EN

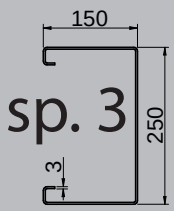
INCOLD ACTIVE
Fold Up Doors

USE AND MAINTENANCE

FOLD UP DOOR

230 V single-phase power supply

Frame
150x250



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SUMMARY PAGE

1. GENERAL INFORMATION

1.0 MANUFACTURER

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1.1 GENERAL INFORMATION ABOUT THE MANUAL

This manual and the information contained in it are the exclusive property of INCOLD S.p.A. Reproductions and reprinting, even partial, are prohibited without the written authorisation of INCOLD S.p.A.
This manual is updated to the current state of the technologies used. INCOLD S.p.A. reserves the right to make changes due to technological progress.
The assembly sequences are referred to in the annexes.
The images presented are not faithful reproductions of the machine but are merely for illustrative purposes.
The manufacturer declines all responsibility for injury to persons or damage to property resulting from incorrect or improper installation, incorrect or improper use.

1.2 INFORMATIVE ICONS

Dangers and behaviours to be avoided during use, assembly, maintenance and in any situation that could cause serious injury or death.

Prescriptions, rules, references and communications that each person responsible for the installation and use of the door (each for their competence) must respect.

1.3 PROHIBITIONS AND REQUIREMENTS

This manual must be read before installing the door, being sure to respect what has been described in order to guarantee correct operation of the product.
The manual is to be considered part of the door and must be kept for the entire duration of the product.
The manufacturer considers itself exempt from any responsibility in the following cases:

- improper use of the product
- incorrect installation, not performed according to the rules indicated
- serious failings in the scheduled maintenance
- unauthorised modifications and interventions
- use of non-original spare parts
- partial or total failure to comply with the instructions.
- anything not expressly indicated in this manual.

1.4 SAFETY WARNINGS

The local safety regulations must always be observed.
Transportation, mechanical assembly and electrical connection of the door must be performed by expert and qualified personnel. Regulation of the traffic in the operating area of the automatic operation doors is the responsibility of the USER; INCOLD S.p.A., as a safety condition, recommends preventing traffic in areas along parallel and adjacent paths of the automatic operation doors, delimiting/identifying these areas and carrying out specific training and instruction on use for the personnel concerned.

Use of the door is intended solely for personnel who have been instructed on correct operation of the door itself and on the risks associated with improper use.
If in doubt, contact the manufacturer.
Attention risk of crushing.

If maintenance work and/or changes to the door operating parameters are carried out, a check must always be carried out to ensure that the safety devices are operating correctly.
Modification of the door operating parameters must be carried out by qualified personnel authorised by Incold S.p.A. Any modifications carried out by personnel who are not perfectly trained and competent could cause serious damage to the door, property and/or persons.
The safety devices with which the door is equipped must be kept fully functional at all times; deactivation and/or tampering are prohibited. Safety devices that are not fully functional or deactivated could cause serious damage to the door, property and/or persons. Work on safety devices may only be carried out by qualified personnel authorised by Incold S.p.A.
Incold S.p.A. shall not be held liable for any damage to the door, property and/or persons caused by modifications to the door's operating parameters carried out by unqualified personnel expressly authorised by Incold S.p.A., and/or by the deactivation/manipulation of safety devices.

2. PRODUCT DESCRIPTION

2.1 PRESENTATION OF THE PRODUCT

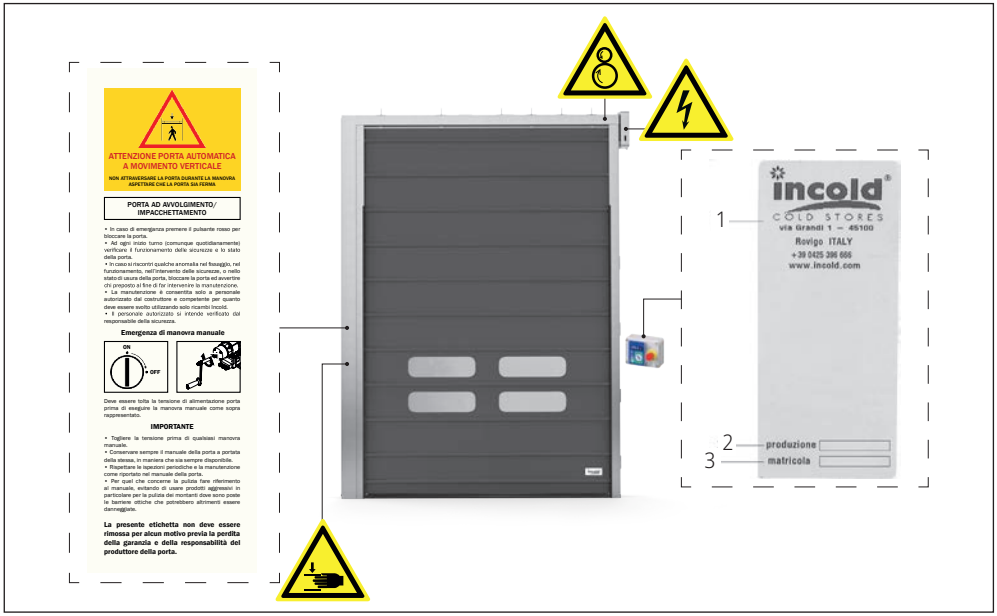
The Incold fold-up doors are automated rapid fold-up doors.
The automatic drive is via a worm gear motor-reducer. The control panel and related software are the exclusive property of INCOLD S.p.A.
Positioning of the sheet is controlled by an encoder installed in the gearmotor, while the speeds and ramps are controlled by an inverter.
Control of the door and adjustment of the parameters take place via the keypad integrated within the frame.

MODEL	FOLD UP
Certification (EN 13241)	Istituto Giordano
Applications	Indoor/outdoor
Wind resistance (EN 12424)	Class 2-3-4
Dimensions: **Height x Lenght max**	6500 x 6000 mm
Maximum opening speed	0,5 m/s
Maximum cycles per hour	45
Power supply	230 V 50 Hz 1 phase
Operating temperature	+1 °C +40 °C
Motor protection rating	IP 54
Electronic board and keypad rating	IP 66
Maximum weight of uprights	124 kg
Maximum crossbeam weight with motor	156 kg + 23 kg (motor)
Noise	≤ 70.3 dBA

2.2 PLATE DATA

On the side of the upright, on the keypad side, is the data plate with the following information:

1. Name and address of the manufacturer
2. Production date (year / month / day)
3. Serial number



2.3 CONDITIONS OF USE

The doors of the INCOLDACTIVE line are designed to close the access areas to agro-food and refrigerated rooms at a positive temperature. The door and its components have been designed to work in a temperature range of 0° to +40°.

Door not suitable for use in environments with explosion and ATEX risk.

Classification of agro-food environments according to indoor atmosphere						
Category	**Aggressiveness**	**Cleaning**	**Humidity**	**Internal temp.**	**Type of storage and/or processing**	**Compatible coatings**
Ai 1	Non-aggressive	Ordinary	Low	-40 ÷ +25°C	• Low temperature cold rooms • Dry product storage	PR and ZN sheet metal
Ai 2	Non-aggressive	Ordinary	Medium	0 ÷ +25°C	• Fruit and vegetable storage • Controlled atmosphere storage • Storage of packaged dairy products • Storage of packed meat products	PR and ZN sheet metal

Ai 3	Non-aggressive	Non-intensive	High	0 ÷ +25°C	• Fruit and vegetable processing • Meat processing and storing	Painted aluminium
Ai 4	Weakly aggressive	Non-intensive	Wet	0 ÷ +30°C	• Preparation of cooked dishes • Poultry slaughterhouses • Wine storage rooms • Butter processing • Meat processing	Painted aluminium
Ai 5	Aggressive	Intensive	Very wet	0 ÷ +35°C	• Cattle, sheep, goat and pig slaughterhouses • Sausage processing • Mushroom cultivation • Cooking salt • Drying and smoking • Blanching and evisceration • Bakery workshops • Fish processing	Stainless steel Fibreglass
Ai 6	Very aggressive	Very intensive	Saturated	0 ÷ +40°C	• Tripe washing and processing • Leather and hide processing • Salting and brining • Milk processing, dairies • Processing of sea products	316 stainless steel Fibreglass

In order to avoid physical injury due to lack of illumination as the door does not have its own illumination. Prior to installation, the ambient lighting of the place of use must be checked, which must avoid shaded areas that may cause disturbance, annoying glare or dangerous stroboscopic effects.

The workstations must be illuminated with a minimum nominal intensity of 300 lux.

If the door is installed along transit routes of forklift trucks that may also operate in poor lighting conditions (e.g. night shift), the end user must provide adequate lighting systems so that the door is visible and impacts with the door in motion are avoided

If the operating temperatures are not observed, the safety systems may not work.

The power supply to the panel is 230V with a frequency of 50-60 Hz; the gearmotor has a power of 0.75 kW.

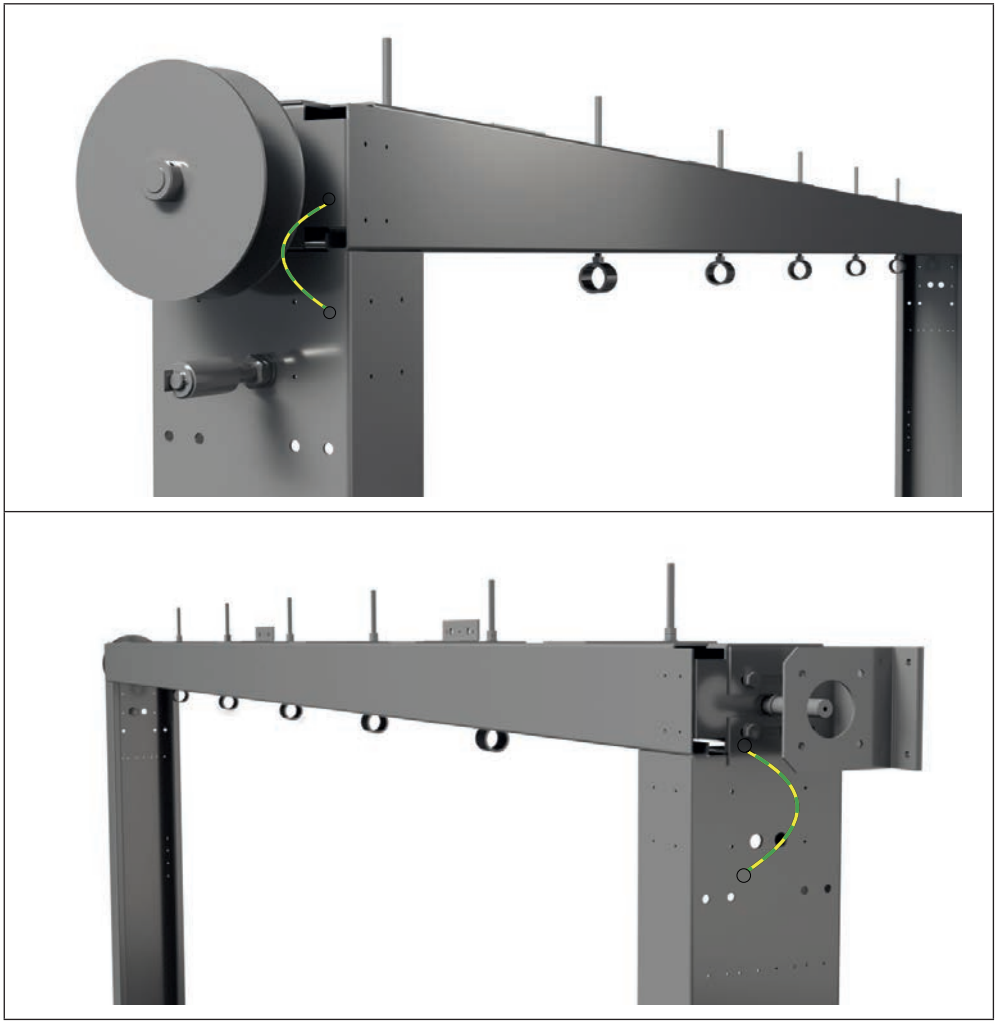
Ensure a differential magnetothermal switch for each door
2 poles - 10 A - Id = 0.3 A - Type F or Type B

The user must ensure that the power supply line is suitable for the power demand, with a voltage dip of not more than 3%.

Correct functioning of the door is not guaranteed if the differential magnetothermal switch is not provided as indicated.

Earthing connection of upright and crossbeam parts

Provide 2 x 25 cm long cables with eyelets on both sides M6.
Connect cover with base, base with bearing bracket, bearing with housing. Everything on the left and right.



In the image above, the cables connecting the various removable parts are shown in an exaggerated manner (in order to make it clear), forming an electrical continuity to earth. The purpose of earthing is to facilitate any dispersion towards earth, facilitating the rapid intervention of the residual current circuit breaker with which the door must be equipped (not supplied by the customer).
On site, the circuit thus created must be well connected to the customer's earthing system.

Centre of gravity for lifting

In the following picture, the centre of gravity is shown with a yellow icon (approximate), it is located at the top and on the side where the motor is placed. Attention: if the door has the motor positioned on the right, the centre of gravity is at the same height, but shifted to the side where the motor is located.

2.4 INCORRECT USE OF THE MACHINE

The following are strictly forbidden:
- The intervention on rapid roll-up doors by inexperienced or untrained persons;
- Removing or tamper with the automation system and with other door elements;
- Changing the programming of the operating logic of the automation control unit;
- Excluding of the safety systems;
- Transiting through the opening with vehicles at speeds higher than walking pace.

2.5 SAFETY DEVICES

Rapid roll-up doors are machines and, as such, are fitted with safety devices that prevent accidental injury to users and limit dangerous situations during their operation.
Rapid roll-up doors for cold rooms are usually installed in areas that restrict access to a limited number of persons who have been trained for use. They should not be installed in areas frequented by large numbers of the public or by untrained personnel.
In order to limit the risks, the fast roll-up doors are fitted with:

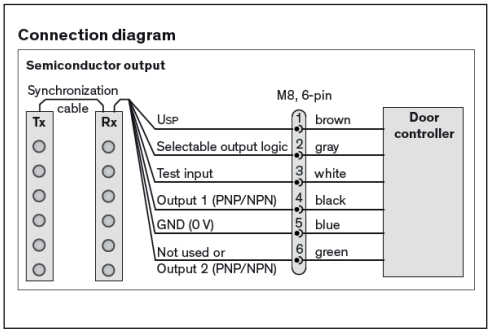
- **Sensitive side or sensitive edge:** (optional) this is the main safety device to ensure the safety of users; it is located on the lower part of the sheet and when it intervenes, it causes immediate stopping and reopening of the door
- **Optical barriers** it consists of a transmitter - receiver group, they stop movement and reopen the door if, during closing, the interruption of the light beam occurs.
- **Emergency button:** red in colour and characterised by the typical mushroom shape, it ensures instantaneous blocking of all door movements in all situations of danger or emergency
- **Flashing optical indicator** (on request only): the indicator goes into operation when the automatic door is activated.

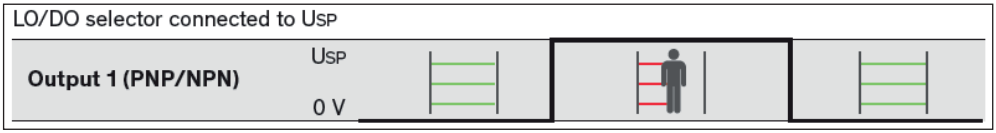
Before activating the automatic door, the operator/maintenance technician must make sure that the protection devices are perfectly fixed, functioning and that accidental or voluntary causes have not compromised their function.

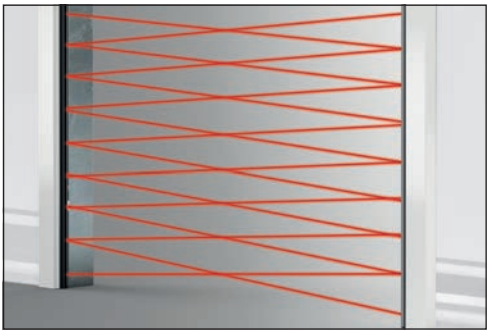
2.5.1 Operation of the available safety devices

Photocell barrier

A scanning light curtain consists of two elements: an emitter and a receiver. The emitter has an optic that consists of an array of photo-emitters which, with a precise cadence, one after the other emit narrow light pulses towards the receiver. The light radiation is generated by a solid state source consisting of semiconductor elements with high efficiency and long life. It can be outside the visible range. The receiver has an optic consisting of an array of photoreceivers geometrically corresponding to those of the emitter. The light radiations reaching the photoreceivers are transformed into an electrical signal, amplified and processed to drive the receiver's output devices. The reading of the light pulse occurs synchronously therefore a synchronism signal must be transmitted between the two emitter / receiver elements. The detection takes place by interrupting the path of the beam determined by the presence of an opaque object. The blanking function allows the door to be closed which in fact interrupts the beams between TX and RX during closing as it recognizes the ordered interruption of the beams from top to bottom in a sequential manner. Otherwise an object that interrupts one or more beams not sequentially, it is recognized as an obstacle and causes the door to reopen (if it is closing) or to lock the door in the open position (if it is open and a closing command is given).





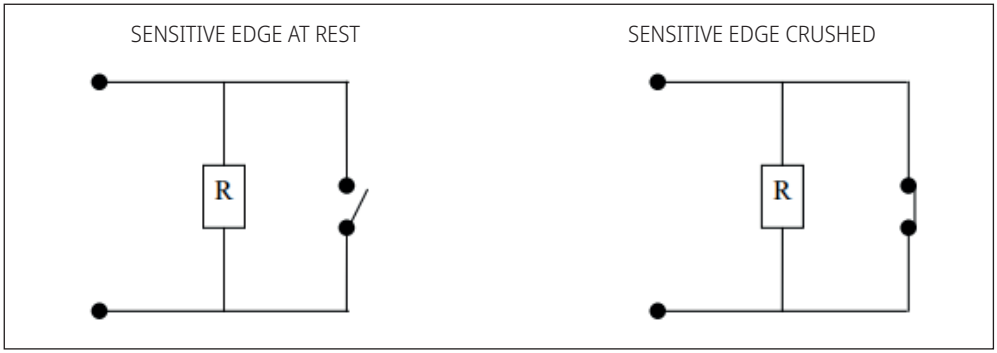


8.2kΩ resistive sensitive edge:

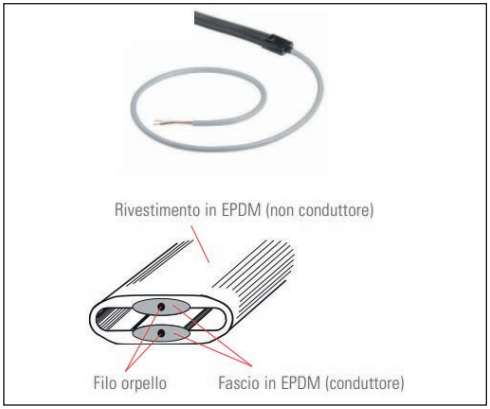
The sensitive edge is a "safety component" with the function of an electro-sensitive device designed for the detection of persons or parts of persons. It is equipped with a sensor capable of detecting a pressure stress and a control circuit with a verification function according to the specified category and an output interface. The sensitive surface deforms locally to actuate the sensor.
It consists of two essential parts:

- A PRESSURE SENSOR
- ONE CONTROL UNIT.

Operation: When the edge is operated by an external force, after a certain deformation defined as "pre-stroke", the two parts of the conductive plastic material come into contact, closing the circuit. The change in status of the internal sensor (from NO to NC) is processed by the control unit (sensor control device) which sends a machine stop signal thus eliminating the dangerous situation that has arisen.

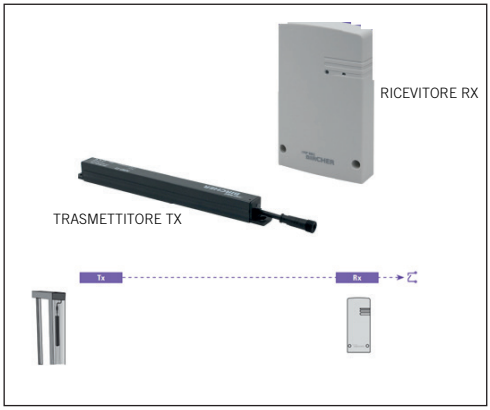


The resistance R = 8.2kΩ when the edge is pressed the resistance is bypassed by the branch in parallel and the measured resistance is reduced from 8.1 ÷ 8.5 kΩ to a value below 500 Ω. sensitive is inserted in a special pocket created in the lower part of the sheet of the fast doors, The sensitive edge is accessible thanks to the buttons that can be opened and closed which allow the side opening of the sheet bag.



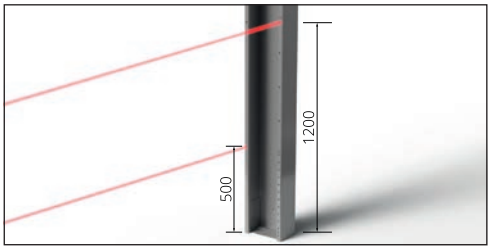
Sensitive edge signal transmission (and control) system :

The XRT transmitter element for wireless transmission system transmits the signal coming from the sensitive edge when pressed and monitors the safety profiles on the doors, in conjunction with an XRF receiver. The transmitter is connected to the sensitive edge and placed inside the pocket, in the lower part of the sheet. It works at an operating frequency of 868.3 MHz. It has a range of 100 m (under optimal conditions). It works at an operating temperature from –20 ° C to +60 ° C. it is equipped with a 1x 3.6 V inorganic lithium battery (mod. XRF-TI). It is necessary to periodically check the condition of the batteries, if necessary, replace them. If the batteries are discharged, the door does not perform the closing operation.
The signal sent by the transmitter is picked up by the receiver placed near the machine control board. The receiver has a 12–36 V DC supply voltage which it draws from the port board. The signal picked up by the receiver is transferred via wire to the safety input of the door electronic board. A LED located outside the receiver box provides information on the status: Green = System ready, no sensor pressed Orange = Sensor pressed (main closing edge)

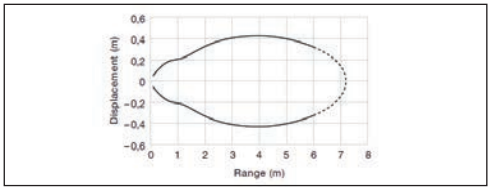


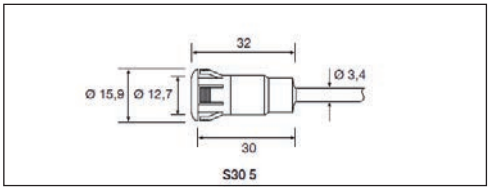
Single beam photocell (used as a courtesy system in combination with the sensitive edge):

The photocell assembly consists of an SMT transmitter and an SMR receiver, which was used to be used in barrier mode. The SMT and SMR are powered with a 24V dc supply voltage and NPN output. The technology is infrared. The application distance is from 1 to 15 meters.
The photocells are positioned one in front of the other, as one is programmed to send the signal to the second which in turn directly transmits the input to block the movement of the gate door in case of obstacles. The photocell, called the transmitter, has a LED that sends infrared signals to the other receiver photocell that detects the input. When the second photocell fails to see the infrared light, it immediately sends a signal to the control unit, requiring the automation to stop. Using infrared light with a frequency that the human eye cannot see is a choice designed to prevent sunlight from getting in the way and sending incorrect signals to the photocells. The alignment of the photocells of the automatic gate is calculated in such a way that in this specific position both the two photocells and the gate automation are obstructed by people or vehicles passing through the moving door. The assembly of the door photocells requires the positioning of the two sensors perfectly in line, which must be placed at the same height. The recommended height is 30 cm from the ground in order to easily solve the problem of remote alignment. Both photocells must be powered, but only the receiver one, which sends the command, must also be connected to the control unit through a specific cable for photocells. As for the maintenance of the photocells, it is very important to regularly check their operation because the latter could be damaged even by a simple storm. It may happen that the photocell does not work even in case of bad cleaning; simply clean them to restore correct functioning; instead, if problems continue to be encountered, it is a good idea to carry out more detailed checks by contacting the manufacturer. Even if they are no longer perfectly aligned, the photocells stop working correctly, but in this case it is only necessary to reposition them in the correct way to restore their activity



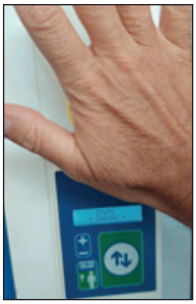
The three pictures represent the photocell applied on the door, the signal displacement, the dimensions of the transmitter equal to the receiver, wiring.





Emergency stop buttons

The door is equipped with an emergency button (a red mushroom-shaped button on a yellow background) that allows you to avoid dangerous situations that are likely to occur in the imminent or are occurring.



It is fixed on the door jamb in a clearly visible way, to ensure the immediate stop of the door should it be needed. The emergency stop button is immediately accessible and available in all machine operating modes. The button used as an emergency stop device is mushroom-shaped (or operated with the palm of the hand). The contacts change state as soon as the button locks in the pressed position.

The message “EMERGENCY BUTTON STOP STATUS” appears on the liquid crystal keypad display and the door is and remains locked in all its functions. For the release of the mushroom it is necessary to make a partial rotation of the red mushroom. After a few seconds the message “EMERGENCY BUTTON STOP STATUS” disappears on the display and the door goes back to working while waiting for a command.

USE	RESIDUAL RISK	PREVENTIVE SOLUTIONS TO REDUCE RISKS
Handling, installation, electrical connection, maintenance.	Danger of injury to parts of the body, crushing, impact, cuts, falls, damage due to electric shock.	These operations must be carried out exclusively by competent and adequately trained personnel, equipped with appropriate PPE, after having read and understood this manual. It is advisable to delimit the work area to prevent access to unauthorised persons. Before carrying out any maintenance operation, press the emergency button. Should it be necessary to intervene on electrical components, disconnect the power supply before starting.
Cleaning operations	Cuts, injuries, falls from stairs, inhalation of chemicals, damage due to electric shocks	Proceed with cleaning operations only after having read and understood the following manual and equipped with appropriate PPE. Use only the products indicated in para.4.1
Use of locks or bolts	Staff trapped inside the cell	Do not install additional door-locking systems, or if necessary, adequately instruct personnel on the correct use of these systems. If necessary, evaluate the installation of an alarm device that signals the presence of trapped personnel
Door operation until a second subject is in the vicinity of the door	Dragging, crushing, impact	Mount the door in places accessible only to authorised and suitably trained personnel. Pay the utmost attention; before operating the door, always check that there are no persons nearby.

2.6 INDICATIONS ABOUT NOISE

The level of airborne noise produced by the rapid roll-up doors was measured and evaluated by simulating operation of the same at the premises of the manufacturer: the equivalent weighted continuous sound pressure level is:
Fold up =

The noise level of closing varies in relation to:
- conditions of use (environment, configuration)
- efficiency state
- power of the motor installed
- door dimensions.

2.7 RISK ASSESSMENT IN MECHANICAL LOAD LIFTING

The handling of loads by lifting equipment, such as cranes, winches and overhead cranes, can entail various risks for operators and all those within the range of this equipment. Risks that may result, for example, from a lack of good practice in load slinging, the condition of lifting equipment and accessories, or a failure to assess and manage interference between load handling and other work.

1. "the means for lifting loads (ropes, chains, straps, etc.) must not be overloaded;
2. depending on the size and weight of the load to be lifted, the ropes, chains or straps best suited to the purpose, i.e. the load and the conditions of use (angle of inclination), must be chosen. Each rope, chain and band has a fabric or metal label indicating the maximum load it can lift, in relation to the conditions of use (maximum angle of inclination 60°);
3. large and elongated loads should not be slinged on a single rope, but should be slinged using special slingbars or crossbeams and also be guided on the ground by two operators. This is to prevent the load from colliding with obstacles;
4. In order to prevent loads from falling due to swaying during lifting, loads must be slinged using the 'choke' system;
5. do not lift loads by hooking them to the ligatures holding them together, but only to the sling used (ropes, straps, etc.). This is because the slings used to hold loads together during transport may not be dimensioned for lifting;
6. the slinging equipment used (ropes, chains) must use hooks fitted with safety devices;
7. the small material must be lifted and transported in appropriate containers;
8. the lifting hook must be positioned at the load's centre of gravity in order to prevent the load from swinging;
9. When lifting or shifting the load, you must not stop or pass underneath it;
10. do not lift the load too high beyond the height or area required for its handling;
11. slings, chains, ropes and other lifting and slinging accessories must be stored with care;
12. hooks, chains, ropes, straps, without the load hanging down, must be kept properly raised so as not to bump into obstacles that could damage them;
13. Do not run ropes, chains or bands over edges. Use the appropriate edge protectors and do not knot or twist them;
14. the sling should only be removed from the lifting hook when the load is securely deposited;
15. do not lift persons together with the slinged load;
16. personnel lifting the load and slinging it must wear a protective helmet;
17. the ropes, chains, bands must be checked by experienced personnel at least once every three months, who also take care of their maintenance';
18. "do not bend the rope near the pressed sleeve and the 'redancia' (protective ring inside the loop of a rope, ed.) must not be deteriorated;
19. Only use ropes and bindings in good condition;

2.8 WORKING AT HEIGHT

Pay close attention to work at height in accordance with Legislative Decree 81/2008 means work that exposes the worker to the risk of falling from a height of more than 2 metres from the supporting surface.

Particular attention must be paid to the use of personal protective equipment: PPE

	Obligation to use a safety harness attached to a secure element
	Obligation to wear protective footwear
	Mandatory use of protective helmets
	Obligation to use protective gloves

One element to be taken into due consideration is that, for the types of activities that involve working at height, the correct use of third-category PPE is required (for which training and instruction are mandatory). As also established in art. 115, in fact, workers at height are required to use Individual Protection Devices in cases where no collective protection measures have been implemented. These are, for example,:
- energy absorbers;
- connectors;
- anchor devices;
- lanyards;
- retractable devices;
- flexible rails or lifelines;
- rigid guides or lifelines;
- harnesses.

Choose work equipment consistent with the dimensions of the door to be installed:

	Ladders, with the exception of bunk ladders, may ONLY be used TO REACH work stations at height. Such workstations must normally be constructed using safer work equipment such as scaffolding or elevating work platforms (EWPs).
	UNI EN 1004:2005 provides for two conditions of use for scaffolding: a) outdoors: i.e. with the presence of wind (maximum height 8.00 metres); b) indoors: i.e. with the absence of wind (maximum height 12.00 metres). Only to be used by trained personnel
	Wear the appropriate PPE (personal protective equipment); Do not use the aerial platform in wind greater than 12.5 m/s; Do not exceed the maximum prescribed capacity on the platform; Avoid risky movements such as sitting, leaning over or anchoring the basket to external elements while working. Only AWP operators fit to manoeuvre

To use a mobile elevating work platform safely, several elements must be taken into account. Some of these are related to the type and characteristics of the machine used; others to the working environment; still others to the type of work to be carried out with the help of the AWP. Many of these elements, if not correctly considered and evaluated, can cause very serious, even fatal accidents. Among the most frequent causes of accidents are - the overturning of the machine due to incorrect positioning or stabilisation or subsidence of the ground, and subsidence or overturning caused by overloading; - overturning during loading or unloading on means of transport; - collision with other moving means; - collision with fixed structures - entrapment between the base and the structure; - uncontrolled descent due to component failure; - entrapment with moving parts; - falls from the basket; Introduction - electrocution due to contact with live power lines; - poor maintenance and structural failure.

Lighting:

- Traffic routes must be sufficiently well lit.
- Traffic routes and any danger zones must be clearly and indelibly marked.
- The marking of obstacles on traffic routes and the application of a coating help to prevent accidents and injuries.
- Signs serve to increase safety on traffic routes

INCOLD DOORS MUST NOT REDUCE THE LIGHTING OR HAZARD WARNINGS TO THE POINTS ABOVE.

Lubricating oil contained in the gear motor

The gearbox contains lubricating oil.

Accidental release measures
Personal precautions, protective equipment and emergency procedures
For non-emergency responders
Wear appropriate protective equipment to prevent contamination of skin, eyes and personal clothing. Do not breathe vapours/aerosols.

Environmental precautions
Keep away from drains, surface water and groundwater. Contain contaminated wash water and dispose of it.

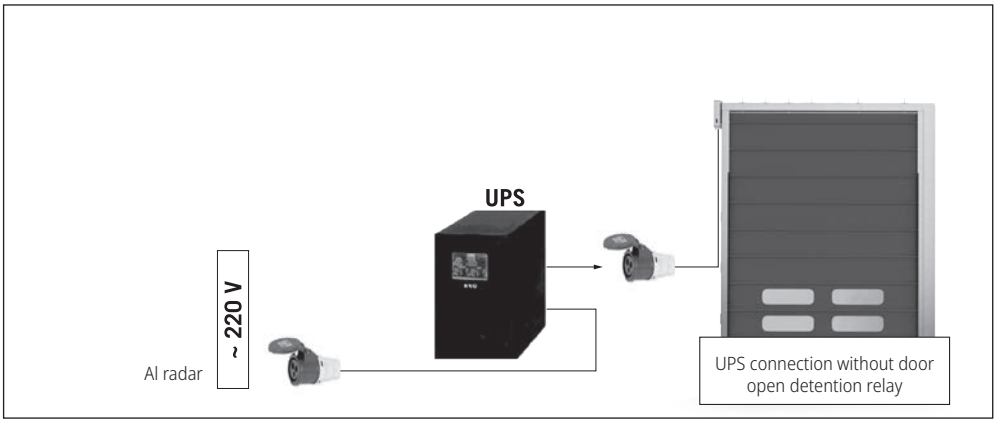
Methods and materials for containment and clean-up
Recommendations on how to contain a spill
Covering drains.
Recommendations on how to clean up a spill
Collect with absorbent substances (sand, kieselguhr, acid binder, universal binder).

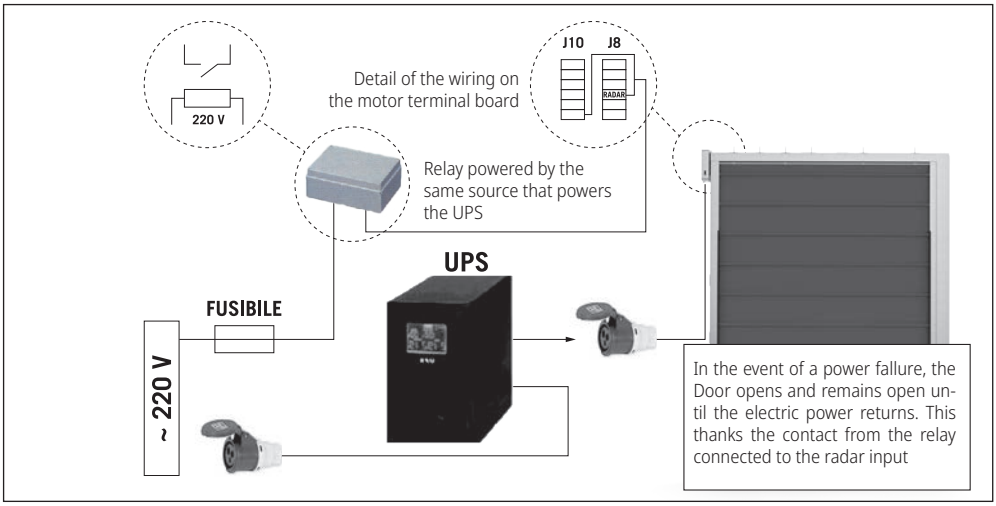
2.9 UPS OPERATION IN THE EVENT OF A POWER FAILURE

Another system for opening the door in the event of a power failure can be the UPS. Here are some important recommendations :
Do not use liquid extinguishers in the event of a fire: a powder extinguisher is recommended

- Place the UPS nearby in an accessible area so that the power supply can be removed quickly in the event of an emergency
- Movement or installation operations must be carried out with the UPS switched off. Maintenance and replacement of batteries must only be carried out by trained personnel or by the service centre.
- Handling or tampering with the batteries can cause dangerous electric shocks and burns to the user.

Indicative diagram relating to the power supply to the door via the UPS (first picture). In the event of a power failure, a couple of manoeuvres are guaranteed. In addition, a relay can be added to keep the door open until the power supply returns (second image)





2.10 TECHNICAL SPECIFICATION ON FABRICS

TECHNICAL SPECIFICATION	STANDARDS	VALUE	FABRIC	AVAILABLE COLOURS - RAL
FIRE PERFORMANCE	DIN 75 200 ISO 3795	Speed of combustion < 100mm/min	953 Complan Sattler 900 g/m²	1003 Giallo segnale; 1013 Bianco perla; 1021 Giallo navone 2004 Arancio puro; 3002 Rosso carmino; 5010 Blu genziana 5012 Blu luce; 6026 Verde opale; 7035 Grigio luce 7037 Grigio polvere; 7038 Grigio agata; 9005 Nero intenso 9006 Alluminio brillante; 9016 Bianco traffico
The 900g/m² sheet with fire reaction class 2 is also available.				

3. OPERATIONS OF INSTALLATION AND USE

3.1 HANDLING / STORAGE

The loading and unloading operations must be carried out by qualified personnel using hand-operated or electric forklift trucks suitable for the dimensions and weight to be handled.

Always position the loading forks at the points indicated to avoid the risk of overturning and always insert the forks completely.

- NO unauthorised persons should be present near the lifting operation.
- Distribute the weight of the package to keep the centre of gravity of the load in equilibrium.

The use of gloves and any other personal protective equipment is recommended in order to avoid the risk of injury or damage during all stages of assembly.

DO NOT store the product in open areas and therefore subject to atmospheric agents and direct sunlight. Exposure to ultraviolet rays causes permanent deformation of plastic materials. Storage temperature -10° +50°.
Before storing, check that the packaging is intact and that there are no defects that could compromise future installation.

3.2 RECEIPT, UNPACKING, PRELIMINARY OPERATIONS

Before proceeding with installation, check:
- that the packaging is intact and has no defects
- that all the elements have been provided for assembly of the same with perfect verticality of the surfaces on which the door will be installed (check with plumb line/laser level etc.)

In case of uncertainty, contact the manufacturer for any clarification.

4. MECHANICAL ASSEMBLY

FIXING ON METALLIC STRUCTURE	
Spring washer 6,4x24 stainless steel	16 pcs
Self-drilling screw with hexagonal head flanged 6.3x60	16 pcs

Floor	
Through plug to beat hight performance	4 pcs

FIXING ON WALL	
Extended nylon anchor with hexagonal head screw	16 pcs
8x24 flat washer in galvanized steel	16 pcs

Lightweight concrete

Chalk

Hollow brick

Floor	
Through plug to beat hight performance	4 pcs

FASTENING CONCRETE BLOCKS ON WALL	
Steel through anchor with countersunk hexagonal flat head screw	16 pcs
8x24 flat washer in galvanized steel	16 pcs


Concrete C20/25


Sandstone brick

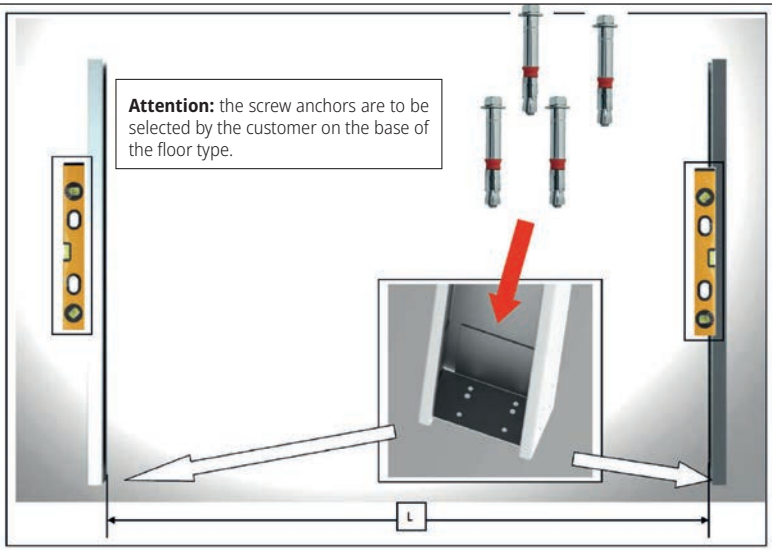

Solid brick


Polystyrene panels

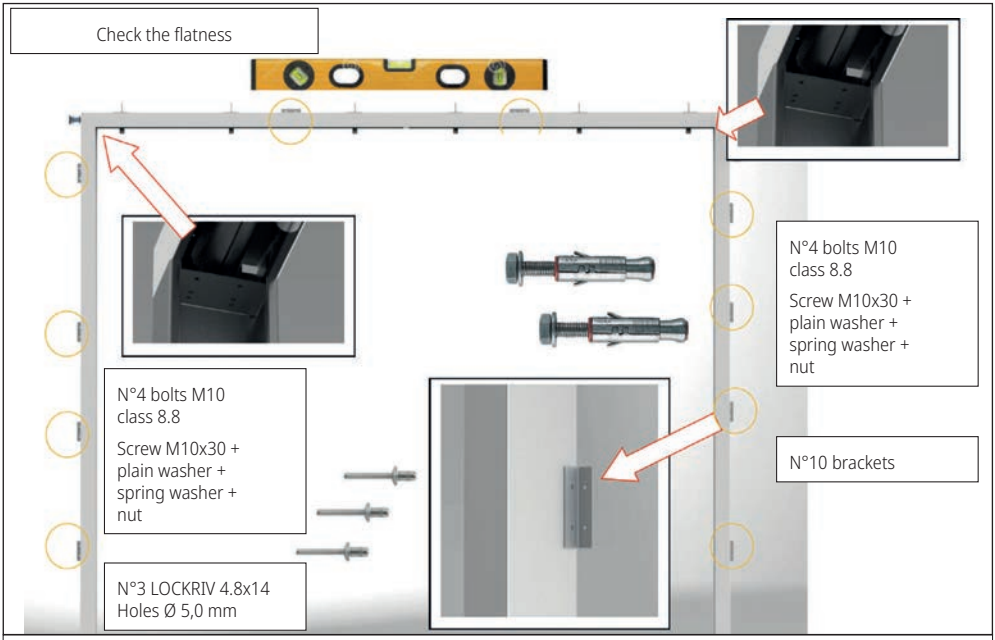

Natural stone

Floor	
Through plug to beat hight performance	4 pcs

4.1 INSTALLATION OF THE FRAME'S VERTICAL UPRIGHTS

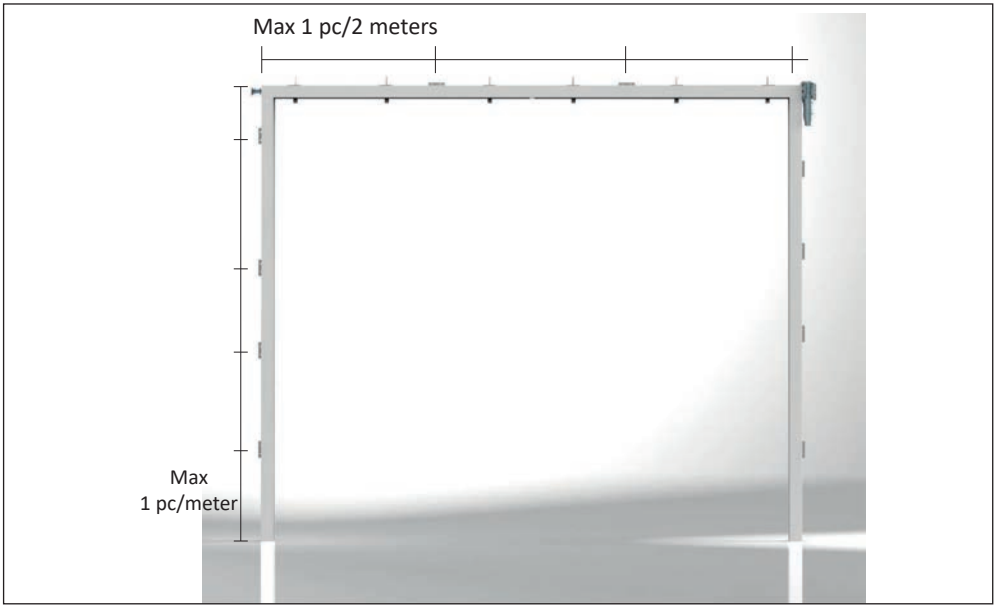


4.2 INSTALLATION OF THE FRAME'S CROSSBEAM

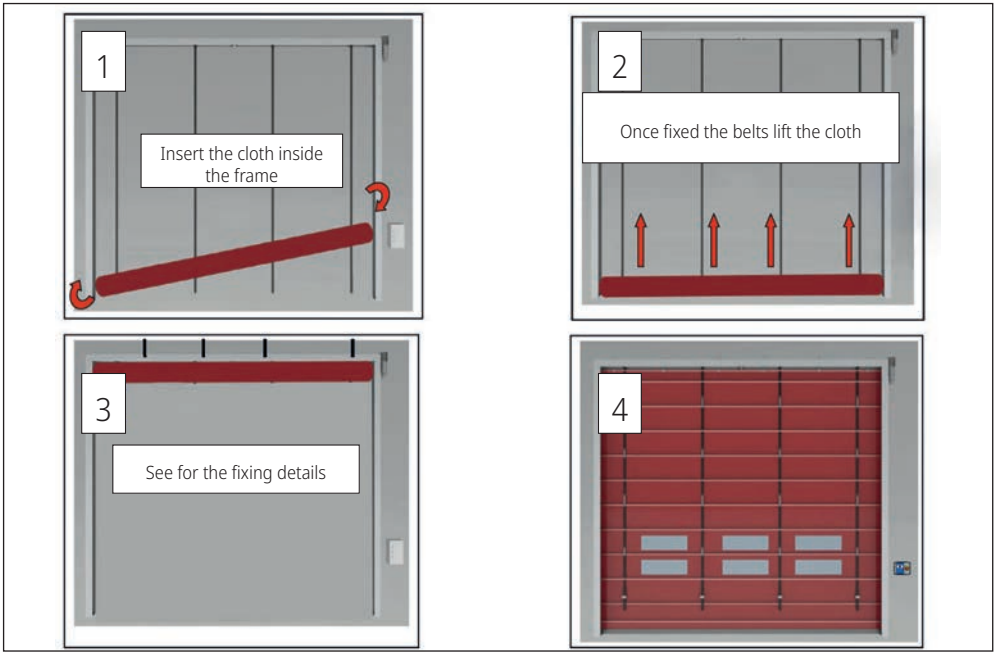


Warning: the wall anchors and screws are to be chosen by the customer on the base of the type of the wall

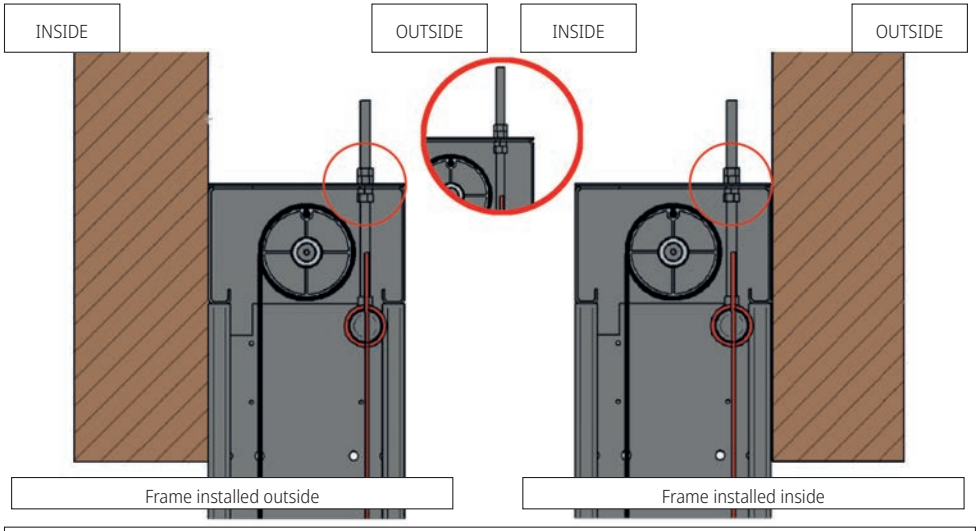
View of frame fixed



4.3 ASSEMBLY SEQUENCE OF THE CLOTH



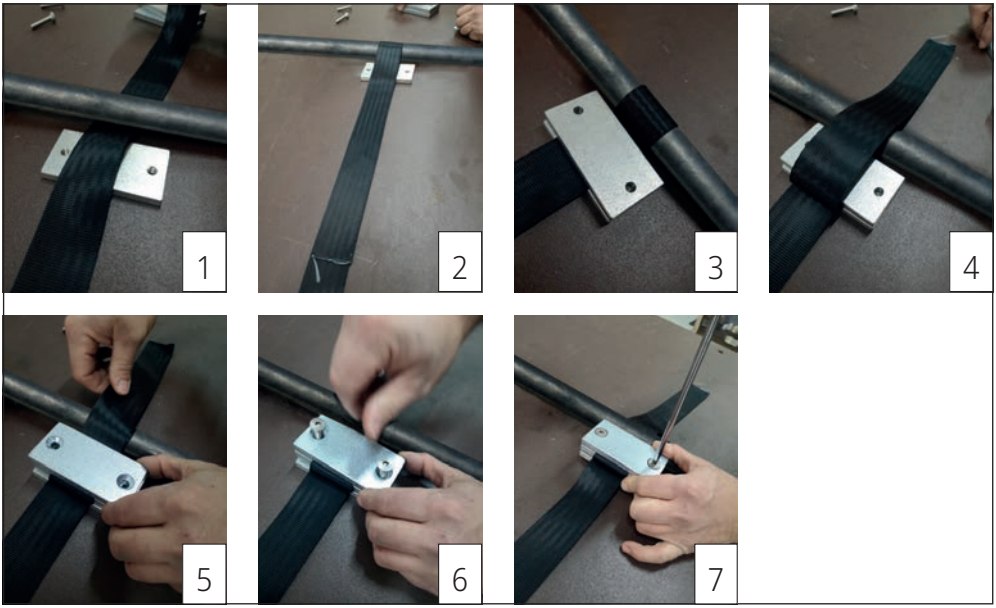
Check the correct assembly of the belts



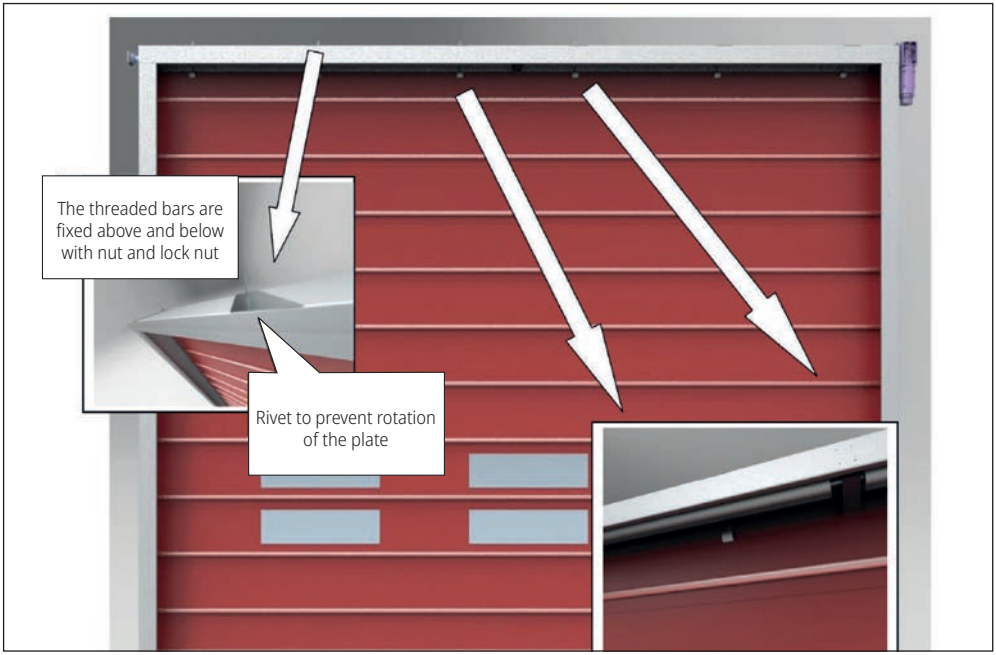
Attention: the belts are always mounted on the inner side of the building and they must be wrapped from the opposite side of the cloth

Detail of fixing belts and belts passage

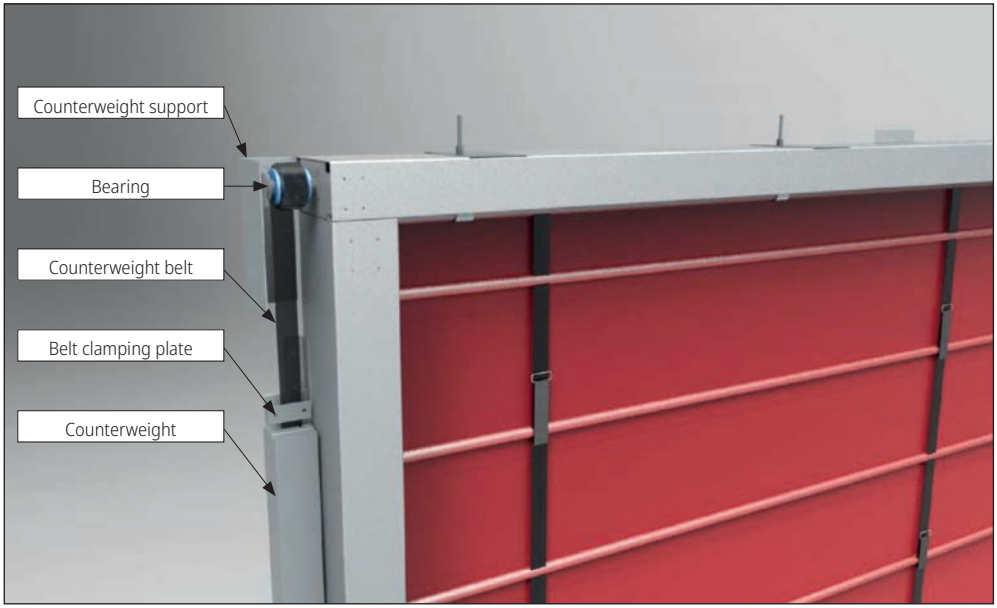
Belts assembly sequence



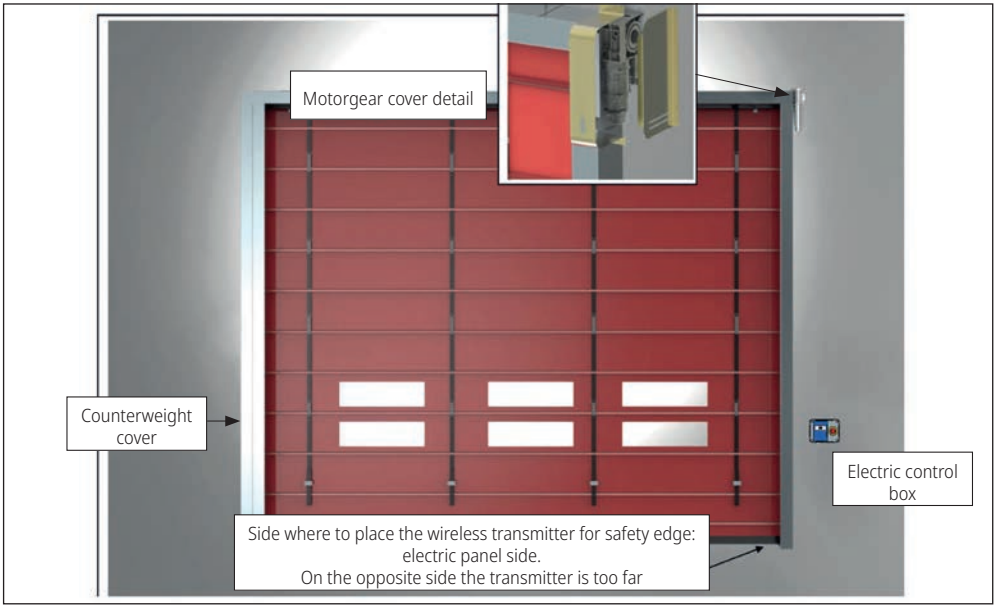
Detail of fixing the cloth in the crossbeam



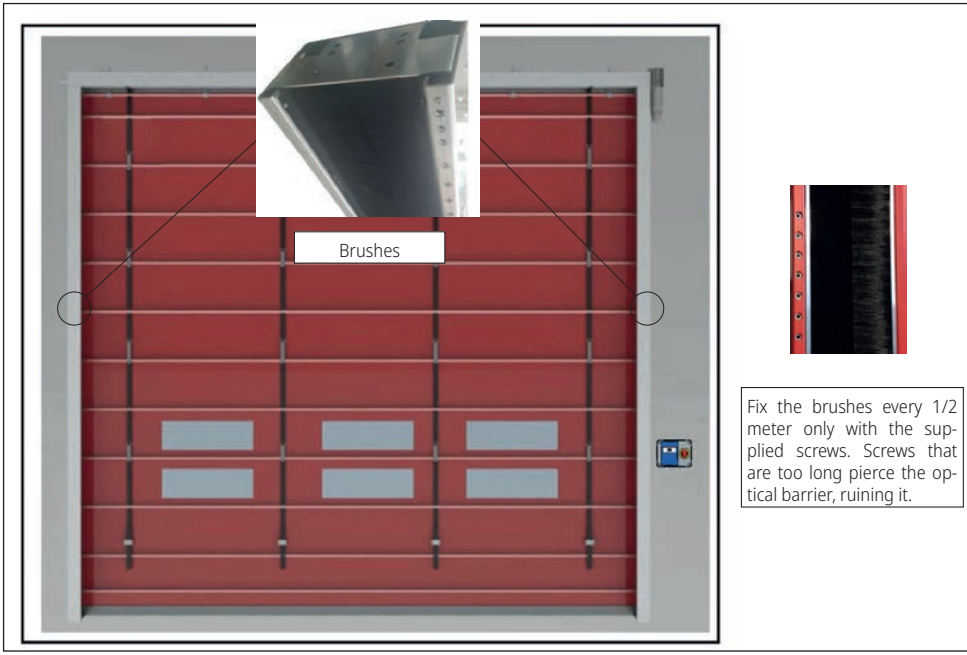
4.4 COUNTERWEIGHT ASSEMBLY (OPTIONAL)



4.5 FINISHING



Finishing (option)

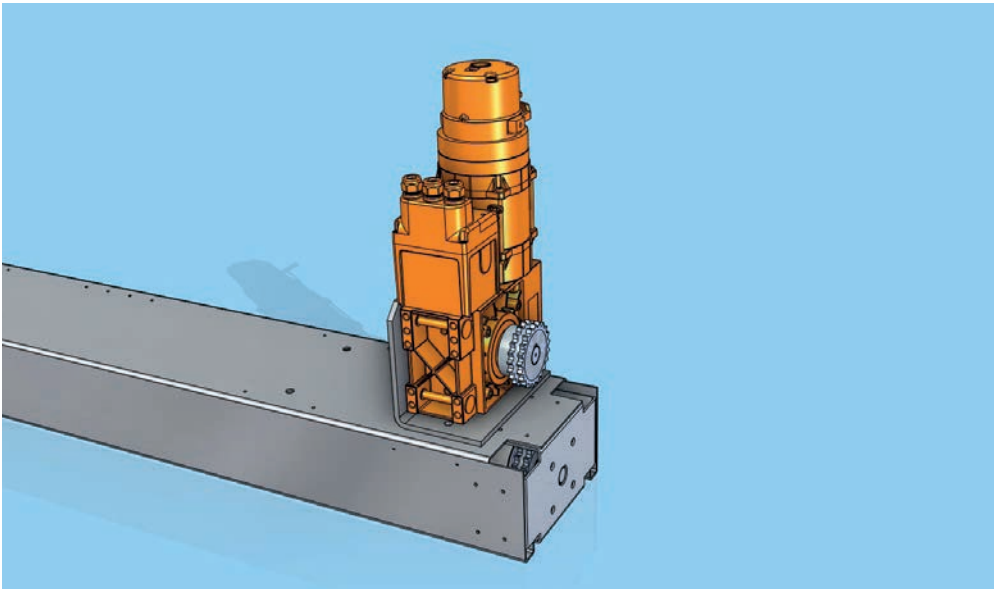


Fix the brushes every 1/2 meter only with the supplied screws. Screws that are too long pierce the optical barrier, ruining it.

5. ORDINARY MAINTENANCE

IMPORTANT: Daily at the beginning of each work shift to check the correct operation of the door and its emergencies, in case of any anomaly it is necessary to promptly contact the person responsible		
Check the operation of the safety devices	Check that the safety devices in the doors are working properly: sensitive edge at the bottom of the fabric ; Photocell system; Photocell barrier system (if fitted) and operation of the stop button located on the main panel.	Daily at the beginning of each work shift
Checking the state of the gear reducer gaskets	Visual inspection of any oil leakage.	Semester / no later than every 50,000 opening
Checks on the motor and bearings	Check if the engine moves freely. If necessary, lubricate the bearings.	Semester / no later than every 50,000 opening
Engine Brake Checks	Removing the plastic frame from the brake engine and checking the brake disc. If worn to replace.	Semester / no later than every 100,000 opening
Check shaft and relevant support	Visual inspection of the shaft and checking of correct tightening of the nuts and bolts.	Semester / no later than every 50,000 opening
Coated fabric cover	Checking for tears, wear, etc. .	Semester / no later than every 50,000
Photocells	Checking the proper operation, during the door closing	Daily at the beginning of each work shift
Electrical controls and wiring	Checking the conditions of electrical wires and connections.	Semester / no later than every 50,000 opening
Movement and operation of the door	Checking the proper operation of the door: Opening, closing, and partial opening	Daily at the beginning of each work shift
Number of cycles (opening and closing)	Periodically check the number of maneuvers to schedule proper maintenance . IMPORTANT: The maximum number of door maneuvers is 45 open-close cycles per hour	
Joints and shafts	Check the condition of the joints, as they are subjected to hard fatigue cycles. If necessary, replace the shafts, those points where the aluminum winding tube joins the Ø 25 steel axles, always on the two sides and then in the middle where the shaft stops.	Every 200,000 opening

5.1 FRONT MOTOR



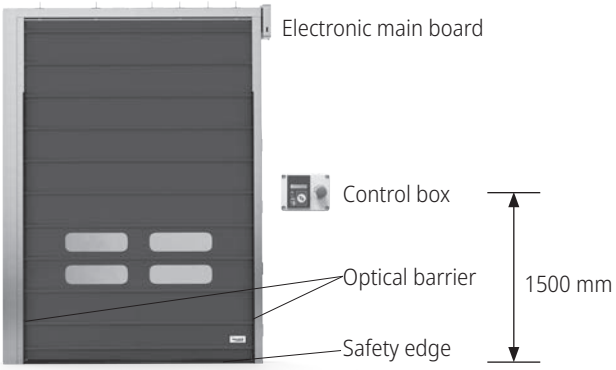
Periodically lubricate, checking that the chain is taut if assembling motor in the light

We recommend a Lubcon Turmofluid ED 13 lubricating oil for the lubrication of the chain transmission. It is also available as a spray.

Replace the chain every 50,000 openings or 2 years

6. ELECTRICAL CHAPTER

6.1 POSITION OF ELECTRICAL COMPONENTS IN THE DOOR



Installation and maintenance work may only be carried out by qualified and authorised personnel. Danger of electric shock: before any operation, disconnect power and stop moving mechanical parts. It is also necessary to wait a few minutes for residual currents to discharge. Qualified and trained personnel must meet the following requirements:
- Knowledge of general and specific accident prevention and safety regulations;
- Training in the use and care of safety equipment,
- Ability to recognise assembly-related hazards;
- Training in the use and care of safety equipment, Ability to recognise electrical hazards.

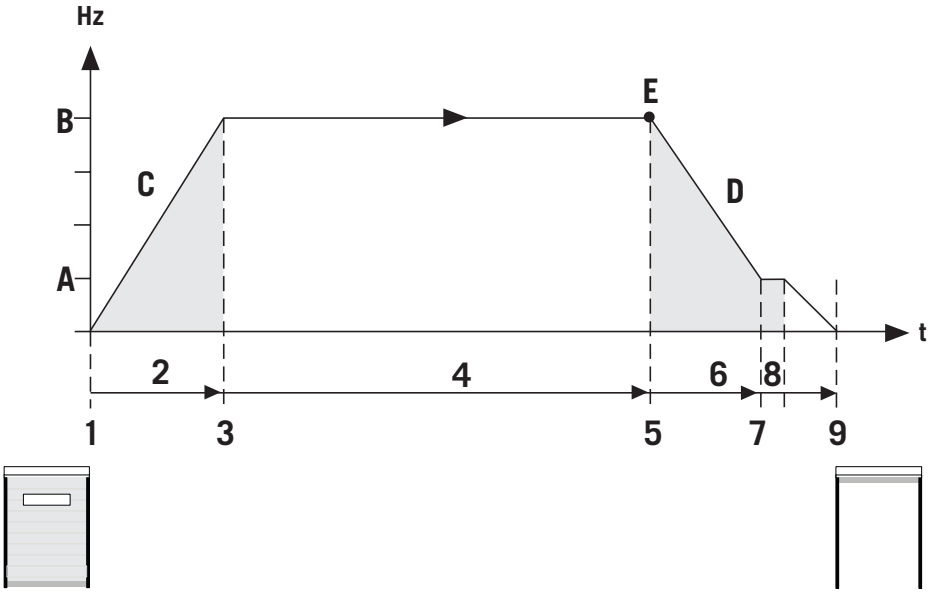
Observe periodic maintenance as reported at the end of this document.

For cleaning, do not use pressurized water jets on the following components photocells, keyboards and motorgears. Components can be irreversibly damaged.

Do not use solvents or chemicals to clean the surfaces of optical barriers. Only use a soft damp cloth. Components can be irreversibly damaged.

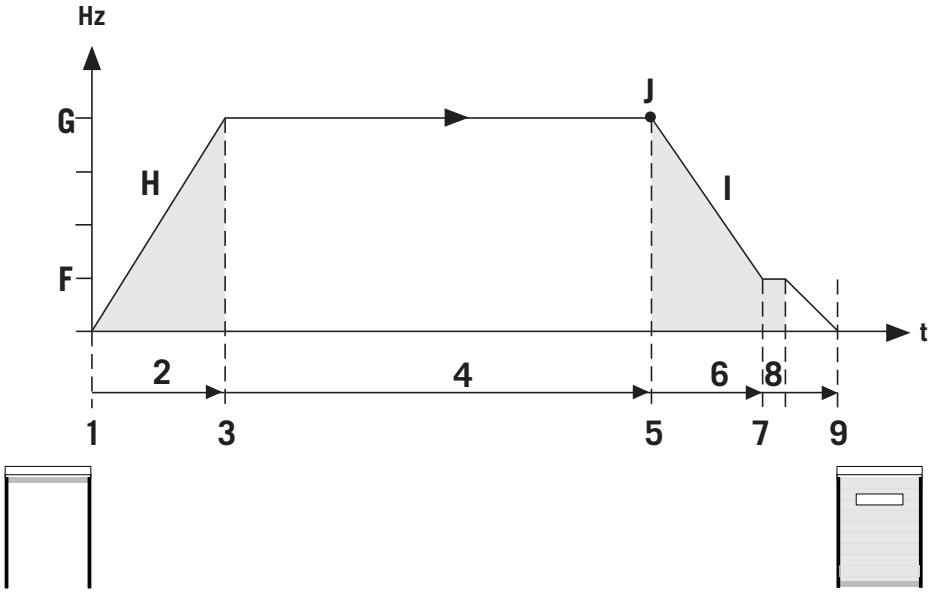
Check the grounding circuit. A bad circuit, affects the proper functioning of the door.

Ascent of the door



1. The main door starts in the direction of opening.
2. The frequency converter accelerates over time (C) until the maximum speed (B).
3. The main door reaches its maximum speed (B).
4. The main door moves with its maximum speed (B).
5. On pressing the brake point (E), the soft travel in the direction of opening is activated.
6. The frequency converter slows down to its minimum speed (A) over time (D).
7. The main door reaches its minimum speed (A).
8. The main door moves with its minimum speed (A).
9. The main door stops in its final upper position.

Descent of the door

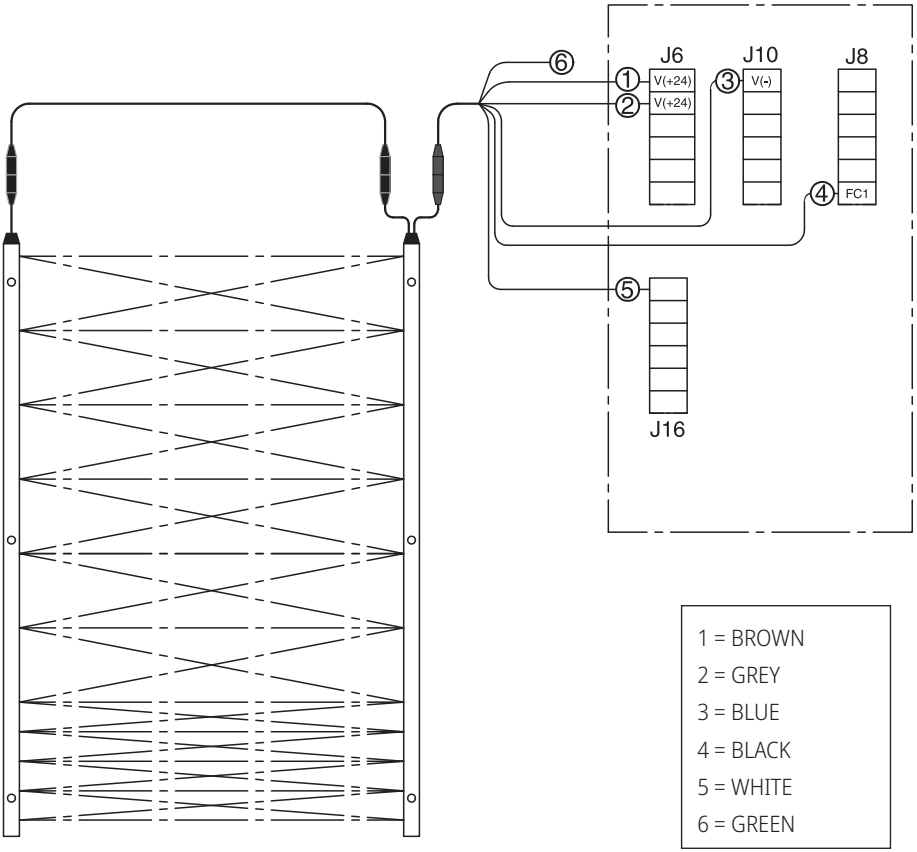


1. The main door starts in the direction of closing.
2. The frequency converter accelerates over time (H) until the maximum speed (G).
3. The main door reaches its maximum speed (G).
4. The main door moves with its maximum speed (G).
5. On pressing the brake point (J), the soft travel in the direction of closing is activated.
6. The frequency converter slows down to its minimum speed (F) over time (I).
7. The main door reaches its minimum speed (F).
8. The main door moves with its minimum speed (F).
9. The main door stops in its final lower position.

6.2 WIRING OF OPTICAL BARRIERS

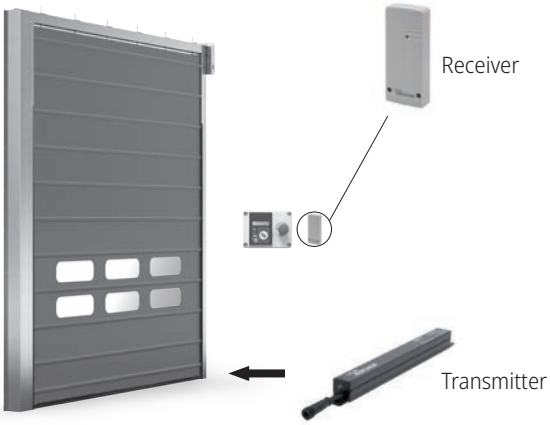
Connect:
- The cables of the optical barriers, the one with black plugs to synchronise the barriers, the one with the blue plug for connection to the cable exiting the motor
- The keypad cable with quick connector exiting the motor
- The 2-wire cable L = 5mt to the black opening mushroom (see wiring diagram)
- The 2-wire cable L = 10mt to the pulling cable (see wiring diagram)
- The power plug

Connection of the optical barriers

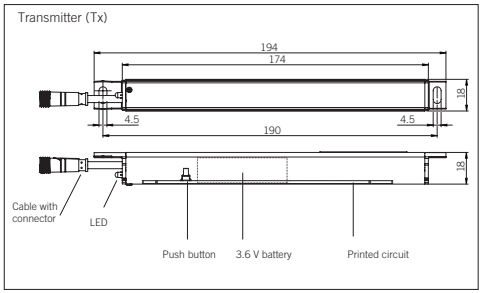


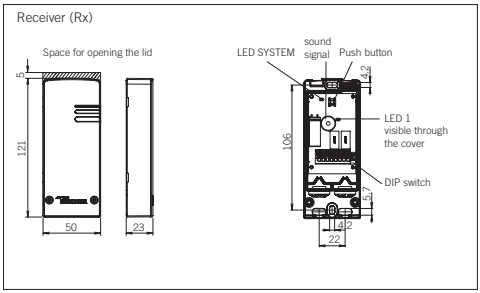
Note: always check the status of the safety devices shown in the upper part of the RX and TX; if the LEDS are red, do not use the door and resolve the problem.

6.3 VERSION WITH SAFETY EDGE



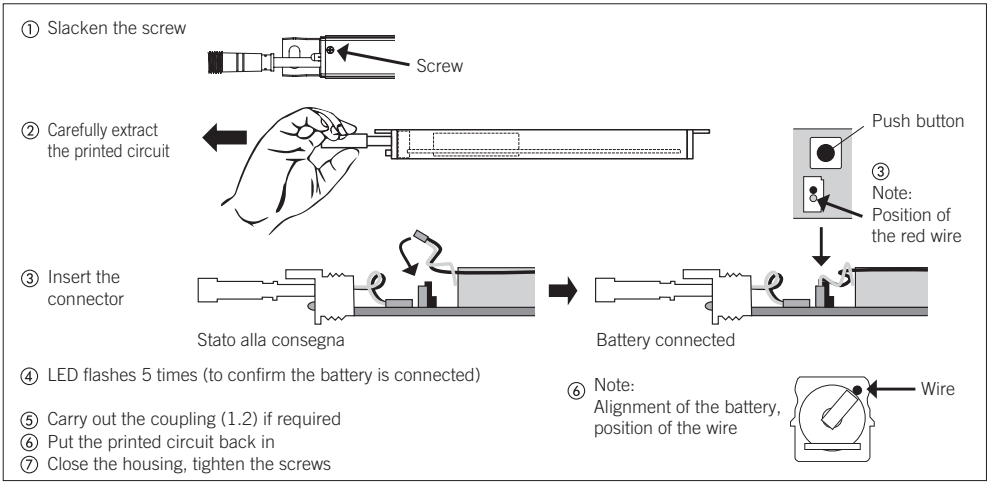
Note: Always check the status of the safety devices shown by the LED light on the receiver.





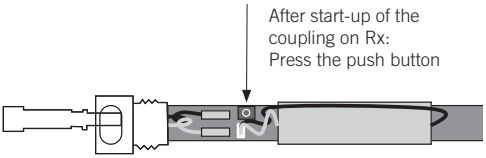
1. Transmitter configuration

- **Connect the battery**



- **Coupling**

Coupling is possible with the transmitter open or even after assembly.

a) Coupling with the cover open	b) Coupling after assembly
	After start-up of the coupling on Rx: By pressing the profile twice within 2 seconds 

- **System check (compulsory after every setting)**

Check the system by pressing the **safety profile**

The LED flashes when the sensor is activated (by pressing the sensitive edge) and flashes again when it is released. Does the door stop when the sensitive edge is activated?

- **Replacing the batteries**

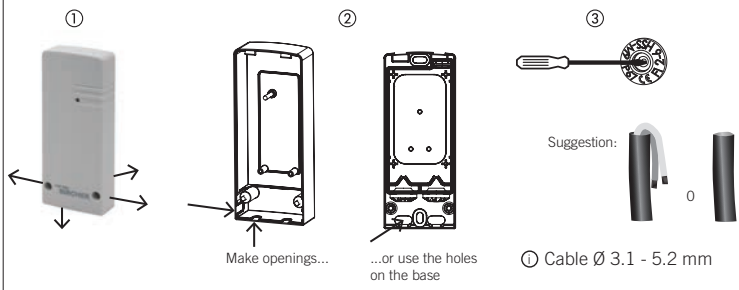
① Order a new battery (with pre-assembled connector)!
② Extract the printed circuit
③ Disconnect the connector and remove the battery
④ Put the new battery in, insert the connector
⑤ Insert the printed circuit
⑥ Close the cover
⑦ Compulsory system test!
⑧ Dispose of the battery in accordance with the local provisions

1. Receiver configuration

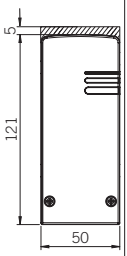
- **Assembly**

Cable path, traction discharge

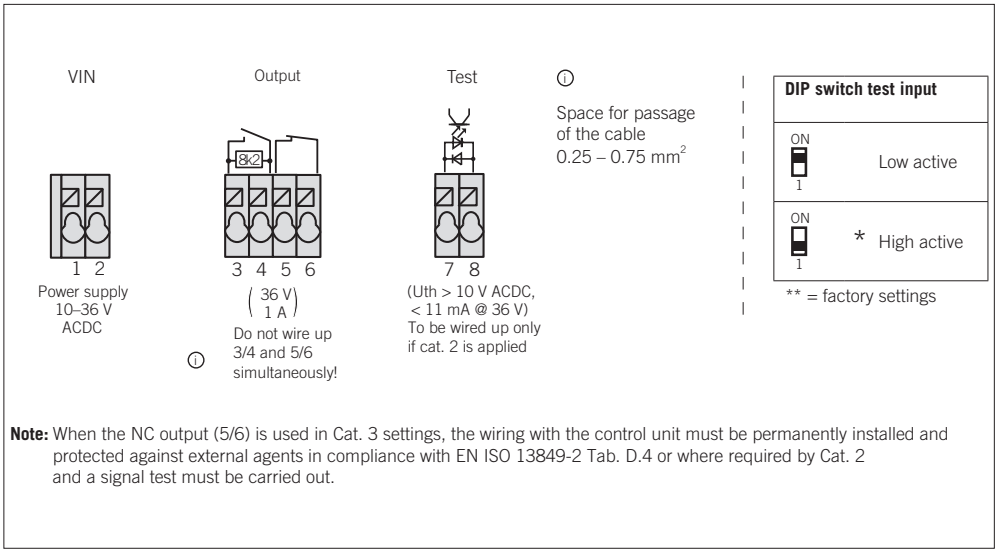
① Set a cable path
② If necessary, make an opening in the respective part of the cover
③ Make a hole in the washer
④ Insert the cable



Space for opening the lid

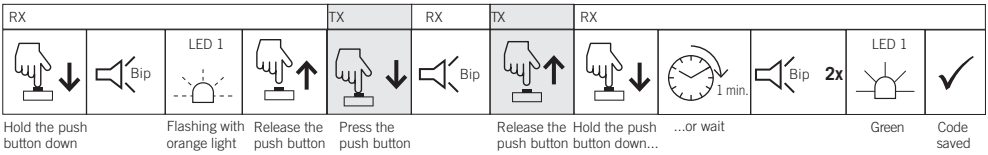


- **Wiring**

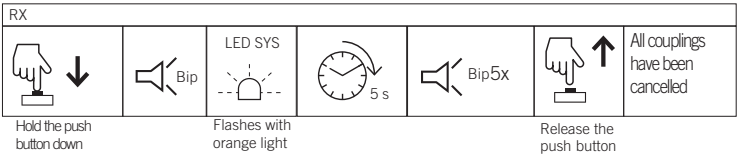


Note: When the NC output (5/6) is used in Cat. 3 settings, the wiring with the control unit must be permanently installed and protected against external agents in compliance with EN ISO 13849-2 Tab. D.4 or where required by Cat. 2 and a signal test must be carried out.

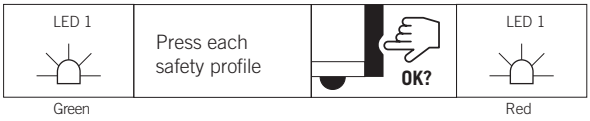
- **Coupling the transmitter with the receiver**



- **Cancelling couplings**



- **System test, compulsory after every set-up!**

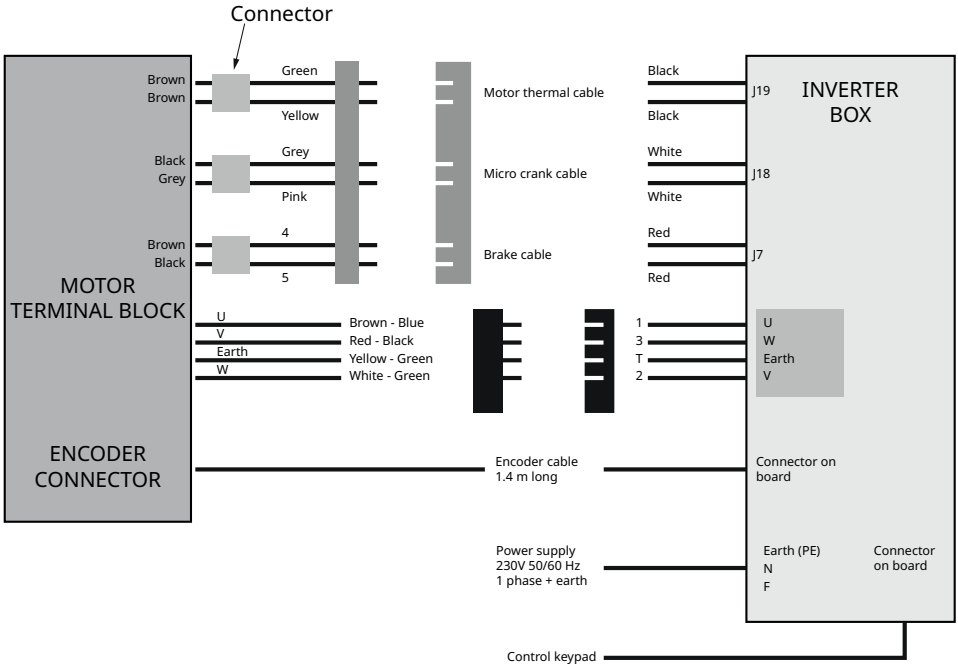


Does the door stop when the sensitive edge is activated?

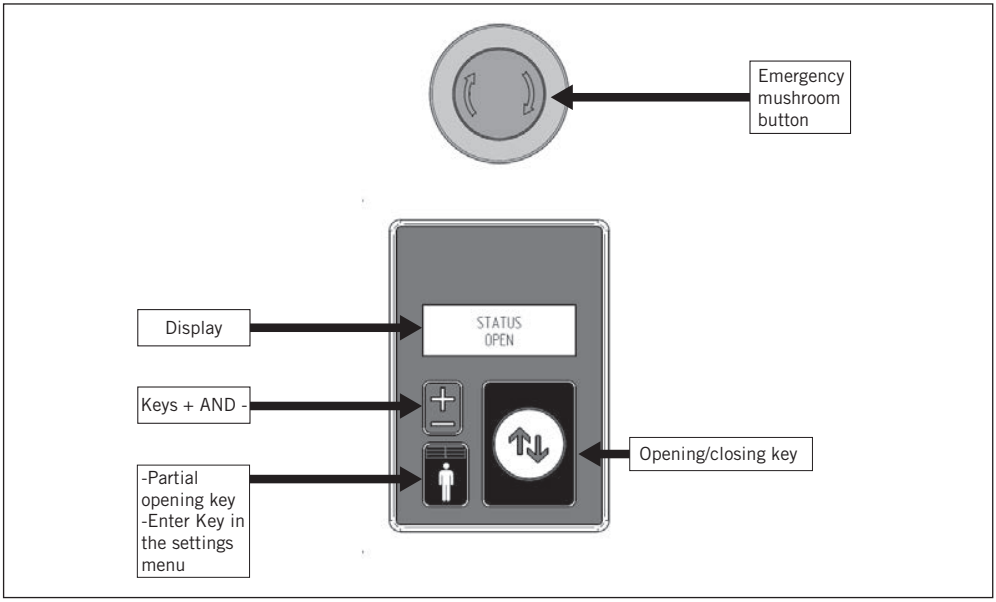
- **LED output status**

	SYSTEM LED	LED 1	Output 1 3-4	Output 1 5-6	Bip
No power supply	-	-	closed	open	
System ready, no sensor pressed	green	green	8k2	closed	
Sensor pressed (edge of main closure)	orange	red	closed	open	
Small pedestrian door open (XRF - TW)	orange	red	closed	open	
Configuration (coupling)	orange flashing	orange flashing	closed	open	if activated
Configuration mode, full memory	orange flashing	orange flashing	closed	open	10x
Low battery	green	green	8k2	closed	3x every min.
Active input test	green	red	closed	open	
Error a = cable damaged between the sensitive edge and input, resistor out of capacity b = Tx lost or flat battery c = system error	a = red b = red c = red	red	closed	open	

6.4 TOPOGRAPHICAL DIAGRAM OF MOTOR-INVERTER BOX CONNECTION



6.5 CONTROL KEYPAD

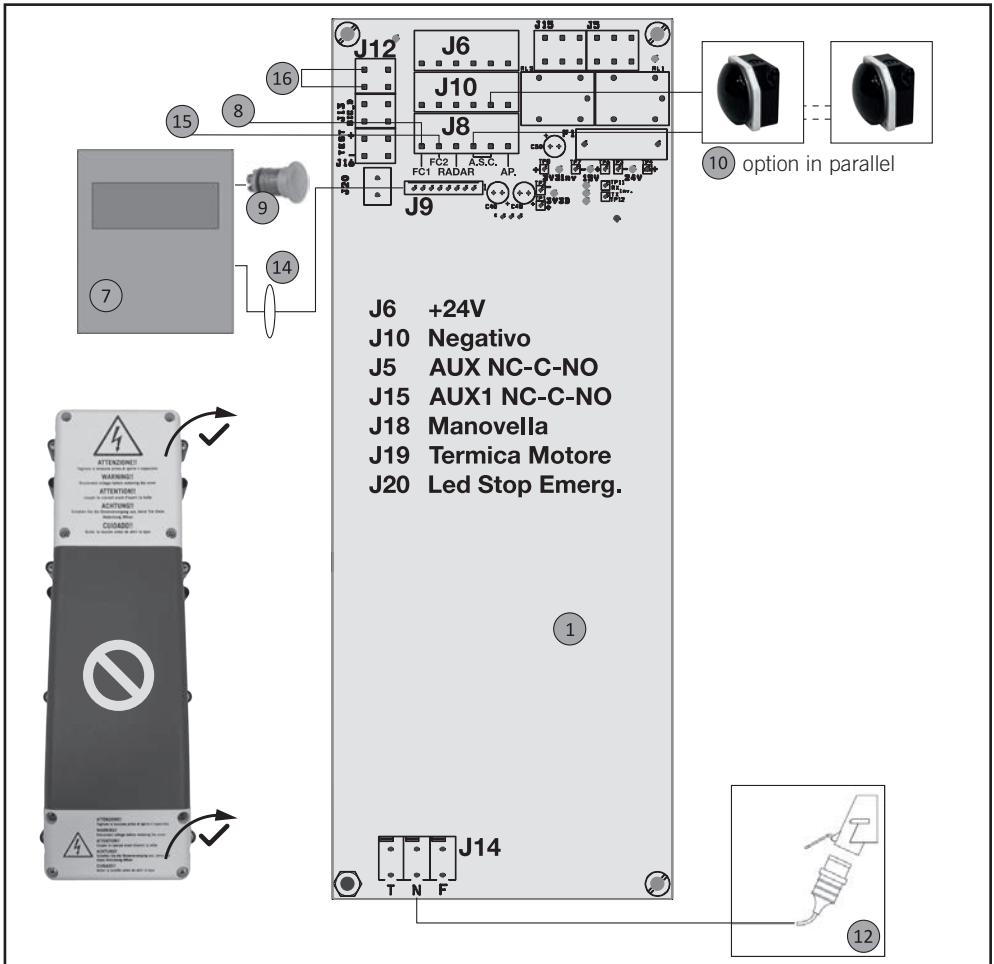


6.6 ALARMS MANAGEMENT

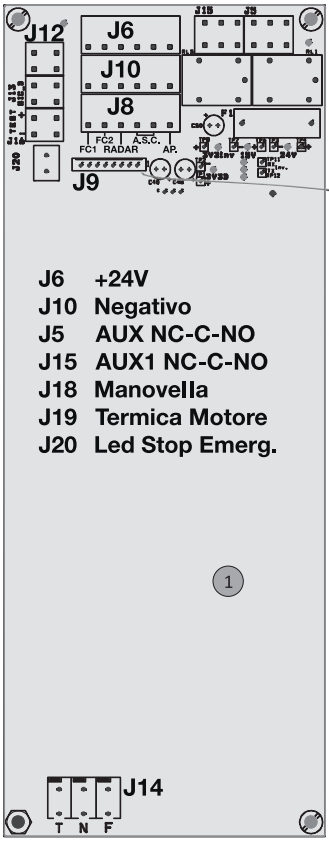
Connect:
During the normal operating and calibration phases of the door travel, a check is performed on any alarms that may occur and an alarm appears if an error is detected.
If an alarm is present, it can be reset by holding the key – and entering the password 3333. There are 3 attempts to correctly enter the alarm reset password and a 60" timeout for keypad inactivity.
If the same alarm occurs again, contact the Incold technical assistance office.

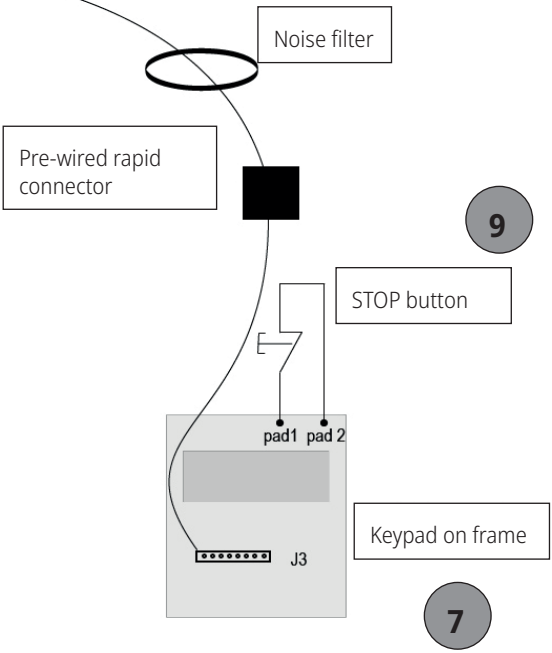
- Alarm 01: inverter overcharge.
- Alarm 02: inverter short-circuit.
- Alarm 03: too high continuous inverter voltage.
- Alarm 04: too low continuous inverter voltage.
- Alarm 05: motor overcharge.
- Alarm 06: motor thermal issue.
- Alarm 07: encode chain ("crank stop" is displayed).
- Alarm 08: inverter driver temperature.
- Alarm 09: PFC not started.
- Alarm 11: failed photocell 1 test.
- Alarm 12: failed photocell 2 test.
- Alarm 17: communication with the inverter.
- Alarm 18: roll-up opening/closing timeout.
- Alarm 19: roll-up calibration data error (loss of data saved in the memory).
- Alarm 20: roll-up position data error (roll-up position not coherent with the calibration data).
- FTC - "RADAR": Photocell or safety edge damaged

6.7 TOPOGRAPHIC DIAGRAM

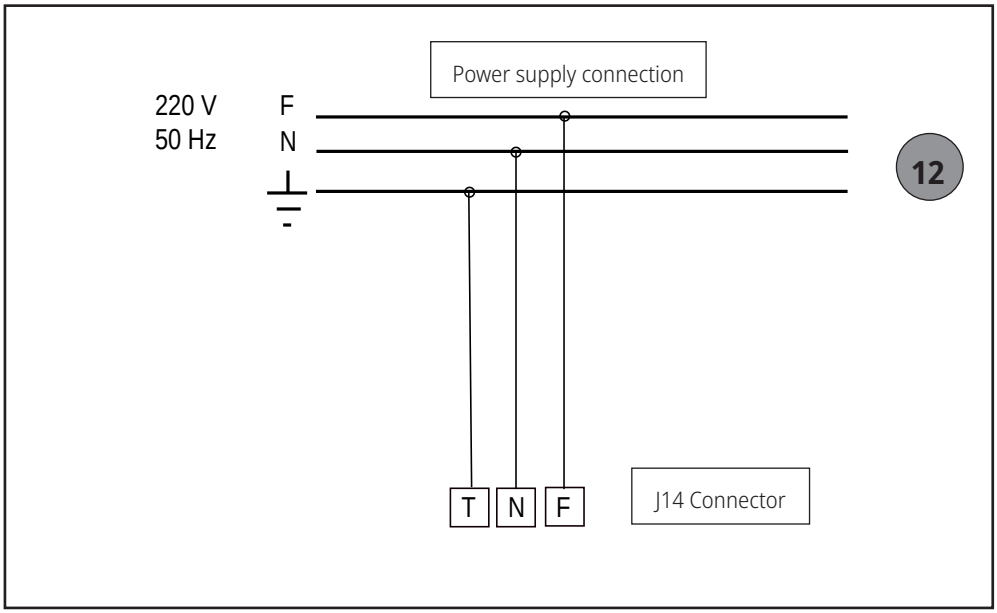


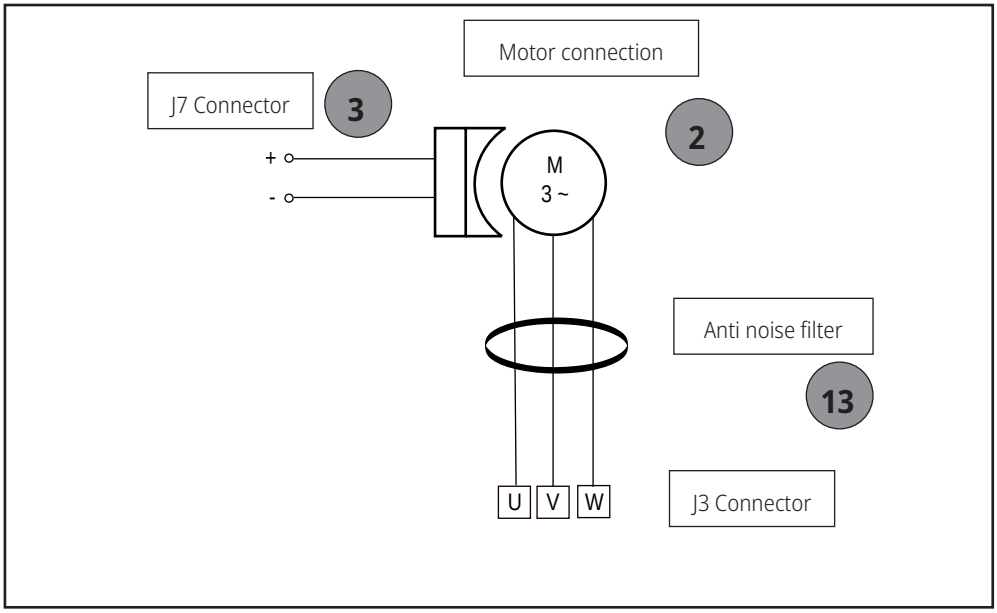
1. Main electronic diagram	9. Emergency button
2. Electric motor*	10. Interior opening button
3. Motor brake*	11. Braking resistance*
4. Thermal protection device*	12. Power plug
5. Handle insertion protection*	13. Noise filter*
6. Absolute encoder*	14. Noise filter
7. Control keypad	15. TX - RX photocells
8. Sensitive edge	*Parts that cannot be reached by the user


J12
J6
J10
J8
FC2
A.S.C.
FC1 RADAR
AP.
J9
J6 +24V
J10 Negativo
J5 AUX NC-C-NO
J15 AUX1 NC-C-NO
J18 Manovella
J19 Termica Motore
J20 Led Stop Emerg.
1
J14
T N F


Noise filter
Pre-wired rapid connector
9
STOP button
pad1 pad 2
J3
Keypad on frame
7

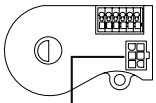
Control devices

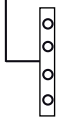




Encoder connection

6





J11 Connector

Crank switch

J18 Connector

5

Thermo pill

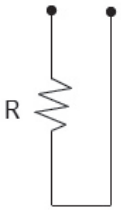
4

J19 Connector

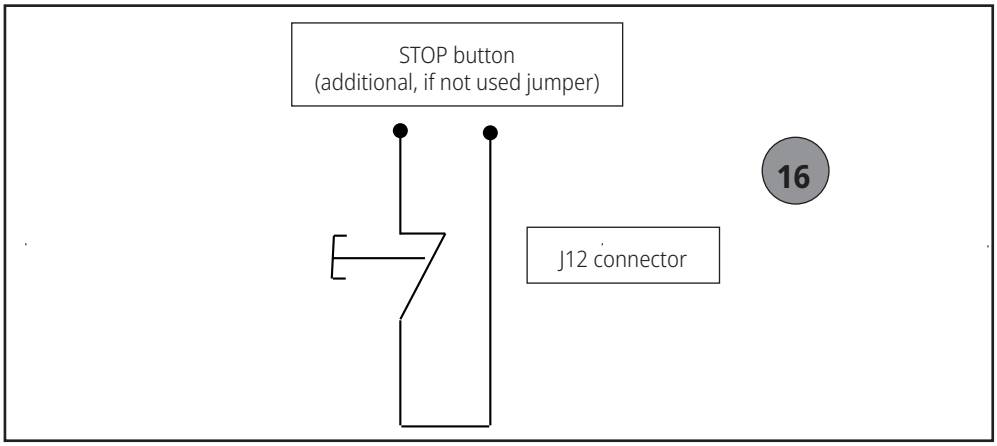
Braking resistors

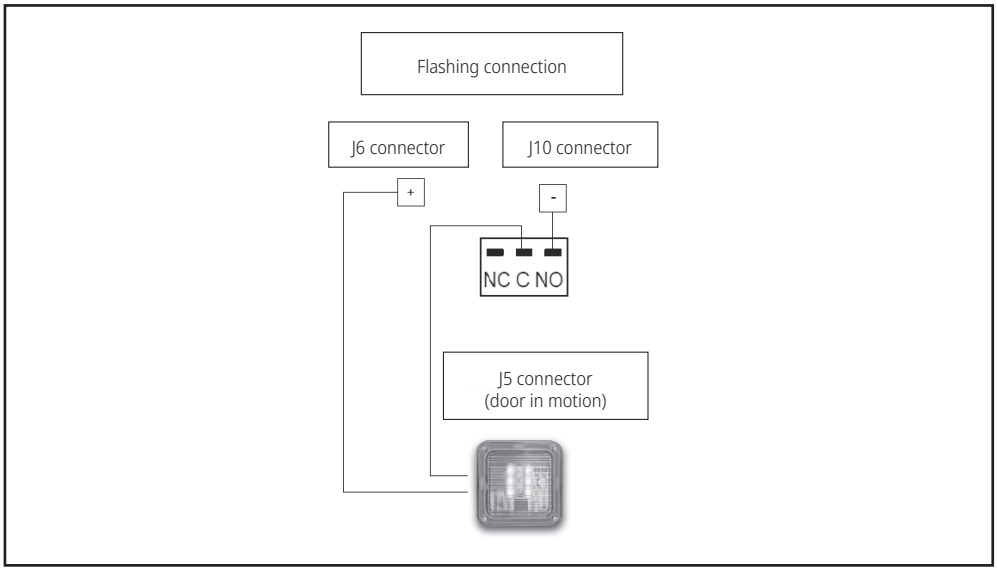
11

J7 Connector

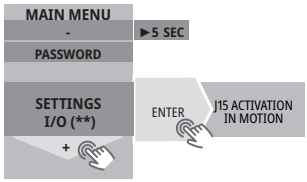


Safety devices

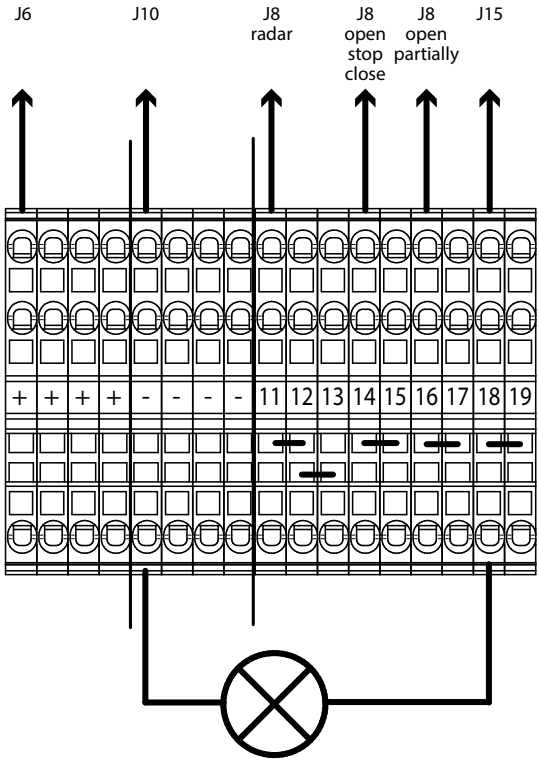


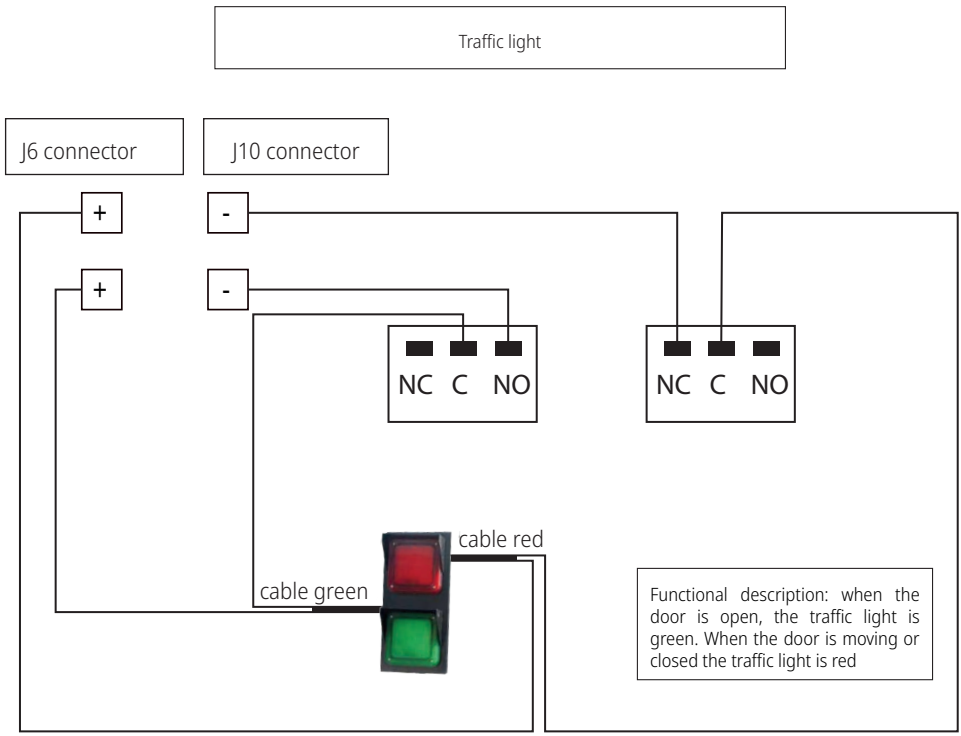


Set the operation of J5 in motion through:

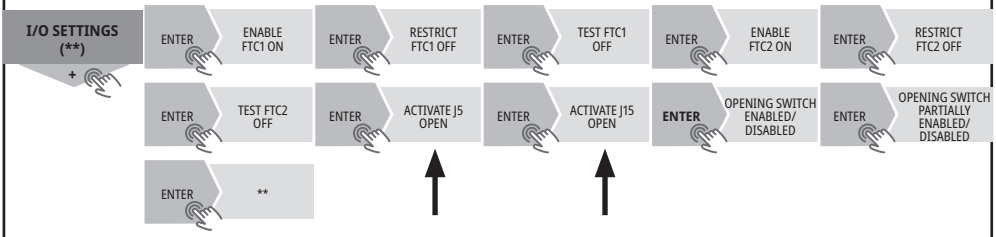


Junction box with flashing

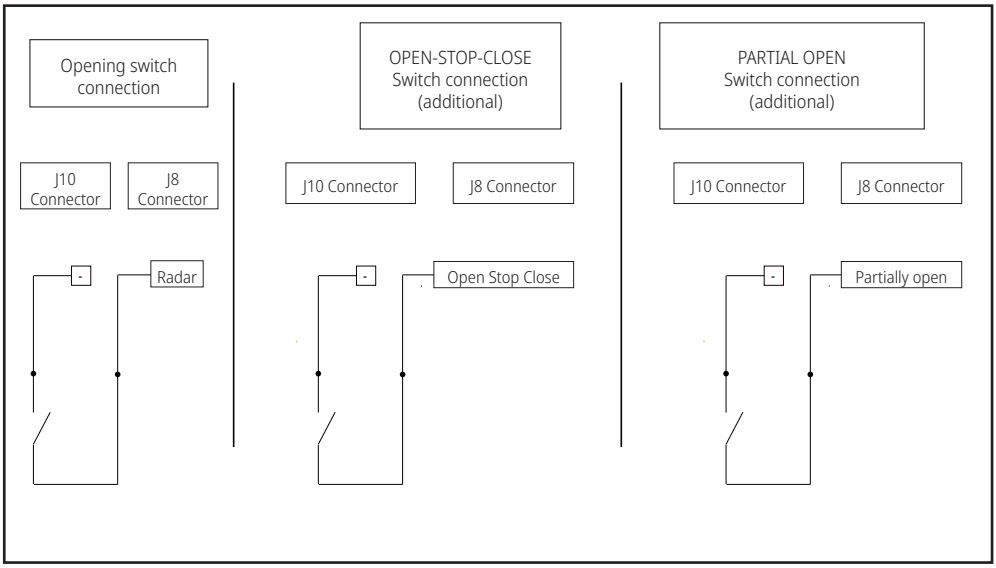


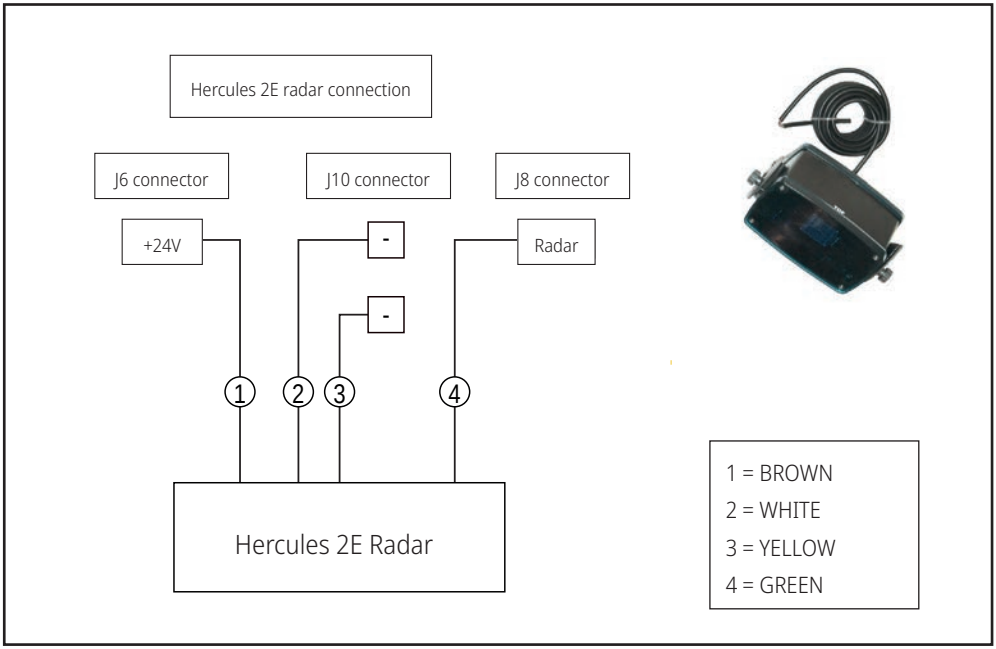


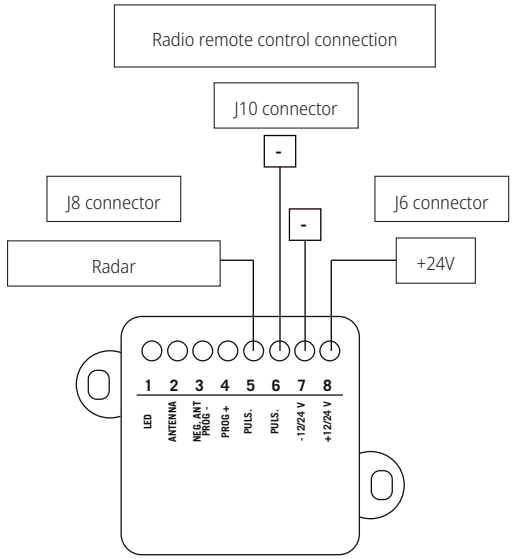
Set the operation of J5 and J15 as below with arrows

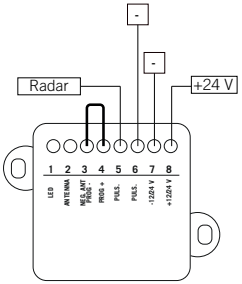


Opening devices



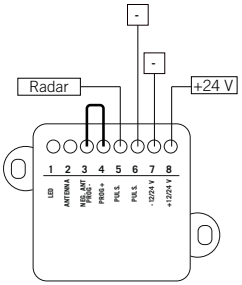






Programming procedure:

- The LED flashes on start-up and then goes out
- As soon as inputs 3 and 4, which are dedicated to programming, are jumped, the LED emits single flashes for 20 seconds
- Press a key on the remote control within the 20 second interval to associate it
- It stays lit for 3 seconds, as receiver feedback
- Disconnect the jumper from the receiver



Reset procedure for all remote controls:

- Power on the receiver with 12V/24V
- The LED flashes and then goes out
- Put the jumper between inputs 3 and 4, which are dedicated to programming, the LED emits single flashes for 20 seconds
- Once the 20 seconds have elapsed, the LED emits longer flashes for another 90 seconds and indicates an alert situation
- It is no longer possible to programme a remote control at this time
- After the 90 seconds have elapsed, the memory is reset
- All the stored remote controls have been deleted
- The LED flashes 4 times repeatedly as long as the jumper is not removed
- If the jumper is removed, the programming procedure begins again, starting from the 20 seconds

Cable switch connection

J10 Connector

J8 Connector

-

Open Stop Close

or

Radar

Rope pull switch

Note:
If connected to Open-stop-close, with each pulse the gate performs one of the operations in sequence.

If connected to Radar, with each switch pulse the door only opens. Reclosing can only take place automatically after elapse of the time set for re-closing.

Mushroom push button connection

J10 connector

J8 connector

-

Open Stop Close

or

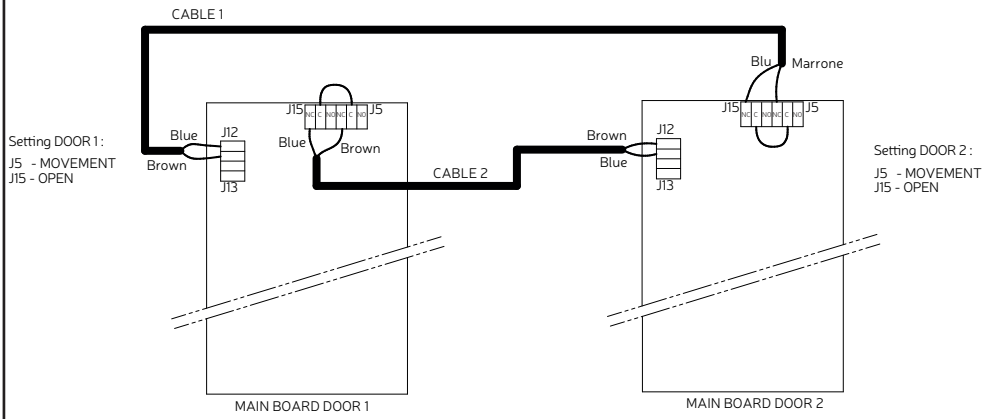
Radar

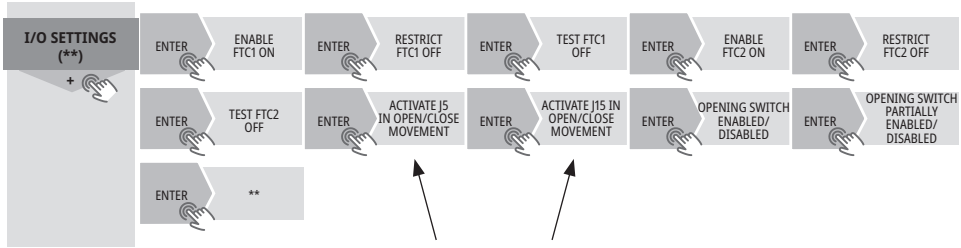
Mushroom push button

Note:
If connected to Open-stop-close, with each pulse the gate performs one of the operations in sequence.

If connected to Radar, with each switch pulse the door only opens. Reclosing can only take place automatically after elapse of the time set for re-closing.

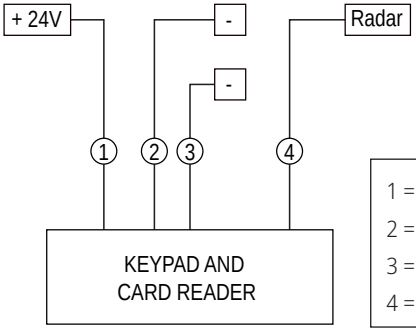
Interlock scheme





Keypad and card reader

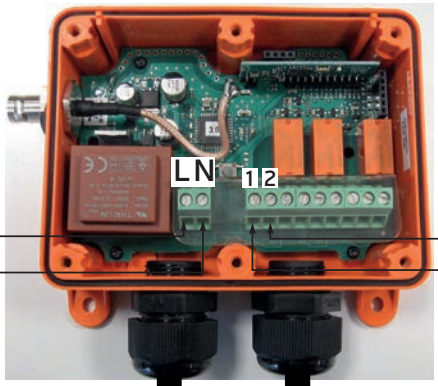
J6 connector | J10 connector | J8 connector



1 = RED
2 = BLACK
3 = YELLOW
4 = WHITE

Programming flowchart:
Enter: 000
Enter: B (1small beep + 1 long Beep+Yellow led on : if is correct)
Enter: 0
Enter: 001
Enter: 123 (or your password)
Enter: A (wait 2 second)
Enter: B
The led yellow is off END.

6-15 channels receiver



Brown plug 16 A

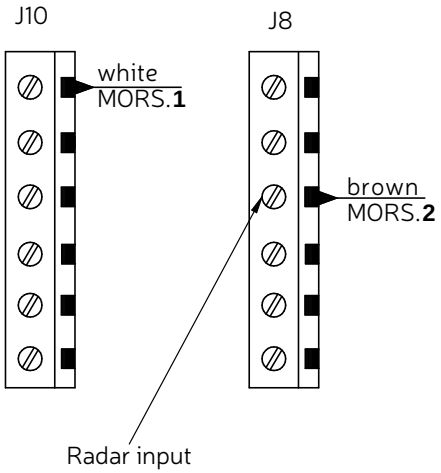
Blue plug 16 A

Brown J8 PIN 3 “Radar”

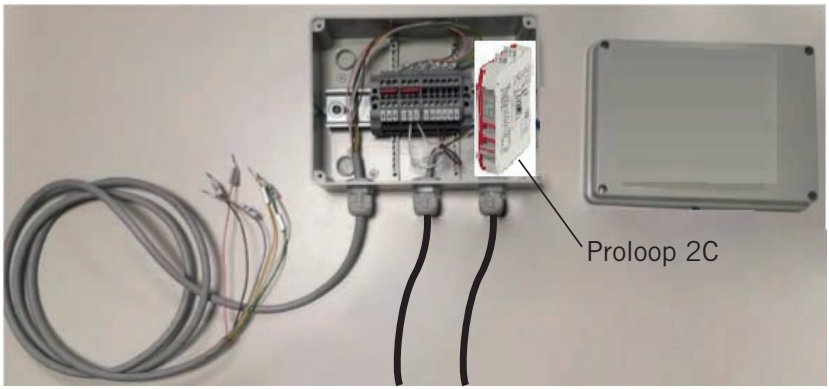
White J10

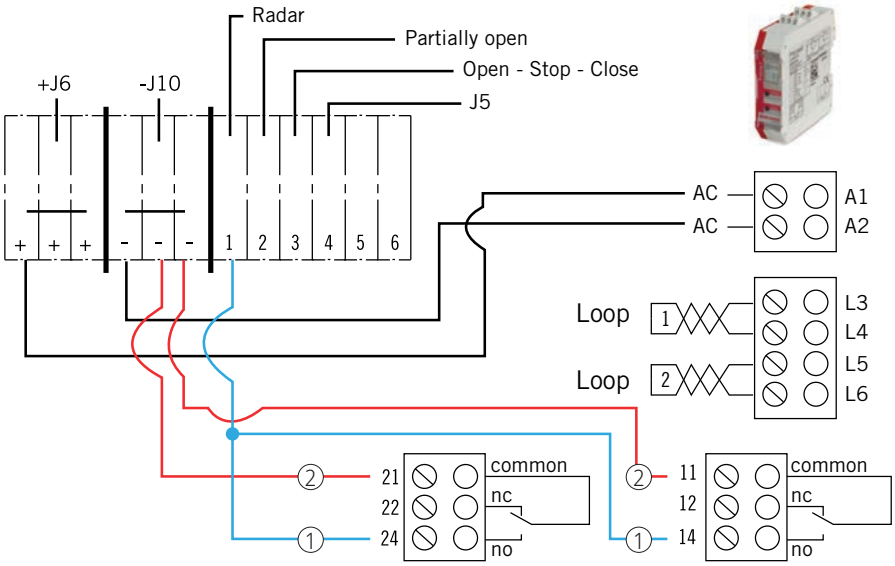
ART. 04110118
Power cord with plug CEE 16A
to external power supply

ART. 04110120
Mushroom push botton wiring cable
to main board

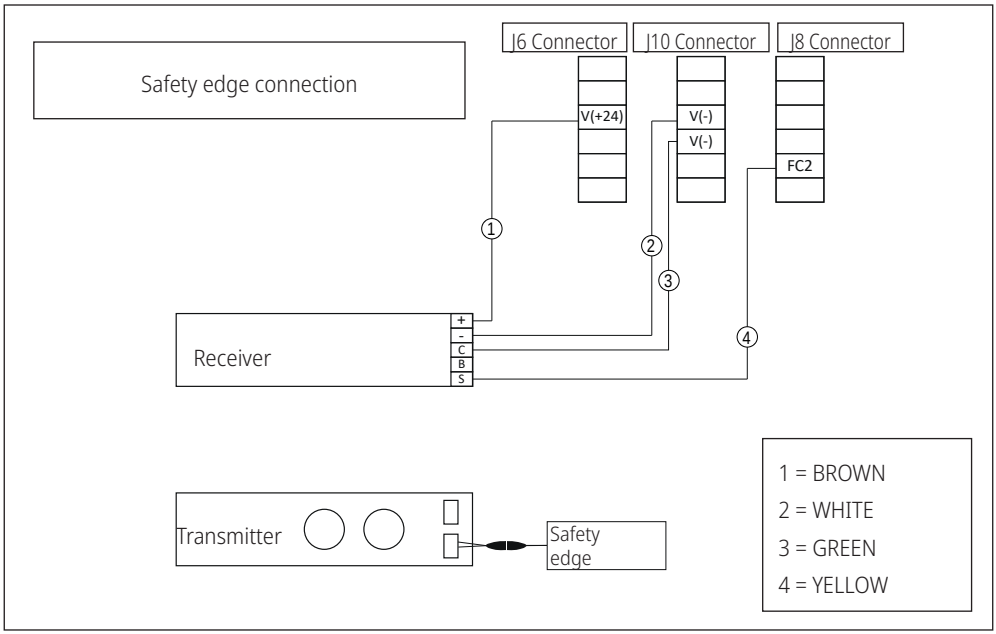


Proloop 2C connection



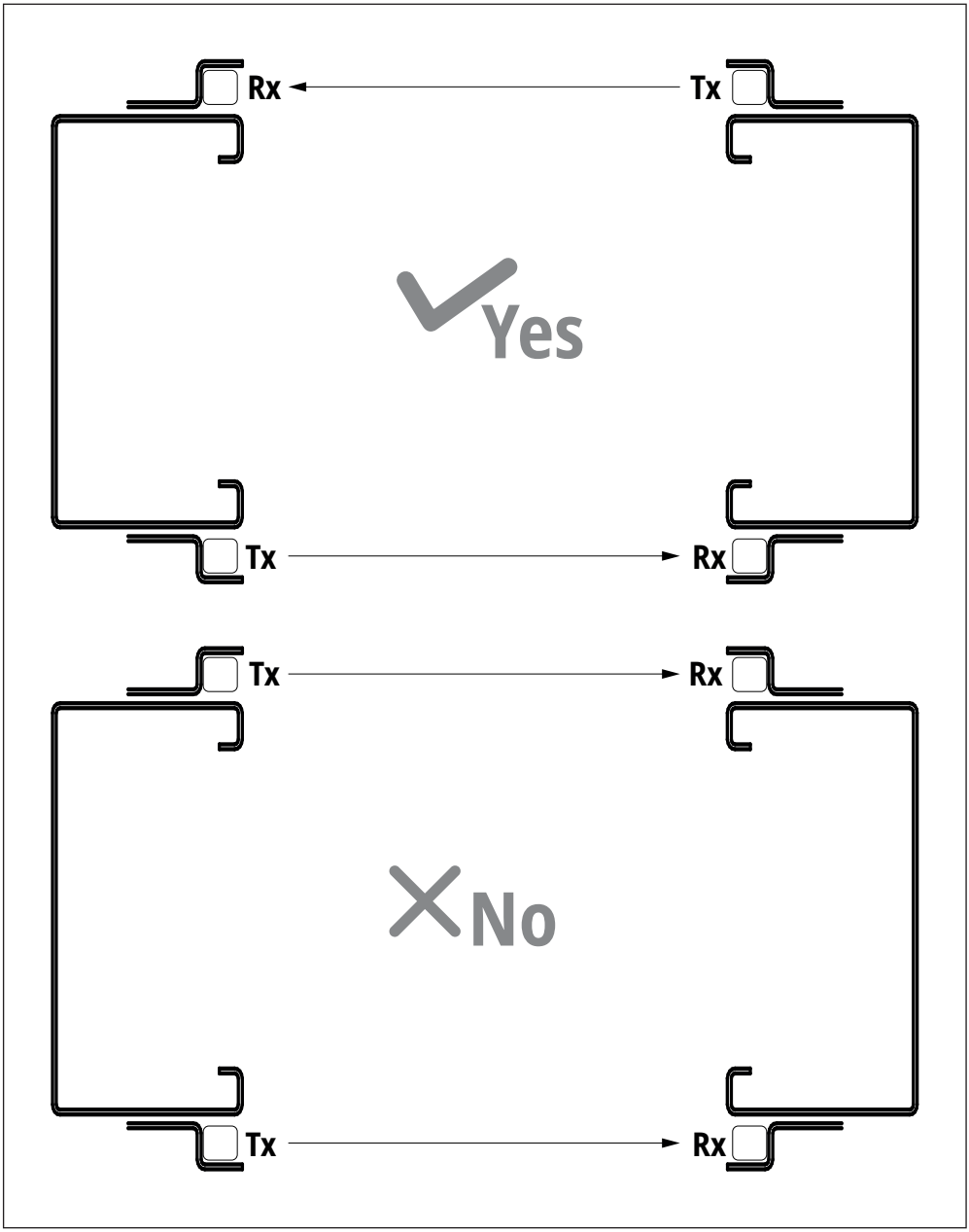


1 = BLUE
2 = RED

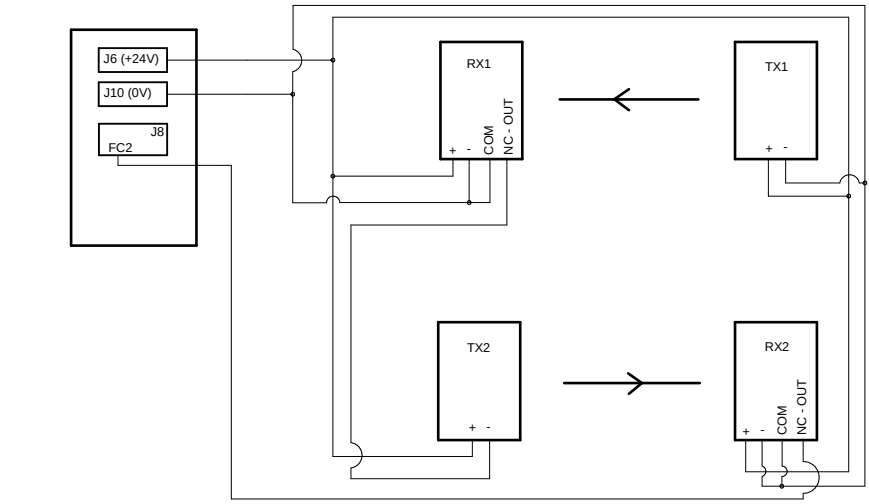

Safety edge connection
J6 Connector
J10 Connector
J8 Connector
V(+24)
V(-)
V(-)
FC2
1
2
3
4
Receiver
+
-
C
B
S
Transmitter
Safety edge
1 = BROWN
2 = WHITE
3 = GREEN
4 = YELLOW

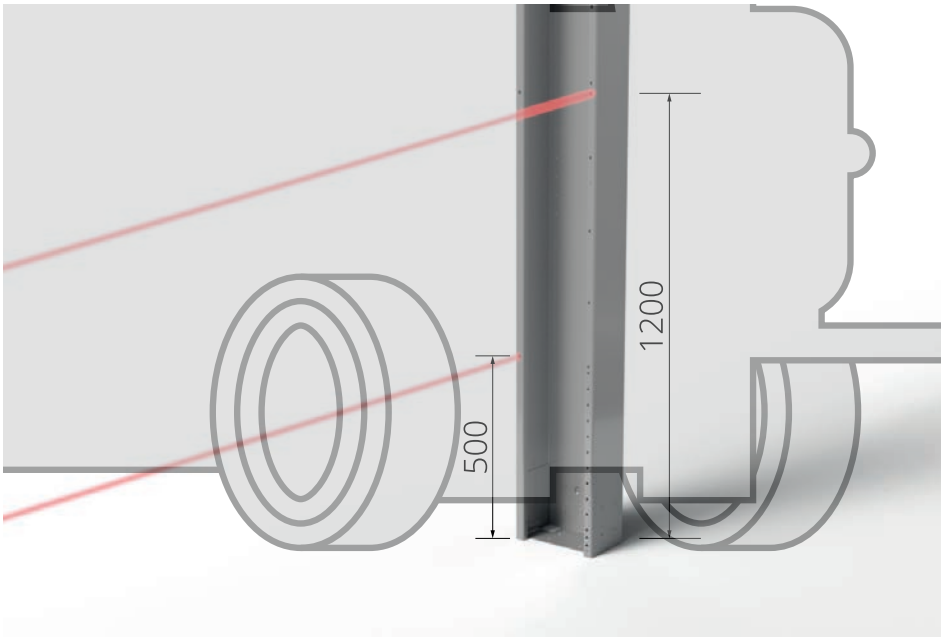
Mounting of single-beam photocells

The opposite positioning of the photocells (as shown in the diagram below) is very important in order to prevent the signal from one transmitter reaching both receivers.

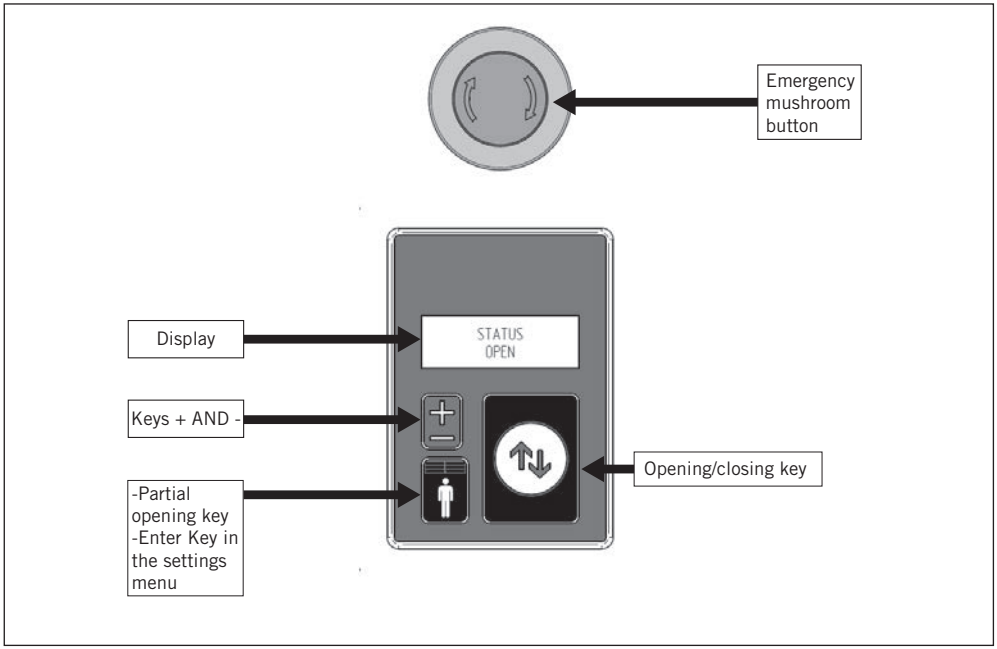


Photocell connection





6.8 CONTROL KEYBOARD AND KEY OPERATION



• **Key +:**
- from the main screen, with a long press, access the user settings menu
- in a menu without settable parameters, select the next item
- in a menu with a settable parameter, increase the value

• **Key -:**
- from the main screen, with a long press, access the password menu for supervisor settings or reset the alarms
- in a menu without settable parameters, select the previous item
- in a menu with a settable parameter, decrease the value

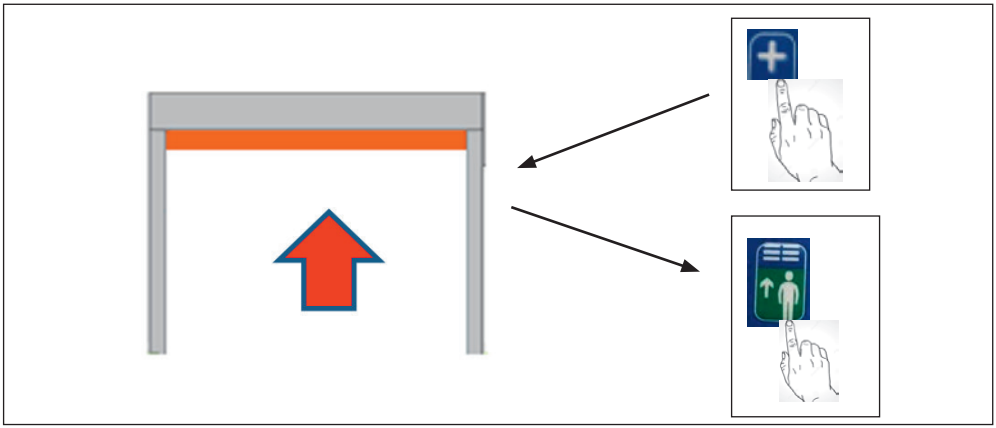
• **Partial opening key:**
- partially open the roll-up, if closed; with the door partially opened, the rollup is completely opened; close the roll-up is partially opened
- in a menu with settable parameter, save the value of the parameter and select the next item

• **Opening/closing key:**
starts the opening or closure of the roll-up or blocks the movement, if active; once the active movement is blocked, the roll-up is pending a next start-up control and, in the meantime, the automatic closure (if set up) is prohibited.

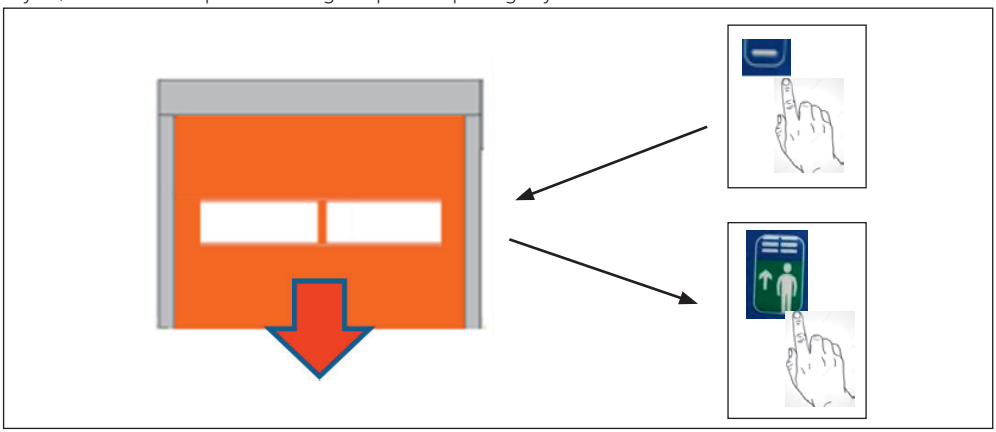
6.9 FIRST START UP

Upon the first start-up, the display language of the messages is requested, to be changed using the keys +, - and confirm using the partially opening key. Once confirmed, the password screen appears for accessing the initial calibration menu. In order to set the password, change the unique digit using the keys +, - and confirm it using the partially opening key. The calibration menu password is 1234.
As long as the initial calibration is not completed, upon each next start-up, the menu for setting the language and then the password for initial calibration will reappear. Moreover, it is not possible to navigate outside this screens.

The menu is composed of the following items, in this order:
• **Opening position**: it is used to store the position with the fold-up completely opened. The displayed parameter is the current position of the motor encoder. Move the fold-up until completely opened using the keys +, - and save the position using the partial opening key.



• **Closing position:** it is used to store the position with the fold-up completely closed. The displayed parameter is the current position of the motor encoder. Move the fold-up until completely closed using the keys +, - and save the position using the partial opening key.



At the end of the procedure, the complete calibration message is shown and the display goes to the operation screen. Upon the next start-ups, the display will go directly to the operation screen skipping the calibration screen.

The manual movement of the fold-up during calibration (and in manual mode, please see below) will be blocked near the full scale of the encoder, so as to avoid calibrations at values out of scale which might cause the fold-up to function abnormally. Hereinafter, we present the operation areas related to the value of the encoder:

• **Free movement area (encoder between 250 and 7942 points):** the movement of the fold-up is free in both directions.

• **One direction inhibition area (encoder between 100 and 250 points or between 7942 and 8092 points):** the movement in the direction that caused the exceeding of limits is blocked. Therefore, if, for example,
by pressing the key + , the value of 7942 points is exceeded, this key no longer causes movement, while the key - causes a movement which will decrease the value of the encoder.

• **Total inhibition area (encoder between 0 and 100 points or between 8092 and 8192 points):** the movement of the encoder is completely blocked. The situation is reported on the display with the blinking message "manually unlock". In this case, it will be necessary to mechanically move the fold-up after releasing the brake.
In order to simplify any setting of the partial opening and minimum opening parameters to enable the photocell (only fold-up), upon the calibration, it is recommended to write down the values of the encoder corresponding to the desired positions.

Operating screen

Normally, the status of the fold-up which can undertake one of the following positions is displayed:
• open
• close
• partially opened

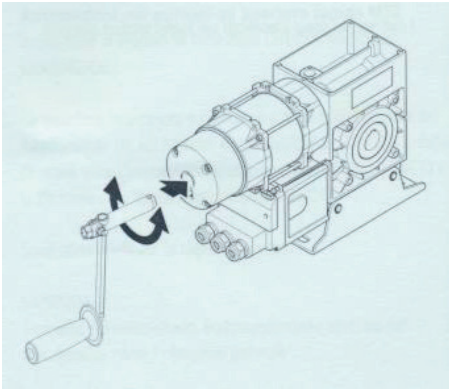
Instead, during the movement, the new position will be displayed:
• opening
• closing
• partial opening

In order to move the fold-up:
• **Opening/closing key:** starts the opening or closure of the fold-up or blocks the movement, if active; once the active movement is blocked, the fold-up is pending a next start-up control and, in the meantime, the automatic closure (if set up) is prohibited
• **Partial opening key:** partially open the fold-up, if closed; with the door partially opened, the fold-up is completely opened; close the fold-up is partially opened
N.B : if the fold-up movement is stopped before the position is reached with the open / close key, upon the next pressing, the movement will always be in open mode. If the emergency button is pressed, the message "emergency stop" is displayed. If the movement is blocked with the manual stop, the message "manual stop" is displayed.
Moreover, from this screen, the following actions are possible:
• **Key + long press:** access the user settings menu

Operation with emergency hand crank

During maintenance works or in the case of an electrical fault, the door can be moved towards the OPEN or CLOSED positions with the help of the emergency operation equipment.

WARNING:
- Emergency operation must only be carried out from a safe standing position
- Emergency operation must only be carried out when the motor is stationary.
- The system must be disconnected from the power supply during emergency operation



- Push the emergency hand crank into the drive as far as it will go. The control voltage is interrupted and the door can no longer be electrically operated.
- Move the door in the OPEN or CLOSE direction by turning the emergency hand crank.
- Remove the emergency hand crank from the drive after completing emergency manual operation. The control voltage will be interrupted and the door can no longer be operated electrically.

6.10 INSTRUCTIONS FOR USING THE PANEL

DA FW DISPLAY V02.53
DA FW INVERTER 01.15

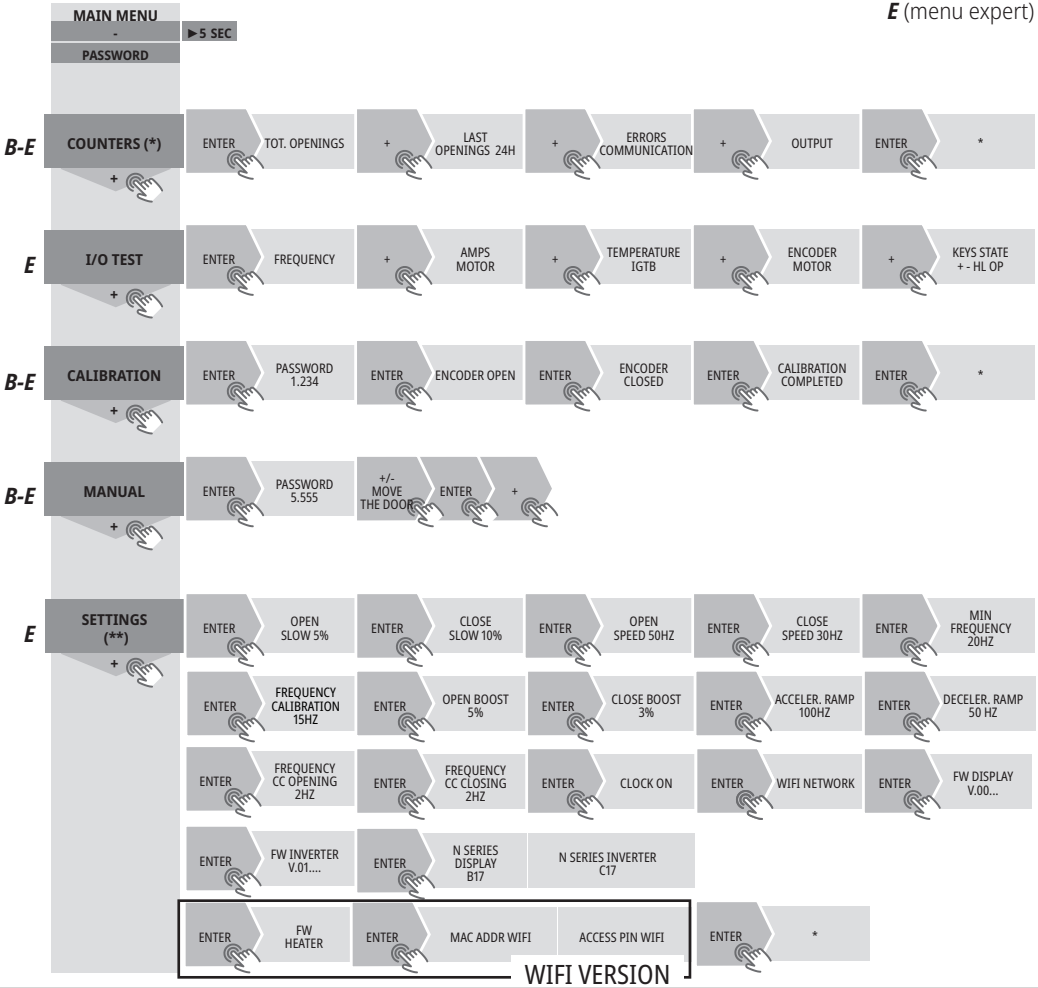
USER INSTRUCTIONS OF THE PANEL

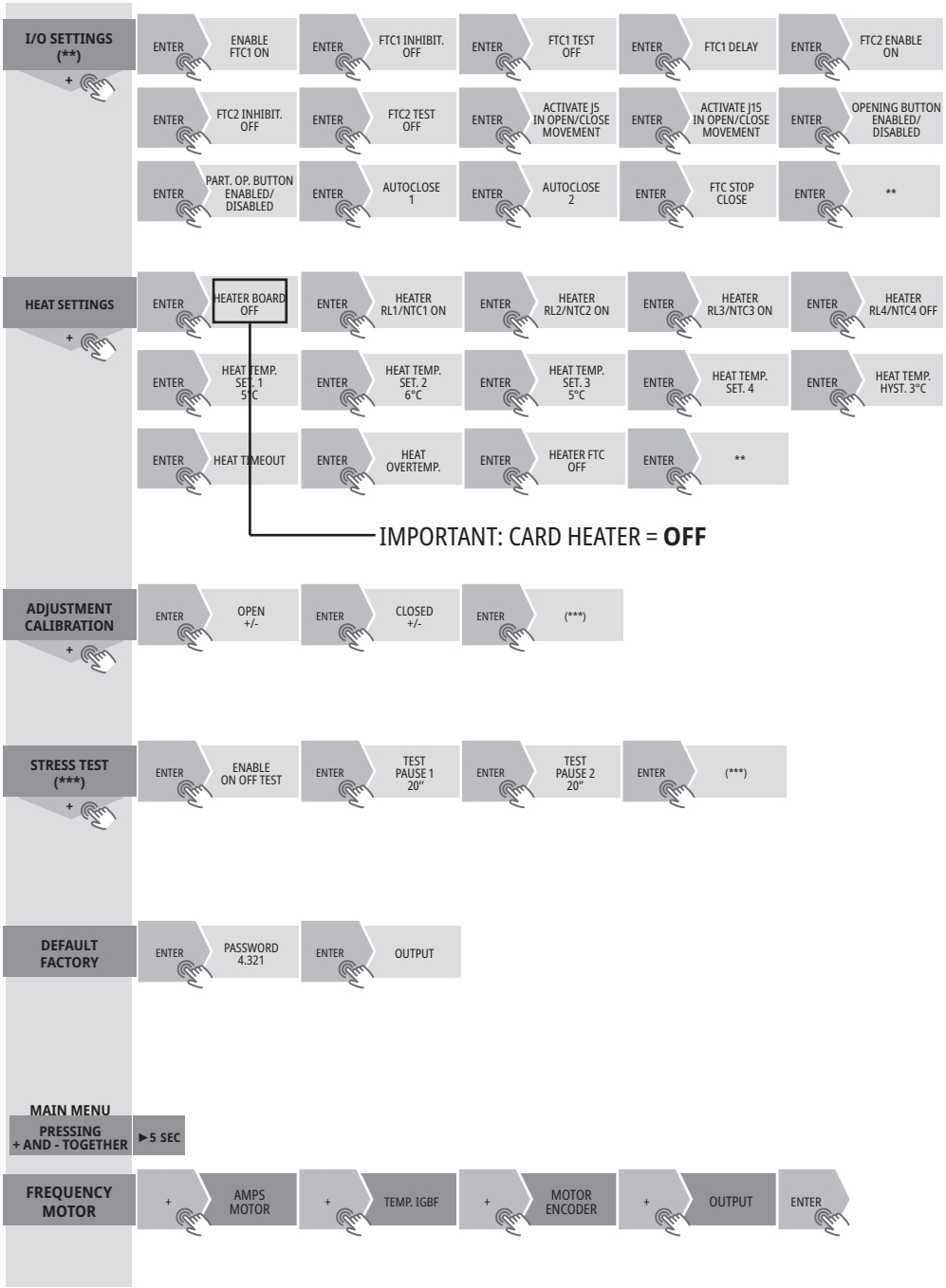
To scroll through the MAIN MENU items, press the + button
To enter the MAIN MENU items, press the ENTER button
To return to the main menu, press the ENTER key.

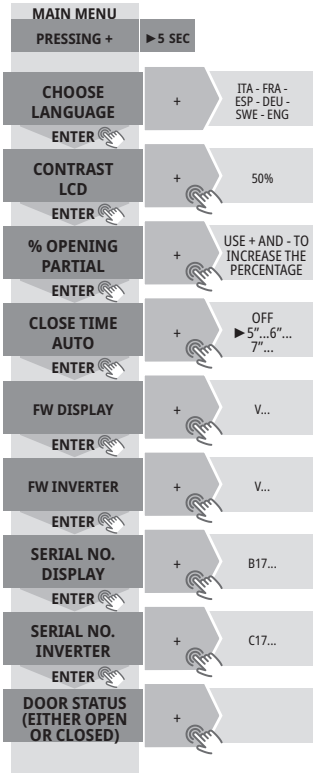

BUTTON ENTER


BUTTON +
BUTTON -

B (menu base)
E (menu expert)



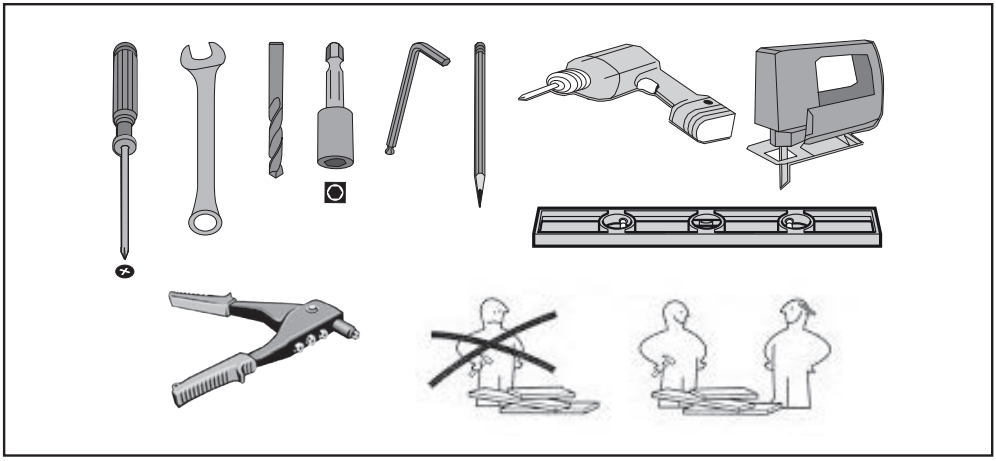

E
I/O SETTINGS (**)
+
ENTER
ENABLE FTC1 ON
ENTER
FTC1 INHIBIT. OFF
ENTER
FTC1 TEST OFF
ENTER
FTC1 DELAY
ENTER
FTC2 ENABLE ON
ENTER
FTC2 INHIBIT. OFF
ENTER
FTC2 TEST OFF
ENTER
ACTIVATE J5 IN OPEN/CLOSE MOVEMENT
ENTER
ACTIVATE J15 IN OPEN/CLOSE MOVEMENT
ENTER
OPENING BUTTON ENABLED/ DISABLED
ENTER
PART. OP. BUTTON ENABLED/ DISABLED
ENTER
AUTOCLOSE 1
ENTER
AUTOCLOSE 2
ENTER
FTC STOP CLOSE
ENTER
**
E
HEAT SETTINGS
+
ENTER
HEATER BOARD OFF
ENTER
HEATER RL1/NTC1 ON
ENTER
HEATER RL2/NTC2 ON
ENTER
HEATER RL3/NTC3 ON
ENTER
HEATER RL4/NTC4 OFF
ENTER
HEAT TEMP. SET. 1 5°C
ENTER
HEAT TEMP. SET. 2 6°C
ENTER
HEAT TEMP. SET. 3 5°C
ENTER
HEAT TEMP. SET. 4
ENTER
HEAT TEMP. HYST. 3°C
ENTER
HEAT TIMEOUT
ENTER
HEAT OVERTEMP.
ENTER
HEATER FTC OFF
ENTER
**
IMPORTANT: CARD HEATER = OFF
B-E
ADJUSTMENT CALIBRATION
+
ENTER
OPEN +/-
ENTER
CLOSED +/-
ENTER
(***)
E
STRESS TEST (***)
+
ENTER
ENABLE ON OFF TEST
ENTER
TEST PAUSE 1 20”
ENTER
TEST PAUSE 2 20”
ENTER
(***)
E
DEFAULT FACTORY
ENTER
PASSWORD 4.321
ENTER
OUTPUT
MAIN MENU
PRESSING + AND - TOGETHER
►5 SEC
FREQUENCY MOTOR
+
AMPS MOTOR
+
TEMP. IGBF
+
MOTOR ENCODER
+
OUTPUT
ENTER



DISPLAYS WHEN THE DOOR IS NORMALLY OPERATIONAL

Open status	**THE DOOR IS OPEN**
Closure status	**THE DOOR IS IN CLOSING MOTION**
Closed status	**THE DOOR IS CLOSED**
Opening status	**THE DOOR IS IN INITIAL OPENING MOTION**
Partial opening status	**THE DOOR IS IN MOTION IN THE PARTIAL OPENING POSITION**
Partial open status	**THE DOOR IS STOPPED IN THE PARTIAL OPENING POSITION**
Emergency stop status	**THE DOOR IS STOPPED BY THE RED MUSHROOM BUTTON HAVING BEEN PRESSED**

7. EQUIPMENT



8. DISPOSAL

Follow the local regulations for the disposal of packaging materials.
The packaging material (plastic bags, polystyrene parts, etc.) must be kept out of the reach of children as they are potentially dangerous.
Disposal must be in compliance with the relevant waste disposal regulations. For further information on the treatment, recovery and recycling of this product, contact the local office of competence or the companies specialised in the waste collection service.

The manufacturer declines all responsibility if the conventional accident-prevention regulations and the afore-mentioned instructions are not complied with.

USER INFORMATION
pursuant to art. 14 of the 2012/19/EU DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE)

The crossed bin symbol on the appliance or on its packaging indicates that the product at the end of its useful life must be collected separately from other waste.

The end-of-life management of the equipment must be carried out in compliance with current waste management regulations.
In particular, it is specified that the door consists of the following materials:
1. Sheeting: PVC
2. Frame: Aluminium
3. Casing: Stainless steel, S250GD+Z100 painted steel
4. Electrical components: copper, plastic, rubber, etc.
5. Gearmotor group

The user who wishes to dispose of this equipment may contact the manufacturer and implement the system that it has adopted to allow the separate collection of equipment at the end of its life or can select a supply chain authorised for this management.

If management of the end-of-life of the equipment is entrusted to independent third parties, it is advisable to use companies that are authorised to recover and dispose of the type of waste comprising this equipment once it has reached the end of its life.

Appropriate management of the decommissioned equipment for the purposes of recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and on human health and promotes the reuse and/or recycling of the materials comprising the equipment.

The manufacturer assumes no responsibility for damage to persons, animals or property resulting from the reuse of individual parts of the machine for functions or assembly situations different from the original ones.

9. MAINTENANCE AND CLEANING

9.1 CLEANING

It is advised to prepare the hygiene plan taking into account the resistance to aggressive agents and the risks of corrosion of the materials of which the doors are made. Carefully follow the instructions provided on cleaning products; do not change the doses and use the concentrations envisaged or recommended for the various types of material.

DO NOT use pressurised water jets on the following components: photocells, keypad and gearmotor. The components could become irreversibly damaged.

The gearbox contains lubricating oil.

Accidental release measures
Personal precautions, protective equipment and emergency procedures
For non-emergency responders
Wear appropriate protective equipment to prevent contamination of skin, eyes and personal clothing. Do not breathe vapours/aerosols.

Environmental precautions
Keep away from drains, surface water and groundwater. Contain contaminated wash water and dispose of it.

Methods and materials for containment and clean-up
Recommendations on how to contain a spill
Covering drains.
Recommendations on how to clean up a spill
Collect with absorbent substances (sand, kieselguhr, acid binder, universal binder).

9.2 ORDINARY MAINTENANCE

PERIODIC INSPECTIONS / MAINTENANCE:		
IMPORTANT: Daily at the beginning of each work shift to check the correct operation of the door and its emergencies, in case of any anomaly it is necessary to promptly contact the person responsible		
Check the operation of the safety devices	Check that the safety devices in the doors are working properly: sensitive edge at the bottom of the fabric ; Photocell system; Photocell barrier system (if fitted) and operation of the stop button located on the main panel.	Daily at the beginning of each work shift
Checking the state of the gear reducer gaskets	Visual inspection of any oil leakage.	Semester / no later than every 50,000 opening
Checks on the motor and bearings	Check if the engine moves freely. If necessary, lubricate the bearings.	Semester / no later than every 50,000 opening
Engine Brake Checks	Removing the plastic frame from the brake engine and checking the brake disc. If worn to replace.	Semester / no later than every 100,000 opening
Check shaft and relevant support	Visual inspection of the shaft and checking of correct tightening of the nuts and bolts.	Semester / no later than every 50,000 opening
Coated fabric cover	Checking for tears, wear, etc. .	Semester / no later than every 50,000
Photocells	Checking the proper operation, during the door closing	Daily at the beginning of each work shift
Electrical controls and wiring	Checking the conditions of electrical wires and connections.	Semester / no later than every 50,000 opening
Movement and operation of the door	Checking the proper operation of the door: Opening, closing, and partial opening	Daily at the beginning of each work shift
Number of cycles (opening and closing)	Periodically check the number of maneuvers to schedule proper maintenance . IMPORTANT: The maximum number of door maneuvers is 45 open-close cycles per hour	
Wireless system	Replacement of batteries	1 or 2 years (depends on usage)
Checking fasteners	Checking the tightening of the screws securing the frame to the structure/wall and the fastening of the hexagonal nuts on the fabric support	Semester
Transmission chain	If installed check the transmission chain, if links are damaged replace it. Lubricate it	Semester

Only use original spare parts Incold

10. MAINTENANCE REPORT

Installation		Start of maintenance	
Date	Stamp/Signature	Date	Stamp/Signature
Door model and installation site			
Model			
Location		Door n	
VERIFICATION OF THE UNLOCKING CAPACITY AFTER FIRST INSTALLATION			
After installation, it is necessary to perform a door ability to move and return to initial position. The outcome of this check, performed on the date shown above, is: [ ] POSITIVE [ ] NEGATIVE If the test fails, report it in the NOTES field the countermeasures adopted, indicating the resolution timing of the failure and record the result of the following check.			

Register of the scheduled checks					
Date	Result	Stamp/ Signature	Date	Result	Stamp/ Signature

NOTE: after **10 years** from the installation date by the Maintenance technician, ensure operational suitability of the product. Complete replacement is also recommended.

Note:

Register of the scheduled checks					
Date	Result	Stamp/ Signature	Date	Result	Stamp/ Signature

NOTE: after **10 years** from the installation date by the Maintenance technician, ensure operational suitability of the product. Complete replacement is also recommended.

Note:

11. CHECKLIST FOR INSTALLATION

Order number :
Customer :
Type of door / serial number :
Installer (Company Name) :
Date of installation :

Check the following points and write the answers:

☐ 1 Delivery

The door was delivered without damage due to transport : YES ☐ NO ☐

If no, please specify why :.....

.....

.....

☐ 2 Security devices (check which ones are installed and if they work properly):

1.1	The door is protected by a differential switch *	YES ☐	NO ☐	NOT INSTALLED ☐
1.2	Safety edge (wireless system)	YES ☐	NO ☐	NOT INSTALLED ☐
1.3	Safety edge (with spiral cable)	YES ☐	NO ☐	NOT INSTALLED ☐
1.4	One photocell in the frame : RX + TX	YES ☐	NO ☐	NOT INSTALLED ☐
1.5	Optical barrier in the frame : RX + TX	YES ☐	NO ☐	NOT INSTALLED ☐
1.6	Emergency push button	YES ☐	NO ☐	NOT INSTALLED ☐
1.7	Other			

* the differential switch, is excluded from the supply and is by the customer.

Note:.....

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☐ 3 Opening devices (check which ones are installed and if they work properly):

1.8	Touch screen display	YES ☐ NO ☐	NOT INSTALLED ☐
1.9	Opening black mushroom button Ø 90 (inside)	YES ☐ NO ☐	NOT INSTALLED ☐
1.10	Opening black mushroom button Ø 90 (outside)	YES ☐ NO ☐	NOT INSTALLED ☐
1.11	Crank for manual opening	YES ☐ NO ☐	NOT INSTALLED ☐
1.12	Pull cord switch (inside)	YES ☐ NO ☐	NOT INSTALLED ☐
1.13	Pull cord switch (outside)	YES ☐ NO ☐	NOT INSTALLED ☐
1.14	Motion radar (outside)	YES ☐ NO ☐	NOT INSTALLED ☐
1.15	Motion radar (inside)	YES ☐ NO ☐	NOT INSTALLED ☐
1.16	Has the door successfully performed 10 cycles?	YES ☐ NO ☐	
1.17	Other.....		

Note:.....

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☐ 4 Components of the door (check if they work properly) :

1.18	Motorgear, works properly without strange noises	YES ☐ NO ☐
1.19	Correct operation of the emergency mouvement	YES ☐ NO ☐
1.20	The door moves and stops regularly on the setted points, slowing down before reaching the lock point	YES ☐ NO ☐
1.21	By pressing the button  the door open and closed properly	YES ☐ NO ☐
1.22	The PVC fabric is well-tightened when the door is closed	YES ☐ NO ☐
1.23	The towel goes well and does not jamming on the guides	YES ☐ NO ☐

Note:.....

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☐ 5 Mechanical mounting :

1.24	The vertical uprights are firmly fixed to the wall	YES ☐ NO ☐
1.25	The top cross is well secured to the vertical uprights	YES ☐ NO ☐
1.26	The top cross once fixed is perfect horizontal	YES ☐ NO ☐
1.27	The vertical uprights once fixed are perfect verticals	YES ☐ NO ☐
1.28	here is visible damage to the chassis or other covers	YES ☐ NO ☐

Note:.....
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.....

☐ 6 Documentation

1.29	Have you found the installation and maintenance manual in the packaging	YES ☐ NO ☐

☐ 7 Warranty

The warranty is valid on condition that the door is propertly used and the maintenance cycles are respected by specialized technicians.

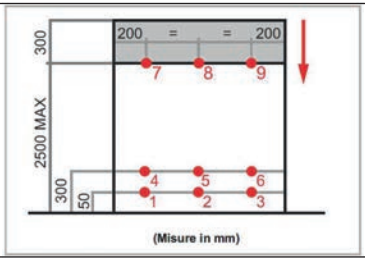
Installation/maintenance must be carried out by a company authorised by the manufacturer and using solely INCOLD spare parts.

Date: ..... Installer (visible name - signature) .....

Date: ..... Customer (visible-signature name).....

8 Impact Measures

Date	Operator	Door serial number
Client		Worksite reference



POINT	Fd - Td - Fs - Fe	Fd - Td - Fs - Fe point averages	Result
1.1			
1.2			
1.3			
2.1			
2.2			
2.3			
3.1			
3.2			
3.3			
4.1			
4.2			
4.3			
5.1			
5.2			
5.3			
6.1			
6.2			
6.3			
7.1			
7.2			
7.3			

8.1			
8.2			
8.3			
9.1			
9.2			
9.3			

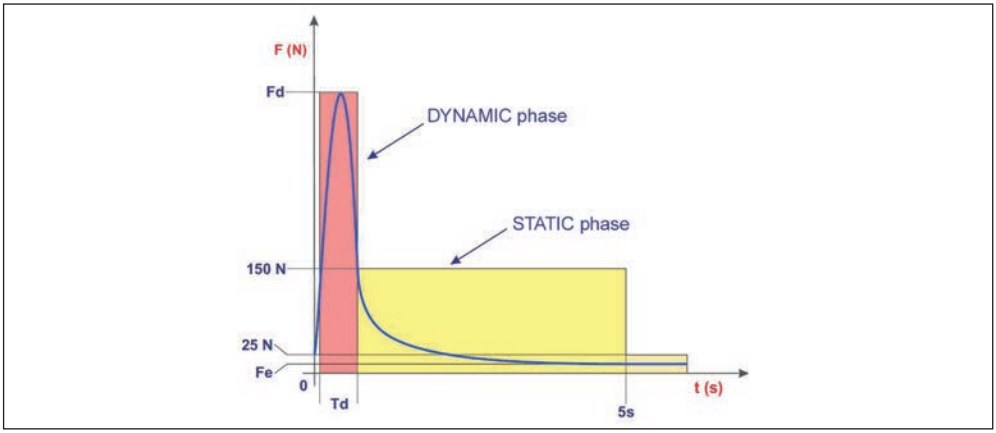


TABLE OF PERMISSIBLE DYNAMIC FORCES IN RELATION TO MEASUREMENT DISTANCES			
Permissible Dynamic Forces	Between closing and counter-closing edges		(*) Between flat areas other than closing and counterclosing edges, > 100 cm2 with no side < 100 mm
	space/distance from 50 mm up to 500 mm	space/distance from 500 mm	
Vertical movement door (sliding, folding)	400 N	400 N	1400 N

DYNAMIC phase: red area, where the peak of the force due to the initial impact of the leaf is represented.

Parameters and limits of the DYNAMIC phase:
- **Fd:** maximum value of the "dynamic force" which must be less than 400N or 1400N, depending on the location of the measuring point and the type of closure.
- **Td:** period during which the force exceeds 150N, **the "dynamic time" must be less than 0.75 seconds.**

STATIC phase: yellow area, where the force trend is represented, which (normally after the initial peak) falls back below the 150N threshold, and ends 5 seconds after the initial instant:

Parameters and limits of the STATIC phase:
- **Fs:** (average) force value, calculated from the end of the dynamic period, up to 5s from the initial instant; must not exceed 150N.
- **Fe:** final value of the force (measured 5s from the initial instant); must not exceed 25N:

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