4 Human-machine interface

4A
Foot switches

PA - PX series

4B
Modular foot switches

PC series

4C
Single buttons

E2 PU, E2 PL series

4C
Dual/triple/ quadruple buttons

E2 PD, E2 PT, E2 PQ series

4D
Selector switches

E2 SE, E2 SI, E2 PQ series

4E
Emergency stop buttons

E2 PE series

4F
Luminous discs

VE DL series

4G
Indicator lights

E2 IL, E6 IL series

4H
Joysticks

E2 MA series

4I
USB sockets RJ45 sockets

E2 USB, E2 RJ45 series

4J
Potentiometers

E6 DM series

4K
Buzzers

E6 IS series

4L
Single contact blocks

E2 CP, E2 CF series

4M
Double contact blocks

E2 CP, E2 CF series

4N
LED units

E2 LP, E2 LF series

4O
Protected contact blocks

FR, FX, FK series

4P
Housings

ES, EA series

4Q
Accessories

5 Safety devices

5A
Safety switches with separate actuator

For heavy duty
applications

▶ 41

For standard applications

▶ 41

5B
Magnetic safety sensors

SR A - SR B series

▶ 41

5C
RFID safety sensors

ST G - ST H series

▶ 42

ST D series

▶ 43

5D
Safety switches for hinged doors

Hinge
switches

▶ 44

Stainless steel hinge
switches

▶ 44

Switches for
hinges

▶ 44

Switches with
slotted hole lever

▶ 44

5E
Safety switches with separate actuator with lock

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▶ 45

With manual
mechanical delay

▶ 45

With key release

▶ 45

FG series

▶ 45

NG RFID series

▶ 46

NS RFID series

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P-KUBE safety handles

VF AP series
AP series
AN series

▶ 51

5H
Safety rope switches

With and without reset
for emergency stops or
simple stops

▶ 55

4P
**Housings with emergency stop
buttons**

ES series

▶ 37

6 Safety modules

6A
For emergency stops and movable guard monitoring

CS AR series

▶56

6B
For emergency stops, monitoring of movable guards, safety mats and safety bumpers with 4-wire technology

CS AR series

▶57

6C
For emergency stops and movable guard monitoring with delayed contacts

CS AT series

▶57

6D
Safety timer modules

CS FS series

▶57

6E
For two-hand controls or synchronism monitoring

CS DM series

▶58

6F
For motor standstill monitoring

CS AM series

▶58

6G
Expansion modules with output contacts

CS ME series

▶58

6H
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CS MP - CS MF series

▶59

7 Accessories

M8 - M12 connectors

▶62

M12 connectors for series connection

▶62

M23 connectors

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Cable glands and adapters

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Tampering protections

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Signalling lights

▶64

Fixing screws

▶64

The products shown in the product overview represent only a selection of Pizzato Elettrica's product range.
For the full range, please refer to the **general catalogues**.

MORE THAN 300 PROFESSIONALS WITH PASSION

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

Today, Giuseppe and Marco Pizzato lead a tireless team providing the fastest and most efficient response to the demands of the market. This team has grown over the last 10 years and has achieved a considerable increase in sales in all the countries where Pizzato Elettrica is present.

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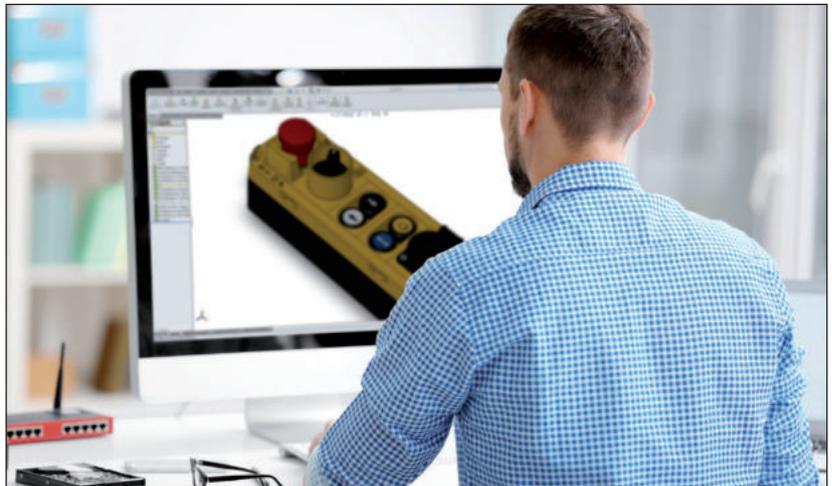
Others are experts in their specific field and have integrated personal experience with the Pizzato Elettrica ethos to extend the company's capability and knowledge.

From the design office to the technical assistance department, from managers to workers, every employee believes in the company and its future. Pizzato Elettrica employees all give the best of themselves secure in the knowledge they are the fundamental elements of a highly valuable enterprise.
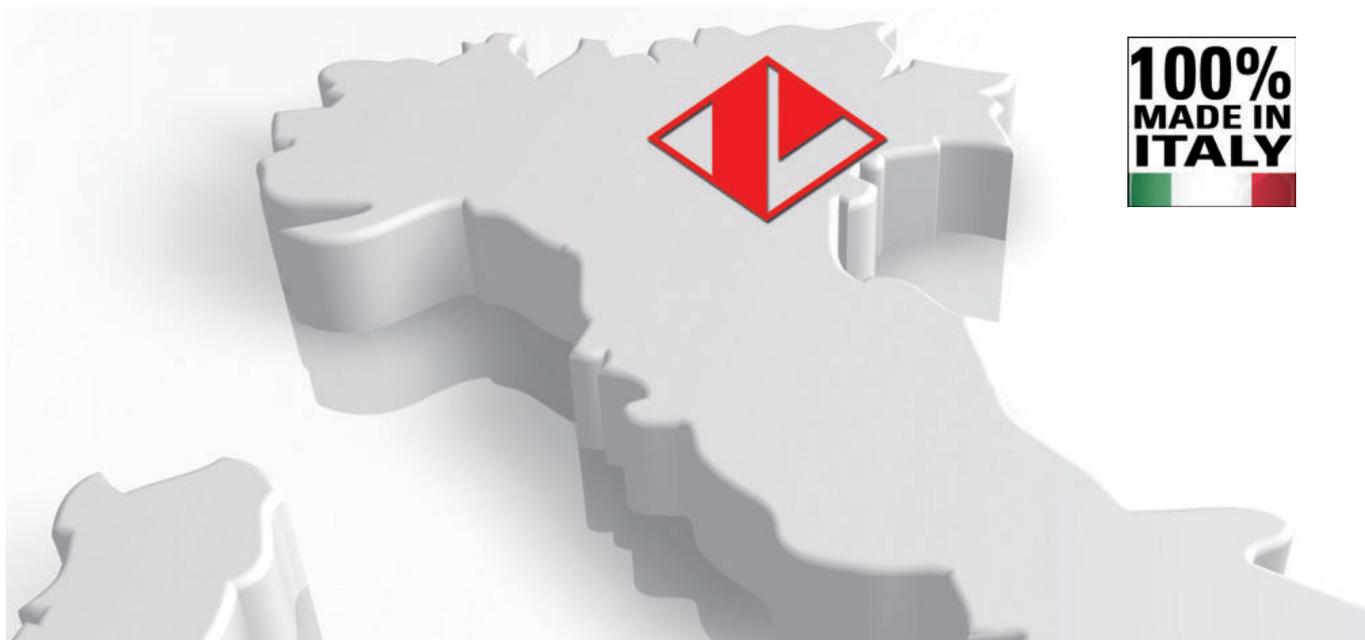
100% MADE IN ITALY

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

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

PASSION FOR QUALITY

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

Anyone using Pizzato Elettrica's products does so in the certainty that these devices are of certified quality, since they are the result of a process that is scrupulously controlled at every stage of the production. The company's goal is to offer the market safe, reliable, and innovative solutions.

CARE FOR THE CUSTOMER

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

100% MADE IN ITALY

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

1984: AN ENTREPRENEURIAL STORY BEGINS

1984 The company Pizzato di Pizzato B. & C. snc. manufacturer of position switches is founded.

1988 The company becomes a limited liability partnership, and is renamed Pizzato Elettrica, a brand shortly destined to become renowned and valued nationwide.
The first company-owned plant (P1) geared towards mechanical processing was built.

1990 By the end of the decade, thanks to the development of quality products and the experience built on the Italian market, Pizzato Elettrica turns to the international market.

1995 Building of the second plant (P3) geared towards the moulding of plastic materials. Development of the position switch range continues in parallel. Start of significant years in terms of safety devices planning. The safety sector becomes a key sector to the company.

1998 Construction of the third plant (P4), housing the assembly department.

2002 Achievement of the ISO 9001:2000 certification. Launching of the first safety modules. The new factory headquarters and logistics centre (P5) is built and will remain the company's headquarters for many years. Continued expansion of the industrial safety and automation product range.

2007 Pizzato Elettrica faces its first generational change: Giuseppe and Marco Pizzato take over the company directorship.

2010 Extension of Pizzato Elettrica product portfolio, with the launch of the innovative EROUND line consisting of control and signalling devices. This product range accompanies position switches and safety devices, thus offering complete solutions to customers.

2012 Introduction of Gemnis Studio, the first software produced by Pizzato Elettrica. A graphic development environment for the creation, simulation, and debugging of programs that can be integrated in the Gemnis line modules.

2013 Foundation of first subsidiary of Pizzato Elettrica, Pizzato Deutschland GmbH, in Germany.

2014 A new production facility (P8) dedicated to switches and automatic machines is opened, spanning a surface area of 6000 m².

2016 The new NS series of safety switches with electromagnets and RFID technology is introduced, fruit of the company's experience, spanning more than thirty years in the field of industrial safety. To date it is the state of the art in its industry. Foundation of second subsidiary of Pizzato Elettrica, Pizzato France SARL, in France.

2017 The company continues to expand and achieves the quality certification based on the more recent version of standard ISO 9001 of 2015.
In Spain, the third Pizzato Elettrica subsidiary is founded: Pizzato Iberica SL.
The foundation stone is laid for the new factory (P6), which is to become the company's headquarters.

2018 The safety handle P-KUBE Krome is launched, a brand new product in the market, confirming that Pizzato Elettrica thrives on innovation in the sectors of automation and industrial safety.
Foundation of fourth subsidiary of Pizzato Elettrica, Pizzato USA Inc, in the United States.

2019 The new factory (P6) is opened, a modern building of 28,000 m² realized with the most advanced Industry 4.0 technologies, where all offices and production divisions are transferred, allowing to further improve the flow of material and information.
The logistics and shipment department is optimised with the introduction of a new completely automated warehouse.

Today, Giuseppe and Marco Pizzato lead a company in constant growth in terms of new product launches, number of employees, turnover, and new markets. Pizzato Elettrica is continuing its new product internationalisation and development process.

100 MILLION PARTS SOLD WORLDWIDE

Pizzato Elettrica's product catalogue contains more than 7,000 articles, with more than 1,500 special codes developed for devices personalised according to clients' specific needs.
Pizzato Elettrica devices can be grouped, according to typology, into three main macro-categories.

POSITION SWITCHES
Pizzato Elettrica position switches are daily installed in every type of industrial machinery all over the world for applications in the sector of wood, metal, plastic, automotive, packaging, lifting, medicinal, naval, etc.
In order to be used in a such wide variety of sectors and countries, Pizzato Elettrica position switches are made to be assembled in a lot of configurations thanks to the various body shapes, dozens of contact blocks, hundreds of actuators and materials, forces, assembling versions.
Pizzato Elettrica can offer one of the widest product range of position switches in the world. Moreover, the use of high quality materials, high reliability technologies (e.g. twin bridge contact blocks) as well as the IP67 protection degree make this range of position switches one of the most technologically evolved.

SAFETY DEVICES
The company Pizzato Elettrica has been one of the first Italian companies developing dedicated items for this sector, creating and patenting dozens of innovative products, thus becoming one of the main European manufacturers of safety devices.
The vast range of products aimed specifically at the safety of machinery, fully designed and assembled at the Marostica (VI) company premises, includes not only more traditional safety switches with separate actuator (with or without locking mechanism) and hinge switches but also state-of-the-art anti-tampering devices with RFID technology, such as the ST series sensors, and NG and NS series locking devices.
The product range is complemented by safety handles for guards, with the innovative P-KUBE Krome model whose grip can be illuminated with multicolour signalling LEDs, as well as by the CS series safety modules, available in single function versions, or user-programmable with the use of the Gemnis Studio software; fully implemented by Pizzato Elettrica and distributed with a free licence.

HUMAN-MACHINE INTERFACE
Pizzato Elettrica's control and signalling devices of the EROUND line are designed for the use in the human-machine interface sector. Thanks to the elegant design, the care for details and the elegance of the product combined with its maximum safety and reliability, this series is one of the most complete and cutting-edge on the market.

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 device installation on machineries.

MILLIONS OF CERTIFIED PRODUCT CODES

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

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

• CE MARK. All Pizzato Elettrica products bear the CE marking in conformity with the European Directives in force.

• ISO 9001 CERTIFICATION. The company's production system is compliant with the international ISO 9001 standard, in its most recent 2015 revision. 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.

The Pizzato Elettrica quality management system ensures that all sensitive company processes – from component design to implementation, from materials provisioning to verification of non-compliant products – are carried out according to the procedures laid down, with the aim of providing our customers with continuously improved and reliable products.

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

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

GLOBAL SUBSIDIARIES

Pizzato Deutschland GmbH
Munich
Founding year: 2013
info@pizzato.com

Pizzato France Sarl
Villeurbanne - Lyon
Founding year: 2016
info@pizzato.com

Pizzato Iberica SL
Barcelona
Founding year: 2017
info@pizzato.com

Pizzato USA
East Syracuse, NY
Founding year: 2018
info@pizzatousa.com

The purpose of these subsidiaries is to coordinate and support the activities of representative agencies, or distributors, present in the various countries, managing marketing and sales activities, with further objectives of increasing brand visibility and penetration capacity of Pizzato Elettrica products in markets considered strategic.

Products from Pizzato Elettrica are currently used in over 80 countries: The commercial support network, which is made up of local professional and experienced representatives, combined with the productive capacity of the headquarters in Italy, are the basis for the formation of a group that, together with its partners, has all the necessary requirements to become one of the most important companies in the field of automation and industrial safety.

TECHNICAL AND SALES ASSISTANCE

TECHNICAL DEPARTMENT

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

Office hours:	Monday to Friday
	08:00 am - 12:30 pm / 02:00 pm - 05:30 pm CET
Telephone:	+39.0424.470.930
E-mail:	tech@pizzato.com

Spoken languages: 🇮🇹 | 🇬🇧

SALES DEPARTMENT

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

Office hours:	Monday to Friday
	08:00 am - 12:30 pm / 02:00 pm - 05:30 pm CET
Telephone:	+39.0424.470.930
E-mail:	info@pizzato.com

Spoken languages: 🇮🇹 | 🇬🇧 | 🇩🇪 | 🇫🇷 | 🇪🇸

FD series

Metal housing

One M20x1.5 conduit entry

Protection degree IP67

Marks: CE ⊕ c(UL)us (CCC) EAC

Ambient temperature: -25°C … +80°C

					External gasket		Roller, stainless steel, external gasket	Roller, stainless steel
Snap action contacts 1NO+1NC	FD 501-M2 ⊖	FD 502-M2 ⊖	FD 505-M2 ⊖	FD 510-M2 ⊖	FD 511-M2 ⊖	FD 515-M2 ⊖	FD 516-M2 ⊖
Slow action contacts 1NO+1NC	FD 601-M2 ⊖	FD 602-M2 ⊖	FD 605-M2 ⊖	FD 610-M2 ⊖	FD 611-M2 ⊖	FD 615-M2 ⊖	FD 616-M2 ⊖
Slow action contacts 2NC	FD 901-M2 ⊖	FD 902-M2 ⊖	FD 905-M2 ⊖	FD 910-M2 ⊖	FD 911-M2 ⊖	FD 915-M2 ⊖	FD 916-M2 ⊖
Slow action contacts 1NO+2NC	FD 2001-M2 ⊖	FD 2002-M2 ⊖	FD 2005-M2 ⊖	FD 2010-M2 ⊖	FD 2011-M2 ⊖	FD 2015-M2 ⊖	FD 2016-M2 ⊖
Snap action contacts 2x(1NO-1NC)	FD 201-M2	FD 202-M2	FD 205-M2	FD 210-M2	FD 211-M2	FD 215-M2	FD 216-M2

	Spring rod with plastic tip	Spring rod with wire tip	Spring rod		Roller, stainless steel	Adjustable round rod	Adjustable lever
Snap action contacts 1NO+1NC	FD 520-M2	FD 521-M2	FD 525-M2	FD 531-M2 ⊖	FD 531-M2R24 ⊖	FD 532-M2	FD 535-M2
Slow action contacts 1NO+1NC	/	/	/	FD 631-M2 ⊖	FD 631-M2R24 ⊖	FD 632-M2	FD 635-M2
Slow action contacts 2NC	/	/	/	FD 931-M2 ⊖	FD 931-M2R24 ⊖	FD 932-M2	FD 935-M2
Slow action contacts 1NO+2NC	FD 2020-M2	FD 2022-M2	FD 2025-M2	FD 2031-M2 ⊖	FD 2031-M2R24 ⊖	FD 2032-M2	FD 2035-M2
Snap action contacts 2x(1NO-1NC)	FD 220-M2	FD 221-M2	FD 225-M2	FD 231-M2	FD 231-M2R24	FD 232-M2	FD 235-M2

	Roller, stainless steel	Glass fibre rod	Bistable			Porcelain roller	Rope switch for signalling
Snap action contacts 1NO+1NC	FD 535-M2R24	FD 536-M2	FD 542-M2 ⊖	FD 551-M2 ⊖	FD 552-M2 ⊖	FD 553-E11M2V9 ⊖	FD 576-M2
Slow action contacts 1NO+1NC	FD 635-M2R24	FD 636-M2	/	FD 651-M2 ⊖	FD 652-M2 ⊖	FD 653-E11M2V9 ⊖	FD 676-M2
Slow action contacts 2NC	FD 935-M2R24	FD 936-M2	/	FD 951-M2 ⊖	FD 952-M2 ⊖	FD 953-E11M2V9 ⊖	FD 976-M2
Slow action contacts 1NO+2NC	FD 2035-M2R24	FD 2036-M2	/	FD 2051-M2 ⊖	FD 2052-M2 ⊖	FD 2053-E11M2V9 ⊖	FD 2076-M2
Snap action contacts 2x(1NO-1NC)	FD 235-M2R24	FD 236-M2	/	FD 251-M2	FD 252-M2	FD 253-E11M2	FD 276-M2

Accessories
See page 62.
For a complete list of accessories, see the general catalogues.

FP series

Technopolymer housing ▢
One M20x1.5 conduit entry
Protection degree IP67
Marks: CE Ⓨ cⓊus ⓒ EHC
Ambient temperature: -25°C … +80°C

				External gasket		Roller, stainless steel, external gasket	Roller, stainless steel
Snap action contacts 1NO+1NC	FP 501-M2 ⟳	FP 502-M2 ⟳	FP 505-M2 ⟳	FP 510-M2 ⟳	FP 511-M2 ⟳	FP 515-M2 ⟳	FP 516-M2 ⟳
Slow action contacts 1NO+1NC	FP 601-M2 ⟳	FP 602-M2 ⟳	FP 605-M2 ⟳	FP 610-M2 ⟳	FP 611-M2 ⟳	FP 615-M2 ⟳	FP 616-M2 ⟳
Slow action contacts 2NC	FP 901-M2 ⟳	FP 902-M2 ⟳	FP 905-M2 ⟳	FP 910-M2 ⟳	FP 911-M2 ⟳	FP 915-M2 ⟳	FP 916-M2 ⟳
Slow action contacts 1NO+2NC	FP 2001-M2 ⟳	FP 2002-M2 ⟳	FP 2005-M2 ⟳	FP 2010-M2 ⟳	FP 2011-M2 ⟳	FP 2015-M2 ⟳	FP 2016-M2 ⟳
Snap action contacts 2x(1NO-1NC)	FP 201-M2	FP 202-M2	FP 205-M2	FP 210-M2	FP 211-M2	FP 215-M2	FP 216-M2

	Spring rod with plastic tip	Spring rod with wire tip	Spring rod		Roller, stainless steel	Adjustable round rod	Adjustable lever
Snap action contacts 1NO+1NC	FP 520-M2	FP 521-M2	FP 525-M2	FP 531-M2 ⟳	FP 531-M2R24 ⟳	FP 532-M2	FP 535-M2
Slow action contacts 1NO+1NC	/	/	/	FP 631-M2 ⟳	FP 631-M2R24 ⟳	FP 632-M2	FP 635-M2
Slow action contacts 2NC	/	/	/	FP 931-M2 ⟳	FP 931-M2R24 ⟳	FP 932-M2	FP 935-M2
Slow action contacts 1NO+2NC	FP 2020-M2	FP 2022-M2	FP 2025-M2	FP 2031-M2 ⟳	FP 2031-M2R24 ⟳	FP 2032-M2	FP 2035-M2
Snap action contacts 2x(1NO-1NC)	FP 220-M2	FP 221-M2	FP 225-M2	FP 231-M2	FP 231-M2R24	FP 232-M2	FP 235-M2

	Roller, stainless steel	Glass fibre rod	Bistable			Porcelain roller	Rope switch for signalling
Snap action contacts 1NO+1NC	FP 535-M2R24	FP 536-M2	FP 542-M2 ⟳	FP 551-M2 ⟳	FP 552-M2 ⟳	FP 553-E11M2V9 ⟳	FP 576-M2
Slow action contacts 1NO+1NC	FP 635-M2R24	FP 636-M2	/	FP 651-M2 ⟳	FP 652-M2 ⟳	FP 653-E11M2V9 ⟳	FP 676-M2
Slow action contacts 2NC	FP 935-M2R24	FP 936-M2	/	FP 951-M2 ⟳	FP 952-M2 ⟳	FP 953-E11M2V9 ⟳	FP 976-M2
Slow action contacts 1NO+2NC	FP 2035-M2R24	FP 2036-M2	/	FP 2051-M2 ⟳	FP 2052-M2 ⟳	FP 2053-E11M2V9 ⟳	FP 2076-M2
Snap action contacts 2x(1NO-1NC)	FP 235-M2R24	FP 236-M2	/	FP 251-M2	FP 252-M2	FP 253-E11M2	FP 276-M2

Position switches with swivelling lever without actuator, see page 19

FL series

Metal housing

Three M20x1.5 conduit entries

Protection degree IP67

Marks: CE VDE c UL us CCC EAC

Ambient temperature: -25°C … +80°C

			External gasket		Roller, stainless steel, external gasket	Roller, stainless steel
Snap action contacts 1NO+1NC	FL 501-M2	FL 502-M2	FL 505-M2	FL 510-M2	FL 511-M2	FL 515-M2	FL 516-M2
Slow action contacts 1NO+1NC	FL 601-M2	FL 602-M2	FL 605-M2	FL 610-M2	FL 611-M2	FL 615-M2	FL 616-M2
Slow action contacts 2NC	FL 901-M2	FL 902-M2	FL 905-M2	FL 910-M2	FL 911-M2	FL 915-M2	FL 916-M2
Slow action contacts 1NO+2NC	FL 2001-M2	FL 2002-M2	FL 2005-M2	FL 2010-M2	FL 2011-M2	FL 2015-M2	FL 2016-M2
Snap action contacts 2x(1NO-1NC)	FL 201-M2	FL 202-M2	FL 205-M2	FL 210-M2	FL 211-M2	FL 215-M2	FL 216-M2

	Spring rod with plastic tip	Spring rod with wire tip	Spring rod		Roller, stainless steel	Adjustable round rod	Adjustable lever
Snap action contacts 1NO+1NC	FL 520-M2	FL 521-M2	FL 525-M2	FL 531-M2	FL 531-M2R24	FL 532-M2	FL 535-M2
Slow action contacts 1NO+1NC	/	/	/	FL 631-M2	FL 631-M2R24	FL 632-M2	FL 635-M2
Slow action contacts 2NC	/	/	/	FL 931-M2	FL 931-M2R24	FL 932-M2	FL 935-M2
Slow action contacts 1NO+2NC	FL 2020-M2	FL 2022-M2	FL 2025-M2	FL 2031-M2	FL 2031-M2R24	FL 2032-M2	FL 2035-M2
Snap action contacts 2x(1NO-1NC)	FL 220-M2	FL 221-M2	FL 225-M2	FL 231-M2	FL 231-M2R24	FL 232-M2	FL 235-M2

	Roller, stainless steel	Glass fibre rod	Bistable			Porcelain roller	Rope switch for signalling
Snap action contacts 1NO+1NC	FL 535-M2R24	FL 536-M2	FL 542-M2	FL 551-M2	FL 552-M2	FL 553-E11M2V9	FL 576-M2
Slow action contacts 1NO+1NC	FL 635-M2R24	FL 636-M2	/	FL 651-M2	FL 652-M2	FL 653-E11M2V9	FL 676-M2
Slow action contacts 2NC	FL 935-M2R24	FL 936-M2	/	FL 951-M2	FL 952-M2	FL 953-E11M2V9	FL 976-M2
Slow action contacts 1NO+2NC	FL 2035-M2R24	FL 2036-M2	/	FL 2051-M2	FL 2052-M2	FL 2053-E11M2V9	FL 2076-M2
Snap action contacts 2x(1NO-1NC)	FL 235-M2R24	FL 236-M2	/	FL 251-M2	FL 252-M2	FL 253-E11M2	FL 276-M2

Accessories
See page 62.
For a complete list of accessories, see the general catalogues.

FC series

External gasket | Roller, stainless steel, external gasket | Roller, stainless steel

Snap action contacts 1NO+1NC	FC 301-M2	FC 302-M2	FC 305-M2	FC 310-M2	FC 311-M2	FC 315-M2	FC 316-M2
Slow action contacts 1NO+1NC	FC 3301-M2	FC 3302-M2	FC 3305-M2	FC 3310-M2	FC 3311-M2	FC 3315-M2	FC 3316-M2
Slow action contacts 2NC	FC 3401-M2	FC 3402-M2	FC 3405-M2	FC 3410-M2	FC 3411-M2	FC 3415-M2	FC 3416-M2

Spring rod with plastic tip | Spring rod with wire tip | Spring rod | | Roller, stainless steel | Adjustable round rod | Adjustable lever

Snap action contacts 1NO+1NC	FC 320-M2	FC 321-M2	FC 325-M2	FC 331-M2	FC 331-M2R24	FC 332-M2	FC 335-M2
Slow action contacts 1NO+1NC	FC 3320-M2	FC 3321-M2	FC 3325-M2	FC 3331-M2	FC 3331-M2R24	FC 3332-M2	FC 3335-M2
Slow action contacts 2NC	FC 3420-M2	FC 3421-M2	FC 3425-M2	FC 3431-M2	FC 3431-M2R24	FC 3432-M2	FC 3435-M2

Roller, stainless steel | Glass fibre rod | | | Porcelain roller | Rope switch for signalling

Snap action contacts 1NO+1NC	FC 335-M2R24	FC 336-M2	FC 351-M2	FC 352-M2	FC 353-E11M2	FC 376-M2
Slow action contacts 1NO+1NC	FC 3335-M2R24	FC 3336-M2	FC 3351-M2	FC 3352-M2	FC 3353-E11M2V9	FC 3376-M2
Slow action contacts 2NC	FC 3435-M2R24	FC 3436-M2	FC 3451-M2	FC 3452-M2	FC 3453-E11M2V9	FC 3476-M2

Position switches with swivelling lever without actuator, see page 19

FR series

Technopolymer housing ▢

One M20x1.5 conduit entry

Protection degree IP67

Marks: CE ⑲ c(UL)us CCC EAC

Ambient temperature: -25°C … +80°C

	External gasket	Roller Ø 12 mm, stainless steel	Plastic roller
Snap action contacts 1NO+1NC	FR 501-M2 ↻	FR 502-M2 ↻	FR 505-M2 ↻	FR 507-M2 ↻	FR 508-M2 ↻	FR 513-M2 ↻	FR 515-M2 ↻
Slow action contacts 1NO+1NC	FR 601-M2 ↻	FR 602-M2 ↻	FR 605-M2 ↻	FR 607-M2 ↻	FR 608-M2 ↻	FR 613-M2 ↻	FR 615-M2 ↻
Slow action contacts 2NC	FR 901-M2 ↻	FR 902-M2 ↻	FR 905-M2 ↻	FR 907-M2 ↻	FR 908-M2 ↻	FR 913-M2 ↻	FR 915-M2 ↻
Slow action contacts 1NO+2NC	FR 2001-M2 ↻	FR 2002-M2 ↻	FR 2005-M2 ↻	FR 2007-M2 ↻	FR 2008-M2 ↻	FR 2013-M2 ↻	FR 2015-M2 ↻
Snap action contacts 2x(1NO-1NC)	FR 201-M2	FR 202-M2	FR 205-M2	FR 207-M2	FR 208-M2	FR 213-M2	FR 215-M2

	Metal roller	Spring rod with plastic tip	Spring rod with wire tip	Spring rod			Round rod, stainless steel
Snap action contacts 1NO+1NC	FR 515-M2R28 ↻	FR 520-M2	FR 521-M2	FR 525-M2	FR 530-M2 ↻	FR 531-M2 ↻	FR 550-M2
Slow action contacts 1NO+1NC	FR 615-M2R28 ↻	/	/	/	FR 630-M2 ↻	FR 631-M2 ↻	FR 650-M2
Slow action contacts 2NC	FR 915-M2R28 ↻	/	/	/	FR 930-M2 ↻	FR 931-M2 ↻	FR 950-M2
Slow action contacts 1NO+2NC	FR 2015-M2R28 ↻	FR 2020-M2	FR 2022-M2	FR 2025-M2	FR 2030-M2 ↻	FR 2031-M2 ↻	FR 2050-M2
Snap action contacts 2x(1NO-1NC)	FR 215-M2R28	FR 220-M2	FR 221-M2	FR 225-M2	FR 230-M2	FR 231-M2	FR 250-M2

	Porcelain roller			Adjustable lever	Adjustable safety lever	Glass fibre rod	Rope switch for signalling
Snap action contacts 1NO+1NC	FR 551-M2 ↻	FR 553-E0M2V9 ↻	FR 554-M2 ↻	FR 555-M2	FR 556-M2 ↻	FR 569-M2	FR 576-M2
Slow action contacts 1NO+1NC	FR 651-M2 ↻	FR 653-E0M2V9 ↻	FR 654-M2 ↻	FR 655-M2	FR 656-M2 ↻	FR 669-M2	FR 676-M2
Slow action contacts 2NC	FR 951-M2 ↻	FR 953-E0M2V9 ↻	FR 954-M2 ↻	FR 955-M2	FR 956-M2 ↻	FR 969-M2	FR 976-M2
Slow action contacts 1NO+2NC	FR 2051-M2 ↻	FR 2053-E0M2V9 ↻	FR 2054-M2 ↻	FR 2055-M2	FR 2056-M2 ↻	FR 2069-M2	FR 2076-M2
Snap action contacts 2x(1NO-1NC)	FR 251-M2	FR 253-E0M2	FR 254-M2	FR 255-M2	FR 256-M2	FR 269-M2	FR 276-M2

Accessories
See page 62.
For a complete list of accessories, see the general catalogues.

FX series

Technopolymer housing ▣

Two conduit entries M20x1.5

Protection degree IP67

Marks: CE ⊕ c UL us CCC EAC

Ambient temperature: -25°C … +80°C

		External gasket	Roller Ø 12 mm, stainless steel	Plastic roller

Snap action contacts 1NO+1NC	FX 501-M2	FX 502-M2	FX 505-M2	FX 507-M2	FX 508-M2	FX 513-M2	FX 515-M2
Slow action contacts 1NO+1NC	FX 601-M2	FX 602-M2	FX 605-M2	FX 607-M2	FX 608-M2	FX 613-M2	FX 615-M2
Slow action contacts 2NC	FX 901-M2	FX 902-M2	FX 905-M2	FX 907-M2	FX 908-M2	FX 913-M2	FX 915-M2
Slow action contacts 1NO+2NC	FX 2001-M2	FX 2002-M2	FX 2005-M2	FX 2007-M2	FX 2008-M2	FX 2013-M2	FX 2015-M2
Snap action contacts 2x(1NO-1NC)	FX 201-M2	FX 202-M2	FX 205-M2	FX 207-M2	FX 208-M2	FX 213-M2	FX 215-M2

| Metal roller | Spring rod with plastic tip | Spring rod with wire tip | Spring rod | | | Round rod, stainless steel |

Snap action contacts 1NO+1NC	FX 515-M2R28	FX 520-M2	FX 521-M2	FX 525-M2	FX 530-M2	FX 531-M2	FX 550-M2
Slow action contacts 1NO+1NC	FX 615-M2R28	/	/	/	FX 630-M2	FX 631-M2	FX 650-M2
Slow action contacts 2NC	FX 915-M2R28	/	/	/	FX 930-M2	FX 931-M2	FX 950-M2
Slow action contacts 1NO+2NC	FX 2015-M2R28	FX 2020-M2	FX 2022-M2	FX 2025-M2	FX 2030-M2	FX 2031-M2	FX 2050-M2
Snap action contacts 2x(1NO-1NC)	FX 215-M2R28	FX 220-M2	FX 221-M2	FX 225-M2	FX 230-M2	FX 231-M2	FX 250-M2

| Porcelain roller | | | Adjustable lever | Adjustable safety lever | Glass fibre rod | Rope switch for signalling |

Snap action contacts 1NO+1NC	FX 551-M2	FX 553-E0M2V9	FX 554-M2	FX 555-M2	FX 556-M2	FX 569-M2	FX 576-M2
Slow action contacts 1NO+1NC	FX 651-M2	FX 653-E0M2V9	FX 654-M2	FX 655-M2	FX 656-M2	FX 669-M2	FX 676-M2
Slow action contacts 2NC	FX 951-M2	FX 953-E0M2V9	FX 954-M2	FX 955-M2	FX 956-M2	FX 969-M2	FX 976-M2
Slow action contacts 1NO+2NC	FX 2051-M2	FX 2053-E0M2V9	FX 2054-M2	FX 2055-M2	FX 2056-M2	FX 2069-M2	FX 2076-M2
Snap action contacts 2x(1NO-1NC)	FX 251-M2	FX 253-E0M2	FX 254-M2	FX 255-M2	FX 256-M2	FX 269-M2	FX 276-M2

Position switches with swivelling lever without actuator, see page 19

FM series

Metal housing
One M20x1.5 conduit entry
Protection degree IP67
Marks: CE 🅈 c🅄Lus CCC EHC
Ambient temperature: -25°C … +80°C

				External gasket	Roller Ø 12 mm, stainless steel	Metal roller
	FM 501-M2 →	FM 502-M2 →	FM 505-M2 →	FM 507-M2 →	FM 508-M2 →	FM 513-M2 →	FM 515-M2R28 →

Snap action contacts 1NO+1NC	FM 501-M2 →	FM 502-M2 →	FM 505-M2 →	FM 507-M2 →	FM 508-M2 →	FM 513-M2 →	FM 515-M2R28 →
Slow action contacts 1NO+1NC	FM 601-M2 →	FM 602-M2 →	FM 605-M2 →	FM 607-M2 →	FM 608-M2 →	FM 613-M2 →	FM 615-M2R28 →
Slow action contacts 2NC	FM 901-M2 →	FM 902-M2 →	FM 905-M2 →	FM 907-M2 →	FM 908-M2 →	FM 913-M2 →	FM 915-M2R28 →
Slow action contacts 1NO+2NC	FM 2001-M2 →	FM 2002-M2 →	FM 2005-M2 →	FM 2007-M2 →	FM 2008-M2 →	FM 2013-M2 →	FM 2015-M2R28 →
Snap action contacts 2x(1NO-1NC)	FM 201-M2	FM 202-M2	FM 205-M2	FM 207-M2	FM 208-M2	FM 213-M2	FM 215-M2R28

	Spring rod with plastic tip	Spring rod with wire tip	Spring rod			Round rod, stainless steel	
Snap action contacts 1NO+1NC	FM 520-M2	FM 521-M2	FM 525-M2	FM 530-M2 →	FM 531-M2 →	FM 550-M2	FM 551-M2 →
Slow action contacts 1NO+1NC	/	/	/	FM 630-M2 →	FM 631-M2 →	FM 650-M2	FM 651-M2 →
Slow action contacts 2NC	/	/	/	FM 930-M2 →	FM 931-M2 →	FM 950-M2	FM 951-M2 →
Slow action contacts 1NO+2NC	FM 2020-M2	FM 2022-M2	FM 2025-M2	FM 2030-M2 →	FM 2031-M2 →	FM 2050-M2	FM 2051-M2 →
Snap action contacts 2x(1NO-1NC)	FM 220-M2	FM 221-M2	FM 225-M2	FM 230-M2	FM 231-M2	FM 250-M2	FM 251-M2

	Porcelain roller		Adjustable lever	Adjustable safety lever	Glass fibre rod	Rope switch for signalling
Snap action contacts 1NO+1NC	FM 553-E0M2V9 →	FM 554-M2 →	FM 555-M2	FM 556-M2 →	FM 569-M2	FM 576-M2
Slow action contacts 1NO+1NC	FM 653-E0M2V9 →	FM 654-M2 →	FM 655-M2	FM 656-M2 →	FM 669-M2	FM 676-M2
Slow action contacts 2NC	FM 953-E0M2V9 →	FM 954-M2 →	FM 955-M2	FM 956-M2 →	FM 969-M2	FM 976-M2
Slow action contacts 1NO+2NC	FM 2053-E0M2V9 →	FM 2054-M2 →	FM 2055-M2	FM 2056-M2 →	FM 2069-M2	FM 2076-M2
Snap action contacts 2x(1NO-1NC)	FM 253-E0M2	FM 254-M2	FM 255-M2	FM 256-M2	FM 269-M2	FM 276-M2

Accessories
See page 62.
For a complete list of accessories, see the general catalogues.

FZ series

Metal housing

Two conduit entries M20x1.5

Protection degree IP67

Marks: CE 🛡 c(UL)us CCC EAC

Ambient temperature: -25°C … +80°C

	External gasket	Roller Ø 12 mm, stainless steel	Metal roller

Snap action contacts 1NO+1NC	FZ 501-M2	FZ 502-M2	FZ 505-M2	FZ 507-M2	FZ 508-M2	FZ 513-M2	FZ 515-M2R28
Slow action contacts 1NO+1NC	FZ 601-M2	FZ 602-M2	FZ 605-M2	FZ 607-M2	FZ 608-M2	FZ 613-M2	FZ 615-M2R28
Slow action contacts 2NC	FZ 901-M2	FZ 902-M2	FZ 905-M2	FZ 907-M2	FZ 908-M2	FZ 913-M2	FZ 915-M2R28
Slow action contacts 1NO+2NC	FZ 2001-M2	FZ 2002-M2	FZ 2005-M2	FZ 2007-M2	FZ 2008-M2	FZ 2013-M2	FZ 2015-M2R28
Snap action contacts 2x(1NO-1NC)	FZ 201-M2	FZ 202-M2	FZ 205-M2	FZ 207-M2	FZ 208-M2	FZ 213-M2	FZ 215-M2R28

Spring rod with plastic tip	Spring rod with wire tip	Spring rod			Round rod, stainless steel	

Snap action contacts 1NO+1NC	FZ 520-M2	FZ 521-M2	FZ 525-M2	FZ 530-M2	FZ 531-M2	FZ 550-M2	FZ 551-M2
Slow action contacts 1NO+1NC	/	/	/	FZ 630-M2	FZ 631-M2	FZ 650-M2	FZ 651-M2
Slow action contacts 2NC	/	/	/	FZ 930-M2	FZ 931-M2	FZ 950-M2	FZ 951-M2
Slow action contacts 1NO+2NC	FZ 2020-M2	FZ 2022-M2	FZ 2025-M2	FZ 2030-M2	FZ 2031-M2	FZ 2050-M2	FZ 2051-M2
Snap action contacts 2x(1NO-1NC)	FZ 220-M2	FZ 221-M2	FZ 225-M2	FZ 230-M2	FZ 231-M2	FZ 250-M2	FZ 251-M2

Porcelain roller		Adjustable lever	Adjustable safety lever	Glass fibre rod	Rope switch for signalling

Snap action contacts 1NO+1NC	FZ 553-E0M2V9	FZ 554-M2	FZ 555-M2	FZ 556-M2	FZ 569-M2	FZ 576-M2
Slow action contacts 1NO+1NC	FZ 653-E0M2V9	FZ 654-M2	FZ 655-M2	FZ 656-M2	FZ 669-M2	FZ 676-M2
Slow action contacts 2NC	FZ 953-E0M2V9	FZ 954-M2	FZ 955-M2	FZ 956-M2	FZ 969-M2	FZ 976-M2
Slow action contacts 1NO+2NC	FZ 2053-E0M2V9	FZ 2054-M2	FZ 2055-M2	FZ 2056-M2	FZ 2069-M2	FZ 2076-M2
Snap action contacts 2x(1NO-1NC)	FZ 253-E0M2	FZ 254-M2	FZ 255-M2	FZ 256-M2	FZ 269-M2	FZ 276-M2

FD, FL, FC, FP series

Position switches with swivelling lever without actuator
Metal housing (FD, FL, FC)
Technopolymer housing (FP) ▢
One M20x1.5 conduit entry (FD, FP, FC)
Three M20x1.5 conduit entries (FL)
Protection degree IP67

Marks: CE Ⓨ cⓊus ⒸⒸ EHC

Snap action contacts 1NO+1NC	FD 538-M2 ⊕	FD 558-M2 ⊕	FL 538-M2 ⊕	FL 558-M2 ⊕	FC 338-M2	FC 358-M2	FP 538-M2 ⊕	FP 558-M2 ⊕
Slow action contacts 1NO+1NC	FD 638-M2 ⊕	FD 658-M2 ⊕	FL 638-M2 ⊕	FL 658-M2 ⊕	FC 3338-M2 ⊕	FC 3358-M2 ⊕	FP 638-M2 ⊕	FP 658-M2 ⊕
Slow action contacts 2NC	FD 938-M2 ⊕	FD 958-M2 ⊕	FL 938-M2 ⊕	FL 958-M2 ⊕	FC 3438-M2 ⊕	FC 3458-M2 ⊕	FP 938-M2 ⊕	FP 958-M2 ⊕
Slow action contacts 1NO+2NC	FD 2038-M2 ⊕	FD 2058-M2 ⊕	FL 2038-M2 ⊕	FL 2058-M2 ⊕	/	/	FP 2038-M2 ⊕	FP 2058-M2 ⊕
Snap action contacts 2x(1NO-1NC)	FD 238-M2	FD 258-M2	FL 238-M2	FL 258-M2	/	/	FP 238-M2	FP 258-M2

Separate actuators

Round rod   Square rod

VF L31 ⊕   VF L32   VF L33   VF L34   VF L35   VF L36   VF L51 ⊕   VF L52 ⊕   VF L53 ⊕   VF L56 ⊕   VF L57 ⊕

Attention! These separate actuators can be used only with items of the FD, FL, FC and FP series.

FR, FX, FM, FZ series

Position switches with swivelling lever without actuator
Metal housing (FM, FZ)
Technopolymer housing (FR, FX) ▢
One M20x1.5 conduit entry (FR, FM)
Two M20x1.5 conduit entries (FX, FZ)
Protection degree IP67

Marks: CE Ⓨ cⓊus ⒸⒸ EHC

With reset

Snap action contacts 1NO+1NC	FR 538-M2 ⊕	FX 538-M2 ⊕	FM 538-M2 ⊕	FZ 538-M2 ⊕	/
Slow action contacts 1NO+1NC	FR 638-M2 ⊕	FX 638-M2 ⊕	FM 638-M2 ⊕	FZ 638-M2 ⊕	FR 638-W3M2 ⊕
Slow action contacts 2NC	FR 938-M2 ⊕	FX 938-M2 ⊕	FM 938-M2 ⊕	FZ 938-M2 ⊕	FR 938-W3M2 ⊕
Slow action contacts 1NO+2NC	FR 2038-M2 ⊕	FX 2038-M2 ⊕	FM 2038-M2 ⊕	FZ 2038-M2 ⊕	FR 2038-W3M2 ⊕
Snap action contacts 2x(1NO-1NC)	FR 238-M2	FX 238-M2	FM 238-M2	FZ 238-M2	FR 238-W3M2

Separate actuators

Square rod   Round rod

VF LE30 ⊕   VF LE31 ⊕   VF LE33   VF LE34   VF LE50   VF LE51 ⊕   VF LE52 ⊕   VF LE53 ⊕   VF LE54 ⊕   VF LE55   VF LE56 ⊕   VF LE57 ⊕   VF LE69

Attention! These separate actuators can be used only with items of the FR, FX, FM and FZ series.

Accessories
See page 62.
For a complete list of accessories, see the general catalogues.

FR series

Technopolymer housing ▢

One M20x1.5 conduit entry

Protection degree IP67

Marks: CE Ⓨ c(UL)us ⓒⓒⓒ EHC

Ambient temperature: -25°C … +80°C

Slow action contacts 1NO+1NC	FR 601-W3M2 →	FR 602-W3M2 →	FR 605-W3M2 →	FR 607-W3M2 →	FR 615-W3M2 →	FR 630-W3M2 →	FR 651-W3M2 →	FR 654-W3M2 →
Slow action contacts 2NC	FR 901-W3M2 →	FR 902-W3M2 →	FR 905-W3M2 →	FR 907-W3M2 →	FR 915-W3M2 →	FR 930-W3M2 →	FR 951-W3M2 →	FR 954-W3M2 →
Slow action contacts 1NO+2NC	FR 2001-W3M2 →	FR 2002-W3M2 →	FR 2005-W3M2 →	FR 2007-W3M2 →	FR 2015-W3M2 →	FR 2030-W3M2 →	FR 2051-W3M2 →	FR 2054-W3M2 →

To order a product of the FX, FM or FZ series, replace FR with FX, FM or FZ in the codes shown above.
Example: **FR** 601-W3M2 → **FM** 601-W3M2

Pizzato Elettrica has developed a reset device code W3 to make perfectly simultaneous the actuator and the contact block tripping. This device is a module that is mounted between the body and the head of the switch that can be rotated independently from the head. The reset device has the following advantages:
• Contact blocks with snap action are no more necessary because the tripping movement is executed by the reset device itself;
• Can be rotated independently from the head ensuring maximum flexibility during installation;
• Can be delivered with two different actuating forces: standard (W3) and increased (W4) for vibration applications;
• Mechanical endurance: 1 million operating cycles.

Switches for **special applications**

3F

FR series
with electronic contact block

Technopolymer housing ▢

One M20x1.5 conduit entry

Protection degree IP67

Marks: CE EHC

Ambient temperature: -25°C … +80°C

PNP switching outputs (1NO-1NC)	FR E121-M2	FR E155-M2	FR E138-M2

To order a product of the FX, FM or FZ series, replace FR with FX, FM or FZ in the codes shown above. Example: **FR** E121-M2 → **FM** E121-M2

For separate actuators see page 19

• Rated voltage (Ue): 10 … 30 Vdc
• Rated current (Ie): 200 mA
• Adjustable switching point
• Bounce-free output signals
• Two static outputs, 1NO and 1NC

• Reduced actuating force
• Signal LEDs for power supply and switching
• Minimum differential travel

Adjusting screw

Green LED (power supply)   Yellow LED (switching)

NC NO - +

MK series
for high temperatures

+120°C

Ambient temperature: -25°C … +120°C
Technopolymer housing
Versions with positive opening ⊖
Screw terminals
Protection degree IP40 (electrical contacts)
Marks: CE c(UL)us EHC

Snap action contacts 1NO+1NC	MK V11D05-T7 →	MK V11D10-T7 →	MK V11D12-T7 →	MK V11D15-T7 →	MK V11F30-T7	MK V11F40-R16T7	MK V11F45-R16T7 →

FD series
for high temperatures

+180°C

Ambient temperature: -15°C … +180°C
Metal housing
One M20x1.5 conduit entry
Protection degree IP67
Marks: CE EHC

Slow action contacts 1NO+2NC	FD 2011-M2T2 →	FD 2016-M2T2 →	FD 2031-M2R24T2 →	FD 2032-M2T2	FD 2033-M2T2	FD 2056-M2R24T2 →	FD 2057-M2R24T2

NA series

Metal housing

Cable length 2 m (other cable lengths available on request)

Mounting hole spacing 20 mm

Protection degrees IP67 and IP69K

Marks: $C\epsilon$ ⓄⒿ c(UL)us ⓒⒸⒸ EAC

Snap action contacts 1NO+1NC	NA B110AB-DN2 ⊕	NA B110BB-DN2 ⊕	NA B110EB-DN2 ⊕	NA B110FB-DN2 ⊕	NA B110HB-DN2	NA B110HE-DN2	NA B112KC-DN2 ⊕	NA B112KD-DN2 ⊕
Snap action contacts 1NO+2NC	NA B120AB-DN2 ⊕	NA B120BB-DN2 ⊕	NA B120EB-DN2 ⊕	NA B120FB-DN2 ⊕	NA B120HB-DN2	NA B120HE-DN2	NA B122KC-DN2 ⊕	NA B122KD-DN2 ⊕
Snap action contacts 2NO+2NC	NA B220AB-DN2 ⊕	NA B220BB-DN2 ⊕	NA B220EB-DN2 ⊕	NA B220FB-DN2 ⊕	NA B220HB-DN2	NA B220HE-DN2	NA B222KC-DN2 ⊕	NA B222KD-DN2 ⊕
Slow action contacts 1NO+1NC	NA G110AB-DN2 ⊕	NA G110BB-DN2 ⊕	NA G110EB-DN2 ⊕	NA G110FB-DN2 ⊕	/	/	NA G112KC-DN2 ⊕	NA G112KD-DN2 ⊕
Slow action contacts 1NO+2NC	NA G120AB-DN2 ⊕	NA G120BB-DN2 ⊕	NA G120EB-DN2 ⊕	NA G120FB-DN2 ⊕	/	/	NA G122KC-DN2 ⊕	NA G122KD-DN2 ⊕
Slow action contacts 2NO+2NC	NA G220AB-DN2 ⊕	NA G220BB-DN2 ⊕	NA G220EB-DN2 ⊕	NA G220FB-DN2 ⊕	/	/	NA G222KC-DN2 ⊕	NA G222KD-DN2 ⊕

M12 connector, right

To order a product with M12 right connector, replace DN2 with DMK in the codes shown above. Example: NA B110AA-**DN2** → NA B110AA-**DMK**

M12 connector, bottom

To order a product with M12 bottom connector, replace DN2 with SMK in the codes shown above. Example: NA B110AA-**DN2** → NA B110AA-**SMK**

AMP Superseal 1.5 connector

To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example: NA B110AA-**DN2** → NA B110AA-**SAK**

Cable and M12 connector

To order a product with cable and M12 connector replace DN2 with DM0.2 in the codes shown above. Example: NA B110AA-**DN2** → NA B110AA-**DM0.2**

NF series

Technopolymer housing ▫

Cable length 2 m (other cable lengths available on request)

Mounting hole spacing 20 mm

Protection degrees IP67 and IP69K

Marks: $C\epsilon$ ⓄⒿ c(UL)us ⓒⒸⒸ EAC

Snap action contacts 1NO+1NC	NF B110AB-DN2 ⊕	NF B110BB-DN2 ⊕	NF B110EB-DN2 ⊕	NF B110FB-DN2 ⊕	NF B110HB-DN2	NF B110HE-DN2	NF B112KC-DN2 ⊕	NF B112KD-DN2 ⊕
Snap action contacts 1NO+2NC	NF B120AB-DN2 ⊕	NF B120BB-DN2 ⊕	NF B120EB-DN2 ⊕	NF B120FB-DN2 ⊕	NF B120HB-DN2	NF B120HE-DN2	NF B122KC-DN2 ⊕	NF B122KD-DN2 ⊕
Snap action contacts 2NO+2NC	NF B220AB-DN2 ⊕	NF B220BB-DN2 ⊕	NF B220EB-DN2 ⊕	NF B220FB-DN2 ⊕	NF B220HB-DN2	NF B220HE-DN2	NF B222KC-DN2 ⊕	NF B222KD-DN2 ⊕
Slow action contacts 1NO+1NC	NF G110AB-DN2 ⊕	NF G110BB-DN2 ⊕	NF G110EB-DN2 ⊕	NF G110FB-DN2 ⊕	/	/	NF G112KC-DN2 ⊕	NF G112KD-DN2 ⊕
Slow action contacts 1NO+2NC	NF G120AB-DN2 ⊕	NF G120BB-DN2 ⊕	NF G120EB-DN2 ⊕	NF G120FB-DN2 ⊕	/	/	NF G122KC-DN2 ⊕	NF G122KD-DN2 ⊕
Slow action contacts 2NO+2NC	NF G220AB-DN2 ⊕	NF G220BB-DN2 ⊕	NF G220EB-DN2 ⊕	NF G220FB-DN2 ⊕	/	/	NF G222KC-DN2 ⊕	NF G222KD-DN2 ⊕

M12 connector, right

To order a product with M12 right connector, replace DN2 with DMK in the codes shown above. Example: NF B110AA-**DN2** → NF B110AA-**DMK**

M12 connector, bottom

To order a product with M12 bottom connector, replace DN2 with SMK in the codes shown above. Example: NF B110AA-**DN2** → NF B110AA-**SMK**

AMP Superseal 1.5 connector

To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example: NF B110AA-**DN2** → NF B110AA-**SAK**

Cable and M12 connector

To order a product with cable and M12 connector replace DN2 with DM0.2 in the codes shown above. Example: NF B110AA-**DN2** → NF B110AA-**DM0.2**

Accessories

By installing spacers between two switches, it is possible to have 2 or more pre-wired switches, preventing them from slipping.
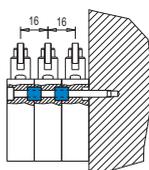
Article	Description
VN DT1F	Spacer for NA and NF series

Packs of 10 pcs. We only accept orders for complete packaging units.

Accessories
See page 62.
For a complete list of accessories, see the general catalogues.

Housings

NA metal housing hole spacing 20 mm		**NF technopolymer housing** hole spacing 20 mm	
NA B11000 ⊖	1NO+1NC [R]	NF B11000 ⊖	1NO+1NC [R]
NA G11000 ⊖	1NO+1NC [L]	NF G11000 ⊖	1NO+1NC [L]
NA B12000 ⊖	1NO+2NC [R]	NF B12000 ⊖	1NO+2NC [R]
NA G12000 ⊖	1NO+2NC [L]	NF G12000 ⊖	1NO+2NC [L]
NA B22000 ⊖	2NO+2NC [R]	NF B22000 ⊖	2NO+2NC [R]
NA G22000 ⊖	2NO+2NC [L]	NF G22000 ⊖	2NO+2NC [L]

Contact type: [R] = snap action   [L] = slow action

Connectors with cable

Connector for NA housings		Connector for NF housings		Cable length (m)
VN CM11DN2	1NO+1NC	VN CP11DN2	1NO+1NC	2
VN CM11DN5	1NO+1NC	VN CP11DN5	1NO+1NC	5
VN CM12DN2	1NO+2NC	VN CP12DN2	1NO+2NC	2
VN CM12DN5	1NO+2NC	VN CP12DN5	1NO+2NC	5
VN CM22DN2	2NO+2NC	VN CP22DN2	2NO+2NC	2
VN CM22DN5	2NO+2NC	VN CP22DN5	2NO+2NC	5

M12 or AMP connectors

M12 connector, right, for NA housings	M12 connector, bottom, for NA housings	Cable and M12 connector for NA housings	M12 connector, right, for NF housings	M12 connector, bottom, for NF housings	AMP Superseal 1.5 connector for NF housings	Cable and M12 connector for NF housings
VN CM11DMK 1NO+1NC	VN CM11SMK 1NO+1NC	VN CM11DM0.2 1NO+1NC	VN CP11DMK 1NO+1NC	VN CP11SMK 1NO+1NC	VN CP11SAK 1NO+1NC	VN CP11DM0.2 1NO+1NC
VN CM22DMK 2NO+2NC	VN CM22SMK 2NO+2NC	VN CM22DM0.2 2NO+2NC	VN CP22DMK 2NO+2NC	VN CP22SMK 2NO+2NC	VN CP02SAK 2NC	VN CP22DM0.2 2NO+2NC

Attention! Always check that the applied electric load is within the voltage and current limits defined for the connectors.

Actuators

Unidirectional rol-ler lever

| VN AA0AA ⊕ | VN AA0AB ⊕ | VN AA0AC ⊕ | VN AA0AE ⊕ | VN AA0BB ⊕ | VN AA0BE ⊕ | VN AA0CB ⊕ | VN AA0CH ⊕ | VN AA0CP ⊕ |

Plunger with Ø 6 mm ball

| VN AA0CV ⊕ | VN AA0EB ⊕ | VN AA0EE ⊕ | VN AA0FB ⊕ | VN AA0GB ⊕ | VN AA0HB | VN AA0HE | VN AA0HH | VN AA0BB-W5 ⊕ |

Levers

Attention: These separate actuators can be used only with items of the NA and NF series

| VN A00KA ⊕ | VN A00KB ⊕ | VN A00KC ⊕ | VN A00KD ⊕ | VN A00KE ⊕ | VN A00KF ⊕ | VN A00KG ⊕ | VN A00KH ⊕ | VN A00KP ⊕ |

Stainless steel rod 3 x 3 x 125 mm, adjustable	Stainless steel rod Ø 3 x 125 mm, adjustable	Glass fibre rod Ø 6 x 200 mm, adjustable		Metal head for swivelling lever actuators	90° redirection
VN A00LB	VN A00LE	VN A00LH	VN A00LL	VN AA200 ⊕	VN AA000-W5 ⊕

⚠ **Installation for safety applications:**
To obtain a safety switch with positive opening, ⊖ use only housings and actuators which are marked with the symbol ⊖ for positive opening next to their article code.⊖
Example:
VN A00KB ⊖ + VN AA200 ⊖ + NA B11000 ⊖

MK series

Screw terminals
Technopolymer housing ☐
Versions with positive opening ⊖
Marks: CE Ⓨ c(UL)us CCC EAC

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK V11D01	MK V11D02	MK V11D03	MK V11D04	MK V11D05 ⊖	MK V11D06 ⊖	MK V11D08 ⊖
Maximum protection degree IP65	MK V12D01	MK V12D02	MK V12D03	MK V12D04	MK V12D05 ⊖	MK V12D06 ⊖	MK V12D08 ⊖

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK V11D09 ⊖	MK V11D10 ⊖	MK V11D12 ⊖	MK V11D13 ⊖	MK V11D15 ⊖	MK V11D17 ⊖	MK V11D18 ⊖
Maximum protection degree IP65	MK V12D09 ⊖	MK V12D10 ⊖	MK V12D12 ⊖	MK V12D13 ⊖	MK V12D15 ⊖	MK V12D17 ⊖	MK V12D18 ⊖

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK V11D19 ⊖	MK V11D30	MK V11D31	MK V11D32	MK V11D35	MK V11D37	MK V11D40
Maximum protection degree IP65	MK V12D19 ⊖	MK V12D30	MK V12D31	MK V12D32	MK V12D35	MK V12D37	MK V12D40

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK V11D42	MK V11D45	MK V11D46	MK V11D47	MK V11D53	MK V11D59
Maximum protection degree IP65	MK V12D42	MK V12D45	MK V12D46	MK V12D47	MK V12D53	MK V12D59

Direct actuation at the back
1NO+1NC, snap action

Maximum protection degree IP40	MK V11F30	MK V11F31 ⊖	MK V11F32	MK V11F35	MK V11F40	MK V11F42 ⊖	MK V11F45 ⊖
Maximum protection degree IP65	MK V12F30	MK V12F31 ⊖	MK V12F32	MK V12F35	MK V12F40	MK V12F42 ⊖	MK V12F45 ⊖

Direct actuation at the back
1NO+1NC, snap action

Maximum protection degree IP40	MK V11F46 ⊖	MK V11F47 ⊖	MK V11F49 ⊖	MK V11F53	MK V11F59 ⊖
Maximum protection degree IP65	MK V12F46 ⊖	MK V12F47 ⊖	MK V12F49 ⊖	MK V12F53	MK V12F59 ⊖

Circuit diagram

NO ─
NC ─
COMMON
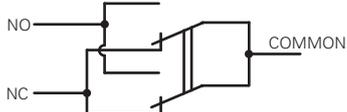
Mobile contact with single interruption
and double contacts

COMMON   NC   NO   COMMON   NC   NO
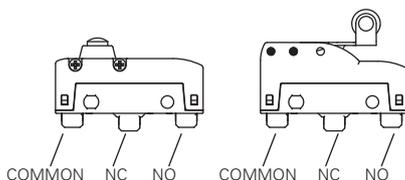
Actuators with variable orientation

Thanks to our new lateral fixing system, the roller of the microswitches MK ••••15 and MK ••••17 can be now rotated in 90° steps.

Terminal types

V (example: MK **V**11D04)
Screw with self-lifting plate

H (example: MK **H**11D04)
Faston 6.3 mm, vertical

Protection degree

IP00 without terminal cover
IP20 (with terminal covers VF C01, VF C03)
IP40 (with terminal covers VF MKC•1•, VF C02)
IP65 (with terminal covers VF MKC•22, VF MKC•23)

MK series

Faston terminals
Technopolymer housing ▢
Versions with positive opening ⊖
Marks: CE ⓨ c(UL)us (CC) EHE

Maximum protection degree IP40	MK H11D01	MK H11D02	MK H11D03	MK H11D04	MK H11D05 ⊖	MK H11D06 ⊖	MK H11D08 ⊖
Maximum protection degree IP65	MK H12D01	MK H12D02	MK H12D03	MK H12D04	MK H12D05 ⊖	MK H12D06 ⊖	MK H12D08 ⊖

Direct actuation
1NO+1NC, snap action

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK H11D09 ⊖	MK H11D10 ⊖	MK H11D12 ⊖	MK H11D13 ⊖	MK H11D15 ⊖	MK H11D17 ⊖	MK H11D18 ⊖
Maximum protection degree IP65	MK H12D09 ⊖	MK H12D10 ⊖	MK H12D12 ⊖	MK H12D13 ⊖	MK H12D15 ⊖	MK H12D17 ⊖	MK H12D18 ⊖

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK H11D19 ⊖	MK H11D30	MK H11D31	MK H11D32	MK H11D35	MK H11D37	MK H11D40
Maximum protection degree IP65	MK H12D19 ⊖	MK H12D30	MK H12D31	MK H12D32	MK H12D35	MK H12D37	MK H12D40

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40	MK H11D42	MK H11D45	MK H11D46	MK H11D47	MK H11D53	MK H11D59
Maximum protection degree IP65	MK H12D42	MK H12D45	MK H12D46	MK H12D47	MK H12D53	MK H12D59

Direct actuation at the back
1NO+1NC, snap action

Maximum protection degree IP40	MK H11F30	MK H11F31 ⊖	MK H11F32	MK H11F35	MK H11F40	MK H11F42 ⊖	MK H11F45 ⊖
Maximum protection degree IP65	MK H12F30	MK H12F31 ⊖	MK H12F32	MK H12F35	MK H12F40	MK H12F42 ⊖	MK H12F45 ⊖

Direct actuation at the back
1NO+1NC, snap action

Maximum protection degree IP40	MK H11F46 ⊖	MK H11F47 ⊖	MK H11F49 ⊖	MK H11F53	MK H11F59 ⊖
Maximum protection degree IP65	MK H12F46 ⊖	MK H12F47 ⊖	MK H12F49 ⊖	MK H12F53	MK H12F59 ⊖

Protective terminal covers

Packs of 10 pcs. We only accept orders for complete packaging units.

Terminal cover for vertical faston terminals with strain relief cable gland and snap-in mounting. It allows to install mutiple switches side-by-side.

Article	Description	Prot. degree
VF MKCH11	Without gasket for cables Ø 5 … 7.5 mm	IP40
VF MKCH12	Without gasket for cables Ø 4 … 7.5 mm	IP40
VF MKCH13	Without gasket for cables Ø 2 … 5 mm	IP40
VF MKCH22	With gasket for cables Ø 4 … 7.5 mm	IP65
VF MKCH23	With gasket for cables Ø 2 … 5 mm	IP65

Terminal cover for screw terminals with strain relief cable gland and snap-in mounting. It allows to install mutiple switches side-by-side.

Article	Description	Prot. degree
VF MKCV11	Without gasket for cables Ø 5 … 7.5 mm	IP40
VF MKCV12	Without gasket for cables Ø 4 … 7.5 mm	IP40
VF MKCV13	Without gasket for cables Ø 2 … 5 mm	IP40
VF MKCV22	With gasket for cables Ø 4 … 7.5 mm	IP65
VF MKCV23	With gasket for cables Ø 2 … 5 mm	IP65

Protective terminal cover for screw terminals.
Protection degree IP20.

Article	Description
VF C01	Protective terminal cover

Protective terminal cover for screw terminals with PG9 cable gland for multipolar cables Ø 5 … 7 mm.
Protection degree IP40.

Article	Description
VF C02	Protective terminal cover

Protective terminal cover for screw terminals, snap-in mounting. It allows to install mutiple switches side-by-side.
Protection degree IP20.

Article	Description
VF C03	Protective terminal cover

MS series

Solder terminals

Technopolymer housing ▢

Marks: CE Ⓨ EAC

Maximum protection degree IP40

Direct actuation
1NO+1NC, snap action

| MS 05 | MS 08 | MS 09 | MS 10 | MS 15 | MS 17 | MS 20 |

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40

| MS 30 | MS 40 | MS 42 | MS 45 | MS 49 |

Inverted actuation
1NO+1NC, snap action

Maximum protection degree IP40

| MS 55 |

MF series

Faston terminals

Technopolymer housing ▢

Marks: CE Ⓨ EAC

Maximum protection degree IP40

Direct actuation
1NO+1NC, snap action

| MF 05 | MF 08 | MF 09 | MF 10 | MF 15 | MF 17 | MF 20 |

Direct actuation
1NO+1NC, snap action

Maximum protection degree IP40

| MF 30 | MF 40 | MF 42 | MF 45 | MF 49 |

Inverted actuation
1NO+1NC, snap action

Maximum protection degree IP40

| MF 55 |

Orientable roller

It is possible to rotate the roller of the M• 20 microswitch in 90° steps.

Circuit diagram

With direct actuation	With inverted actuation
COMMON NO NC COMMON NO NC	COMMON NC NO

14 NO —
12 NC —
11 COMMON
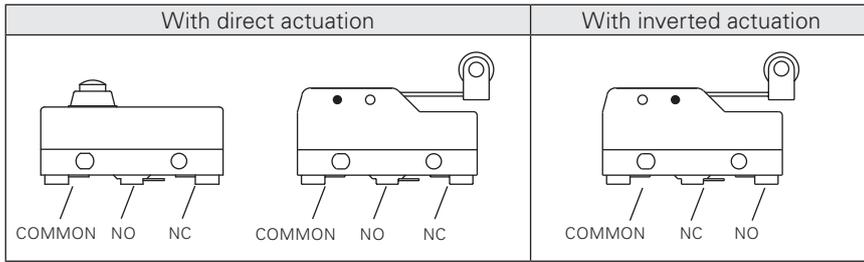
Change-over contact element with single interruption and three terminals.

Protective terminal covers

	Protective terminal cover for screw terminals. Protection degree IP20.		Protective terminal cover for screw terminals with PG9 cable gland for multipolar cables Ø 5 … 7 mm. Protection degree IP40.		Protective terminal cover for screw terminals, snap-in mounting. It allows to install mutiple switches side-by-side. Protection degree IP20.

Article	Description		Article	Description		Article	Description
VF C01	Protective terminal cover		VF C02	Protective terminal cover		VF C03	Protective terminal cover

PA, PX series

Technopolymer housing ▣

One M20x1.5 conduit entry

Two lateral knock-out conduit entries

Stainless steel external metallic parts

Protection degree IP53 or IP65

Contact block marks: CE EHC c(UL)us CCC

Snap action contacts 1NO+1NC	
Snap action contacts 2NO+2NC	
Slow action contacts 1NO+1NC	

With M25 hole for VF KIT31

PX 10110-M2 ⊕	PA 20100-M2 ⊕	PX 10110-BM2 ⊕
PX 10210-M2 ⊕	PA 20200-M2 ⊕	PX 10210-BM2 ⊕
PX 10310-M2 ⊕	PA 20300-M2 ⊕	PX 10310-BM2 ⊕

Code structure

article   options

PX 10110-AGM2

Foot switches

PX	closed version
PA	open version

Contact block combinations

01	1NO+1NC, snap action
02	2x(1NO+1NC), snap action
03	1NO+1NC, slow action
04	2x(1NO+1NC), slow action
05	2x2NO, slow action
06	2x2NC, slow action
07	2NC, slow action
08	2NO, slow action
09	1NO+1NC, slow action, make before break
14	2NO, snap action
15	2NC, snap action
20	2x(1NO+1NC), snap action, shifted
24	(1NO+1NC)+(2NC), snap action, shifted

Protection colour

1	yellow RAL 1023 (standard)
2	red RAL 3020
4	grey RAL 7040
5	black RAL 9017
6	blue RAL 5017

Devices

0	no device
1	with safety lever
2	lock of the pedal actuator
3	without safety lever and with two-stage actuating force (only when combined with contact blocks 20-24)
4	with safety lever and with two-stage actuating force (only when combined with contact blocks 20-24)

Threaded conduit entry

M2	M20x1.5 (standard)
	PG 13.5

Contact type

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

Accessories (PX series only)

	no accessories (standard)
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

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

Selection diagram

CARRYING RODS

EMERGENCY PUSH BUTTON

ADDITIONAL METAL PROTECTION

PX 6••••

PX 5••••

PX 4••••

PX 2••••

PX 1••••

METAL PIPES

CLOSED PROTECTIONS

PA 5••••

PA 2••••

PX •••••-B

CARRYING HANDLE

OPEN PROTECTIONS

CONTACT BLOCK COMBINATIONS

PEDAL DEVICES

01
1NO+1NC, snap action

02
2NO+2NC, snap action

STABILIZING PLATE

0 no device	1 with safety lever	2 lock of the pedal actuator
3 two-stage	4 two-stage with safety lever	

━━● product option

⟶ Sold separately as accessory

Auxiliary elements for modular foot switches

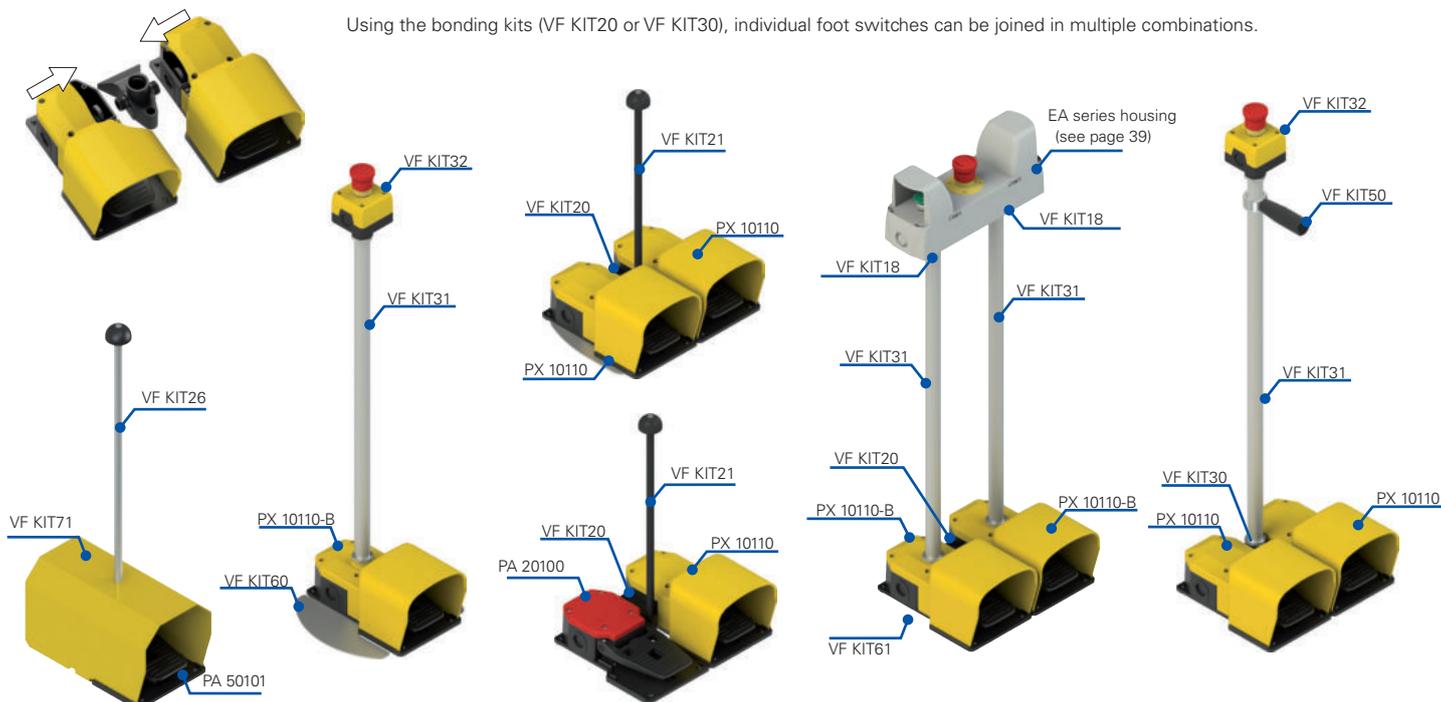| VF KIT20	VF KIT30	VF KIT21 (L=400 mm)	VF KIT25 (L=400 mm)
		VF KIT22 (L=660 mm)	VF KIT26 (L=660 mm)
Joining element for technopolymer pedals with hole for carrying rod, with nuts, seals and self-tapping screws for the fixing of the two single pedals. Protection degree IP65.	Joining element for technopolymer pedals with M25x1.5 threaded hole, with nuts, seals and self-tapping screws for the fixing of the two single pedals. Protection degree IP65.	Plastic carrying rod set (can be connected to VF KIT20) with self-tapping screw for rod fixing.	Metal carrying rod set (can be connected to VF KIT20) with self-tapping screw for rod fixing.
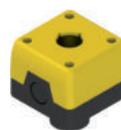
VF KIT31 (L=660 mm)	VF KIT18	VF KIT32 (1NC)	VF KIT35	VF KIT50
VF KIT29 (L=740 mm)		VF KIT33 (1NC+1NO)		
		VF KIT34 (2NC)		
Ø 25 metal tube set with M25x1.5 threaded ends with brass nuts and gaskets.	Metal nut M25x1.5 to be used with VF KIT31 or VF KIT29 if off-the-shelf housings are used. Packs of 10 pcs.	Emergency stop button kit with mechanical positive actuation compliant with EN 60947-5-1 and EN ISO 13850, to combine with VF KIT31 or VF KIT29. Protection degree IP65.	Empty housing kit with Ø 22 mm hole, compliant with EN 60947-5-1, to combine with VF KIT31 or VF KIT29. Protection degree IP65.	Carrying handle kit for tube Ø 25 mm, to combine with VF KIT31 or VF KIT29.

VF KIT60	VF KIT61	VF KIT71	VF KIT81	VF B501 (1NC+1NO, snap action)
				VF B601 (1NC+1NO, slow action)
Metal stabilizing plate for single pedals.	Metal stabilizing plate for double pedals.	Additional metal protections for single PA series foot switches. In heavy-duty work environments, increased dimensions for safety shoe. Not applicable with VF KIT60.	Additional metal protections for PC series modular foot switches. In heavy-duty work environments, increased dimensions for safety shoe. Not applicable with VF KIT61.	Additional contact block for foot switches (all pedals are supplied with pre-installed contact blocks).

Modular foot switches - **PC** series

Using the bonding kits (VF KIT20 or VF KIT30), individual foot switches can be joined in multiple combinations.

VF KIT32

VF KIT21

EA series housing (see page 39)

VF KIT32

VF KIT20

PX 10110

VF KIT18

VF KIT50

VF KIT31

VF KIT18

VF KIT31

PX 10110

VF KIT31

VF KIT26

VF KIT31

VF KIT21

VF KIT20

VF KIT31

VF KIT71

PX 10110-B

VF KIT20

PX 10110

PX 10110-B

PX 10110-B

VF KIT30

PX 10110

VF KIT60

PA 20100

PX 10110

PA 50101

VF KIT61

Pizzato Elettrica's innovative EROUND control and signalling devices combine elegance and functionality in a single product.
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.
Most devices, not only have an IP67 protection degree, but have also passed the test proving their IP69K protection degree according to the prescriptions established by the ISO 20653 standard.
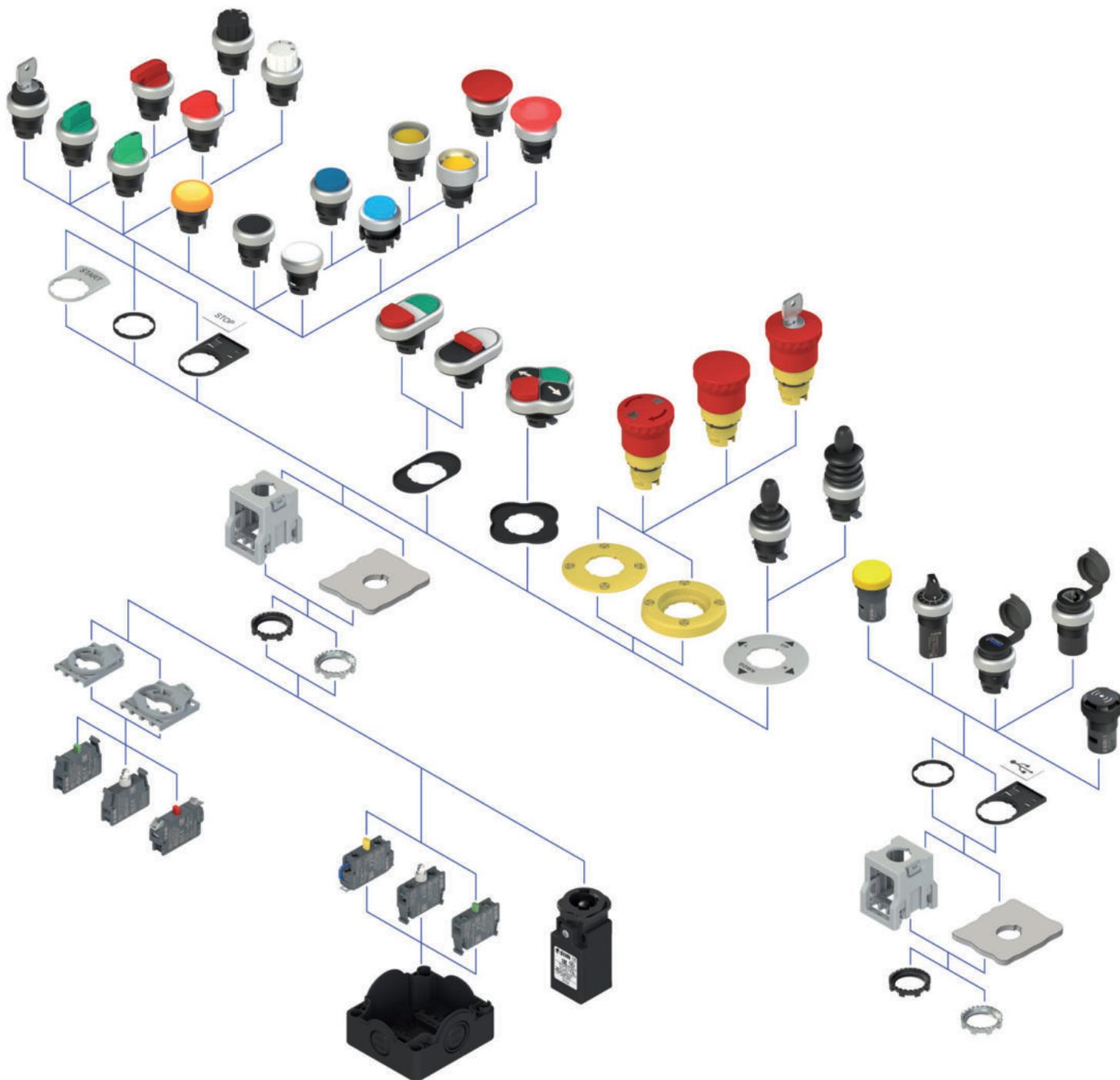
Buttons
E2 PU series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE ⓨ c(UL)us EAC

Actuator colour and engraving	Spring-return button / satin chrome bezel			
	Flush	Projecting	Protected	Mushroom
without lens	E2 1PU2R0290	Same article, flush button	E2 1PU2P0290	-
black	E2 1PU2R1290	E2 1PU2S1290	E2 1PU2P1290	E2 1PU2F1490
white	E2 1PU2R2290	E2 1PU2S2290	E2 1PU2P2290	E2 1PU2F2490
red	E2 1PU2R3290	E2 1PU2S3290	E2 1PU2P3290	E2 1PU2F3490
green	E2 1PU2R4290	E2 1PU2S4290	E2 1PU2P4290	E2 1PU2F4490
yellow	E2 1PU2R5290	E2 1PU2S5290	E2 1PU2P5290	E2 1PU2F5490
blue	E2 1PU2R6290	E2 1PU2S6290	E2 1PU2P6290	E2 1PU2F6490
orange	E2 1PU2R8290	E2 1PU2S8290	E2 1PU2P8290	E2 1PU2F8490
red O	E2 1PU2R329L1	E2 1PU2S329L1	-	E2 1PU2F349L1
green I	E2 1PU2R429L2	E2 1PU2S429L2	E2 1PU2P429L2	E2 1PU2F449L2
black O	E2 1PU2R129L1	E2 1PU2S129L1	-	E2 1PU2F149L1
white I	E2 1PU2R229L2	E2 1PU2S229L2	E2 1PU2P229L2	E2 1PU2F249L2

Illuminated buttons
E2 PL series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE ⓨ c(UL)us EAC

Actuator colour and engraving	Spring-return button / satin chrome bezel			
	Flush	Projecting	Protected	Mushroom
without lens	E2 1PL2R0290	Same article, flush button	E2 1PL2P0290	-
white	E2 1PL2R2290	E2 1PL2S2290	E2 1PL2P2290	E2 1PL2F2490
red	E2 1PL2R3290	E2 1PL2S3290	E2 1PL2P3290	E2 1PL2F3490
green	E2 1PL2R4290	E2 1PL2S4290	E2 1PL2P4290	E2 1PL2F4490
yellow	E2 1PL2R5290	E2 1PL2S5290	E2 1PL2P5290	E2 1PL2F5490
blue	E2 1PL2R6290	E2 1PL2S6290	E2 1PL2P6290	E2 1PL2F6490
orange	E2 1PL2R8290	E2 1PL2S8290	E2 1PL2P8290	E2 1PL2F8490
red O	E2 1PL2R329L1	E2 1PL2S329L1	-	E2 1PL2F349L1
green I	E2 1PL2R429L2	E2 1PL2S429L2	E2 1PL2P429L2	E2 1PL2F449L2
white O	E2 1PL2R229L1	E2 1PL2S229L1	-	E2 1PL2F249L1
white I	E2 1PL2R229L2	E2 1PL2S229L2	E2 1PL2P229L2	E2 1PL2F249L2

For ordering a maintained button replace 1PU2 with 1PU1 in the respective article code. Example: E2 **1PU2**R0210 → E2 **1PU1**R0210
For ordering a button with black bezel replace 9 with 1 in the respective article code. Example: E2 1PU2R02**9**0 → E2 1PU1R02**1**0
Please contact our technical department for buttons with custom markings.

Maintained button | Spring-return button
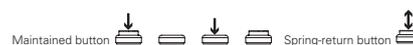
Double/triple buttons
E2 PD/PT series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE ⓨ c(UL)us EAC

Actuator colour and engraving	Spring-return button / satin chrome bezel	
	Upper button flush Central cap, flush Lower button flush	Upper button flush Central cap, flush Lower button projecting
green button / white cap, illuminated / red button	E2 1PDRL90423	E2 1PDSL90423
"I" green button / white cap, illuminated / "O" red button	E2 1PDRL9AAAD	E2 1PDSL9AAAD
"START" green button / white cap, illuminated / "STOP" red button	E2 1PDRL9AAAP	E2 1PDSL9AAAP
white button / white cap, illuminated / black button	E2 1PDRL90221	E2 1PDSL90221
"I" white button / white cap, illuminated / "O" black button	E2 1PDRL9AAAA	E2 1PDSL9AAAA
"START" white button / white cap, illuminated / "STOP" black button	E2 1PDRL9AAAN	E2 1PDSL9AAAN
"↓" black button / white cap, illuminated / "↓" black button	E2 1PDRL9AAAB	E2 1PDSL9AAAB

Actuator colour and engraving	Spring-return button satin chrome bezel Upper button flush Central button projecting Lower button flush
"I" green button / "STOP" red button / "II" green button	E2 1PTRS9AAAY
"↓" green button / "STOP" red button / "↓" green button	E2 1PTRS9AAAZ
"↑" white button / "STOP" red button / "↓" black button	E2 1PTRS9AABD
"↓" green button / "STOP" red button / "↓" green button	E2 1PTRS9AABA
"↑" white button / "STOP" red button / "↓" black button	E2 1PTRS9AABE
"↓" black button / "STOP" red button / "↓" black button	E2 1PTRS9AABF
"+" green button / "STOP" red button / "-" green button	E2 1PTRS9AABB

Quadruple buttons
E2 PQ series

Protection degree IP67
Ambient temperature -25°C … +80°C
Marks: CE c(UL)us EAC

Actuator colour and engraving (starting from the top and clockwise)	Spring-return button satin chrome bezel Upper button flush Right button flush Lower button flush Left button flush
"↓" black button / "↓" black button / "↓" black button / "↓" black button	E2 1PQFA9QAAA
"START" green button / "↓" black button / "STOP" red button / "↓" black button	E2 1PQFA9QAAB
"START" white button / "↓" black button / "STOP" black button / "←" black button	E2 1PQFA9QAAC
"I" green button / "→" black button / "O" red button / "←" black button	E2 1PQFA9QAAD
"I" white button / "←" black button / "O" black button / "←" black button	E2 1PQFA9QAAE

For ordering a button with black bezel replace 9 with 1 in the respective article code. Example: E2 1PDRL**9**0423 → E2 1PDRL**1**0423
Please contact our technical department for buttons with custom markings.

E2 SE series selector switches with 2 or 3 positions

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE 🅤 cULus EHC

Positions	Satin chrome bezel						
	● black	○ white	● red	● green	● yellow	● blue	● orange
⌄	E2 1SE12AVA19AB	E2 1SE12AVA29AB	E2 1SE12AVA39AB	E2 1SE12AVA49AB	E2 1SE12AVA59AB	E2 1SE12AVA69AB	E2 1SE12AVA89AB
⌄→	E2 1SE12EVA19AB	E2 1SE12EVA29AB	E2 1SE12EVA39AB	E2 1SE12EVA49AB	E2 1SE12EVA59AB	E2 1SE12EVA69AB	E2 1SE12EVA89AB
↓	E2 1SE13ACE19AB	E2 1SE13ACE29AB	E2 1SE13ACE39AB	E2 1SE13ACE49AB	E2 1SE13ACE59AB	E2 1SE13ACE69AB	E2 1SE13ACE89AB
↓→	E2 1SE13ECE19AB	E2 1SE13ECE29AB	E2 1SE13ECE39AB	E2 1SE13ECE49AB	E2 1SE13ECE59AB	E2 1SE13ECE69AB	E2 1SE13ECE89AB
↓↑	E2 1SE13FCE19AB	E2 1SE13FCE29AB	E2 1SE13FCE39AB	E2 1SE13FCE49AB	E2 1SE13FCE59AB	E2 1SE13FCE69AB	E2 1SE13FCE89AB
↓↕	E2 1SE13GCE19AB	E2 1SE13GCE29AB	E2 1SE13GCE39AB	E2 1SE13GCE49AB	E2 1SE13GCE59AB	E2 1SE13GCE69AB	E2 1SE13GCE89AB

For ordering a selector switch with black bezel replace 9 with 1 in the respective article code. Example: E2 1SE12AVA3**9**AB → E2 1SE12AVA3**1**AB
For ordering a knob selector switch replace 1 with 4 in the respective article code. Example: E2 1SE**1**2AVA39AB → E2 1SE**4**2AVA39AB
For ordering a selector switch with long handle replace 1 with 2 in the respective article code. Example: E2 1SE**1**2AVA39AB → E2 1SE**2**2AVA39AB

Illuminated selector switches with 2 or 3 positions E2 SL series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE 🅤 cULus EHC

Positions	Satin chrome bezel					
	○ white	● red	● green	● yellow	● blue	● orange
⌄	E2 1SL12AVD29AB	E2 1SL12AVD39AB	E2 1SL12AVD49AB	E2 1SL12AVD59AB	E2 1SL12AVD69AB	E2 1SL12AVD89AB
⌄→	E2 1SL12EVD29AB	E2 1SL12EVD39AB	E2 1SL12EVD49AB	E2 1SL12EVD59AB	E2 1SL12EVD69AB	E2 1SL12EVD89AB
↓	E2 1SL13ACH29AB	E2 1SL13ACH39AB	E2 1SL13ACH49AB	E2 1SL13ACH59AB	E2 1SL13ACH69AB	E2 1SL13ACH89AB
↓→	E2 1SL13ECH29AB	E2 1SL13ECH39AB	E2 1SL13ECH49AB	E2 1SL13ECH59AB	E2 1SL13ECH69AB	E2 1SL13ECH89AB
↓↑	E2 1SL13FCH29AB	E2 1SL13FCH39AB	E2 1SL13FCH49AB	E2 1SL13FCH59AB	E2 1SL13FCH69AB	E2 1SL13FCH89AB
↓↕	E2 1SL13GCH29AB	E2 1SL13GCH39AB	E2 1SL13GCH49AB	E2 1SL13GCH59AB	E2 1SL13GCH69AB	E2 1SL13GCH89AB

For ordering a selector switch with black bezel replace 9 with 1 in the respective article code. Example: E2 1SL12AVD3**9**AB → E2 1SL12AVD3**1**AB
For ordering a knob selector switch replace 1 with 4 in the respective article code. Example: E2 1SL**1**2AVD39AB → E2 1SL**4**2AVD39AB
For ordering a selector switch with long handle replace 1 with 2 in the respective article code. Example: E2 1SL**1**2AVD39AB → E2 1SL**2**2AVD39AB
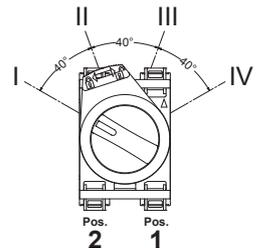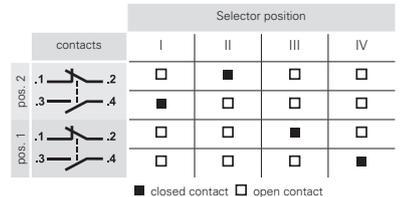
E2 AC series complete units with 4-position selector switches

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE 🅤 cULus EHC

Contact diagram

contacts	Selector position			
	I	II	III	IV
pos. 2 .1 .2	□	■	□	□
pos. 2 .3 .4	■	□	□	□
pos. 1 .1 .2	□	□	■	□
pos. 1 .3 .4	□	□	□	■

■ closed contact □ open contact

Actuator colour and engraving	Selector switches					Illuminated selector switches			
	Contacts			Positions	Satin chrome bezel	Contacts			Satin chrome bezel
	pos. 2	pos. 3	pos. 1			pos. 2	pos. 3	pos. 1	
● black	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2203	-	-	-	-
○ white	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2211	1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2259
● red	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2219	1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2267
● green	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2227	1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2275
● yellow	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2235	1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2283
● blue	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2243	1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2291
● orange	1NO+1NC	-	1NO+1NC	⌄	E2 AC-DXBC2251	1NO+1NC	LED	1NO+1NC	E2 AC-DXBC2299

On request, selector switches can be customized with a knob or a long handle.
On request, knob selector switches can be customized with symbols and inscriptions.
Note: The LED supplied with the illuminated selector switch has a supply voltage of 12 … 30 Vac/dc. Other voltages on request.

Key selector switches
E2 SC series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE ⓨ c(UL)us EAC

Legend

/ Maintained

▷ Spring-return

⚷ Key extraction position

Actuator colour and engraving	Positions	3 positions
		Satin chrome bezel
● black	⬇	E2 1SC3ACE19AA
		E2 1SC3BCE19AA
		E2 1SC3CCE19AA
		E2 1SC3DCE19AA
		E2 1SC3ECE19AA
		E2 1SC3FCE19AA
		E2 1SC3GCE19AA

Actuator colour and engraving	Positions	3 positions
		Satin chrome bezel
● black		E2 1SC3HCE19AA
		E2 1SC3LCE19AA
		E2 1SC3MCE19AA
		E2 1SC3NCE19AA
		E2 1SC3PCE19AA
		E2 1SC3QCE19AA
		E2 1SC3RCE19AA

Actuator colour and engraving	Positions	2 positions
		Satin chrome bezel
● black		E2 1SC2AVA19AA
		E2 1SC2BVA19AA
		E2 1SC2CVA19AA
		E2 1SC2DVA19AA
		E2 1SC2ACA19AA
		E2 1SC2BCA19AA
		E2 1SC2DCA19AA

For ordering a selector switch with black bezel replace 9 with 1 in the respective article code. Example:
E2 1SC2AVA19AA →
E2 1SC2AVA11AA

The standard colour of the selectors with the codes shown on the side is BLACK. Other colours on request.
Key selectors switches can be customized with symbols and inscriptions on request.
All keys of the selector switches have the PY333 key coding. Other codes on request.

Emergency stop buttons

Emergency stop buttons
E2 PE series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +80°C
Marks: CE ⓨ c(UL)us EAC

Body and actuator colour		Push-pull	Rotary release	Windowed push-pull	Windowed rotary release	Key release, key coding 333
	Red mushroom Yellow body	E2 1PEPZ4531	E2 1PERZ4531	E2 1PEPF4531	E2 1PERF4531	E2 1PEBZ4531
	Red mushroom Yellow body with green indication	E2 1PEPZ4731	E2 1PERZ4731	E2 1PEPF4731	E2 1PERF4731	E2 1PEBZ4731
	Black mushroom Yellow body	E2 1PEPZ4511	E2 1PERZ4511	-	-	E2 1PEBZ4511
	Yellow mushroom Yellow body	E2 1PEPZ4551	E2 1PERZ4551	-	-	-

Labels with shaped hole

Packs of **5 pcs.**

	Ø 60 mm	VE TF32A5700	VE TF32A5101	VE TF32A5102	VE TF32A5109	VE TF32A5120	VE TF32A5113	VE TF32G5700	VE TF32G5103	VE TF32G5110	VE TF32G5121
	Ø 90 mm	VE TF32D5700	VE TF32D5101	VE TF32D5102	VE TF32D5109	VE TF32D5120	VE TF32D5113				

Acc. to ISO 13850

Luminous discs

Luminous discs
VE DL series

Protection degree IP67
Ambient temperature: -25°C … +70°C
Marks: CE EAC

Yellow luminous disc, Ø 60 mm, without engraving. Acc. to ISO 13850.

Yellow luminous disc, Ø 60 mm, with engraving: Acc. to ISO 13850.

Yellow luminous disc, Ø 60 mm, with engraving: STOP STOP STOP STOP

	12 Vac/dc	24 Vac/dc	12 Vac/dc	24 Vac/dc	12 Vac/dc	24 Vac/dc
Operating voltage						
Continuous light	VE DL5A5A00	VE DL1A5A00	VE DL5A5A13	VE DL1A5A13	VE DL5A5A09	VE DL1A5A09
Blinking light	VE DL5A5L00	VE DL1A5L00	VE DL5A5L13	VE DL1A5L13	VE DL5A5L09	VE DL1A5L09
Dual function	VE DL5A5D00	VE DL1A5D00	VE DL5A5D13	VE DL1A5D13	VE DL5A5D09	VE DL1A5D09

Indicator lights
E2 IL series

Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +70°C
Marks: $C\,\epsilon$ Ⓨ ₍Ⓤₗ₎ᵤₛ 〖Ħ〗

white	red	green	yellow	blue	orange
⚪	🔴	🟢	🟡	🔵	🟠
white	red	green	yellow	blue	orange
E2 1ILA210	E2 1ILA310	E2 1ILA410	E2 1ILA510	E2 1ILA610	E2 1ILA810

Monolithic indicator lights
E6 IL series

Protection degree IP67
Ambient temperature: -40°C … +70°C
Marks: $C\,\epsilon$ ₍Ⓤₗ₎ᵤₛ 〖Ħ〗

Operating voltage	white	red	green	yellow	blue	orange
	⚪ white	🔴 red	🟢 green	🟡 yellow	🔵 blue	🟠 orange
12..30 Vac/dc	E6 1IL1A2110	E6 1IL1A3110	E6 1IL1A4110	E6 1IL1A5110	E6 1IL1A6110	E6 1IL1A8110
120 Vac	E6 1IL3A2110	E6 1IL3A3110	E6 1IL3A4110	E6 1IL3A5110	E6 1IL3A6110	E6 1IL3A8110
230 Vac	E6 1IL4A2110	E6 1IL4A3110	E6 1IL4A4110	E6 1IL4A5110	E6 1IL4A6110	E6 1IL4A8110

4H Joysticks

Joysticks with contacts
E2 MA series

Protection degrees IP67 and IP69K
Ambient temperature: -40°C … +80°C
Marks: $C\,\epsilon$ ₍Ⓤₗ₎ᵤₛ 〖Ħ〗

Legend:
● maintained actuation
► spring-return actuation

Functions		Contacts				Standard height (55 mm) without lock	Standard height (55 mm) with lock	Reduced height (45 mm) without lock	Reduced height (45 mm) with lock
		pos. 3	pos. 2	pos. 4	pos. 1	Satin chrome bezel	Satin chrome bezel	Satin chrome bezel	Satin chrome bezel
✛	UP spring-return, RIGHT spring-return, DOWN spring-return, LEFT spring-return	1NO	1NO	1NO	1NO	E2 AC-DXBC2602	E2 AC-DXBC2604	E2 AC-DXBC2603	E2 AC-DXBC2605
◄─►	LEFT spring-return, RIGHT spring-return	1NO		1NO	1NO	E2 AC-DXBC2601	E2 AC-DXBC2613	E2 AC-DXBC2618	E2 AC-DXBC2622
⇕	UP spring-return, DOWN spring-return		1NO	1NO		E2 AC-DXBC2600	E2 AC-DXBC2611	E2 AC-DXBC2616	E2 AC-DXBC2620
✛	UP maintained, RIGHT maintained, DOWN maintained, LEFT maintained	1NO	1NO	1NO	1NO	E2 AC-DXBC2608	E2 AC-DXBC2614	E2 AC-DXBC2609	E2 AC-DXBC2623
●─●	LEFT maintained, RIGHT maintained	1NO			1NO	E2 AC-DXBC2607	E2 AC-DXBC2612	E2 AC-DXBC2617	E2 AC-DXBC2621
⇕	UP maintained, DOWN maintained		1NO	1NO		E2 AC-DXBC2606	E2 AC-DXBC2610	E2 AC-DXBC2615	E2 AC-DXBC2619

Round labels with shaped hole

VE TF32A9130	VE TF12A1230	VE TF32A9133	VE TF12A1233

Rectangular labels with shaped hole

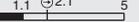| VE TF32G9131	VE TF12G1231	VE TF32G9134	VE TF12G1234	VE TF32G9132	VE TF12G1232

USB sockets - RJ45 sockets

USB sockets E2 USB series

Protection degree IP67

Ambient temperature: -25°C … +70°C

Marks: CE cULus EHC

RJ45 sockets E2 RJ45 series

Protection degree IP67

Ambient temperature: -25°C … +70°C

Speed up to 10 Gb/s for Cat. 6

Marks: CE cULus EHC

For ordering a socket with black bezel replace 9 with 1 in the respective article code. Example:
E2 1USB**9**CAK → E2 1USB**1**CAK

For ordering a USB 3.0 socket replace C with A in the respective article code. Example:
E2 1USB9**C**AK → E2 1USB1**A**AK

For ordering a socket with black bezel replace 9 with 1 in the respective article code. Example:
E2 1RJ45**9**AAK → E2 1RJ45**1**AAK

Rear connection	Front connection A-type USB 2.0 integrated socket
A-type USB integrated socket	E2 1USB9CAK
Output with PVC cable, length 0.8 m and A-type USB male connector	E2 1USB9CN0.8
Output with PVC cable, length 1.8 m and A-type USB male connector	E2 1USB9CN1.8
Output with PVC cable, length 3 m and A-type USB male connector	E2 1USB9CN3
Output with PVC cable, length 5 m and A-type USB male connector (available only with USB 2.0 socket)	E2 1USB9CN5

Connection type	Transfer speeds	
	1 Gb/s (for Cat. 5e)	10 Gb/s (for Cat. 6)
Integrated RJ45 socket	E2 1RJ459AAK	E2 1RJ459CAK
Output with PVC cable (length 1 m) and RJ45 male connector	E2 1RJ459AN1	E2 1RJ459CN1
Output with PVC cable (length 1.5 m) and RJ45 male connector	E2 1RJ459AN1.5	E2 1RJ459CN1.5
Output with PVC cable (length 2.5 m) and RJ45 male connector	E2 1RJ459AN2.5	E2 1RJ459CN2.5

Potentiometers

Potentiometers E6 DM series

Protection degrees IP67 and IP69K

Ambient temperature: -40°C … +80°C

Potentiometer with Cermet technology

Marks: CE cULus EHC

Potentiometer 1 W

For ordering a potentiometer with black bezel replace 9 with 1 in the respective article code. Example:
E6 1DM001K-D11**9** → E6 1DM001K-D11**1**

Resistance	Max power	Article
1 kΩ	1 W	E6 1DM001K-D119
2.2 kΩ	1 W	E6 1DM02K2-D119
4.7 kΩ	1 W	E6 1DM04K7-D119
10 kΩ	1 W	E6 1DM010K-D119
22 kΩ	1W	E6 1DM022K-D119
47 kΩ	1 W	E6 1DM047K-D119
100 kΩ	0.9 W	E6 1DM100K-D119
470 kΩ	0.23 W	E6 1DM470K-D119

Potentiometer 0.5 W   Packs of **50 pcs.**

For ordering a potentiometer with black bezel replace 9 with 1 in the respective article code. Example:
E6 1DM001K-D31**9** → E6 1DM001K-D31**1**

Resistance	Max power	Article
1 kΩ	0.5 W	E6 1DM001K-D319
2.2 kΩ	0.5 W	E6 1DM02K2-D319
4.7 kΩ	0.5 W	E6 1DM04K7-D319
10 kΩ	0.5 W	E6 1DM010K-D319
22 kΩ	0.5 W	E6 1DM022K-D319
47 kΩ	0.5 W	E6 1DM047K-D319

Buzzers

Buzzers E6 IS series

Protection degree: IP40 (perforated lens)
IP67 (perforation-free lens)

Ambient temperature: -20°C … +70°C

Marks: CE cULus EHC

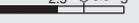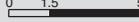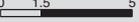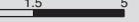| Sound type	Supply voltage	Perforated lens	dB	Perforation-free lens	dB
Continuous	12 Vac/dc	E6 1IS5A1CV1B	90	E6 1IS5B1CV1B	75
	24 Vac/dc	E6 1IS6A1CV1B	95	E6 1IS6B1CV1B	80
Pulsing	12 Vac/dc	E6 1IS5A1PV1B	90	E6 1IS5B1PV1B	75
	24 Vac/dc	E6 1IS6A1PV1B	95	E6 1IS6B1PV1B	80

E2 CP/CF series single contact blocks

Protection degree IP20

Ambient temperature: -40°C … +80°C

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

Marks: CE ⓝ c(UL)us (CCC) EHC

Packs of **10 pcs.**

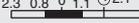| Contact block	Panel mounting			Base mounting	
	Screw connection	PUSH-IN spring-operated connection	Solder connection	Screw connection	PUSH-IN spring-operated connection
1NC, slow action	E2 CP01G2V1 ⊖→ 0 1.1 ⊖2.1 5	E2 CP01G2M1 ⊖→ 0 1.1 ⊖2.1 5	E2 CP01G2S0 ⊖→ 0 1.1 ⊖2.1 5	E2 CF01G2V1 ⊖→ 0 1.1 ⊖2.1 5	E2 CF01G2M1 ⊖→ 0 1.1 ⊖2.1 5
1NO, slow action	E2 CP10G2V1 0 2.5 5	E2 CP10G2M1 0 2.5 5	E2 CP10G2S0 0 2.5 5	E2 CF10G2V1 0 2.5 5	E2 CF10G2M1 0 2.5 5
1NC, slow action, delayed	E2 CP01K2V1 ⊖→ 0 2.5 ⊖3.5 5	E2 CP01K2M1 ⊖→ 0 2.5 ⊖3.5 5	E2 CP01K2S0 ⊖→ 0 2.5 ⊖3.5 5	E2 CF01K2V1 ⊖→ 0 2.5 ⊖3.5 5	E2 CF01K2M1 ⊖→ 0 2.5 ⊖3.5 5
1NO, slow action, early make	E2 CP10L2V1 0 1.5 5	E2 CP10L2M1 0 1.5 5	E2 CP10L2S0 0 1.5 5	E2 CF10L2V1 0 1.5 5	E2 CF10L2M1 0 1.5 5
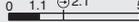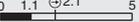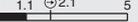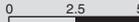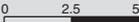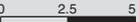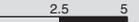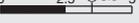
E2 CP/CF series single self-monitored contact blocks

Protection degree IP20

Ambient temperature: -40°C … +80°C

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

Marks: CE ⓝ c(UL)us (CCC) EHC

Packs of **5 pcs.**

Contact block	Panel mounting Screw connection	Contact block	Base mounting in position 3 Screw connection
Slow action contacts 1NC self-monitored	E2 CP01S2V1 ⊖→ 2.3 0.8 0 1.1 ⊖2.1 5	Slow action contacts 1NC self-monitored	E2 CF01S2V1 ⊖→ 2.3 0.8 0 1.1 ⊖2.1 5

Note: Ideal in safety applications combined with emergency stop buttons E2•PE••••••, they automatically detect any detachment of the contact block from the emergency stop button.
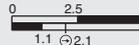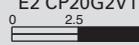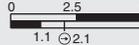
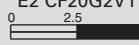## E2 CP/CF series double contact blocks

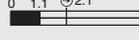Protection degree IP20

Ambient temperature: -40°C … +80°C

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

Marks: CE ⓝ c(UL)us (CCC) EHC

Packs of **5 pcs.**

Contact block	Panel mounting Screw connection	Contact block	Panel mounting Screw connection
Slow action contacts 1NO+1NC	E2 CP11G2V1 ⊖→ 0 2.5 5 1.1 ⊖2.1	Slow action contacts 1NO+1NC	E2 CF11G2V1 ⊖→ 0 2.5 5 1.1 ⊖2.1
Slow action contacts 2NO	E2 CP20G2V1 0 2.5 5	Slow action contacts 2NO	E2 CF20G2V1 0 2.5 5
Slow action contacts 2NC	E2 CP02G2V1 ⊖→ 0 1.1 ⊖2.1 5	Slow action contacts 2NC	E2 CF02G2V1 ⊖→ 0 1.1 ⊖2.1 5

E2 LP/LF series LED units

Protection degree IP20
Three supply voltages:
12 … 30 Vac/dc, 120 Vac, 230 Vac

Ambient temperature: -25°C … +70°C
Marks: CE ⊕ c(UL)us CCC EAC

Packs of **5 pcs.**

LED colour	Available device colour	Panel mounting								
		Screw connection			PUSH-IN spring-operated connection			Solder connection		
		Operating voltage								
		12 ... 30 Vac/dc	120 Vac	230 Vac	12 ... 30 Vac/dc	120 Vac	230 Vac	12 ... 30 Vac/dc	120 Vac	230 Vac
white	white / yellow	E2 LP1A2V1	E2 LP3A2V1	E2 LP4A2V1	E2 LP1A2M1	E2 LP3A2M1	E2 LP4A2M1	E2 LP1A2S0	E2 LP3A2S0	E2 LP4A2S0
red	red	E2 LP1A3V1	E2 LP3A3V1	E2 LP4A3V1	E2 LP1A3M1	E2 LP3A3M1	E2 LP4A3M1	E2 LP1A3S0	E2 LP3A3S0	E2 LP4A3S0
green	green	E2 LP1A4V1	E2 LP3A4V1	E2 LP4A4V1	E2 LP1A4M1	E2 LP3A4M1	E2 LP4A4M1	E2 LP1A4S0	E2 LP3A4S0	E2 LP4A4S0
blue	blue	E2 LP1A6V1	E2 LP3A6V1	E2 LP4A6V1	E2 LP1A6M1	E2 LP3A6M1	E2 LP4A6M1	E2 LP1A6S0	E2 LP3A6S0	E2 LP4A6S0
orange	orange	E2 LP1A8V1	E2 LP3A8V1	E2 LP4A8V1	E2 LP1A8M1	E2 LP3A8M1	E2 LP4A8M1	E2 LP1A8S0	E2 LP3A8S0	E2 LP4A8S0

We recommend to match the colour combination of the LEDs with the actuator colours.

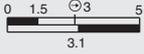| LED colour	Available device colour	Base mounting					
		Screw connection			PUSH-IN spring-operated connection		
		Operating voltage					
		12 ... 30 Vac/dc	120 Vac	230 Vac	12 ... 30 Vac/dc	120 Vac	230 Vac
white	white / yellow	E2 LF1A2V1	E2 LF3A2V1	E2 LF4A2V1	E2 LF1A2M1	E2 LF3A2M1	E2 LF4A2M1
red	red	E2 LF1A3V1	E2 LF3A3V1	E2 LF4A3V1	E2 LF1A3M1	E2 LF3A3M1	E2 LF4A3M1
green	green	E2 LF1A4V1	E2 LF3A4V1	E2 LF4A4V1	E2 LF1A4M1	E2 LF3A4M1	E2 LF4A4M1
blue	blue	E2 LF1A6V1	E2 LF3A6V1	E2 LF4A6V1	E2 LF1A6M1	E2 LF3A6M1	E2 LF4A6M1
orange	orange	E2 LF1A8V1	E2 LF3A8V1	E2 LF4A8V1	E2 LF1A8M1	E2 LF3A8M1	E2 LF4A8M1

We recommend to match the colour combination of the LEDs with the actuator colours.

Protected contact blocks FR, FX, FK series

Technopolymer housing ▢
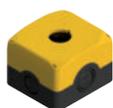Protection degree IP67

Ambient temperature: -25°C … +80°C
Marks: CE c(UL)us (CCC) EHL

Contact block	One M20 conduit entry
Slow action contacts 1NO+1NC	FR 6E2-M2 ↻ 0 1.5 ⊖3 5 3.1
Slow action contacts 2NC	FR 9E2-M2 ↻ 0 2.9 ⊖4.4 5
Slow action contacts 1NO+2NC	FR 20E2-M2 ↻ 0 1.5 ⊖3 5 2

Contact block	Two conduit entries M20
Slow action contacts 1NO+1NC	FX 6E2-M2 ↻ 0 1.5 ⊖3 5 3.1
Slow action contacts 2NC	FX 9E2-M2 ↻ 0 2.9 ⊖4.4 5
Slow action contacts 1NO+2NC	FX 20E2-M2 ↻ 0 1.5 ⊖3 5 2

Contact block	One M16 conduit entry
Slow action contacts 1NO+1NC	FK 33E2-M1 ↻ 0 1.5 ⊖3 5 2
Slow action contacts 2NC	FK 34E2-M1 ↻ 0 1.5 ⊖3 5
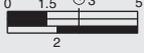
4P Housings

ES series housings

Self-extinguishing polycarbonate housing ▢
Protection degrees IP67 and IP69K
Ambient temperature: -40°C … +80°C

4 x side cable entries + 2 x bottom entries
Marks: CE EHL

ES 31001	ES 31000	ES 32000	ES 33000	ES 34000	ES 36000

ES AC series housings

Self-extinguishing polycarbonate housing ▢
Protection degrees IP67 and IP69K
Ambient temperature: -25°C … +70°C

4 x side cable entries + 2 x bottom entries
Marks: CE EHL

Actuator colour and engraving	Contacts	Flush button Black bezel	Projecting button Black bezel
I green	Slow action contacts 1NO	ES AC31001	-
O red	Slow action contacts 1NC	ES AC31002 ↻	ES AC31017 ↻
START green	Slow action contacts 1NO	ES AC31015	-
STOP red	Slow action contacts 1NC	ES AC31016 ↻	ES AC31018 ↻

Positions and engraving	Contacts	Black selector switch with 2 positions Black bezel
0 I	Slow action contacts 1NO	ES AC31019
↘	Slow action contacts 1NO	ES AC31044
↓	Slow action contacts 2NO	ES AC31045
↙↘	Slow action contacts 2NO	ES AC31046

▶ pizzato

Contacts	Push-pull	Rotary release	Key release
Slow action contacts 1NC	ES AC31004 ⊕	ES AC31003 ⊕	ES AC31022 ⊕
Slow action contacts 1NC self-monitored	ES AC31081 ⊕	ES AC31082 ⊕	ES AC31083 ⊕
Slow action contacts 2NC	ES AC31009 ⊕	ES AC31005 ⊕	ES AC31023 ⊕
Slow action contacts 1NO+1NC	ES AC31010 ⊕	ES AC31006 ⊕	ES AC31011 ⊕
Slow action contacts 1NO+2NC	ES AC31146 ⊕	ES AC31021 ⊕	ES AC31024 ⊕

Contacts	Emergency stop button Push-Pull Yellow luminous disc, blinking Ø 60 mm, 24 Vac/dc, IP67	Emergency stop button, rotary release Yellow luminous disc, blinking Ø 60 mm, 24 Vac/dc, IP67	Emergency stop button, key release Yellow luminous disc, blinking Ø 60 mm, 24 Vac/dc, IP67
Slow action contacts 1NO+1NC + connection block	ES AC31430 ⊕	ES AC31433 ⊕	ES AC31436 ⊕
Slow action contacts 1NO+1NC self-monitored + connection block	ES AC31431 ⊕	ES AC31434 ⊕	ES AC31437 ⊕
Slow action contacts 1NO+2NC + connection block	ES AC31432 ⊕	ES AC31435 ⊕	ES AC31438 ⊕

⬆ 1NO	Upper button flush, white	⬤I 1NO	Upper button flush, green	START 1NO	Upper button flush, green	⬆ 1NO	Upper button flush, white	⬆ 1NO	Upper button flush, white	⬤I 1NO	Upper button flush, green
⬇ 1NO	Lower button flush, black	⬤O 1NC ⊕	Lower button projecting, red	STOP 1NC ⊕	Lower button projecting, red	⬤O 1NC ⊕	Central button projecting, red	⬇ 1NO	Central button flush, black	⬤O 1NC ⊕	Central button projecting, red
						⬇ 1NO	Lower button flush, black	⬤ 1NC+1NO	Lower emergency stop button with illuminated disc, IP67	II 1NO	Lower button flush, green
ES AC32012		**ES AC32010**		**ES AC32011**		**ES AC33017**		**ES AC34035**		**ES AC33016**	

Positions and engraving	Contacts	Black key selector switch with 2 positions Black bezel
0 ⌐ I	Slow action contacts 1NO	ES AC31020
I 0 2	Slow action contacts 2NO	ES AC31047

Legend: ⌄ Maintained ▽ Spring-return ⌇ Key extraction position

EA series housings

Self-extinguishing polycarbonate housing ▣
Protection degree IP65
Ambient temperature: -40°C … +80°C
2 x side cable entries + 2 x bottom entries
Marks: CE EHC

EA 37014	EA 37010	EA 37015	EA 37011	EA 37012	EA 37013

EA AC series complete housings

Self-extinguishing polycarbonate housing ▣
Protection degree IP65
Ambient temperature: -25°C … +70°C
2 x side cable entries + 2 x bottom entries
Marks: CE EHC

For a correct operation in compliance with standard EN 574, the two-hand controls must be connected to a CS DM•••••• safety module for two-hand controls. See page 58.

1NO	Mushroom button	1NO+1NC	Mushroom button
1NC ⊕	Emergency stop button Ø 40	2NC ⊕	Emergency stop button Ø 40
1NO	Mushroom button	1NO+1NC	Mushroom button
EA AC37040		**EA AC37041**	

4Q Accessories

VE GF121A	VE GF720A	VE CH121A1	VE GF151A	VE TF12H1700	VE TF32H9700	VE TF32H5700
Technopolymer fixing ring. Packs of 20 pcs.	Metal fixing ring. Packs of 20 pcs.	Technopolymer fixing key for VE GF fixing rings.	Adapter with ring for panel fixing for Ø 22 devices on Ø 30 holes. Packs of 10 pcs.	Black label for laser engraving, without engraving. Packs of 10 pcs.	Grey label for laser engraving, without engraving. Packs of 10 pcs.	Yellow label for laser engraving, without engraving. Packs of 10 pcs.

VE PT32A00A0	VE TR4A970	VE TR3A770	E2 1BAC11	E2 1BAC21	VE BC2PV1	VE BC2FV1
Label holder, for 18x27 mm label, without label. Packs of 10 pcs.	Label 18x27, without engraving, for cutter or laser engraving. Packs of 100 pcs.	Transparent protective plate 18x27 mm for VE PT label holders, thickness 0.4 mm, without engraving. Packs of 100 pcs.	3-slot mounting adapter for E2 CP contact blocks and E2 LP LED units. Packs of 10 pcs.	4-slot mounting adapter for E2 CP contact blocks. Packs of 10 pcs.	Panel mounting connection block. Packs of 10 pcs.	Connection block for base mounting. Packs of 10 pcs.

VE GP12H1A	VE GP12L1A	VE GP12M1A	VE CA1A1	VE CA1B1	VE CA1D1	VE CA1C1
Shaped ring for single device. Packs of 50 pcs.	Shaped ring for double and triple button. Packs of 50 pcs.	Shaped ring for quadruple button. Packs of 10 pcs.	Protection cap for flush buttons. Packs of 10 pcs.	Protection cap for projecting button. Packs of 10 pcs.	Protection cap for double flush button. Packs of 10 pcs.	Protection cap for double and triple projecting buttons. Packs of 10 pcs.

E2 1TA1A110	VE PR3A70	VE GP32F5A	VE GG3EA7A	VE GP32A5A	VE GP32B5A	VE GP32B1A
Black closing cap for Ø 22 mm holes. Packs of 10 pcs.	Transparent dust protection for E2 series panel mounting contact blocks. Packs of 50 pcs.	Rectangular open yellow protection guard complete with 4 screws 66x38 mm, 35 mm high.	Lockable protection guard complete with 4 screws (for panel thicknesses between 1 and 3.5 mm)	Cylindrical yellow protection guard with 4 windows Ø 40x20 mm.	Cylindrical yellow protection guard Ø 43x27 mm.	Cylindrical black protection guard Ø 43x27 mm.

VE GP32B4A	VE GP32B6A	VE AD3PF9A0	VE BD1PV1	VE BD1PM1	VE BD1FV1	VE BD1FM1
Cylindrical green protection guard Ø 43x27 mm.	Cylindrical blue protection guard Ø 43x27 mm.	Support with Ø 22 hole for mounting on DIN rail acc. to EN 60715. Packs of 10 pcs.	Contact block with diode, panel mounting, screw connection.	Contact block with diode, panel mounting, spring-operated connection.	Contact block with diode, base mounting, screw connection.	Contact block with diode, base mounting, spring-operated connection.

FD, FL, FC and FP series safety switches with separate actuator for heavy duty applications

Technopolymer housing ☐ (FP)
Metal housing (FD, FL, FC)
Protection degree IP67
Marks: CE ⊕ cULus ⊕ EHC

One M20x1.5 conduit entry	Three M20x1.5 conduit entries	One M20x1.5 conduit entry	One M20x1.5 conduit entry
Slow action contacts 1NO+1NC	FD 693-M2 ⊖	FL 693-M2 ⊖	FC 3393-M2 ⊖	FP 693-M2 ⊖
Slow action contacts 2NC	FD 993-M2 ⊖	FL 993-M2 ⊖	FC 3493-M2 ⊖	FP 993-M2 ⊖
Slow action contacts 1NO+2NC	FD 2093-M2 ⊖	FL 2093-M2 ⊖	/	FP 2093-M2 ⊖

Separate actuators

VF KEYF	VF KEYF1	VF KEYF2	VF KEYF3	VF KEYF7	VF KEYF8

Attention! These separate actuators can be used only with items of the FD, FL, FC and FP series.

FR, FX, FK and FW series safety switches with separate actuator for standard applications

Technopolymer housing
Protection degree IP67
Marks: CE ⊕ cULus ⊕ EHC

One M20x1.5 conduit entry	Two conduit entries M20x1.5	One M16x1.5 conduit entry	Two conduit entries M20x1.5
Slow action contacts 1NO+1NC	FR 693-M2 ⊖	FX 693-M2 ⊖	FK 3393-M1 ⊖	FW 3392-M2 ⊖
Slow action contacts 2NC	FR 993-M2 ⊖	FX 993-M2 ⊖	FK 3493-M1 ⊖	FW 3492-M2 ⊖
Slow action contacts 1NO+2NC	FR 2093-M2 ⊖	FX 2093-M2 ⊖	/	FW 2092-M2 ⊖

Separate actuators

VF KEYD	VF KEYD1	VF KEYD2	VF KEYD3	VF KEYD5	VF KEYD6	VF KEYD7	VF KEYD8	VF KEYD10	VF KEYD11

Attention! These separate actuators can be used only with items of the FR, FX, FK and FW series.

5B **Magnetic** safety sensors

SR series magnetic safety sensors

Technopolymer housing
With 2 m cable or M8 connector
Protection degrees IP67 and IP69K
Marks: CE cULus TÜV EHC

	With M8 connector		With M8 connector
2NC contacts (with closed guard)	SR BD40AN2-B02F	SR BD40ALK-B02F	SR AD40AN2-A01N	SR AD40ALK-A01N
Actuation distance	8 mm	8 mm	5 mm	5 mm

For safety applications, connect with the safety modules shown on the side. See technical data on page 56.

CS AR-01••••[b]	CS AR-46•024	CS MP•••••
CS AR-02••••[b]	CS AR-91••••	CS MF•••••
CS AR-04••••[b]	CS AT-0•••••	
CS AR-05••••	CS AT-1•••••	
CS AR-06••••	CS AT-3•••••	
CS AR-08••••	CS FS-5•••••	

[b] Compatible with modules with production batch later than 06/2014 only.

ST G - ST H series
RFID safety sensors

Technopolymer housing	High level coded actuator (EN ISO 14119)	Supply voltage: 24 Vdc
Versions with a magnetic holding force	Multitag programming	Marks:
With 2 m cable or M12 connector	Status LED	
Protection degrees IP67 and IP69K		

Output with PVC cable — Output with PUR cable — Output with M12 technopolymer connector — Output with M12 stainless steel connector

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable				
2	1	-	-	-	-	ST GD210N2-G1T	ST GD210H2-G1T	ST GD210MP-G1T	ST GD210MK-G1T
2	1	2	-	-	-	ST GD310N2-G1T	ST GD310H2-G1T	ST GD310MP-G1T	ST GD310MK-G1T
2	1	2	1	-	●	ST GD420N2-G1T	ST GD420H2-G1T	ST GD420MP-G1T	ST GD420MK-G1T
2	1	2	-	1	-	ST GD510N2-G1T	ST GD510H2-G1T	ST GD510MP-G1T	ST GD510MK-G1T
Actuation distance						11 mm	11 mm	11 mm	11 mm

Output with 0.2 m cable length and M12 connector

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable	
2	1	-	-	-	-	ST GD210M0.2-G1T
2	1	2	-	-	-	ST GD310M0.2-G1T
2	1	2	1	-	●	ST GD420M0.2-G1T
2	1	2	-	1	-	ST GD510M0.2-G1T
Actuation distance						11 mm

Output with PVC cable — Output with PUR cable — Output with M12 technopolymer connector — Output with M12 stainless steel connector

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable				
2	1	-	-	-	-	ST GD210N2-L1T	ST GD210H2-L1T	ST GD210MP-L1T	ST GD210MK-L1T
2	1	2	-	-	-	ST GD310N2-L1T	ST GD310H2-L1T	ST GD310MP-L1T	ST GD310MK-L1T
2	1	2	1	-	●	ST GD420N2-L1T	ST GD420H2-L1T	ST GD420MP-L1T	ST GD420MK-L1T
2	1	2	-	1	-	ST GD510N2-L1T	ST GD510H2-L1T	ST GD510MP-L1T	ST GD510MK-L1T
Actuation distance						11 mm	11 mm	11 mm	11 mm

Output with PVC cable — Output with PUR cable — Output with M12 technopolymer connector — Output with M12 stainless steel connector

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable				
2	1	-	-	-	-	ST GD210N2-E1T	ST GD210H2-E1T	ST GD210MP-E1T	ST GD210MK-E1T
2	1	2	-	-	-	ST GD310N2-E1T	ST GD310H2-E1T	ST GD310MP-E1T	ST GD310MK-E1T
2	1	2	1	-	●	ST GD420N2-E1T	ST GD420H2-E1T	ST GD420MP-E1T	ST GD420MK-E1T
2	1	2	-	1	-	ST GD510N2-E1T	ST GD510H2-E1T	ST GD510MP-E1T	ST GD510MK-E1T
Actuation distance						18 mm	18 mm	18 mm	18 mm

For safety applications, connect with the safety modules shown on the side. See technical data on page 56.

CS AR-05•••• CS MF•••••
CS AR-06•••• CS MP•••••
CS AR-08••••
CS AT-0••••••
CS AT-1•••••

With permanent magnet

Holding force 25 N · Holding force 40 N

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable	Holding force 25 N	Holding force 40 N
2	1	-	-	-	-	ST HE210MP-H1TE	ST HE210MP-H1TF
2	1	2	-	-	-	ST HE310MP-H1TE	ST HE310MP-H1TF
2	1	2	1	-	●	ST HE420MP-H1TE	ST HE420MP-H1TF
2	1	2	-	1	-	ST HE510MP-H1TE	ST HE510MP-H1TF
Actuation distance						11 mm	11 mm

Extended temperature range

-35°C / +85°C

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable	Output with M12 stainless steel connector	Output with M12 stainless steel connector With permanent magnet Holding force 25 N	Output with M12 stainless steel connector With permanent magnet Holding force 40 N
2	1	2	1	-	●	ST GD420MK-G1T-T8	ST HE420MK-H1TE-T8	ST HE420MK-H1TF-T8
Actuation distance						11 mm	11 mm	11 mm

Multitag programming

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable	Two actuators TAG 0 activates OS, TAG 1 activates O	Two actuators Each TAG activates OS and sends the TAG no.	Three actuators Each TAG activates OS and sends the TAG no.	Four actuators Each TAG activates OS and sends the TAG no.
2	1	2	-	-	-	ST GD330MP-P1	ST GD330MP-P2	ST GD330MP-P3	ST GD330MP-P4
Actuation distance						11 mm	11 mm	11 mm	11 mm

ST D series RFID safety sensors

Technopolymer housing
With 2 m cable or M12 connector
High level coded actuator (EN ISO 14119)
Protection degrees IP67 and IP69K

Status LED
Supply voltage: 24 Vdc
Marks: CE cULus TÜV EHL ECOLAB

OS safety outputs	O signalling outputs	IS safety inputs	I programming inputs	EDM inputs	Programmable	Cable at the right	Cable at the left	M12 connector, at the right	M12 connector, at the left
2	1	-	-	-	-	ST DD210N2-D1T	ST DL210N2-D1T	ST DD210MK-D1T	ST DL210MK-D1T
2	1	2	-	-	-	ST DD310N2-D1T	ST DL310N2-D1T	ST DD310MK-D1T	ST DL310MK-D1T
2	1	2	1	-	●	ST DD420N2-D1T	ST DL420N2-D1T	ST DD420MK-D1T	ST DL420MK-D1T
2	1	2	-	1	-	ST DD510N2-D1T	ST DL510N2-D1T	ST DD510MK-D1T	ST DL510MK-D1T
Actuation distance						12 mm	12 mm	12 mm	12 mm

For safety applications, connect with the safety modules shown on the side. See technical data on page 56.

CS AR-05•••• · CS MF•••••
CS AR-06•••• · CS MP•••••
CS AR-08••••
CS AT-0•••••
CS AT-1•••••

HP AA series hinge switches

Metal housing
With 2 m cable or M12 connector
Protection degrees IP67 and IP69K
Marks: CE

Slow action contacts 1NO+2NC

With M12 connector | With M12 connector | Additional hinge | Additional hinge

HP AA052F-2SN → | HP AA052F-2AN → | HP AA052F-2PN → | HP AA052F-KSM → | HP AA052F-KAM → | HC AA | HC LL

HP AB series hinge switches

Metal housing
With 2 m cable or M12 connector
Protection degrees IP67 and IP69K
Marks: CE

Slow action contacts 1NO+2NC

With M12 connector | With M12 connector | Additional hinge

HP AB052F-2SN → | HP AB052F-2AN → | HP AB052F-2PN → | HP AB052F-KSM → | HP AB052F-KAM → | HC AB

HX series hinge switches

AISI 316L stainless steel housing
With 2 m cable or M12 connector
Protection degrees IP67 and IP69K
Marks: CE

Slow action contacts 2NO+2NC

Additional hinge

HX BL22-2PN → | HX BL22-KSM → | HX BL22-KAM → | HX CB

HX series electronic hinge switches

AISI 316L stainless steel housing
With 2 m cable or M12 connector
Protection degrees IP67 and IP69K
Status LED
Supply voltage: 24 Vdc
Marks: CE

PNP switching outputs

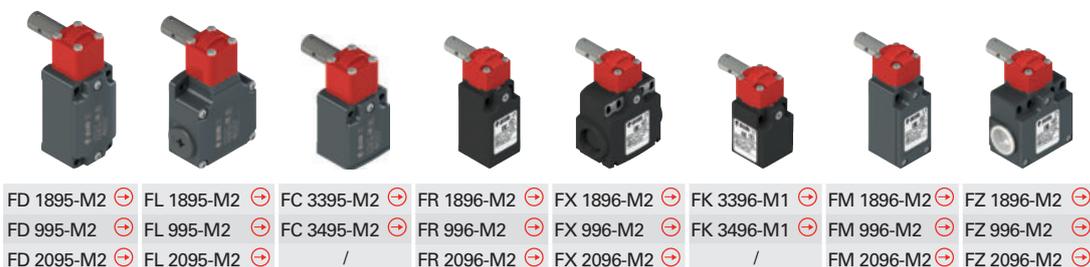HX BEE1-2PN → | HX BEE1-KSM → | HX BEE1-KAM →

For safety applications, the HX series electronic hinge switches must be connected to modules with OSSD inputs. Shown on the side are the compatible Pizzato modules. See technical data on page 56.

CS AR-05••••
CS AR-06••••
CS AR-08••••
CS AT-0•••••
CS AT-1•••••
CS MP••••••
CS MF••••••

Switches for hinges FD, FL and FC series FR, FX, FK, FM and FZ series

Technopolymer housing or metal housing
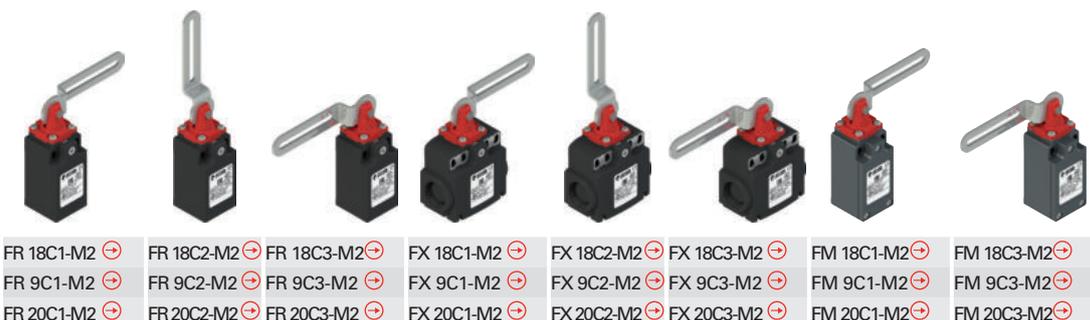One, two or three conduit entries
Protection degree IP67
Marks: CE

Slow action contacts 1NO+1NC	Slow action contacts 2NC	Slow action contacts 1NO+2NC

FD 1895-M2 →	FL 1895-M2 →	FC 3395-M2 →	FR 1896-M2 →	FX 1896-M2 →	FK 3396-M1 →	FM 1896-M2 →	FZ 1896-M2 →
FD 995-M2 →	FL 995-M2 →	FC 3495-M2 →	FR 996-M2 →	FX 996-M2 →	FK 3496-M1 →	FM 996-M2 →	FZ 996-M2 →
FD 2095-M2 →	FL 2095-M2 →	/	FR 2096-M2 →	FX 2096-M2 →	/	FM 2096-M2 →	FZ 2096-M2 →

FR, FX, FM series switches with slotted hole lever

Technopolymer housing or metal housing
One or two conduit entries M20x1.5
Protection degree IP67
Marks: CE

Slow action contacts 1NO+1NC	Slow action contacts 2NC	Slow action contacts 1NO+2NC

FR 18C1-M2 →	FR 18C2-M2 →	FR 18C3-M2 →	FX 18C1-M2 →	FX 18C2-M2 →	FX 18C3-M2 →	FM 18C1-M2 →	FM 18C3-M2 →
FR 9C1-M2 →	FR 9C2-M2 →	FR 9C3-M2 →	FX 9C1-M2 →	FX 9C2-M2 →	FX 9C3-M2 →	FM 9C1-M2 →	FM 9C3-M2 →
FR 20C1-M2 →	FR 20C2-M2 →	FR 20C3-M2 →	FX 20C1-M2 →	FX 20C2-M2 →	FX 20C3-M2 →	FM 20C1-M2 →	FM 20C3-M2 →

FS series locking switches

Technopolymer housing ▢
Three M20x1.5 conduit entries
Max. holding force: 1100 N
(with key release): 900 N
Protection degree IP67
Marks: CE Ⓨ c(UL)us CCC EAC

	Locked actuator with **de-energised** 24 Vac/dc solenoid.	Locked actuator with **de-energised 24 Vac/dc solenoid.** With auxiliary key release.	Locked actuator with **energised 24 Vac/dc solenoid.**
1NO+1NC contacts (magnet)	FS 1896D024-M2 ⊖	FS 1898D024-M2 ⊖	FS 1896E024-M2 ⊖
1NO+2NC contacts (magnet)	FS 2096D024-M2 ⊖	FS 2098D024-M2 ⊖	FS 2096E024-M2 ⊖
1NO+1NC contacts (magnet) +1NC (actuator)	FS 2896D024-M2 ⊖	FS 2898D024-M2 ⊖	FS 2896E024-M2 ⊖

FD, FP series locking switches

Technopolymer housing (FP) ▢
Metal housing (FD)
One M20x1.5 conduit entry
Max. holding force: 1000 N
Protection degree IP67
Marks: CE Ⓨ c(UL)us CCC EAC

	With timed (20 s) manual actuator **lock/release**	With timed (20 s) manual actuator **lock/release**	With timed (10 s) manual actuator **lock/release**	With **key release**	With **key release**
Slow action contacts 1NO+1NC	FD 6R2-M2 ⊖	FP 6R2-M2 ⊖	FD 6R2-L10M2 ⊖	FD 1899-M2 ⊖	FP 1899-M2 ⊖
Slow action contacts 2NC	FD 9R2-M2 ⊖	FP 9R2-M2 ⊖	FD 9R2-L10M2 ⊖	/	/
Slow action contacts 1NO+2NC	FD 20R2-M2 ⊖	FP 20R2-M2 ⊖	FD 20R2-L10M2 ⊖	FD 2099-M2 ⊖	FP 2099-M2 ⊖

FG series locking switches

Metal housing
4 switching contacts
Max. holding force: 2800 N
Protection degree IP67
Status LED
Three M20x1.5 conduit entries
Marks: CE Ⓨ c(UL)us CCC EAC

	Locked actuator with **de-energised** 24 Vac/dc solenoid.	Locked actuator with **energised** 24 Vac/dc solenoid.	Locked actuator with **de-energised 24 Vac/dc solenoid. With key release.**	Locked actuator with **de-energised 24 Vac/dc solenoid. With key release and escape release button.**	Locked actuator with **de-energised 24 Vac/dc solenoid. With escape release button.**
1NO+1NC contacts (magnet) + 1NO+1NC (actuator)	FG 60AD1D0A ⊖	FG 60AD1E0A ⊖	FG 60AD5D0A ⊖	FG 60AD6D0A ⊖	FG 60AD7D0A ⊖
2NC contacts (magnet) +1NO+1NC (actuator)	FG 60BD1D0A ⊖	FG 60BD1E0A ⊖	FG 60BD5D0A ⊖	FG 60BD6D0A ⊖	FG 60BD7D0A ⊖
3NC contacts (magnet) +1NC (actuator)	FG 60CD1D0A ⊖	FG 60CD1E0A ⊖	FG 60CD5D0A ⊖	FG 60CD6D0A ⊖	FG 60CD7D0A ⊖

Separate actuators for FD, FP, FS series

VF KEYF	VF KEYF1	VF KEYF2
VF KEYF3	VF KEYF7	VF KEYF8

Separate actuators for FG series

VF KEYF20	VF KEYF21	VF KEYF22
VF KEYF28		

Attention! These separate actuators cannot be used with items of the FG series.

Attention! These separate actuators cannot be used with items of the FD, FP, FS series.

Lock out device

Padlockable lock out device to prevent the actuator entry and the accidental closing of the door behind operators while they are in the danger area.

Article	Description
VF KB1	Lock out device for FD, FP, FS series
VF KB2	Lock out device for FG series

RFID safety switches with lock NG series

Metal housing, three M20x1.5 conduit entries

High level coded actuator (EN ISO 14119)

Max. holding force: 9750 N

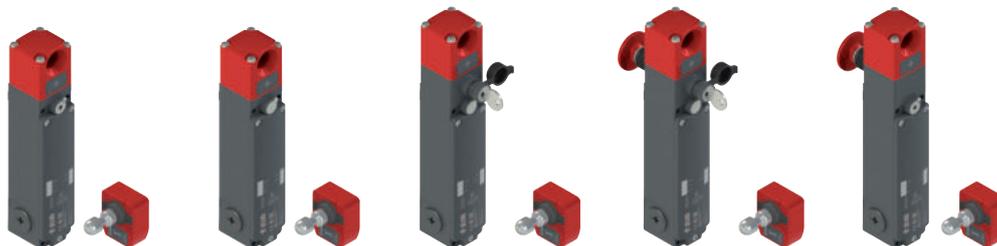Protection degrees IP67 and IP69K

Status LED

Marks: CE c(UL)us TÜV EHC ECOLAB

	Locked actuator with **de-energised 24 Vdc solenoid.**	Locked actuator with **energised** 24 Vdc solenoid.	Locked actuator with **de-energised 24 Vdc solenoid.** **With key release.**	Locked actuator with **de-energised** 24 Vdc solenoid. **With key release and escape release button.**	Locked actuator with **de-energised 24 Vdc solenoid.** **With escape release button.**
Mode 1 ⬚ OS1/OS2 safety outputs active with inserted and locked actuator	NG 2D1D411A-F31	NG 2D1E411A-F31	NG 2D5D411A-F31	NG 2D6D411A-F31	NG 2D7D411A-F31
Mode 2 OS1/OS2 safety outputs active with inserted actuator	NG 2D1D421A-F31	NG 2D1E421A-F31	NG 2D5D421A-F31	NG 2D6D421A-F31	NG 2D7D421A-F31
Mode 3 ⬚ OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator	NG 2D1D431A-F31	NG 2D1E431A-F31	NG 2D5D431A-F31	NG 2D6D431A-F31	NG 2D7D431A-F31

RFID safety switches with lock NG series with integrated control devices

Metal housing, three M20x1.5 conduit entries

High level coded actuator (EN ISO 14119)

Max. holding force: 9750 N

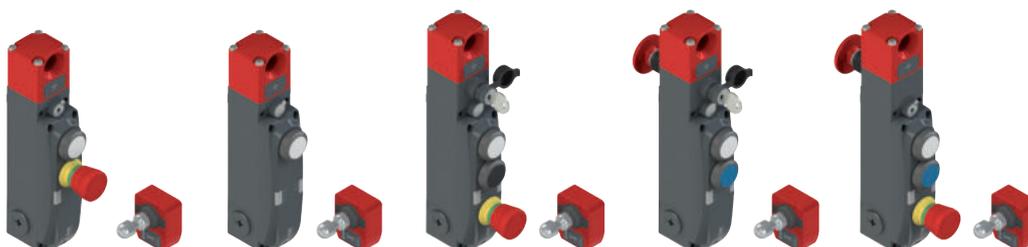Protection degree IP65

Status LED

Marks: CE c(UL)us TÜV EHC ECOLAB

	Locked actuator with **de-energised 24 Vdc solenoid.**	Locked actuator with **energised** 24 Vdc solenoid.	Locked actuator with **de-energised 24 Vdc solenoid.** **With key release.**	Locked actuator with **de-energised** 24 Vdc solenoid. **With key release and escape release button.**	Locked actuator with **de-energised 24 Vdc solenoid.** **With escape release button.**
Mode 1 ⬚ OS1/OS2 safety outputs active with inserted and locked actuator	NG 2D1D412D-F31	NG 2D1E411H-F31	NG 2D5D411D-F31	NG 2D6D412P-F31	NG 2D7D412V-F31

RFID safety switches with lock NG series with remote escape release

Self-monitoring of cable tension

Device can be turned in 90° steps

Flexible installation

Activation button for remote escape release

Note: The codes shown on the side include the safety switch supplied with the remote release cable which has a standard length of 5 meters.
For other lengths, please contact our Technical Department.

The remote escape release switch must be supplemented with the push button with the code VN RR-K4.

	Locked actuator with **de-energised 24 Vdc solenoid.** **With remote escape release.**
Mode 1 ⬚ OS1/OS2 safety outputs active with inserted and locked actuator	NG 2D9D411A-F31
Mode 2 OS1/OS2 safety outputs active with inserted actuator	NG 2D9D421A-F31
Mode 3 ⬚ OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator	NG 2D9D431A-F31

Activation button for remote escape release

Article	Description
VN RR-K4	Activation button for remote escape release on NG and NS series switches

Note: The actuation cable is integrated in the remote release device connected to the safety switch.

Inputs and outputs

2 safety inputs IS1, IS2

2 safety outputs OS1, OS2

1 signalling output O3: closed guard

1 signalling output O4: locked guard

1 solenoid activation input I4

1 programming / reset input I3

For safety applications, connect with the safety modules shown on the side. See technical data on page 56.

CS AR-05••••
CS AR-06••••
CS AR-08••••
CS AT-0•••••
CS AT-1•••••
CS MP••••••
CS MF••••••

RFID safety switches with lock NS series

Technopolymer housing

High level coded actuator (EN ISO 14119)

Max. holding force: 2100 N

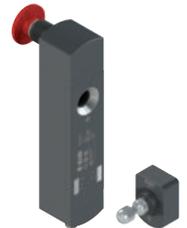Protection degrees IP67 and IP69K

Status LED

Marks: CE c(UL)us TÜV EAC ECOLAB®

	Locked actuator with **de-energised** 24Vdc solenoid. **With screwdriver release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With key release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With key release and escape release button.**	Locked actuator with **de-energised 24Vdc solenoid. With screwdriver release and escape release button.**	Locked actuator with **energised 24Vdc solenoid. With escape release button.**

With M12 connector, axial

Mode 1
OS1/OS2 safety outputs active with inserted and locked actuator

Mode 2
OS1/OS2 safety outputs active with inserted actuator

Mode 3 OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator

Mode	screwdriver	key	key+escape	screwdriver+escape	escape
Mode 1	NS D4AZ1SMK-F41	NS D4ST1SMK-F41	NS D4SE1SMK-F41	NS D4CE1SMK-F41	NS E4TE1SMK-F41
Mode 2	NS G4AZ1SMK-F41	NS G4ST1SMK-F41	NS G4SE1SMK-F41	NS G4CE1SMK-F41	NS H4TE1SMK-F41
Mode 3	NS L4AZ1SMK-F41	NS L4ST1SMK-F41	NS L4SE1SMK-F41	NS L4CE1SMK-F41	NS M4TE1SMK-F41

	Locked actuator with **de-energised** 24Vdc solenoid. **With screwdriver release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With key release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With key release and escape release button.**	Locked actuator with **de-energised 24Vdc solenoid. With screwdriver release and escape release button.**	Locked actuator with **energised 24Vdc solenoid. With escape release button.**

With axial cable, 0.2 m length and M12 connector

Mode 1
OS1/OS2 safety outputs active with inserted and locked actuator

Mode 2
OS1/OS2 safety outputs active with inserted actuator

Mode 3 OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator

Mode	screwdriver	key	key+escape	screwdriver+escape	escape
Mode 1	NS D4AZ1SM0.2-F41	NS D4ST1SM0.2-F41	NS D4SE1SM0.2-F41	NS D4CE1SM0.2-F41	NS E4TE1SM0.2-F41
Mode 2	NS G4AZ1SM0.2-F41	NS G4ST1SM0.2-F41	NS G4SE1SM0.2-F41	NS G4CE1SM0.2-F41	NS H4TE1SM0.2-F41
Mode 3	NS L4AZ1SM0.2-F41	NS L4ST1SM0.2-F41	NS L4SE1SM0.2-F41	NS L4CE1SM0.2-F41	NS M4TE1SM0.2-F41

To order a product with lateral output direction, replace S with D in the codes shown above.
Example: NS D4AZ1**S**M0.2-F41 → NS D4AZ1**D**M0.2-F41

RFID safety switches with lock NS series with integrated control devices

NEW

Technopolymer housing

High level coded actuator (EN ISO 14119)

Max. holding force: 2100 N

Protection degree IP65

Versions with 1 or 2 devices

Status LED

Marks: CE c(UL)us TÜV EAC ECOLAB®

	Locked actuator with **de-energised** 24Vdc solenoid. **With key release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With screwdriver release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With key release and escape release button.**	Locked actuator with **de-energised 24Vdc solenoid. With screwdriver release and escape release button.**	Locked actuator with **energised 24Vdc solenoid. With escape release button.**
	Two M12 connectors, axial.	Two M12 connectors, axial.	Two M12 connectors, axial.	Two M12 connectors, axial.	Two M12 connectors, axial.

Mode 1
OS1/OS2 safety outputs active with inserted and locked actuator

Mode 2
OS1/OS2 safety outputs active with inserted actuator

Mode 3 OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator

Mode	key	screwdriver	key+escape	screwdriver+escape	escape
Mode 1	NS D4AZ1SRK-F41N110	NS D4ST1SRK-F41N111	NS D4SE1STK-F41N113	NS D4CE1SRK-F41N114	NS E4TE1SRK-F41N115
Mode 2	NS G4AZ1SRK-F41N110	NS G4ST1SRK-F41N111	NS G4SE1STK-F41N113	NS G4CE1SRK-F41N114	NS H4TE1SRK-F41N115
Mode 3	NS L4AZ1SRK-F41N110	NS L4ST1SRK-F41N111	NS L4SE1STK-F41N113	NS L4CE1SRK-F41N114	NS M4TE1SRK-F41N115

RFID safety switches with lock NS series with integrated control devices

Technopolymer housing

High level coded actuator (EN ISO 14119)

Max. holding force: 2100 N

Protection degree IP65

Versions with 3 or 4 devices

Status LED

Marks: CE c(UL)us TÜV EAC ECOLAB

	Locked actuator with **de-energised** 24Vdc solenoid. **With screwdriver release.** Two M12 connectors, axial.	Locked actuator with **de-energised** 24Vdc solenoid. **With key release.** Two M12 connectors, axial.	Locked actuator with **de-energised** 24Vdc solenoid. **With key release and escape release button.** M23 connector, axial.	Locked actuator with **de-energised 24Vdc solenoid. With screwdriver release and escape release button.** Two M12 connectors, axial.	Locked actuator with **energised 24Vdc solenoid. With escape release button.** Two M12 connectors, axial.
Mode 1 OS1/OS2 safety outputs active with inserted and locked actuator	NS D4AZ1SRK-F41N001	NS D4ST1SRK-F41N002	NS D4SE1STK-F41N003	NS D4CE1SRK-F41N004	NS E4TE1SRK-F41N005
Mode 2 OS1/OS2 safety outputs active with inserted actuator	NS G4AZ1SRK-F41N001	NS G4ST1SRK-F41N002	NS G4SE1STK-F41N003	NS G4CE1SRK-F41N004	NS H4TE1SRK-F41N005
Mode 3 OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator	NS L4AZ1SRK-F41N001	NS L4ST1SRK-F41N002	NS L4SE1STK-F41N003	NS L4CE1SRK-F41N004	NS M4TE1SRK-F41N005

RFID safety switches with lock NS series with remote escape release

NEW

Self-monitoring of cable tension

Device can be turned in 90° steps

Flexible installation

Activation button for remote escape release

Note: The codes shown on the side include the safety switch supplied with the remote release cable which has a standard length of 5 meters.
For other lengths, please contact our Technical Department.

The remote escape release switch must be supplemented with the push button with the code VN RR-K4.

	Locked actuator with **de-energised** 24Vdc solenoid. **With key release and remote escape release.**	Locked actuator with **de-energised** 24Vdc solenoid. **With screwdriver release and remote escape release.**
Mode 1 OS1/OS2 safety outputs active with inserted and locked actuator	NS D4SR1SMK-F41	NS D4CR1SMK-F41
Mode 2 OS1/OS2 safety outputs active with inserted actuator	NS G4SR1SMK-F41	NS G4CR1SMK-F41
Mode 3 OS1 safety output active with inserted and locked actuator, OS2 safety output active with inserted actuator	NS L4SR1SMK-F41	NS L4CR1SMK-F41

Activation button for remote escape release

Article	Description
VN RR-K4	Activation button for remote escape release on NG and NS series switches

Note: The actuation cable is integrated in the remote release device connected to the safety switch.

Inputs and outputs
2 safety inputs IS1, IS2
2 safety outputs OS1, OS2
1 signalling output O3: closed guard
1 signalling output O4: locked guard
2 solenoid activation inputs IE1, IE2
1 programming / reset input I3

For safety applications, connect with the safety modules shown on the side. See technical data on page 56.

CS AR-05••••
CS AR-06••••
CS AR-08••••
CS AT-0•••••
CS AT-1•••••
CS MP••••••
CS MF••••••

BN series control device units

Technopolymer housing
Adjustable mounting holes
Versions with 1, 2, 3, 4, 6,7 or 8 devices

Protection degree IP65
Supply voltage: 24 Vdc
Marks: $C\ \epsilon_c$ ⓊL us

NEW

1 device M12 connector 5-pole	1 device M12 connector 5-pole	1 device M12 connector 5-pole	2 devices M12 connector 8-pole	2 devices M12 connector 8-pole	2 devices M12 connector 8-pole
BN AC1ZA01	BN AC1ZA02	BN AC1ZA03	BN AC2ZA01	BN AC2ZA02	BN AC2ZA03

3 devices M12 connector, 12-pole	3 devices M12 connector, 12-pole	3 devices M12 connector, 12-pole	4 devices M12 connector, 12-pole	4 devices M12 connector, 12-pole	4 devices M23 connector, 12-pole
BN AC3ZA01	BN AC3ZA02	BN AC3ZA03	BN AC4ZA01	BN AC4ZA02	BN AC4ZA03

6 devices 2x M12 connector, 12-pole	6 devices M23 connector, 19-pole	7 devices 2x M12 connector, 12-pole	8 devices 2x M12 connector, 12-pole
BN AC6ZA01	BN AC6ZA02	BN AC7ZA01	BN AC8ZA01

Note

P-KUBE 1 safety handles

Can be used with switches from the FD and FG series

Self-centring metal pin

Integrated padlockable lock out device

Thanks to the slotted brackets the handle can be adjusted on 3 different axes

Suitable for use with hinged and sliding doors, either with right or left closing

Switch and actuator not included in scope of delivery

For FG series switches

For FD series switches

VF AP-P11B-200P

VF AP-P11A-200P

P-KUBE 2 safety handles

Can be used with switches from the NG series

Thanks to the slotted brackets the handle can be adjusted on 3 different axes

Suitable for use with hinged and sliding doors, either with right or left closing

Optional lock out device

Switch and actuator not included in scope of delivery

With lock out device

AP G1A-111P

AP G0B-111P

P-KUBE Fast safety handles

Can be used with switches from the FD and FG series

Compact, lightweight solution

Internal lever for emergency escape

Integrated padlockable lock out device

Suitable for use with hinged and sliding doors, either with right or left closing

Switch not included in scope of delivery

For FG series switches

For FD series switches

VF AP-S13BP-300

VF AP-S13AP-301

P-KUBE Super safety handles

Can be used with switches from the NG series

Suitable for use in particularly demanding work environments

Dual centring pin

Integrated padlockable lock out device

Thanks to the slotted brackets the handle can be adjusted on 3 different axes

Suitable for use with hinged and sliding doors, either with right or left closing

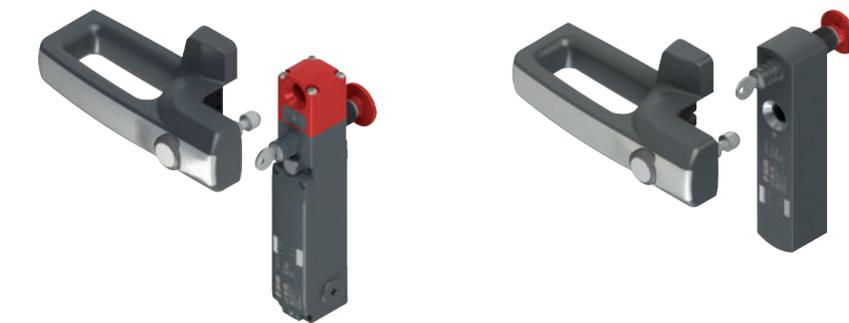Switch and actuator not included in scope of delivery

For NG series switches

AP G2C-800P

P-KUBE Krome
safety handles

Can be used with switches from the NS and NG series

Technopolymer grip

Satin chrome and illuminated white finishes

Control button integrated into grip

Grip illumination with RGB LED

Internal metal fixing plates

Suitable for use with hinged and sliding doors, either with right or left closing, same individual product code.

Supply voltage 24 Vdc

Protection degree IP65

Optional lock out device

Switch and actuator not included in scope of delivery

With satin chrome grip, for NS series switches

With satin chrome grip, for NG series switches

Connection cable not necessary

Without control device	AN S9A000A	AN G9A000A

	With satin chrome grip, for NS series switches	With satin chrome grip, for NG series switches	With illuminated grip (white), for NS series switches	With illuminated grip (white), for NG series switches
With 3 m long PVC cable				
Without control device	/	/	AN S1B000A-PN3	AN G1B000A-PN3
With spring-return button, 1NO, white, illuminated	AN S9A001A-PN3	AN G9A001A-PN3	AN S1B001A-PN3	AN G1B001A-PN3
With spring-return button, 1NO, red, illuminated	AN S9A002A-PN3	AN G9A002A-PN3	AN S1B002A-PN3	AN G1B002A-PN3
With spring-return button, 1NO, green, illuminated	AN S9A003A-PN3	AN G9A003A-PN3	AN S1B003A-PN3	AN G1B003A-PN3
With spring-return button, 1NO, yellow, illuminated	AN S9A004A-PN3	AN G9A004A-PN3	AN S1B004A-PN3	AN G1B004A-PN3
With spring-return button, 1NO, blue, illuminated	AN S9A005A-PN3	AN G9A005A-PN3	AN S1B005A-PN3	AN G1B005A-PN3
With spring-return button, 1NO, black, non-illuminated	AN S9A008A-PN3	AN G9A008A-PN3	AN S1B008A-PN3	AN G1B008A-PN3

	With satin chrome grip, for NS series switches	With satin chrome grip, for NG series switches	With illuminated grip (white), for NS series switches	With illuminated grip (white), for NG series switches
With 0.15 m long PVC cable and M12 connector				
Without control device	/	/	AN S1B000A-PM0.2	AN G1B000A-PM0.2
With spring-return button, 1NO, white, illuminated	AN S9A001A-PM0.2	AN G9A001A-PM0.2	AN S1B001A-PM0.2	AN G1B001A-PM0.2
With spring-return button, 1NO, red, illuminated	AN S9A002A-PM0.2	AN G9A002A-PM0.2	AN S1B002A-PM0.2	AN G1B002A-PM0.2
With spring-return button, 1NO, green, illuminated	AN S9A003A-PM0.2	AN G9A003A-PM0.2	AN S1B003A-PM0.2	AN G1B003A-PM0.2
With spring-return button, 1NO, yellow, illuminated	AN S9A004A-PM0.2	AN G9A004A-PM0.2	AN S1B004A-PM0.2	AN G1B004A-PM0.2
With spring-return button, 1NO, blue, illuminated	AN S9A005A-PM0.2	AN G9A005A-PM0.2	AN S1B005A-PM0.2	AN G1B005A-PM0.2
With spring-return button, 1NO, black, non-illuminated	AN S9A008A-PM0.2	AN G9A008A-PM0.2	AN S1B008A-PM0.2	AN G1B008A-PM0.2

P-KUBE Smart
safety handles

NEW

Usable with ST series RFID safety sensors

Possibility of application with horizontal or vertical handle

Satin chrome and illuminated white finishes

Control button integrated into grip

Grip illumination with RGB LED

Direct fixing on the grip or through solid inner plate

Suitable for use with hinged and sliding doors, either right
or left closing, same individual product code

Supply voltage 24 Vdc

Protection degree IP65

ST series sensor not included

	With satin chrome grip with fixing on internal metal plate	With satin chrome grip with fixing on the grip

With RFID at a high level of coding for ST series sensors. Connection cable not necessary

Without control device	ANT9A000A1	ANT9A100A1

	With satin chrome grip with fixing on internal metal plate	With satin chrome grip with fixing on the grip	With illuminated white grip with fixing on the internal metal plate	With illuminated white grip with fixing on the grip

With 3 m long PVC cable and RFID at a high level of coding for ST series sensors

Without control device	/	/	ANT1B000A1-PN3	ANT1B100A1-PN3
With spring-return button, 1NO, white, illuminated	ANT9A001A1-PN3	ANT9A101A1-PN3	ANT1B001A1-PN3	ANT1B101A1-PN3
With spring-return button, 1NO, red, illuminated	ANT9A002A1-PN3	ANT9A102A1-PN3	ANT1B002A1-PN3	ANT1B102A1-PN3
With spring-return button, 1NO, green, illuminated	ANT9A003A1-PN3	ANT9A103A1-PN3	ANT1B003A1-PN3	ANT1B103A1-PN3
With spring-return button, 1NO, yellow, illuminated	ANT9A004A1-PN3	ANT9A104A1-PN3	ANT1B004A1-PN3	ANT1B104A1-PN3
With spring-return button, 1NO, blue, illuminated	ANT9A005A1-PN3	ANT9A105A1-PN3	ANT1B005A1-PN3	ANT1B105A1-PN3
With spring-return button, 1NO, black, non-illuminated	ANT9A008A1-PN3	ANT9A108A1-PN3	ANT1B008A1-PN3	ANT1B108A1-PN3

	With satin chrome grip with fixing on internal metal plate	With satin chrome grip with fixing on the grip	With illuminated white grip with fixing on the internal metal plate	With illuminated white grip with fixing on the grip

With 0.15 m long PVC cable and M12 connector and RFID at a high level of coding for ST series sensors

Without control device	/	/	ANT1B000A1-PM0.2	ANT1B100A1-PM0.2
With spring-return button, 1NO, white, illuminated	ANT9A001A1-PM0.2	ANT9A101A1-PM0.2	ANT1B001A1-PM0.2	ANT1B101A1-PM0.2
With spring-return button, 1NO, red, illuminated	ANT9A002A1-PM0.2	ANT9A102A1-PM0.2	ANT1B002A1-PM0.2	ANT1B102A1-PM0.2
With spring-return button, 1NO, green, illuminated	ANT9A003A1-PM0.2	ANT9A103A1-PM0.2	ANT1B003A1-PM0.2	ANT1B103A1-PM0.2
With spring-return button, 1NO, yellow, illuminated	ANT9A004A1-PM0.2	ANT9A104A1-PM0.2	ANT1B004A1-PM0.2	ANT1B104A1-PM0.2
With spring-return button, 1NO, blue, illuminated	ANT9A005A1-PM0.2	ANT9A105A1-PM0.2	ANT1B005A1-PM0.2	ANT1B105A1-PM0.2
With spring-return button, 1NO, black, non-illuminated	ANT9A008A1-PM0.2	ANT9A108A1-PM0.2	ANT1B008A1-PM0.2	ANT1B108A1-PM0.2

Lock out devices

Can be used with switches from the NS and NG series

Made entirely of metal

Prevents unexpected start-up of the machine

Mechanical and RFID signal shielding of actuator

Compatible with P-KUBE 2 and P-KUBE Krome safety handles

For NS series switches, mounting on the left side of the switch

For NS series switches, mounting on the right side of the switch

For NG series switches

| LK S1S001 | LK S1D001 | AP G1Z-000Z |

Rope switches for emergency stop FD, FL, FC and FP series

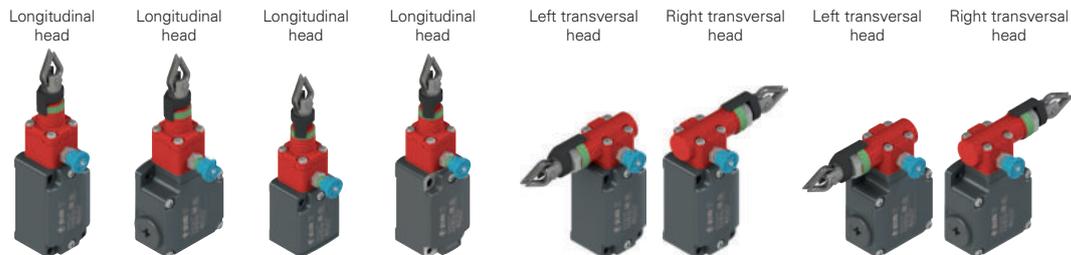Technopolymer housing or metal housing

One or three conduit entries

Protection degree IP67

Marks: CE Ⓨ c(UL)us ⒸⒸⒸ EAC

Longitudinal head	Longitudinal head	Longitudinal head	Longitudinal head	Left transversal head	Right transversal head	Left transversal head	Right transversal head

1NO+1NC contacts	FD 1878-M2 ➡	FL 1878-M2 ➡	FC 3378-M2 ➡	FP 1878-M2 ➡	FD 1883-M2 ➡	FD 1884-M2 ➡	FL 1883-M2 ➡	FL 1884-M2 ➡
2NC contacts	FD 978-M2 ➡	FL 978-M2 ➡	FC 3478-M2 ➡	FP 978-M2 ➡	FD 983-M2 ➡	FD 984-M2 ➡	FL 983-M2 ➡	FL 984-M2 ➡
1NO+2NC contacts	FD 2078-M2 ➡	FL 2078-M2 ➡	/	FP 2078-M2 ➡	FD 2083-M2 ➡	FD 2084-M2 ➡	FL 2083-M2 ➡	FL 2084-M2 ➡

FD, FL, FC and FP series rope switches for simple stop

Technopolymer housing or metal housing
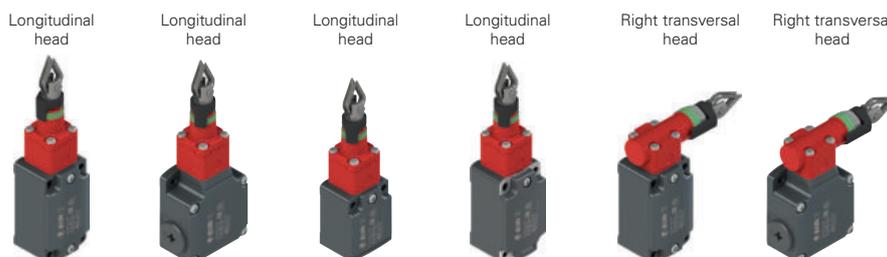
One or three conduit entries

Protection degree IP67

Marks: CE Ⓨ c(UL)us ⒸⒸⒸ EAC

Longitudinal head	Longitudinal head	Longitudinal head	Longitudinal head	Right transversal head	Right transversal head

1NO+1NC contacts	FD 1879-M2 ➡	FL 1879-M2 ➡	FC 3379-M2 ➡	FP 1879-M2 ➡	FD 1880-M2 ➡	FL 1880-M2 ➡
2NC contacts	FD 979-M2 ➡	FL 979-M2 ➡	FC 3479-M2 ➡	FP 979-M2 ➡	FD 980-M2 ➡	FL 980-M2 ➡
1NO+2NC contacts	FD 2079-M2 ➡	FL 2079-M2 ➡	/	FP 2079-M2 ➡	FD 2080-M2 ➡	FL 2080-M2 ➡

Accessories for rope installation

VF AF-TR5	VF AF-TR8	VF AF-MR5	VF AF-TR2X	VF T870	VF AF-ME78	VF AF-ME80	VF F05-100	VF AF-IF1GR11	VF AF-CA5	VF AF-CA10
Adjustable stay bolt	Stay bolt	End clamp	Adjustable stay bolt in stainless steel	Stay bolt	Safety spring for longitudinal heads	Safety spring for transversal heads	Rope Ø 5 mm. Spool with 100 m	Rope function indicator "▽ ▽"	Stainless steel pulley	Angular pulley, stainless steel

Accessory sets for rope installation - FAST line

Article	Set content	
VF AF-KT10M0	1x VF AF-TR5 1x VF AF-MR5 1x VF F05-010	10 m
VF AF-KT20M0	1x VF AF-TR5 1x VF AF-MR5 1x VF F05-020	20 m
VF AF-KT35M0	1x VF AF-TR5 1x VF AF-MR5 1x VF F05-035	35 m

Application example

VF AF-TR5   VF AF-IF1GR11   VF AF-MR5   VF AF-ME80

FD 1884-M2   VF AF-CA5   VF AF-CA5   VF AF-CA5
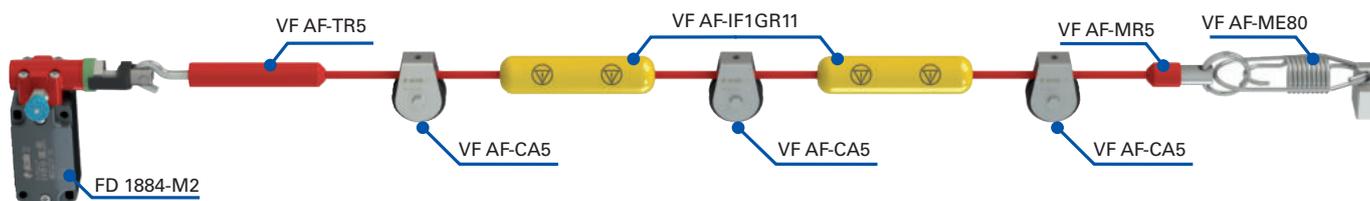
Safety modules

The clear objectives in the development of the CS series safety modules were safety and reliability. The design, development and production of these products have been approached with the passion for quality that characterises Pizzato Elettrica.
During the design phase, the components were deliberately oversized and the circuit diagrams were verified by third-party and independent bodies. Quality was the underlying factor for choosing the components. Basic elements, such as the relays with forcibly guided contacts, were chosen from leading manufacturers. The production process, done entirely in-house by Pizzato Elettrica, is controlled by a functional check of 100% of all products. Every single part produced is tested in a computerized testing station that, only if the product passes all the electrical tests, prints the label of the safety module, identified by a precise serial number.
Particular attention has been paid to the connection type. Here, the customer can choose between fixed terminals, a removable connector, screw connections or spring connections. Additionally, the product range includes different supply voltages with wide tolerances of the nominal values, so as to be compatible for use in less industrialized countries as well.

Safety modules **for emergency stops and end position monitoring for movable guards**

Product code	Supply voltage	Output contacts instantaneous	For applications up to			Start		Input types ⑦				Connection type ④			Housing dimensions (mm)
			PL	SIL	Saf. cat.	autom. & manual	monitored					V	M	X	
CS AR-01V024	24 Vac/dc	2NO+1NC	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-01V120	120 Vac	2NO+1NC	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-01V230	230 Vac	2NO+1NC	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-01VE02	10 … 30 Vdc	2NO+1NC	e	3	4	■	■	■	-	■	-	■	■	■	22,5 x 114
CS AR-02V024	24 Vac/dc	3NO	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-02V120	120 Vac	3NO	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-02V230	230 Vac	3NO	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-02VE02	10 … 30 Vdc	3NO	e	3	4	■	■	■	-	■	-	■	■	■	22,5 x 114
CS AR-04V024	24 Vac/dc	3NO+1NC	e	3	4	■	■	■	-	■	-	■	■	■	22,5 x 114
CS AR-04V120	120 Vac	3NO+1NC	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-04V230	230 Vac	3NO+1NC	e	3	4	■	■	■	-	⑧	-	■	■	■	22,5 x 114
CS AR-05V024	24 Vac/dc	3NO+1NC	e	3	4	■	-	■	■	■	-	■	■	■	22,5 x 114
CS AR-05V120	120 Vac	3NO+1NC	e	3	4	■	-	■	■	■	-	■	■	■	22,5 x 114
CS AR-05V230	230 Vac	3NO+1NC	e	3	4	■	-	■	■	■	-	■	■	■	22,5 x 114
CS AR-06V024	24 Vac/dc	3NO+1NC	e	3	4	-	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-06V120	120 Vac	3NO+1NC	e	3	4	-	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-06V230	230 Vac	3NO+1NC	e	3	4	-	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-07M024	24 Vac/dc	4NO+1NC	e	3	4	■	■	■	-	-	-	-	■	■	22,5 x 149
CS AR-08VU12	12 Vdc	2NO	e	3	4	■	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-08V024	24 Vac/dc	2NO	e	3	4	■	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-08V120	120 Vac	2NO	e	3	4	■	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-08V230	230 Vac	2NO	e	3	4	■	■	■	■	■	-	■	■	■	22,5 x 114
CS AR-20V024	24 Vac/dc	2NO	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-20V120	120 Vac	2NO	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-20V230	230 Vac	2NO	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-21V024	24 Vac/dc	2NO	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-21V120	120 Vac	2NO	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-21V230	230 Vac	2NO	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-22V024	24 Vac/dc	3NO+1NC	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-22V120	120 Vac	3NO+1NC	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-22V230	230 Vac	3NO+1NC	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-23V024	24 Vac/dc	3NO+1NC	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-23V120	120 Vac	3NO+1NC	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-23V230	230 Vac	3NO+1NC	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-24V024	24 Vac/dc	4NO+1NC	e	3	3	■	-	■	-	-	-	■	■	■	22,5 x 114
CS AR-25V024	24 Vac/dc	4NO+1NC	e	3	3	-	■	■	-	-	-	■	■	■	22,5 x 114
CS AR-40V024	24 Vac/dc	2NO	d	2	2	■	-	■	-	-	-	■	■	■	22,5 x 91
CS AR-41V024	24 Vac/dc	2NO	d	2	2	-	■	■	-	-	-	■	■	■	22,5 x 91
CS AR-46V024	24 Vac/dc	1NO	c	1	1	■	-	■	-	■	-	■	■	■	22,5 x 91
CS AR-91V024	24 Vac/dc	2NO+1PNP	e	3	4	■	■	■	-	■	-	■	■	■	22,5 x 114

⑧ Modules compatible with SR•••••• series magnetic safety sensors from 06/2014.

Code structure

CS AR-01V024

Connection type	
V	Screw terminals
M	Connector with screw terminals
X	Connector with spring terminals

Supply voltage	
024	24 Vac/dc
120	120 Vac
230	230 Vac
E02	10 … 30 Vdc

V screw terminals

M Removable connector with screw terminals

X Removable connector with spring terminals

6B Safety modules for 4-wire safety mats and safety bumpers

Product code	Supply voltage	Output contacts instantaneous	For applications up to			Start		Input types ⑦				Connection type ④			Housing dimensions (mm)
			PL	SIL	Saf. cat.	autom. & manual	monitored	⅂	⊬	⋈⅂	⊞	V	M	X	
CS AR-51V024	24 Vac/dc	2NO	e	3	4	■	■	■	-	-	■	■	■	■	22,5 x 114

6C Safety modules for emergency stops and end position monitoring for movable guards with delayed contacts

Product code	Supply voltage	Output contacts instantaneous	Output contacts delayed	For applications up to			Start		Input types ⑦				Connection type ④			Housing dimensions (mm)
				PL	SIL	Saf. cat.	autom. & manual	monitored	⅂	⊬	⋈⅂	⊞	V	M	X	
CS AT-0③V024	24 Vac/dc	2NO+1NC	2NO	e	3	4 (②)	■	■	■	■	■	-	■	■	■	45 x 114
CS AT-0③V120	120 Vac	2NO+1NC	2NO	e	3	4 (②)	■	■	■	■	■	-	■	■	■	45 x 114
CS AT-0③V230	230 Vac	2NO+1NC	2NO	e	3	4 (②)	■	■	■	■	■	-	■	■	■	45 x 114
CS AT-1③V024	24 Vac/dc	3NO	2NO	e	3	4 (②)	■	■	■	■	■	-	■	■	■	45 x 114
CS AT-1③V120	120 Vac	3NO	2NO	e	3	4 (②)	■	■	■	■	■	-	■	■	■	45 x 114
CS AT-1③V230	230 Vac	3NO	2NO	e	3	4 (②)	■	■	■	■	■	-	■	■	■	45 x 114
CS AT-3③V024	24 Vac/dc	2NO	1NO	e	3	4 (②)	■	■	■	-	■	-	■	■	■	45 x 114

6D Safety timer modules

Product code	Supply voltage	Function	Output contacts delayed	For applications up to			Start		Input types ⑦				Connection type ④			Housing dimensions (mm)
				PL	SIL	Saf. cat.	autom. & manual	monitored	⅂	⊬	⋈⅂	⊞	V	M	X	
CS FS-1③V024	24 Vac/dc	delay on	1NO+2NC	①	①	①	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-1③V120	120 Vac	delay on	1NO+2NC	①	①	①	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-1③V230	230 Vac	delay on	1NO+2NC	①	①	①	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-2③VU24	24 Vdc	delay on	1NO+1NC+1CO	d	2	3	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-2③V120	120 Vac	delay on	1NO+1NC+1CO	d	2	3	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-3③VU24	24 Vdc	delay off	1NO+1NC+1CO	d	2	3	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-3③V120	120 Vac	delay off	1NO+1NC+1CO	d	2	3	-	-	■	-	-	-	■	■	■	45 x 114
CS FS-5③VU24	24 Vdc	delay off	1NO+1NC+1CO	d	2	3	■	-	■	-	■	-	■	■	■	45 x 114
CS FS-5③V120	120 Vac	delay off	1NO+1NC+1CO	d	2	3	■	-	■	-	■	-	■	■	■	45 x 114

Legend

■   Available for this article
-   Not available for this article
①   Depending on the base module
②   Category 4 for instantaneous contacts, category 3 for delayed contacts

③ Release times for delayed contacts
0   Fixed time
1   adjustable, 0.3 … 3 s, 0.3 s steps
2   adjustable, 1 … 10 s, 1 s steps
3   adjustable, 3 … 30 s, 3 s steps
4   adjustable, 30 … 300 s, 30 s steps

④ Connection type
V   Screw terminals
M   Connector with screw terminals
X   Connector with spring terminals

⑤ Release time in absence of power supply
TF0.5   0.5 s fixed time
TF1   1 s fixed time
TF2   2 s fixed time
TF3   3 s fixed time

⑥ Release time in absence of power supply
TF1   1 s fixed time
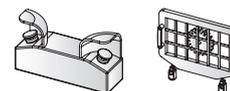...   ....
TF12   12 s fixed time

⑦ Input type
⅂   Electromechanical contacts
⊬   ESPE with PNP outputs
⋈⅂   magnetic safety sensors
⊞   4-wire safety mats and safety bumpers

Quality marks:
CE   cULus   CCC   EAC

Safety modules **for two-hand controls or synchronism monitoring**

Product code	Supply voltage	Output contacts instantaneous	Safety category	Start		Input types ⑦				Connection type ④			Housing dimensions (mm)
				autom. & manual	monitored	⊥	⊥	▷	⊞	V	M	X	
CS DM-01V024	24 Vac/dc	3NO+1NC	IIIC (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-01V120	120 Vac	3NO+1NC	IIIC (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-01V230	230 Vac	3NO+1NC	IIIC (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-02V024	24 Vac/dc	2NO	IIIC (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-02V120	120 Vac	2NO	IIIC (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-02V230	230 Vac	2NO	IIIC (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-20V024	24 Vac/dc	2NO	IIIA (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-20V120	120 Vac	2NO	IIIA (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114
CS DM-20V230	230 Vac	2NO	IIIA (EN 574)	-	-	■	-	-	-	■	■	■	22,5 x 114

Safety modules **for motor standstill monitoring**

Product code	Supply voltage	Output contacts instantaneous	For applications up to			Start		Input types ⑦				Connection type ④			Housing dimensions (mm)
			PL	SIL	Saf. cat.	autom. & manual	monitored	⊥	⊥	▷	⊞	V	M	X	
CS AM-01VE01	24 … 230 Vac/dc	2NO+1NC	d	2	3	-	-	-	-	-	-	■	■	■	45 x 114

Expansion modules **with instantaneous contacts or delayed contacts at de-energizing**
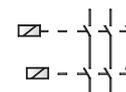
Product code	Supply voltage	Output contacts			For applications up to			Delay time upon de-energizing	Input types ⑦				Connection type ④			Housing dimensions (mm)
		instantane-ous	delayed	feedback	PL	SIL	Saf. cat.		⊥	⊥	▷	⊞	V	M	X	
CS ME-01V024	24 Vac/dc	5NO+1NC	-	1NC	①	①	①	-	■	-	-	-	■	■	■	22,5 x 114
CS ME-02VU24	24 Vdc	4NO+2NC	-	1NC	①	①	①	-	■	-	-	-	■	■	■	22,5 x 114
CS ME-03VU24	24 Vdc	3NO	-	1NC	①	①	①	-	■	■	-	-	■	■	■	22,5 x 91
CS ME-20VU24-TF⑤	24 Vdc	-	4NO+2NC	1NC	①	①	①	up to 3 s (fix)	■	-	-	-	■	■	■	22,5 x 114
CS ME-31VU24-TS12	24 Vdc	-	4NO+2NC	1NC	①	①	①	1 … 12 s (adjustable)	■	-	-	-	■	■	■	45 x 114

Code structure

CS AR-01V024

Connection type	
V	Screw terminals
M	Connector with screw terminals
X	Connector with spring terminals

Supply voltage	
024	24 Vac/dc
120	120 Vac
230	230 Vac

V screw terminals

M Removable connector with screw terminals

X Removable connector with spring terminals

■   Available for this article
-    Not available for this article
①   Depending on the base module
②   Category 4 for instantaneous contacts,
     Category 3 for delayed contacts

③ Release times for delayed contacts
   0   Fixed time
   1   adjustable, 0.3 … 3 s, 0.3 s steps
   2   adjustable, 1 … 10 s, 1 s steps
   3   adjustable, 3 … 30 s, 3 s steps
   4   adjustable, 30 … 300 s, 30 s steps

④ Connection type
   V   Screw terminals
   M   Connector with screw terminals
   X   Connector with spring terminals

⑤ Release time in absence of power supply
   TF0.5   0.5 s fixed time
   TF1   1 s fixed time
   TF2   2 s fixed time
   TF3   3 s fixed time

⑥ Release time in absence of power supply
   TF1   1 s fixed time
   …   ………
   TF12   12 s fixed time

⑦ Input type
   ⊥   Electromechanical contacts
   ⊥   ESPE with PNP outputs
   ▷   Magnetic safety sensors
   ⊞   4-wire safety mats and safety bumpers

Quality marks:

CE   c(UL)us   CCC   EAC

CS MP programmable multifunction safety modules

The CS MP series programmable safety modules are the result of Pizzato Elettrica's long experience in the machine safety sector. A CS MP series module is a programmable safety device, which allows several safety functions to be carried out simultaneously. This product series has been developed for manufacturers of machines with a low to average number of safety functions. As an indication, these modules can manage applications which are equivalent to the functions carried out by 3 to 4 traditional electromechanical safety modules, up to circuits with dozens of inputs.

The **Gemnis Studio** program is a graphic development environment for the creation, simulation and debugging of programs that are uploaded to the corresponding modules of the Gemnis family. **This software is licensed free of charge to users wishing to program these modules, subject to prior registration at www.gemnis.com**

Quality marks:

Article	CS MP201M0	CS MP202M0	CS MP203M0	CS MP204M0	CS MP205M0
Dimensions (H x W x D)	111.5 x 45 x 99 mm	111.5 x 45 x 99 mm	111.5 x 45 x 99 mm	111.5 x 45 x 99 mm	111.5 x 45 x 99 mm
Safety inputs (Ix)	8	16	12	12	4
Decoupled digital inputs (Jx)	/	/	/	/	4
Inputs for 4-20 mA analogue signals (Cx)	/	/	/	/	/
Inputs for frequency signals from 0 to 4 kHz (speed monitor) (Fx)	/	/	/	/	4
Test outputs (Tx)	8	4	4	4	4
Semiconductor signalling output circuits (Ox)	4	4	4	4	4
Semiconductor safety output circuits (OSx)	/	4PNP	/	/	4PNP
Safety relay circuits	3NO	/	3NO+1NO	3NO	/

Article	CS MP206M0	CS MP207M0	CS MP208M0	CS MP301M0
Dimensions (H x W x D)	111.5 x 45 x 99 mm	111.5 x 45 x 99 mm	111.5 x 45 x 99 mm	111.5 x 67.5 x 99 mm
Safety inputs (Ix)	8	4	16	24
Decoupled digital inputs (Jx)	/	/	/	/
Inputs for 4-20 mA analogue signals (Cx)	/	2	/	/
Inputs for frequency signals from 0 to 4 kHz (speed monitor) (Fx)	/	/	/	/
Test outputs (Tx)	4	4	4	8
Semiconductor signalling output circuits (Ox)	12	4	/	4
Semiconductor safety output circuits (OSx)	4PNP	4PNP	8PNP	/
Safety relay circuits	/	/	/	3NO
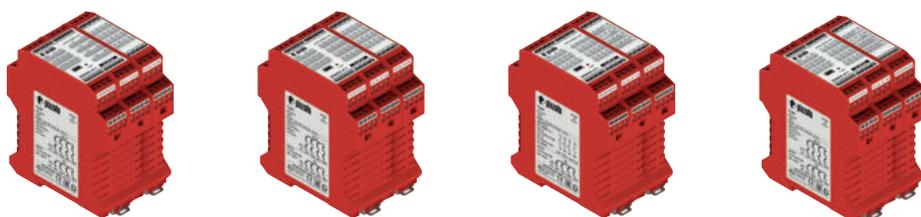
Article	CS MP302M0	CS MP303M0	CS MP304M0	CS MP305M0
Dimensions (H x W x D)	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm
Safety inputs (Ix)	24	32	28	24
Decoupled digital inputs (Jx)	/	/	/	/
Inputs for 4-20 mA analogue signals (Cx)	/	/	/	/
Inputs for frequency signals from 0 to 4 kHz (speed monitor) (Fx)	/	/	/	/
Test outputs (Tx)	12	4	4	4
Semiconductor signalling output circuits (Ox)	4	4	4	12
Semiconductor safety output circuits (OSx)	4PNP	4PNP	/	4PNP
Safety relay circuits	/	/	3NO+1NO	/

Article	CS MP306M0	CS MP307M0	CS MP308M0	CS MP309M0
Dimensions (H x W x D)	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm
Safety inputs (Ix)	20	8	24	32
Decoupled digital inputs (Jx)	/	4	/	/
Inputs for 4-20 mA analogue signals (Cx)	/	2	/	/
Inputs for frequency signals from 0 to 4 kHz (speed monitor) (Fx)	/	4	/	/
Test outputs (Tx)	4	4	4	4
Semiconductor signalling output circuits (Ox)	12	4	8	/
Semiconductor safety output circuits (OSx)	/	4PNP	8PNP	8PNP
Safety relay circuits	3NO+1NO	/	/	/

Article	CS MP310M0	CS MP311M0	CS MP312M0	CS MP401M0
Dimensions (H x W x D)	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm	111.5 x 67.5 x 99 mm	111.5 x 90 x 99 mm
Safety inputs (Ix)	8	20	16	40
Decoupled digital inputs (Jx)	8	/	4	/
Inputs for 4-20 mA analogue signals (Cx)	/	2	/	/
Inputs for frequency signals from 0 to 4 kHz (speed monitor) (Fx)	8	/	4	/
Test outputs (Tx)	4	4	8	4
Semiconductor signalling output circuits (Ox)	4	4	/	12
Semiconductor safety output circuits (OSx)	4PNP	4PNP	8PNP	4PNP
Safety relay circuits	/	/	/	/

Article	CS MP402M0	CS MP403M0	CS MP406M0
Dimensions (H x W x D)	111.5 x 90 x 99 mm	111.5 x 90 x 99 mm	111.5 x 90 x 99 mm
Safety inputs (Ix)	32	40	32
Decoupled digital inputs (Jx)	/	/	/
Inputs for 4-20 mA analogue signals (Cx)	/	/	/
Inputs for frequency signals from 0 to 4 kHz (speed monitor) (Fx)	/	/	/
Test outputs (Tx)	12	4	4
Semiconductor signalling output circuits (Ox)	8	8	20
Semiconductor safety output circuits (OSx)	8PNP	8PNP	4PNP
Safety relay circuits	/	/	/

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An increasing number of users requires products which carry out several safety functions without needing the complex management of a safety PLC or the complex wiring of many traditional safety modules. Such problems arise mainly when the safety functions are typically greater than 3 or 4, or when managing a safety PLC software (software purchase, training courses, programming of all modules, software management and filing, updates etc.) turns out to be too great an overhead in relation to problem complexity. With the CS MF series of Gemnis, Pizzato Elettrica offers a series of electronic modules which are pre-programmed for specific customer applications or for generic safety macro-functions commonly used in industrial contexts.

The General Catalogue Safety (available from www.pizzato.com) lists some of the pre-programmed products for generic macro-functions commonly used in the industrial sector. These products are available for individual purchase. Any customer requiring a product pre-programmed to their particular specification can contact the Pizzato Elettrica technical department (minimum volumes are requested). All Gemnis series products are able to provide circuit solutions at SIL 3 (EN 62061), PL e (EN 13849) or category 4 (EN 954-1) levels.

CS MF<u>201</u><u>M</u>0-P●●

Hardware code	
●●●	Hardware code

Program code	
P●●	Program code

Connection type	
M	Connector with screw terminals

Supply voltage	
0	24 Vdc

Quality marks:

M8 - M12 connectors

M12 male connectors
Protection degrees IP67 and IP69K.
PG 13.5 or M20x1.5 thread on the device side.
Gold-plated contacts.

	Article	Description
Threads M20x1.5	VF CNM4MM	M12 connector, 4-pole, metal
	VF CNM5MM	M12 connector, 5-pole, metal
	VF CNM8MM	M12 connector, 8-pole, metal
	VF CNP4MM	M12 connector, 4-pole, plastic
	VF CNP5MM	M12 connector, 5-pole, plastic
	VF CNP8MM	M12 connector, 8-pole, plastic
Threads PG 13.5	VF CNM4PM	M12 connector, 4-pole, metal
	VF CNM5PM	M12 connector, 5-pole, metal
	VF CNM8PM	M12 connector, 8-pole, metal
	VF CNP4PM	M12 connector, 4-pole, plastic
	VF CNP5PM	M12 connector, 5-pole, plastic

M8 and M12 female connectors
Protection degrees IP67 and IP69K.
Self-locking ring nut.
Gold-plated contacts.

	Article	Description
PVC cable	VF CA4PD3K	M8 connector, 4-pole, straight, length 3 m
	VF CA4PD5K	M8 connector, 4-pole, straight, length 5 m
	VF CA4PD3M	M12 connector, 4-pole, straight, length 3 m
	VF CA4PD5M	M12 connector, 4-pole, straight, length 5 m
	VF CA4PD0M	M12 connector, 4-pole, straight, length 10 m
	VF CA5PD3M	M12 connector, 5-pole, straight, length 3 m
	VF CA5PD5M	M12 connector, 5-pole, straight, length 5 m
	VF CA5PD0M	M12 connector, 5-pole, straight, length 10 m
	VF CA8PD5M	M12 connector, 8-pole, straight, length 5 m
	VF CA8PD0M	M12 connector, 8-pole, straight, length 10 m
	VF CA12PD5M	M12 connector, 12-pole, straight, length 5 m
	VF CA12PD0M	M12 connector, 12-pole, straight, length 10 m
PUR cable	VF CA8UD5M-X	M12 connector, 8-pole, straight, length 5 m, with stainless steel hexagonal ring nut
	VF CA8UD0M-X	M12 connector, 8-pole, straight, length 10 m, with stainless steel hexagonal ring nut
	VF CA12UD0M-X	M12 connector, 12-pole, straight, length 10 m, with stainless steel hexagonal ring nut

Field wireable M12 male connectors
Technopolymer connector body.
Gold-plated contacts.
Screw terminals for cable screw fittings.
Protection degree IP67.

Article	Description
VF CCMP5DM04	Field wireable M12 male connector, 5-pole, straight, for Ø 4 ... Ø 6.5 mm multipolar cables
VF CCMP8DM04	Field wireable M12 male connector, 8-pole, straight, for Ø 4 ... Ø 7 mm multipolar cables

Field wireable M12 female connectors
Technopolymer connector body.
Gold-plated contacts.
Screw terminals for cable screw fittings.
Protection degree IP67.

Article	Description
VF CBMP4DM04	Field wireable M12 female connector, 4-pole, straight, for Ø 4 … 6.5 mm multipolar cables
VF CBMP5DM04	Field wireable M12 female connector, 5-pole, straight, for Ø 4 … 6.5 mm multipolar cables
VF CBMP8DM04	Field wireable M12 female connector, 8-pole, straight, for Ø 4 … 7 mm multipolar cables

M12 connectors for series connection

Field wireable M12 male - female connectors
Polyurethane connector body.
Protection degree IP67.
Gold-plated contacts.
Self-locking ring nut.

Article	Description
VF CA5PD3M-MD	M12 connector, 5-pole, straight, length 3 m
VF CA5PD5M-MD	M12 connector, 5-pole, straight, length 5 m
VF CA5PD0M-MD	M12 connector, 5-pole, straight, length 10 m
VF CA8PD3M-MD	M12 connector, 8-pole, straight, length 3 m
VF CA8PD5M-MD	M12 connector, 8-pole, straight, length 5 m

M12 terminating plugs for series connections
Polyurethane connector body.
Protection degree IP67.
Gold-plated contacts.
Self-locking ring nut.

Article	Description
VF CY100P0	M12 terminating plugs for series connections, 4-pole

M12 connector, Y-shaped, for series connections with 150 mm cable length
Polyurethane connector body.
Protection degree IP67.
Gold-plated contacts.
Self-locking ring nut.

Article	Description
VF CY201P0	M12 connector, Y-shaped, for series connections with 150 mm cable length

M12 connector, Y-shaped, for series connections without cable
Polyurethane connector body.
Protection degree IP67.
Gold-plated contacts.
Self-locking ring nut.

Article	Description
VF CY203P0	M12 connector, Y-shaped, for series connections without cable

M23 connectors

M23 male connectors
Protection degrees IP67 and IP69K.
M20x1.5 thread on the device side.
Gold-plated contacts.

Article	Description
VF CNM12MT-L10	M23 connector, 12-pole, length 10 cm
VF CNM12MT-L16	M23 connector, 12-pole, length 16 cm
VF CNM19MT-L10	M23 connector, 19-pole, length 10 cm
VF CNM19MT-L16	M23 connector, 19-pole, length 16 cm

M23 female connectors with cable
Protection degrees IP67 and IP69K.
Gold-plated contacts.

Article	Description
VF CA12PD0S	M23 connector, 12-pole, length 10 m
VF CA12PD20S	M23 connector, 12-pole, length 20 m
VF CA19PD0S	M23 connector, 19-pole, length 10 m
VF CA19PD20S	M23 connector, 19-pole, length 20 m

Cable glands and adapters

Protection caps
Protection caps for threaded conduit entries.
Protection degree IP67.

Packs of **100 pcs.**

Article	Description
VF PTG13.5	Protection cap PG13.5
VF PTM20	Protection cap M20x1.5

Chock plugs
Chock plug for multipolar cables, threaded, M20x1.5.
Protection degree IP54.

Packs of **100 pcs.**

Article	Description
VF PFM20C8N	Chock plug for cables Ø 8 … 12 mm, threaded, M20x1.5
VF PFM20C4N	Chock plug for cables Ø 4 … 8 mm, threaded, M20x1.5

Strain relief cable glands
This particular design ensures high resistance to traction of the cable glands. All cable glands are also suitable for a wide range of cable diameters. Protection degree IP67.

Packs of **10 pcs.**

|	Article	Description	Rubber shapes
Metric threads	VF PAM25C7N	M25x1.5, for 1 cable from Ø 10 … 17 mm	
	VF PAM20C6N	M20x1.5, for 1 cable from Ø 6 … 12 mm	
	VF PAM20C5N	M20x1.5, for 1 cable from Ø 5 … 10 mm	
	VF PAM20C3N	M20x1.5, for 1 cable from Ø 3 … 7 mm	
	VF PAM16C5N	M16x1.5, for 1 cable from Ø 5 … 10 mm	
	VF PAM16C4N	M16x1.5, for 1 cable from Ø 4 … 8 mm	
	VF PAM16C3N	M16x1.5, for 1 cable from Ø 3 … 7 mm	
	VF PAM20CBN	M20x1.5 for 2 cables Ø 3 … 5 mm	
	VF PAM20CDN	M20x1.5 for 3 cables Ø 1 … 4 mm	
	VF PAM20CEN	M20x1.5 for 3 cables Ø 3 … 5 mm	
	VF PAM20CFN	M20x1.5 for 4 cables Ø 1 … 4 mm	
Threads PG	VF PAP13C6N	PG 13.5, for one cable from Ø 6 … 12 mm	
	VF PAP13C5N	PG 13.5, for one cable from Ø 5 … 10 mm	
	VF PAP13C3N	PG 13.5, for one cable from Ø 3 … 7 mm	
	VF PAP11C5N	PG 11, for one cable from Ø 5 … 10 mm	
	VF PAP11C4N	PG 11, for one cable from Ø 4 … 8 mm	
	VF PAP11C3N	PG 11, for one cable from Ø 3 … 7 mm	

Thread adapters
Thread adapters make it possible to fulfil requests for switches with a different thread to those generally found in stock. This means it is possible to offer customers a single product type with various threaded connections, while only having to stock the product itself and many kinds of adapters.

Packs of **100 pcs.**

Article	Description
VF ADPG13-PG11	Adapter from PG 13.5 to PG 11
VF ADPG13-M20	Adapter from PG 13.5 to M20x1.5
VF ADPG13-1/2NPT	Adapter from PG 13.5 to 1/2 NPT
VF ADPG11-1/2NPT	Adapter from PG 11 to 1/2 NPT
VF ADPG11-PG13	Adapter from PG 11 to PG 13.5
VF ADM20-1/2NPT	Adapter from M20x1.5 to 1/2 NPT

Tampering protection for M12 connectors
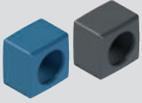
Tampering protection for M12 connectors
These tampering protections are composed of two identical snap-on shells. They are applied to the device connectors, thereby making them inaccessible. The shells can only be removed by breaking them. Thus, any attempt to tamper with them will be immediately evident.

Packs of **10 pcs.**

Article	Description
VF PC1A9	Tampering protection for device connectors - grey
VF PC2A9	Tampering protection for male-female connectors - grey
VF PC1B6	Tampering protection for device connectors - blue, detectable
VF PC2B6	Tampering protection for male-female connectors - blue, detectable

LED signalling lights

Signalling lights
These LED signalling lights are used for signalling that an electric contact has changed its state inside the switch. They can be installed on switches by screwing them on one of the conduit entries not used for electric cables.
- Protection degrees IP67 and IP69K
- Ambient temperature -25°C to +70°C
- Push-in type spring-operated connection system
- Body with M20x1.5 thread

Packs of **5 pcs.**

Article	Description
VF SL1A2PA1	White, 24 Vac/dc
VF SL1A3PA1	Red, 24 Vac/dc
VF SL1A4PA1	Green, 24 Vac/dc
VF SL1A5PA1	Yellow, 24 Vac/dc

Fixing screws

Torx safety screws
Pan head screws with Torx fitting and pin, stainless steel.
Use a thread locker where required for applications acc. to. EN ISO 14119.

Packs of **10 pcs.**

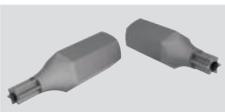| Article	Description
VF VAM4X10BX-X	M4x10 screw, with Torx T20 fitting, AISI 304
VF VAM4X15BX-X	M4x15 screw, with Torx T20 fitting, AISI 304
VF VAM4X20BX-X	M4x20 screw, with Torx T20 fitting, AISI 304
VF VAM4X25BX-X	M4x25 screw, with Torx T20 fitting, AISI 304
VF VAM4X30BX-X	M4x30 screw, with Torx T20 fitting, AISI 304
VF VAM5X10BX-X	M5x10 screw, with Torx T25 fitting, AISI 304
VF VAM5X15BX-X	M5x15 screw, with Torx T25 fitting, AISI 304
VF VAM5X20BX-X	M5x20 screw, with Torx T25 fitting, AISI 304
VF VAM5X25BX-X	M5x25 screw, with Torx T25 fitting, AISI 304
VF VAM5X35BX-X	M5x35 screw, with Torx T25 fitting, AISI 304
VF VAM5X45BX-X	M5x45 screw, with Torx T25 fitting, AISI 304

OneWay safety screws
Pan head screws with OneWay fitting in stainless steel. This screw type cannot be removed or tampered with using common tools. Ideal for fixing safety device actuators in accordance with EN ISO 14119.

Packs of **10 pcs.**

Article	Description
VF VAM4X10BW-X	M4x10 screw, with OneWay fitting, AISI 304
VF VAM4X15BW-X	M4x15 screw, with OneWay fitting, AISI 304
VF VAM4X20BW-X	M4x20 screw, with OneWay fitting, AISI 304
VF VAM4X25BW-X	M4x25 screw, with OneWay fitting, AISI 304
VF VAM5X10BW-X	M5x10 screw, with OneWay fitting, AISI 304
VF VAM5X15BW-X	M5x15 screw, with OneWay fitting, AISI 304
VF VAM5X20BW-X	M5x20 screw, with OneWay fitting, AISI 304
VF VAM5X25BW-X	M5x25 screw, with OneWay fitting, AISI 304

Bits for Torx safety screws
Bits for safety screws, with ¼" connection.

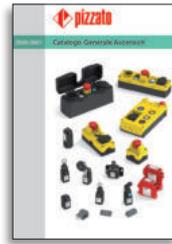| Article	Description
VF VAIT1T20	Bits for M4 screws with Torx T20 fitting with safety pin
VF VAIT1T25	Bits for M5 screws with Torx T25 fitting with safety pin
VF VAIT1T30	Bits for M6 screws with Torx T30 fitting with safety pin

Notes

Notes

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