

LIFT TECHNOLOGY



SAFETY SOLUTIONS
build the future



GIOVENZANA
INTERNATIONAL B.V.

REV. 00_2019

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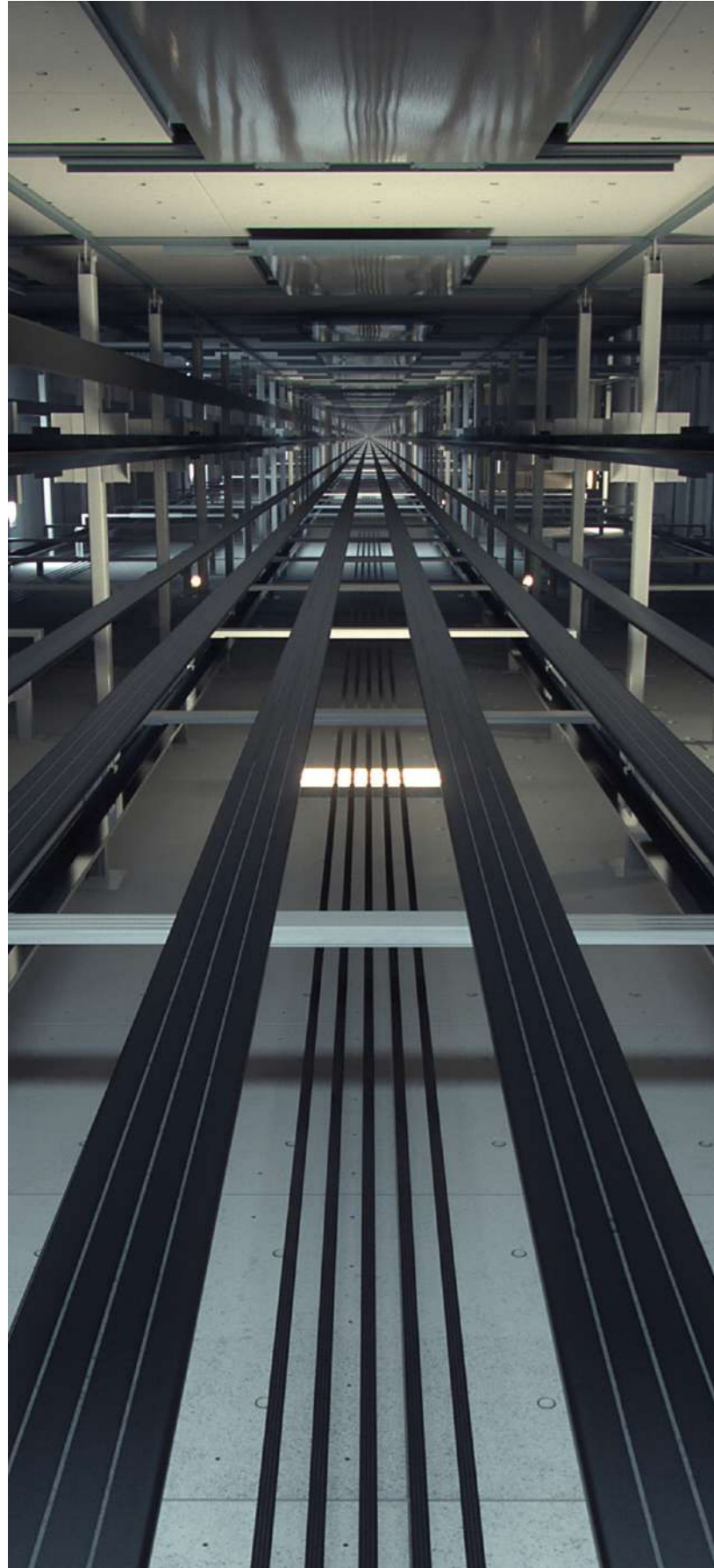
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LET US
TAKE YOU
HIGHER
WITH OUR

SAFETY
SOLUTIONS





LONG TRADITION OF EXPERTISE

Giovenzana International B.V. is set up in 1952.

We are a historical company which designs and manufactures lifts components mostly for the industrial fields.

We study technical and bespoke solutions thanks to designing ability and manufacturing flexibility.

Our high quality products are studied, produced and assembled in our manufacturing warehouses in Italy and in Hungary.

We can guarantee to every customer the complete control of our products' quality being able to satisfy today's market needs.

Our main features are a strong international attitude and the will to innovate and accomplish customer's requests.

The wide variety of proposed products, together with our R&D department knowledge, allow us to satisfy even the most specific and unusual situations.

Giovenzana International B.V. technical and commercial employees aim to provide a full support to our clients during sales and aftersales processes.

MISSION

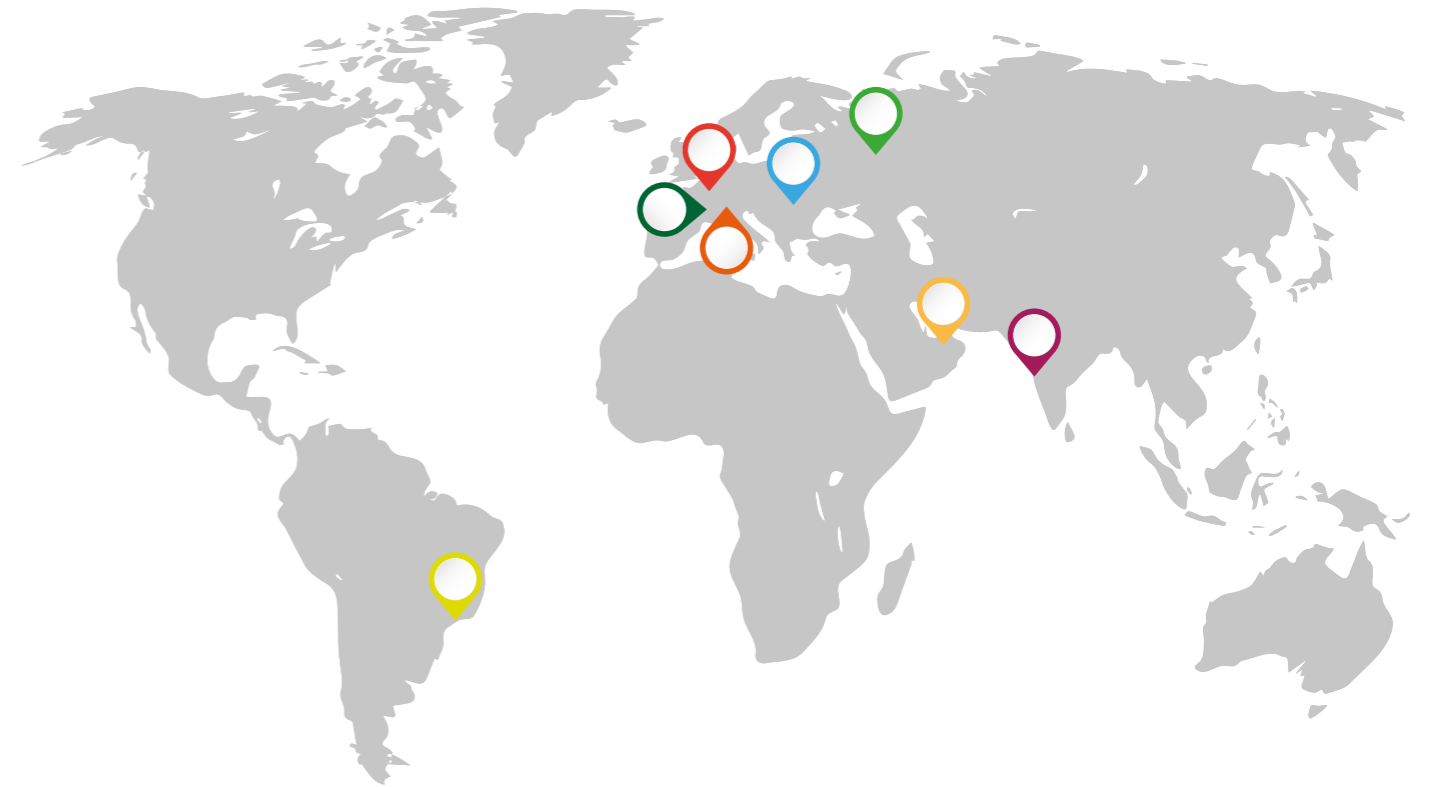
QUALITY, COMPETENCE AND SAFETY SOLUTIONS GUIDED US IN EVERYDAY WORK, TO DEVELOP THE BEST PRODUCTS FOR ALL MARKET NEEDS.









Our high quality products are recognizable worldwide and aim to environmental sustainability and energetic efficiency.

Our products are studied to be real advanced solutions.

WORLDWIDE PRESENCE

Giovenzana International B.V. is present in the major world markets for its strongly will of internalisation.



-  **GIOVENZANA INTERNATIONAL B.V.**
Headquarter: Strawinskylaan, 1105 - 1077XX Amsterdam - **THE NETHERLANDS**
-  **G.T.R. LLC**
Sales office & Logistic Hub: Likhov lane, h.3, b.2, office 101 - 127051 Moscow - **RUSSIAN FEDERATION**
-  **G.G SPACE KFT**
Manufacturers units & Logistic Warehouse:
1) Deak ferenc ut. 9 - 3036 Gyöngyöstarján - **HUNGARY - Unit 1**
2) Szurdokpart ut. 13 - 3200 Gyöngyös - **HUNGARY - Unit 2**
-  **G.G.T. SRL**
Manufacturers units & Logistic Warehouse: Via Monsignor Mozzanica, 2 - 23889 Santa Maria Hoè (LC) - **ITALY**
-  **GIOVENZANA INTERNATIONAL B.V.**
Sales office & Logistic Hub: Jafza 15, Jebel Ali Free Zone - P.o. Box 262146 Dubai - **UAE**
-  **GIOVENZANA CONTROLS INDIA Pvt. Ltd**
Sales office: A-203, Knox Plaza , Chincholi, O Link Road Near Mindspace, Malad West - 400064 Mumbai - **INDIA**
-  **GIOVENZANA DO BRASIL**
Sales Office & Logistic Hub: Rua Enxovia, 472 - cj1904 - Cep. 04711-030 Vila Sao Francisco, Sao Paulo - **BRASIL**
Manufacturer unit: Rua Carlos Sant'Anna, 132 - Cep. 92500-000 Moradas da Colina, Guaíba - RS - **BRASIL**
-  **GIOVENZANA INTERNATIONAL B.V.**
Sales Office: Lachnerring 10 - 31137 Hildesheim - **GERMANY**

Giovenzana International B.V. is continuously active all around the world thanks to its sales network that daily studies new markets and new opportunities.

QUALITY AND ENVIRONMENTAL POLICY

Attention for products quality, will of excellence, innovation researches and continuous development of new projects by our R&D department, represent our daily commitment.

All our commercial and industrial activities were included in the **UNI EN ISO 9001:2015** Quality System (**CSQ Certificate N 9105. GIOV.**).

The Quality System is to the end user the guarantee that all the production phases are kept under control in an effective way and that they respect the established requirements both by the company, as per the expectations of the client and in conformity with the most important international standards.

With the standard **UNI EN ISO 14001:2015** (**CSQ certificate N 9191. GIBV.**) Giovenzana uses new technologies that limit the consumption of raw materials, energy and natural resources in order to minimize waste and emissions, protecting the environment. All the products are of certified quality and follow the guidelines Rohs, Pfos, Raee and Reach.

The company's goal is to offer safety, reliability and innovative solutions.



R&D DEPARTMENT

Our **R&D Department** is composed of qualified and highly trained technicians, engineers, designers and researchers able to satisfy the technical needs of the customers.

The R&D Department works daily step by step, starting from the product design up to, through the various phases of prototyping, verification and testing, to the final products. All these activities are carried out with the highest quality managements in order to satisfy the most stringent and restrictive product specifications.

The use of advanced design tool, prototyping machine and all the technical equipment of our test laboratory allows the company to develop new technologies implementing the most featured devices.

The **R&D Department** actively cooperates with the **Consorzio Intellimech**, a private consortium of large, medium and small companies aimed at interdisciplinary research in the field of mechatronics. Our goal is to **search and develop innovative technological solutions and products in order to expand our markets.**

CUSTOMIZED PRODUCTS

Standard executions are accompanied by a wide range of **special and customized executions** according to customer specifications. On request we can respond to the specific customers' needs designing, developing and testing special products as:

- Push buttons design meeting standard rules and special symbology;
- Cabled and wired maintenance stations as customers electrical diagrams;
- Maintenance stations with or without feeding connectors;
- Execution with special support and metal brackets;
- Maintenance stations with PCB conductive plans.

Giovenzana cultivated daily close synergies with its own customers to identify the right product which respond to the most different needs.

MANUFACTURING UNITS

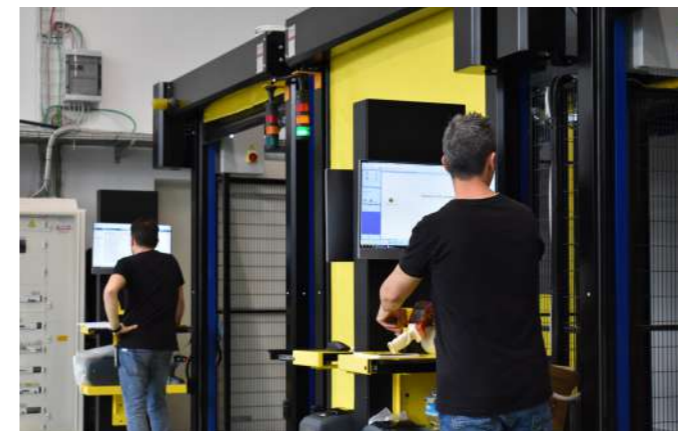
Giovenzana International B.V. has three manufacturing units, the historical one in Italy and two others in Hungary:

G.G.T. srl - ITALY

The company expansion of the Italian production unit was mainly characterized by the introduction of the new automatic warehouse. It has been called the **"magic box"**, thanks to which several thousand pallets are handle daily optimizing the logistics management system.

The new infrastructure speeds up the picking and shipping procedures in an automated way. This means elimination of errors with a reduction of risks for operator, as well as enabling substantial space savings on the ground and a greater control in the product picking. The load units are handled by means of automated storage and retrieval machines which run on rails, with a single mast frame. They are equipped with different gripping systems, for the storage and picking from dual depth shelves.

The **new automated warehouse** is the beating heart of the company, it handles frequent movements and it will allow a significant improvement in terms of efficiency and storage of goods.



G.G.Space Ktf - HUNGARY

Giovenzana International B.V. is conscious that the territorial proximity ensures a prompt and quick response aiming at offering safe and reliable products.

Over the years, the company mission has been a gradual and continuous opening to the world, with a strong idea of internationalization.

For this reason, **in 2002, Giovenzana inaugurated the first manufacturing unit in Hungary** of about 2,800 square meters for the production and assembly of automation components.

Recently, the historical Hungarian unit was equipped with two new automation lines for the production of PCW contact elements, pulsating hearts of all our maintenance stations.

In June 2018, a second production unit was inaugurated and it is mainly responsible for the assembly of lift components.

The core idea is, therefore, a new start and investments in the future while keeping our commitment to quality products in compliance with the new international standards.



INTERNATIONAL CERTIFICATIONS

All Giovenzana products are manufactured according to the most relevant international directives.



Lift products comply with:

- **European Standards EN81-20 / EN81-50**
Safety rules for the construction and installation of lifts
- **North America Standards CSA-B44.1 / ASME-A17.5**
Elevator and Escalator Electrical Equipment
- **Russian Standards GOST33984.1-2016**
Safety rules for the construction and installation of lifts
- **Brasilian Standards ABNT NBR NM 207-267**

All Giovenzana products are manufactured according the most relevant **Cee directives**. Giovenzana certifies this compliance with a **Declaration of Conformity**.

European directives set the minimum requirements in terms of all electrical materials sold within the EU. Compliance with these requirements is certified by the **CE mark** on the products.

Giovenzana's products comply with both **European EN and American UL standards**.

In order to reach its quality level Giovenzana's products are tested by multiple third parties.

They are also **IMQ, EAC, CCC, UL, CSA, CE and KTC approved**.

INTERNATIONAL LIFT ASSOCIATIONS

Giovenzana International B.V. is an active member of various global lift associations. The list below:

ANIE ASSOASCENSORI

ANIE AssoAscensori brings together companies that carry out design, construction of systems and / or components, installation, repair and maintenance of elevators, hoists, stairs and moving walkways. stair lift and lifting platforms.

ABNT - Associação Brasileira de Normas Técnicas

ABNT is the National Forum for Standardization by recognition of Brazilian society since its foundation, on September 28, 1940, and confirmed by the federal government through various legal instruments.

SECIESP - Qualidade e Segurança em Elevadores

A new social and marketing context imposed by economic evolution, the needs and demands of consumers, and society, were the basic precepts for the entrepreneurs of the vertical transport segment to unite for the creation of **SECIESP** (Union of Conservation, Maintenance and Installation of Elevators of the State of São Paulo), on the basis of which it is proposed to provide extensive advice, improvement and constant updating to its affiliates.

NAEC - National Association of Elevator Contractors

NAEC members strive to Rise Above by staying abreast of the latest technology, tools, news and education allowing them to gain the competitive edge and exceed the status quo.

FEPYMA - Federación Española de Asociaciones de Pequeña y Mediana Empresa de Ascensoristas

FEPYMA was established on March 22, 2004 for the development and defense of SMEs in the sector, representing their associated companies in all areas of their competence.

РЛО - РОССИЙСКОЕ ЛИФТОВОЕ ОБЪЕДИНЕНИЕ

The Association **RUSSIAN ELEVATOR ASSOCIATION** unites more than 45 enterprises that provide over 10,000 jobs and more than 80% of the Russian market for elevators for mass construction and replacement of old elevator lifespan.

CAA - Cámara de Ascensores y Afines

The CAA is a non-profit organization and pioneer in the Argentine vertical transport sector. For 65 years it has brought together, comprehensively, companies dedicated to the manufacture, installation, and conservation of elevators, both national and multinational, covering the entire spectrum of the elevator industry.





**NEW EUROPEAN STANDARDS FOR LIFT
EN 81-20 / EN 81-50**

For more than 30 years, **EN 81-1** and **EN 81-2** have been the main lift standards in Europe and in many other parts of the world.

The European Committee for Standardization has released in 2014 two **new Safety Standards for the construction of lifts and for the testing of lift components**. The new Standards EN 81-20 / EN 81-50 are already in force, but compulsory from 1 September 2017. They will replace the Standards EN 81-1 and EN81-2. Both new Standards are applicable for lifts for the transport of persons and goods.

The **new European standards** for lift design and manufacture will bring considerable benefits in terms of accessibility and safety for both passengers and service engineers.

EN 81-20 establishes updated and revised safety requirements for the construction and installation of lifts.
EN 81-50 defines design rules, calculations and tests of lift components.

All lifts with an EU declaration of conformity issued after August 31st 2017 shall comply with the requirements of these new standards, or an equivalent level of safety, that is supposed not to be the same as before.

Giovenzana International B.V. offers a wide range of lift products in full compliance with the European standards set by the new safety standards EN81-20 / EN81-50.

The new standards aim at improving safety for both passengers and service technicians of lifts. The main changes to the **safety requirements for passengers** include those related to Unintended Car Movement (UCM) and ascending car overspeed, to the door detection systems, to the car door locking mechanism, to the fire classification of the car materials, to the car and shaft lighting and to the strength of both car doors and landing doors, and of car walls as well.

On the other hand, changes aimed at improving **safety of service staff** include requirements related to the pit and machine-room access, to the car roof and pit refuge spaces and to the car roof balustrades.

EN 81-20 also introduces some changes affecting the shaft design, such as requirements related to glass walls, ventilation and fire extinguisher devices. Shaft design is under the responsibility of the building designer, so effective exchange of information between the lift installer and the building designer, concerning these new requirements, will be crucial.

Giovenzana International B.V. study the main changes introduced by the new standards in order to apply them in the design and manufacture of new products and to adapt the old ones to the new rules.

Giovenzana International B.V. also begin a partnership with others leading companies, excellence in lift industry, for the development of components for lifts and devices that meet the new requirements all around the world.

A series of international conventions focused on the harmonized standards EN 81-20 / EN 81-50, ABNT NBR NM 207-267, GOST33984.1-2016, called **CONNECTING PEOPLE LIFT ROAD** in which Harmonized Standards are present as a winning opportunity for elevator market.

Be a member of the **CONNECTING PEOPLE Network** has different benefits:

- excellent Made in Italy companies;
- trusted partners able to support you on a global level;
- solutions to grow your business;
- update on safety regulations;
- excellent products;
- consulting and integrated planning.

We strongly believe that synergy and collaboration between companies can be a plus for the market. The goal is to create shared opportunities that show competence, professionalism, dedication and a strong vision for the future. It's for that reason, we registered the specific event logo as a **Community Trade Mark** and **International Trade Mark**.



Giovenzana is working daily to develop products which meet all requirements of the EN81-20 / EN81-50.

Our R&D department is daily in contact with customers and always update about all market needs designing safety solutions for those who use our products everyday.

Today Giovenzana International B.V. is considered a **REFERENCE POINT FOR SAFETY SOLUTIONS**.

**GIOVENZANA
EN 81-20 / EN 81-50**

Giovenzana International B.V., widely recognized as a leader in elevator technology and the name that operators associate with security and quality, has created the new GM series of inspection boxes (complies with International Standard EN 81-20 / EN 81-50).

Its new design philosophy incorporates these rules:

- **Mushroom emergency device** in compliance with IEC / EN 60947-5-5;
- **Mandatory run button;**
- **Operators are always protected** against accidental impacts;
- **Cam switch** (not selector) binding to the norm for inspection operation with solid drive and without margin of error in the switching;
- **Contact blocks** with spring clamp conform to EN 60068-2-6 and EN 60068-2-27 and vibration resistant with IP20 degree of protection;
- AC-15 and DC-13 contact blocks in accordance with EN 60947-5-1:2005 (1M cycles).

With over 60 years of experience in the lift sector, Giovenzana International B.V. offers a wide range of standard products for all installation types with updated specifications and safety guidelines.

Giovenzana International B.V. installs its products in the most relevant building all over the world.



Eiffel Tower - FRANCE



Burj Khalifa - UAE



Empire State Building - NEW YORK

**IMPORTANT IMPROVEMENTS
EN 81-20 / EN 81-50**

GENERAL REMARKS

The object of this standard is to define safety rules related to passenger and goods/passenger lifts in order to avoid any accidents associated with the normal use, maintenance and emergency operation of lifts.

INSPECTION OPERATION

To facilitate inspection and maintenance, a readily operable inspection control station shall be permanently installed:

- a) on the car roof;
- b) in the pit;
- c) in the car (if it is necessary to move the car from inside);
- d) on a platform (if it is necessary to move the car from the platform).

The limit of 2 inspection control stations, installed in a system, has been removed.

EQUIPMENT ON TOP OF THE CAR

The following shall be installed on top of the car:

- a) **Control device** (inspection operation) operable within 0,30 m horizontally from a refuge space;
- b) **STOP device**:
 - in an easily accessible position
 - no more than 1 m from the entry point for inspection or maintenance personnel.
 - This device may be the one in the inspection operation control if this is not placed more than 1 m from the access point.
- c) **Socket outlet**.

THE INSPECTION CONTROL STATION

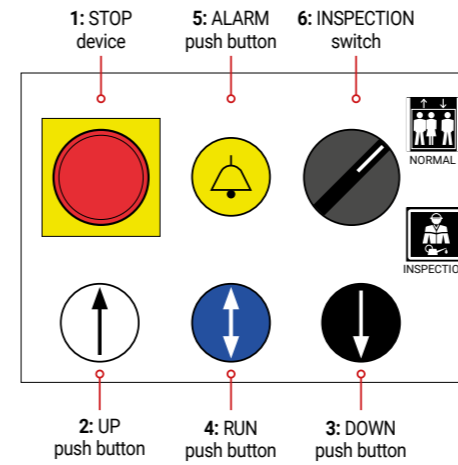
Shall consist of:

- a) A **switch** which shall satisfy the requirements for electric safety devices (EN60947-5-1), it must be bistable and protected against accidental operation.
- b) **Direction push buttons "UP" and "DOWN"** with the direction of movement clearly indicated and protected against accidental operation.
- c) a **push button "RUN"** protected against accidental operation.
- d) a **STOP device**.

The control station may also incorporate special switches protected against accidental operation for controlling the mechanism of doors from the car roof.



THE INSPECTION CONTROL STATION



- 1: STOP device
- 2: UPwards push button
- 3: DOWNwards push button
- 4: RUN push button
- 5: ALARM push button
- 6: Normal/Inspection switch

NOTE: Placing the alarm button in the control station is optional.

- The words "NORMAL" and "INSPECTION" shall be placed on or near the inspection operation switch.
- The direction of motion shall be identified by colors as table below of Inspection Control Station - Button Designation:

Control	Colour of Button	Colour of Symbol	Symbol Reference	Symbol
UP	White	Black	IEC 60417-5022	↑
DOWN	Black	White	IEC 60417-5022	↓
RUN	Blue	White	IEC 60417-5023	↕

THE INSPECTION CONTROL STATION

The inspection control station shall have a minimum protection degree of IPXXD (EN 60529).



PUSH BUTTONS

During inspection operation, the movement of the car shall be possible by a constant pressure on a direction push-button and the "RUN" push-button.

It shall be possible to operate the "RUN" button and a direction button with one hand simultaneously.

THE INSPECTION OPERATION SWITCH

If more than one inspection control station is switched to "INSPECTION", it is possible to move the car by simultaneously operate the same push buttons on the stations.

► **IN THE PIT**

There shall be in the pit:

- a) **STOP device(s);**
- b) a permanently installed **inspection control station** operable within 0,30 m of a refuge space;
- c) a **socket outlet;**
- d) A **switch** to operate the well lighting, positioned within a maximum horizontal distance of 0,75 m from the pit access door frame inner edge and at a minimum height of 1,0 m above the access floor level.



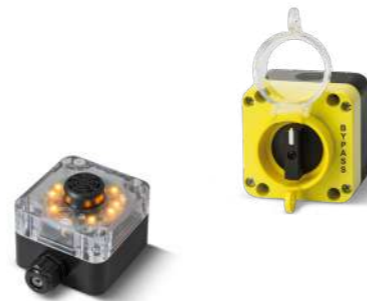
► **STOP DEVICE**



There shall be the marking "STOP" on or near the STOP device.

► **LANDING DOORS AND CAR DOORS BYPASS DEVICE**

For maintenance of contacts of the landing door, car door, and door locking a bypass device shall be provided in the control panel or emergency and test panel.



An audible signal at the car and a flashing light under the car shall be activated during movement. The sound level of the audible warning shall be minimum 55 dB(A) below the car at 1 m distance.

► **LIGHTING**

At any position of the car throughout its travel in the well, even when all doors are closed:

- > 50 lux: 1,0 m above the car roof within its vertical projection.
- > 50 lux: 1,0 m above the pit floor everywhere a person can stand, work and/or move between the working areas.
- > 20 lux outside of the locations defined in a) and b), excluding shadows created by car or components.

► **EMERGENCY LIGHTS WITH AN AUTOMATICALLY RECHARGEABLE EMERGENCY SUPPLY, WHICH IS CAPABLE OF ENSURING A LIGHTING INTENSITY OF AT LEAST 5 LUX FOR 1 H:**

- a) at each alarm initiation device in the car and on the car roof;
- b) In the center of the car, 1m above the floor;
- c) in the center of the car roof, 1 m above the floor;

This lighting shall come on automatically upon failure of the normal lighting supply.



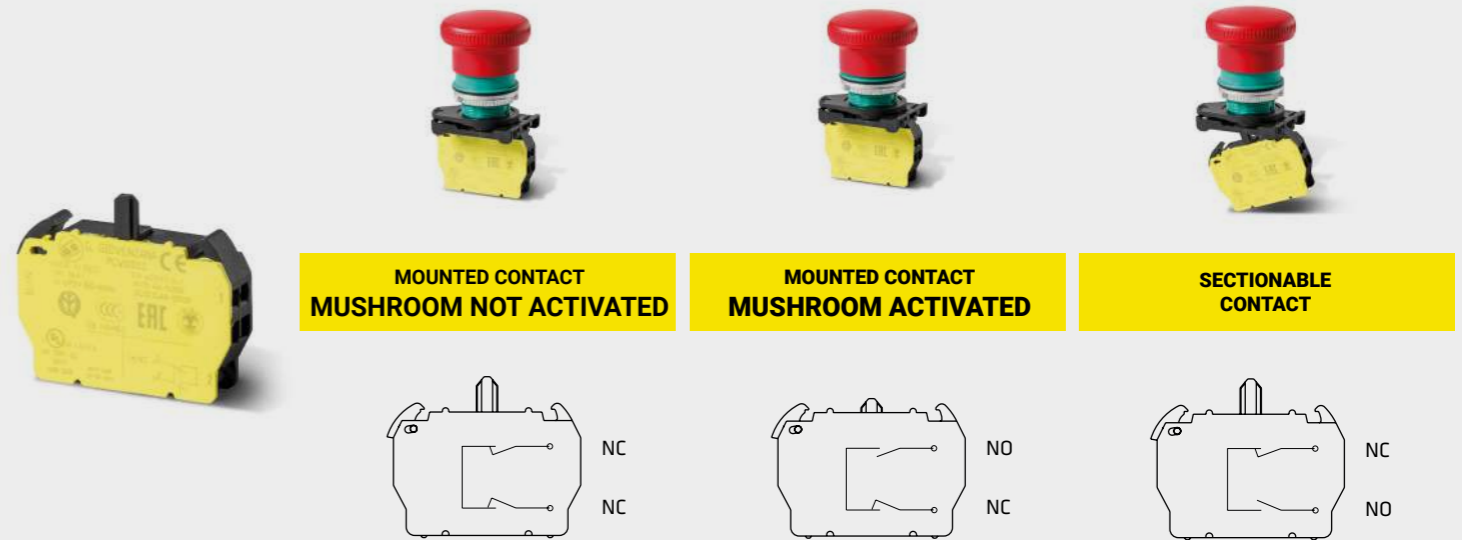
PCW010SS
SELF-MONITORED CONTACT NO-NC-NO



Giovenzana International B.V. has developed in accordance with CEI EN 60204-1 a new technology in the field of industrial and lift automation. The product is designed to maximize the performance of the NC mushroom e-stop contact which results in a **risk factor of zero**.

The NC contact will open in the event of accidental release of the contact block from the base. In the unlikely event of one of the supports breaking the contact is designed to intervene and open the circuit which will block any further operation of the machine.

This is an important step in accident prevention and emergency device intervention.

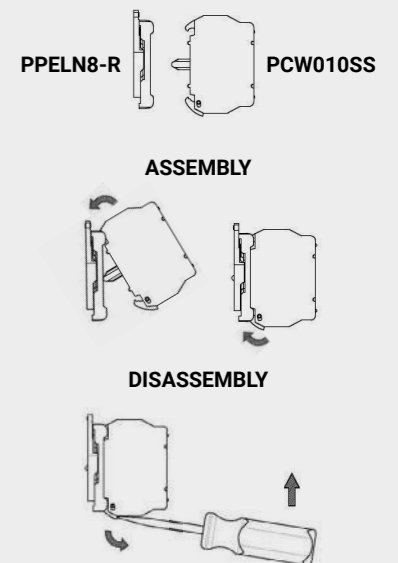


PCW010SS are open-type contact blocks, normally-closed (NC), spring terminals, with contacts intended and suitable for use with push buttons. A specific adapter mechanically connects the button to the contact block actuator. **The PCW010SS self-monitoring contact block offers additional safety in emergency stop applications.**

This device contains an additional normally open contact that uses a unique actuator to monitor whether the contact block is still attached to the operator. In the event of the contact block becoming detached from the emergency stop button, the self-monitoring contact block opens the circuit and stops the system, **providing an extra safety measure.**

General Technical Details

Rated insulation voltage U_i	V	690						
Rated impulse withstand voltage U_{imp}	kV	4						
Rated thermal current	A	10						
Power supply		AC/DC						
Contact duty		☛ NC contact with positive opening						
Standard conformity		CE, cULus, CCC, EAC, RINA						
Protection class	EN60529	IP20						
Pollution grade	EN60947-1	3						
Ambient Temperature	°C	Operating: -25 ... +70						
	°C	Storage: -30 ... +70						
Terminals referecing		UL486E, UL1059						
Terminals block caliber		A2						
Mechanical life	mil./cycles	1.000.000						
Operating current	AC-15	Ue (V)	-	24	-	250	500	690
		Ie (A)	-	10	-	6	4	1
		Ue (V)	-	-	48	250	-	-
DC-13	Ie (A)	-	-	2	0,4	-	-	
	Ue (V)	12	-	-	-	-	-	
DC-14	Ie (A)	10	-	-	-	-	-	



LIFT MAINTENANCE STATIONS | GENERAL CHARACTERISTICS

Our **Lift Maintenance Stations** comply with European standards **EN 81-20 / EN 81-50**, North America **CSA-B44.1 / ASME-A17.5**, Russian **GOST33984.1-2016** and Brazilian **ABNT NBR NM 207-267**.

They are also resistant to vibrations and shocks according to EN 60068-2-26, EN 60068-2-27 and EN 60068-2-29.

The components are manufactured in accordance with the respective product standards IEC 947-3, IEC 947-5-1, EN 60947-3, EN 60947-5-1, UL 508, IEC 204-1, EN 60204-1, EN ISO 13850 and to the RoHS, PFOS, RAEE, REACH directives.

They are also IMQ, CCC, EAC and UL approved.

Standard executions are accompanied by a wide range of special and customized executions according to customer specifications.

- Pit bottom stations, recall drive control units, inspection and maintenance stations.
- Compliance: EN 81.20, EN 81.50, EN ISO 13850, CSA-B44.1/ASME-A17.5, SIL1, SIL2;
- CSA approval;
- GM Series enclosures made of self-extinguishing ABS V0, yellow colour PANTONE 102C;
- TLP Series enclosures made of polypropylene, yellow colour PANTONE 102C;
- Protection class EN 60529: NEMA 4X, IP65 without socket, IP54;
- With socket, terminal connections IP20;
- Vibration resistance as EN 60068-2-26 and EN 60069-2-27;
- Shock resistance as EN 60068-2-29;
- Connections: spring clamp contacts for push buttons, mushrooms, screws terminals for cam switches, buzzers and socket outlets.
- Ambient temperature: operating -25°+70°C, storage -30°+70°C.

ELECTRICAL CHARACTERISTICS		CONTACT BLOCKS							CAM SWITCHES		
Conformity		IEC/EN 60947-5-1, UL508							IEC/EN 60947-3, UL508		
Approvals		IMQ, CCC, EAC, uL, RINA									
Rated insulation voltage Ui	V	690							690		
Rated impulse withstand voltage Uimp	kV	4							4		
Rated thermal current Ith/Ithe	A	16							20/16		
Frequency	Hz	50/60							50/60		
Rated operating current Ie:	V	24	60	110	240	400	500	690			
AC - 15 alternate current	A	10	8	6	5	4	4	2			
DC - 13 direct current	V	24	48	60	110	250					
AC - 21A - AC - 22A alternate current	A	2	2	1	0,4	0,4					
Conditional short circuit withstand current	A	-							16A-690V		
Fuse rating gG	A	1000							5000		
Switching mechanism	A	10A - 500V							20A - 690V		
Contact blocks	slow break double gap contacts										
Positive	contact blocks NC positive open ⚡ *							positive open ⚡ *			
Screws and clamps	flex cable & solid cable n. 1 min/max mm ²	Spring clamp connections							M3,5		
Connections:	n. 2 min/max mm ²	0,5/2,5							0,75/4		
	AWG	0,5/2,5							0,75/2,5		
		20-12							16-12		
UL508 characteristics: general use		10A 600V AC - 2,5A 125V DC							16A 600V AC		
Standard motors load	1 phase - 2 poles	-							1HP (16FLA) 120V AC		
	3 phases - 3 poles	-							1,5HP (10FLA) 240V AC		
		-							3HP (14,4FLA) 200V AC		
		-							5HP (15,2FLA) 240V AC		
		-							7,5HP (11FLA) 480V AC		
	-							7,5HP (9FLA) 600V AC			
Heavy Duty (HD) category		A600 - Q600							-		

* Suitable for use as switch disconnecter 0 - 1 90° switching of 2 - 3 - 4 poles.



Lift Maintenance Stations are available in many layouts indentifying the high level of versatility and quality of the products and boasting the following features:

- Well dimensioned sizes ensuring easy of handleability;
- Operator lasered indications in according with EN81.20 & EN81.50;
- Materials have made Giovenzana a widely recognized point of reference of the field;
- The used **contact elements of PCW serie** (according to EN 60068-2-6 and EN 60068-2-27) make easier and faster all the electrical connections. Complete the serie the new **PCW010SS, self-monitored contact NO-NC-NO**. Further information to page ...

ACCORDING TO EN81-20 / EN81-50



Giovenzana International B.V. offers a complete range of maintenance stations for car top, under car devices and pit bottom controls fully in compliance with the new standards' requirements.

In this catalog, all products in compliance with EN81-20 / EN81-50 are marked with this symbol.

CUSTOMIZABLE COVERS & BOXES

Covers and boxes of our maintenance stations are completely customizable. We've a wide choice of types according to the applicable devices.

LASER MARKING

All our lift maintenance stations can be customize with indications, writings, symbols and customer logos. All indications can be lasered in all the different languages on request. They are also branded with pictograms and symbols according to the new standards EN81-20 / EN81-50.

COMPLEMENTARY PRODUCTS

Giovenzana Internal B.V. also offers a wide range of auxiliary controls such as push buttons diameter 22, rotary switches, emergency mushrooms and accessories, comply to the strictest safety norms (IEC/EN 60947-5-1). Customers have infinite possibilities of customization of their own product.



LIFT MAINTENANCE STATIONS | MODULAR CONFIGURATION

Giovenzana International B.V. offers a full range of product option and accessories sold separately to meet all customer needs. Our Inspection Stations are available in many layouts that identify high quality and versatility of the products. All customers' needs could be satisfy. Our customers technical support works everyday with the end users to realize the product version suitable for their own needs.

Our standard lift maintenance stations are completely customizable on request.

CUSTOM MADE



	EMERGENCY MUSHROOM
	PUSH BUTTONS
	OPERATORS, INDICATOR LIGHTS, STOPPER CLOSING HOLES, BUZZERS
	SOCKETS DIN SOCKETS

PRE-WIRED PRODUCTS on request!		CAM SWITCHES + KNOBS
---------------------------------------	--	-----------------------------

	GUARDS
--	---------------

	COVERS AND BOXES
--	-------------------------



**LIFT & ESCALATOR
TECHNOLOGY**

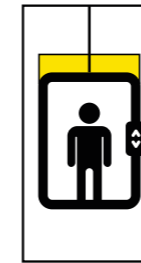
Giovenzana International B.V. is one of the leading manufacturers of safety devices for elevator field. Continuous technological research and development of quality products have made the company a reference point in equipment for lift technology, escalator device and for operators' safety.

Giovenzana International B.V. offers a complete range of devices specifically projected and realized to reach the goal to be real Safety Solution for operators.



**PRODUCT
CATEGORIES**

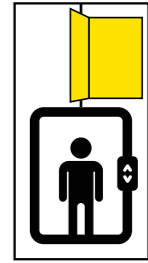
To easily consult this catalog, we divide our products based on the lift and escalator positioning. Below the product categories and the symbology that will guide you in the catalog.



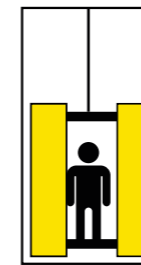
CAR TOP
devices



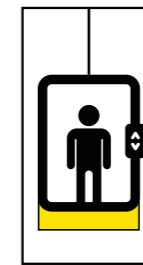
ELEVATOR SHAFT
lighting



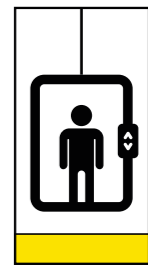
PANEL BOARD
components



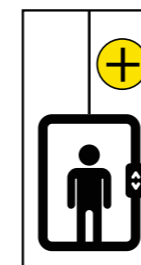
DOOR
components



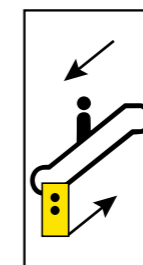
UNDER CAR
devices



PIT BOTTOM
controls



ACCESSORIES
complementary products



ESCALATOR
maintenance stations



ESCALATOR
mushrooms



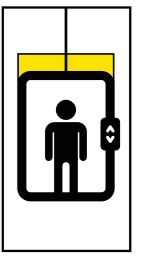
LIFT PRODUCTS' INDEX

Maintenance stations
Pages 28/56

For scenic lift
Pages 57/58

Lighting devices
Pages 59/61

CAR TOP DEVICES



Strip Led
Pages 64/71

Rope Limit switch
Pages 72/73

ELEVATOR SHAFT LIGHTING



Slim maintenance stations
Pages 76/79

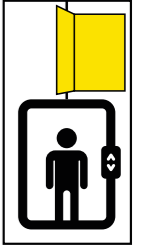
Bypass devices
Pages 80/81

Rear fixing bypass devices
Pages 82/83

Switch disconnectors
Pages 84/88

Auxiliary controls
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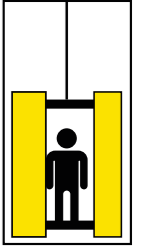
PANEL BOARD DEVICES



Limit switches
Pages 94/112

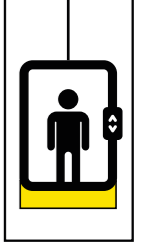
Micro switches
Pages 113/115

DOOR DEVICES



Lighting devices
Pages 118/121

UNDER CAR DEVICES



Alarm & emergency devices
Pages 124/125

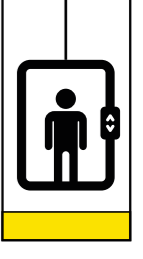
Maintenance stations
Pages 126/128

Slim emergency devices
Pages 132

Shaft lights
Pages 129/130

Slim maintenance stations
Page 133

PIT BOTTOM CONTROLS



Sockets
Page 136

Mushroom's guards
Page 136

Magnet kit
Page 136

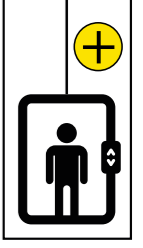
Buzzers
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Wall bracket case
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Cam switches
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ACCESSORIES





ESCALATOR PRODUCTS' INDEX

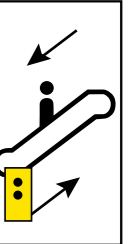


Maintenance Stations
Page 142



Slim Maintenance Stations
Page 143

MAINTENANCE STATIONS

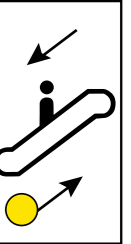


Mushrooms ø90
Page 144



Main switches
Page 145

COMPLEMENTARY PRODUCTS



Ligthing Solutions



Giovenzana International B.V. has expanded its range of products with the new cabin roof and under car light devices completely according with new international standards EN81-20 and EN81-50.

www.giovenzana.com



LIFT TECHNOLOGY & INTERNATIONAL STANDARDS

www.giovenzana.com

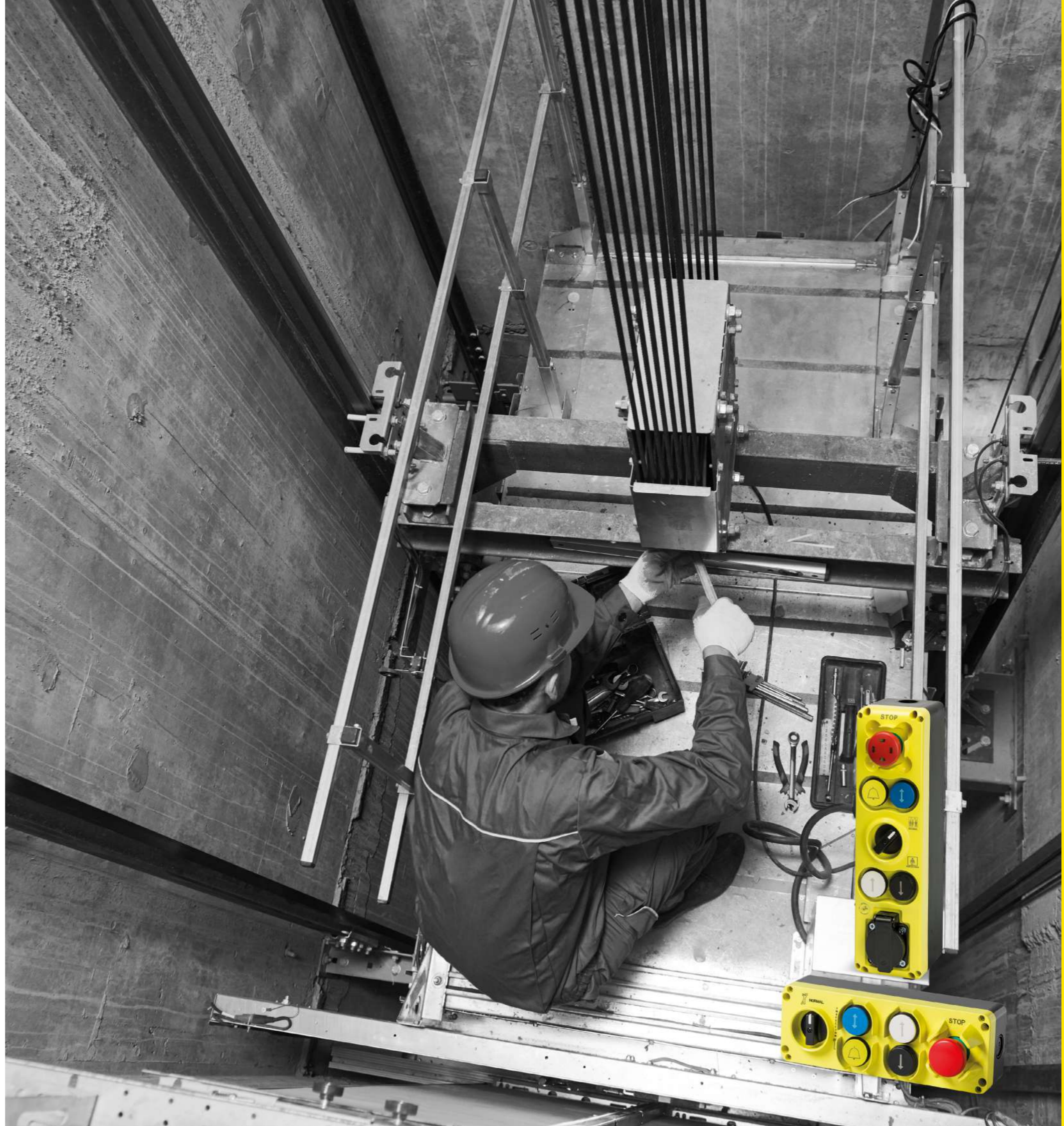


| EN81.20 & EN81.50 |
| GOST33984.1-2016 |
| ABNT NBR NM 207-267 |

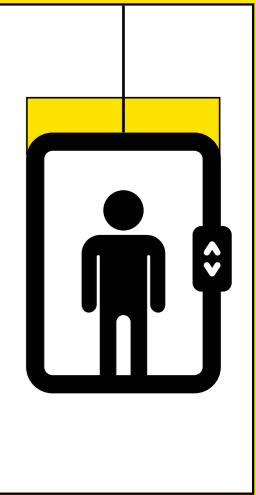




GIOVENZANA
INTERNATIONAL B.V.



CAR TOP DEVICES



IP54

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		1NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Schuko socket outlet 16A			GM750/EU
Cenelec socket outlet			GM750/FR
USA socket outlet			GM750/US
Swiss socket outlet			GM750/SW
UK standard socket outlet			GM750/UK
Australia & China standard socket outlet			GM750/CH

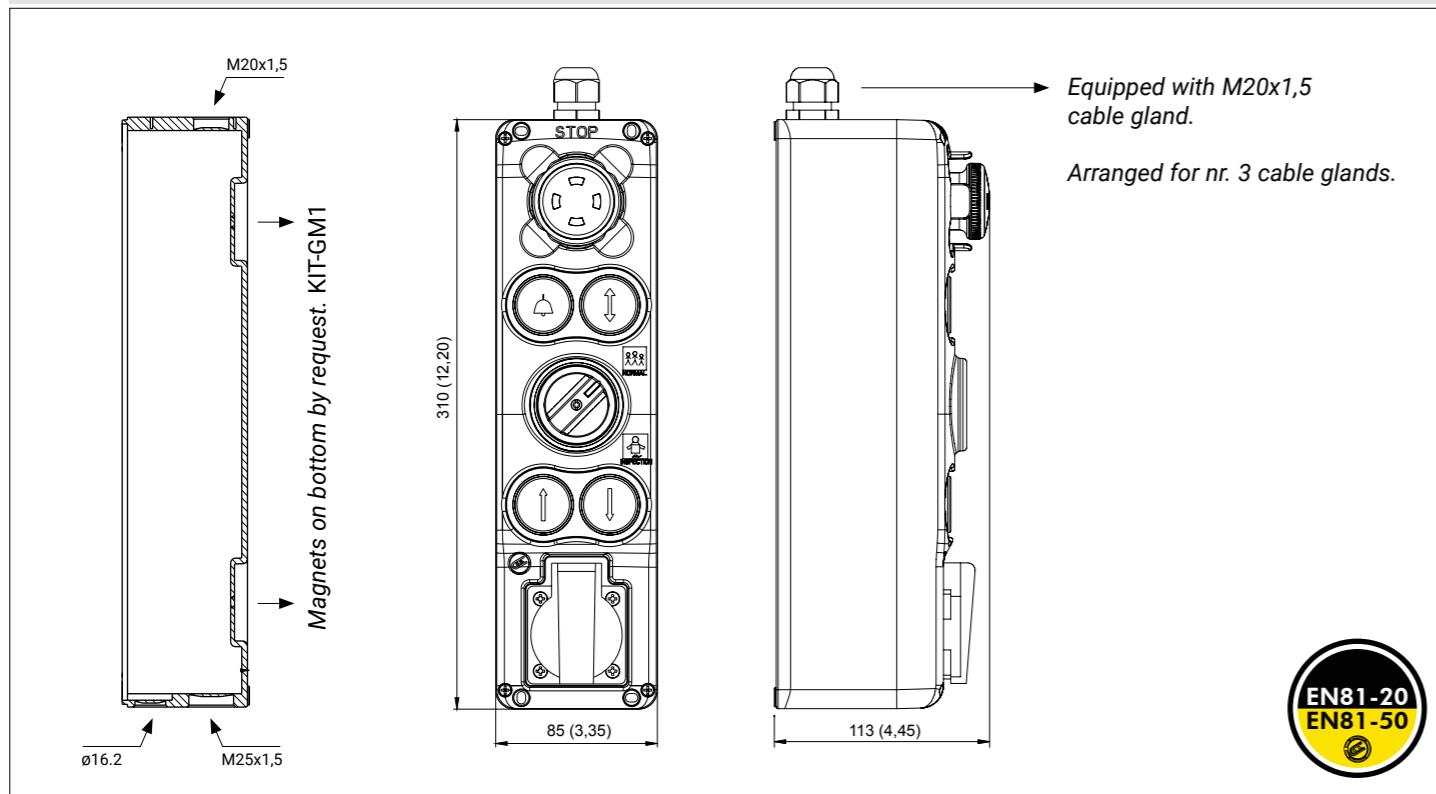


IP54

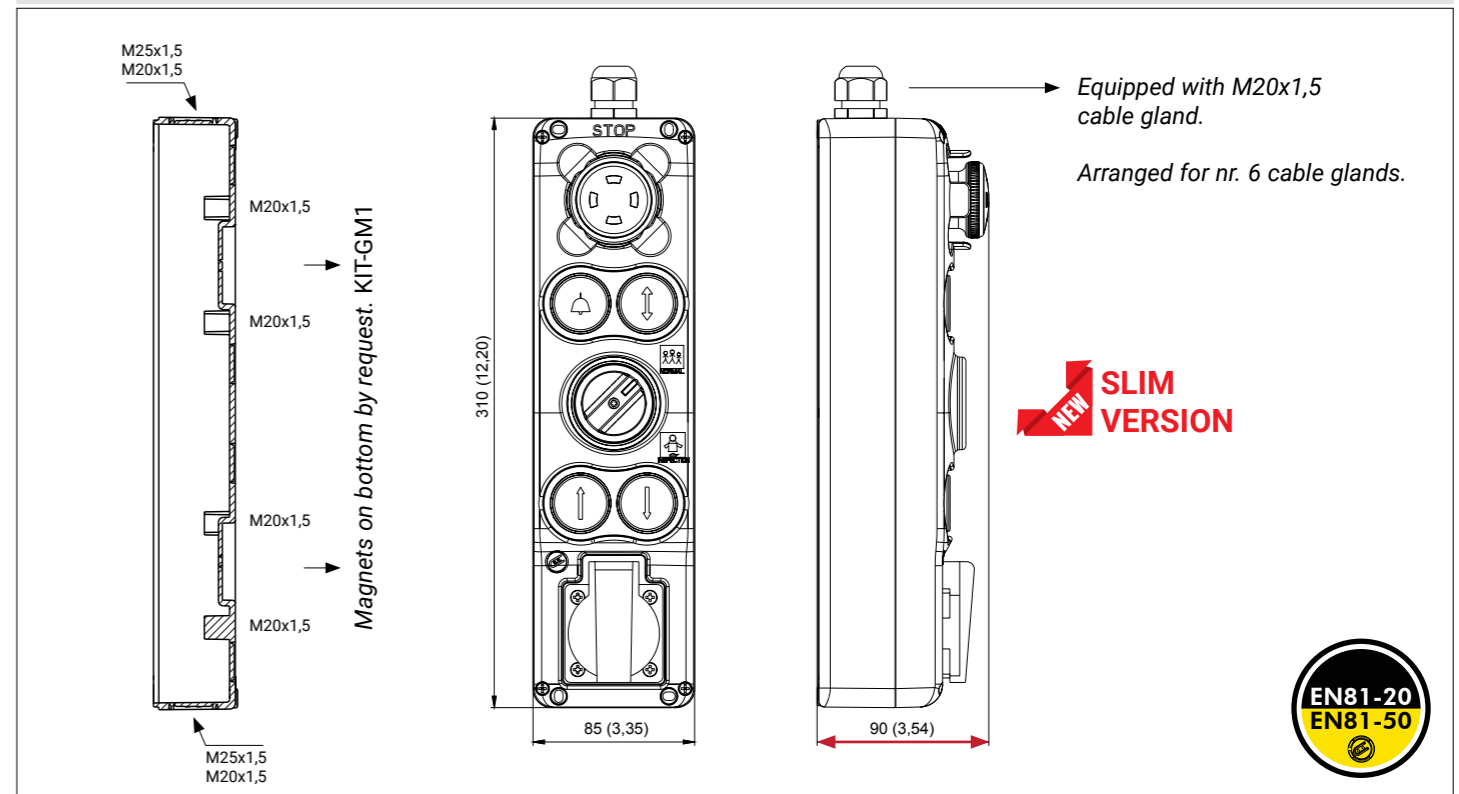
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		1NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Schuko socket outlet 16A			GM730/EU
Cenelec socket outlet			GM730/FR
USA socket outlet			GM730/US
Swiss socket outlet			GM730/SW
UK standard socket outlet			GM730/UK
Australia & China standard socket outlet			GM730/CH



TECHNICAL DRAWING - GM750/..



TECHNICAL DRAWING - GM730/..



IP54

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		2NC	
UP Push Button flush, momentary, white colour		2NO+1NC	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
Knob Selector 1-0-2 3 positions, black + white indicator		2NO	
COMMON Push Button flush, momentary, blue colour		2NO	
Schuko socket outlet 16A			GM757/EU
Cenelec socket outlet			GM757/FR
USA socket outlet			GM757/US
Swiss socket outlet			GM757/SW
UK standard socket outlet			GM757/UK
Australia & China standard socket outlet			GM757/CH

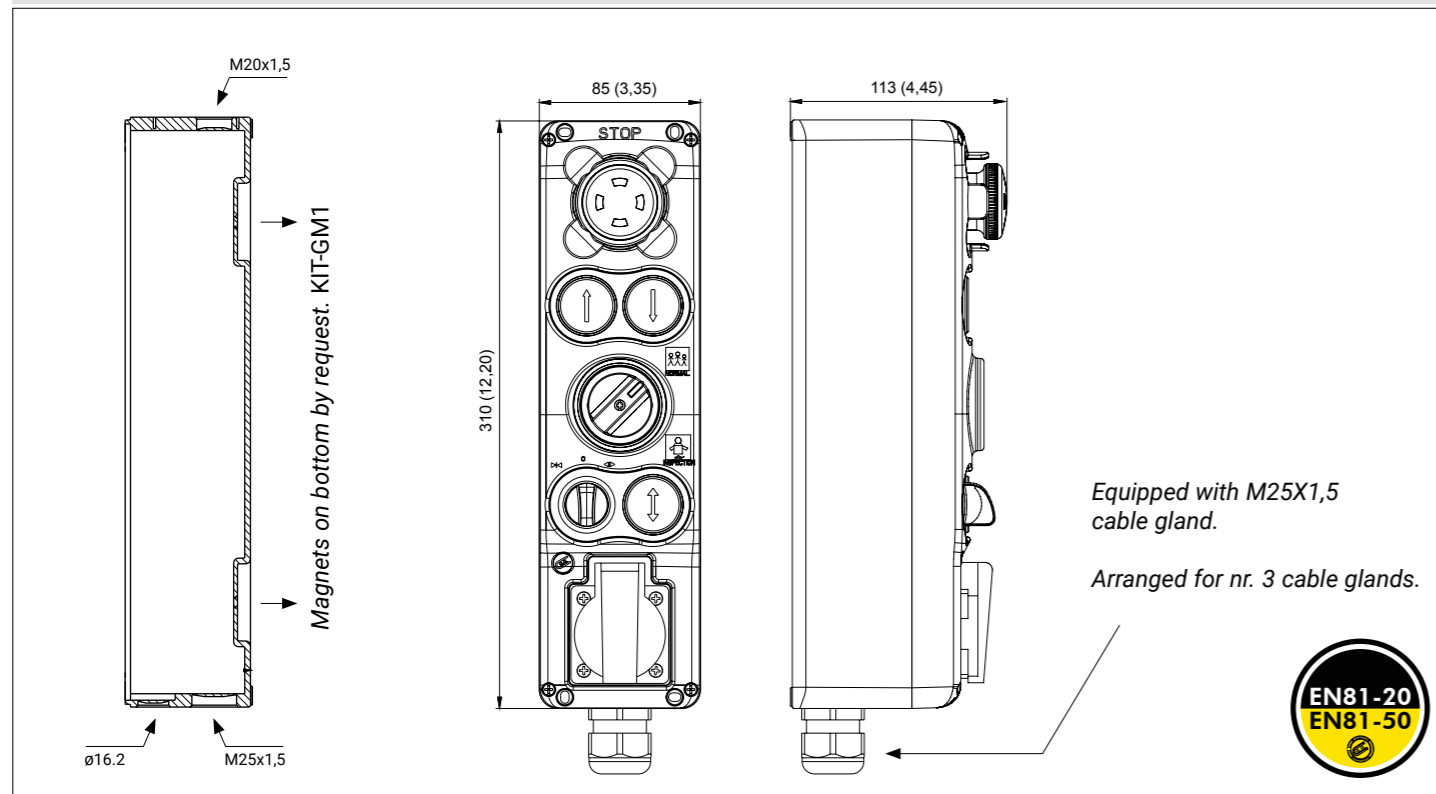


IP54

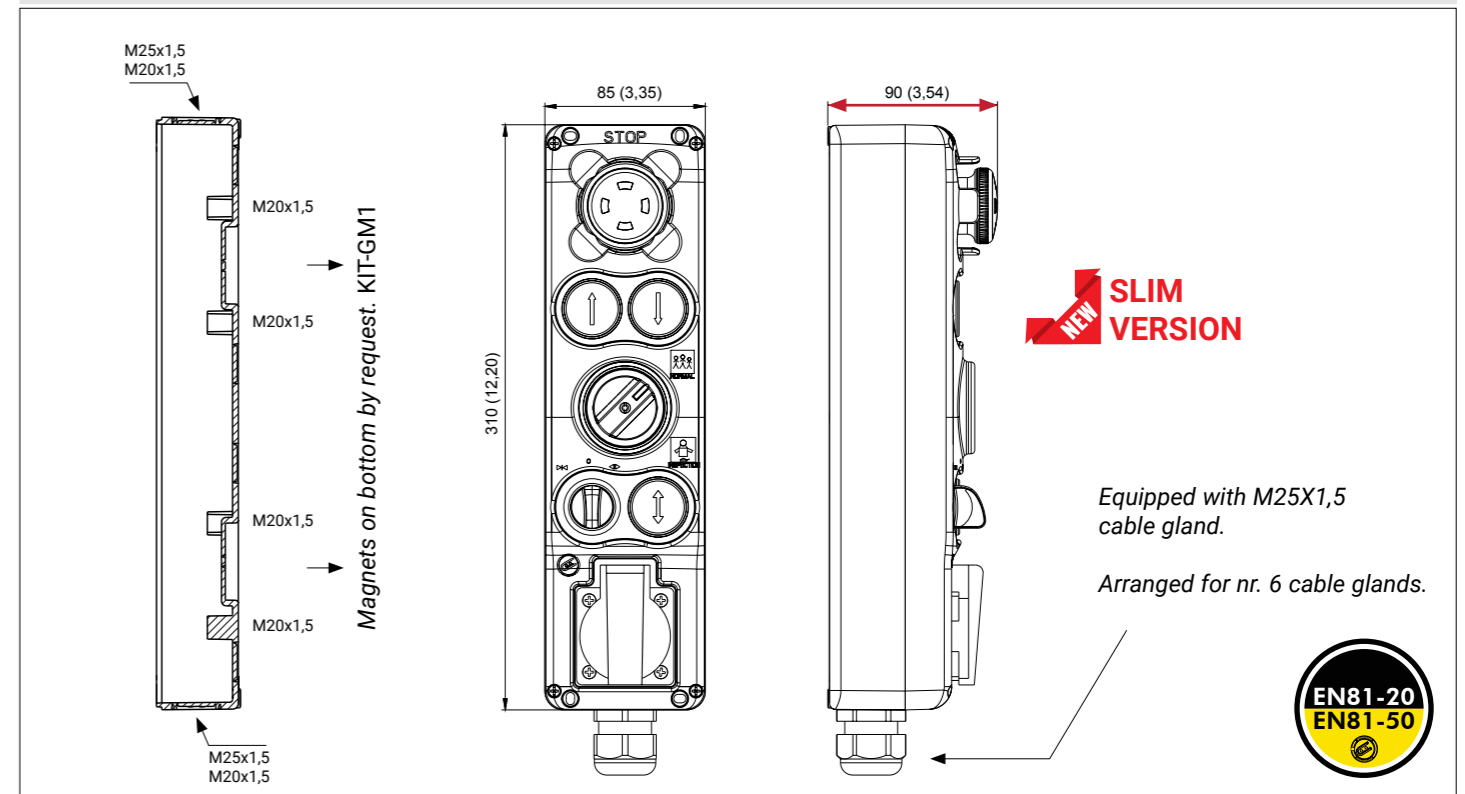
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		2NC	
UP Push Button flush, momentary, white colour		2NO+1NC	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
Knob Selector 1-0-2 3 positions, black + white indicator		2NO	
COMMON Push Button flush, momentary, blue colour		2NO	
Schuko socket outlet 16A			GM737/EU
Cenelec socket outlet			GM737/FR
USA socket outlet			GM737/US
Swiss socket outlet			GM737/SW
UK standard socket outlet			GM737/UK
Australia & China standard socket outlet			GM737/CH



TECHNICAL DRAWING - GM757/..



TECHNICAL DRAWING - GM737/..



IP54

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 <i>ø40 push-pull with vision</i>		2NC	
LED LIGHT indicator ø40 <i>white colour</i>			
COMMON Push Button <i>flush, momentary, blue colour</i>		2NO	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		2NO+2NC	
UP Push Button <i>flush, momentary, white colour</i>		2NO+1NC	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO+1NC	
Schuko socket outlet 16A			GM758/EU
Cenelec socket outlet			GM758/FR
USA socket outlet			GM758/US
Swiss socket outlet			GM758/SW
UK standard socket outlet			GM758/UK
Australia & China standard socket outlet			GM758/CH

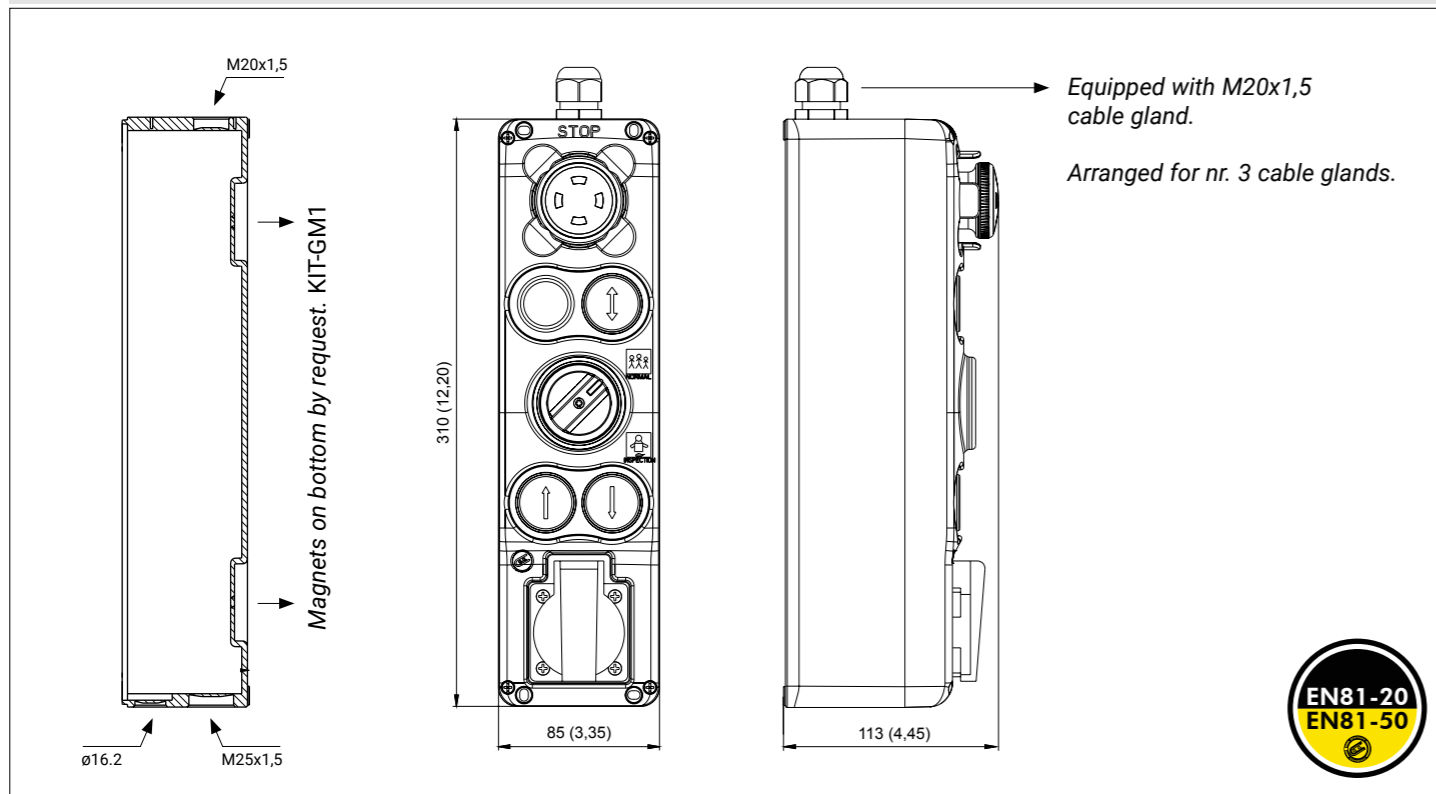


IP54

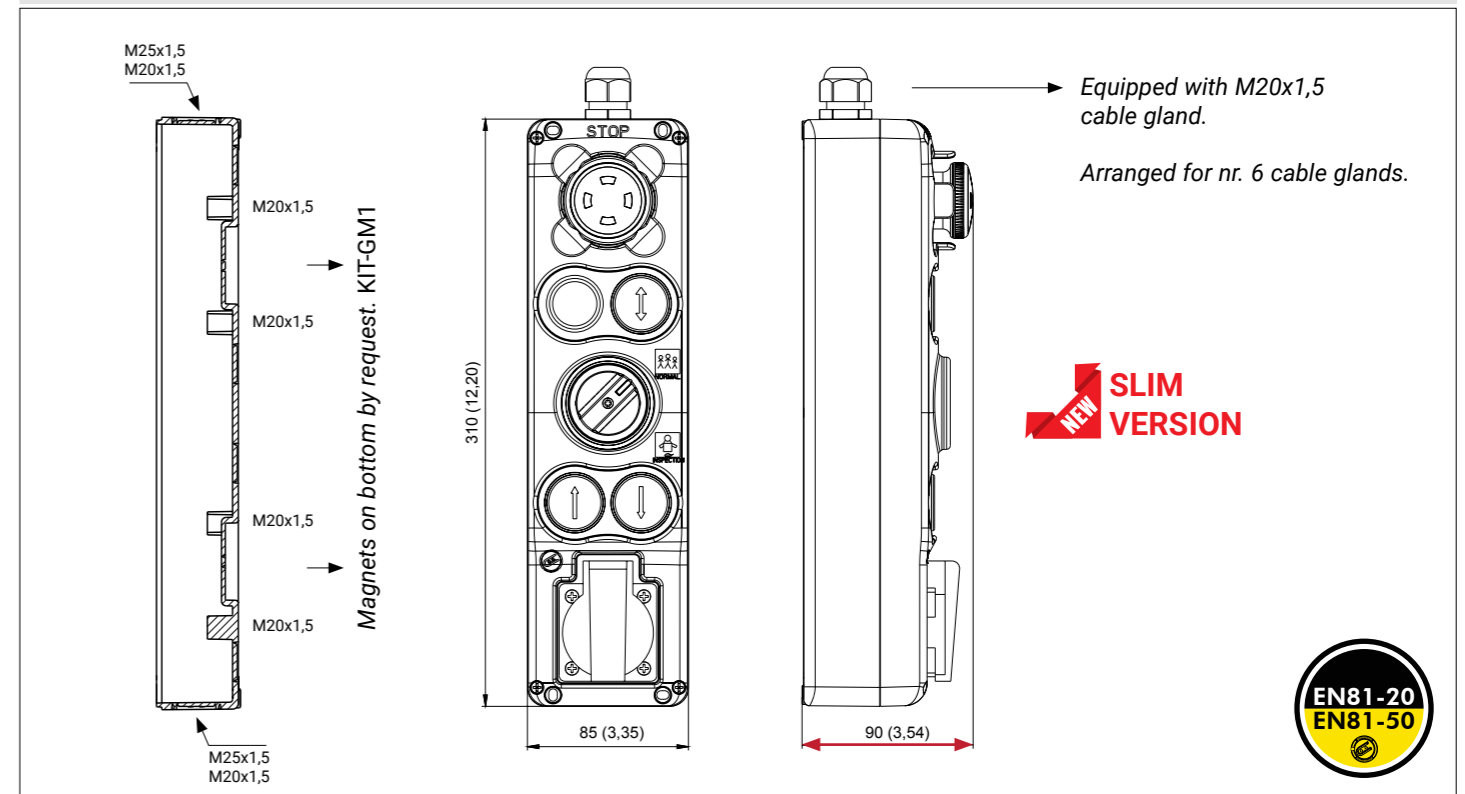
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 <i>ø40 push-pull with vision</i>		2NC	
LED LIGHT indicator ø40 <i>white colour</i>			
COMMON Push Button <i>flush, momentary, blue colour</i>		2NO	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		2NO+2NC	
UP Push Button <i>flush, momentary, white colour</i>		2NO+1NC	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO+1NC	
Schuko socket outlet 16A			GM738/EU
Cenelec socket outlet			GM738/FR
USA socket outlet			GM738/US
Swiss socket outlet			GM738/SW
UK standard socket outlet			GM738/UK
Australia & China standard socket outlet			GM738/CH



TECHNICAL DRAWING - GM757/..



TECHNICAL DRAWING - GM737/..



SLIM VERSION



IP65

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	GM751
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		1NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	



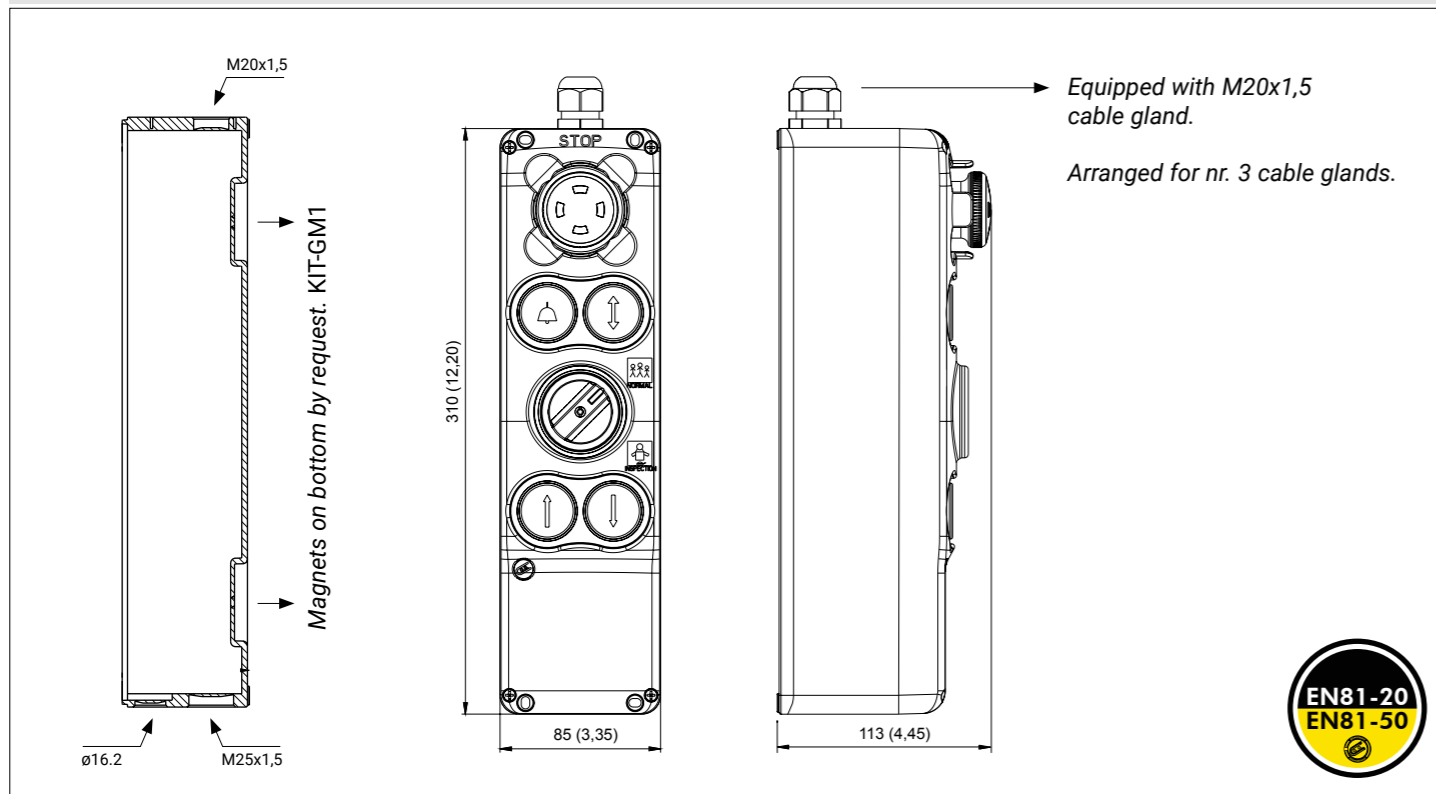
IP65

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	GM731
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		1NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	

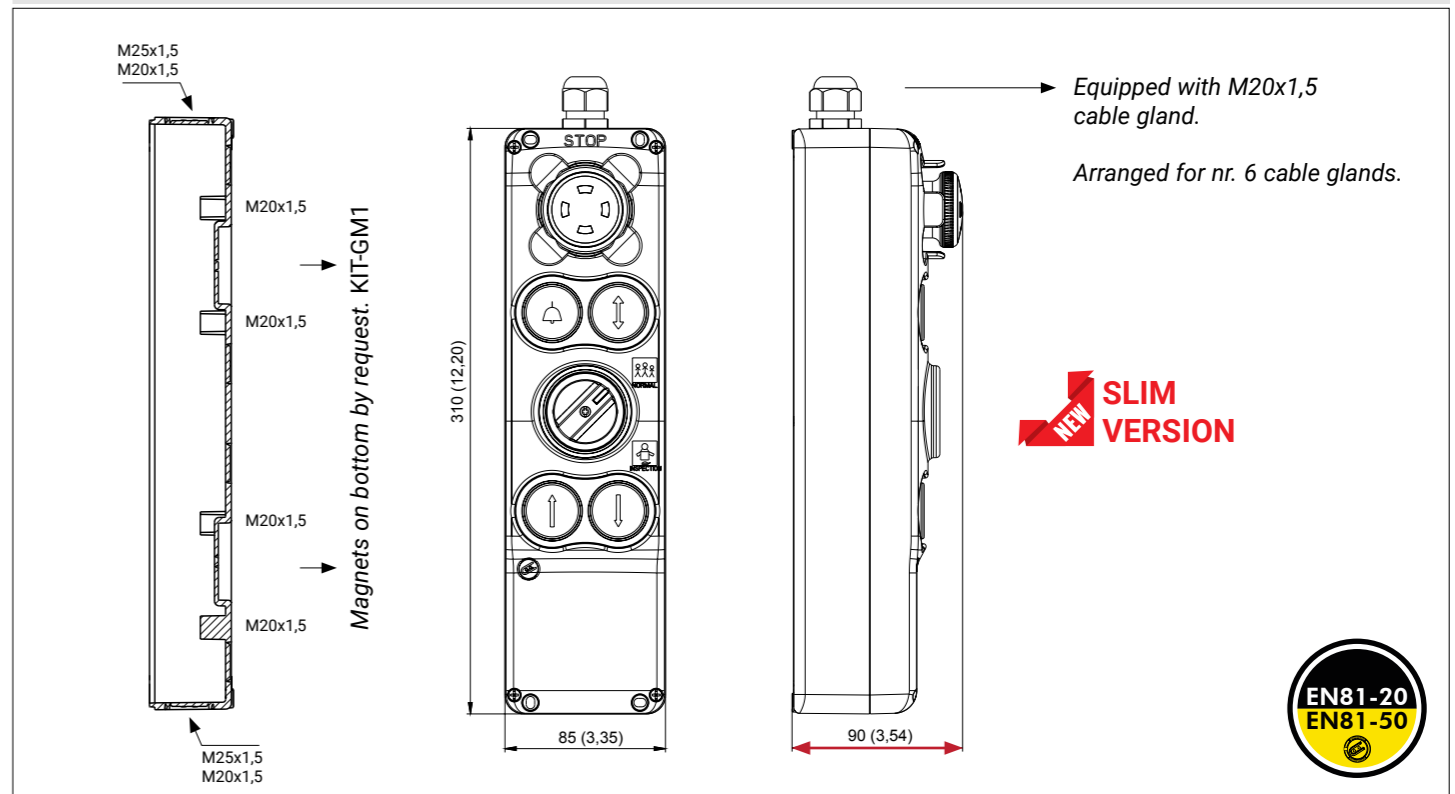


* Magnets on bottom by request.

TECHNICAL DRAWING - GM751



TECHNICAL DRAWING - GM731



IP65

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		2NC	GM754
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO+1NC	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
Red LED PILOT LIGHT red colour	 AC/DC 24V		
Knob Selector 1-0-2 3 positions, black + white indicator		1NO+1NO	

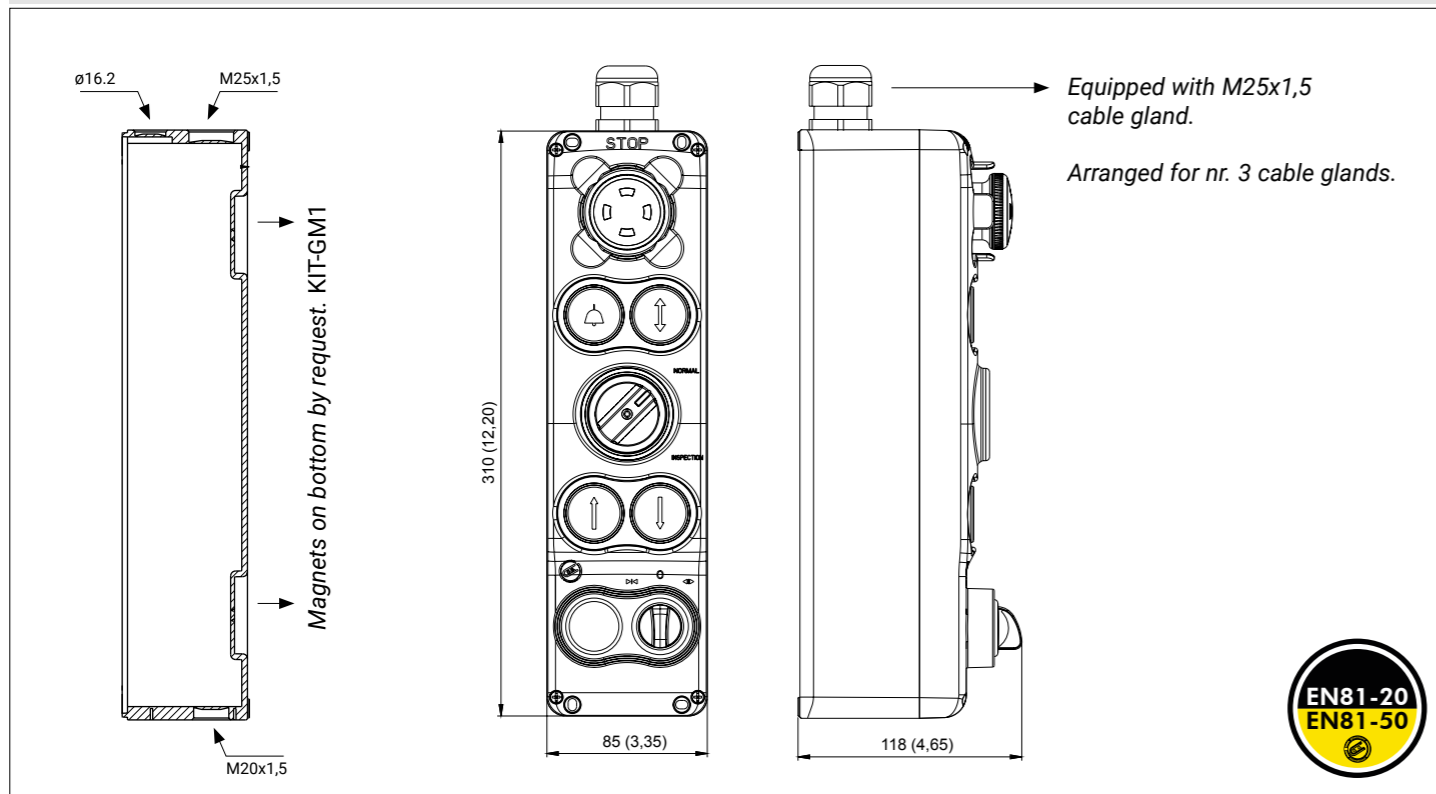


IP65

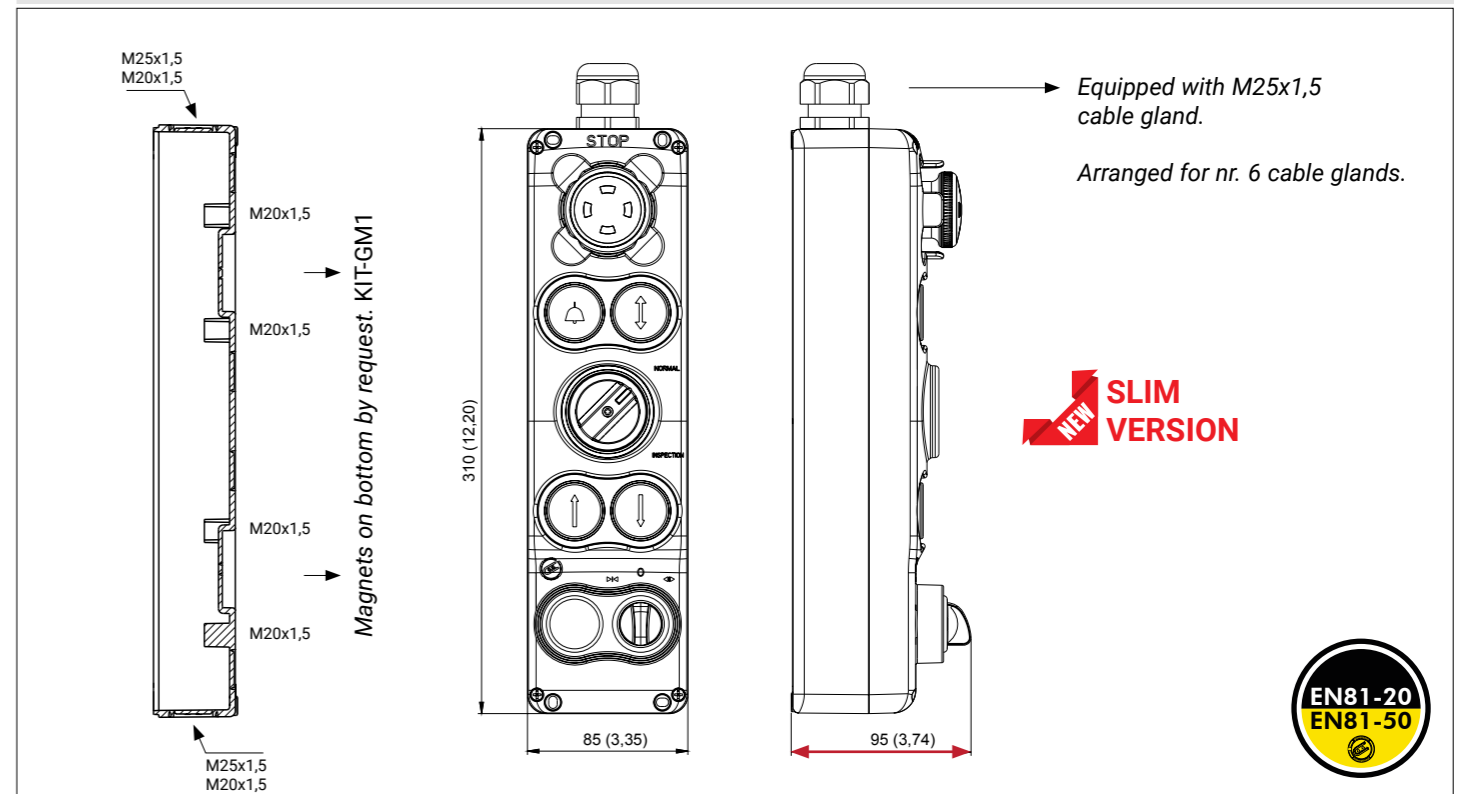
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		2NC	GM734
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO+1NC	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
Red LED PILOT LIGHT red colour	 AC/DC 24V		
Knob Selector 1-0-2 3 positions, black + white indicator		1NO+1NO	



TECHNICAL DRAWING - GM754



TECHNICAL DRAWING - GM734



IP54

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		2NC	
ALARM Push Button flush, momentary, yellow colour		1NO	
COMMON Push Button flush, momentary, blue colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
UP Push Button flush, momentary, white colour		2NO+1NC	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
Red LED PILOT LIGHT red colour	 AC/DC 24V		
Knob Selector 1-0-2 3 positions, black + white indicator		2NO	
Schuko socket outlet 16A			GM756/EU
Cenelec socket outlet			GM756/FR
USA socket outlet			GM756/US
Swiss socket outlet			GM756/SW
UK standard socket outlet			GM756/UK
Australia & China standard socket outlet			GM756/CH

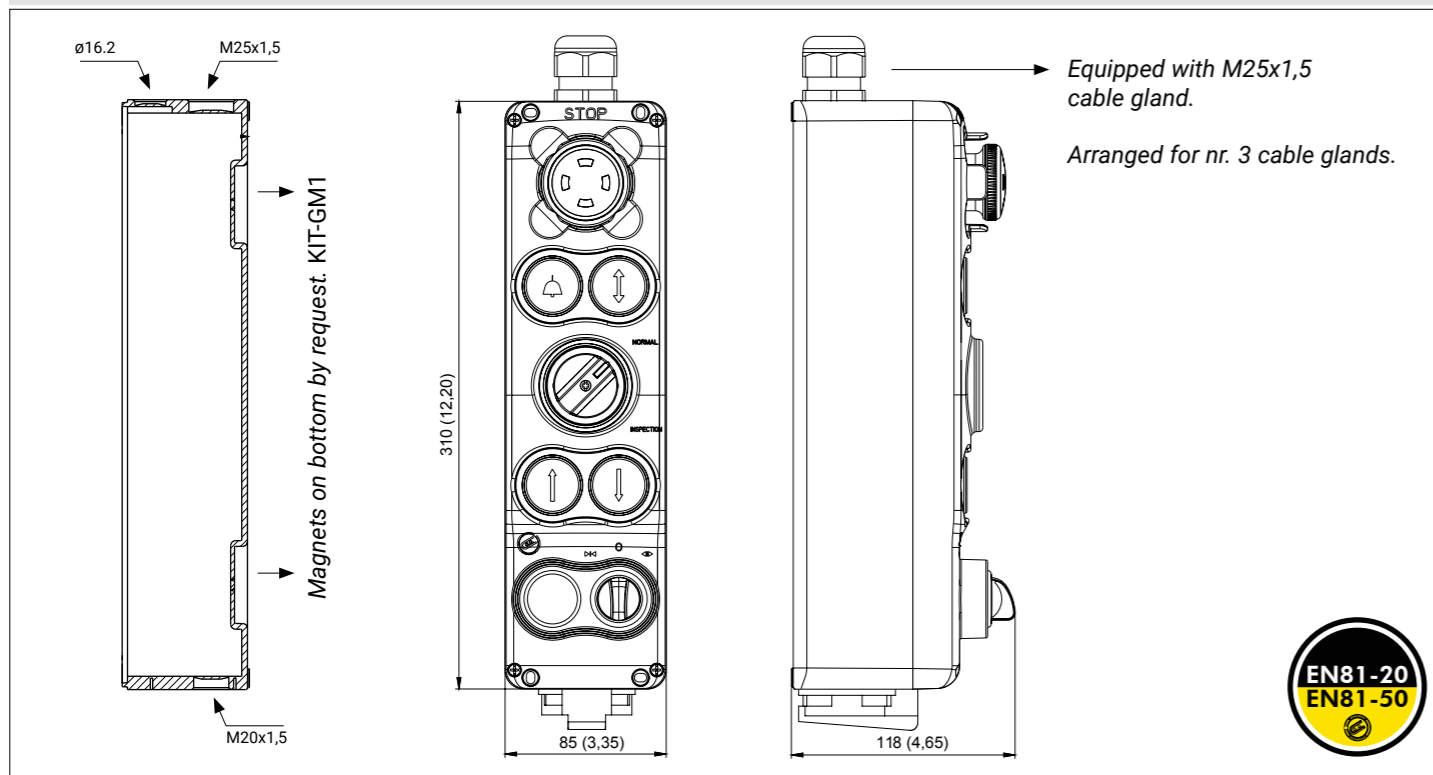


IP54

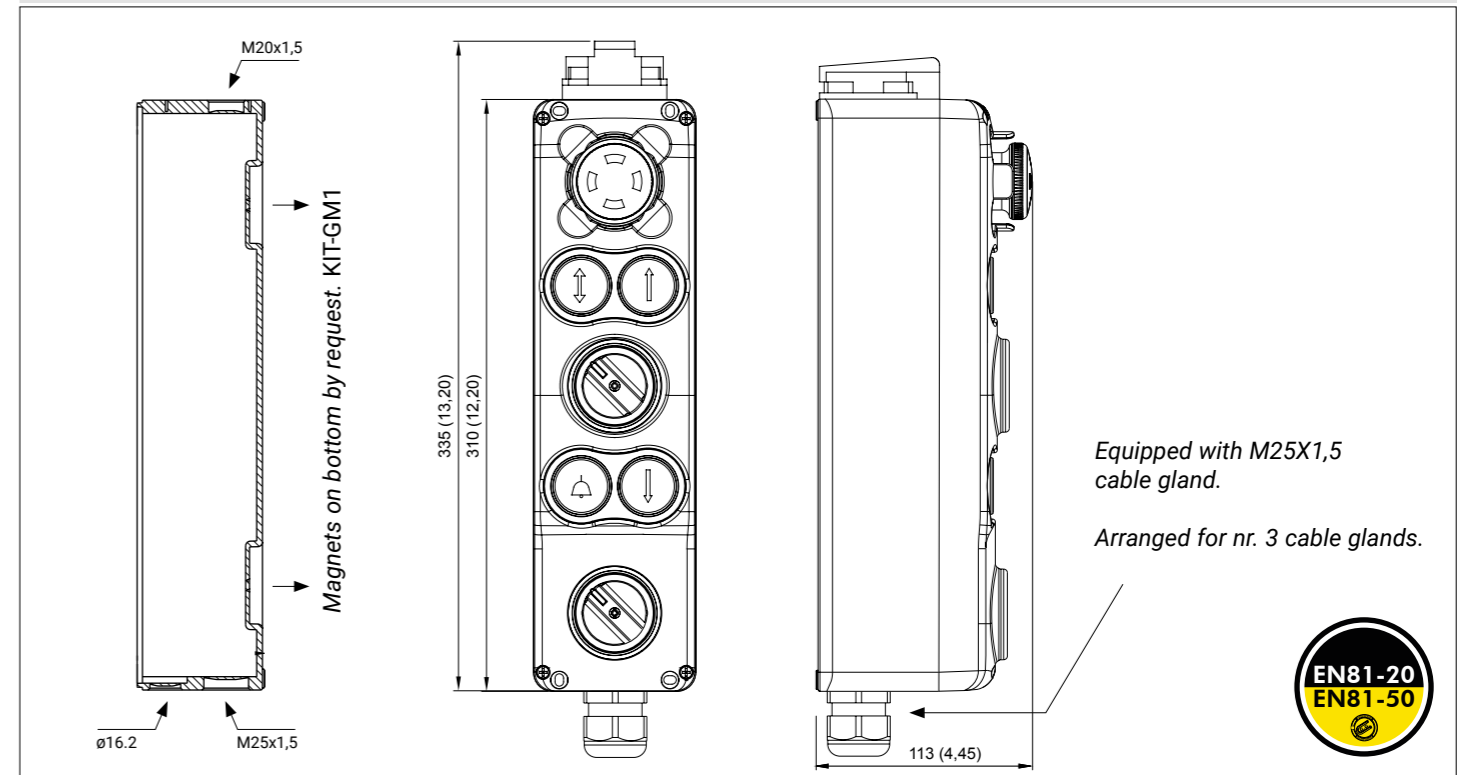
DESCRIPTION	SCHEME	CONTACTS	CODE
Schuko socket outlet 16A			GMS309/EU
Cenelec socket outlet			GMS309/FR
USA socket outlet			GMS309/US
Swiss socket outlet			GMS309/SW
UK standard socket outlet			GMS309/UK
Australia & China standard socket outlet			GMS309/CH
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	NEW
COMMON Push Button flush, momentary, blue colour		1NO	
UP Push Button flush, momentary, white colour		1NO	
Cam Switch 1-2 90° switching		1NO+1NC	
ALARM Push Button flush, momentary, yellow colour		1NO	
DOWN Push Button flush, momentary, black colour		1NO	
Cam Switch 0-1 90° switching		1NO	
Wall Bracket case INCLUDED Polypropylene material			16000075



TECHNICAL DRAWING - GM756/..



TECHNICAL DRAWING - GMS309/..

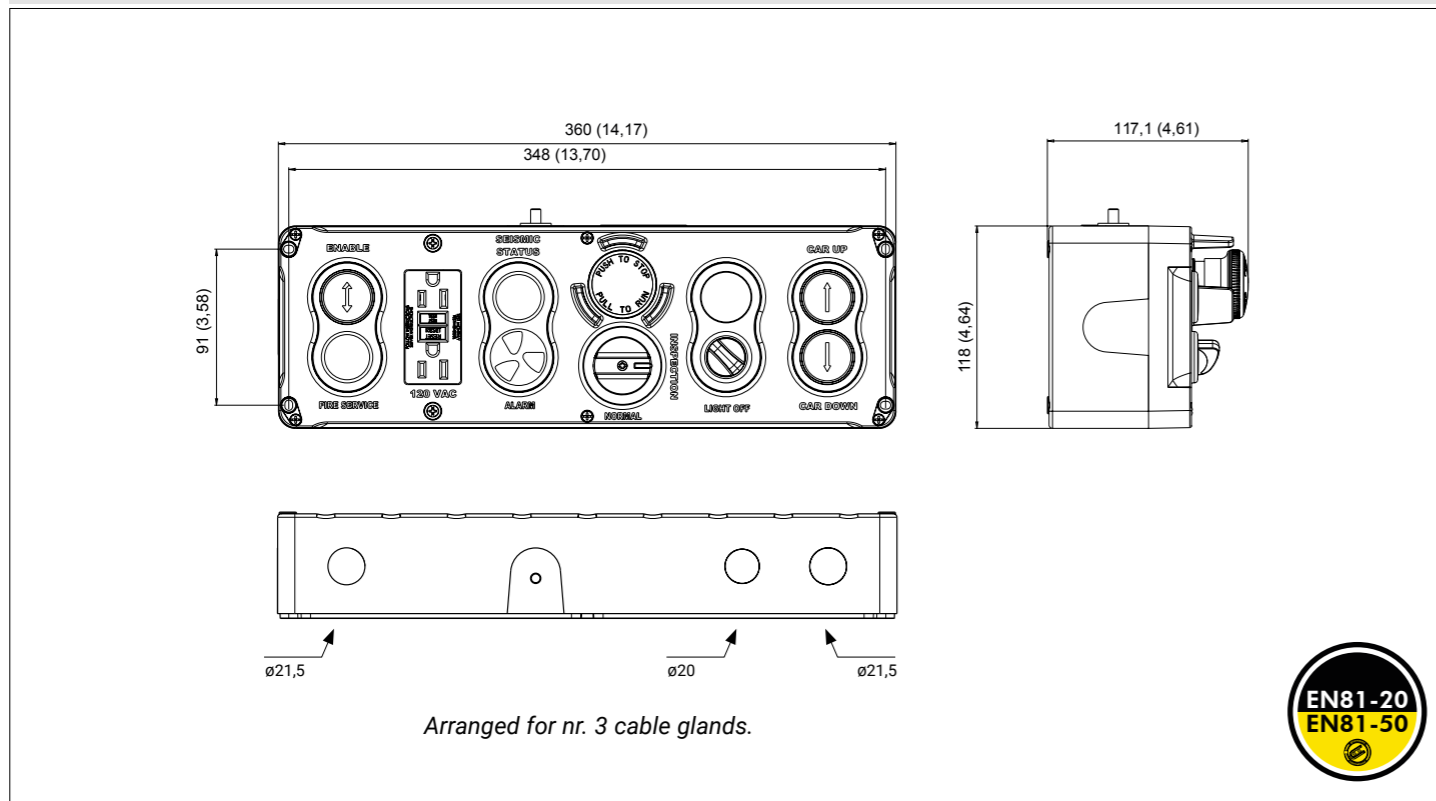


DESCRIPTION	SCHEME	CONTACTS	CODE
COMMON Push Button flush, momentary, blue colour		1NO	GMS305
Red LED PILOT LIGHT red colour	 AC/DC 24V		
GFCI socket 15A - 125V			
Yellow LED PILOT LIGHT yellow colour	 AC/DC 24V		
BUZZER 30÷120 VAC			
Emergency stop EN ISO 13850 ø40 "push to stop/pull to run"	 2X	2PCW010SS + 1NO	
Cam Switch 0-1 Normal-Inspection 90° switching		2NO+2NC	
Stopping closing holes black colour			
Knob Selector 0-1 2 positions, black + white indicator	OFF 0 ON 	1NO	
UP Push Button flush, momentary, white colour		1NO	
DOWN Push Button flush, momentary, black colour		1NO	



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TECHNICAL DRAWING - GMS305

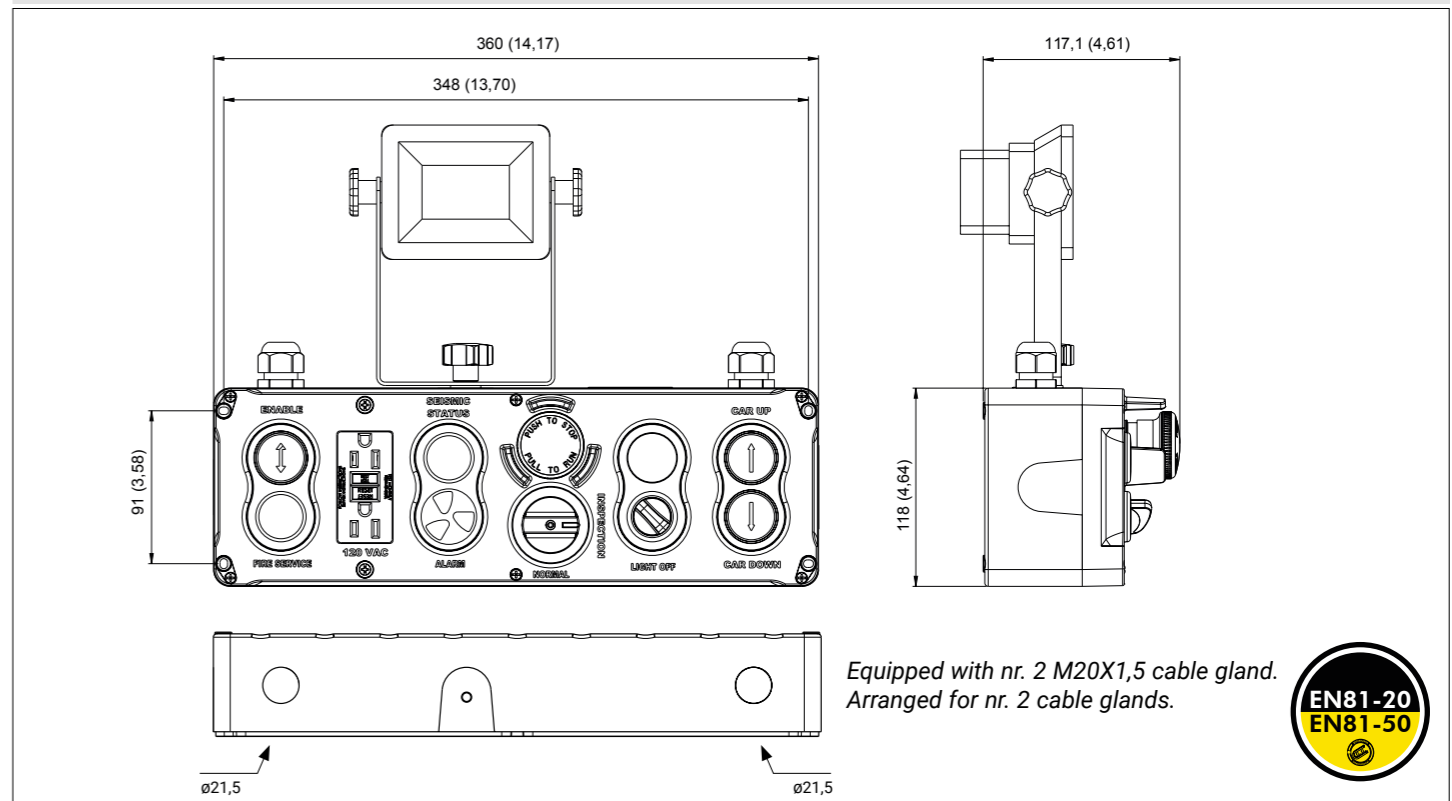


DESCRIPTION	SCHEME	CONTACTS	CODE
LED LAMP 12W 1000 LUMEN 120V			GMS312
COMMON Push Button flush, momentary, blue colour		1NO	
Red LED PILOT LIGHT red colour	 AC/DC 24V		
GFCI socket 15A - 125V			
Yellow LED PILOT LIGHT yellow colour	 AC/DC 24V		
BUZZER 30÷120 VAC			
Emergency stop EN ISO 13850 ø40 "push to stop/pull to run"	 2X	2PCW010SS + 1NO	
Cam Switch 0-1 Normal-Inspection 90° switching		2NO+2NC	
Stopping closing holes black colour			
Knob Selector 0-1 2 positions, black + white indicator	OFF 0 ON 	1NO	
UP Push Button flush, momentary, white colour		1NO	
DOWN Push Button flush, momentary, black colour		1NO	



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TECHNICAL DRAWING - GMS312



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		2NC	
ALARM Push Button flush, momentary, yellow colour		1NO	
UP Push Button flush, momentary, white colour		2NO-1NC	
COMMON Push Button flush, momentary, blue colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
Cam Switch 1-2 Normal-Inspection 90° switching		3NO+3NC	
Schuko socket outlet 16A			GM412/EU
Cenelec socket outlet			GM412/FR
USA socket outlet			GM412/US
Swiss socket outlet			GM412/SW
UK standard socket outlet			GM412/UK
Australia & China standard socket outlet			GM412/CH



IP54



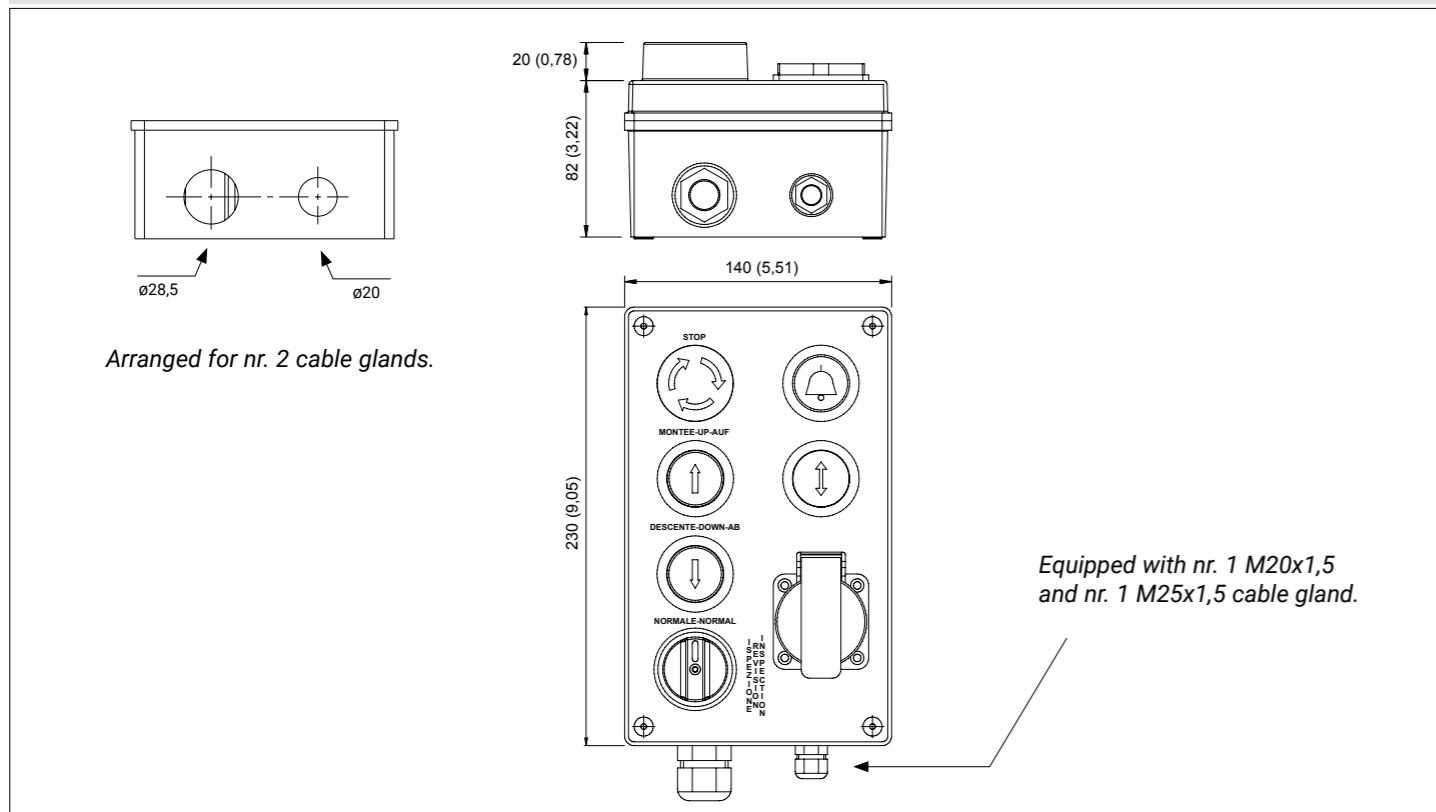
DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 1-2 Normal-Inspection 90° switching		3NO+3NC	
UP Push Button flush, momentary, white colour		2NO+1NC	
COMMON Push Button flush, momentary, blue colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO+1NC	
White LED PILOT LIGHT white colour	 AC/DC 12V		
Emergency stop EN ISO 13850 ø30 twist to release		1NC	
ALARM Push Button flush, momentary, yellow colour		1NO	
Schuko socket outlet 16A			GM822/EU
Cenelec socket outlet			GM822/FR
USA socket outlet			GM822/US
Swiss socket outlet			GM822/SW
UK standard socket outlet			GM822/UK
Australia & China standard socket outlet			GM822/CH



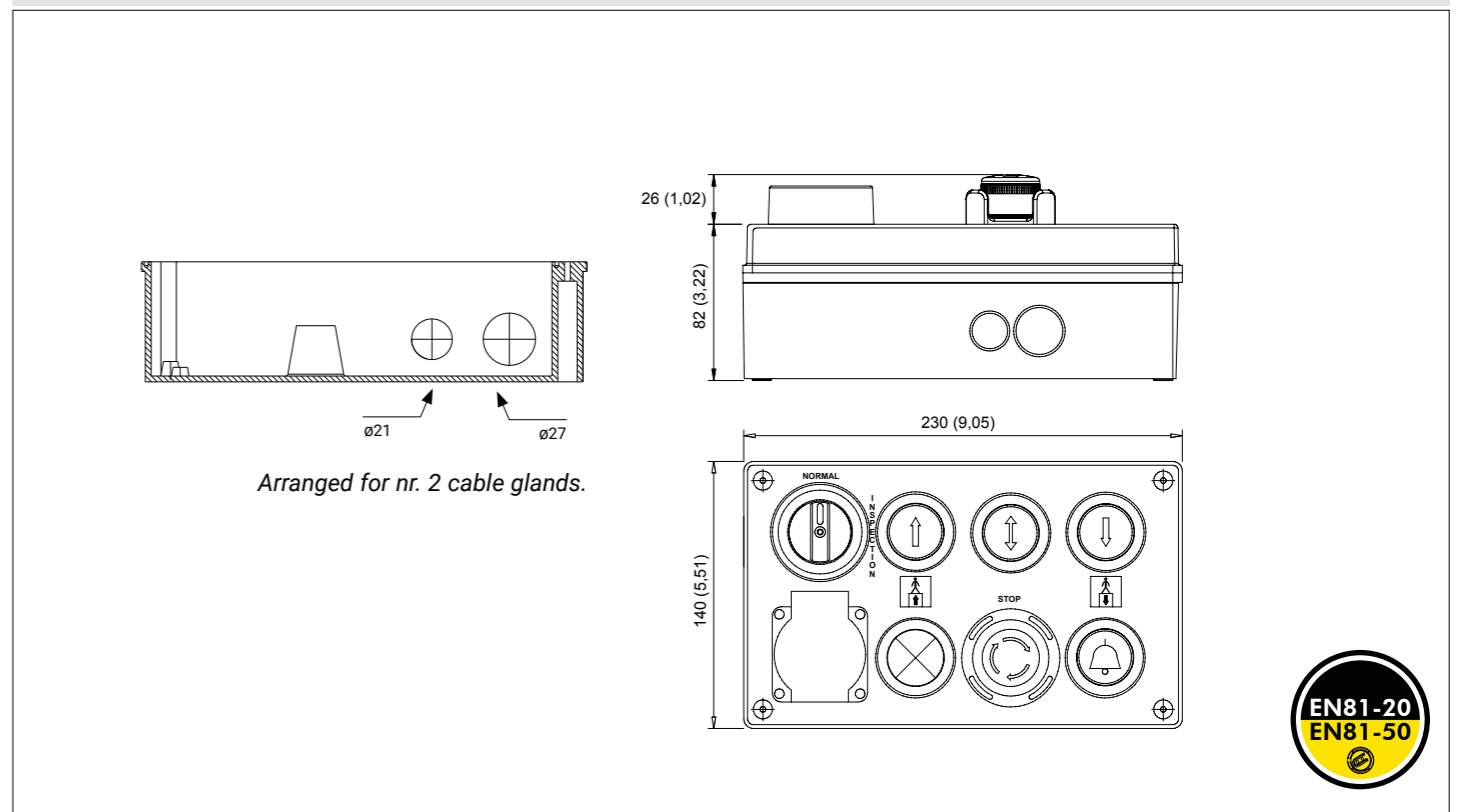
IP54



TECHNICAL DRAWING - GM412/..



TECHNICAL DRAWING - GM822/..



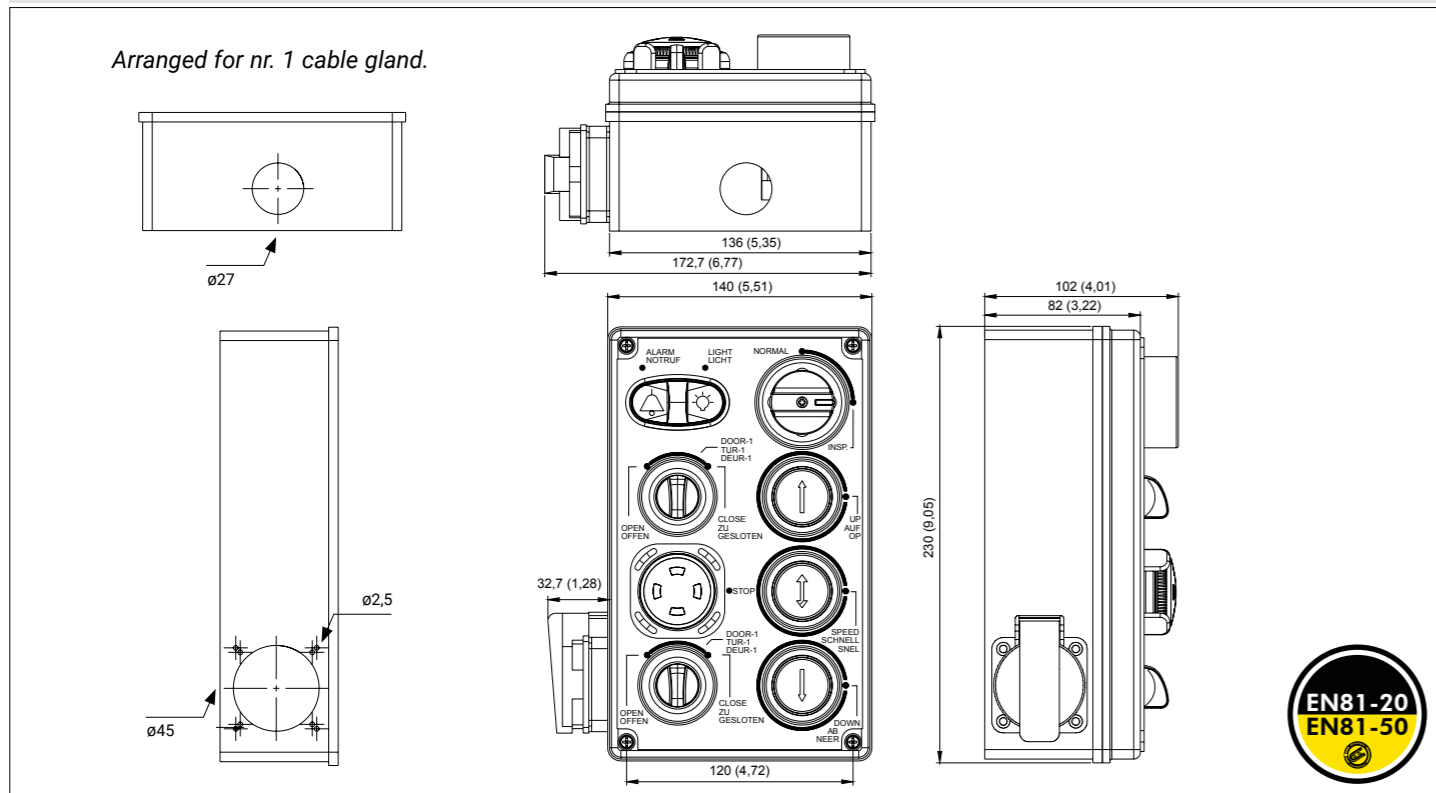
DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM/LIGHT Dual Push Button <i>flush, momentary, yellow/black colour</i>		1NO+1NO	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		2NO+4NC	
Knob Selector 1-0-2 <i>3 positions, return to 0</i>		1NO+1NO	
UP Push Button <i>flush, momentary, white colour</i>		2NO	
Emergency stop EN ISO 13850 <i>ø40 push-pull with vision</i>		1NC	
BLUE Push Button <i>flush, momentary, blue colour</i>		1NO	
Knob Selector 1-0-2 <i>3 positions, return to 0</i>		1NO+1NO	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO	
Schuko socket outlet 16A		GM321/EU	
Cenelec socket outlet		GM321/FR	
USA socket outlet		GM321/US	
Swiss socket outlet		GM321/SW	
UK standard socket outlet		GM321/UK	
Australia & China standard socket outlet		GM321/CH	



IP54



TECHNICAL DRAWING - GM321/..



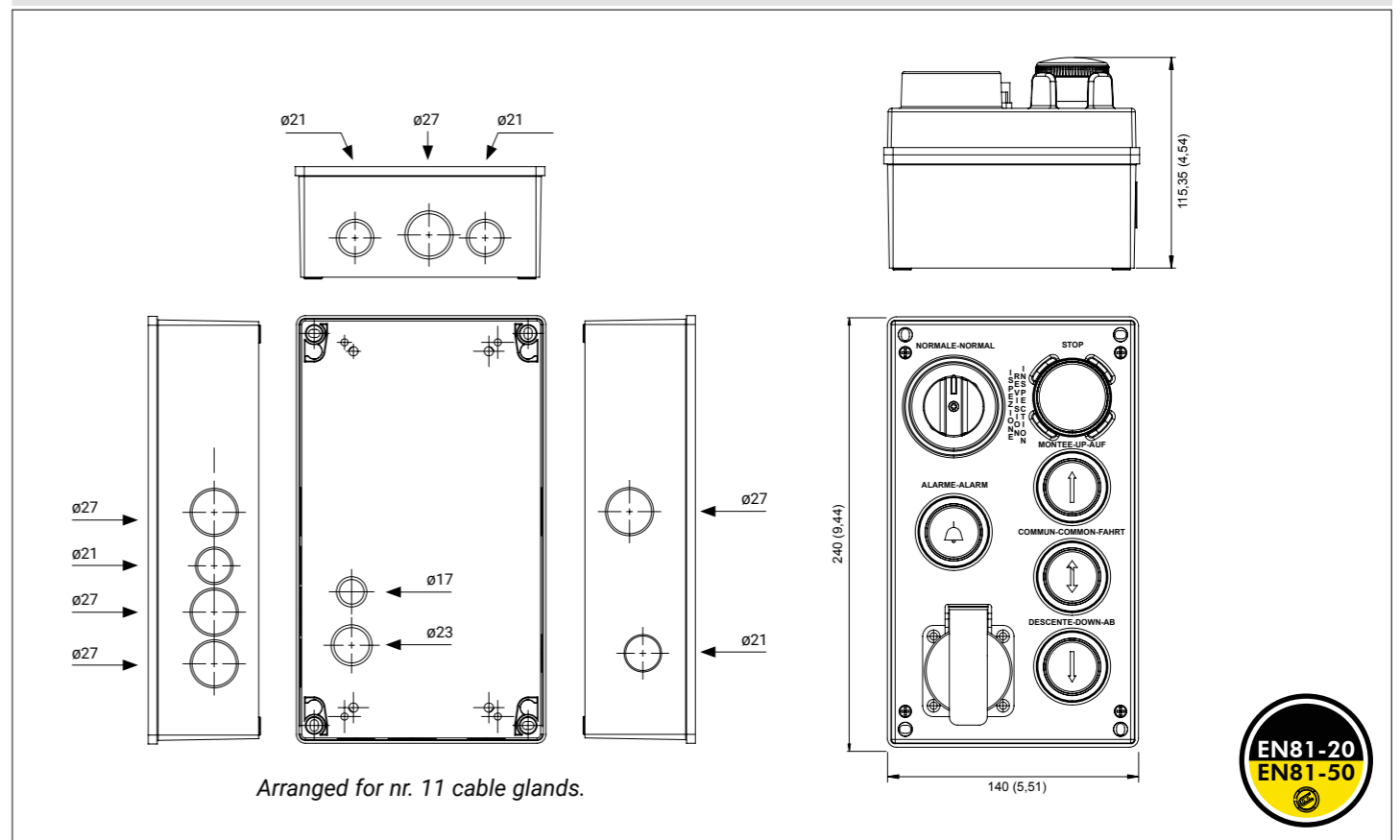
DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		3NO+3NC	
Emergency stop EN ISO 13850 <i>ø40 push-pull</i>		1NC	
ALARM Push Button <i>flush, momentary, yellow colour</i>		1NO	
UP Push Button <i>flush, momentary, white colour</i>		1NO	
COMMON Push Button <i>flush, momentary, blue colour</i>		1NO	
DOWN Push Button <i>flush, momentary, black colour</i>		1NO	
Schuko socket outlet 16A		GM455/EU	
Cenelec socket outlet		GM455/FR	
USA socket outlet		GM455/US	
Swiss socket outlet		GM455/SW	
UK standard socket outlet		GM455/UK	
Australia & China standard socket outlet		GM455/CH	



IP54



TECHNICAL DRAWING - GM455/..



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull		2 PCW010SS	GM261
COMMON Push Button flush, momentary, blue colour		2NO	
UP Push Button flush, momentary, white colour		2NO	
ALARM Push Button flush, momentary, yellow colour		1NO	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	

IP65

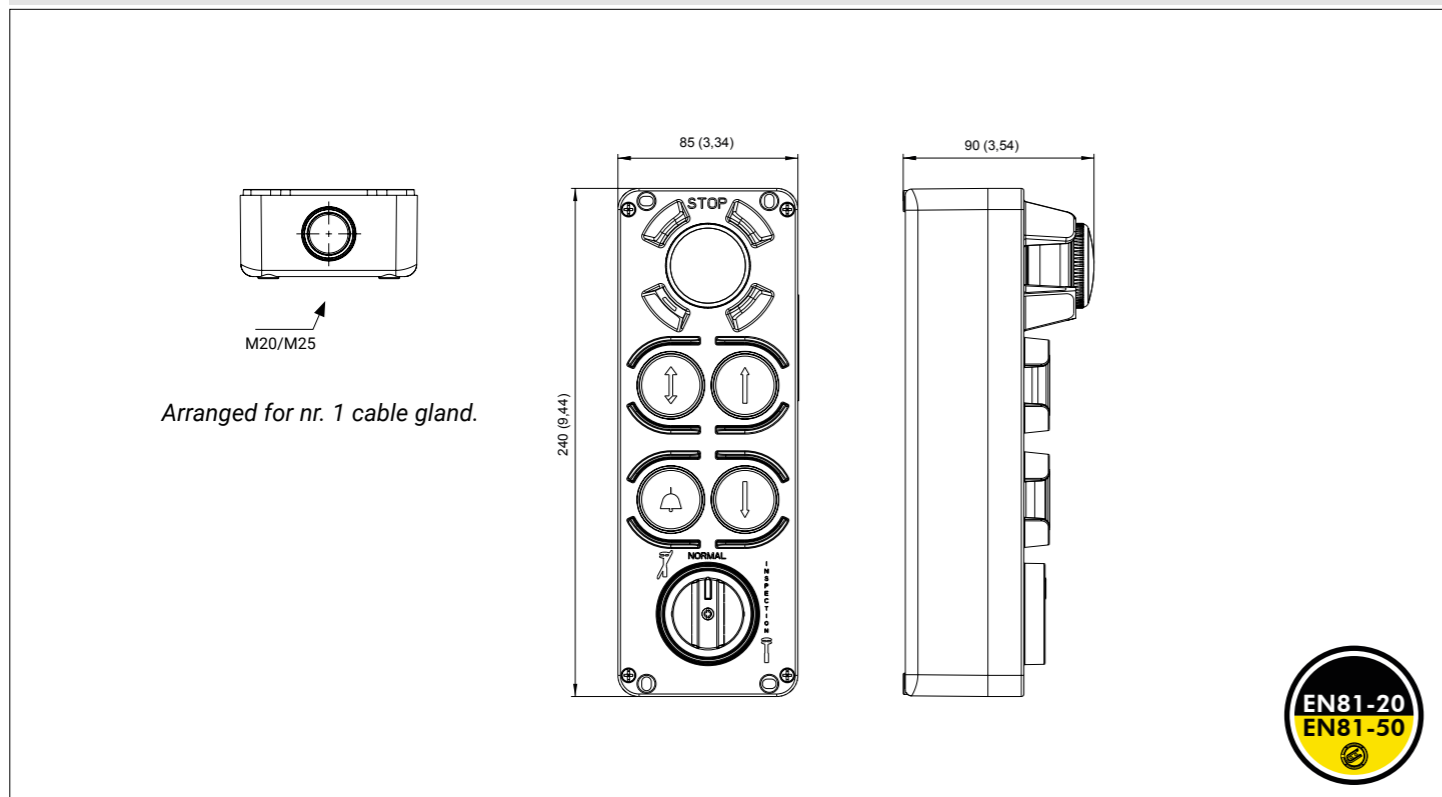


DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	GM262
COMMON Push Button flush, momentary, blue colour		2NO	
ALARM Push Button flush, momentary, yellow colour		1NO	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Emergency stop EN ISO 13850 ø40 push-pull		2 PCW010SS	

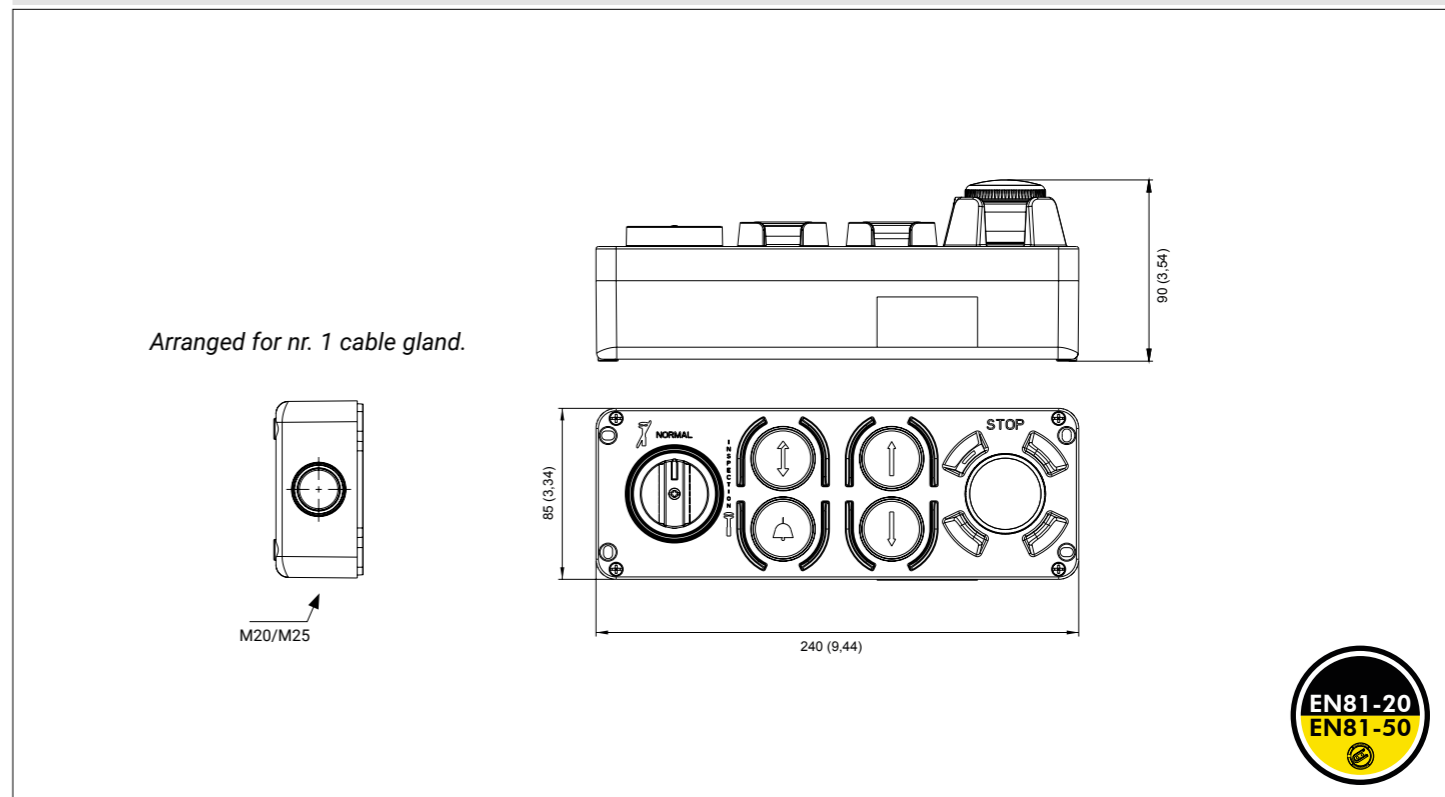
IP65



TECHNICAL DRAWING - GM261



TECHNICAL DRAWING - GM262



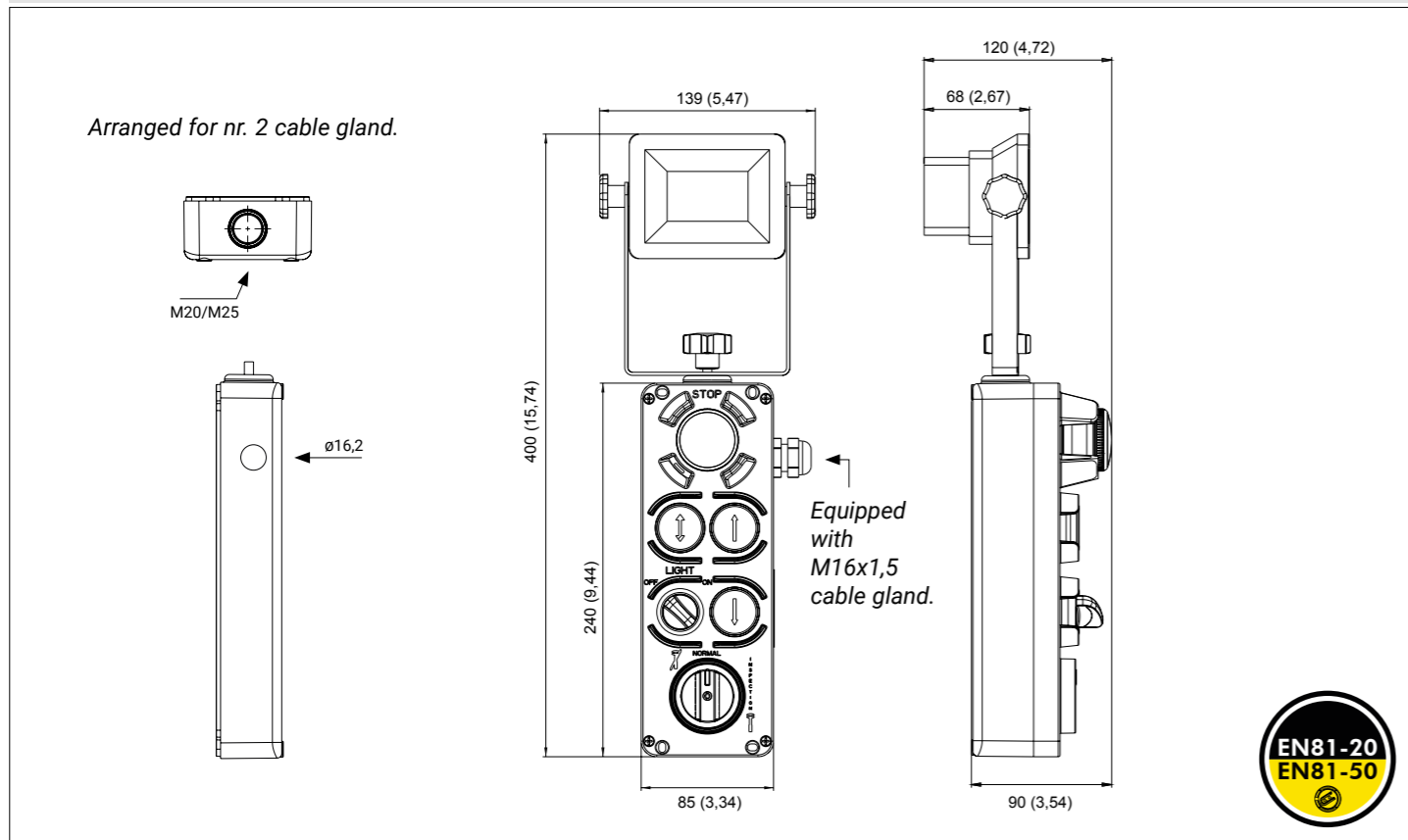
DESCRIPTION	SCHEME	CONTACTS	CODE
LED LAMP 12W 1000 LUMEN 120V			GM263
Emergency stop EN ISO 13850 ø40 push-pull		2 PCW010SS	
COMMON Push Button flush, momentary, blue colour		2NO	
UP Push Button flush, momentary, white colour		2NO	
ALARM Push Button flush, momentary, yellow colour		1NO	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	



IP65



TECHNICAL DRAWING - GM263



DESCRIPTION	SCHEME	CONTACTS	CODE
BLUE Push Button flush, momentary, blue colour		1NO	GMS03
Cam Switch 1-2 90° switching		1NO+1NC	
UP Push Button flush, momentary, black colour		1NO+1NC	
BLACK Push Button black colour		1NO	
DOWN Push Button flush, momentary, black colour		1NO+1NC	
Emergency stop EN ISO 13850 ø40 twist to release		1NC	
GREEN Push Button green colour		1NO	
Schuko socket outlet 16A			
USA socket outlet			

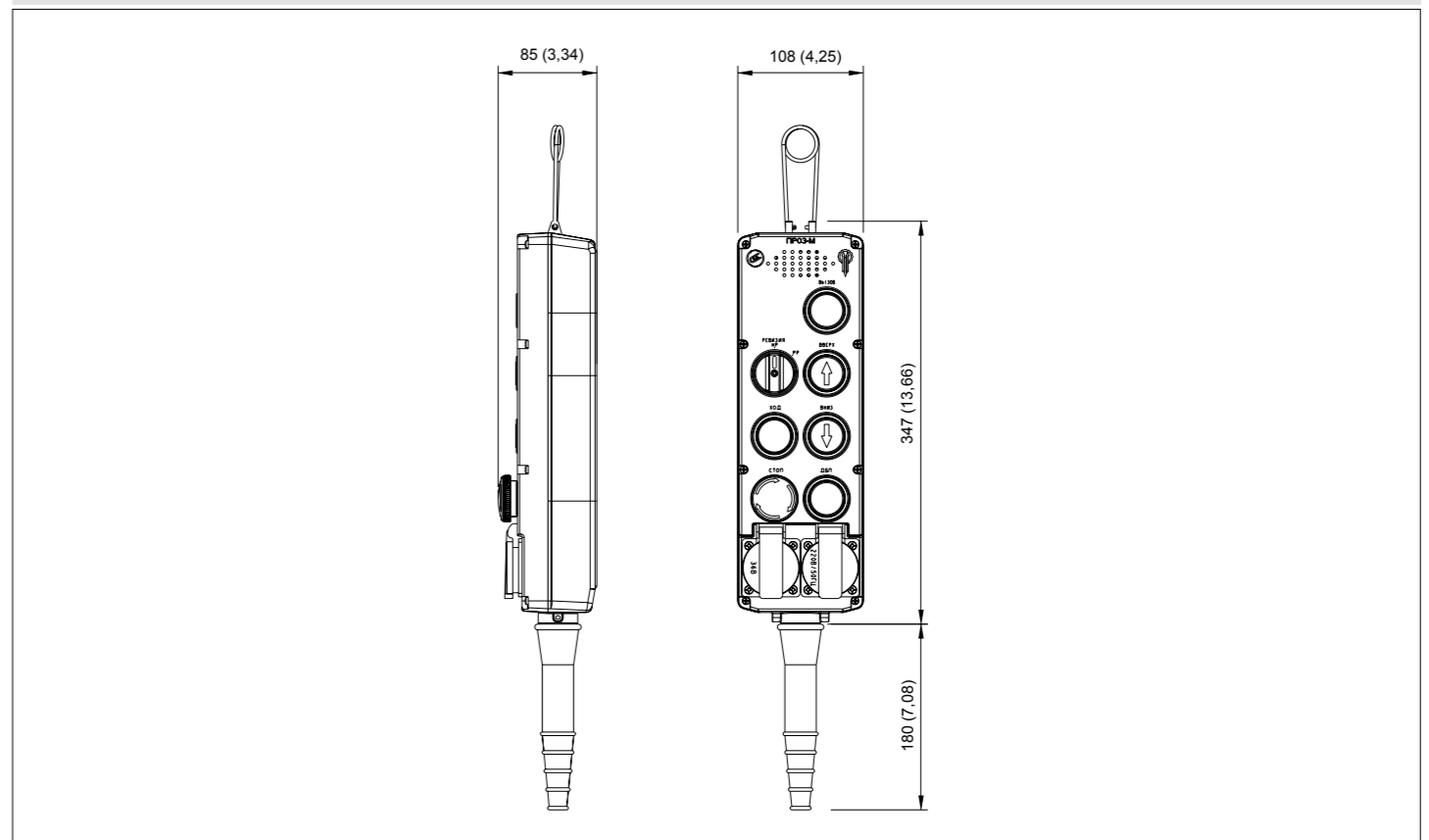


IP54



GMS03 isn't pre-wired but, as the others maintenance stations, there's the possibility of pre-wired products on request.

TECHNICAL DRAWING - GMS03



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	GM442N
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-0-2 Normal-Inspection 90° switching		2NO+2NC	



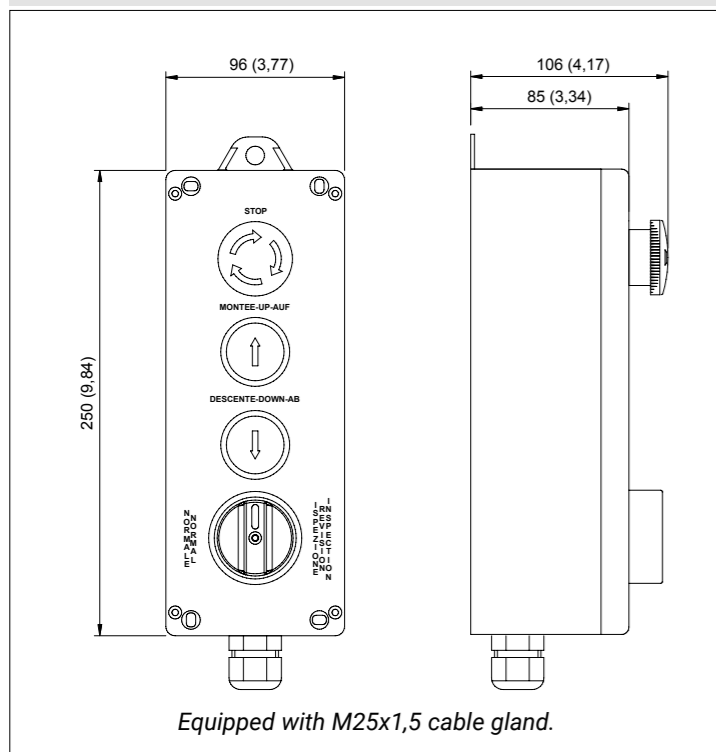
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	GM444N
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	



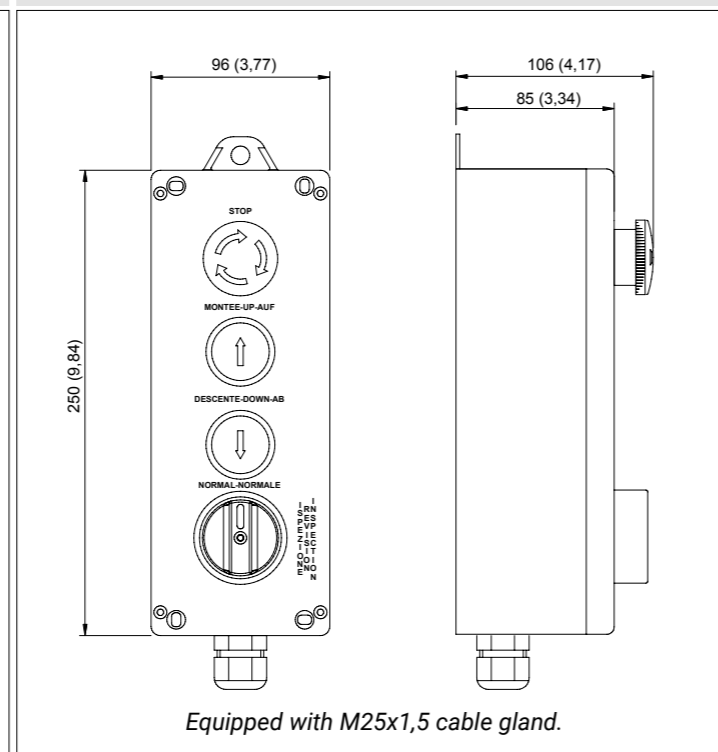
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	GM441N/..
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		2NO+2NC	
Schuko socket outlet 16A			GM441N/EU
Cenelec socket outlet			GM441N/FR
USA socket outlet			GM441N/US
Swiss socket outlet			GM441N/SW
UK standard socket outlet			GM441N/UK
Australia & China standard socket outlet			GM441N/CH



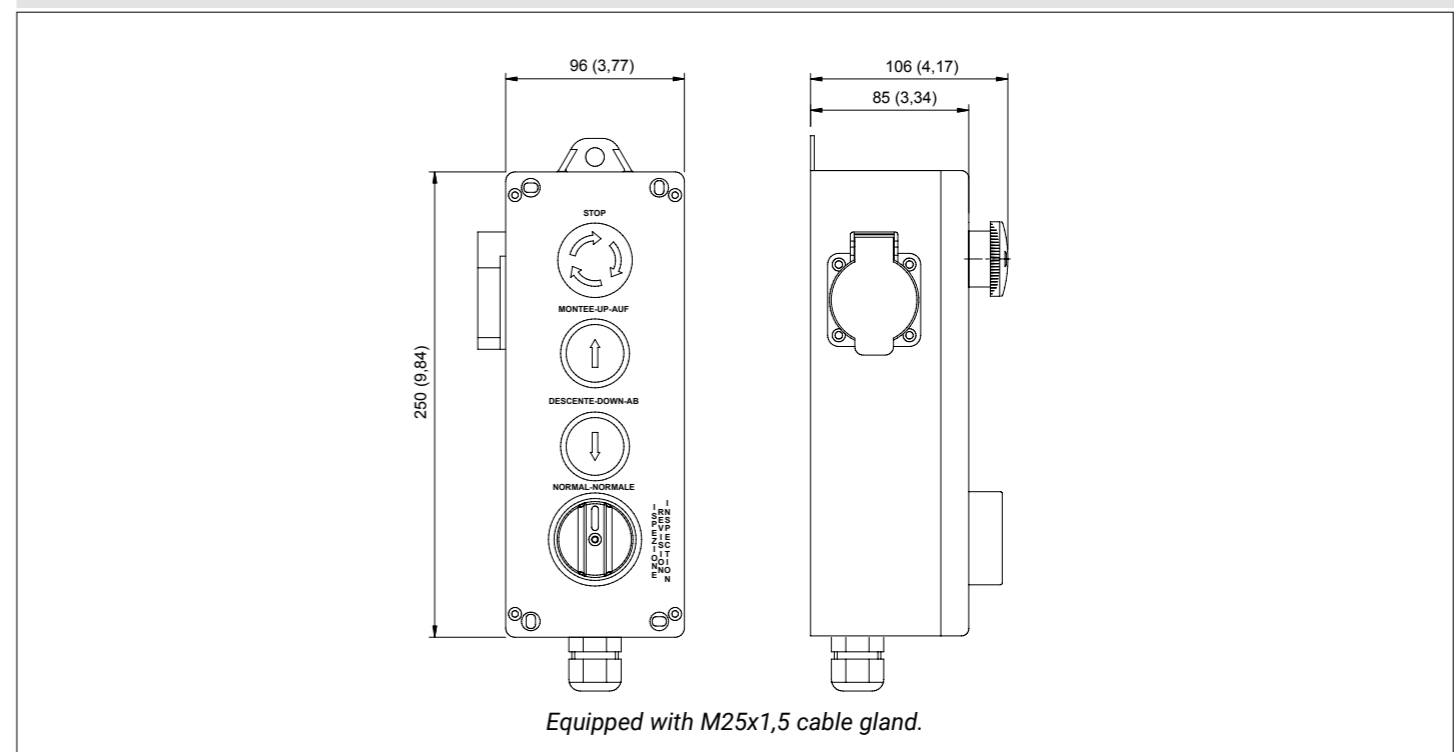
TECHNICAL DRAWING - GM442N



TECHNICAL DRAWING - GM444N



TECHNICAL DRAWING - GM441N/..



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-0-2 Normal-Inspection 90° switching		2NO+2NC	
Schuko socket outlet 16A			GM445N/EU
Cenelec socket outlet			GM445N/FR
USA socket outlet			GM445N/US
Swiss socket outlet			GM445N/SW
UK standard socket outlet			GM445N/UK
Australia & China standard socket outlet			GM445N/CH



IP54 □



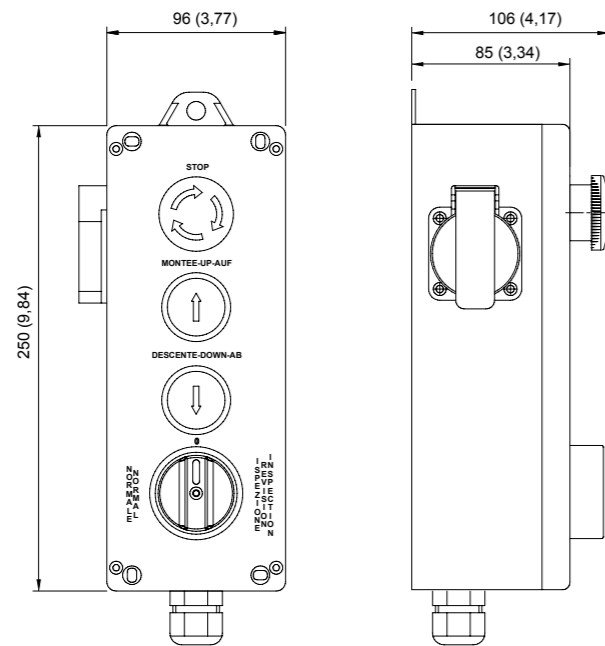
DESCRIPTION	SCHEME	CONTACTS	CODE
UP Push Button flush, momentary, white colour		2NO	
Emergency stop EN ISO 13850 ø40 twist to release		2NC	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-2 Normal-Inspection 90° switching		3NO+3NC	
ALARM Push Button flush, momentary, yellow colour		1NO+1NC	
Schuko socket outlet 16A			GM660/EU
Cenelec socket outlet			GM660/FR
USA socket outlet			GM660/US
Swiss socket outlet			GM660/SW
UK standard socket outlet			GM660/UK
Australia & China standard socket outlet			GM660/CH



IP54 □



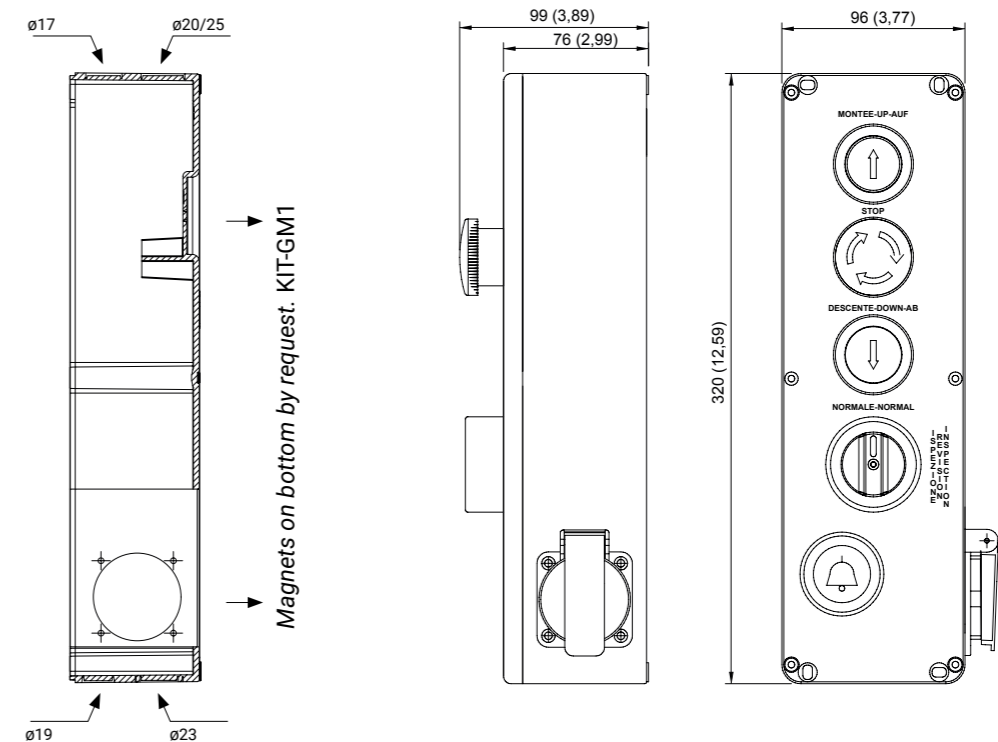
TECHNICAL DRAWING - GM445N/..



Equipped with M25x1,5 cable gland.

TECHNICAL DRAWING - GM660/..

Arranged for nr. 4 cable gland.



DESCRIPTION	SCHEME	CONTACTS	CODE
UP Push Button <i>flush, momentary, white colour</i>		2NO	
Emergency stop EN ISO 13850 <i>ø40 twist to release</i>		2NC	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		3NO+3NC	
COMMON Push Button <i>flush, momentary, blue colour</i>		2NO	
Schuko socket outlet 16A			GM663/EU
Cenelec socket outlet			GM663/FR
USA socket outlet			GM663/US
Swiss socket outlet			GM663/SW
UK standard socket outlet			GM663/UK
Australia & China standard socket outlet			GM663/CH

IP54

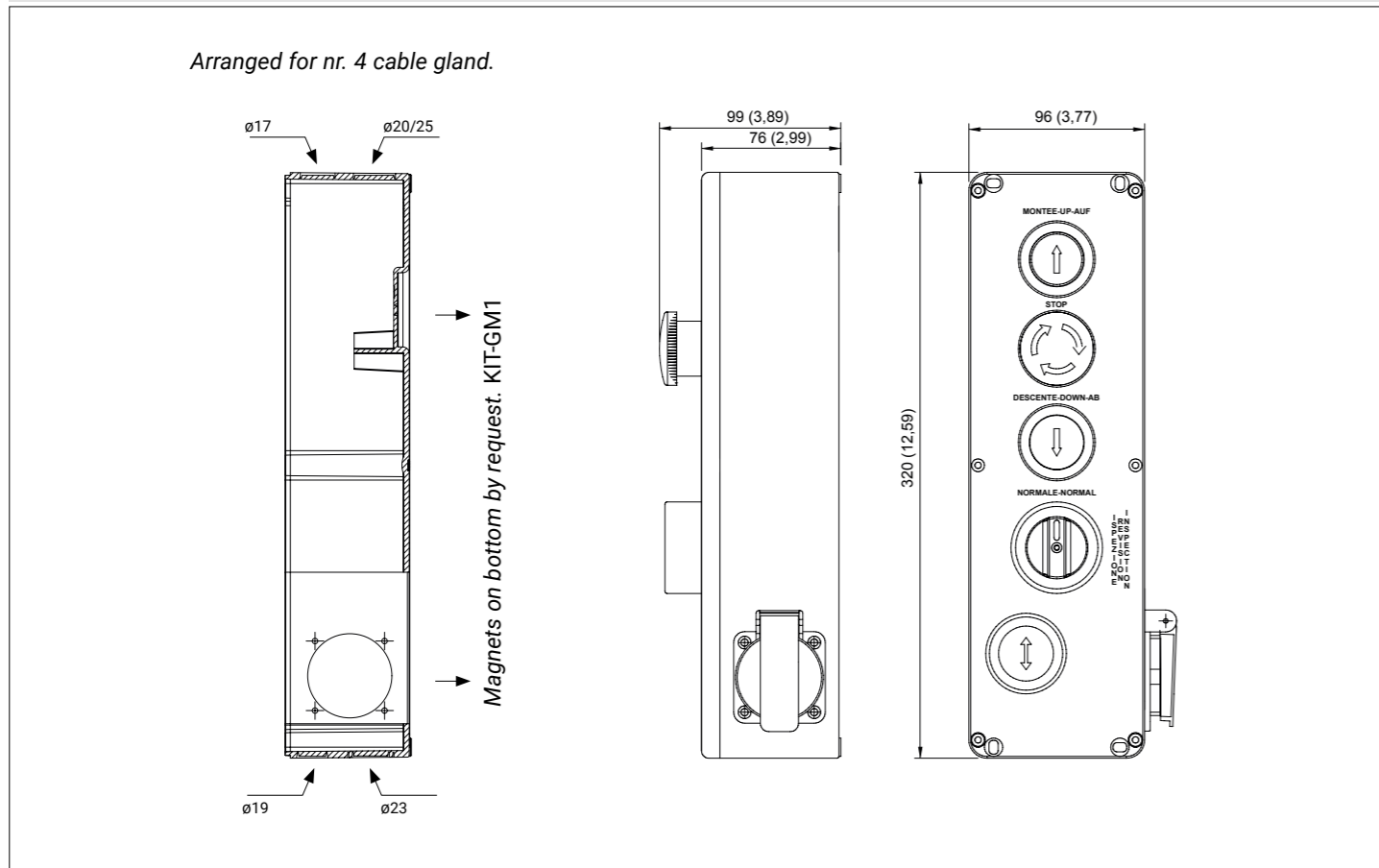


DESCRIPTION	SCHEME	CONTACTS	CODE
UP Push Button <i>flush, momentary, white colour</i>		2NO	
Emergency stop EN ISO 13850 <i>ø40 twist to release</i>		2NC	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO	
Cam Switch 1-0-2 Normal-Inspection <i>90° switching</i>		2NO+2NC	
ALARM Push Button <i>flush, momentary, yellow colour</i>		1NO+1NC	
Schuko socket outlet 16A			GM670/EU
Cenelec socket outlet			GM670/FR
USA socket outlet			GM670/US
Swiss socket outlet			GM670/SW
UK standard socket outlet			GM670/UK
Australia & China standard socket outlet			GM670/CH

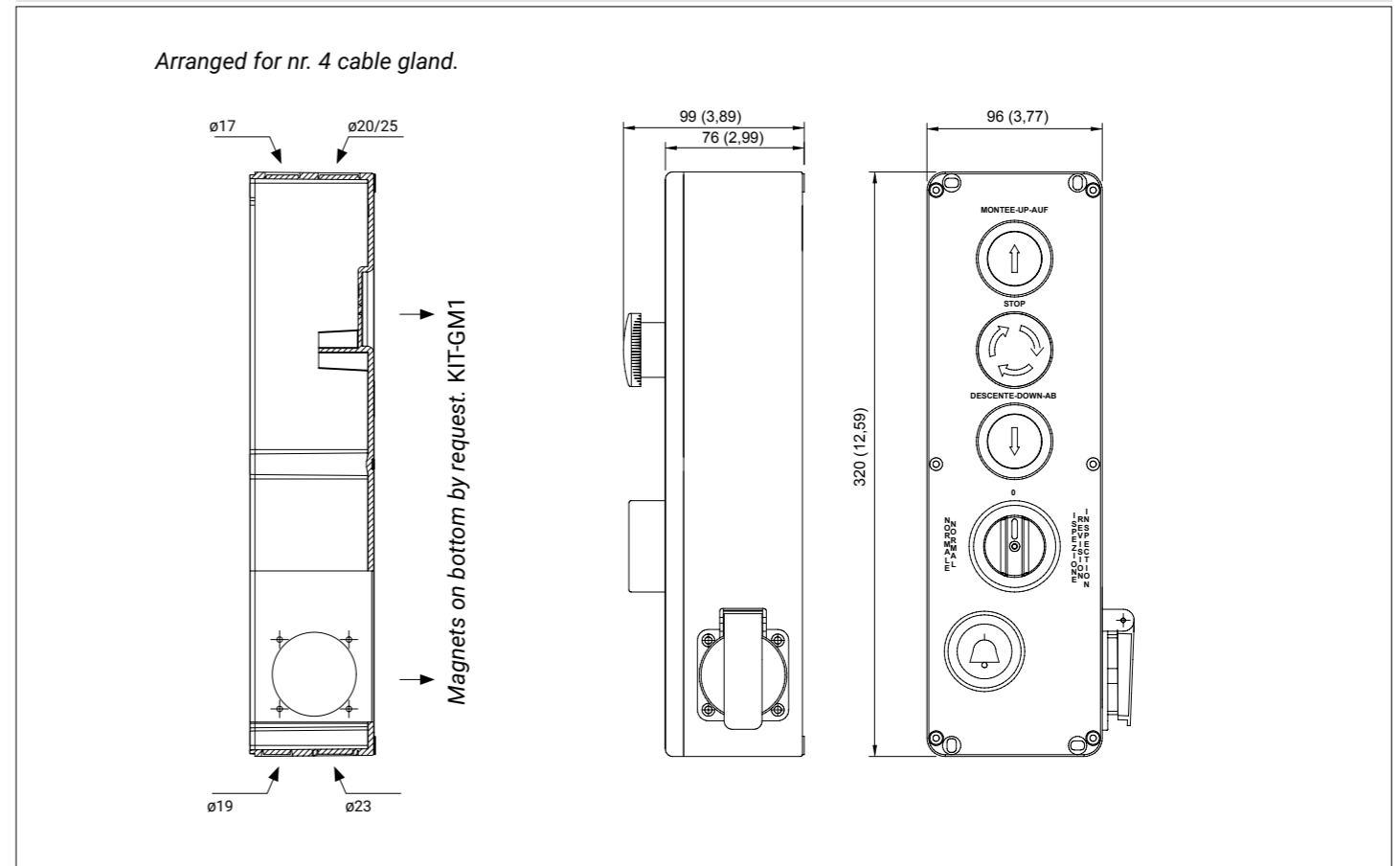
IP54



TECHNICAL DRAWING - GM663/..



TECHNICAL DRAWING - GM670/..



DESCRIPTION	SCHEME	CONTACTS	CODE
UP Push Button <i>flush, momentary, white colour</i>		2NO	
Emergency stop EN ISO 13850 <i>ø40 twist to release</i>		2NC	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO	
Cam Switch 1-0-2 Normal-Inspection <i>90° switching</i>		3NO+3NC	
COMMON Push Button <i>flush, momentary, blue colour</i>		2NO	
Schuko socket outlet 16A			GM677/EU
Cenelec socket outlet			GM677/FR
USA socket outlet			GM677/US
Swiss socket outlet			GM677/SW
UK standard socket outlet			GM677/UK
Australia & China standard socket outlet			GM677/CH



IP54



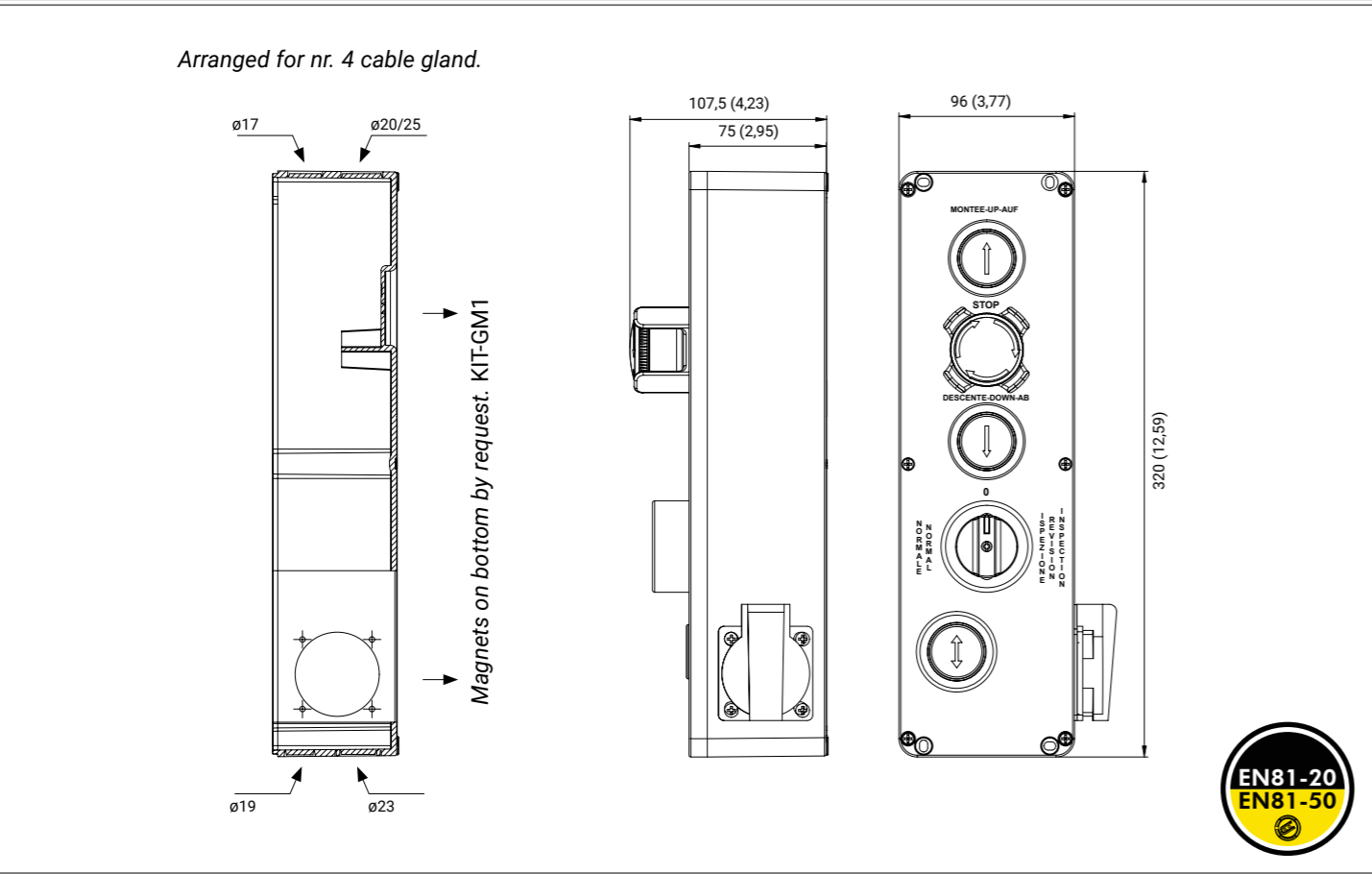
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 <i>ø40 twist to release</i>		2NC	
ALARM Push Button <i>flush, momentary, yellow colour</i>		1NO	
UP Push Button <i>flush, momentary, white colour</i>		2NO+1NC	
COMMON Push Button <i>flush, momentary, blue colour</i>		2NO	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO+1NC	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		3NO+3NC	
Schuko socket outlet 16A			GM412BK/EU
Cenelec socket outlet			GM412BK/FR
USA socket outlet			GM412BK/US
Swiss socket outlet			GM412BK/SW
UK standard socket outlet			GM412BK/UK
Australia & China standard socket outlet			GM412BK/CH



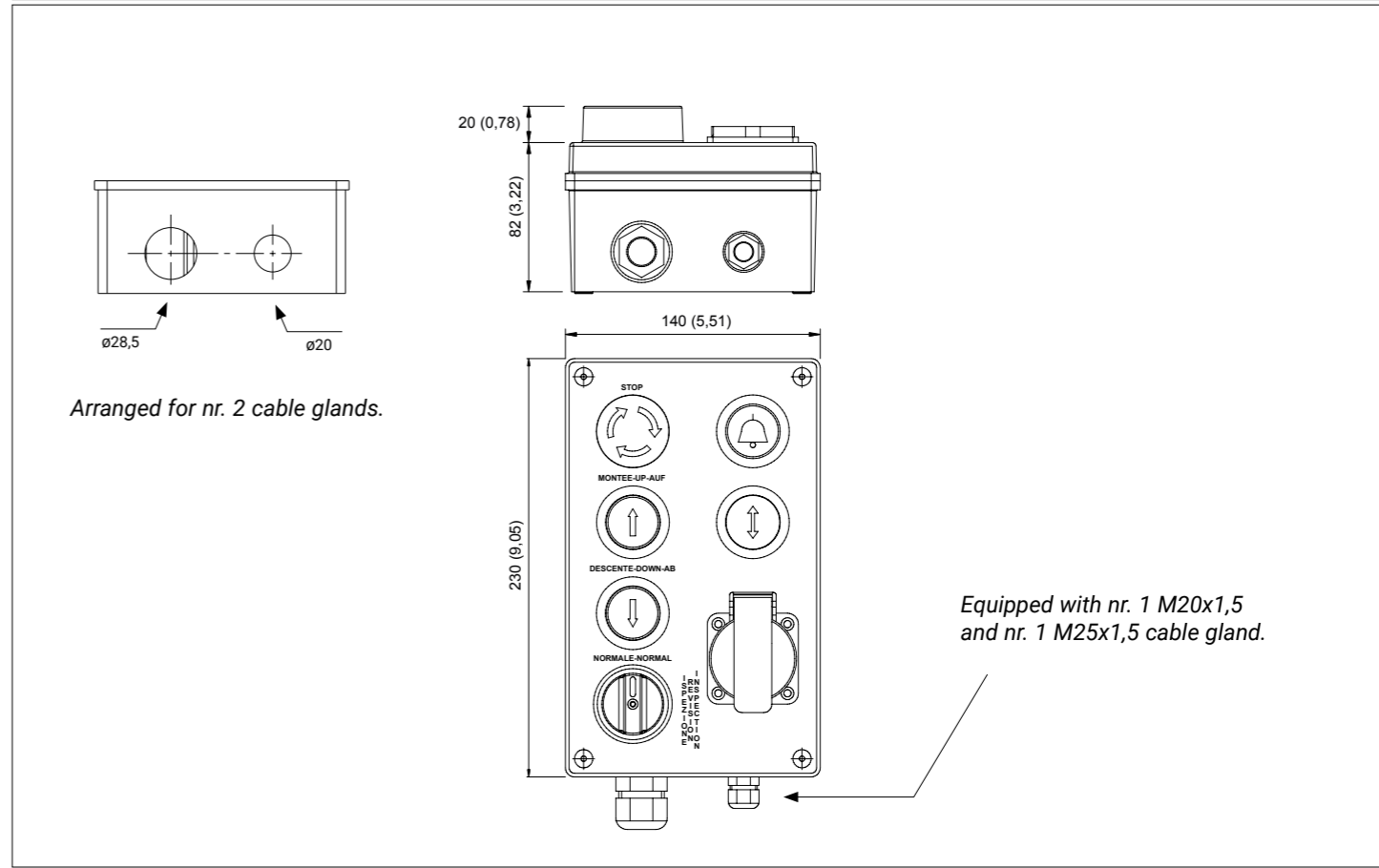
IP54



TECHNICAL DRAWING - GM677/..



TECHNICAL DRAWING - GM412BK/..



DESCRIPTION	SCHEME	CONTACTS	CODE
UP Push Button flush, momentary, white colour		2NO	
Emergency stop EN ISO 13850 ø40 twist to release		2NC	
DOWN Push Button flush, momentary, black colour		2NO	
Cam Switch 1-0-2 Normal-Inspection 90° switching		3NO+3NC	
COMMON Push Button flush, momentary, blue colour		2NO	
Schuko socket outlet 16A			GM677BK/EU
Cenelec socket outlet			GM677BK/FR
USA socket outlet			GM677BK/US
Swiss socket outlet			GM677BK/SW
UK standard socket outlet			GM677BK/UK
Australia & China standard socket outlet			GM677BK/CH



IP54

DESCRIPTION	CODE
Stopping closing holes black colour	
WHITE LED PCB 5LUX@12 VDC / 5LUX@24 VDC	GM034



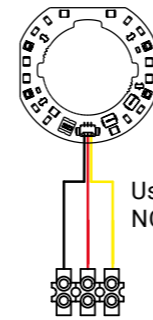
IP65



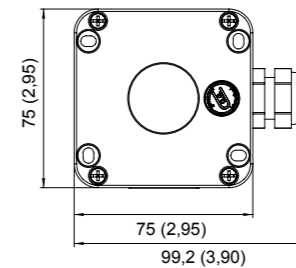
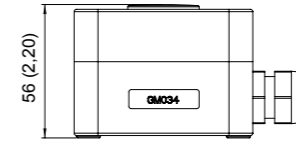
TECHNICAL DRAWING - GM034

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black



Use 12V or 24V only
NOT TOGETHER!



Operating voltage VDC	12	24
Max current consumption [mA]	130	100
Max power [W]	1,56	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x56mm	
Light color	White	
Light diffusion angle	120°	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	
Total light intensity [lux] a 1 m	5	

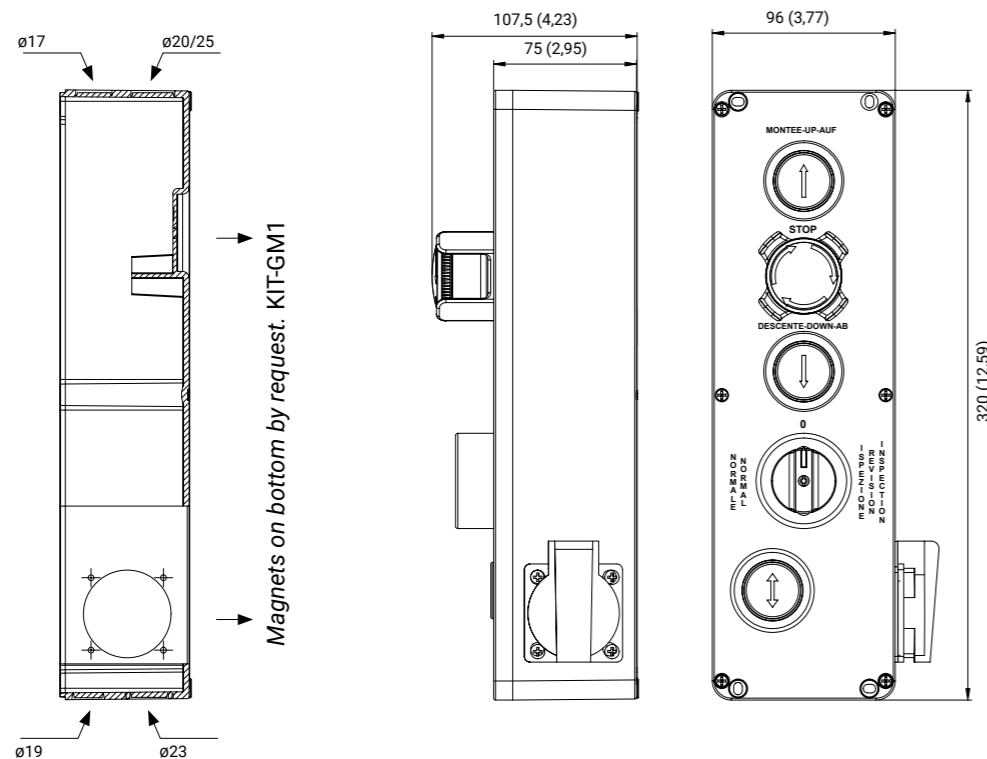
Equipped with M16x1,5
cable gland.

Arranged for nr. 1 cable gland.



TECHNICAL DRAWING - GM677BK/..

Arranged for nr. 4 cable gland.



Magnets on bottom by request. KIT-GM1



DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM Mushroom Button ø40, flush, momentary, yellow colour		1NO	
WHITE LED PCB 5LUX@12 VDC / 5LUX@24 VDC			GMS169



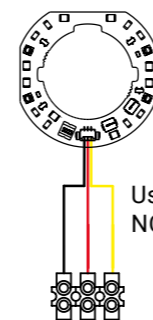
IP65



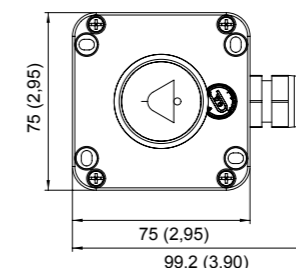
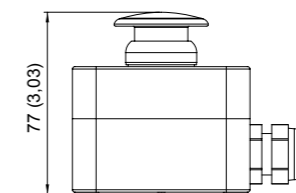
TECHNICAL DRAWING - GMS169

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black



Use 12V or 24V only
NOT TOGETHER!



Operating voltage VDC	12	24
Max current consumption [mA]	130	100
Max power [W]	1,56	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x56mm	
Light color	White	
Light diffusion angle	120°	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	
Total light intensity [lux] a 1 m	5	
Alarm mushroom contact	NO	

Equipped with M16x1,5
cable gland.

Arranged for nr. 1 cable gland.



DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM Push Button <i>flush, momentary, yellow colour</i>	AC/DC 24V	1NC	
Stopping closing holes <i>black colour</i>			
WHITE LED PCB <i>5LUX@24 VDC</i>			
Schuko socket outlet 16A			GM033/EU
Cenelec socket outlet			GM033/FR
USA socket outlet			GM033/US
Swiss socket outlet			GM033/SW
UK standard socket outlet			GM033/UK
Australia & China standard socket outlet			GM033/CH

IP54



DESCRIPTION	SCHEME	CONTACTS	CODE	
Knob Selector 0-1 <i>2 positions, 90° switching</i>		1NO		
Stopping closing holes <i>black colour</i>				
WHITE LED PCB			50LUX@230 VAC 5LUX@12 VDC	50LUX@230 VAC 5LUX@24 VDC
Schuko socket outlet 16A			GM036/EU	GM359/EU
Cenelec socket outlet			GM036/FR	GM359/FR
USA socket outlet			GM036/US	GM359/US
Swiss socket outlet			GM036/SW	GM359/SW
UK standard socket outlet			GM036/UK	GM359/UK
Australia & China standard socket outlet			GM036/CH	GM359/CH

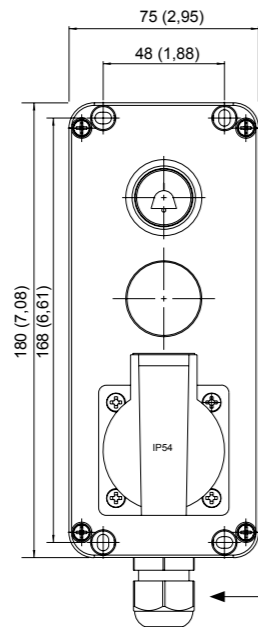
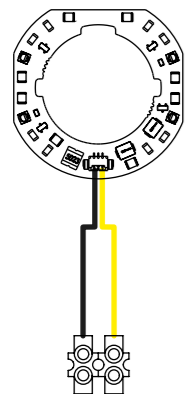
IP54



TECHNICAL DRAWING - GM033/..

BOARD POWER SUPPLY

- 24V - Yellow
- GND - Black



Operating voltage VDC	24
Max current consumption [mA]	100
Max power [W]	2,4
Operating temperature	-25°C ÷ +70°C
Dimensions	75x180x80mm
Light color	White
Light diffusion angle	120°
Flame retardant	V0 UL94
IP rating	IP65
Printed circuits certification	UL
Total light intensity [lux] a 1 m	5
Push button light supply	24VDC at 20mA
Alarm button contact	NC

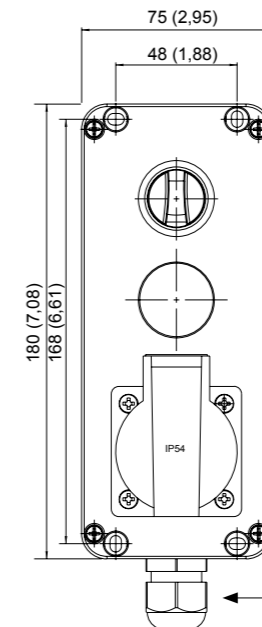
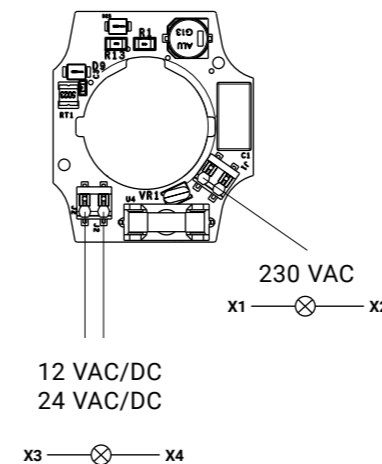
Equipped with M20x1,5 cable gland.

Arranged for nr. 1 cable gland.



TECHNICAL DRAWING - GM036/..

BOARD POWER SUPPLY



Operating voltage VDC	12	24	230
Max current consumption [mA]	130	50	50mA
Max power [W]	1,56	1,2	-
Operating temperature	-25°C ÷ +70°C		
Dimensions	75x180x80mm		
Light color	White		
Light diffusion angle	120°		
Flame retardant	V0 UL94		
IP rating	IP65		
Printed circuits certification	UL		
Total light intensity [lux] a 1 m	5		
Knob selector contact	NO		

Equipped with M20x1,5 cable gland.

Arranged for nr. 1 cable gland.

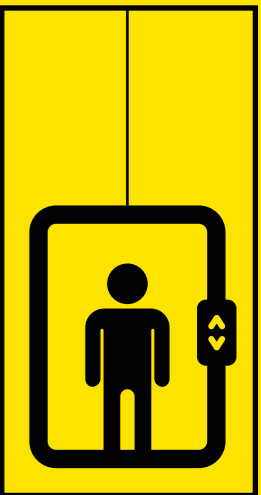




GIOVENZANA
INTERNATIONAL B.V.



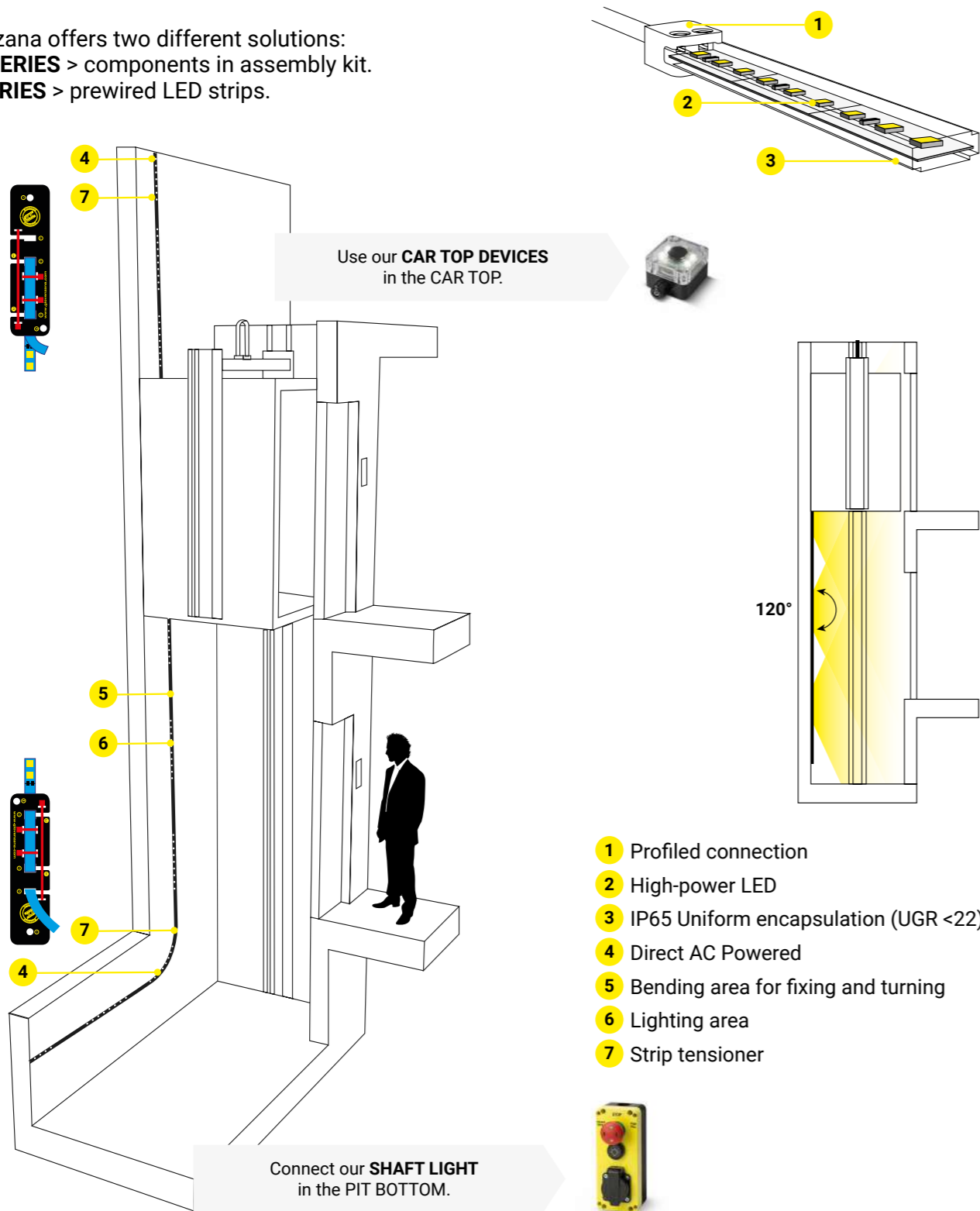
ELEVATOR SHAFT LIGHTING



**NEW ELEVATOR SOLUTIONS
SILICONE LED STRIP**

Giovenzana Elevator Solutions is a range of products specifically designed to be installed in elevator shafts. This new patented product range is in compliance with the EN 81-20 / EN 81-50, GOST 33984.1-2016 and ABNT NBR NM 207-267 standards. It considerably reduces installation times and costs. Due to its innovative design, this AC solution can be easily adapted to shaft contours.

Giovenzana offers two different solutions:
GSLC SERIES > components in assembly kit.
GSL SERIES > prewired LED strips.



- 1 Profiled connection
- 2 High-power LED
- 3 IP65 Uniform encapsulation (UGR <22)
- 4 Direct AC Powered
- 5 Bending area for fixing and turning
- 6 Lighting area
- 7 Strip tensioner



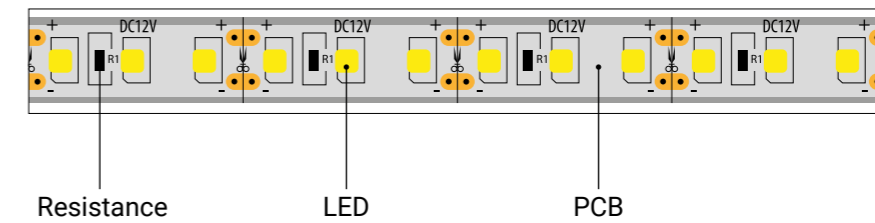
GSLC SERIES | ASSEMBLY KIT | Components sold separately |

GSLC Series is a solder-free connection solution specially designed to facilitate the installation of Giovenzana products. It uses profiled technology connectors, guaranteeing quick installation, reliability and connection sealing. Giovenzana's new **GSLC Series flexible strips** consists of a complete range of products that are sold separately to form a customized assembly kit. You can choose the codes of the components you need to install your own LED strip line from those below.

FLEXIBLE LED STRIPS

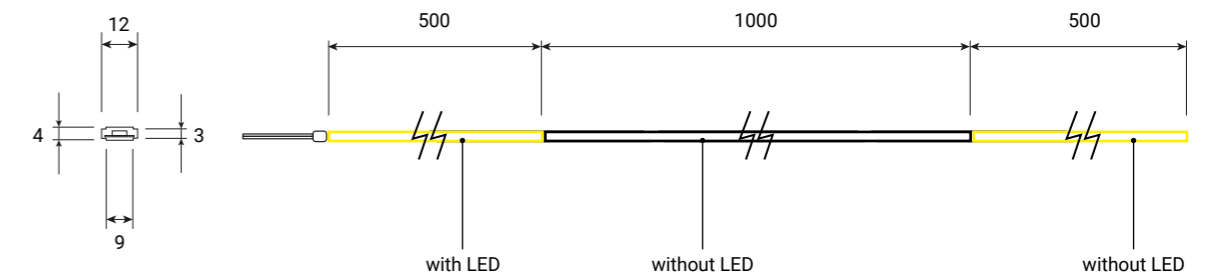
A LED strip is a specific linear lighting solution where all the electrical and electronic components are placed on a substrate (usually a flexible PCB) and encapsulated in a material that provides mechanical and electrical insulation properties.

Giovenzana propose two different types of flexible LED strips: **GSL30** and **GSL60**.



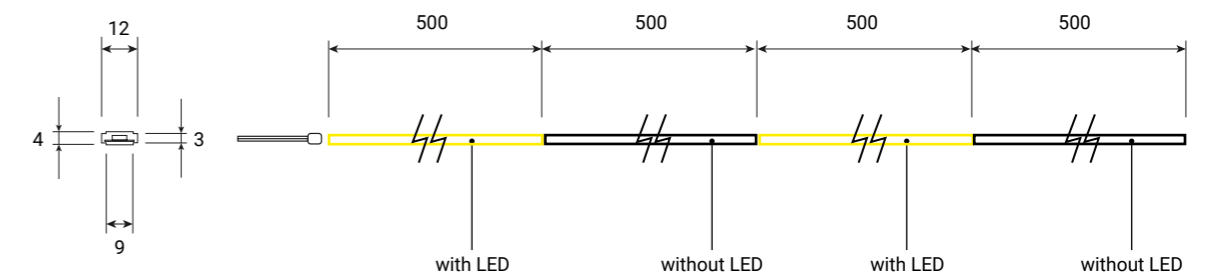
GSL30
FLEXIBLE STRIPS
300-metre coil.

240 VAC



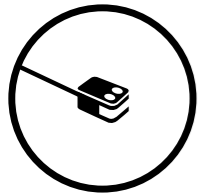
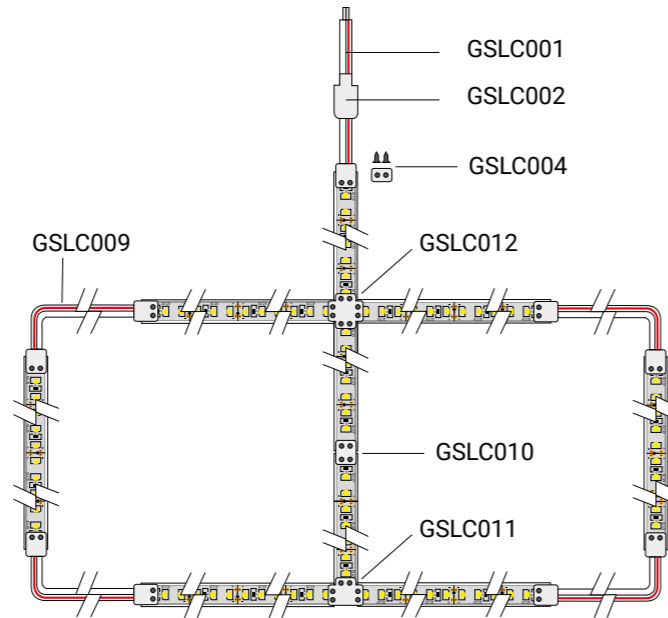
GSL60
FLEXIBLE STRIPS
300-metre coil.

240 VAC



CONNECTIONS AND ACCESSORIES

Giovenzana provides all the components and accessories needed for installation and power connection. The connectors are designed with a patented profiled technology. We recommend the use of our components and accessories in order to ensure correct system performance.



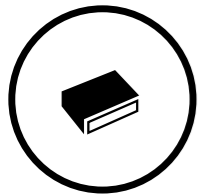
GSLC001
CABLE-PROFILED

- Connect power line cable to LED strips.
- To be connected to the shaft light.



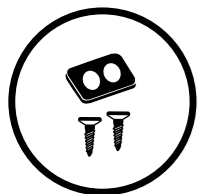
GSLC002
PROFILED SILICONE END CAP FOR POWER

- Insulates the input power cable.



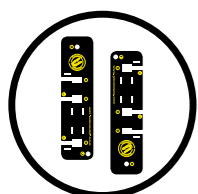
GSLC003
PROFILED SILICONE END CAP TERMINATIONS

- Insulates the LED strip termination.



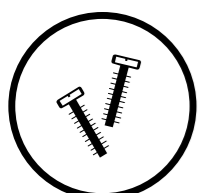
GSLC004
PROFILED SCREW SET

- LED strip mechanical and electrical connection with caps to cover screws and LED sealant.



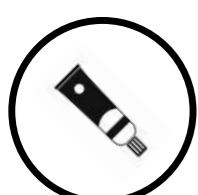
GSLC005
LED STRIP TENSIONERS (2 pieces)

- Part that tensions the LED strip.



GSLC006
WALL PLUGS

- For LED strip mounting.
- Distance between plugs: 1.5 m for vertical installation, 0.5 m for horizontal installation. ON REQUEST.



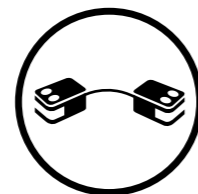
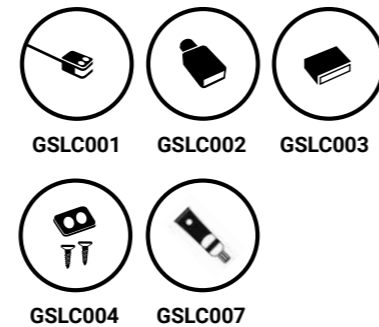
GSLC007
LED SEALANT

- Sealant that provides the proper insulation. ON REQUEST.



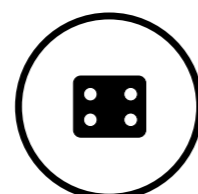
GSLC008 - INSTALLATION KIT
PROFILED CONNECTION SET

- Including:



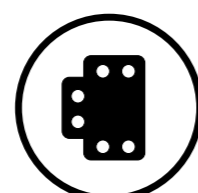
GSLC009
PROFILED - PROFILED

- Connects two LED strips at a flexible angle.



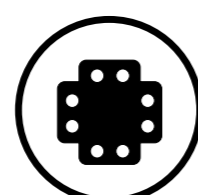
GSLC010
PROFILED BRIDGE CONNECTOR

- Connects two LED strips in a straight line.



GSLC011
PROFILED T CONNECTOR

- Connects three LED strips.



GSLC012
PROFILED CROSS CONNECTOR

- Connects four LED strips.

GSLC SERIES | COMPONENTS GENERAL CHARACTERISTICS |



GSL30 & GSL60 FLEXIBLE STRIPS

- 300-metre coil.
- 2 versions: GLS30 and GLS60.



240VAC



Power (W/m)	3.2	6.4
Flux (lm/m)	300	600
Shaft area (m ²)	3.5	9.2

- UV Rating F1.
- Flame retardant and resistant class V0 (UL94).
- VOC free (Volatile Organic Compound).
- Anti-Glare Treatment UGR <22 (market standard <25).
- Silicone has excellent resistance to oil, solvents and other chemicals.
- High flexibility and mechanical resistance.

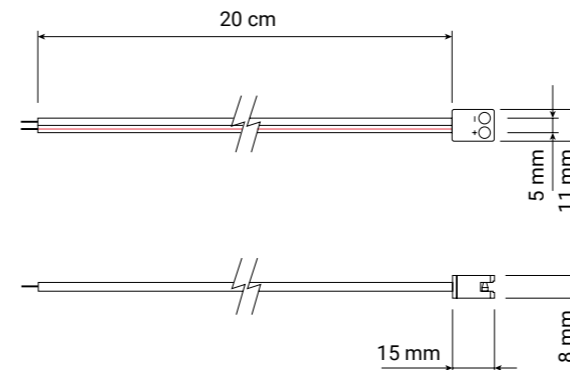
- IP65 Protection.
- Beam angle 120°.
- Voltage 240VAC.
- Operating temperature -40° ~ +70°.
- Dimmable & flickerless with PF > 0.85.
- Different lengths available.
- To divide every 1.5 m (GSL30) or 1 m (GSL60).



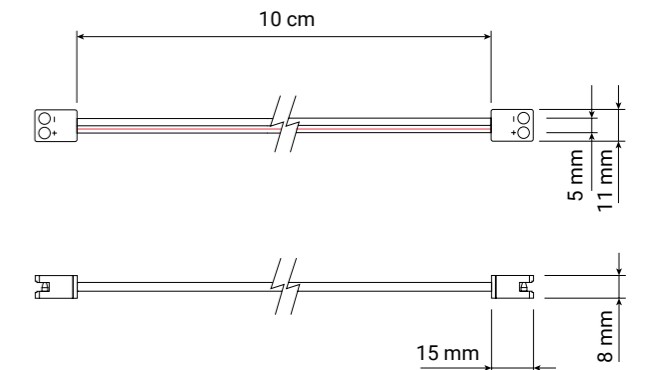
GSLC001 & GSLC009 CABLES

- Connect power line cable to LED strips.
- Standard length: 20 cm (cable-profiled) and 10 cm (profiled-profiled).
- Customizable lengths on request.
- Mounting composed of two cables (2x0.5).
- To be connected to the shaft light.

GSLC001
CABLE - PROFILED

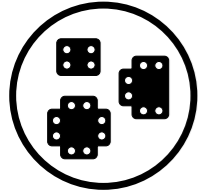


GSLC009
PROFILED - PROFILED



- Maximum current 6A.
- Profiled and double profiled connection.

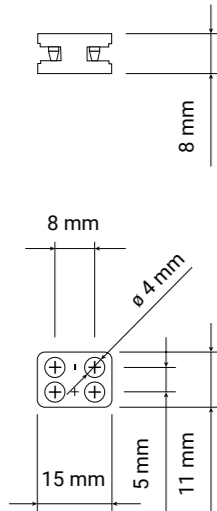
- Voltage 240VAC.
- Operating temperature -40° ~ +70°.
- IP65 protection.



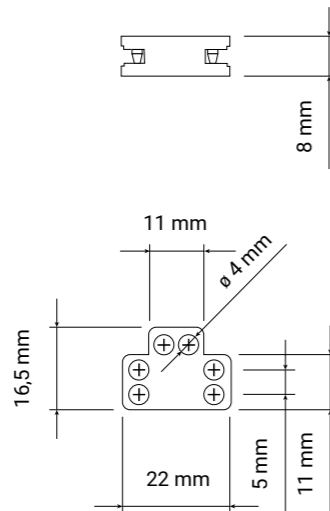
GSLC0010 - GSLC0011 - GSLC0012 CONNECTIONS

- PROFILED BRIDGE CONNECTOR connects two LED strips in a straight line.
- PROFILED T CONNECTOR connects three LED.
- PROFILED CROSS CONNECTOR connects four LED strips.

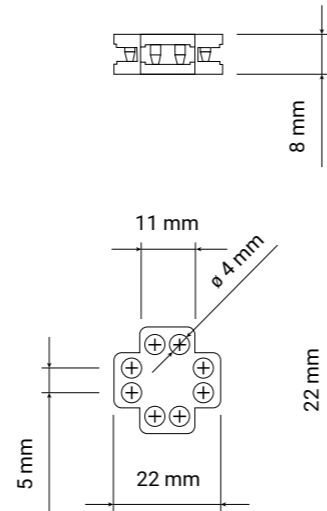
GSLC010
PROFILED BRIDGE CONNECTOR



GSLC011
PROFILED T CONNECTOR



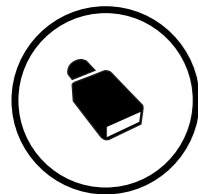
GSLC012
PROFILED CROSS CONNECTOR



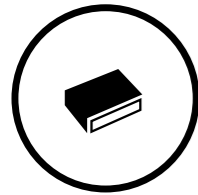
- Maximum current 6A.
- Profiled connection.
- Voltage 240VAC.

- Operating temperature -40° ~ +70°.
- IP65 protection.

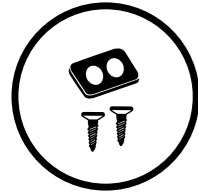
GSLC0002 - GSLC0003 - GSLC0004 - GSLC0005 - GSLC0006 - GSLC0007 ACCESSORIES



GSLC0002
PROFILED SILICONE END CAP FOR POWER

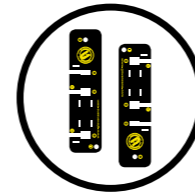


GSLC0003
PROFILED SILICONE END TERMINATIONS

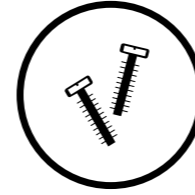


GSLC0004
PROFILED SCREW SET

- Profiled connection.
- Stainless screw system.
- High quality silicone parts.
- Long lifespan products.
- UV resistance.
- Dust-proof connection.
- IP65 protection.
- Operating temperature -40° ~ +70°.



GSLC0005
LED STRIP TENSIONERS (2 PIECES)



GSLC0006
WALL PLUGS



GSLC0007
LED SEALANT



GSLC0008
PROFILED CONNECTION SET

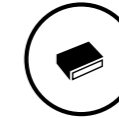
KIT including different components to easily order the necessary for the installation of the LED strip line.

- Plastic material.
- Wall mounted.
- To keep the LED strip in tension without using dowels.

- Press-in dowel for internal shaft installation.
- To mount LED strip on the wall.
- Distance between plugs: 1.5 m for vertical installation, 0.5 m for horizontal installation.
- 100-piece packs on request.

KIT INCLUDES:

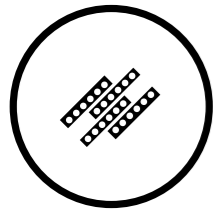
- GSLC0001**
Cable-profiled
- +
- GSLC0002**
Profiled silicone end cap for power
- +
- GSLC0003**
Profiled silicone end terminations
- +
- GSLC0004**
Profiled screw set
- +
- GSLC0007**
LED sealant



GSL SERIES | PREWIRED LED STRIPS | including everything necessary for installation |

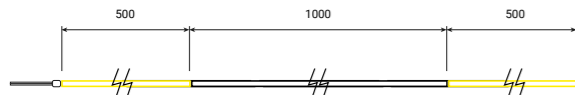
GSL Series flexible strips are specially designed to provide continuous light flux for elevator in shaft in compliance with EN 81-20 / EN 81-50. They can be cut and bent and can be produced in up to 300 metres per coil. Different lengths are available.

Giovenzana new GSL Series flexible strips consisting in a **complete product composed of:**

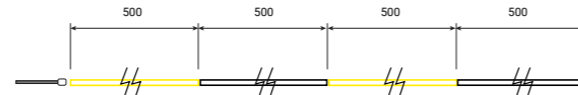


FLEXIBLE STRIPS

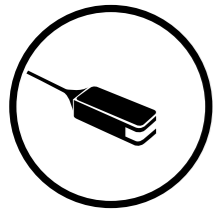
- A LED strip is a specific linear lighting solution where all the electrical and electronic components are placed on a substrate (usually a flexible PCB) and encapsulated in a material that provides mechanical and electrical insulation properties.
- Available in two different versions: GSL30 and GSL60.
- Available in different lengths: 15 m, 18 m, 21 m, 24 m, 40 m and 60 m.



GSL30

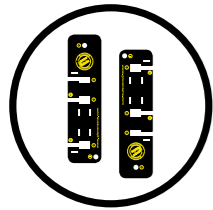


GSL60



CABLE-PROFILED




- Connect power line cable to LED strips.
- Standard Length mounted: 10 m.
- Mounting is composed of two double insulation cables (2x0.75).
- To be connected to the shaft light.



LED STRIP TENSIONERS (2 pieces)

- Part that tensions the LED strip.
- Plastic material.

COMPLETE PRODUCT | CODE TABLE

LENGTH	INCLUDING	GSL30	GSL60	PROTECTION CLASS
12 metres	 Flexible strips of chosen length  + Cable-profiled  + LED Strip Tensioners (2 pieces)	GSL30012	GSL60012	IP65
15 metres		GSL30015	GSL60015	
18 metres		GSL30018	GSL60018	
21 metres		GSL30021	GSL60021	
24 metres		GSL30024	GSL60024	
29 metres		GSL30029	GSL60029	
40 metres		GSL30040	GSL60040	
60 metres	GSL30060	GSL60060		

COMPLEMENTARY PRODUCTS | GIOVENZANA Lift Line |

▶ CAR TOP DEVICES WITH 5 LUX LED LIGHT



GM034



GMS169



GM033

▶ MAINTENANCE STATION WITH 50/5 LUX LED LIGHT 12/24 VDC



GM036/EU

GM359/EU

Different sockets on request.

▶ SHAFT LIGHT

Maintenance station available with different sockets on request.



IP54

- GM250/EU** with socket: Schuko - Europe
- GM250/FR** with socket: Cenelec - France
- GM250/US** with socket: USA
- GM250/SW** with socket: Swiss
- GM250/UK** with socket: England
- GM250/CH** with socket: Australia & China



IP54

- GM403/EU** with socket: Schuko - Europe
- GM403/FR** with socket: Cenelec - France
- GM403/US** with socket: USA
- GM403/SW** with socket: Swiss
- GM403/UK** with socket: England
- GM403/CH** with socket: Australia & China



IP54

- GM243/EU** with socket: Schuko - Europe
- GM243/FR** with socket: Cenelec - France
- GM243/US** with socket: USA
- GM243/SW** with socket: Swiss
- GM243/UK** with socket: England
- GM243/CH** with socket: Australia & China



IP54

- GM265/EU** with socket: Schuko - Europe
- GM265/FR** with socket: Cenelec - France
- GM265/US** with socket: USA
- GM265/SW** with socket: Swiss
- GM265/UK** with socket: England
- GM265/CH** with socket: Australia & China

FTN198 - ROPE LIMIT SWITCH

The **FTN198** switch has been specifically studied to control the lift shaft lights. The norm EN81-20 paragraph 5.2.1.5 states the necessity to have a light switching point next to the working area access and in the machines room.

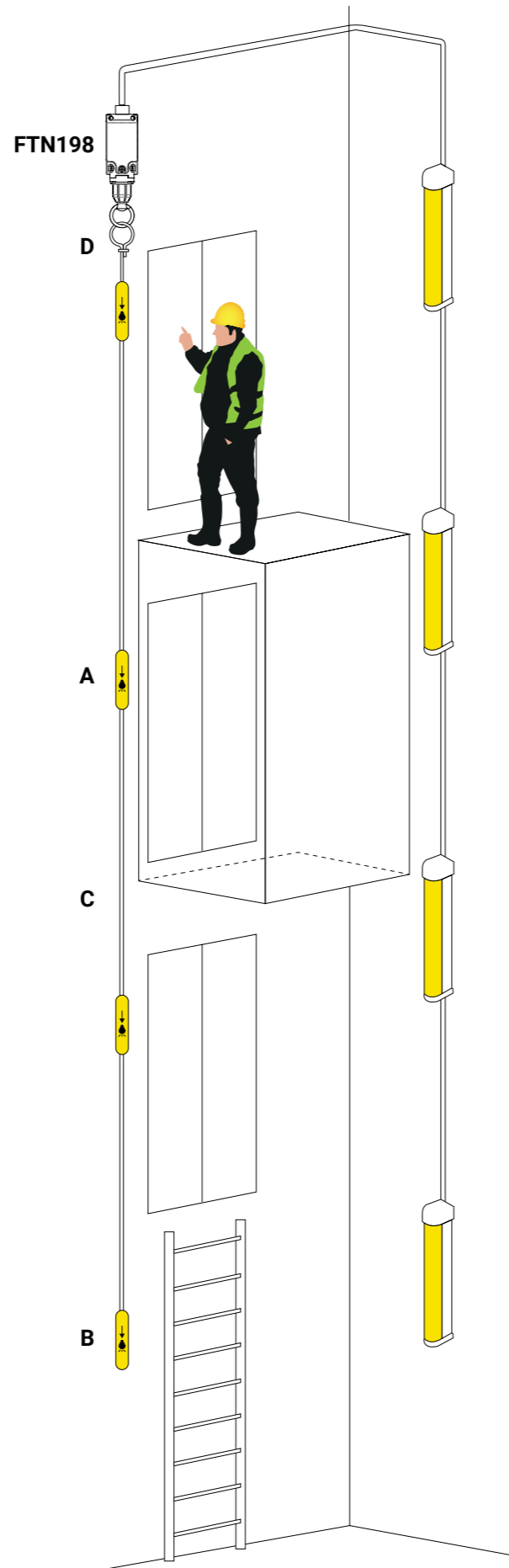
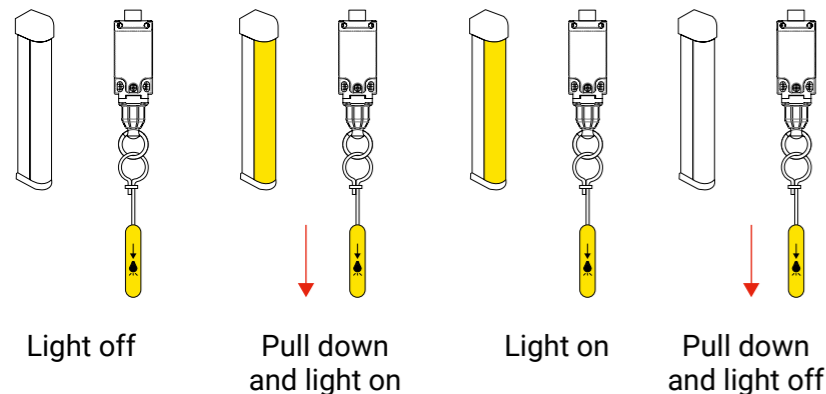
To comply with this standard usually at every floor there are installed lighting points which control a step relay with its considerable costs due to the number of the control points and their wiring. The **FTN198** switch itself allows to control the shaft lights through its own wiring, without any need of different lighting points, relays or wiring.

INSTALLATION

The FTN198 switch is fixed to the superior part of the lift shaft and it's connected to a rope which goes down in the shaft next to the cabin. The rope has to be guided through rings in order to avoid the excessive oscillation caused by the cabin windage. At regular intervals along the rope, usually at every floor, an indicator is fixed to make the rope and its function clearly visible. The last indicator at the end of the rope has a weight inside to keep the rope tight. This way the operator on the cabin roof or in any position along the shaft has the possibility to operate the switch by pulling the practical indicator or the rope itself.

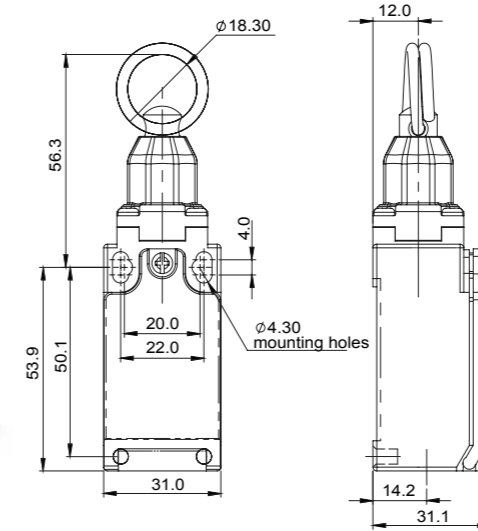
OPERATION

The FTN198 switch hasn't maintained operating mode. This means that a bistable relay must be inserted in the system in order to maintain the position. To turn on the light in the elevator shaft it is therefore sufficient to pull the rope, to turn off the light simply repeat the operation.



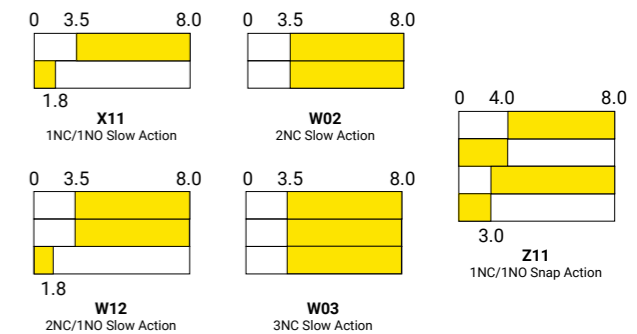
FTN198: Rope pull lever limit switch

FTN	1	98	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	98 - Rope pull lever	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action Z11 - 1NC/1NO Snap Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector



Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



	CONTACT BLOCK	OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
		PT	PT2nd	OF	
X11	1NC/1NO Slow Action	3.5 mm	-	20N	8.0 mm
W02	2NC Slow Action	3.5 mm	-	20N	
Z11	1NC/1NO Snap Action	4.0 mm	-	20N	
W12	2NC/1NO Slow Action	3.5 mm	-	20N	
W03	3NC Slow Action	3.5 mm	-	20N	

ACCESSORIES



Rope function indicators

Screw tightening torque closure > 0.8 ... 1.0 Nm

A	FTN198-KNOB	End clamp for rope fixing
B	FTN198-KNOBT	Intermediate rope function indicators



Rope roll

ø3mm galvanized steel rope in transparent PVC sheath

C	FTN198-ROPE-050	Galvanized steel rope in transparent PVC sheath ø3mm - L = 50m.
	FTN198-ROPE-100	Galvanized steel rope in transparent PVC sheath ø3mm - L = 100m.



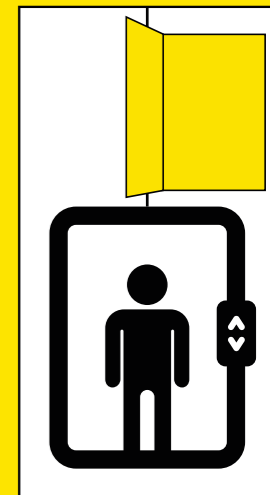
Rope roll

ø3mm galvanized steel rope in transparent PVC sheath

D	11001003	Extremity clamp for steel rope
----------	-----------------	--------------------------------



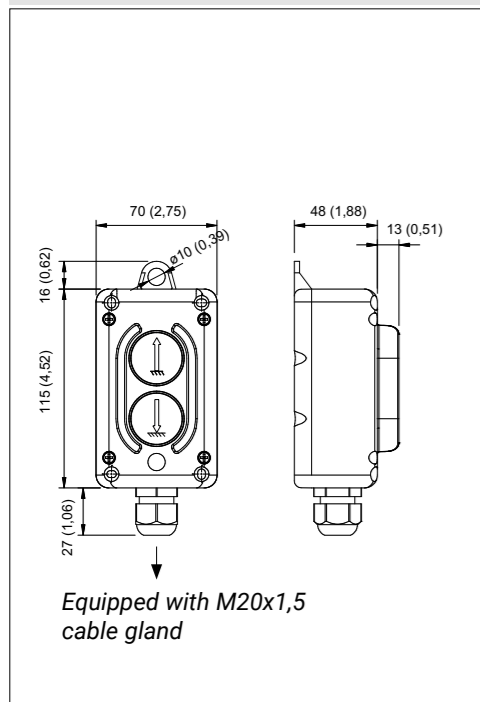
PANEL BOARD COMPONENTS



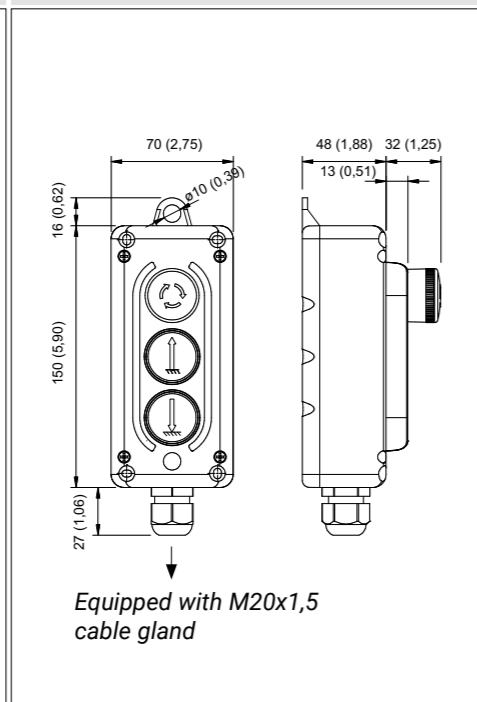
MAINTENANCE STATIONS

DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
UP Push Button white colour		1NO	TLP2	
DOWN Push Button black colour		1NO		
DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
Emergency stop EN ISO 13850 ø30 twist to release		1NC	TLP3.B	
UP Push Button white colour		1NO		
DOWN Push Button black colour		1NO		
DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
UP Push Button white colour		1NO	TLP3.D	
Knob Selector 0-1 2 positions, black + white indicator	OFF 0 ON 	1NO		
DOWN Push Button black colour		1NO		

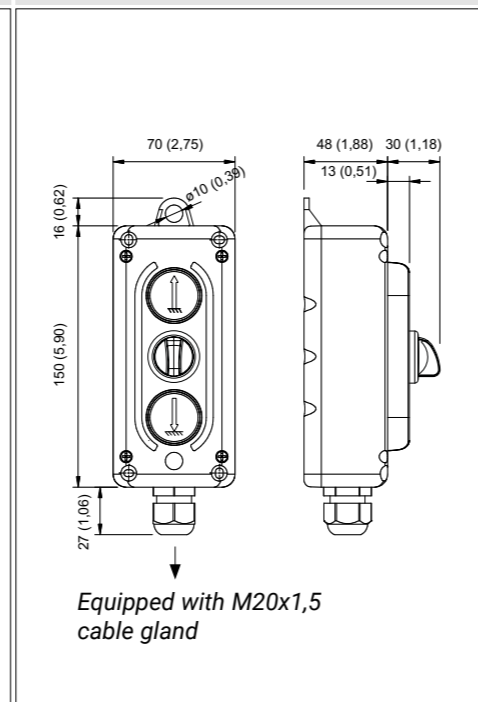
TECHNICAL DRAWING - TLP2



TECHNICAL DRAWING - TLP3.B



TECHNICAL DRAWING - TLP3.D



Wall Bracket case **NOT INCLUDED**. On request!
Polypropylene material, logo mold-printed

From 1 to 3 buttons

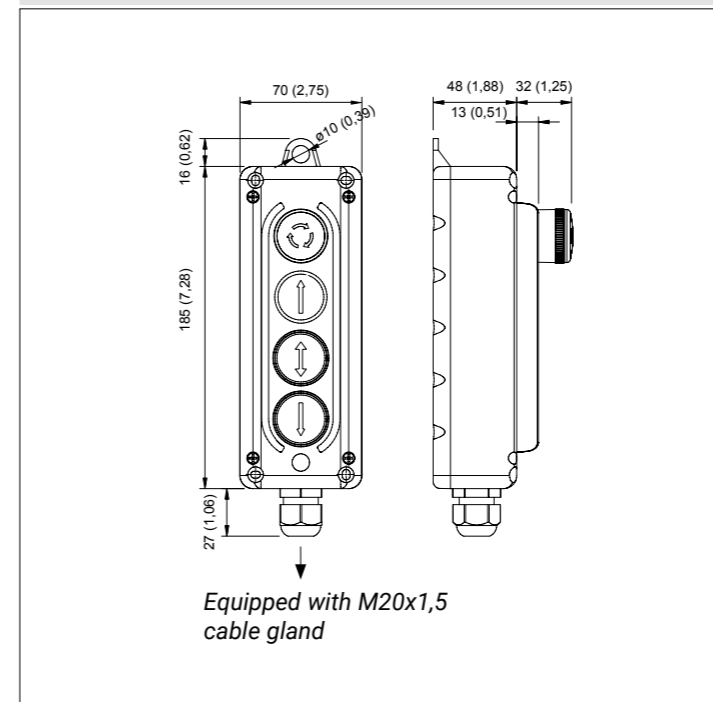
16000061

From 4 to 5 buttons

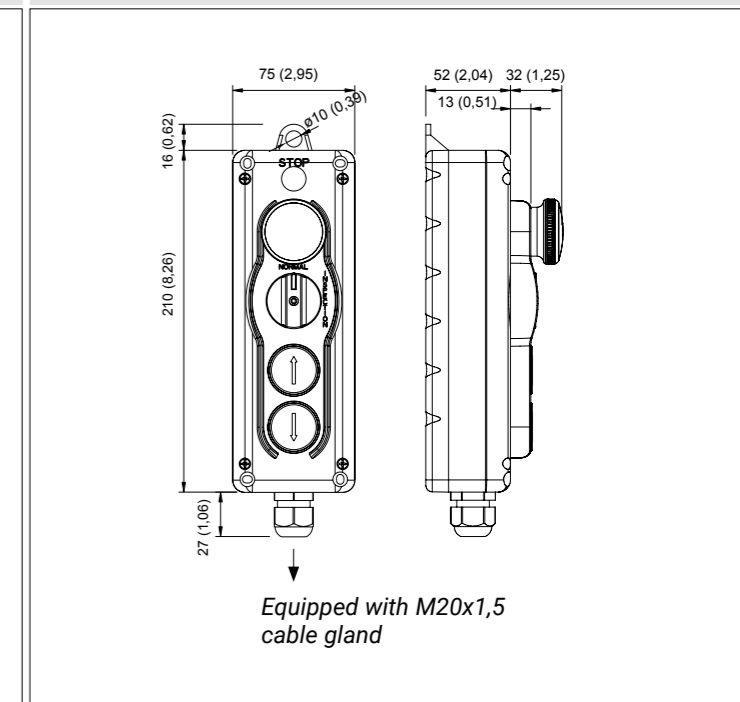
16000062

DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
Emergency stop EN ISO 13850 ø30 twist to release		1NC	TLP4.A	
UP Push Button white colour		1NO		
COMMON Push Button blue colour		1NO		
DOWN Push Button black colour		1NO		
DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
Emergency stop EN ISO 13850 ø40 push-pull		1NC	TLP4	
Cam Switch 1-2 90° switching		3NO+3NC		
UP Push Button white colour		1NO		
DOWN Push Button black colour		1NO		

TECHNICAL DRAWING - TLP4.A



TECHNICAL DRAWING - TLP4



DESCRIPTION	SCHEME	CONTACTS	CODE
COMMON Push Button <i>blue colour</i>		1NO	TLP4S006
Cam Switch 0-1 Normal-Inspection <i>90° switching</i>		2NO+2NC	
UP Push Button <i>white colour</i>		1NO	
DOWN Push Button <i>black colour</i>		1NO	

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 <i>ø40 push-pull with vision</i>		1NC	GM266
UP/DOWN Dual Push Button <i>flush, momentary, white/black colour</i>		2NO+2NO	
ALARM/Common Dual Push Button <i>flush, momentary, yellow/blue colour</i>		1NO+1NO	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		2NO+2NC	

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
Green LED PILOT LIGHT <i>green colour</i>		AC/DC 24V	GM483
UP Push Button <i>flush, momentary, white colour</i>		1NO	
DOWN Push Button <i>flush, momentary, black colour</i>		1NO	
Cam Switch 1-2 Normal-Inspection <i>90° switching</i>		2NO+2NC	

IP65

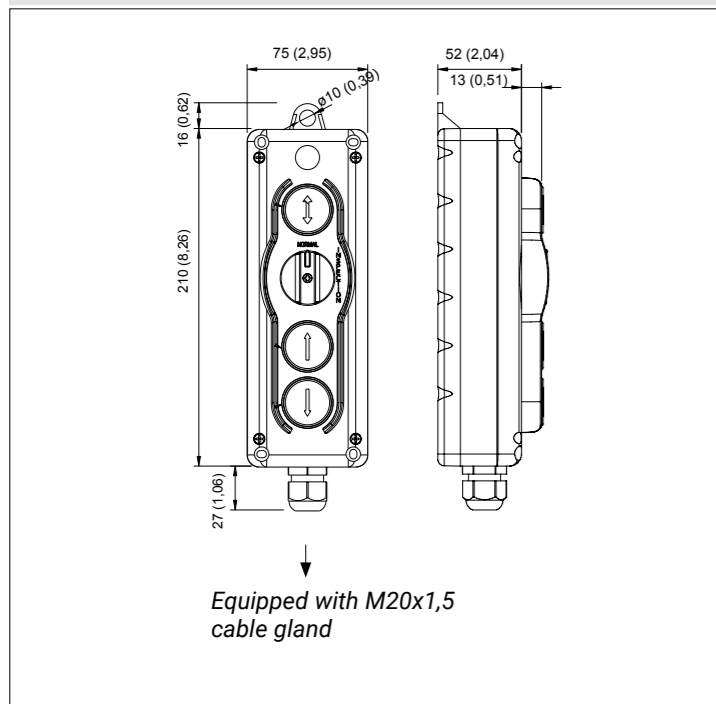


DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 <i>ø30 twist to release</i>		1NC	GM488
UP Push Button <i>flush, momentary, white colour</i>		2NO	
DOWN Push Button <i>flush, momentary, black colour</i>		2NO	
Cam Switch 1-0-2 Normal-Inspection <i>90° switching</i>		2NO+2NC	

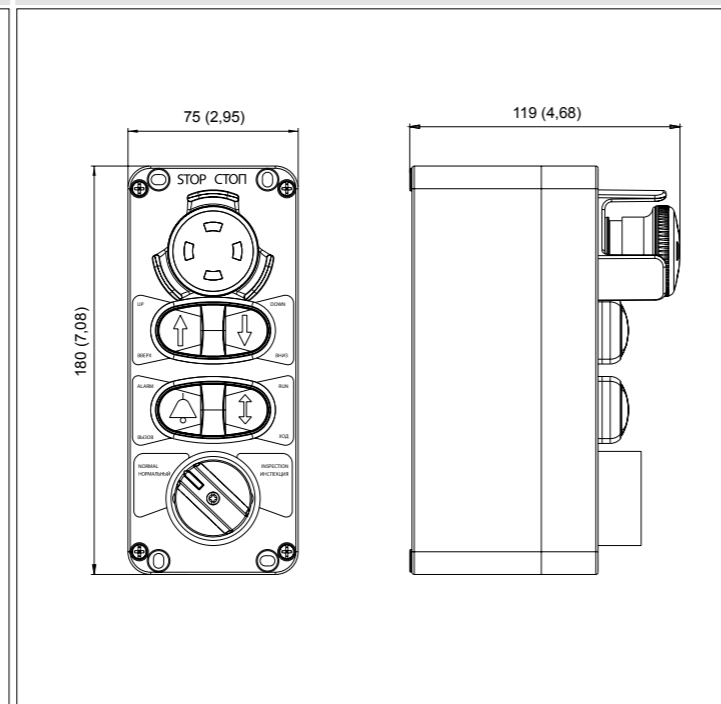
IP65



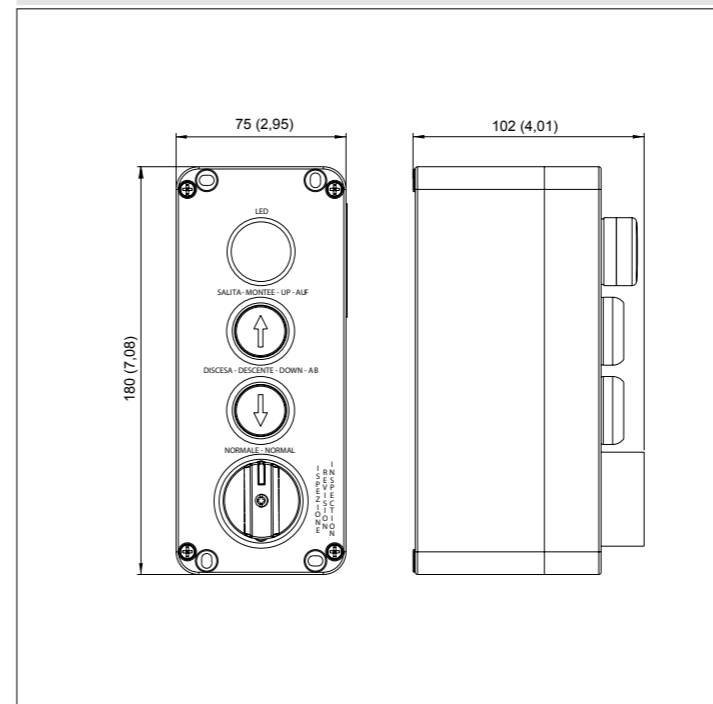
TECHNICAL DRAWING - TLP4S006



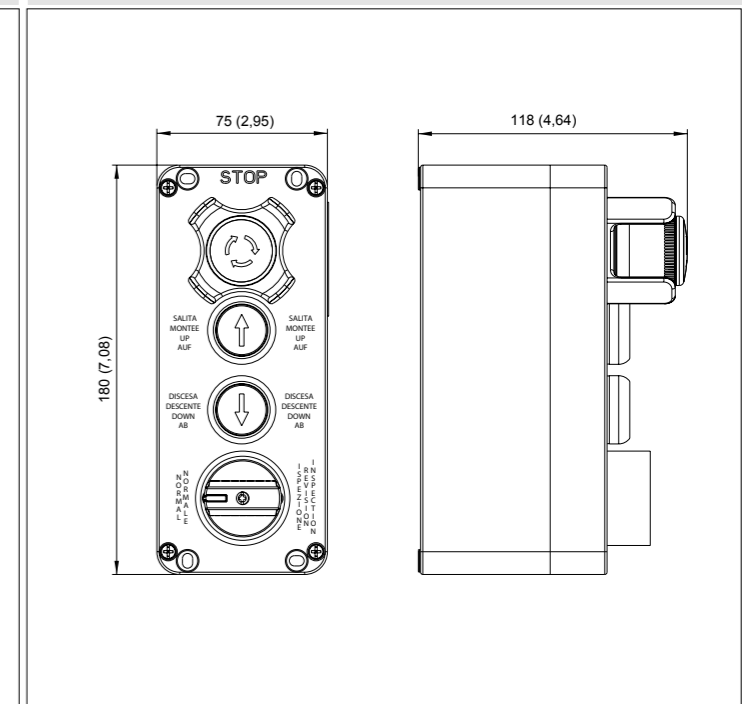
TECHNICAL DRAWING - GM266



TECHNICAL DRAWING - GM483



TECHNICAL DRAWING - GM488

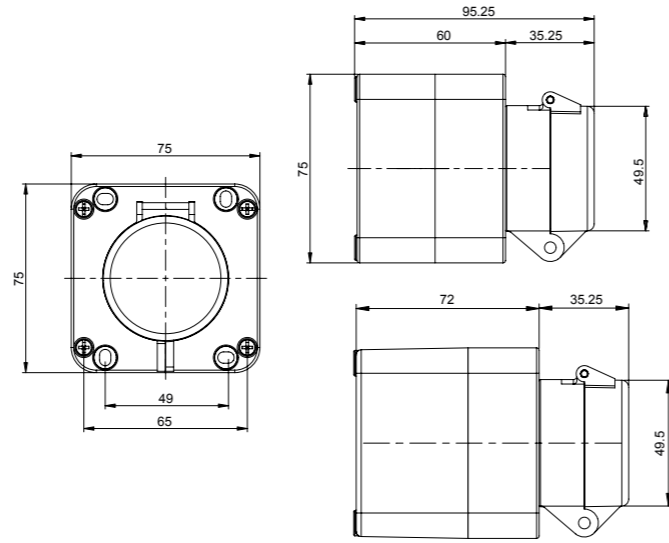
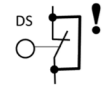


ENCLOSURE BYPASS DEVICES

LANDING DOORS AND CAR DOORS BYPASS DEVICE

The landing and car door bypass devices shall be identifiable by the word **"BYPASS"** written on or near to them. In addition, the contacts to be bypassed shall be indicated with the identifiers according to the electrical diagrams.

Alternatively the symbol shown below together with identifier according to electric diagrams can be used.



IP65



IP65



IP65



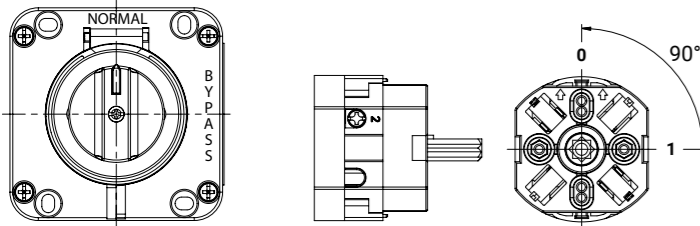
DESCRIPTION

CODE



Cam Switch 0-1
Switching angle 90°, 2 positions

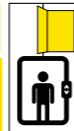
GM092BYPASS



1	1-2		X
WAFER	CONTACT	0 1	POS.

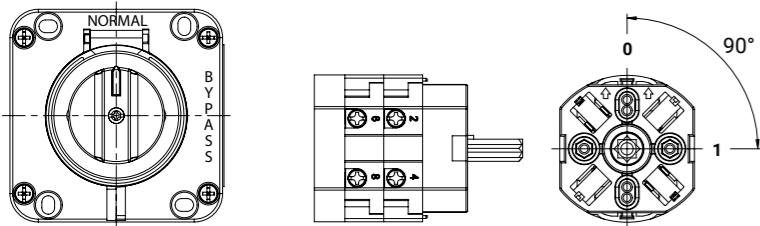
DESCRIPTION

CODE



Cam Switch 0-1
Switching angle 90°, 2 positions

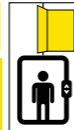
GM092BYPASS-01



2	7-8		X
	5-6	X	
1	3-4		X
	1-2	X	
WAFER	CONTACT	0 1	POS.

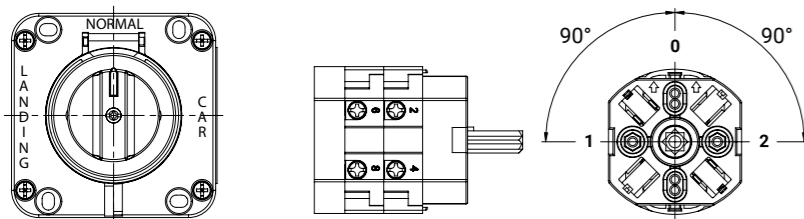
DESCRIPTION

CODE



Cam Switch 1-0-2
Switching angle 90°, 3 positions

GM092BYPASS-02



2	7-8		X
	5-6	X	
1	3-4		X
	1-2	X	
WAFER	CONTACT	1 0 2	POS.

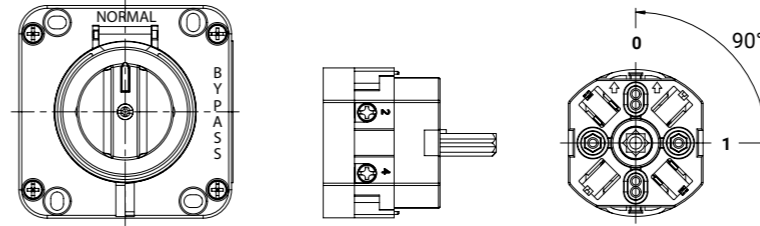
DESCRIPTION

CODE



Cam Switch 0-1
Switching angle 90°, 2 positions

GM092BYPASS-03



1	3-4		X
	1-2	X	
WAFER	CONTACT	0 1	POS.

IP65



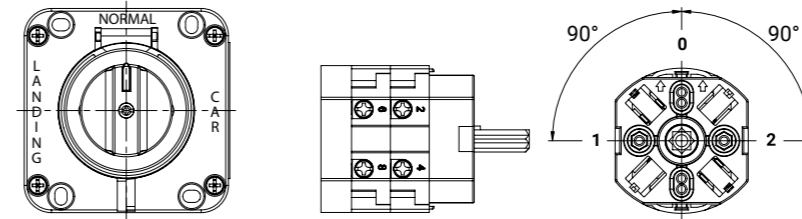
DESCRIPTION

CODE



Cam Switch 1-0-2
Switching angle 90°, 3 positions

GM092BYPASS-04



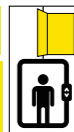
2	7-8		X
	5-6	X	
1	3-4	X	X
	1-2	X	
WAFER	CONTACT	1 0 2	POS.

IP65



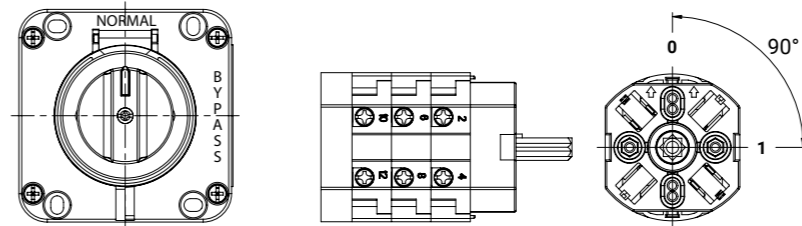
DESCRIPTION

CODE



Cam Switch 0-1
Switching angle 90°, 2 positions

GM092BYPASS-05



3	11-12		X
	9-10	X	
2	7-8		X
	5-6	X	
1	3-4		X
	1-2	X	
WAFER	CONTACT	0 1	POS.

IP65



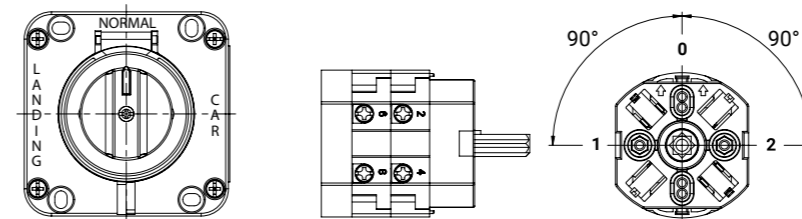
DESCRIPTION

CODE



Cam Switch 1-0-2
Switching angle 90°, 3 positions

GM092BYPASS-06



2	7-8		X	X
	5-6	X		
1	3-4	X	X	
	1-2		X	
WAFER	CONTACT	1 0 2		POS.

IP65

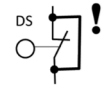


Available a wide range of electrical schemes of cam switches to customize your own specific bypass device.

REAR FIXING BYPASS DEVICES

The landing and car door bypass devices shall be identifiable by the word "BYPASS" written on or near to them. In addition, the contacts to be bypassed shall be indicated with the identifiers according to the electrical diagrams.

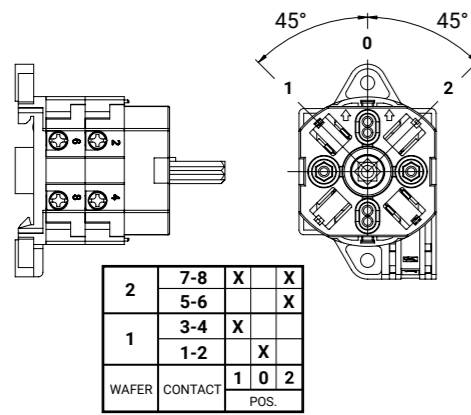
Alternatively the symbol shown below together with identifier according to electric diagrams can be used.



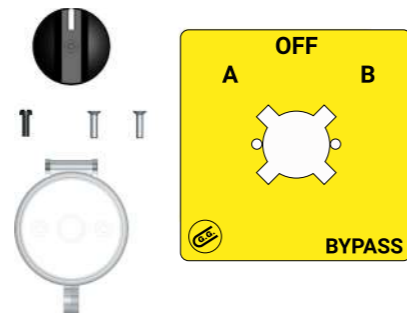
Available a wide range of electrical schemes of cam switches to customize your own specific bypass device.



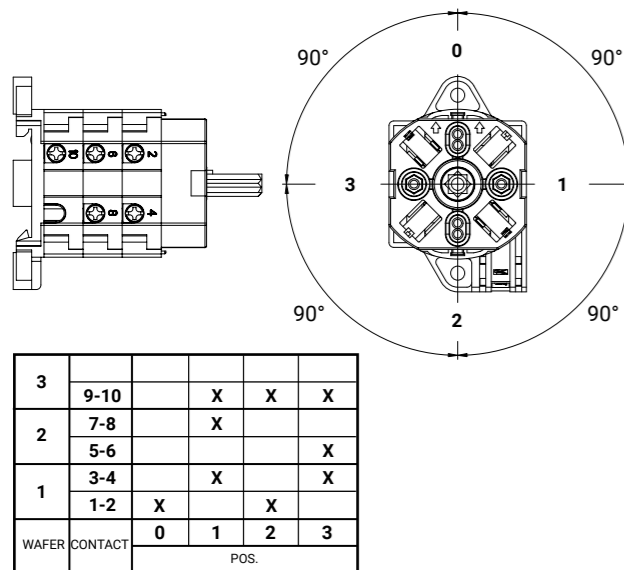
DESCRIPTION	CODE	
Cam Switch 1-0-2 Switching angle 45°, 3 positions	P0122869S	



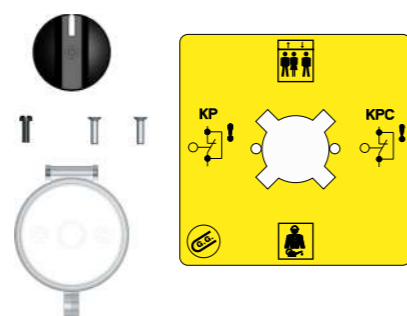
DESCRIPTION	CODE	
KIT PROTECTION PLATE A-OFF-B	KIT-018P-BYP-B06	



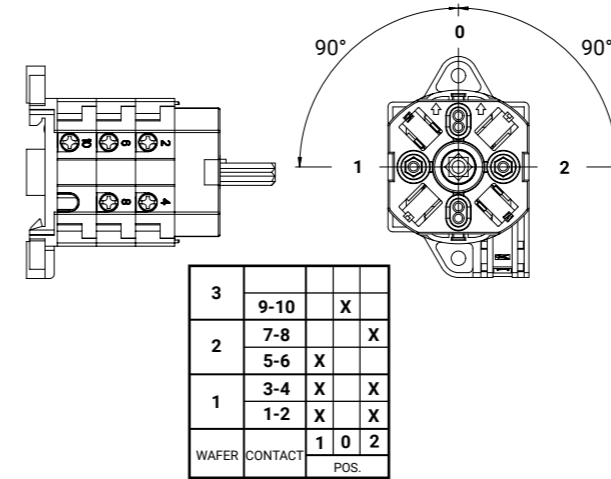
DESCRIPTION	CODE	
Cam Switch Switching angle 90°, 4 positions	P0162718S	



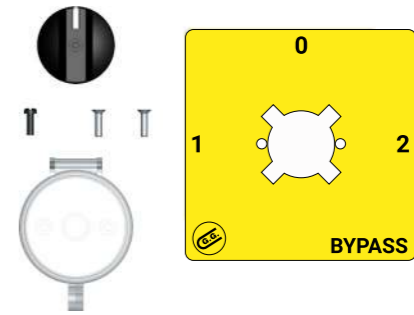
DESCRIPTION	CODE	
KIT PROTECTION PLATE NORMAL-KPC-INSP-KP	KIT-018P-BYP-B03	



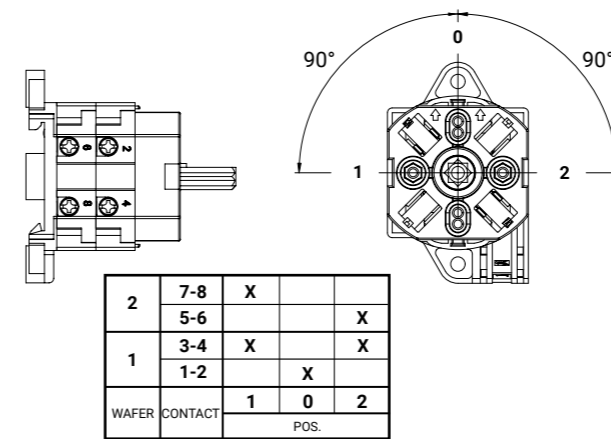
DESCRIPTION	CODE	
Cam Switch 1-0-2 Switching angle 90°, 3 positions	P0162671S	



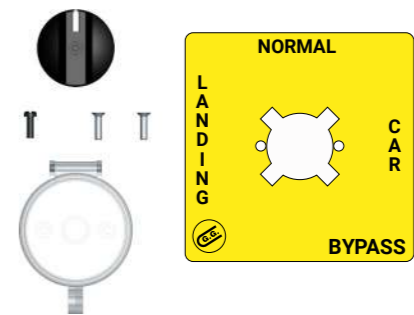
DESCRIPTION	CODE	
KIT PROTECTION PLATE 1-0-2	KIT-018P-BYP-B01	



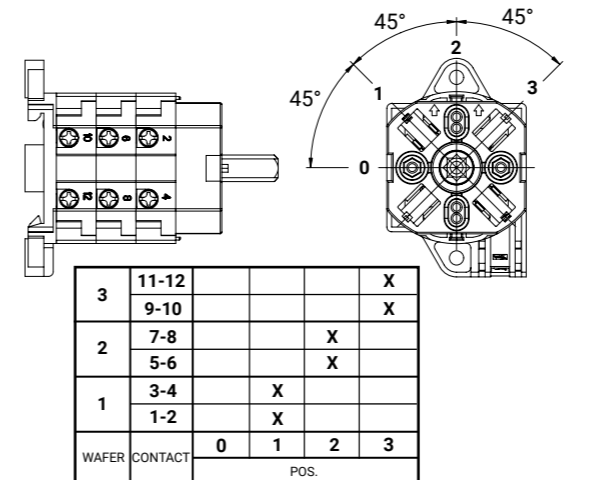
DESCRIPTION	CODE	
Cam Switch Switching angle 90°, 3 positions	P0162807S	



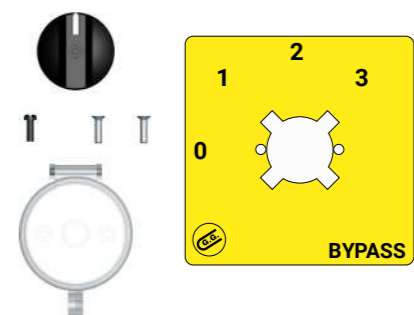
DESCRIPTION	CODE	
KIT PROTECTION PLATE LANDING-NORMAL-CAR	KIT-018P-BYP-B07	



DESCRIPTION	CODE	
Cam Switch Switching angle 45°, 4 positions	P0162830S	



DESCRIPTION	CODE	
KIT PROTECTION PLATE 0-1-2-3	KIT-018P-BYP-B	

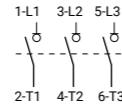


SWITCH DISCONNECTORS AND SWITCH DISCONNECTORS IN ENCLOSURES

DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 3 POLES
COMPLETE DEVICE in thermoplastic enclosure • Opening in "0" position. • Arranged for nr. 8 Pg16 cable glands of which nr. 2 on the bottom. • With locking facility in "0 - OFF" (Max 3 locks). • Dimensions: 120x100x85 mm.	SQ025	32 A	25 A	SQ025003BC10
	SQ032	40 A	32 A	SQ032003BC10

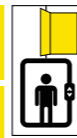


IP65

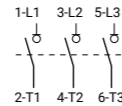


For Grey cover and black knob version, replace "10" with "09" in the code.

DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 3 POLES
COMPLETE DEVICE in thermoplastic enclosure • Opening in "0" position. • Arranged with nr. 4 cable glands M25/M32 + nr. 2 closed holes ø22,5 mm on the bottom. • With locking facility in "0 - OFF" (Max 3 locks). • Dimensions: 130x180x106 mm.	SQ040	63 A	50 A	SQ040003BE10
	SQ063	80 A	75 A	SQ063003BE10

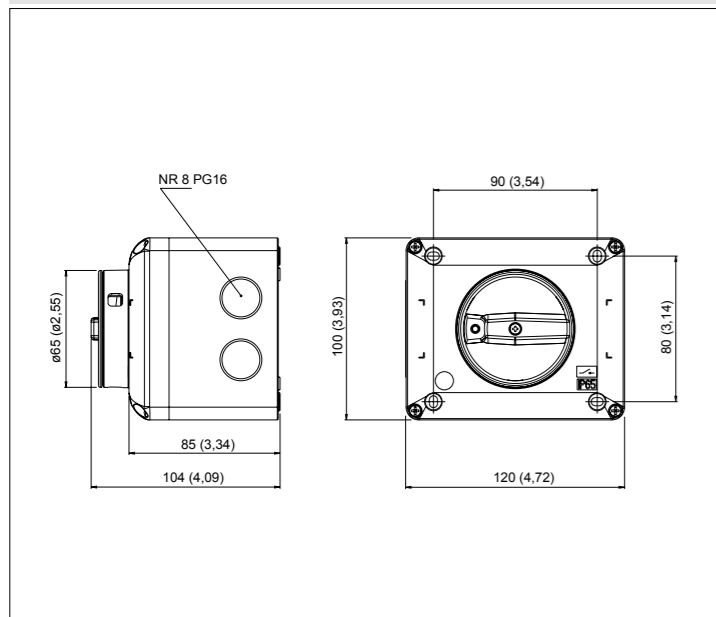


IP65

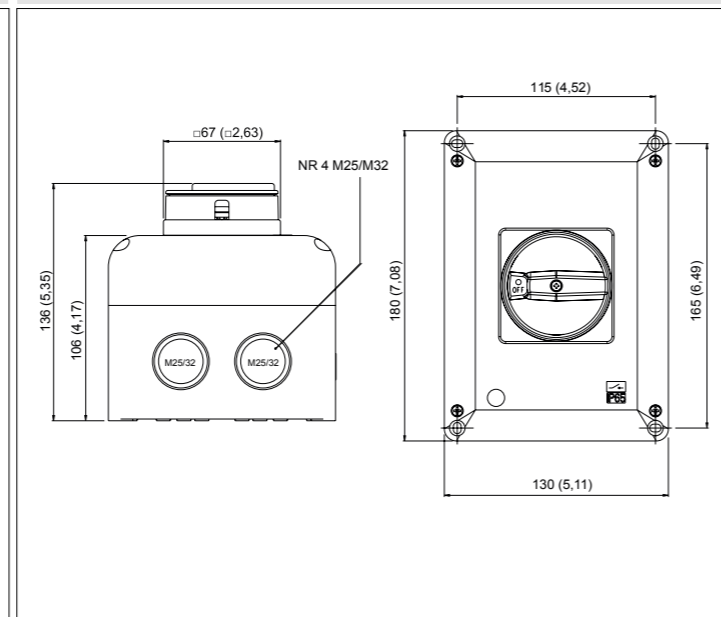


For Grey cover and black knob version, replace "10" with "09" in the code.

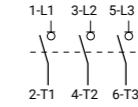
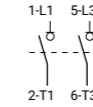
TECHNICAL DRAWING - SQ025 / SQ032



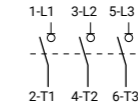
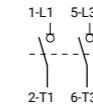
TECHNICAL DRAWING - SQ040 / SQ063



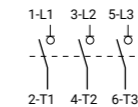
DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 2 POLES	CODE 3 POLES
BASE MOUNTING with direct command	SQ025	32 A	25 A	SQ025002DL1N	SQ025003DL1N
TYPE D-L1N • Fixing box DIN RAIL DIN-EN 50022-35. • Black knob locking in "0-OFF" position.	SQ032	40 A	32 A	SQ032002DL1N	SQ032003DL1N



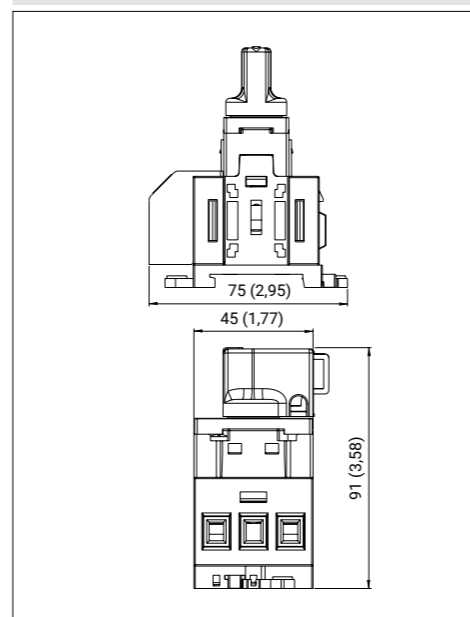
DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 2 POLES	CODE 3 POLES
BASE MOUNTING with direct command	SQ040	63 A	50 A	SQ040002DL5N	SQ040003DL5N
TYPE D-L5N • Fixing box DIN RAIL DIN-EN 50022-35. • Black knob locking in "0-OFF" position.	SQ063	80 A	75 A	SQ063002DL5N	SQ063003DL5N



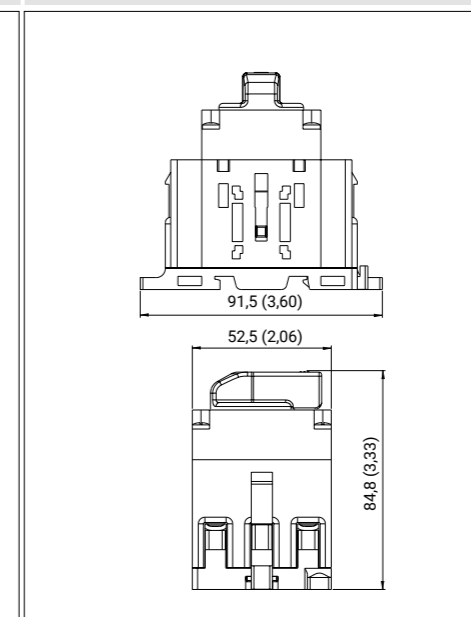
DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 3 POLES
BASE MOUNTING	SQN125	125 A	125 A	SQN125003B
TYPE B • Direct command and Door Locking. • Fixing box DIN RAIL DIN-EN 50022-35. • Black knob locking in "0-OFF" position.	SQN160	160 A	160 A	SQN160003B



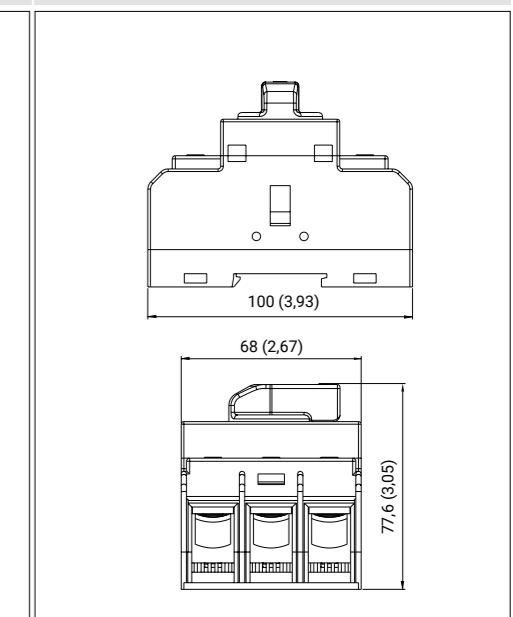
TECHNICAL DRAWING - SQ025 / SQ032



TECHNICAL DRAWING - SQ040 / SQ063



TECHNICAL DRAWING - SQN125 / SQN160





SWITCH DISCONNECTORS AND SWITCH DISCONNECTORS IN ENCLOSURES



REGOLUS SWITCH DISCONNECTORS

The disconnectors Regolus Series, built to the most stringent European and international standards (IEC / EN 60947-3, UL508), meet all the safety requirements.

GENERAL CHARACTERISTICS		SQ025 - SQ032	SQ040 - SQ063	SQN125 - SQN160			
Protection class control terminals	EN 60529 (UL50) NEMA 4X	IP65 (Type 1 - 4 -4X)	IP65 (Type 1 - 4 -4X)	-			
Material Group	EN 60947-1	II	II	II			
Pollution Grade	EN 60947-1	3	3	3			
Flammability	UL94	VO (Live Electric parts)	VO (Live Electric parts)	VO (Live Electric parts)			
Ambient Temperature	°C	Operating: -25 +55	Operating: -25 +55	Operating: -25 +55			
	°C	Storage: -30 +70	Storage: -30 +70	Storage: -30 +70			
Climate Withstand	IEC 68 part 2-3	Constant Hot Damp	Constant Hot Damp	Constant Hot Damp			
	IEC 68 part 2-30	Cyclical Hot Damp	Cyclical Hot Damp	Cyclical Hot Damp			
Connections Terminal Block Caliber	EN60947-1	A6	A8	A11			
Terminal Screw		M4	M5	M8			
Screwing Torque	EN60947-1	1,2 Nm	3 Nm	6 Nm			
	UL508	7 lb. in. (0,8 Nm)	32,0 lb. in. (3,6 Nm)	53,0 lb. in. (6 Nm)			
Connectable Section Flexible Conductors n°1 min/max	mm²	1,5 - 10	6 - 25	6 - 25			
	AWG	12 - 8	10 - 2	10 - 2			
Solid Conductors n°1 min/max	mm²	1,5 - 10	10 - 35	10 - 35			
	AWG	12 - 8	10 - 2	10 - 2			
Contacts		Slow Opening Double-Break	Slow Opening Double-Break	Slow Opening Double-Break			
Opening Angles		90°	90°	90°			
Mechanical Lifetime	nr. of cycles	100.000	100.000	100.000			
Maximum Altitude	Until 2000 mt	Standard	Standard	Standard			
	Over 2000 mt	Derating Voltage Derating (V)	< 1% each 100 m	< 1% each 100 m			
		Power Derating (A)	< 1% each 1000 m	< 1% each 1000 m			
CERTIFICATIONS		SQ025	SQ032	SQ040	SQ063	SQN125	SQN160
CE	CE mark - Europe	■	■	■	■	■	■
cUL	cUL Listed - USA and Canada	●	●	●	●	●	●
IMQ	Istituto Marchio Qualità (IMQ) - Italy	●	●	●	●	●	●
CCC	CCC China						
EAC	EAC Russia						

■ Comply to the requirements by passed test ● Approved



ELECTRICAL CHARACTERISTICS		SQ025	SQ032	SQ040	SQ063	SQN125	SQN160
EN 60947-3 CHARACTERISTICS		SQ025	SQ032	SQ040	SQ063	SQN125	SQN160
Rated operating voltage Ue	V	690	690	690	690	690	690
Rated insulation voltage Ui	V	690	690	690	690	800	800
Rated impulse withstand voltage Uimp (sectionable)	kV	8	8	8	8	8	8
Rated thermal current Ith	A	32	40	63	80	125	160
Rated thermal current in enclosed Ithe	A	32	40	63	80	125	160
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60
RATED OPERATING CURRENT Ie: alternate current		SQ025	SQ032	SQ040	SQ063	SQN125	SQN160
AC-21A Switching resistive loads with light overloads	690V A	32	40	63	80	125	160
AC-22A Switching mixed resistive and inductive loads at light overloads	500V A	-	-	-	-	125	160
	690V A	25	32	63	80/-	125	160
AC-23A Periodic switching of motors 3 phases - 3 poles	230V A/kW	25/7,5	32/10	63/-	80/-	-	-
	400V A/kW	25/15	32/18,5	50/-	75/-	125	160
	500V A/kW	25/15	32/22	50/-	75/-	100	125
	690V A/kW	16/15	20/18,5	26/-	32/-	80	100
AC3 Starting of cage motors (interruption hile running) 3 phases - 3 poles	230V A/kW	22/5,5	27/7,5	45/-	60/-	-	-
	400V A/kW	22/11	27/15	40/-	60/-	-	-
	500V A/kW	22/11	27/18,5	35/-	45/-	-	-
	690V A/kW	16/11	20/15	22/-	25/-	-	-
Nominal interruption power AC-23A (cosfi 0,45)	230V A	200	256	360	600	-	-
	400V A	200	256	360	536	-	-
	500V A	200	256	280	536	-	-
	690V A	128	160	176	256	-	-
DC-21B (4P Series positive opening)	600V A	-	-	-	-	10	10
SHORT CIRCUIT CHARACTERISTICS		SQ025	SQ032	SQ040	SQ063	SQN125	SQN160
Rated short-time short circuit withstand current Icw (1 s)	A	800	800	1200	1500	3000	3000
Rated short circuit making capacity Icm	A	1500	1500	2200	2800	4500	4500
Conditional rated short circuit withstand current	kA	10	10	10 5	10 5	10 10	10 10
Fuse rating gG	500V A	-	-	-	-	-	-
	690V A	40	40	63 80	63 80	125	125
UL 508 CHARACTERISTICS		SQ025	SQ032	SQ040	SQ063	SQN125	SQN160
General Use	600V AC A	32	40	60	80	125	150
Standard motor load single phase - 2 poles	120V AC HP (FLA)	1,5 (20)	2 (24)	2 (24)	3 (34)	-	-
	200-208V AC HP	2	3	3	5	-	-
	240V AC HP (FLA)	3 (17)	5 (28)	5 (28)	7,5 (40)	-	-
Standard motor load 3 phases - 3 poles	200-208V AC HP	7,5	10	7,5	10	-	-
	240V AC HP (FLA)	7,5 (22)	10 (28)	10 (28)	15 (42)	25	25
	480V AC HP (FLA)	10 (14)	15 (21)	25 (34)	30 (40)	50	50
	600V AC HP (FLA)	15 (17)	20 (22)	30 (32)	40 (41)	60	60

SWITCH DISCONNECTORS COMPONENTS



ADDITIONAL POLES	DESCRIPTION	SQ025/SQ032	SQ040/SQ063	SQN125/SQN160	DIAGRAMS
	Additional Pole NO	SQ025AFPB	SQ040AFPB	SQN125AFPB	7 — 8
		SQ032AFPB	SQ063AFPB	SQN160AFPB	
	4th Pole (early make contact)	SQ025ANIB	SQ040ANIB	SQN125ANIB	N — N
		SQ032ANIB	SQ063ANIB	SQN160ANIB	
	Neutral Terminal	SQ025ANPB	SQ040ANPB	SQN125ANPB	N — N
		SQ032ANPB	SQ063ANPB	SQN160ANPB	
Ground Terminal	SQ025APEB	SQ040APEB	SQN125APEB	PE — PE	
	SQ032APEB	SQ063APEB	SQN160APEB		



AUXILIARY CONTACTS	DESCRIPTION	SQ025/SQ032	SQ040/SQ063	SQN125/SQN160	DIAGRAMS
	AUX 1NC	SQ010AS1B	SQ010AS3B	SQ010AS5B	1 — 2
	AUX 1NO	SQ010AS2B	SQ010AS4B	SQ010AS6B	3 — 4



TERMINAL PROTECTIONS	DESCRIPTION	SQ025/SQ032	SQ040/SQ063	SQN125/SQN160
	1 POLE	20900025	20900040	20900065
	3 POLES	20900023	20900041	20900064



SHAFT EXTENSIONS □ 6 FOR DOOR INTERLOCK	DESCRIPTION	SQN125/SQN160
	L 185 mm	20900010
	L 300 mm	20900011

PUSH BUTTONS Ø22 | IP65

DESCRIPTION	CODE	
ALARM push button <i>flush, yellow colour</i>	PPRN3BL-AL	



DESCRIPTION	CODE	
UP push button <i>flush, white colour</i>	PPRN5BL/F	



DESCRIPTION	CODE	
Lighted ALARM push button <i>flush, yellow colour</i>	PPRL3BL-AL	



DESCRIPTION	CODE	
COMMON push button <i>flush, blue colour</i>	PPRN4BL/COM	



DESCRIPTION	CODE	
Lighted LIGHT push button <i>flush, yellow colour</i>	PPRN3LBL	



DESCRIPTION	CODE	
DOWN push button <i>flush, black colour</i>	PPRN8BL/F	



DESCRIPTION	CODE	
Lighted LIGHT push button <i>flush, black colour</i>	PPRN8LBL	



DESCRIPTION	CODE	
Extended dual push button <i>UP/DOWN</i>	PPDNR.7BL	



DESCRIPTION	CODE	
Extended dual push button <i>UP/DOWN</i>	PPDNR.9ABL	



DESCRIPTION	CODE	
Multifunction push button <i>UP/STOP/DOWN</i>	PPMNSBL.B	

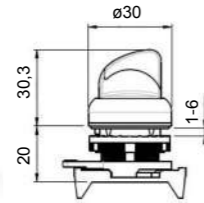


ROTARY SWITCHES Ø22 | IP65

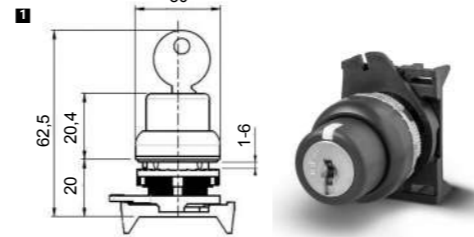
WITH OPERATOR



WITH LIGHT OPERATOR



WITH KEY



POSITION	COLOUR INDEX	CODE	COLOUR INDEX	CODE	KEY REMOVAL			CODE
					L	O	R	
90°	■	PSMB1D0BL	■	PSML1D0BL		*		PSCR8D0CBL
	■	PSMB2D0BL	■	PSML2D0BL			*	PSCR8D0EBL
	■	PSMB3D0BL	■	PSML3D0BL			*	PSCR8D0NBL
	■	PSMB4D0BL	■	PSML4D0BL			*	
	■	PSMB5D0BL	■	PSML5D0BL			*	
	■	PSMB8D0BL	■				*	
45°	■	PSMB1D1BL	■	PSML1D1BL		*		PSCR8D1CBL
	■	PSMB2D1BL	■	PSML2D1BL			*	PSCR8D1EBL
	■	PSMB3D1BL	■	PSML3D1BL			*	PSCR8D1NBL
	■	PSMB4D1BL	■	PSML4D1BL			*	
	■	PSMB5D1BL	■	PSML5D1BL			*	
	■	PSMB8D1BL	■				*	
45°	■	PSMB1D2BL	■	PSML1D2BL			*	PSCR8D2CBL
	■	PSMB2D2BL	■	PSML2D2BL			*	
	■	PSMB3D2BL	■	PSML3D2BL			*	
	■	PSMB4D2BL	■	PSML4D2BL			*	
	■	PSMB5D2BL	■	PSML5D2BL			*	
	■	PSMB8D2BL	■				*	
45°	■	PSMB1T0BL	■	PSML1T0BL		*		PSCR8T0CBL
	■	PSMB2T0BL	■	PSML2T0BL		*		PSCR8T0ABL
	■	PSMB3T0BL	■	PSML3T0BL		*	*	PSCR8T0EBL
	■	PSMB4T0BL	■	PSML4T0BL		*	*	PSCR8T0GBL
	■	PSMB5T0BL	■	PSML5T0BL		*	*	PSCR8T0HBL
	■	PSMB8T0BL	■			*	*	PSCR8T0KBL
45°	■	PSMB1T3BL	■	PSML1T3BL			*	PSCR8T3CBL
	■	PSMB2T3BL	■	PSML2T3BL			*	
	■	PSMB3T3BL	■	PSML3T3BL			*	
	■	PSMB4T3BL	■	PSML4T3BL			*	
	■	PSMB5T3BL	■	PSML5T3BL			*	
	■	PSMB8T3BL	■				*	
45°	■	PSMB1T2BL	■	PSML1T2BL		*		PSCR8T2CBL
	■	PSMB2T2BL	■	PSML2T2BL			*	PSCR8T2ABL
	■	PSMB3T2BL	■	PSML3T2BL			*	PSCR8T2HBL
	■	PSMB4T2BL	■	PSML4T2BL			*	
	■	PSMB5T2BL	■	PSML5T2BL			*	
	■	PSMB8T2BL	■				*	
45°	■	PSMB1T1BL	■	PSML1T1BL		*		PSCR8T1CBL
	■	PSMB2T1BL	■	PSML2T1BL			*	PSCR8T1EBL
	■	PSMB3T1BL	■	PSML3T1BL			*	PSCR8T1NBL
	■	PSMB4T1BL	■	PSML4T1BL			*	
	■	PSMB5T1BL	■	PSML5T1BL			*	
	■	PSMB8T1BL	■				*	

■ For standard rotary switches suitable to operate a central contact, replace the letter "B" with the letter "C": PSMC
 ■ For rotary switches with Left - Right operating angles replace the letters "DO" with "SD": PSMB1DO or PSCR8SDE

* Key removable position

PUSH BUTTONS Ø22 | IP65

DIN RAIL MOUNTING ADAPTOR



DESCRIPTION	CODE
DIN EN50022 rail mounting for 46 mm standard grey enclosures	11708351

CONTACTS SUPPORT



DESCRIPTION	CODE
Contact support for 5 contact elements PL - PCW - PSC	PPELN8-5

PROTECTION CAPS



DESCRIPTION	CODE
Protection cap for flush button Orion Series	PCRNL



DESCRIPTION	CODE
Protection cap for multifunctional push button Orion Series (PPDNGL - PDDLGL)	PCDNL



DESCRIPTION	CODE
Protection cap for extended push button Orion Series	PCSNL



DESCRIPTION	CODE
Protection cap for multifunctional push button Orion Series (PPMNGL)	PCMNL



DESCRIPTION	CODE
Protection cap for multifunctional push button Orion Series (PPDNRGL - PDLRGL)	PCNNL

CENTRAL CONTACT OPERATION



DESCRIPTION	CODE
For GL - BL - NEMA 4X Series	11708555

KEY FIXING BULB EXTRACTOR



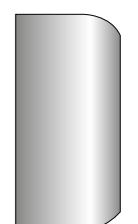
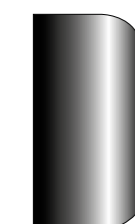
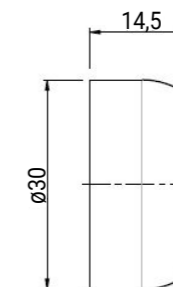
DESCRIPTION	CODE
Key fixing bulb extractor	PCF

STOPPER CLOSING HOLES Ø22,5



DESCRIPTION	CODE
Stopper closing holes Ø22,5	PTRN8

SPECIAL FRAMES: SHROUDED FOR ORION SERIES



The auxiliary controls of Orion Series are available also with shrouded seal.

Black Line Orion Series

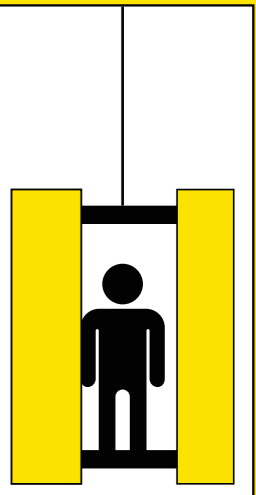
Grey Line Orion Series



GIOVENZANA
INTERNATIONAL B.V.



DOOR COMPONENTS



THERMOPLASTIC LIMIT SWITCHES AND MICRO SWITCHES



FTN131



FTN134



FTN137



FTN138



FTN139



FTN140



FTN140L



FTN140R



FTN140RL



FTN141



FTN144



FTN144S



FTN1R31



FTN1R34



FTN1R37



FTN1R38



FTN1R39



FTN1R40



FTN1R40R



FTN1R41



FTN1R44



AFT2T16Y11



AFT2T16X11



AFT2T38Y11



AFT2T38X11



MFI.1



MFI.2



MFI.3



MFI.4



MFI.5



MFI.6



MFI.7



MFI.T

FTN SERIES - GENERAL CHARACTERISTICS

FTN Series one threaded conduit entry	Standard: M16; On request: M20, 1/2NPT, PG11, PG13.5, Connector			
Protection degree	IP67 according to EN60529 with cable gland having equal or higher protection degree			
Positive opening operation	NC contact ⊕			
Utilization category	Contact type	Categories/Ratings		
	X11 - W02 - W20	A600 Q600	AC15 400V 4A	DC13 24V 6A
	Z11 - Z02	B600 Q600		
W12 - W03	A300 Q300			
Minimum admissible current	5V, 5mA, DC			
Insulation resistance	100MΩ min (DC 500V)			
Contact resistance	25mΩ max (Initial)			
Enclosure material	UL approved glass-filled polybutylene terephthalate			
Operating temperature	Min -25°C (-18°F) / Max 80°C (+176°F)			
Mechanical life expectancy	1x10 ⁷ cycles min			
Electrically life expectancy	150.000 cycles min			
Vibration resistance	IEC 68-2-6, 10-55Hz ± 1Hz, Excursion: 0.35mm, 1 octave/min			
Fixing	2xM4			

FTN SERIES - ELECTRICAL CHARACTERISTICS

Rated thermal current (I_{th})	10A
Rated insulation voltage (U_i)	500V AC
Rated impulse withstand voltage (U_{imp})	2500V AC
Pollution degree	3
Protection against electric shock	Class II (Double insulation)

FTN SERIES - STANDARDS & APPROVALS

Standards	EN60947-5-1, UL508, EN50047
Approvals	cULus, EAC and CCC marked for all applicable directives



OPERATING FORCE - FTN SERIES

TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
	X11	1NC/1NO Slow Action	2.8 mm	3.8 mm	7.3 N	6.0 mm
	W02	2NC Slow Action	2.8 mm	-	7.3 N	
	W20	2NO Slow Action	2.4 mm	-	8.2 N	
	W12	2NC/1NO Slow Action	2.6 mm	3.2 mm	7.3 N	
	W03	3NC Slow Action	2.6 mm	-	7.3 N	
	Z11	1NC/1NO Snap Action	3.0 mm	-	6.7 N	
	Z02	2NC Snap Action	2.7 mm	-	6.7 N	
	X11	1NC/1NO Slow Action	2.2 mm	3.2 mm	7.4 N	9.0 mm
	W02	2NC Slow Action	2.2 mm	-	7.4 N	
	W20	2NO Slow Action	2.0 mm	-	8.3 N	
	W12	2NC/1NO Slow Action	2.2 mm	3.0 mm	7.4 N	
	W03	3NC Slow Action	2.2 mm	-	7.4 N	
	Z11	1NC/1NO Snap Action	2.5 mm	-	6.8 N	
	Z02	2NC Snap Action	2.5 mm	-	6.8 N	
	X11	1NC/1NO Slow Action	30°	45°	1.8 N	80°
	W02	2NC Slow Action	30°	-	1.8 N	
	W20	2NO Slow Action	32°	-	1.8 N	
	W12	2NC/1NO Slow Action	32°	40°	1.8 N	
	W03	3NC Slow Action	32°	-	1.8 N	
	Z11	1NC/1NO Snap Action	34°	-	1.9 N	
	Z02	2NC Snap Action	34°	-	1.9 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	

OPERATING FORCE - FTN SERIES

TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	
	X11	1NC/1NO Slow Action	30°	45°	6.5 N	80°
	W02	2NC Slow Action	30°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	34°	-	5.3 N	
	Z02	2NC Snap Action	34°	-	5.3 N	

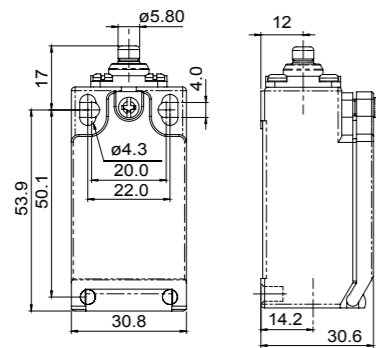
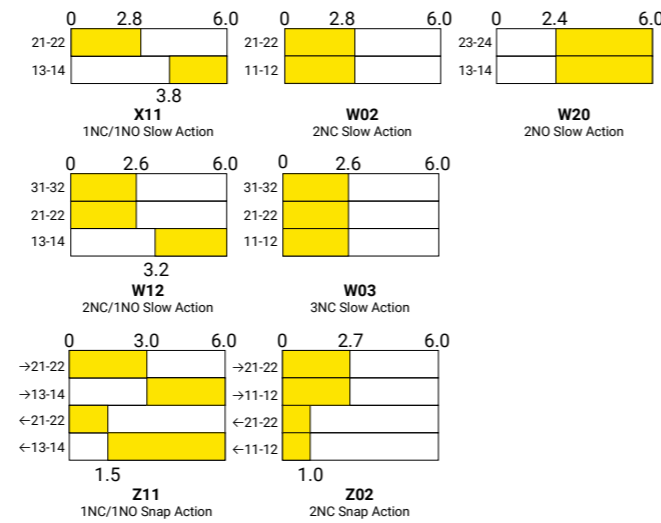


FTN131: Short plastic end plunger with protective boot

FTN	1	31	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	31 - Short plastic end plunger with protective boot	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS

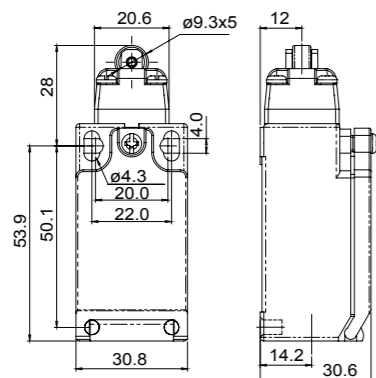
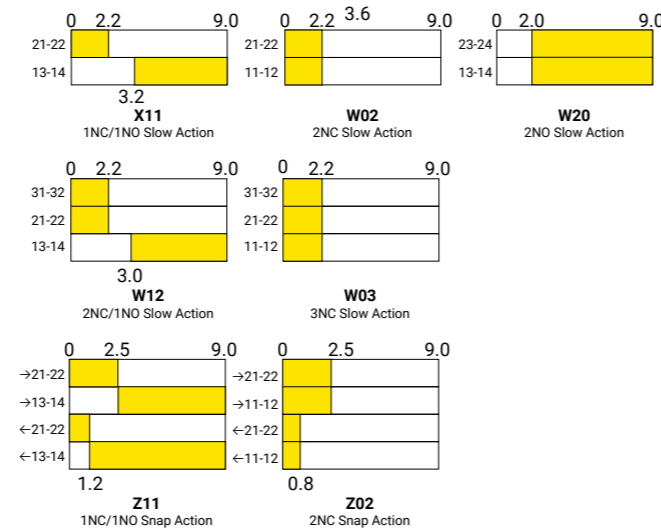


FTN134: Roller lever plunger

FTN	1	34	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	34 - Roller lever plunger	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS

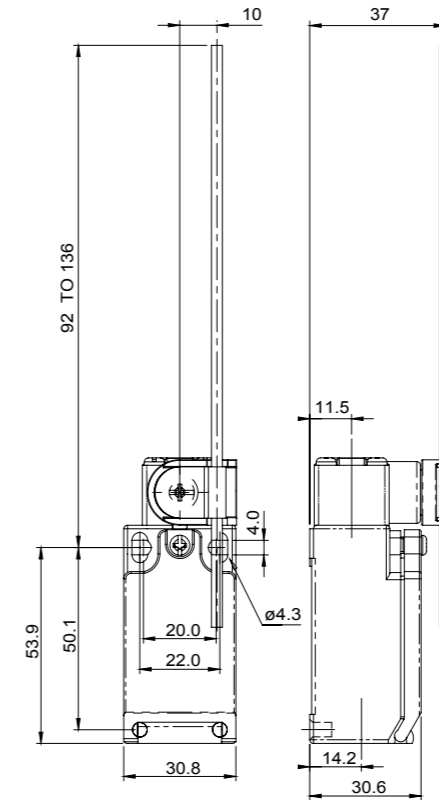
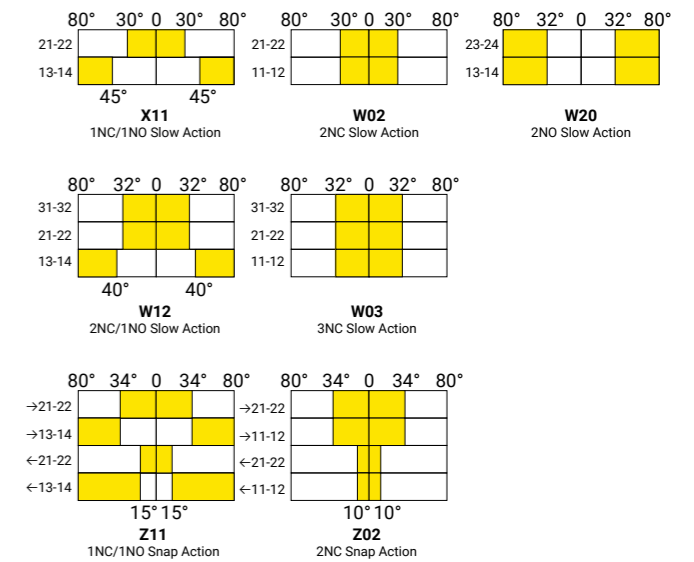


FTN137: Rod lever type

FTN	1	37	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	37 - Rod lever type	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS

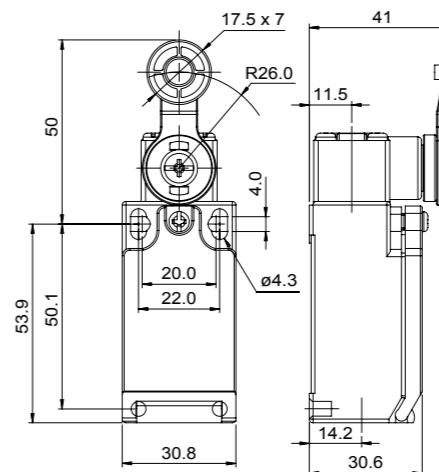
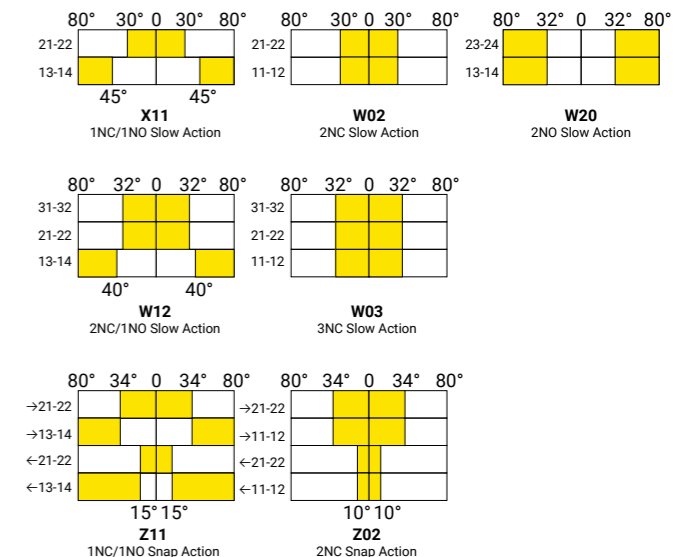


FTN138: ø18 PA roller lever

FTN	1	38	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - Without Reset Function	38 - ø18 PA roller lever	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS





FTN139: Variable length roller lever ø18

FTN	1	39	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

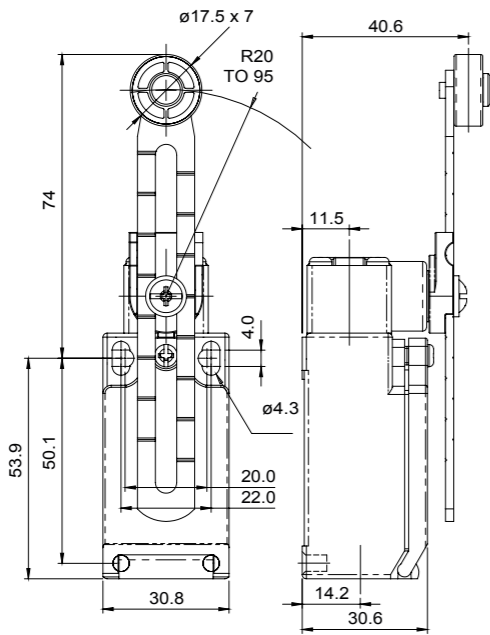
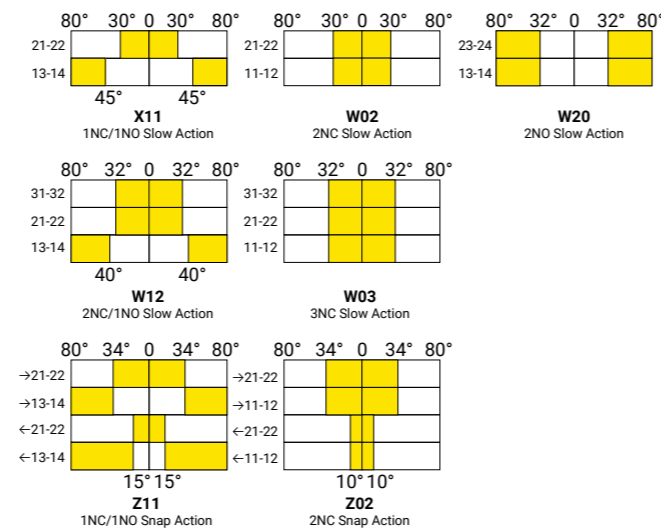
39 - Variable length roller lever ø18

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN140L: Variable length rubber roller lever ø50 (Long Arm)

FTN	1	40L	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

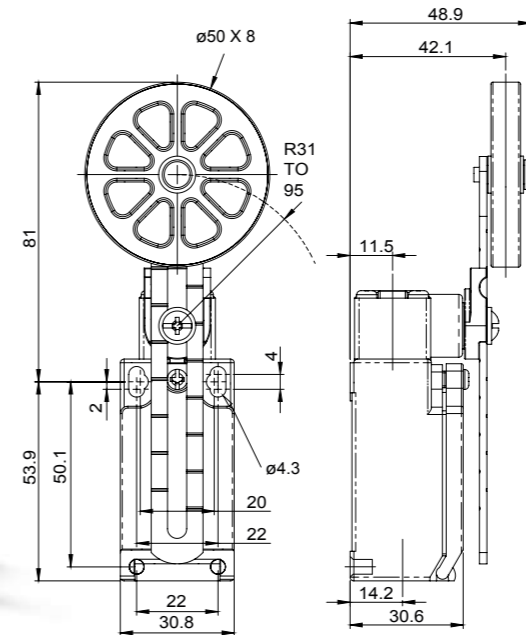
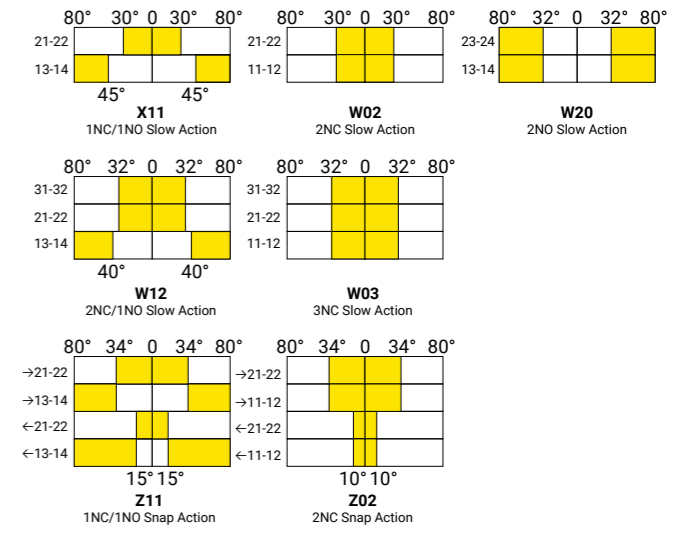
40L - Variable length rubber roller lever ø50 (Long Arm)

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN140: Variable length rubber roller lever ø50

FTN	1	40	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

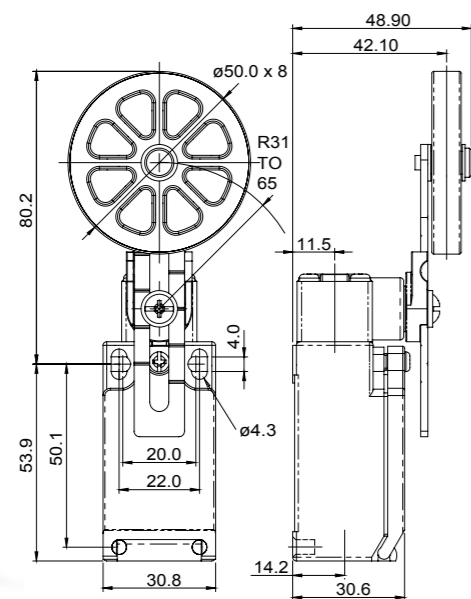
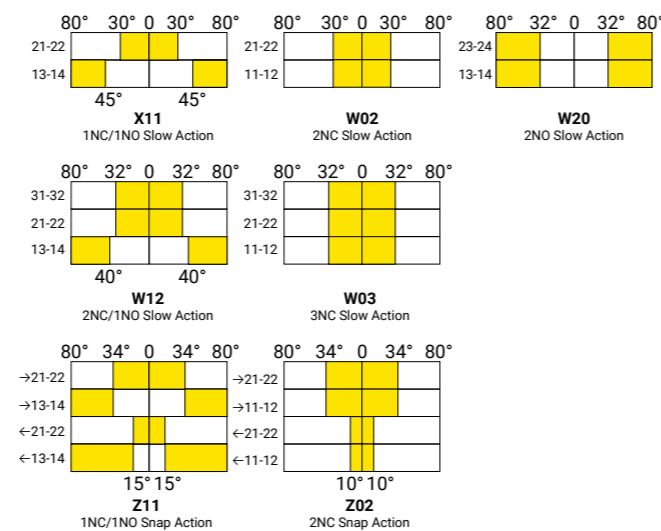
40 - Variable length rubber roller lever ø50

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN140R: Variable length and rubber roller lever ø50

FTN	1	40R	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

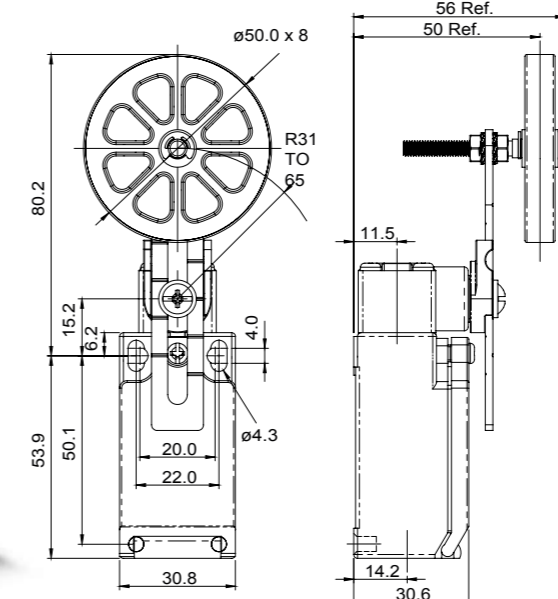
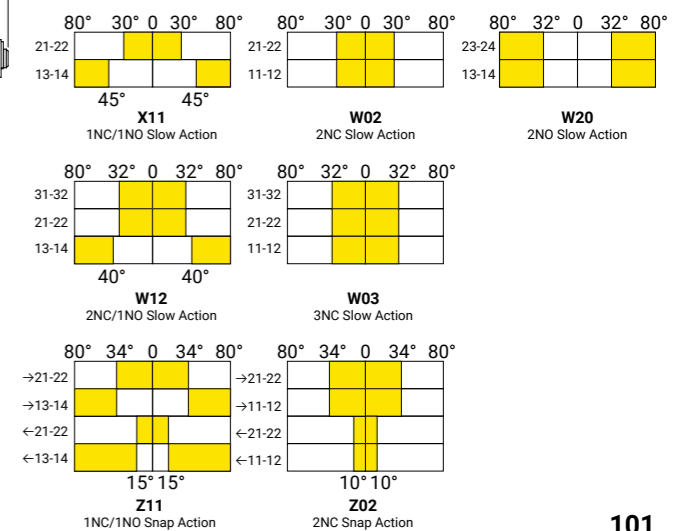
40R - Variable length and rubber roller lever ø50

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN140RL: Variable length and rubber roller lever ø50 (Long Arm)

FTN	1	40RL	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

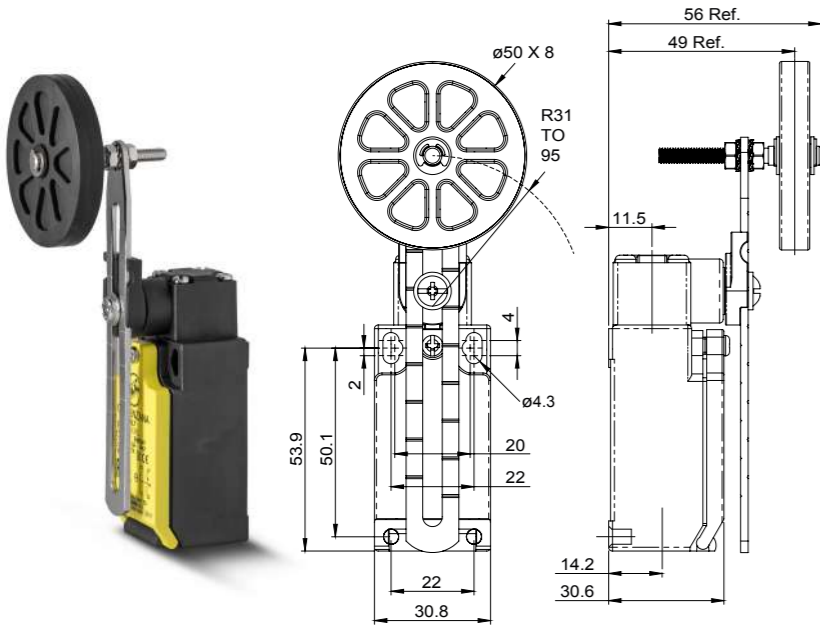
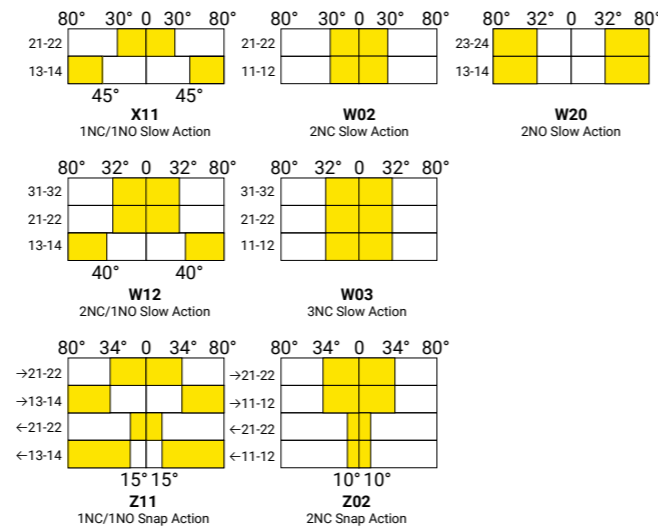
40RL - Variable length and rubber roller lever ø50 (Long Arm)

X11 -1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN141: ø50 Rubber roller lever

FTN	1	41	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

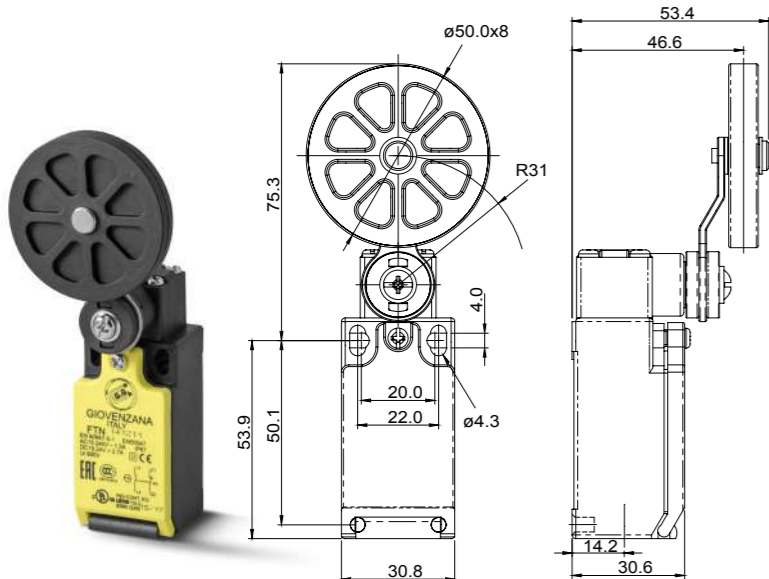
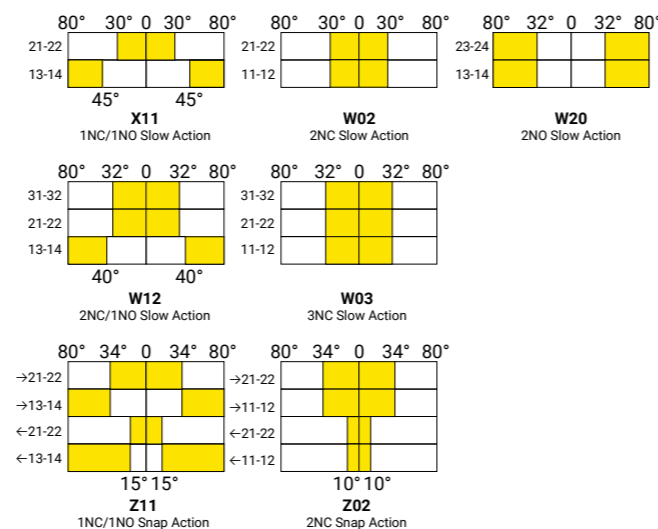
41 - ø50 Rubber roller lever

X11 -1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN144: Variable length roller lever ø18

FTN	1	44	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

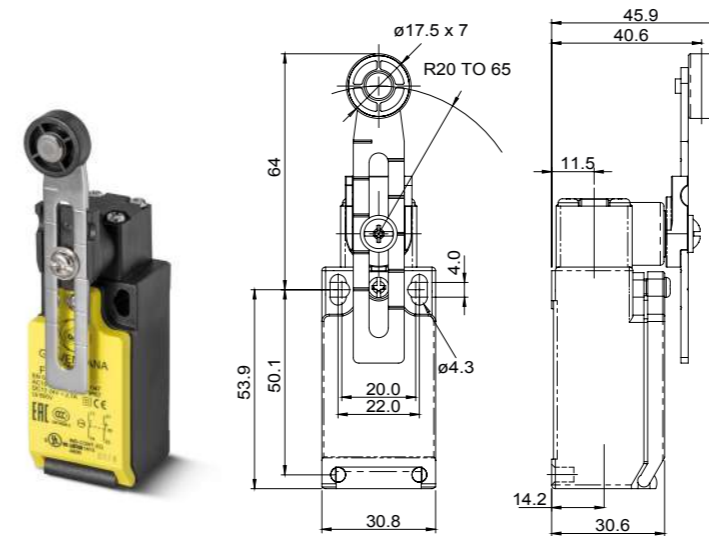
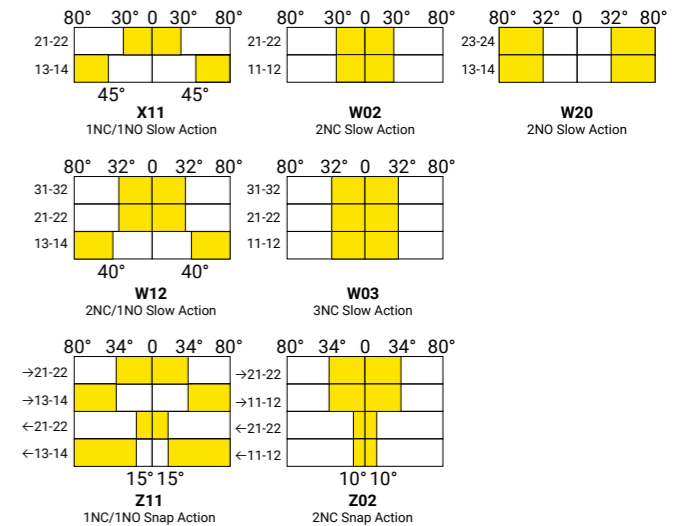
44 - Variable length roller lever ø18

X11 -1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN144S: Variable sawtooth length roller lever ø18

FTN	1	44S	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - Without Reset Function

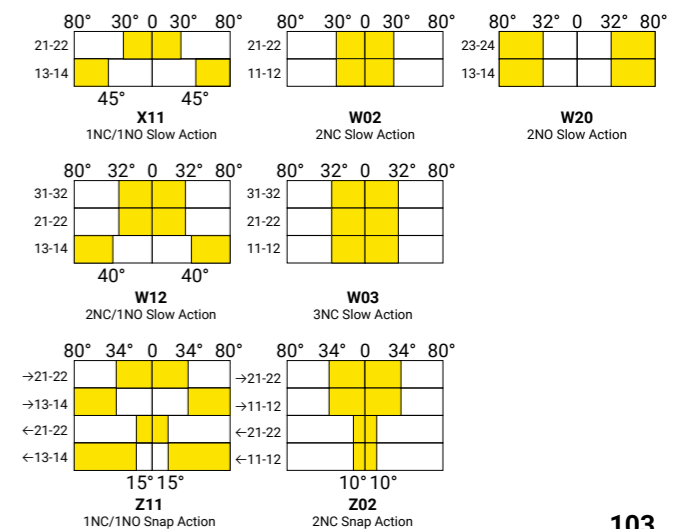
44S - Variable sawtooth length roller lever ø18

X11 -1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

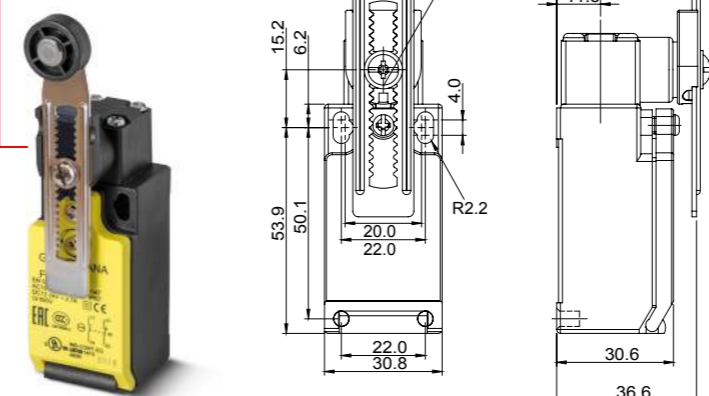
Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



BEST SAFETY SYSTEM





FTN1R SERIES - GENERAL CHARACTERISTICS

FTN1R Series one threaded conduit entry	Standard: M16; On request: M20, 1/2NPT, PG11, PG13.5, Connector			
Protection degree	IP67 according to EN60529 with cable gland having equal or higher protection degree			
Positive opening operation	NC contact \ominus			
Utilization category	Contact type	Categories/Ratings		
	X11 - W02 - W20	A600 Q600	AC15 400V 4A	DC13 24V 6A
	Z11 - Z02	B600 Q600		
	W12 - W03	A300 Q300		
Minimum admissible current	5V, 5mA, DC			
Insulation resistance	100M Ω min (DC 500V)			
Contact resistance	25m Ω max (Initial)			
Max Switching speed	250 mm/s			
Max Switching frequency	6.000 operations per hour			
Enclosure material	UL approved glass-filled polybutylene terephthalate			
Operating temperature	Min -25°C (-18°F) / Max 80°C (+176°F)			
Mechanical life expectancy	1x10 ⁶ cycles min			
Electrically life expectancy	150.000 cycles min			
Vibration resistance	IEC 68-2-6, 10-55Hz \pm 1Hz, Excursion: 0.35mm, 1 octave/min			
Fixing	2xM4			

FTN1R SERIES - ELECTRICAL CHARACTERISTICS

Rated thermal current (I_{th})	10A
Rated insulation voltage (U_i)	500V AC
Rated impulse withstand voltage (U_{imp})	2500V AC
Pollution degree	3
Protection against electric shock	Class II (Double insulation)

FTN1R SERIES - STANDARDS & APPROVALS

Standards	EN60947-5-1, UL508, EN50047
Approvals	cULus, EAC and CCC marked for all applicable directives



Operating force - FTN1R SERIES

TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
FTN1R31	X11	1NC/1NO Slow Action	2.4 mm	3.4mm	7.5 N	6.0 mm
	W02	2NC Slow Action	2.4 mm	-	7.5 N	
	W20	2NO Slow Action	2.4 mm	-	9.5 N	
	W12	2NC/1NO Slow Action	2.3 mm	3.0mm	7.5 N	
	W03	3NC Slow Action	2.3 mm	-	7.5 N	
	Z11	1NC/1NO Snap Action	2.7 mm	-	6.8 N	
	Z02	2NC Snap Action	2.7 mm	-	6.8 N	



TYPE	CONTACT BLOCK		OPERATING TRAVEL		OPERATING FORCE	TOTAL TRAVEL
			PT	PT2nd	OF	
FTN1R34	X11	1NC/1NO Slow Action	2.4 mm	3.3 mm	7.5 N	6.0 mm
	W02	2NC Slow Action	2.4 mm	-	7.5 N	
	W20	2NO Slow Action	2.4 mm	-	9.5 N	
	W12	2NC/1NO Slow Action	2.3 mm	3.0 mm	7.5 N	
	W03	3NC Slow Action	2.3 mm	-	7.5 N	
	Z11	1NC/1NO Snap Action	2.6 mm	-	6.8 N	
	Z02	2NC Snap Action	2.6 mm	-	6.8 N	
FTN1R37	X11	1NC/1NO Slow Action	35°	50°	1.8 N	80°
	W02	2NC Slow Action	35°	-	1.8 N	
	W20	2NO Slow Action	35°	-	1.8 N	
	W12	2NC/1NO Slow Action	32°	40°	1.8 N	
	W03	3NC Slow Action	32°	-	1.8 N	
	Z11	1NC/1NO Snap Action	40°	-	1.9 N	
	Z02	2NC Snap Action	40°	-	1.9 N	
FTN1R38	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	32°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R39	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R40	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R40R	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R41	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	
FTN1R44	X11	1NC/1NO Slow Action	35°	50°	6.5 N	80°
	W02	2NC Slow Action	35°	-	6.5 N	
	W20	2NO Slow Action	35°	-	6.5 N	
	W12	2NC/1NO Slow Action	32°	40°	6.5 N	
	W03	3NC Slow Action	32°	-	6.5 N	
	Z11	1NC/1NO Snap Action	40°	-	5.3 N	
	Z02	2NC Snap Action	40°	-	5.3 N	



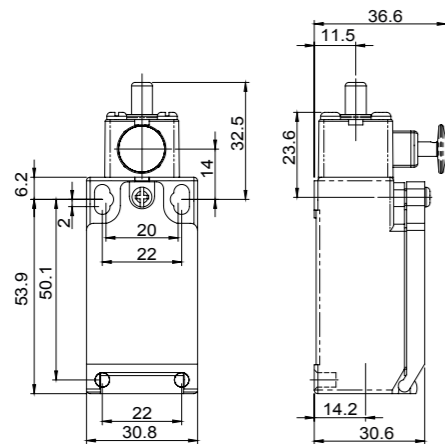
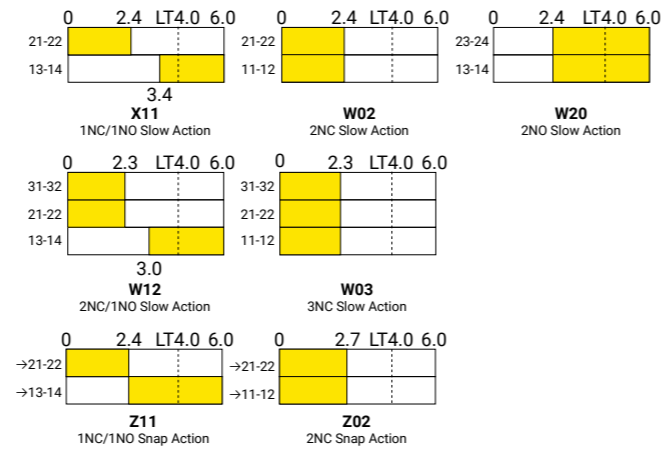


FTN1R31: Push plunger type

FTN	1R	31	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	31 - Push plunger type	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS

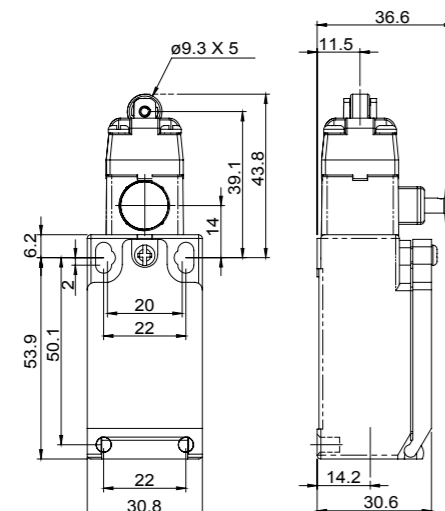
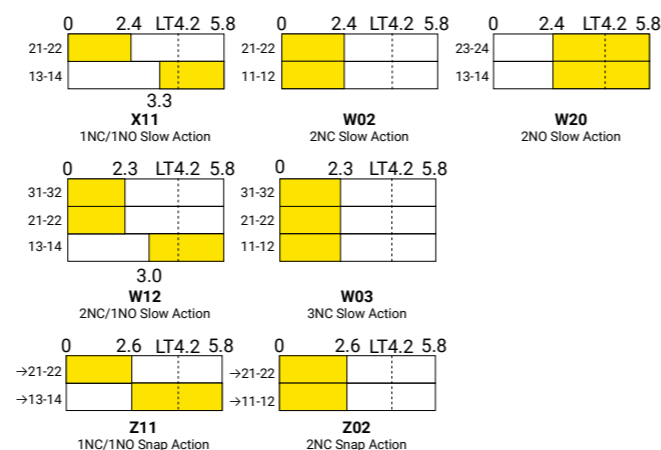


FTN1R34: Roller plunger type

FTN	1R	34	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	34 - Roller plunger type	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS

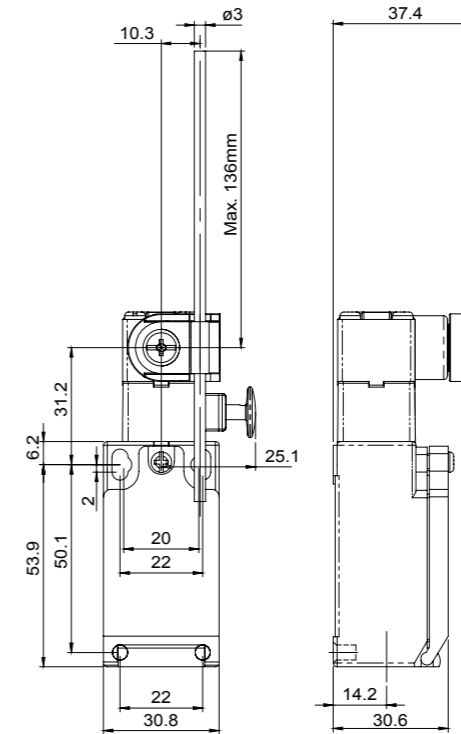
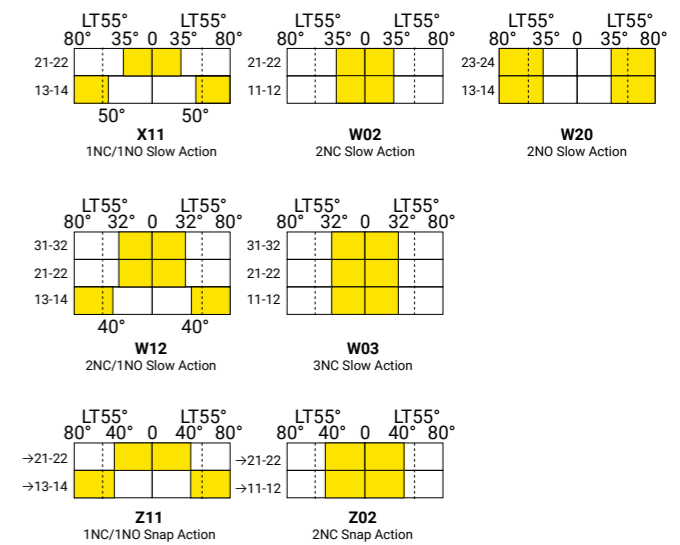


FTN1R37: Rod lever type

FTN	1R	37	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	37 - Rod lever type	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS

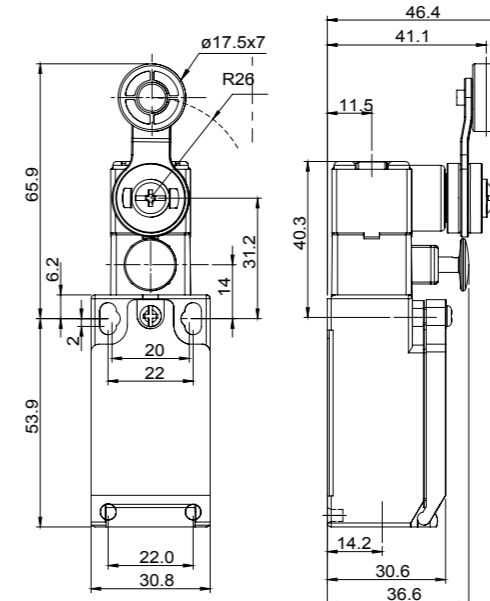
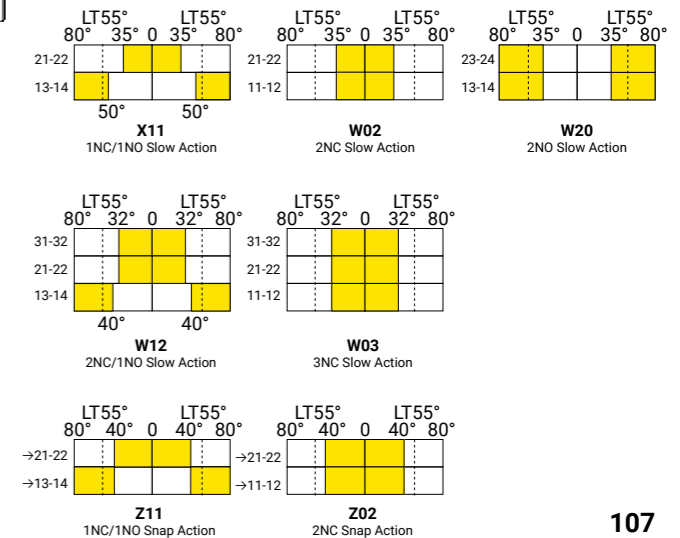


FTN1R38: Roller arm type

FTN	1R	38	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	38 - Roller arm type	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN1R39: Adjustable roller arm type (Long Arm)

FTN	1R	39	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

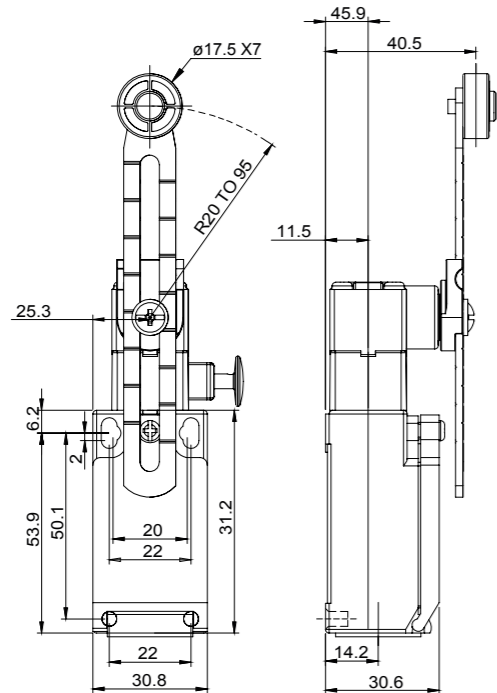
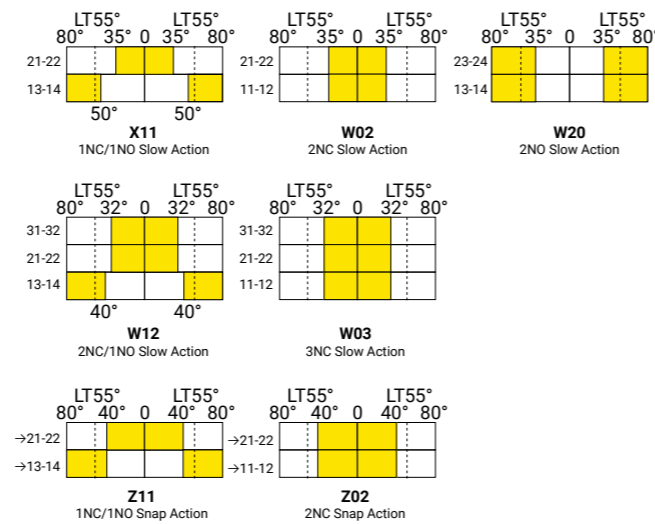
39 - Adjustable roller arm type (Long Arm)

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN1R40R: Two ways adjustable roller arm type

FTN	1R	40R	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

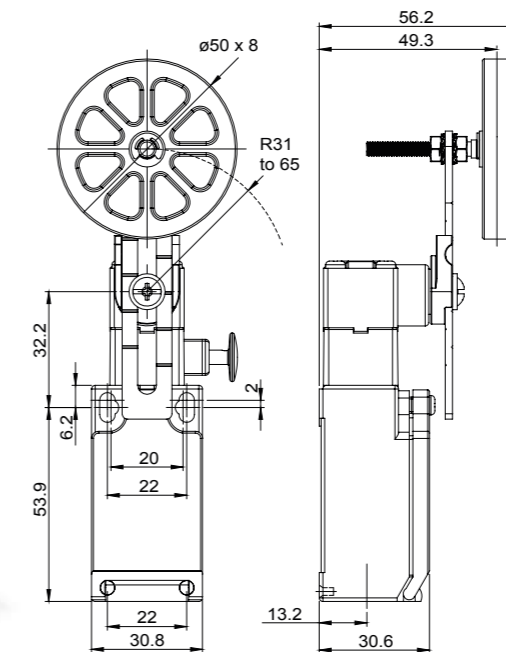
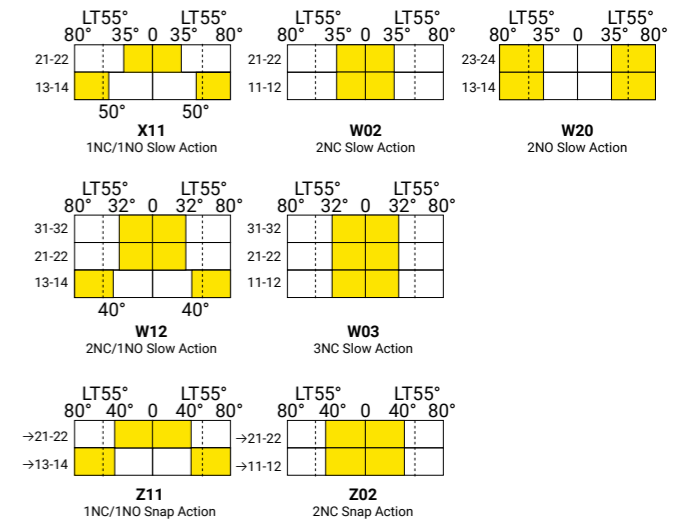
40R - Two ways adjustable roller arm type

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN1R40: Adjustable roller arm type (Big Arm)

FTN	1R	40	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

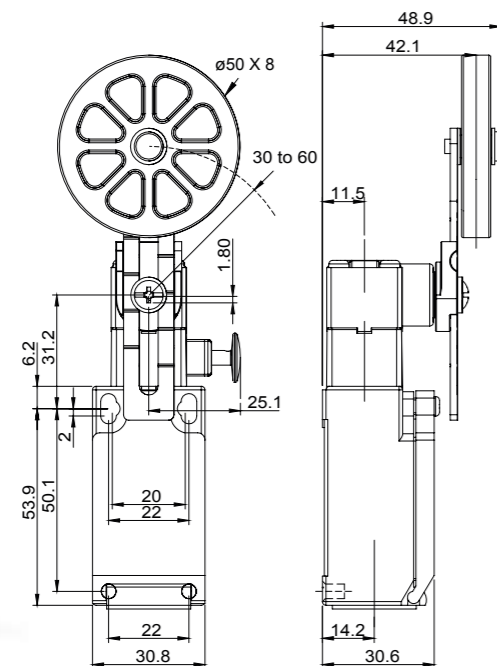
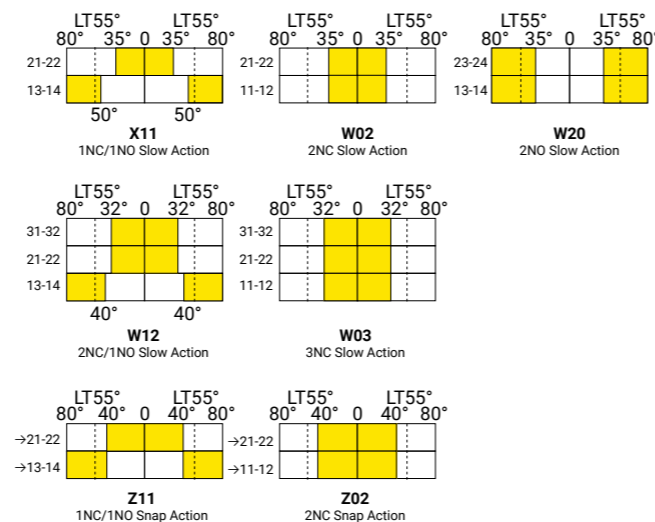
40 - Adjustable roller arm type (Big Arm)

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



FTN1R41: Big roller arm type

FTN	1R	41	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit

1 - With Reset Function

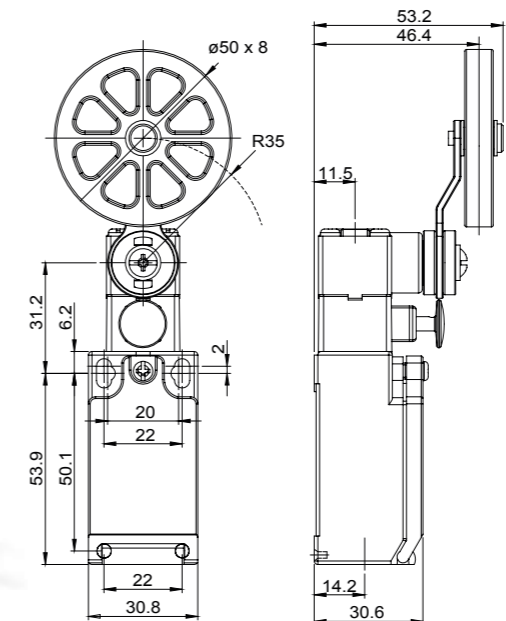
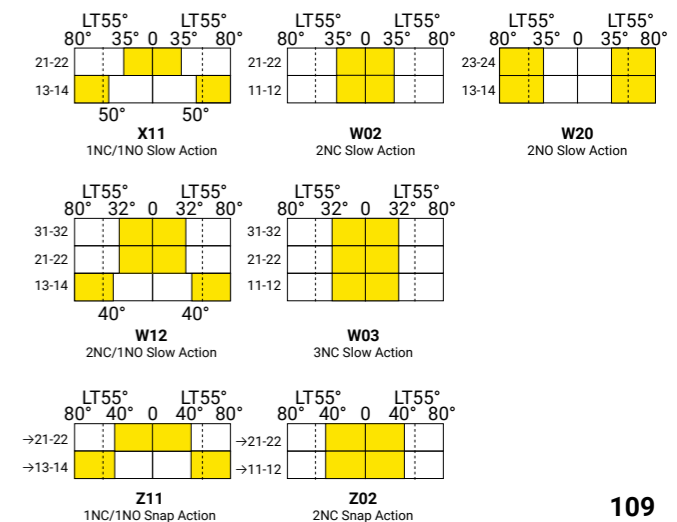
41 - Big roller arm type

X11 - 1NC/1NO Slow Action
W02 - 2NC Slow Action
W20 - 2NO Slow Action
W12 - 2NC/1NO Slow Action
W03 - 3NC Slow Action
Z11 - 1NC/1NO Snap Action
Z02 - 2NC Snap Action

Standard: **BLANK** - M16
On request:
M - M20
N - 1/2NPT
G1 - PG11
G3 - PG13.5
C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



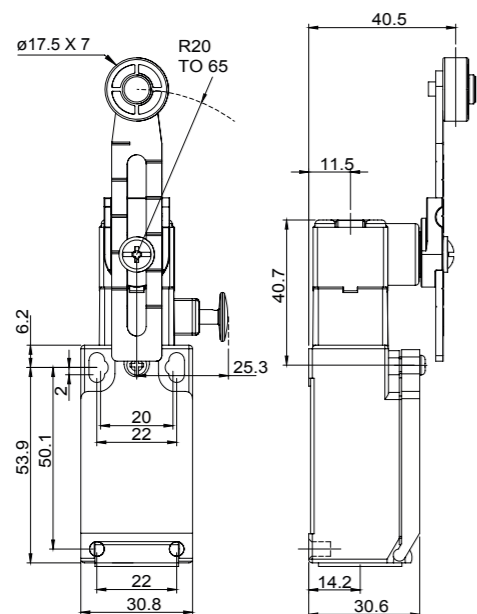
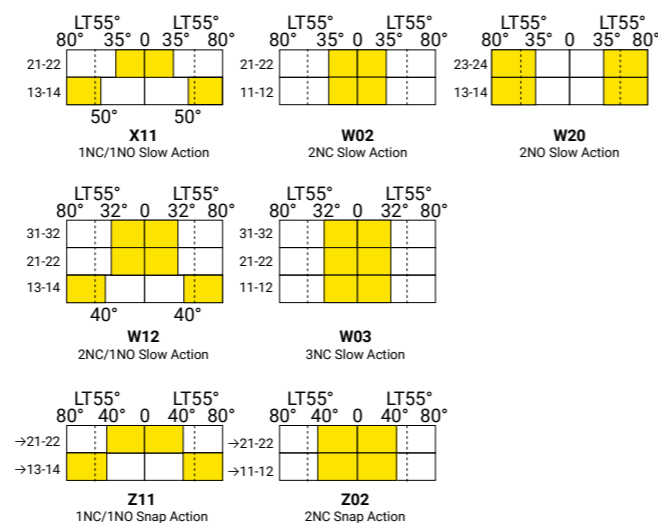


FTN1R44: Adjustable roller arm type (Standard Arm)

FTN	1R	44	X11	-
Series	Function	Head and actuators	Contact Types	Thread dimension of lead exit
	1 - With Reset Function	44 - Adjustable roller arm type (Standard Arm)	X11 - 1NC/1NO Slow Action W02 - 2NC Slow Action W20 - 2NO Slow Action W12 - 2NC/1NO Slow Action W03 - 3NC Slow Action Z11 - 1NC/1NO Snap Action Z02 - 2NC Snap Action	Standard: BLANK - M16 On request: M - M20 N - 1/2NPT G1 - PG11 G3 - PG13.5 C - Connector

Slow Action and Snap Action: **Type "Zb"**

OPERATION DIAGRAMS



ASTRA SERIES - GENERAL CHARACTERISTICS

Air temperature near the device	During operation: -25 ... +70 For storage: -30 ... +80
Mounting positions	All positions are authorised
Protection against electrical shocks according to IEC 61140	Class II
Degree of protection according to IEC 60529 and EN 60529	IP65

ASTRA SERIES - ELECTRICAL CHARACTERISTICS

Rated insulation voltage (Ui) - according to IEC 60947-1 and EN 60947-1 - according to UL 508 and CSA C22-2 n°14	500V (degree of pollution 3) A600, Q600	
Rated impulse withstand voltage (Uimp) according to IEC 60947-1 and EN 60947-1	6kV	
Conventional free air thermal current (Ith) according to IEC 60947-1 $\theta < 40^\circ\text{C}$	10A	
Short-circuit protection Ue < 500V AC - gG (gl)	10A	
Rated operational current Ie / AC-15 (according to IEC 60947-5-1)	24V-50/60Hz 120V-50/60Hz 400V-50/60Hz	10A 6A 4A
Ie / DC-13 (according to IEC 60947-5-1)	24V DC 125V DC 250V DC	6A 0.55A 0.4A
Switching frequency	3600 cycles/h	
Load factor	0.5	
Resistance between contacts	25m Ω	
Connecting terminals	M3.5 (+, -) pozidriv 2 screws with cable clamp	
Terminal for protective conductor	-	
Connecting capacity	0.75 ... 2.5 (1 or 2 x mm ²)	
Terminal marking	According to IEC 60947-5-1	
Mechanical durability	15 millions of operations T38 > 5 millions of operations T16	

ASTRA SERIES - STANDARDS & APPROVALS

Standards	IEC 60947-5-1, EN 60947-5-1
Approvals	cULus, CSA, IMQ marked for all applicable directives





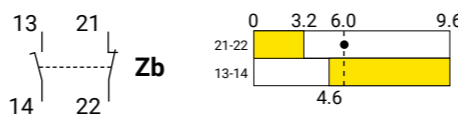
AFT2T16Y11: Nylon ø20 mm roller plunger



DESCRIPTION	OPERATION DIAGRAMS
Overlapping slow action contacts 1NO+1NC Positive opening operation according to IEC 947-5-1  IP65 Protection degree, Double insulation 	

AFT2T16X11: Nylon ø20 mm roller plunger



DESCRIPTION	OPERATION DIAGRAMS
Non Overlapping slow action contacts 1NO+1NC Positive opening operation according to IEC 947-5-1  IP65 Protection degree, Double insulation 	

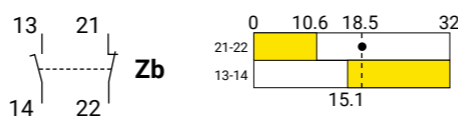
AFT2T38Y11: Metal plunger with adjustable nylon roller plunger ø22 mm



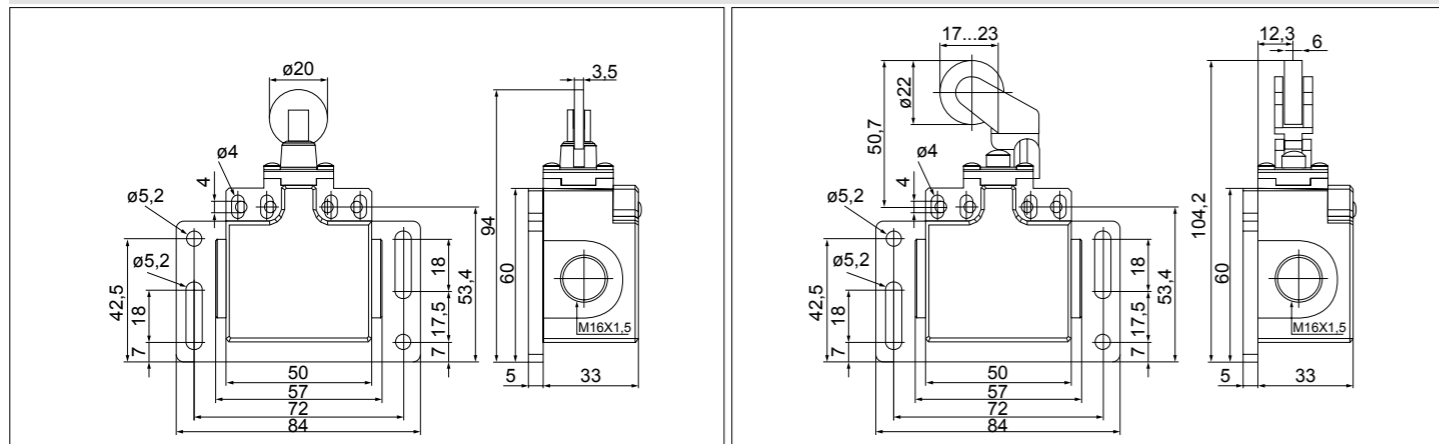
DESCRIPTION	OPERATION DIAGRAMS
Overlapping slow action contacts 1NO+1NC Positive opening operation according to IEC 947-5-1  IP65 Protection degree, Double insulation 	

AFT2T38X11: Metal plunger with adjustable nylon roller plunger ø22 mm

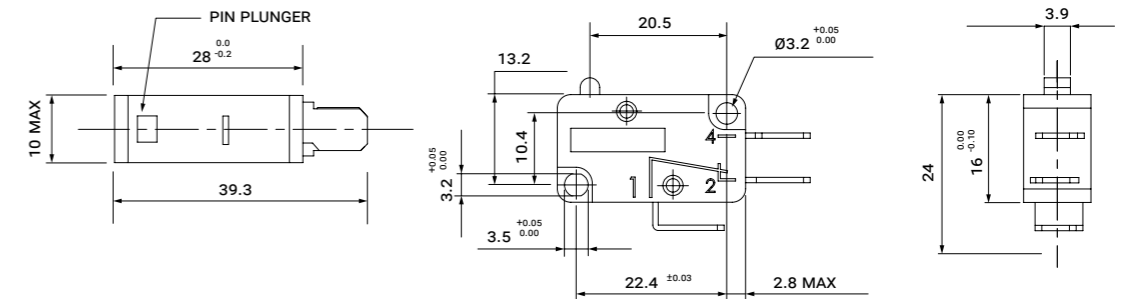
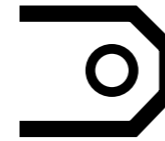


DESCRIPTION	OPERATION DIAGRAMS
Non Overlapping slow action contacts 1NO+1NC Positive opening operation according to IEC 947-5-1  IP65 Protection degree, Double insulation 	

TECHNICAL DRAWING



MFI SERIES - Faston terminal 6.3 x 0.8 Micro Switches



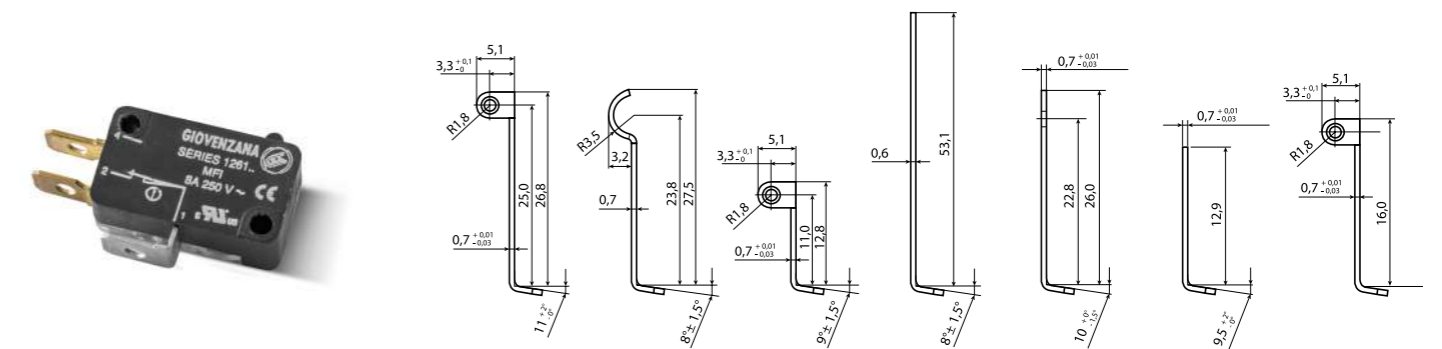
GENERAL DATA

Operating temperature	Min -25°C (-18°F) / Max 85°C (+185°F)
Mechanical life expectancy	1x10 ⁶ cycles min
Electrically life expectancy	5x10 ⁵ cycles min
Termination type	6.3 x 0.8 faston terminal

GENERAL DATA

Rated Thermal current (I _{th})	8A
Rated insulation voltage (U _i)	250V
Rated impulse withstand voltage (U _{imp})	1500V
Rated operating current (I _e)	8A - 250V resistive load, 3A - 250V inductive load
Pollution degree	2
Protection against electric shock	Class II

LEVER TYPES



1NC-1NO
SNAP ACTION



6.3 X 0.8

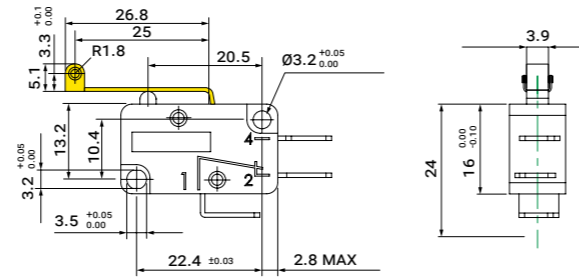
	PIN PLUNGER	LONG ROLLER LEVER	SIMULATED ROLLER LEVER	ROLLER LEVER	LONG LEVER	LEVER	SHORT LEVER	ROLLER LEVER L=16 mm
	MFI	MFI.1	MFI.2	MFI.3	MFI.4	MFI.5	MFI.6	MFI.7
Operating force - OF max N	5,1	3,2	3,2	5,1	1,3	3,2	5,1	4,5
Resetting force - RF min N	1,9	1,0	1,0	1,9	0,15	1,2	1,9	1,9
Max Pre travel - PT max mm	1,4	3,3	3,3	1,4	7,6	3,3	1,6	1,8
Min Over travel - OT min mm	0,8	0,8	0,8	0,6	2,2	0,8	0,6	0,8
Tripping position - OP mm	14,4 ± 0,5	20,3 ± 1,2	18,4 ± 1,2	20,3 ± 0,8	15,1 ± 2,6	15,1 ± 1,2	15,1 ± 0,6	21,1 ± 0,6

MFI.1: Long roller lever

1NC-1NO
SNAP ACTION



6.3 X 0.8



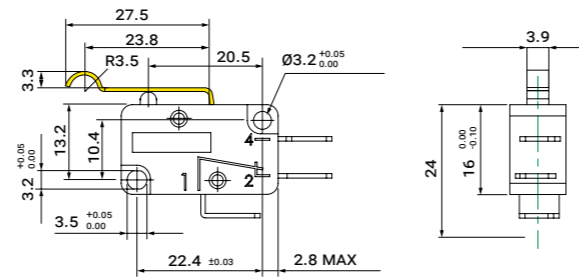
TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.1	3.2 N	1.0 N	3.3 mm	0.8 mm	20.3 ± 1.2 mm

MFI.2: Simulated roller lever

1NC-1NO
SNAP ACTION



6.3 X 0.8



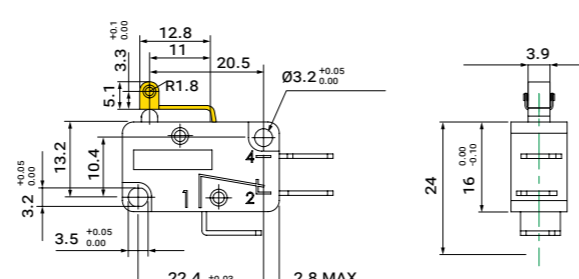
TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.2	3.2 N	1.0 N	3.3 mm	0.8 mm	18.4 ± 1.2 mm

MFI.3: Roller lever

1NC-1NO
SNAP ACTION



6.3 X 0.8



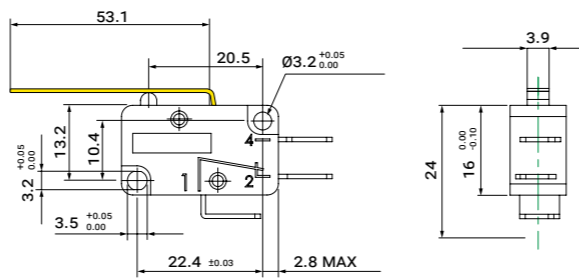
TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.3	5.1 N	1.9 N	1.4 mm	0.6 mm	20.3 ± 0.8 mm

MFI.4: Long lever

1NC-1NO
SNAP ACTION



6.3 X 0.8



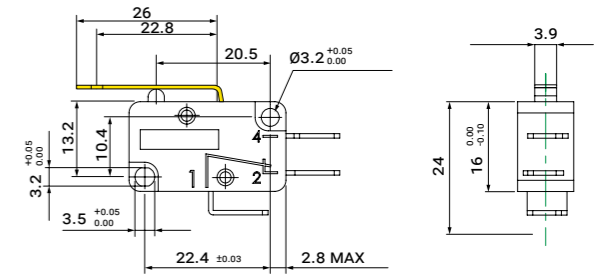
TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.4	1.3 N	0.15 N	7.6 mm	2.2 mm	15.1 ± 2.6 mm

MFI.5: Lever

1NC-1NO
SNAP ACTION



6.3 X 0.8



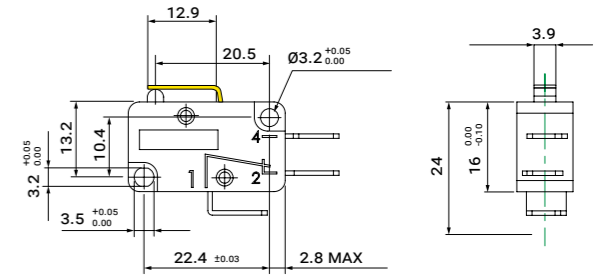
TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.5	3.2 N	1.2 N	3.3 mm	0.8 mm	15.1 ± 1.2 mm

MFI.6: Short Lever

1NC-1NO
SNAP ACTION



6.3 X 0.8



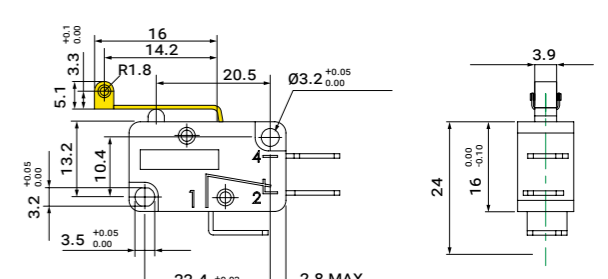
TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.6	5.1 N	1.9 N	1.6 mm	0.6 mm	15.1 ± 0.6 mm

MFI.7: Roller lever L=16mm

1NC-1NO
SNAP ACTION



6.3 X 0.8



TYPE	OF max	RF min	PT max	OT min	OP ± 1 mm
MFI.7	4.5 N	1.9 N	1.8 mm	0.8 mm	21.1 ± 0.6 mm

MFI.T - MICRO SWITCH WITH TOWER ACTUATOR AND THREADED FLANGE

GENERAL DATA

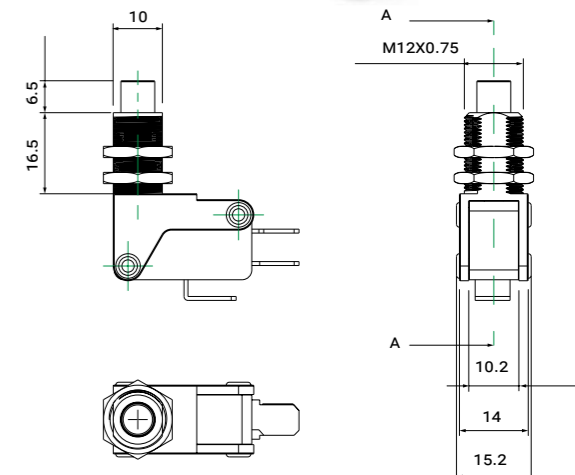
Operating temperature	Min -25°C (-18°F) / Max 85°C (+185°F)
Mechanical life expectancy	1x10 ⁶ cycles min
Electrically life expectancy	5x10 ⁵ cycles min
Termination type	Tower actuator - Faston Terminals

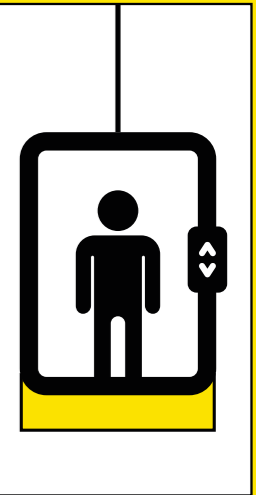
ELECTRICAL DATA

Rated Thermal current (I _{th})	8A
Rated insulation voltage (U _i)	250V
Rated impulse withstand voltage (U _{imp})	1500V
Rated operating current (I _e)	8A - 250V resistive load, 3A 250V inductive load
Pollution degree	2
Protection against electric shock	Class II

APPLICATIONS

Accessibility solutions for wheelchairs users, lift platforms and stair lift.





DESCRIPTION	SCHEME	CODE	
PULSED BUZZER 24V		GM029	
FLASHING YELLOW LED LIGHT PCB NO 5 LUX			



TECHNICAL DRAWING - GM029

BOARD POWER SUPPLY

- 24V - Yellow
- GND - Black

Operating voltage VDC	24
Max current consumption [mA]	100
Max power [W]	2,4
Operating temperature	-25°C ÷ +70°C
Dimensions	75x75x66,4mm
Light color	Yellow
Light diffusion angle	120°
Sound pressure Min. [dBA/1m]	75
Flame retardant	V0 UL94
IP rating	IP65
Printed circuits certification	UL

Equipped with M16x1,5 cable gland.

Arranged for nr. 1 cable gland.

DESCRIPTION	SCHEME	CODE	
CONTINUOUS BUZZER 12/24V		GMS131	
FLASHING YELLOW LED LIGHT PCB NO 5 LUX			



TECHNICAL DRAWING - GMS131

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black

Use 12V or 24V only
NOT TOGETHER!

BUZZER POWER SUPPLY

- 12÷24V - Red
- GND - Black

Operating voltage VDC	12	24
Max current consumption [mA]	100	100
Max power [W]	1,2	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x66,4mm	
Light color	Yellow	
Light diffusion angle	120°	
Sound pressure Min. [dBA/1m]	75	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	

Equipped with M16x1,5 cable gland.

Arranged for nr. 1 cable gland.

DESCRIPTION	SCHEME	CODE	
CONTINUOUS BUZZER 12/24V		GMS056	
FIXED YELLOW LED LIGHT PCB NO 5 LUX			



TECHNICAL DRAWING - GMS056

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black

Use 12V or 24V only
NOT TOGETHER!

BUZZER POWER SUPPLY

- 12÷24V - Red
- GND - Black

Operating voltage VDC	12	24
Max current consumption [mA]	100	100
Max power [W]	1,2	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x66,4mm	
Light color	Yellow	
Light diffusion angle	120°	
Sound pressure Min. [dBA/1m]	75	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	

Equipped with M16x1,5 cable gland.

Arranged for nr. 1 cable gland.



DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
ALARM Mushroom Button ø40, flush, momentary, yellow colour		1NO	GMS057	
CONTINUOUS BUZZER 12/24V				
FIXED YELLOW LED LIGHT PCB NO 5 LUX				



TECHNICAL DRAWING - GMS057

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black

BUZZER POWER SUPPLY

- 12÷24V - Red
- GND - Black

Operating voltage VDC	12	24
Max current consumption [mA]	100	100
Max power [W]	1,2	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x77mm	
Light color	Yellow	
Light diffusion angle	120°	
Sound pressure Min. [dBA/1m]	75	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	
Alarm button contact	NO	

Equipped with M16x1,5 cable gland.
Arranged for nr. 1 cable gland.

Use 12V or 24V only
NOT TOGETHER!

DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
ALARM Mushroom Button ø40, flush, momentary, yellow colour		1NO	GMS167	
CONTINUOUS BUZZER 12/24V				
FLASHING YELLOW LED LIGHT PCB NO 5 LUX				



TECHNICAL DRAWING - GMS167

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black

BUZZER POWER SUPPLY

- 12÷24V - Red
- GND - Black

Operating voltage VDC	12	24
Max current consumption [mA]	100	100
Max power [W]	1,2	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x77mm	
Light color	Yellow	
Light diffusion angle	120°	
Sound pressure Min. [dBA/1m]	75	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	
Alarm button contact	NO	

Equipped with M16x1,5 cable gland.
Arranged for nr. 1 cable gland.

Use 12V or 24V only
NOT TOGETHER!

DESCRIPTION	SCHEME	CONTACTS	CODE	IP65
ALARM Mushroom Button ø40, flush, momentary, yellow colour		1NO	GMS168	
PULSED BUZZER 12/24V				
FLASHING YELLOW LED LIGHT PCB NO 5 LUX				



TECHNICAL DRAWING - GMS168

BOARD POWER SUPPLY

- 12V - Red
- 24V - Yellow
- GND - Black

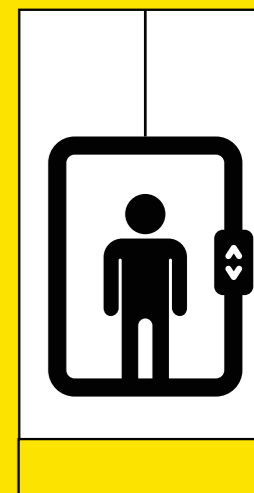
Operating voltage VDC	12	24
Max current consumption [mA]	100	100
Max power [W]	1,2	2,4
Operating temperature	-25°C ÷ +70°C	
Dimensions	75x75x77mm	
Light color	Yellow	
Light diffusion angle	120°	
Sound pressure Min. [dBA/1m]	75	
Flame retardant	V0 UL94	
IP rating	IP65	
Printed circuits certification	UL	
Alarm button contact	NO	

Equipped with M16x1,5 cable gland.
Arranged for nr. 1 cable gland.

Use 12V or 24V only
NOT TOGETHER!



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PIT BOTTOM CONTROLS

DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM Mushroom Button ø40, flush, momentary, yellow colour		1NO	GM01FN3



DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM Button ø30, flush, momentary, yellow colour		1NC	GM01RN3A



DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM Button ø30, flush, momentary, yellow colour		1NO	GM01RN3A.1A



DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 1-0-2 + Black knob ø35 45° switching Spring return to the center		1NO + 1NO	GM092



TECHNICAL DRAWING - GM01FN3	GM01RN3A / GM01RN3A.1A	GM092

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull		1NC + 1NO	GM01P4NP



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC + 1NO	GM01P4SP



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	GM01R4NP



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	GM01R4N



GM01P4NP	GM01P4SP	GM01R4NP	GM01R4N

DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 0-1 + Red knob $\varnothing 35$ 90° switching		1NO	GM353

DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 0-1 + Red knob $\varnothing 35$ 90° switching		2NO	GM355



IP65

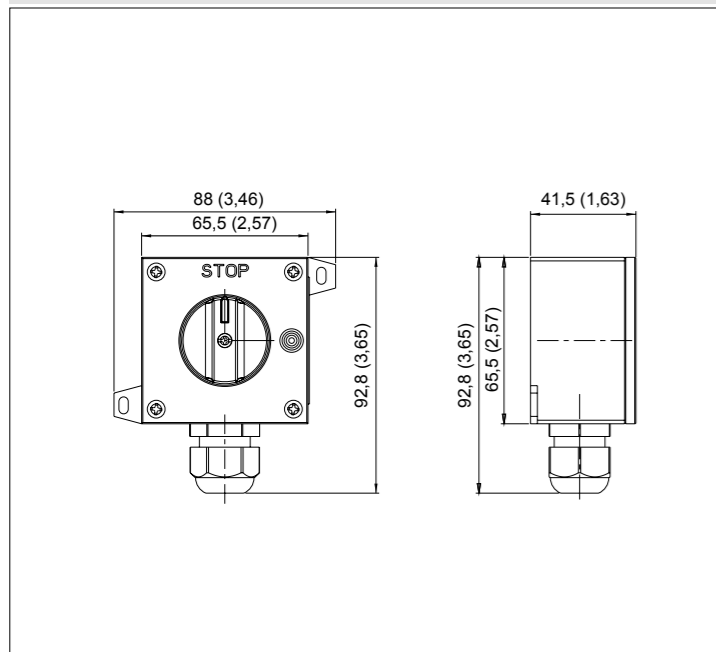
DESCRIPTION	SCHEME	CONTACTS	CODE
With handle locked in stop position 90° switching		1NO	GM354

DESCRIPTION	SCHEME	CONTACTS	CODE
With handle locked in stop position 90° switching		2NO	GM356

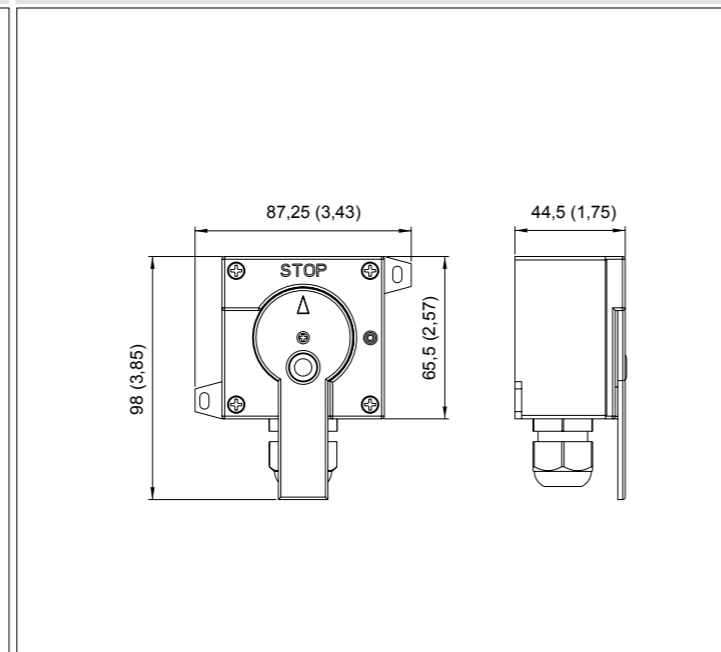


IP65

TECHNICAL DRAWING - GM353 / GM355



TECHNICAL DRAWING - GM354 / GM356



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 $\varnothing 40$ push-pull with vision		1NC	
Schuko socket outlet 16A			GM406/EU
Cenelec socket outlet			GM406/FR
USA socket outlet			GM406/US
Swiss socket outlet			GM406/SW
UK standard socket outlet			GM406/UK
Australia & China standard socket outlet			GM406/CH



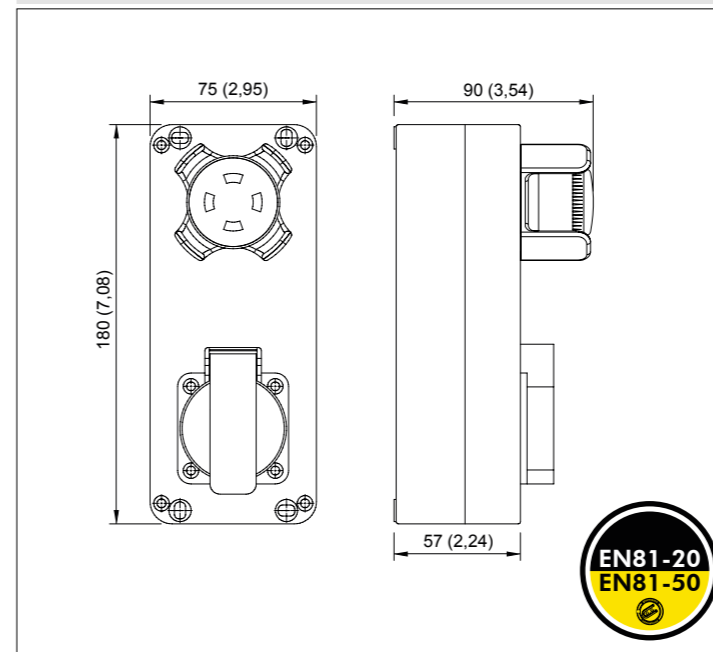
IP54

DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 $\varnothing 40$ push-pull with vision		1NC	
ALARM Button $\varnothing 30$, flush, momentary, yellow colour		1NC	
Schuko socket outlet 16A			GM401/EU
Cenelec socket outlet			GM401/FR
USA socket outlet			GM401/US
Swiss socket outlet			GM401/SW
UK standard socket outlet			GM401/UK
Australia & China standard socket outlet			GM401/CH

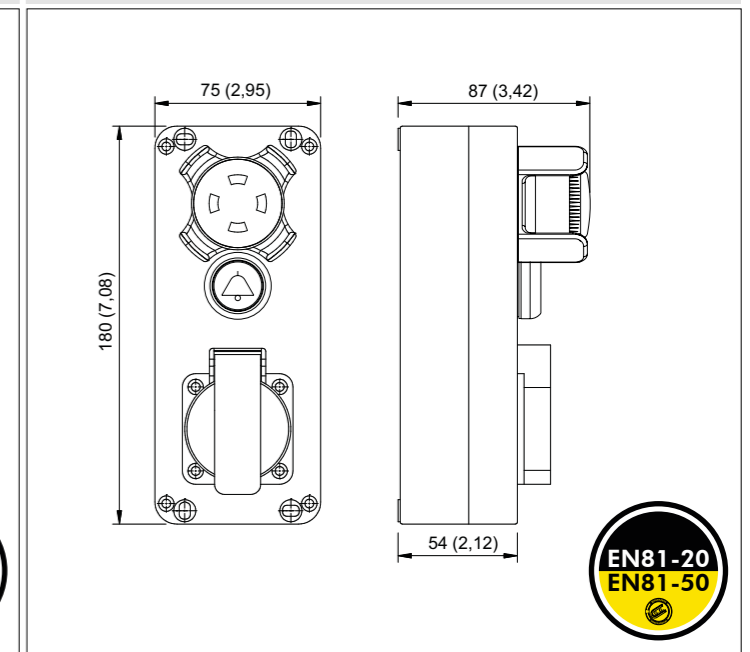


IP54

TECHNICAL DRAWING - GM406/..



TECHNICAL DRAWING - GM401/..



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	
Knob Selector 0-1 to 90° 2 positions, black + white indicator		1NO	
Schuko socket outlet 16A			GM403/EU
Cenelec socket outlet			GM403/FR
USA socket outlet			GM403/US
Swiss socket outlet			GM403/SW
UK standard socket outlet			GM403/UK
Australia & China standard socket outlet			GM403/CH

IP54



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	
ALARM/LIGHT Dual Push Button flush, momentary, yellow/blue colour		2NO	
Schuko socket outlet 16A			GM491/EU
Cenelec socket outlet			GM491/FR
USA socket outlet			GM491/US
Swiss socket outlet			GM491/SW
UK standard socket outlet			GM491/UK
Australia & China standard socket outlet			GM491/CH

IP54



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	
ALARM lighted push button flush, momentary, yellow colour		1NO	
Schuko socket outlet 16A			GM421/EU
Cenelec socket outlet			GM421/FR
USA socket outlet			GM421/US
Swiss socket outlet			GM421/SW
UK standard socket outlet			GM421/UK
Australia & China standard socket outlet			GM421/CH

IP54

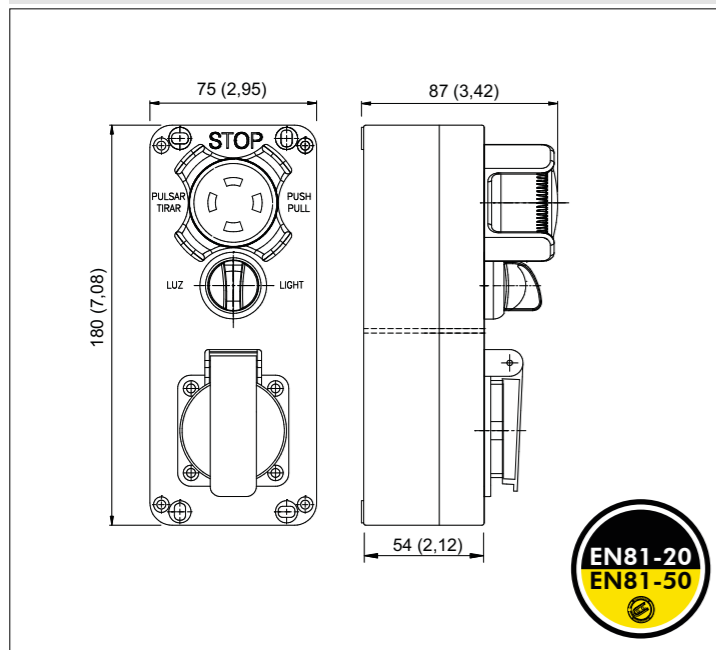


DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	
LIGHT push button flush, momentary, black colour		1NO	
Schuko socket outlet 16A			GM250/EU
Cenelec socket outlet			GM250/FR
USA socket outlet			GM250/US
Swiss socket outlet			GM250/SW
UK standard socket outlet			GM250/UK
Australia & China standard socket outlet			GM250/CH

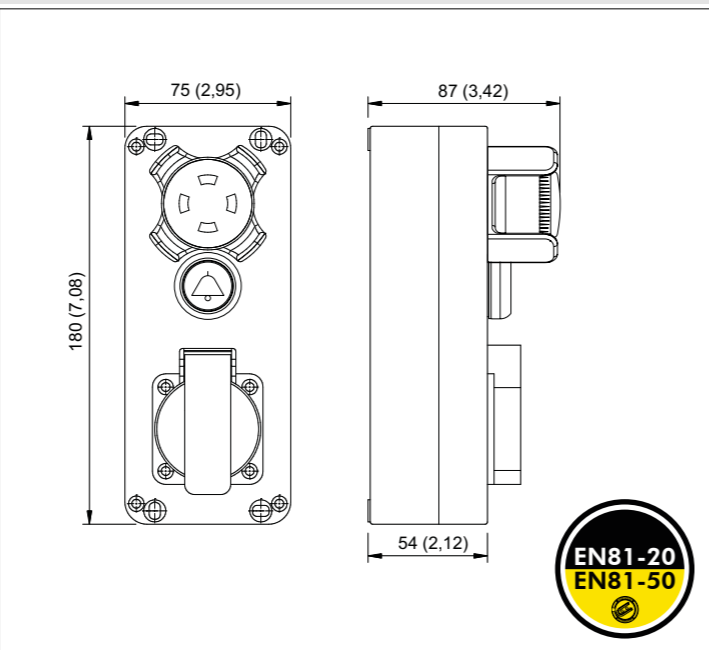
IP54



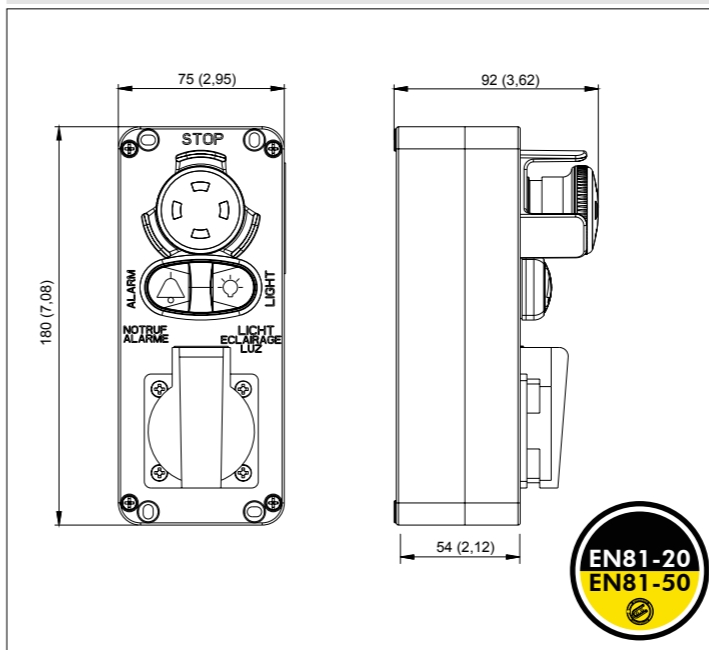
TECHNICAL DRAWING - GM403/..



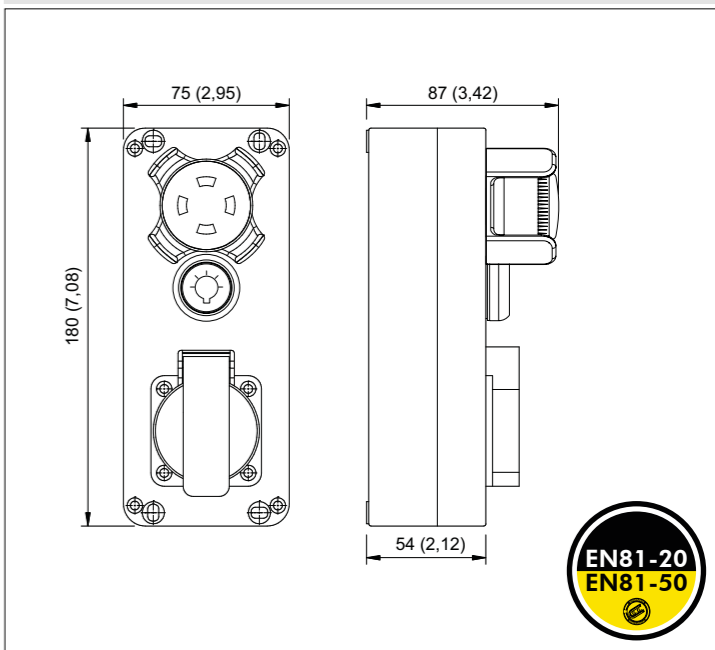
TECHNICAL DRAWING - GM421/..



TECHNICAL DRAWING - GM491/..



TECHNICAL DRAWING - GM250/..



DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 1-2 90° switching		1NO+1NC	
Schuko socket outlet 16A			GM243/EU
Cenelec socket outlet			GM243/FR
USA socket outlet			GM243/US
Swiss socket outlet			GM243/SW
UK standard socket outlet			GM243/UK
Australia & China standard socket outlet			GM243/CH

IP54



DESCRIPTION	SCHEME	CONTACTS	CODE
LIGHT push button flush, momentary, black colour		1NO	
Schuko socket outlet 16A			GM265/EU
Cenelec socket outlet			GM265/FR
USA socket outlet			GM265/US
Swiss socket outlet			GM265/SW
UK standard socket outlet			GM265/UK
Australia & China standard socket outlet			GM265/CH

IP54



DESCRIPTION	SCHEME	CONTACTS	CODE
Red LED PILOT LIGHT red colour		AC/DC 24V	GM419
Green LED PILOT LIGHT green colour		AC/DC 24V	
BUZZER AC/DC 12-24V			

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
Green LED PILOT LIGHT green colour		AC/DC 24V	GM219
Red LED PILOT LIGHT red colour		AC/DC 24V	

IP65

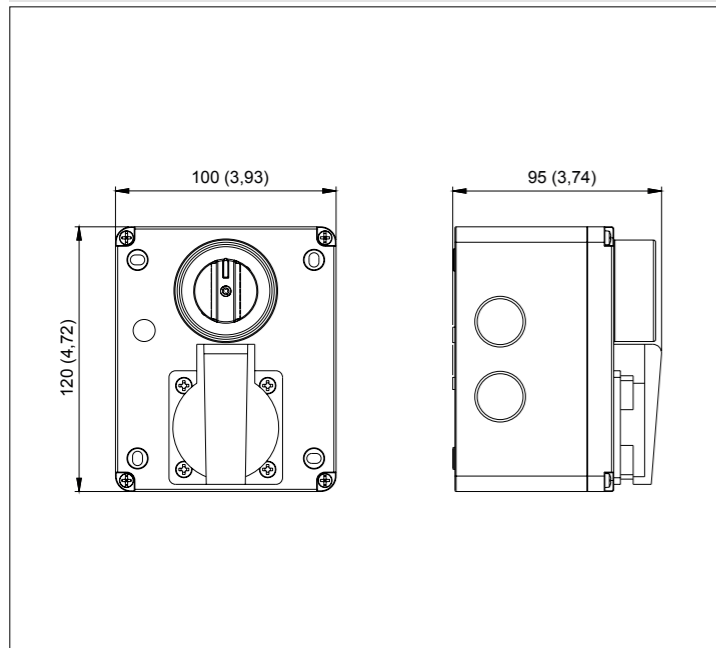


DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull		2NC	GML001P
Transparent box GREEN LED PCB 12 VDC / 24 VDC	FUNCTION: Fixed green light with mushroom released		
Transparent box GREEN LED PCB 12 VDC / 24 VDC	FUNCTION: Flashing red light with mushroom activated		

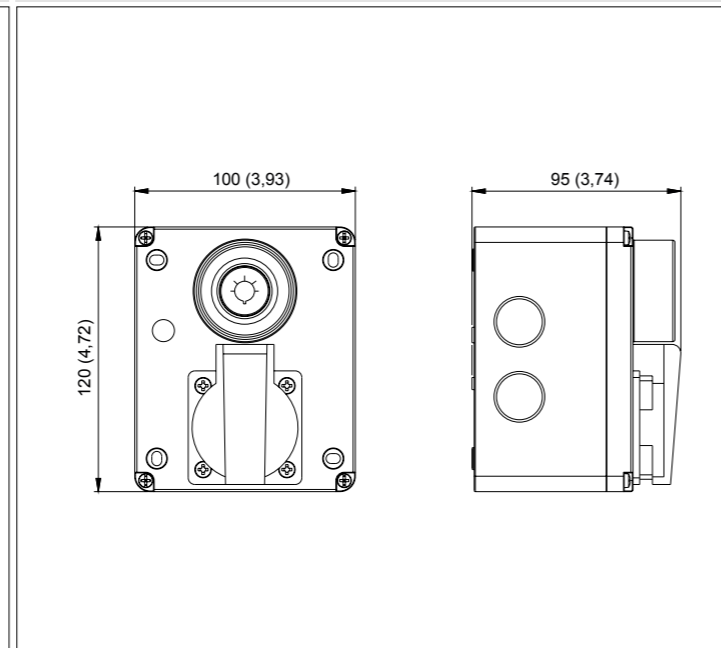
IP65



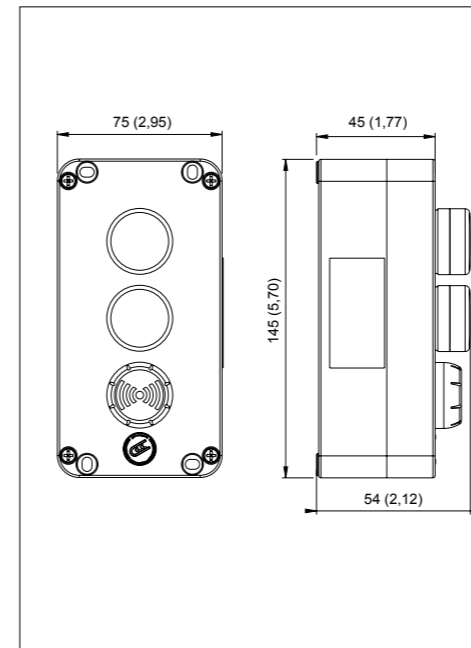
TECHNICAL DRAWING - GM243/..



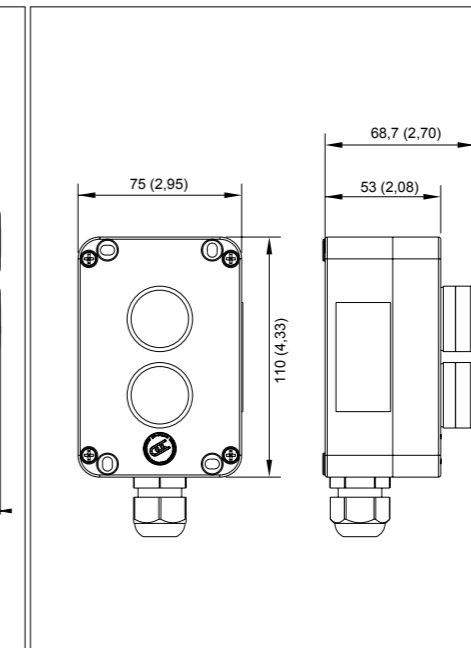
TECHNICAL DRAWING - GM265/..



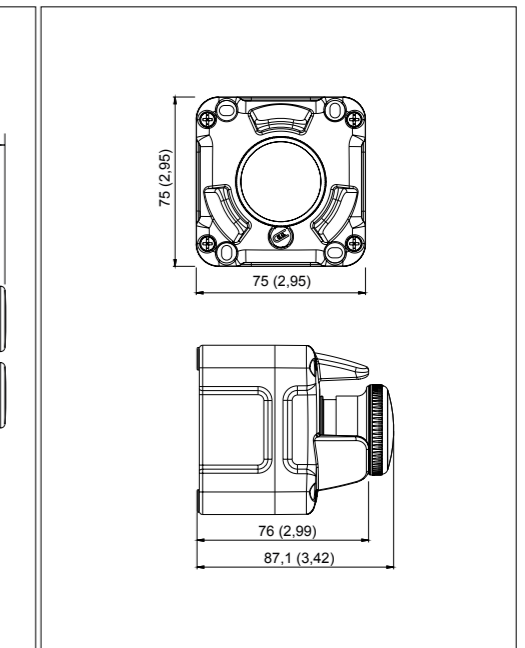
TECHNICAL DRAWING - GM419



TECHNICAL DRAWING - GM219



TECHNICAL DRAWING - GML001P



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull		1NC	TLP1.EPP

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	TLP1.VPP

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 twist to release		1NC	TLP1.ESR

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
ALARM Mushroom Button ø40, flush, momentary, yellow colour		1NO	TLP1B.AL

IP65



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull		1NC	TLP5
Cam Switch 1-2 Normal-Inspection 90° switching		3NO+3NC	
COMMON Push Button flush, momentary, blue colour		1NO	
UP Push Button flush, momentary, white colour		2NO	
DOWN Push Button flush, momentary, black colour		2NO	

IP65

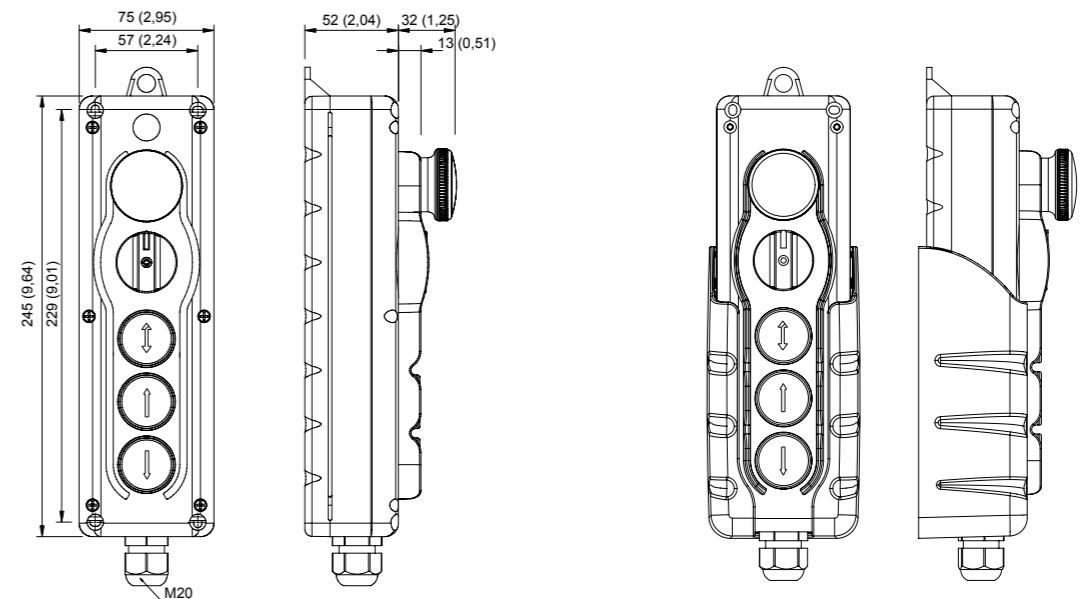


Wall Bracket case NOT INCLUDED Polypropylene material	1600062
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TLP1.EPP	TLP1.VPP	TLP1.ESR	TLP1B.AL

TECHNICAL DRAWING - TLP5 / TLP5 WITH WALL BRACKET CASE

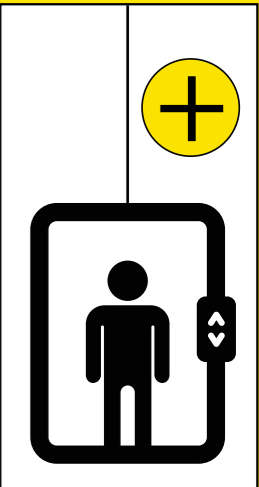




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ACCESSORIES



SOCKET OUTLETS IP54



20401371 20401372 20401369 20401399 20401398 12701045

Schuko socket outlet 16A (UE) **Cenelec socket outlet** (FR) **USA socket outlet** (US) **Swiss socket outlet** (SW) **UK standard socket outlet** (UK) **Australia & China standard socket outlet** (CH)



20401541

Brasil socket outlet 16A (BR)



1412.D 1412.FR 1412.BS

WITH DIN-EN 50022-35 RAIL SUPPORT

(UE) (FR) (UK)

MUSHROOM GUARDS



11710139 11706006 11705051 11705075

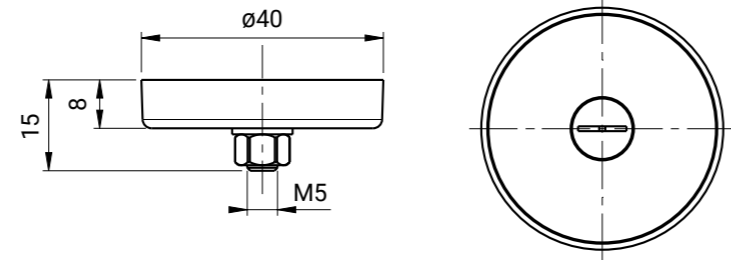
Guarded mushroom with 3 lobes ø22 Guarded mushroom with 4 lobes ø22 Protection ring ø35 Protection ring ø50

MAGNET KIT



KIT-GM1

Ferrite magnet ø40cm for maintenance stations with box code 11711034



CAM SWITCHES P016



DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 1-2 Switching angle 90°		2NO+2NC	P0160100S
Cam Switch 1-2 Switching angle 90°		3NO+3NC	P0160101S
Cam Switch 1-0-2 Switching angle 90°		2NO+2NC	P0160112S
Cam Switch 1-0-2 Switching angle 90°		3NO+3NC	P0160138S

GENERAL CHARACTERISTICS

Certifications	cUL, IMQ, CCC, EAC, RINA	Protection class terminals	IP20
Comply with rules	IEC 947-3, EN 609473, UL508	Flexible conductors mm²	nr. 1 x 0,75/4 nr. 2 x 0,75/2,5
Rated insulated voltage Ui	690V	Solid conductors mm²	nr. 1 x 0,75/4 nr. 2 x 0,75/2,5
Rated thermal current Ith/lthe	20A/16A	AWG	Flexible 10-18 Solid 10-18
Rated operating current Ie	AC-21A / AC-22A 16A - 690V DC-21A (1 pole) 12A - 50V DC-22A (1 pole) 10A - 30V	General use uL	16A - 600VAC

BUZZERS



PPESV812

Buzzer AC/DC 12-24V
dBA90 / ø30cm
Continuous tone
IP65



PB24C8W54D8G

Buzzer AC/DC 12-24V
dBA80 / ø30cm
Continuous tone with faston
IP67



PB24C8F67D8G

Buzzer AC/DC 12-24V
dBA80 / ø30cm
Continuous tone
IP67

WALL BRACKET CASE



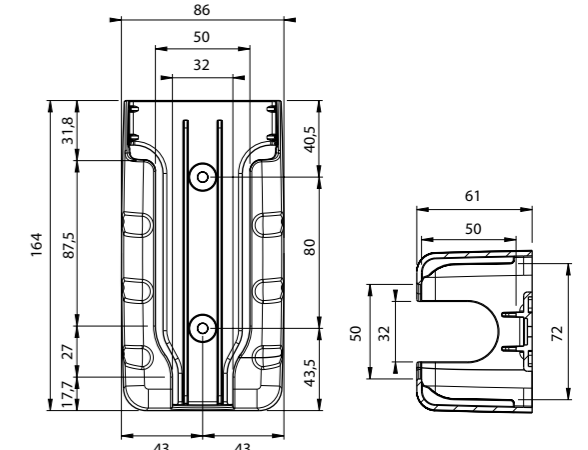
Wall Bracket case
Polypropylene material, logo mold-printed

From 1 to 3 buttons

16000061

From 4 to 5 buttons

16000062



CONTACT BLOCKS: SPRING LOADED TERMINALS



DESIGNATION	FUNCTION	CODE	SIZES
1 — NC — 2	0 1,5 6 mm	PCW01	
3 — NO — 4	0 3,5 6 mm	PCW10	

LAMPHOLDER WITH BUILT-IN LED



DESIGNATION	POWER SUPPLY	CODE	SIZES
X1 — X2	AC/DC 12V	PCW5L12	
	AC/DC 24V	PCW5L24	
	AC/DC 48V	PCW5L48	
	AC/DC 110V	PCW5L110	
	AC 220V	PCW5L220	

CONTACT BLOCKS: WELDING TERMINALS



DESIGNATION	FUNCTION	CODE	SIZES
1 — NC — 2	0 1,5 6 mm	PSC01	
3 — NO — 4	0 3,5 6 mm	PSC10	

LAMPHOLDER WITH BUILT-IN LED



DESIGNATION	POWER SUPPLY	CODE	SIZES
X1 — X2	AC/DC 12V	PSC5L12	
	AC/DC 24V	PSC5L24	
	AC/DC 48V	PSC5L48	
	AC/DC 110V	PSC5L110	
	AC 220V	PSC5L220	

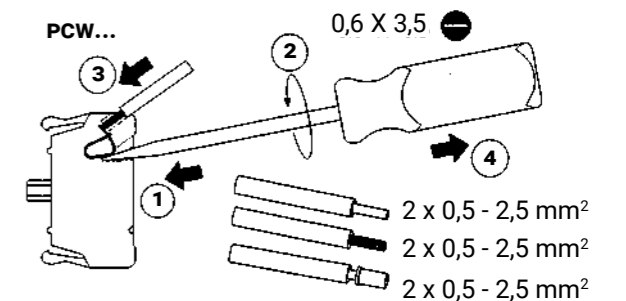
CONTACT BLOCKS

CHARACTERISTICS IEC/EN 60947-5-1	PCW01-PCW10 / PSC01-PSC10								
Rated insulation voltage U_i	V	690*							
Rated impulse withstand voltage U_{imp}	kV	4*							
Frequency	Hz	50/60*							
Rated Thermal Current I_{th}	A	16*							
Rated thermal current I_{the}	A	10*							
RATED OPERATING CURRENT I_e :	PCW01-PCW10 / PSC01-PSC10								
AC15: alternate current	V	24	60	110	240	400	440	500	690
	A	16*	12	5	5*	4	4	4*	2*
DC13: direct current	V	24	48	60	110	250			
	A	2	2*	1*	0,4	0,4*			
Short circuit characteristics	A	1000*							
Fuse rating gG	500V	10A*							
Contact insulation resistance	mΩ	<25							
Switching mechanism	Slow break double gap contacts								
Contact Duty	NC contact with positive opening								
Minimum tripping force	4N								
Electrical life AC15/mil. cycles	mil. ciclos	1A/1,5 - 2A/0,5 - 3A/0,25							
CHARACTERISTICS UL 508	PCW01-PCW10 / PSC01-PSC10								
General use	10A-600V AC - 2,5A-125V DC								
Heavy Duty Category (HD)	A600-Q600								

LAMPHOLDER

CHARACTERISTICS IEC/EN 60947-5-1	LED	
PCW.L.-PSC.L.		
Rated insulation voltage U_i	V	400
Rated operating voltage U_e	V	AC/DC 12-24
	V	AC/DC 48
	V	AC/DC 110
	V	AC 220
	V	AC 220
Max Rated Power	W	-
Power Supply	-	-
Lamp Fixing system	-	-

* IMQ values

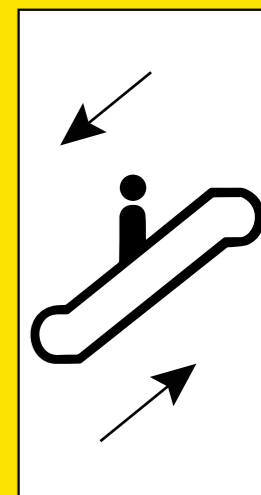




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ESCALATOR



DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	GM482
UP Push Button flush, momentary, white colour		1NO+1NC	
DOWN Push Button flush, momentary, black colour		1NO+1NC	
START Push Button flush, momentary, green colour		1NO	



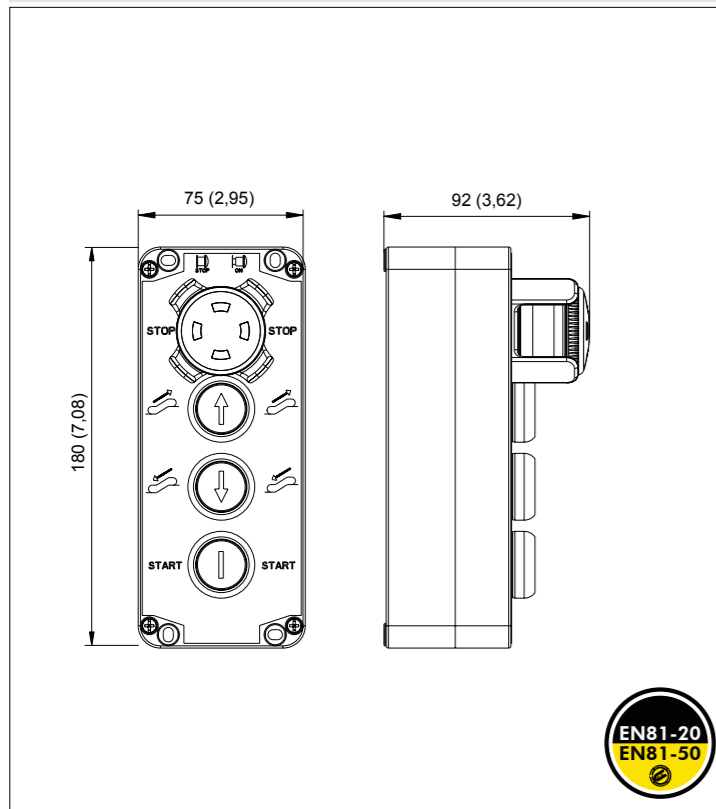
DESCRIPTION	SCHEME	CONTACTS	CODE
Cam Switch 0-1 45° switching		2NC	GM245
UP Push Button flush, momentary, white colour		1NO+1NC	
DOWN Push Button flush, momentary, black colour		1NO+1NC	
Emergency stop EN ISO 13850 ø40 push-pull with vision		1NC	



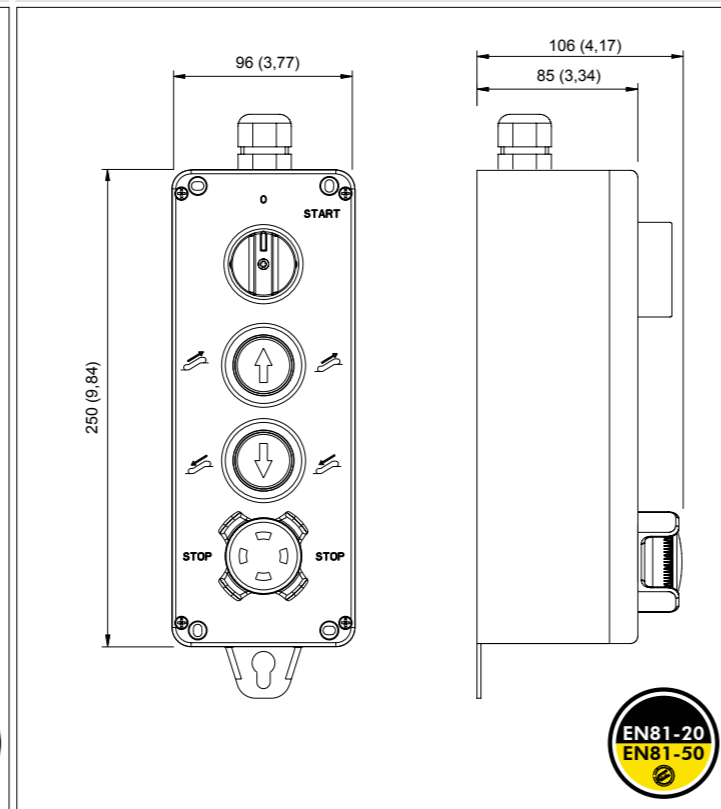
DESCRIPTION	SCHEME	CONTACTS	CODE
Emergency stop EN ISO 13850 ø30 twist to release with vision		1NC	TLP4S016
COMMON Push Button blue colour		1NO	
UP Push Button white colour		1NO	
DOWN Push Button black colour		1NO	



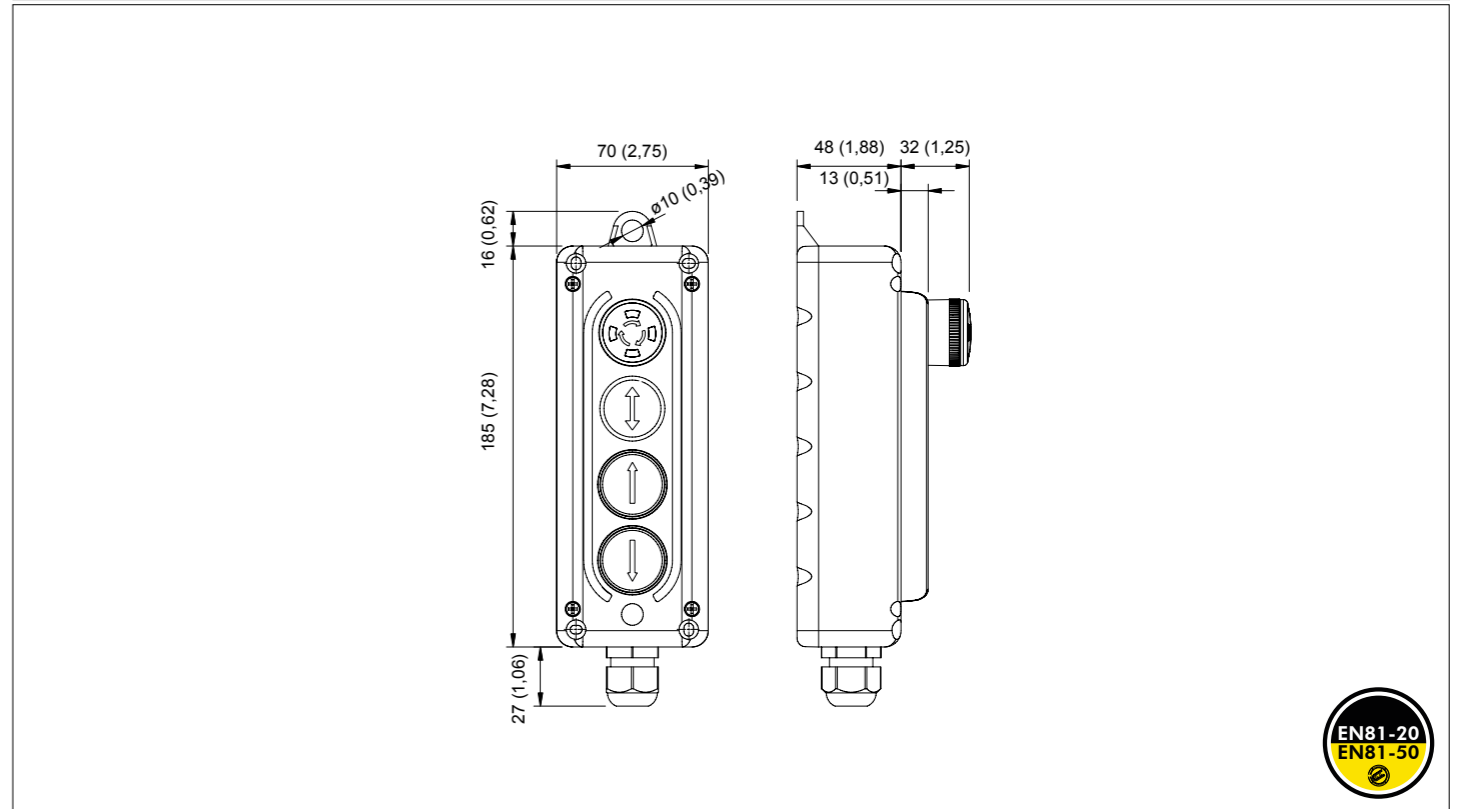
TECHNICAL DRAWING - GM482



TECHNICAL DRAWING - GM245



TECHNICAL DRAWING - TLP4S016



MUSHROOM Ø90

DESCRIPTION	SCHEME	CONTACTS	CODE
Mushroom Ø90 momentary, red colour		1NC	PG1M9W01

IP66



DESCRIPTION	SCHEME	CONTACTS	CODE
Mushroom Ø90 momentary, black colour		1NC	PG8M9W10

IP66

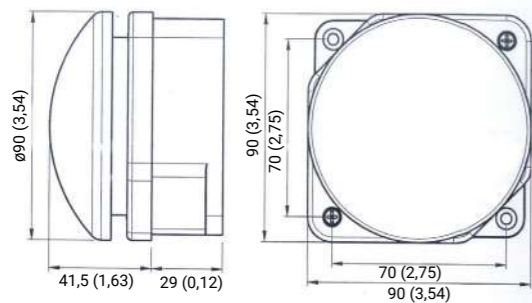


DESCRIPTION	SCHEME	CONTACTS	CODE
Mushroom Ø90 momentary, red colour		1NC	PR1M9W01

IP66



TECHNICAL DRAWING - PG..



ELECTRICAL CHARACTERISTICS

Protection degree	IP66
Comply with rules	EN 60529
Double insulated	
Number contact capacity	Max 3 contact blocks
Cable entry with 3 holes	Pg 13,5 / M20
Ambient temperature	operating: -25°C +70°C storage: -30°C +70°C
Climate protection	IEC 68 2-3, 2-30
Terminal referencing	EN 50013

MAIN SWITCHES

DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 3 POLES
COMPLETE DEVICE in thermoplastic enclosure • Opening in "0" position. • Arranged for nr. 8 Pg16 cable glands of which nr. 2 on the bottom. • With locking facility in "0 - OFF" (Max 3 locks). • Dimensions: 120x100x85 mm.	SQ025	32 A	25 A	SQ025003BC10
	SQ032	40 A	32 A	SQ032003BC10

IP65



For Grey cover and black knob version, replace "10" with "09" in the code.

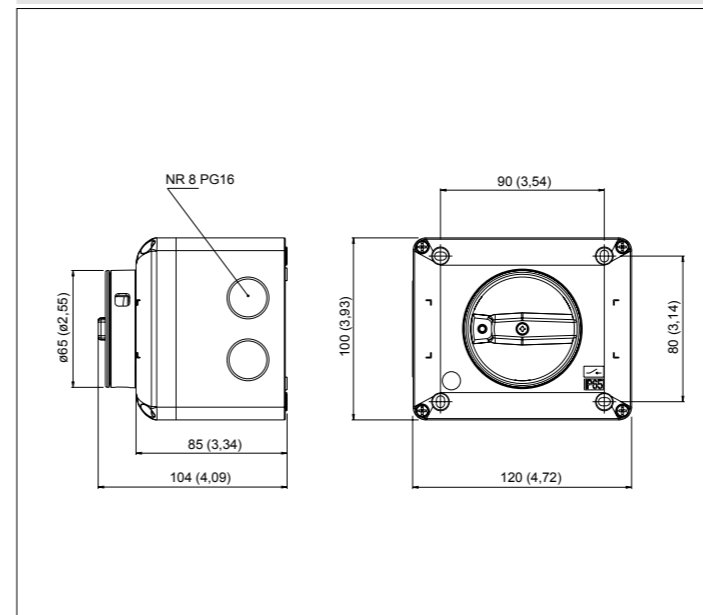
DESCRIPTION	SERIES	AC-21A 690V	AC-23A 400V	CODE 3 POLES
COMPLETE DEVICE in thermoplastic enclosure • Opening in "0" position. • Arranged with nr. 4 cable glands M25/M32 + nr. 2 closed holes ø22,5 mm on the bottom. • With locking facility in "0 - OFF" (Max 3 locks). • Dimensions: 130x180x106 mm.	SQ040	63 A	50 A	SQ040003BE10
	SQ032	80 A	75 A	SQ063003BE10

IP65

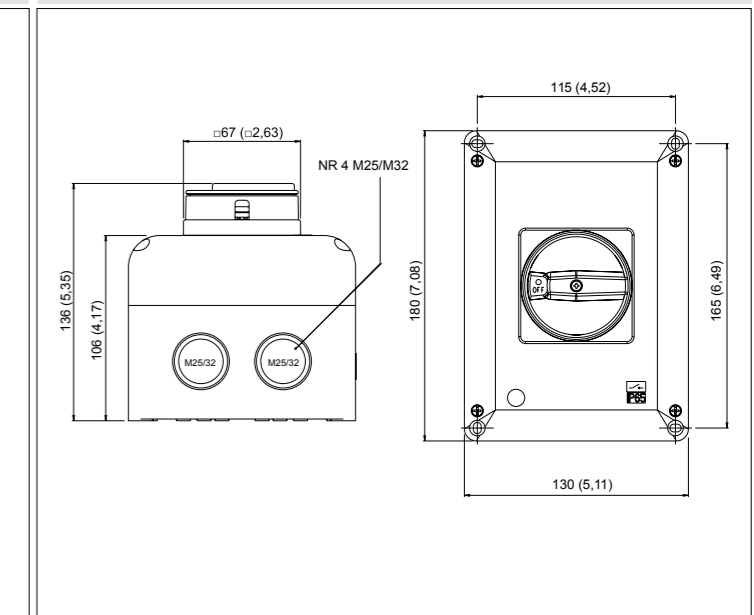


For Grey cover and black knob version, replace "10" with "09" in the code.

TECHNICAL DRAWING - SQ025 / SQ032



TECHNICAL DRAWING - SQ040 / SQ063





NOTES

Lined area for notes.



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