pizzato elettrica

2015-2016

General Catalogue HMI

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200 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 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.

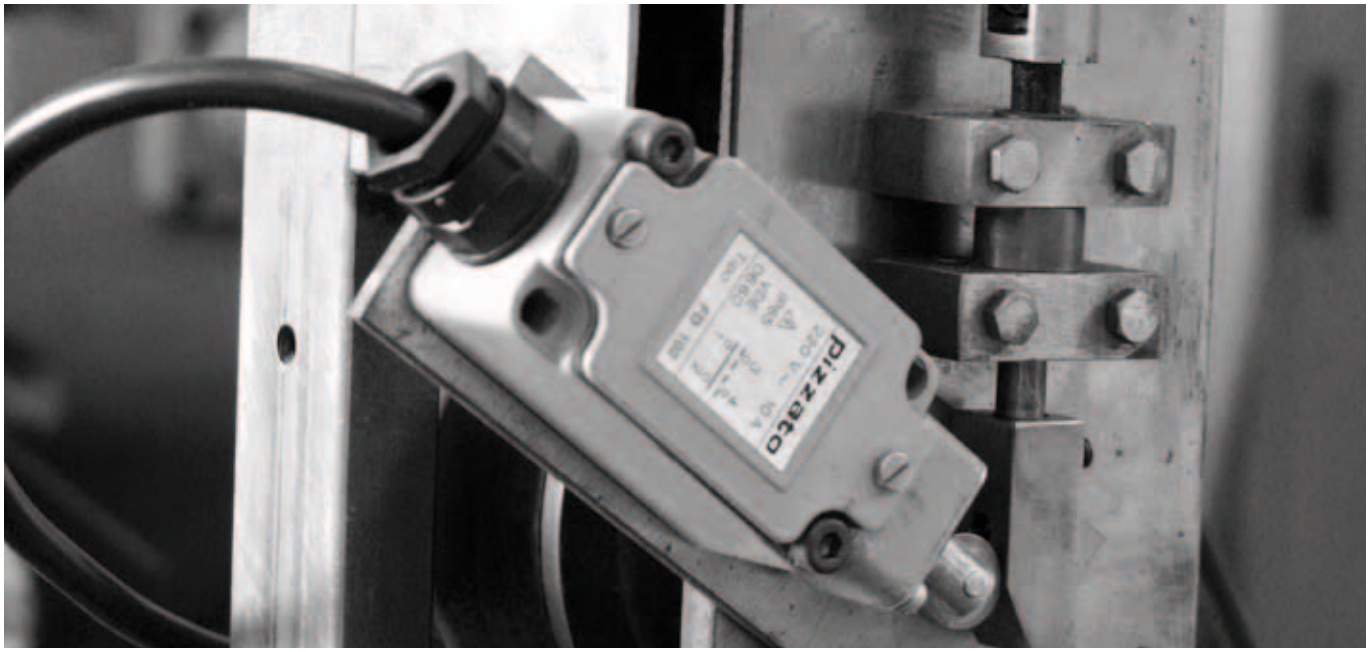
100% MADE IN ITALY

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 four 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 year 1988, 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 achieved in November 2002. In the meanwhile, technological evolution continued: in 2000, the design studio began using 3D CAD 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.
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.
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 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.
In 2011, the first pre-programmed safety modules of the GEMNIS CS MF series are introduced.
In 2012, the company integrates its offering in the machine safety field, thanks to the ST series sensors with RFID technology and to the programmable safety modules of the GEMNIS CS MP series.
In 2013, the range of hinge safety switches was expanded with the AISI 316L stainless steel HX switches.
2014 saw the launch on the market of the RFID safety switches with NG series block and of the safety handle of the P-KUBE 2 line for NG series switches.
Thanks to the robust interlocking system, the NG series switches ensure a maximum locking force of the Fzh actuator that is equivalent to 7500 N.
The new safety handle P-KUBE 2, which is installed in combination with the RFID safety switch with NG series block, provides an integrated locking system of the protections with related access control to dangerous areas.

59,000,000 PARTS SOLD WORLDWIDE

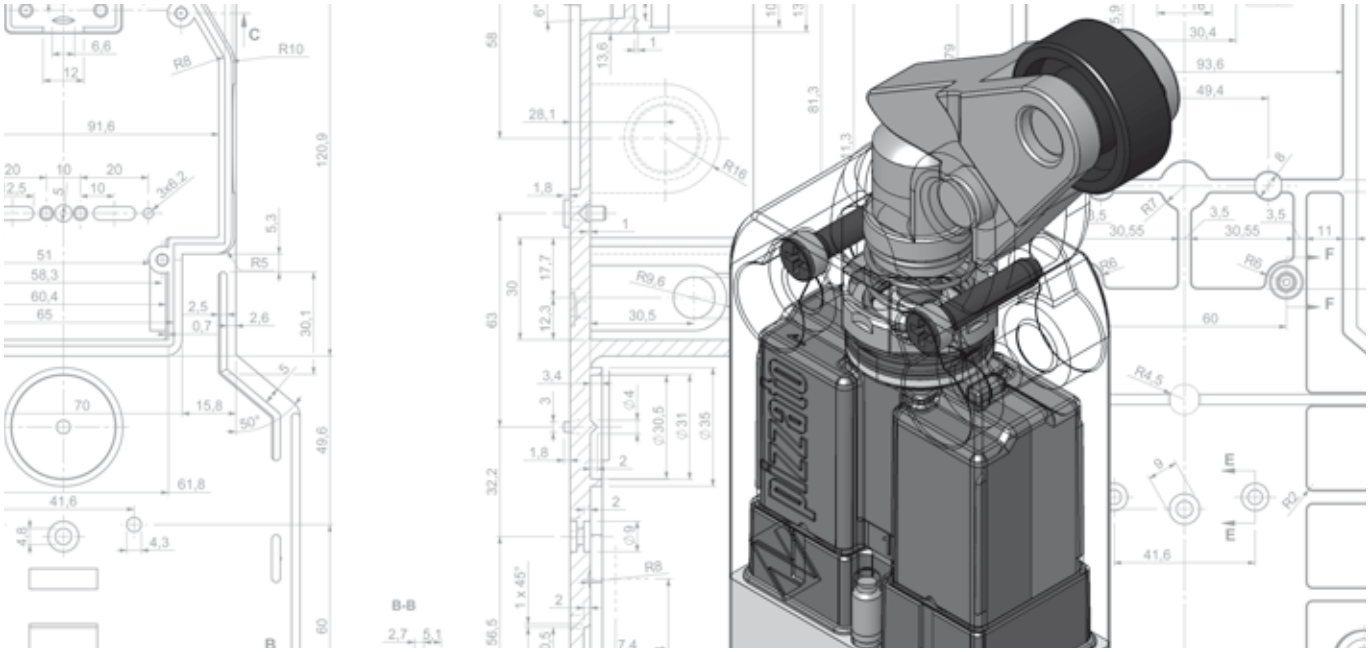
Pizzato Elettrica's product catalogue contains about 7,000 items, with more than 1,300 special codes developed for devices personalised according to clients' specific needs.
Pizzato Elettrica devices can be grouped, according to typology, into three main macro-categories:

• POSITION SWITCHES. They are installed on a daily basis on any type of industrial machinery, for applications in the wood, metal, plastic, elevators, automotive, naval sectors, etc. In order to be used in a such wide variety of sectors and countries, Pizzato Elettrica position switches are made to be assembled in a lot of configurations thanks to the various body shapes, dozens of contact blocks, hundreds of actuators and materials, forces, assembling versions.
The product range that Pizzato Elettrica can offer in the field of position switches is one of the widest in the world. Moreover, the use of high quality materials, high reliability technologies as twin bridge contact blocks and the protection degree IP67, make this range of position switches one of the most technologically evolved.
Furthermore since 2005 Pizzato Elettrica has also started to produce versions of its switches with specific features for some sectors as follows: switches with ATEX homologations and switches for high temperature.

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

• MAN-MACHINE INTERFACE. Thanks to the recent introduction of the EROUND control and signalling devices, Pizzato Elettrica considerably 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 foot switches 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.



140 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, TÜV SÜD, EAC. These bodies lay out high technical and qualitative standards for the company to achieve and maintain, verified yearly with seven different inspections: these are performed, without prior notice, by qualified inspectors, who extract samples of products and materials destined for sale from plants, or from the market directly, to subject them to apposite tests.

• CE MARK. All Pizzato Elettrica products bear the CE mark, in concordance with the European Directives.

• ISO 9001 CERTIFICATION. The company's production system conforms with national UNI EN ISO 9001 and international ISO 9001 standards. The certification covers all of the company's plants and their production and managerial activities: entry checks, technical, purchasing and commercial department activities, manufacturing operations assessments, final pre-shipping product tests and checks, equipment reviews and the management of the metrological lab.

• CERTIFICATION OF COMPANY QUALITY SYSTEMS. Pizzato Elettrica has obtained the certificate of compliance with the UNI EN ISO 9000 regulations in force in Italy and abroad. It is issued by a recognised independent body that guarantees the quality and reliability of the service offered to clients worldwide.

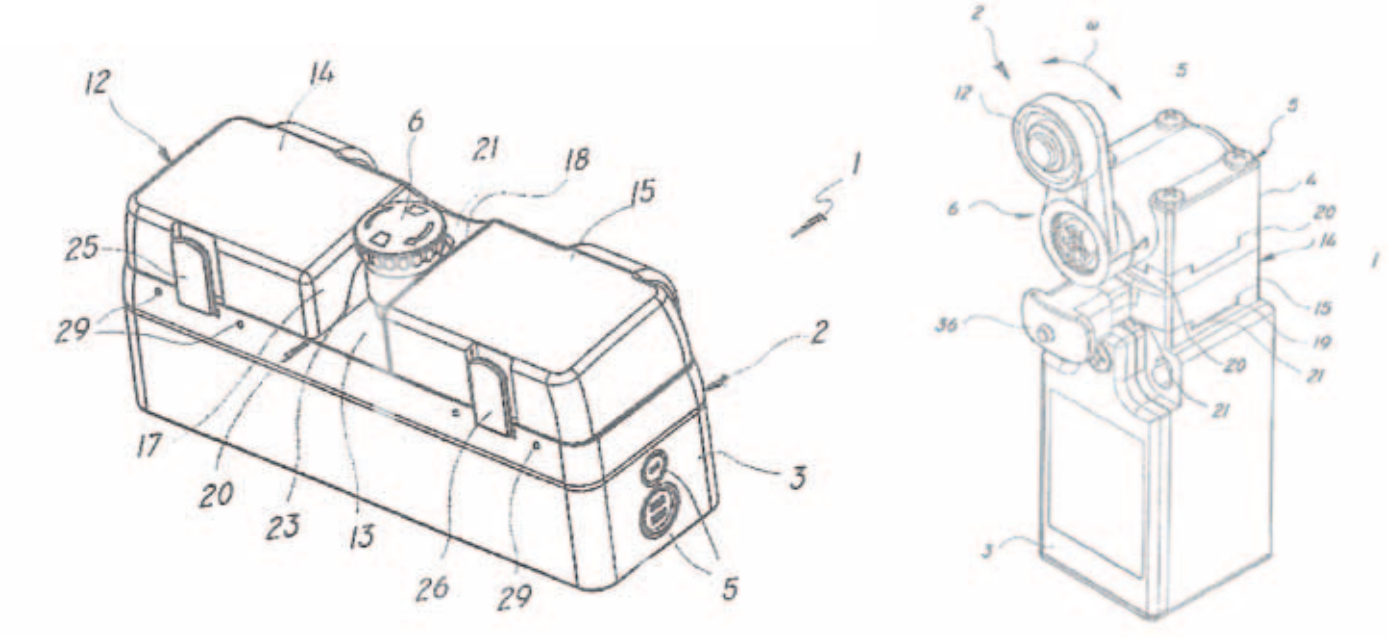
• CSQ, CISQ AND IQNET. The CSQ system is part of the CISQ (Italian Certification of Quality Systems) federation, which consists of the primary certification bodies operating in Italy and its various product sectors. CISQ is the Italian representative within IQNet, the biggest international Quality Systems and Company Management certification network, which is adhered to by 25 certification organs in as many countries.

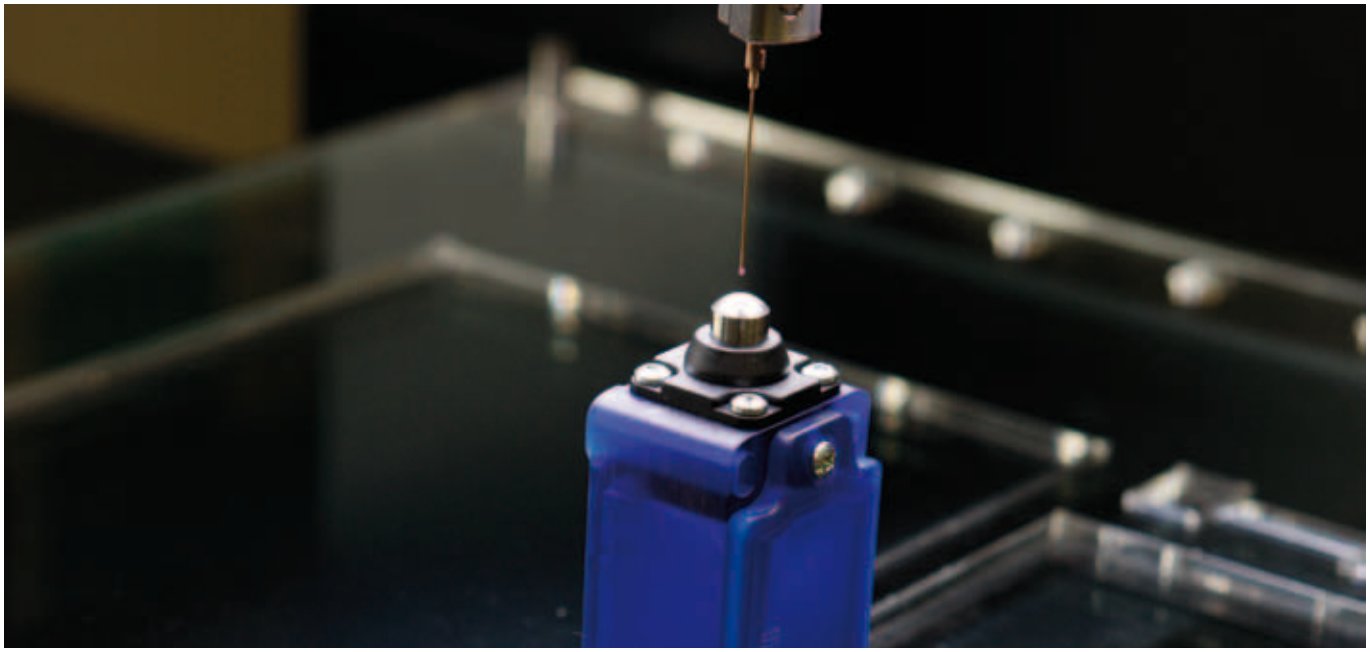
140 REGISTERED PATENTS

The fact that Pizzato Elettrica has, over 30 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 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 is now available in four languages (Italian, English, French, and German) and it includes plenty of technical data, technical information and news about products and services provided by the company.

- General Catalogue
- Certificates, brochures and leaflets of new products
- Search engine for codes
- 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

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.

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.

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.

77,000 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 77,000 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.

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

TECHNICAL AND COMMERCIAL SERVICE

TECHNICAL OFFICES

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 explaining 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:

SALES OFFICES

Among the strengths in the company relationship with the commercial network, the direct assistance guaranteed in six 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:

New products **2015-2016**

Monolithic indicator lights
Line ERGUND

- Indicator light totally integrated in the monolithic body
- Protection degrees IP67 and IP69K
- More economical than the modular model
- Three different supply voltages
- Optional customisation with symbols and indelible markings

▸ 101

Quadruple buttons
Line ERGUND

- 4 independent contact blocks driven by just one device
- Protection degree IP67
- Two shapes available: projecting and flush
- Optional customisation with symbols and indelible markings
- More than 1,000,000 operations guaranteed

▸ 49

Selector switches with 4 positions
Line ERGUND

- Protection degrees IP67 and IP69K
- Standard and illuminated version
- Three different shapes available
- More than 1,000,000 operations guaranteed

▸ 67

Potentiometer
Line ERGUND

- Increased protection degree: IP67 and IP69K
- New resistance values available
- Indelible laser marking

▸ 103

Illuminated discs
Line ERGUND

- Two signalling modes: continuous and blinking light
- Protection degree IP67
- High visibility thanks to internal high luminosity LEDs
- Optional customisation with symbols and indelible markings

▸ 119

Blinking LED units
Line ERGUND

- Integrated blinking feature
- Five colours available
- Wide supply voltage range 12 … 30 Vac/dc
- High luminosity LED

▸ 85

LED units with solder connection
Line ERGUND

- Solder pin for direct connection to PCB
- Five colours available
- Three supply voltages 12 … 30Vac/dc, 120 Vac, 230 Vac
- High luminosity LED

▸ 85

Accessories
Line ERGUND

- DIN rail adapter: with Ø 22 mm hole for fixing control and signalling devices
- Silicone hood for single projecting button
- Connection block with panel and base mounting
- Shaped ring for quadruple button

▸ 121

Single foot switches **PX** and **PA series**

Description

Pizzato Elettrica historical product, the PX and PA foot switches have recorded a continuous growth and success in the market. Modified and updated over time, this cutting-edge series keeps offering new solutions to all flexibility and modularity demands. Moreover, the latest changes have reduced its weight and therefore the environmental impact.

Protection degree IP65

IP65

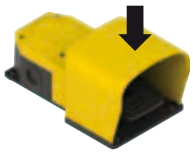
Designed for use in even the more severe conditions, these devices have passed the test for IP65 according to IEC 60529 and they are suitable for use where a high protection degree for the enclosure is requested. Available also with IP53 for applications requiring high price/quality ratio.

Conduit entry with cable clamp

Inside the housing there is a cable clamp in axis with the conduit entry which keep the electric cable in position; thus avoiding that repeated tractions and movements impact the electrical connections of the contact blocks. Reversible, it can tighten both, large and small cables.

Sturdy cap

800 N



Foots witches of the PX series have a shaped reinforced cap that can bear static loads up to 800 N without breaking. Available further solutions for heavy duty environments: the shock-proof protection made of glass-reinforced polymer and the metal protection (only for PA series) with oversize dimensions for safety shoes.

Side openings

All PX and PA series foot switches of have two knock out openings on their sides. Thanks to a dedicated joining KIT a single foot switch can be attached to another Pizzato model thus creating only one sturdy double foot switch. The joining KITs are provided with special gaskets which maintain the device protection degree unaltered, and with a special conduit that allows to pass the wires from one foot switch to the next.

Stainless steel external metallic parts

AISI 304

On request the foot switch can be provided with external metal parts in stainless steel. In this version, all screws, springs and sliding pivots made of galvanized steel are replaced by the more resistant stainless steel. Ideal for applications used in presence of corrosive elements as in the food and pharmaceutical sectors.

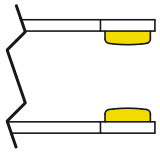
Contact blocks

Up to two contact blocks with two contacts each can be fitted in one foot switch. The range of models available is very wide with slow or snap action and different operation travel. All contact blocks are designed with highly reliable double bridge electric contacts; NC contacts have positive opening in accordance with IEC 60947-5-1, they are therefore suitable for safety applications.

Non-skid rubber feet

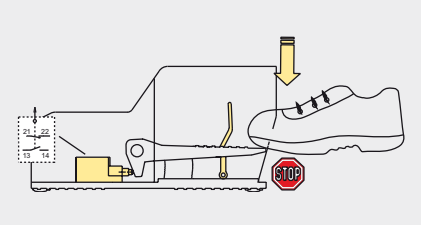
All foot switch are provided with four special non-skid feet which, being hollow in the middle, guarantee smaller contact surface and greater friction. This way the actuation of the foot switch is simple and practical, preventing its sliding away on very smooth and polished floors.

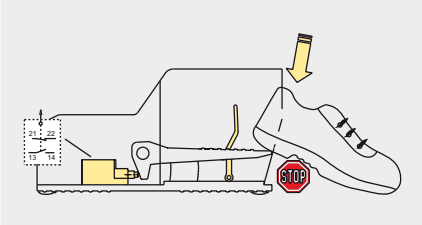
Gold-plated contacts



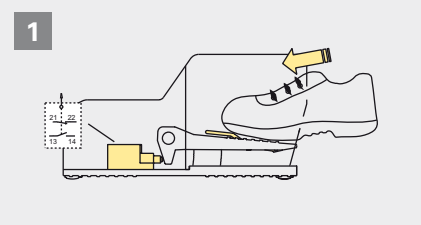
The contact blocks of these devices can be supplied gold-plated upon request. It is ideal for all applications with low voltages or currents and it ensures greater contact reliability. The high-thickness coating > 1 micron ensures the mechanical endurance of the coating over time.

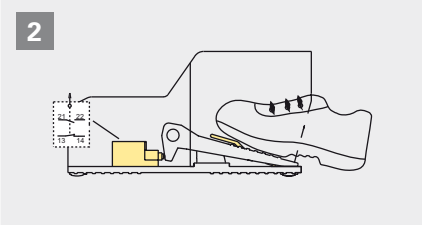
Safety lever





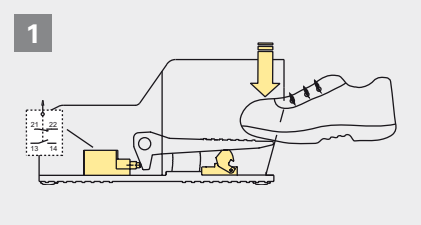
The safety lever prevents the lowering of the pedal actuator in case the foot is not fully inserted into the pedal. This prevents the accidental activation of the pedal.



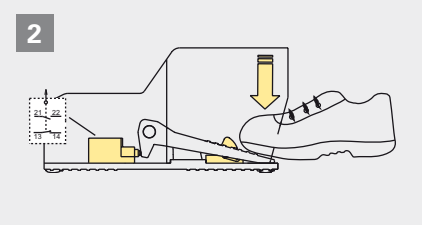


The foot must be completely inserted in order to lower the safety lever and push down the pedal actuator.

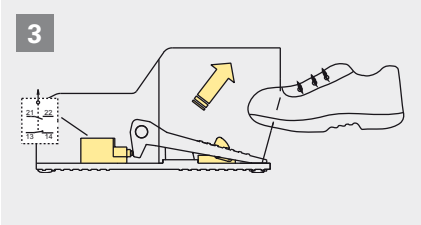
Lock of the pedal actuator



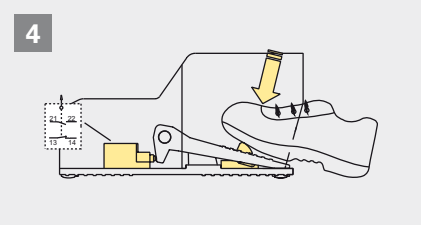
Insertion of the foot in the pedal



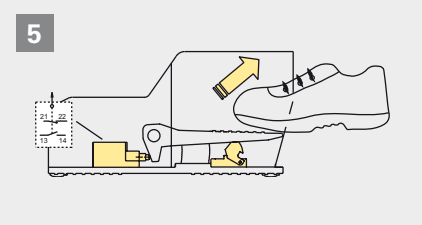
Pushing down the pedal actuator, the contact switches and the device locks the actuator



Releasing the pedal actuator, the lock device keeps it down.

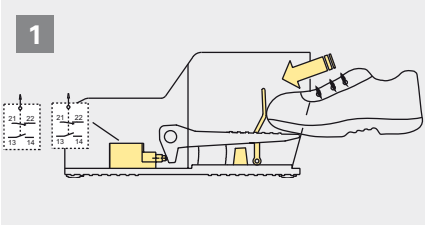


To unlock the pedal actuator, push the locking device

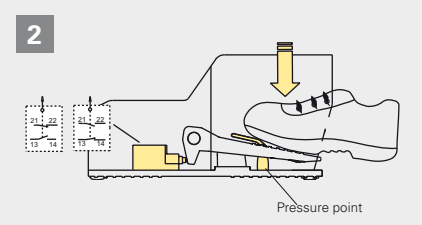


Upon drawing the foot from the foot switch, the pedal actuator and the contacts return to their initial positions

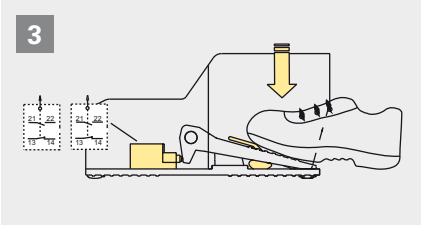
2-stage actuating force



PX foot switches with two overlapped snap action contact blocks
(2x 1NO+1NC), two steps actuation force and safety lever.

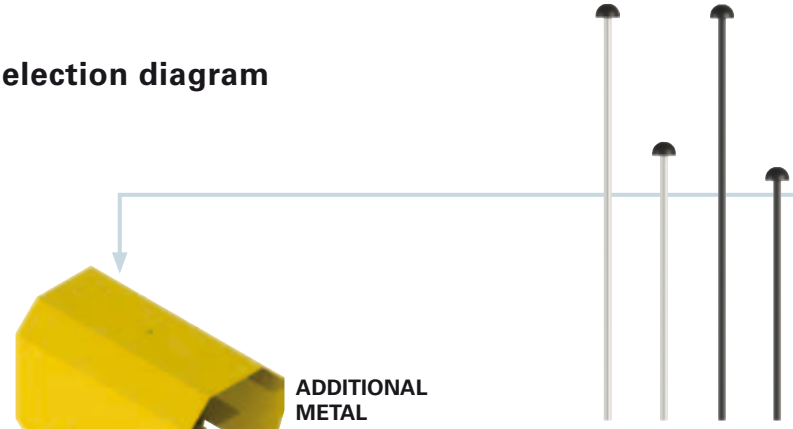


With a light pressure (~19 N) on the pedal actuator, the first contact block switches while the second keeps its state. The pedal actuator stops at pressure point.



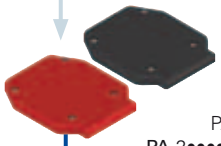
Pushing down with higher force (~180 N) on the pedal actuator, the second contact block switches as well. In this position both contact blocks have been switched.

Selection diagram



CARRYING RODS
See page 28

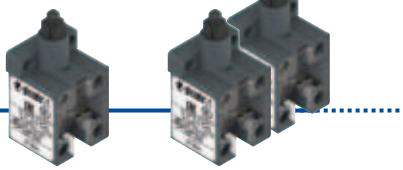
ADDITIONAL METAL PROTECTION



OPEN PRO-TECTIONS

PA 5••••
PA 2••••

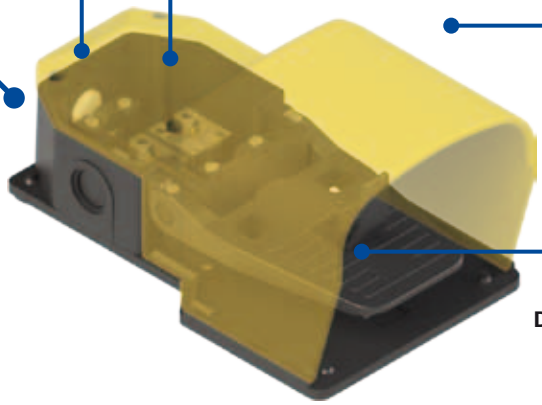
CONTACT BLOCK COMBINATIONS



01
1NO+1NC,
snap action

02
2NO+2NC
snap action

CLOSED PROTECTIONS

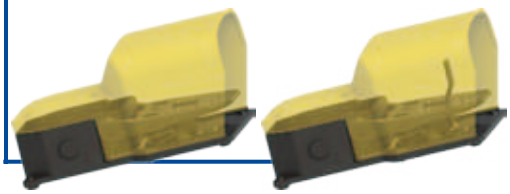


PEDAL DEVICES

0
without devices

1
with safety lever

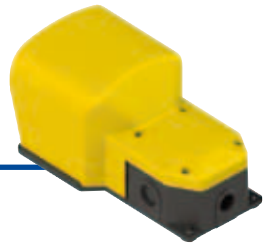
2
lock of the pedal actuator



3
two stage

4
two-stage
with safety lever

CONDUIT ENTRY



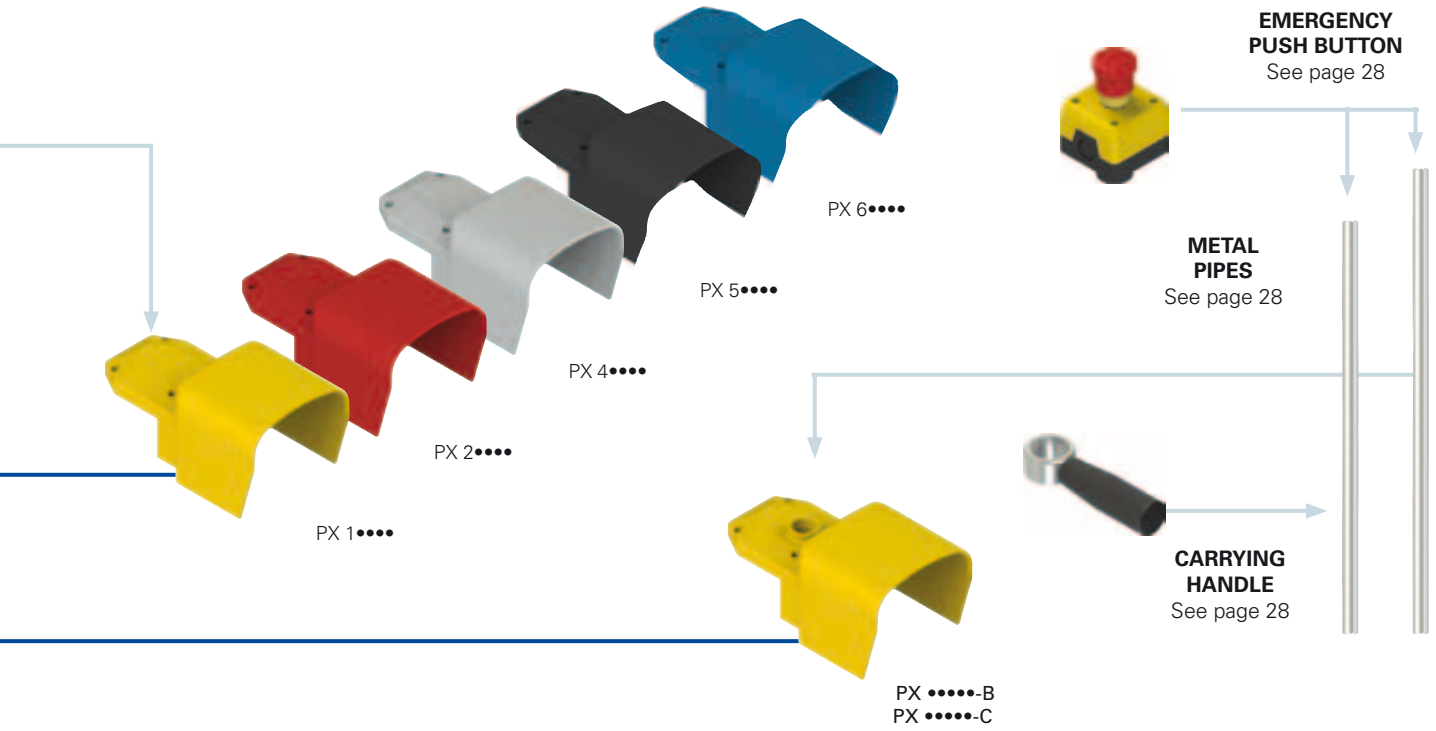
Threaded conduit entry

M2	M20x1.5 (standard)
	PG 13.5

STABILIZING PLATE

product options

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 options

PX 10110-AM2X

Foot-switches	
PX	closed version
PA	open version

Colour of protection	
1	yellow RAL 1023 (standard)
2	red RAL 3020
4	grey RAL 7035
5	black RAL 9017
6	blue RAL 5017

Contact block combinations	
01	1NO+1NC, snap action (VF B501)
02	2x (1NO+1NC), snap action (VF B501+VF B501)
03	1NO+1NC, slow action (VF B601)
04	2x (1NO+1NC), slow action (VF B601+VF B601)
05	2x 2NO, slow action (VF B1001+VF B1001)
06	2x 2NC, slow action (VF B901+VF B901)
07	2NC, slow action (VF B901)
08	2NO, slow action (VF B1001)
09	1NO+1NC, slow action, make before break (VF B701)
14	2NO, snap action (VF B1201)
15	2NC, snap action (VF B1101)
20	2x (1NO+1NC), snap action shifted (VF B501+VF B501)
24	(1NO+1NC)+(2NC), snap action, shifted (VF B501+VF B1101)

Other combinations on request.
For characteristics of contact blocks see page 31.

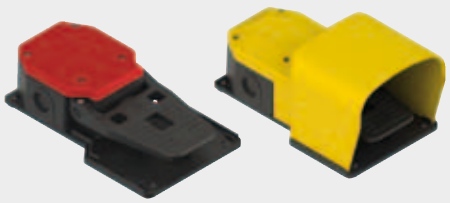
External metallic parts	
	zinc-plated steel (standard)
X	stainless steel

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

Accessories (PX series only)	
	without accessories
A	with technopolymer carrying rod (400 mm)
B	with M25 hole for VF KIT31
C	with M25 hole for VF KIT31 with stabilizing plate
D	with technopolymer carrying rod (660 mm)

Protection degree	
0	IP53
1	IP65

Devices	
0	without devices
1	with safety lever
2	lock of the pedal actuator
3	without safety lever and with two-stage actuating force (only with contact block combinations 20, 24)
4	with safety lever and with two-stage actuating force (only with contact block combinations 20, 24)



Main features

- Technopolymer housing, shock-proof
- Protection degree IP53 or IP65
- 14 contact blocks available
- Various auxiliary devices available
- Assembled through special joining kits

Utilization categories

Alternating 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

Markings and quality marks:
complete foot switch

EAC approval: RU C-IT ДМ94.B.01024

internal contact block

UL approval:	E131787
CCC approval:	2013010305600704
EAC approval:	RU C-IT ДМ94.B.01024

Technical data

Housing

Housing with double insulation:	⧈
Base:	glass fiber reinforced technopolymer, self-extinguishing and shock-proof
Cap:	technopolymer, self-extinguishing and shock-proof
Tightening torque, cover screws:	0.8 … 1.2 Nm
Actuating force:	16 N
One threaded conduit entry:	M20x1.5 (standard)
Tightening torque, cable clamp screws:	0.8 … 1 Nm
Protection degree:	IP53 (P• ••••0-M2) or IP65 (P• ••••1-M2) acc. to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature:	-25°C … +80°C
Safety parameters:	
B_{10d}:	20,000,000 for NC contacts
Max. operation frequency:	3600 operating cycles[1]/hour
Mechanical endurance:	10 million operating cycles[1]

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

Electrical data

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

Cable cross section (flexible copper strands)

Contact block combinations (all):	min.	1 x 0.5 mm²	(1 x AWG 20)
	max.	2 x 2.5 mm²	(2 x AWG 14)
Terminal screw tightening torque:	0.6 … 0.8 Nm		

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

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

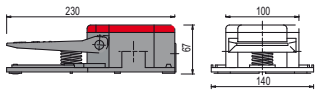
Installation for safety applications:
Use only switches marked with the symbol ⊖ aside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in **standard EN 60947-5-1, encl. K, par. 2**.

Dimensional drawings

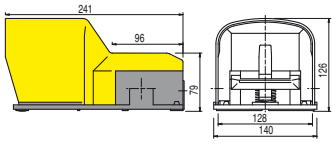
All measures in the drawings are in mm

Contact type:

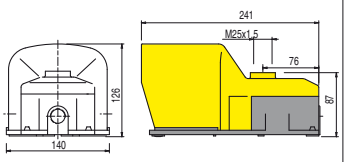
R = snap action
L = slow action
LO = slow action make before break
RS = snap action shifted



open version



closed version



closed version with M25 hole for VF KIT31

Contact block combinations		open version		closed version		closed version with M25 hole for VF KIT31	
01	R	PA 20100-M2	1NO+1NC	PX 10110-M2	1NO+1NC	PX 10110-BM2	1NO+1NC
02	R	PA 20200-M2	2x (1NO+1NC)	PX 10210-M2	2x (1NO+1NC)	PX 10210-BM2	2x (1NO+1NC)
03	L	PA 20300-M2	1NO+1NC	PX 10310-M2	1NO+1NC	PX 10310-BM2	1NO+1NC
04	L	PA 20400-M2	2x (1NO+1NC)	PX 10410-M2	2x (1NO+1NC)	PX 10410-BM2	2x (1NO+1NC)
05	L	PA 20500-M2	2x 2NO	PX 10510-M2	2x 2NO	PX 10510-BM2	2x 2NO
06	L	PA 20600-M2	2x 2NC	PX 10610-M2	2x 2NC	PX 10610-BM2	2x 2NC
07	L	PA 20700-M2	2NC	PX 10710-M2	2NC	PX 10710-BM2	2NC
08	L	PA 20800-M2	2NO	PX 10810-M2	2NO	PX 10810-BM2	2NO
09	LO	PA 20900-M2	1NO+1NC	PX 10910-M2	1NO+1NC	PX 10910-BM2	1NO+1NC
14	R	PA 21400-M2	2NO	PX 11410-M2	2NO	PX 11410-BM2	2NO
15	R	PA 21500-M2	2NC	PX 11510-M2	2NC	PX 11510-BM2	2NC
20	RS	PA 22000-M2	1NO+1NC (1 cont.) 1NO+1NC (2 cont.)	PX 12010-M2	1NO+1NC (1 cont.) 1NO+1NC (2 cont.)	PX 12010-BM2	1NO+1NC (1 cont.) 1NO+1NC (2 cont.)
24	RS	PA 22400-M2	1NO+1NC (1 cont.) 2NC (2 cont.)	PX 12410-M2	1NO+1NC (1 cont.) 2NC (2 cont.)	PX 12410-BM2	1NO+1NC (1 cont.) 2NC (2 cont.)

Contact block data on page 31.

Legend

- Closed contact
- Open contact
- Positive opening travel
- Pushing the switch / Releasing the switch

Stock items

PA 20100-M2
PX 10100-M2
PX 10110-M2
PX 10111-M2
PX 10210-M2

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

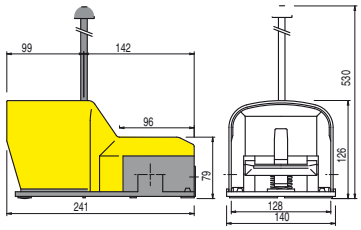
Accessories See page 127

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

Combination examples

All measures in the drawings are in mm

Foot switch, closed version, with 400 mm technopolymer carrying rod

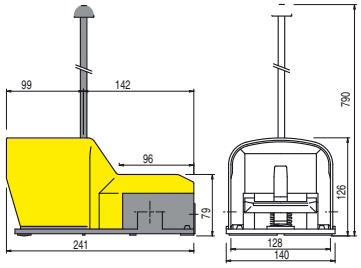


How to order:

			
PX 10110-M2	VF KIT21		

This article can also be purchased with single code PX 10110-AM2. In this case the cap is supplied already drilled for fixing the carrying rod.

Foot switch, closed version, with 660 mm technopolymer carrying rod

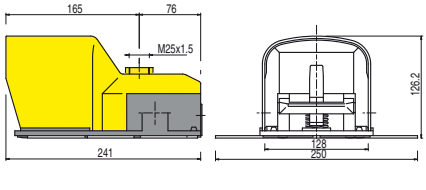


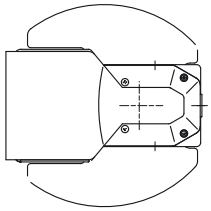
How to order:

			
PX 10110-M2	VF KIT22		

This article can also be purchased with single code PX 10110-DM2. In this case the cap is supplied already drilled for fixing the carrying rod.

Foot switch closed version with M25x1.5 hole and stabilizing plate



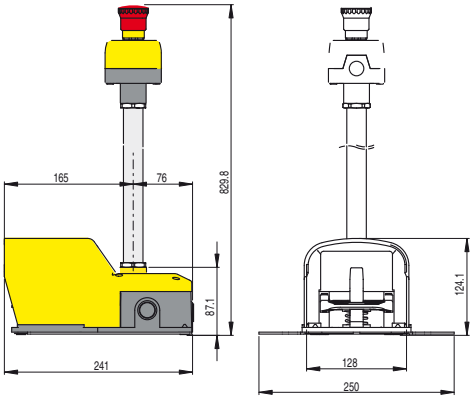


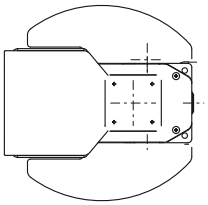
How to order:

			
PX 10110-BM2	VF KIT60		

This article can also be purchased with single code PX 10110-CM2.

Foot switch closed version with metal pipe, stabilizing plate and emergency button 1 NC



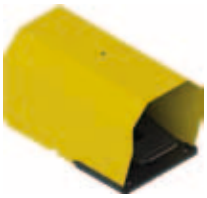


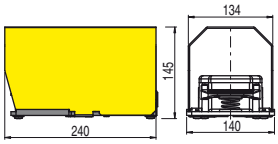
How to order:

				
PX 10110-BM2	VF KIT60	VF KIT31	VF KIT32	

Combination examples

Foot switch open version with additional metal protection. Ideal for heavy duty applications with safety shoes.

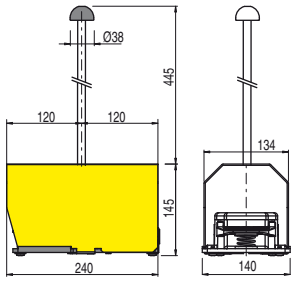




How to order:

			
PA 20100-M2	VF KIT71		

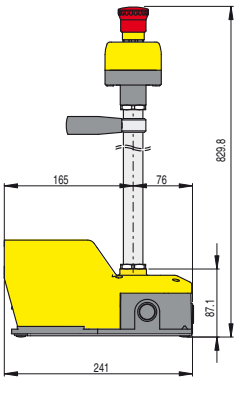
Foot switch, open version and metal protection with 400 mm metal carrying rod For heavy-duty work environments, cap with increased dimensions for safety shoes.

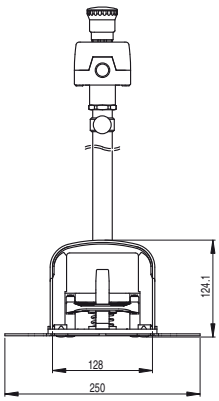


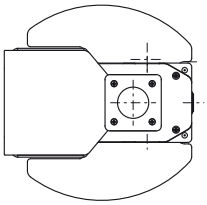
How to order:

			
PA 20100-M2	VF KIT71	VF KIT25	

Foot switch, closed version with metal pipe, stabilizing plate, carrying handle and emergency button 1 NC



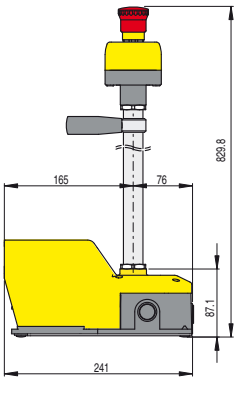


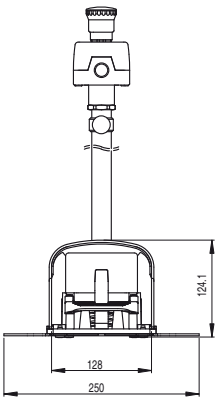


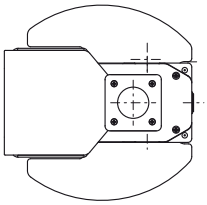
How to order:

				
PX 10110-BM2	VF KIT60	VF KIT31	VF KIT32	VF KIT50

Foot switch, closed version with shifted contacts, two-stage actuating force, metal pipe, stabilizing plate, carrying handle and emergency button 1 NC



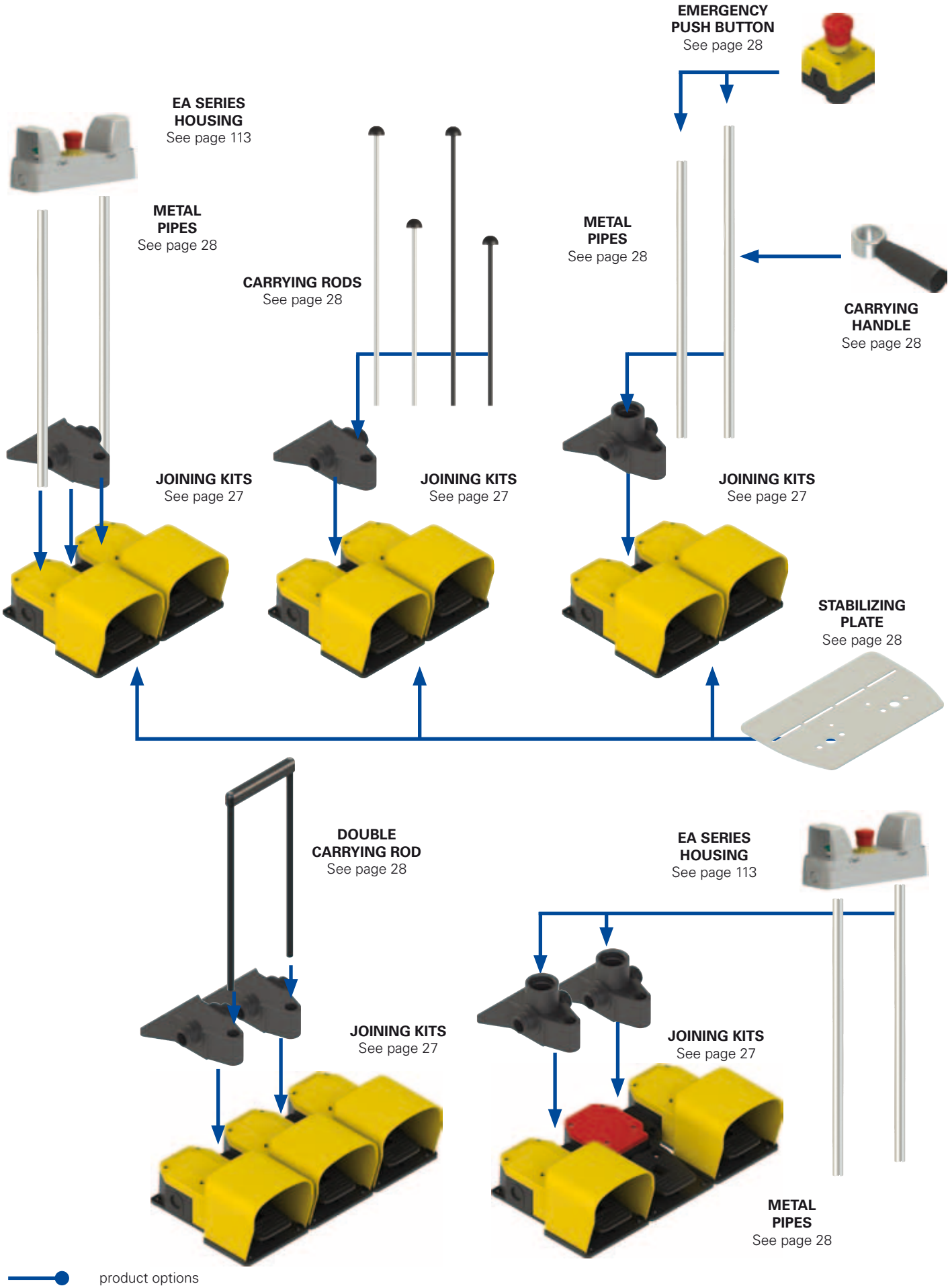




How to order:

				
PX 12040-BM2	VF KIT60	VF KIT31	VF KIT32	VF KIT50

Selection diagram



Already existing combinations of double foot switches

If you wish to purchase foot switches already assembled, with a single order code, please contact our sales office. Before contacting our offices, please look at the following table where some already assigned multiple foot switch combinations are listed.

Code	Left foot switch	Joining device	Right foot switch	Additional kits
PC 2-101	PX 10110-M2	VF KIT20	PX 10110-M2	VF KIT21
PC 2-102	PX 10111-M2	VF KIT20	PX 10111-M2	
PC 2-103	PX 20110-M2	VF KIT20	PX 10210-M2	VF KIT21
PC 2-104	PX 20110-M2	VF KIT20	PX 10110-M2	VF KIT21
PC 2-105	PX 10110-M2	VF KIT20	PX 20110-M2	VF KIT21
PC 2-106	PX 10120-M2	VF KIT20	PX 10110-M2	VF KIT21
PC 2-107	PX 10310-M2	VF KIT20	PX 10310-M2	VF KIT21
PC 2-108	PX 10410-M2	VF KIT20	PX 10410-M2	VF KIT21
PC 2-109	PX 10210-M2	VF KIT20	PX 10210-M2	VF KIT21
PC 2-110	PX 10301-M2	VF KIT20	PX 10301-M2	
PC 2-111	PX 10100-M2	VF KIT20	PX 10100-M2	
PC 2-112	PX 10111-M2	VF KIT20	PX 10111-M2	VF KIT21
PC 2-113	PX 10120-M2	VF KIT20	PX 10120-M2	VF KIT21
PC 2-114	PX 10411-M2	VF KIT20	PX 10411-M2	VF KIT21
PC 2-115	PX 10211-M2	VF KIT20	PX 10201-M2	
PC 2-116	PX 10211-M2	VF KIT20	PX 10211-M2	VF KIT21
PC 2-117	PX 10100-M2	VF KIT20	PX 10210-M2	VF KIT21
PC 2-118	PA 20100-M2	VF KIT20	PX 10110-M2	VF KIT21
PC 2-119	PA 20101-M2	VF KIT20	PX 10111-M2	VF KIT21
PC 2-120	PA 20300-M2	VF KIT20	PX 10310-M2	VF KIT21
PC 2-121	PA 20120-M2	VF KIT20	PX 10110-M2	VF KIT21
PC 2-122	PA 20121-M2	VF KIT20	PX 10111-M2	VF KIT21
PC 2-123	PA 20200-M2	VF KIT20	PX 10810-M2	VF KIT21
PC 2-124	PA 20100-M2	VF KIT20	PX 10210-M2	VF KIT21
PC 2-125	PA 20100-M2	VF KIT20	PX 10100-M2	VF KIT21
PC 2-126	PA 20100-M2	VF KIT20	PA 20100-M2	VF KIT21
PC 2-127	PA 20400-M2	VF KIT20	PA 20400-M2	VF KIT21
PC 2-128	PX 10110-M2	VF KIT30	PX 10110-M2	
PC 2-129	PA 20100-M2	VF KIT30	PX 10110-M2	
PC 2-130	PX 10111-M2	VF KIT30	PX 10111-M2	
PC 2-131	PX 10110-BM2	VF KIT20	PX 10110-BM2	
PC 2-132	PX 10111-M2	VF KIT30	PX 10111-M2	VF KIT29+ VF KIT32+VF KIT50
PC 2-133	PX 20210-M2	VF KIT20	PX 20210-M2	
PC 2-134	PX 20410-M2	VF KIT20	PX 20410-M2	
PC 2-35	PX 20211-M2	VF KIT20	PX 20211-M2	
PC 2-137	PX 10421-M2	VF KIT20	PX 10401-M2	
PC 2-138	PX 10210-M2	VF KIT20	PX 20210-M2	VF KIT21
PC 2-139	PX 40220-M2	VF KIT20	PX 40200-M2	
PC 2-40	PA 20100-M2	VF KIT20	PX 10110-M2	VF KIT22
PC 2-141	PX 10110-M2	VF KIT20	PA 20100-M2	
PC 2-142	PX 10111-M2	VF KIT30	PX 10111-M2	VF KIT31+ VF KIT32
PC 2-143	PX 10100-M2	VF KIT30	PX 10210-M2	VF KIT31+ VF KIT33
PC 2-144	PX 10810-M2	VF KIT30	PX 10110-M2	VF KIT31+ VF KIT32
PC 2-145	PX 40100-M2	VF KIT30	PX 40100-M2	VF KIT31+ VF KIT33
PC 2-146	PA 20100-M2	VF KIT30	PX 10110-M2	VF KIT31+ VF KIT36
PC 2-147	PX 10110-M2	VF KIT30	PX 12040-M2	VF KIT31+ VF KIT34
PC 2-148	PX 10110-M2	VF KIT20	PX 10110-M2	VF KIT21 + VF KIT61
PC 2-149	PX 10111-M2	VF KIT30	PX 10111-M2	VF KIT29+ VF KIT32+VF KIT50+ VF KIT61
PC 2-150	PX 40310-M2	VF KIT30	PA 20300-M2	VF KIT29+ VF KIT32

Already existing combinations of triple foot switches

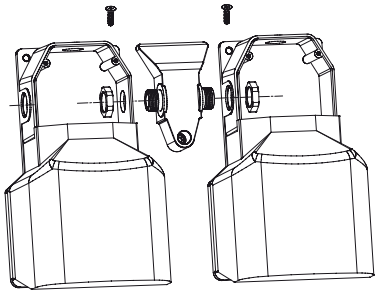
Code	Left foot switch	Joining device	Center foot switch	Joining device	Right foot switch	Additional kits
PC 3-11	PX 10110-M2	VF KIT20	PA 20100-M2	VF KIT20	PX 10110-M2	
PC 3-12	PX 10100-M2	VF KIT20	PX 10100-M2	VF KIT20	PX 10100-M2	
PC 3-13	PX 10110-M2	VF KIT20	PA 20100-M2	VF KIT20	PX 10110-M2	VF KIT40
PC 3-14	PX 10110-M2	VF KIT30	PX 10110-M2	VF KIT30	PX 10110-M2	2x VF KIT31 + 2x VF KIT18

Note:
VF KIT21, 22, 26, 29, 31, 32, 33, 34, 35, 40, 50 kits are not supplied assembled because, in order to be wired, kits should be in any case disassembled.

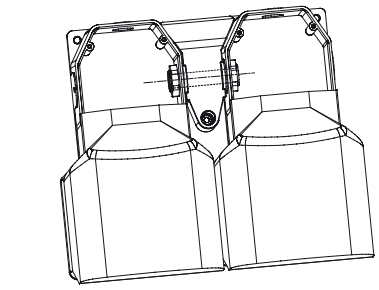
How to combine the modular foot switches

All single foot switches (see page 17) have side knock out openings to enable the insertion of the threaded end of the joining elements. The locking of the threaded nuts of the joining elements forms a sealed cable conduit for the electrical cables from a foot switch to the other. In addition to this, with the supplied screws, the joining elements allow the definitive mechanical locking and the stabilization of two or more foot switches as a single object.

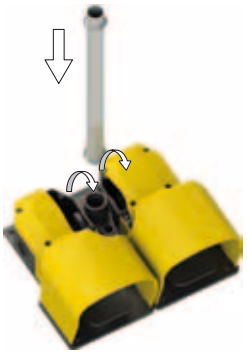
1

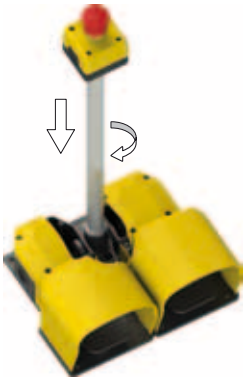


2



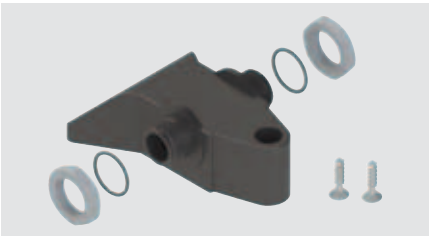
Besides the possibility of joining from two to four single foot switches, the joining elements make it possible to apply a metal tube that enables the electrical connection between the foot contacts and the contacts of an emergency button, connected to the same tube, preserving thus an IP65 protection degree.





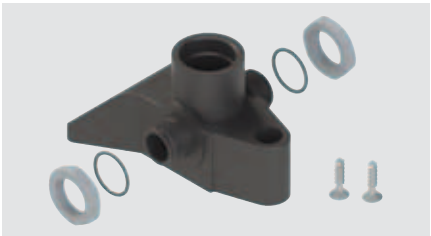
Joining elements for modular foot switches

Article	Description
VF KIT20	Joining element



Joining element for technopolymer pedals with hole for carrying rod, with nuts, seals and self-tapping screws for the fixing of the two single pedals.
Protection degree IP65.

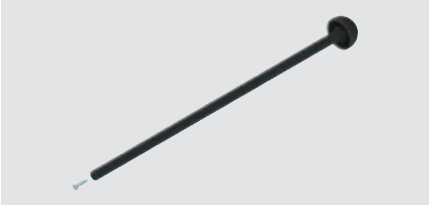
Article	Description
VF KIT30	Joining element



Joining kit for technopolymer pedals with threaded hole M25x1.5 for VF KIT31-VF KIT29 with nuts, seals and self-tapping screws for the fixing of two single pedals.
Protection degree IP65.

Auxiliary elements for modular foot switches

Article	Description
VF KIT21	Kit carrying rod, L=400 mm
VF KIT22	Kit carrying rod, L=660 mm

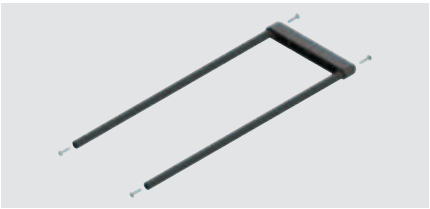


Kit plastic carrying rod (can be connected to VF KIT20) with self-tapping screw for rod fixing.

Article	Description
VF KIT25	Kit metal carrying rod, L=400 mm
VF KIT26	Kit metal carrying rod, L=660 mm

Kit metal carrying rod (can be connected to VF KIT20) with self-tapping screw for rod fixing.

Article	Description
VF KIT40	Kit double carrying rod, L=400 mm
VF KIT41	Kit double carrying rod, L=660 mm



Kit double carrying rod with handle and self-tapping screws for fixing, to combine with two VF KIT20.

Article	Description
VF KIT31	Kit Ø 25 mm metal tube, L=660 mm
VF KIT29	Kit Ø 25 mm metal tube, L=740 mm

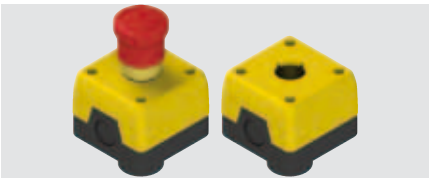
Kit Ø 25 mm metal tube with threaded ends M25x1.5 (for VF KIT32, VF KIT33, VF KIT34, VF KIT35) with metal nuts and seals. Protection degree IP65.

Article	Description
VF KIT18	Metal nut

Metal nut M25x1.5 to combine with VF KIT31-VF KIT29 if housings of the EA series are used.

10 pcs. packs.

Article	Description
VF KIT32	Kit emergency button, 1NC
VF KIT33	Kit emergency button, 1NC+1NO
VF KIT34	Kit emergency button, 2NC
VF KIT35	Kit box for buttons Ø 22 mm



Kit emergency button, rotary release, compliant with EN 60947-5-1 and EN ISO 13850, to combine with VF KIT31-VF KIT29. Protection degree IP65.

Article	Description
VF KIT50	Carrying handle

Kit carrying handle for metal tube Ø 25 mm (VF KIT31-VF KIT29).

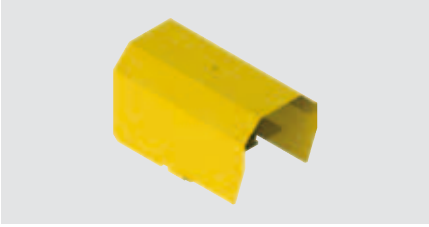
Article	Description
VF KIT60	Piastra stabilizzatrice metallica

Metal stabilizing plate for single pedal.

Article	Description
VF KIT61	Metal stabilizing plate

Metal stabilizing plate for double pedals.

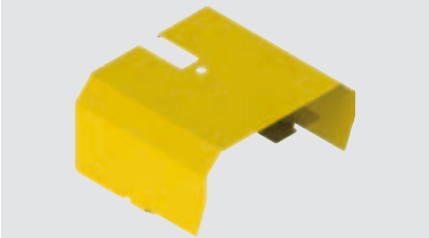
Article	Description
VF KIT71	Single yellow metal protection



Additional metal protections for single foot switches PA series. For heavy-duty work environments, increased dimensions for safety shoes. Not applicable with VF KIT60.

Note: The kits VF KIT21, 22, 25, 26, 29, 31, 32, 33, 34, 35, 40, 41, 50 can be supplied already assembled.

Article	Description
VF KIT81	Double yellow metal protection



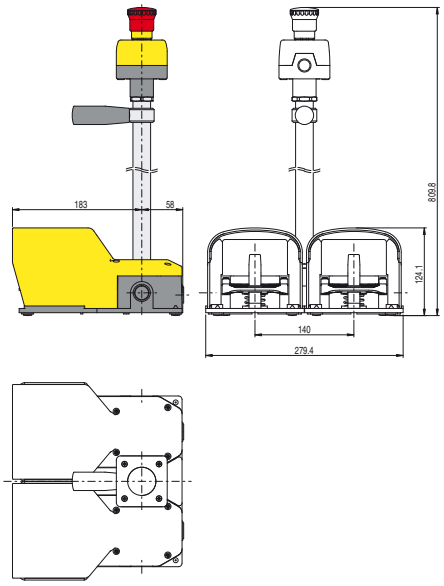
Additional metal protections for modular foot switches PC series. For heavy-duty work environments, increased dimensions for safety shoes. Not applicable with VF KIT61.

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

Combination examples

All measures in the drawings are in mm

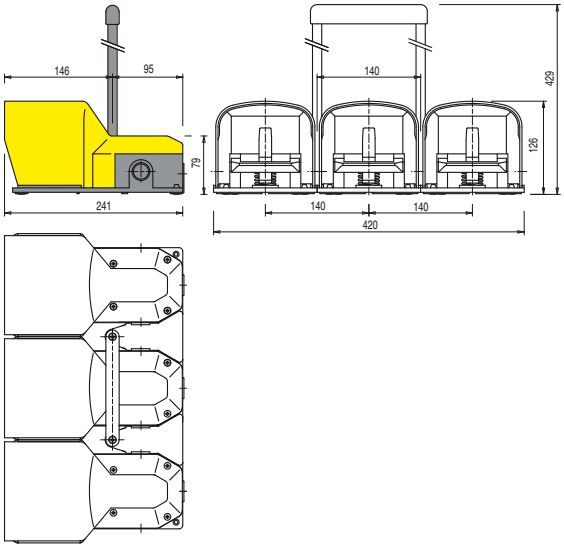
Double foot switches with joining device, metal pipe and emergency button 1NC



How to order:

	
2x PX 10110-M2	VF KIT30
	
VF KIT50	VF KIT31
	
VF KIT32	

Triple foot switches with two joining devices and double carrying rod



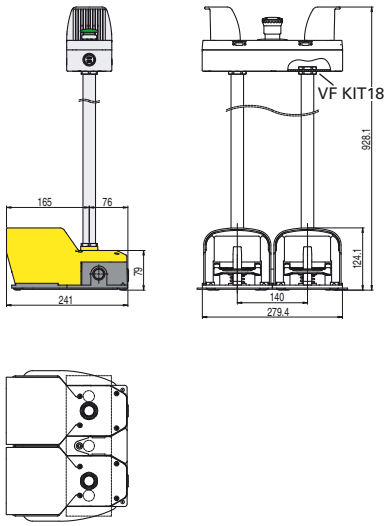
How to order:

	
3x PX 10110-M2	2x VF KIT20
	
VF KIT40	

Double foot switch with joining device, two metal tubes, stabilizing plate and housing EA series

EA SERIES
HOUSING

See page 113



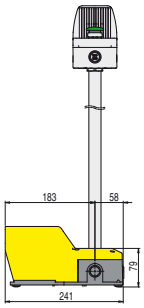
How to order:

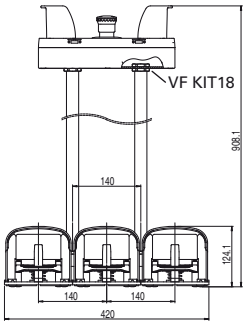
	
2x PX 10110-BM2	VF KIT20
	
2x VF KIT29	*2x* VF KIT18
	
VF KIT61	EA AC37011

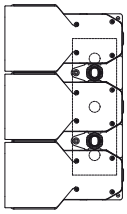
Triple foot switches with two joining devices, two metal pipes and EA series box

EA SERIES HOUSING

See page 113



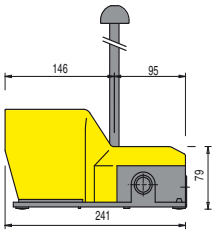


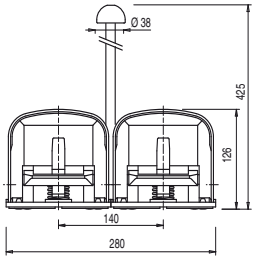


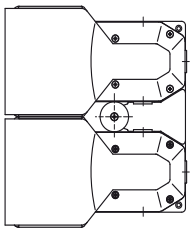
How to order:

	
3x PX 10110-M2	*2x* VF KIT30
	
2x VF KIT29	*2x* VF KIT18
	
EA AC37011	

Double foot switches with joining device and carrying rod



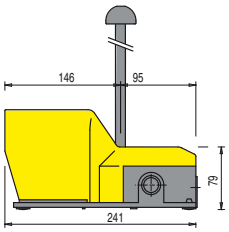


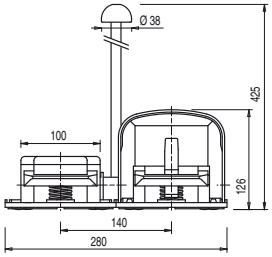


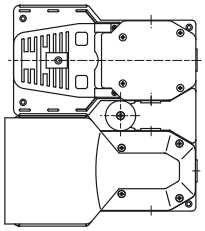
How to order:

	
2x PX 10110-M2	VF KIT20
	
VF KIT21	

Double foot switches (with and without pedal actuator protection) with joining device and carrying rod



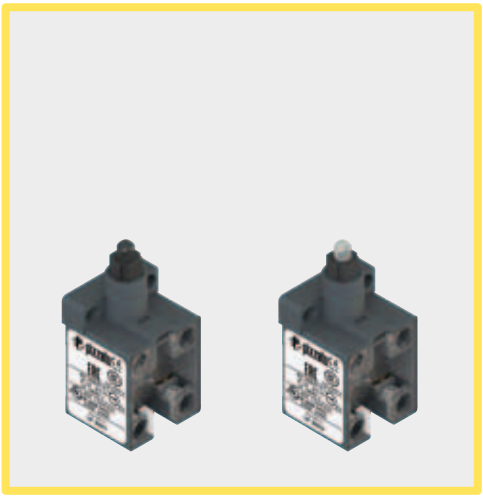




How to order:

	
PX 10110-M2	PA 20100-M2
	
VF KIT20	VF KIT21

Position switches for **indoor use**



Main features

- Technopolymer housing
- Protection degree IP20 (terminals), IP40 (contacts)
- 14 contact blocks available
- Actuators with plastic or metal button
- contact block with positive opening ⊖
- For internal use in PA, PX, PC series foot switches

Markings and quality marks:

UL approval: E131787
CCC approval: 2013010305600704
EAC approval: RU C-IT ДМ94.B.01024

Technical data

Housing
Housing made of glass fiber reinforced technopolymer, self-extinguishing and shock-proof
Protection degree: IP20 (terminals), IP40 (contacts) according to EN 60529

General data

Ambient temperature:	-40°C … +80°C
Safety parameters:	
B_{10d}:	40,000,000 for NC contacts
Max. actuation frequency:	3600 operating cycles[1]/hour
Mechanical endurance:	20 million operating cycles[1]
Max. actuation speed:	0.5 m/s
Min. actuation speed:	1 mm/s (slow action) 0.01 mm/s (snap action)
Tightening torques screws contact blocks:	0.6 … 0.8 Nm

(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1

Cable cross section (flexible copper strands)
Contact blocks 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 18, 37, 66, 67: 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 ISO 14119, EN ISO 12100, IEC 60529, EN 60529, UL 508, CSA 22.2 No.14.
Approvals:
UL 508, CSA 22.2 No.14, EN 60947-1, EN 60947-5-1

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

Installation for safety applications:
Use only switches marked with the symbol ⊖ aside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in **standard EN 60947-5-1, encl. K, par. 2**. Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams. Operate the switch **at least with the positive opening force**, indicated between brackets below each article, aside the minimum force value.

Electrical data

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

Utilization category

Alternating 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

Characteristics approved by UL

Utilization categories Q300 (69 VA, 125 … 250 Vdc)
A600 (720 VA, 120 … 600 Vac)
Characteristics of the housing: open type
For all contact blocks use 60 or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 12-14. Terminal tightening torque of 7.1 lb in (0.8 Nm).

In conformity with standard: UL 508, CSA 22.2 N.14

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

Description

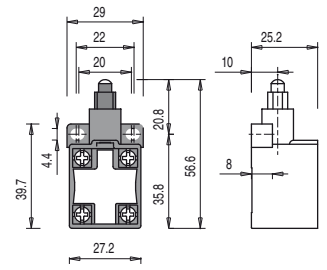
Contact blocks with captive screws, finger protection and self-lifting clamping screw plates. With NC contacts with positive opening for safety applications. Fitted with twin bridge contacts, they are particularly suitale for high-reliability applications.
Suitable for the installation inside foot switches series PA, PX and PC.

Dimensional drawings

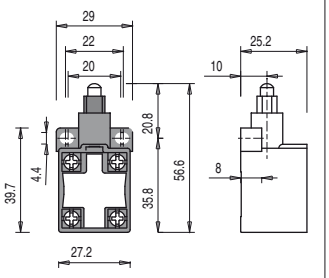
All measures in the drawings are in mm

Contact type:

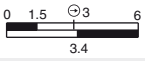
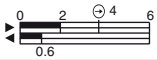
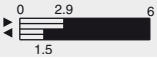
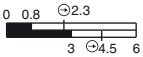
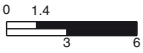
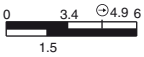
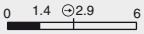
- R = snap action
- L = slow action
- LO = slow action overlapped
- LS = slow action shifted
- LV = slow action shifted and spaced
- LA = slow action closer



Technopolymer button



Metal button

Contact blocks		Technopolymer button		Metal button		Travel diagrams
5	R	VF B501	1NO+1NC	VF B502	1NO+1NC	
6	L	VF B601	1NO+1NC	VF B602	1NO+1NC	
7	LO	VF B701	1NO+1NC	VF B702	1NO+1NC	
9	L	VF B901	2NC	VF B902	2NC	
10	L	VF B1001	2NO	VF B1002	2NO	
11	R	VF B1101	2NC	VF B1102	2NC	
12	R	VF B1201	2NO	VF B1202	2NO	
13	LV	VF B1301	2NC	VF B1302	2NC	
14	LS	VF B1401	2NC	VF B1402	2NC	
15	LS	VF B1501	2NO	VF B1502	2NO	
18	LA	VF B1801	1NO+1NC	VF B1802	1NO+1NC	
37	L	VF B3701	1NO+1NC	VF B3702	1NO+1NC	
66	L	VF B6601	1NC	VF B6602	1NC	
67	L	VF B6701	1NO	VF B6702	1NO	
Max. speed		0,5 m/s		0,5 m/s		
Min. force		8 N (20 N ⊖)		8 N (20 N ⊖)		

Legend

Closed contact | Open contact | ⊖ Positive opening travel according to IEC 60947-5-1 | ▶ Pushing the switch / ◀ Releasing the switch

Code structure

article: **VF B501** options: **-G**

Contact blocks	
5	1NO+1NC, snap action
6	1NO+1NC, slow action
7	1NO+1NC, slow action, overlapped
9	2NC, slow action
10	2NO, slow action
11	2NC, snap action
12	2NO, snap action
...	.....

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating

Actuators	
01	with technopolymer button
02	with metal button

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

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

Design and maximum reliability

Elegance and functionality in one single product: Pizzato Elettrica presents the innovative EROUND line of control and signalling devices.
The ergonomic design allows a comfortable and easy use of the devices.
The details have been carefully designed giving the products a pleasant appearance and making them suitable for applications also on well designed machinery.
The devices of the EROUND line, thanks to their design and functionality, guarantee maximum reliability, and are suitable for any type of application.

A new generation of products

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.
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.

Safety visible at a glance

Thanks to the chosen shapes, the employed materials and the use of high luminosity LEDs, the illuminated devices of the EROUND line guarantee greater safety increasing thus the signalling and visibility level in any situation.

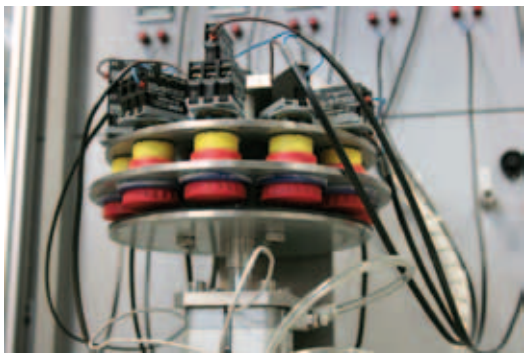
Maximum protection

All control and signalling devices of the EROUND line have an IP67 protection degree. This makes it possible to install them in any type of application, also in severe environment conditions.
Almost all devices, besides having an IP67 protection degree, have passed the test proving their IP69K protection degree according to the prescriptions established by the ISO 20653 standard.
Therefore they are suitable for use in machineries subjected to intense washing with high pressure and high temperature water jets and for any condition or environment where a particular attention for cleanness and hygiene is required.

Laser engraving

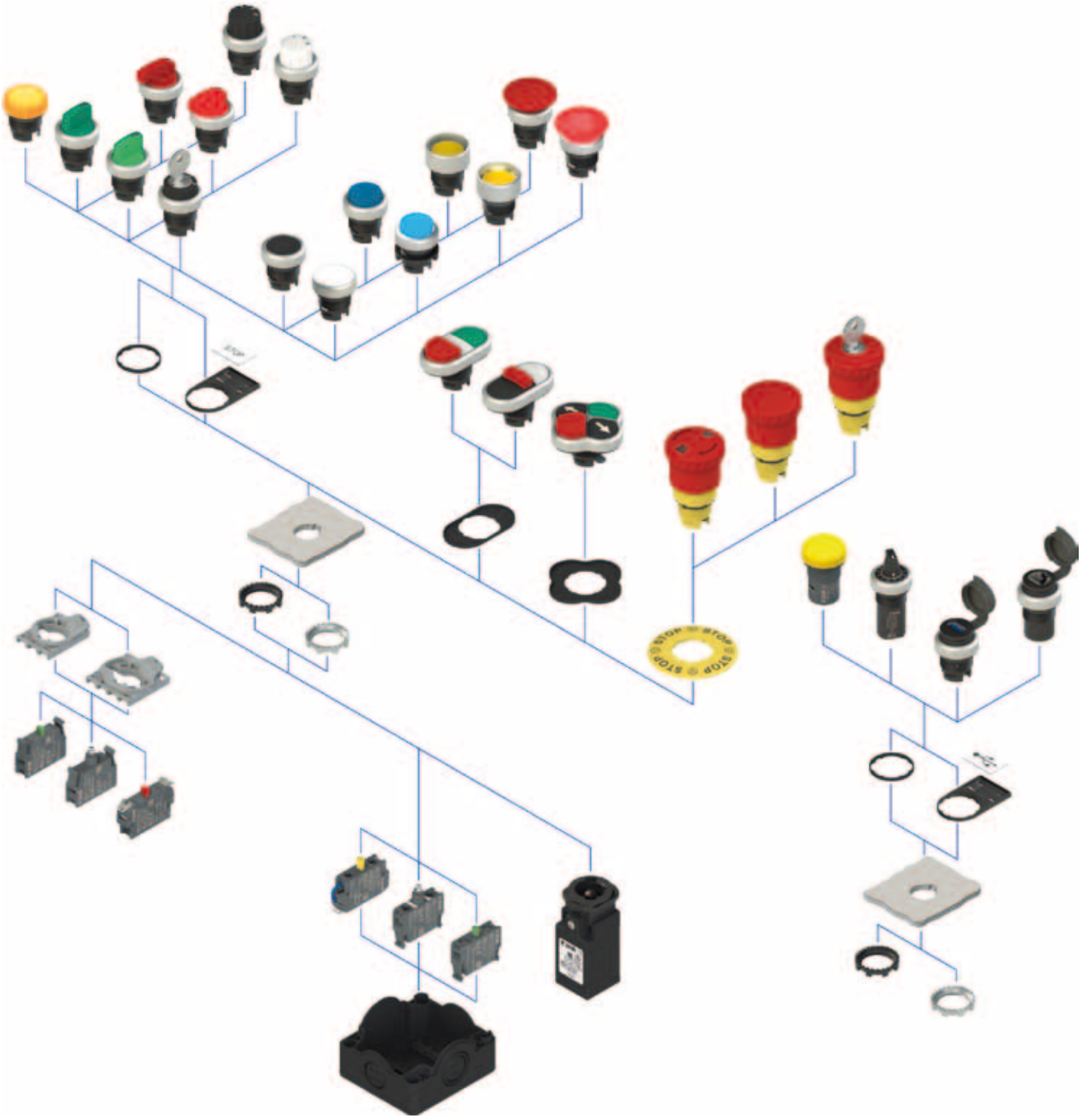
Pizzato Elettrica has introduced a new laser engraving system for control and signalling devices of the EROUND line.
Thanks to this new system which excludes the use of labels, markings on the products are indelible.
Furthermore, in case of machineries subjected to intense high pressure water jets, there is no risk of labels detaching from the product.

Guaranteed resistance

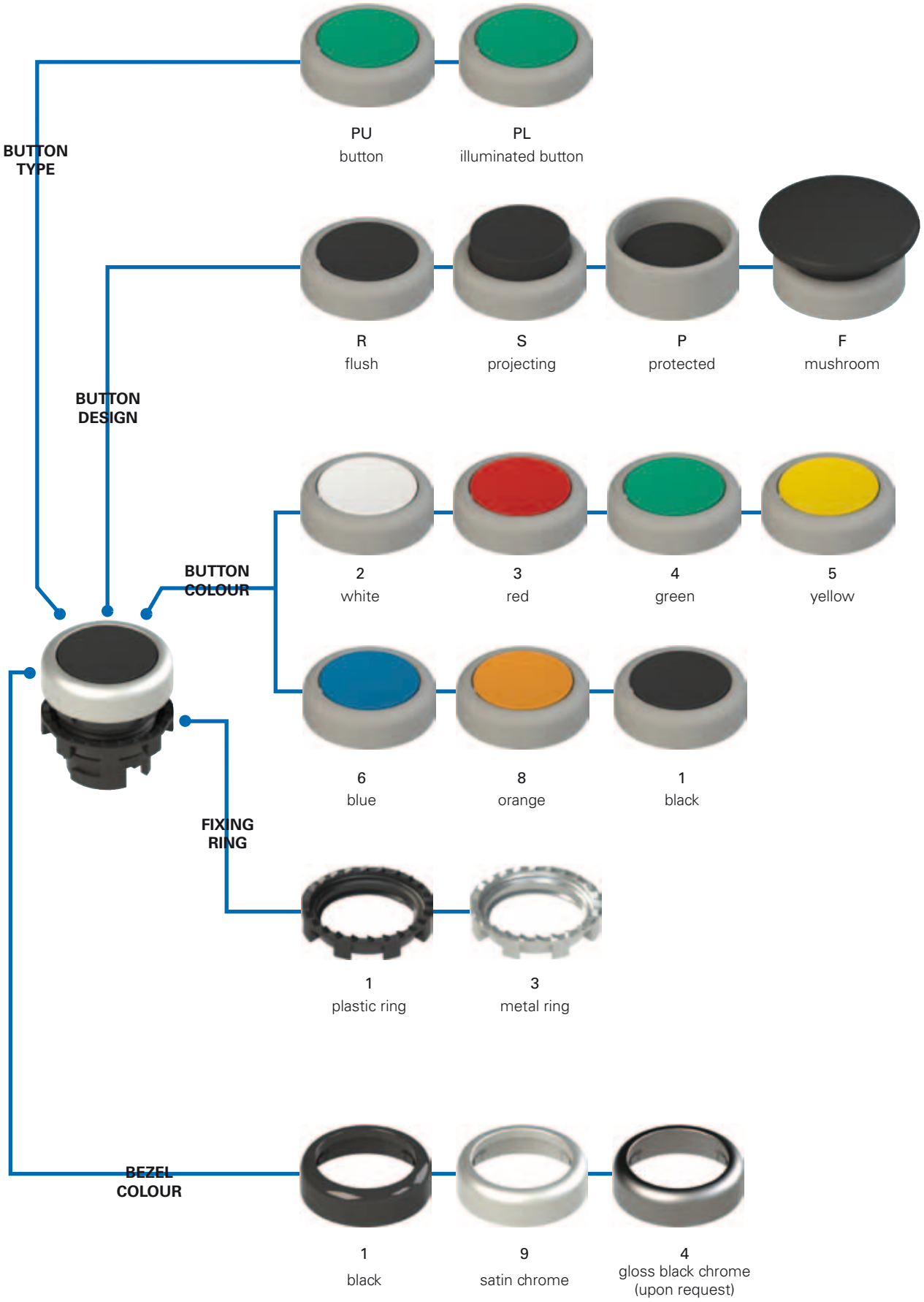


Pizzato Elettrica has subjected the control and signalling devices of the EROUND line to specific tests according to the standard EN 60947-5-1.
The particular design and the choice of employed materials made it possible to achieve considerable mechanical durability, which is expressed in number of cycles the articles have been subjected to: among the various tested products, the contact blocks reached and exceeded 20 million cycles, the buttons 15 million cycles, and the emergency buttons 300,000 cycles.

Selection diagram EROUND line



Selection diagram



Button code structure

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

article: **E2 1PU2R1210** options: **-T6**

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Button function	
1	maintained
2	spring-return
4	impulse for 4-slot base

Button design	
R	flush
S	projecting
P	protected
F	mushroom

Button colour	
0	without lens
1	black
2	white
3	red
4	green
5	yellow
6	blue
8	orange

Button diameter	
2	Ø 20 mm
4	Ø 36 mm (mushroom only)

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Button engraving	
0	without engraving
L1	O
L2	I
...	.....

Other engravings on request. See page 123.

Ambient temperature	
	-25°C … +80°C (standard, spring-return button)
T6	-40°C … +80°C

Illuminated button structure

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

article: **E2 1PL2R2210** options: **-T6**

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Button function	
1	maintained
2	spring-return

Button design	
R	flush
S	projecting
P	protected
F	mushroom

Button colour	
0	without lens
2	white
3	red
4	green
5	yellow
6	blue
8	orange

Button diameter	
2	Ø 20 mm
4	Ø 36 mm (mushroom only)

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Button engraving	
0	without engraving
L1	O
L2	I
...	.....

Other engravings on request. See page 123.

Ambient temperature	
	-25°C … +80°C (standard, spring-return button)
T6	-40°C … +80°C

Main features
- Protection degrees IP67 and IP69K
- 4 different shapes
- 7 colours available
- - 40°C versions
- Maintained or spring-return version

Markings and quality marks:

IMQ approval: CA02.04805
EAC approval: RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653
Ambient temperature:	-25°C … +80°C (spring-return button) -25°C … +50°C (maintained button)
Safety parameters:	
B_{10d}:	30,000,000 (spring-return button) 2,000,000 (maintained button)
Mechanical endurance:	15 million operating cycles[1] (spring-return button) 1 million operating cycles[1] (maintained button)
Max. actuation frequency:	3600 operating cycles[1]/hour
Actuating force at limit of travel:	3.7 N (without contact) (spring-return button) 4.4 N (without contacts) (maintained button)
Maximum travel:	5 mm
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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

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 no.14

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

General data

Protection degrees IP67 and IP69K

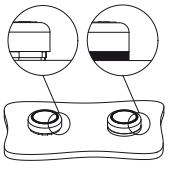
IP69K
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

Metal fixing ring

The fixing ring in metal is particularly suitable for those applications which require tighter fitting of the panel-mounted device, such as for example in metal panels having holes without reference notches.

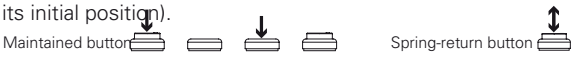
Shaped ring



The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

Functions

Depending on the type of application, the buttons of the EROUND line of Pizzato Elettrica are available in two versions: the version with maintained function (once the button is pressed, a second manual intervention is necessary for unlocking) and the version with spring-return function (once the button is pressed, it automatically returns to its initial position).



Customisable

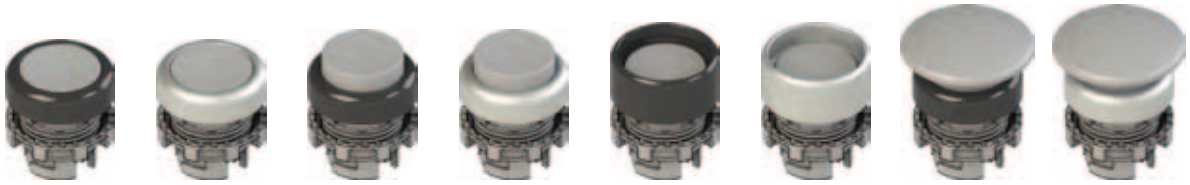
In order to satisfy customers' numerous requests and demands, Pizzato Elettrica gives the possibility to customize the control and signalling devices of the EROUND line: the bezels can be requested with different colours (gloss black chrome, black, and satin chrome), whereas the lenses can be customized with a wide range of writings, symbols, and colours.

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.
They can be used for applications in cold stores, sterilisers and other devices with low temperature environments. Special materials that have been used to realize these versions, maintain unchanged their features also in these conditions, widening the installation possibilities.

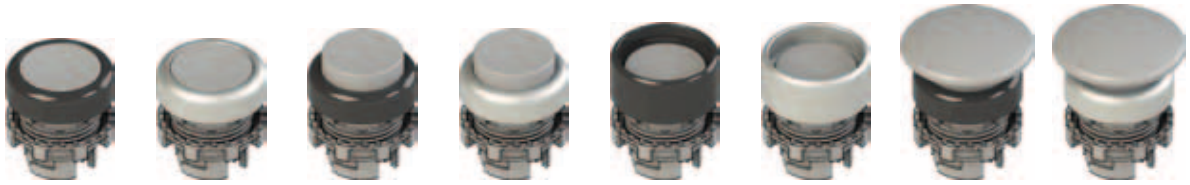
Selection table for buttons



Button colour and engraving	Flush		Projecting		Protected		Mushroom	
	black bezel	satin chr. bezel	black bezel	satin chr. bezel	black bezel	satin chr. bezel	black bezel	satin chr. bezel
○ without lens	E2 1PU2R0210	E2 1PU2R0290	Same article, flush button	Same article, flush button	E2 1PU2P0210	E2 1PU2P0290	-	-
● black	E2 1PU2R1210	E2 1PU2R1290	E2 1PU2S1210	E2 1PU2S1290	E2 1PU2P1210	E2 1PU2P1290	E2 1PU2F1410	E2 1PU2F1490
○ white	E2 1PU2R2210	E2 1PU2R2290	E2 1PU2S2210	E2 1PU2S2290	E2 1PU2P2210	E2 1PU2P2290	E2 1PU2F2410	E2 1PU2F2490
● red	E2 1PU2R3210	E2 1PU2R3290	E2 1PU2S3210	E2 1PU2S3290	E2 1PU2P3210	E2 1PU2P3290	E2 1PU2F3410	E2 1PU2F3490
● green	E2 1PU2R4210	E2 1PU2R4290	E2 1PU2S4210	E2 1PU2S4290	E2 1PU2P4210	E2 1PU2P4290	E2 1PU2F4410	E2 1PU2F4490
● yellow	E2 1PU2R5210	E2 1PU2R5290	E2 1PU2S5210	E2 1PU2S5290	E2 1PU2P5210	E2 1PU2P5290	E2 1PU2F5410	E2 1PU2F5490
● blue	E2 1PU2R6210	E2 1PU2R6290	E2 1PU2S6210	E2 1PU2S6290	E2 1PU2P6210	E2 1PU2P6290	E2 1PU2F6410	E2 1PU2F6490
● orange	E2 1PU2R8210	E2 1PU2R8290	E2 1PU2S8210	E2 1PU2S8290	E2 1PU2P8210	E2 1PU2P8290	E2 1PU2F8410	E2 1PU2F8490
○ red	E2 1PU2R321L1	E2 1PU2R329L1	E2 1PU2S321L1	E2 1PU2S329L1	-	-	E2 1PU2F341L1	E2 1PU2F349L1
○ green	E2 1PU2R421L2	E2 1PU2R429L2	E2 1PU2S421L2	E2 1PU2S429L2	E2 1PU2P421L2	E2 1PU2P429L2	E2 1PU2F441L2	E2 1PU2F449L2
○ black	E2 1PU2R121L1	E2 1PU2R129L1	E2 1PU2S121L1	E2 1PU2S129L1	-	-	E2 1PU2F141L1	E2 1PU2F149L1
○ white	E2 1PU2R221L2	E2 1PU2R229L2	E2 1PU2S221L2	E2 1PU2S229L2	E2 1PU2P221L2	E2 1PU2P229L2	E2 1PU2F241L2	E2 1PU2F249L2

To order a stable button in the article codes replace 1PU2 with 1PU1.
Example: E2 **1PU2**R0210 → E2 **1PU1**R0210

Selection table for illuminated buttons



Button colour and engraving	Flush		Projecting		Protected		Mushroom	
	black bezel	satin chr. bezel	black bezel	satin chr. bezel	black bezel	satin chr. bezel	black bezel	satin chr. bezel
○ without lens	E2 1PL2R0210	E2 1PL2R0290	Same article, flush button	Same article, flush button	E2 1PL2P0210	E2 1PL2P0290	-	-
○ white	E2 1PL2R2210	E2 1PL2R2290	E2 1PL2S2210	E2 1PL2S2290	E2 1PL2P2210	E2 1PL2P2290	E2 1PL2F2410	E2 1PL2F2490
● red	E2 1PL2R3210	E2 1PL2R3290	E2 1PL2S3210	E2 1PL2S3290	E2 1PL2P3210	E2 1PL2P3290	E2 1PL2F3410	E2 1PL2F3490
● green	E2 1PL2R4210	E2 1PL2R4290	E2 1PL2S4210	E2 1PL2S4290	E2 1PL2P4210	E2 1PL2P4290	E2 1PL2F4410	E2 1PL2F4490
● yellow	E2 1PL2R5210	E2 1PL2R5290	E2 1PL2S5210	E2 1PL2 S5290	E2 1PL2P5210	E2 1PL2P5290	E2 1PL2F5410	E2 1PL2F5490
● blue	E2 1PL2R6210	E2 1PL2R6290	E2 1PL2S6210	E2 1PL2S6290	E2 1PL2P6210	E2 1PL2P6290	E2 1PL2F6410	E2 1PL2F6490
● orange	E2 1PL2R8210	E2 1PL2R8290	E2 1PL2S8210	E2 1PL2S8290	E2 1PL2P8210	E2 1PL2P8290	E2 1PL2F8410	E2 1PL2F8490
○ red	E2 1PL2R321L1	E2 1PL2R329L1	E2 1PL2S321L1	E2 1PL2S329L1	-	-	E2 1PL2F341L1	E2 1PL2F349L1
○ green	E2 1PL2R421L2	E2 1PL2R429L2	E2 1PL2S421L2	E2 1PL2S429L2	E2 1PL2P421L2	E2 1PL2P429L2	E2 1PL2F441L2	E2 1PL2F449L2
○ white	E2 1PL2R221L1	E2 1PL2R229L1	E2 1PL2S221L1	E2 1PL2S229L1	-	-	E2 1PL2F241L1	E2 1PL2F249L1
○ white	E2 1PL2R221L2	E2 1PL2R229L2	E2 1PL2S221L2	E2 1PL2S229L2	E2 1PL2P221L2	E2 1PL2P229L2	E2 1PL2F241L2	E2 1PL2F249L2

To order a stable button in the article codes replace 1PL2 with 1PL1.
Example: E2 **1PL2**R0210 → E2 **1PL1**R0210

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

Complete units with buttons

Button colour and engraving	Contacts			Flush	Projecting
	pos. 2	pos. 3	pos. 1	black bezel	black bezel
black	-	1NO	-	**E2 AC-DXBC1204** E2 1PU2R1210 + E2 1BAC11 + E2 CP10G2V1	
white	-	1NO	-	**E2 AC-DXBC1200** E2 1PU2R2210 + E2 1BAC11 + E2 CP10G2V1	
red	-	1NC ⊖	-	**E2 AC-DXBC1208** E2 1PU2R3210 + E2 1BAC11 + E2 CP01G2V1	**E2 AC-DXBC1209** E2 1PU2S3210 + E2 1BAC11 + E2 CP01G2V1
green	-	1NO	-	**E2 AC-DXBC1201** E2 1PU2R4210 + E2 1BAC11 + E2 CP10G2V1	
yellow	-	1NO	-	**E2 AC-DXBC1206** E2 1PU2R5210 + E2 1BAC11 + E2 CP10G2V1	
blue	-	1NO	-	**E2 AC-DXBC1207** E2 1PU2R6210 + E2 1BAC11 + E2 CP10G2V1	
red	-	1NC ⊖	-	**E2 AC-DXBC1211** E2 1PU2R321L1 + E2 1BAC11 + E2 CP01G2V1	**E2 AC-DXBC1212** E2 1PU2S321L1 + E2 1BAC11 + E2 CP01G2V1
green	-	1NO	-	**E2 AC-DXBC1210** E2 1PU2R421L2 + E2 1BAC11 + E2 CP10G2V1	
black	-	1NC ⊖	-	**E2 AC-DXBC1227** E2 1PU2R121L1 + E2 1BAC11 + E2 CP01G2V1	
white	-	1NO	-	**E2 AC-DXBC1226** E2 1PU2R221L2 + E2 1BAC11 + E2 CP10G2V1	

Other combinations on request.

➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Complete units with illuminated buttons

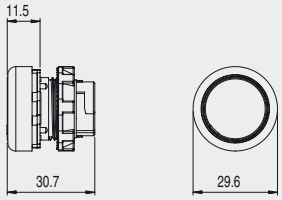
Button colour and engraving	Contacts			Flush
	pos. 2	pos. 3	pos. 1	black bezel
white	1NC ⊖	LED	1NO	**E2 AC-DXBC0400** E2 1PL2R2210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1 + E2 CP10G2V1
red	1NC ⊖	LED	1NO	**E2 AC-DXBC0402** E2 1PL2R3210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A3V1 + E2 CP10G2V1
green	1NC ⊖	LED	1NO	**E2 AC-DXBC0401** E2 1PL2R4210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A4V1 + E2 CP10G2V1
yellow	1NC ⊖	LED	1NO	**E2 AC-DXBC0404** E2 1PL2R5210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1 + E2 CP10G2V1
blue	1NC ⊖	LED	1NO	**E2 AC-DXBC0403** E2 1PL2R6210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A6V1 + E2 CP10G2V1

Other combinations on request.

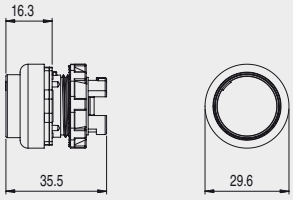
Dimensions

All measures in the drawings are in mm

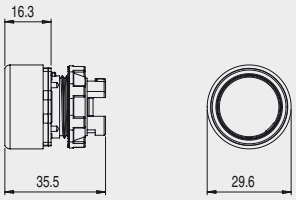
Flush button



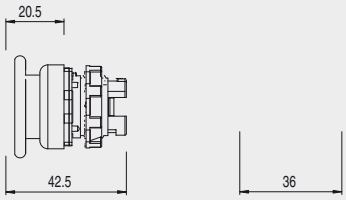
Projecting button



Protected button

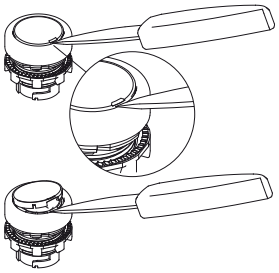


Mushroom button



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

Lenses for buttons E2 1PU and illuminated buttons E2 1PL



The buttons and the illuminated buttons feature replaceable lenses.
To remove the lenses, leverage them with a pointed object near the reference notch on the external diameter of the lens itself.

Lenses without engraving

Article	Type	Description	Colours	Pieces/ Pack
VE LP21R10		Lens for flush button, black, without engraving	●	10
VE LP22R20		Lens for flush button, white, without engraving	○	10
VE LP22R30		Lens for flush button, red, without engraving	●	10
VE LP22R40		Lens for flush button, green, without engraving	●	10
VE LP22R50		Lens for flush button, yellow, without engraving	●	10
VE LP22R60		Lens for flush button, blue, without engraving	●	10
VE LP22R80		Lens for flush button, orange, without engraving	●	10
VE LP22RA0		7 lenses for flush button without engraving, colours: black, white, red, green, yellow, blue and orange	●○●●●●●	1
VE LP21S10		Lens for projecting button, black, without engraving	●	10
VE LP22S20		Lens for projecting button, white, without engraving	○	10
VE LP22S30		Lens for projecting button, red, without engraving	●	10
VE LP22S40		Lens for projecting button, green, without engraving	●	10
VE LP22S50		Lens for projecting button, yellow, without engraving	●	10
VE LP22S60		Lens for projecting button, blue, without engraving	●	10
VE LP22S80		Lens for projecting button, orange, without engraving	●	10
VE LP22SA0		7 lenses for projecting button without engraving, colours: black, white, red, green, yellow, blue and orange	●○●●●●●	1

Lenses with engraving

Article	Type	Description	Colours	Pieces/ Pack
VE LP21R1●●●		Lens for flush button, black, with engraving	●	1
VE LP22R2●●●		Lens for flush button, white, with engraving	○	1
VE LP22R3●●●		Lens for flush button, red, with engraving	●	1
VE LP22R4●●●		Lens for flush button, green, with engraving	●	1
VE LP22R5●●●		Lens for flush button, yellow, with engraving	●	1
VE LP22R6●●●		Lens for flush button, blue, with engraving	●	1
VE LP22R8●●●		Lens for flush button, orange, with engraving	●	1
VE LP21S1●●●		Lens for projecting button, black, with engraving	●	1
VE LP22S2●●●		Lens for projecting button, white, with engraving	○	1
VE LP22S3●●●		Lens for projecting button, red, with engraving	●	1
VE LP22S4●●●		Lens for projecting button, green, with engraving	●	1
VE LP22S5●●●		Lens for projecting button, yellow, with engraving	●	1
VE LP22S6●●●		Lens for projecting button, blue, with engraving	●	1
VE LP22S8●●●		Lens for projecting button, orange, with engraving	●	1

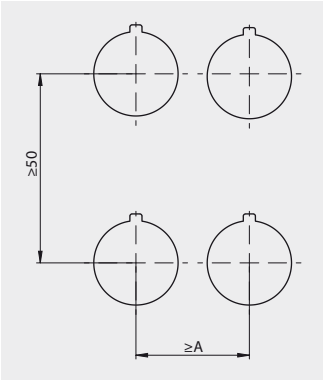
The black lens cannot be applied on illuminated buttons.

To order lenses for buttons with engraving:
in the article codes replace the dots ●●● with the engraving code shown in the table at page 123.
Example: lens for flush button with engraving "O", white.
VE LP 22R2●●● → VE LP 22R2L1

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

Minimum distances for installation

All measures in the drawings are in mm



3-slot mounting adapter

Button type	A
flush	30 mm
projecting	30 mm
protected	30 mm
mushroom	40 mm

4-slot mounting adapter

Button type	A
flush	40 mm
projecting	40 mm
protected	40 mm
mushroom	40 mm

Maximum number of contacts

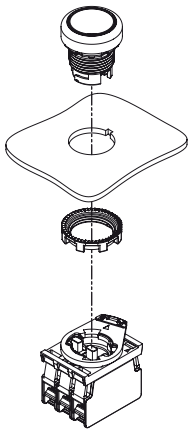
3-slot mounting adapter

Spring-return buttons
E2 1PU2•••••

maximum number:
9 contact blocks
3 levels

Maintained buttons
E2 1PU1•••••

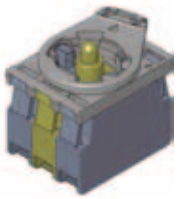
maximum number:
3 contact blocks
1 level



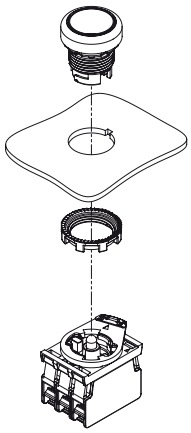
Illuminated spring-return buttons
E2 1PL2•••••

maximum number:
6 contact blocks
3 levels

Maintained illuminated buttons
E2 1PL1•••••



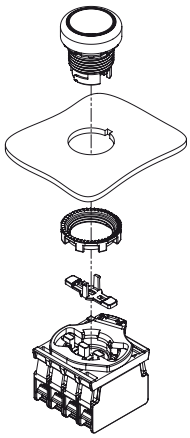
maximum number:
2 contact blocks
1 level



4-slot mounting adapter

Spring-return buttons
E2 1PU4•••••

maximum number:
8 contact blocks
2 levels



The mounting of the actuator for 4-slot base must be carried out after fixing the button.


Contact blocks


LED unit

Closing cap

10 pcs. packs

Article	Description
VE AS1211	Central closing cap for illuminated button E2 1PL●●●●●●. For 3-slot mounting adapters.

It closes the central hole of the illuminated button and makes it possible to actuate a contact instead of the LED.

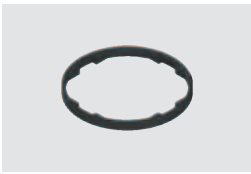
Actuator for 4-slot base

10 pcs. packs

Article	Description
VE AS1218	Long closed actuator for 4-slot mounting adapter. It must be installed after fixing the button to the wall. For buttons E2 1PU●●●●●●

Shaped ring

50 pcs. packs



Article	Description
VE GP12H1A	Shaped ring for single device

Not applicable in the presence of legend plate, Ø 22 to Ø 30 mm adapter, guard or protection cap.

Shroud

10 pcs. packs

Article	Description
VE CA1A1	Shroud for flush button (panel width from 1 to 5 mm)
VE CA1B1	Shroud for projecting button (panel width from 1 to 5 mm)

Not applicable in the presence of the shaped ring, legend plate, Ø 22 to Ø 30 mm adapter or protection guard.

Fixing ring

20 pcs. packs

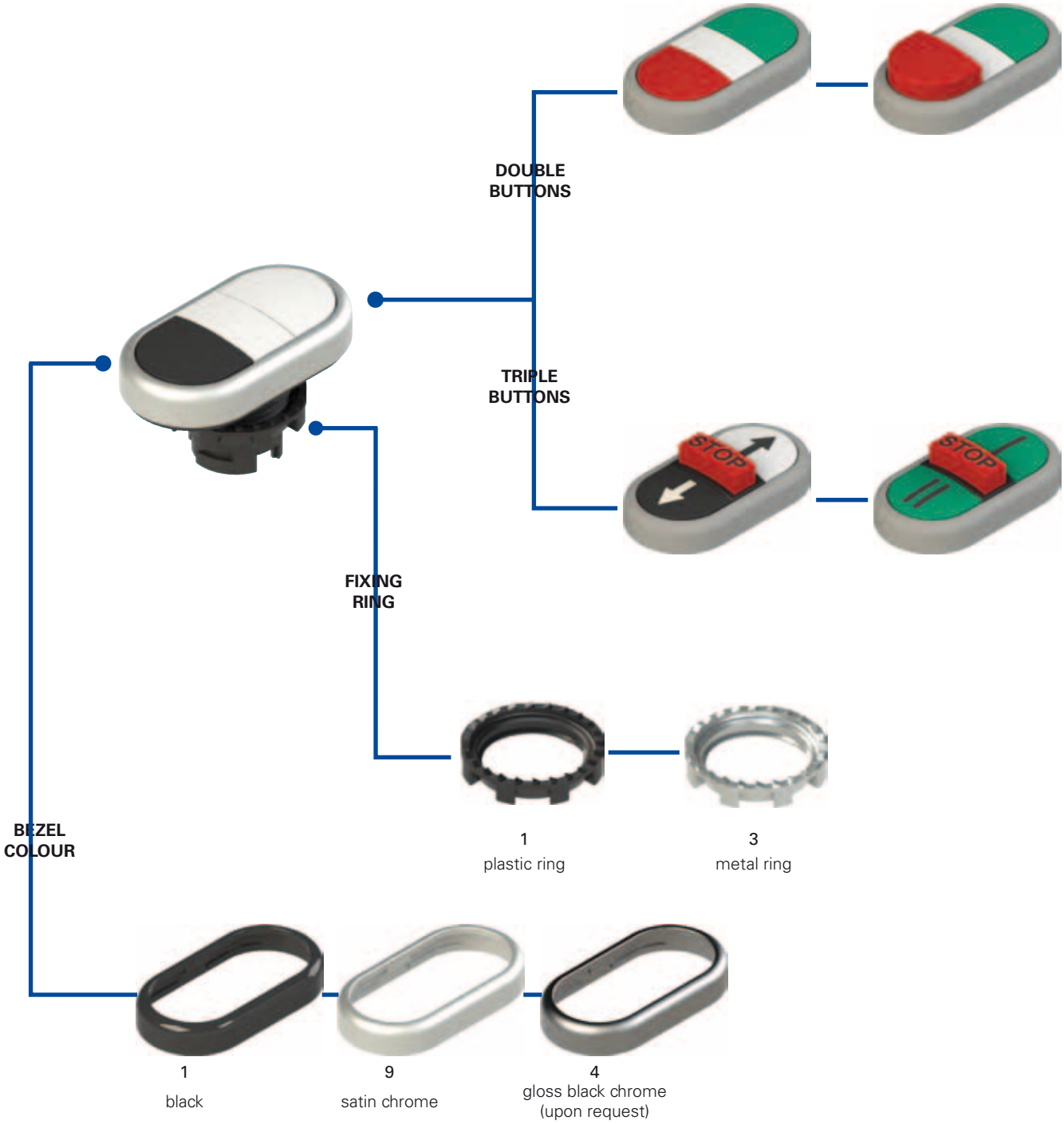
Article	Description
VE GF720A	Metal fixing ring

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

Accessories

➔ More ACCESSORIES on page 121

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: **E2 1PDRL10423** options: **-T6**

Fixing ring and shaped ring

1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

No. of functions

D	dual button
T	triple button

Upper and lower button

A	upper projecting, lower flush
B	upper projecting, lower projecting
R	upper flush, lower flush
S	upper flush, lower projecting

Intermediate element

L	backlit cap (only double buttons)
S	projecting button (only triple buttons)
Q	cap and actuators for 4-slot base (only double buttons)

Bezel colour

1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Ambient temperature

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

Colours and symbols

	upper button		central cap		lower button	
	colour	symbol	colour	symbol	colour	symbol
0423	green	-	white	-	red	-
0221	white	-	white	-	black	-
0222	white	-	white	-	white	-
0121	black	-	white	-	black	-

Other combinations on request.

	upper button		central cap		lower button	
	colour	symbol	colour	symbol	colour	symbol
AAAD	green	**I**	white	-	red	**O**
AAAP	green	**START**	white	-	red	**STOP**
AAAA	white	**I**	white	-	black	**O**
AAAN	white	**START**	white	-	black	**STOP**
AAAB	black	↑	white	-	black	↓
AAAC	black	+	white	-	black	-

Other combinations on request.

	upper button		central button projecting		lower button	
	colour	symbol	colour	symbol	colour	symbol
AAAY	green	**I**	red	**STOP**	green	**II**
AAAZ	green	←	red	**STOP**	green	→
AABD	white	→	red	**STOP**	black	←
AABA	green	↑	red	**STOP**	green	↓
AABE	white	↑	red	**STOP**	black	↓
AABF	black	↑	red	**STOP**	black	↓
AABB	green	+	red	**STOP**	green	-
AABC	white	+	red	**STOP**	white	-

Other combinations on request.

Double and triple buttons

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653
Ambient temperature:	-25°C … +80°C
Safety parameters:	
B_{10d}:	2,000,000
Mechanical endurance:	1 million operating cycles[1]
Max. actuation frequency:	3600 operating cycles[1]/hour
Actuating force at limit of travel:	4.4 N (without contacts)
Maximum travel:	5 mm
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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

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 no.14

Main features

- Protection degrees IP67 and IP69K
- Version with 2 or 3 buttons
- - 40°C version
- Version with central backlit cap

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

Markings and quality marks:

IMQ approval: CA02.04805
EAC approval: RU C-IT ДМ94.B.01024

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

General data

Button profile

The new EROUND line double and triple buttons are available in two profiles in order to suit any kind of application: projecting and flush. The possibility to choose shapes, colours and symbols allows various code combinations for buttons.

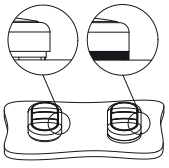
Illuminated version

For double buttons, the version with central backlit cap is available.

Metal fixing ring

The fixing ring in metal is particularly suitable for those applications which require tighter fitting of the panel-mounted device, such as for example in metal panels having holes without reference notches.

Shaped ring



The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

Customisable

In order to satisfy customers' numerous requests and demands, Pizzato Elettrica gives the possibility to customize the control and signalling devices of the EROUND line: the bezels can be requested with different colours (gloss black chrome, black, and satin chrome), whereas the lenses can be customized with a wide range of writings, symbols, and colours.

Protection degrees IP67 and IP69K

IP69K
IP67

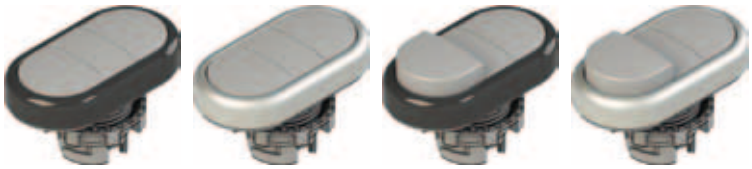
These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

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.
They can be used for applications in cold stores, sterilisers and other devices with low temperature environments. Special materials that have been used to realize these versions, maintain unchanged their features also in these conditions, widening the installation possibilities.

Selection table for double buttons

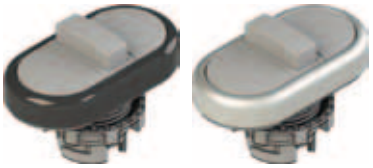


Button colour and engraving		upper button flush central cap flush lower button flush		upper button flush central cap flush lower button projecting	
		black bezel	satin chrome bezel	black bezel	satin chrome bezel
	green button white cap, illuminated red button	E2 1PDRL10423	E2 1PDRL90423	E2 1PDSL10423	E2 1PDSL90423
	"I" green button white cap, illuminated "O" red button	E2 1PDRL1AAAD	E2 1PDRL9AAAD	E2 1PDSL1AAAD	E2 1PDSL9AAAD
START STOP	"START" green button white cap, illuminated "STOP" red button	E2 1PDRL1AAAP	E2 1PDRL9AAAP	E2 1PDSL1AAAP	E2 1PDSL9AAAP
	white button white cap, illuminated black button	E2 1PDRL10221	E2 1PDRL90221	E2 1PDSL10221	E2 1PDSL90221
	"I" white button white cap, illuminated "O" black button	E2 1PDRL1AAAA	E2 1PDRL9AAAA	E2 1PDSL1AAAA	E2 1PDSL9AAAA
START STOP	"START" white button white cap, illuminated "STOP" black button	E2 1PDRL1AAAN	E2 1PDRL9AAAN	E2 1PDSL1AAAN	E2 1PDSL9AAAN
	"↑" black button white cap, illuminated "↓" black button	E2 1PDRL1AAAB	E2 1PDRL9AAAB	E2 1PDSL1AAAB	E2 1PDSL9AAAB

Other combinations on request.

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

Selection table for triple buttons



Button colour and engraving		upper button flush central button projecting lower button flush	
		black bezel	satin chrome bezel
STOP II	"I" green button "STOP" red button "II" green button	E2 1PTRS1AAAY	E2 1PTRS9AAAY
STOP	"←" green button "STOP" red button "→" green button	E2 1PTRS1AAAZ	E2 1PTRS9AAAZ
STOP	"→" white button "STOP" red button "←" black button	E2 1PTRS1AABD	E2 1PTRS9AABD
STOP	"↑" green button "STOP" red button "↓" green button	E2 1PTRS1AABA	E2 1PTRS9AABA

Other combinations on request.

Button colour and engraving		upper button flush central button projecting lower button flush	
		black bezel	satin chrome bezel
STOP	"↑" white button "STOP" red button "↓" black button	E2 1PTRS1AABE	E2 1PTRS9AABE
STOP	"↑" black button "STOP" red button "↓" black button	E2 1PTRS1AABF	E2 1PTRS9AABF
STOP	"+" green button "STOP" red button "-" green button	E2 1PTRS1AABB	E2 1PTRS9AABB
STOP	"+" white button "STOP" red button "-" white button	E2 1PTRS1AABC	E2 1PTRS9AABC

Other combinations on request.

Double and triple buttons

Complete units with double buttons

Button colour and engraving		Contacts			upper button flush central cap flush lower button projecting
		pos. 2	pos. 3	pos. 1	black bezel
	"I" green button black cap "O" red button	1NC	-	1NO	E2 AC-DXBC0601 E2 1PDSC1AAAK + E2 1BAC11 + E2 CP01G2V1 + E2 CP10G2V1

Other combinations on request.

Complete units with triple buttons

Button colour and engraving		Contacts			upper button flush central button projecting lower button flush
		pos. 2	pos. 3	pos. 1	black bezel
	"I" green button "STOP" red button "II" green button	1NO	1NC	1NO	E2 AC-DXBC0801 E2 1PTRS1AAAY + E2 1BAC11 + E2 CP10G2V1 + E2 CP01G2V1 + E2 CP10G2V1

Other combinations on request.

Button colour and engraving		Contacts			upper button flush central cap flush lower button projecting
		pos. 2	pos. 3	pos. 1	black bezel
	"I" green button white cap, illuminated "O" red button	1NC	LED	1NO	E2 AC-DXBC0602 E2 1PDSL1AAAD + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1 + E2 CP10G2V1

Other combinations on request.

➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Shroud

10 pcs. packs

Article	Description
VE CA1C1	Shroud for double and triple projecting buttons
VE CA1D1	Shroud for double flush button

With the shroud it is not possible to apply the shaped ring

Shaped ring

50 pcs. packs

Article	Description
VE GP12L1A	Shaped ring for double and triple button E2 1PD••••••• E2 1PT•••••••

With the shaped ring, the application of the shroud is not allowed.

Accessories

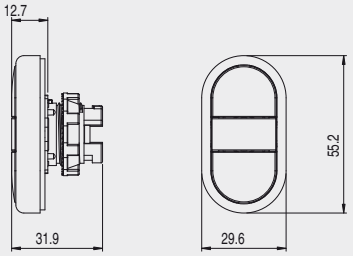
➔ More ACCESSORIES on page 121

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

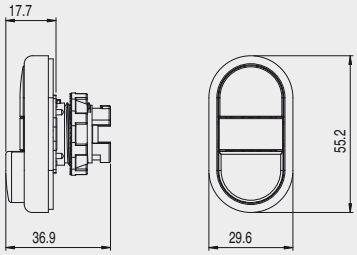
Dimensions

All measures in the drawings are in mm

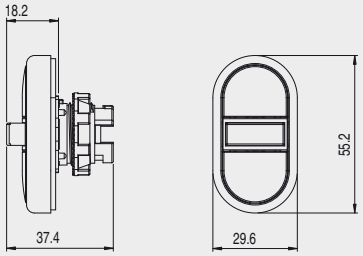
Flush double button



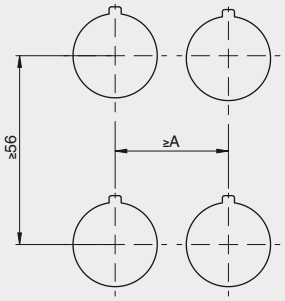
Projecting double button



Triple button



Minimum distances for installation

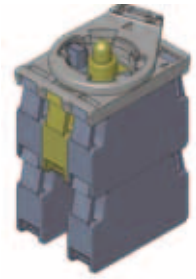
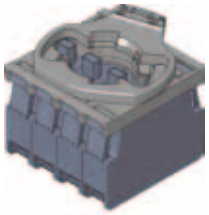


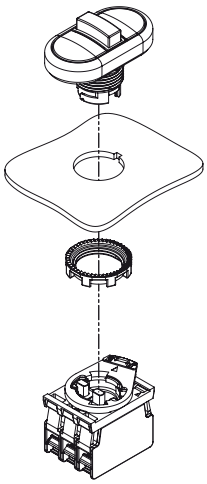
3-slot mounting adapter
A=30 mm

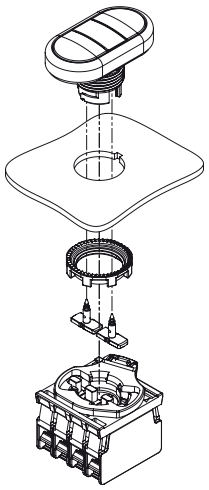
4-slot mounting adapter
A=40 mm

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

Maximum number of contacts

3-slot mounting adapter		4-slot mounting adapter
Double buttons E2 1PD•••••••	Triple buttons E2 1PT•••••••	Double buttons E2 1PD•Q•••••
		
maximum number: 4 contact blocks 2 levels	maximum number: 7 contact blocks 3 levels	maximum number: 4 contact blocks 1 level



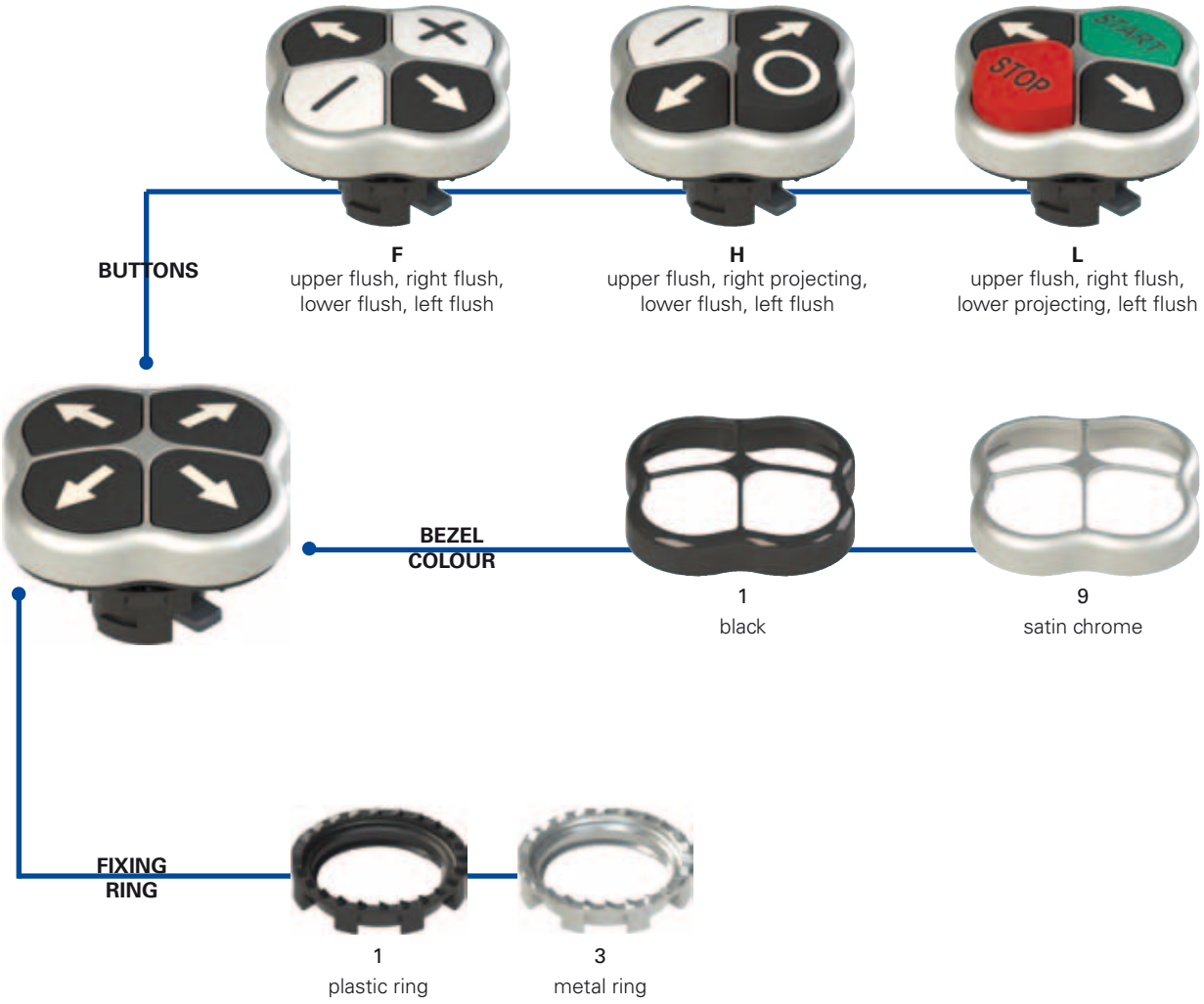


The actuators, with the specific button for 4-slot base, can be mounted only after fixing the button.

 Contact blocks

 LED unit

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.

E2 1PQFA1QAAA

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Buttons	
F	upper flush, right flush, lower flush, left flush
H	upper flush, right projecting, lower flush, left flush
L	upper flush, right flush, lower projecting, left flush

Other combinations on request.

Bezel colour	
1	black (standard)
9	satin chrome (standard)

Colours and symbols	upper button		right button		lower button		left button	
	colour	symbol	colour	symbol	colour	symbol	colour	symbol
QAAA	black	↑	black	→	black	↓	black	←
QAAB	green	START	black	→	red	STOP	black	←
QAAC	white	START	black	→	black	STOP	black	←
QAAD	green	I	black	→	red	O	black	←
QAAE	white	I	black	→	black	O	black	←
QAAF	white	+	black	→	white	-	black	←
QAAH	black	↑	red	STOP	black	↓	green	START
QAAJ	black	↑	black	STOP	black	↓	white	START
QAAK	black	↑	red	O	black	↓	green	I
QAAL	black	↑	black	O	black	↓	white	I
QAAM	black	↑	white	-	black	↓	white	+
QAAN	black	↑	white		black	↓	white	

Other combinations on request.

Main features

- Protection degree IP67
- Version with projecting buttons
- Optional customisation with symbols

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529
Ambient temperature:	-25°C … +80°C
Safety parameters:	
B_{10d}:	2,000,000
Mechanical endurance:	1 million operating cycles[1]
Max. actuation frequency:	3600 operating cycles[1]/hour
Actuating force at limit of travel:	6.5 N (without contacts)
Maximum travel:	5 mm
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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

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 no.14

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

Markings and quality marks:

CE EAC

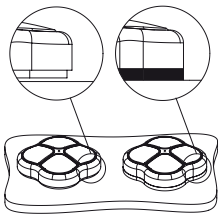
EAC approval: RU C-IT ДМ94.B.01024

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

Button profile

The new EROUND line quadruple buttons are available in two shapes in order to suit any kind of application: projecting and flush. The possibility to choose shapes, colours and symbols allows various code combinations for buttons.

Shaped ring



The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

Protection degree IP67

IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required.

Customisable

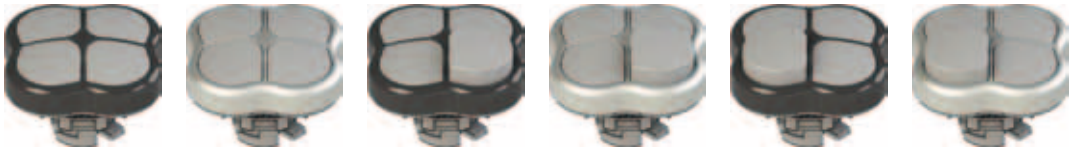
In order to suit the various requests and needs of the customers, Pizzato Elettrica offers the possibility to customize the quadruple buttons with indelible laser inscriptions and symbols.

Metal fixing ring

The fixing ring in metal is particularly suitable for those applications which require tighter fitting of the panel-mounted device, such as for example in metal panels having holes without reference notches.

Quadruple buttons

Selection table for quadruple buttons



Actuator colour and marking (starting from the top and clockwise)	upper button flush right button flush lower button flush left button flush		upper button flush right button projecting lower button flush left button flush		upper button flush right button flush lower button projecting left button flush	
	black bezel	satin chrome bezel	black bezel	satin chrome bezel	black bezel	satin chrome bezel
"↑" black button "→" black button "↓" black button "←" black button	E2 1PQFA1QAAA	E2 1PQFA9QAAA	-	-	-	-
"START" green button "→" black button "STOP" red button "←" black button	E2 1PQFA1QAAB	E2 1PQFA9QAAB	-	-	E2 1PQLA1QAAB	E2 1PQLA9QAAB
"START" white button "→" black button "STOP" black button "←" black button	E2 1PQFA1QAAC	E2 1PQFA9QAAC	-	-	E2 1PQLA1QAAC	E2 1PQLA9QAAC
"I" green button "→" black button "O" red button "←" black button	E2 1PQFA1QAAD	E2 1PQFA9QAAD	-	-	E2 1PQLA1QAAD	E2 1PQLA9QAAD
"I" white button "→" black button "O" black button "←" black button	E2 1PQFA1QAAE	E2 1PQFA9QAAE	-	-	E2 1PQLA1QAAE	E2 1PQLA9QAAE
"+" white button "→" black button "-" white button "←" black button	E2 1PQFA1QAAF	E2 1PQFA9QAAF	-	-	-	-
"↑" black button "STOP" red button "↓" black button "START" green button	E2 1PQFA1QAAH	E2 1PQFA9QAAH	E2 1PQHA1QAAH	E2 1PQHA9QAAH	-	-
"↑" black button "STOP" black button "↓" black button "START" white button	E2 1PQFA1QAAJ	E2 1PQFA9QAAJ	E2 1PQHA1QAAJ	E2 1PQHA9QAAJ	-	-
"↑" black button "O" red button "↓" black button "I" green button	E2 1PQFA1QAAK	E2 1PQFA9QAAK	E2 1PQHA1QAAK	E2 1PQHA9QAAK	-	-
"↑" black button "O" black button "↓" black button "I" white button	E2 1PQFA1QAAL	E2 1PQFA9QAAL	E2 1PQHA1QAAL	E2 1PQHA9QAAL	-	-
"↑" black button "-" white button "↓" black button "+" white button	E2 1PQFA1QAAM	E2 1PQFA9QAAM	-	-	-	-

Other combinations on request.

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

Complete units

Actuator colour and marking (starting from the top and clockwise)		Contacts pos. 3	pos. 2	pos. 4	pos. 1	upper button flush right button flush lower button flush left button flush satin chrome bezel
	"↑" black button			1NO		E2 AC-DXBC2000 E2 1PQFA9QAAA + E2 1BAC21 + E2 CP10G2V1 + E2 CP10G2V1+ E2 CP10G2V1 + E2 CP10G2V1
	"→" black button				1NO	
	"↓" black button		1NO			
	"←" black button	1NO				

Other combinations on request.

Actuator colour and marking (starting from the top and clockwise)		Contacts pos. 3	pos. 2	pos. 4	pos. 1	upper button flush right button projecting lower button flush left button flush satin chrome bezel
	"↑" black button			1NO		E2 AC-DXBC2001 E2 1PQHA9QAAH + E2 1BAC21 + E2 CP10G2V1 + E2 CP10G2V1+ E2 CP10G2V1 + E2 CP01G2V1
	"STOP" red button				1NC ⊖	
	"↓" black button		1NO			
	"START" green button	1NO				

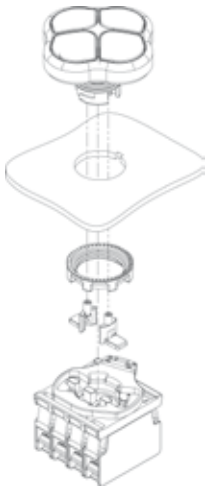
Other combinations on request.

Maximum number of contacts

4-slot mounting adapter

Quadruple buttons E2 1PQ•••••••

maximum number:
8 contact blocks
2 levels



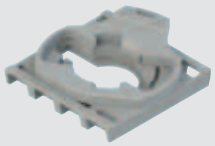
The assembly of the 2 lateral actuators, supplied with the quadruple button, must be done after the fixing of the button.

Contact blocks

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

Mounting adapter

10 pcs. packs



Article	Description
E2 1BAC21	4-slot mounting adapter for contact blocks E2 CP••••••

Shaped ring

10 pcs. packs

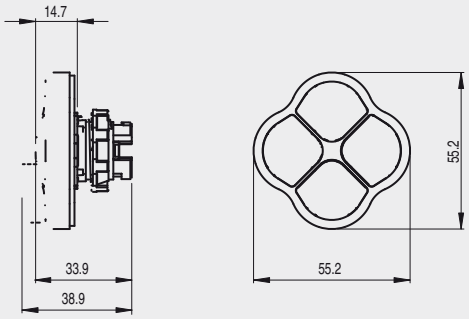
Article	Description
VE GP12M1A	Shaped ring for quadruple button E2 1PQ•••••••

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

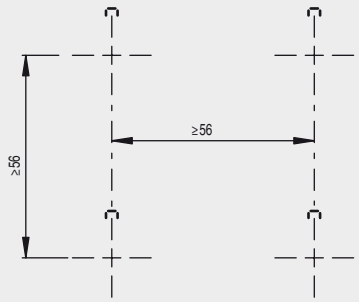
Dimensions

All measures in the drawings are in mm

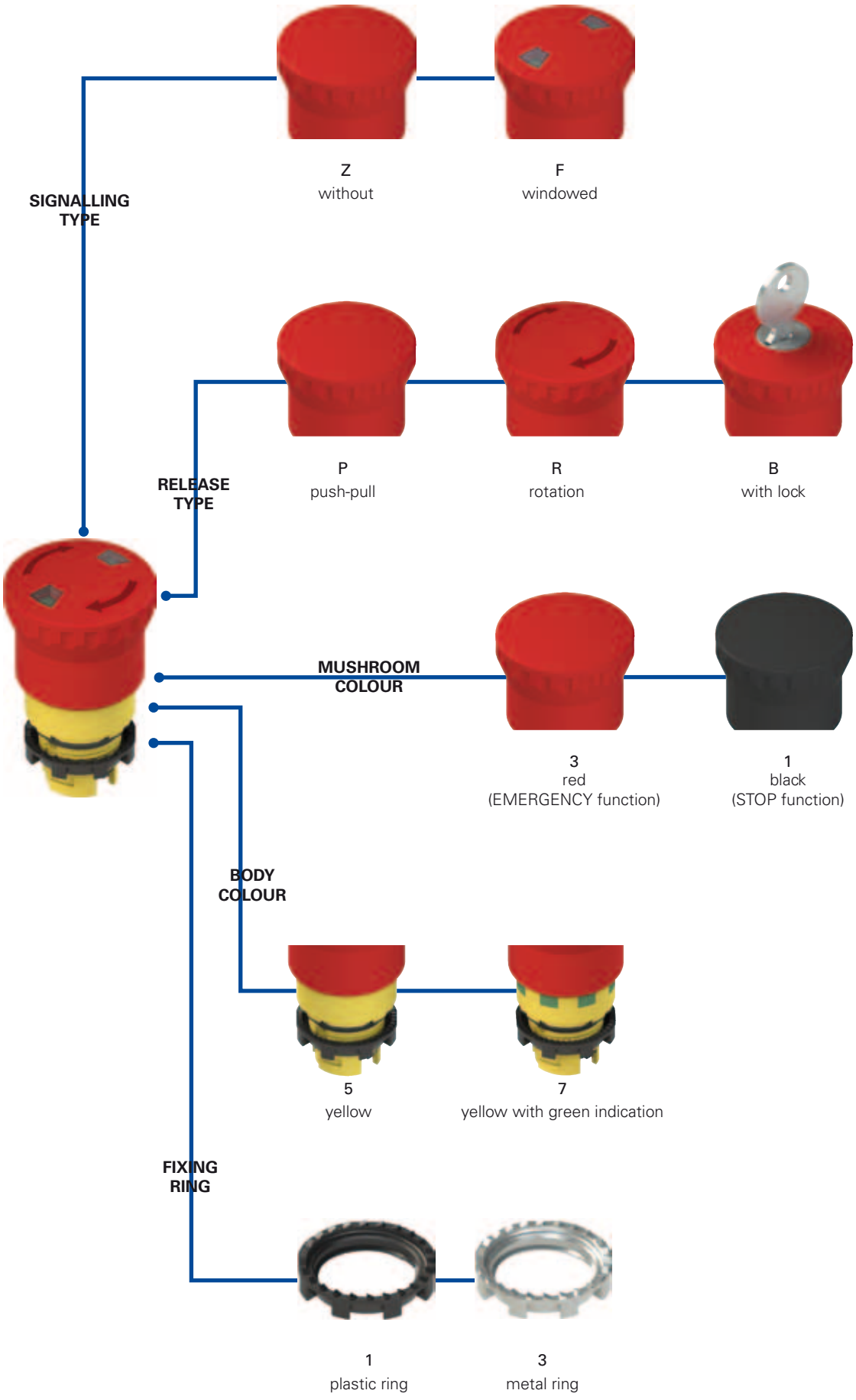
Quadruple button



Minimum distances for installation



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: **E2 1PERZ4531** — options: **-T6**

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Release type	
P	push-pull
R	rotary release
B	key release with key PY333 (standard) (not available in the windowed version)
C	key release with key PY334 (not available in the windowed version)
D	key release with key PY335 (not available in the windowed version)
...	.....

Other combinations on request.

Signalling type	
Z	without
F	windowed

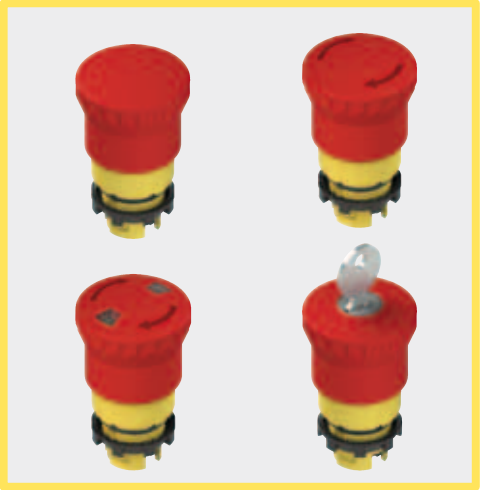
Mushroom diameter	
4	Ø 40 mm mushroom

Actuator type	
1	for 3-slot base
4	for 4-slot base

Mushroom button colour	
1	black
3	red

Body colour	
5	yellow
7	yellow with green indication

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



Main features

- Protection degrees IP67 and IP69K
- 3 different release modes
- Windowed version
- -40°C versions

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653
Ambient temperature:	-25°C … +80°C
Safety parameters:	
B_{10d}:	600,000
Mechanical endurance:	300,000 operating cycles[1]
Max. actuation frequency:	3600 operating cycles[1]/hour
Actuation travel:	4 mm (NO contact), 4 mm (NC contact)
Actuating force:	25 N
Actuating force at limit of travel:	Push-pull 18.5 N (without contacts) Rotary release 35 N (without contacts)
Maximum travel:	9 mm
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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

In conformity with standards:
IEC 60947-1, IEC 60947-5-1, IEC 60947-5-5, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60947-5-5, EN 60204-1, EN ISO 13850, UL 508, CSA 22-2 N°14

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

Markings and quality marks:

IMQ approval: CA02.04805
EAC approval: RU C-IT ДМ94.B.01024

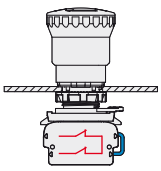
In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

General data

Visual signalling

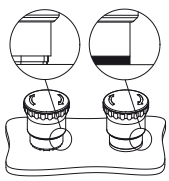
The versions of the emergency buttons with pull or rotary release can also visually signal the status with a mechanical indicator. The signalling windows change from green to red to signal the change of status of the button, namely from idle to actuated respectively.

Self-monitored contact



Specially designed for emergency mushroom buttons, the self-monitored contact makes it possible to reach a high level of self-control. Possible anomalies, such as the detachment from the emergency mushroom button, are immediately signalled by the opening of the safety circuit. This highlights immediately failures that will be otherwise difficult to detect. Indeed, the detachment of a normal NC contact from the mushroom, allows the machine to continue to function and make the emergency stop unusable. For details see page 79.

Shaped ring



The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

Illuminated disc

The illuminated disc can also be used in all situations when it is necessary to highlight the emergency button on the machine compared to the other devices, or where there are more mushrooms and it is necessary to know which one has been pressed. With high brilliancy, it is available in the versions with continuous or blinking light. Protected with protection degree IP67, it can be customised with writings or symbols upon request. For details see page 119.

Protection degrees IP67 and IP69K

IP69K
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

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.
They can be used for applications in cold stores, sterilisers and other devices with low temperature environments. Special materials that have been used to realize these versions, maintain unchanged their features also in these conditions, widening the installation possibilities.

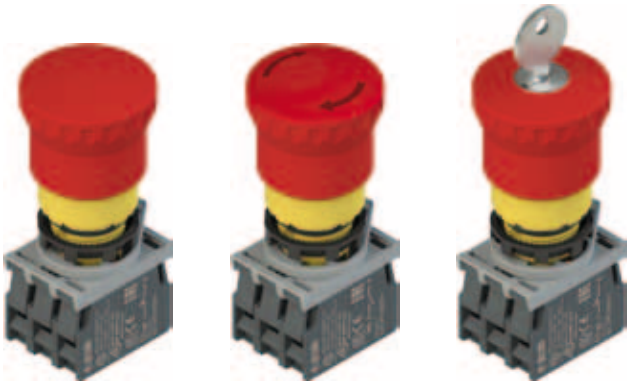
Selection table for emergency buttons

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

Attention! For safety applications, only use red mushrooms, black mushrooms can only be used for stop functions.

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

Complete units with emergency buttons



Body colour and marking	Actuator colour	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Push-pull	Rotary release	Key release Key number PY333
yellow	red	-	1NC ⊖	-	**E2 AC-DXBC1005** E2 1PEPZ4531 + E2 1BAC11 + E2 CP01G2V1	**E2 AC-DXBC1006** E2 1PERZ4531 + E2 1BAC11 + E2 CP01G2V1	**E2 AC-DXBC1007** E2 1PEBZ4531 + E2 1BAC11 + E2 CP01G2V1
yellow	red	-	1NC ⊖ SELF-MONITORED	-	**E2 AC-DXBC1022** E2 1PEPZ4531 + E2 1BAC11 + E2 CP01S2V1	**E2 AC-DXBC1023** E2 1PERZ4531 + E2 1BAC11 + E2 CP01S2V1	**E2 AC-DXBC1024** E2 1PEBZ4531 + E2 1BAC11 + E2 CP01S2V1
yellow	red	1NC ⊖	-	1NC ⊖	**E2 AC-DXBC1010** E2 1PEPZ4531 + E2 1BAC11 + E2 CP01G2V1 + E2 CP01G2V1	**E2 AC-DXBC1002** E2 1PERZ4531 + E2 1BAC11 + E2 CP01G2V1 + E2 CP01G2V1	**E2 AC-DXBC1011** E2 1PEBZ4531 + E2 1BAC11 + E2 CP01G2V1 + E2 CP01G2V1
yellow	red	1NC ⊖	1NC ⊖	1NO	**E2 AC-DXBC1012** E2 1PEPZ4531 + E2 1BAC11 + E2 CP01G2V1 + E2 CP01G2V1 + E2 CP10G2V1	**E2 AC-DXBC1000** E2 1PERZ4531 + E2 1BAC11 + E2 CP01G2V1+ E2 CP01G2V1 + E2 CP10G2V1	**E2 AC-DXBC1013** E2 1PEBZ4531 + E2 1BAC11 + E2 CP01G2V1+ E2 CP01G2V1 + E2 CP10G2V1

Other combinations on request.

➔ For the characteristics of contact blocks see page 75.

Locking keys

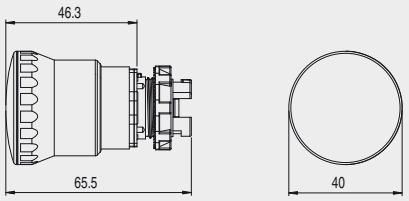
Article	Description
VE KE1A00-PY333	Locking key

To order only if further keys besides the supplied one are needed.
All keys have the same code. Other codes on request.

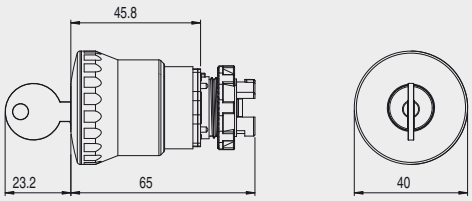
Dimensions

All measures in the drawings are in mm

Emergency button



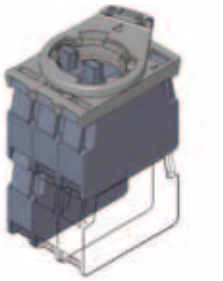
Emergency button key release



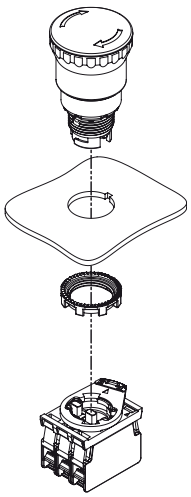
➔ The 2D and 3D files are available at **www.pizzato.com**

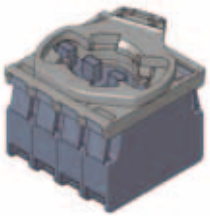
Maximum number of contacts

3-slot mounting adapter	4-slot mounting adapter
Emergency buttons E2 1PE•••••1	Emergency buttons E2 1PE•••••4

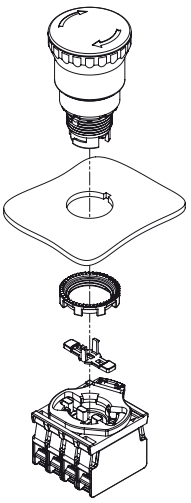


maximum number:
4 contact blocks
2 levels





maximum number:
4 contact blocks
1 level



The mounting of the actuator for 4-slot base must be carried out after fixing the button.

Contact blocks

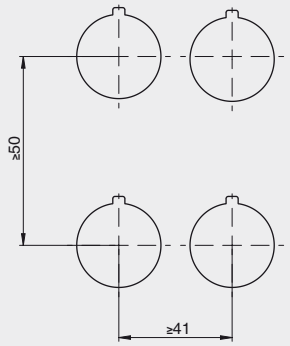
Alternative position Contact blocks

Actuator for 4-slot base

10 pcs. packs

Article	Description
VE AS1218	Long closed actuator for 4-slot mounting adapter. It must be installed after fixing the button to the wall. For buttons E2 1PE••••••.

Minimum distances for installation



Accessories

➔ More ACCESSORIES on page 121

Plates with shaped hole

5 pcs. packs

Suitable for devices E2 1PE••••••.
In conformity with EN ISO 13850
Orientable in 90° steps.
Upon request with inscriptions in other languages.
It does not alter the IP67 and IP69K protection degree of the associated device.

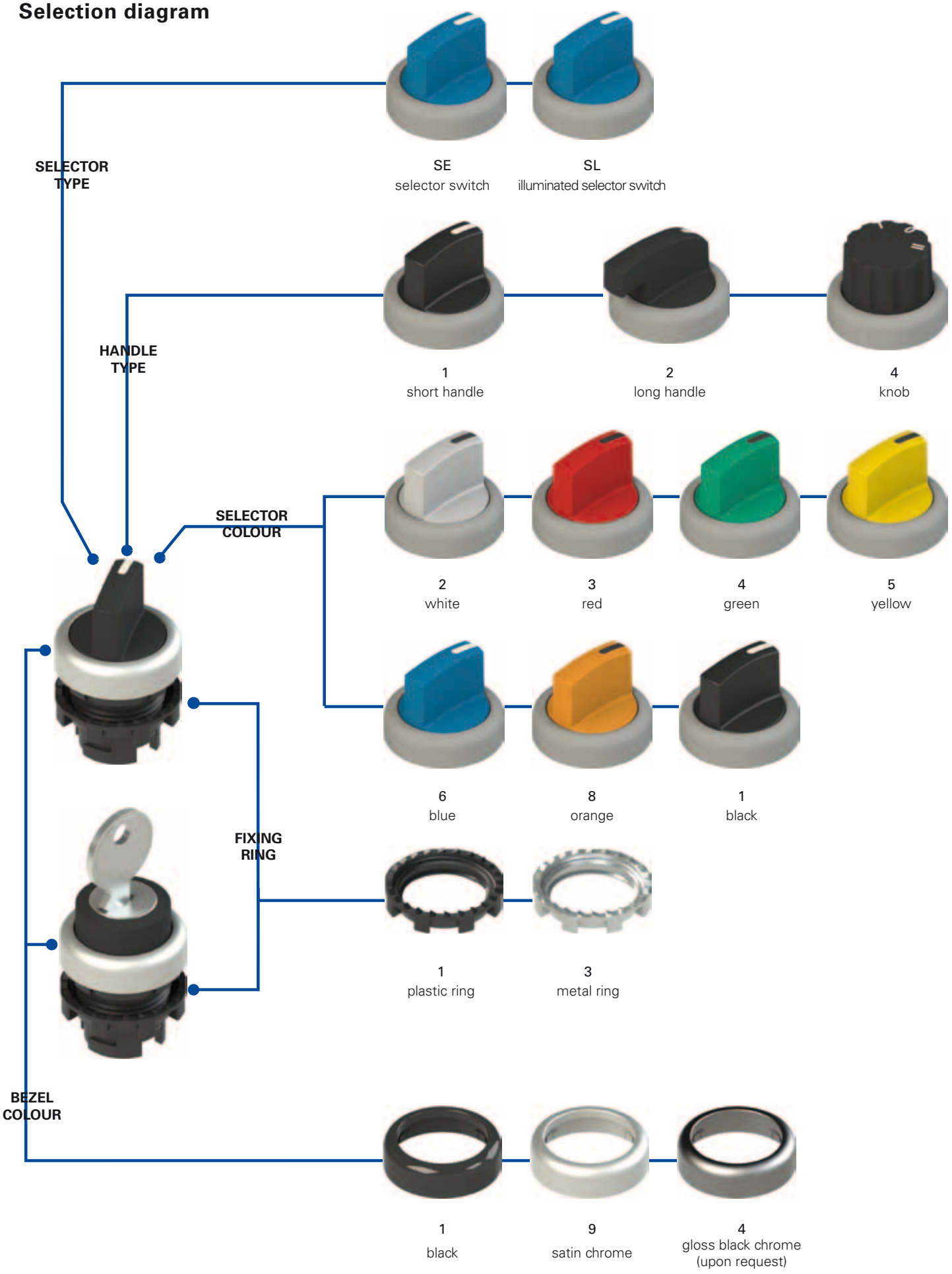
Article		Description
	VE TF32A5700	Plate with shaped hole, Ø 60 mm yellow disc, no writing
	VE TF32D5700	Plate with shaped hole, Ø 90 mm yellow disc, no writing
	VE TF32A5101	Plate with shaped hole, Ø 60 mm yellow disc, writing: STOP ⓥ EMERGENZA ⓥ
	VE TF32D5101	Plate with shaped hole, Ø 90 mm yellow disc, writing: STOP ⓥ EMERGENZA ⓥ
	VE TF32A5102	Plate with shaped hole, Ø 60 mm yellow disc, writing: EMERGENCY ⓥ STOP ⓥ
	VE TF32D5102	Plate with shaped hole, Ø 90 mm yellow disc, writing: EMERGENCY ⓥ STOP ⓥ
	VE TF32A5109	Plate with shaped hole, Ø 60 mm yellow disc, writing: STOP ⓥ STOP ⓥ STOP ⓥ STOP ⓥ
	VE TF32D5109	Plate with shaped hole, Ø 90 mm yellow disc, writing: STOP ⓥ STOP ⓥ STOP ⓥ STOP ⓥ
	VE TF32A5120	Plate with shaped hole, Ø 60 mm yellow disc, writing: STOP EMERGENZA ⓥ ARRET D'URGENCE ⓥ NOT AUS ⓥ EMERGENCY STOP ⓥ
	VE TF32D5120	Plate with shaped hole, Ø 90 mm yellow disc, writing: STOP EMERGENZA ⓥ ARRET D'URGENCE ⓥ NOT AUS ⓥ EMERGENCY STOP ⓥ
	VE TF32G5700	Plate with shaped hole, yellow, 30x60 mm rectangular, no writing
	VE TF32G5103	Plate with shaped hole, yellow, 30x60 mm rectangular, writing STOP ⓥ
	VE TF32G5110	Plate with shaped hole, yellow, 30x60 mm rectangular, writing STOP ⓥ

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

Illuminated disc

Yellow illuminated disc, Ø 60 mm, 24 Vac/dc
Features at page 119

Selection diagram



Selector switch code structure

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

E2 1SE13ACE11AB

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Handle type	
1	short handle
2	long handle
4	knob

Cams and actuators	
A	double cam with actuator RH closed LH closed (2 positions) for 3-slot base
E	single cam with actuator RH closed LH closed (3 positions) for 3-slot base
Q	double cam with actuator RH closed LH closed (2 positions) for 4-slot base
R	single cam with actuator RH closed LH closed (3 positions) for 4-slot base

Engraving type	
AB	indication notch (standard)
AC	for 2-position knob
AD	for 3-position knob

Other combinations on request.

Positions					
2AV		2AC		3GC	
2EV		2EC			
2FV		3AC			
2FC		3EC			
2BC		3FC			

Selettori a 4 posizioni vedi pagina 67

Selector colour	
1	black
2	white
3	red
4	green
5	yellow
6	blue
8	orange

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Illuminated selector switch code structure

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

E2 1SL13ACH21AB

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Handle type	
1	short handle
2	long handle
4	knob

Cams and actuators	
D	double cam with actuator RH open LH open (2 positions)
H	single cam with actuator RH open LH open (3 positions)

Engraving type	
AB	indication notch (standard)
AC	for 2-position knob
AD	for 3-position knob

Other combinations on request.

Positions					
2AV		2AC		3GC	
2EV		2EC			
2FV		3AC			
2FC		3EC			
2BC		3FC			

Selettori a 4 posizioni vedi pagina 67

Selector colour	
2	white
3	red
4	green
5	yellow
6	blue
8	orange

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Key selector switch code structure

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

E2 1SC2ACA11AA

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Positions and key removal					
2AV		3BC		3LC	
2BV		3CC		3MC	
2CV		3DC		3NC	
2DV		3EC		3PC	
2AC		3FC		3QC	
2BC		3GC		3RC	
3AC		3HC			

Cams and actuators	
A	double cam with actuator RH closed LH closed (2 positions) for 3-slot base
E	single cam with actuator RH closed LH closed (3 positions) for 3-slot base
Q	double cam with actuator RH closed LH closed (2 positions) for 4-slot base
R	single cam with actuator RH closed LH closed (3 positions) for 4-slot base

Engraving type	
A	no writing (standard)
C	for selector switches with 2 positions
D	for selectors with 3 positions
E	for "V" selector switches

Other combinations on request.

Selector colour	
1	black

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Key coding	
A	Key with PY333 coding (standard)
B	Key with PY334 coding
...	.....
L	Key with PY341 coding

Other combinations on request.

Legend: Maintained Spring-return Key extraction position

Main features

- Protection degrees IP67 and IP69K
- 4 different shapes
- Standard or illuminated version
- Maintained or spring-return version

Markings and quality marks:

IMQ approval: CA02.04805
EAC approval: RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653
Ambient temperature:	-25°C … +80°C
Safety parameters:	
B_{10d}:	2,000,000 (SE, SL series) 600,000 (SC series)
Mechanical endurance:	1 million operating cycles[1] (SE, SL series) 0.3 million operating cycles[1] (SC series)
Max. actuation frequency:	3600 operating cycles[1]/hour
Actuating force at limit of travel:	0.07 Nm (without contacts)
Maximum travel:	60° (2 stable positions) 40° (2 momentary positions) ±60° (3 stable positions) ±40° (3 momentary positions)
Tightening torque of the fixing ring:	2 ... 2.5 Nm
Utilization requirements:	see page 124

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

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 no.14

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

General data

Protection degrees IP67 and IP69K

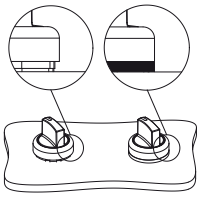
IP69K
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

Metal fixing ring

The fixing ring in metal is particularly suitable for those applications which require tighter fitting of the panel-mounted device, such as for example in metal panels having holes without reference notches.

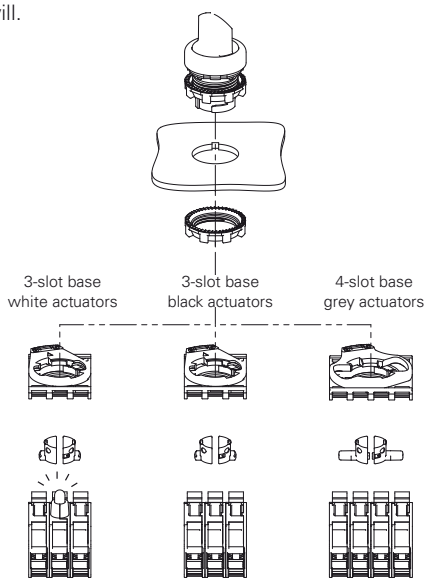
Shaped ring



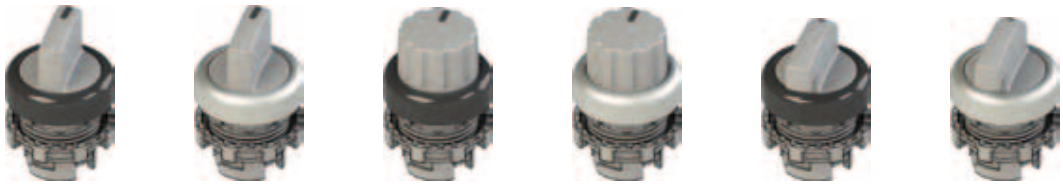
The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

Actuators for selector switches

Three types of actuators are available, which activate the cursors of the contacts combined with the selector: a white actuator allows the commutation of a single contact block and a black or grey actuator allow the simultaneous commutation of two contact blocks next to each other.
The white, black (3-slot base) and grey (4-slot base) actuators can be removed and replaced at any moment. This makes it possible to configure the type of commutation made by the selector on the contacts at will.



Selection table for selector switches

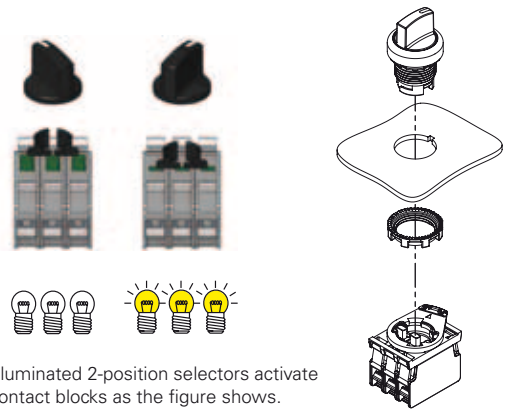


Button colour and engraving	Two Positions	short handle		knob		long handle	
		black bezel	satin chrome bezel	black bezel	satin chrome bezel	black bezel	satin chrome bezel
black	V	E2 1SE12AVA11AB	E2 1SE12AVA19AB	E2 1SE42AVA11AB	E2 1SE42AVA19AB	E2 1SE22AVA11AB	E2 1SE22AVA19AB
white	V	E2 1SE12AVA21AB	E2 1SE12AVA29AB	E2 1SE42AVA21AB	E2 1SE42AVA29AB	E2 1SE22AVA21AB	E2 1SE22AVA29AB
red	V	E2 1SE12AVA31AB	E2 1SE12AVA39AB	E2 1SE42AVA31AB	E2 1SE42AVA39AB	E2 1SE22AVA31AB	E2 1SE22AVA39AB
green	V	E2 1SE12AVA41AB	E2 1SE12AVA49AB	E2 1SE42AVA41AB	E2 1SE42AVA49AB	E2 1SE22AVA41AB	E2 1SE22AVA49AB
yellow	V	E2 1SE12AVA51AB	E2 1SE12AVA59AB	E2 1SE42AVA51AB	E2 1SE42AVA59AB	E2 1SE22AVA51AB	E2 1SE22AVA59AB
blue	V	E2 1SE12AVA61AB	E2 1SE12AVA69AB	E2 1SE42AVA61AB	E2 1SE42AVA69AB	E2 1SE22AVA61AB	E2 1SE22AVA69AB
orange	V	E2 1SE12AVA81AB	E2 1SE12AVA89AB	E2 1SE42AVA81AB	E2 1SE42AVA89AB	E2 1SE22AVA81AB	E2 1SE22AVA89AB
black	V	E2 1SE12EVA11AB	E2 1SE12EVA19AB	E2 1SE42EVA11AB	E2 1SE42EVA19AB	E2 1SE22EVA11AB	E2 1SE22EVA19AB
white	V	E2 1SE12EVA21AB	E2 1SE12EVA29AB	E2 1SE42EVA21AB	E2 1SE42EVA29AB	E2 1SE22EVA21AB	E2 1SE22EVA29AB
red	V	E2 1SE12EVA31AB	E2 1SE12EVA39AB	E2 1SE42EVA31AB	E2 1SE42EVA39AB	E2 1SE22EVA31AB	E2 1SE22EVA39AB
green	V	E2 1SE12EVA41AB	E2 1SE12EVA49AB	E2 1SE42EVA41AB	E2 1SE42EVA49AB	E2 1SE22EVA41AB	E2 1SE22EVA49AB
yellow	V	E2 1SE12EVA51AB	E2 1SE12EVA59AB	E2 1SE42EVA51AB	E2 1SE42EVA59AB	E2 1SE22EVA51AB	E2 1SE22EVA59AB
blue	V	E2 1SE12EVA61AB	E2 1SE12EVA69AB	E2 1SE42EVA61AB	E2 1SE42EVA69AB	E2 1SE22EVA61AB	E2 1SE22EVA69AB
orange	V	E2 1SE12EVA81AB	E2 1SE12EVA89AB	E2 1SE42EVA81AB	E2 1SE42EVA89AB	E2 1SE22EVA81AB	E2 1SE22EVA89AB
black	L	E2 1SE12ACA11AB	E2 1SE12ACA19AB	E2 1SE42ACA11AB	E2 1SE42ACA19AB	E2 1SE22ACA11AB	E2 1SE22ACA19AB
white	L	E2 1SE12ACA21AB	E2 1SE12ACA29AB	E2 1SE42ACA21AB	E2 1SE42ACA29AB	E2 1SE22ACA21AB	E2 1SE22ACA29AB
red	L	E2 1SE12ACA31AB	E2 1SE12ACA39AB	E2 1SE42ACA31AB	E2 1SE42ACA39AB	E2 1SE22ACA31AB	E2 1SE22ACA39AB
green	L	E2 1SE12ACA41AB	E2 1SE12ACA49AB	E2 1SE42ACA41AB	E2 1SE42ACA49AB	E2 1SE22ACA41AB	E2 1SE22ACA49AB
yellow	L	E2 1SE12ACA51AB	E2 1SE12ACA59AB	E2 1SE42ACA51AB	E2 1SE42ACA59AB	E2 1SE22ACA51AB	E2 1SE22ACA59AB
blue	L	E2 1SE12ACA61AB	E2 1SE12ACA69AB	E2 1SE42ACA61AB	E2 1SE42ACA69AB	E2 1SE22ACA61AB	E2 1SE22ACA69AB
orange	L	E2 1SE12ACA81AB	E2 1SE12ACA89AB	E2 1SE42ACA81AB	E2 1SE42ACA89AB	E2 1SE22ACA81AB	E2 1SE22ACA89AB
black	L	E2 1SE12ECA11AB	E2 1SE12ECA19AB	E2 1SE42ECA11AB	E2 1SE42ECA19AB	E2 1SE22ECA11AB	E2 1SE22ECA19AB
white	L	E2 1SE12ECA21AB	E2 1SE12ECA29AB	E2 1SE42ECA21AB	E2 1SE42ECA29AB	E2 1SE22ECA21AB	E2 1SE22ECA29AB
red	L	E2 1SE12ECA31AB	E2 1SE12ECA39AB	E2 1SE42ECA31AB	E2 1SE42ECA39AB	E2 1SE22ECA31AB	E2 1SE22ECA39AB
green	L	E2 1SE12ECA41AB	E2 1SE12ECA49AB	E2 1SE42ECA41AB	E2 1SE42ECA49AB	E2 1SE22ECA41AB	E2 1SE22ECA49AB
yellow	L	E2 1SE12ECA51AB	E2 1SE12ECA59AB	E2 1SE42ECA51AB	E2 1SE42ECA59AB	E2 1SE22ECA51AB	E2 1SE22ECA59AB
blue	L	E2 1SE12ECA61AB	E2 1SE12ECA69AB	E2 1SE42ECA61AB	E2 1SE42ECA69AB	E2 1SE22ECA61AB	E2 1SE22ECA69AB
orange	L	E2 1SE12ECA81AB	E2 1SE12ECA89AB	E2 1SE42ECA81AB	E2 1SE42ECA89AB	E2 1SE22ECA81AB	E2 1SE22ECA89AB

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

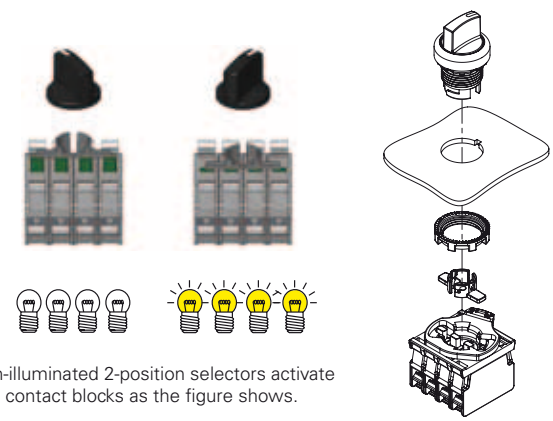
On request, selectors with knob may be customized with symbols and inscriptions.

3-slot mounting adapter



The non-illuminated 2-position selectors activate the contact blocks as the figure shows.

4-slot mounting adapter

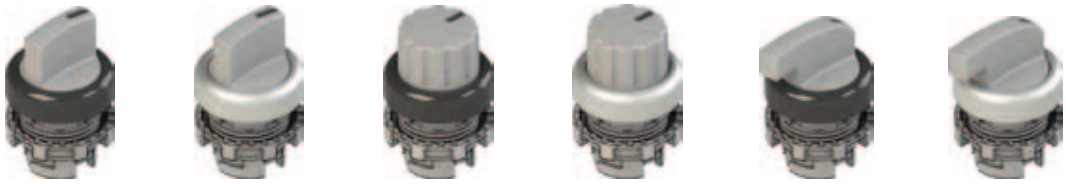


The non-illuminated 2-position selectors activate the contact blocks as the figure shows.

The mounting of the actuators for 4-slot base must be carried out after fixing the selector.

Legend: V Maintained L Spring-return

Selection table for selector switches

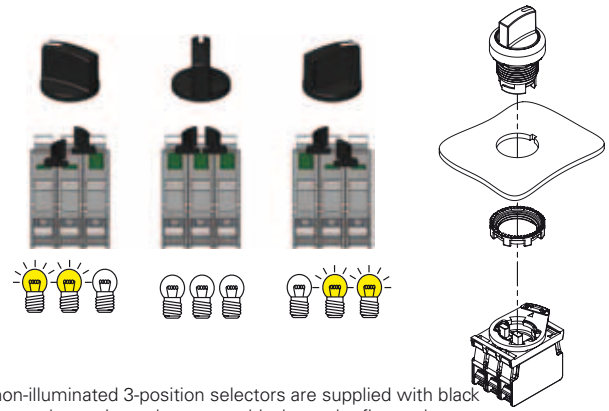


Button colour and engraving	Three positions	short handle		knob		long handle	
		black bezel	satin chrome bezel	black bezel	satin chrome bezel	black bezel	satin chrome bezel
black		E2 1SE13ACE11AB	E2 1SE13ACE19AB	E2 1SE43ACE11AB	E2 1SE43ACE19AB	E2 1SE23ACE11AB	E2 1SE23ACE19AB
white		E2 1SE13ACE21AB	E2 1SE13ACE29AB	E2 1SE43ACE21AB	E2 1SE43ACE29AB	E2 1SE23ACE21AB	E2 1SE23ACE29AB
red		E2 1SE13ACE31AB	E2 1SE13ACE39AB	E2 1SE43ACE31AB	E2 1SE43ACE39AB	E2 1SE23ACE31AB	E2 1SE23ACE39AB
green		E2 1SE13ACE41AB	E2 1SE13ACE49AB	E2 1SE43ACE41AB	E2 1SE43ACE49AB	E2 1SE23ACE41AB	E2 1SE23ACE49AB
yellow		E2 1SE13ACE51AB	E2 1SE13ACE59AB	E2 1SE43ACE51AB	E2 1SE43ACE59AB	E2 1SE23ACE51AB	E2 1SE23ACE59AB
blue		E2 1SE13ACE61AB	E2 1SE13ACE69AB	E2 1SE43ACE61AB	E2 1SE43ACE69AB	E2 1SE23ACE61AB	E2 1SE23ACE69AB
orange		E2 1SE13ACE81AB	E2 1SE13ACE89AB	E2 1SE43ACE81AB	E2 1SE43ACE89AB	E2 1SE23ACE81AB	E2 1SE23ACE89AB
black		E2 1SE13ECE11AB	E2 1SE13ECE19AB	E2 1SE43ECE11AB	E2 1SE43ECE19AB	E2 1SE23ECE11AB	E2 1SE23ECE19AB
white		E2 1SE13ECE21AB	E2 1SE13ECE29AB	E2 1SE43ECE21AB	E2 1SE43ECE29AB	E2 1SE23ECE21AB	E2 1SE23ECE29AB
red		E2 1SE13ECE31AB	E2 1SE13ECE39AB	E2 1SE43ECE31AB	E2 1SE43ECE39AB	E2 1SE23ECE31AB	E2 1SE23ECE39AB
green		E2 1SE13ECE41AB	E2 1SE13ECE49AB	E2 1SE43ECE41AB	E2 1SE43ECE49AB	E2 1SE23ECE41AB	E2 1SE23ECE49AB
yellow		E2 1SE13ECE51AB	E2 1SE13ECE59AB	E2 1SE43ECE51AB	E2 1SE43ECE59AB	E2 1SE23ECE51AB	E2 1SE23ECE59AB
blue		E2 1SE13ECE61AB	E2 1SE13ECE69AB	E2 1SE43ECE61AB	E2 1SE43ECE69AB	E2 1SE23ECE61AB	E2 1SE23ECE69AB
orange		E2 1SE13ECE81AB	E2 1SE13ECE89AB	E2 1SE43ECE81AB	E2 1SE43ECE89AB	E2 1SE23ECE81AB	E2 1SE23ECE89AB
black		E2 1SE13FCE11AB	E2 1SE13FCE19AB	E2 1SE43FCE11AB	E2 1SE43FCE19AB	E2 1SE23FCE11AB	E2 1SE23FCE19AB
white		E2 1SE13FCE21AB	E2 1SE13FCE29AB	E2 1SE43FCE21AB	E2 1SE43FCE29AB	E2 1SE23FCE21AB	E2 1SE23FCE29AB
red		E2 1SE13FCE31AB	E2 1SE13FCE39AB	E2 1SE43FCE31AB	E2 1SE43FCE39AB	E2 1SE23FCE31AB	E2 1SE23FCE39AB
green		E2 1SE13FCE41AB	E2 1SE13FCE49AB	E2 1SE43FCE41AB	E2 1SE43FCE49AB	E2 1SE23FCE41AB	E2 1SE23FCE49AB
yellow		E2 1SE13FCE51AB	E2 1SE13FCE59AB	E2 1SE43FCE51AB	E2 1SE43FCE59AB	E2 1SE23FCE51AB	E2 1SE23FCE59AB
blue		E2 1SE13FCE61AB	E2 1SE13FCE69AB	E2 1SE43FCE61AB	E2 1SE43FCE69AB	E2 1SE23FCE61AB	E2 1SE23FCE69AB
orange		E2 1SE13FCE81AB	E2 1SE13FCE89AB	E2 1SE43FCE81AB	E2 1SE43FCE89AB	E2 1SE23FCE81AB	E2 1SE23FCE89AB
black		E2 1SE13GCE11AB	E2 1SE13GCE19AB	E2 1SE43GCE11AB	E2 1SE43GCE19AB	E2 1SE23GCE11AB	E2 1SE23GCE19AB
white		E2 1SE13GCE21AB	E2 1SE13GCE29AB	E2 1SE43GCE21AB	E2 1SE43GCE29AB	E2 1SE23GCE21AB	E2 1SE23GCE29AB
red		E2 1SE13GCE31AB	E2 1SE13GCE39AB	E2 1SE43GCE31AB	E2 1SE43GCE39AB	E2 1SE23GCE31AB	E2 1SE23GCE39AB
green		E2 1SE13GCE41AB	E2 1SE13GCE49AB	E2 1SE43GCE41AB	E2 1SE43GCE49AB	E2 1SE23GCE41AB	E2 1SE23GCE49AB
yellow		E2 1SE13GCE51AB	E2 1SE13GCE59AB	E2 1SE43GCE51AB	E2 1SE43GCE59AB	E2 1SE23GCE51AB	E2 1SE23GCE59AB
blue		E2 1SE13GCE61AB	E2 1SE13GCE69AB	E2 1SE43GCE61AB	E2 1SE43GCE69AB	E2 1SE23GCE61AB	E2 1SE23GCE69AB
orange		E2 1SE13GCE81AB	E2 1SE13GCE89AB	E2 1SE43GCE81AB	E2 1SE43GCE89AB	E2 1SE23GCE81AB	E2 1SE23GCE89AB

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

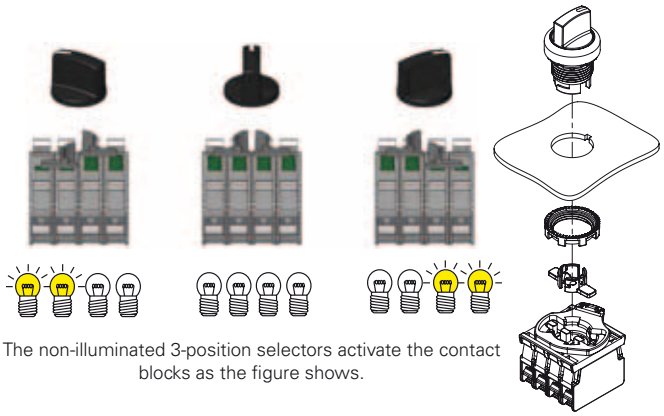
On request, selectors with knob may be customized with symbols and inscriptions.

3-slot mounting adapter



The non-illuminated 3-position selectors are supplied with black actuators that activate the contact blocks as the figure shows.

4-slot mounting adapter

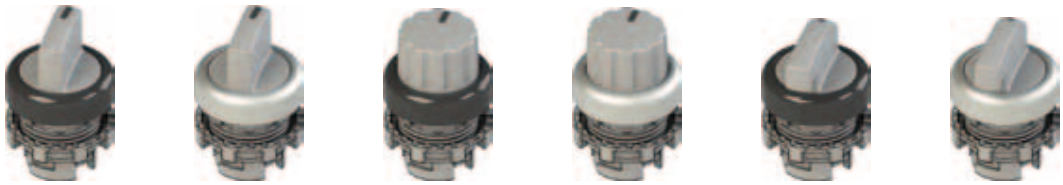


The non-illuminated 3-position selectors activate the contact blocks as the figure shows.

The mounting of the actuators for 4-slot base must be carried out after fixing the selector.

Legend Maintained Spring-return

Selection table for illuminated selector switches

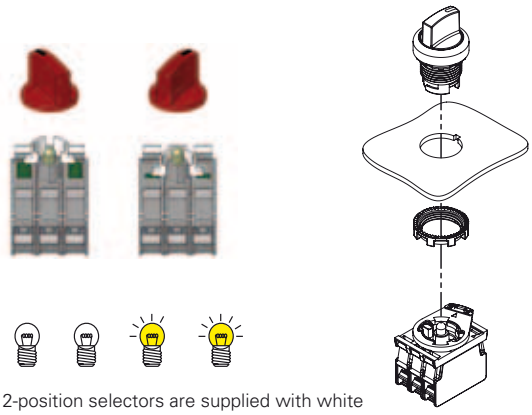


Button colour and engraving	Two Positions	short handle		knob		long handle	
		black bezel	satin chrome bezel	black bezel	satin chrome bezel	black bezel	satin chrome bezel
white		E2 1SL12AVD21AB	E2 1SL12AVD29AB	E2 1SL42AVD21AB	E2 1SL42AVD29AB	E2 1SL22AVD21AB	E2 1SL22AVD29AB
red		E2 1SL12AVD31AB	E2 1SL12AVD39AB	E2 1SL42AVD31AB	E2 1SL42AVD39AB	E2 1SL22AVD31AB	E2 1SL22AVD39AB
green		E2 1SL12AVD41AB	E2 1SL12AVD49AB	E2 1SL42AVD41AB	E2 1SL42AVD49AB	E2 1SL22AVD41AB	E2 1SL22AVD49AB
yellow		E2 1SL12AVD51AB	E2 1SL12AVD59AB	E2 1SL42AVD51AB	E2 1SL42AVD59AB	E2 1SL22AVD51AB	E2 1SL22AVD59AB
blue		E2 1SL12AVD61AB	E2 1SL12AVD69AB	E2 1SL42AVD61AB	E2 1SL42AVD69AB	E2 1SL22AVD61AB	E2 1SL22AVD69AB
orange		E2 1SL12AVD81AB	E2 1SL12AVD89AB	E2 1SL42AVD81AB	E2 1SL42AVD89AB	E2 1SL22AVD81AB	E2 1SL22AVD89AB
white		E2 1SL12EVD21AB	E2 1SL12EVD29AB	E2 1SL42EVD21AB	E2 1SL42EVD29AB	E2 1SL22EVD21AB	E2 1SL22EVD29AB
red		E2 1SL12EVD31AB	E2 1SL12EVD39AB	E2 1SL42EVD31AB	E2 1SL42EVD39AB	E2 1SL22EVD31AB	E2 1SL22EVD39AB
green		E2 1SL12EVD41AB	E2 1SL12EVD49AB	E2 1SL42EVD41AB	E2 1SL42EVD49AB	E2 1SL22EVD41AB	E2 1SL22EVD49AB
yellow		E2 1SL12EVD51AB	E2 1SL12EVD59AB	E2 1SL42EVD51AB	E2 1SL42EVD59AB	E2 1SL22EVD51AB	E2 1SL22EVD59AB
blue		E2 1SL12EVD61AB	E2 1SL12EVD69AB	E2 1SL42EVD61AB	E2 1SL42EVD69AB	E2 1SL22EVD61AB	E2 1SL22EVD69AB
orange		E2 1SL12EVD81AB	E2 1SL12EVD89AB	E2 1SL42EVD81AB	E2 1SL42EVD89AB	E2 1SL22EVD81AB	E2 1SL22EVD89AB
white		E2 1SL12ACD21AB	E2 1SL12ACD29AB	E2 1SL42ACD21AB	E2 1SL42ACD29AB	E2 1SL22ACD21AB	E2 1SL22ACD29AB
red		E2 1SL12ACD31AB	E2 1SL12ACD39AB	E2 1SL42ACD31AB	E2 1SL42ACD39AB	E2 1SL22ACD31AB	E2 1SL22ACD39AB
green		E2 1SL12ACD41AB	E2 1SL12ACD49AB	E2 1SL42ACD41AB	E2 1SL42ACD49AB	E2 1SL22ACD41AB	E2 1SL22ACD49AB
yellow		E2 1SL12ACD51AB	E2 1SL12ACD59AB	E2 1SL42ACD51AB	E2 1SL42ACD59AB	E2 1SL22ACD51AB	E2 1SL22ACD59AB
blue		E2 1SL12ACD61AB	E2 1SL12ACD69AB	E2 1SL42ACD61AB	E2 1SL42ACD69AB	E2 1SL22ACD61AB	E2 1SL22ACD69AB
orange		E2 1SL12ACD81AB	E2 1SL12ACD89AB	E2 1SL42ACD81AB	E2 1SL42ACD89AB	E2 1SL22ACD81AB	E2 1SL22ACD89AB
white		E2 1SL12ECD21AB	E2 1SL12ECD29AB	E2 1SL42ECD21AB	E2 1SL42ECD29AB	E2 1SL22ECD21AB	E2 1SL22ECD29AB
red		E2 1SL12ECD31AB	E2 1SL12ECD39AB	E2 1SL42ECD31AB	E2 1SL42ECD39AB	E2 1SL22ECD31AB	E2 1SL22ECD39AB
green		E2 1SL12ECD41AB	E2 1SL12ECD49AB	E2 1SL42ECD41AB	E2 1SL42ECD49AB	E2 1SL22ECD41AB	E2 1SL22ECD49AB
yellow		E2 1SL12ECD51AB	E2 1SL12ECD59AB	E2 1SL42ECD51AB	E2 1SL42ECD59AB	E2 1SL22ECD51AB	E2 1SL22ECD59AB
blue		E2 1SL12ECD61AB	E2 1SL12ECD69AB	E2 1SL42ECD61AB	E2 1SL42ECD69AB	E2 1SL22ECD61AB	E2 1SL22ECD69AB
orange		E2 1SL12ECD81AB	E2 1SL12ECD89AB	E2 1SL42ECD81AB	E2 1SL42ECD89AB	E2 1SL22ECD81AB	E2 1SL22ECD89AB

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

On request, selectors with knob may be customized with symbols and inscriptions.

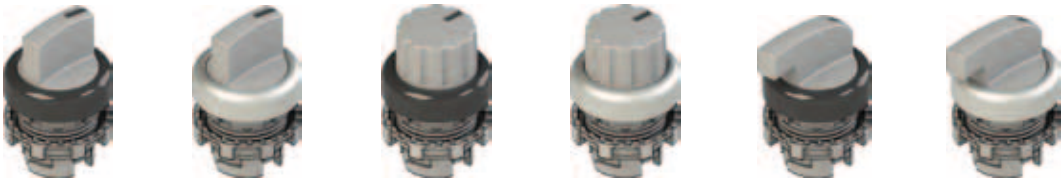
3-slot mounting adapter



The illuminated 2-position selectors are supplied with white actuators that activate the contact blocks as the figure shows.

Legend: Maintained Spring-return

Selection table for illuminated selector switches

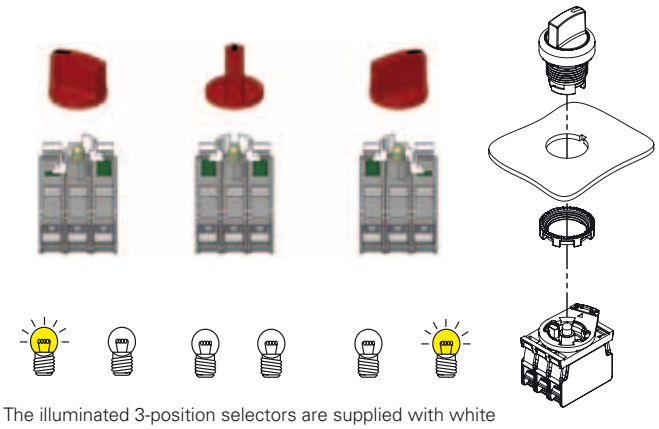


Button colour and engraving	Three positions	short handle		knob		long handle	
		black bezel	satin chrome bezel	black bezel	satin chrome bezel	black bezel	satin chrome bezel
white		E2 1SL13ACH21AB	E2 1SL13ACH29AB	E2 1SL43ACH21AB	E2 1SL43ACH29AB	E2 1SL23ACH21AB	E2 1SL23ACH29AB
red		E2 1SL13ACH31AB	E2 1SL13ACH39AB	E2 1SL43ACH31AB	E2 1SL43ACH39AB	E2 1SL23ACH31AB	E2 1SL23ACH39AB
green		E2 1SL13ACH41AB	E2 1SL13ACH49AB	E2 1SL43ACH41AB	E2 1SL43ACH49AB	E2 1SL23ACH41AB	E2 1SL23ACH49AB
yellow		E2 1SL13ACH51AB	E2 1SL13ACH59AB	E2 1SL43ACH51AB	E2 1SL43ACH59AB	E2 1SL23ACH51AB	E2 1SL23ACH59AB
blue		E2 1SL13ACH61AB	E2 1SL13ACH69AB	E2 1SL43ACH61AB	E2 1SL43ACH69AB	E2 1SL23ACH61AB	E2 1SL23ACH69AB
orange		E2 1SL13ACH81AB	E2 1SL13ACH89AB	E2 1SL43ACH81AB	E2 1SL43ACH89AB	E2 1SL23ACH81AB	E2 1SL23ACH89AB
white		E2 1SL13ECH21AB	E2 1SL13ECH29AB	E2 1SL43ECH21AB	E2 1SL43ECH29AB	E2 1SL23ECH21AB	E2 1SL23ECH29AB
red		E2 1SL13ECH31AB	E2 1SL13ECH39AB	E2 1SL43ECH31AB	E2 1SL43ECH39AB	E2 1SL23ECH31AB	E2 1SL23ECH39AB
green		E2 1SL13ECH41AB	E2 1SL13ECH49AB	E2 1SL43ECH41AB	E2 1SL43ECH49AB	E2 1SL23ECH41AB	E2 1SL23ECH49AB
yellow		E2 1SL13ECH51AB	E2 1SL13ECH59AB	E2 1SL43ECH51AB	E2 1SL43ECH59AB	E2 1SL23ECH51AB	E2 1SL23ECH59AB
blue		E2 1SL13ECH61AB	E2 1SL13ECH69AB	E2 1SL43ECH61AB	E2 1SL43ECH69AB	E2 1SL23ECH61AB	E2 1SL23ECH69AB
orange		E2 1SL13ECH81AB	E2 1SL13ECH89AB	E2 1SL43ECH81AB	E2 1SL43ECH89AB	E2 1SL23ECH81AB	E2 1SL23ECH89AB
white		E2 1SL13FCH21AB	E2 1SL13FCH29AB	E2 1SL43FCH21AB	E2 1SL43FCH29AB	E2 1SL23FCH21AB	E2 1SL23FCH29AB
red		E2 1SL13FCH31AB	E2 1SL13FCH39AB	E2 1SL43FCH31AB	E2 1SL43FCH39AB	E2 1SL23FCH31AB	E2 1SL23FCH39AB
green		E2 1SL13FCH41AB	E2 1SL13FCH49AB	E2 1SL43FCH41AB	E2 1SL43FCH49AB	E2 1SL23FCH41AB	E2 1SL23FCH49AB
yellow		E2 1SL13FCH51AB	E2 1SL13FCH59AB	E2 1SL43FCH51AB	E2 1SL43FCH59AB	E2 1SL23FCH51AB	E2 1SL23FCH59AB
blue		E2 1SL13FCH61AB	E2 1SL13FCH69AB	E2 1SL43FCH61AB	E2 1SL43FCH69AB	E2 1SL23FCH61AB	E2 1SL23FCH69AB
orange		E2 1SL13FCH81AB	E2 1SL13FCH89AB	E2 1SL43FCH81AB	E2 1SL43FCH89AB	E2 1SL23FCH81AB	E2 1SL23FCH89AB
white		E2 1SL13GCH21AB	E2 1SL13GCH29AB	E2 1SL43GCH21AB	E2 1SL43GCH29AB	E2 1SL23GCH21AB	E2 1SL23GCH29AB
red		E2 1SL13GCH31AB	E2 1SL13GCH39AB	E2 1SL43GCH31AB	E2 1SL43GCH39AB	E2 1SL23GCH31AB	E2 1SL23GCH39AB
green		E2 1SL13GCH41AB	E2 1SL13GCH49AB	E2 1SL43GCH41AB	E2 1SL43GCH49AB	E2 1SL23GCH41AB	E2 1SL23GCH49AB
yellow		E2 1SL13GCH51AB	E2 1SL13GCH59AB	E2 1SL43GCH51AB	E2 1SL43GCH59AB	E2 1SL23GCH51AB	E2 1SL23GCH59AB
blue		E2 1SL13GCH61AB	E2 1SL13GCH69AB	E2 1SL43GCH61AB	E2 1SL43GCH69AB	E2 1SL23GCH61AB	E2 1SL23GCH69AB
orange		E2 1SL13GCH81AB	E2 1SL13GCH89AB	E2 1SL43GCH81AB	E2 1SL43GCH89AB	E2 1SL23GCH81AB	E2 1SL23GCH89AB

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

On request, selectors with knob may be customized with symbols and inscriptions.

3-slot mounting adapter



The illuminated 3-position selectors are supplied with white actuators that activate the contact blocks as the figure shows.

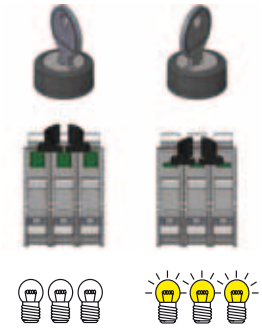
Legend: Maintained Spring-return

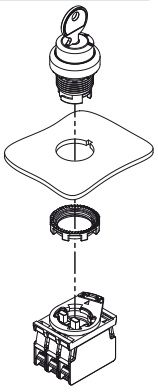
Selection table for key selector switches

Button colour and engraving	Two Positions	with key	
		black bezel	satin chrome bezel
black		E2 1SC2AVA11AA	E2 1SC2AVA19AA
		E2 1SC2BVA11AA	E2 1SC2BVA19AA
		E2 1SC2CVA11AA	E2 1SC2CVA19AA
		E2 1SC2DVA11AA	E2 1SC2DVA19AA
		E2 1SC2ACA11AA	E2 1SC2ACA19AA

The standard colour of the selectors in the above-mentioned codes is **BLACK**. Other colours on request.
On request, selectors with key may be customized with symbols and inscriptions.
All selector keys have the PY333 coding. Other codes on request.

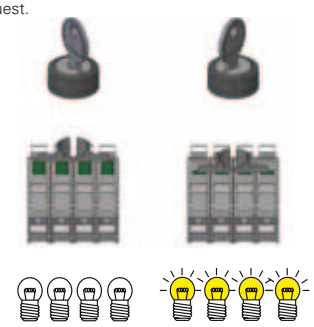
3-slot mounting adapter

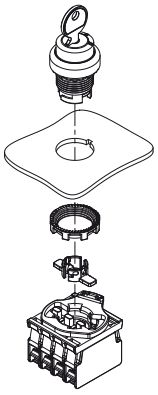




The 2-position selectors actuate all contacts at the same time.

4-slot mounting adapter





The 2-position selectors actuate all contacts at the same time.

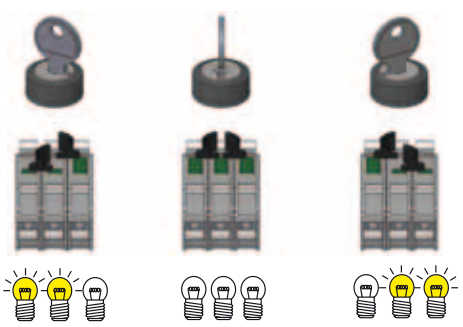
Button colour and engraving	Three positions	with key	
		black bezel	satin chrome bezel
black		E2 1SC3ACE11AA	E2 1SC3ACE19AA
		E2 1SC3BCE11AA	E2 1SC3BCE19AA
		E2 1SC3CCE11AA	E2 1SC3CCE19AA
		E2 1SC3DCE11AA	E2 1SC3DCE19AA
		E2 1SC3ECE11AA	E2 1SC3ECE19AA
		E2 1SC3FCE11AA	E2 1SC3FCE19AA
		E2 1SC3GCE11AA	E2 1SC3GCE19AA
		E2 1SC3HCE11AA	E2 1SC3HCE19AA
		E2 1SC3LCE11AA	E2 1SC3LCE19AA
		E2 1SC3MCE11AA	E2 1SC3MCE19AA
		E2 1SC3NCE11AA	E2 1SC3NCE19AA
		E2 1SC3PCE11AA	E2 1SC3PCE19AA
		E2 1SC3QCE11AA	E2 1SC3QCE19AA
		E2 1SC3RCE11AA	E2 1SC3RCE19AA

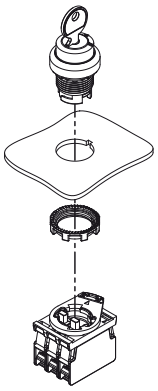
The standard colour of the selectors in the above-mentioned codes is **BLACK**. Other colours on request.
On request, selectors with key may be customized with symbols and inscriptions.
All selector keys have the PY333 coding. Other codes on request.

Legend: Maintained Spring-return Key extraction position

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

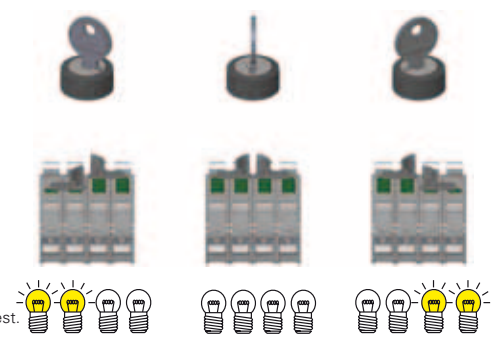
3-slot mounting adapter

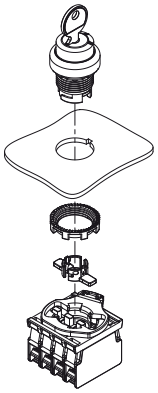




The 3-position selectors are supplied with black actuators that activate 2 contacts at the same time.

4-slot mounting adapter





The 3-position selectors are supplied with grey actuators that activate 2 contacts at the same time.

Selection table for complete units with four position selectors

Selector switches with four positions

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	4 positions black bezel	4 positions satin chrome bezel
black	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2201	E2 AC-DXBC2203
white	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2209	E2 AC-DXBC2211
red	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2217	E2 AC-DXBC2219
green	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2225	E2 AC-DXBC2227
yellow	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2233	E2 AC-DXBC2235
blue	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2241	E2 AC-DXBC2243
orange	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2249	E2 AC-DXBC2251
black	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2200	E2 AC-DXBC2202
white	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2208	E2 AC-DXBC2210
red	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2216	E2 AC-DXBC2218
green	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2224	E2 AC-DXBC2226
yellow	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2232	E2 AC-DXBC2234
blue	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2240	E2 AC-DXBC2242
orange	1NO+1NC	-	1NO+1NC		E2 AC-DXBC2248	E2 AC-DXBC2250

Illuminated selector switches with four positions

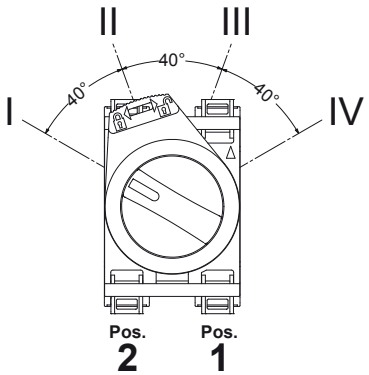
Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	4 positions, illuminated black bezel	4 positions, illuminated satin chrome bezel
-	-	-	-	-
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2257	E2 AC-DXBC2259
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2265	E2 AC-DXBC2267
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2273	E2 AC-DXBC2275
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2281	E2 AC-DXBC2283
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2289	E2 AC-DXBC2291
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2297	E2 AC-DXBC2299
-	-	-	-	-
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2256	E2 AC-DXBC2258
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2264	E2 AC-DXBC2266
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2272	E2 AC-DXBC2274
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2280	E2 AC-DXBC2282
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2288	E2 AC-DXBC2290
1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2296	E2 AC-DXBC2298

Note: The supply voltage of the LED supplied with the illuminated selector is 12 … 30 Vac/dc. Other voltages on request.

Contact diagram

	contacts	Selector position I	II	III	IV
pos. 2	.4	□	■	□	□
		■	□	□	□
pos. 1	.4	□	□	■	□
		□	□	□	■

■ closed contact □ open contact



Selector switches with four positions

The combination of this new version of the selector with the dedicated double contact blocks allows to close a single contact in each of the four positions; the angular rotation of the lever remains the same for versions with 2, 3 and 4 positions, thus facilitating the handling of the device.
The 4-position selector must not be combined with contact blocks other than those provided.

Handle type

The four-position selector can be supplied with three different handle types. For further information contact our sales office.

with short handle

with long handle

with knob

Complete units with two- or three-position selectors

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	2 positions black bezel
black	-	1NO	-		**E2 AC-DXBC1401** E2 1SE12AVA11AB + E2 1BAC11 + E2 CP10G2V1
black	-	1NO	-		**E2 AC-DXBC1402** E2 1SE12EVA11AB + E2 1BAC11 + E2 CP10G2V1

Other combinations on request.

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	3 positions black bezel
black	1NO	-	1NO		**E2 AC-DXBC1405** E2 1SE13ACE11AB + E2 1BAC11 + E2 CP10G2V1 + E2 CP10G2V1
black	1NO	-	1NO		**E2 AC-DXBC1406** E2 1SE13GCE11AB + E2 1BAC11 + E2 CP10G2V1 + E2 CP10G2V1

Other combinations on request.

Complete units with two- or three-position illuminated selectors

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	2 positions black bezel
white	1NO	LED	1NC		**E2 AC-DXBC1805** E2 1SL12AVD21AB + E2 1BAC11 + E2 CP10G2V1 + E2 LP1A2V1 + E2 CP01G2V1
green	1NO	LED	1NC		**E2 AC-DXBC1801** E2 1SL12AVD41AB + E2 1BAC11 + E2 CP10G2V1 + E2 LP1A4V1 + E2 CP01G2V1

Other combinations on request.

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	3 positions black bezel
white	1NO	LED	1NC		**E2 AC-DXBC1806** E2 1SL13ACH21AB + E2 1BAC11 + E2 CP10G2V1 + E2 LP1A2V1 + E2 CP01G2V1
green	1NO	LED	1NC		**E2 AC-DXBC1803** E2 1SL13ACH41AB + E2 1BAC11 + E2 CP10G2V1 + E2 LP1A4V1 + E2 CP01G2V1

Other combinations on request.

Complete units with two- or three-position key selectors

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	2 positions black bezel
black	-	1NO	-		**E2 AC-DXBC1601** E2 1SC2AVA11AA + E2 1BAC11 + E2 CP10G2V1
black	-	1NO	-		**E2 AC-DXBC1605** E2 1SC2CVA11AA + E2 1BAC11 + E2 CP10G2V1
black	-	1NO	-		**E2 AC-DXBC1606** E2 1SC2DVA11AA + E2 1BAC11 + E2 CP10G2V1

Other combinations on request.
Key number PY333

Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Positions	3 positions black bezel
black	1NO	-	1NO		**E2 AC-DXBC1607** E2 1SC3DCE11AA + E2 1BAC11 + E2 CP10G2V1 + E2 CP10G2V1

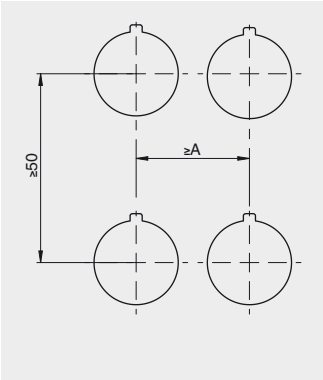
Other combinations on request.
Key number PY333

Legend: Maintained Spring-return Key extraction position

➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Minimum distances for installation

All measures in the drawings are in mm



3-slot mounting adapter
A=30 mm

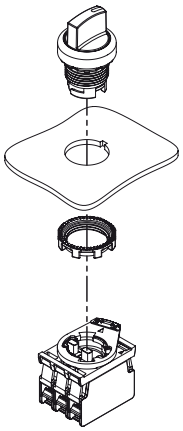
4-slot mounting adapter
A=40 mm

Maximum number of contacts

3-slot mounting adapter

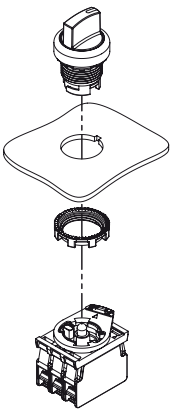
E2 1SE/1SC series selectors

maximum number:
6 contact blocks
3 levels



Illuminated selector switches series E2 1SL

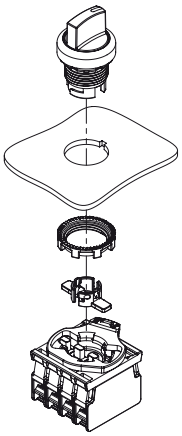
maximum number:
6 contact blocks
3 levels



4-slot mounting adapter

E2 1SE/1SC series selectors

maximum number:
8 contact blocks
2 levels



 Contact blocks

 Alternative position contact block

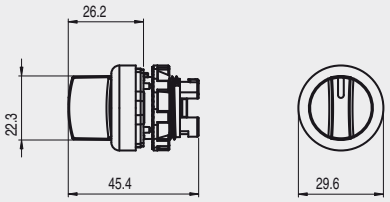
 LED unit

The mounting of the actuators for 4-slot base must be carried out after fixing the selector.

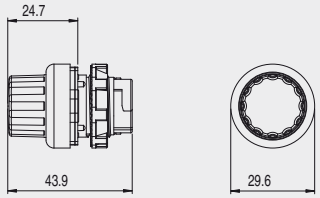
Dimensions

All measures in the drawings are in mm

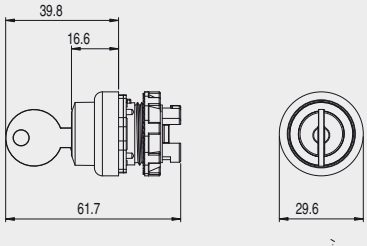
Selector switch with short handle



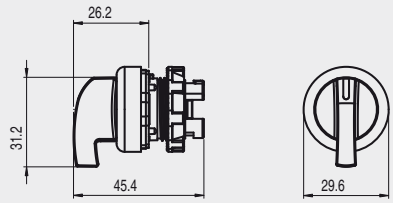
Selector switch with knob



Selector switch with key



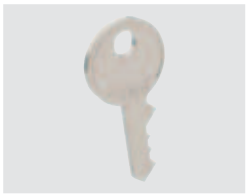
Selector switch with long handle



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

Locking keys

Article	Description
VE KE1A00-PY333	Locking key



To order only if further keys besides the supplied one are needed.
All keys have the same code. Other codes on request.

Actuators

10 pcs. packs

Article	Description
 VE AS1212	Black closed actuator for 3-slot base. Actuates 2 contact blocks at the same time. For selector switches E2 1SE•••••••••, E2 1SC•••••••••
 VE AS1213	White open actuator for 3-slot base. Actuates 1 contact block. For selector switches E2 1SE•••••••••, E2 1SL•••••••••, E2 1SC•••••••••
 VE AS1216	Grey closed actuator for 4-slot base. Actuates 2 contact blocks at the same time. For selector switches E2 1SE•••••••••, E2 2 1SC•••••••••

Note: for each selector, 2 actuators are necessary.

Shaped ring

50 pcs. packs

Article	Description
VE GP12H1A	Shaped ring for single device

Not applicable in the presence of legend plate, Ø 22 to Ø 30 mm adapter, guard or protection cap.

Fixing ring

20 pcs. packs

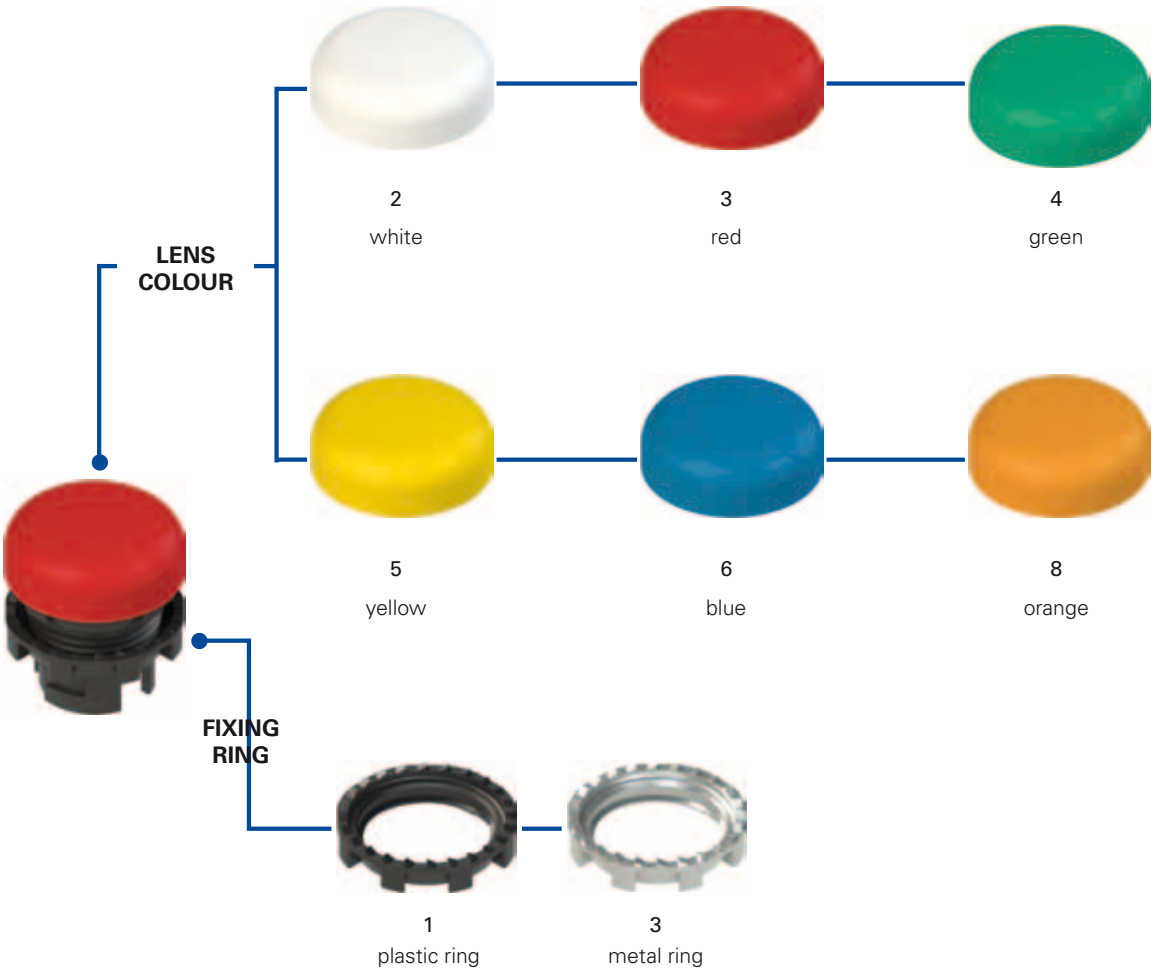
Article	Description
VE GF720A	Metal fixing ring

Accessories

➔ More ACCESSORIES on page 121

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

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.

E2 1ILA210

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Shape of the lens	
A	level smooth

Lens colour	
0	without lens
2	white
3	red
4	green
5	yellow
6	blue
8	orange

Engraving	
0	without engraving (standard)
IT7	IN SERVIZIO
IT8	ERROR
L54	ϟ
...	.....

Other engravings on request. See page 123.

Main features
- Protection degrees IP67 and IP69K
- Optional customisation with symbols
- Replaceable coloured lens

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653
Ambient temperature:	-25°C … +70°C
Type of illumination:	Combined with illuminated unit with
LED	series E2 LP●●●●, E2 LF●●●●
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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 no.14.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Markings and quality marks:

CE EAC

EAC approval: RU C-IT ДМ94.B.01024

General data

Protection degrees IP67 and IP69K

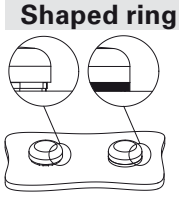
IP69K
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

Metal fixing ring

The fixing ring in metal is particularly suitable for those applications which require tighter fitting of the panel-mounted device, such as for example in metal panels having holes without reference notches.

Shaped ring



The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of
cleanness and hygiene are required.

Customisable

In order to suit the various requests and needs of the customers, Pizzato Elettrica offers the possibility to customize the indicator lights with symbols, inscriptions and interchangeable lenses with different colours.

Combination of LED colours with lens colours

LED colour	Lens colour
white	white / yellow
red	red
green	green
blue	blue
orange	orange

Note: Combinations of LED colour with lens colour different from the recommended ones can give a different colour compared to the expected one.

Selection table for indicator lights


Button colour and engraving	Lens colour	Without lens
without lens	-	E2 1ILA010
white	E2 1ILA210	-
red	E2 1ILA310	-
green	E2 1ILA410	-
yellow	E2 1ILA510	-
blue	E2 1ILA610	-
orange	E2 1ILA810	-

Complete units with indicator lights

Button colour and engraving	LED pos. 2	LED pos. 3	LED pos. 1	Article
white	-	LED	-	E2 AC-DXBC0200 E2 1ILA210 + E2 1BAC11 + E2 LP1A2V1
red	-	LED	-	E2 AC-DXBC0201 E2 1ILA310 + E2 1BAC11 + E2 LP1A3V1
green	-	LED	-	E2 AC-DXBC0202 E2 1ILA410 + E2 1BAC11 + E2 LP1A4V1
yellow	-	LED	-	E2 AC-DXBC0203 E2 1ILA510 + E2 1BAC11 + E2 LP1A2V1
blue	-	LED	-	E2 AC-DXBC0204 E2 1ILA610 + E2 1BAC11 + E2 LP1A6V1
orange	-	LED	-	E2 AC-DXBC0205 E2 1ILA810 + E2 1BAC11 + E2 LP1A8V1

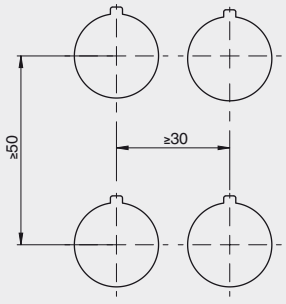
➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Lenses for indicator lights E2 1IL

To order lenses for indicator lights E2 1IL with engraving: in the article codes, replace the dots ●●● with the engraving code shown in the table at page 123.
Example: white lens, for indicator light with eng raving "ϟ".
VE LN 2A2●●● → VE LN 2A2L54

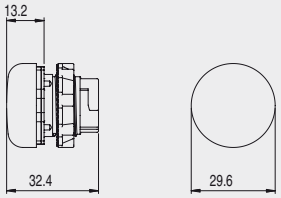
Article	Description	Colours	Pieces/ Pack
VE LN2A20	Lens for indicator lights, white, without engraving	○	10
VE LN2A30	Lens for indicator lights, red, without engraving	●	10
VE LN2A40	Lens for indicator lights, green, without engraving	●	10
VE LN2A50	Lens for indicator lights, yellow, without engraving	●	10
VE LN2A60	Lens for indicator lights, blue, without engraving	●	10
VE LN2A80	Lens for indicator lights, orange, without engraving	●	10
VE LN2AA0	6 lenses for indicator lights, without engraving, colours: white, red, green, yellow, blue, orange	○●●●●●	1
VE LN2A2●●●	Lens for indicator lights, white, with engraving	○	1
VE LN2A3●●●	Lens for indicator lights, red, with engraving	●	1
VE LN2A4●●●	Lens for indicator lights, green, with engraving	●	1
VE LN2A5●●●	Lens for indicator lights, yellow, with engraving	●	1
VE LN2A6●●●	Lens for indicator lights, blue, with engraving	●	1
VE LN2A8●●●	Lens for indicator lights, orange, with engraving	●	1

Minimum distances for installation



Dimensions

All measures in the drawings are in mm



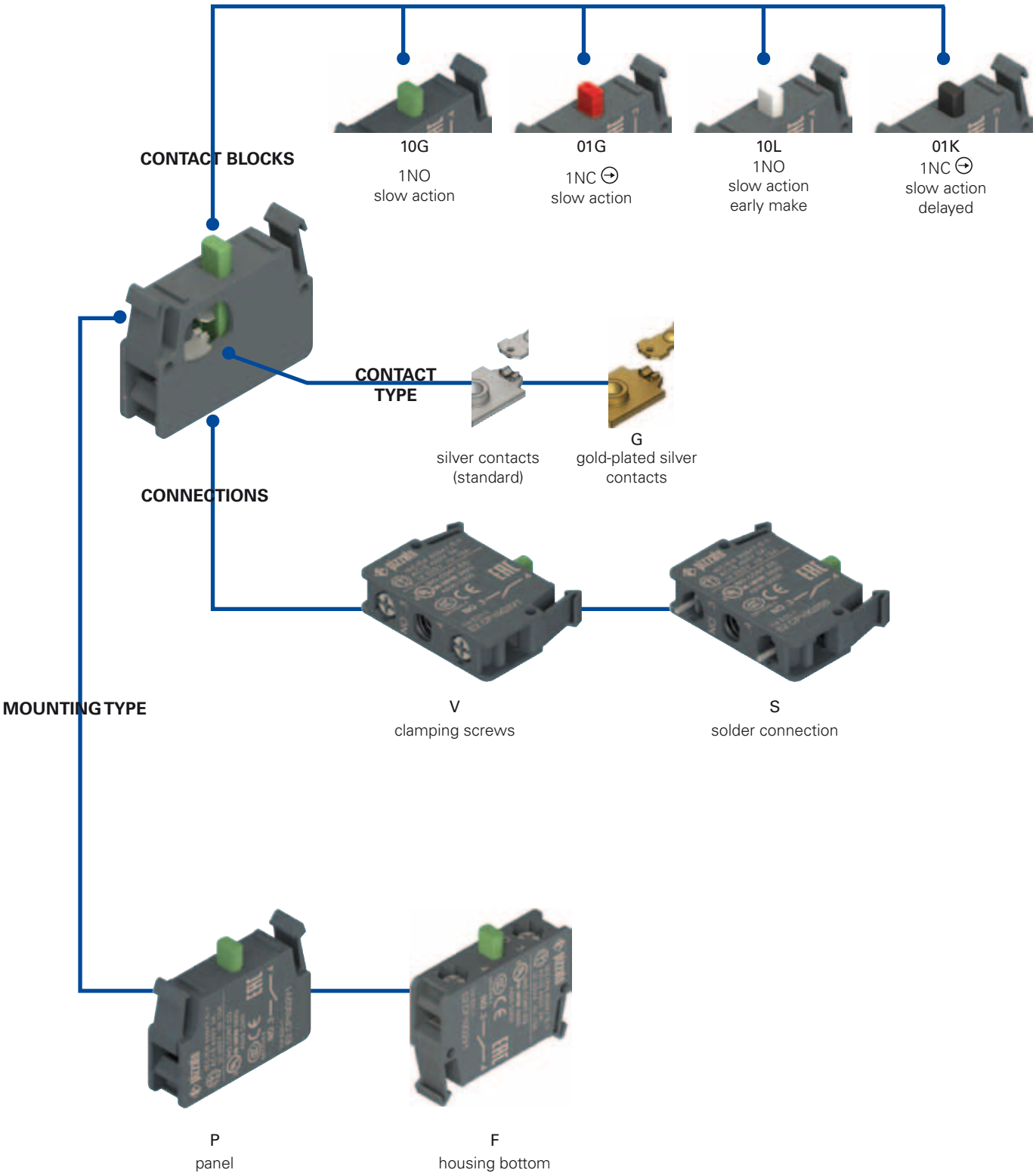
➔ The 2D and 3D files are available at **www.pizzato.com**

Accessories

➔ More ACCESSORIES on page 121

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

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: **E2 CP01G2V1** options: **-G**

Mounting type	
P	panel
F	housing bottom

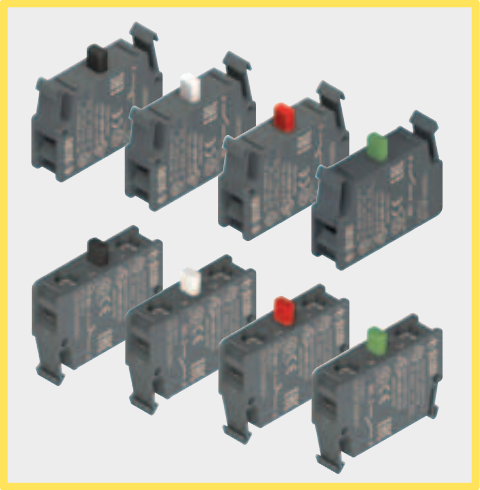
Contact blocks	
01G	1NC slow action
10G	1NO slow action
01K	1NC, slow action, delayed
10L	1NO, slow action, early make
01S	1NC, slow action, self-monitored (with clamping screws only)

Contact rating	
2	Ith 10A

Contact type	
	silver contacts (standard)
G	gold-plated silver contacts

Protection degree	
0	IP00 with solder connection
1	IP20 screw connection
2	IP20 screw connection with dust protection (panel mounting only)

Connection type	
V	clamping screws
S	solder connection (panel mounting only)



Main features

- Highly reliable contact block having self-cleaning contacts with quadruple support point
- Versions with gold plated contacts
- Positive opening NC contacts acc. to IEC 60947-5-1

Markings and quality marks:

IMQ approval:	CA02.04805
UL approval:	E131787
CCC approval:	2013010305631156
EAC approval:	RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree acc. to IEC 60529:	IP20 with screw connection IP00 with solder connection
Ambient temperature:	-40°C … +80°C
Mechanical endurance:	20 million operating cycles[1]
Max. actuation frequency:	3600 operating cycles[1]/hour
Utilization requirements:	see page 124

(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1

Contact blocks

Contact commutation force:	1.8 N (NO) / 1.4 N (NC) 1.7 N (NO early make) / 1.4 N (NC delayed)
Actuating force at limit of travel:	3.5 N (NO) / 2.3 N (NC) 3.5 N (NO early make) / 1.9 N (NC delayed)
Positive opening force:	17 N
Actuation speed:	min. 1 mm/s max. 0.5 m/s
Contact material:	Normal: silver contacts (standard) For low current: silver contacts with gold coating 1 µm (on request)
Contact design:	"V shape" self-cleaning contacts with quadruple support point
Cable cross section:	min. 1 x 0.5 mm² (1 x AWG 20) max. 2 x 2.5 mm² (2 x AWG 14)
Safety parameters:	
B_{10d}:	1,000,000 (NO), 40,000,000 (NC)
Tightening torque of the terminal screws:	0.6 … 0.8 Nm

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 no.14.

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

Electrical data

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

Utilization category

Alternating current: AC15 (50 … 60 Hz)

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

Direct current: DC13

Ue (V)	24	48	125	250
Ie (A)	2.5	1.3	0.6	0.3

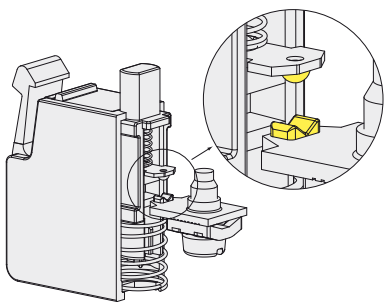
General data

Positive opening

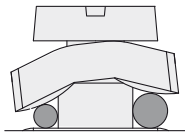
All NC contacts are suitable for safety applications. The NC contacts are positive opening contacts acc. to IEC 60947-5-1

High-reliability self-cleaning contacts

"V shape" self-cleaning contacts with quadruple support point. This type of shape, thanks to the presence of the double support point, makes it possible to drastically reduce the probability of contact commutation failure. In addition to this, it improves considerably the reliability in the presence of dust.

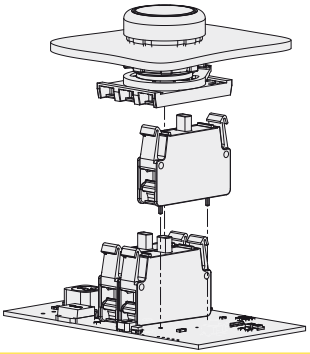


Clamping screw plates



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

Solder connection on printed circuit



Versions with panel mounting of the EROUND series contact blocks with solder pin are available. In cases where there is no wiring, but a printed circuit, these contact blocks can be directly welded on the latter.

Characteristics approved by UL

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

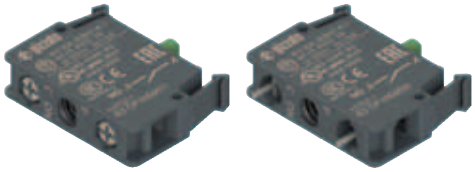
Notes:
- Use 60° or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 12-20.
- Terminal tightening torque of 7.1 Lb In (0.8 Nm).

Characteristics approved by IMQ

Rated insulation voltage (Ui): 500 V
Conventional free air thermal current (Ith): 10 A
Thermal current in enclosure (Ithe): 10 A
Rated impulse withstand voltage (Uimp):8 kV
Protection degree of the housing: IP20
Terminals: screw terminals
Utilization category: AC15
Operating voltage (Ue): 400 Vac (50/60 Hz)
Operating current (Ie): 3 A
Forms of the contact element: X, Y
Positive opening of contacts on contact blocks 01G, 01K
In conformity with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

Selection table for contact blocks

10 pcs. packs



Contact blocks	Panel mounting	
	Screw connection	Solder connection
1NC, slow action ⊖	E2 CP01G2V1	E2 CP01G2S0
1NO slow action	E2 CP10G2V1	E2 CP10G2S0
1NC, ⊖ slow action, delayed	E2 CP01K2V1	E2 CP01K2S0
1NO, slow action, early make	E2 CP10L2V1	E2 CP10L2S0

Contact blocks	Housing bottom mounting Screw connection
1NC, slow action ⊖	E2 CF01G2V1
1NO slow action	E2 CF10G2V1
1NC, ⊖ slow action, delayed	E2 CF01K2V1
1NO, slow action, early make	E2 CF10L2V1

Complete units with contact block and mounting adapter

Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
-	1NO	-	E2 AC-XXBC0010 E2 1BAC11 + E2 CP10G2V1
-	1NC ⊖	-	E2 AC-XXBC0009 E2 1BAC11 + E2 CP01G2V1

Other combinations on request.

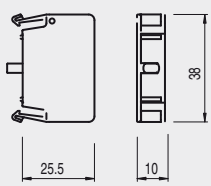
Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
1NO	-	1NO	E2 AC-XXBC0012 E2 1BAC11 + E2 CP10G2V1 + E2 CP10G2V1
1NC ⊖	-	1NC ⊖	E2 AC-XXBC0011 E2 1BAC11 + E2 CP01G2V1 + E2 CP01G2V1
1NC ⊖	-	1NO	E2 AC-XXBC0028 E2 1BAC11 + E2 CP10G2V1 + E2 CP01G2V1

Other combinations on request.

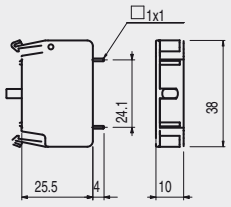
Dimensions

All measures in the drawings are in mm

Contact blocks for panel mounting with screw connection

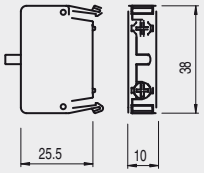


Contact blocks for panel mounting with solder connection



Ø 1.4 mm holes on PCB

Contact blocks for base mounting with screw connection



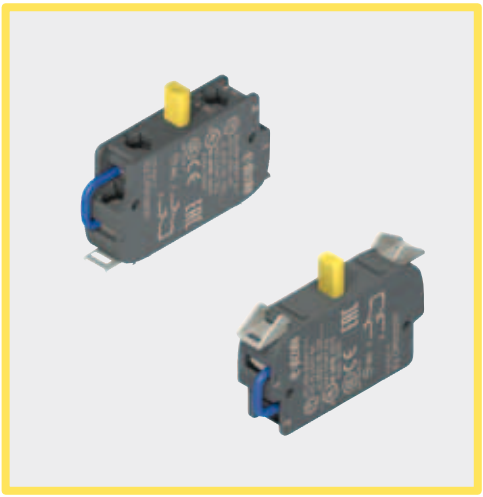
Dust protection

50 pcs. packs

Article	Description
VE PR3A70	Transparent dust protection for E2 series contact blocks. Suitable for all panel mounting contact blocks.

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

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



Main features

- Self-monitored contact block. Electrical circuit opening indicates separation from the device
- Versions with gold plated contacts
- Positive opening NC contacts acc. to IEC 60947-5-1

Markings and quality marks:

IMQ approval:	CA02.04805
UL approval:	E131787
CCC approval:	2013010305631156
EAC approval:	RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree:	IP20 at terminals acc. to IEC 60529
Ambient temperature:	-40°C … +80°C
Mechanical endurance:	20 million operating cycles[1]
Max. actuation frequency:	3600 operating cycles[1]/hour
Utilization requirements:	see page 124

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

Contact blocks

Contact commutation force:	2.9 N
Actuating force at limit of travel:	5 N
Positive opening force:	17 N
Actuation speed:	min. 1 mm/s max. 0.5 m/s
Contact material:	Normal: silver contacts (standard) For low current: silver contacts with gold coating 1 µm (on request)
Contact design:	"V shape" self-cleaning contacts with quadruple support point
Cable cross section:	min. 1 x 0.34 mm^2 (1 x AWG 22) max. 2 x 1.5 mm^2 (2 x AWG 16)
Safety parameters:	
B_{10d}:	40,000,000 (NC)
Tightening torque of the terminal screws:	0.6 … 0.8 Nm

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 no.14.

⚠ Installation for safety applications:
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

Electrical data

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

Utilization category

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

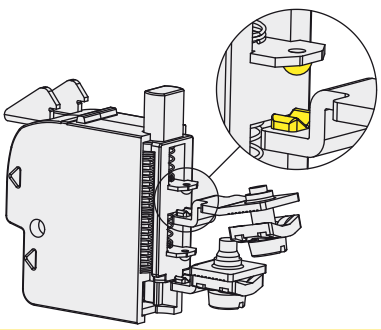
General data

Positive opening

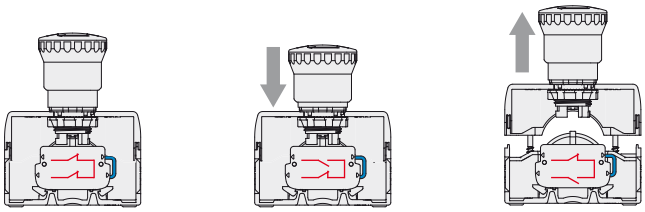
All NC contacts are suitable for safety applications. The NC contacts are positive opening contacts acc. to IEC 60947-5-1

High-reliability self-cleaning contacts

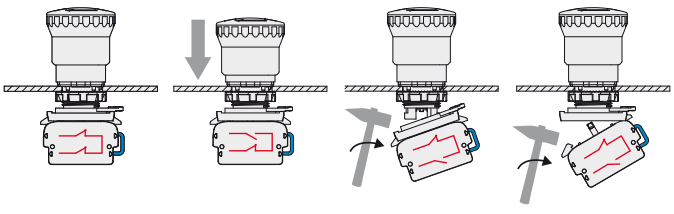
"V shape" self-cleaning contacts with quadruple support point. This type of shape, thanks to the presence of the double support point, makes it possible to drastically reduce the probability of contact commutation failure. In addition to this, it improves considerably the reliability in the presence of dust.



Operation of self-monitored contact blocks



mushroom not pressed | mushroom pressed | open housing



mushroom not pressed | mushroom pressed | separation of mounting adapter | separation of contact block

Selection table for contact blocks

5 pcs. packs

Contact blocks	Panel mounting Screw connection
1NC, ⊖ slow action, self-monitored	E2 CP01S2V1

Contact blocks	Housing bottom mounting Screw connection
1NC, ⊖ slow action, self-monitored	E2 CF01S2V1

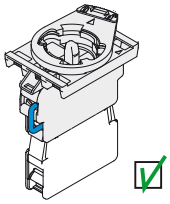
The self-monitored contact block mounted at the housing bottom can only be mounted in the central position under the device. The central position on the bottom of the box is identified with number 3.

Complete units with contact block and mounting adapter

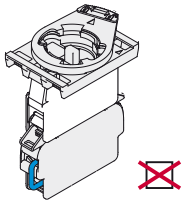
Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
-	1NC ⊖ SELF-MONITORED	-	E2 AC-XXBC0139 E2 1BAC11 + E2 CP01S2V1

Other combinations on request.

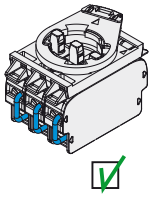
Installation of several single, double and self-monitored contact blocks



Always install self-monitored contact blocks directly on the mounting adapter.



Do not fix self-monitored contact blocks to standard contact blocks. Forbidden application!
Fix no more than

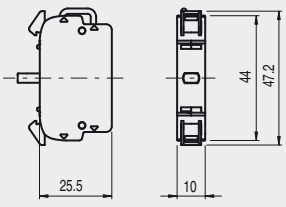


three self-monitored contact blocks per emergency button.

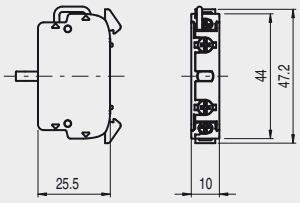
Dimensions

All measures in the drawings are in mm

Contact block for panel mounting E2 CP01S•••



Contact block for base mounting E2 CF01S•••



Dust protection

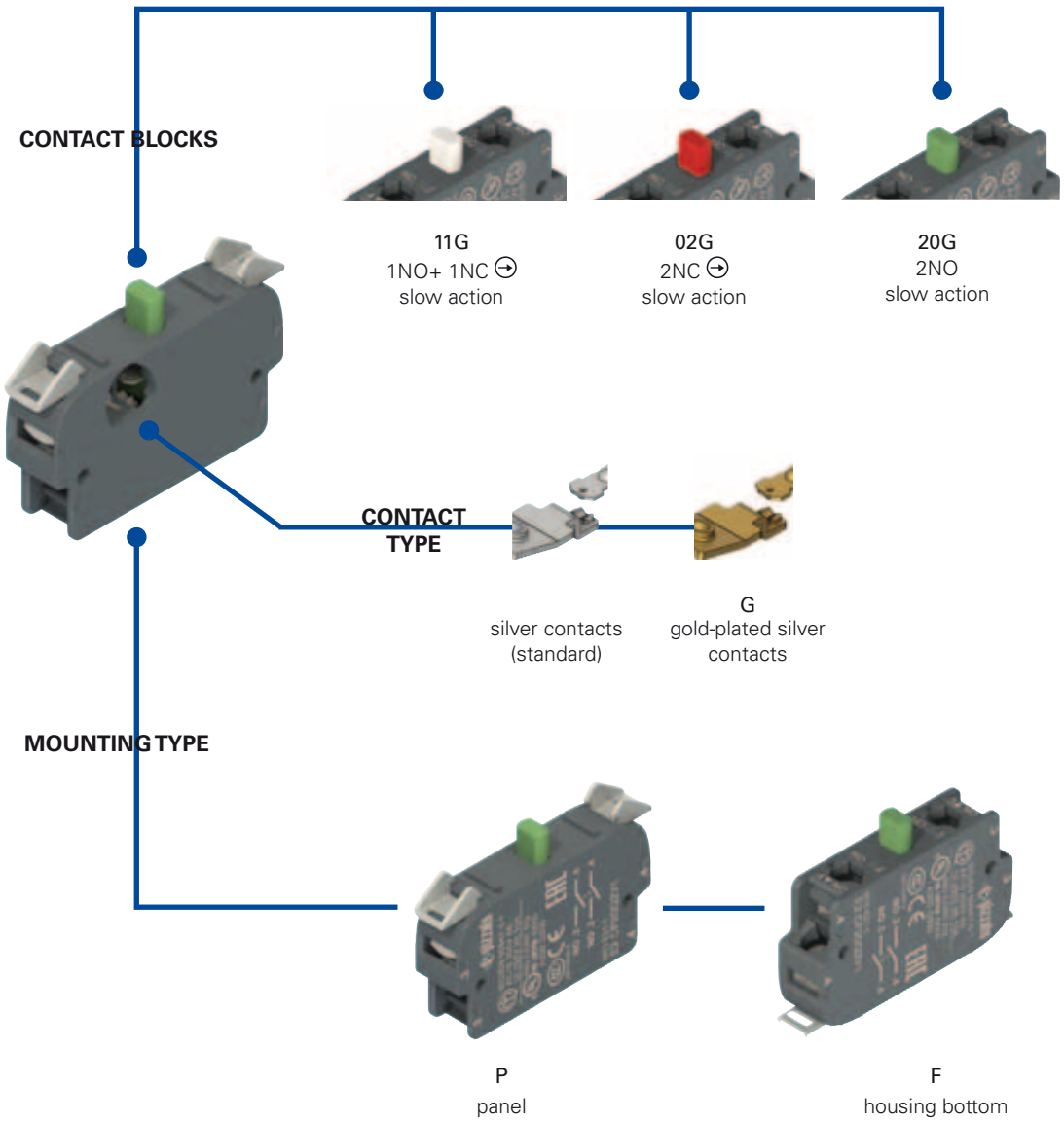
50 pcs. packs

Article	Description
VE PR3A70	Transparent dust protection for E2 series contact blocks. Suitable for all panel mounting contact blocks.

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

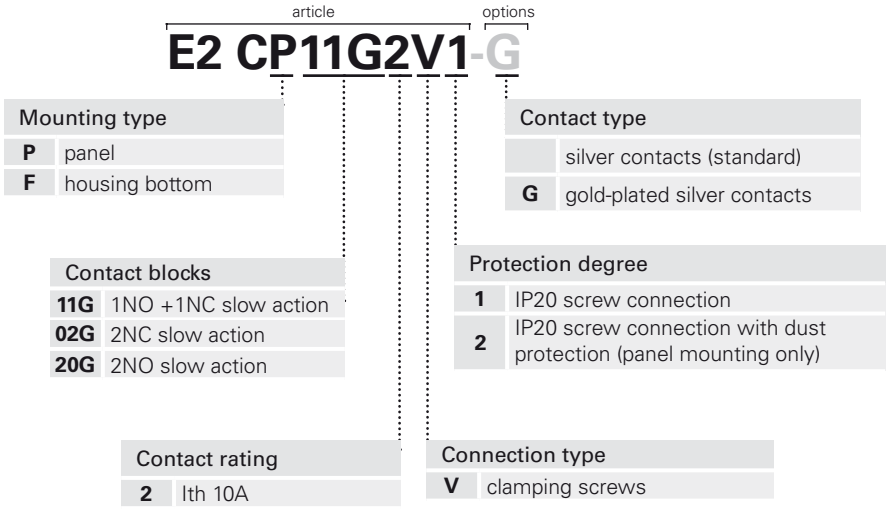
→ The 2D and 3D files are available at **www.pizzato.com**

Selection diagram

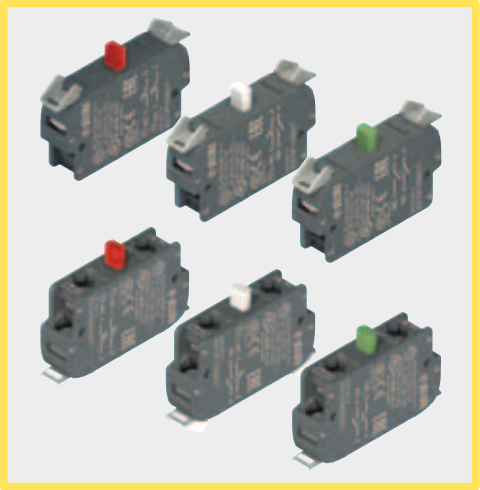


Code structure

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



Double contact block



Main features

- Highly reliable contact block having self-cleaning contacts with quadruple support point
- Gold plated contact versions

Positive opening NC contacts acc. to IEC 60947-5-1

Markings and quality marks:

IMQ approval:	CA02.04805
UL approval:	E131787
CCC approval:	2013010305631156
EAC approval:	RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree:	IP20 at terminals acc. to IEC 60529
Ambient temperature:	-40°C … +80°C
Mechanical endurance:	20 million operating cycles[1]
Max. actuation frequency:	3600 operation cycles/[1]hour
Utilization requirements:	see page 124

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

Contact blocks

Contact commutation force:	2NO: 1.7 N 2NC: 2 N 1NO+1NC: 2.7 N (NO) / 2.2 N (NC)
Actuating force at limit of travel:	2NO: 3.8 N 2NC: 3.8 N 1NO+1NC: 4.5 N
Positive opening force:	17 N
Actuation speed:	min. 1 mm/s max. 0.5 m/s
Contact material:	Normal: silver contacts (standard) For low current: silver contacts with gold coating 1 µm (on request)
Contact design:	"V shape" self-cleaning contacts with quadruple support point
Cable cross section:	min. 1 x 0.34 mm² (1 x AWG 22) max. 2 x 1.5 mm² (2 x AWG 16)
Safety parameters:	
B_{10d}:	1,000,000 (NO), 40,000,000 (NC)
Tightening torque of the terminal screws:	0.6 … 0.8 Nm

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 no.14.

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖. Always connect the safety circuit to the **NC contacts** (normally closed contacts: .1-.2) as stated in standard EN 60947-5-1, encl. K, par. 2.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

Electrical data

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

Utilization category

Alternating current: AC15 (50÷60 Hz)

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

Direct current: DC13

Ue (V)	24	48	125	250
Ie (A)	2.5	1.3	0.6	0.3

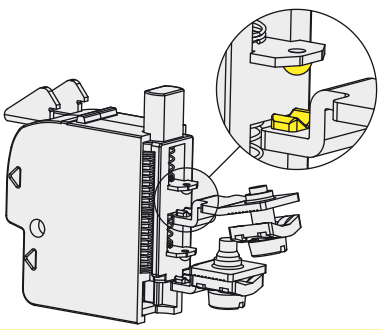
General data

Positive opening

All NC contacts are suitable for safety applications. The NC contacts are positive opening contacts acc. to IEC 60947-5-1

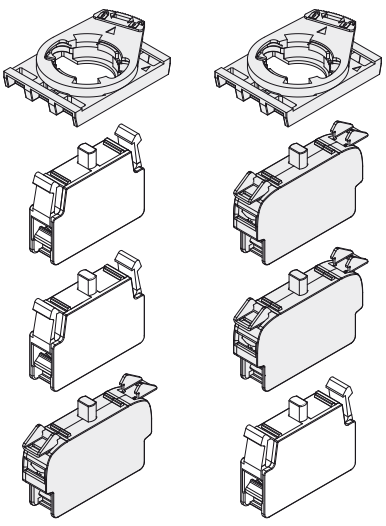
High-reliability self-cleaning contacts

"V shape" self-cleaning contacts with quadruple support point. This type of shape, thanks to the presence of the double support point, makes it possible to drastically reduce the probability of contact commutation failure. In addition to this, it improves considerably the reliability in the presence of dust.



Modularity and compact dimensions

The double contact blocks of the EROUND series feature more compact dimensions compared to the other double contact blocks on the market.
Thanks to the compact dimensions, these versions can also be fitted in the housing bottom.
These double contact blocks have the same vertical dimensions of the single contact blocks of the EROUND series: this makes it possible to stack on more levels the single contact blocks with the double contact blocks and to interchange them during the assembly phase.



Selection table for contact blocks

5 pcs. packs

Contact blocks	Panel mounting Screw connection
1NO+1NC, slow action ⊖	E2 CP11G2V1
2NO slow action	E2 CP20G2V1
2NC ⊖ slow action	E2 CP02G2V1

Contact blocks	Housing bottom mounting Screw connection
1NO+1NC, slow action ⊖	E2 CF11G2V1
2NO slow action	E2 CF20G2V1
2NC ⊖ slow action	E2 CF02G2V1

Complete units with contact block and mounting adapter

Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
-	1NO+ 1NC ⊖	-	E2 AC-XXBC0135 E2 1BAC11 + E2 CP11G2V1
	2NO		E2 AC-XXBC0136 E2 1BAC11 + E2 CP20G2V1
-	2NC ⊖	-	E2 AC-XXBC0137 E2 1BAC11 + E2 CP02G2V1

Other combinations on request.

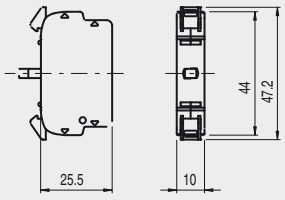
Contacts			Panel mounting Screw connection
pos. 2	pos. 3	pos. 1	
1NO+ 1NC ⊖	-	1NO+ 1NC ⊖	E2 AC-XXBC0138 E2 1BAC11 + E2 CP11G2V1+ E2 CP11G2V1

Other combinations on request.

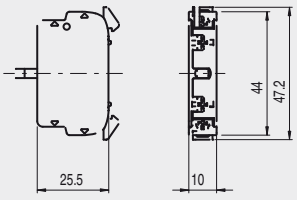
Dimensions

All measures in the drawings are in mm

Contact block for panel mounting E2 CP••G•••



Contact block for base mounting E2 CF••G•••



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

Dust protection

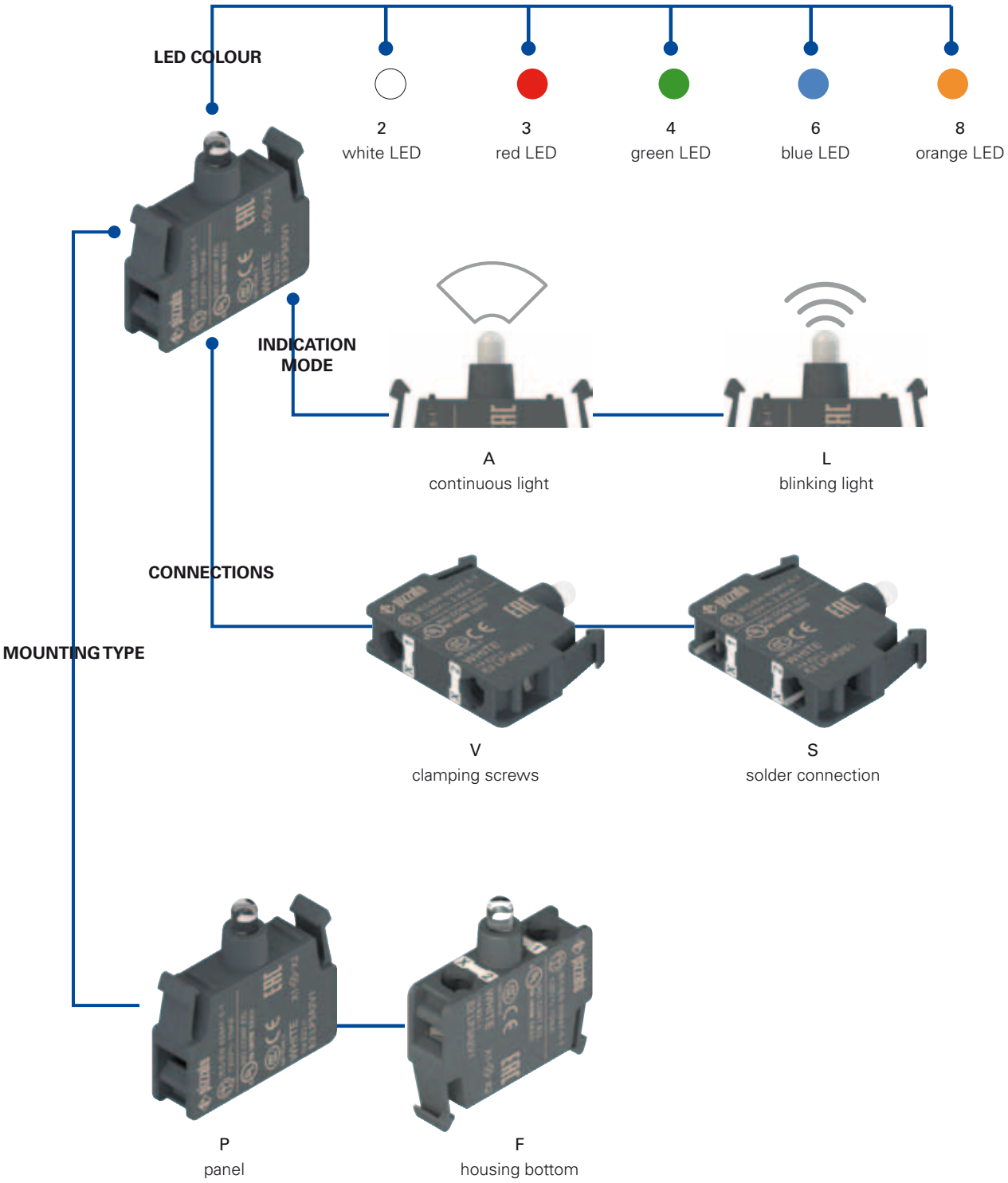
50 pcs. packs

Article	Description
VE PR3A70	Transparent dust protection for E2 series contact blocks. Suitable for all panel mounting contact blocks.

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

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

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.

E2 LP1A3V1

Mounting type	
P	panel
F	housing bottom

Protection degree	
0	IP00 with solder connection
1	IP20 screw connection

Supply voltage	
1	12 … 30 Vac/dc (high luminosity)
3	120 Vac (high luminosity)
4	230 Vac (high luminosity)
7	120 Vac/dc (standard luminosity)
8	230 Vac/dc (standard luminosity)

Connection type	
V	clamping screws
S	solder connection (panel mounting only)

LED colour	
2	white
3	red
4	green
6	blue
8	orange

Indication mode	
A	continuous light
L	blinking light (12 … 30 V supply only)

Main features

- High luminosity LED
- Three supply voltages:
  12 … 30 Vac/dc, 120 Vac, 230 Vac
- continuous or blinking light
- Panel and base mounting versions

Markings and quality marks:

IMQ approval:	CA02.04805
UL approval:	E131787
CCC approval:	2013010305631156
EAC approval:	RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree acc. to IEC 60529:	IP20 with screw connection IP00 with solder connection
Ambient temperature:	-25°C … +70°C
Endurance:	100.000 hours (at rated voltage and +25 °C ambient temperature)
Utilization requirements:	see page 124

LED unit

Cable cross section:	min. 1 x 0.5 mm² (1 x AWG 20) max. 2 x 2.5 mm² (2 x AWG 14)
Operating voltages and currents: (high luminosity)	12 … 30 Vac/dc; 5 … 15 mA 102 … 138 Vac; 10 … 12 mA 195 … 264 Vac; 9 … 10 mA
Operating voltages and currents: (standard luminosity)	102 … 138 Vac/dc; 2.5 mA 195 … 264 Vac/dc; 2.5 mA
Tightening torque of the terminal screws:	0.6 … 0.8 Nm
Blinking frequency:	1 Hz

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 no.14.

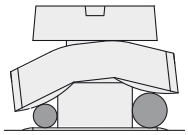
In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

General data

Continuous or blinking light

The LED units can be provided with two different lighting types: continuous or blinking light. The blinking light versions allow a faster identification on the panel of the lit device compared to the continuous light. The particular internal electronic circuit autonomously alternates the ON and OFF phases without any special electrical connection.

Clamping screw plates

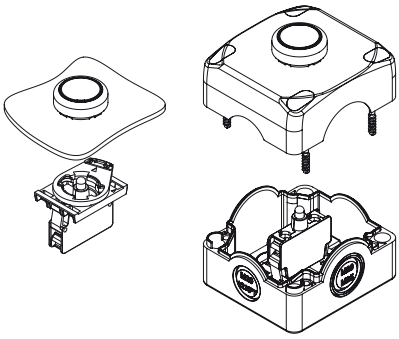


These clamping screw plates of the LED units have a particular "roofing tile" structure and are connected loosely to the clamping screw. In this way, during the wires fixing, the clamping screw plate is able to suit to cables of different diameter and tends to tighten the wires toward the screw instead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

High luminosity LED

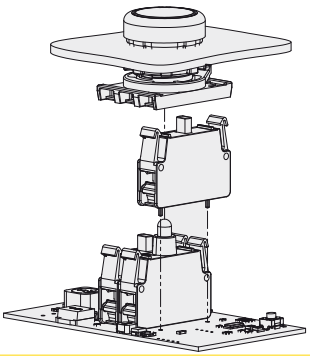
The LED units to combine with the luminous devices feature a high-intensity LED (Light Emitting Diodes), which ensures greater visibility. The use of an integrated LED gives greater benefits compared to incandescence lamps because they last longer and absorb less power than the latter. LEDs feature greater reliability, low consumption, and high resistance to vibrations.

Available versions



The LED units of the signalling and command devices feature two types of coupling: panel and base mounting.

Solder connection on printed circuit



Versions with panel mounting of the EROUND series LED units with solder pin are available. In cases where there is no wiring, but a printed circuit, these LED units can be directly welded on the latter.

Characteristics approved by UL

Rated supply voltage Un: 12 … 30 Vac/dc, Rated supply current In: 5 … 15 mA

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

Characteristics approved by IMQ

Rated insulation voltage (Ui): 500 V
Type of indicator light: Incorporated LED
Terminals: screw terminals
Rated operating voltage (Ue): 12 … 30 Vac/dc (5 … 15 mA), 120 Vac (10 mA), 230 Vac (10 mA)

In conformity with standards: EN 60947-1, EN 60947-5-1:2004 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

Selection table for LED units

5 pcs. packs

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

LED colour	Actuator colour	Panel mounting Solder connection Operating voltage 12 … 30 Vac/dc	120 Vac	230 Vac
white	white / yellow	E2 LP1A2S0	E2 LP3A2S0	E2 LP4A2S0
red	red	E2 LP1A3S0	E2 LP3A3S0	E2 LP4A3S0
green	green	E2 LP1A4S0	E2 LP3A4S0	E2 LP4A4S0
blue	blue	E2 LP1A6S0	E2 LP3A6S0	E2 LP4A6S0
orange	orange	E2 LP1A8S0	E2 LP3A8S0	E2 LP4A8S0

It is recommended to observe the colour combination of the LEDs with the actuator colours.

Selection table for LED units

5 pcs. packs

LED colour	Actuator colour	Housing bottom mounting Screw connection Operating voltage 12 … 30 Vac/dc	120 Vac	230 Vac
white	white / yellow	E2 LF1A2V1	E2 LF3A2V1	E2 LF4A2V1
red	red	E2 LF1A3V1	E2 LF3A3V1	E2 LF4A3V1
green	green	E2 LF1A4V1	E2 LF3A4V1	E2 LF4A4V1
blue	blue	E2 LF1A6V1	E2 LF3A6V1	E2 LF4A6V1
orange	orange	E2 LF1A8V1	E2 LF3A8V1	E2 LF4A8V1

Complete units with LED unit and mounting adapter

LED colour	LED pos. 2	pos. 3	pos. 1	Panel mounting Operating voltage 12 … 30 Vac/dc
white	-	LED	-	E2 AC-XXBC0053 E2 1BAC11 + E2 LP1A2V1
red	-	LED	-	E2 AC-XXBC0055 E2 1BAC11 + E2 LP1A3V1
green	-	LED	-	E2 AC-XXBC0054 E2 1BAC11 + E2 LP1A4V1
blue	-	LED	-	E2 AC-XXBC0056 E2 1BAC11 + E2 LP1A6V1
orange	-	LED	-	E2 AC-XXBC0057 E2 1BAC11 + E2 LP1A8V1

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

Complete units with LED unit, contact block and mounting adapter

LED colour	Contacts			Panel mounting
	pos. 2	pos. 3	pos. 1	Operating voltage 12 … 30 Vac/dc
white	1NC	LED	-	**E2 AC-XXBC0020** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1
red	1NC	LED	-	**E2 AC-XXBC0037** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A3V1
green	1NC	LED	-	**E2 AC-XXBC0029** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A4V1
blue	1NC	LED	-	**E2 AC-XXBC0045** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A6V1
orange	1NC	LED	-	**E2 AC-XXBC0058** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A8V1

Other combinations on request.

LED colour	Contacts			Panel mounting
	pos. 2	pos. 3	pos. 1	Operating voltage 12 … 30 Vac/dc
white	-	LED	1NO	**E2 AC-XXBC0021** E2 1BAC11 + E2 LP1A2V1 + E2 CP10G2V1
red	-	LED	1NO	**E2 AC-XXBC0039** E2 1BAC11 + E2 LP1A3V1 + E2 CP10G2V1
green	-	LED	1NO	**E2 AC-XXBC0031** E2 1BAC11 + E2 LP1A4V1 + E2 CP10G2V1
blue	-	LED	1NO	**E2 AC-XXBC0047** E2 1BAC11 + E2 LP1A6V1 + E2 CP10G2V1
orange	-	LED	1NO	**E2 AC-XXBC0059** E2 1BAC11 + E2 LP1A8V1 + E2 CP10G2V1

Other combinations on request.

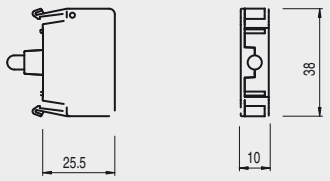
LED colour	Contacts			Panel mounting
	pos. 2	pos. 3	pos. 1	Operating voltage 12 … 30 Vac/dc
white	1NC	LED	1NO	**E2 AC-XXBC0027** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1 + E2 CP10G2V1
red	1NC	LED	1NO	**E2 AC-XXBC0044** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A3V1 + E2 CP10G2V1
green	1NC	LED	1NO	**E2 AC-XXBC0036** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A4V1 + E2 CP10G2V1
blue	1NC	LED	1NO	**E2 AC-XXBC0052** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A6V1 + E2 CP10G2V1
orange	1NC	LED	1NO	**E2 AC-XXBC0060** E2 1BAC11 + E2 CP01G2V1 + E2 LP1A8V1 + E2 CP10G2V1

Other combinations on request.

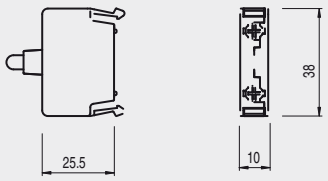
Dimensions

All measures in the drawings are in mm

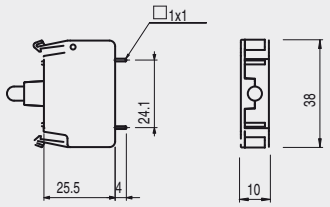
LED unit for panel mounting



LED unit for base mounting



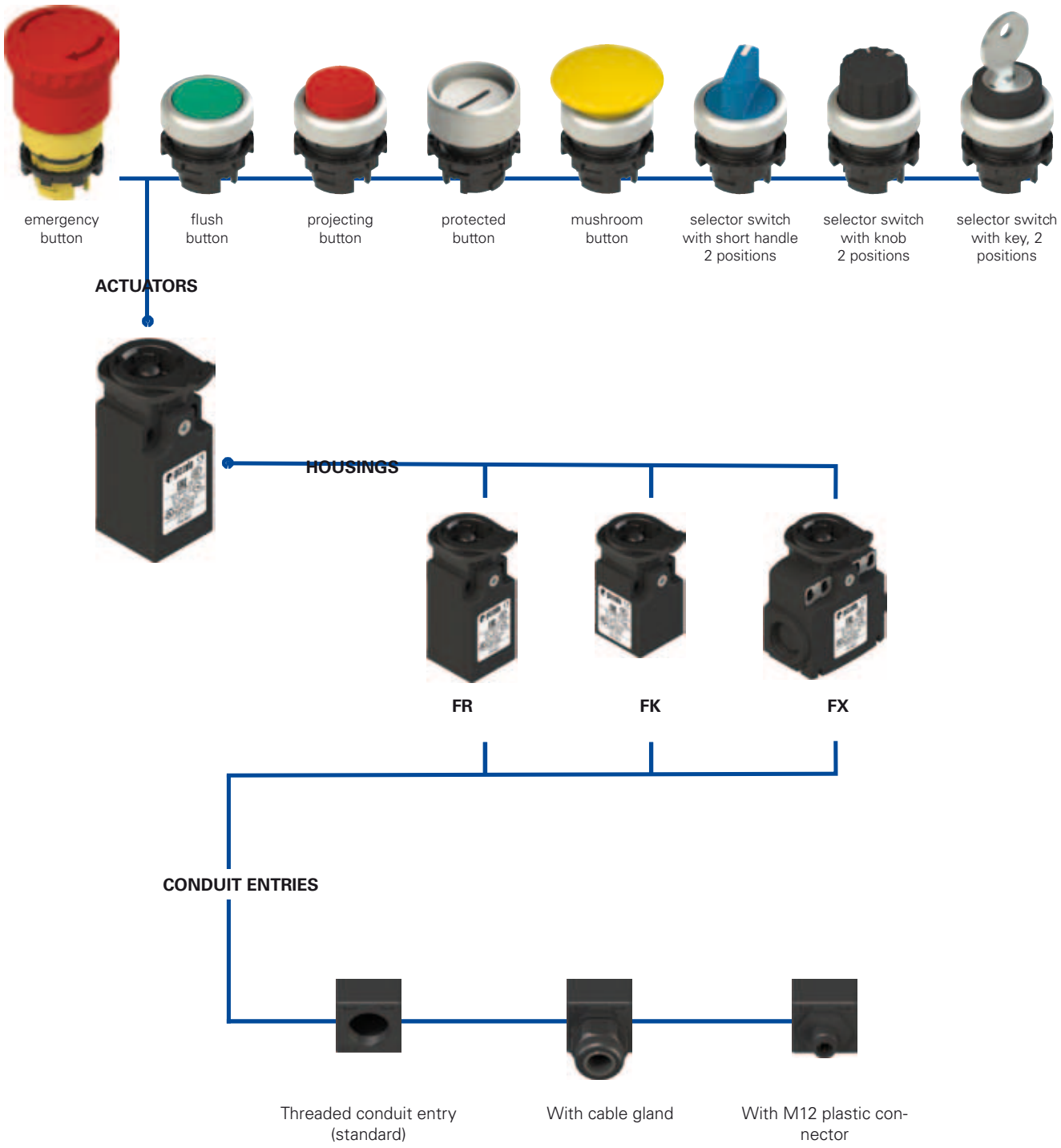
LED unit for panel mounting, solder connection



Ø 1.4 mm holes on PCB

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

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 option option

FR 6E2-GM2K23T6

Housing	
FR	technopolymer, one conduit entry
FX	technopolymer, two conduit entries

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

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating

Threaded conduit entry	
M2	M20x1.5

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

Pre-installed cable glands or connectors	
	without cable gland or connector (standard)
K23	cable gland for cables Ø 6…Ø 12 mm
...	.....
K70	M12 plastic connector, 4 poles
...	.....

Please contact our technical service for the complete list of possible combinations.

article option option

FK 33E2-GM1K24T6

Housing	
FK	technopolymer, one conduit entry

Contact blocks	
33	1NO+1NC, slow action
34	2NC slow action

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating

Threaded conduit entry	
M1	M16x1.5

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

Pre-installed cable glands	
	without cable gland (standard)
K24	cable gland for cables Ø 5…Ø 10°mm
K28	cable gland for cables Ø 3…Ø 7°mm

Main features

- Protection degree IP67
- Technopolymer housing
- Versions with gold-plated silver contacts

Markings and quality marks:

IMQ approval:	EG610
UL approval:	E131787
CCC approval:	2007010305230013
EAC approval:	RU C-IT ДМ94.B.01024

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC,
Machinery Directive 2006/42/EC,
EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

Technical data

General data

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

FR series, one threaded conduit entry:	M20x1.5
FK series: one threaded conduit entry:	M16x1.5
FX series, two knock-out threaded conduit entries:	M20x1.5
Protection degree:	IP67 acc. to EN 60529 with cable gland having equal or higher protection degree
Ambient temperature:	-25°C … +80°C
Safety parameters:	
B_{10d}:	40,000,000
Max. actuation frequency:	3600 operating cycles[1]/hour
Mechanical endurance:	20 million operating cycles[1]
Utilization requirements:	see page 124

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

Contact blocks

FR, FX series contact commutation force			
1NO+1NC:	3.3 N (NC) / 6 N (NO)		
2NC:	6.5 N		
1NO+2NC:	5.8 N (NC) / 6.5 N (NC)		
FK series contact commutation force			
1NO+1NC:	4.5 N (NC) / 5.3 N (NC)		
2NC:	4.4 N		
FR, FX series limit of travel force:			
1NO+1NC:	9 N		
2NC:	8.5 N		
1NO+2NC:	10.3 N		
FK series limit of travel force:			
1NO+1NC:	9.3 N		
2NC:	8 N		
Positive opening force:	25 N		
Actuation speed:	min. 1 mm/s max. 0.5 m/s		
Contact material:	Normal: silver contacts (standard) For low current: silver contacts with gold coating 1 µm (on request)		
Cable cross section (flexible copper strands)			
Contact blocks 20, 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)
Tightening torque of the terminal screws:	0.6 … 0.8 Nm		

In conformity with standards:
IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 50047, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, UL 508, CSA 22.2 no.14 .

⚠ **Installation for safety applications:**
Use only contact blocks marked with the symbol ⊖ for positive opening. Always connect the safety circuit to the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in **standard EN 60947-5-1, encl. K, par. 2.** Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams with symbol ⊖. Actuate the switch at least with the positive opening force.

Electrical data			Utilization category
without connector	Thermal current (Ith):	10 A	
	Rated insulation voltage (Ui):	500 Vac 600 Vdc 400 Vac 500 Vdc (contact blocks 20, 33, 34)	Alternating current: AC15 (50÷60 Hz) Ue (V) 250 400 500 Ie (A) 6 4 1
	Rated impulse withstand voltage (U_{imp}):	6 kV 4 kV (contact block 20, 33, 34)	Direct current: DC13
	Conditional short circuit current:	1000 A acc. to EN 60947-5-1	Ue (V) 24 125 250
	Protection against short circuits:	type aM fuse 10 A 500 V	Ie (A) 6 1.1 0.4
	Pollution degree:	3	
with M12 connector 4 poles	Thermal current (Ith):	4 A	Alternating current: AC15 (50÷60 Hz) Ue (V) 24 120 250
	Rated insulation voltage (Ui):	250 Vac 300 Vdc	Ie (A) 4 4 4
	Protection against short circuits:	type gG fuse 4 A 500 V	Direct current: DC13
	Pollution degree:	3	Ue (V) 24 125 250 Ie (A) 4 1.1 0.4
with M12 connector 8 poles	Thermal current (Ith):	2 A	Alternating current: AC15 (50÷60 Hz) Ue (V) 24
	Rated insulation voltage (Ui):	30 Vac 36 Vdc	Ie (A) 2
	Protection against short circuits:	type gG fuse 2 A 500 V	Direct current: DC13
	Pollution degree:	3	Ue (V) 24 Ie (A) 2

Characteristics approved by UL

Utilization categories Q300 (69 VA, 125 … 250 Vdc)
A600 (720 VA, 120 … 600 Vac)
Data of housing type 1, 4X "indoor use only", 12, 13
For all contact blocks except 2 and 3 use 60 or 75°C copper (Cu) conductor, rigid or flexible, wire size AWG 12/14. Terminal tightening torque of 7.1 lb in (0.8 Nm).
For contact blocks 2 and 3 use 60 or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 14. Terminal tightening torque of 12 lb in (1.4 Nm).

In conformity with standard UL 508, CSA 22.2 N.14

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

Characteristics approved by IMQ

Rated insulation voltage (Ui): 500 Vac
400 Vac (for contact blocks 20, 33, 34)
Conventional free air thermal current (Ith): 10 A
Protection against short circuits: type aM fuse 10 A 500 V
Rated impulse withstand voltage (U_{imp}): 6 kV
4 kV (for contact blocks 20, 33, 34)
Protection degree of the housing: IP67
MV terminals (screw terminals)
Pollution degree 3
Utilization category: AC15
Operating voltage (Ue): 400 Vac (50 Hz)
Operating current (Ie): 3 A
Forms of the contact element: Za, Zb, Za+Za, Y+Y, X+X, Y+Y+X, Y+Y+Y, Y+X+X
Positive opening of contacts on contact blocks 6, 9, 20, 33, 34
In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

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

Description

The protected contact block makes it possible to achieve an IP67 degree of protection also in the contact area. This is essential if there is dust inside the panel (for example, in the machines used in the wood sector).
The buttons, 2-position selectors and the emergency buttons of the EROUND series can be applied as a normal actuator in the FR, FK, and FX protected contact blocks.

Application

Protected contact block for command devices fitted in switching cabinets with the presence of dust also inside the cabinet. The block ensures an IP67 degree of protection for internal electric contacts.

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.
They can be used for applications in cold stores, sterilisers and other devices with low temperature environments. Special materials that have been used to realize these versions, maintain unchanged their features also in these conditions, widening the installation possibilities.

Protection degree IP67

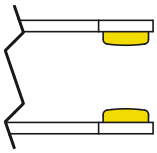
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required.

Contact blocks

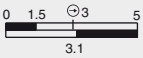
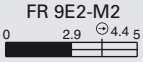
Contact blocks with captive screws, finger protection, twin bridge contacts and double interruption for a higher contact reliability. Available in multiple variants with shifted activation strokes, which can be simultaneous or overlapping. They are suitable for different kinds of applications.

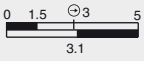
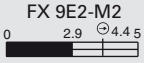
Gold-plated contacts

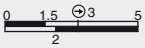
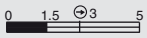


The contact blocks of these devices can be supplied gold-plated upon request. It is ideal for all applications with low voltages or currents and it ensures greater contact reliability. The high-thickness coating > 1 micron ensures the mechanical endurance of the coating over time.

Selection table for contact blocks

Contact blocks	Article
1NO+1NC, slow action ⊖	FR 6E2-M2 
2NC, slow action ⊖	FR 9E2-M2 
1NO+2NC, slow action ⊖	FR 20E2-M2 

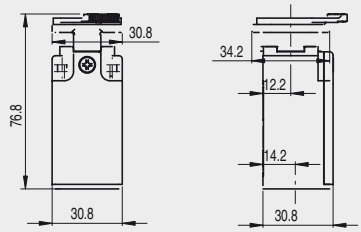
Contact blocks	Article
1NO+1NC, slow action ⊖	FX 6E2-M2 
2NC, slow action ⊖	FX 9E2-M2 
1NO+2NC, slow action ⊖	FX 20E2-M2 

Contact blocks	Article
1NO+1NC, slow action ⊖	FK 33E2-M1 
2NC, slow action ⊖	FK 34E2-M1 

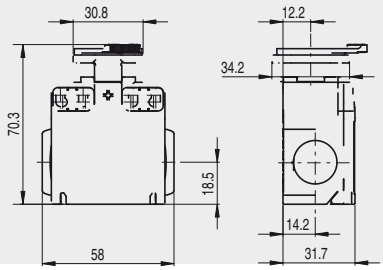
Dimensions

All measures in the drawings are in mm

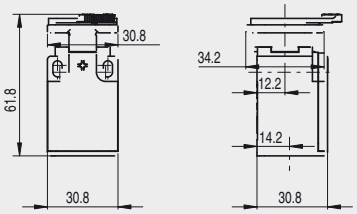
FR series



FX series



FK series



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

Utilization limits

The protected contact block protects exclusively the electric contacts from fine dust or water coming from the switching cabinet.
The protected contact block can be combined only with the following devices:
- buttons E2 1PU••••••
- emergency buttons E2 1PE••••••
- two-position selectors E2 1SE•2•••••••
- two-position key selectors E2 1SC2••••••••.

The protected contact block must be wired before the coupling with its actuator.
After the wiring, excessive traction on the cable or impacts on the housing can cause the detachment of the contact block from the actuator.
Do not use in environments with the presence of explosive or flammable gas. In these cases, use ATEX products (check the specific Pizzato catalogue).

Notes

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.

E2 1USB9CAK

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Rear connection	
AK	A-type USB integrated socket
N0.8	output with PVC cable (length 0.8 m) and A-type USB plug
N1.8	output with PVC cable (length 1.8 m) and A-type USB plug
N3	output with PVC cable (length 3 m) and A-type USB plug
N5	output with PVC cable (length 5 m) and A-type USB plug

Front connection	
A	A-type USB 3.0 integrated socket
C	A-type USB 2.0 integrated socket

Main features

- Two data transfer speeds
- Protection degree IP67
- Version with socket/socket
- Version with socket/cable/plug

Technical data

General data

Connections:	USB 3.0 or USB 2.0
Protection degree:	IP67 acc. to IEC 60529 (with closed cap)
Ambient temperature:	-25°C … +70°C
Tightening torque of the ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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 no.14

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
EMC Directive 2004/108/EC.

Markings and quality marks:

CE EAC

EAC approval: RU C-IT ДМ94.B.01024

General data

USB 3.0 High Speed

The USB socket for a 22 mm dia. button panel uses latest-generation USB 3.0 connectors, in order to offer maximum data transfer speed. Moreover, the socket is also backward compatible with previous USB connectors.

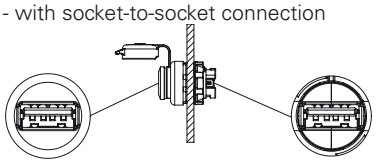
USB 2.0

The USB socket for a 22 mm dia. button panel is also available with USB 2.0 connectors and standard data transfer speed. This option offers the best value for money.

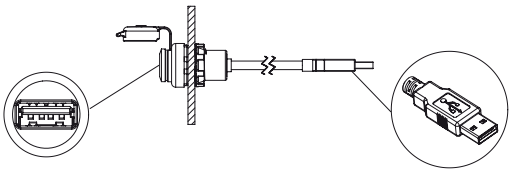
Versions with socket and with cable

To make device installation versatile and suitable for any situation, two versions are offered:

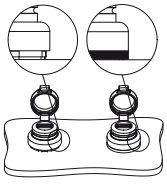
- with socket-to-socket connection



- with socket / cable / plug (available in different lengths)



Shaped ring



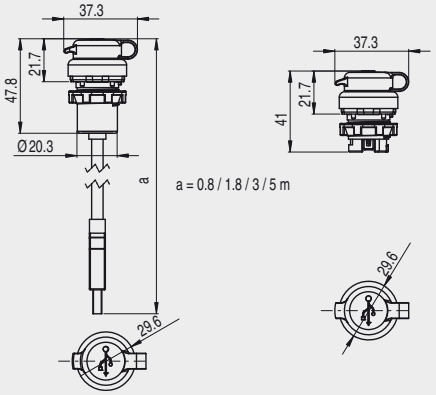
The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

Integrated protection cap

The protection cap integrated in the device ensures maximum strength, preventing any water or dirt from penetrating inside.
The cap remains joined to the device even when it is not fastened, so that it cannot be lost; besides, its shape allows the mounting of plate holders.

Dimensions

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.

E2 1RJ459AAK

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Front connection	
A	integrated RJ45 socket

Rear connection	
AK	integrated RJ45 socket
N1	output with PVC cable (length 1 m) and RJ45 plug
N1.5	output with PVC cable (length 1.5 m) and RJ45 plug
N2.5	output with PVC cable (length 2.5 m) and RJ45 plug

Main features

- RJ45 connectors
- Protection degree IP67
- Version with socket/socket
- Version with socket/cable/plug

Technical data

General data

Connections:	RJ45
Data transmission speed:	1 Gb/s
Protection degree:	IP67 acc. to IEC 60529 (with closed cap)
Ambient temperature:	-25°C … +70°C
Tightening torque of the ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

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 no.14

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
EMC Directive 2004/108/EC.

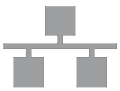
Markings and quality marks:

CE EAC

EAC approval: RU C-IT ДМ94.B.01024

General data

RJ45



The network socket uses RJ45 connectors, for Ethernet networks. Its particular structure makes it possible to bring the Ethernet connection outside the electrical panel, without necessarily needing it to be opened.

Metal fixing ring

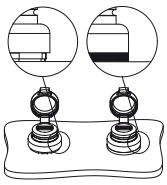
The fixing ring in metal is particularly suitable for those applications which require tighter fitting of the panel-mounted device, such as for example in metal panels having holes without reference notches.

Protection degree IP67

IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required.

Shaped ring



The shaped ring can be used when no label holders or other devices are applied; it prevents dirt and other residues from settling between the button and the panel or box.
This turns out to be particularly useful in the sectors where high standards of cleanness and hygiene are required.

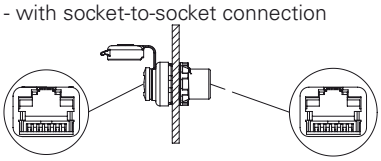
Integrated protection cap

The protection cap integrated in the device ensures maximum strength, preventing any water or dirt from penetrating inside.
The cap remains joined to the device even when it is not fastened, so that it cannot be lost; besides, its shape allows the mounting of plate holders.

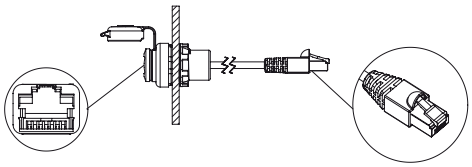
Versions with socket and with cable

To make device installation versatile and suitable for any situation, two versions are offered:

- with socket-to-socket connection

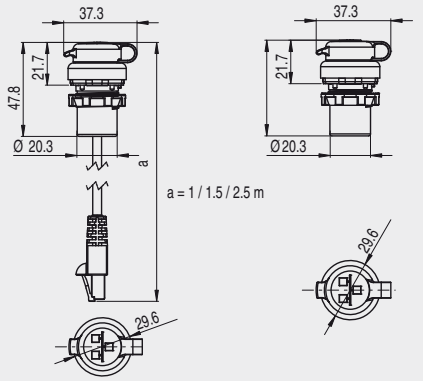


- with socket / cable / plug (available in different lengths)

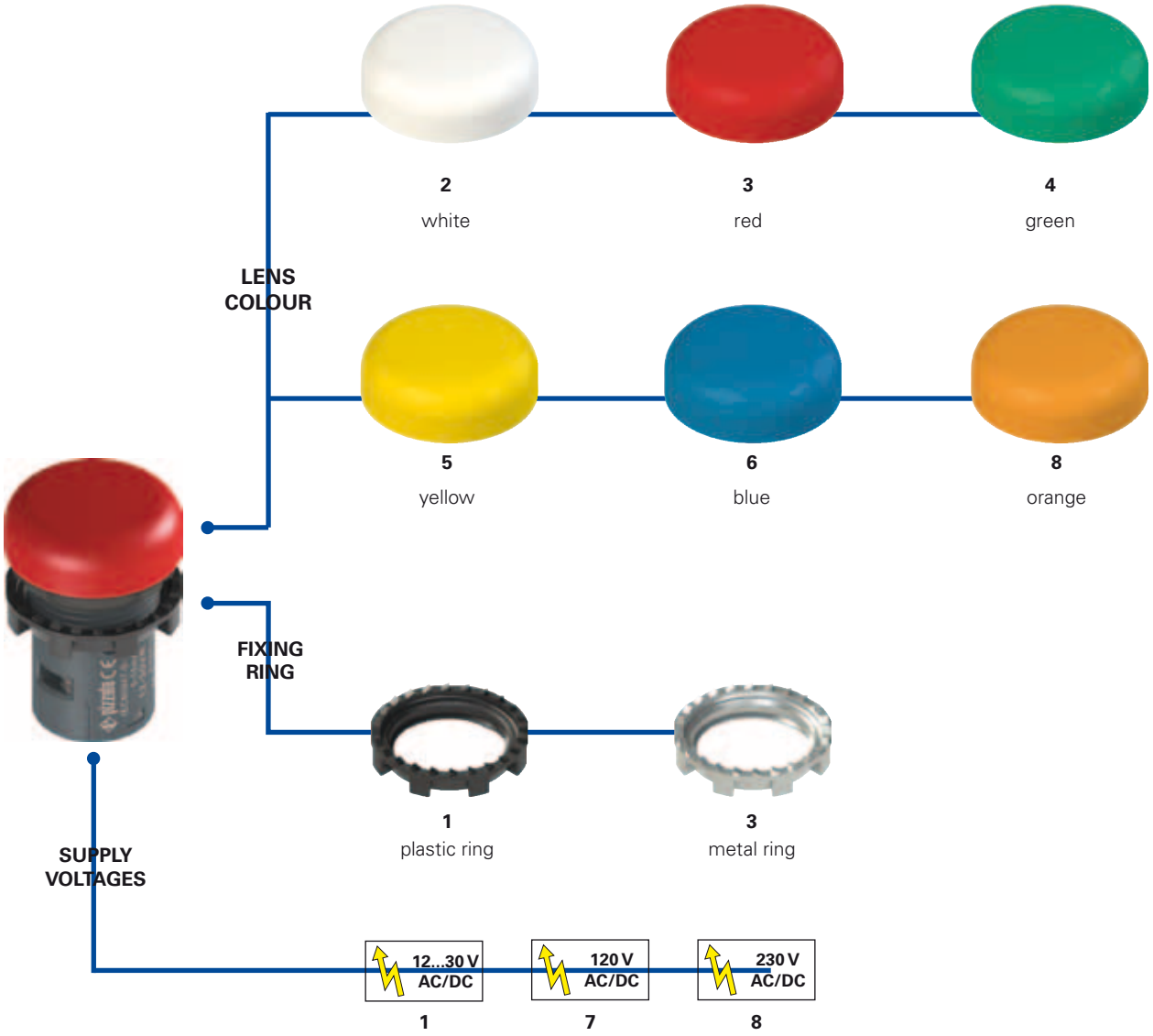


Dimensions

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.

E6 1IL1A2110

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Supply voltage	
1	12 … 30 Vac/dc (high luminosity)
7	120 Vac/dc (standard luminosity)
8	230 Vac/dc (standard luminosity)

Lens colour	
2	white
3	red
4	green
5	yellow
6	blue
8	orange

Engraving	
0	without engraving (standard)
IT7	IN SERVIZIO
L54	ϟ
...	.....

Other engravings on request. See page 123.

Main features

- Fully integrated indicator light in monolithic body
- Protection degrees IP67 and IP69K
- Three supply voltages:
  12 … 30 Vac/dc, 120 Vac, 230 Vac
- Optional customisation with symbols

Markings and quality marks:

EAC approval: RU C-IT ДМ94.B.01024

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653 (with shaped ring VE GP12H1A or legend plate VE PT32A00A0)
Ambient temperature:	-40°C … +70°C
Endurance:	min. 50.000 hours (at rated voltage and +25 °C ambient temperature)
Tightening torque of the terminal screws:	0.8 … 1 Nm
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

LED unit

Cable cross section:	min. 1 x 0.34 mm² (1 x AWG 22) max. 2 x 1.5 mm² (2 x AWG 16)
Operating voltages and currents: (high luminosity)	12 … 30 Vac/dc; 5 … 15 mA
Operating voltages and currents: (standard luminosity)	102 … 138 Vac/dc; 2.5 mA 195 … 264 Vac/dc; 2.5 mA

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 no.14.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

General data

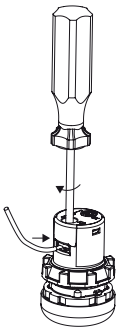
Protection degrees IP67 and IP69K

IP69K
IP67

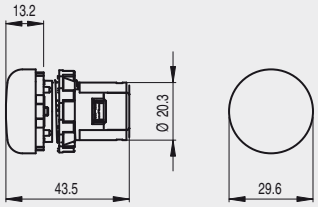
These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

Integrated screw connection

The shape of the indicator lights type E6, though very compact, allows the integration on the device of all components for proper installation and functioning. All that is required is to insert the device wires by means of its screw terminals, without the need to install further components.



Dimensions



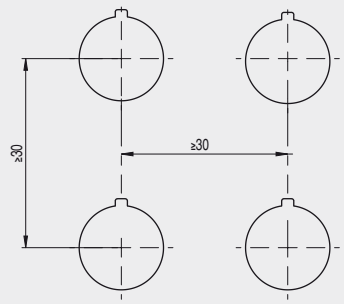
Selection table

10 pcs. packs

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

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

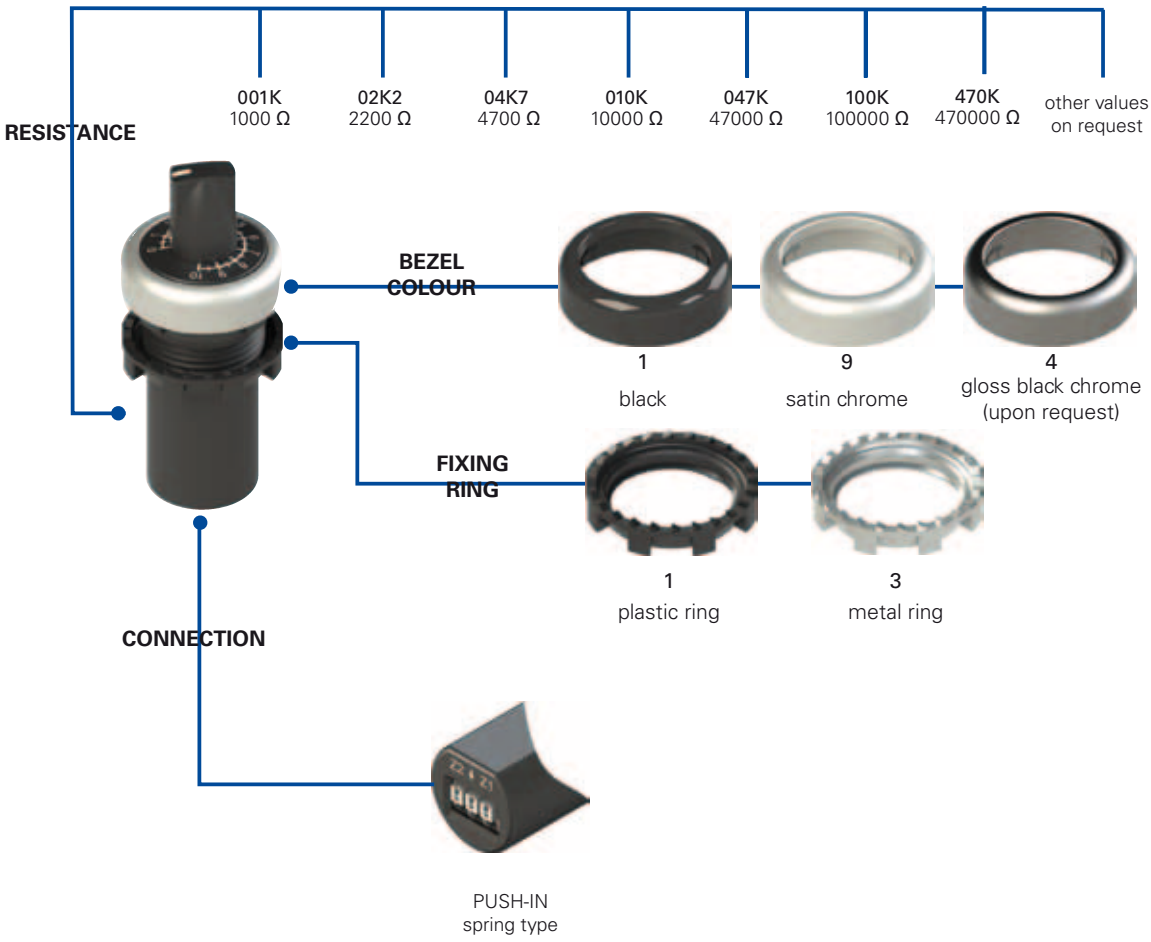
Minimum distances for installation



All measures in the drawings are in mm

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

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.

E6 1DM02K2-D111

Fixing ring and shaped ring	
1	plastic ring (standard)
2	plastic fixing ring and shaped ring
3	metal ring
4	metal fixing ring and shaped ring

Resistance	
001K	1 kΩ
02K2	2.2 kΩ
04K7	4.7 kΩ
010K	10 kΩ
047K	47 kΩ
100K	100 kΩ
470K	470 kΩ

Other values on request

Bezel colour	
1	black (standard)
9	satin chrome (standard)
4	gloss black chrome (upon request)

Main features

- Fully integrated potentiometer in monolithic body
- Protection degrees IP67 and IP69K
- Rotary potentiometer with Cermet technology
- 3-pole PULSH-IN type spring-connection system
- Numerous resistance values

Markings and quality marks:

EAC approval: RU C-IT ДМ94.B.01024

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 no.14.

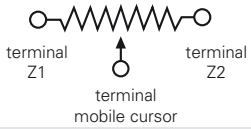
Technical data

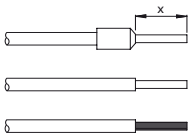
General data

Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653
Ambient temperature:	-40°C … +80°C
Mechanical endurance:	50,000 operating cycles
Mechanical travel:	250°
Tightening torque of the fixing ring:	2 … 2.5 Nm
Utilization requirements:	see page 124

Electrical data

Rated insulation voltage (Ui):	300 Vac
Resistive material:	Cermet
Operation:	linear
Resistance tolerance:	±10 %
Cross-section of rigid wires and flexible wires with wire-end sleeve:	min. 1 x 0.34 mm² (1 x AWG 24) max. 1 x 1.5 mm² (1 x AWG 16)
Wire cross-section with pre-insulated wire-end sleeve:	min. 1 x 0.34 mm² (1 x AWG 24) max. 1 x 0.75 mm² (1 x AWG 18)
Connection system:	PUSH-IN spring type
Cable stripping length (x):	min.: 8 mm max.: 12 mm





Resistance	Rated operating voltage Ue max	Rated operating current Ie max	Power (70 °C) max.
1 kΩ	31 V	31 mA	1 W
2.2 kΩ	46 V	21 mA	1 W
4.7 kΩ	63 V	14 mA	1 W
10 kΩ	100 V	10 mA	1 W
47 kΩ	217 V	4.6 mA	1 W
100 kΩ	316 V	3 mA	1 W
470 kΩ	350 V	0.75 mA	0.25 W

Other resistance values are available. Please contact our sales office.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

General data

Integrated potentiometer

Thanks to its monolithic shape, it has been possible to integrate all the mechanical and electrical components needed for its end use inside the E6 series potentiometer body; it is therefore not necessary to assemble any other parts, such as knobs or trimmers, all that is required is to insert the circuit wires into the incorporated terminal board. Precise choices made in terms of design and materials have lead to the creation of an object featuring remarkable mechanical resistance when in operation and maximum protection preventing any liquids or foreign bodies from penetrating inside.
Moreover, the resistive element used is made of a composite ceramic and metal material, produced with the Cermet technology, which ensures remarkable stability and constancy in the resistance value set.

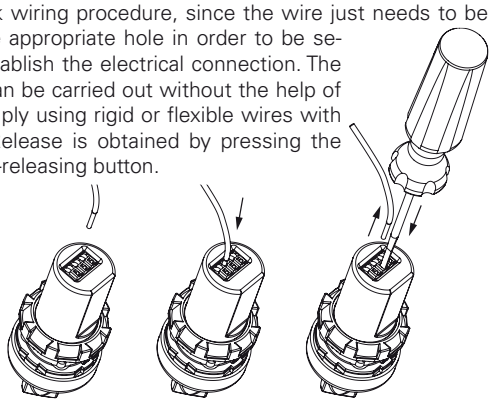
Protection degrees IP67 and IP69K

IP69K
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

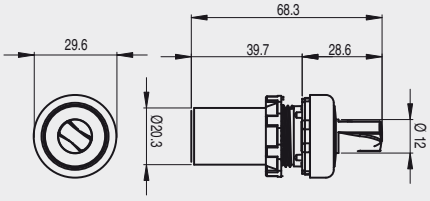
PUSH-IN spring type connection

The potentiometer is provided with a 3-pole terminal board with a PUSH-IN type spring-operated connection. This technology allows a very handy quick wiring procedure, since the wire just needs to be inserted into the appropriate hole in order to be secured and to establish the electrical connection. The said operation can be carried out without the help of any tool, but simply using rigid or flexible wires with a crimped tip. Release is obtained by pressing the appropriate wire-releasing button.

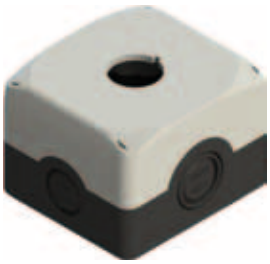


Dimensions

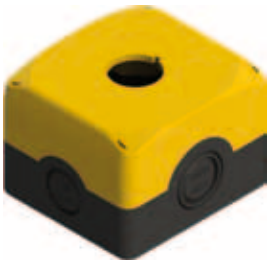
All measures in the drawings are in mm



Selection diagram



ES 31000
grey cover
1 hole, Ø 22 mm



ES 31001
yellow cover
1 hole, Ø 22 mm

ES 32000
grey cover
2 holes, Ø 22 mm

ES 33000
grey cover
3 holes, Ø 22 mm

ES 34000
grey cover
4 holes, Ø 22 mm

ES 36000
grey cover
6 holes, Ø 22 mm

Code structure

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

ES 31001

Body material	
3	polycarbonate PC (standard)

Housing dimensions	
1	72x80h56 mm
2	120x80h56 mm
3	153x80h56 mm
4	186x80h56 mm
6	252x80h56 mm

Configuration	
000	black base, grey cover
001	black base, yellow cover
002	black base, grey cover without holes
...	.....

Main features
- Protection degrees IP67 and IP69K
- Stainless steel captive screws
- 4 lateral cable inlets
- Comes with caps for screws

Markings and quality marks:

EAC approval: RU C-IT ДМ94.В.01024

Technical data

Housing

Material:	Self-extinguishing shock-proof polycarbonate with double insulation, UV resistant fibreglass reinforced, with increased shock resistance
Screw material:	stainless steel
Protection degree:	IP67 acc. to IEC 60529 IP69K acc. to ISO 20653 with cable gland having equal or higher protection degree
Conduit entries:	Housing with 1 hole: • 2 upper and lower inputs with knock out M20 - 1/2 NPT • 2 side inputs with knock out M20 - 1/2 NPT - M25 • 2 base inputs with knock out M16 Housings with 2-3-4-6 holes: • 4 side inputs with knock out M20 - 1/2 NPT - M25 • 2 base inputs with knock out M20
Mounting of the devices:	Suitable for the installation of control and signalling devices Ø 22 mm Ø 22 mm hole compliant with EN 60947-5-1
Utilization requirements:	see page 124

General data

Ambient temperature:	-40°C … +80°C
Tightening torque of the cover screws:	1 … 1.4 Nm

In conformity with standards:
IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 574, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 no.14.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
EMC Directive 2004/108/EC.

General data

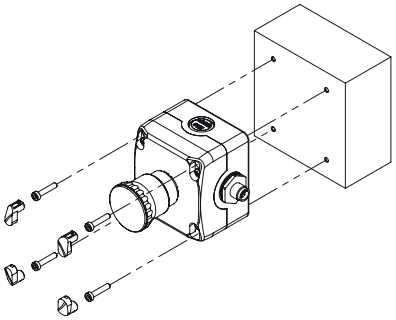
Protection degrees IP67 and IP69K

IP69K
IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

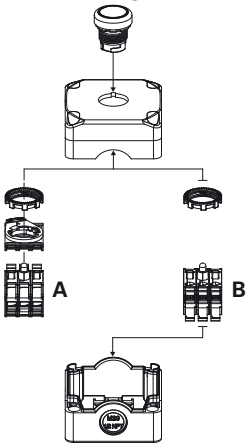
Fixing of EROUND housing

The new housings of the EROUND line by Pizzato Elettrica have 4 additional holes on the cover. The holes enable wall fixing from the outside by means of through insertion of the screws, without the need to open the cover to access the holes.



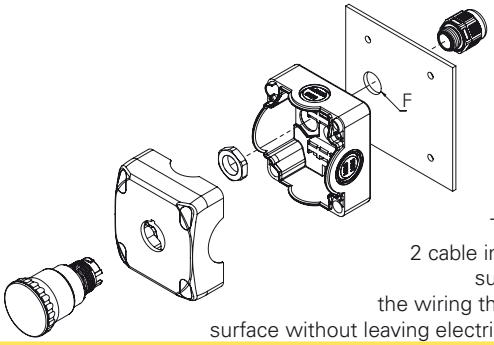
The wall fixing screws and the ones for closing the housing cover can be sealed with 4 caps (supplied with the housing). The caps not only give the housing a more pleasant look, but they also prevent the accumulation of dirt inside the recesses of the screws besides making tampering more difficult.
The external fixing of the housing is particularly suitable for already wired housings, because the whole installation is simplified: you can simply fix the housing and connect the connector that, thanks to the presence of cable inputs on the four sides of the housing, can be orientated in the preferred direction.

One housing, two solutions



The same housing can fit up to 3 contact blocks/LED units (E2 CP, E2 LP) for panel mounting by means of a mounting adapter (A) or up to 3 contact blocks/LED units (E2 CF, E2 LF) for attachment directly on the bottom of the housing (B).

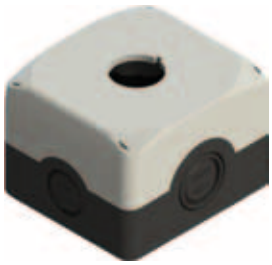
Wiring through the lower surface



cable gland	F
M16	Ø 25
M20	Ø 28

The housings have 2 cable inputs on the lower surface. These allow the wiring through the support surface without leaving electrical cables in sight.

Selection table for housings



Cover colour	Article	Hole Ø 22 mm
yellow RAL 1003	ES 31001	1
grey RAL 7035	ES 31000	1

The standard colour of the base in the above-mentioned codes is RAL 9005.

Cover colour	Article	Hole Ø 22 mm
grey RAL 7035	ES 32000	2
grey RAL 7035	ES 32002	0

The standard colour of the base in the above-mentioned codes is RAL 9005.

Cover colour	Article	Hole Ø 22 mm
grey RAL 7035	ES 33000	3
grey RAL 7035	ES 33002	0

The standard colour of the base in the above-mentioned codes is RAL 9005.

Cover colour	Article	Hole Ø 22 mm
grey RAL 7035	ES 34000	4
grey RAL 7035	ES 34002	0

The standard colour of the base in the above-mentioned codes is RAL 9005.

Cover colour	Article	Hole Ø 22 mm
grey RAL 7035	ES 36000	6
grey RAL 7035	ES 36002	0

The standard colour of the base in the above-mentioned codes is RAL 9005.

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

Complete units with housings

Housing cover colour	Button colour and engraving	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Flush button black bezel	Projecting button black bezel
grey RAL 7035	green	-	1NO	-	**ES AC31001** ES 31000 + E2 1PU2R421L2 + E2 CF10G2V1	-
grey RAL 7035	red	-	1NC ⊖	-	**ES AC31002** ES 31000 + E2 1PU2R321L1 + E2 CF01G2V1	**ES AC31017** ES 31000 + E2 1PU2S321L1 + E2 CF01G2V1
grey RAL 7035	green (START)	-	1NO	-	**ES AC31015** ES 31000 + E2 1PU2R421GB1 + E2 CF10G2V1	-
grey RAL 7035	red (STOP)	-	1NC ⊖	-	**ES AC31016** ES 31000 + E2 1PU2R321GB0 + E2 CF01G2V1	**ES AC31018** ES 31000 + E2 1PU2S321GB0 + E2 CF01G2V1

Other combinations on request.
The standard colour of the base in the above-mentioned codes is RAL 9005.
➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Housing cover colour	Positions	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Black selector switch with 2 positions black bezel
grey RAL 7035	⟋ ⟍	-	1NO	-	**ES AC31019** ES 31002 + E2 1SE12AVA11AB + E2 CF10G2V1

Other combinations on request.
The standard colour of the base in the above-mentioned codes is RAL 9005.
➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Housing cover colour	Positions	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Black selector key switch with 2 positions black bezel
grey RAL 7035	⟋ ⟍	-	1NO	-	**ES AC31020** ES 31000 + E2 1SC2AVA11AE + E2 CF10G2V1

Other combinations on request.

Legend ⟋ Maintained ⟍ Spring-return ⚷ Key extraction position

Cover housing colour	Actuator design and colour	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Emergency button Push-Pull	Emergency button rotary release	Emergency button key release
yellow RAL 1023	red	-	1NC ⊖	-	**ES AC31004** ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1	**ES AC31003** ES 31001 + E2 1PERZ4531 + E2 CF01G2V1	**ES AC31022** ES 31001+ E2 1PEBZ4531 + E2 CF01G2V1
yellow RAL 1023	red	-	1NC ⊖ SELF-MONITORED	-	**ES AC31081** ES 31001 + E2 1PEPZ4531 + E2 CF01S2V1	**ES AC31082** ES 31001 + E2 1PERZ4531 + E2 CF01S2V1	**ES AC31083** ES 31001+ E2 1PEBZ4531 + E2 CF01S2V1
yellow RAL 1023	red	1NC ⊖	-	1NC ⊖	**ES AC31009** ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF01G2V1	**ES AC31005** ES 31001 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF01G2V1	**ES AC31023** ES 31001+ E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF01G2V1
yellow RAL 1023	red	1NC ⊖	-	1NO	**ES AC31010** ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF10G2V1	**ES AC31006** ES 31001 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF10G2V1	**ES AC31011** ES 31001+ E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF10G2V1
yellow RAL 1023	red	1NC ⊖	1NC ⊖	1NO	**ES AC31146** ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF01G2V1 + E2 CF10G2V1	**ES AC31021** ES 31001 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF01G2V1 + E2 CF10G2V1	**ES AC31024** ES 31001+ E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF01G2V1 + E2 CF10G2V1

Other combinations on request.
The standard colour of the base in the above-mentioned codes is RAL 9005.
➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

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

Complete units with housings



Cover housing colour	Actuator design and colour	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Emergency button Push-Pull yellow illuminated disc, blinking Ø 60 mm, 24 Vac/dc	Emergency button rotary release yellow illuminated disc, blinking Ø 60 mm, 24 Vac/dc	Emergency button key release yellow illuminated disc, blinking Ø 60 mm, 24 Vac/dc
grey RAL 7035	red	1NO	1NC ⊖	BLOCK OF CONNECTION	**ES AC31430** ES 31000 + E2 1PEPZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP01G2V1 + VE BC2PV1	**ES AC31433** ES 31000 + E2 1PERZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP01G2V1 + VE BC2PV1	**ES AC31436** ES 31000 + E2 1PEBZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP01G2V1 + VE BC2PV1
grey RAL 7035	red	1NO	1NC ⊖ SELF-MONITORED	BLOCK OF CONNECTION	**ES AC31431** ES 31000 + E2 1PEPZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP01S2V1 + VE BC2PV1	**ES AC31434** ES 31000 + E2 1PERZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP01S2V1 + VE BC2PV1	**ES AC31437** ES 31000 + E2 1PEBZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP01S2V1 + VE BC2PV1
grey RAL 7035	red	1NO	2NC ⊖	BLOCK OF CONNECTION	**ES AC31432** ES 31000 + E2 1PEPZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP02G2V1 + VE BC2PV1	**ES AC31435** ES 31000 + E2 1PERZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP02G2V1 + VE BC2PV1	**ES AC31438** ES 31000 + E2 1PEBZ4531 + VE DL1A5L13 + E2 CP10G2V1 + E2 CP02G2V1 + VE BC2PV1

Other combinations on request.
The standard colour of the base in the above-mentioned codes is RAL 9005.
➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Cover housing colour	Actuator design and colour	Contacts pos. 2	Contacts pos. 3	Contacts pos. 1	Emergency button rotary release with plastic M12 connector
yellow RAL 1023	red	-	1NC ⊖	-	**ES AC31025**
yellow RAL 1023	red	-	1NC ⊖ SELF-MONITORED	-	**ES AC31084**
yellow RAL 1023	red	1NC ⊖	-	1NC ⊖	**ES AC31026**
yellow RAL 1023	red	1NC ⊖	-	1NO	**ES AC31027**
yellow RAL 1023	red	1NC ⊖	1NC ⊖	1NO	**ES AC31028**

Other combinations on request.
The standard colour of the base in the above-mentioned codes is RAL 9005.
➔ For the characteristics of the contact blocks and LED units, refer to the respective chapters.

Spare caps

Article		Description
	VE TS35RA1	4 spare caps for cover of ES series housings. Colour: yellow
	VE TS39RA1	4 spare caps for cover of ES series housings. Colour: grey

Accessories

➔ More ACCESSORIES on page 121

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

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

ES AC32012

Description	Features	Diagram
Button - 1NO E2 1PU2R221L9 Contacts 1x E2 CF10G2V1	flush, spring-return, white pos. 2: / pos. 3: 1NO pos. 1: /	
Button - 1NO E2 1PU2R121L10 Contacts 1x E2 CF10G2V1	flush, spring-return, black pos. 2: / pos. 3: 1NO pos. 1: /	

ES AC32010

Description	Features	Diagram
Button - 1NO E2 1PU2R421L35 Contacts 1x E2 CF10G2V1	flush, spring-return, green pos. 2: / pos. 3: 1NO pos. 1: /	
Button - 1NC E2 1PU2S321L1 Contacts 1x E2 CF01G2V1	projecting, spring-return, red pos. 2: / pos. 3: 1NC ⊖ pos. 1: /	

ES AC32011

Description	Features	Diagram
Button - 1NO E2 1PU2R421L51 Contacts 1x E2 CF10G2V1	flush, spring-return, green pos. 2: / pos. 3: 1NO pos. 1: /	
Button - 1NC E2 1PU2S321L48 Contacts 1x E2 CF01G2V1	projecting, spring-return, red pos. 2: / pos. 3: 1NC ⊖ pos. 1: /	

ES AC33017

Description	Features	Diagram
Button - 1NO E2 1PU2R221L9 Contacts 1x E2 CF10G2V1	flush, spring-return, white pos. 2: / pos. 3: 1NO pos. 1: /	
Button - 1NC E2 1PU2S321L1 Contacts 1x E2 CF01G2V1	projecting, spring-return, red pos. 2: / pos. 3: 1NC ⊖ pos. 1: /	
Button - 1NO E2 1PU2R121L10 Contacts 1x E2 CF10G2V1	flush, spring-return, black pos. 2: / pos. 3: 1NO pos. 1: /	

ES AC33013

Description	Features	Diagram
Indicator light E2 1ILA310 + E2 LF1A3V1	Red indicator light 12 … 30 Vac/dc	
Button - 1NO E2 1PU2R421L35 Contacts 1x E2 CF10G2V1	flush, spring-return, green pos. 2: / pos. 3: 1NO pos. 1: /	
Button - 1NC E2 1PU2S321L1 Contacts 1x E2 CF01G2V1	projecting, spring-return, red pos. 2: / pos. 3: 1NC ⊖ pos. 1: /	

Other combinations on request.

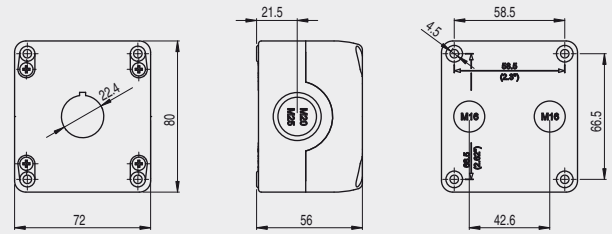
ES AC33016

Description	Features	Diagram
Button - 1NO E2 1PU2R421L35 Contacts 1x E2 CF10G2V1	flush, spring-return, green pos. 2: / pos. 3: 1NO pos. 1: /	
Button - 1NC E2 1PU2S321L1 Contacts 1x E2 CF01G2V1	projecting, spring-return, red pos. 2: / pos. 3: 1NC ⊖ pos. 1: /	
Button - 1NO E2 1PU2R421L36 Contacts 1x E2 CF10G2V1	flush, spring-return, green pos. 2: / pos. 3: 1NO pos. 1: /	

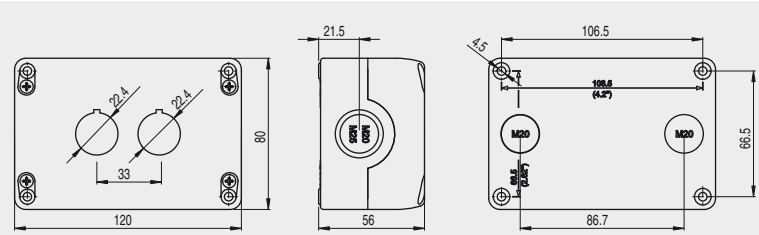
Dimensions

All measures in the drawings are in mm

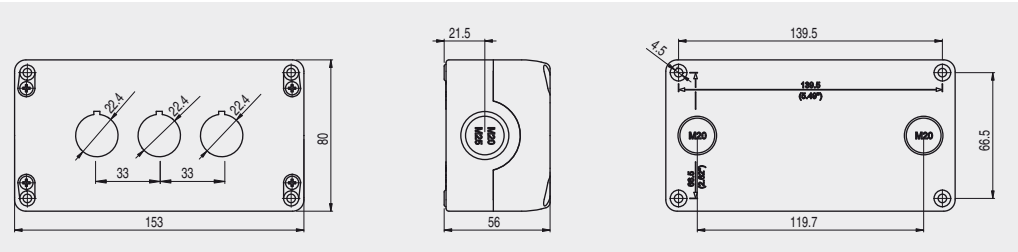
Housings (1 hole)



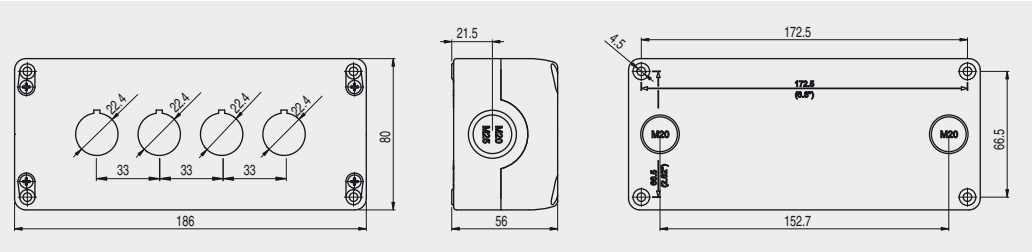
Housings (2 holes)



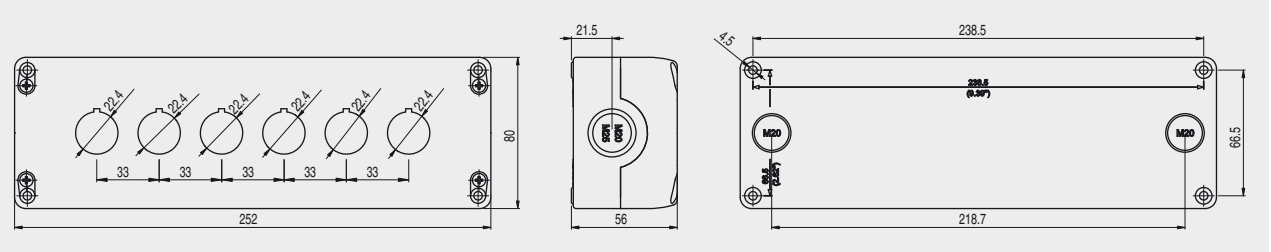
Housings (3 holes)



Housings (4 holes)



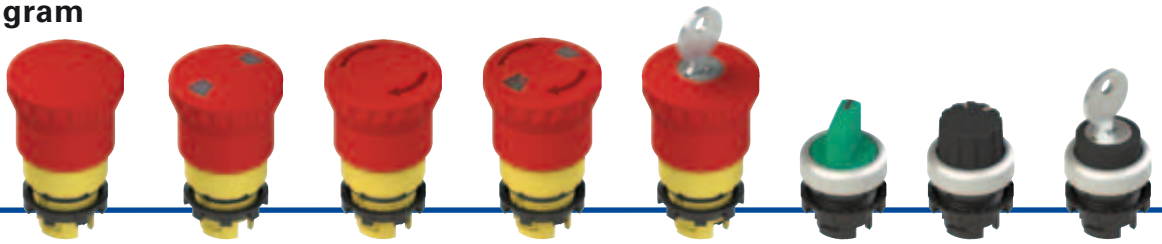
Housings (6 holes)



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

Selection diagram

ACTUATORS



emergency button Ø 40 push-pull

emergency button Ø 40 push-pull, windowed

emergency button Ø 40 rotary release

emergency button Ø 40 rotary release, windowed

emergency button Ø 40 key release

selector switch with short handle

selector switch with knob

selector switch with key

ACCESSORIES

low windowed guard Ø40x20 mm

open guard 38x66x35 mm

high windowed guard Ø43x27 mm

rectangular plate with shaped hole 30x60 mm

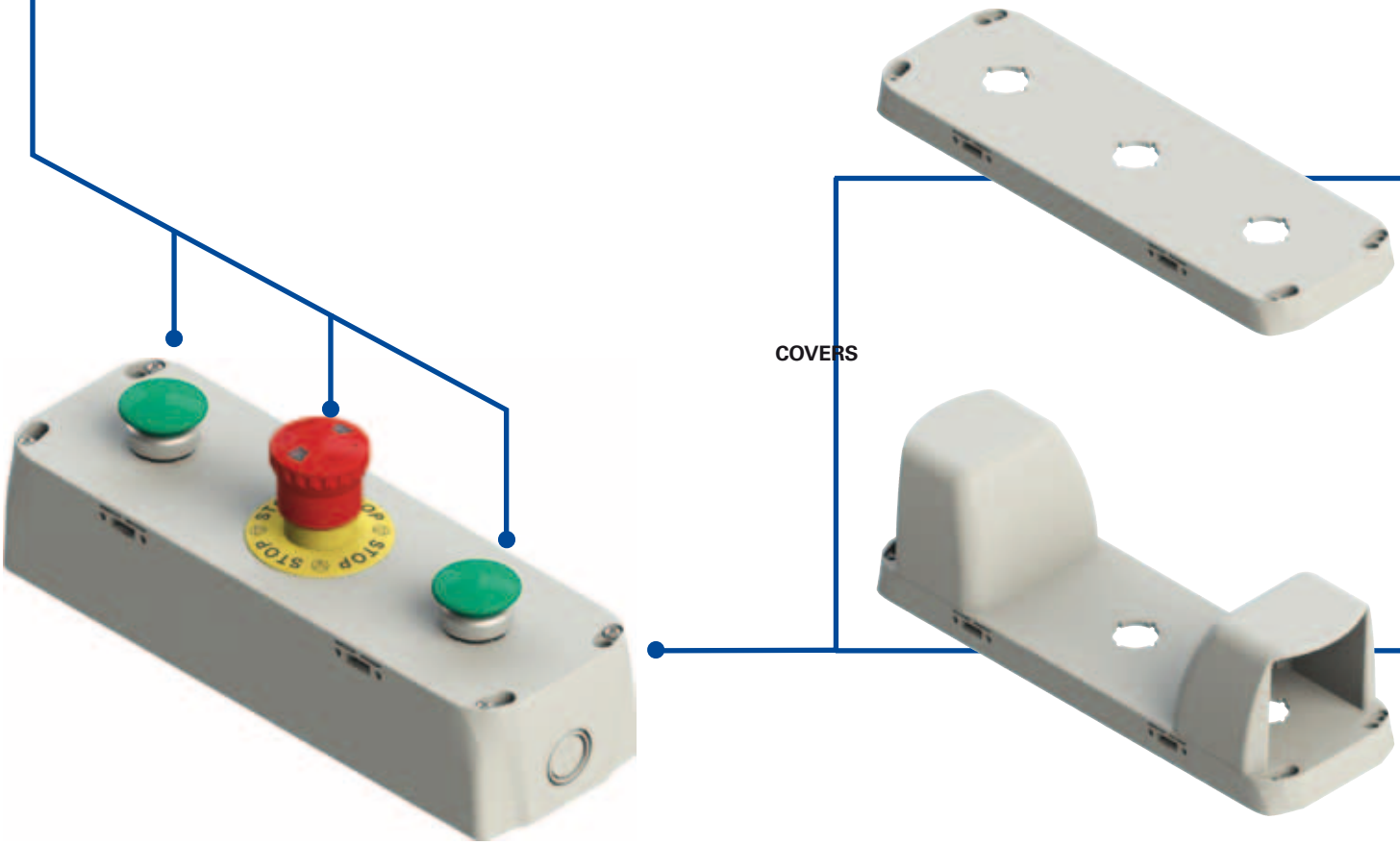
plate with shaped hole, yellow disc Ø 60 mm

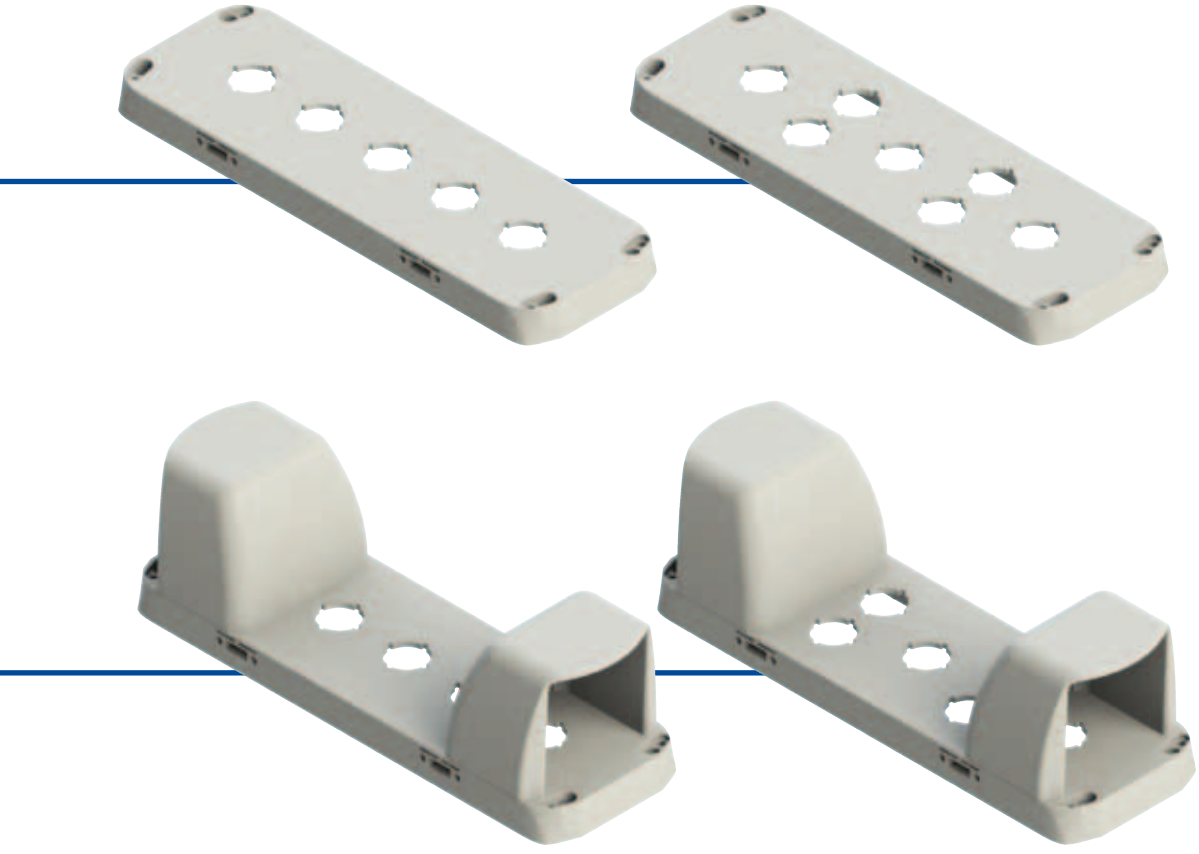
yellow illuminated disc, Ø 60 mm, 24 Vac/dc

legend plate

shaped ring

COVERS





Code structure

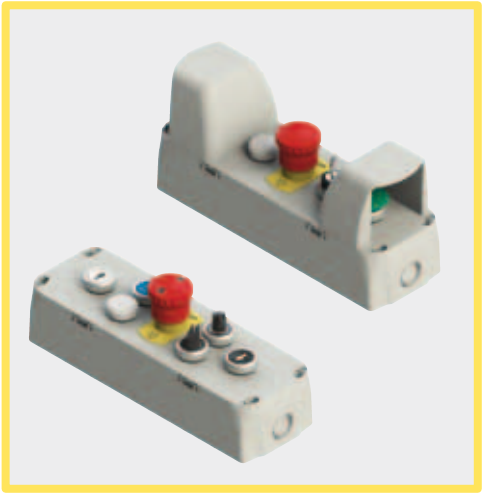
Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

EA 37010

Body material	
3	polycarbonate PC (standard)

Housing dimensions	
7	280x90 mm

Configuration	
010	grey base, grey cover
...	.....



Main features

- Protection degree IP65
- Stainless steel captive screws
- 2 lateral cable inlets + 2 cable inlets at bottom

Markings and quality marks:

EAC approval: RU C-IT ДМ94.В.01024

Technical data

Housing

Material:	Self-extinguishing shock-proof polycarbonate with double insulation, UV resistant fibreglass reinforced, with increased shock resistance
Screw material:	stainless steel
Protection degree:	IP65 acc. to IEC 60529 with cable gland having equal or higher protection degree
Conduit entries:	2 side through inputs with knock out M20 – M25 - 1/2 NPT 2 base through inputs with knock out M20 – M25 - 1/2 NPT
Mounting of the devices:	Suitable for the installation of control and signalling devices Ø 22 mm Ø 22 mm hole compliant with EN 60947-5-1
Utilization requirements:	see page 124

For a correct operation in compliance with standard EN 574, the two-hand controls must be connected to a safety module for two-hand control safety device CS DM••••••. See General Safety Catalogue Pizzato Elettrica 2015-2016 Chapter 10E.

General data

Ambient temperature:	-40°C … +80°C
Tightening torque of the cover screws:	1 … 1.4 Nm

In conformity with standards:

IEC 60947-1, IEC 60947-5-1, EN 574, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 no.14.

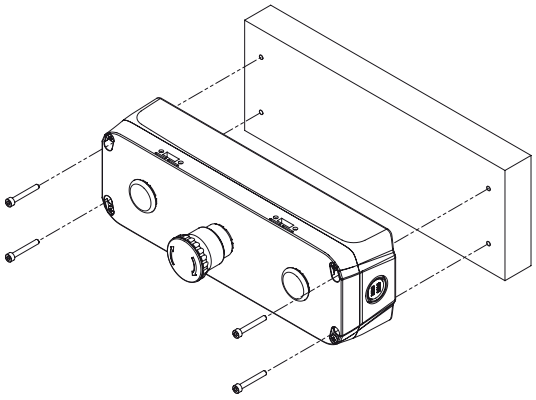
In conformity with the requirements of:

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

General data

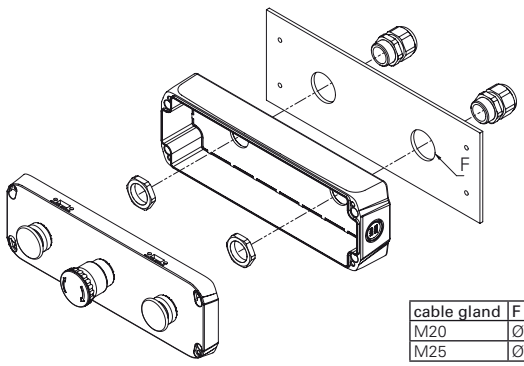
Fixing of EROUND housing

The new housings of the EROUND line by Pizzato Elettrica have 4 additional holes on the cover. The holes enable wall fixing from the outside by means of through insertion of the screws, without the need to open the cover to access the holes.
The external fixing of the housing is therefore particularly suited for already wired housings.



Wiring through the lower surface

The housings have 2 conduit entries on the lower surface. These allow the wiring through the support surface without leaving electrical cables in sight.



cable gland	F
M20	Ø 28
M25	Ø 34

Selection table for housings

Colour	Article	Hole Ø 22 mm
grey RAL 7035	EA 37014	3

Colour	Article	Hole Ø 22 mm
grey RAL 7035	EA 37015	3

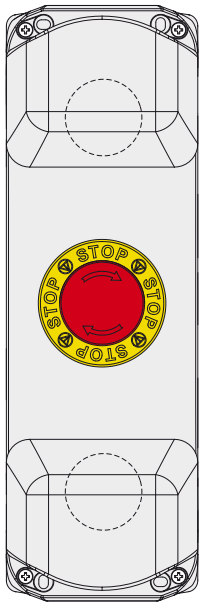
Colour	Article	Hole Ø 22 mm
grey RAL 7035	EA 37010	5

Colour	Article	Hole Ø 22 mm
grey RAL 7035	EA 37011	5

Colour	Article	Hole Ø 22 mm
grey RAL 7035	EA 37012	7

Colour	Article	Hole Ø 22 mm
grey RAL 7035	EA 37013	7

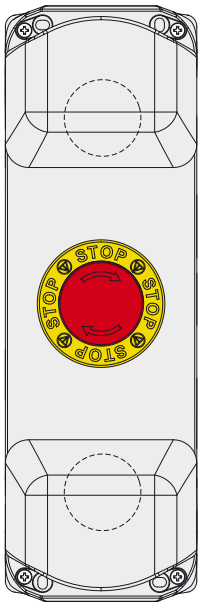
Complete units with housings



EA AC37011

Description	Features			Diagram
Mushroom button - 1NO E2 1PU2F4490	spring-return, green			
Guard VE GG3AA9A				
Contacts 1x E2 CP10G2V1	pos. 2 /	pos. 3 1NO	pos. 1 /	
Emergency button Ø 40 - 1NC E2 1PERZ4531	rotary release, 40 mm diameter, red			
Plate VE TF32A5109				
Contacts 1x E2 CP01G2V1	pos. 2 /	pos. 3 1NC ⊖	pos. 1 /	
Mushroom button - 1NO E2 1PU2F4490	spring-return, green			
Guard VE GG3AA9A				
Contacts 1x E2 CP10G2V1	pos. 2 /	pos. 3 1NO	pos. 1 /	

For cat. IIIA two-hand controls acc. to EN 574, combine with safety module or safety PLC.
See General Safety Catalogue Pizzato Elettrica Chapter 10E.



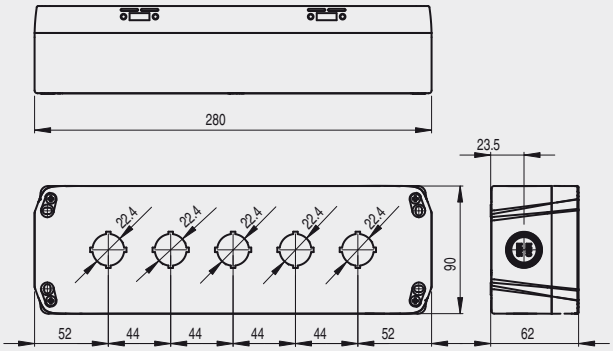
EA AC37023

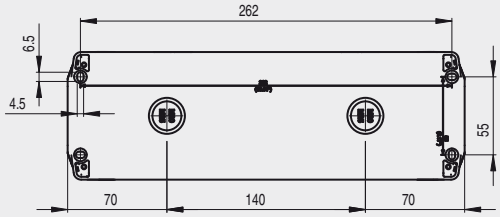
Description	Features			Diagram
Mushroom button - 1NO+1NC E2 1PU2F4490	spring-return, green			
Guard VE GG3AA9A				
Contacts E2 CP10G2V1 + E2 CP01G2V1	pos. 2 /	pos. 3 1NO	pos. 1 1NC ⊖	
Emergency button Ø 40 - 2NC E2 1PERZ4531	rotary release, 40 mm diameter, red			
Plate VE TF32A5109				
Contacts 2x E2 CP01G2V1	pos. 2 1NC ⊖	pos. 3 /	pos. 1 1NC ⊖	
Mushroom button - 1NO+1NC E2 1PU2F4490	spring-return, green			
Guard VE GG3AA9A				
Contacts E2 CP10G2V1 + E2 CP01G2V1	pos. 2 /	pos. 3 1NO	pos. 1 1NC ⊖	

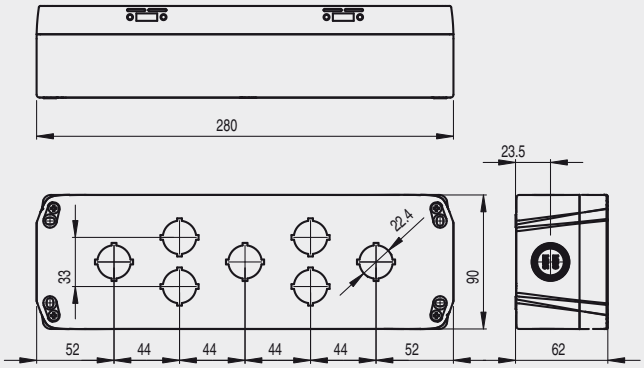
For cat. IIIC two-hand controls acc. to EN 574, combine with safety module or safety PLC.
See General Safety Catalogue Pizzato Elettrica Chapter 10E.

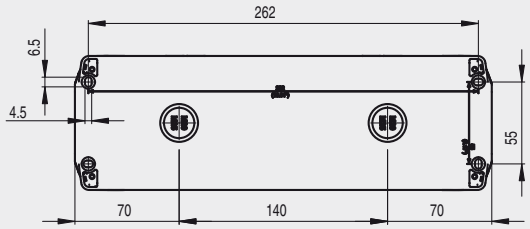
Dimensions

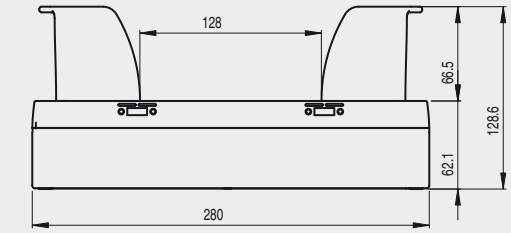
All measures in the drawings are in mm

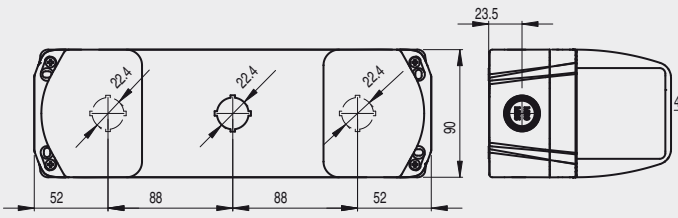


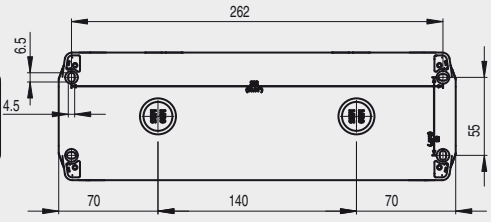






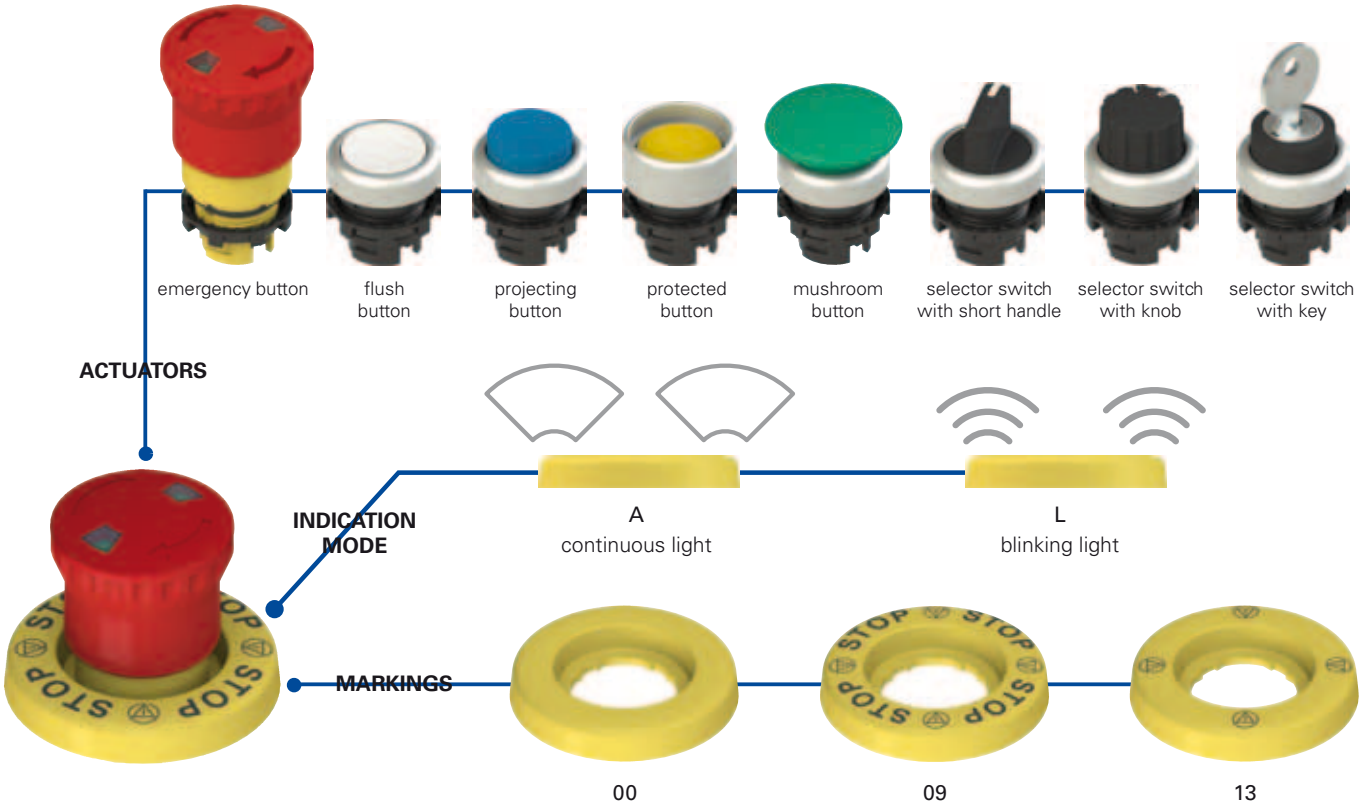






➔ The 2D and 3D files are available at **www.pizzato.com**

Selection diagram



Continuous or blinking light

The illuminated disc can be supplied with two different lighting modes, continuous or blinking light. The blinking light versions allow a faster identification on the panel of the lit device compared to the continuous light. The particular internal electronic circuit autonomously alternates the ON and OFF phases without any special electrical connection.

Sticking possibility

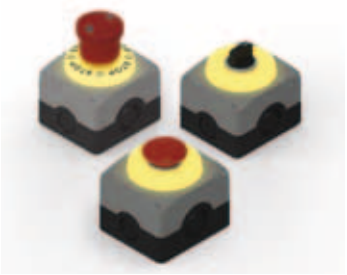
The illuminated disc can also be installed using the supplied adhesive: simply remove the adhesive protective film placed under the disc.
Through sticking, it is possible to get the perfect adhesion to the surface and the IP67 protection degree.

Customisable

In order to satisfy customers' numerous requests and demands, Pizzato Elettrica gives the possibility to customize the luminous discs with markings that are extremely visible thanks to the homogeneous illumination of the device.

High visibility

The use of internal high-luminous LEDs makes the emergency button immediately recognizable and traceable, in order to grant a safer employment in scarcely illuminated environments, when the device is placed at a certain distance, or in case of scarce visibility.
The ideal way to highlight also normal buttons or selectors.

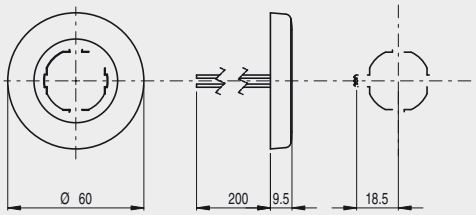


Protection degree IP67

IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required.

Dimensions



Main features
- High visibility
- Protection degree IP67
- Compact design
- Indelible laser marking
- Optional customisation of markings

Technical data

General data

Protection degree:	IP67 acc. to IEC 60529 applied with the supplied adhesive
Ambient temperature:	-25°C … +70°C
Cable cross section:	max. 2 x 0.25 mm² (2 x AWG 24)
Laying of cables:	fixed
Minimum bending radius:	14 mm
Cable insulation:	PVC
Operating voltage (Un):	24 Vac/dc
Supply voltage tolerance:	±15% of Un
Operating current:	20 mA
Blinking frequency (if present):	1 Hz
Utilization requirements:	see page 124

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 no.14

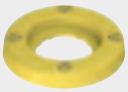
In conformity with the requirements of:
Low Voltage Directive 2006/95/EC
Machinery Directive 2006/42/EC
EMC Directive 2004/108/EC.

Markings and quality marks:

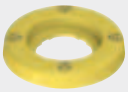
CE EAC

EAC approval: RU C-IT ДМ94.B.01024

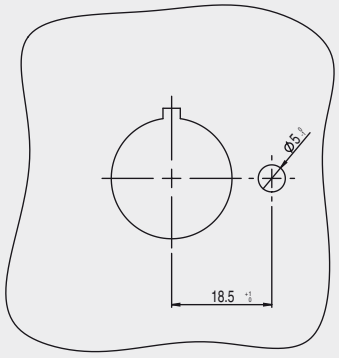
Illuminated disc

Colour and engraving	Article	Description
	VE DL1A5A00	Yellow illuminated disc, Ø 60 mm, 24 Vac/dc, without engraving
	VE DL1A5A09	Yellow illuminated disc, Ø 60 mm, 24 Vac/dc, with engraving: STOP STOP STOP STOP
	VE DL1A5A13	Yellow illuminated disc, Ø 60 mm, 24 Vac/dc, with engraving:

Blinking illuminated disc

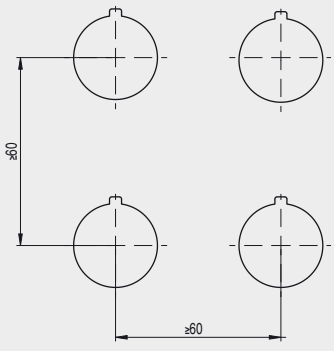
Colour and engraving	Article	Description
	VE DL1A5L00	Yellow illuminated disc, blinking (0.5s on 0.5s off), Ø 60 mm, 24 Vac/dc, without engraving
	VE DL1A5L09	Yellow illuminated disc, blinking (0.5s on 0.5s off), Ø 60 mm, 24 Vac/dc, with engraving STOP STOP STOP STOP
	VE DL1A5L13	Yellow illuminated disc, blinking (0.5s on 0.5s off), Ø 60 mm, 24 Vac/dc, with engraving:

Panel drilling and applications



A: Hole for cables

Minimum distances for installation



All measures in the drawings are in mm

Fixing ring

20 pcs. packs

Article	Description
VE GF121A	Technopolymer fixing ring

Article	Description
VE GF720A	Metal fixing ring

Fixing key

Article	Description
VE CH121A1	Technopolymer fixing key for fixing rings VE GF••••

Adapter Ø 22 to Ø 30 mm

10 pcs. packs

Technical data:

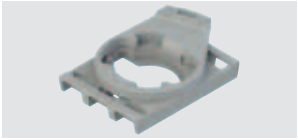
Body and ring material: technopolymer
Protection degree: IP67 and IP69K
Tightening torque: 2 … 2.5 Nm
Dowel can be removed with simple screwdriver

Article	Description
VE GF151A	Adapter with ring for panel fixing for Ø 22 devices on Ø 30 holes compliant with EN 60947-5-1 (see page 124)

Not applicable on double, triple, and quadruple buttons E2 1PD••••••• - E2 1PT••••••• - E2 1PQ•••••••. Not applicable in the presence of shaped ring, legend plate, guard o protection cap. It does not alter the IP protection degree of the associated device.

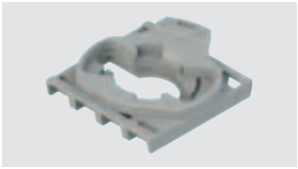
Mounting adapter

10 pcs. packs



Article	Description
E2 1BAC11	3-slot mounting adapter for contact blocks E2 CP and LED units E2 LP
E2 1BAC12	3-slot mounting adapter, oriented, for contact blocks E2 CP and LED units E2 LP

Not combinable with quadruple buttons E2 1PQ•••••••.

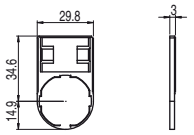


Article	Description
E2 1BAC21	4-slot mounting adapter for contact blocks E2 CP
E2 1BAC22	4-slot mounting adapter, oriented, for contact blocks E2 CP

Combinable only with selectors E2 1SE•••••••••, selector switches with key E2 1SC••••••••, buttons E2 1PU••••••, double buttons E2 1PD•••••••, emergency buttons E2 1PE••••••, configured in the appropriate versions for 4-slot adapter. Combinable with quadruple buttons E2 1PQ•••••••.

Legend plate

Legend plates for single device. Orientable in 90° steps.
Plates from other manufactures can be used (for example: 3M article KE-7270-2691-3 or GRAFOPLAST article SITM612X) as long as they have the following dimensions: base 27 +0/-0.4 mm, height 18+0/-0.4 mm, thickness 0.8 ±0.4 mm.
Not applicable on double, triple, and quadruple buttons E2 1PD••••••• - E2 1PT••••••• - E2 1PQ•••••••. **It does not alter the IP protection degree of the associated device.**



Article	Description	Pieces/pack.
VE PT32A00A0	Legend plate with shaped hole, for plate 18x27 mm, without plate	10
VE PT32A10A0	Legend plate with shaped hole, for plate 18x27 mm, with transparent protection plate without engraving	10
VE PT32A09A•••	Legend plate with shaped hole, for plate 18x27 mm, with white aluminium plate and black engraving	1

Not applicable in the presence of the shaped ring, Ø 22 to Ø 30 mm adapter, guard or protection cap.

To order plates with engraving: in the article codes replace the dots ••• with the engraving code shown in the table at page 123. Example: Legend plate with plate, engraving "STOP".
VE PT32A09A••• → VE PT32A09AGB0

Plates

Article	Description
VE TR3A770	Protective plate for legend plates VE PT without engraving. **100 pcs.** packs

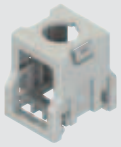
Rectangular plate 18x27 mm thickness 0.4 mm, transparent anti-glare polycarbonate. Ideal to protect the plate below

Article	Description
VE TR4A970	Plate for legend plates VE PT without engraving, for engraving with cutter or laser. **100 pcs.** packs
VE TR4A91•••	Plate for legend plate VE PT with indelible black laser engraving

Rectangular plate 18x27 mm thickness 0,8 mm, white aluminium RAL 9006

Adapter for DIN rail

10 pcs. packs



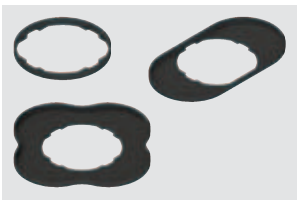
Brevetto depositato

Article	Description
VE AD3PF9A0	Support with Ø22 hole for fixing on DIN rail of the signalling and control devices of the EROUND line

Not suitable for joystick and quadruple buttons

To order plates with engraving: in the article codes replace the dots ••• with the engraving code shown in the table at page 123.
Example: Plate with engraving "STOP". VE TR4A91••• → VE TR4A91GB0

Shaped ring



Article	Description	Pieces/pack.
VE GP12H1A	Shaped ring for single device	50
VE GP12L1A	Shaped ring for double and triple button E2 1PD••••••• - E2 1PT•••••••	50
VE GP12M1A	Shaped ring for quadruple button E2 1PQ•••••••	10

Not applicable in the presence of legend plate, Ø 22 to Ø 30 mm adapter, guard or protection cap.
It does not alter the IP protection degree of the associated device.

Windowed protection guard

Article	Description
VE GP32A5A	Yellow cylindrical protection guard with 4 windows Ø 40x20 mm

It does not alter the IP protection degree of the associated device.

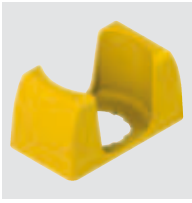
Connection block

10 pcs. packs

Connection blocks with dimensions similar to the contact blocks but without electrical contacts. To combine with the illuminated disc of the VE DL series in order to mount it without terminals or crimping.

Article	Description
VE BC2PV1	Panel mounting connection block
VE BC2FV1	Connection block for base mounting

Open protection guard



Article	Description
VE GP32F5A	Rectangular open yellow protection guard 66x38 h35 mm

It does not alter the IP protection degree of the associated device.

Cylindrical protection guard

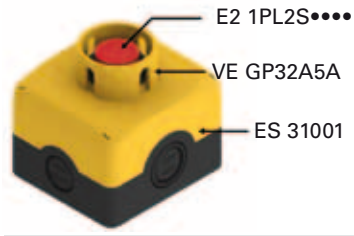
Article	Description
VE GP32B5A	Cylindrical yellow protection guard Ø 43x27 mm

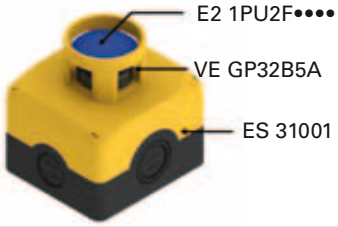
Not applicable on emergency buttons series E2 1PE••••••

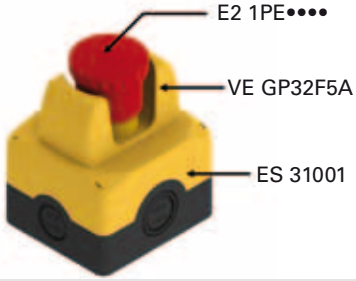
It does not alter the IP protection degree of the associated device.

Not applicable in the presence of the shaped ring, legend plate, Ø 22 to Ø 30 mm adapter or protection cap.

Application examples of guards







Shroud

10 pcs. packs

Technical data:
Material: silicon suitable for contact with food
Protection degree: IP67
Ideal for dusty food environments or with the presence of water and sand.

Article	Description
VE CA1A1	Shroud for single flush button (panel width from 1 to 5 mm)
VE CA1B1	Shroud for single projecting button (panel width from 1 to 5 mm)
VE CA1C1	Shroud for double and triple projecting buttons (panel width from 1 to 6 mm)
VE CA1D1	Shroud for double flush button (panel width from 1 to 6 mm)

Not applicable in the presence of the shaped ring, legend plate, Ø 22 to Ø 30 mm adapter or protection guard.

Closing cap

10 pcs. packs

Technical data:
Body and ring material: technopolymer
Protection degree: IP67 and IP69K
Tightening torque: 2 … 2.5 Nm
Utilization requirements: page 124

Article	Description
E2 1TA1A110	Black closing cap for Ø 22 mm holes

Article	Description
VE PR3A70	Transparent dust protection for E2 series contact blocks. Suitable for all panel mounting contact blocks.

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

ENGRAVINGS table (text)

Code	Symbol	Code	Symbol	Code	Symbol	Code	Symbol
		GB0	STOP	FR0	ARRÊT	DE0	HALT
IT1	AVVIO	GB1	START	FR1	MARCHE	DE1	START
IT2	CHIUSO	GB2	CLOSE	FR2	FERMÉ	DE2	ZU
IT3	SU	GB3	UP	FR3	MONTÉE	DE3	AUF
IT4	GIÚ	GB4	DOWN	FR4	DESCENTE	DE4	AB
IT5	SPENTO	GB5	OFF	FR5	ARRÊT	DE5	AUS
IT6	ACCESO	GB6	ON	FR6	MARCHE	DE6	EIN
IT7	IN SERVIZIO	GB7	RUN	FR7	EN SERVICE	DE7	BETRIEB
IT8	ERRORE	GB8	FAULT	FR8	PANNE	DE8	STÖRUNG
IT9	TEST	GB9	TEST	FR9	ESSAI	DE9	PRÜFUNG
IT10	SPENTO ACCESO	GB10	OFF ON	FR10	ARRÊT MARCHE	DE10	AUS EIN
IT11		GB11	MAN. AUTO	FR11	MAN. AUTO	DE11	HAND AUTO
IT12		GB12	MAN. 0 AUTO	FR12	MAN. 0 AUTO	DE12	HAND 0 AUTO
IT13		GB13		FR13		DE13	ANTRIEB
IT14	RIAVVIA	GB14	RESET	FR14	REARM.	DE14	ENTSPERREN
IT15	AVANTI	GB15	FORWARD	FR15	AVANT	DE15	VORWÄRTS
IT16	INDIETRO	GB16	REVERSE	FR16	ARRIÈRE	DE16	RÜCKWÄRTS
IT17	AUMENTA	GB17	RAISE	FR17	MONTER	DE17	HEBEN
IT18	DIMINUISCI	GB18	LOWER	FR18	DESCENDRE	DE18	SENKEN
IT19	SINISTRA	GB19	LEFT	FR19	GAUCHE	DE19	LINKS
IT20	DESTRA	GB20	RIGHT	FR20	DROITE	DE20	RECHTS
IT21	FRENO	GB21	BRAKE	FR21	FERMER/OUVRIR	DE21	BREMSEN
IT22	ALTO	GB22	HIGH	FR22		DE22	HOCH
IT23	BASSO	GB23	LOW	FR23		DE23	NIEDRIG
IT24	VELOCE	GB24	FAST	FR24		DE24	SCHNELL
IT25	LENTO	GB25	SLOW	FR25		DE25	LANGSAM
IT26	PIÚ VELOCE	GB26	FASTER	FR26		DE26	
IT27	PIÚ LENTO	GB27	SLOWER	FR27		DE27	
IT32	APRIRE	GB32	OPEN	FR32		DE32	ÖFFNEN
IT63	CHIAMATA	GB63	CALL	FR63		DE63	
IT64	OCCUPATO	GB64	OCCUPIED	FR64		DE64	
IT99	ARRESTO D'EMERGENZA	GB99	EMERGENCY-STOP	FR99	ARRÊT D'URGENCE	DE99	NOT-AUS

Other engravings upon request

ENGRAVINGS table (symbols)

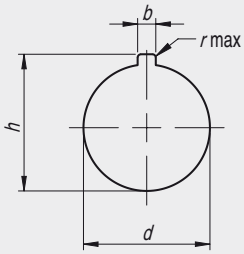
Code	Standard	Symbol
L1	IEC 60417-2	○
L2	IEC 60417-2	|
L3	-	||
L4	-	|||
L7	-	↑
L8	-	↓
L9	-	←
L10	-	→
L11	IEC 60417-2	+
L12	IEC 60417-2	—
L14	IEC 60417-2	🔔
L15	-	R
L16	IEC 60417-2	
L17	ISO 7000	
L18	ISO 7000	
L19	-	0 I
L20	-	0 I

Code	Standard	Symbol
L21	-	I 0 II
L22	-	I 0
L24	-	↗
L25	-	
L27	ISO 7000	
L31	-	
L54	-	
L59	-	
L60	-	
L61	-	
L65	-	1
L66	-	2
L67	-	3
L68	-	4
L69	-	5
L70	-	6
L71	-	7

Code	Standard	Symbol
L72	-	8
L73	-	9
L74	-	0
L83	-	
L84	-	
L86	-	
L140	-	
L142	ISO 7000	
L143	ISO 7000	
L145	-	
L146	ISO 7000	
L147	ISO 7000	
L148	-	
L153	-	
L162	-	
L172	-	
L227	EN 1501	

Other engravings upon request

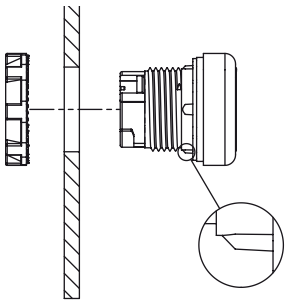
Drilling of the panel according to EN 60947-5-1



	Ø 22	Ø 30
d	22,3 +0,4 -0	30,5 +0,5 -0
h	24,1 +0,4 -0	33,0 +0,5 -0
b	3,2 +0,2 -0	4,8 +0,2 -0

Seal gasket

The seal gasket ensures, thanks to its design, a pre-fixing on the panel.
This allows the application of the ring without having to hold the device in position.

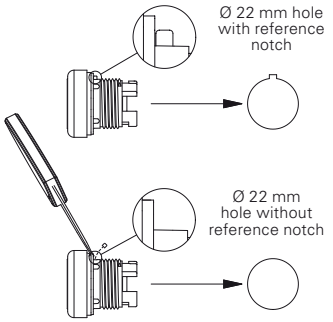


Reference dowel

The mounting reference dowel on the external diameter of all devices of the EROUND series makes it possible to perfectly align the device during the application on the panel avoiding thus rotations.

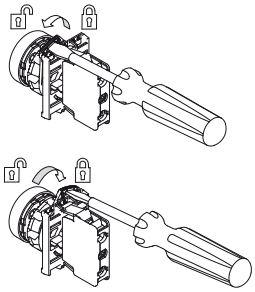
In case of use on holes without reference notches, simply remove the dowel with a slight leverage effect using a screwdriver, making sure that the seal gasket does not get damaged.

The removal of the reference dowel, is not advisable for the selectors (series E2 1SE, E2 1SL, E2 1SC) and emergency buttons (series E2 1PE) with rotary release, as these devices are subject to rotary-type actuation.



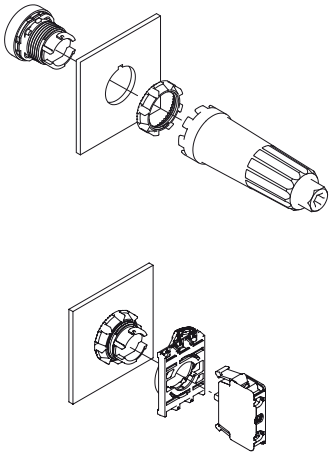
Device connection to mounting adapter

After fixing the control device to the panel by means of the special ring, the connection to the mounting adapter takes place by turning the locking lever. The lever shows the indication on the free position (lock open) and locked position (lock closed).
The rotation of the locking lever can be smoother by using a flat-head screwdriver.



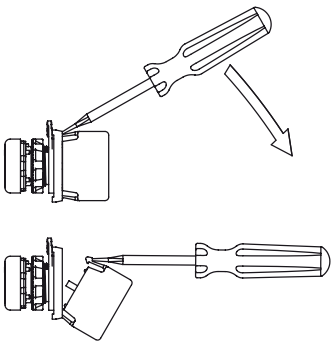
Panel fixing

The control and signalling devices must be fixing on the rear of the panel with a fixing ring, which must be tightened with the special fixing key that is supplied as an accessory.
The tightening torque for a correct fixing must be between 2 and 2.5 Nm.
After tightening the fixing ring, it is possible to apply the mounting adapter and the contact blocks or LED units to the panel.

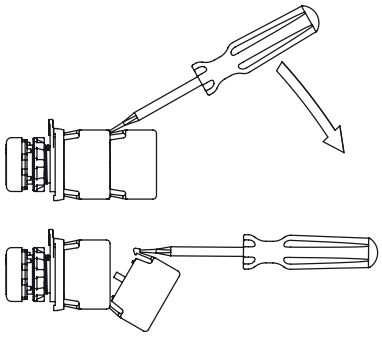


Attachment of contact blocks and LED units

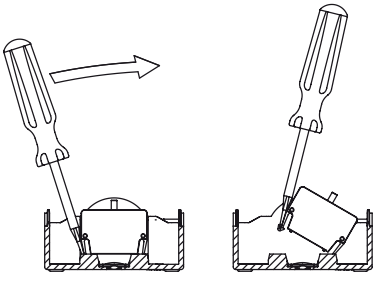
The contact blocks and the LED units are fitted with two snap-in attachment flaps that ensure a stable fixing between them and the mounting adapter (in the panel mounting version), or between them and the base of the housing (in the base mounting version). The panel contact blocks can be connected in stacks, up to three, in observance of the limits specified for each actuator in the respective panel.
The contact blocks and the LED units can be quickly disassembled by using a flat-head screwdriver to leverage on the connection flaps.



Release of the contact block from the base



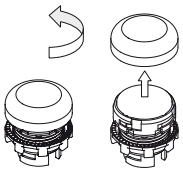
Release of the contact block from other unit



Release of the contact block from housing base

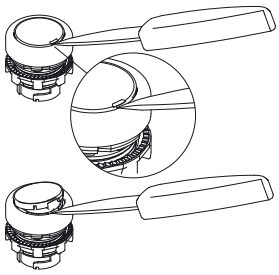
Lenses for indicator lights E2

The indicator lights E2 are fitted with lenses with different colours and they are interchangeable. The lenses can be removed and mounted by simply turning them clockwise and anticlockwise respectively, without using tools.
For a correct colour rendering, it is necessary to use the correct combination between colour of the indicator light lens and colour of the LED unit applied to it.



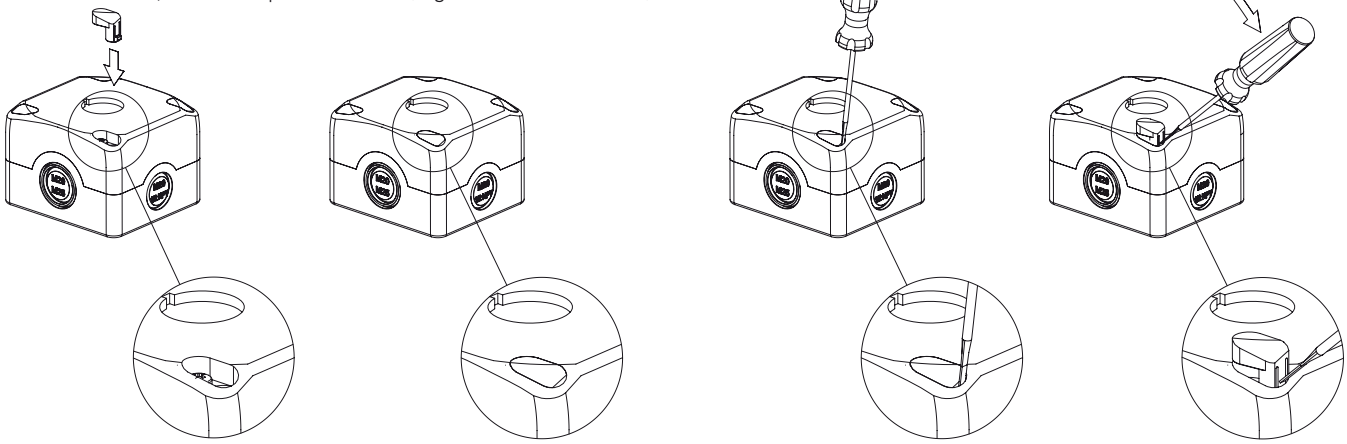
Lenses for buttons and illuminated buttons

The buttons and the illuminated buttons feature replaceable lenses. To remove the lenses, leverage them with a pointed object near the reference notch on the external diameter of the lens itself.



Insertion and removal of the screw caps

The cover caps supplied for the housings of the EROUND series make it possible to close the screws seats, preventing thus the accumulation of dirt and tampering.
These caps align with the surfaces of the housing, creating thus a monolithic block, without visible screws, making it aesthetically pleasing too.
The caps engage to the cover with a simple pressure until the flexible flap snaps in.
To remove them, insert the point of a tool (e.g. a small screwdriver) in the special slot on each cap and leverage on the coupling flap to open it.



General prescriptions

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

Device utilization

- All devices of the EROUND series are hand operated.
- Do not apply excessive force to the device once it has reached the end of its actuating travel.
- Do not exceed the maximum actuation travel.
- Do not disassemble or try to repair the device, in case of defect or fault replace the 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 attach the following instructions in the manual of the machine where the device is installed.
- The preservation of the following instructions for use has to allow their consultation for the whole utilization period of the device.

Shock and vibrations

- Avoid collisions with the devices. Excessive shock and vibrations may affect correct operation of the device.

Wiring and installation

- The installation has to be performed by qualified staff only.
- Observe minimum distances between devices.
- Observe the tightening torques.
- Keep the electrical load below the value specified by the utilization category.
- Turn off the power before access to the contacts, also during the wiring.
- Do not paint or varnish the devices.
- It is only possible to install the product on surfaces with a thickness between 1 and 6mm.
- The protection degree and the correct operation are only guaranteed if the product is installed on level and smooth surfaces and holes with a suitable diameter compliant with the standard IEC 60947-5-1.
- After and during the installation do not pull the electrical cables connected to the contact block. If high traction is applied to the electrical cables, the contact blocks may detach from the actuator.
- During the coupling and uncoupling of the contact blocks from the mounting adapter or from the base, do not deform or put excessive stress on the coupling flaps. A possible deformation of the flaps could cause the detachment of the contact blocks from their mounting adapter.
- After the installation and before commissioning of the machine, verify:
  - the correct operation of the device;
  - the correct and full locking of the mounting adapter E2 1BAC11 to the device;
  - the correct coupling of the contact blocks.
- Periodically check for correct device operation.

Do not use in the following environments:

- Environment where dust and dirt can cover the device and by sedimentation 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.
- In environments with the presence of explosive or flammable gases.

Utilization limits

- Use the devices following the instructions, complying with their operation limits and the standards in force.
- The devices have specific application limits (min. and max. ambient temperature, mechanical endurance, protection degree, etc.) These limits are 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.
- 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 in the present utilization requirements.
  - In nuclear power stations, trains, airplanes, cars, incinerators, medical devices or any application where the safety of two or more persons depend on the correct operation of the device.

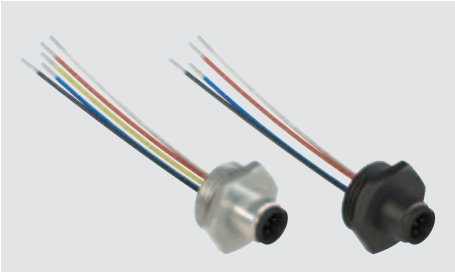
Additional prescription for safety applications

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 ISO 13849-1, EN 62061, EN ISO 12100.
- On emergency buttons, the safety circuit must be connected to the contacts NC .1-.2 with the actuator in the rest position. The auxiliary contacts NO .3-.4 must be used only in the signalling circuits.
- Always connect the protection fuse (or equivalent device) in series with the NC .1-.2 contacts of the safety circuit.
- Periodically verify the correct working of the safety devices, the periodicity of this verification is settled by the machine manufacturer based on the machine danger degree and it doesn't have to be less than one a year.
- After the installation and before commissioning of the machine, verify:
  - the correct operation of the device;
  - the correct and full locking of the mounting adapter E2 1BAC11;
  - the correct coupling of the contact blocks.
- Do not leave the key inserted on the emergency buttons with key release E2 1PEBZ••••. A possible sudden activation of the emergency button with the key inserted can cause injuries to the operator.

M12 plugs

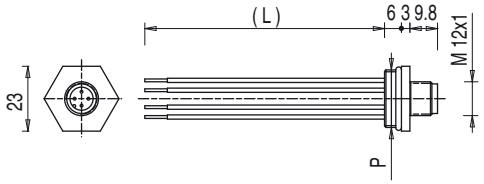
All measures in the drawings are in mm



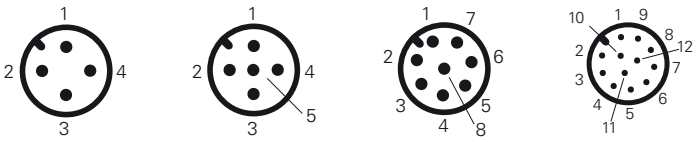
These standard M12 plugs are ready for the installation on the switches.
Their wires have the right length for the connection to the contact blocks and are provided with wire-end sleeves. On request they can be delivered already wired to the switch. The connectors are used where a very short machine down time is required (e.g. in big plants). The switch with connector can be replaced with an identical one very quickly, avoiding the possibility of incorrect wiring.

Technical data:

Max. operating voltage:	250 Vac / 300 Vdc (4 and 5 poles) 30 Vac / 36 Vdc (8 and 12 poles)
Max. operating current:	4 A (4 and 5 poles) 2 A (8 poles) 1.5 A (12 poles)
Protection degree:	IP67 acc. to EN 60529
Ambient temperature:	-25°C … +80°C
Tightening torque:	1 … 1.5 Nm
Wire cross-section:	0.5 mm² (20 AWG) for 4 and 5 poles 0.25 mm² (24 AWG) for 8 poles 0.14 mm² (26 AWG) for 12 poles
Contact type:	gold-plated



Conductor configuration



Pin	Colour	Pin	Colour	Pin	Colour	Pin	Colour
1	Brown	1	Brown	1	White	1	Brown
2	White	2	White	2	Brown	2	Blue
3	Blue	3	Blue	3	Green	3	White
4	Black	4	Black	4	Yellow	4	Green
		5	Grey	5	Grey	5	Pink
				6	Pink	6	Yellow
				7	Blue	7	Black
				8	Red	8	Grey
						9	Red
						10	Purple
						11	Grey-Pink
						12	Red-Blue

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

VF CNM5MM-L100

Body material	
M	metal
P	plastic

No. of poles	
4	4 poles
5	5 poles
8	8 poles
12	12 poles

Connection type	
M	M12x1

Connector thread (P)	
M	M20 x 1.5 (standard)
P	PG 13.5

Cable length (L)	
	8.5 cm (standard)
L16	16 cm
L100	100 cm
L200	200 cm

Stock items

- VF CNP4MM
- VF CNP4PM
- VF CNM5MM
- VF CNM5PM

ATTENTION: always cut off the power supply before disconnecting the connector. The connector is not suitable for separation of electrical loads.
Note: the 12-pin connector is only available in metal with M20x1.5 thread and 16 cm cables.

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

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

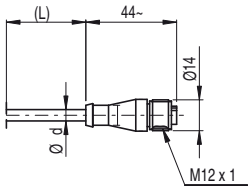
M12 sockets with cable

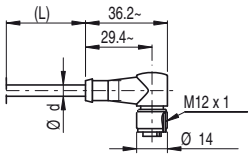
All measures in the drawings are in mm

Technical data:
- Polyurethane connector body (4/5/8 poles)
- Polypropylene connector body (12 poles)
- Class 6 rated copper of the wires acc. to IEC 60228 for mobile installation (4/5/8 poles)
- Class 5 rated copper of the wires acc. to IEC 60228 for fixed installation (12 poles)
- Gold-plated contacts (resistance < 5 mΩ)
- Self locking ring nut
- High flexibility wire suitable to be used in movable chains, with PVC sheath conforming to IEC 60332-3 and CEI 20-22II standards. With polyurethane sheath on request (4/5/8 poles)
- PVC cable, fixed installation (12 poles)

Technical data:

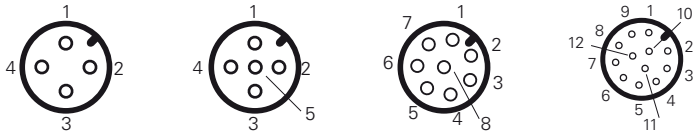
Max. operating voltage:	250 Vac / 300 Vdc (4 and 5 poles) 30 Vac / 36 Vdc (8 and 12 poles)
Max. operating current:	4 A (4-5 poles) 2 A (8 poles) 1.5 A (12 poles)
Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 20653 (Protect the cables from direct high-pressure and high-temperature jets)
Ambient temperature:	-25°C … +90°C for fixed installation (4/5/8 poles) -15°C … +90°C for mobile installation (4/5/8 poles) -25°C … +70°C for fixed installation (12 poles)
Wire cross-section:	0.34 mm² (22 AWG) for 4 poles 0.25 mm² (24 AWG) for 5 and 8 poles 0.14 mm² (26 AWG) for 12 poles
Minimum bending radius:	> cable diameter x 10





ø d: 5 mm for 4 and 5 poles
6 mm for 8 poles
6.5 mm for 12 poles

Conductor configuration



4 poles		5 poles		8 poles		12 poles	
Pin	Colour	Pin	Colour	Pin	Colour	Pin	Colour
1	Brown	1	Brown	1	White	1	Brown
2	White	2	White	2	Brown	2	Blue
3	Blue	3	Blue	3	Green	3	White
4	Black	4	Black	4	Yellow	4	Green
		5	Grey	5	Grey	5	Pink
				6	Pink	6	Yellow
				7	Blue	7	Black
				8	Red	8	Grey
						9	Red
						10	Purple
						11	Grey-Pink
						12	Red-Blue

Code structure

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

VF CA4PD3M

No. of poles	
4	4 poles
5	5 poles
8	8 poles
12	12 poles

Sheath coating	
P	PVC (standard)
U	PUR

Connector type	
D	straight (standard)
G	angled

Connection type	
M	M12x1

	No. of poles			
Cable length (L)	4	5	8	12
1 1 metre				
2 2 metres				
3 3 metres (standard)	•	•		
4 4 metres				
5 5 metres (standard)	•	•	•	•
...				
0 10 metres (standard)	•	•	•	•

Other lengths on request

Stock items

VF CA4PD3M
VF CA4PD5M
VF CA4PD0M
VF CA5PD3M
VF CA5PD5M
VF CA5PD0M
VF CA8PD5M
VF CA8PD0M
VF CA12PD5M
VF CA12PD0M

Attention! No stock item, minimum order quantity 100 pcs.

ATTENTION: always cut off the power supply before disconnecting the connector. The connector is not suitable for separation of electrical loads.

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

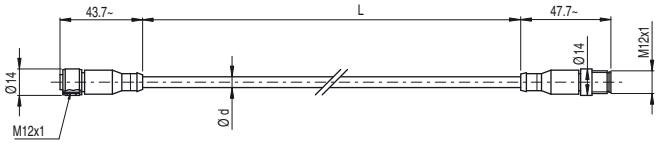
→ The 2D and 3D files are available at **www.pizzato.com**

Extension cable with M12 connectors

Technical data:
Polyurethane connector body
Class 6 rated copper of the wires acc. to IEC 60228
Gold-plated contacts (resistance < 5 mΩ)
Self locking ring nut
High flexibility cable suitable to be used in drag chains, with PVC sheath conforming to IEC 60332-3 and CEI 20-22II standards.

Technical data:

Max. operating voltage:	250 Vac / 300 Vdc (5 poles) 30 Vac / 36 Vdc (8 poles)
Max. operating current:	4 A (5 poles) 2 A (8 poles)
Protection degree:	IP67 acc. to EN 60529
Ambient temperature:	-25°C … +90°C for fixed installation -15°C … +90°C for mobile installation
Wire cross-section:	0.5 mm² (20 AWG) (5 poles) 0.25 mm² (24 AWG) (8 poles)
Minimum bending radius:	> cable diameter x 10



ø d: 7 mm for 5 poles
6 mm for 8 poles

Code structure

VF CA5PD3M-MD

No. of poles	
5	5 poles
8	8 poles

Connection type	
M	M12x1

Sheath coating	
P	PVC

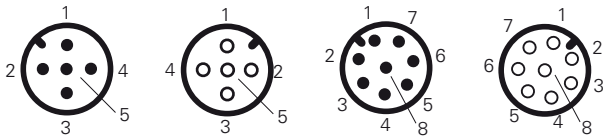
Cable length (L)		No. of poles 5	8
3	3 metres (standard)	•	•
5	5 metres (standard)	•	•
0	10 metres (standard)	•	

Other lengths on request

Connector type	
D	straight

Conductor configuration

5 poles plug	5 poles socket	8 poles plug	8 poles socket



Articles

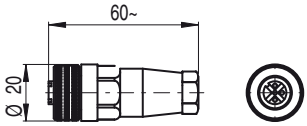
VF CA5PD3M-MD
VF CA5PD5M-MD
VF CA5PD0M-MD
VF CA8PD3M-MD
VF CA8PD5M-MD

M12 sockets, field wireable

All measures in the drawings are in mm

General data
Technopolymer connector body
Gold-plated contacts
Screw terminals for wiring

Max. operating voltages:	250 Vac/dc (4 and 5 poles) 30 Vac/dc (8 poles)
Maximum current:	4 A
Protection degree:	IP67 acc. to EN 60529
Ambient temperature:	-25°C … +85°C
Wire cross-section:	from 0.25 mm² (24 AWG) to 0.5 mm² (20 AWG)



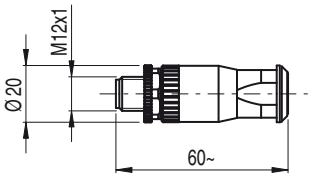
Article	Description	no. of poles
VF CBMP4DM04	Field wireable M12 socket, straight, for multipolar cables from Ø 4 to Ø 6.5 mm	4
VF CBMP5DM04	Field wireable M12 socket, straight, for multipolar cables from Ø 4 to Ø 6.5 mm	5
VF CBMP8DM04	Field wireable M12 socket, straight, for multipolar cables from Ø 4 to Ø 7 mm	8

M12 plugs, field wireable

All measures in the drawings are in mm

General data
Technopolymer connector body
Gold-plated contacts
Screw terminals for wiring

Max. operating voltages:	250 Vac/dc (5 poles) 30 Vac/dc (8 poles)
Maximum current:	4 A
Protection degree:	IP67 acc. to EN 60529
Ambient temperature:	-25°C … +85°C
Wire cross-section:	from 0.25 mm² (24 AWG) to 0.5 mm² (20 AWG)



Article	Description	no. of poles
VF CCMP5DM04	Field wireable M12 plug, straight, for multipolar cables from Ø 4 to Ø 6.5 mm	5
VF CCMP8DM04	Field wireable M12 plug, straight, for multipolar cables from Ø 4 to Ø 7 mm	8

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

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

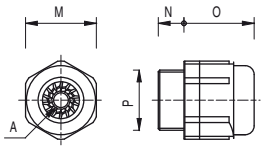
Wiretrap cable glands

10 pcs. packs

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

Technical data:

Body and ring material:	technopolymer without halogen
Protection degree:	IP67 acc. to EN 60529
Tightening torque:	3 … 4 Nm (PG 13.5/M20)
	2 … 2.5 Nm (PG 11/M16)



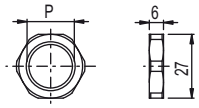
	Article	Description	A	M	N	O	P
Threads (metric)	VF PAM25C7N	M25x1.5 cable gland for one cable from Ø 10 … 17 mm	○	30	10	28	M25x1.5
	VF PAM20C6N	M20x1.5 cable gland for one cable from Ø 6 … 12 mm	○	24	9	24	M20x1.5
	VF PAM20C5N	M20x1.5 cable gland for one cable from Ø 5 … 10 mm	◎	24	9	24	M20x1.5
	VF PAM20C3N	M20x1.5 cable gland for one cable from Ø 3 … 7 mm	●	24	9	24	M20x1.5
	VF PAM16C5N	M16x1.5 cable gland for one cable from Ø 5 … 10 mm	○	22	7.5	23	M16x1.5
	VF PAM16C4N	M16x1.5 cable gland for one cable from Ø 4 … 8 mm	◎	22	7.5	23	M16x1.5
	VF PAM16C3N	M16x1.5 cable gland for one cable from Ø 3 … 7 mm	●	22	7.5	23	M16x1.5
Threads PG	VF PAP13C6N	PG 13.5 cable gland for one cable from Ø 6 … 12 mm	○	24	9	24	PG 13.5
	VF PAP13C5N	PG 13.5 cable gland for one cable from Ø 5 … 10 mm	◎	24	9	24	PG 13.5
	VF PAP13C3N	PG 13.5 cable gland for one cable from Ø 3 … 7 mm	●	24	9	24	PG 13.5
	VF PAP11C5N	PG 11 cable gland for one cable from Ø 5 … 10 mm	○	22	7.5	23	PG 11
	VF PAP11C4N	PG 11 cable gland for one cable from Ø 4 … 8 mm	◎	22	7.5	23	PG 11
	VF PAP11C3N	PG 11 cable gland for one cable from Ø 3 … 7 mm	●	22	7.5	23	PG 11
Threads (metric)	VF PAM20CBN	M20x1.5 multi hole cable gland for 2 cables from Ø 3 … 5 mm	●●	24	9	23	M20x1.5
	VF PAM20CDN	M20x1.5 multi hole cable gland for 3 cables from Ø 1 … 4 mm	●●	24	9	23	M20x1.5
	VF PAM20CEN	M20x1.5 multi hole cable gland for 3 cables from Ø 3 … 5 mm	●●	24	9	23	M20x1.5
	VF PAM20CFN	M20x1.5 multi hole cable gland for 4 cables from Ø 1 … 4 mm	●●	24	9	23	M20x1.5

Plastic nuts, threaded

100 pcs. packs

Technical data:

Body material:	technopolymer
Tightening torque:	1.2 … 2 Nm



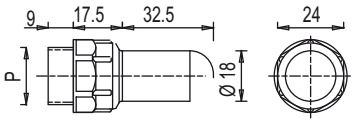
Article	Description	S	CH	P
VF DFPM25	Plastic nut, threaded, M25x1.5	6	32	M25x1.5
VF DFPM20	Plastic nut, threaded, M20x1.5	6	27	M20x1.5
VF DFPM16	Plastic nut, threaded, M16x1.5	5	22	M16x1.5
VF DFPP13	Plastic nut, threaded, PG13.5	6	27	PG 13.5

Indicator lights

5 pcs. packs

Technical data:

Max. operating voltage Ui:	250 Vac/dc
Rated impulse withstand voltage (U_{imp}):	4 kV
Bulb max. power:	3 W
Protection degree:	IP67 acc. to EN 60529
Bulb connection:	BA9
Cable cross-section:	min. 0.5 mm² max. 1.5 mm²
Ambient temperature:	-25°C … +40°C
Tightening torque:	3 … 4 Nm



Code structure

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

VF ILI024GM

Bulb type	
I	incandescence
X	without bulb

Thread (P)	
M	M20 x 1.5 (standard)
P	PG 13.5

Bulb voltage	
024	24 Vac/dc ±10%
110	110 Vac/dc ±10%
220	220 Vac/dc ±10%
000	without bulb

Cover colour	
G	yellow
R	red
V	green
W	white

Stock items

VF ILI024GM
VF ILI024RM
VF ILI024VM
VF ILX000GM
VF ILX000RM
VF ILX000VM

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

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

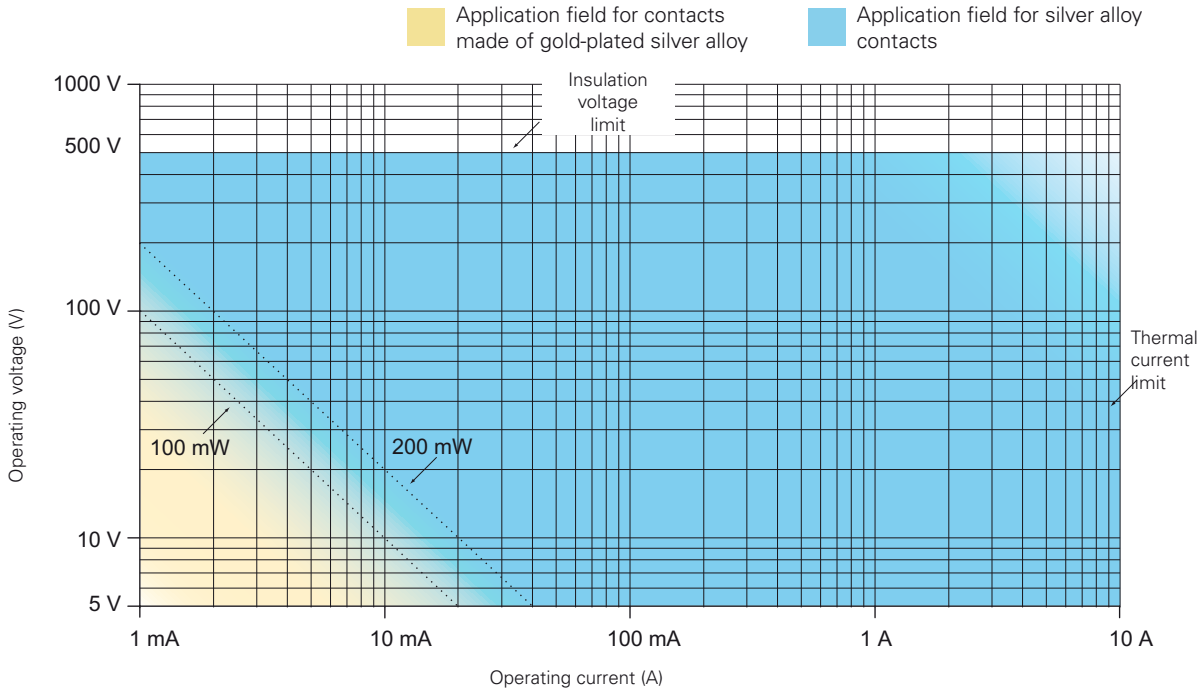
Minimum operating voltages and currents for reliable switching

The electric contact reliability depends on a lot of elements that change their effect in accordance with the load type. For high power loads it is essential that the contact should be able to eliminate the heat created during switching. For low power loads, instead, it is important that oxides or other impurities do not obstruct the passing of the electric signal. The choice of the electric contacts material is a compromise between different and sometimes opposing requirements. For position switches contacts a silver alloy is usually used that has proved suited to switching of loads in the range of approximately 1 kW to 0.1 W. Moving below this power range, effects may occur due to the oxide which is created naturally when silver makes contact with the air; just as possible contaminations or impurities in the contact switching chamber, for example the talc powder in the cable sheaths that an installer could accidentally insert in the switch may have a similar effect.

It is not possible to define a fix threshold beyond which the "missing switching phenomenon" does not appear, because there are a lot of mechanical end electric parameters that influence this value. For example, a good twin bridge electric contact in laboratory is able to switch without signal loss loads in the µW range for dozens of millions of handling operations. However, this does not mean that the same contact is able to provide the same services when the switch operates in an area with sudden changes of temperature (condensate formation) or with few switchings (oxides formation).

To avoid part of this type of problems, for very low loads are used gold plated contacts, profiting from the non-oxidability of this material. The thickness of the gold-plating should be adequate to be mechanically resistant to switching and to be electrically resistant to possible sparks that may vaporize it. It is for this reason that Pizzato Elettrica uses micron thickness gold plating suitable for millions of working cycles. Gold platings with lower thickness have simply an aesthetic function, suitable only for protection of the product against oxidation when kept in stock for long time.

The minimum current and voltage values suggested by Pizzato Elettrica are readable on the diagram below, divided in two areas defined by a steady power limit. These values identify voltage and current combinations with high commutation reliability in most industrial fields. The lower voltage and current limits shown in the diagram are typical minimum values in industrial application that may also be reduced in not generical conditions. It is recommended, however, to always evaluate that the power signal to commutate should be at least one magnitude order higher than the noise produced in the electric circuit, in particular when circuit cables are long and pass through areas with high electromagnetic fields, especially with signal powers lower than 10 mW.



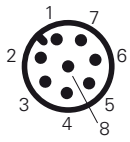
100 mW Suggested limit for general applications with snap action contact blocks with silver alloy contacts.

200 mW Suggested limit for general applications with snap action contact blocks with silver alloy contacts.

Connection diagram for assembled connectors

For FP - FR - FX - FW series with technopolymer housing

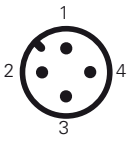
Contact block 2
1NO-1NC+1NO-1NC



M12 connector, 8 poles

Contacts	Pin no.
NO	3-4
NC	5-6
NC	7-8
NO	1-2

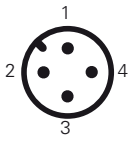
Contact block 5
1NO+1NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NO	3-4

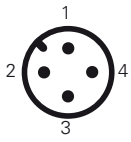
Contact block 6
1NO+1NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NO	3-4

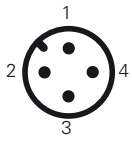
Contact block 7
1NO+1NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NO	3-4

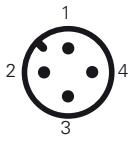
Contact block 9
2NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NC	3-4

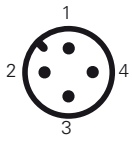
Contact block 10
2NO



M12 connector, 4 poles

Contacts	Pin no.
NO	1-2
NO	3-4

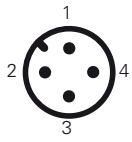
Contact block 11
2NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NC	3-4

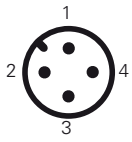
Contact block 12
2NO



M12 connector, 4 poles

Contacts	Pin no.
NO	1-2
NO	3-4

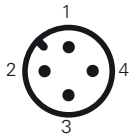
Contact block 13
2NC



M12 connector, 4 poles

Contacts	Pin no.
NC (1°)	1-2
NC (2°)	3-4

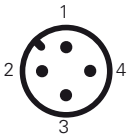
Contact block 14
2NC



M12 connector, 4 poles

Contacts	Pin no.
NC (1°)	1-2
NC (2°)	3-4

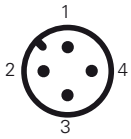
Contact block 15
2NO



M12 connector, 4 poles

Contacts	Pin no.
NO (1°)	1-2
NO (2°)	3-4

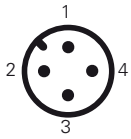
Contact block 16
2NC



M12 connector, 4 poles

Contacts	Pin no.
NC, lever at the right	1-2
NC, lever to the left	3-4

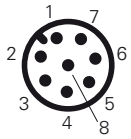
Contact block 18
1NO+1NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NO	3-4

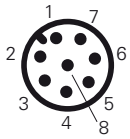
Contact block 20
2NC+1NO



M12 connector, 8 poles

Contacts	Pin no.
NC	3-4
NC	5-6
NO	7-8

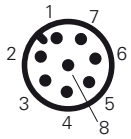
Contact block 21
3NC



M12 connector, 8 poles

Contacts	Pin no.
NC	3-4
NC	5-6
NC	7-8

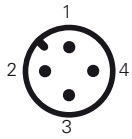
Contact block 22
1NC+2NO



M12 connector, 8 poles

Contacts	Pin no.
NC	3-4
NO	5-6
NO	7-8

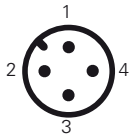
Contact block 33
1NC+1NO



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NO	3-4

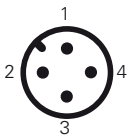
Contact block 34
2NC



M12 connector, 4 poles

Contacts	Pin no.
NC	1-2
NC	3-4

Contact block E1
PNP



M12 connector, 4 poles

Contacts	Pin no.
+	1
-	3
NC	2
NO	4

Definitions complying with the standards EN 60947-1 and EN 60947-5-1

Control switches
A mechanical switching device which serves the purpose of controlling the operations of switch gear or control-gear, including signalling, electrical interlocking, etc.

Utilization category
A combination of specified requirements related to the conditions in which the switching device fulfils its purpose.

Operating cycle
Succession of two movements, one for closure and second for opening.

Rated current Ie
A current that takes into account the rated operating voltage, the rated frequency, the utilization category and the type of protective enclosure, if appropriate.

Thermal current Ith
Max. value of current to be used for temperature-rise tests of equipment without enclosure, in free air. Its value shall be least to equal to the maximum value of the rated operational current **Ie** of the equipment without enclosure, in eight-hour duty.

Electrical endurance
Number of on-load operating cycles, under the conditions defined by the corresponding product standard, which can be made without repair or replacement.

Mechanical endurance
Number of no-load operating cycles (i.e. without current at the main contacts), under the conditions defined by the corresponding product standard, which can be effected before it becomes necessary to service or replace any mechanical parts.

Contact element
The parts, fixed or movable, conducting or insulating, of a control switch necessary to close and open one single conducting path of a circuit.

Single interruption contact element
Contact element which opens or closes the conducting path of its circuit in one location only.

Double interruption contact element
Contact element which opens or closes the conducting path of its circuit in two locations in series.

Make-contact element (normally open)
Contact element which closes a conducting path when the control switch is actuated.

Break-contact element (normally closed)
Contact element which opens a conducting path when the control switch is actuated.

Change-over contact elements
Contact element combination which includes one make-contact element and one break-contact element.

Electrically separated contact elements
Contact elements belonging to the same control switch, but adequately insulated from each other, so they can be connected to electric circuits with different tension.

Independent action contact element (snap action)
Contact element of a manual or automatic control device in which the velocity of contact motion is substantially independent of the actuator's motion velocity.

Dependent action contact element (slow action)
Contact element of a manual or automatic control device, the contact motion velocity of which depends on the actuator's motion velocity.

Minimum actuating force
The minimum force value to be applied to the actuator that will cause all contacts to reach their switched position.

Position switch
Pilot switch the actuating system of which is operated by a moving part of the machine, when that part reaches a predetermined position.

Foot switch
Control switch having an actuator intended to be operated by the force exerted by a foot.

Pre-travel of the actuator
The maximum travel of the actuator which does not cause any travel of the contact elements.

Ambient temperature
The air temperature determined under prescribed conditions surrounding the complete switching device.

Rated operating voltage Ue
Voltage which, combined with the rated operational current Ie, determinates the application of the equipment and the referred utilization categories.

Rated insulation voltage Ui
Voltage to which dielectric test voltage and creepage distances are referred.

Impulse withstand voltage Uimp
The highest peak value of an impulse voltage, of a prescribed shape and polarity, which does not cause destructive discharge under the specified test conditions.

Contact blocks
Contact element or contact elements combination which can be combined with similar units, operated by a common actuating system

Markings and quality marks

CE marking

The CE marking is a mandatory declaration made by the manufacturer of a product in order to indicate that the product satisfies all requirements foreseen by the directives (regulated by the European Community) on subjects of safety and quality. Its function therefore is to guarantee to the governing authorities of the various countries the fulfilment of their obligations under the law.

IMQ marking

The IMQ (Italian Institute of the Quality Mark) is the organization in Italy (third and independent) whose task is to check and certify the compliance of the materials and the equipment with the safety standards (CEI standards in the electric and electronic branch). This voluntary conformity certification is a guarantee of quality, safety and technical value.

UL marking

UL (Underwriters Laboratories Inc.) is an independent non-profit laboratory that tests materials, devices, products, equipment, constructions, methods and systems with regard to their risk for human life and goods according to the standard in force in the United States and Canada. Regulations and testing made by UL is often taken as valid, by many governing authorities, with regard to conformity with local regulations on the subject of safety.

CCC marking

The CQC is the organization in the Chinese Popular Republic whose task is to check and certify the low voltage electrical material.
This organization issues the product mark CCC which certifies the passing of electrical/mechanical conformity tests by products and the compliance of the company quality system with required standards. To obtain the mark, the Chinese organization makes preliminary company visits and periodical verification inspections. Position switches cannot be sold in the Chinese territory without this mark.

TÜV SÜD certification mark

TÜV SÜD is an international authority claiming long-standing experience in the certification of operating safety for electrical, electromechanical and electronic products. In the course of type approval, TÜV SÜD closely inspects the quality throughout all the stages concerning product development, from software design and completion, to production and to the tests conducted according to ISO/IEC standards. The operating safety certification is obtained voluntarily and has a high technical value, since it not only certifies the electrical safety of the product, but also its specific operating suitability for use in safety applications according to the IEC 61508 standard.

EAC marking

The EAC certificate of conformity is a certificate issued by a Customs Union certification body formed by Russia, Belarus and Kazakhstan, with which the conformity of a product is certified with the essential safety requirements laid down by one or more Technical Regulations (Directives) of the Customs Union.

International and European Standards

EN 50041: Low voltage switchgear and controlgear for industrial use. Control switches. Position switches 42.5x80 mm. Dimensions and features
EN 50047: Low voltage switchgear and controlgear for industrial use. Control switches. Position switches 30x55 mm. Dimensions and features
EN ISO 14119: Safety of machinery. Interlocking devices associated with guards. Design and selection principles.
EN ISO 12100: Safety of machinery. General design principles. Risk assessment and risk reduction.
EN ISO 13849-1: Safety of machinery. Safety-related parts of control systems. Part 1: General principles for design.
EN ISO 13850: Safety of machinery. Devices for emergency stop, functional aspects. Design principles.
EN 61000-6-3 (equivalent to IEC 61000-6-3): Electromagnetic compatibility. Generic emission standard. Part 1: residential, commercial and light-industrial environments.
EN 61000-6-2 (equivalent to IEC 61000-6-2): Electromagnetic compatibility. Generic immunity standard. Part 2: Industrial environments.
EN ISO 13855: Safety of machinery. Positioning of safeguards with respect to the approach speeds of parts of the human body.
EN 1037: Safety of machinery. Prevention of unexpected start-up.
EN 574: Safety of machinery. Two-hand control devices. Functional aspects. Principles for design.
EN 60947-1 (equivalent to IEC 60947-1): Low-voltage switchgear and controlgear. Part 1: General rules.
EN 60947-5-1 (equivalent to IEC 60947-5-1): Low-voltage switchgear and controlgear. Part 5: Devices for control and operation circuits. Section 1: Electromechanical control circuit devices.
EN 60947-5-2: Low-voltage switchgear and controlgear. Part 5-2: Control circuit devices and switching elements - Proximity switches
EN 60947-5-3: Low-voltage switchgear and controlgear. Part 5-3: Control circuit devices and switching elements - Requirements for proximity devices with defined behaviour under fault conditions (PDF)
EN 60204-1 (equivalent to IEC 60204-1): Safety of machinery. Electrical equipment of machines. Part 1: General rules.
EN 60529 (equivalent to IEC 60529): Protection degree of the housings (IP codes).
EN 62326-1 (equivalent to IEC 62326-1): Printed boards. Part 1: Generic specification
EN 60664-1 (equivalent to IEC 60664-1): Insulation coordination for equipment within low-voltage systems
Part 1: Principles, requirements and tests.
EN 61508 (equivalent to IEC 61508): Functional safety of electrical, electronic and programmable electronic systems for safety applications.
EN 62061 (equivalent to IEC 62061): Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems.
EN 60079-0 (equivalent to IEC 60079-0): Electrical apparatus for potentially explosive atmospheres. General rules
EN 60079-11 (equivalent to IEC 60079-11): Electrical apparatus for potentially explosive atmospheres. Intrinsic safety "i"
EN 60079-31 (equivalent to IEC 60079-31): Electrical apparatus for potentially explosive atmospheres. Type of protection "n".
EN 60079-28 (equivalent to IEC 60079-28): Electrical apparatus for use in the presence of combustible dust. Part 1-1: construction and testing
BG-GS-ET-15: Prescriptions about how to test switches with forced contact opening to be used in safety applications (German standard).
UL 508: Standard for industrial control equipment. (American standard).
CSA 22-2 no. 14: Standard for industrial control equipment. (Canadian standard).

European directives

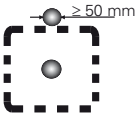
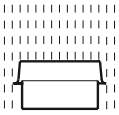
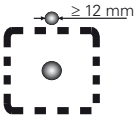
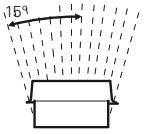
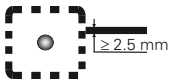
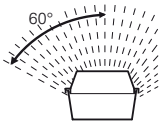
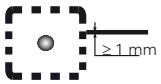
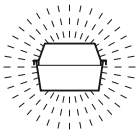
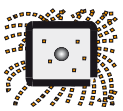
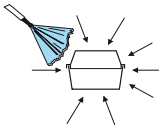
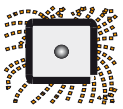
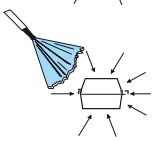
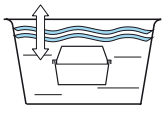
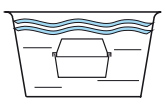
2006/95/EC	Directive on low-voltage switchgear and controlgear
2006/42/EC	Machinery Directive
2004/108/EC	Directive on electromagnetical compatibility
94/9/EC	ATEX Directive

Regulatory Organisations

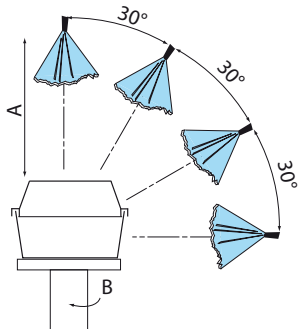
CEI	Comitato Elettrotecnico Italiano (IT)	**NF**	Normes Françaises (FR)
CSA	Canadian Standard Association (CAN)	**VDE**	Verband Deutscher Elektrotechniker (DE)
CENELEC	European Committee for Electrotechnical Standardisation	**UNI**	Ente Nazionale Italiano di Unificazione (IT)
CEN	European Committee for Standardisation	**UL**	Underwriter's Laboratories (USA)
IEC	International Electrotechnical Commission	**TUV**	Technischer Überwachungs-Verein (DE)

Protection degree of the housings for electrical material according to IEC 60529

This table indicates the protection degrees according to IEC 60529, EN 60529, CEI 70-1 standards.
The degrees are identified by the letters IP and 2 numbers. 2 more letters can be added, in order to give the protection degree for people or other features. The first number means the degree of protection against penetration of external solid materials. The second one indicates the degree of protection against penetration of water.

1st number	Description	Protection for the machine	Protection for persons	2nd number	Description	Protection for persons
0		Not protected	Not protected	**0**		Not protected
1		Protected from solid bodies of more than 50 mm in diameter	No access to hazardous parts with back of the hands (Ø 50 mm)	**1**		Protected from drops of water falling vertically
2		Protected from solid bodies of more than 12 mm in diameter	No access to hazardous parts with a finger (Ø 12 mm)	**2**		Protected from drops of water at an angle of 15° max.
3		Protected from solid bodies of more than 2.5 mm in diameter	No access to hazardous parts with tool (Ø 2.5 mm)	**3**		Protected from drops of water at an angle of 60° max.
4		Protected from solid bodies of more than 1 mm in diameter	No access to hazardous parts with wire (Ø 1 mm)	**4**		Protected from splashes of water around it
5		Protected from dust	No access to hazardous parts with wire (Ø 1 mm)	**5**		Protected from jets of water discharged around it
6		Totally protected from dust	No access to hazardous parts with wire (Ø 1 mm)	**6**		Protected from strong jets of water around it
				7		Protected from temporary water immersion (30 minutes in a depth of one meter)
				8		Protected from continuous water immersion by aggrement

Protection degree IP69K according to ISO 20653



ISO 20653 provides a particularly stringent test. The standard provides that a device has to pass a particularly heavy test which simulates the conditions of pressure washing in industrial environments with water jets having pressure between 80 and 100 bar, flow rate between 14 and 16 l/min. and temperature 80°C.

Test specifications:

Rotation speed (B): 5 ±1 rpm
Distance from water jet (A): 100 +50/-0 mm
Water flow rate: 15 ± 1 l/min
Water pressure: 9000 ± 1000 kPa
Water temperature: 80 ±5°C
Test duration: 30 s each position

Housing features in accordance with UL (UL 508) and CSA (C22-2 no.14) approvals

The features required for a housing are determined by a specific environmental designation and other features like the kind of gasket or the use of solvent materials.

Type	Use guidance and description
1	Mainly for indoor utilization, supplied with protection against contact with the internal mechanism and against a limited quantity of falling dirt.
4X	Both indoor and open-air utilization, supplied with a protection degree against falling rain, sprinkling of water and direct water from the pipe. It is not damaged by the freezing of the housing and is rust-proof. Resistant against corrosion.
12	Indoor utilization, supplied with a protection degree against dust, dirt, flying fibres, dripping water and outside condensation of non-corrosive fluids.
13	Indoor utilization, supplied with a protection degree against gauze, dust penetration, outside condensation and sprinkling of water, oil and non-corrosive fluids.

Pollution degree (of environmental conditions) according to EN 60947-1

According to the standard IEC 60947-1, the pollution degree is a conventional number based on the quantity of conducting hygroscopic dust, ionized gas or salt, on the relative humidity and on the frequency of occurrence, which is translated into hygroscopic absorption or humidity condensation, having the effect of reducing the dielectric rigidity and/or surface resistivity. In equipment to be used inside a housing or having an integral enclosure as part of the device, the pollution degree applies to the inner part of housing. With the purpose of evaluating the air and surface insulation distances, the following four pollution degrees are defined:

Degree	Description
1	No pollution or only dry and non-conductive pollution occurs.
2	Normally, only non-conductive pollution is present. Occasionally some temporary conductivity caused by condensation may occur.
3	Some conductive pollution is present, or some dry non-conductive pollution that becomes conductive because of condensation.
4	Pollution causes persistent conductivity, for instance because of conductive dust or rain or snow.

Where not otherwise specified by the applicable standard for the product, equipment for industrial applications are generally intended for their use in environment with pollution degree 3. Nevertheless, other degrees can be considered, depending on the micro-environment or on the particular applications.

Utilization categories for switching elements according to EN 60947-5-1

Alternate current utilization

Utilization category	Description
AC12	Control of resistive loads and solid state loads with insulation by optocouplers.
AC13	Control of solid state loads with transformer isolation
AC14	Control of electromagnetic loads, power ≤ 72 VA
AC15	Control of electromagnetic loads, power ≥ 72 VA

Direct current utilization

Utilization category	Destination
DC12	Control of resistive loads and solid state loads with insulation by optocouplers.
DC13	Control of electromagnet loads without economy resistors in circuit
DC14	Control of electromagnet loads with economy resistors in circuit

Alphanumeric index of product codes

Legend:

E2 1PU•••••• The dots indicate a generic alphanumeric character

Legend:

CC 01AAB00AB → ES AC31003 The codes in grey have been replaced by the code after the arrow

Old article	New article
CC 01AAB00AB→	ES AC31003
CC 01AAB00AC→	ES AC31005
CC 01AAB00AD→	ES AC31006
CC 01AAB01AB→	ES AC31029
CC 01AAB01AC→	ES AC31031
CC 01AAB01AD→	ES AC31030
CC 01AAB02AB→	ES AC31035
CC 01AAB02AC→	ES AC31037
CC 01AAB02AD→	ES AC31038
EB AC211001 →	ES AC31001
EB AC211002 →	ES AC31002
EB AC211003 →	ES AC31003
EB AC211004 →	ES AC31004
EB AC211005 →	ES AC31005
EB AC211006 →	ES AC31006
EB AC211011 →	ES AC31011
EB AC211015 →	ES AC31015
EB AC211016 →	ES AC31016
EB AC211017 →	ES AC31017
EB AC211018 →	ES AC31018
EB AC211019 →	ES AC31019
EB AC211020 →	ES AC31020
EB AC211021 →	ES AC31021
EB AC211022 →	ES AC31022
EB AC211023 →	ES AC31023
EB AC211024 →	ES AC31024
EB AC211025 →	ES AC31025
EB AC211026 →	ES AC31026
EB AC211027 →	ES AC31027
EB AC211028 →	ES AC31028
EB 21AA151AA →	ES 31001
EB 21AA191AA →	ES 31000
EB 21BA151AA →	ES 31001
EB 21BA191AA →	ES 31000

General Sales Terms

Orders: Purchasing orders must be booked with us in writing (fax, e-mail). We reserve the right to not accept e-mail orders in case of missing characteristics necessary to correctly identify the sender or to not process them 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. A 10 Euro extra fee will be applied to orders below 200 Euro delivered in Italy or San Marino. For deliveries abroad, the extra cost will be 30 Euro.

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 products are supplied in packs. Total order quantity of these items must be multiple of the package content.

Order cancellation/changes: Orders variation could be accepted depending on status of manufacturing process. Changes or cancellation of special article 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: Delivery is specified on the order confirmation, which shows the expected week of shipment from Pizzato Elettrica, not the date of arrival at the customer's premises. This date is an approximate value and can not be used as a reason of the order non-fulfilment.

Packaging: 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 eight days from the good's receipt. If case of Ex works deliveries it is responsibility of customer to verify that forwarder is authorized to the goods carriage in compliance with Italian law.

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 type of payment is always at buyer's risk, regardless of the means chosen. In case of delayed payment, Pizzato Elettrica reserves the right to stop the delivery of current orders and charge the interest according to the European Directive 2011/7/EU. 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 to not accept the goods and send it back with freight collect, through the same way of forwarding. Returns have to be sent back within 3 months from the authorization date and no later. After this period, returns will not be accepted.

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

Proper Law: The Court of Vicenza shall have jurisdiction in any disputes.

Notes

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Notes

General Catalogue
Detection

General Catalogue
HMI

General Catalogue
Safety

General Catalogue
LIFT

DVD

Web site
www.pizzato.com

pizzato elettrica
Passion for Quality

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