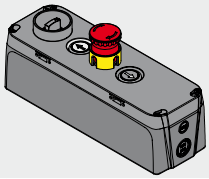

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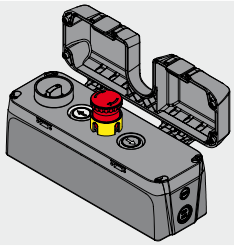
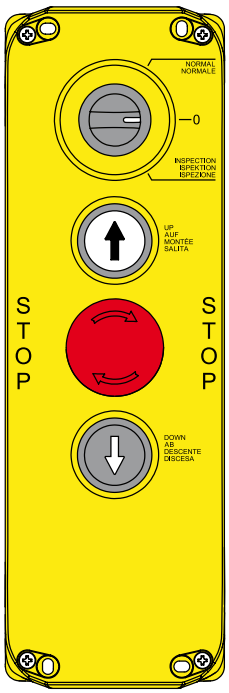
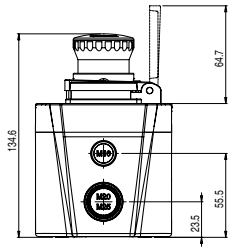
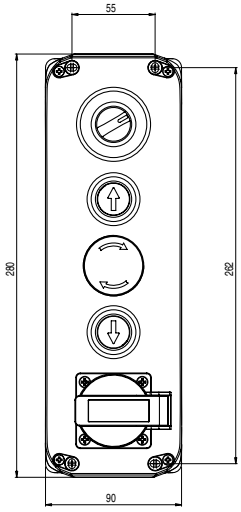


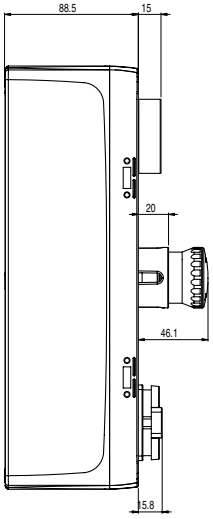


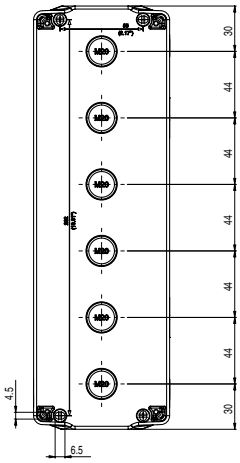
Description	Features			Wiring layout
Short handle selector- 4NO E2 1SE13ACE11AB	recessed, a 3 stay-put positions, black colour			NORMAL
Contacts 4x E2 CP10G2V1	pos 2 1NO pos 5 1NO	pos 3 / pos 6 /	pos 1 1NO pos 4 1NO	0 INSPECTION
Pushbutton UP - 2NO E2 1PU2R221L9	recessed, flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Slotted guard VE GP22A5A	40 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton DOWN - 2NO E2 1PU2R121L10	recessed, flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	

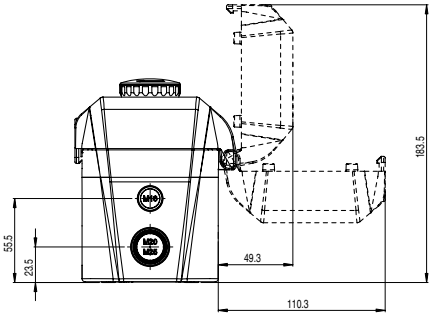
Lift control stations with high base EL AC27••• series dimensions

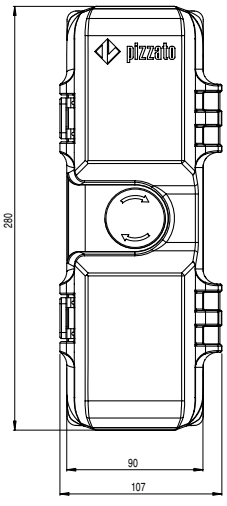


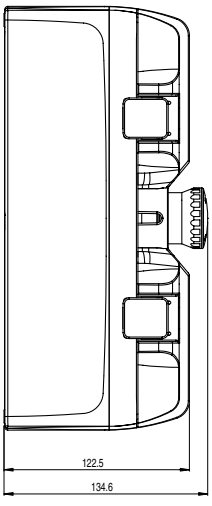


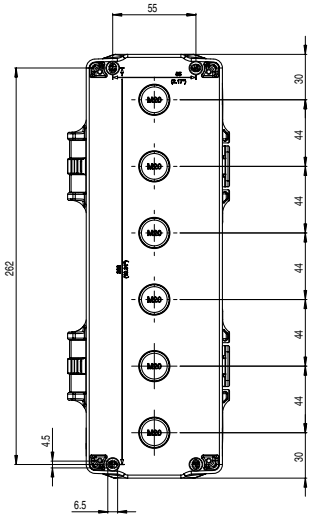




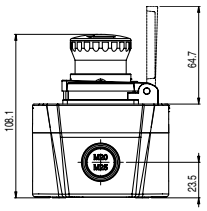


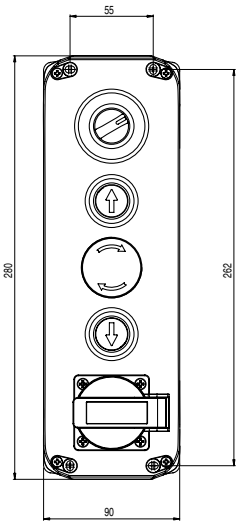


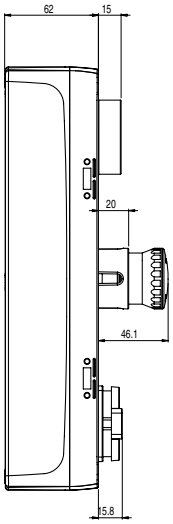


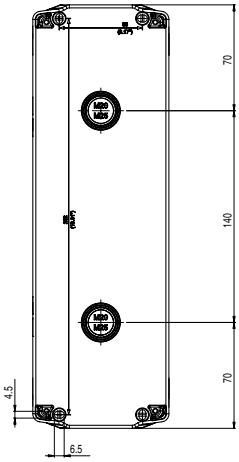


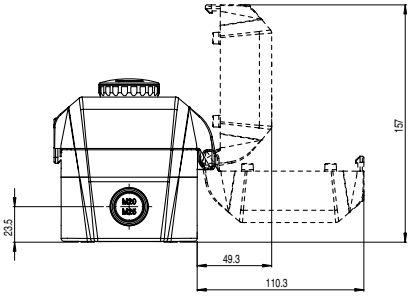
Lift control stations with low base EL AC27••• series dimensions

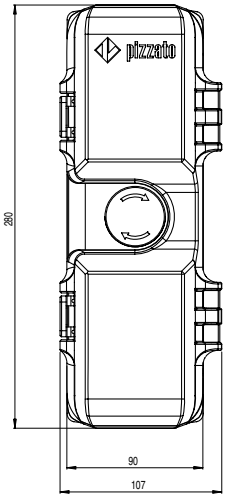


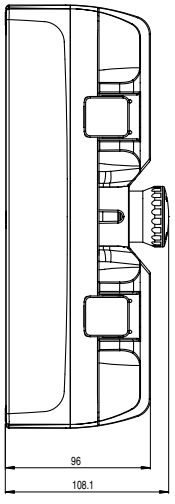


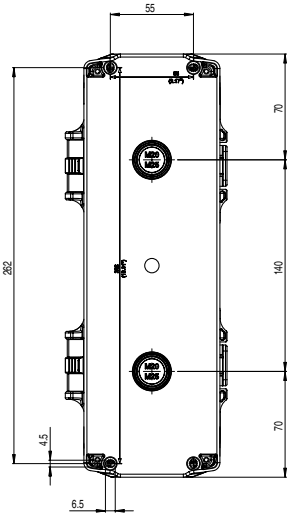












EL AN series lift control stations

Introduction

Backed by the experience and knowledge acquired in over 25 years of activity in the automation world, Pizzato Elettrica confirms its capacity of proposing, even in new sectors, innovative solutions which succeed in combining an extremely practical and flexible operation with an accurately detailed linear design. The new EL AN series lift control stations by Pizzato Elettrica incorporate these latest features, and they use articles from the EROUND line as control and signalling devices.
The EL AN series lift control stations have been designed to pilot the movement of lifts during control and maintenance operations.

Modularity

The control stations intended to house the control and signalling devices have been designed with the precise objective to make them as user-friendly as possible for maintenance operators, as well as to provide the widest and most versatile choice in the combination of applicable devices.
These diverse options are made possible thanks to the innovative construction of the enclosures cover (registered patent) which allows free arrangement of the perforated holes and shapes for housing various devices; such insert elements make up the whole cover - just one solid piece produced by means of a single moulding process. In addition to this option, different types of guards can be fitted to protect the emergency button and the selector.
The lift control stations are therefore available with configurations which can be fully customised in terms of arrangement and types of auxiliary control devices; the number of possible variations is extremely high, i.e. over 100,000.

Wide range

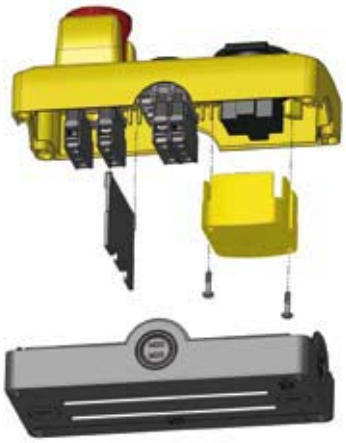
The range of EL AN series control stations includes 4 dimensions and several configurations.
The outlines and details of the new EL AN series control stations have been accurately designed, which contributes to an attractive aesthetic result.

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.

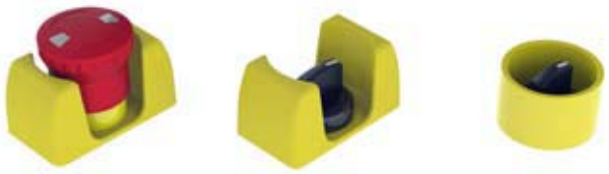
Electrical socket

The inside of the electrical socket is protected against the risk of accidental contact by means of a special removable cover.
A separator (appliable 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.



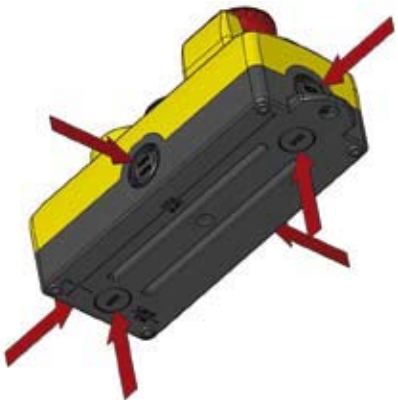
Sturdiness

The devices are guaranteed protection against knocks and treading both by 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.



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.



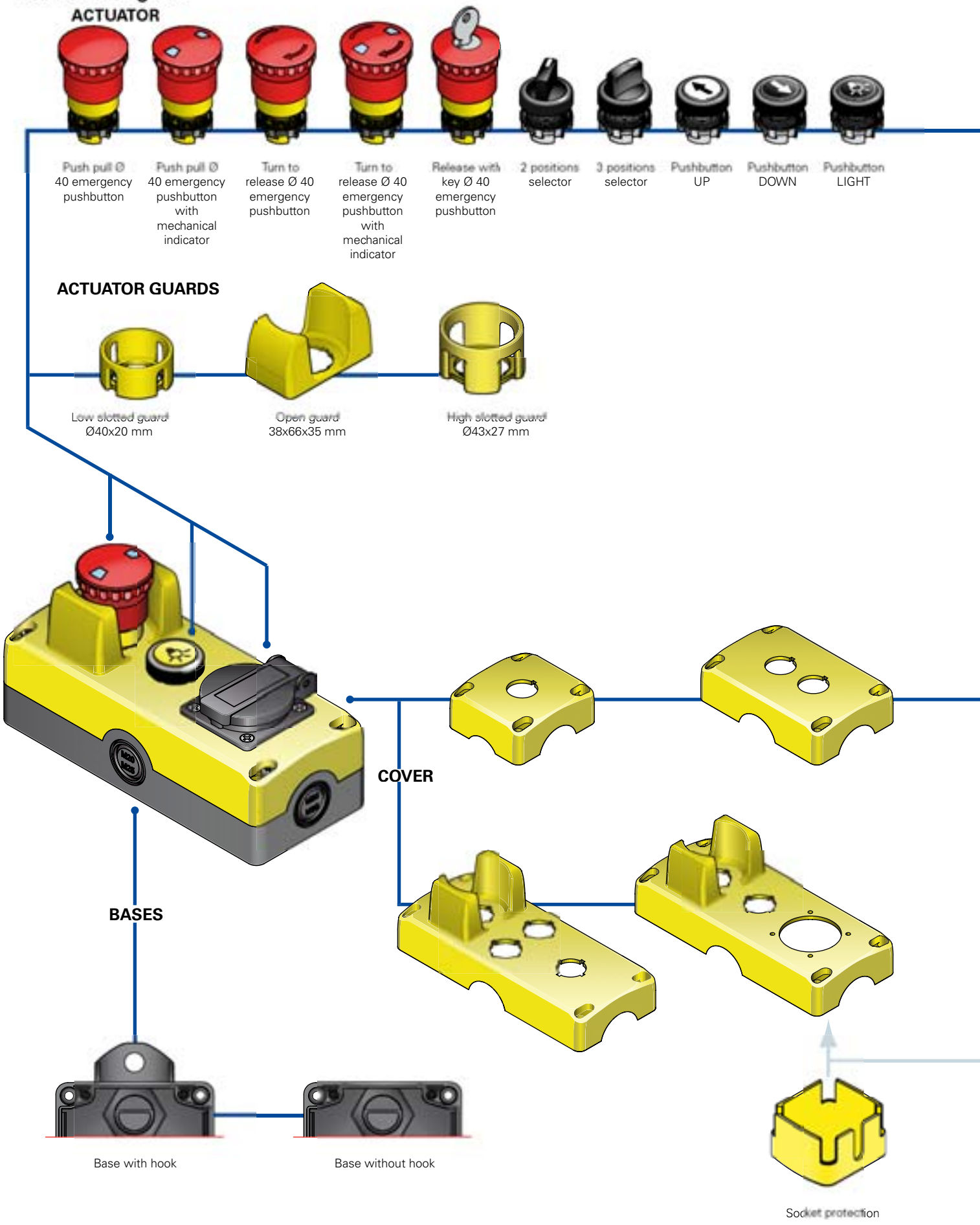
LASER marking

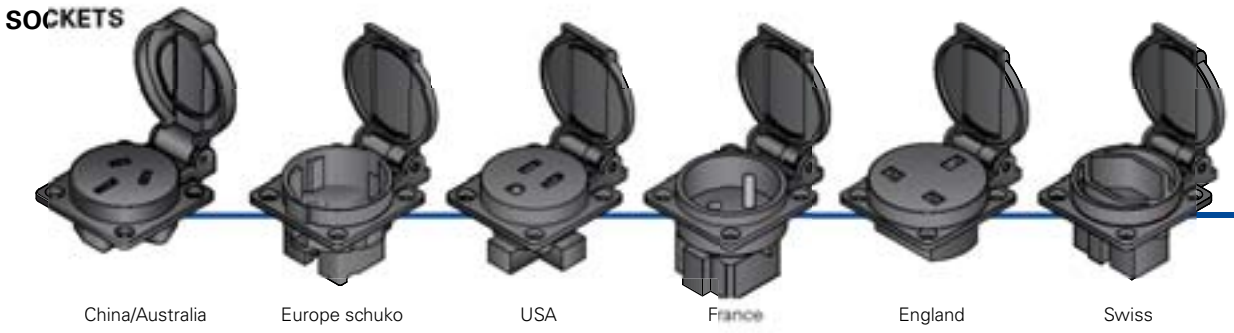
Pizzato Elettrica has implemented a new LASER marking system for the EL AC series control stations.
Thanks to this system, which exclude pad printing and labels, marking on the product is indelible and long lasting.
The EL AC series control stations can be customised with indications, symbols and customer logos, as well as with inscriptions available in several languages.

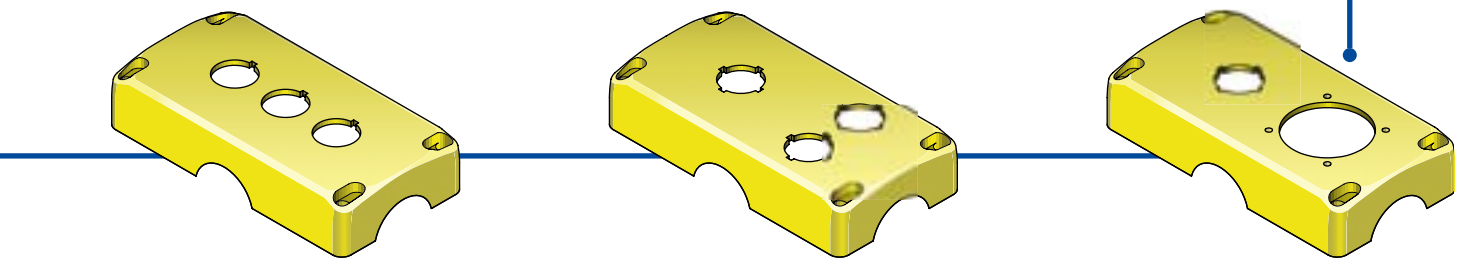
Electrical panel hanging hook

On request, the EL AN series control stations can be equipped with a special hook to hang the control stations directly on a wall or onto the electrical panel.

Selection diagram







product option
accessory sold separately

Code structure

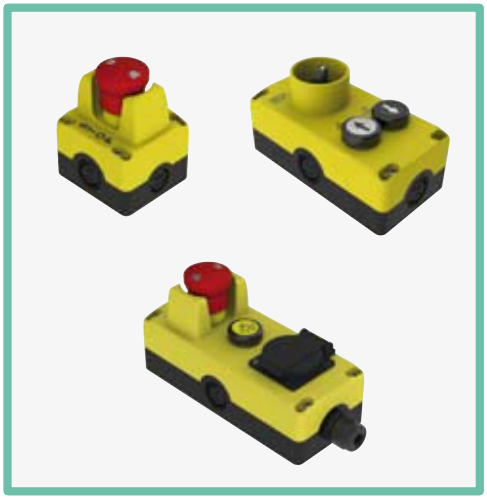
Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

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
....	....

EL AN series lift control stations



Main data

- Different configurations available
- Protection degree IP54
- Actuator guards
- Internal and external fixing
- Customized sockets
- Retained screws

Markings and quality marks (enclosures):

CE

Markings and quality marks (contact blocks):

CE cULus PCT AB24

Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

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 IEC 60529

General data

Ambient temperature:	-25°C ... +80°C
Cover screws driving torque:	1 ... 1,4 Nm

Devices assembling

Suit for assembling with control and signalling devices Ø 22 mm

In conformity with standards:

IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 N°14, EN 81-1, EN 81-2

⚠ 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 60947-5-1, encl. K, par. 2.

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	600 Vac/dc
Protection against short circuits:	fuse 10 A 500 V type gG/gL
Rated impulse Uimp:	6 kV
Pollution degree:	3

Utilization categories

Alternate current: AC15 (50÷60 Hz)

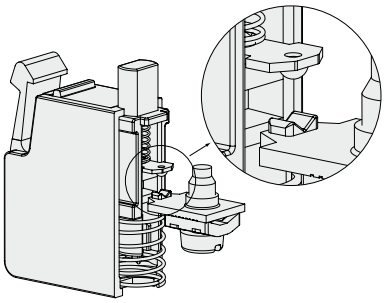
Ue (V)	24	48	120	250	400
Ie (A)	6	6	6	6	3

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	2,5	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

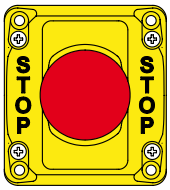
NC contact blocks are suitable for safety application, with positive opening contacts according to IEC 60947-5-1.

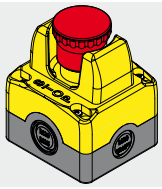
Data type approved by UL

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

Note:
- Use copper wire (Cu) 60 or 75 °C rigid or flexible with cross section12-20 AWG.
- Terminals tightening torque 7,1 Lb In (0,8 Nm).

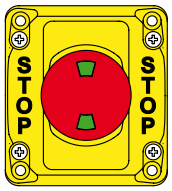
EL AN21256

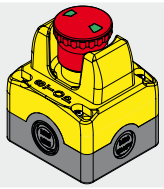




Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PEPZ4531	push-pull, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /	

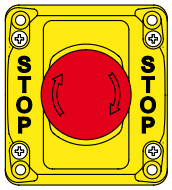
EL AN21223

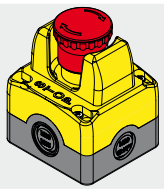




Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PEPF4531	push-pull, with mechanical indicator, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /	

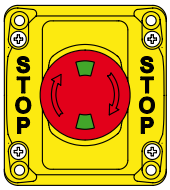
EL AN21224

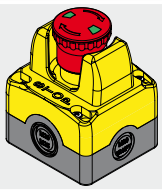




Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /	

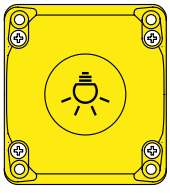
EL AN21257

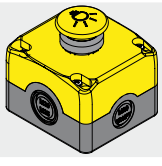




Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERF4531	turn to release, with mechanical indicator, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /	

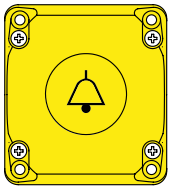
EL AN21220

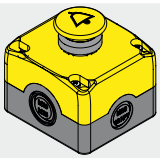




Description	Features			Wiring layout
Illuminated mushroom pushbutton Ø36 LIGHT - 1NO E2 1PL2F541L16	36 mm diameter, spring-return, yellow colour			
LED holders E2 LP1A2V1	White LED, 12 ... 30 Vac/dc			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 LED	pos 1 1NO	

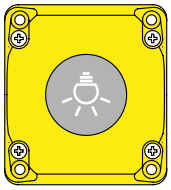
EL AN21221

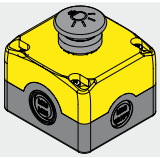




Description	Features			Wiring layout
Mushroom pushbutton Ø 36 ALARM - 1NO E2 1PU2F541L14	36 mm diameter, spring-return, yellow colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	

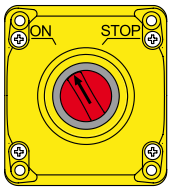
EL AN21222

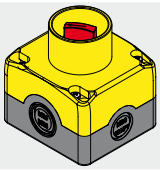




Description	Features			Wiring layout
Mushroom pushbutton Ø 36 LIGHT - 1NO E2 1PU2F141L16	36 mm diameter, spring-return, black colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	

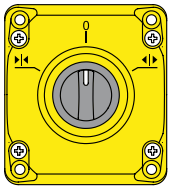
EL AN21258

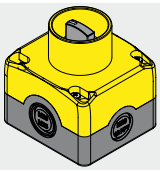


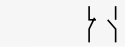


Description	Features			Wiring layout
Short handle selector - 1NC E2 1SE12AVA31AF	2 stay-put positions, red colour			ON
Ø 43 guard VE GP22B5A	43 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	STOP

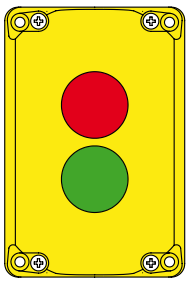
EL AN21255

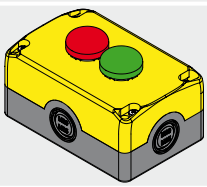




Description	Features			Wiring layout
Short handle selector - 2NO E2 1SE13GCE11AB	3 positions spring return - stay put - spring return, black colour			
Ø 43 guard VE GP22B5A	43 mm diameter, yellow colour			0 
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	

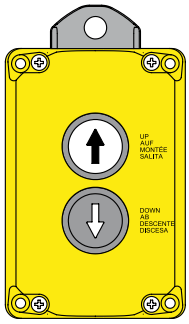
EL AN22012

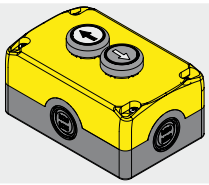




Description	Features	Wiring layout
Indicator light Ø 30 E2 1ILA310	30 mm diameter, red colour	
LED holders E2 LP1A3V1	red LED, 12 ... 30 Vac/dc	
Indicator light Ø 30 E2 1ILA410	30 mm diameter, green colour	
LED holders E2 LP1A4V1	green LED, 12 ... 30 Vac/dc	

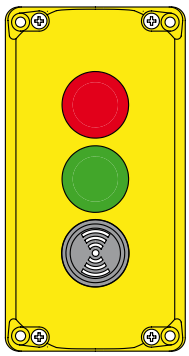
EL AN22014

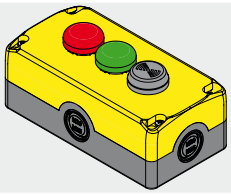




Description	Features			Wiring layout
Pushbutton UP - 1NO E2 1PU2R221L9	flush, spring-return, white colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton DOWN - 1NO E2 1PU2R121L10	flush, spring-return, black colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	

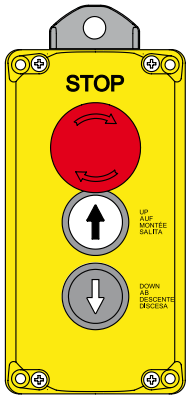
EL AN23016

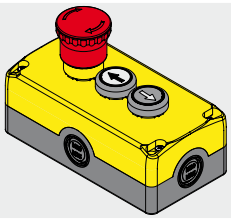




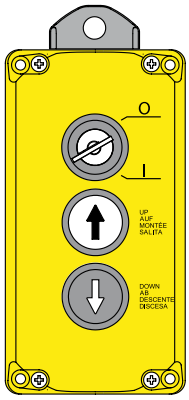
Description	Features	Wiring layout
Indicator light Ø 30 E2 1ILA310	30 mm diameter, red colour	
LED holders E2 LP1A3V1	red LED, 12 ... 30 Vac/dc	
Indicator light Ø 30 E2 1ILA410	30 mm diameter, green colour	
LED holders E2 LP1A4V1	green LED, 12 ... 30 Vac/dc	
Buzzer Ø 30 E2 1IS1A1BV10	30 mm diameter, black colour 12 ... 24 Vac/dc ~ 80dB (A)	/

EL AN23017

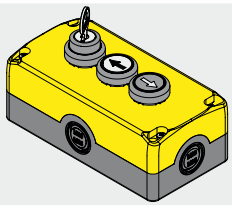




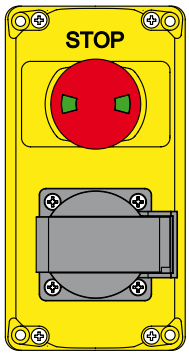
Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton UP - 1NO E2 1PU2R221L9	flush, spring-return, white colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton DOWN - 1NO E2 1PU2R121L10	flush, spring-return, black colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	



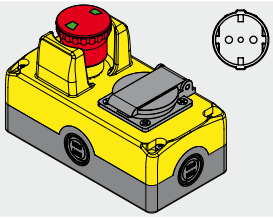
EL AN23019



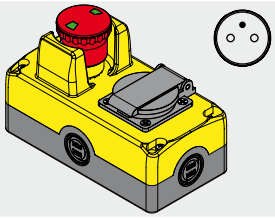
Description	Features			Wiring layout
Key selector - 1NO E2 1SC2AVA11AA	2 stay-put positions, "0" key withdrawal position, black colour			0 / I
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton UP - 1NO E2 1PU2R221L9	flush, spring-return, white colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton DOWN - 1NO E2 1PU2R121L10	flush, spring-return, black colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	



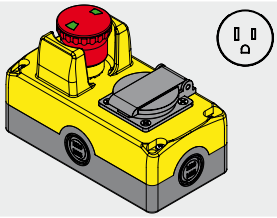
EL AN23020



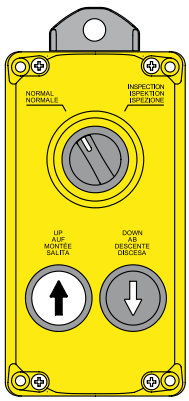
EL AN23024



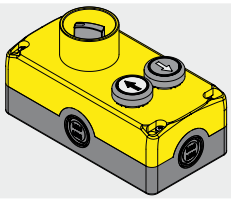
EL AN23027



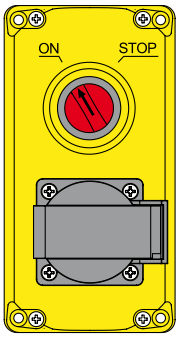
Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PEPF4531	push-pull, with mechanical indicator, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Socket	Features see on page 95			Schuko 16 A 250 Vac France 16 A 250 Vac USA 15 A 125 Vac
Internal protection VE GG2BA5A	internal, yellow colour			

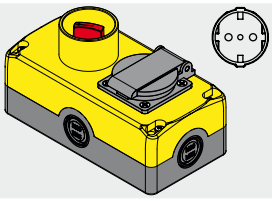
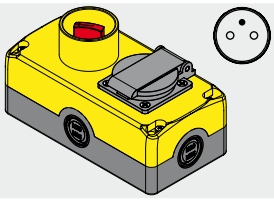
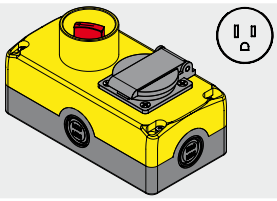


EL AN23021

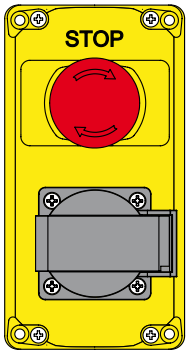


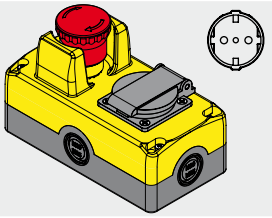
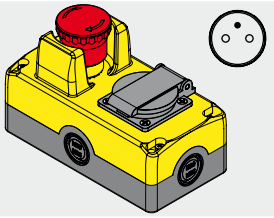
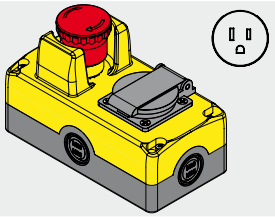
Description	Features			Wiring layout
Short handle selector - 2NC+1NO E2 1SE12AVA11AB	2 stay-put positions, black colour			NORMAL / INSPECTION
Ø 43 guard VE GP22B5A	43 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1+1x E2 CP10G2V1	pos 2 1NC ⊖	pos 3 1NO	pos 1 1NC ⊖	
Pushbutton UP - 1NO E2 1PU2R221L7	flush, spring-return, white colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton DOWN - 1NO E2 1PU2R121L8	flush, spring-return, black colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	



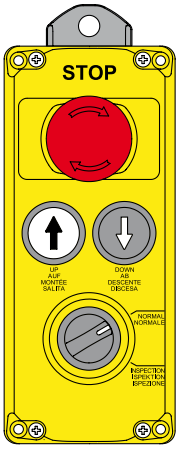
	EL AN23022	EL AN23025	EL AN23028
			

Description	Features			Wiring layout
Short handle selector - 1NC E2 1SE12AVA31AF	2 stay-put positions, red colour			ON
Ø 43 guard VE GP22B5A	43 mm diameter, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	STOP
Socket	Features see on page 95			Schuko 16 A 250 Vac France 16 A 250 Vac USA 15 A 125 Vac
Internal protection VE GG2BA5A	internal, yellow colour			



	EL AN23023	EL AN23026	EL AN23029
			

Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Open guard VE GP22F5A	open rectangular, yellow colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Socket	Features see on page 95			Schuko 16 A 250 Vac France 16 A 250 Vac USA 15 A 125 Vac
Internal protection VE GG2BA5A	internal, yellow colour			



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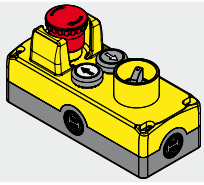
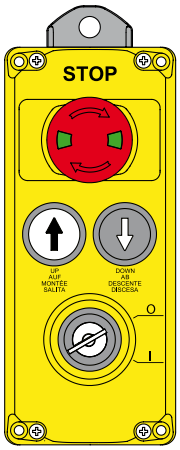
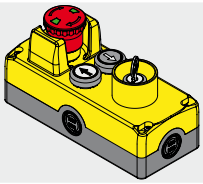
	

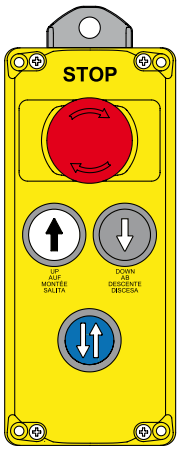
Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton UP - 2NO E2 1PU2R221L7	flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton DOWN - 2NO E2 1PU2R121L8	flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Short handle selector - 2NC+1NO E2 1SE12AVA11AB	2 stay-put positions, black colour			NORMAL
Ø 43 guard VE GP22B5A	43 mm diameter, yellow colour			
Contacts 2x E2 CP01G2V1+1x E2 CP10G2V1	pos 2 1NC ⊖	pos 3 1NO	pos 1 1NC ⊖	INSPECTION



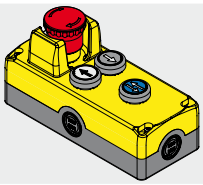
EL AN24023



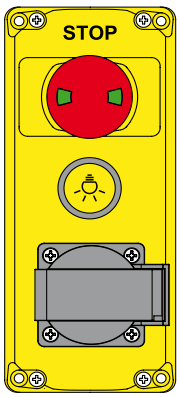
Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERF4531	turn to release, with mechanical indicator, 40 mm diameter, red colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton UP - 2NO E2 1PU2R221L7	flush, spring-return, white colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Pushbutton DOWN - 2NO E2 1PU2R121L8	flush, spring-return, black colour			
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO	
Key selector - 1NO E2 1SC2AVA11AA	2 stay-put positions, "0" key withdrawal position, black colour			0
Ø 43 guard VE GP22B5A	43 mm diameter, yellow colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	I



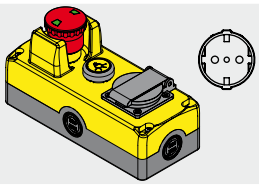
EL AN24024



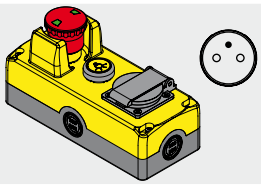
Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PERZ4531	turn to release, 40 mm diameter, red colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Pushbutton UP - 1NO E2 1PU2R221L7	flush, spring-return, white colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton DOWN - 1NO E2 1PU2R121L8	flush, spring-return, black colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	
Pushbutton ENABLE - 1NO E2 1PU2R621L31	flush, spring-return, blue colour			
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /	



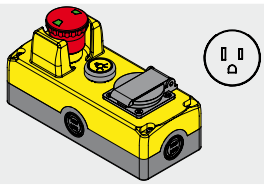
EL AN24025



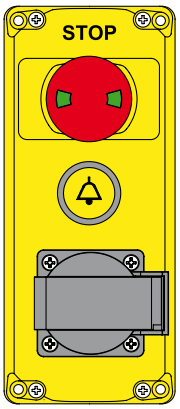
EL AN24029



EL AN24033



Description	Features			Wiring layout
Emergency pushbutton Ø 40 - 1NC E2 1PEPF4531	push-pull, with mechanical indicator, 40 mm diameter, red colour			
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC ⊖	pos 1 /	
Illuminated pushbutton LIGHT - 1NO E2 1PL2R521L41	flush, spring-return, yellow colour			
LED holders E2 LP1A2V1	white LED, 12 ... 30 Vac/dc			LED
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 LED	pos 1 1NO	
Socket	Features see on page 95			Schuko 16 A 250 Vac France 16 A 250 Vac USA 15 A 125 Vac
Internal protection VE GG2BA5A	internal, yellow colour			



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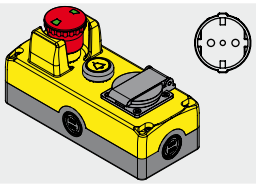
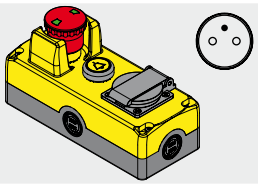
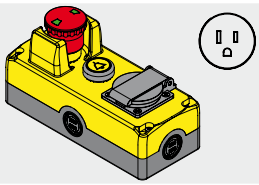
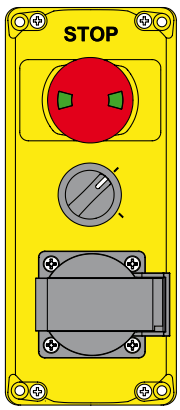
			
Description	**Features**		**Wiring layout**
Emergency pushbutton Ø 40 - 1NC E2 1PEPF45321	push-pull, with mechanical indicator, 40 mm diameter, red colour		
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /
Pushbutton ALARM - 1NO E2 1PU2R521L32	flush, spring-return, yellow colour		
Contacts 1x E2 CP10G2V1	pos 2 /	pos 3 1NO	pos 1 /
Socket	Features see on page 95		 Schuko 16 A 250 Vac  France 16 A 250 Vac  USA 15 A 125 Vac
Internal protection VE GG2BA5A/	internal, yellow colour		



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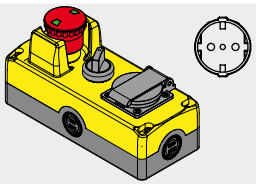
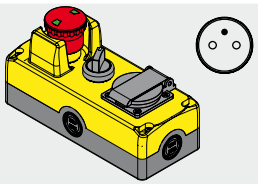
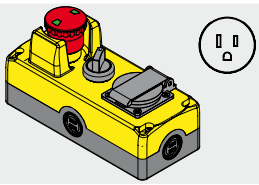
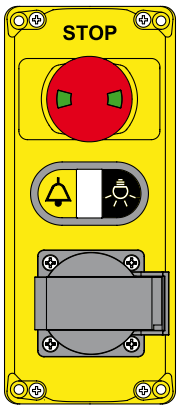
			
Description	**Features**		**Wiring layout**
Emergency pushbutton Ø 40 - 1NC E2 1PEPF4531	push-pull, with mechanical indicator, 40 mm diameter, red colour		
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /
Short handle selector - 1NO+1NC E2 1SE12AVA11AB	2 stay-put positions, black colour		 
Contacts 1x E2 CP10G2V1+1x E2 CP01G2V1	pos 2 1NO	pos 3 /	pos 1 1NC 
Socket	Features see on page 95		 Schuko 16 A 250 Vac  France 16 A 250 Vac  USA 15 A 125 Vac
Internal protection VE GG2BA5A	internal, yellow colour		



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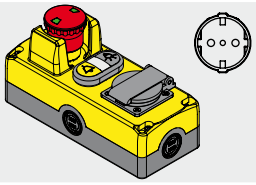
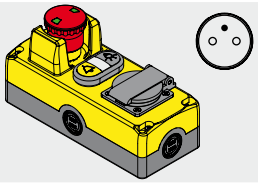
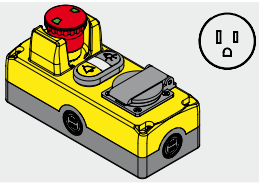
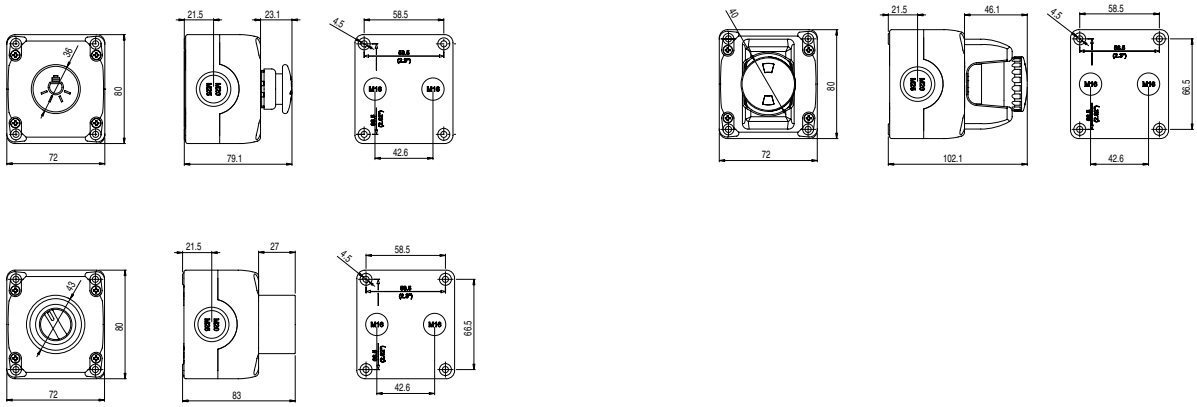
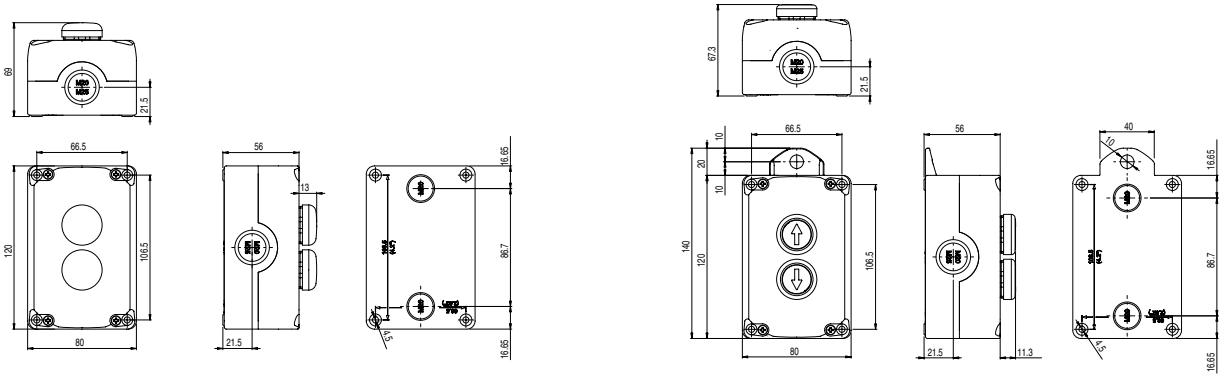
			
Description	**Features**		**Wiring layout**
Emergency pushbutton Ø 40 - 1NC E2 1PEPF4531	push-pull, with mechanical indicator, 40 mm diameter, red colour		
Contacts 1x E2 CP01G2V1	pos 2 /	pos 3 1NC	pos 1 /
Double pushbutton: ALARM - 1NO LIGHT - 1NO E2 1PDRL1AABR	flush, spring-return		
	yellow pushbutton ALARM	white indicator light	black pushbutton LIGHT
Contacts 2x E2 CP10G2V1	pos 2 1NO	pos 3 /	pos 1 1NO
Socket	Features see on page 95		 Schuko 16 A 250 Vac France 16 A 250 Vac  USA 15 A 125 Vac
Internal protection VE GG2BA5A	internal, yellow colour		

EL AN series lift control stations

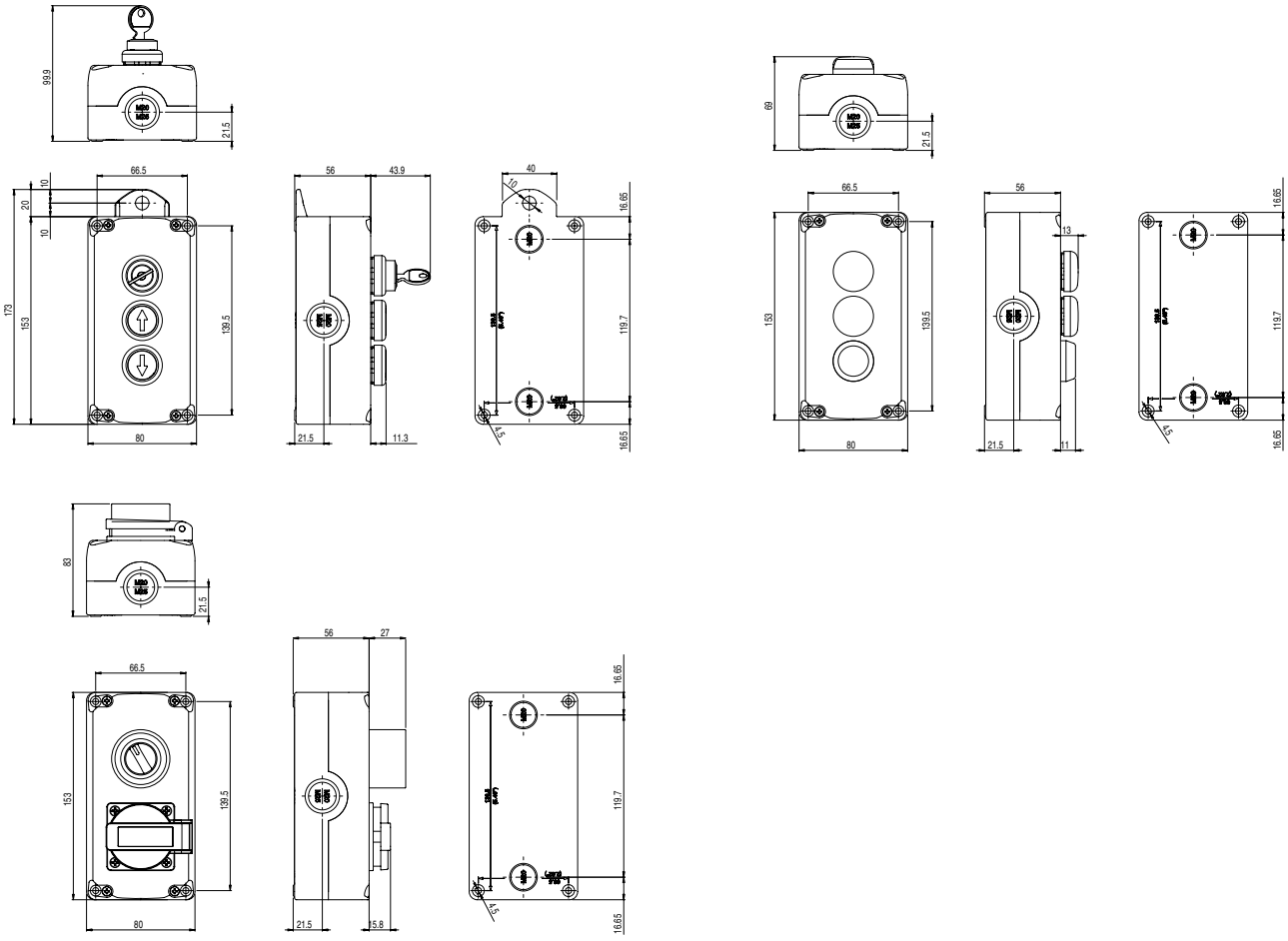
Lift control stations EL AN 21••• series dimensions



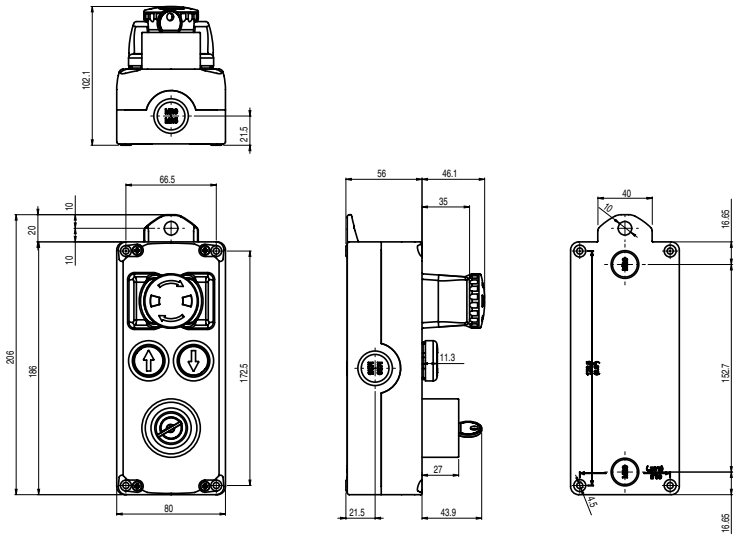
Lift control stations EL AN 22••• series dimensions

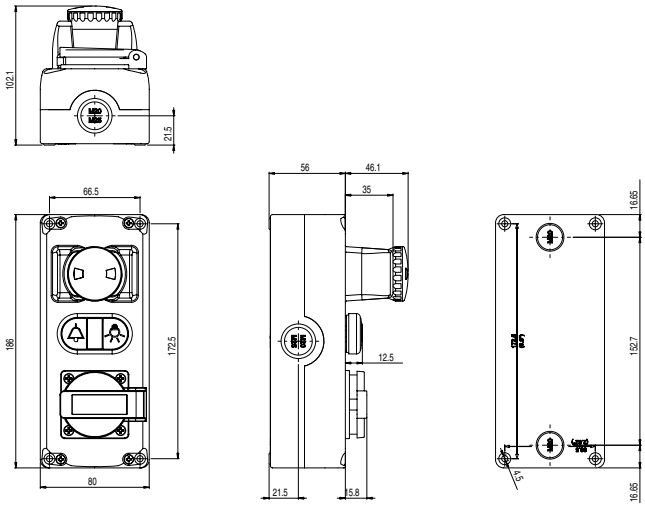


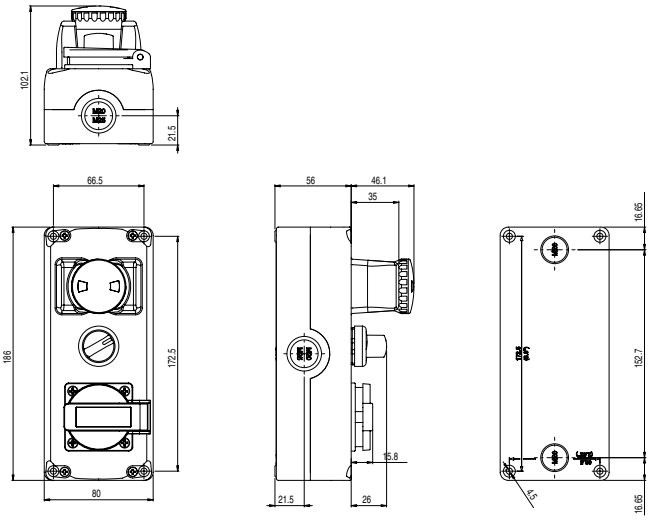
Lift control stations EL AN 23••• series dimensions



Lift control stations EL AN 24••• dimensions







Low slotted guard

Article	Description
VE GP22A5A	Cylindrical yellow guard with 4 slots Ø 40x20 mm

High slotted guard

Article	Description
VE GP22B1A	Cylindrical black guard with 4 slots Ø43x27 mm
VE GP22B5A	Cylindrical yellow guard with 4 slots Ø43x27 mm

Not suitable for emergency pushbuttons E2 1PE••••• series

Open guard

Article	Description
VE GP22F1A	Rectangular open black 66x38 h35 mm guard
VE GP22F5A	Rectangular open yellow 66x38 h35 mm guard

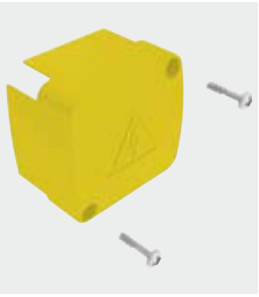
Guards complete with 4 fixing screws

Sockets with protection IP54

Sockets complete with 4 fixing screws

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

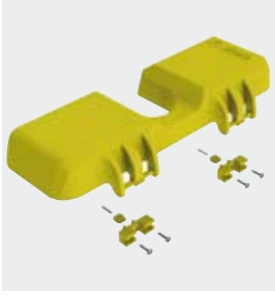
Internal socket protection



Article	Description
VE GG2BA5A	Yellow socket protection

Protection complete with 2 screws for fixing under the socket.

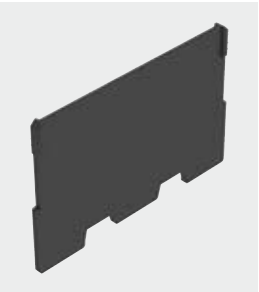
Cover protection



Article	Description
VE GG2CA1A	Black cover protection
VE GG2CA5A	Yellow cover protection

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

Separator



Article	Description
VE GG2DA1	Separator

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

Contact blocks

Article	Contacts
E2 CP01G2V1	Slow action 1NC ⊖
E2 CP10G2V1	Slow action 1NO
E2 CP01K2V1	Slow action 1NC ⊖ late break
E2 CP10L2V1	Slow action 1NO early make

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

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
bluee	bluee	E2 LP1A6V1	E2 LP3A6V1	E2 LP4A6V1
orange	orange	E2 LP1A8V1	E2 LP3A8V1	E2 LP4A8V1

Attention! Comply with the combination between Led and actuators colours.

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

Fixing ring

20 pcs packs

Article	Description
VE GF121A	Polymer fixing ring.

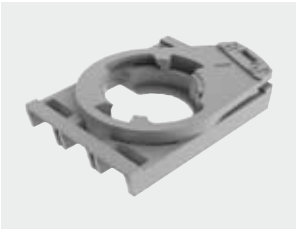
Article	Description
VE GF720A	Metal fixing ring.

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 for E2 CP•••••• contact block and E2 LP••••• LED holder

Blanking plug

10 pcs packs

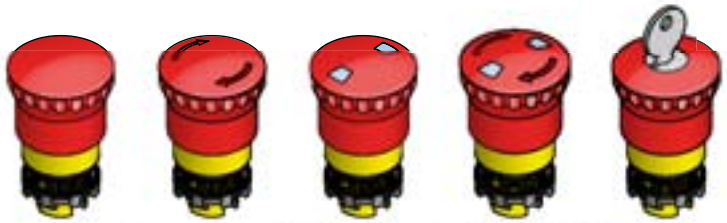
Article	Description
E2 1TA1A110	Black banking plug for Ø 22 mm holes

Technical data:

Body and nut material:	Polymer
Protection degree:	IP67 and IP69K
Driving torque:	From 2 to 2,5 Nm
Installation prescriptions:	Page 99

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

Emergency pushbuttons



Body colour and marking	Actuator colour and marking	Push-pull	Turn to release	Push-pull with mechanical indicator	Turn to release with mechanical indicator	Release with key Key number PY333
Yellow	red	E2 1PEPZ4531	E2 1PERZ4531	E2 1PEPF4531	E2 1PERF4531	E2 1PEBZ4531
Yellow with 4 green indicating lines	red	E2 1PEPZ4731	E2 1PERZ4731	E2 1PEPF4731	E2 1PERF4731	E2 1PEBZ4731

Selectors

Actuator colour and marking	Position	2 positions Black ring
black		E2 1SE12AVA11AB

Actuator colour and marking	Position	3 positions Black ring
black		E2 1SE13ACE11AB

Key selectors

Actuator colour and marking	Position	2 positions Black ring
black		E2 1SC12AVA11AA

Legend

Stay-put

Spring-return

Key withdrawal position

Locking keys

Article	Description
VE KE1A00-PY333	Locking key

Extra copy of the locking keys to be purchased if further key is needed.
All keys have the same code. Other codes on request.

Actuators

10 pcs. packs

Article		Description
	VE AS1212	Black closed actuator for 2 contact blocks simultaneous operation. For selectors: E2 1SE, E2 1SL, E2 1SC
	VE AS1213	White open actuator for 1 contact block operation. For selectors:E2 1SE, E2 1SL, E2 1SC

Double pushbuttons

Actuator colour and marking	Flush upper pushbutton Projecting central pushbutton Flush lower pushbutton	
	Function	Black ring
"→" black pushbutton white indicator light "←" white pushbutton	DOWN UP	E2 1PDRL1AABS
"↑" white pushbutton white indicator light "↓" black pushbutton	UP DOWN	E2 1PDRL1AABN
yellow pushbutton white indicator light blue pushbutton	ALARM ENABLE	E2 1PDRL1AABM
black pushbutton white indicator light yellow pushbutton	LIGHT ALARM	E2 1PDRL1AABR

Triple pushbuttons

Actuator colour and marking	Flush upper pushbutton Projecting central pushbutton Flush lower pushbutton	
	Function	Black ring
black pushbutton yellow pushbutton blue pushbutton	LIGHT ALARM ENABLE	E2 1PTRS1AABQ
"→" black pushbutton yellow pushbutton "←" white pushbutton	DOWN ALARM UP	E2 1PTRS1AABK
blue pushbutton yellow pushbutton blue pushbutton	ENABLE SLOW SPEED ALARM ENABLE	E2 1PTRS1AABU

Pushbuttons

Actuator colour and marking	Flush	
	Function	Black ring
white	UP	E2 1PU2R221L7
black	DOWN	E2 1PU2R121L8
black	LIGHT	E2 1PU2R121L16
yellow	ALARM	E2 1PU2R521L14
blue	ENABLE	E2 1PU2R621L31
blue	ENABLE SLOW SPEED	E2 1PU2R621L58

Indicator lights

Lens colour	With lens
white	E2 1ILA210
red	E2 1ILA310
green	E2 1ILA410
yellow	E2 1ILA510
blue	E2 1ILA610
orange	E2 1ILA810

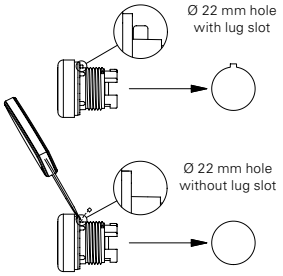
Ø 36 mm mushroom pushbuttons

Actuator colour and marking	Flush	
	Function	Black ring
black	LIGHT	E2 1PU2F141L16
yellow	LIGHT	E2 1PL2F541L16
yellow	ALARM	E2 1PU2F541L14

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

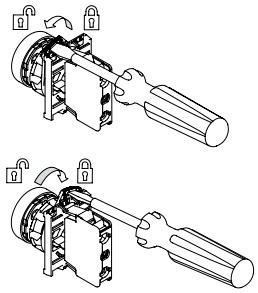
Alignment lug

The alignment lug in the external diameter of the EROUND series devices allows to obtain an exact alignment of the device while installing it on the panel avoiding any rotation.
If the application hole does not have the lug slot, it is sufficient to remove the lug by levering it with a screwdriver and paying attention not to damage the gasket.
It is not advisable to remove the alignment lug for turn to release selector (E2 1SE, E2 1SL, E21SC series) and emergency pushbuttons (E2 1PE series) since these are devices with rotating actuation.



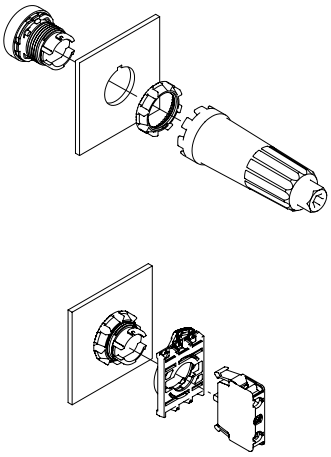
Device connection to the fixing adapter

After having fixed the control device to the panel through its proper ring, connect it to the fixing adapter by turning the locking lever.
The lever has two indications: open position (open padlock) and locked position (close padlock).
The locking lever rotation is easier if using a slotted screwdriver.



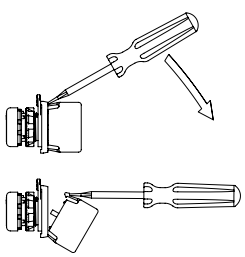
Panel fixing

The signalling and control devices have to be fixed behind the panel through a ring which has to be screwed with the fixing tool provided as accessory.
The driving torque for a correct fixing has to be between 2 and 2, 5 Nm.
After fixing the ring it is possible to apply the fixing adapter and the panel contact block or LED holder.

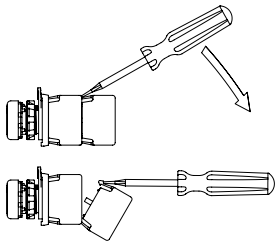


Contact and LED holders hooking

Each contact and LED holders have two snap tabs which assure a stable fixing to the adapter, for panel mount versions, or to the enclosure for base fixing versions. Panel contact blocks can be hooked between them, up to a maximum of three, provided that the limits for every actuator are respected as written in the relative chapters.
Contact and LED holders are quickly removed by levering with a slotted screwdriver on the snap tabs.



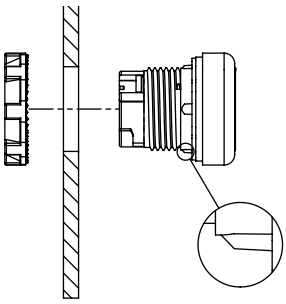
Contact block release from collar



Contact block release from other block

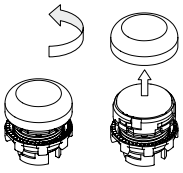
Gasket

Thanks to its configuration, the gasket assures a prefixing on the panel.
This way the ring nut can be applied with no need of keeping in position the device.



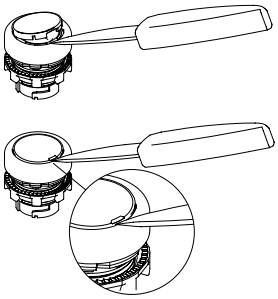
Lenses for indicator lights

The 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 is designed to be installed into electrical board or enclosures destined to contain electric circuits. All EROUND series components and electrical devices destined to be installed inside boards or enclosures, (e.g. E2 CP, E2 CF, E2 LP, E2 LF), do not have adequate protection against: water, dust in high quantity, condensate, humidity, steam, corrosive agents, explosive and inflammable gas or other polluting agents. The boards and enclosures protection degree have to guarantee the necessary protection for the EROUND series electrical components installed inside, as according to the application.

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 projected for manual operation.
- Do not apply excessive force to the device once it has reached the end of its actuating travel.
- Do not pass the actuating maximum travel.
- Do not disassemble or try to repair the device, in case of defect or fault replace the whole device.
- In case the device is deformed or damaged replace it completely. There is no guarantee of working for a deformed or damage device.
- Always attached the following instructions for use in the manual of the machine were the switch is installed.
- The preservation of the following instructions for use has to allow their consultation for the whole utilization period of the device.

Wiring and installation

- The installation has to be made by qualified personnel.
- Comply with minimum distances between devices.
- Comply with the driving torque.
- Keep the electrical load beneath the value indicated on the utilization category.
- Turn off the power before access to the contacts, also during the wiring.
- Do not paint or varnish the devices.
- It is possible to install the product only on surfaces with thickness between 1 and 6mm.
- The protection degree and its correct working are guaranteed only installing the product on flat and smooth surfaces with holes diameter 22 mm according to IEC 60947-5-1.
- After and during the wiring do not pull the electrical cables connected to the contact block. If an elevate traction force is applied to the cables the contact blocks could be separated from the actuator.
- During hooking and release operation of the contact block and the fixing adapter or the enclosure base do not deform or stress the fixing tabs. Tabs deformation could cause the separations between the contact block and the fixing adapter.
- After the installation and before machine working, verify:
  - the correct device working;
  - the correct and complete locking of the E2 1BAC11 fixing adapter to the device;
  - the correct hooking of the contact block.
- Periodically verify the devices correct working.

Do not use in the following environments:

- Environment where dust and dirt can cover the device and by sedimenting stop its correct working.
- Environment where sudden changes of temperature cause condensation.
- Environment where ice formation on the device is possible.
- Environment where the application causes knocks or vibrations which can damage the device.
- Environment with explosive and inflammable gas presence.

Utilization limits

- Use the devices following the instructions, complying with their working 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 satisfied by the different devices only if singularly taken and not in combination among them. For further information contact our Technical department.
- The utilization implies compliance and acknowledgement of the following standards: IEC 60204-1, IEC 60947-5-1, ISO 12100-1, ISO12100-2.
- Contact our Technical dept. 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 on the following instructions;
  - 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 device working.

Additional prescription for safety application

Provided that all previous requirements for the devices installed for safety application are fulfilled, further additional prescriptions have to be observed:

- The utilization in any case implies compliance and acknowledgement of the following standards: IEC 60204-1, IEC 60947-5-1, EN 60954-1, EN 13849, EN ISO 13850, ISO 12100-1, ISO12100-2
- In the emergency mushroom the safety circuit has to be connected to NC 1-2 contacts when the device is not actuated. Auxiliary NO 3-4 contacts have to be used only in the signalling circuit.
- Always connect in series the protection fuse (or equivalent device) to 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 doesn't have to be less than one a year.
- After the installation and before machine working, verify:
  - the correct device working;
  - the correct and complete locking of the E2 1BAC11 fixing adapter to the device;
  - the correct hooking of the contact block.
- Do not leave the key inserted in the emergency mushroom with key-release. A sudden actuation of the emergency mushroom with the key inserted could hurt the operator.

Safety module **CS AR-94**, according to EN 81

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
Alternate current: AC15 (50...60 Hz)
Ue (V) 230
Ie (A) 3
Direct current: DC13
Ue (V) 24
Ie (A) 6

Markings, quality marks and certificates:

Approval IMQ:
Certificate Of Compliance IMQ n. 340
IMQ-type Examination Certificate n.236
(Machinery Directive) *Norms: EN 81-1:1999, EN 81-2:1999*
Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

Complying with the requirements requested by:
Low Voltage Directive 2006/95/EC,
Machinery Directive 2006/42/EC,
Electromagnetic Compatibility 2004/108/EC

Technical data

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

Protection degree:	IP40 (housing), IP20 (terminals)
Dimensions:	see page 102

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 category 4 according to EN 954-1
MTTFd:	213 years
DC:	High
PFHd:	5,62 x 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 (Uimp):	4 KV
Rated insulation voltage (Ui):	250 V
Over-voltage category:	II
Weight:	0,2 Kg

Power supply

Rated operating voltage (Un):	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, Ih=0,5 A
Operating time of PTC:	intervention > 100 ms, reset > 3 s
Max input resistance:	≤ 25 Ω
Current for each input:	30 mA (24 Vac/dc), 60 mA (12 Vdc)
Min. period of start impulse t_{MIN}:	300 ms
Operating time t_A:	250 ms
Releasing time t_{R1}:	20 ms
Releasing time in absence of power supply t_R:	100 ms (24 Vac/dc), 30 ms (12 Vdc)
Simultaneity time t_C:	infinite

In conformity with standards:
IEC 60947-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 13849-1, EN 999, EN 1037, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13850, IEC 529, EN 60529, EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-1, EN 62061, EN 13849-1, 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 Ith:	6 A
Max currents sum Σ Ith^2:	36 A^2
Min. current:	10 mA
Contacts resistance:	≤ 100 mΩ
Contact protection fuse:	6 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

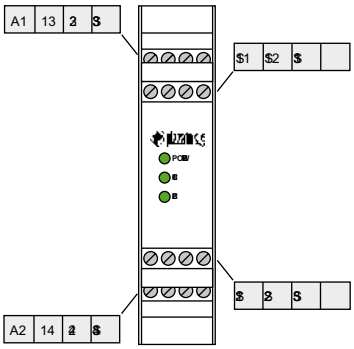
Data type approved by UL

Rated operating voltage (Un):	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

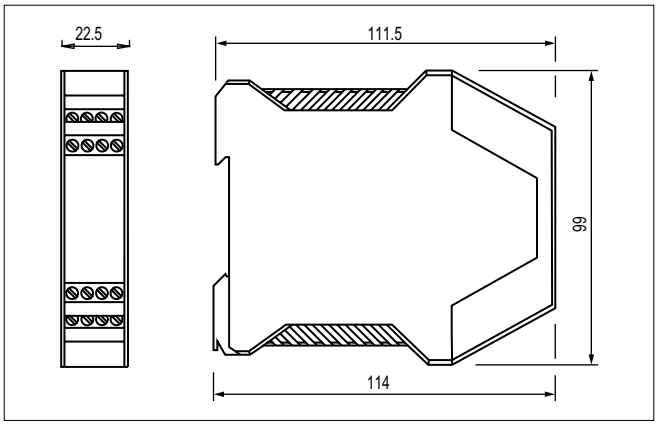
Terminals layout



Brief power failure and supply voltage variation

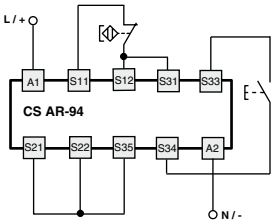
The CS AR-94 safety module has a voltage drop sensor inside which provides the protection and safety of the safety relays internal state in case of brief power failure, in order to avoid unwanted switching state as to the inputs state. Once the input voltage is reset the equipment always restarts correctly 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.

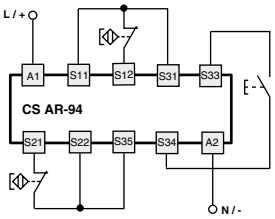
Dimensions



Inputs configuration

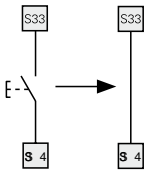
Emergency stop	
Input configuration with magnetic sensors	
1 channel	2 channels





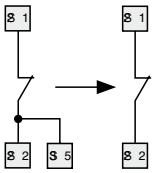
Automatic start

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.



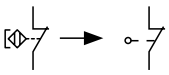
Monitored start

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.

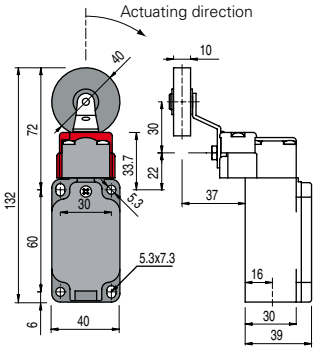


Electromechanical switches

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



Safety position switches FP 945-S3



Article	Description
FP 945-S3	Safety switch with rotating lever and rubber roller for unidirectional actuating towards right. Actuated by a suitable cam, it can be used for automatic floor levelling operations. For further information please contact the technical office. Technical data on page 25.
Contacts	
2NO	

Safety module **CS AR-95**, according to EN 81

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)
Ue (V) 230
Ie (A) 3
Direct current: DC13
Ue (V) 24
Ie (A) 6

Markings, quality marks and certificates:

AB24

Approval IMQ:
Certificate Of Compliance IMQ n. 340
IMQ-type Examination Certificate n.236
(Machinery Directive) *Norms: EN 81-1:1999, EN 81-2:1999*
Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

Complying with the requirements requested by:
Low Voltage Directive 2006/95/EC,
Machinery Directive 2006/42/EC,
Electromagnetic Compatibility 2004/108/EC

Technical data

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

Protection degree:	IP40 (housing), IP20 (terminals)
Dimensions:	see page 104

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 category 4 according to EN 954-1
MTTFd:	213 years
DC:	High
PFHd:	5,62 x 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 (Uimp):	4 KV
Rated insulation voltage (Ui):	250 V
Over-voltage category:	II
Weight:	0,2 Kg

Power supply

Rated operating voltage (Un):	24 Vac/dc; ±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, Ih=0,5 A
Operating time of PTC:	intervention > 100 ms, reset > 3 s
Max input resistance:	≤ 25 Ω
Current for each input:	30 mA
Min. period of start impulse t_{MIN}:	300 ms
Operating time t_A:	250 ms
Releasing time t_{R1}:	20 ms
Releasing time in absence of power supply t_R:	100 ms
Simultaneity time t_C:	infinite

In conformity with standards:
IEC 60947-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 13849-1, EN 999, EN 1037, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13850, IEC 529, EN 60529, EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-1, EN 62061, EN 13849-1, 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 Ith:	6 A
Max currents sum Σ Ith^2:	36 A^2
Min. current:	10 mA
Contacts resistance:	≤ 100 mΩ
Contact protection fuse:	6 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

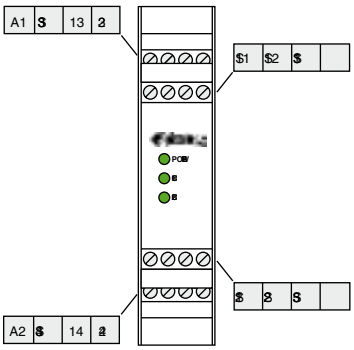
Data type approved by UL

Rated operating voltage (Un):	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

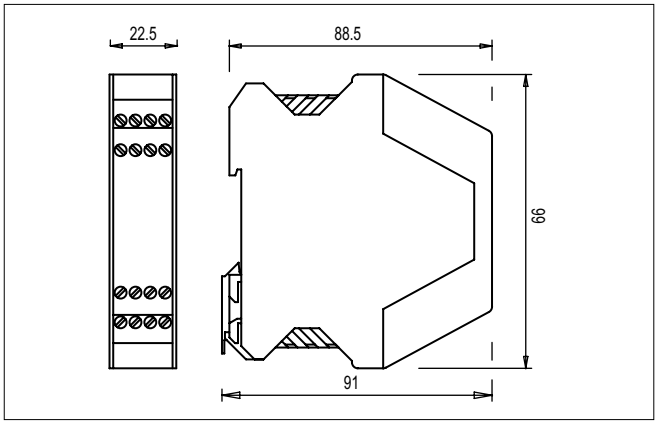
Terminals layout



Brief power failure and supply voltage variation

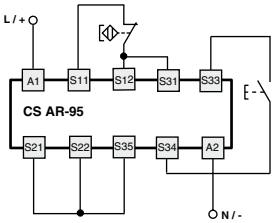
The CS AR-95 safety module has a voltage drop sensor inside which provides the protection and safety of the safety relays internal state in case of brief power failure, in order to avoid unwanted switching state as to the inputs state. Once the input voltage is reset the equipment always restarts correctly 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.

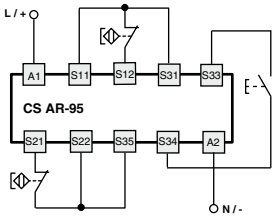
Dimensions



Inputs configuration

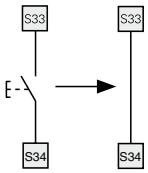
Emergency stop	
Input configuration with magnetic sensors	
1 channel	2 channels





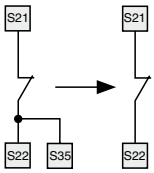
Automatic start

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.



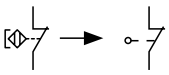
Monitored start

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.

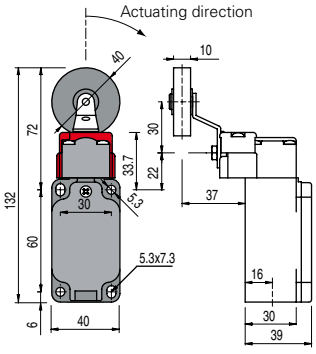


Electromechanical switches

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



Safety position switches FP 945-S3



Article	Description
FP 945-S3	Safety switch with rotating lever and rubber roller for unidirectional actuating towards right. Actuated by a suitable cam, it can be used for automatic floor levelling operations. For further information please contact the technical office. Technical data on page 25.
Contacts	
2NO	

Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- M12 assembled connector versions
- In conformity with EN 81

Markings and quality marks:

Approval UL: E131787
Approval GOST: POCC IT.AB24.B04512

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
FR series one threaded conduit entry
FX series two threaded conduit entries
Protection degree: IP67 according to EN 60529

General data

Ambient temperature:	from -25°C to +80°C
Version for operation in ambient temperature from -40°C to +80° C on request	
Max operating frequency:	3600 operations cycles1/hour
Mechanical endurance:	1 million operations cycles1
Assembling position:	any
Driving torque for installation:	see page 113

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 5:	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 1088, EN 81, EN ISO 12100-1, EN ISO 12100-2, IEC 529, EN 60529, NFC 63-140, VDE 0660-200, VDE 0113.
Approvals:
UL 508

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 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}):	6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

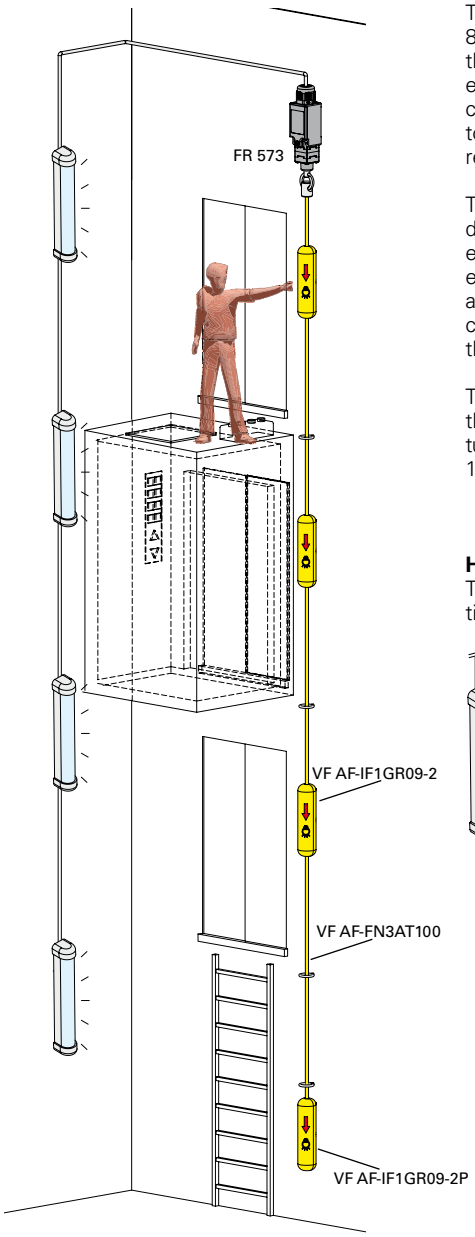
Data type approved by UL

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

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

Introduction

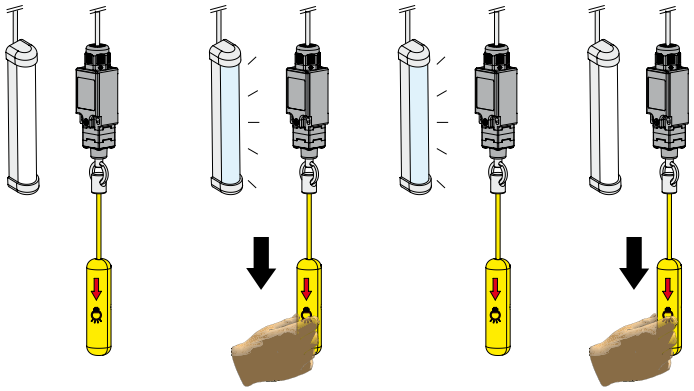


The FR 573 switch has been specifically studied to control the lift shaft lights. The norm EN 81 paragraphs 6.4.9, 13.6.3.2, 6.3.7 state the necessity to have a light switching point next to the working area access and in the machines room. To comply with this prescription usually at every floor there 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.

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.

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. This way the switch can totally substitute also the step relay. The switch has been tested with twenty 36 W neon lamps exceeding 100.000 operations.

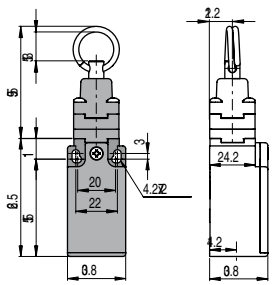
How it functions:
To switch the shaft light on it is sufficient to pull the rope; to switch it off just repeat the operation.

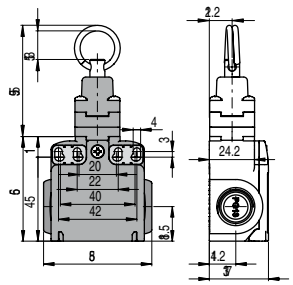


Dimensional drawings

Contacts type:

R = snap action





Contact blocks				
5 R	FR 573	1NO+1NC	FX 573	1NO+1NC
Max speed	0,5 m/s		0,5 m/s	
Min. force	initial 20 N - final 40 N		initial 20 N - final 40 N	
Travels diagrams	0 4 8 / 2.8		0 4 8 / 2.8	

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 transparent PVC coating.

Accessorieses See page 109

Main data

- Polymer housing, with one or two conduit entries
- Protection degree IP67
- M12 assembled connector versions
- Silver contacts gold plated versions

Markings and quality marks:

Approval IMQ: EG610
Approval UL: E131787
Approval CCC: 2007010305230013
Approval EZU: 1010151
Approval GOST: POCC IT.AB24.B04512

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation ⧈
FR series one threaded conduit entry
FX series two threaded conduit entries
Protection degree: IP67 according to EN 60529

General data

Ambient temperature: from -25°C to +80°C
Version for operation in ambient temperature from -40°C to +80° C on request
Max operating frequency: 3600 operations cycles[1]/hour
Mechanical endurance: 20 million operations cycles[1]
Assembling position: any
Driving torque for installation: see page 113
(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 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 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, NFC 63-140, VDE 0660-200, VDE 0113.
Approvals:
IEC 60947-5-1, UL 508, GB14048.5-2001

In conformity with requirements requested by:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

Electrical data

Thermal current (Ith):	10 A
Rated insulation voltage (Ui):	500 VAC 600 VDC
Rated impulse withstand voltage (U_{imp}):	6 kV
Conditional shot 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)

Ue (V)	250	400	500
Ie (A)	6	4	1

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	6	1,1	0,4

Data type approved by IMQ, CCC and EZU

Rated insulation voltage (Ui): 500 Vac
Thermal current (Ith): 10 A
Protection against short circuits: fuse 10 A 500 V type aM
Rated impulse withstand voltage (Uimp): 6 kV
Protection degree: IP67
MV terminals (screw clamps)
Pollution degree 3
Utilization category: AC15
Operation voltage (Ue): 400 Vac (50 Hz)
Operation current (Ie): 3 A
Forms of the contact element: Zb, Y+Y

In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

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).

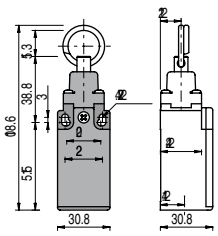
In conformity with standard: UL 508

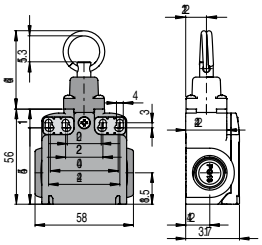
Please contact our technical service for the list of approved products.

Dimensional drawings

Contacts type:

R = snap action
L = slow action





Contact blocks			
5 R	FR 576 1NO+1NC 	FX 576 1NO+1NC 
9 L	FR 976 2NO 	FX 976 2NO 
Max speed	0,5 m/s	0,5 m/s
Min. 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 transparent PVC coating.

Accessorieses See page 109

All measures in the drawings are in mm

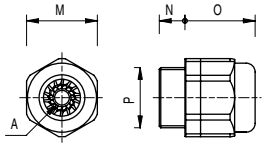
Wiretrap cable glands

10 pcs packs

The design of this cable gland improves the retention forces of the wires. Each type of cable gland accepts a wider range of cable diameters. Only fit for circular cables.

Technical data:

Body and nut material:	halogen free polymer
Protection degree:	IP67
Driving torque:	from 3 to 4 Nm (PG 13,5/M20) from 2 to 2,5 Nm (PG 11/M16)



	Article	Description	A	⬡M	N	O	P
Metric threading	VF PAM25C7N	Cable glands M25x1,5 for 1 Ø 10 to Ø 17 mm cable	○	30	10	28	M25x1,5
	VF PAM20C6N	Cable glands M20x1,5 for 1 Ø 6 to Ø 12 mm cable	○	24	9	24	M20x1,5
	VF PAM20C5N	Cable glands M20x1,5 for 1 Ø 5 to Ø 10 mm cable	◎	24	9	24	M20x1,5
	VF PAM20C3N	Cable glands M20x1,5 for 1 Ø 3 to Ø 7 mm cable	●	24	9	24	M20x1,5
	VF PAM16C5N	Cable glands M16x1,5 for 1 Ø 5 to Ø 10 mm cable	○	22	7,5	23	M16x1,5
	VF PAM16C4N	Cable glands M16x1,5 for 1 Ø 4 to Ø 8 mm cable	◎	22	7,5	23	M16x1,5
	VF PAM16C3N	Cable glands M16x1,5 for 1 Ø 3 to Ø 7 mm cable	●	22	7,5	23	M16x1,5
	VF PAM20CBN	Multi-hole cable gland M20x1,5 for 2 cables, Ø 3 to Ø 5 mm	⚉	24	9	23	M20x1,5
	VF PAM20CDN	Multi-hole cable gland M20x1,5 for 3 cables, Ø 1 to Ø 4 mm	⚉	24	9	23	M20x1,5
	VF PAM20CEN	Multi-hole cable gland M20x1,5 for 3 cables, Ø 3 to Ø 5 mm	⚉	24	9	23	M20x1,5
	VF PAM20CFN	Multi-hole cable gland M20x1,5 for 4 cables, Ø 1 to Ø 4 mm	⚉	24	9	23	M20x1,5
PG threading	VF PAP13C6N	Cable glands PG 13,5 for 1 Ø 6 to Ø 12 mm cable	○	24	9	24	PG 13,5
	VF PAP13C5N	Cable glands PG 13,5 for 1 Ø 5 to Ø 10 mm cable	◎	24	9	24	PG 13,5
	VF PAP13C3N	Cable glands PG 13,5 for 1 Ø 3 to Ø 7 mm cable	●	24	9	24	PG 13,5
	VF PAP11C5N	Cable glands PG 11 for 1 Ø 5 to Ø 10 mm cable	○	22	7,5	23	PG 11
	VF PAP11C4N	Cable glands PG 11 for 1 Ø 4 to Ø 8 mm cable	◎	22	7,5	23	PG 11
	VF PAP11C3N	Cable glands PG 11 for 1 Ø 3 to Ø 7 mm cable	●	22	7,5	23	PG 11

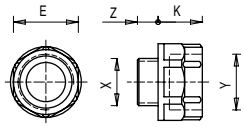
Thread adapters

100 pcs packs

With these adapters it is possible to offer to the customers the same product with different threaded cable entries, while only having to stock a single product and many kinds of adapters.

Technical data:

Body material:	glass-reinforced polymer resin
Driving torque:	from 3 to 4 Nm



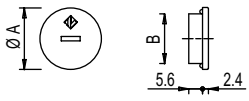
Article	Description	X	Y	Z	K	⬡E
VF ADPG13-PG11	Adapter from PG 13,5 to PG 11	PG 13,5	PG 11	9	12	22
VF ADPG13-M20	Adapter from PG 13,5 to M20x1,5	PG 13,5	M20x1,5	9	14	24
VF ADPG13-1/2NPT	Adapter from PG 13,5 to 1/2 NPT	PG 13,5	1/2 NPT	9	14	24
VF ADPG11-1/2NPT	Adapter from PG 11 to 1/2 NPT	PG 11	1/2 NPT	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 plugs

100 pcs packs

Technical data:

Body material:	halogen free polymer
Protection degree:	IP67
Driving torque:	from 1,2 to 1,6 Nm (PG13,5 / M20) from 1 to 1,4 Nm (PG11 / M16)



Article	Description	A	B
VF PTM20	Protection plug M20x1,5	25	M20x1,5
VF PTM16	Protection plug M16x1,5	23	M16x1,5
VF PTG13,5	Protection plug PG13,5	25	PG 13,5
VF PTG11	Protection plug PG11	23	PG 11

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

All measures in the drawings are in mm

Plastic threaded nuts

100 pcs packs

Technical data:
Body material: glass-reinforced polymer resin
Driving torque: from 1,2 to 2 Nm

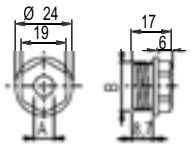
Article	Description	S	CH	P
VF DFPM25	Plastic threaded nut M25x1,5	6	32	M25x1,5
VF DFPM20	Plastic threaded nut M20x1,5	6	27	M20x1,5
VF DFPM16	Plastic threaded nut M16x1,5	5	22	M16x1,5
VF DFPP13	Plastic threaded nut PG13,5	6	27	PG 13,5

Chock plugs

100 pcs packs

Technical data:
Body material: halogen free polymer
Protection degree: IP54
Driving torque: from 0,8 to 1 Nm

Note: use a socket wrench for tightening.



Article	Description	A	B
VF PFM20C8N	Chock plug for cable from Ø 8 to Ø 12 mm, threaded M20	7,5	M20x1,5
VF PFM20C4N	Chock plug for cable from Ø 4 to Ø 8 mm, threaded M20	3,5	M20x1,5

Metal fixing plates

Metal fixing plate, designed to fix rope switches on ceiling. The plate is provided with many fixing holes suitable for all switches series. It is supplied without screws.

Article	Description
VF SFP2	Fixing plates for ceiling installations

Plastic fixing plates

Fixing plate (complete with fastening screws) provided with long slots for the adjustment of the actuating 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)

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

All measures in the drawings are in mm

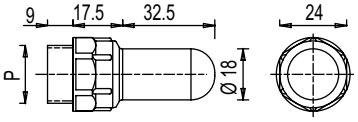
Light indicators

5 pcs packs

These light indicators are used for visualizing a change of the state of an electric contact inside the switch. They can be installed only on series FL, FX, FZ, FW, FG or FS by screwing them on one of the conduit entries not used for electric cables, and they can have many different functions: for example, combined with a rope switch (e.g. FL 1878) they can indicate (also in the distance) if the switch has been actuated. Otherwise, combined with safety switches with separate actuator (e.g. FL 693), they can indicate if the protection is closed correctly or not.
Combined with a safety switch with solenoid (FS or FG series), they can indicate if the protection is locked or unlocked. Combined with any switch of FL, FX, or FZ series they can be used to calibrate the actuator.
The light indicators are decomposable in two parts for bulb replacement without removing the lamp holder from the switch, and their inner part can rotate in such a way that it can be wired and screwed on the switch without any risk of kinking the wires.

Technical data:

Max operating voltage Ui:	250 Vac/dc
Rated impulse withstand voltage (U_{imp}):	4 kV
Max lamp power:	3 W
Protection degree:	IP67
Lamp coupling:	BA9
Cable cross section:	min. 0,5 mm²
	max 1,5 mm²
Ambient temperature:	from -25°C to +40°C
Driving torque:	from 3 to 4 Nm



Items available in stock

VF ILI024GP
VF ILI024RP
VF ILI024VP
VF ILX000GP
VF ILX000RP
VF ILX000VP

How to order

VF ILI024GP

Kind of lamp	
I	incandescence
X	without lamp

Supply voltage	
024	24 Vac/dc ±10%
110	110 Vac/dc ±10%
220	220 Vac/dc ±10%
000	without lamp

Threaded coupling	
P	PG 13,5
M	M20 x 1,5

Lamp cover colour	
G	Yellow
R	Red
V	Green
W	White

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

All measures in the drawings are in mm

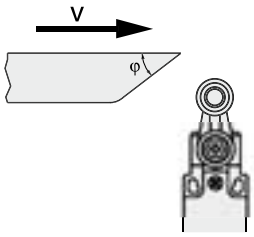
Notes

Switches for normal duty FR-FX-FK-FT series

Maximum and minimum actuation speed

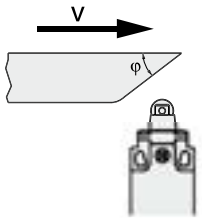
Lever with roller - Type 1

φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	2,5	9	0,07
30°	1,5	8	
45°	1	7	
60°	0,75	7	



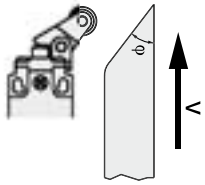
Plunger with roller - Type 2

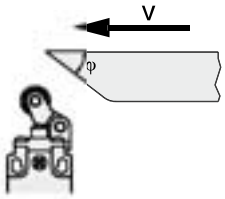
φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	1	4	0,04
30°	0,5	2	0,02
45°	0,3	1	0,01



Lever with roller - Type 3

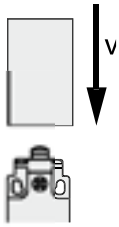
φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	1	5	0,05
30°	0,5	2,5	0,025
45°	0,3	1,5	0,015





Plunger - Type 4

Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
0,5	1	0,01

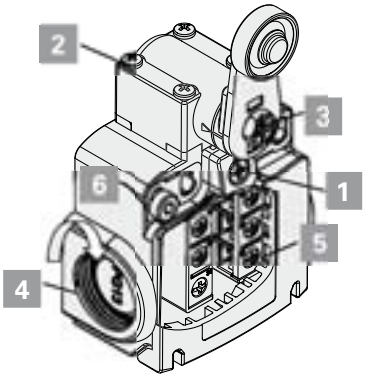


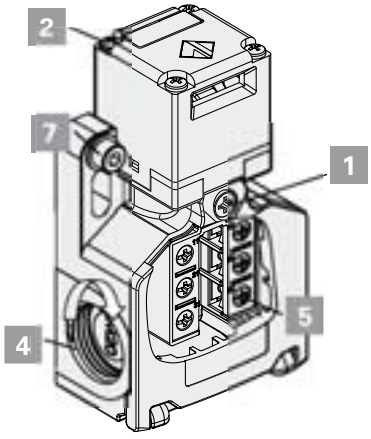
Contacts type:

R = snap action
L = slow action

Driving torques

Cover screws 1		**0,7 ... 0,9 Nm**
Head screws 2		**0,5 ... 0,7 Nm**
Lever screws 3		**0,7 ... 0,9 Nm**
Protection plugs 4	(conduit entry M20/PG13,5)	**1,2 ... 1,6 Nm**
	(conduit entry M16/PG11)	**1 ... 1,4 Nm**
Contact blocks screws 5		**0,6 ... 0,8 Nm**
M4 screws or the housing fastening with washer (FR-FX-FK series) 6		**2... 3 Nm**
M5 screws or the housing fastening with washer (FW series) 7		**2... 3 Nm**

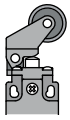
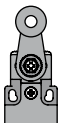


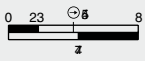
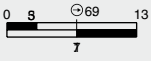
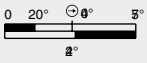
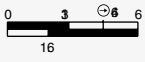
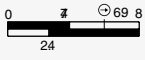
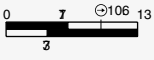
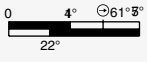
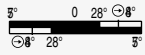


Switches for normal duty FR-FX-FK-FT series

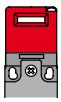
Travel diagrams FR-FX series

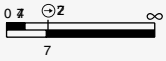
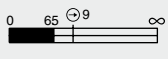
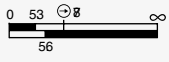


Contact block	Group 1a	Group 2a	Group 3a	Group 4a
6 1NO+1NC				
7 1NO+1NC				
9 2NC				
16 2NC				

Travel diagrams FR-FX-FK-FW series



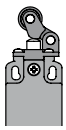
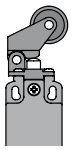
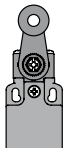
Contact block	Group 1e
6 1NO+1NC	
9 2NC	
33 1NO+1NC	
34 2NC	

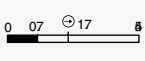
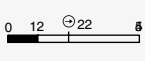
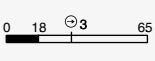
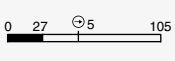
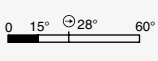
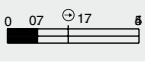
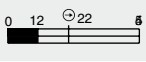
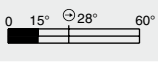
Legend

▬	Closed contact
▭	Opened contact
⊕40°	Positive opening travel
▶ ◀	Pushing the switch / Releasing the switch
R	Hook reset travel

Travel diagrams FT series



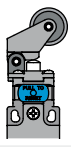
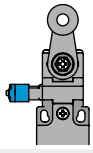




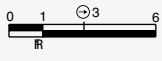
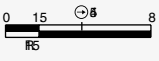
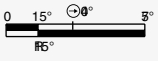
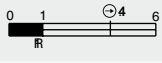
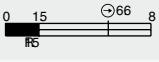
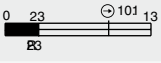
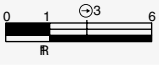
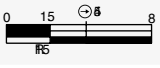
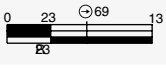
Contact block	Group 1d	Group 2d	Group 3d	Group 4d	Group 5d
63 1NC					
64 2NC					

Switches for normal application with reset, FR - FX series

Travel diagrams



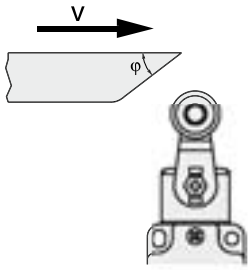
Contact block	Group 1c	Group 2c	Group 3c	Group 4c
6 1NO+1NC				
9 2NC				
20 1NO+2NC				

Switches for heavy duty FD-FP series

Maximum and minimum actuation speed

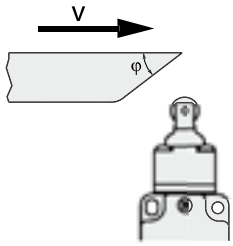
Lever with roller - Type 1

φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	2,5	9	0,07
30°	1,5	8	
45°	1	7	
60°	0,75	7	



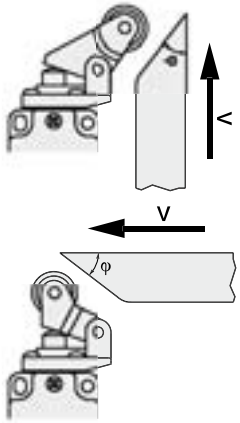
Plunger with roller - Type 2

φ	Vmax (m/s)	Vmin (mm/s) L	Vmin (mm/s) R
15°	1	4	0,04
30°	0,5	2	0,02
45°	0,3	1	0,01



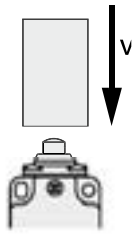
Lever with roller - Type 3

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

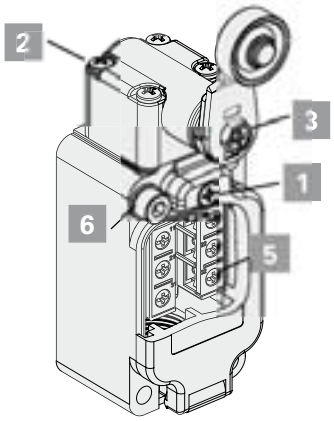


Contacts type:

R = snap action
L = slow action

Driving torques

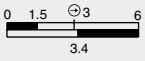
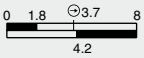
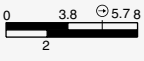
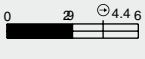
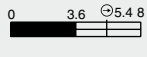
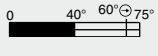
Cover screws 1		**0,8 ... 1,2 Nm**
Head screws 2		**0,8 ... 1,2 Nm**
Lever screws 3		**0,8 ... 1,2 Nm**
Protection plugs 4	(conduit entry M20/PG13,5)	**1,2 ... 1,6 Nm**
	(conduit entry M16/PG11)	**1 ... 1,4 Nm**
Contact blocks screws 5		**0,6 ... 0,8 Nm**
M5 screws or the housing fastening with washer (FP-FS series) 6		**2... 3 Nm**



All measures in the drawings are in mm or degrees

Switches for heavy duty FD-FP series

Diagrams table

Contact block	Group 1b	Group 2b	Group 3b
6 1NO+1NC				
7 1NO+1NC				
9 2NC				
16 2NC				

Legend

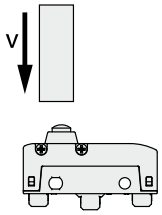
- Closed contact
- Opened contact
- 40° Positive opening travel
- Pushing the switch / Releasing the switch

Microswitches MK series

Max and min. actuating speed

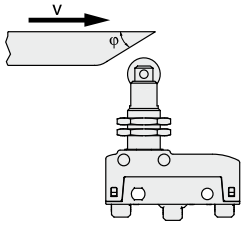
Plunger -Type 1

Vmax (m/s)	Vmin (mm/s)
0,5	0,05



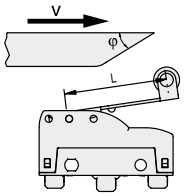
Roller plunger - Type 2

φ	Vmax (m/s)	Vmin (mm/s)
15°	0,6	0,2
30°	0,3	0,1
45°	0,1	0,05



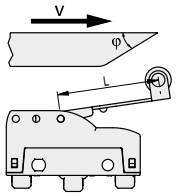
Roller lever with direct action (D) -Type 6

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



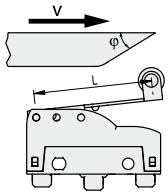
Roller lever with inverted action (R) -Type 7

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

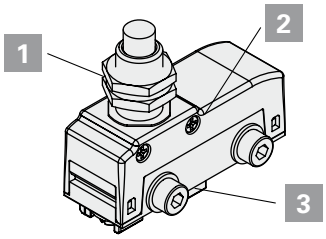


Roller lever with back direct action (F) -Type 8

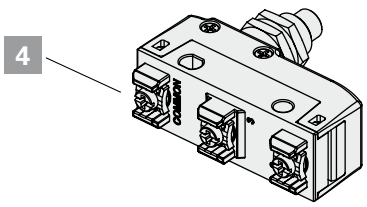
φ	Vmax (m/s)	Vmin (mm/s)
15°	0,032 x L	0,0188 x L
30°	0,016 x L	0,0094 x L
45°	0,01 x L	0,0047 x L



Driving torques

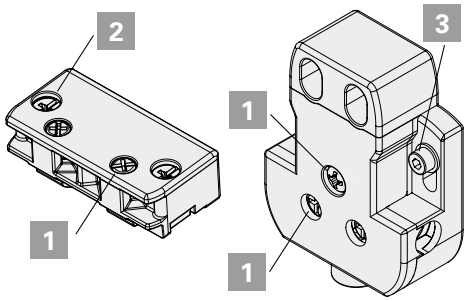


Tighten the nut 1 with a driving torque **2** ... **3** Nm.
Tighten the screws 2 with a driving torque **0,4** ... **0,5** Nm.
Tighten the nut 3 M4 with a driving torque **0,8** ... **1,2** Nm, interposing a washer.
Attention: a driving torque higher than 1,2 Nm can cause the breaking of the microswitch.



Tighten the screws 4 with a driving torque **0,6** ... **0,8** Nm.

Driving torques DS series



Tighten the screws 1 with a driving torque **0,8** ... **1,2** Nm.
Tighten the fixing screws 2 with a driving torque **2** ... **3** Nm.
Tighten the fixing screws 3 with a driving torque **1** ... **2** Nm, interposing a washer.

Alphanumeric index

Cross-reference substituted articles

Old articles	New articles
CC 01AAB00AB	EB AC211003
CC 01AAB00AC	EB AC211005
CC 01AAB00AD	EB AC211006
CS AR-90	CS AR-94/95
EB AC211220	EL AN21220
EB AC211221	EL AN21221
EB AC211222	EL AN21222
EB AC211223	EL AN21223
EB AC211224	EL AN21224
EB AC211225	EL AN21225
EB AC211226	EL AN21226
EB AC211227	EL AN21227
EB AC211228	EL AN21228
EL AC•••••1000	EL AC27020
EL AC•••••1001	EL AC27012
EL AC•••••1002	EL AC27021
EL AC•••••1003	EL AC27016
EL AC•••••1004	EL AC27015
EL AC•••••1005	EL AC27023
EL AC•••••1006	EL AC27020
EL AC•••••2000	EL AC27080
EL AC•••••2001	EL AC27072
EL AC•••••2002	EL AC27081
EL AC•••••2003	EL AC27076
EL AC•••••2004	EL AC27075
EL AC•••••2005	EL AC27083
EL AC•••••3000	EL AC27060
FT 1•••••••	FT 2•••••••
MF 01	MK H11D01
MF 02	MK H11D02
MF 03	MK H11D03
MF 04	MK H11D04
MF 05	MK H11D05
MF 06	MK H11D06
MF 08	MK H11D08
MF 09	MK H11D09
MF 10	MK H11D10
MF 12	MK H11D12
MF 13	MK H11D13
MF 15	MK H11D15
MF 17	MK H11D17
MF 20	MK H11D15
MF 30	MK H11D30
MF 32	MK H11D32

Old articles	New articles
MF 35	MK H11D35
MF 37	MK H11D37
MF 40	MK H11D40
MF 42	MK H11D42
MF 45	MK H11D45
MF 47	MK H11D47
MF 49	MK H11D49
MF 50	MK H11R32
MF 52	MK H11R30
MF 53	MK H11R53
MF 54	MK H11R40
MF 55	MK H11R42
MF 57	MK H11R47
MF 58	MK H11R45
MF 59	MK H11R59
MF 60	MK H11R60
MM 01	MK V11D01
MM 02	MK V11D02
MM 03	MK V11D03
MM 04	MK V11D04
MM 05	MK V11D05
MM 06	MK V11D06
MM 08	MK V11D08
MM 09	MK V11D09
MM 10	MK V11D10
MM 12	MK V11D12
MM 13	MK V11D13
MM 15	MK V11D15
MM 17	MK V11D17
MM 20	MK V11D15
MM 30	MK V11D30
MM 32	MK V11D32
MM 35	MK V11D35
MM 37	MK V11D37
MM 40	MK V11D40
MM 42	MK V11D42
MM 45	MK V11D45
MM 47	MK V11D47
MM 49	MK V11D49
MM 50	MK V11R32
MM 52	MK V11R30
MM 53	MK V11R53
MM 54	MK V11R40
MM 55	MK V11R42

Old articles	New articles
MM 57	MK V11R47
MM 58	MK V11R45
MM 59	MK V11R59
MM 60	MK V11R60
MS 01	MK V11D01
MS 02	MK V11D02
MS 03	MK V11D03
MS 04	MK V11D04
MS 05	MK V11D05
MS 06	MK V11D06
MS 08	MK V11D08
MS 09	MK V11D09
MS 10	MK V11D10
MS 12	MK V11D12
MS 13	MK V11D13
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MS 17	MK V11D17
MS 20	MK V11D15
MS 30	MK V11D30
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MS 58	MK V11R45
MS 59	MK V11R59
MS 60	MK V11R60
MV 01	MK V11D01
MV 02	MK V11D02
MV 03	MK V11D03
MV 04	MK V11D04
MV 05	MK V11D05
MV 06	MK V11D06
MV 08	MK V11D08
MV 09	MK V11D09

Old articles	New articles
MV 10	MK V11D10
MV 12	MK V11D12
MV 13	MK V11D13
MV 15	MK V11D15
MV 17	MK V11D17
MV 20	MK V11D15
MV 30	MK V11D30
MV 32	MK V11D32
MV 35	MK V11D35
MV 37	MK V11D37
MV 40	MK V11D40
MV 42	MK V11D42
MV 45	MK V11D45
MV 47	MK V11D47
MV 49	MK V11D49
MV 50	MK V11R32
MV 52	MK V11R30
MV 53	MK V11R53
MV 54	MK V11R40
MV 55	MK V11R42
MV 57	MK V11R47
MV 58	MK V11R45
MV 59	MK V11R59
MV 60	MK V11R60
VF AF-FN3PG020	VF AF-FN3AT100
VF AF-FN3PG040	VF AF-FN3AT100
VF AF-FN3PG060	VF AF-FN3AT100
VF AF-FN3PG500	VF AF-FN3AT100

Notes

Orders: Purchasing orders must be booked with us in writing (fax, letter). Telephone orders shall be followed by written confirmation. 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 when we recognise virus presence or uncertain origin annexed.

Minimum order amount: Unless specifically agreed, for abroad countries the minimum amount of the order is 200 Euro. Orders under 200 Euro will have an extra surcharge for processing cost plus bank fees.

Prices: List prices does not includes VAT, custom taxes or other similar charges. Unless specifically agreed, prices are not binding and may change without prior notice.

Purchasing Quantity: Some articles are sold in package. Total quantity order of these items must be multiple of the package content.

Orders cancellation/changes: Orders variation could be accepted depending on status of manufacturing process. Changes or cancellation of special articles orders will not be accepted.

Supply: The supply will include only what mentioned in the sales confirmation. We reserve the right to stop supply in case of changes in the customer's financial standing.

Delivery date: The delivery date is indicated in our sales confirmation and means the estimated delivery date of the goods from Pizzato Elettrica warehouse and not the arrival date to customer's site. This date is an approximate value and can not be used as a reason of the order non-fulfilment.

Packing: Packaging is free. Over six boxes pallets could be necessary for the transport.

Shipment: Good's transport is at customer's risk, even when delivery term is agreed at customer's site. It is a customer obligation to check the number of boxes delivered by the forwarder, to verify packaging damages and to control the weight declared in documents before accept the goods. Any discrepancy or mistakes should be reported by writing within 8 days from the good's receipt.

Warranty: The warranty has a validity of 12 months starting from the delivery date of the material. 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 over the technological limits described in the general catalog, or items that have not received the right maintenance. Pizzato Elettrica engages itself to repair, 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 responsible only for the product's value and refund request are not accepted for machine down-time, repair or expenses for damages direct or indirect as consequence of products performance. It is a manufacturer's responsibility to evaluate the importance of chosen products and any malfunction consequences and adopt necessary technical measures to minimize consequences on machines and people safety (redundancy systems, self-controlled systems, etc). Warranty is subjected to the due payments respect.

Products: Products are subjected to technical improvements in any moment without prior notice.

Payment terms: Payments should be settled within the terms agreed in the sales confirmation. The transfer of the amount is always at customer risk's, whatsoever the way adopted. In case of delayed payment, Pizzato Elettrica reserves the right to stop the delivery of current orders and charge the interest at updated value. Technical or commercial claims does not give the right to stop due payments.

Returns: Any return should be previously authorised in writing. Pizzato Elettrica reserves the right of not accept the goods and send it back with freight collect, through the same way of forwarding.

Ownership: The delivered products remain property of Pizzato Elettrica until full settlement of the invoices.

Proper Law: For any dispute it will be competent the Italian Law and Bassano del Grappa Court, Vicenza - Italy.

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 damages to persons or goods, is under the responsibility of the user.
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General Catalog

Production program

ATEX brochure

LIFT
General Catalog

Cd-rom

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www.pizzato.com

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