EN

INCOLD ACTIVE
Rapid doors

USE AND MAINTENANCE

ROLL UP FREEZER DOOR

Motor side

Side opposite motor
Temp. > 0°C

2022-08
04030577EN 12

incold®

ATTENTION!

The contents of this manual are intended to help you install and configure Incold Roll Up Freezer doors. Do not install or service the door without reading the instructions in this manual.

Important safety information. The contents of this manual are intended to help you install and configure the Incold Roll Up Freezer doors. Do not install or perform maintenance on the door without having read the instructions in this manual.

1. GENERAL INFORMATION

1.0 MANUFACTURER

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www.incold.it - incold@incold.it

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.

2. PRODUCT DESCRIPTION

2.1 PRESENTATION OF THE PRODUCT

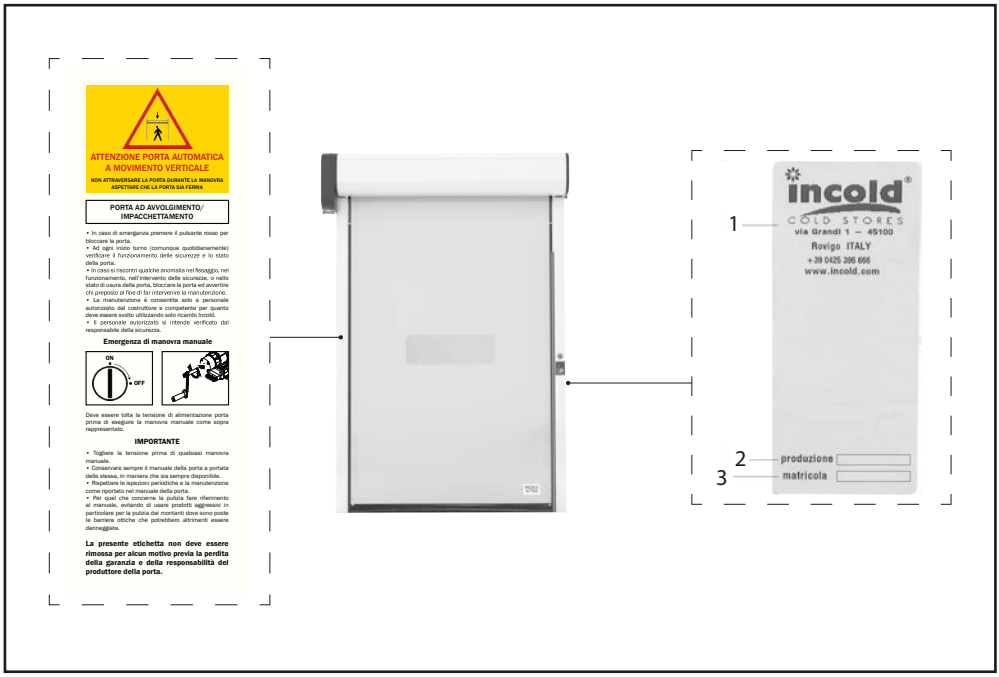
The Incold roll-up doors are automated rapid roll-up doors.
The automatic drive is via a worm gear motor-reducer. The control panel and related software are the exclusive property of INCOLD S.p.A.
Positioning of the sheet is controlled by an encoder installed in the gearmotor, while the speeds and ramps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

MODEL	ROLL UP - FREEZER
Certification (EN 13241)	Istituto Giordano
Applications	Indoor - low temperature
Wind resistance (EN 12424)	----
Dimensions: **Lenght x Height (max)**	3500 x 4000 mm
Maximum weight of door (sheet)	~ 38 kg
Maximum opening speed	0,8 m/s
Intermittence service class	Continuous functioning S3 = 75%
Power supply	230 V AC 50 Hz single phase Automation power supply 230V 50 Hz heating system
IP Rating	IP 20
Operating temperature	-10°C ÷ -24°C
Noise	≤ 70.3 dBA

2.2 PLATE DATA

On the side of the keypad box is the data plate with the following information:
1. Name and address of the manufacturer
2. Production date (year / month / day)
3. Serial number

Safety and maintenance label. Do not remove the label. The manufacturer declines responsibility if the label has been removed. The warranty will be null and void if the label has been removed.



2.3 CONDITIONS OF USE

The Roll Up Freezer doors are intended to close cold stores at low temperatures of up to -24°C.
The control boards must work at a positive temperature (>0°C) and must be installed on the side opposite the door.

To prevent risks of overheating, do not power the heating circuits when the door is at a temperature of > -2°C

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

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.

Provide a differential thermomagnetic switch for each door and the heating circuit of every door
2 poles - 10 A - Id = 0.3 A - Type F or Type B for the automation circuit
2 poles - 10 A - Id = 0.3 A - Type A for the heating circuit

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.

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:

- **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 emergencyc
- **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.

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:
Roll Freezer ≈ 70.3 dB

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

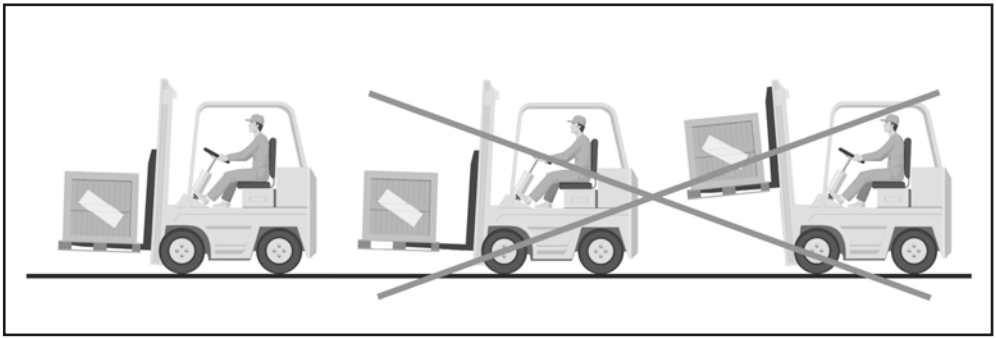
3. OPERATIONS OF INSTALLATION AND USE

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.

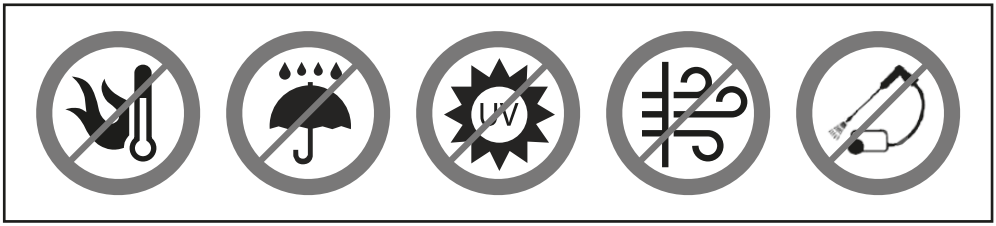
Always position the loading forks at the points indicated to avoid the risk of overturning and always insert the forks completely.

- 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.



Roll Up Freezer door must always be installed in combination with an isothermal door. When the isothermal door is closed, the freezer door must be open because any moisture or condensation formed on the cloth can be removed in the heated area inside the upper cover.

Incold suggest the application with a floor heating system, to avoid the formation of ice that can cause dangerous slipping to the ground. A good solution is the heating mats drowned in cement, to be applied in the area near the door.

4. PRELIMINARY OPERATIONS

4.1 SAFETY NOTES

Before carrying out any installation or electrical connection, block entire power supply. Failure to properly switch off th electrical circuits and deactivate the equipment during installation and/or maintenance of the door could result in death or serious injury.

Improper installation of anchoring devices or installation in aged or uneven concrete blocks or other unsuitable wall msterials may result in premature wear, product failure, property damage or serious personal injury.

Use the appropriate equipment and lifting techniques. Protect all loads properly. Failure to properly protect all lifting loads can result in death or serious injury.

Secure the work area so that people who do not work directly on the installation do not enter the work area.

4.2 EQUIPMENT REQUIRED

Staff:
- Two people to install the door.
- A qualified person for the operation of forklifts, hoists or cranes
- An electrician to install and connect the control panel and all electrical connections.

Tools:
- Assorted keys, electric drill and various bits, assorted screwdrivers, rubber hammer
- Tape measure
- Framing square
- Water bubble level
- Lifting device (forklift, hoist, crane)
- Lifting straps
- 2 stairs or platform (high enough to get over the door)
- Other tools necessary for the type of anchor chosen

Material:
- Appropriate anchors for the type of wall where the door is fixed
- Electric cables as specified in the wiring diagram
- Wiring components required for connections

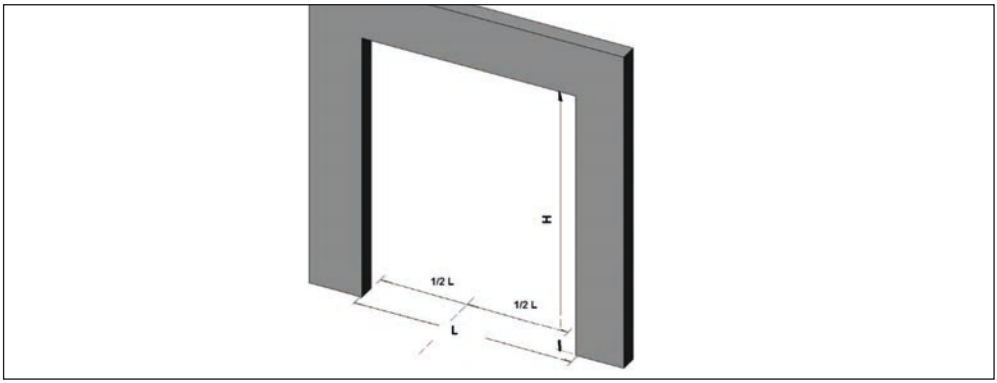
4.3 SITE PREPARATION

Electricity supply
The qualified electrician must perform all electrical connections in compliance with all electrical codes and standards applicable to current regulations. See the applicable electrical manual for wiring specifications and instructions.

Before starting, make sure that:
- The support wall provide a flat surface for mounting the door;
- Check the width and height of the wall opening where the mount and check the measurements with respect to the dimensions of the door;
- The wall is perpendicular.

5. INSTALLATION

1. Measure the inside of the door jamb and place a marck on the floor on the center line of the opening.
2. Refer to the door dimensions and place two marks on the floor on the left and right of the center line.
3. Measure the distance between the two new signs. The correct distance must be equal to the width of the door.



5.1 FIXING OF VERTICAL UPRIGHTS

Fig. A:

Roll Up Freezer with opposing sliding door view from above.

A: Starting from the vertical door frame, you pass the panel and fix it in the steel tube inside the sliding door frames with screws d. 5.5 with self drilling hexagonal head; the length it is adeguate to the thickness of the panel.

B: Sliding door frame. You need a flat fixing without protruding elements on the opposite side where the vertical door will be placed.

C: Roll Up Freezer frame.

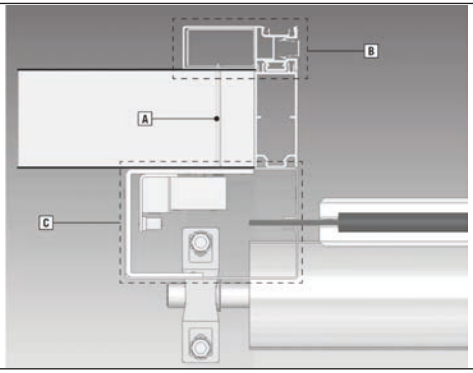
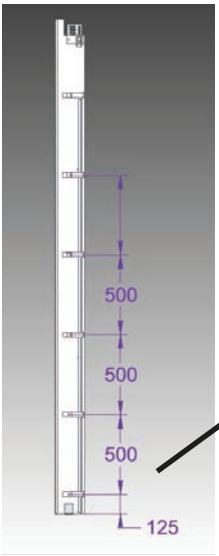
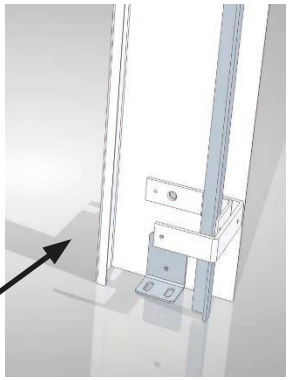


Fig. A

Fig. B:



Detail of the hole on the post for fixing the door to the wall. For each upright, drill as illustrated.



Ground fixing detail, using the expanding anchors provided. Operation to be repeated on the ground for each upright.

Fig. B

6. ASSEMBLY

6.1 UPRIGHTS AND ROLLING

Use appropriate lifting devices and lifting techniques to safely lift the rolling and the uprights. Failure to properly secure the tested components could result in death or serious injury.

1. Place uprights and top part on a clean surface.
2. Slide each side upright onto the winding assembly. Insert and fix the 2 allen head screws with the relative washers in each upright.
3. Using a safe lifting device, carefully lift the entire door assembly up to a vertical position against the door hole.
4. Hold the left side uprights in place against the wall. Align the base with the marking on the floor and bring the lead post.
5. Drill and prepare the holes in each side column and anchor as needed (see Fig. B for holes positions).
6. Install without anchoring the anchors, recheck the perpendicularity with the lead and tighten the anchors.
7. Repeat steps 4-6 for the riser on the right side.

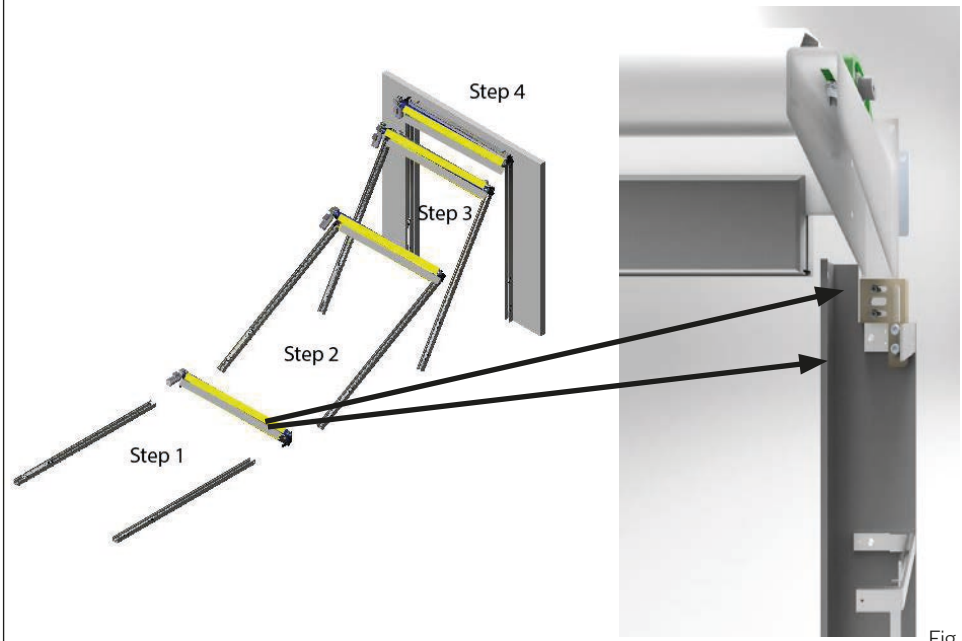


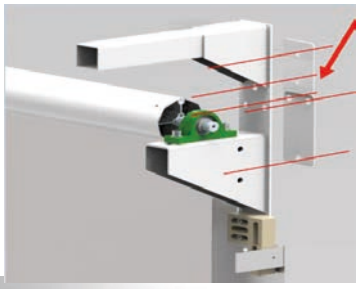
Fig. C

6.2 BRACKET ASSEMBLY

Bracket assembly for the support of the insulated box and radiator:

1. Rest the brackets that support the bearings with the right and left bracket.
2. Position the third motor side bracket as show in Fig. D - detail D1.
3. Drill the panel with the Ø12 mm bit in the corrispondence with the Ø13 holes on the plate.
4. Drill the panel at the Ø13 bracket plate through the wall.
5. Fix “sandwich“ with the counter plate on the opposite side, using the threaded bars. Steel bars supplied (Fig. D - detail D2)

Detail D1



Detail D2

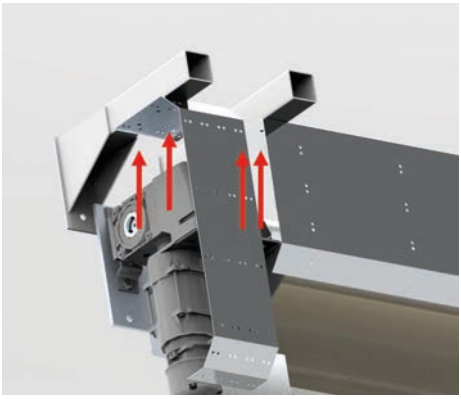
Fig. D

6.3 RADIATORS ASSEMBLY

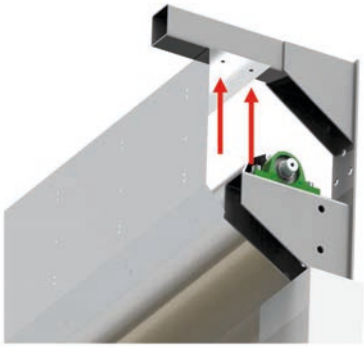
In the upper guide the aluminum radiators must be installed that support the resistance necessary for heating the upper casing.

There are two radiators, one large for the cloth part (Detail E1) and a smaller one for the motorgear (Detail E2), the two radiators are fixed with M6x16 screws + elastic washer and flat washer.

The brackets are pre-threaded at the fixing point.



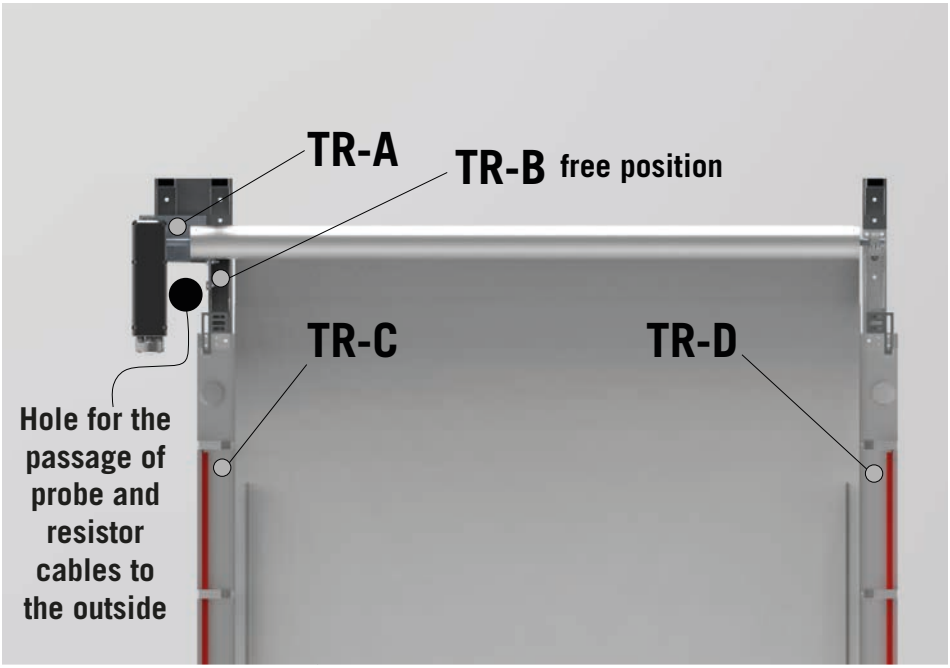
Detail E1

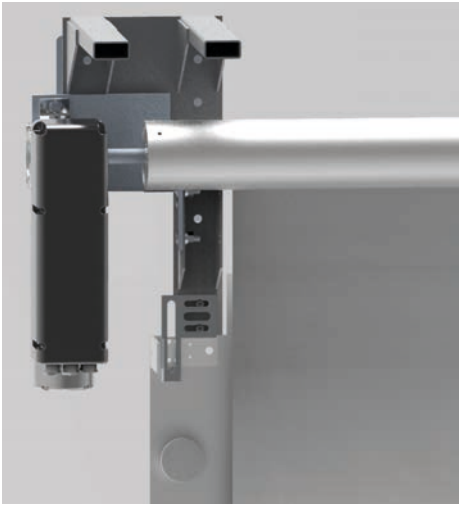


Detail E2

Fig. E

6.4 TEMPERATURE PROBE SYSTEM DESCRIPTION



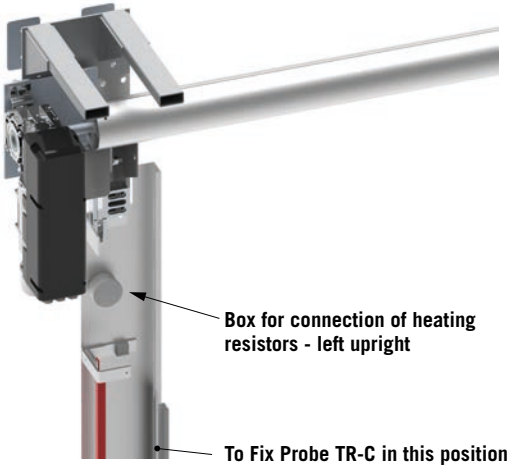


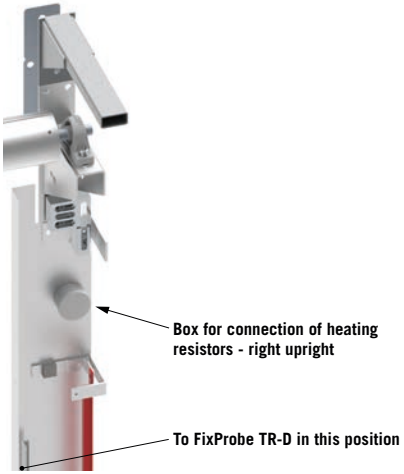
Calibrations:

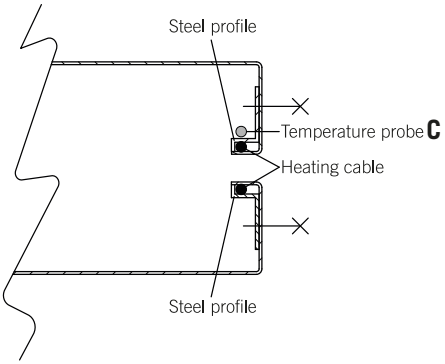
- $T_{T-A} = 5°C$
- $T_{T-B} = 5°C$
- $T_{T-C} = 14°C$
- $T_{T-D} = 14°C$

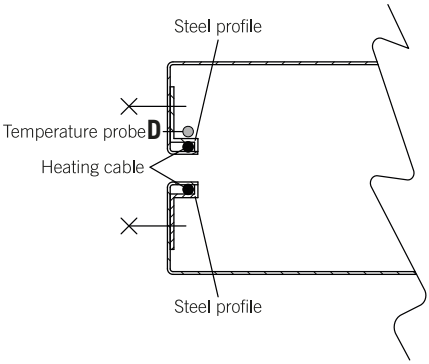
if there is ice formation, the values should be increased

Detail of positioning of probes/resistances in the uprights and in the canopy









6.5 INSULATED BOX ASSEMBLY

1. The 6 cm thick insulated polyurethane box must be placed above the winding guide.
2. The three strong brackets support it, while the fixing is ensure by the L-shaped profiles that are placed above and laterally to join the box with the wall panel. Fastened with screws to the wall and rivets to the box. (see point 2 image below)
3. The part of the box near the gearbox can be partially disassembled, if it is necessary to intervene on the motorgear unit, it is not necessary to remove the entire cover, but only the bart above it. (see point 3 image below).
4. At the end of the fixing of the box, on the lower part, where the cloth enters, fix the supplied brush which helps to reduce the heat loss (see point 4 image below)

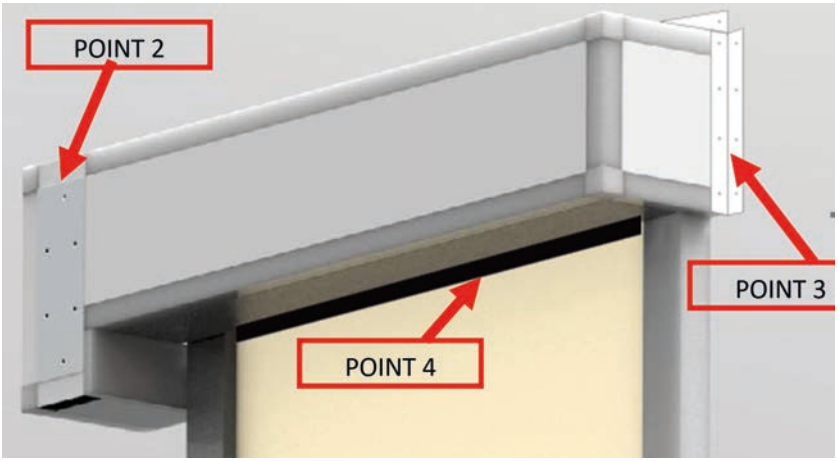
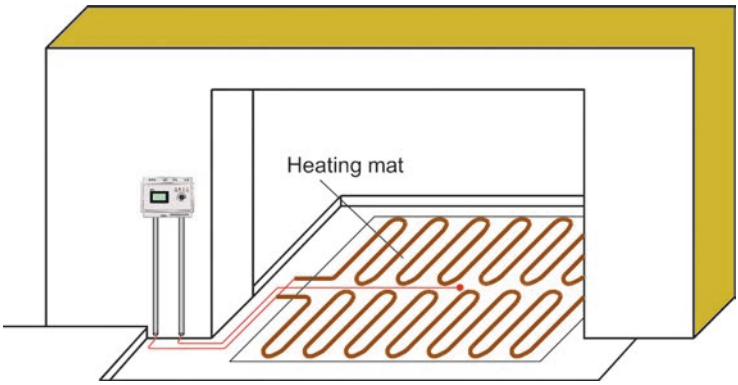


Fig. G

Note: for this operation, 2 people and a proper platform are required.

Brush detail in the canopy

Detail of floor heating system



6.6 VERIFICATION OF THE CORRECT FUNCTIONING OF THE OPTICAL BARRIERS

This light curtain can be used in industrial, commercial and garage doors and gates, as described in EN 12453, when it is used as device type E according to clause 5.5.1. The light curtain is intended to be mounted in the door plane, or close to the door plane of vertically sliding doors. If the light curtain is placed in the door plane, it is important that the lowest part of the door leaf will efficiently obstruct the light beams over a height of 55 mm.

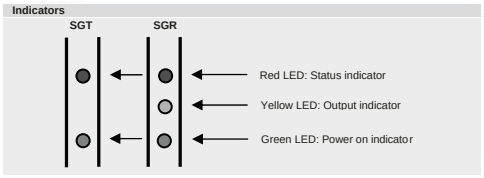
Even though the light curtain has a high degree of immunity to ambient light sources, **it is recommended to avoid direct exposure to sunlight, and interference from flashlights or other infrared light sources**, such as other photo sensors.

If the front cover of the light curtain becomes contaminated, they have to be cleaned with a slightly damp cloth. **Do not use organic solvents or detergents**. If the light curtain is very contaminated, the output may go into safe state and de-energize even after the cleaning, due to safety reasons. The light curtain will automatically make the necessary internal adjustments, and within less than a few minutes, the light curtain will be fully adjusted and resume normal operation. Immediate adjustment can be forced by switching the light curtain off and then on again.

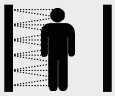
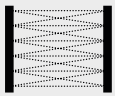
- Ensure that the light curtain is mounted, so that it is mechanically stable during operation.
- The light curtain must not be placed on moving doors.
- Severe rain and snow may be detected due to the high sensitivity of the light curtain

Installation and Adjustment

No initial set up or adjustments are required, due to the automatic signal-tracking (AST) feature, which automatically adjust each individual channel on the system.



Output Logic

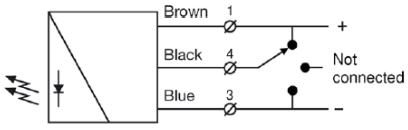
Detection	Output mode	Output status	Output indicator (yellow led)
Present 	Light operated (N.C.)	Open	Off
Absent 	Light operated (N.C.)	Closed	On

1. Use the brackets supplied with the light curtain (at least 2 pcs, with max distance of 135 cm) to mount the transmitter (SGT) and receiver (SGR) facing each other and correctly aligned.
2. Correct alignment is achieved when the front cover of the light curtains are parallel and when a virtual line connecting top of the transmitter and receiver are perpendicular to both transmitter and receiver front cover. (Within 2 deg.)
3. The light curtain has to stand on the pin in the bottom, in order to ensure that the protective field is correctly positioned and in compliance with EN 12445
4. Wire the sensor according to the wiring diagram. Make sure the load does not exceed 100 mA.

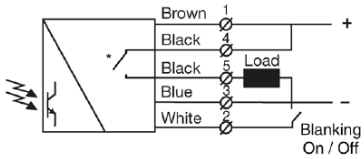
5. Check for correct wiring.
6. Turn power on.
7. The status indicator (red LED) on the SGR will flash quickly when the AST is active.
8. When the power on indicators (green LEDs) is on, the system is operating.
9. Notice that the rails must not be moved after the power to the SGR is turned on.

Troubleshooting: Probable Reason Corrective Action

1. Symptom: Red LED on SGT/R is constant on. All other LEDs are off.
   Error found during test process
   Check supply and cable to the SGT/R. Or replace the rail(s).
2. Symptom: Red and green LEDs on SGT is constant on.
   Error found during test process
   Replace the SGT rail.
3. Symptom: Red and green LEDs on SGR is constant on.
   Error found during test process
   Replace the SGR rail.
4. Symptom: Yellow LED on SGR is flashing
   Cross talk from another light curtain, or other powerful light sources.
   Change position of the SGT and SGR rails.
5. Symptom: Yellow LED on SGR is constant off. Red LED is off.
   Rails are out of sensing range
   Check the sensing range and power to the SGT.
6. Symptom: After start up, red LED on SGR continues to flash quickly. Green LED is on.
   Rails are out of sensing range or SGT is not turned ON or an object is obstructing one or more beams.
   Check the sensing range and for objects between the SGT and the SGR. Check SGT is powered or replace rails.
7. Symptom: After start up, green LED on SGT/R is on. Yellow LED on SGR is off.
   Test input is constant activated under and after start up.
   Deactivate the test input on SGT/R. alimentato o sostituire le guide.



Transmitter SGT 13

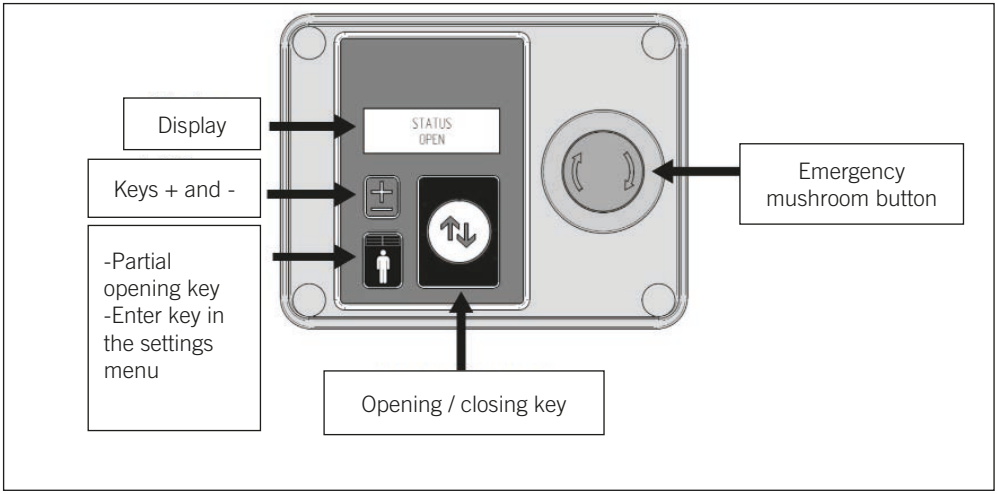


Receiver SGR 13 with solid state relay used as PNP output

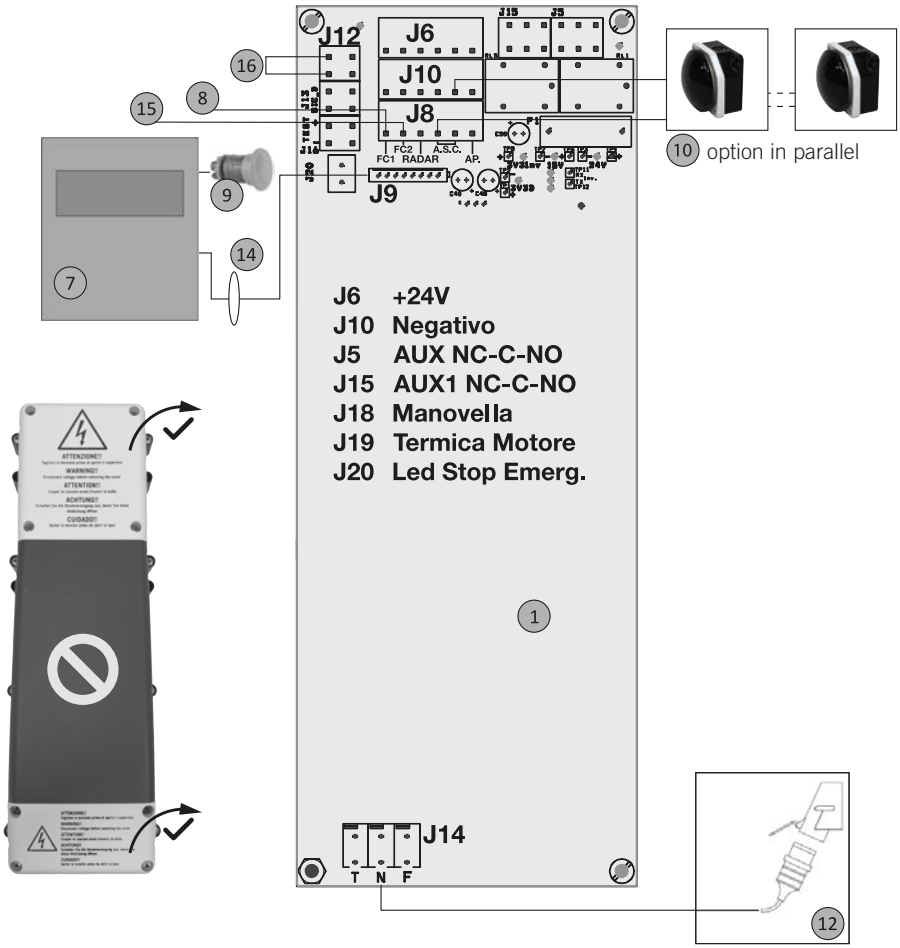
7. ELECTRONIC CONTROLS

Note:
Electrical panel has to be fixed only in positive temperature environments (> 0°C) to manage heating resistances.

This electric panel with keyboard and emergency button, to be fixed only in positive temperature environments (> 0 °C). If the Roll Up Freezer door is installed inside the freezer compartment, the electrical panel must be installed on the opposite side (which must be positive), then through a hole will pass inside the electric cables and the probes for the control of the automation (see figure below).

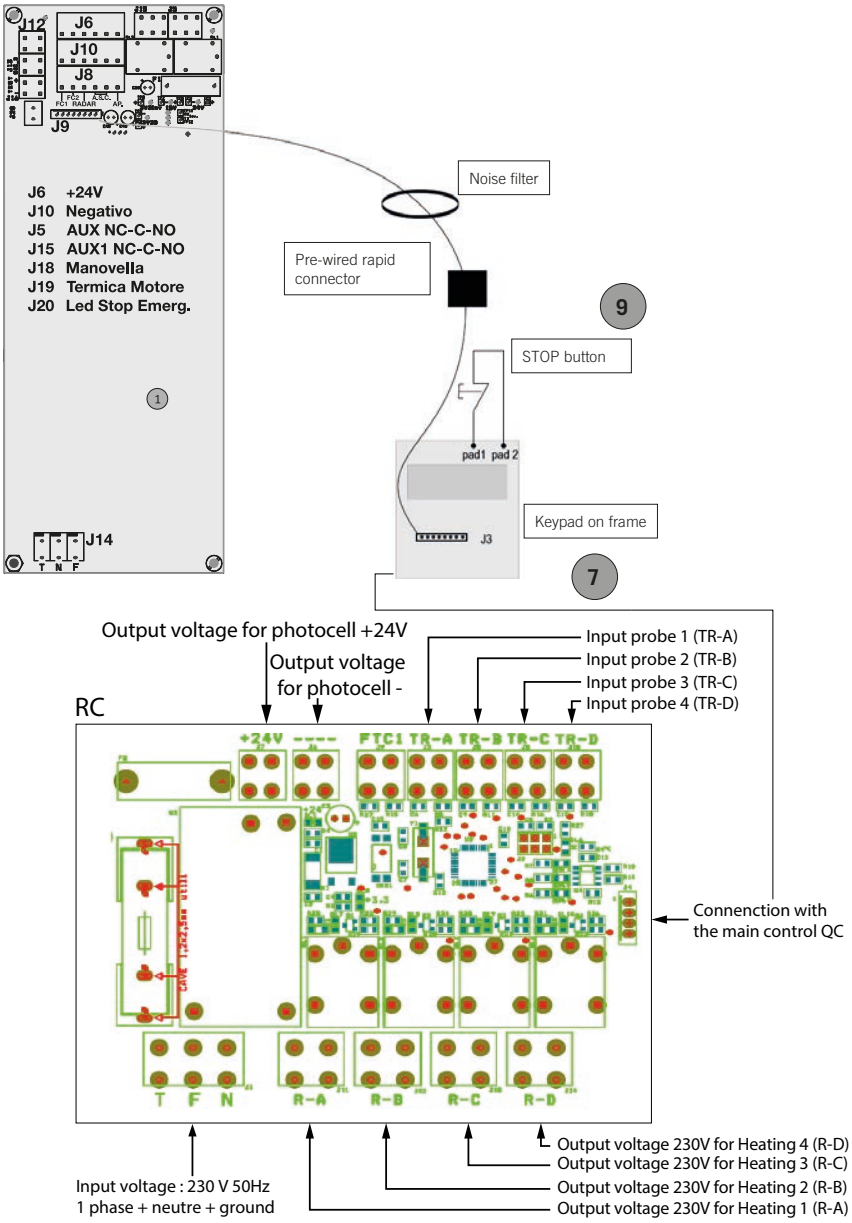


7.1 TERMINAL BLOCK POSITIONS

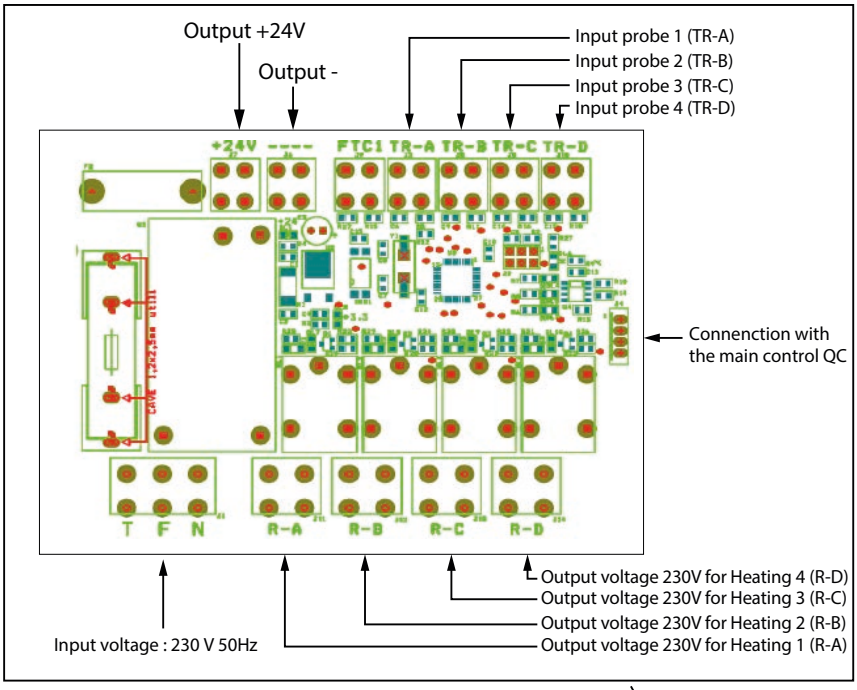


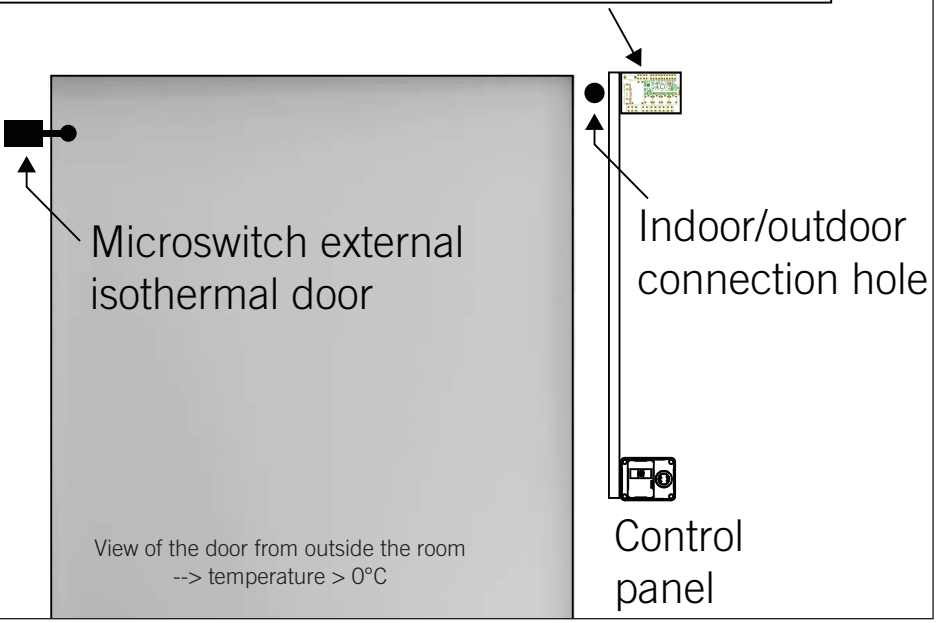
1. Main electronic diagram	9. Emergency button
2. Electric motor*	10. Interior opening button
3. Motor brake*	11. Braking resistance*
4. Thermal protection device*	12. Power plug
5. Handle insertion protection*	13. Noise filter*
6. Absolute encoder*	14. Noise filter
7. Control keypad	15. TX - RX photocells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

Detail of connection of the 3 boards

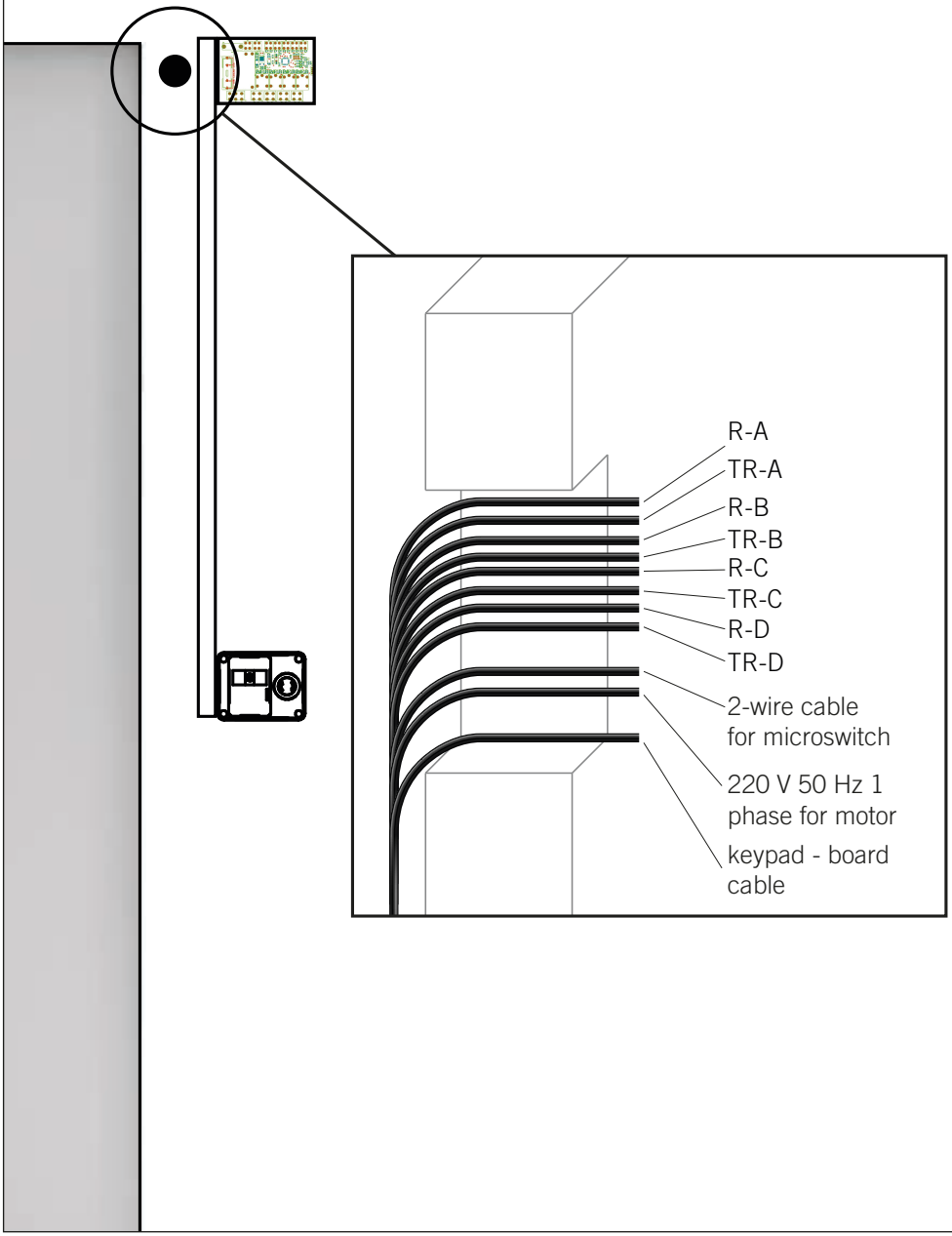


HEATERS AND PROBES PANEL





Detail of the passage of the cables in the cold store - outside hole



7.2 ELECTRIC DIAGRAM

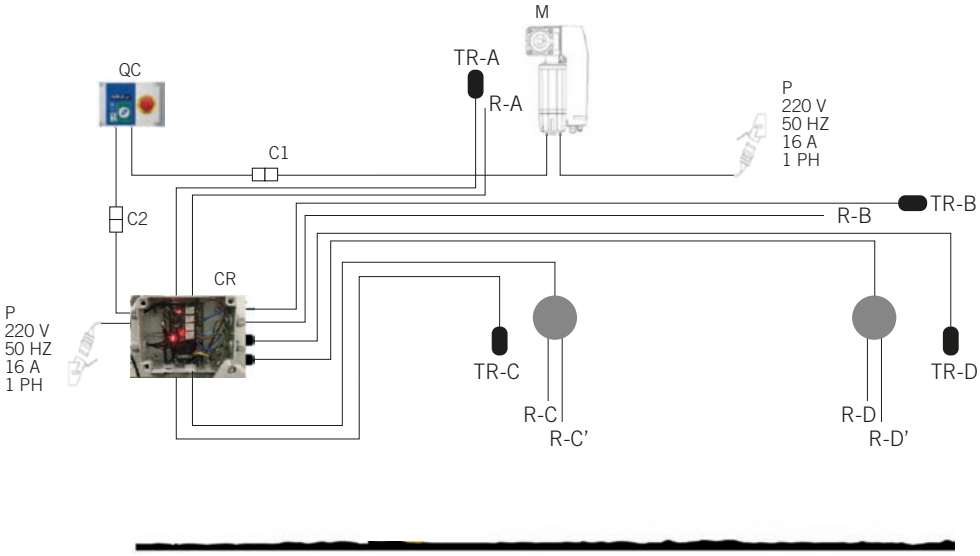
The probes are connected to the CR control unit on shipping. Their cables must be unwound and the 4 probes must be positioned in the exact points as in the figure on page 9-10.

IMPORTANT: observe the correct positioning of probes with their resistor.

TR-A ---> R-A
TR-B ---> R-B
TR-C ---> R-C
TR-D ---> R-D

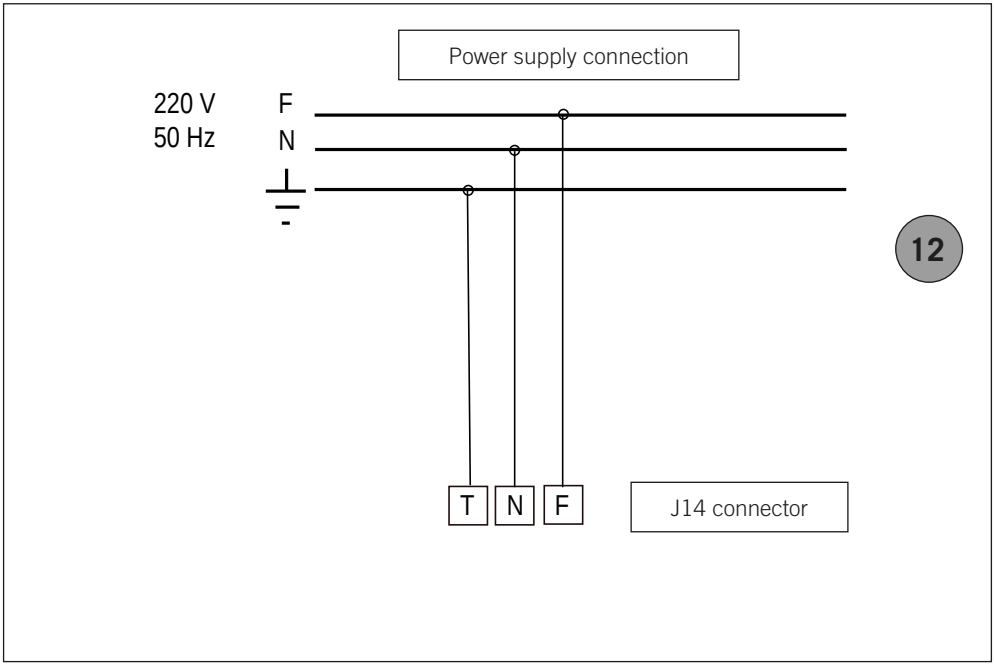
The resistor cables must be brought from the door to the CR control unit and correctly connected to the corresponding probes.

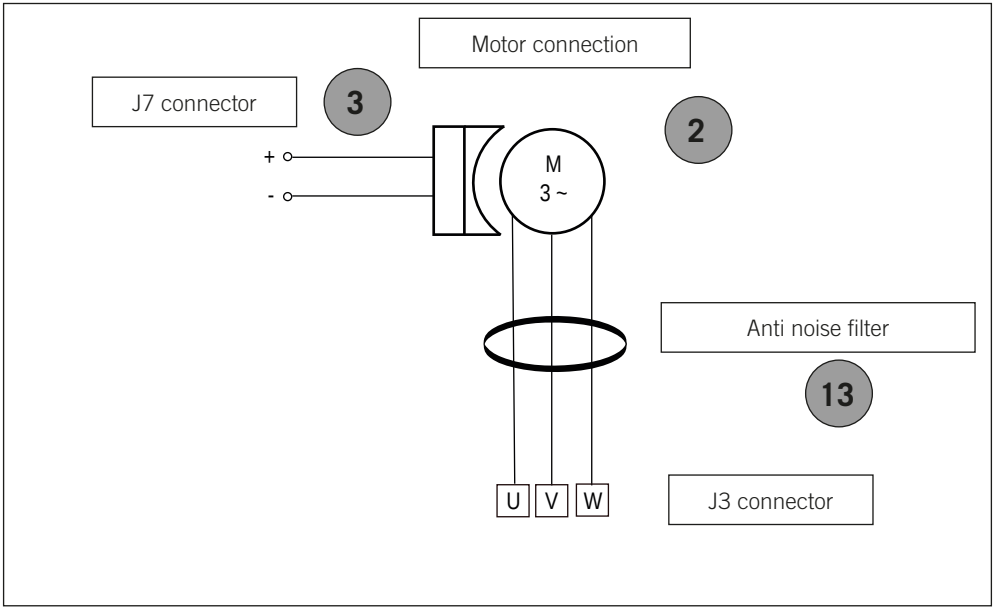
If the probes are not paired with the correct resistors, the latter heat up always creating the danger of overheating.



SYMBOLS

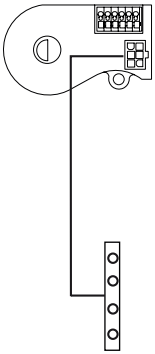
M	MOTOR
QC	CONTROL PANEL (INSTALL OUTSIDE POSITIVE TEMPERATURE)
CR	CONNECTION PANEL FOR HEATERS AND PROBES (INSTALL OUTSIDE POSITIVE TEMPERATURE)
P	ELECTRICAL SOCKET FOR AUTOMATIC POWER SUPPLY AND HEATING CONTROL BOX; the point of connection of the two sockets must be the same as that provided by the customer.
TR-A, TR-B, TR-C, TR-D	TEMPERATURE PROBES (probe TR-A monitors the zone heated by resistor R-A, probe TR-B by R-B) .....
R-A, R-B, R-C, R-D	RESISTANCE FOR HEATING, R-A motor zone, R-B box zone; R-C, R-C' and R-D, R-D' uprights zone
C1	CONNECTOR KEYPAD-MOTOR
C2	CONNECTOR KEYPAD-HEATING CONTROL (marked with tape yellow and green)


Power supply connection
220 V
50 Hz
F
N
12
T
N
F
J14 connector


Motor connection
J7 connector
3
2
+
-
M
3 ~
Anti noise filter
13
U
V
W
J3 connector

Encoder connection

6



Connettore J11

Crenk switch

J18 connector

5

Thermo pill

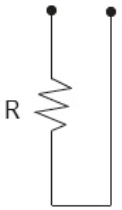
4

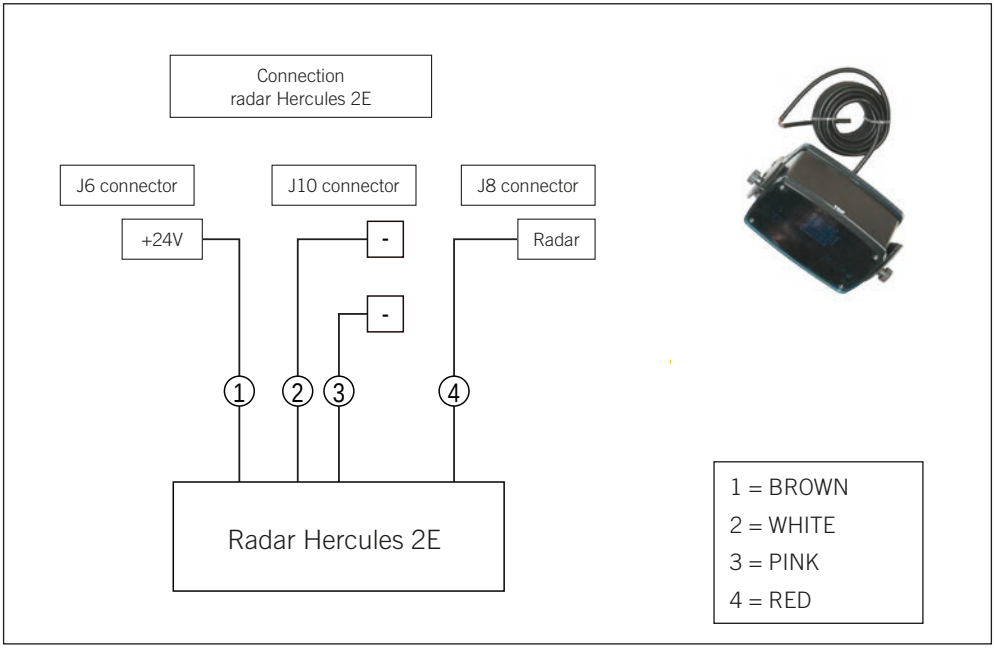
J19 connector

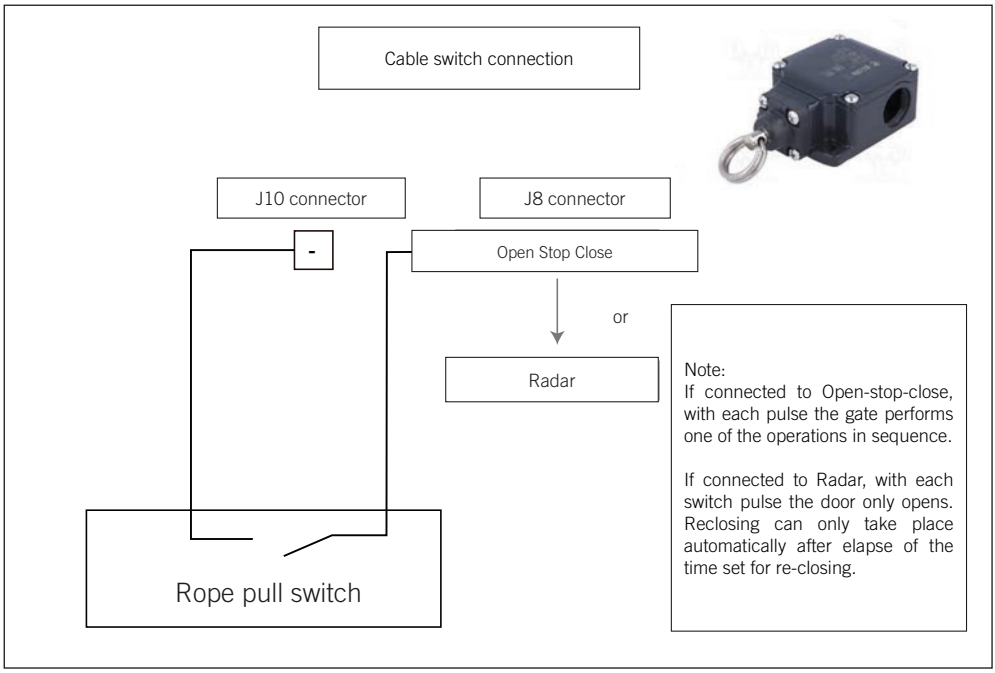
Braking resistors

11

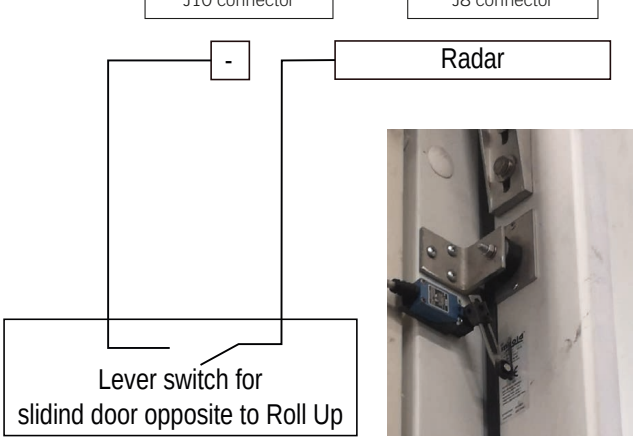
J7 connector



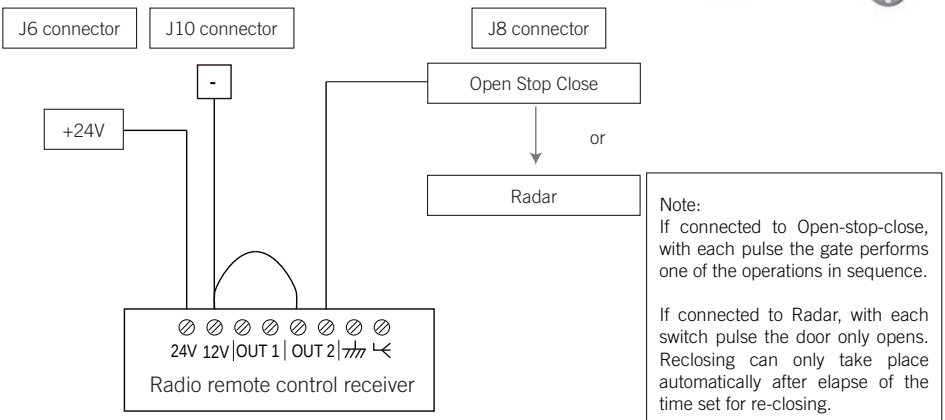

Connection
radar Hercules 2E
J6 connector
J10 connector
J8 connector
+24V
-
-
Radar
1
2
3
4
Radar Hercules 2E
1 = BROWN
2 = WHITE
3 = PINK
4 = RED


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.

Lever switch connection



Radio remote control connection

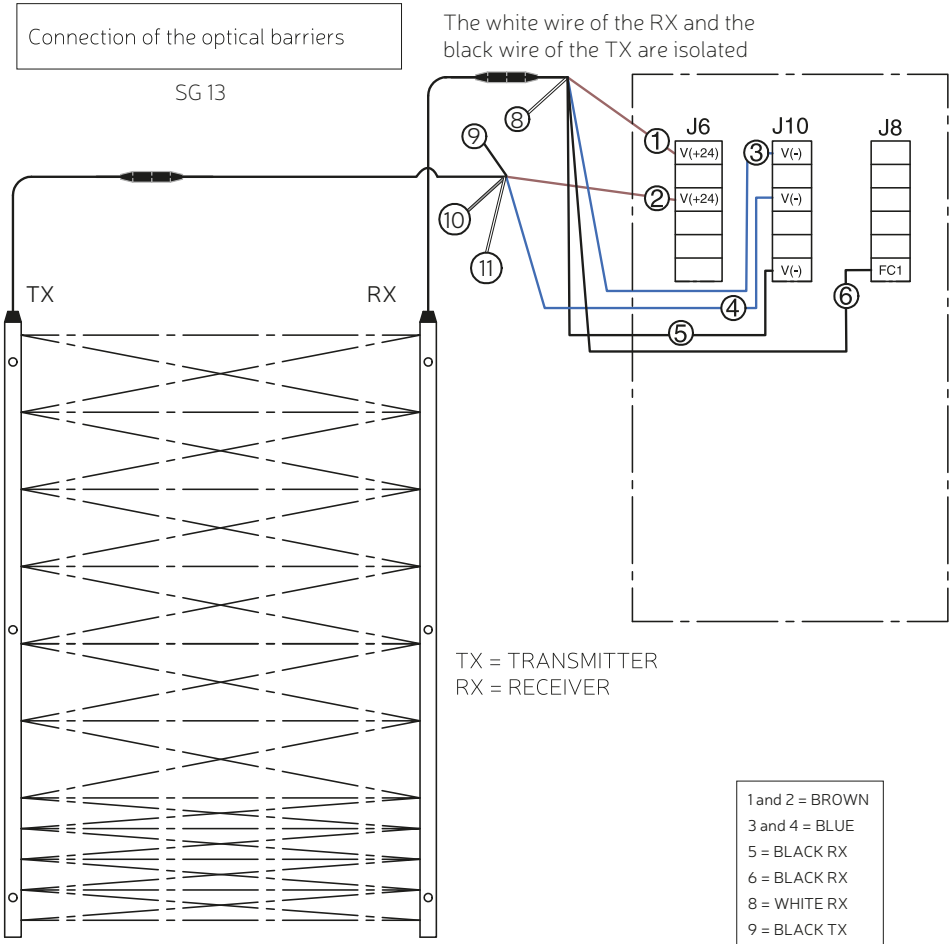


Note:
If connected to Open-stop-close, with each pulse the gate performs one of the operations in sequence.

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.

Connection of the optical barriers

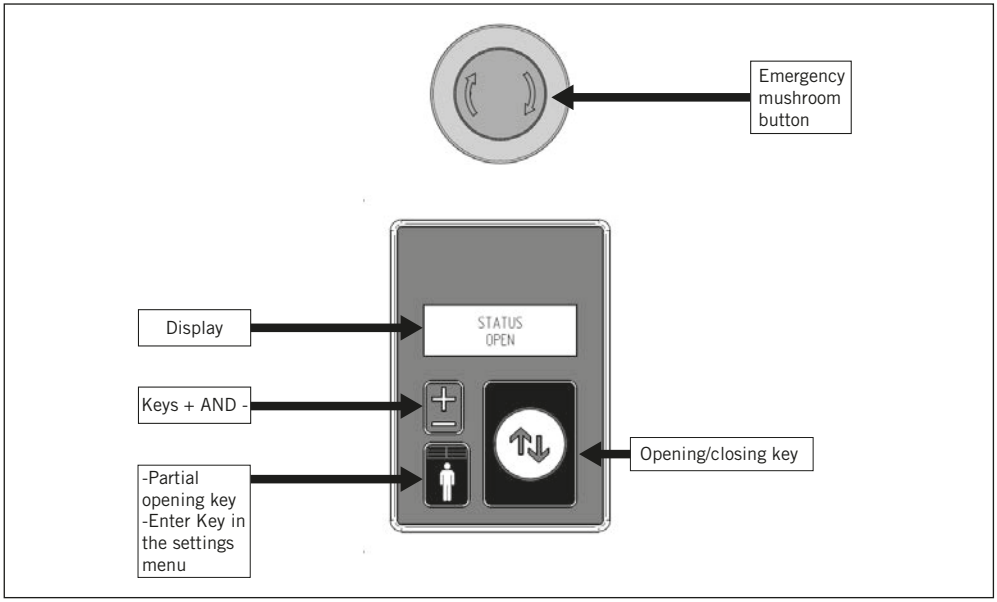
SG 13



Correct functioning barriers:
Led RX = 1 yellow + 1 green
Led TX = 1 green

IMPORTANT: please respect the color indicator:
to joint the BLUE male connector with BLUE female connector and joint RED male connector with RED female connector.

7.3 CONTROL KEYPAD



7.4 MANAGEMENT OF ALARMS AND WARNINGS

During normal operation and calibration states the roll-up stroke comesperformed a check on any alarms that occur and in case the machine stops and an alarm screen with the following format is displayed:

- Alarm number
- Alarm description

In this condition the only possible action is to exit the alarm screen resetting the alarms. To carry out this operation, you have to press and hold the key - until the password is requested to reset the alarms (value 3333). A once entered correctly, the alarms are reset and the display returns to the screen prior to the occurrence of the alarm (normal operation or calibration). There are 3 attempts to correctly enter the alarm reset password and 60 ”timeout for keyboard inactivity. If the alarm occurs in the normal operation screen by entering the password for the parameters menu (2222 or 2233) the reset of the alarms and automatically entering the parameters menu.
Below is the list of alarms managed:

- Alarm 01: inverter overload. Inverter hardware problem
- Alarm 02: inverter short circuit. Inverter hardware problem
- Alarm 03: inverter DC voltage too high. Inverter hardware problem
- Alarm 04: inverter direct voltage too low. Inverter hardware problem
- Alarm 05: motor overload. Inverter / motor hardware problem
- Alarm 06: motor thermal. Engine overheating problem
- Alarm 07: encoder chain (“stop handle” displayed). Hardware probleminverter
- Alarm 08: inverter driver temperature. Inverter hardware problem

- Alarm 09: PFC not started. Inverter hardware problem ("roll-up" variant only)
- Alarm 10: heater photocell intervention (if enabled), ice on roll-up. Only for this particular alarm the code is not indicated alarm
- Alarm 11: photocell 1 test failed. Photocell hardware problem 1
- Alarm 12: photocell 2 test failed. Photocell 2 hardware problem
- Alarm 13: communication with third party inverters. Hardware problem inverter / display / cable between inverter and interface board
- Alarm 17: communication with inverter. Inverter / display / cable hardware problem between inverter and display
- Alarm 18: roll-up opening / closing timeout. Inverter / motor hardware problem
- Alarm 19: roll-up calibration data error (loss of data saved in memory). AND' roll-up calibration must be performed again
- Alarm 20: Roll-up position data error: Roll-up position inconsistent with data roll-up calibration and / or direction of movement inconsistent with the final position(the latter condition enabled by a specific parameter). It is necessary to rerun roll-up calibration or manually reposition it

The alarms are all manually reset by means of a password. The only exception occurs when alarm 07 is active, possibly alarms 18 and 20 and no other alarms: in this case when the encoder chain is reset (removal of the crank) comes automatically initiated an alarm reset. Only for roll-up, in the event of a potential alarm 20 in the closed position (extra travel of fabric with respect to the closed position) attempts are made to reposition the fabric
within the correct closed position by means of a slow opening movement. If after the adjustment the anomaly repeats the repositioning is repeated up to 3 times consecutive in one minute, after which the next movement will be generated alarm 20. After 1 minute from the execution of the first adjustment maneuver, if not more than 3 maneuvers have been performed, the maneuvers counter is reset, so there 3 maneuvers are again available to position the sheet correctly.

In the event of a potential alarm 18, up to 3 reset attempts are made, repeating move completely after moving the roll-up to the reverse control position o the door (eg. if there is a movement timeout in closing, an opening is commanded completes and then closure is retried). After 3 consecutive unsuccessful attempts he comes alarm 18 was decreed.

Only for the roll-up variant, if the heater module is enabled, there are also warnings they do not block the machine but are displayed alternately on the work screen to standard views. To restore them you need to perform the same procedure as for reset alarms. Below is the list of warnings:

- Warning 01: NTC 1 heater error (if enabled). Probe interrupted or shorted circuit
- Warning 02: NTC 2 heater error (if enabled). Probe interrupted or shorted circuit
- Warning 03: NTC 3 heater error (if enabled). Probe interrupted or shorted circuit
- Warning 04: NTC 4 heating error
- Warning 05: block 1 heater heating timeout (if enabled). Problem hardware RL1 heater / relative heating resistor
- Warning 06: heater block 2 heating timeout (if enabled). Problem hardware RL2 heater / relative heating resistor
- Warning 07: heater block 3 heating timeout (if enabled). Problem hardware RL3 heater / relative heating resistor
- Warning 08: heater block 4 heating timeout (if enabled). Problem hardware RL4 heater / relative heating resistor
- Warning 09: heater block 1 overtemperature (if enabled). Problem hardware RL1 heater / relative

heating resistor

- Warning 10: heater block 2 overtemperature (if enabled). Problem hardware RL2 heater / relative heating resistor
- Warning 11: heater block 3 overtemperature (if enabled). Problem hardware RL3 heater / relative heating resistor
- Warning 12: block 4 heater overtemperature (if enabled). Problem hardware RL4 heater / relative heating resistor
- Warning 13: communication with heater (if enabled). Hardware problem heater / display / cable between heater and displayt

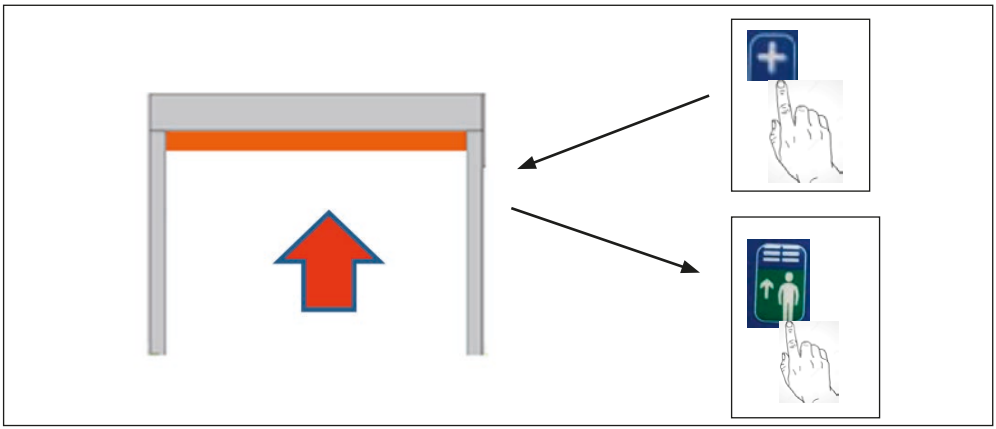
The SERVICE warning is also introduced, which does not block the machine but forces only the display shows the message <<SERVICE>> in the upper line of the display, in the operation screen. This warning is activated after 50,000 openings and is reset with the appropriate password by accessing the menu item for reset default parameters. Resetting the warning brings the moment forward by a further 50,000 cycles in which this will occur again.

First start-up

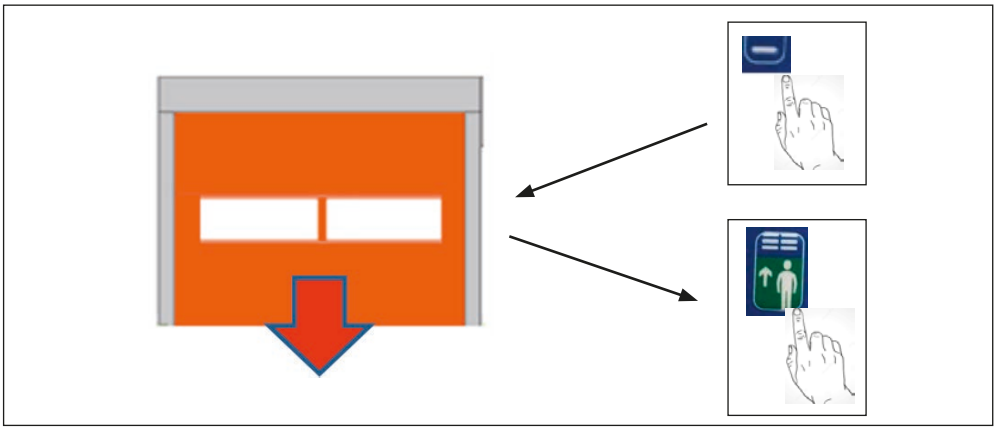
Upon the first start-up, the display language of the messages is requested, to be changed using the keys +, - and confirm using the partially opening key. Once confirmed, the password screen appears for accessing the initial calibration menu. In order to set the password, change the unique digit using 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 roll-up completely opened. The displayed parameter is the current position of the motor encoder. Move the roll-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 roll-up completely closed. The displayed parameter is the current position of the motor encoder. Move the roll-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 roll-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 roll-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 roll-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 roll-up after releasing the brake.
In order to simplify any setting of the partial opening and minimum opening parameters to enable the photocell (only roll-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 roll-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 roll-up:
• **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
• **Partial opening key:** partially open the roll-up, if closed; with the door partially opened, the roll-up is completely opened; close the roll-up is partially opened
N.B : if the roll-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

7.5 KEYPAD INSTRUCTIONS

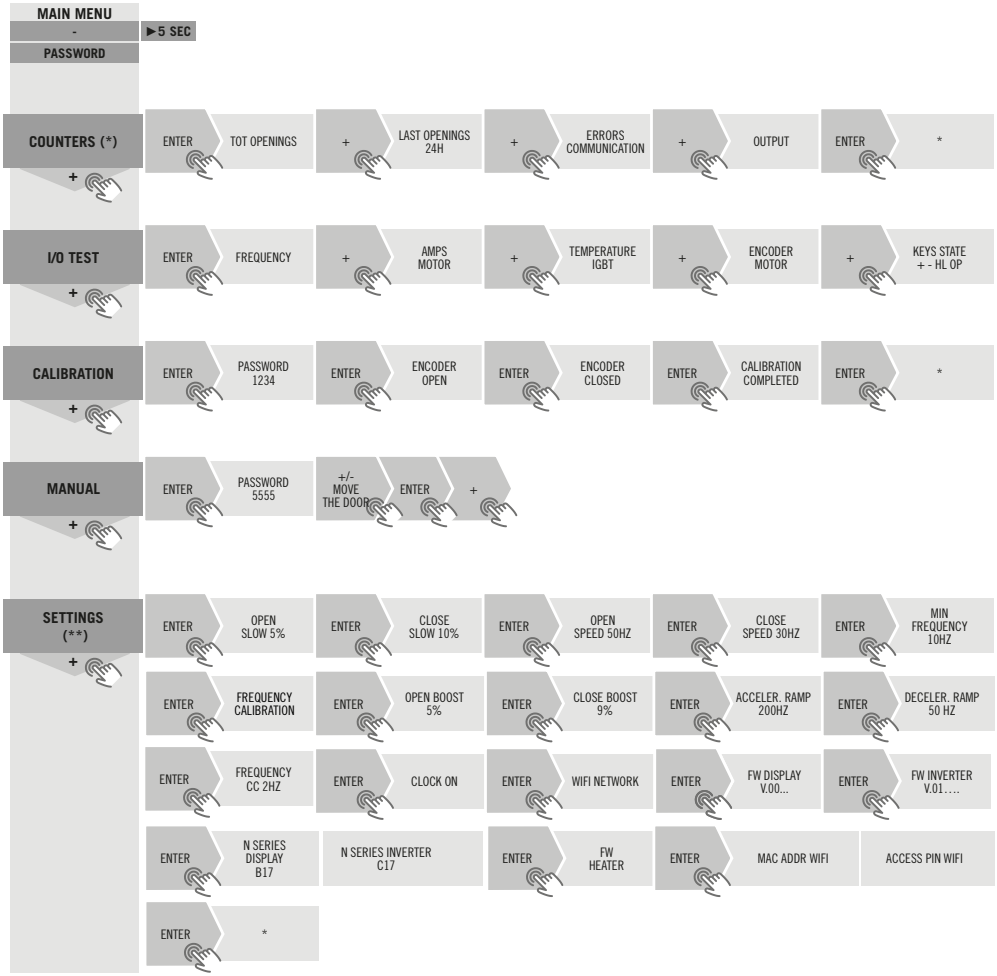
FROM FW DISPLAY 22
FROM FW INVERTER 1.10

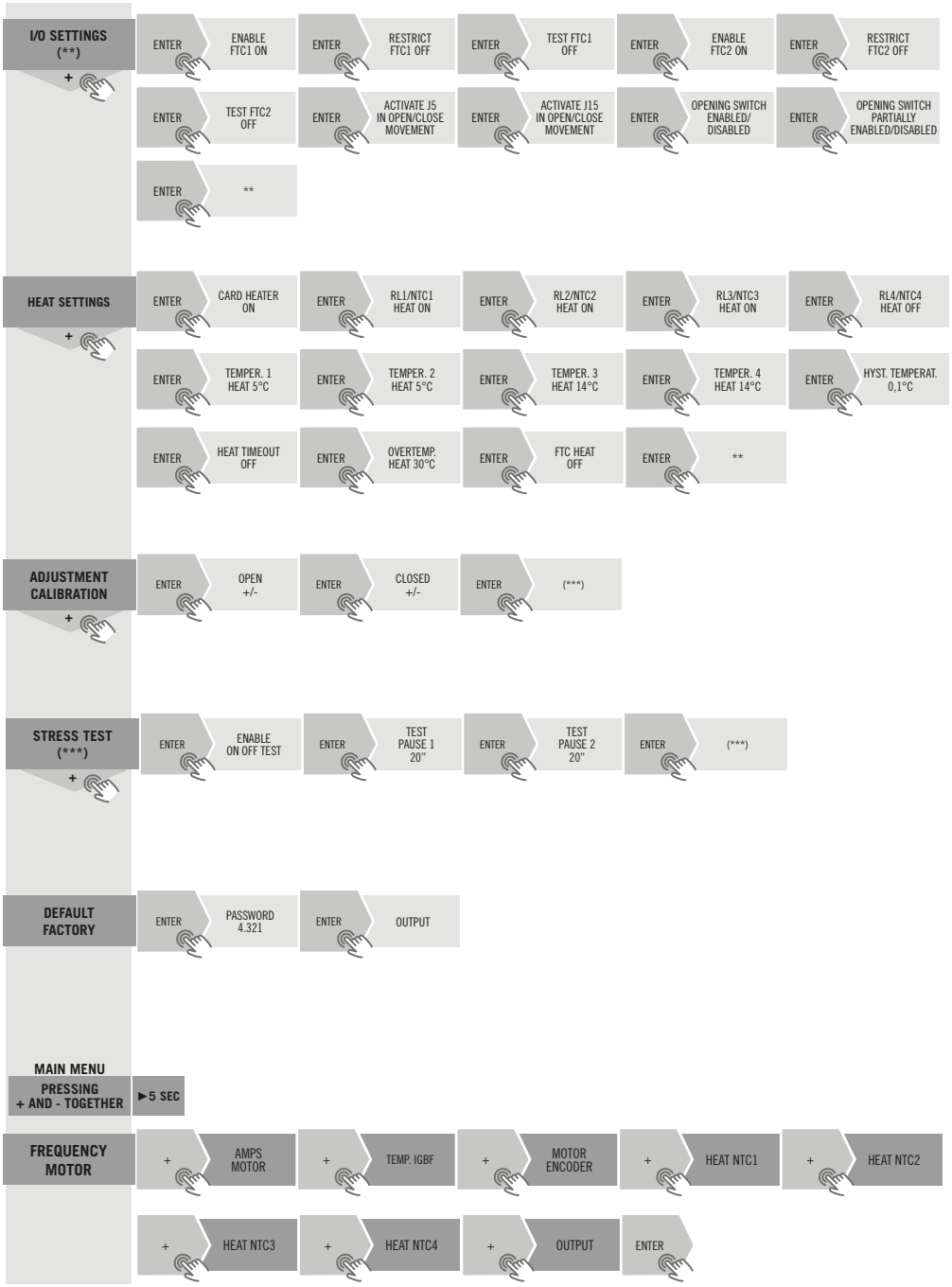
USER INSTRUCTIONS OF THE PANEL

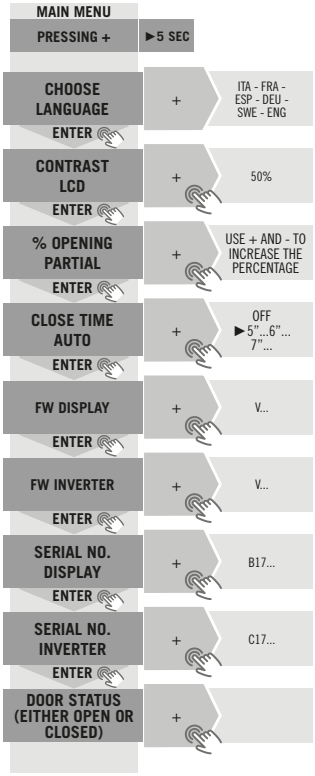
To scroll through the MAIN MENU items, press the + button
To enter the MAIN MENU items, press the ENTER button
To return to the main menu, press the ENTER key.


BUTTON ENTER


BUTTON +
BUTTON -




I/O SETTINGS (**)
+
ENTER
ENABLE FTC1 ON
ENTER
RESTRICT FTC1 OFF
ENTER
TEST FTC1 OFF
ENTER
ENABLE FTC2 ON
ENTER
RESTRICT FTC2 OFF
ENTER
TEST FTC2 OFF
ENTER
ACTIVATE J5 IN OPEN/CLOSE MOVEMENT
ENTER
ACTIVATE J15 IN OPEN/CLOSE MOVEMENT
ENTER
OPENING SWITCH ENABLED/ DISABLED
ENTER
OPENING SWITCH PARTIALLY ENABLED/DISABLED
ENTER
**
HEAT SETTINGS
+
ENTER
CARD HEATER ON
ENTER
RL1/NTC1 HEAT ON
ENTER
RL2/NTC2 HEAT ON
ENTER
RL3/NTC3 HEAT ON
ENTER
RL4/NTC4 HEAT OFF
ENTER
TEMPER. 1 HEAT 5°C
ENTER
TEMPER. 2 HEAT 5°C
ENTER
TEMPER. 3 HEAT 14°C
ENTER
TEMPER. 4 HEAT 14°C
ENTER
HYST. TEMPERAT. 0,1°C
ENTER
HEAT TIMEOUT OFF
ENTER
OVERTEMP. HEAT 30°C
ENTER
FTC HEAT OFF
ENTER
**
ADJUSTMENT CALIBRATION
+
ENTER
OPEN +/-
ENTER
CLOSED +/-
ENTER
(***)
STRESS TEST (***)
+
ENTER
ENABLE ON OFF TEST
ENTER
TEST PAUSE 1 20"
ENTER
TEST PAUSE 2 20"
ENTER
(***)
DEFAULT FACTORY
ENTER
PASSWORD 4.321
ENTER
OUTPUT
MAIN MENU
PRESSING + AND - TOGETHER
►5 SEC
FREQUENCY MOTOR
+
AMPS MOTOR
+
TEMP. IGBF
+
MOTOR ENCODER
+
HEAT NTC1
+
HEAT NTC2
+
HEAT NTC3
+
HEAT NTC4
+
OUTPUT
ENTER

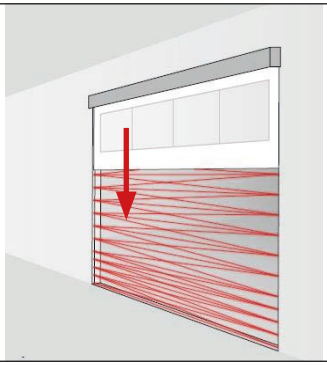


DISPLAYS WHEN THE DOOR IS NORMALLY OPERATIONAL

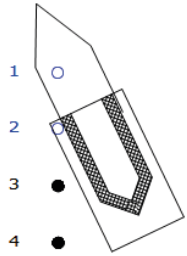
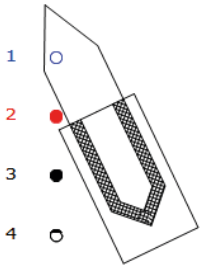
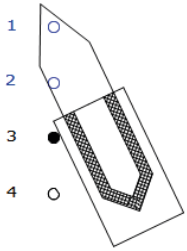
Open status	**THE DOOR IS OPEN**
Closure status	**THE DOOR IS IN CLOSING MOTION**
Closed status	**THE DOOR IS CLOSED**
Opening status	**THE DOOR IS IN INITIAL OPENING MOTION**
Partial opening status	**THE DOOR IS IN MOTION IN THE PARTIAL OPENING POSITION**
Partial open status	**THE DOOR IS STOPPED IN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

7.6 OPTICAL BARRIER: POSSIBLE PROBLEMS

This image represents the arrangement of th rays of the optical barriers. When the door closes, the “spider web“ composed of the beams is interrupted in an orderly manner, from top to bottom.
In this way the system understands that it is not an object that is going throught the door, but it is the door-cloth that is interrupting the rays (from top to bottom), allowing the continuation of the maneuver.
This function is called blanking. Otherwise if an object interrupts it (because it penetrates into the web of rays) the door interrupts the closing maneuver and immediately reopens.



WHAT HAPPENS IF THE LOWER BAR OR THE GASKET GETS DAMAGED?

		
The door closes and the lower bar interrupts the photocell beams: First 1 then 2.	In this image as due to the lower bar (not the vertical) the beam 2 after being interrupted (image 1) returns free.	Going down the door again, the lower bar interrupts the beam 2 again, at this point the blanking operation is no longer satisfied, the door interprets that it is an object that crosses the door and therefore immediately reverses the rotation of the winding shaft re-opening the door.

8. HOW TO CLEAN THE DOOR

8.1 WHEN THE DOOR IS OPEN

The vertical freezer door must always be combined with an isothermal door, for the following reasons:

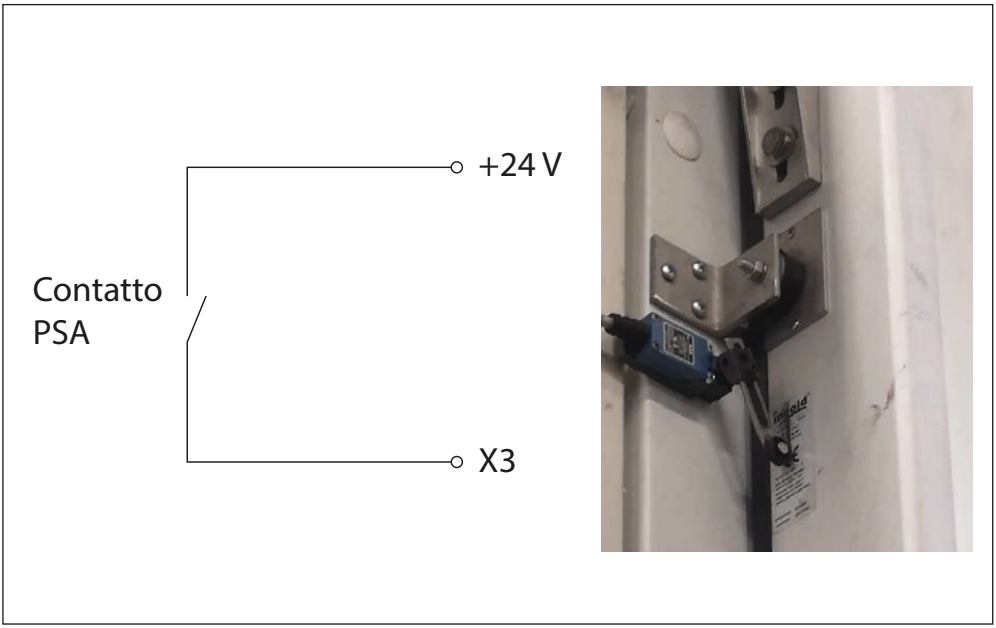
• It is necessary for the rapid door to spend a few hours in an open position, for example during the night or in all work breaks during the day. At this time the fabric finds a warm environment in which the ice melts or the condensation is removed. This happens because the upper box is heated. During this “cleaning“ period, the compartment of the freezer compartment cannot remain open and therefore the opposing sliding door is required.

• The isothermal sliding door has very high insulation properties that guarantee high energy savings during the night or during break hours.

• If a forklift hits by slidind the vertical door, the opposing sliding door would always guarantee a closure to the freezer compartment.

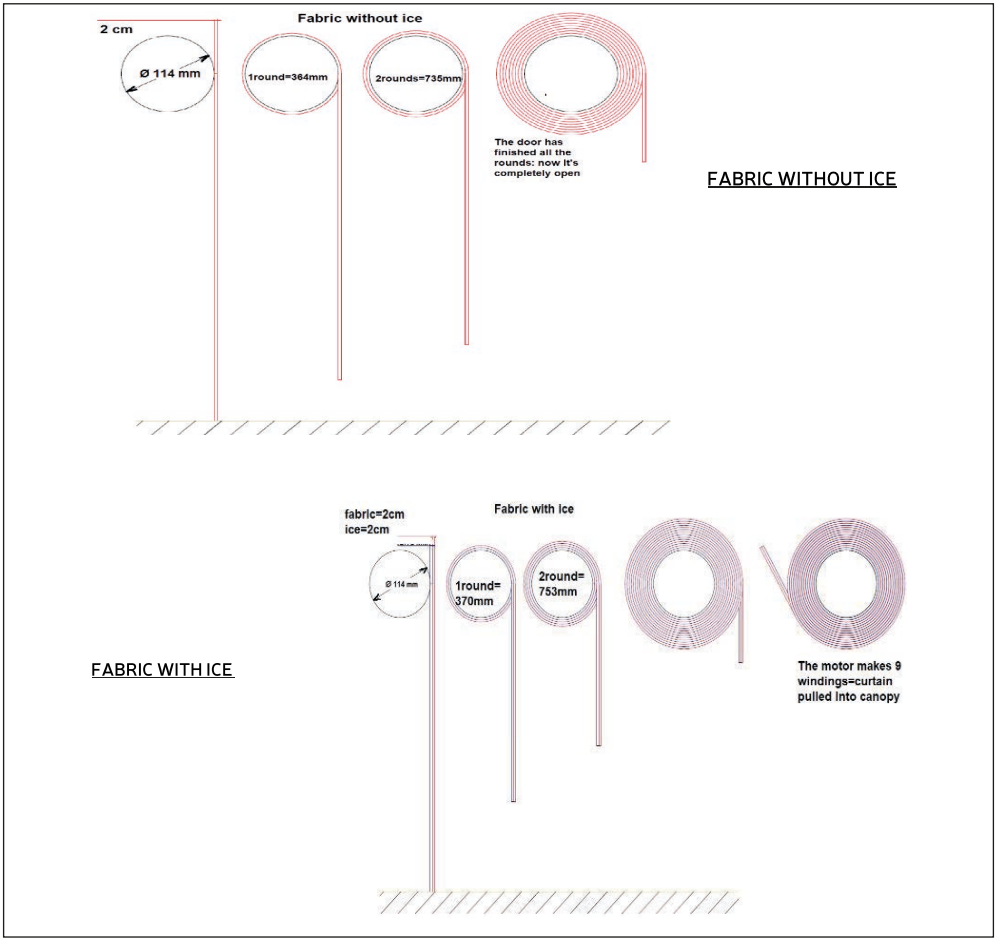
In order to open the Roll Up Freezer every time the sliding door closes, a microswitch (magnetic or mechanical) must be fixed on the sliding door. When the sliding door leaf closes, the magnet meets the sensor, with the consequent closing of a contact. This contact must be led to the radar input of the vertical door, so it will open and remain open for as long as the isothermal door will remain closed.

IMPORTANT: IF YOU DO NOT INSTALL THE CONTACT ON THE SLIDING DOOR, YOU MUST REMEMBER NIGHT TO OPEN THE ROLL UP FREEZER DOOR MANUALLY.



8.2 ICE FORMATION ON THE FABRIC

The electronic control measures how many revolutions the engine makes so that the winding shaft reaches the correct position of the cloth wrapped and sheet draped. When the diameter of the tree increases, due to the ice, the winding of the cloth does not stop when in the correct upper position but goes beyond. This accumulation of ice on the tent can occur when the door is in the lowered position during the night and the sliding door is closed. **Therefore the door must be brought into the raised position when not in use.** This can be done by the customer manually, so every time he closes the sliding door he must remember to open the roller door. This is risky because he can forget to do it. This is why we recommend always combining the doors by means of a limit switch on the sliding door. Another important thing is that the door heaters are always activated the switch is off or does not work. So even ice can accumulate. The engine heater must also work. In addition, anything else that increases the diameter of the cloth wrapped, such as dirt on the curtain, can create positioning problems, with excessive rolling of the curtain at the top.

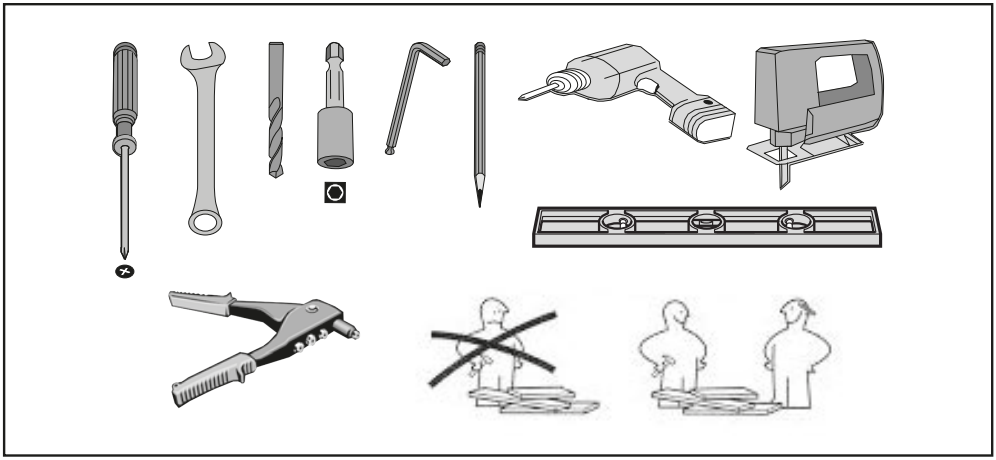


9. PERIODIC INSPECTIONS

IMPORTANT: at every start of the shift every day it is necessary to check the correct functioning of the door and of the relative emergencies, in case of any anomaly the assistance personnel must promptly intervened.		
Security systems check	Check all the security systems: sensitive edge in the lower part of the fabric, photocells, photocells barrers (if present). Make sure the emergency buttom in the main control is correctly working.	Daily
Check the motorgear seals	Visual verification of possible oil leakages.	Semi-annual / in any case no more than 50,000 maneuvers
Check on the motor and bearings	Check if the motor moves freely. If necessary, lubricate the bearings	Semi-annual / in any case no more than 50,000 maneuvers
Check engine brake efficiency	Disassembling the motor boot and checking the distance between the pad and the brake plate. Replace if worn.	Semi-annual / in any case no more than 100,000 maneuvers
State and fixing of the support tree	Visual inspection of the mast and control of the correct tightening of the nuts and bolts.	Semi-annual / in any case no more than 50,000 maneuvers
Sheet in coated fabric	Verification of the presence of tears, wear, etc.	Semi-annual / in any case no more than 50,000 maneuvers
Check the photocells	Verification of operations	Daily
Electrical panel and individual components	Checking the condition of electric cables and connections.	Semi-annual / in any case no more than 50,000 maneuvers
Movement and functioning	Verification of correct and complete movement in opening, partial opening, closing.	Daily
Number of operations	Periodically check the number of maneuvers to plan the correct maintenance. **IMPORTANT:** the maximum number of door maneuvers is 45 opening/closing cycles per hour	
Checking the operation of temperature probes	Check measured temperatures and periodically 1/month compare other readings	Weekly

Checking the operation of heating resistors	Check measured temperatures and periodically 1/month compare other readings	Weekly
Checking for ice formation on uprights and polyethylene bottom bar	Visual, remove gently if necessary and check resistance temperatures	Daily
Checking the ice cleaning of the door curtain	Visual, remove gently if necessary and check resistance temperatures	Daily

10. EQUIPMENT



11. 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.

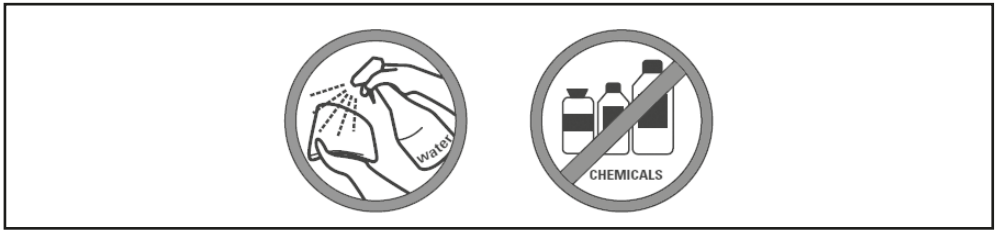
The manufacturer assumes no responsibility for damage to persons, animals or property resulting from the reuse of individual parts of the machine for functions or assembly situations different from the original ones.

12. MAINTENANCE AND CLEANING

12.1 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.



13. 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 : .....

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☐ 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 ☐
1.29	Check the heating circuit:	
	- The resistors heat up	YES ☐ NO ☐
	- Every resistor is connected to its probe (diagrams, pages 24-25)	YES ☐ NO ☐

Note: ……..……..…….....
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☐ 6 Documentation

1.30	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)…..……

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