AUTOMATIC SYSTEMS

REVLOCK 614 - 3 WINGS

Automatic Safety
Revolving Doors

TECHNICAL MANUEL

(Translated from the original English version)

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REVLOCK 614 - 3 WINGS

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1. SYMBOLS USED

The symbols below recall a state of more or less severe danger. They were included in the various chapters to attract the reader's attention.

	Danger to the health of people. The failure to comply with the directions bearing this symbol may cause serious physical damages to the people.
	Potentially dangerous situation or a forbidden use, which may cause a major damage to the machine. Failure to comply with the directions showing this symbol may cause more or less serious injury to the machine.

The symbols below refer to a more or less severe danger. Where necessary they have been applied in machine positions to signal the danger:

DANGER

General danger

Electrocution danger

Electrical ground

Crushing danger

Burn danger

Danger obstacle

PROHIBITION

Don't remove any safety gear

Don’t remove/adjust in motion

Do not use water in c ase of fire

2. INTRODUCTION

This manual describes all the rules of use as well as some information regarding the maintenance in order to obtain the best results and high levels of efficiency from the machine. We therefore advise you to read all these recommendations carefully before activating the security booth. Information on repairs, adjustments and different settings from those set here is contained in the technical manuals to be requested to **Automatic Systems**.

Keep this manual with care for every future consultation.

2.1. WARRANTY

We remain at your complete disposal for the assistance requirements that may arise. We remind you that the failure to comply with the prescriptions described will involve the warranty revocation.

The liability related to the warranty will be cancelled if the user does not follow the use instructions or makes changes without a previous preventive written authorisation by the manufacturer and/or he uses not original spare parts.

Automatic Systems reserves all the right to make any kind of modifications that will consider necessary for a better functioning of the product.

2.2. DESTINATION OF USE

The securitybooth shall be used exclusively as a security door for access control.

Limitations of the intended use:

used for the purpose it has been expressly conceived, taking into consideration the restrictions shown. Any other use must be considered inappropriate and wrong. The manufacturer cannot be considered responsible for any damage caused by inappropriate, wrong or irrational use of the booth.

2.3. IDENTIFICATION

The metal plate shown below contains all the information about the identification and operating system.

It is placed on the internal of the structure.

Together with a possible maintenance request, it is necessary to provide the serial number written on the plate.

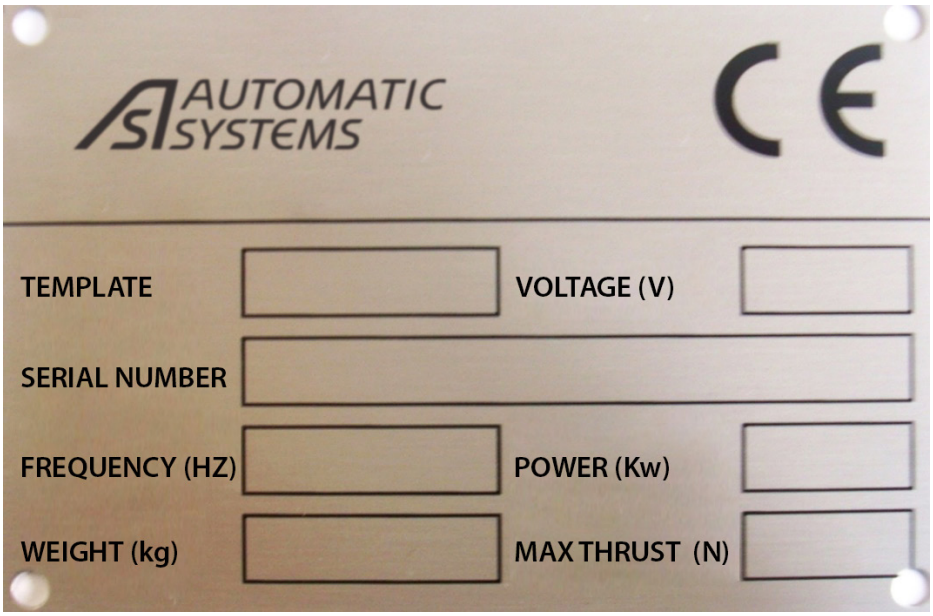


Fig. 1 - Identification label

2.4. GENERAL SAFETY REGULATIONS

Only special trained and authorised staff can carry out the maintenance service. The manufacturer is not responsible for any tampering or modification of the system, which has not been previously authorised.

The removal or tampering of the safety devices involves the breaking of European regulations concerning safety.

Our machines are designed to accept original spare parts only. Skilled staff must carry out their settings, respecting the instructions hereby. Please, be sure that when the system operates, all safety conditions are respected. If you notice any irregularities, please stop the system immediately and call the assistance service.

Only a professionally qualified staff must service the electric system, even if the maintenance work is of small entity.

2.5. SAFETY DEVICES

- Manual release of the system in case of total lack of energy
- Internal emergency button
- Inaccessibility of mechanical handling
- Labels indicating proper procedures to be performed
- Electronic maximum torque control
- Sensitive edges
- Electrical insulation
- Safety transformer
- Peripherals operating in SELV

We remind all of our customers to follow the norms in force, first of all the system grounding and safety devices.

2.6. RISK WARNING

The machine has been built in compliance with the safety regulations and taking into consideration the risks for the user and for the maintenance staff, following proper practice and technical criteria for any situations not foreseen by the regulations.

Nevertheless, there are still risks related to the type of machine, for the users and for the maintainers, for which it was not possible to find technical solutions, and therefore specific precautions are required.

During normal operation, the user must not access the moving parts.

In case of manual release or during maintenance operations, mandatory signs are placed in the considered area, calling for turning off the machine power supply before proceeding. The areas featuring electric shock risks accessible to operators are marked with the appropriate symbol as required by the CEI EN 60204-1. There is no risk of being trapped inside the booth, thanks to the manual release of the system in case of power supply failure.

2.6.1. WARNINGS FOR USERS

- Do not pass through the opening too quickly, collisions are possible.
- Children and animals could be in danger if left alone while crossing. While passing, keep your children and animals between your arms or close to you.
- Do not put your hands or other parts of the body in the empty spaces between the fixed and mobile parts of the structure.
- Do not force the doors during their movement; excessive force may damage the driving mechanisms preventing proper operations of the system, and may cause harm to the user.

- Do not force the door when closed; excessive power may damage the locking system and the structure of the doors, and may cause damage to the user.

2.6.2. WARNINGS FOR SERVICE TECHNICIANS

- Installation and maintenance must be carried out by trained and authorized staff.
- When moving the door manually during maintenance, do not put your hands inside the mechanical components.
- Activation of the machine, when the internal ceiling or the external roof are removed, could be dangerous; be careful not to put your hands inside the driving elements while the machine is turned on.
- While nobody is working on the machine, keep the internal ceiling and the outside roof assembled to the booth and secured with screws.
- Do not leave the keys in locks. Do not give the keys to untrained or unauthorized personnel.

2.7. RISK ASSESSMENT

Accidental risks arising from the machine can occur to people depending on their category.

We can define the following categories:

1. Handlers.
2. Installers.
3. Service technicians.
4. Cleaning staff.
5. Adult users, children, disabled users.

CATEGORY 1 - HANDLERS

People at risk: Truck drivers, porters, installers.

Type of risk:

- Overturning of the door.
- Finger and foot crushing.
- Injuries from excessive effort when you move the door.

Avoiding the risks:

- Do not release the door from the packaging before reaching the installation site.
- Lift and move the door using appropriate equipment.
- Keep your distance from the door when it is raised.

CATEGORY 2 - INSTALLERS

People at risk: Assemblers, electricians, technicians.

Type of risk:

- Injuries from excessive effort when you move the door.
- Noise during drilling of fixing holes.
- Danger of electrocution when you drill holes and during cables connection.
- Danger of cutting fingers when mechanical parts are in motion.

Avoiding the risks:
- Lift and move the door using appropriate equipment.
- Wear protective equipment.
- Use tools to check the electric voltage.
- Do not operate on mechanical parts when the door is connected to the mains.
- Do not release the door from the frame during handling.

CATEGORY 3 – SERVICE TECHNICIANS

People at risk: Maintenance and service staff.

Type of risk:
- Electric shock with 220V equipment.
- Cutting and trapping fingers between moving parts.
- Abnormal operation caused by failures.

Avoiding the risks:
- Use the protective equipment.
- Check the functioning of any active safety devices.
- Do not clean the door while it is moving.

CATEGORY 4 - CLEANING STAFF

Persons at risk: Cleaning staff, service staff.

Type of risk:
- Use of harmful substances.
- Risk of cutting and entrapment of fingers among moving parts.
- Cleaning cloths trapped during movement.

Avoiding the risks:
- Use appropriate protective equipment.
- Do not clean the door while it is moving.
- Disable the port from the control console.

CATEGORY 5 - USERS

Persons at risk: Adult and disabled users.

Type of risk:
- Impact on the door during passage.

Avoiding the risks:
- Do not run during transit.
- Do not try to go back during transit.
- Keep your umbrellas and bags close to your body.

Persons at risk: Children accompanied by adults.

Type of risk:
- Impact on the door during passage.

Avoiding the risks:
- Children must be accompanied by an adult.
- Do not run during transit.
- Do not drag the kids by hand.
- Do not leave your children alone during the crossing..

2.8. MAINTENANCE WARNINGS

The machine was made in compliance with current legislation and taking into account the legislative provisions transposing the community directives.

We recommend a periodic verification of the integrity of the system every six months to be entrusted exclusively to qualified personnel.

During scheduled maintenance perform the operations indicated in this manual.

3. FUNCTIONING

3.1. PRODUCT DESCRIPTION

The RevLock 614 is a rotating turnstile door in 3 sectors entirely realized in crystal.

Everything is transparent, light and elegant. It perfectly adapts itself to the latest architectural philosophies in which the mix of steel/glass has a fundamental role.

It is a structure with a circular base in crystal that has to be installed as a support to the existing pavement, by avoiding civil works.

The rotating turnstile is realized in crystal, enriched with security profiles to guarantee a minor thermic exchange among the spaces and the outside.

The placement of the motorization in the upper part of the product avoids any kind of civil work during the installation phase.

Therefore, it does not need the use of carpets and/or additional pavements, guaranteeing a particularly pleasant fluidity of use.

Entrances for hotels, hospitals, offices, services centres, shopping centres, etc. can be realized with the RevLock 614.

To the elegant and light architectural characteristics, the RevLock 614 matches a sophisticated system of management of accesses control that allows the transit to the controlled area just to authorised people. The highly performing unicity of transit avoids the queueing both in entrance and in exit of not authorised users.

The RevLock 614 is available in two versions, in both it performs the control of unicity of passage in both senses of motion, but with two extremely different control systems:

- Weighed base (standard)
- Sensor of person detection (optional)

3.2. WEIGHED BASE (STANDARD)

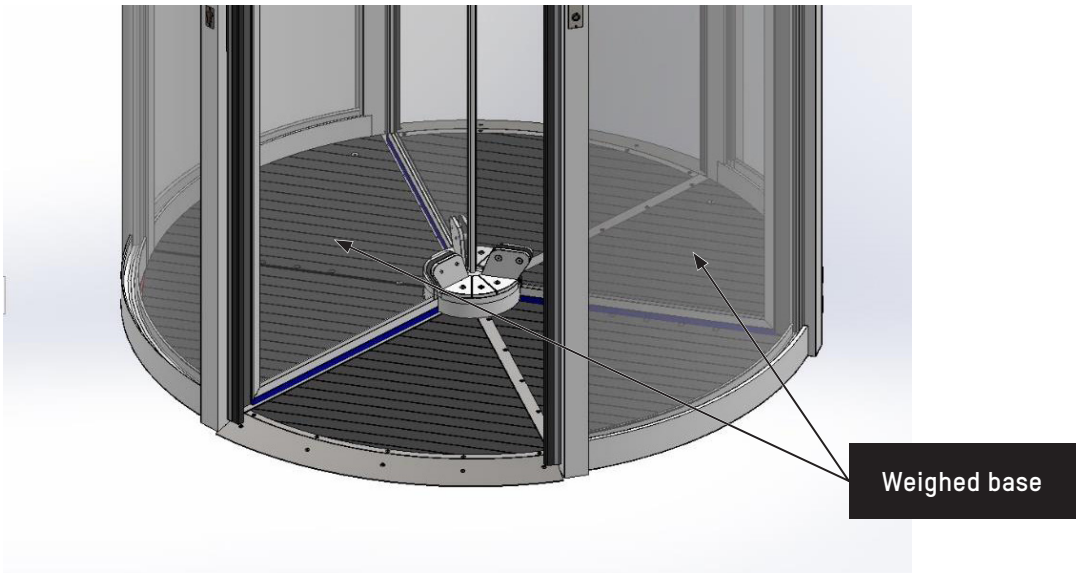


Fig. 2 - Weighed base

The weighed base (standard) is made of an extremely thin platform and consistent with the existing rules which does not make an impact on the design and on the particular architectural elegance of the rotating door.

The weighing system allows, through a dynamic analysis of the transit, a very high accuracy in the identification of one or more people, enabling a high certainty for the system accesses control in allowing the access exclusively to strictly authorised personnel.

The control takes place in both directions of travel.

The revelation of a not authorised access, in one of the two travel directions, activates a procedure of alarm that expects the inserting of electromechanical blocks in the rotor of actioning of the rotating doors, avoiding the access, even forced, towards the direction which is not allowed. Consequently, the motorisation system inverts the sense up to make the controlled area free and allows a new transit.

3.3. SENSOR OF PERSON DETECTION (OPTIONAL)

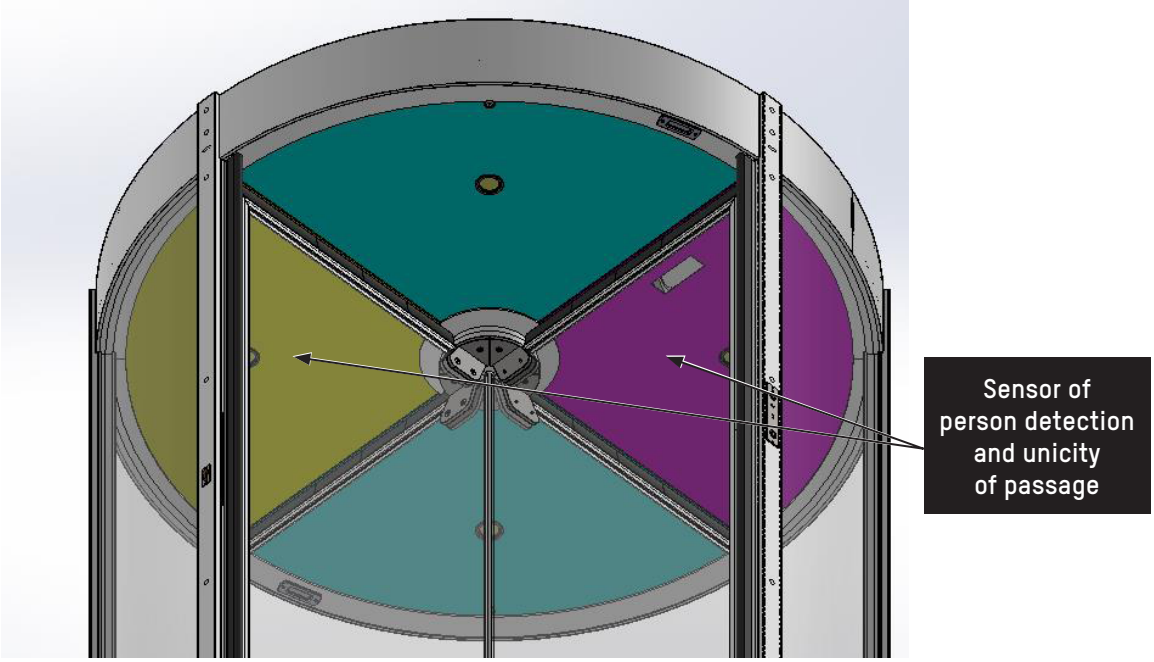


Fig. 3 - Sensor of person detection

The sensor of person detection (optional) is adopted for all the environmental conditions that do not allow the installation of a weighed platform on the existing pavement, but at the same time an elevated security in the unicity of passage is required.

In historical or very valuable buildings, where the view of the existing pavement has a particular importance, but a strict accesses control is required anyway, the solution of the sensor becomes the only applicable one.

The system is made by a sensor, for every sense of motion, positioned in the roof of the booth and it doesn't affect the design and the particular architectural elegance of the rotating door.

The sensor allows an extremely high accuracy in the detection of one or more people, through a dynamic analysis of transit, permitting to the accesses control system an elevated certainty in allowing the access exclusively to strictly authorized personnel.

The control happens in both senses of motion.

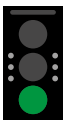
The detection of a not authorised access, in one of the two senses of motion, activates a procedure of alarm that involves the insertion of electromechanical blocks in the inverter rotor of the rotating doors, avoiding the access, even if it is forced, towards the forbidden direction. Consequently, the system of motorization inverts the motion until the controlled area is free and allows a new transit.

3.4. FUNCTIONING

In the following paragraphs are shown the same functioning timings of the RevLock 614 - CLASSIC and the related behaviour of the rotating booth.

LEGEND

- The user in yellow is a first user
- The user in blue is a second user
- The transit that happens from the lower part to the higher part of every image is an incoming transit
- The transit that happens from the higher part to the lower part of every image is an outgoing transit

	Ongoing transit - direction allowed
	Alarm
	Counter-clockwise rotation - normal
	Clockwise rotation – in case of alarm

During the turnstile rotation the semaphore could alternate the colours green and red according to the possibility to access or not inside the booth.

3.4.1. INCOMING AUTHORISED TRANSIT

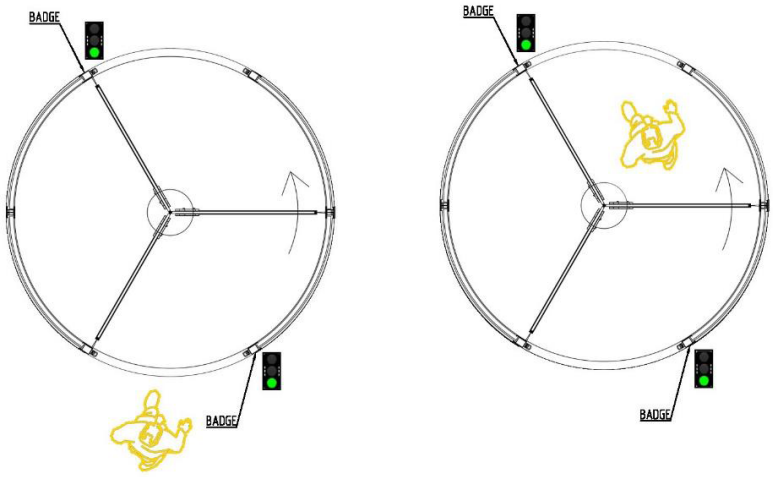


Fig. 4 - Incoming authorised transit

- The user in yellow is an authorised user
- The user shows his/her own authorisation badge to the specific reader and/or he/she presses the button
- The user transits through the rotating door according to the selected direction of transit

3.4.2. OUTGOING AUTHORISED TRANSIT

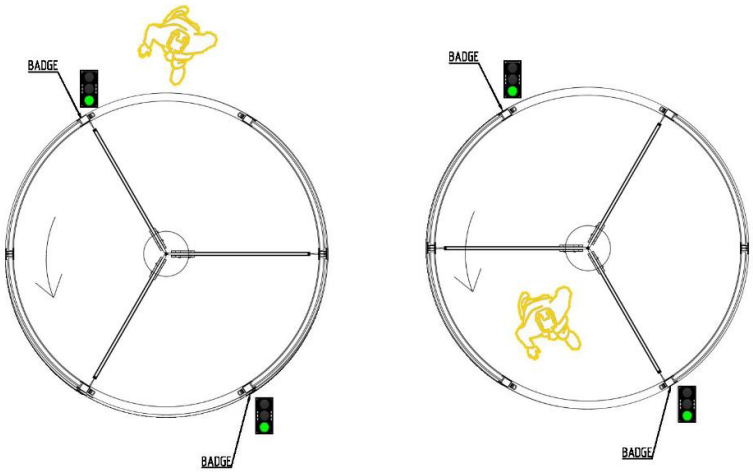


Fig. 5 - Outgoing authorised transit

- The user in yellow is an authorised user
- The user shows his/her own authorisation badge to the specific reader and/or he/she presses the button
- The user transits through the rotating door according to the selected direction of transit

3.4.3. INCOMING TRANSIT OF TWO PEOPLE: ONE AUTHORISED AND ANOTHER ONE NOT AUTHORISED

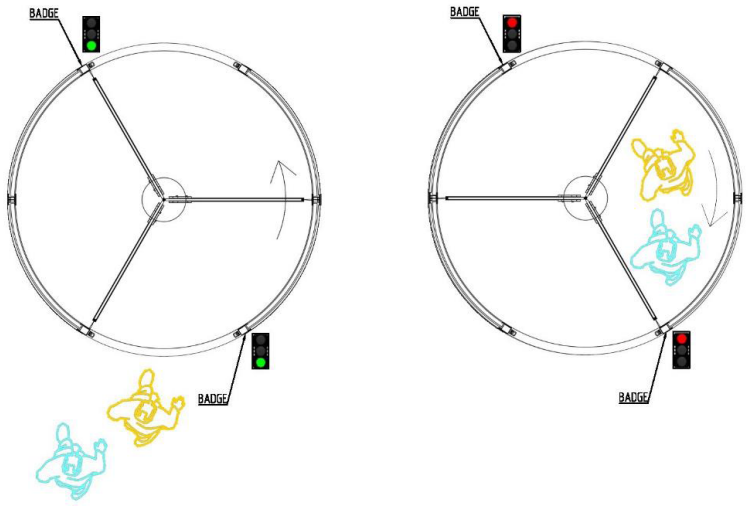


Fig. 6 - Incoming transit of two people

- The user in yellow is an authorised user, the user in blue is a not authorised user
- The user shows his/her own authorisation badge to the specific reader and/or he/her presses the button
- The user transits through the rotating door according to the selected direction of transit
- The authorised user is followed by a not authorised person
- The rotating door makes a check of unicity of transition and detects the presence of two people
- The rotating door inverts the motion direction, inviting the users to go out

3.4.4. OUTGOING TRANSIT OF TWO PEOPLE: ONE AUTHORISED AND ANOTHER ONE NOT AUTHORISED

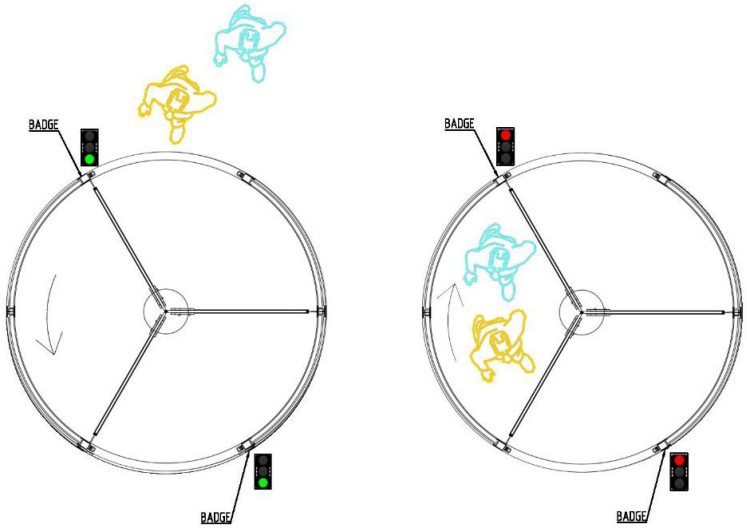


Fig. 7 - Outgoing transit of two people

- The user in yellow is an authorised user, the user in blue is a not authorised user
- The user shows his/her own authorisation badge to the specific reader and/or he/her presses the button
- The user transits through the rotating door according to the selected direction of transit
- The authorised user is followed by a not authorised person
- The rotating door makes a control of the unicity of transition and detects the presence of two people
- The rotating door inverts the direction of motion, inviting the users to go out

3.4.5. INCOMING TRANSIT OF TWO AUTHORISED PEOPLE

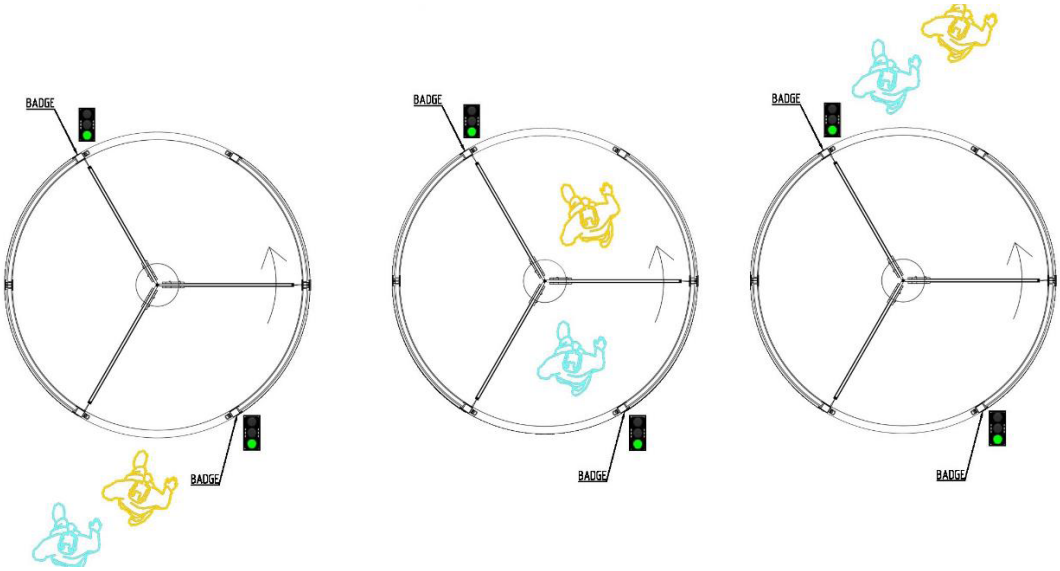


Fig. 8 - Incoming transit of two authorised people

- The users in yellow and in blue are both authorised users
- The first user shows his/her own authorisation badge to the specific reader and/or he/she presses the button
- The user transits through the rotating door according to the selected direction of transit
- The second user shows his/her own authorisation badge to the specific reader and/or he/her presses the button
- The user transits through the rotating door according to the selected direction of transit

3.4.6. OUTGOING TRANSIT OF TWO AUTHORISED PEOPLE

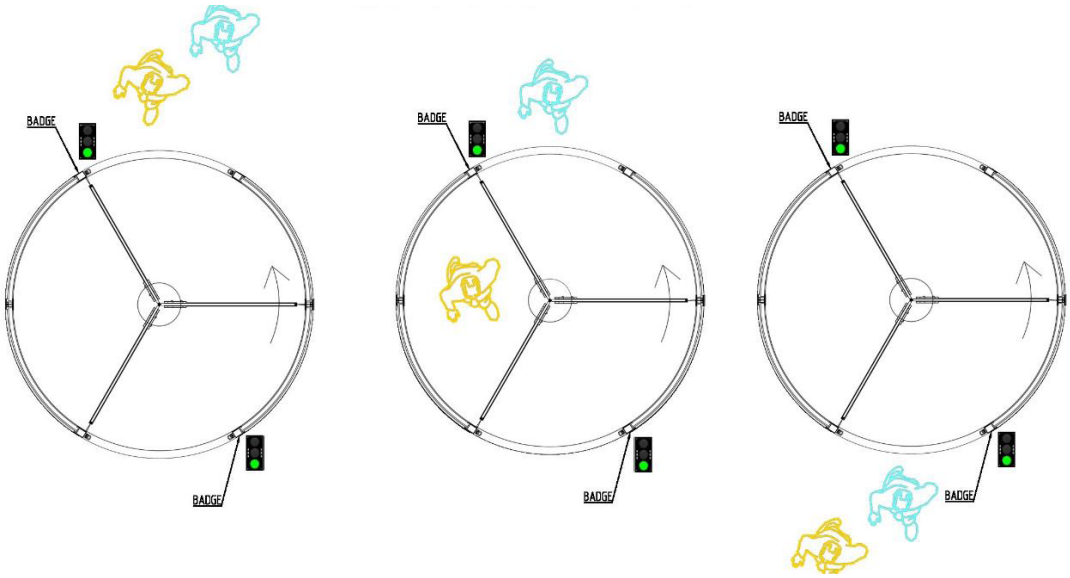


Fig. 9 - Outgoing transit of two authorised people

- The users in yellow and in blue are both authorised users
- The first user shows his/her own authorisation badge in the specific reader and/or he/her pressed the button
- The user transits through the rotating door according to the selected direction of transit
- The second user shows his/her own authorisation badge in the specific reader and/or he/her presses the button
- The user transits through the rotating door according to the selected direction of transit

3.4.7. INCOMING TRANSIT OF ONE AUTHORISED PERSON AND CONTEMPORARY REFUSED OUTGOING TRANSIT OF A NOT AUTHORISED PERSON

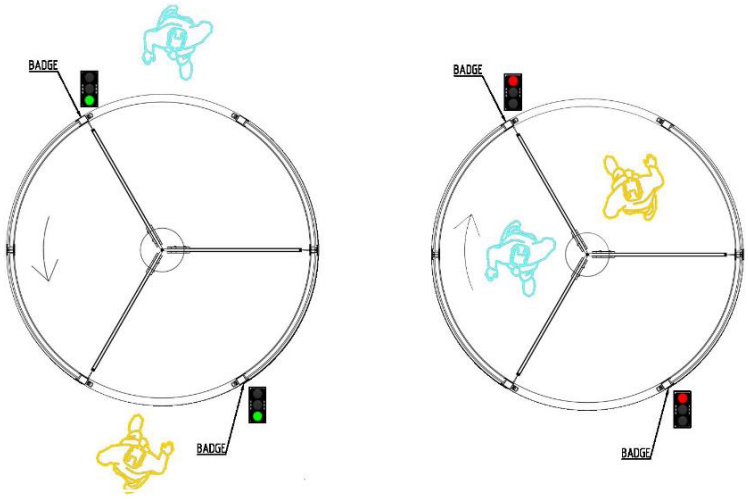


Fig. 10 - Incoming transit of one authorised person and contemporary refused outgoing transit of a not authorised person

- The user in yellow is an authorised user, the one in blue is a not authorised user
- The user shows his/her own authorisation badge to the specific reader and/or he/she presses the button
- The user transits through the rotating door according to the selected direction of transit
- The not authorised user attempts to go towards the opposite direction to the authorised direction
- The rotating door makes a check of transition and it detects the presence of a person in the segment where the access is not allowed
- The rotating door inverts the direction of motion, inviting the second user to go out

3.4.8. OUTGOING TRANSIT OF AN AUTHORISED PERSON AND CONTEMPORARY REFUSED INCOMING TRANSIT OF A NOT AUTHORISED PERSON

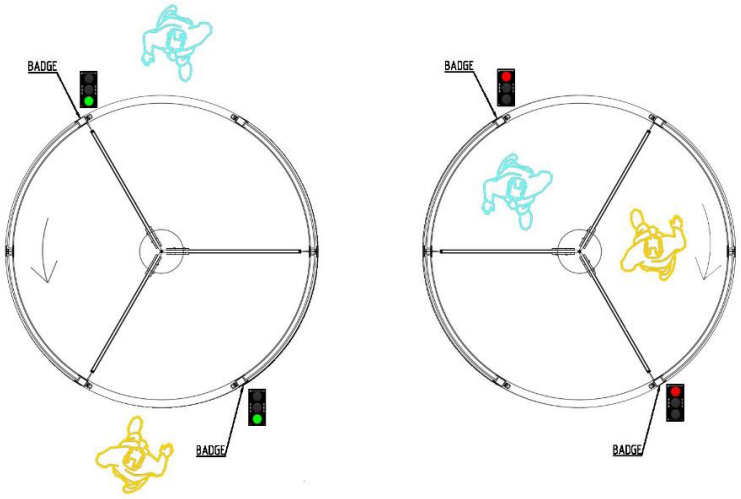


Fig. 11 - Outgoing transit of an authorised person and contemporary refused incoming transit of a not authorised person

- The user in blue is an authorised user, the user in yellow is a not authorised user
- The user shows his/her own authorisation badge in the specific reader and/or he/she presses the button
- The user transits through the rotating door according to the selected direction of transit
- The not authorised user attempts to go in the opposite direction to the authorised direction
- The rotating door makes a check of transition and detects the presence of a person in the segment where the access is not allowed
- The rotating door inverts the direction of motion, inviting the second user to go out

3.4.9. INCOMING TRANSIT OF AN AUTHORISED PERSON AND CONTEMPORARY OUTGOING TRANSIT OF AN AUTHORISED PERSON

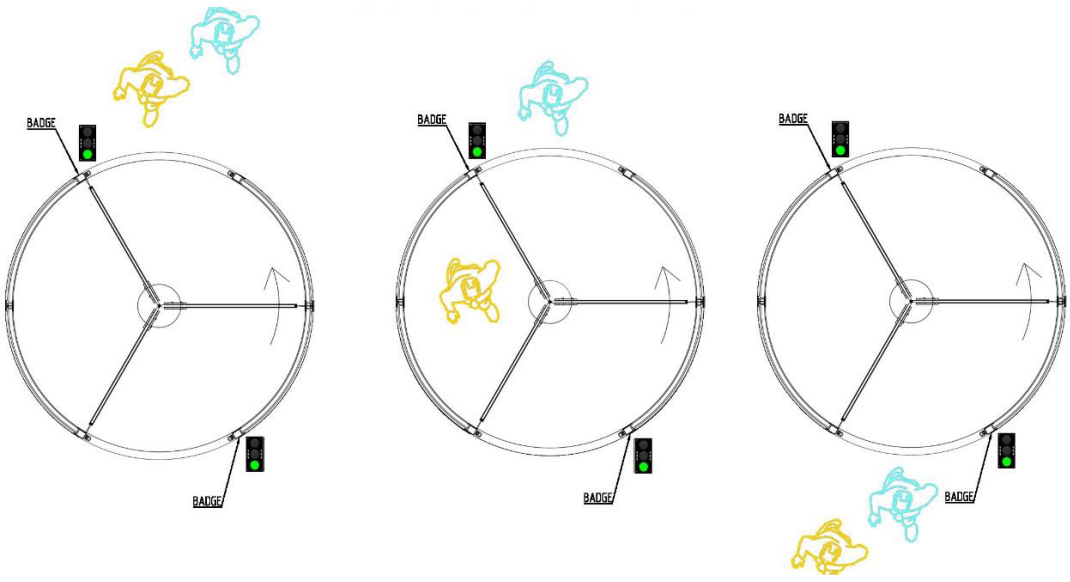


Fig. 12 - Incoming transit of an authorised person and contemporary outgoing transit of an authorised person

- The user in yellow and the user in blue are both authorised
- The users show their own authorisation badge in the specific reader and/or they press the button
- The rotating door makes a check of transition and it detects the presence of two people, both authorised
- The authorised users transit through the rotating door according to the selected direction of transit

3.5. USE

3.5.1. FIRST ENTRANCE (OPENING)

Opening by the employees in the morning.

- Activate the system that allows the unlock of the turnstile through the mechanical key of first entrance, positioned on the external bank side of the turnstile and press the external button.

This procedure allows just one transit, after that the booth takes itself back to mono-exit conditions, so:

- Go to the console and activate the RevLock 614, by pressing the "Last Exit" button. In this way you deactivate the LED in the console, if it is switched on.

3.5.2. NORMAL TRANSIT

After the powering on, it is possible to select, from the console, two functioning modalities of the RevLock 614: continuous rotation or rotation on request. In this latter case the transit must happen as follows:

- If the rotation on request is set, it is possible to make a booking through the badge reader (under the external pushbutton), now the system will allow an incoming transit. It is even possible to make two transits, one in entrance and one in exit, if both of the users make a booking in their respective badge.
  The system allows an incoming transit and contemporary an outgoing transit.
- If only one booking is made and the users are two, one in entrance and one in exit, the system blocks the rotation of the booth and it obliges the exit for both users. After few seconds, without any additional booking, the authorized user will be able to complete the transit.

3.5.3. PARTICULAR FUNCTIONING

If the booth is set in mono-exit during the continuous rotation, the person closes him/herself outside. In order to enter again, the user must keep pressing the bell button for more than 15 seconds. The turnstile will stop and the person has 5 seconds to make a cycle of closure and opening of the mechanical lock. By doing this, the booth allows one entrance.

3.6. CONTROL CONSOLE

3.6.1. SERIAL CONTROL CONSOLE

The serial console is equipped with all the main functions normally used for the programming of the functioning modalities of the booth.

The functions can be activated and deactivated by a button: a LED indicates their status.

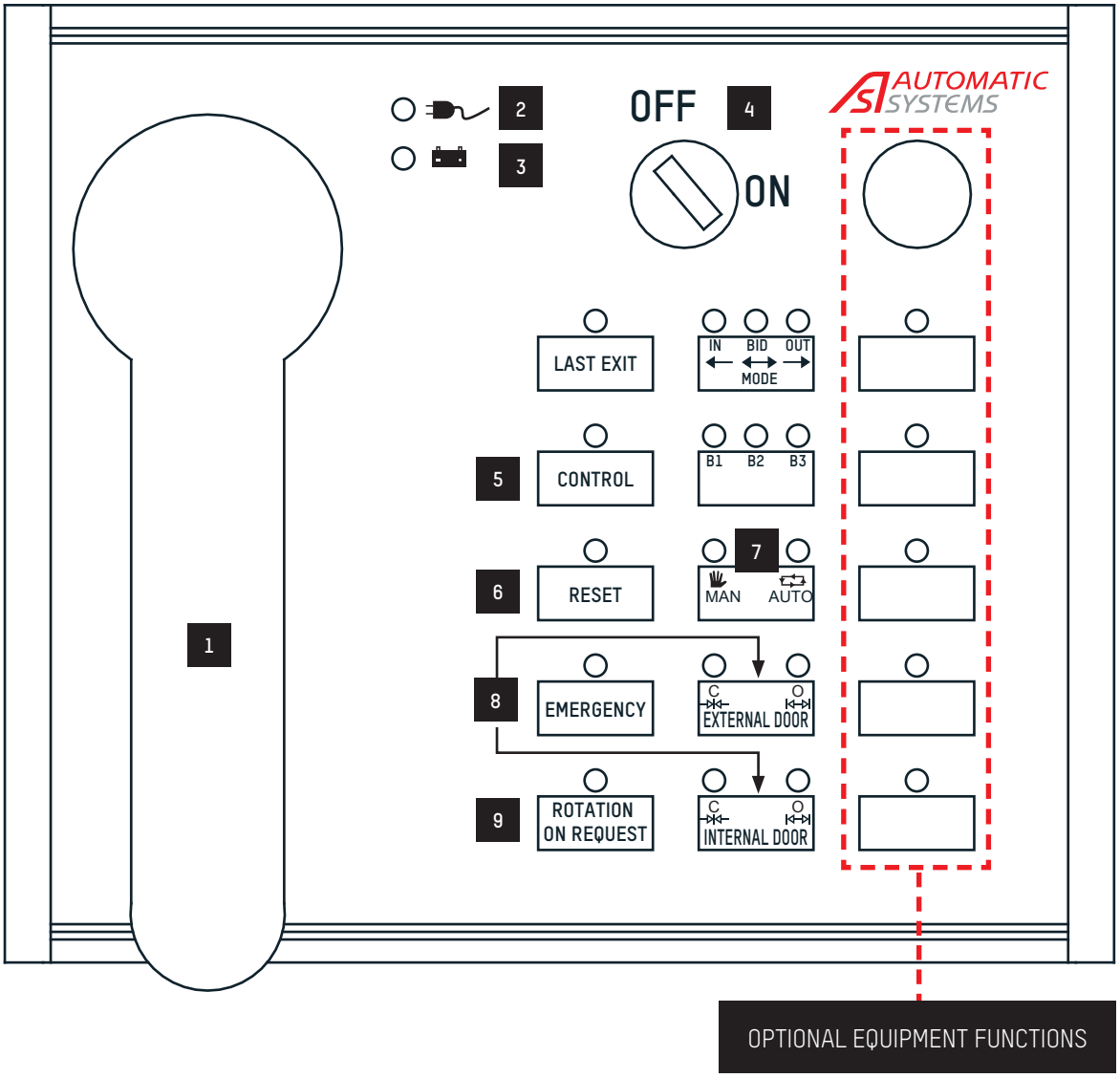


Fig. 13 - Serial control console

RÉF.	DÉSIGNATION	RÉF.	DÉSIGNATION
1	Intercom handset	6	Alarm RESET
2	Power supply	7	MANUAL operation from the console AUTOMATIC operation from the user command plate
3	Optional booth battery back-up		
4	CONNECTION KEY ON — Connected OFF — Disconnected	8	Open the door when in manual mode
		9	OFF = free mode ON = operation to rotate
5	CONTROL (weight detection, metal detection, biometric...)		

3.6.1.1. FUNCTIONING OF THE SERIAL CONSOLE

ON/OFF Key for console enablement

This key enables and disables the console

ON - console enabled

OFF - console disabled

Last exit

By pressing this button, the access through the mechanical lock or through impulsive contact (lock with spring contact, electronic key, badge reader, etc.) is enabled to cleaners, maintenance workers, etc.

LED ON = active function

LED OFF = standard functioning

Control

This function manages the permanent exclusion of the metal detector control, weight control, biometric control.

LED ON = control enabled

LED OFF = control disabled

Reset

This button allows to revoke one of the ongoing alarms underlined by the specific acoustic signal.

LED ON = reset for one transit

LED OFF - standard functioning

Emergency

It allows the rotation of the doors through a manual push.

LED ON = free rotation

LED OFF = standard functioning

Rotation on request

If active, it allows the access only through buttons or through a badge.

LED ON = rotation on request enabled

LED OFF = continuous rotation

Mono entry/ Bidirectional / Mono exit

It gives the possibility of managing the doors functioning, which means whether the booth has to work in only entrance, bi-directional, or only exit.

Green Led =monodirectional entrance

Yellow Led =monodirectional exit

Yellow and Green Led = bidirectional

Booth (B1, B2, B3)

It gives the possibility to manage the functioning up to a maximum of three booths with the same console. By pressing this button, it is possible to choose the booth to select, in case of alarm it will move automatically.

Automatic / Manual

By pressing this button, it is possible to manage the manual and automatic phase indicated by the specific bi-colour LED.

Red Led= manual

Green Led= automatic

Entry Transit (Internal door)

It allows the rotation towards the exit direction.

Red Led= rotation ongoing

Green Led= rotation completed

Exit Transit (External door)

It allows the rotation towards the exit direction.

Red Led=rotation ongoing

Green Led= rotation completed

Intercom

In case of an intercom call from a booth, a console ringtone is activated; by lifting the phone up, the console connects with the intercom to the booth from which the call started. When the phone is lift up, in case there is more than one booth on the line, press the "**B1, B2, B3**" button to be connected to the desired booth.

Reset of control logic

For a total reset of control logic, press "**B1, B2, B3**" and "**Internal door**" at the same time until all the lights of the console switch off. Leaving buttons, the booth is automatically reactivated.

	During the RESET phase do not do others operations on the console and on the booth.

3.6.2. VIRTUAL CONSOLE (OPTIONAL)

The management software VIRTUAL CONSOLE allows the control of many products, via Ethernet protocols.

This software allows you to arrange in the main screen of the system all the gates that we want to control and view the operating status of these. In addition to this you have the possibility to interact with the machine through the use of keys to make a single transit or to access to the console section and then change the operation mode.

There is also a visual and acoustic alarm that allows the operator to be alerted of problems on the controlled gates in real time.

The VIRTUAL CONSOLE is defined by a web server architecture developed for Linux operating systems.

This feature allows users to control all high security pedistrian machines using a simple web browser and from any device connected to the same Ethernet infrastructure where the server is located.

For all the main functionalities of the software refer to the specific manual.

3.7. EMERGENCY BUTTON

Fig. 14 - Emergency button

The emergency button, under normal conditions of use of the booth, remains off and not illuminated.

It is positioned internally on the closed side of the booth.

It is activated by lighting up if: the booth rotor stops for a given time (settable, default 10 sec.) in a position that can trap users inside the booth itself.

By pressing the button, the booth goes into emergency.

4. ELECTRONIC DESCRIPTION

4.1. ELECTRONIC DISPOSITION

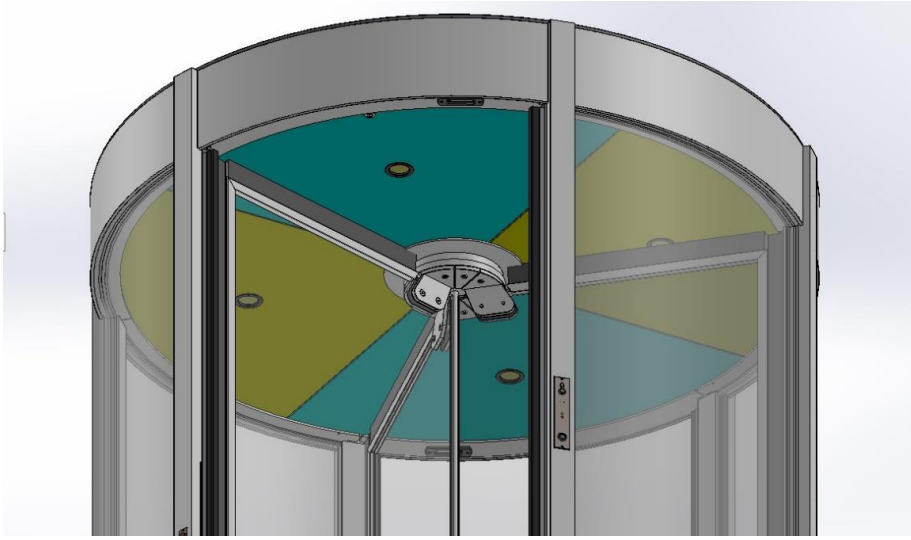


Fig. 15 - Electronic disposition

The roof is divided into 4 segments, removable to have access to all the electronic components from the ground, sensors and the movements group of the RevLock 614 In those ones are contained the spotlights for the enlightenment of the RevLock 614.

In green are identified the segments of roof to remove in order to access to the electronic management of the booth.

Under the platform are installed load cells and they are managed by the ELECTRONIC CONTROL UNIT and by the 5218214 unit.

In the frontal pillar of the RevLock 614 pushbuttons or various proximity sensors readers and badges can be expected to allow the booth to start of the transit.

4.2. ELECTRONIC PLATES

4.2.1. ELECTRONIC CONTROL UNIT PLATE

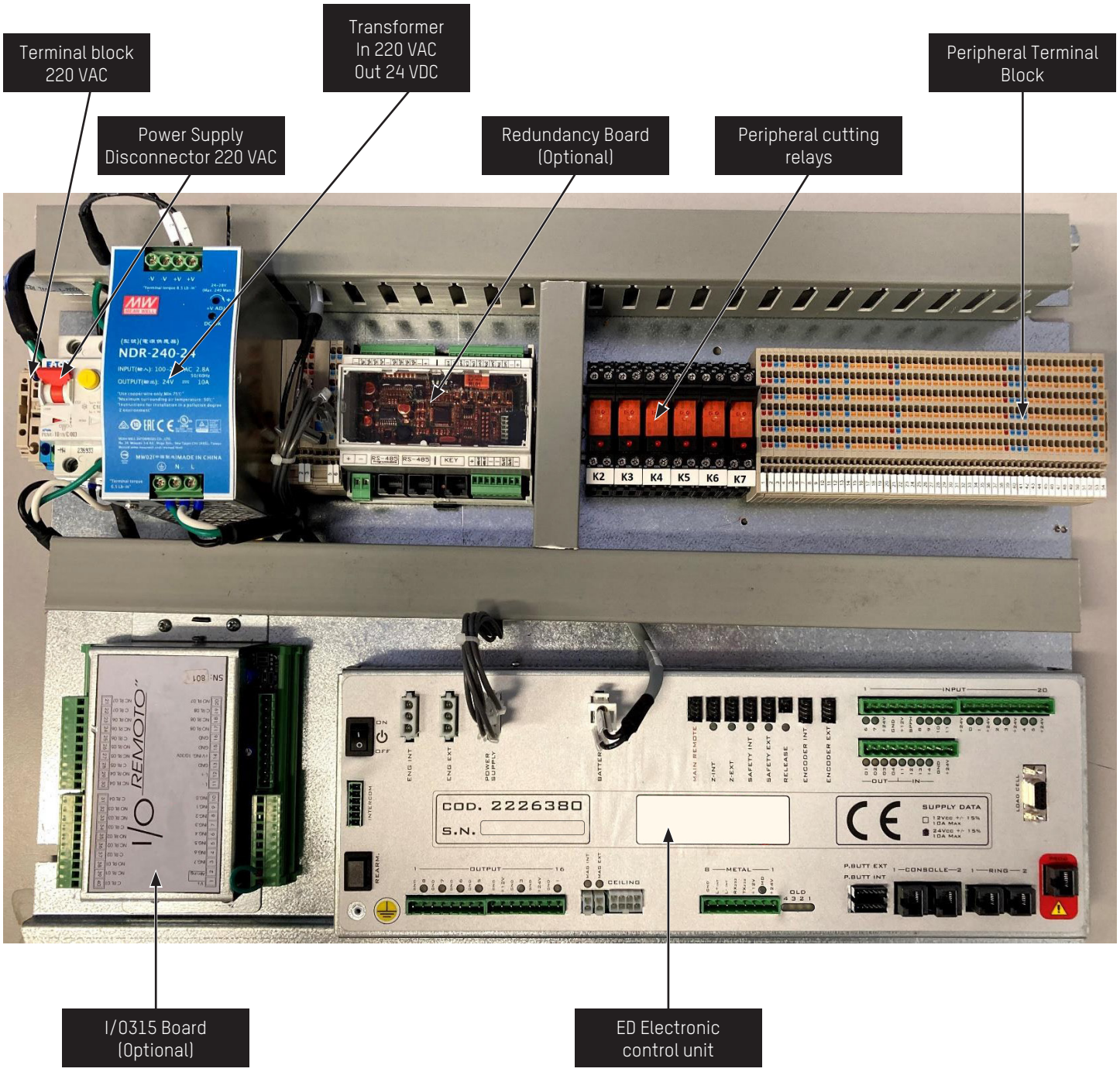


Fig. 16 - Electronic control unit plate

4.2.2. PLATE OF CAMERA SENSOR (OPTIONAL)

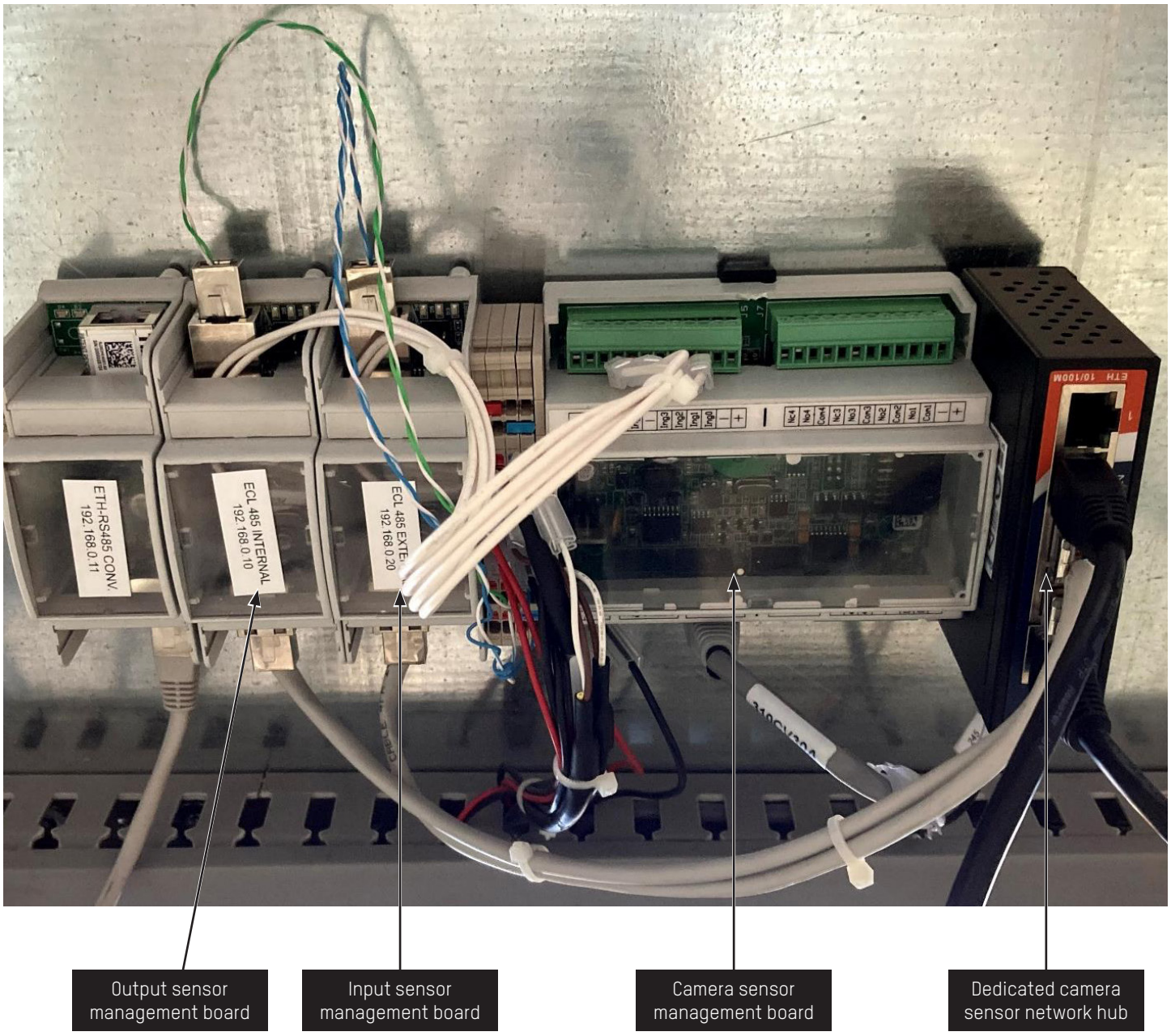


Fig. 17 - Plate of camera sensor (Optional)

4.2.3. LOAD CELL CONNECTION

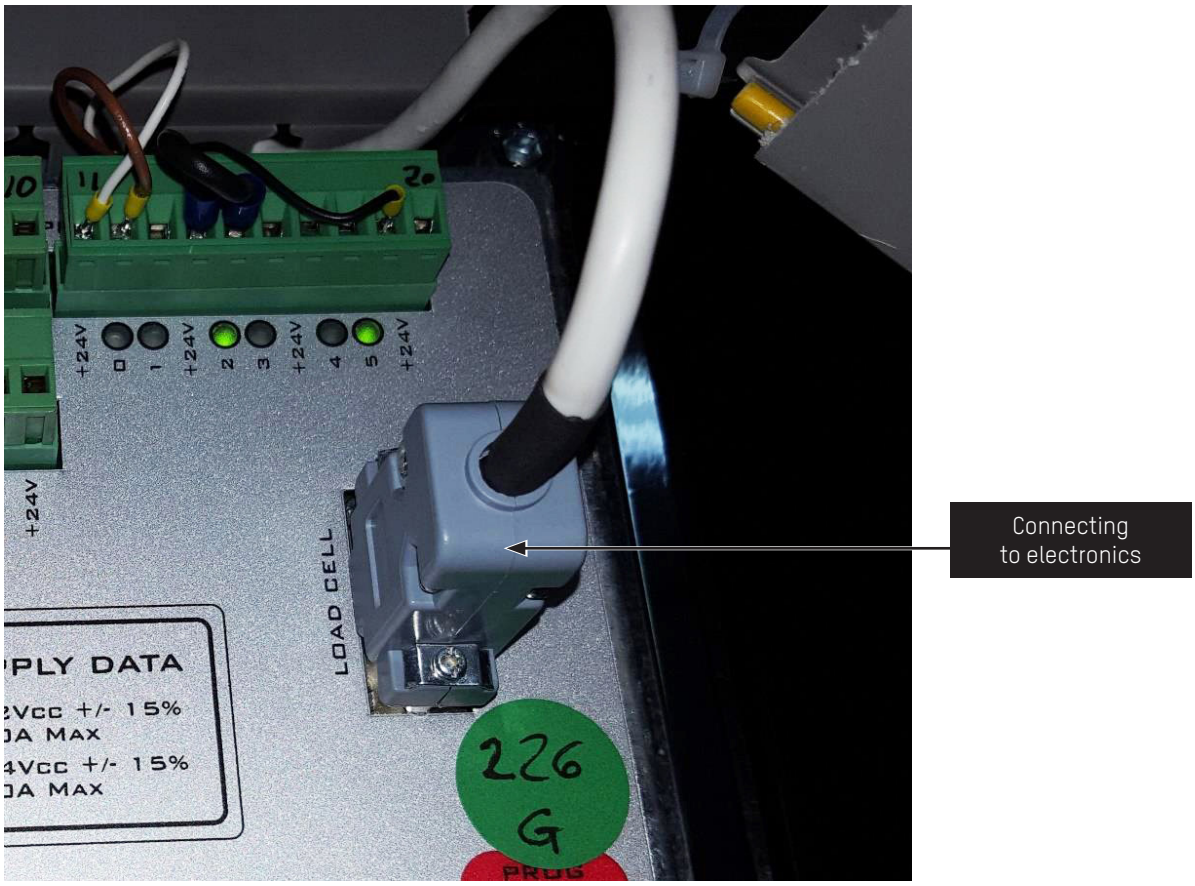


Fig. 18 - Management electronics

The above-mentioned connector must be connected ONLY in automatic security revolving doors with 3 sections with person detection through gravitimetric platform.

4.3. BLOCK DIAGRAM

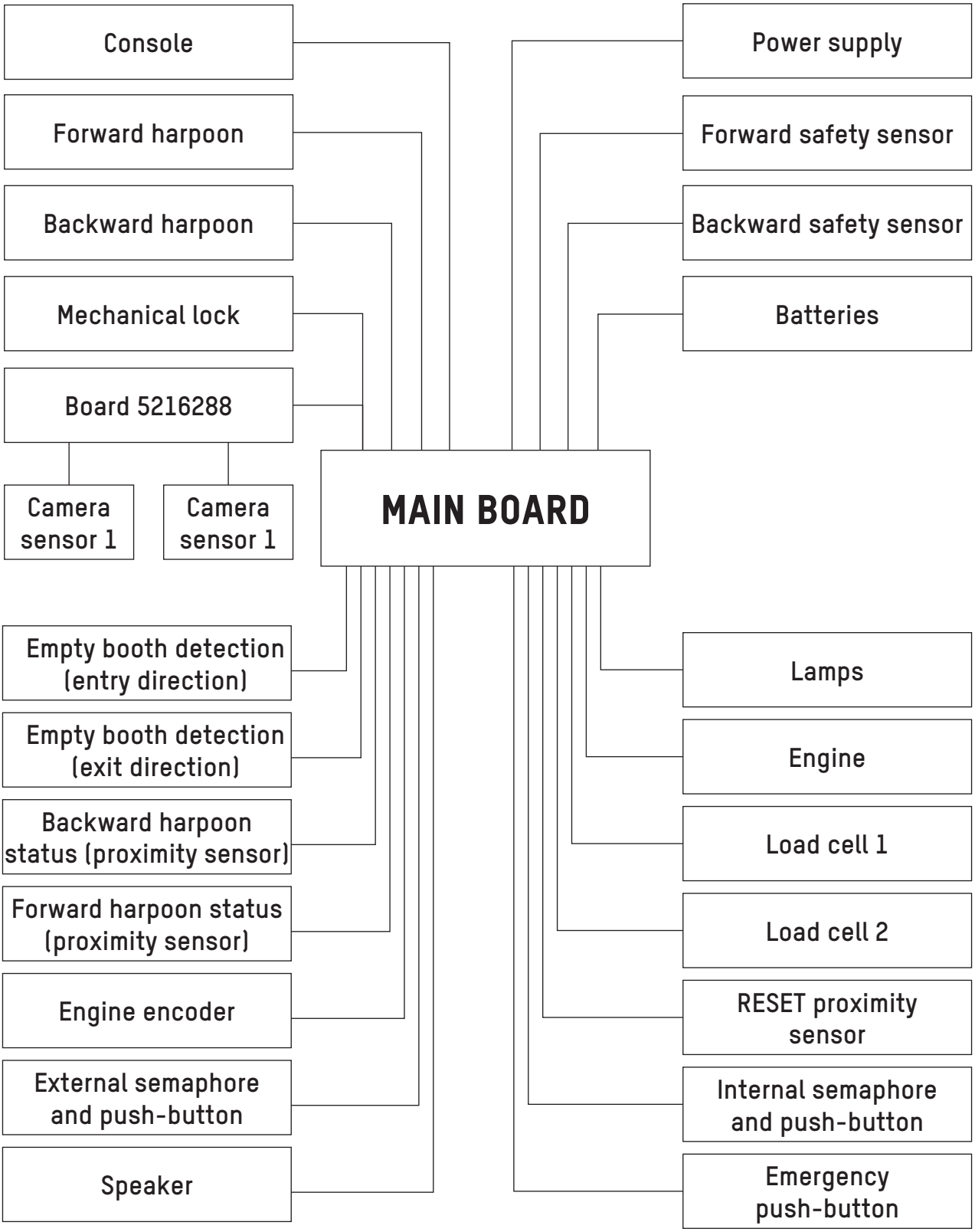


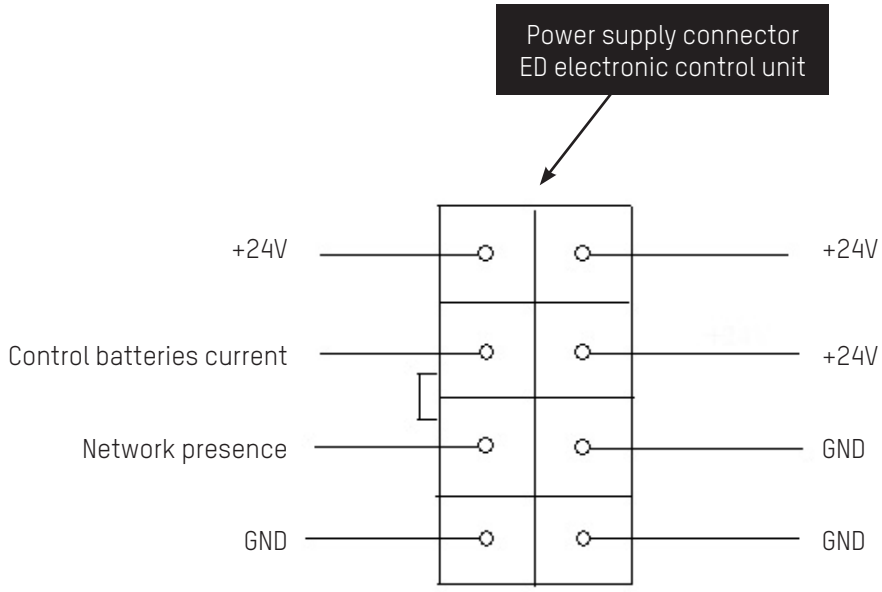
Fig. 19 - Block diagram

4.4. POWER SUPPLY

The booth can be equipped with two different types of power supply, depending to the required characteristics.

4.4.1. POWER SUPPLY UL - 100/240VAC 2.8A 50/60HZ

Fig. 20 - Power supply UL



4.5. ED ELECTRONIC CONTROL UNIT

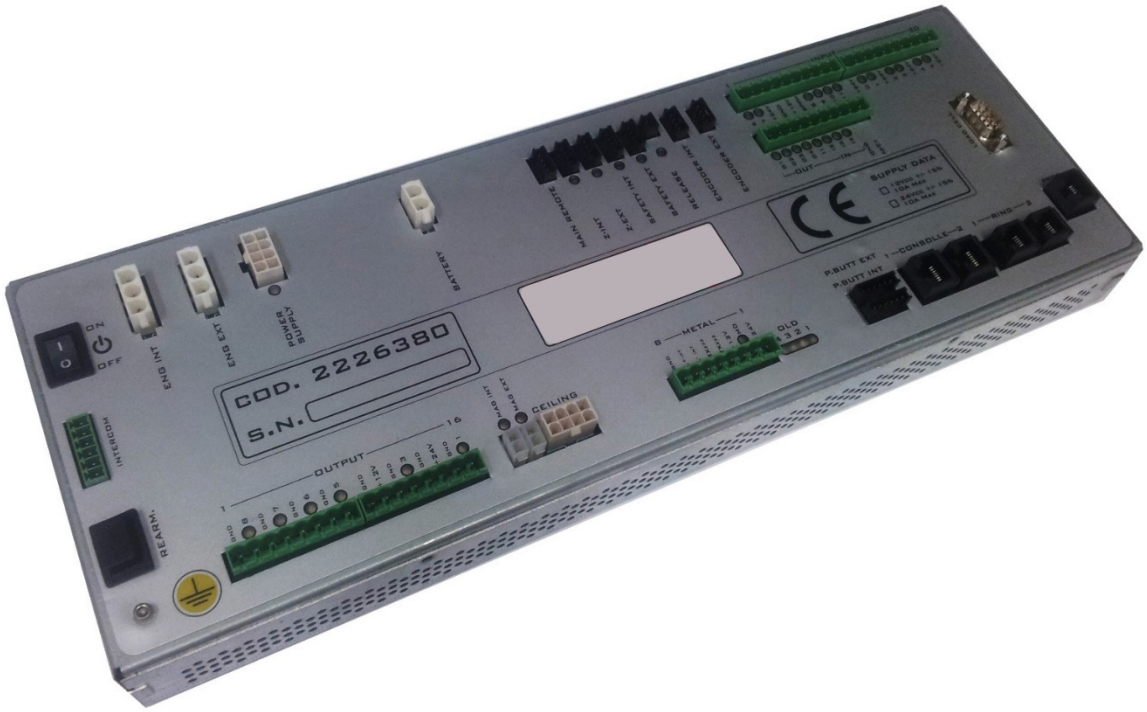


Fig. 21 - ED Electronic control unit

The board presents the following characteristics and peripherals:

- Power supply 24 V 10A
- Programmable microcontrolers
- 2 Serial lines RS485
- 1 serial RS232 dedicated to the programming
- Management of 3 intercoms
- Management of the load cell
- Management of the hardware emergency opening
- Management of 2 motors in CC
- Management/charge of batteries 24VDC
- Management of switching on/off from remote
- 2 safety inputs
- 2 step/step encoder entrances
- 2 inputs for proximity sensors
- 16 programmable opto-isolated digital inputs
- 10 outputs in MOSFET 24VDC – 3A programmable
- 2 MOSFET outputs
- Management 2 serial push buttons panels
- Dedicated connector for the management of the metal detector
- Management of the LED spotlights
- Record and reproduction of vocal synthesis

4.5.1. CONNECTORS

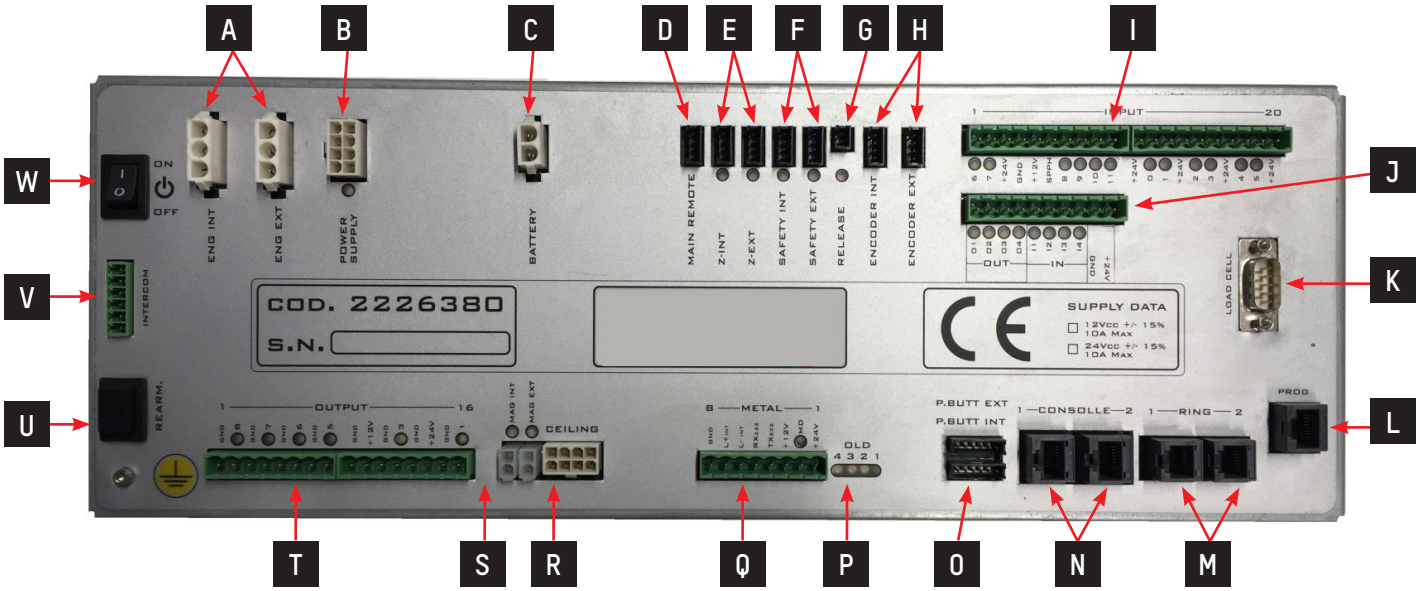
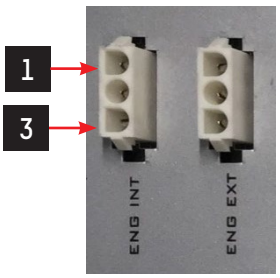


Fig. 22 - ED Electronic control unit / Connectors

Ref.	Designation
A	Connectors for external and internal motors
B	Connector of power supply
C	Batteries connector
D	Connector of remote control
E	Internal and external proximity sensors connectors
F	Internal and external safety connectors
G	CE unlock connector
H	Internal and external encoder connectors
I	Inputs connectors
J	Inputs and outputs Connector
K	Load cell connector
L	Programming connector
M	Internal serial connectors
N	External serial connectors
O	Internal and external pushbutton connectors
P	Led of status
Q	Metal connector
R	Speaker/intercom/spotlights connector
S	Internal and external magnets connectors
T	Outputs connectors
U	Button of rearming
V	Intercom of commerce connector
W	Power switch

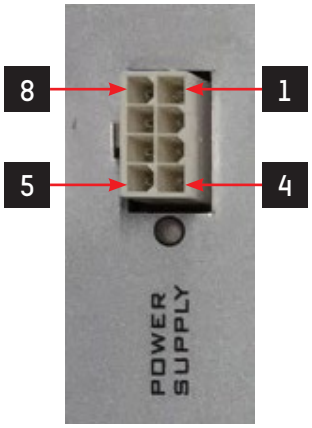
4.5.1.1. CONNECTORS FOR EXTERNAL AND INTERNAL MOTORS

Ref.	Designation
1	Motor
2	GND
3	Motor



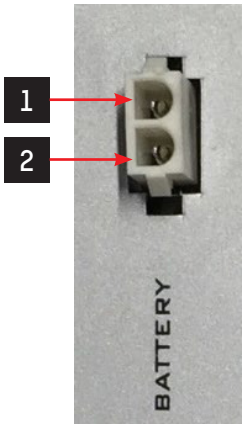
4.5.1.2. CONNECTOR OF POWER SUPPLY

Ref.	Designation
1	+24VDC external power supply
2	+24VDC external power supply
3	GND internal power supply
4	GND external power supply
5	+24VDC external power supply
6	Not used
7	Not used
8	GND external power supply



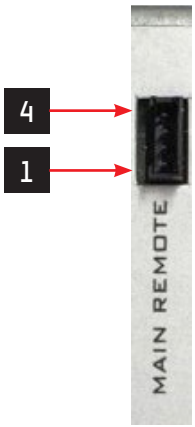
4.5.1.3. BATTERIES CONNECTOR

Ref.	Designation
1	+24 VDC battery
2	GND battery



4.5.1.4. REMOTE CONTROL CONNECTOR

Ref.	Designation
1	Not used
2	Not used
3	Contact of power on
4	GND



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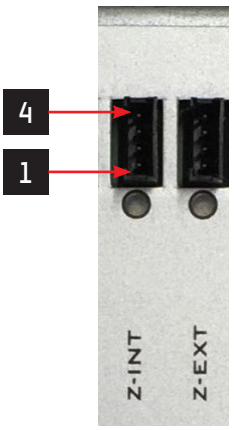
4.5.1.5. INTERNAL AND EXTERNAL PROXIMITY CONNECTORS

Ref.	Designation
1	+24VDC
2	Not used
3	PROXIMITY CONTACT
4	GND

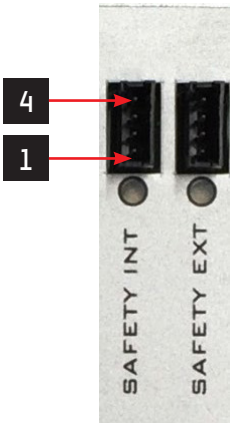
- Use a PNP - NO



4.5.1.6. INTERNAL AND EXTERNAL SAFETY CONNECTORS

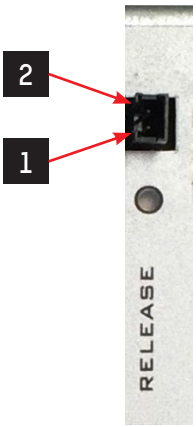
Ref.	Designation
1	+24VDC
2	Not used
3	SAFETY CONTACT
4	GND

- Use a safety NPN – NO



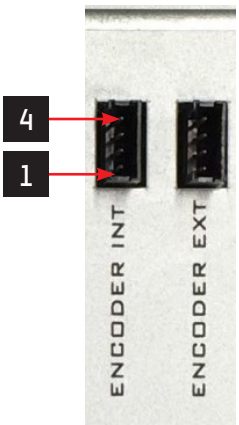
4.5.1.7. CE UNLOCK CONNECTOR

Ref.	Designation
1	Button
2	GND

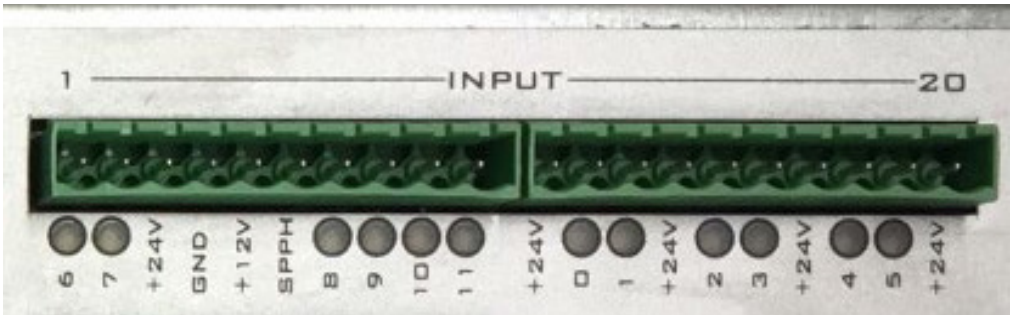


4.5.1.8. INTERNAL AND EXTERNAL ENCODER CONNECTORS

Ref.	Designation
1	+5VDC
2	B
3	A
4	GND



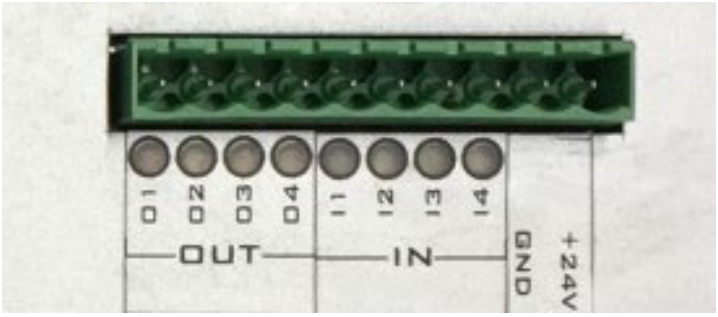
4.5.1.9. CONNECTORS OF THE INPUTS



Ref.	Designation	Ref.	Designation
1	Inp6	11	+24VDC
2	Inp7	12	Inp0
3	+24VDC	13	Inp1
4	GND	14	+24VDC
5	+12VDC	15	Inp2
6	Not used	16	Inp3
7	Inp8	17	+24VDC
8	Inp9	18	Inp4
9	Inp10	19	Inp5
10	Inp11	20	+24VDC

- Inp0 – Inp7 are activated with a positive (with a tension that varies from 5VDC to 24VDC)
- Inp8 – Inp11 are activated with the GND

4.5.1.10. INPUTS AND OUTPUTS CONNECTORS



Ref.	Designation	Ref.	Designation
1	I/O Out1	6	I/O Inp2
2	I/O Out2	7	I/O Inp3
3	I/O Out3	8	I/O Inp4
4	I/O Out4	9	GND
5	I/O Inp1	10	+24VDC

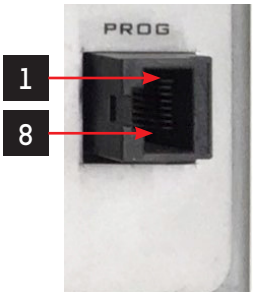
- The inputs are activated at GND
- The outputs give a positive 24 VDC - 1,4 A

4.5.1.11. LOAD CELL CONNECTOR

Ref.	Designation
1	Avcc
2	Avcc
3	- Signal Load Cell 1
4	+ Signal Load Cell 1
5	Agnd
6	Agnd
7	- Signal Load Cell 2
8	+ Signal Load Cell 2

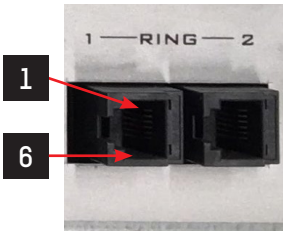
4.5.1.12. PROGRAMMING CONNECTOR

Ref.	Designation
1	Not used
2	Not used
3	+12 VDC
4	Reset
5	GND
6	Programming
7	RS-232
8	RS-232



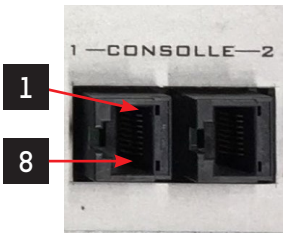
4.5.1.13. INTERNAL SERIAL CONNECTOR

Ref.	Designation
1	L- INT
2	L+ INT
3	+24VDC
4	GND
5	+24VDC
6	GND



4.5.1.14. EXTERNAL SERIAL CONNECTORS

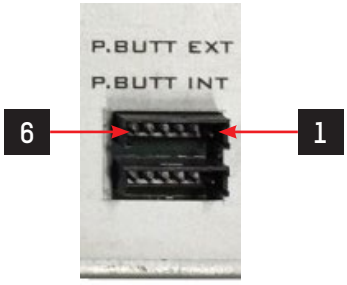
Ref.	Designation
1	L- EXT
2	L+ EXT
3	+12 VDC/+24 VDC
4	+12 VDC/+24 VDC
5	GND
6	GND
7	LISTEN
8	TALK



- Outside of the ED MAINBOARD, it is signaled if the output tension from the connector is set at 12VDC or at 24VDC.

4.5.1.15. INTERNAL AND EXTERNAL PUSH-BUTTON CONNECTORS

Ref.	Designation
1	+12VDC
2	SDA
3	SCL
4	+ INTERCOM
5	– INTERCOM
6	GND



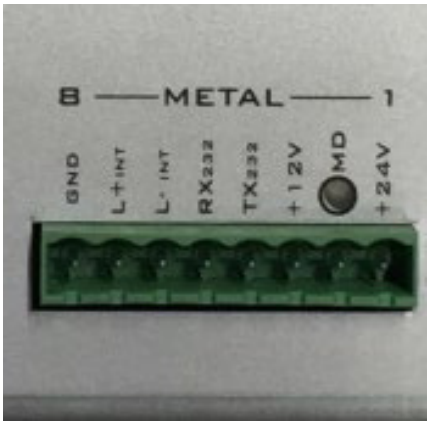
- In the internal pushbutton the intercom is present just in determined specifications.

4.5.1.16. STATUS LED

- These LED are used to indicate the functioning status of the ED MAINBOARD

4.5.1.17. METAL CONNECTOR

Ref.	Designation
1	+24 VDC
2	METAL ALARM
3	+12 VDC
4	Tx232 / Reg. synthesis
5	Rx232 / Reg. synthesis
6	L- INT
7	L+ INT
8	GND



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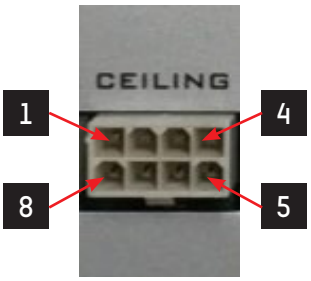
4.5.1.18. SPEAKER/INTERCOM/SPOTLIGHTS CONNECTOR

Ref.	Designation
1	+24 VDC / + Spotlight
2	- Spotlight
3	NO Intercom buttons
4	+ Speaker
5	- Speaker
6	+12 VDC
7	+ Microphone
8	COM Intercom button / – Speaker



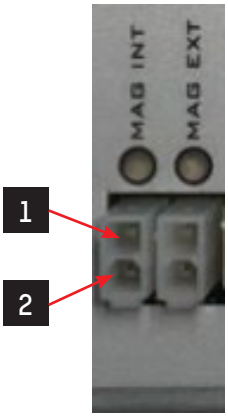
4.5.1.19. INTERNAL AND EXTERNAL MAGNETS CONNECTORS

Internal Magnet

Ref.	Designation
1	+24 VDC
2	GND

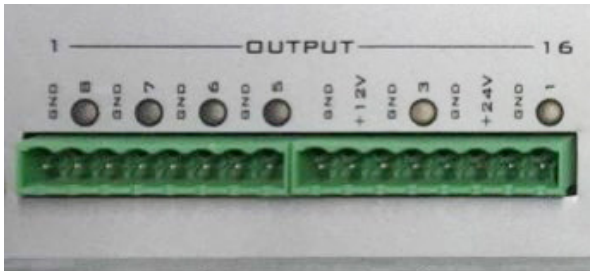
External Magnet

Ref.	Designation
1	GND
2	+24 VDC



4.5.1.20. OUTPUTS CONNECTORS

Ref.	Designation
1	GND
2	Out8
3	GND
4	Out7
5	GND
6	Out6
7	GND
8	Out5
9	GND
10	+12VDC
11	GND
12	Out3
13	GND
14	+24VDC
15	GND
16	Out1

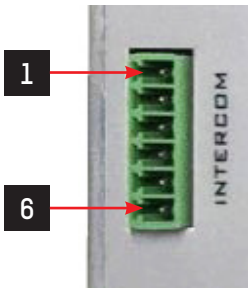


- Out5 – Out8 give +24VDC A
- Out1 and Out3 give +24VDC 2,8A

4.5.1.21. REARMING BUTTON

- The rearming button is used to switch the mainboard on again if it is switched off in case of network lack.
  Verify that the batteries are connected and sufficiently charged.

4.5.1.22. COMMERCIAL INTERCOM CONNECTOR



Ref.	Designation
1	+12VDC
2	+ Microphone
3	- Speaker
4	Intercom Button
5	+ Speaker
6	GND

4.5.1.23. IGNITION SWITCH

- The ON/OFF button is used to switch the MAINBOARD on.

4.5.2. PROGRAMMING

Fig. 23 - Programming Software icon

Fig. 24 - Programmer

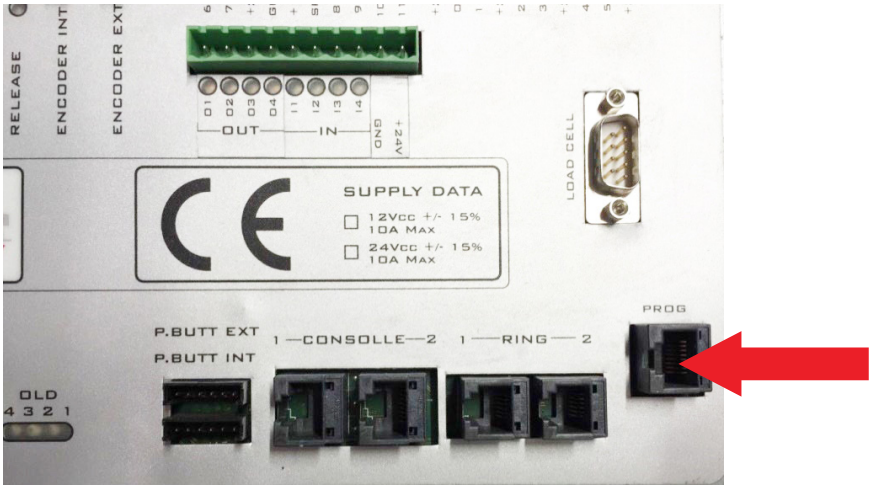


Fig. 25 - Programming connector

4.5.2.1. PROCEDURE

a. Connect the programmer the PC with a RS232/USB converter

b. Connect the programmer on the dedicated connector of the ED MAINBOARD

c. Verify that the board is switched on and perform the instructions shown here below:

1. Do double click on the firmware to insert within the ED MAINBOARD
2. The **"FLASH DEVELOP TOOLKIT"** programme starts automatically
3. Select the window **"DEVICE"**
4. Select **"CONFIGURE FLASH PROJECT"**
5. The list of micro-processors will automatically open (CHOOSE DEVICE)
6. Select the **"H8/3687F"** micro-processor
7. Select "**NEXT"**
8. Select the **COM** (COMUNICATION PORTE)
9. Select **"NEXT"**
10. Set the quartz frequency at 14.7456 (DEVICE SETTING)
11. Select **"NEXT"**
12. (CONNECTION TYPE)
13. Select **"NEXT"**
14. (PROGRAMMING OPTIONS)
15. Select **"NEXT"**
16. Connect the programming interface in the **"programming"** connector
17. Set the selector of the programming interface on **"Prog"**
18. Click on **"Reset"** of the programming interface
19. Connect the serial of the PC to the programming interface
20. Click on the **"DOWNLOAD ACTIVE FILES"** button
21. Wait for the programming
22. End of the programming
23. Press the **"FDT DISCONNECT"** button
24. Wait for disconnection
25. Close the **"FLASH DEVELOP TOOLKIT"** programme
26. Set the programming interface selector on **"Run"**
27. Click on **"Reset"** of the programming interface
28. Programming ended

d. Disconnect the connector of the programmer from the ED MAINBOARD.

4.5.3. PARAMETERIZATION AND DIAGNOSIS

The detection of broken parts of the booth and the variation of the parameters compared to the ones set by the firm must be done with a special software: "**luppiter**", given on request by Automatic Systems. The program "luppiter" has been projected to manage the operation logistics, such as the ED mainboard. The program can work just with the presence of its hardware key, in case you do not have it contact the service for technical assistance. The program communicates with the booth through a USB port of the PC via a USB/RS485convertor.

For its operation the software needs a hardware kit formed by:

- 5819317 luppiter ED cable
- USB/RS485 converter
- Hardware Key

Fig. 26 - Software for parametrization

Fig. 27 - 5819317 luppiter ED cable

Fig. 28 - USB/RS485 converter

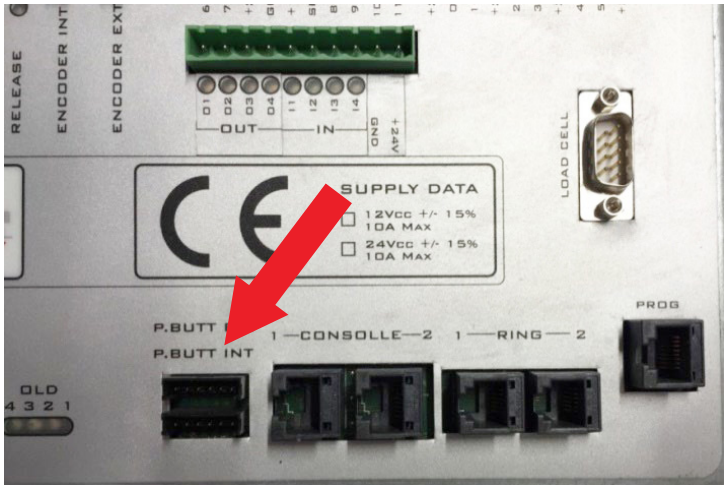


Fig. 29 - Connector for the board parametrization

4.5.3.1. IUPPITER

The Iuppiter software allows to regulate the parameters of various mainboards, the screens used for the ED MAINBOARD are the following:

- **ED SETUP:** activate and deactivate the various settings, that change according to the accessories connected to the ED MAINBOARD and to the different products where the ED Electronic unit is used.
- **ED I/O:** visualize in real time the status of the inputs and outputs.
- **INVERTER:** modify the parameters of the doors movement.
- **WEIGHT/SYNTHESIS:** visualize and modify the parameters for the functioning of the load cells and of the vocal synthesis.

For the functioning and use of Iuppiter refer to the manual, which is automatically installed with the installation package.

4.6. 5216288 BOARD

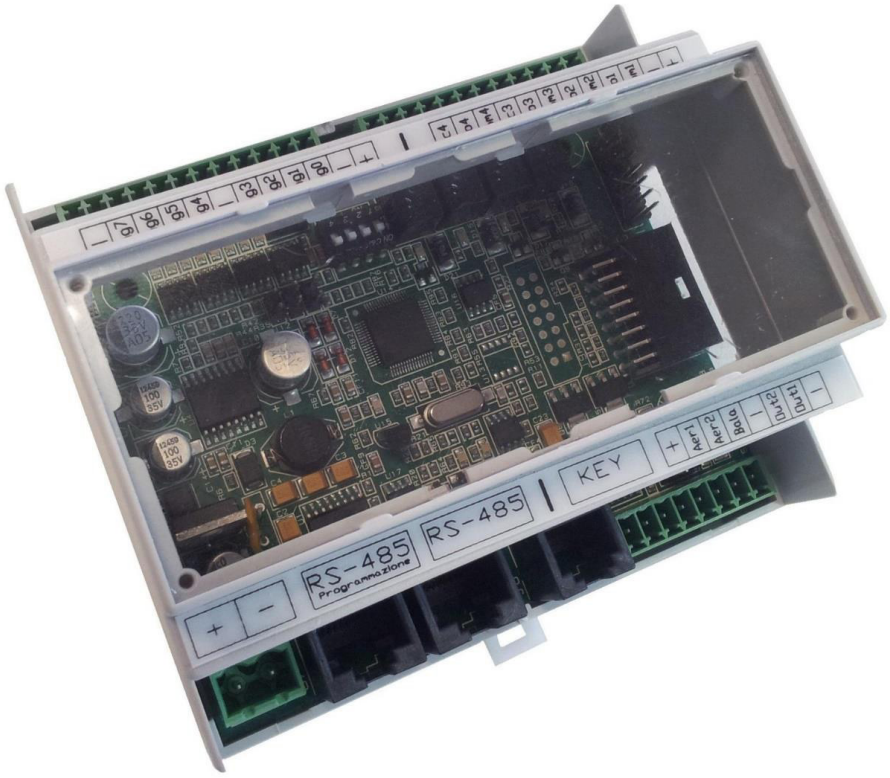
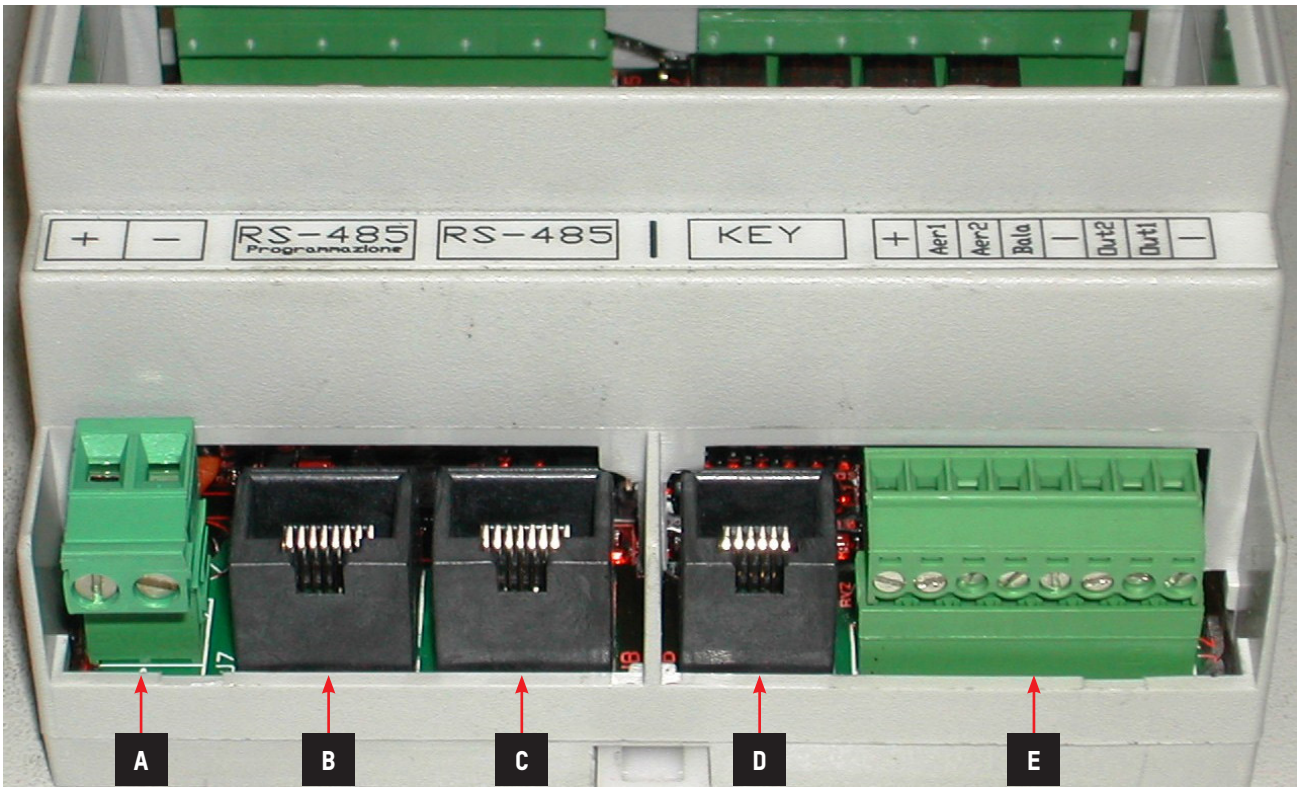


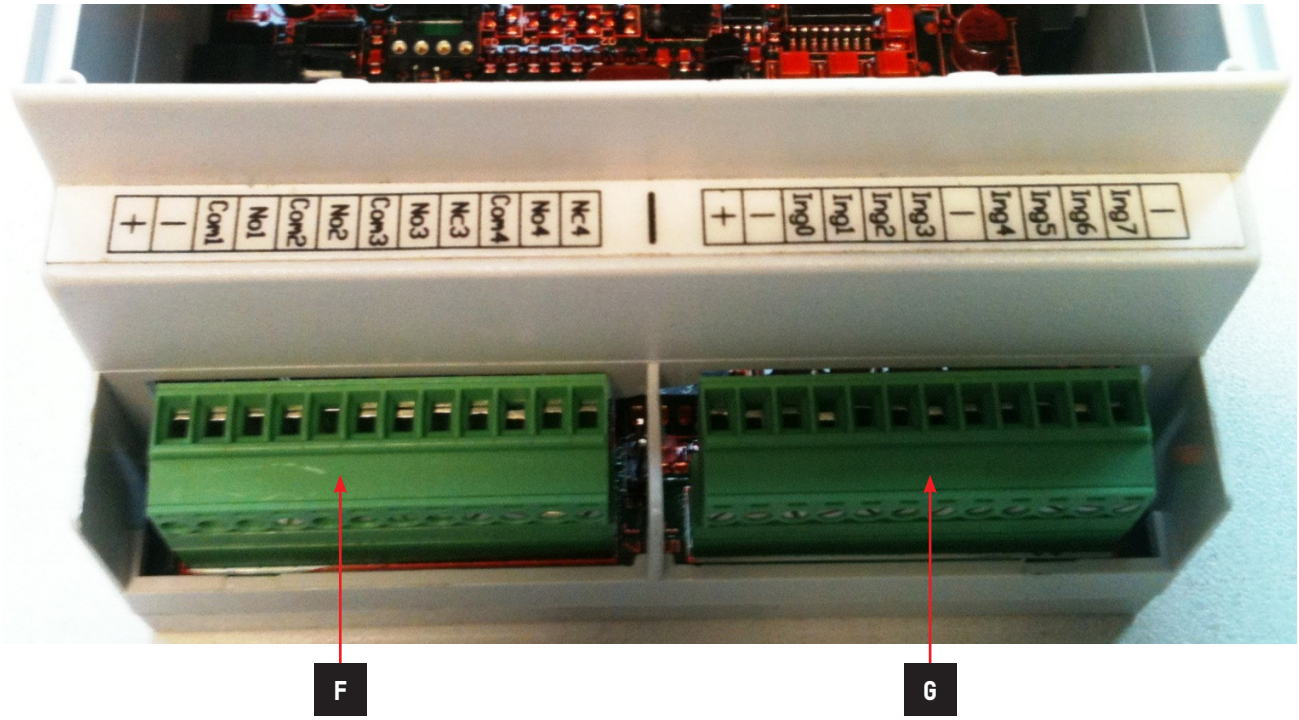
Fig. 30 - 5216288 BOARD

- Power supply 12/24 V
- 8 opto-isolated digital inputs or 6 opto-isolated digital inputs and 2 analogic inputs
- 4 relay outputs
- 2 MOSFET outputs
- Serial Communication 1 RS-485
- Serial Communication 2 RS-485
- Serial selection 2 of communication RS232 or RS485 connector

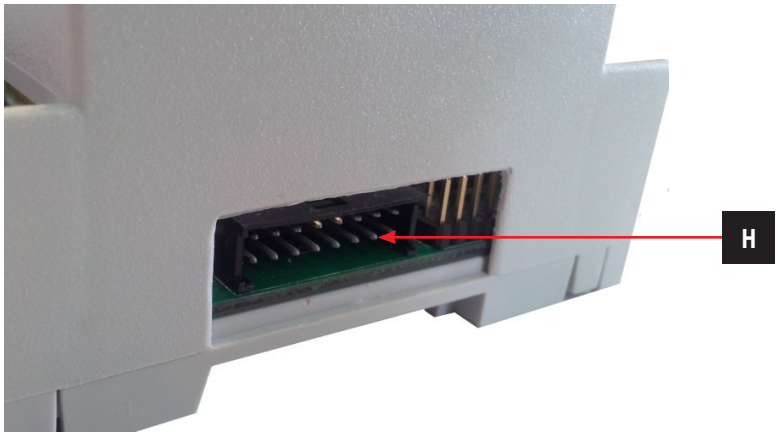
4.6.1. CONNECTORS



Ref.	Designation
A	Connector od Power supply
B	Connector of Programming and Communication
C	Connector of Communication
D	Dallas key Connector
E	Exit BSP Connector (12/24 Vdc - 1.5 A)

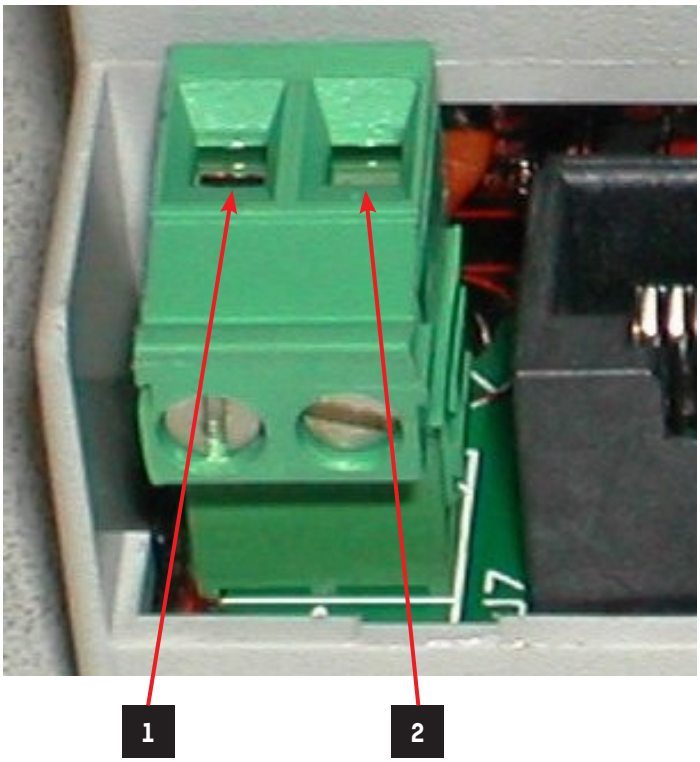


Ref.	Designation
F	Relay exits connector
G	Inputs connector



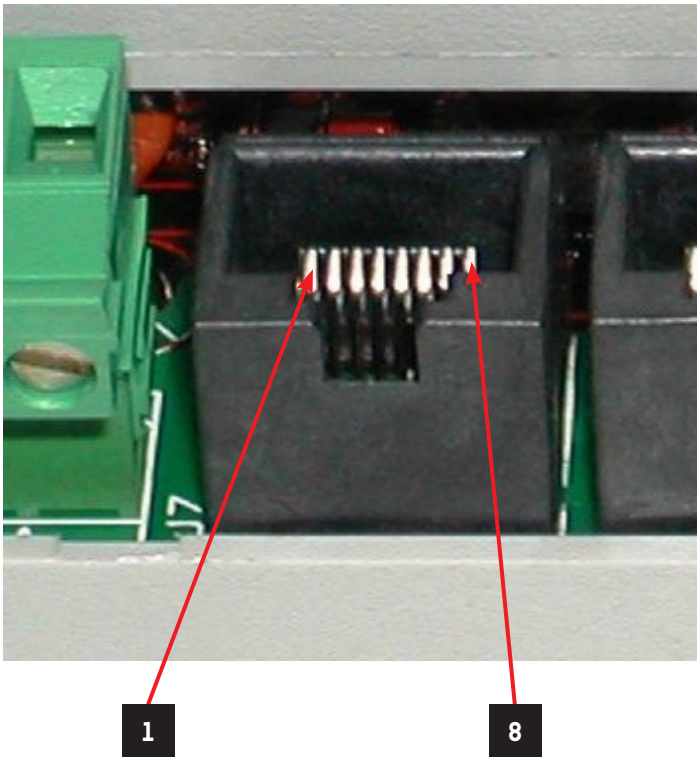
Ref.	Designation
H	Console connector

4.6.1.1. POWER SUPPLY CONNECTOR



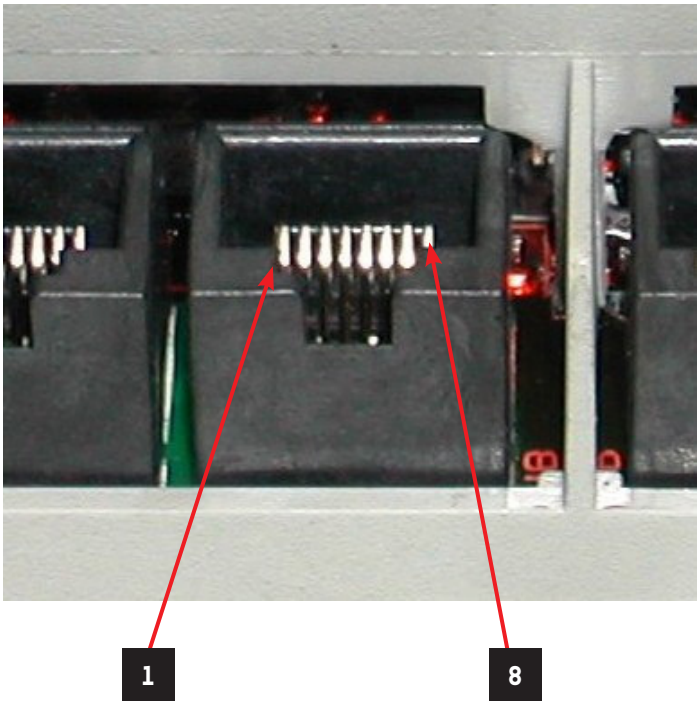
Ref.	Designation
A.1	+ 12/24 Vdc
A.2	Gnd

4.6.1.2. PROGRAMMING AND COMMUNICATION CONNECTOR



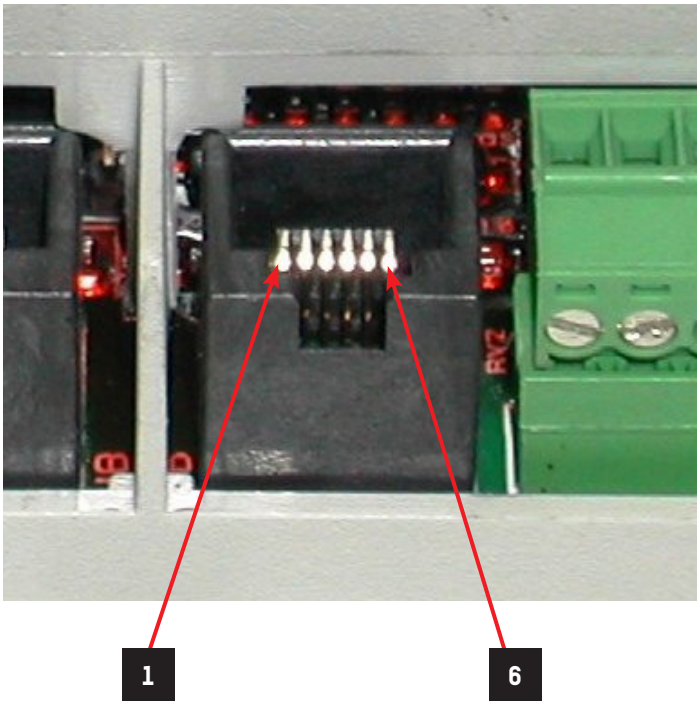
Ref.	Designation
B.1	L-
B.2	L+
B.3	+12/24V
B.4	Reset
B.5	Gnd
B.6	Programming
B.7	RS-232
B.8	RS-232

4.6.1.3. COMMUNICATION CONNECTOR



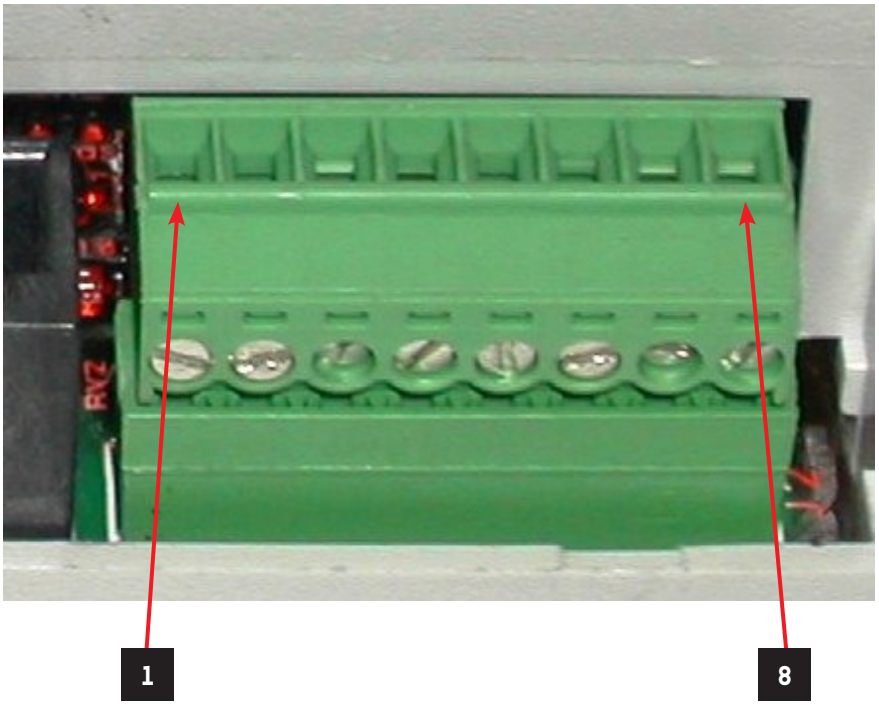
Ref.	Designation
C.1	L-
C.2	L+
C.3	+12/24V
C.4	Not Used
C.5	Gnd
C.6	Not Used
C.7	Not Used
C.8	Not Used

4.6.1.4. DALLAS KEYS CONNECTOR



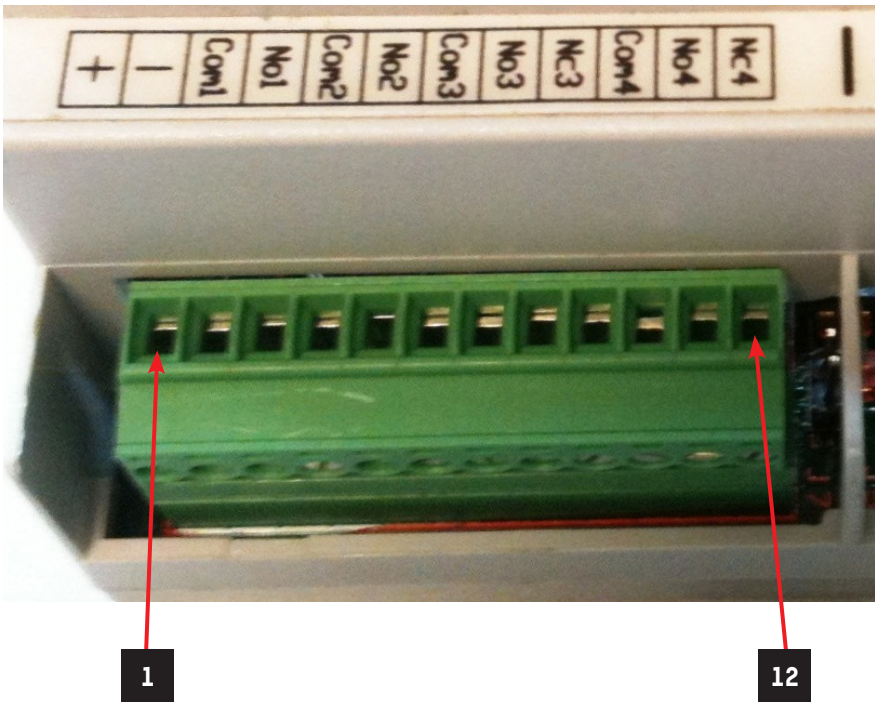
Ref.	Designation
D.1	Gnd
D.2	Key 2
D.3	Led Key 1
D.4	Gnd
D.5	Key 1
D.6	Led Key 2

4.6.1.5. OUTPUTS CONNECTOR - BSP



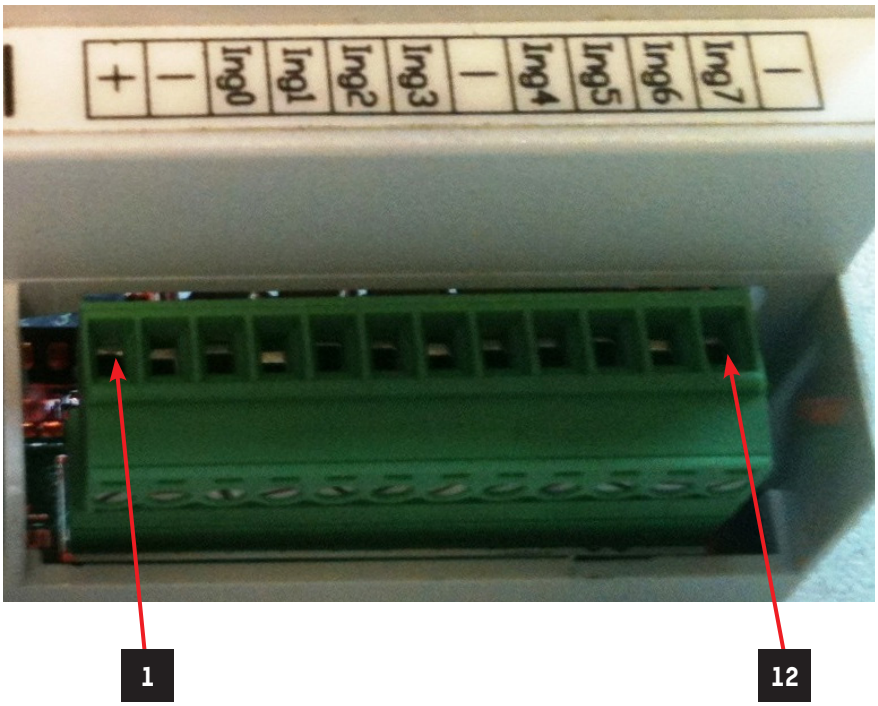
Ref.	Designation
E.1	+12/24 Vdc
E.2	RS485L+ /2
E.3	RS485L- /2
E.4	Gnd
E.5	Gnd
E.6	Out 2
E.7	Out 1
E.8	Gnd

4.6.1.6. RELAY OUTPUT CONNECTOR



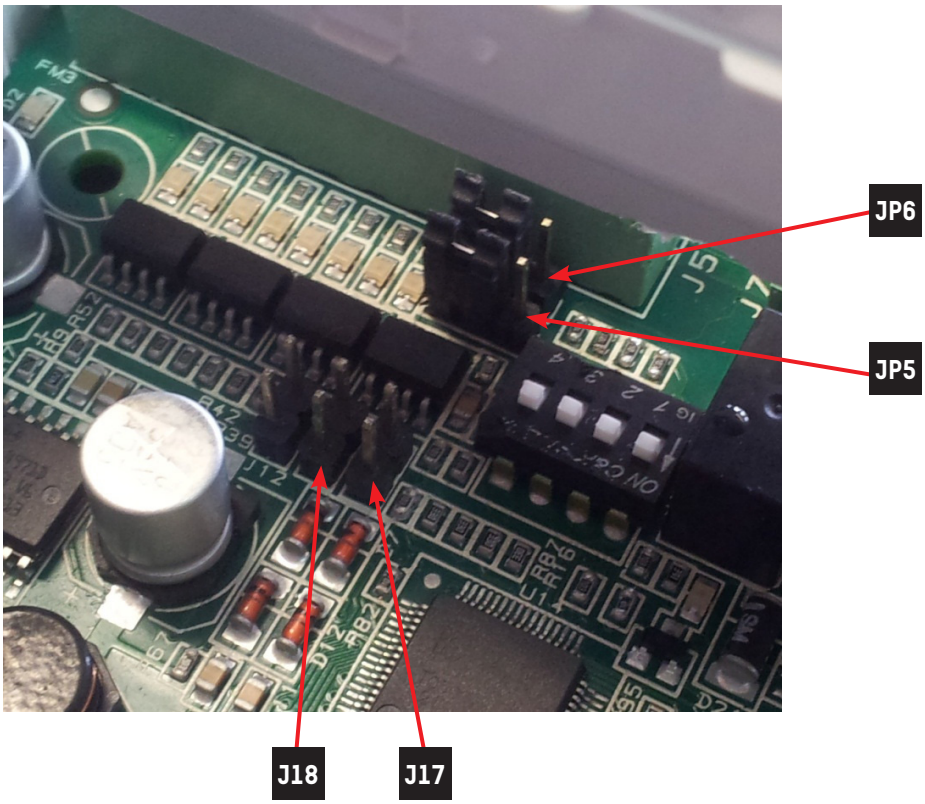
Ref.	Designation
F.1	+12/24 Vdc
F.2	Gnd
F.3	Com 1
F.4	N.O. 1
F.5	Com 2
F.6	N.O. 2
F.7	Com 3
F.8	N.O. 3
F.9	N.C. 3
F.10	Com 4
F.11	N.O. 4
F.12	N.C. 4

4.6.1.7. INPUTS CONNECTOR

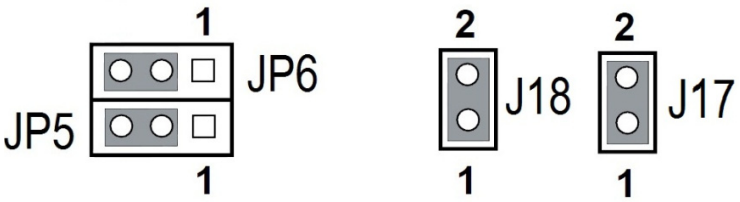


Ref.	Designation
G.1	+12/24 Vdc
G.2	Gnd
G.3	Ing 0 Digital/Analogic (see section INPUTS CONVERSION)
G.4	Ing 1 Digital/Analogic (see section INPUTS CONNECTION)
G.5	Ing 2
G.6	Ing 3
G.7	Gnd
G.8	Ing 4
G.9	Ing 5
G.10	Ing 6
G.11	Ing 7
G.12	Gnd

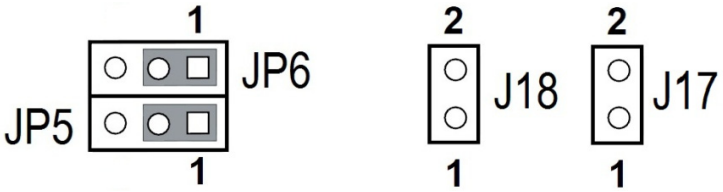
4.6.1.8. INPUTS CONVERSION: ANALOGIC / DIGITAL



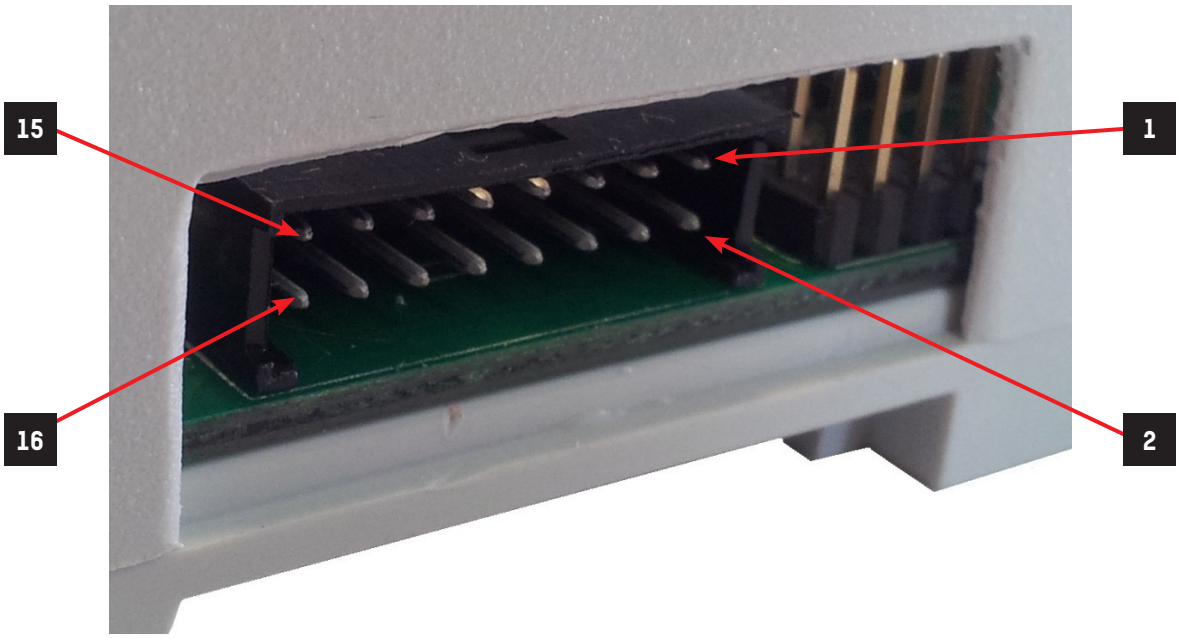
a. DIGITAL INPUTS



b. ANALOGIC INPUTS

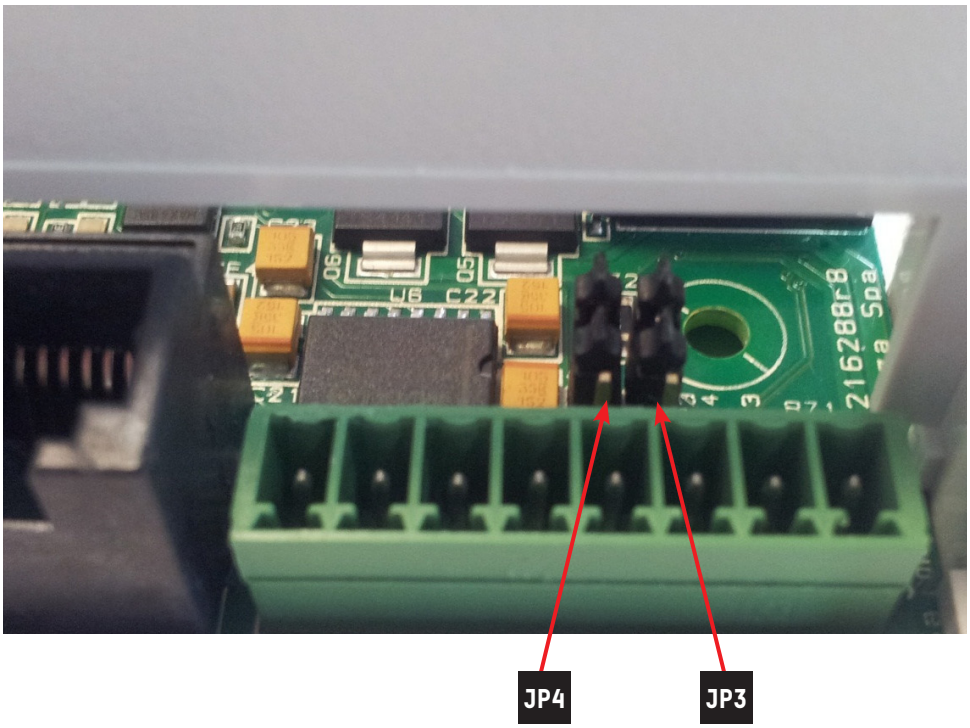


4.6.1.9. PUSHBUTTON CONNECTOR

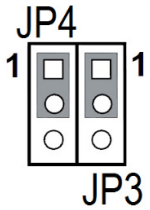


Ref.	Designation
H.1	+12/24 Vdc
H.2	Gnd
H.3	P32
H.4	Ing 7
H.5	P33
H.6	Ing 6
H.7	P12
H.8	Ing 5
H.9	P11
H.10	Out 2
H.11	P10
H.12	Out 1
H.13	Serial 2: RS232-RX / RS485 L+ (see section SERIAL CONVERSION/2)
H.14	Serial 2: RS232-TX / RS485 L- (see section SERIAL CONVERSION/2)
H.15	+5 Vdc
H.16	P34

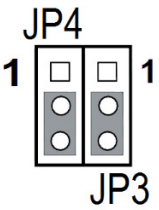
4.6.2. SERIAL CONVERSION / 2: RS232 / RS485



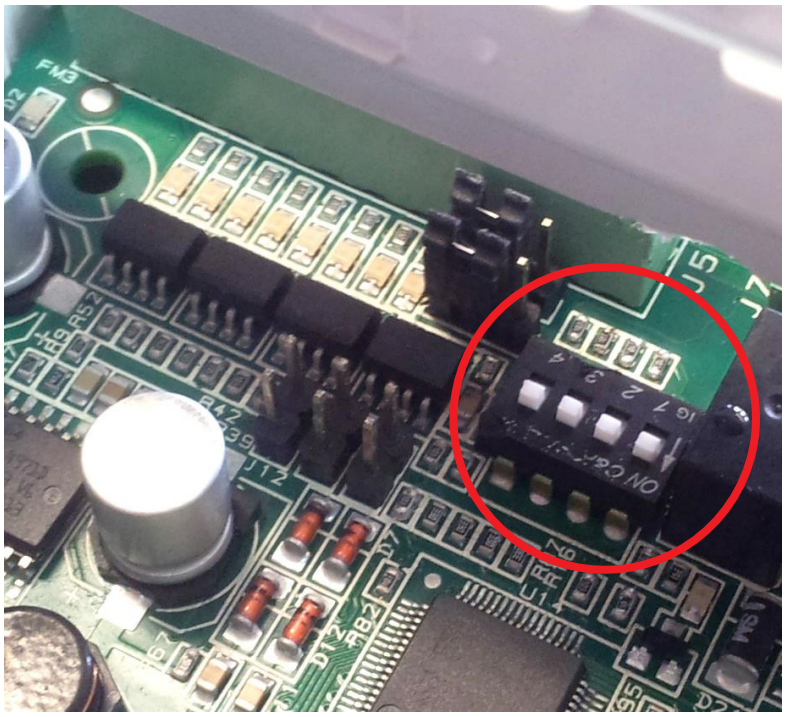
RS232



RS485



4.6.3. MINIDIP AND CONFIGURATION



MASTER	ON	■	■	■	■
	OFF				
SLAVE 1	ON	■	■	■	
	OFF				■
SLAVE 2	ON	■	■		■
	OFF			■	
SLAVE 3	ON	■	■		
	OFF			■	■
SLAVE 4	ON	■		■	■
	OFF		■		
SLAVE 5	ON	■		■	
	OFF		■		■
SLAVE 6	ON	■			■
	OFF		■	■	
SLAVE 7 (Cons)	ON	■			
	OFF		■	■	■

4.6.4. PROGRAMMING

a. Switch the board off and disconnect it from the network 485
b. Connect the programming cable to the port of the board called "RS485- Programming" and to the COM of the computer
c. Set the Minidip so that the board is not the Master
d. Switch the board on and perform the instructions shown here below:

FIRMWARE PROGRAMMING:

1. Do double check on the '5216288pxxxx.mot' file
2. The program **"FLASH DEVELOP TOOLKIT"** starts automatically
3. Select the window **"DEVICE"**
4. Select **"CONFIGURE FLASH PROJECT"**
5. The list of micro-processors will open automatically (CHOOSE DEVICE)
6. Select the micro-processor **"H8/3687F"**
7. Select **"NEXT"**
8. Select the **COM** (COMUNICATION PORTE)
9. Select **"NEXT"**
10. Set the quartz frequency at 14.7456 (DEVICE SETTING)
11. Select **"NEXT"**
12. (CONNECTION TYPE)
13. Select **"NEXT"**
14. (PROGRAMMING OPTIONS)
15. Select **"NEXT"**
16. Switch the board on
17. Connect the programming interface in the connector **"programming"**
18. Set the programming interface on **"Prog"**
19. Click **"Reset"** of the programming interface
20. Connect the serial of the Pc to the programming interface
21. Click the button **"DOWNLOAD ACTIVE FILES"**
22. Wait for the programming
23. End of programming
24. Click the button **"FDT DISCONNECT"**
25. Wait for the disconnection
26. Close the programme **"FLASH DEVELOP TOOLKIT"**
27. Set the interface programming selector on **"Run"**
28. Click **"Reset"** of the programming interface

    Programming completed.

e. Switch the board off
f. Disconnect the connector of the programmer from the board
g. Set the Minidip of board, as before programming

4.7. CAMERA SENSOR

Electronic device equipped with two stereoscopic cameras capable of counting the people passing by and lingering under it. For other information, refer to the specific manual.

4.7.1. RECORD OF VOCAL MESSAGES ON THE 5218214 BOARD

To record and play back the messages on the board, connect to the Microphone and Speaker connectors

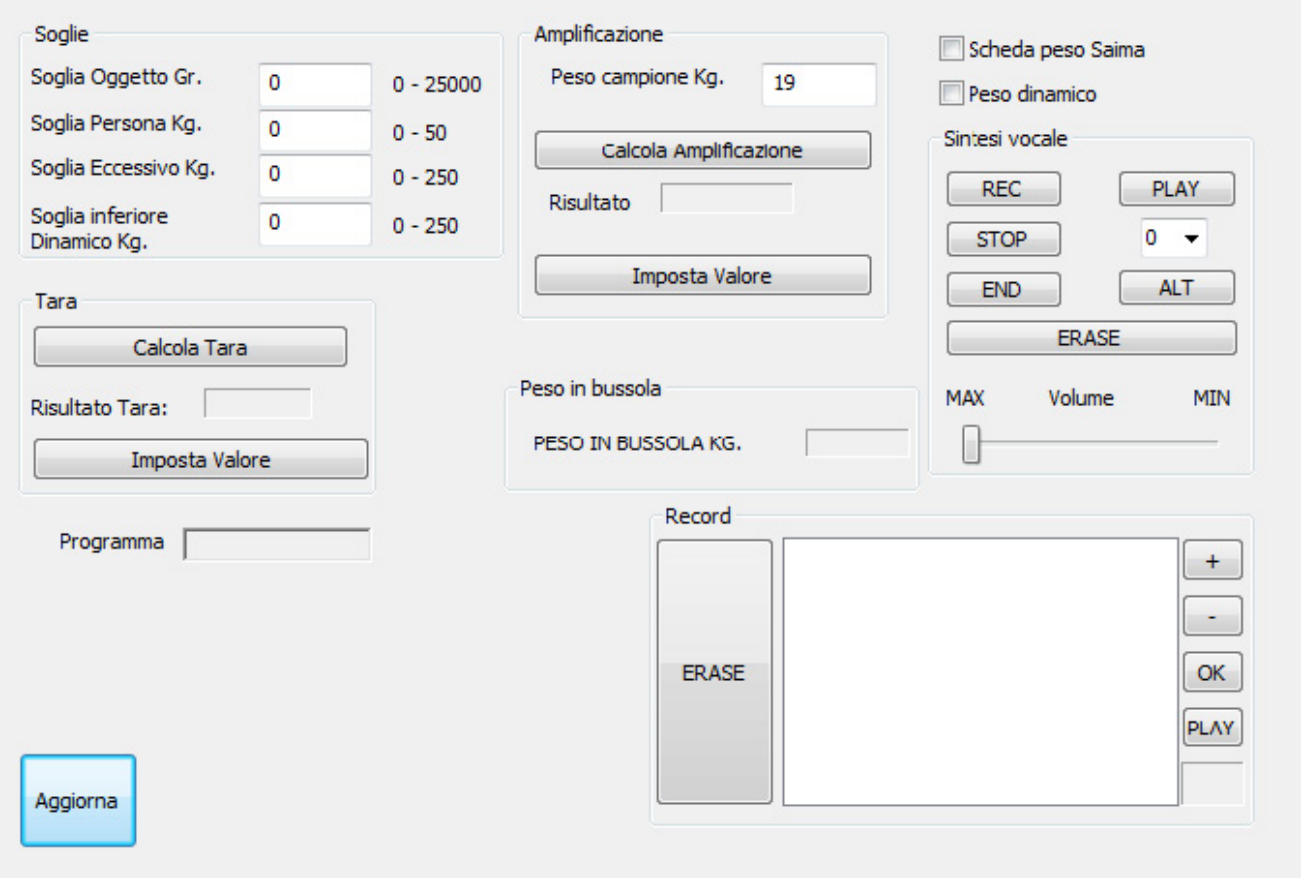


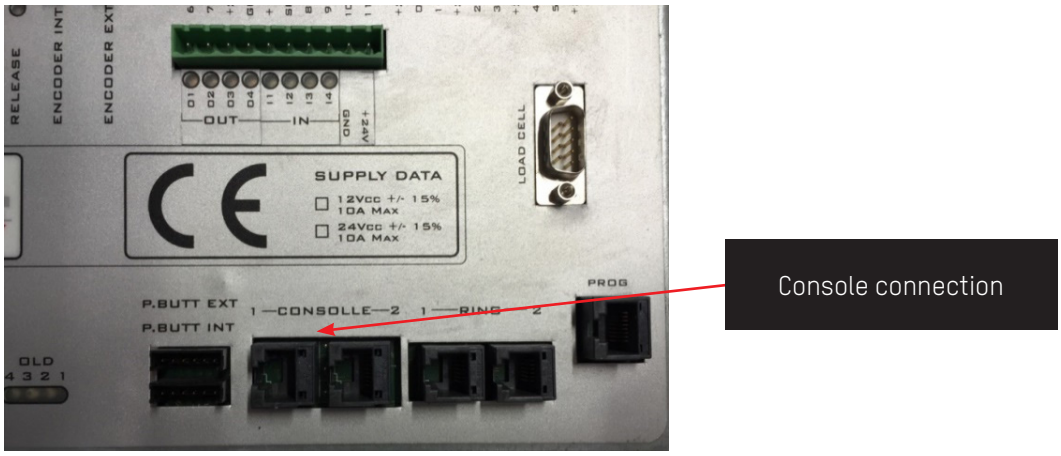
Fig. 31 - Record of vocal messages

The flag "Scheda peso" (**Weight Board**) allows to connect directly to the weight board/vocal synthesis cod. 5216288 and it does not need to be selected if you connect through the Slave board 1. Once selected, the controls related to this board activate, which allows the record and play back of the vocal synthesis messages through the PC. To perform this procedure, it is necessary to connect the programming and the 485 communication cables to the board. To play back a memorized message select the number of the message and press the button **"PLAY"**; the message will be reproduced only once, to interrupt the reproduction press the button **"ALT"**. The button **"ERASE"** allows the cancellation of all the recorded messages on the board; once you pressed this button, the confirmation of command will be asked twice.

To record a message, press the button **"REC"** and reproduce the message through Windows Media Player. Once the reproduction of the messages finished, press the button **"STOP"**. Now the board is newly ready for another record of a new message, by pressing again the button **"REC"** and by repeating the procedure; the new message is put in the queue after the previous one. Once the record of all the messages ended, press the button **"END"**. The slide **"Volume"**, allows to increase or decrease the volume of reproduction of the vocal synthesis, by moving the slider respectively towards the symbols MAX and MIN.

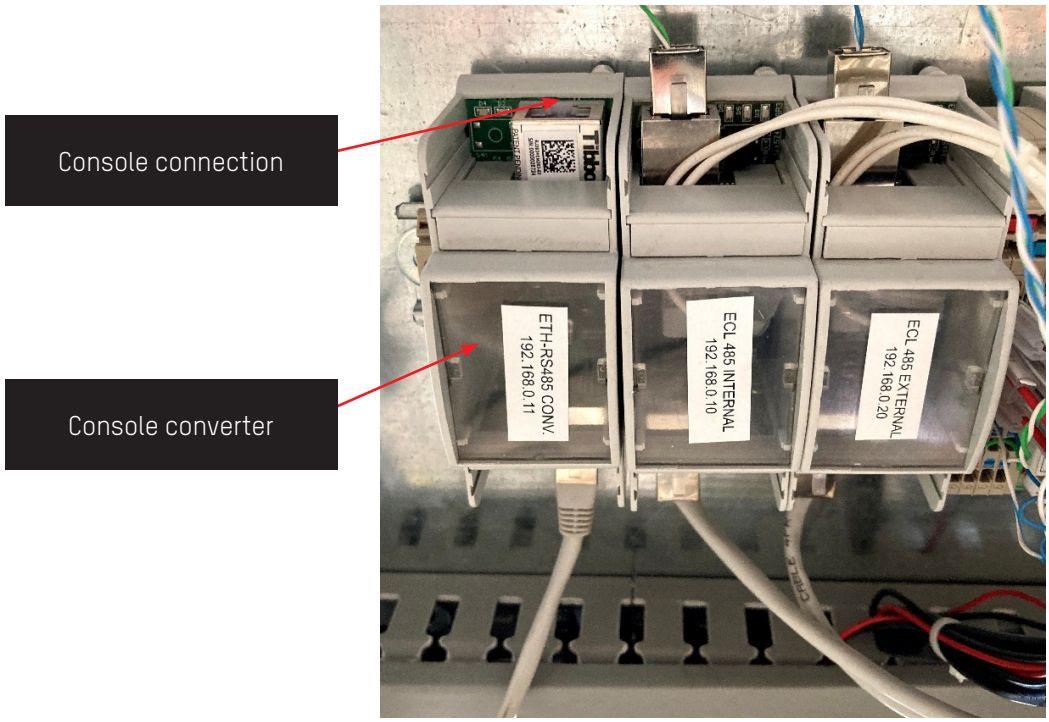
4.8. CONSOLE CONNECTION

4.8.1. 3FDT SERIAL CONSOLE



ED electronic control unit

4.8.2. VIRTUAL CONSOLE (OPTIONAL)



Camera sensor plate

5. INPUTS AND OUTPUTS

5.1. REVLOCK - 3 WINGS WITH CAMERA SENSOR

5.1.1. ELECTRONIC CONTROL UNIT

INPUTS

CLAMP	NAME INPUT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	6			EMERGENCY BUTTON EXIT DIRECTION
2	7	ED I0	MASTER - IN 7	UNLOCK COUNTERCLOCKWISE PISTON
3	+24VDC			24 VDC
4	GND			GND
5	+12VDC			12 VDC
6	SPPH			ACTIVATION OPTO-ISOLATORS
7	8	ED I0	SLAVE8 - IN 1	SLOWDOWN SAFETIES
8	9			SHUT-DOWN
9	10			ANTI- SEGREGATION (EQ34) INTERNAL
10	11			ANTI- SEGREGATION (EQ34) EXTERNAL
11	+24VDC			24 VDC
12	0	ED I0	MASTER - IN 3	MECHANICAL LOCK
13	1			NOT USED
14	+24VDC			24 VDC
15	2	ED I0	MASTER – IN 1	EMERGENCY (CONTACT NC)
16	3	ED I0	MASTER - IN 0	INTERNAL BADGE
17	+24VDC			24 VDC
18	4	ED I0	MASTER - IN 4	EXTERNAL BADGE
19	5	ED I0	MASTER - IN 5	UNLOCK CLOCKWISE PISTON
20	+24VDC			24 VDC

- Connect the clamp 6 to the clamp 5 to activate the inputs
- Inp0 – Inp7 are activated with a positive (with a tension that varies from 5VDC to 24VDC)
- Inp8 – Inp11 are activated with GND
- Inp2 clamp 15 jumper to GND, this command is managed with C-NC contact

OUTPUTS

CLAMP	NAME EXIT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	GND			GND
2	8	INVERTER	OUT 3	HARPOON COUNTERCLOCKWISE BLOCK
3	GND			GND
4	7	INVERTER	OUT 4	HARPOON CLOCKWISE BLOCK
5	GND			GND
6	6	ED IO	MASTER - O 2	SPOTLIGHTS
7	GND			GND
8	5			LED SHUT-DOWN
9	GND			GND
10	+12VDC			12 VDC
11	GND			GND
12	3	ED IO	MASTER - O 4	EXIT VALIDATION
13	GND			GND
14	+24VDC			24 VDC
15	GND			GND
16	1	ED IO	MASTER - O 3	ENTRANCE VALIDATION

- The brake at the tail end of the motor is connected to the INT BRAKE output.

Auxiliary inputs and outputs

In 1	ALIGNED DOORS (NO)
In 2	EMERGENCY BUTTON ENTRY TRANSIT
In 3	ACTIVATION FOLDING (NC)
In 4	SENSOR INTERNAL BRAKING AND REQUEST ROTATION IN FREE EXIT
Out 1	PISTONS POWER SUPPLY FOLDING BLOCK (optional)
Out 2	PISTONS POWER SUPPLY FOLDING BLOCK (optional)
Out 3	LED ACTIVATION EMERGENCY BUTTON ENTRY TRANSIT
Out 4	LED ACTIVATION EMERGENCY BUTTON EXIT TRANSIT

5.1.2. 5216288 BOARD

<table>
<tr><td rowspan="20">SLAVE 1</td><td>+</td><td>12 Vcc</td><td>+</td><td></td><td>12 Vcc</td></tr>
<tr><td>-</td><td>GND</td><td>-</td><td></td><td>GND</td></tr>
<tr><td>0</td><td>Sensor ext – Person presence</td><td rowspan="2">1</td><td>Com</td><td rowspan="2">Sensor authorized to read</td></tr>
<tr><td>1</td><td>Sensor ext – Two people</td><td>No</td></tr>
<tr><td>2</td><td>Sensor ext – Suspicius</td><td rowspan="2">2</td><td>Com</td><td rowspan="2">Request of shut-down</td></tr>
<tr><td>3</td><td>Sensor ext – Square wave</td><td>No</td></tr>
<tr><td>-</td><td>GND</td><td rowspan="3">3</td><td>Com</td><td rowspan="3"></td></tr>
<tr><td>4</td><td>Sensor int – Person presence</td><td>No</td></tr>
<tr><td>5</td><td>Sensor int – Two people</td><td>Nc</td></tr>
<tr><td>6</td><td>Sensor int – Suspicius</td><td rowspan="3">4</td><td>Com</td><td rowspan="3"></td></tr>
<tr><td>7</td><td>Sensor int – Square wave</td><td>No</td></tr>
<tr><td>-</td><td>GND</td><td>Nc</td></tr>
<tr><td colspan="2" rowspan="2"></td><td rowspan="2">BSP 1</td><td>-</td><td rowspan="2"></td></tr>
<tr><td>+</td></tr>
<tr><td colspan="2" rowspan="2"></td><td rowspan="2">BSP 2</td><td>+</td><td rowspan="2"></td></tr>
<tr><td>-</td></tr>
<tr><td rowspan="2">INP DALLAS</td><td colspan="2"></td><td rowspan="2">OUT DALLAS</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2"></td></tr>
</table>

5.2. REVLOCK - 3 WINGS WITH WEIGHTED PLATFORM

5.2.1. ELECTRONIC CONTROL UNIT

INPUTS

CLAMP	NAME INPUT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	6			EMERGENCY BUTTON EXIT TRANSIT
2	7	ED I0	MASTER - IN 7	UNLOCK COUNTERCLOCKWISE PISTON
3	+24VDC			24 VDC
4	GND			GND
5	+12VDC			12 VDC
6	SPPH			ACTIVATION OPTO-ISOLATORS
7	8	ED I0	SLAVE8 - IN 1	SAFETIES SLOWDOWN
8	9			SHOUTDOWN (ONLY WITH T.O.F.)
9	10			INTERNAL ANTI-SEGREGATION (EQ34)
10	11			EXTERNAL ANTI-SEGREGATION (EQ24)
11	+24VDC			24 VDC
12	0	ED I0	MASTER - IN 3	MECHANICAL LOCK
13	1			NOT USED
14	+24VDC			24 VDC
15	2	ED I0	MASTER – IN 1	EMERGENCY (NC)
16	3	ED I0	MASTER - IN 0	INTERNAL RADAR OR BADGE
17	+24VDC			24 VDC
18	4	ED I0	MASTER - IN 4	EXTERNAL RADAR OR BADGE
19	5	ED I0	MASTER - IN 5	UNLOCK CLOCKWISE PISTON
20	+24VDC			24 VDC

- Connect the clamp 6 to the clamp 5 to activate the inputs
- Input 2 clamp 15 jumper to +24Vcc, this command is managed with C-NC contact
- Inp0 – Inp7 are activated with a positive (with a tension that varies from 5VDC to 24VDC)
- Inp8 – Inp11 are activated with GND

REVLOCK 614 - 3 WINGS

OUTPUTS

CLAMP	NAME EXIT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	GND			GND
2	8	ACTIVATION	OUT 3	BLOCK HARPOON COUNTERCLOCKWISE
3	GND			GND
4	7	ACTIVATION	OUT 4	BLOCK HARPOON CLOCKWISE
5	GND			GND
6	6	ED IO	MASTER - O 2	SPOTLIGHTS
7	GND			GND
8	5			NOT USED
9	GND			GND
10	+12VDC			12 VDC
11	GND			GND
12	3	ED IO	MASTER - O 4	EXIT VALIDATION
13	GND			GND
14	+24VDC			24 VDC
15	GND			GND
16	1	ED IO	MASTER - O 3	ENTRANCE VALIDATION

- The brake on the back of the motor is connected to the INT BRAKE output
- Spotlights power supply comes from ceiling lamp connector (N.B. set the type of spotlight from the flag)
- The main motor is connected on **"MOTOR INT"**
- Rotation proximity is connected on **"Z-INT"**
- Motor encoder is connected on **"ENC INT"**
- In folding configuration **"MOTOR EXT"** is dedicated to electro-pistons of doors blocking

5.3. I/O 315 (OPTIONAL)

INPUTS

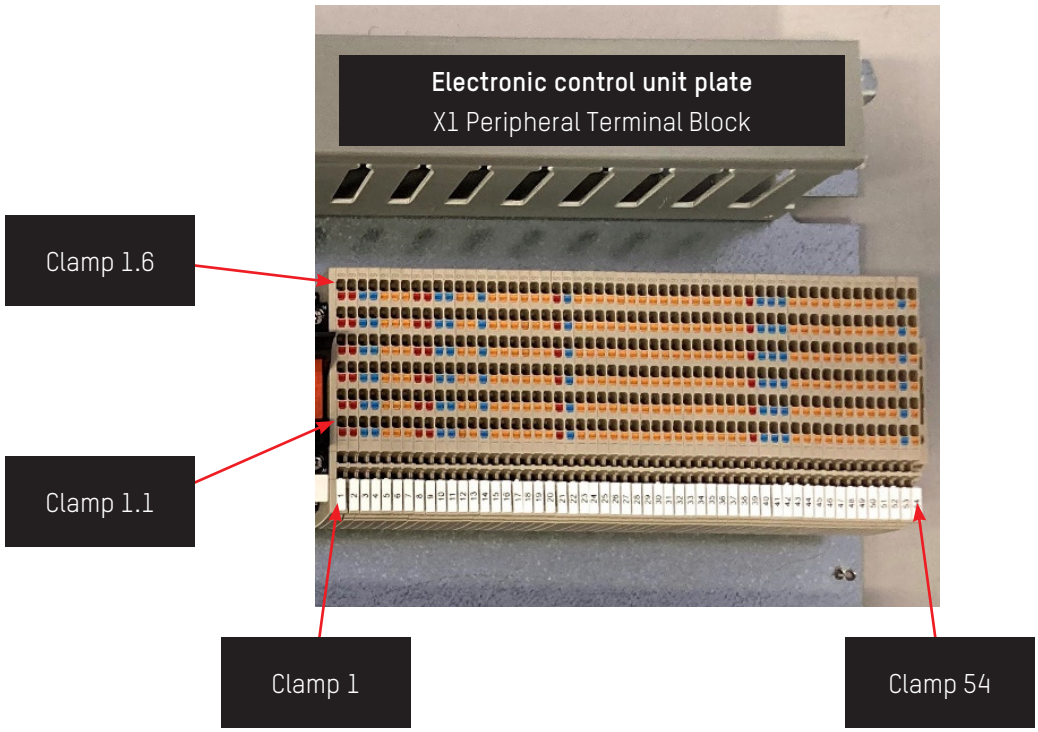
FUNCTION	DESCRIPTION	N° INP THE BOARD I/O
04	EMERGENCY	0
12	BLOCK ENTRY TRANSIT	1
13	BLOCK EXIT TRANSIT	2
		3
		4
		5
		6
		7

OUTPUTS

FUNCTION	DESCRIPTION	N° RELE' BOARD I/O
00	ENTRANCE VALIDATION	1
01	EXIT VALIDATION	2
08	EXCESSIVE WEIGHT DURING INCOMING TRANSIT	3
09	EXCESSIVE WEIGHT DURING OUTGOING TRANSIT	4
03	FRAUD DURING INCOMING TRANSIT	5
04	FRAUD DURING OUTGOING TRANSIT	6
02	BOOTH IN EMERGENCY	7
23	BREAK-IN (deactivated biometric)	8

BREAK-IN= It is active when the rotation of the turnstile is forced by hand

5.4. OUTDOOR CONTROLS



FUNCTION	CONNECTIONS		
Emergency (NC)*	Clamp 17.2		Clamp 13.4
Entry Badge	Clamp 18.2		Clamp 13.5
Exit Badge	Clamp 19.2		Clamp 13.6
Folding (optional)**	Clamp 45.2		Clamp 40.4

* EMERGENCY (NC) REMOVE THE JUMPER ON THE TERMINAL BLOCK BEFORE CONNECTING THE ELECTRONIC CONTROL FOR FUNCTION ACTIVATION.

** FOLDING REMOVE THE JUMPER ON THE TERMINAL BLOCK BEFORE CONNECTING THE ELECTRONIC CONTROL FOR FUNCTION ACTIVATION, IF IT IS AVAILABLE.

6. SOFTWARE OF PARAMETRIZATION AND DIAGNOSIS: IUPPITER

For the adjustments of the command console unit is used the software Iuppiter. Here below are indicated the pages and the standard functioning settings that Automatic Systems considers important for the correct functioning of the REVLOCK - 3 WINGS, the other pages are used for different products. So, the values of the not-mentioned parameters for the REVLOCK - 3 WINGS, not shown below here, must not be modified.

In any case, after the installation, the correct functioning and the movement of the star wheel must be verified and, if necessary, the parametrization must be refined.

6.1. PARAMETRIZATION

6.1.1. INVERTER PAGE

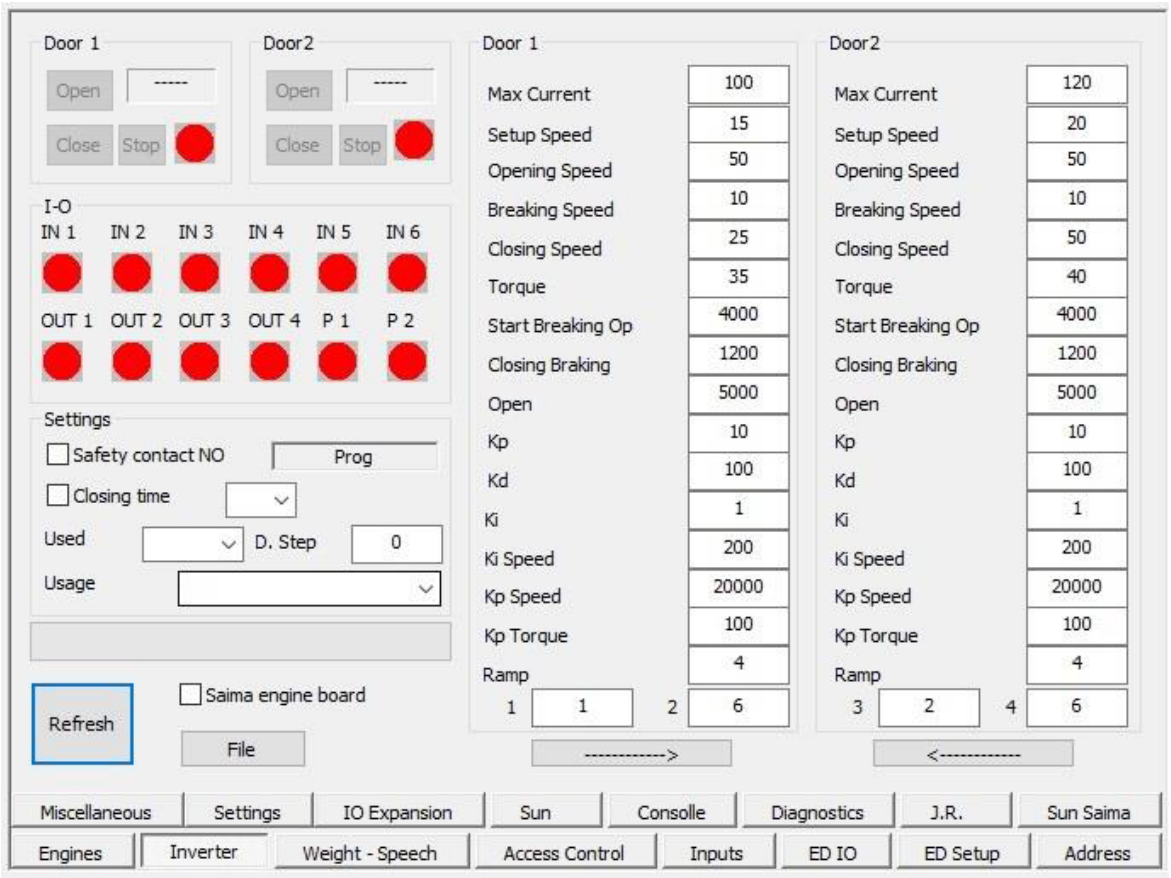


Fig. 32 - Iuppiter - Inverter page

THE VALUES SHOWN ARE ONLY INDICATIVE AND MAY BE SIGNIFICANTLY DIFFERENT FROM THE ACTUAL VALUES.

FOR THE SPECIFIC PRODUCT, THE APPLICATION VALUE MUST REMAIN SET TO 28 "REVLOCK".

REVLOCK 614 - 3 WINGS

Parametres

Door 2 Setup speed: it is the speed with which the booth calculates the dimension of every single sector, it must be very low

Couple door 2: couple used for the movement of the turnstile

Door 2 opening speed: speed of the turnstile in anticlockwise rotation, in case this is not in braking.

Door 2 braking speed: speed of the turnstile in anticlockwise rotation during the braking. Door 2 closu re speed: speed of the turnstile in anticlockwise rotation when the safety is active in slowdown

Door 2 braking closure: number of steps before the end of the segment where the turnstile starts to brake, before stopping during the anticlockwise rotation. For example, if the segment is big 2.500 steps and this parameter is set at 500, the turnstile starts to brake at 2.000 steps

Door 1 opening speed: speed of the turnstile in clockwise rotation if this is not braking Door 1 braking speed: speed of the turnstile in clockwise rotation during the braking Door 1 closure speed: speed of the turnstile in clockwise rotation when the safety is active in slowdown

Door 1 closure braking: number of steps before the beginning of the segment where the turnstile starts to brake before stopping during the clockwise rotation. For example, if the segment is big 2.500 steps and this parameter is set at 500, the turnstile starts to brake at 500 steps

Re-closure timing: it is the time, after which the turnstile inverts the sense, if it has remained blocked. So, in case something obstructs the movement of the turnstile, once the set time has passed, the booth behaves as if the safety was activated towards the direction in which the turnstile was moving. The time is calculated in step of 50 msec. of default the set value for this parameter is 10.

Kp, Kd, Ki, Ki Vel, Kp Vel e Kp Couple: those parameters can vary according to the type of used mechanics (booth, pass, etc.), they are set in the factory and must not be modified without an expressed authorization.

Ramp: it expresses the quickness with which the inverter speeds up and slows down. A value next to zero means a soft movement, a high value makes the movement really sharp.
Pay attention: in case of booth with metal detector a very low value must be preferred, in order to avoid the false alarms during the movement of the doors. If this parameter is set on a high value, even the value **"Maximum current"** must increase, because a sharp ramp causes major absorptions.

Parameters that can vary according to the used movements:

1, 3: this parameter, defines the strength with which the inverter pushes on the stroke, in all the devices that at closure, in addition to the reference of closed door, force on the stroke before considering the movement of closure ended.

2, 4: those parameters do not have a generic meaning, they will be used with different meanings according to the machinery on which the inverter is used. For their meaning refer to the specifications of the machinery.

THE VALUES NOT REPORTED HERE ABOVE ARE NOT USED FOR THE REVLOCK - 3 WINGS, SO THEY MUST NOT BE MODIFIED.

6.1.2. ED SETUP PAGE

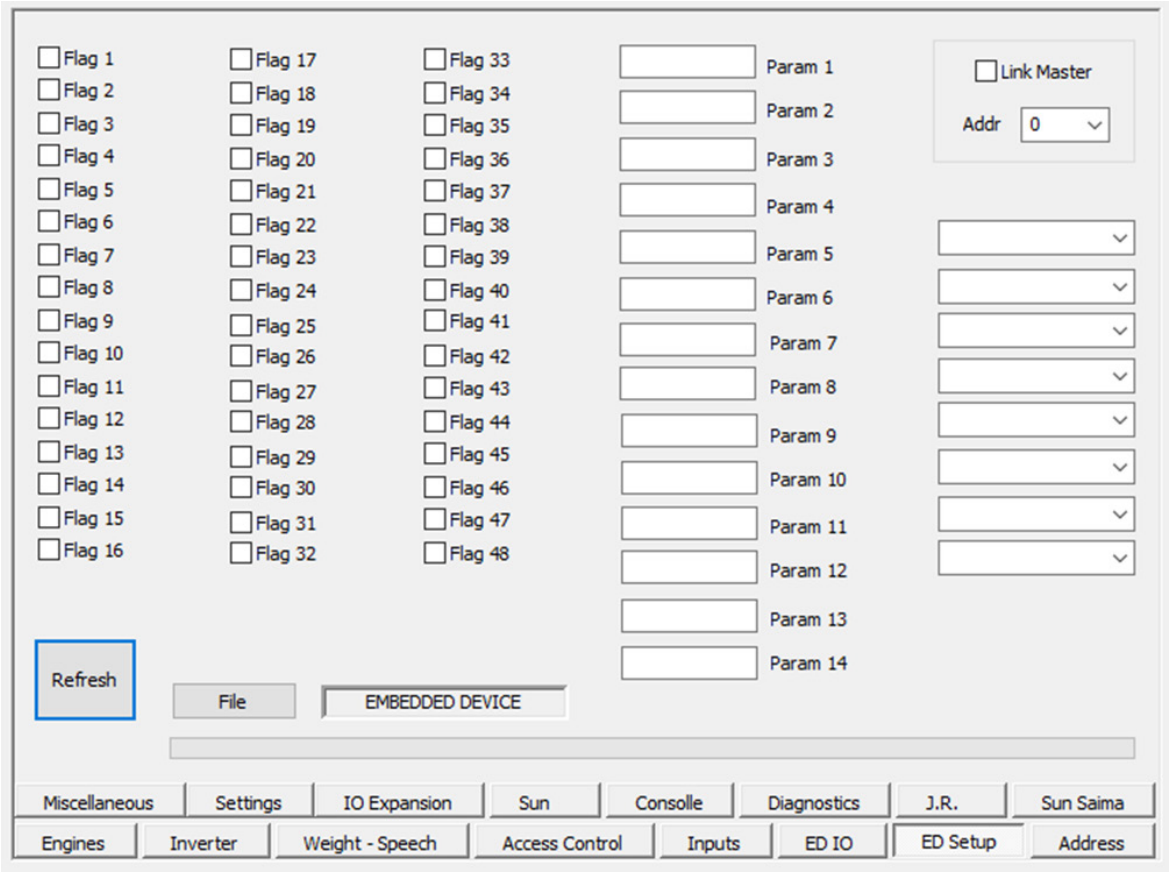


Fig. 33 - Iuppiter - ED Setup page

THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

FLAGS

- **FLAG 1:** if active, reservation accepted only in the part of the segment determined by PARAM 7 (if deactivated the reservation is always active).
- **FLAG 9:** selecting this flag indicates that the electronics works as a Master- it must always be active.
- **FLAG 10:** by selecting this flag, the data rate in the inner ring is set to a Baud Rate of 19200- it must always be active.
- **FLAG 25:** both platforms connected directly to the mainboard.
- **FLAG 26:** the booth with three wings turnstile, during the normal functioning without an alarm, always rotates in counterclockwise sense, as it was four wings. Obviously, this flag must be used only in presence of a three wings turnstile. **In this product it must be always activated.**
- **FLAG 27:** TOF of person control.
- **FLAG 28:** must be used when the FLAG 1 is active. When this flag is active, the semaphore is green when is possible to request the beginning of a transit, so the semaphore becomes red in the zones where the booking is not allowed.
- **FLAG 29:** rotation on request on the start of the booth. If this flag is selected the booth, after the initialization, switches to the normal functioning with the rotation on request. If the flag is not active, the booth switches on again in the modality used before being switched off.
- **FLAG 30:** radar only. The beginning of the transit is given only by the inputs related to the radar on mainboard. If this input is active, the buttons of transit beginning on the i2c and the equivalent inputs on I/O 315 are not read anymore by the program.

- **FLAG 31:** booth with folding doors.
- **FLAG 32:** NC harpoons. Select it if the booth is equipped with NC harpoons for the locking of the turnstile.
- **FLAG 33:** booth with radar. Select it if the booth is equipped with radar to start the movement of the turnstile.
- **FLAG 34:** if activated and the booth has a turnstile with folding doors (FLAG 31 active), if one of the doors is knocked down the turnstile locks with the brake so that it is easy to know down the others. If FLAG 34 is not active, if one of the doors is knocked down, the turnstile stops anyway, but does not lock with the brake and remains free to be moved manually.
- **FLAG 35:** NC emergency buttons. If this flag is active, the emergency button is considered NC; with the flag not active, the button is considered NO.
- **FLAG 36:** Vivotek. The person presence check is done with the Vivotek sensor.
- **FLAG 37:** Redundant booth. Presence of redundancy management board to control the emergency button inside the booth.
- **FLAG 38:** Console 3 Rows of Keys. With this console the continuous/on request rotation is managed by the "Videodigit" button of the 3FDT STD Serial Console.
- **FLAG 39:** spotlight power supply. Flag not active, 12V spotlight; with flag active, 24V spotlight. By default, the flag is not active (12V spotlight).
- **PARAM 6:** number of segments. It defines the number of segments that make the turnstile. By default they are 4.
- **PARAM 7:** booking zone. This parameter identifies the zone of the segment where is possible to book the transit by considering 0 the beginning of the segment. In case the parameter is set at 1000, for the first 1000 steps from the beginning of the segment will be possible to book. This parameter is taken into consideration only if the FLAG 1 (reduced booking) is active, in the opposite case the programme ignores it. The default value is 700.
- **PARAM 8:** emergency button area. The emergency button works only if the turnstile is in a position close to the rest position for a certain time. With this parameter the number of steps is selected, to be added or subtracted from the rest position, in which the emergency button will be active. The default value is 500 and therefore the button will be active only with the turnstile at +500 or -500 steps from the rest position.
- **PARAM 9:** emergency button activation time. If the turnstile is in the emergency button area beyond a certain time (see Param 8), the button is activated and can be used. This parameter determines how long the turnstile must be in the area of the emergency button before it is activated; the time is expressed in seconds and the default value is 10.
- **PARAM 10:** buzzer activation time in case of forward edge. If the turnstile is in the control zone of the forward edge and this intervenes, an output is activated on IO315 for the time set using this parameter. The time is calculated in tenths of seconds, so 15 will be about 1.5 seconds. Pay attention, considering that the output is located on the IO315 board which is connected to the mainboard via 485 on the inner ring, the accuracy of this timing will not be absolute; we recommend using an estimated excess value. The default value of the parameter is 15 (1.5 seconds).
- **PARAM 11:** stop time on forward edge. It is the time in which the turnstile remains stationary in case of intervention of the forward edge before reversing the gear. This time is expressed in tenths of a second and defaults to 10 (1 second). Pay attention, the program still requires a minimum stop time of 1 second, therefore even in the presence of a value lower than 10, the turnstile will still remain one second before reversing the gear.
- **PARAM 12:** number of steps beyond which the turnstile is moved by hand (therefore without the movement having been decided by the booth) with the booth in stillness mode is considered to be BREAK, activating the relative exit. The default are 100 steps.
- **PARAM 13:** redundancy time. This is the time that must elapse, expressed in seconds, before the emergency release button is activated with the turnstile in position X.
- **PARAM 14:** self-restoring time. If the emergency button inside the booth is pressed, the turnstile is unlocked. This parameter represents the time, expressed in seconds, that must elapse before the booth automatically resets itself from unlocking. By default, the parameter is set to 30; If it is set to 0, the self-restoring is disabled.

VALUES NOT SHOWN ABOVE ARE NOT USED FOR THE GLASS ROLL 3 WINGS, THEREFORE THEY MUST NOT BE CHANGED.

6.1.3. WEIGHT PAGE - SYNTHESIS: ED ELECTRONIC UNIT

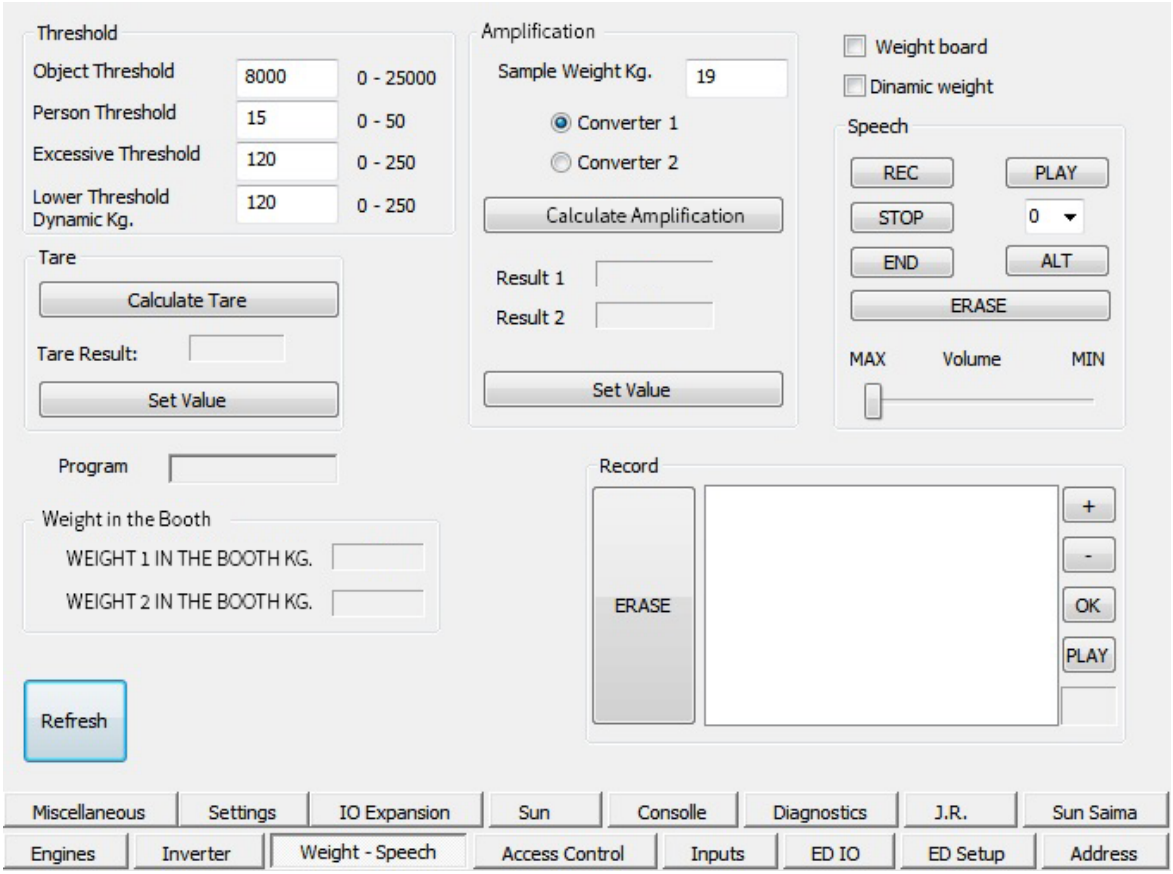


Fig. 34 - Iuppiter - Weight page

IN THE SECTION "THRESHOLDS" ARE REPORTED THE STANDARD VALUES, DO NOT MODIFY THEM IF YOU ARE NOT AUTHORISED.

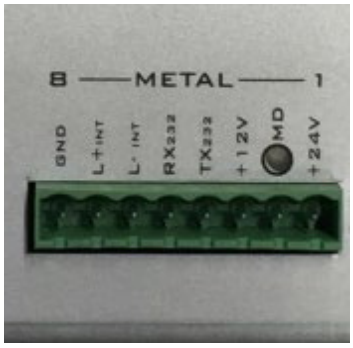
THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT FROM THE REAL ONE.

6.1.3.1. WEIGHT PROCEDURE

1. Select **"Converter 1"** and work on the platform in the entrance side
2. Verify that the platform on entrance side is empty
3. Click on **"CALCULATE TARE"**, click on **"APPLY"** and **"SAVE SETTINGS"**
4. Insert above the platform a known weight bigger than the value **"PERSON WEIGHT"**
5. Report the weight within the **"SAMPLE WEIGHT"** field (in KG)
6. Click on **"CALCULATE AMPLIFICATION"**
7. As soon as the result has stabilized, click on **"APPLY"** and **"SAVE SETTINGS"**
8. Verify that in the field **"WEIGHT 1 IN THE BOOTH"** is present the real weight of the object in the platform
9. Take the object off the platform and verify that it is around the 0 (tolerance of + 4KG)
10. Select **"Converter 2"** and work on the platform (exit side)

11. Verify that the platform on exit side is empty
12. Click on **"CALCULATE TARE"**, click on **"APPLY"** and **"SAVE SETTINGS"**
13. Insert above the platform a known weight bigger than the value **"PERSON WEIGHT"**
14. Report the weight within the field **"SAMPLE WEIGHT"** (in KG)
15. Click on **"CALCULATE AMPLIFICATION"**
16. As soon as the result has stabilized, click on **"APPLY"** and **"SAVE SETTINGS"**
17. Verify that the real weight of the object in the platform is present in the field **"WEIGHT 2 IN THE BOOTH"**
18. Take the object off the platform and verify that it is around the 0 (tolerance of + 4KG)

6.1.3.2. REGISTRATION SYNTHESIS PROCEDURE



1. Connect with the audio output of a computer to the metal connector on the pins:
   - RX232
   - TX232
2. In the section **RECORD**, press the button **+**.
3. Select the file to upload in the mainboard, by inserting first the file in the position 0.
4. Click on **"OK"** and wait for few seconds that the system ends the recording.
5. Listen again to the messages through the vocal Synthesis panel.

6.1.4. EXPANSION I/O 315 PAGE (OPTIONAL)

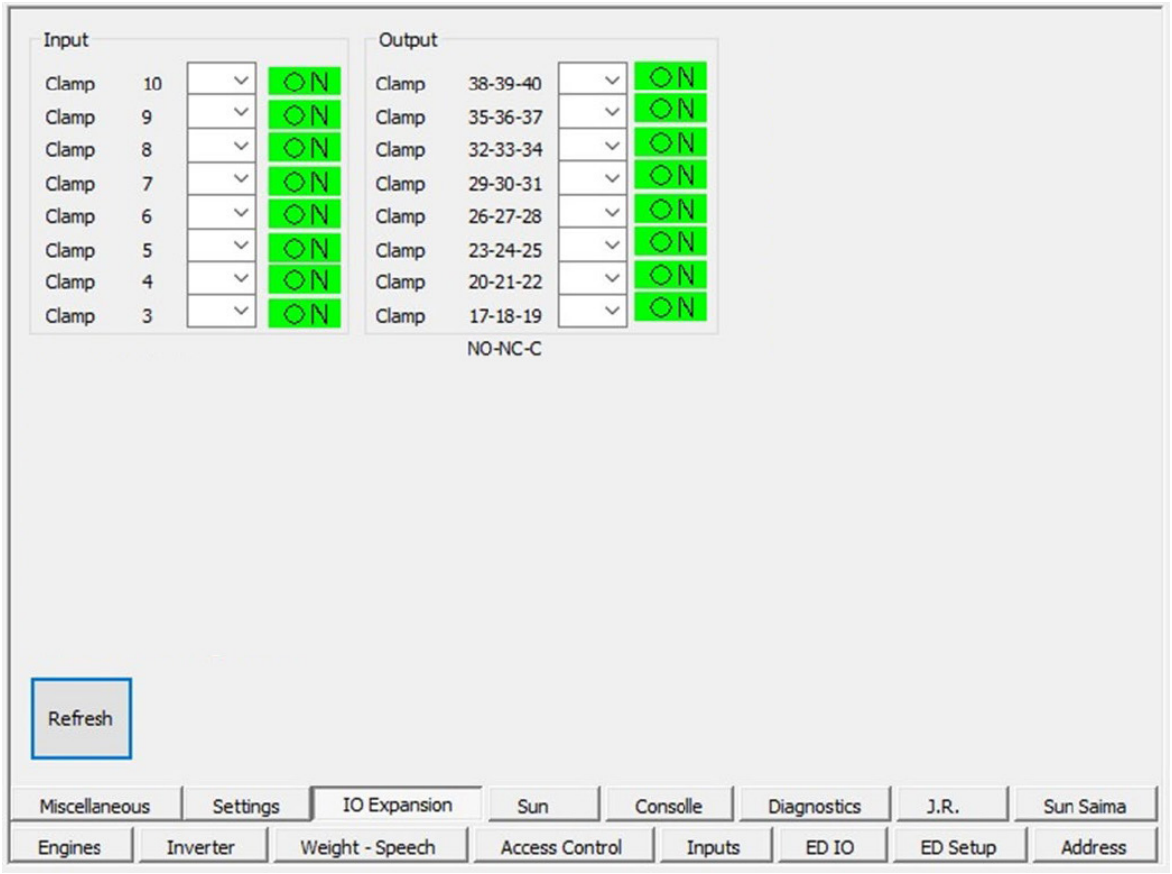


Fig. 35 - Iuppiter - I/O 315 page

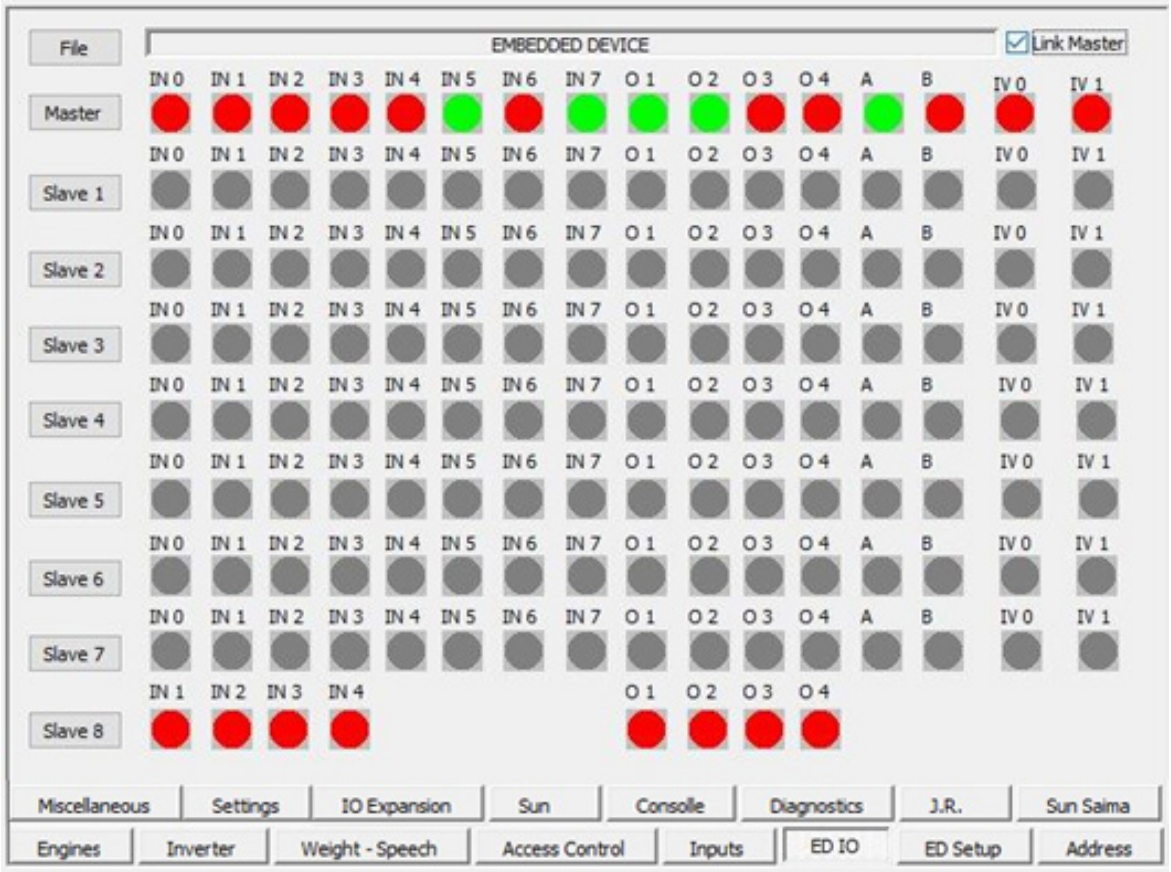
THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT FROM THE REAL ONE.

This page represents real-time feedback on the operation of the product based on the equipment set-up and the operating mode selected for the product.

FOR THE MEANING OF THE TABLE "INPUTS-OUTPUTS" OF THIS PAGE SEE INPUTS AND OUTPUTS

6.2. DIAGNOSIS

6.2.1. ED IO PAGE



FOR THE MEANINGS OF THE LEDS OF THIS PAGE, SEE INPUTS AND OUTPUTS.

THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT FROM THE REAL ONE

6.2.2. DIAGNOSTICS PAGE

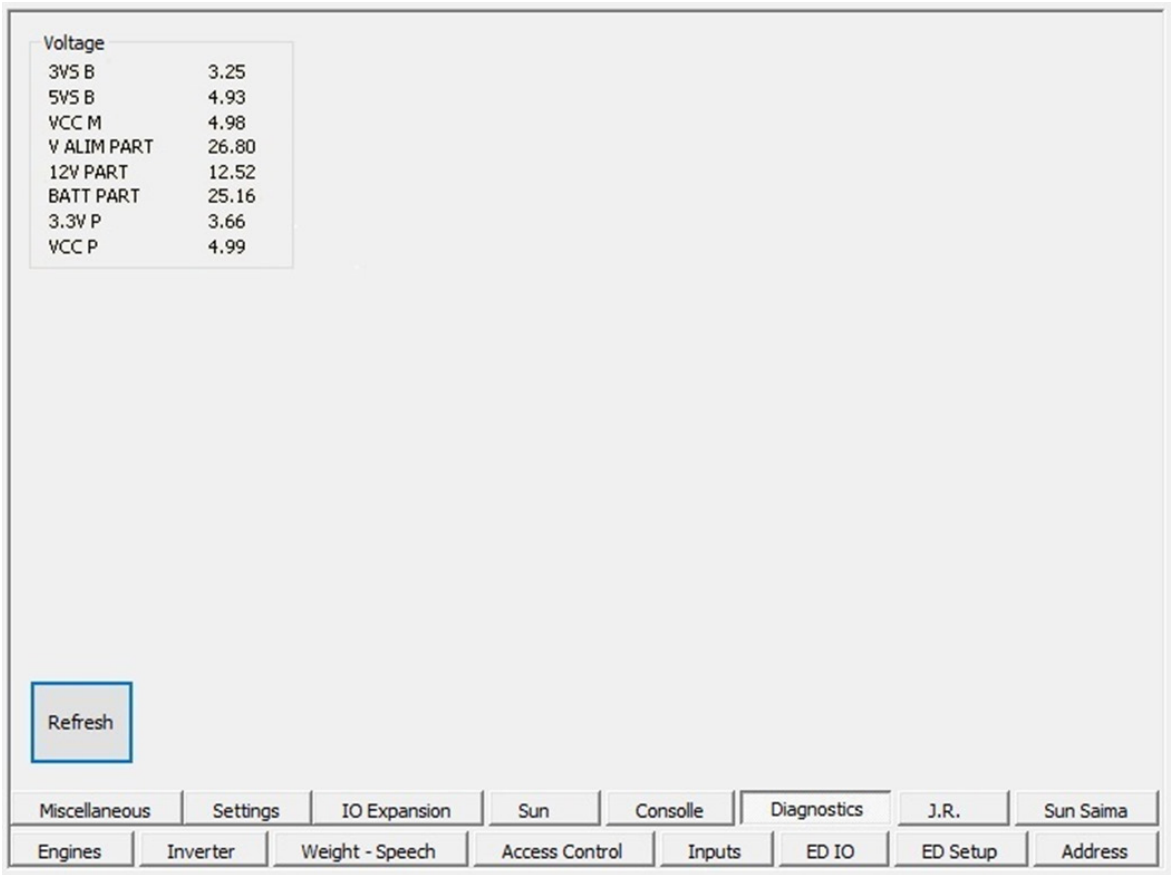


Fig. 36 - Iuppiter - Diagnostics page

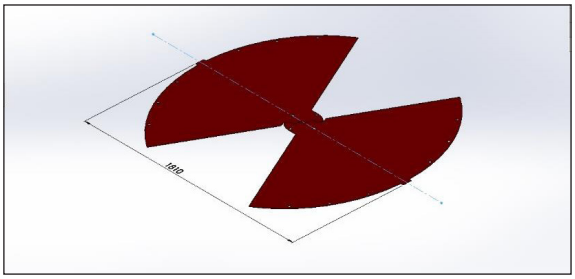
THE VALUES REPORTED ON THIS PAGE, STAND FOR THE VARIOUS TENSIONS PRESENT WITHIN THE MAINBOARD, THEY CAN VARY OF A ± 10%.

7. MECANICHAL INSTALLATION

PHASE 1:

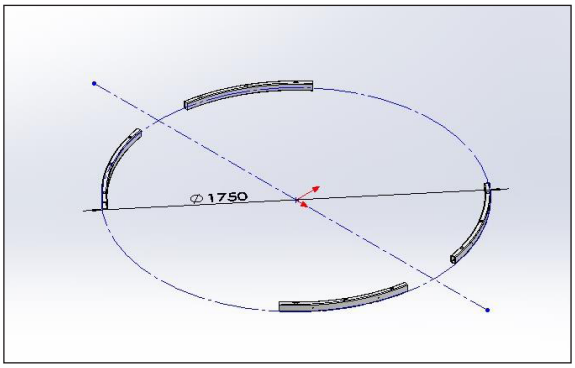
Put the template code 3533501348 (2 pieces) on the **CENTRAL LINE** on the floor. Mark and pierce the 12 external holes for metallic loose pieces Ø ext. 14. If expected a weighed base, pierce even the 4 central holes.

THE FLOOR MUST BE PERFECTLY FLAT



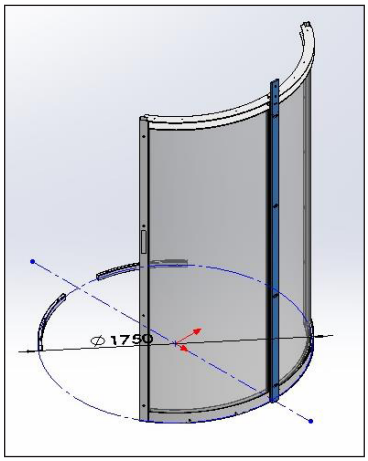
PHASE 2:

Screw on the base n°4 tubulars code 3533395348 through metallic loose Ø14 (coach screws) and screws TCEI M8x60. Check diameter measure (external Ø1750).



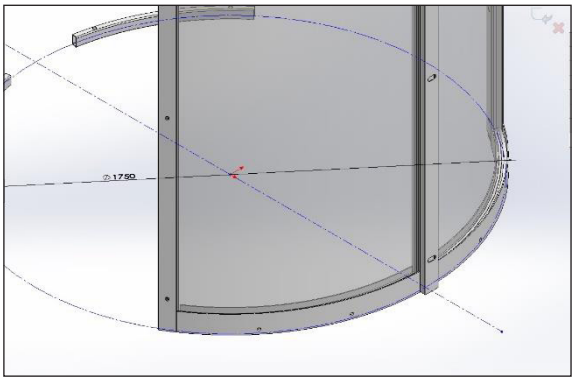
PHASE 3:

Assemble the chassis code 3539449433 (arranged semaphore) and code 3539450433 (arranged locker) in the tubulars previously fixed on the ground and match them with the tubular codex 3533493348 (in blue in the picture) through N°8 screws TCEI M6X25.



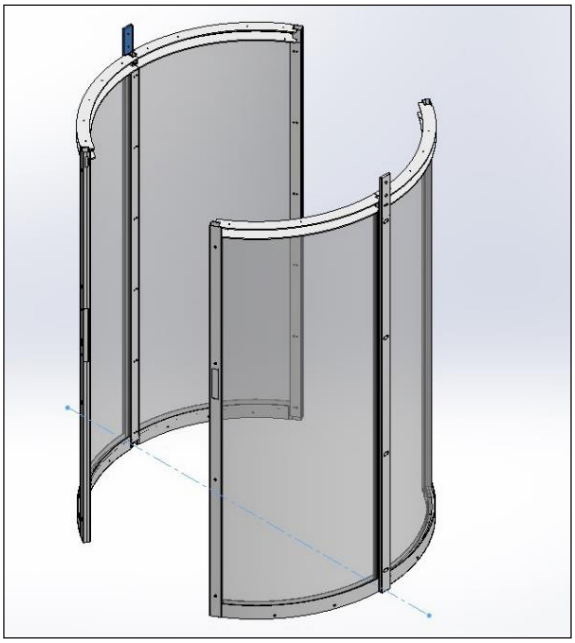
PHASE 4:

Centre tubular code 3533493348 with CENTRAL LINE. Pierce with a Ø5 drill and thread M6 in correspondence of the flared holes. Tighten with screws TSPEI M6X20.



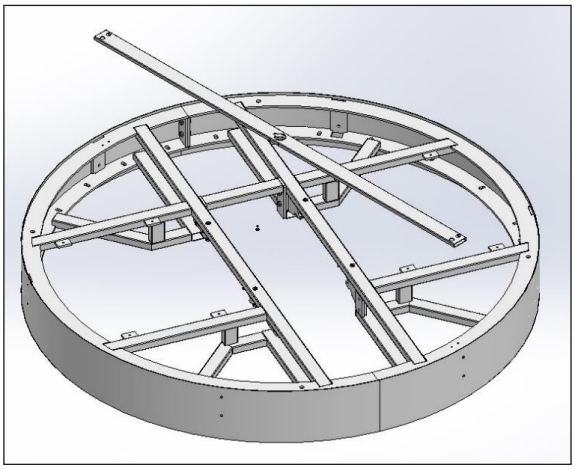
PHASE 5:

Repeat the PHASE 3 and the PHASE 4 for the opposite wall.



PHASE 6:

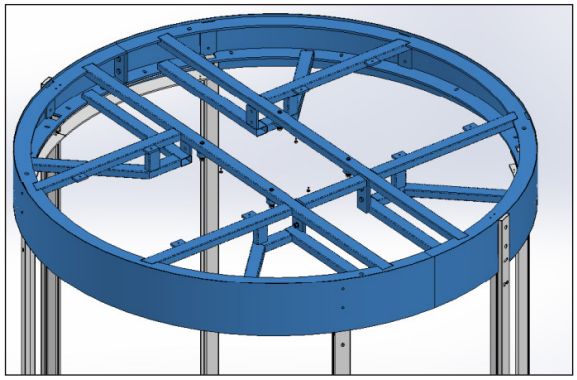
Match n° 2 particular code 3539453433 together with the stirrup code 3533290348 through n°8 TE M10X30 SCREWS, PLANE WASHER, GROWER and M10 NUT and the superior tubular code 3538299416 with n°4 TCEI M8X20 screws.

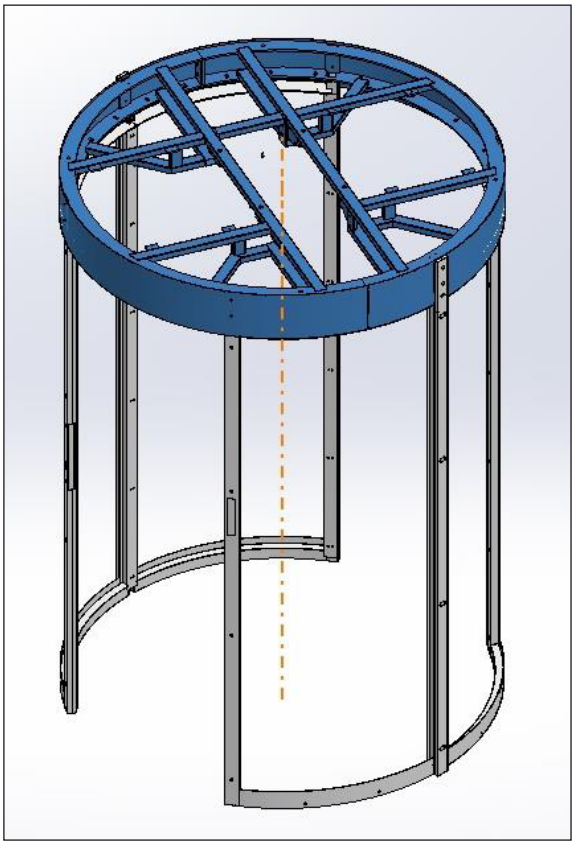


REVLOCK 614 - 3 WINGS

PHASE 7:

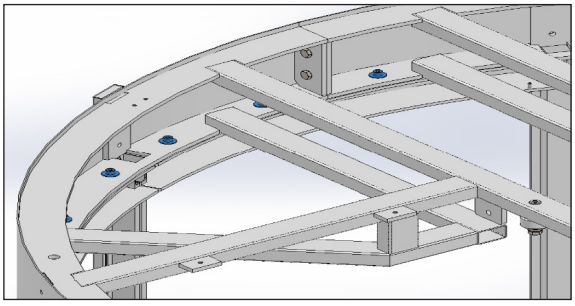
Lift through n°4 eye-bolts M14 (or other system, even from under) and uphold the assembled frame in PHASE 6 above the walls previously assembled. Rotate the frame as the picture below. The tubular above must be aligned to the CENTRAL LINE.





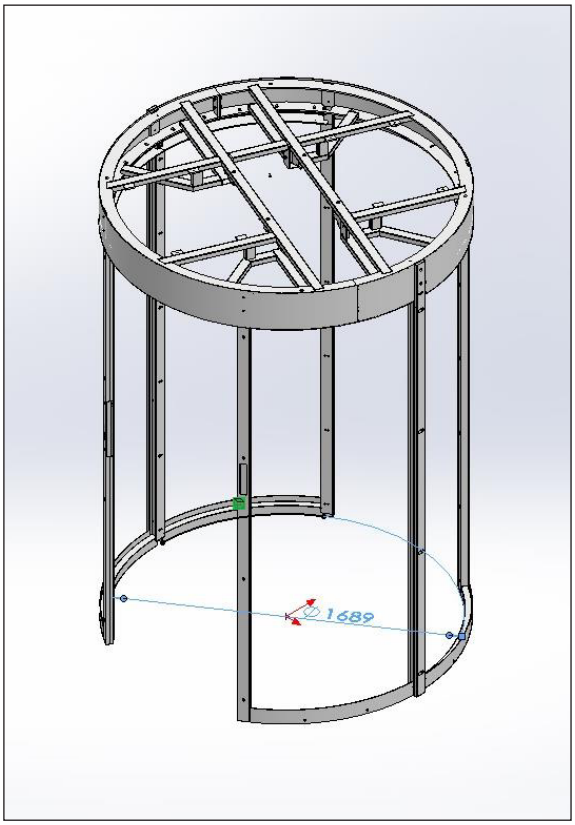
PHASE 8:

Fix the frame to the walls through n°16 screws TCEI M8X20, PLANE WASHER to the walls.



PHASE 9:

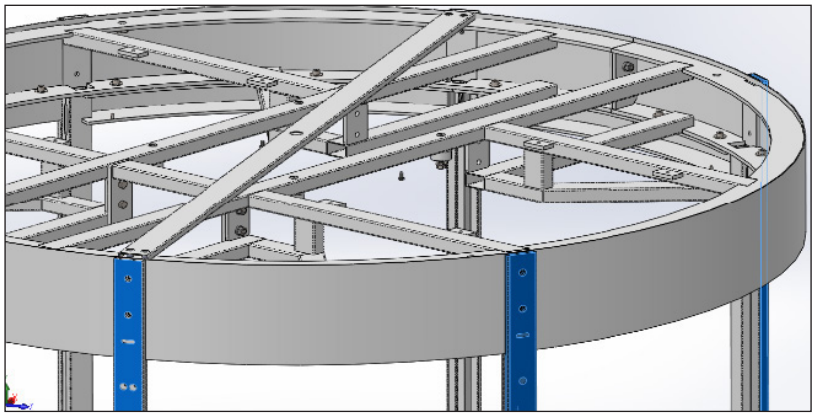
Check: internal base diameter (1690 +-3mm) and, if necessary, put thicknesses; verticality and width of the passage compartments (measure downward = measure upward and diagonals that must be the same). Tighten properly all the assembled screws.

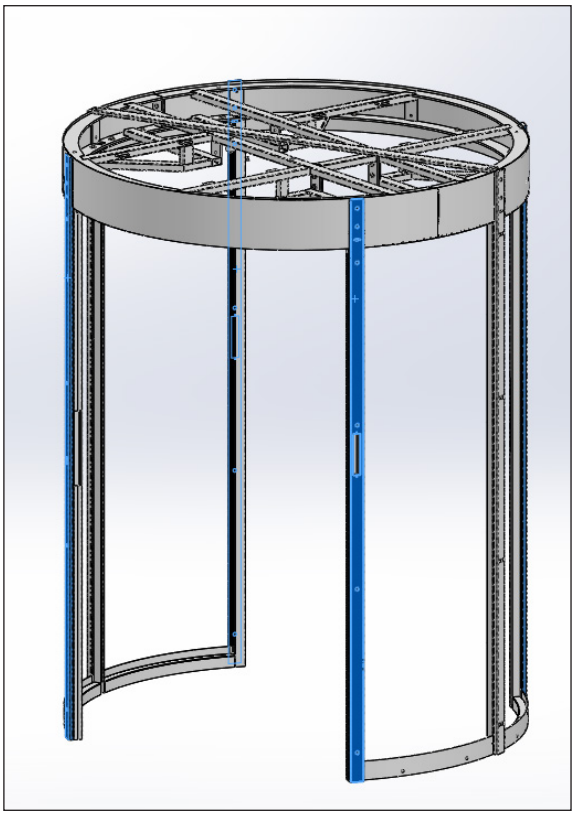


PHASE 10:

Assemble the other 4 tubulars of reinforcement code 3533436348 (x2 pieces semaphore) and code 3533364348 (x2 pieces key) to the frames through N°4 tubular screws TCEI M6X25.

Tighten the 6 vertical tubulars through n°12 SCREWS TCEI M8X30, PLANE WASHER, GROWER AND AUTOBLOCKING NUT M8 to the upper frame.





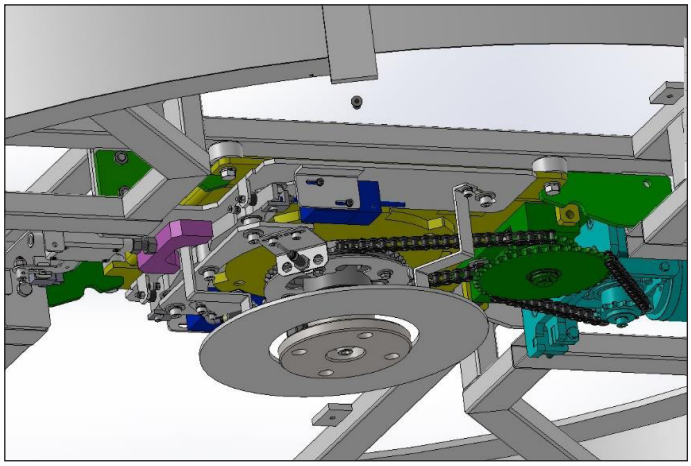
REVLOCK 614 - 3 WINGS

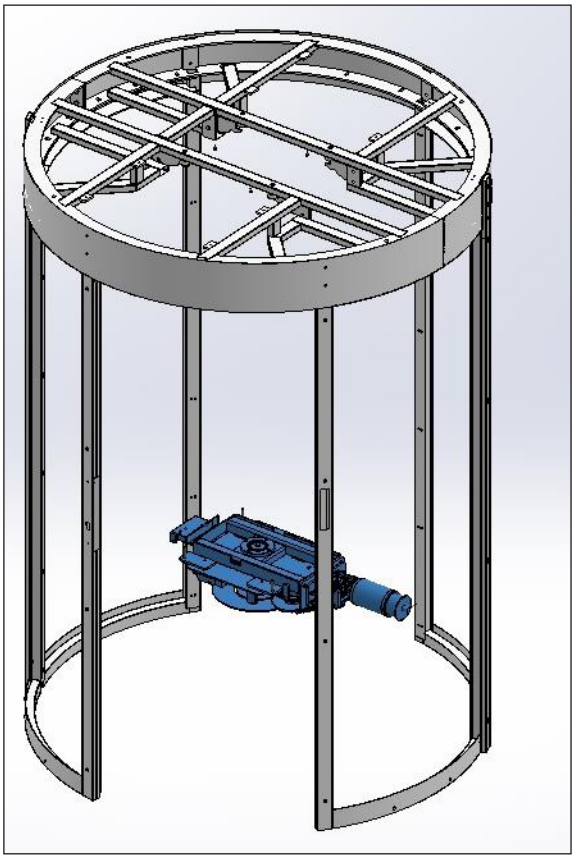
PHASE 11:

Position and lift up the motorization group code 2239399432 to the motor addressed to the right compared to the external transit towards the inside.

Block the group to the frame with n°4 TE M10X60SCREWS, PLANE WASHER and GROWER.

Assemble the 4 security plates codex 3533295348 (green in the picture below) with n°2 SCREWS TE M10X30 and M10 NUT at plate.

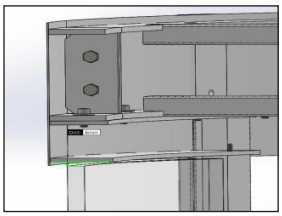




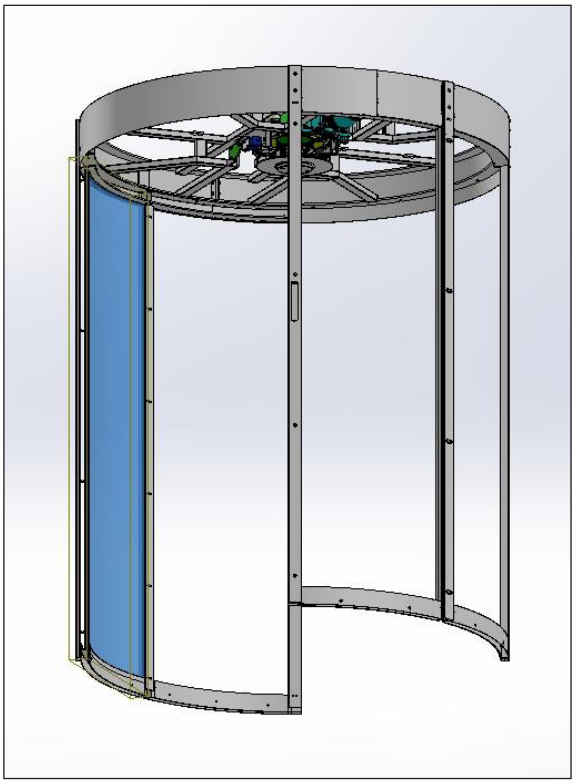
PHASE 12:

Insert the curved glass code 4239451433 in the lateral frame.

Put some thicknesses under the frame to centre it laterally: it stays 6mm of air above between the glass and the frame.

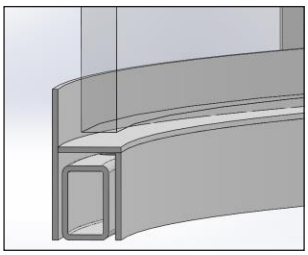


Put thicknesses of 10mm external side of the glass to leave space for the gasket. Stop the glass with some lines of transparent silicone.

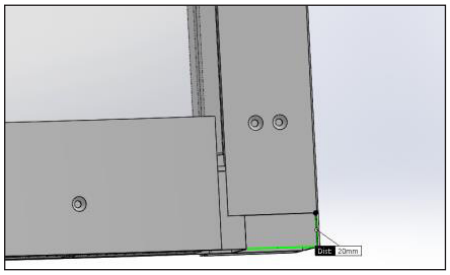


PHASE 13:

Assemble the vertical stop-glasses code 3533388348 and the curved horizontal one code 3539448433 by intercalating some ADHESIVE MOUSSE sp.5mm between the glass and the metal. Fix the stop- glass with SELF-TAPPING SCREWS TSI Ø3.5X20.

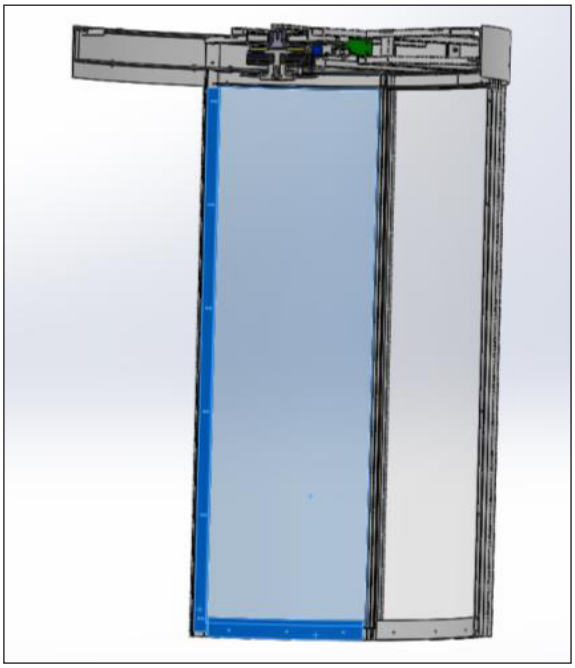


Leave the vertical stop-glass at about 20mm from the floor.



PHASE 14:

Repeat PHASE 11 and PHASE 12 for the other 3 glasses.

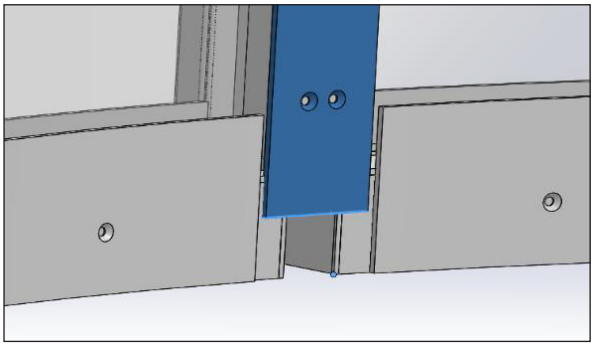


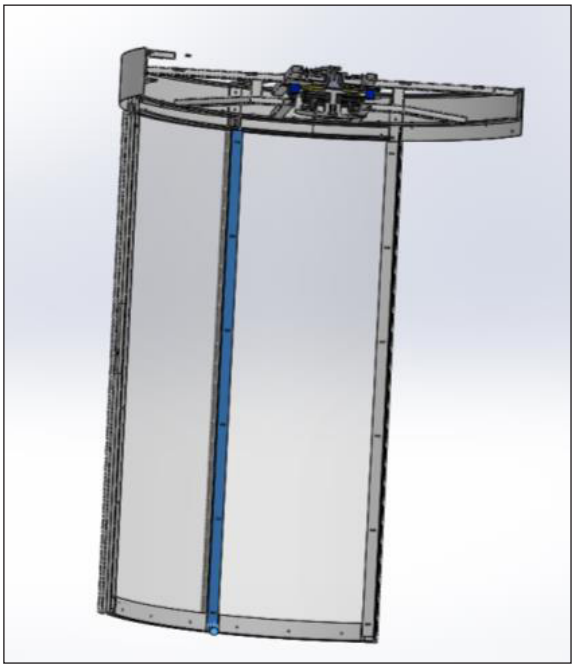
REVLOCK 614 - 3 WINGS

PHASE 15:

Assemble the vertical stop-glasses code 3533388348 by intercalating some ADHESIVE MOUSSE sp.5mm between the glass and the metal for both glasses. Fix the stop-glasses with SELF-TAPPING SCREWS TSI Ø3.5X20.

Leave the vertical stop-glasses at about 30mm from the floor for the cables passagge of the weighed base (if expected).





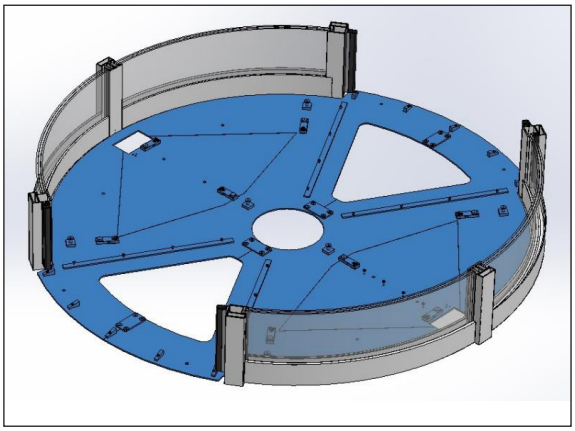
ASSEMBLY OF THEWEIGHED BASE (OPTIONAL)

PHASE 16:

Dissemble the platforms and the inclined ramps from the base code 2239526433. Put the base in the centre of the GLASS ROLL 3 WINGS and centre it. Pierce the pavement in correspondence of the 12 fixing holes with a Ø10 drill. Insert the Ø10 tiles and block with TSI Ø6x50 SCREWS.

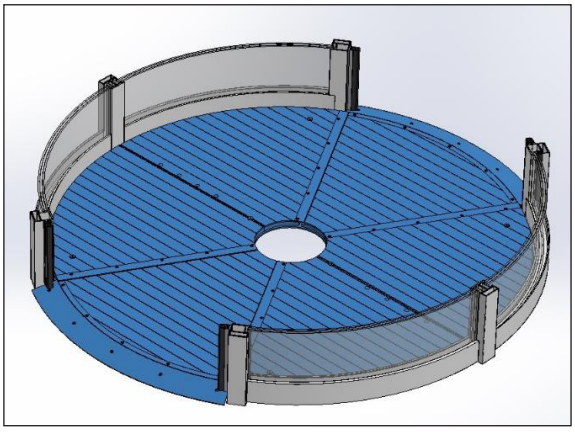
NOT TO DAMAGE THE LOAD CELLS!!

Pass in the central pillars the wiring for the cables of the load cells connection.



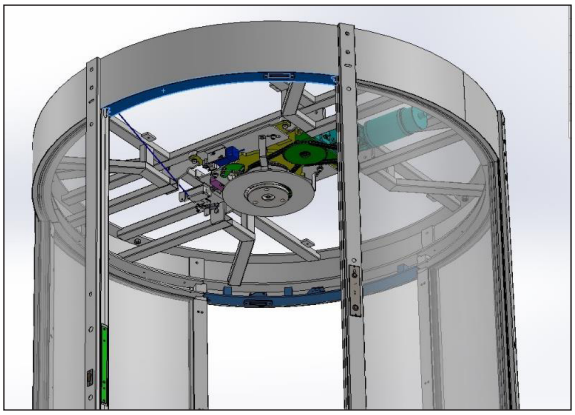
PHASE 17:

Assemble again the platforms and the inclined ramps.



Phase 18:

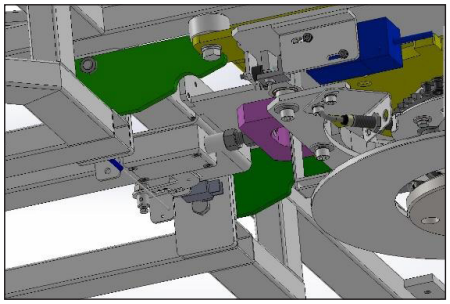
Assemble the frontal roof support code 2239476433 (x2pz,) in entrance and in exit through n°4(x2) screws TCEI M8X20 and PLANE WASHER.

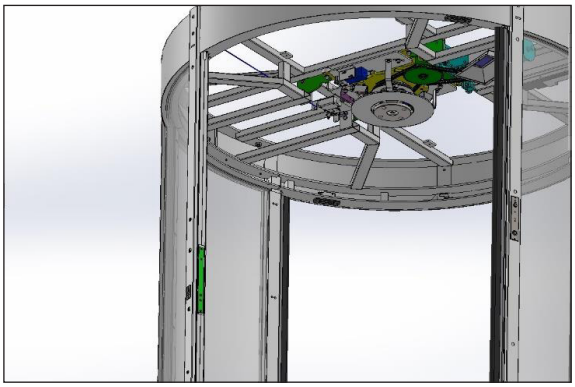


ASSEMBLY OF MECHANICAL LOCK (OPTIONAL)

PHASE 19:

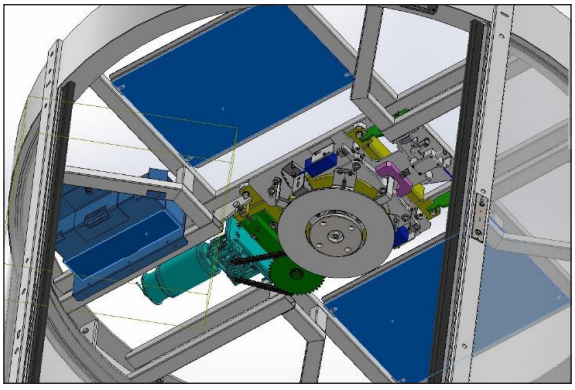
Assemble the locker code 5334269 predisposed with a cable and connect it to the blocking system.





PHASE 20:

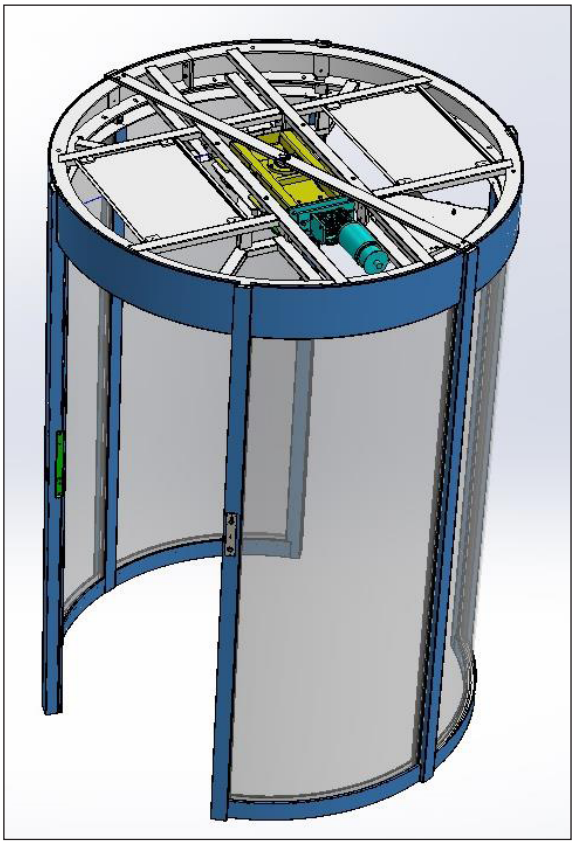
Assemble the stirrup group batteries support of code 223829416 and the pre-wired plates electronics code 3533647348 with apposite screws. Wire all the electric installation.



REVLOCK 614 - 3 WINGS

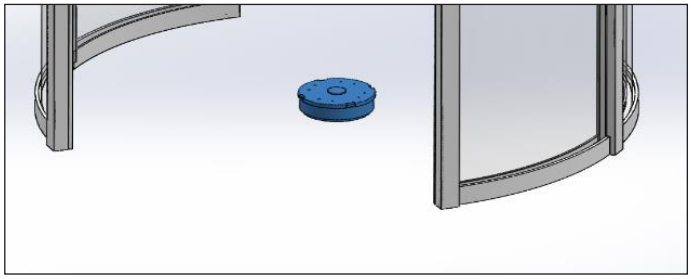
PHASE 21:

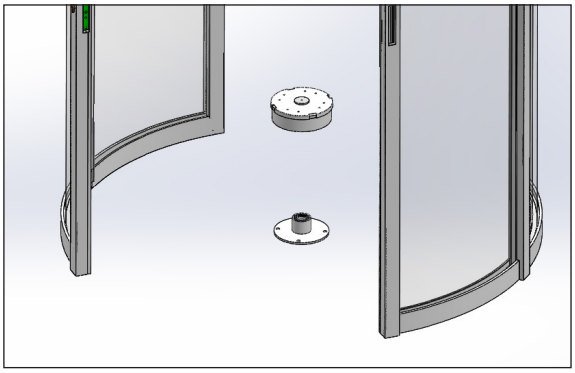
Assemble the internal and the external coating code 2239517433. Glue the coating with a bi-adhesive tape and silicone. Attention some curved details must be inserted under the vertical tubulars.



PHASE 22:

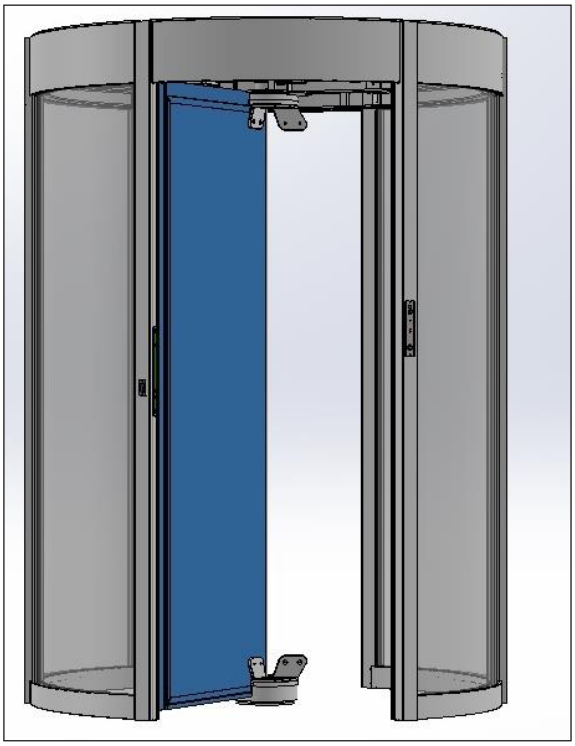
Tighten on the floor the base of the rotating hub after have extracted it code 3532747348, through n°4 metallic tiles ø14 (coach screws) and TCEI M8x60 screws. Check the balance of the hub. Insert the superior part of the hub in the buffer of the base.





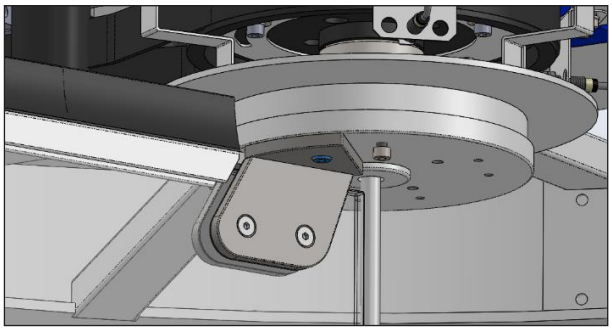
PHASE 23:

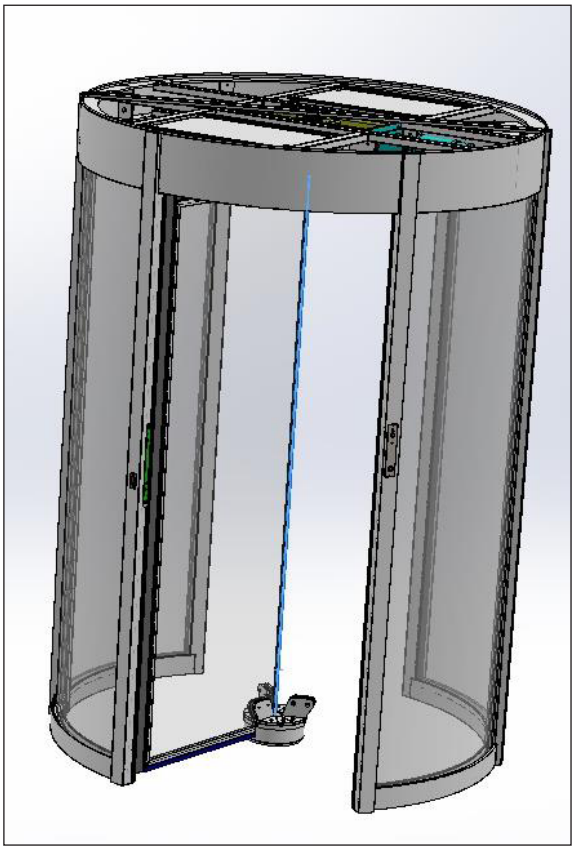
Insert the glass door completes of glass attachments code 2238239416 between the inferior support and the superior one. Block with n°2 screws TCEI M8x25.



PHASE 24:

Put the bar in plexiglass code 4334134348 in the inferior and superior supports.

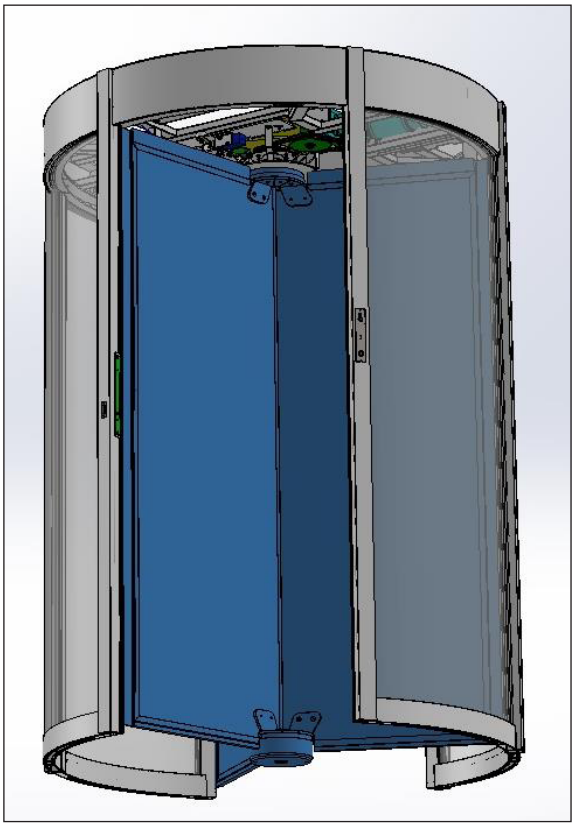




REVLOCK 614 - 3 WINGS

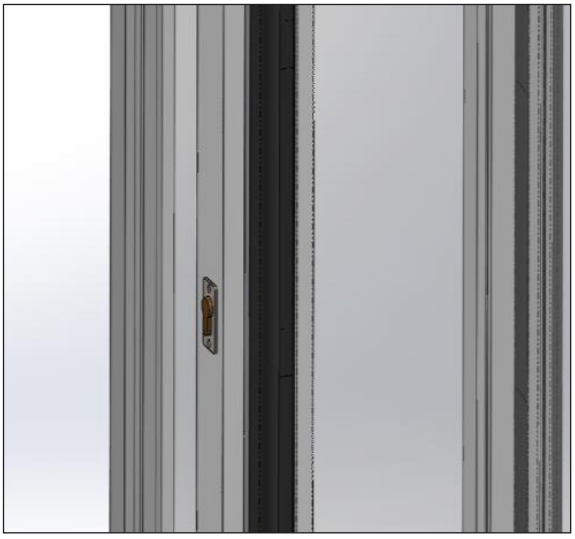
PHASE 25:

Repeat the PHASE 24 for the others 2 doors.



PHASE 26:

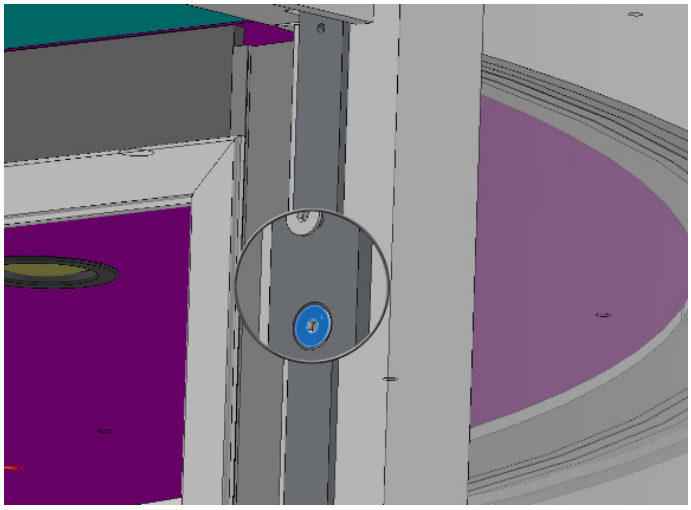
Assemble intercom pushbutton/semaphore/reader... and mechanic cylinder patch where expected.

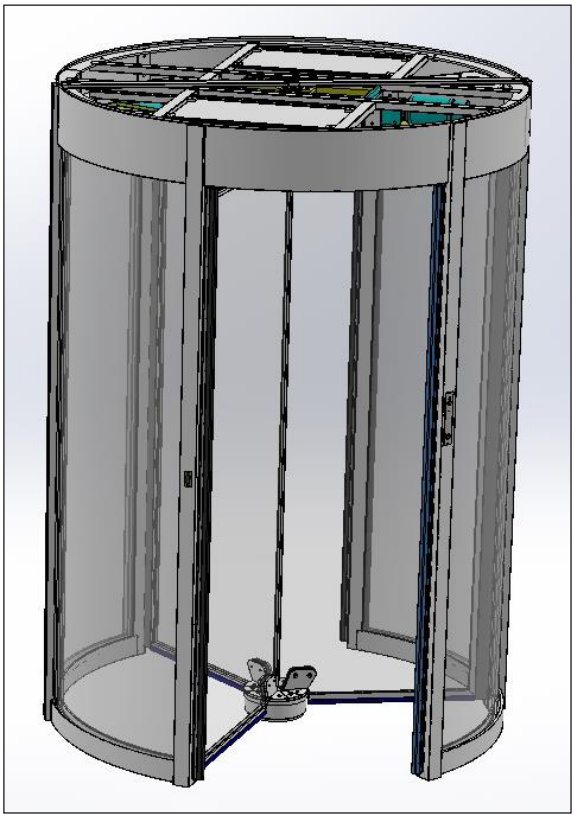


PHASE 27:

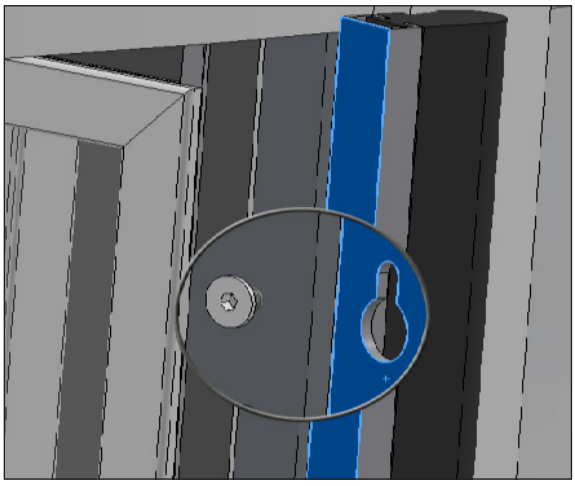
Assemble the ELECTRCONIC SECURITY SAFETIES code 2239564433 in the four pillars.

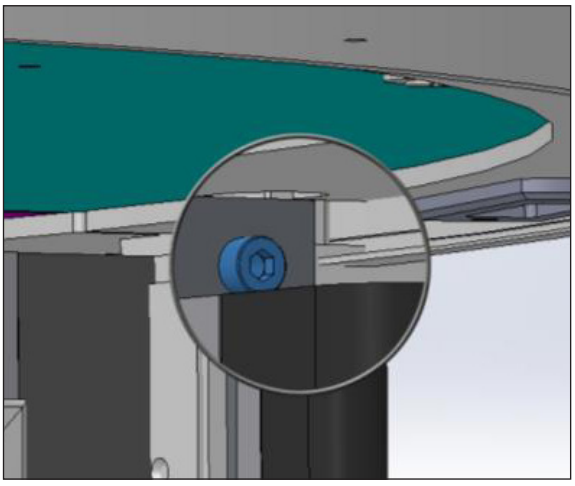
Keep the base of the safety at around 10mm from the internal coating edge and beat with the upper profile. Pierce the coating and the above structure with a Ø4 drill in correspondence of the flared holes and threading with male M5. Fix with 6 screws at T.S.P.E I. M5X15.





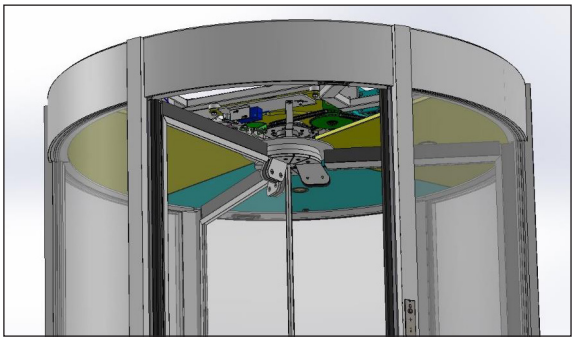
Implant the electric safety from up to down in the protruding screws from the base and block at the top with a T.C.E.I. M5X10 screw.





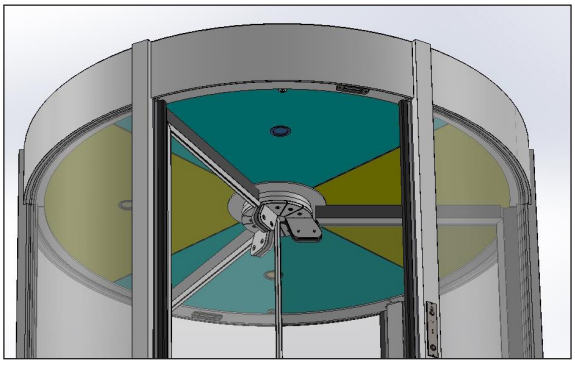
PHASE 28:

Try and make alignments, if necessary.



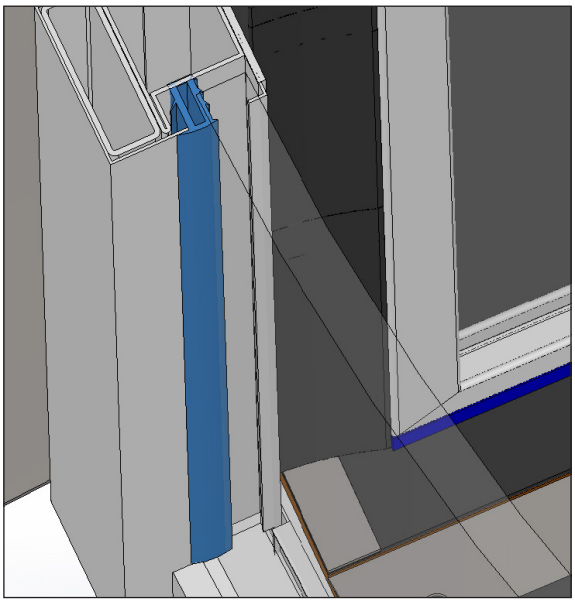
PHASE 29:

Install the roof by connecting the illumination spotlights and make a test. Assemble firstly the lateral roof (without locker) by inserting them from the compartment passages to the central disk, by putting them on the external band and turn them to position them in the respective bolts. Later on, assemble the two possible sectors with the locker.



PHASE 30:

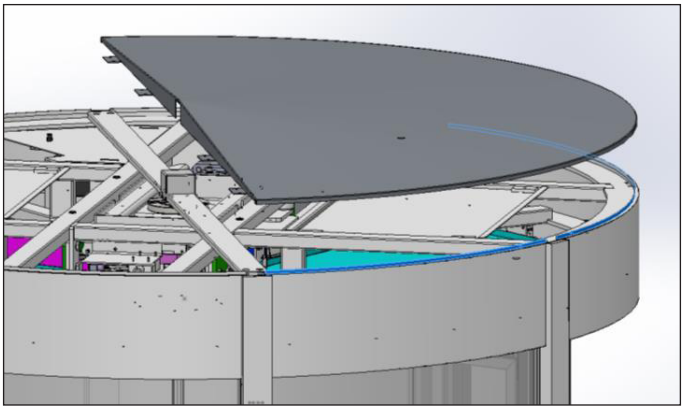
Insert the gasket between the curved glasses and the external coating (vertical and horizontal downwards).



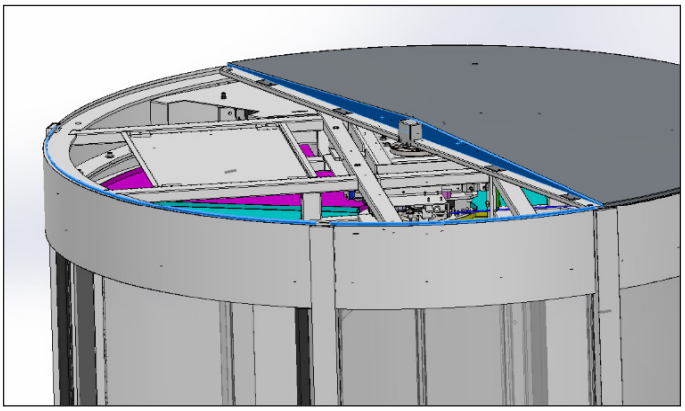
PHASE 31:

Assembling a rain-protective roof: put silicone for ½ of the superior coating edge and put the rain-protective roof.

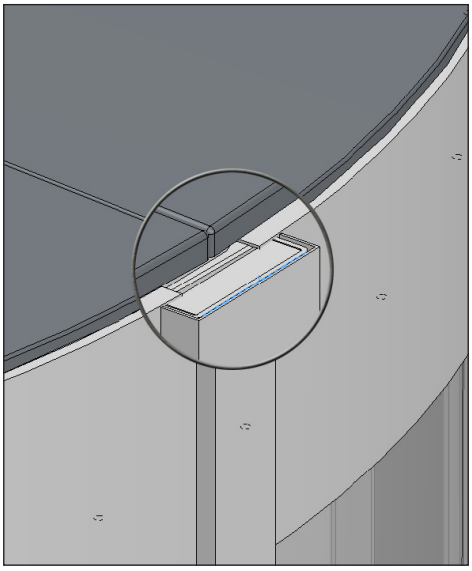
Block the protruding tongues on the upper crossbar with auto-screwing screws.



Put silicone on the other ½ of the edge of the upper coating and on the vertical part of the already assembled sealing, by uphold the rain-protective ceiling, by inserting the tongues under the already assembled ceiling.

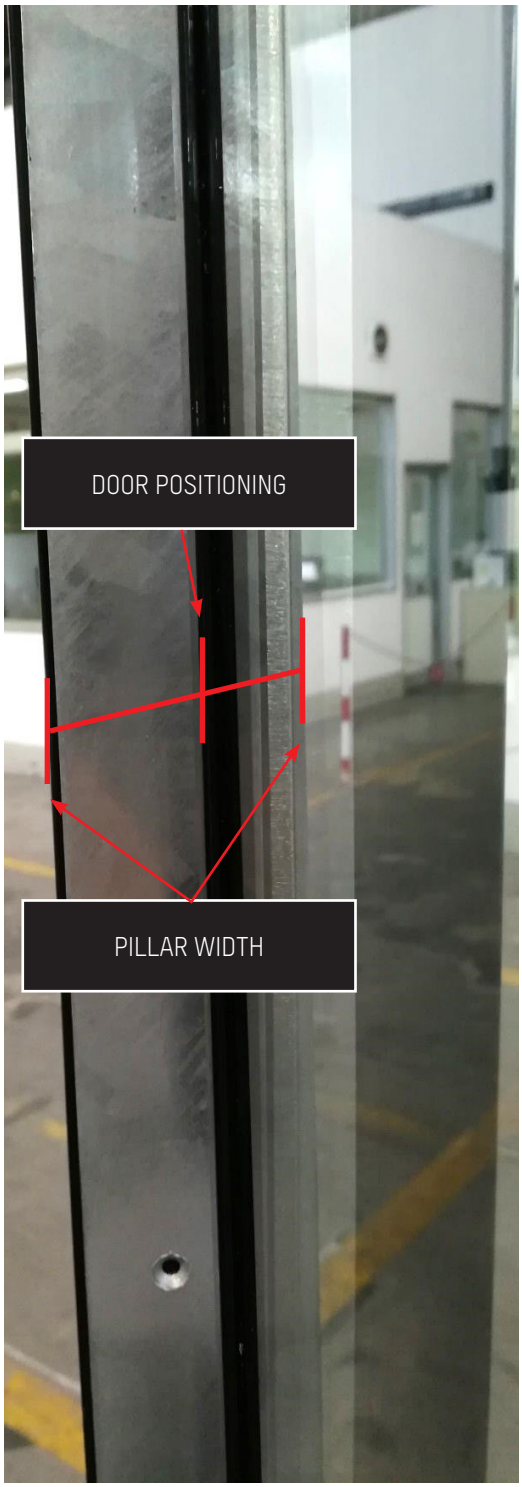


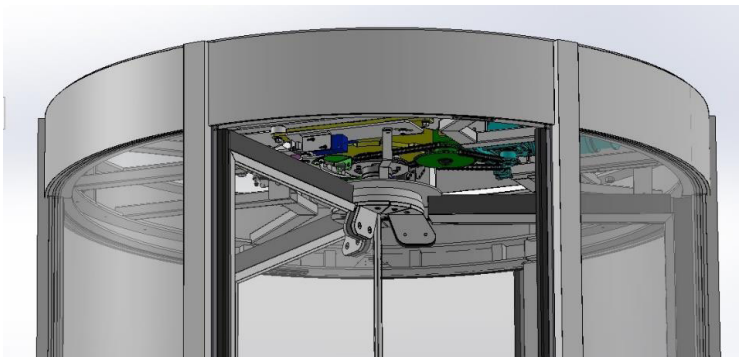
Complete the union of the two roofs and the vertical pillars with silicone so that water does not enter.

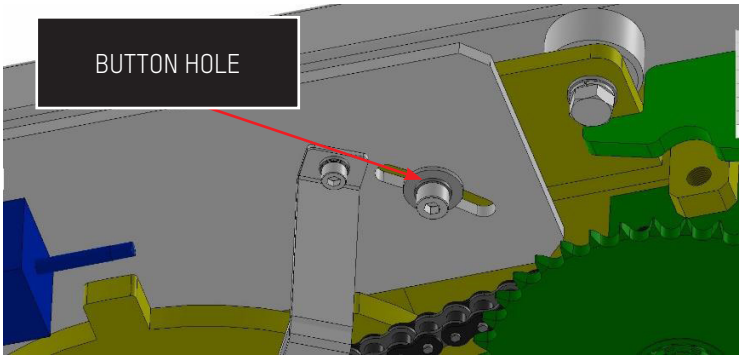


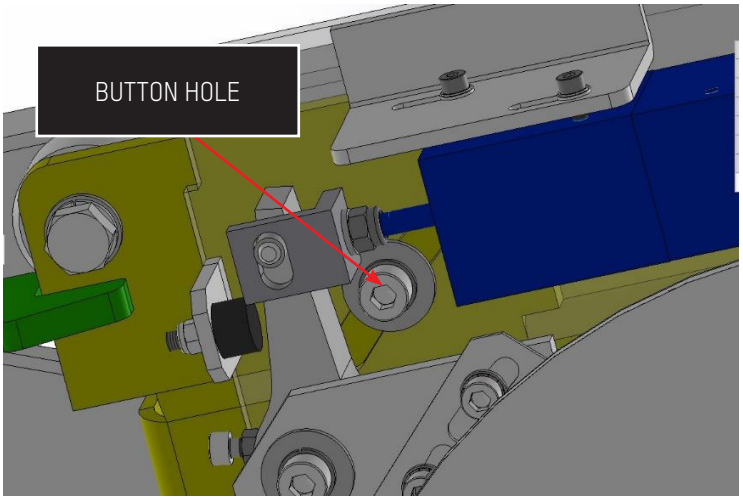
7.1. MECHANICAL TIMING

1. For a correct mechanical timing it is necessary to put each of the four doors at the centre of the related pillar
2. To regulate the positioning, work on the Motorization Group, by loosening the four screws TCEI M8 and rotating the Group along the button holes until the correct alignment of each door. Now tighten the screws.

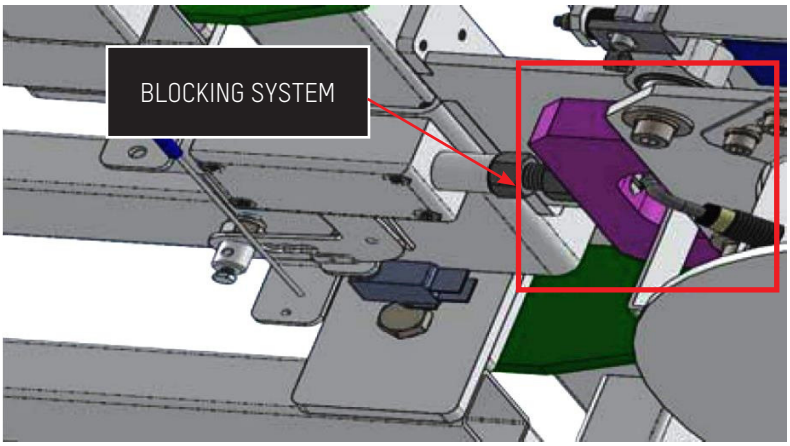


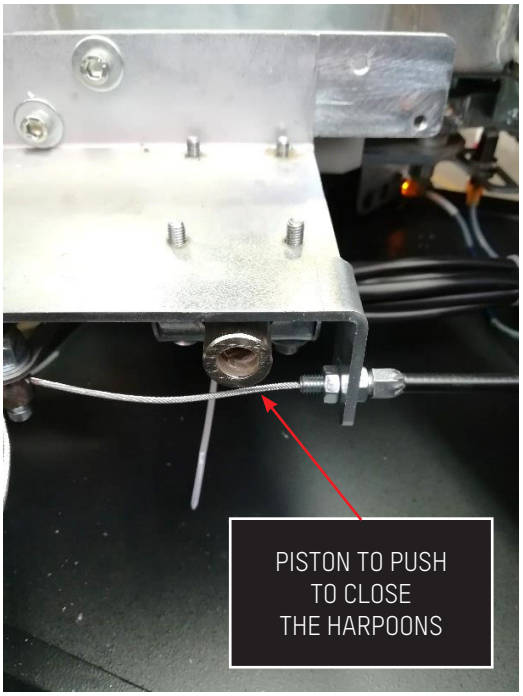






3. To verify the accuracy of the timing, leave the doors aligned and work manually on the Block System of the mechanical lock, forcing by hand the closure of the harpoons, by pushing the related piston. In this situation, by moving the start wheel by hand in both senses, verify that the shift of the doors, limited by the harpoons, has the same width compared to the centre of the related pillars.
4. To regulate the positioning, work on the Motorization Group by loosening the four screws TCEI M8 and rotating the Group along the buttonholes until the correct alignment of all the doors. Now, tighten the screws.

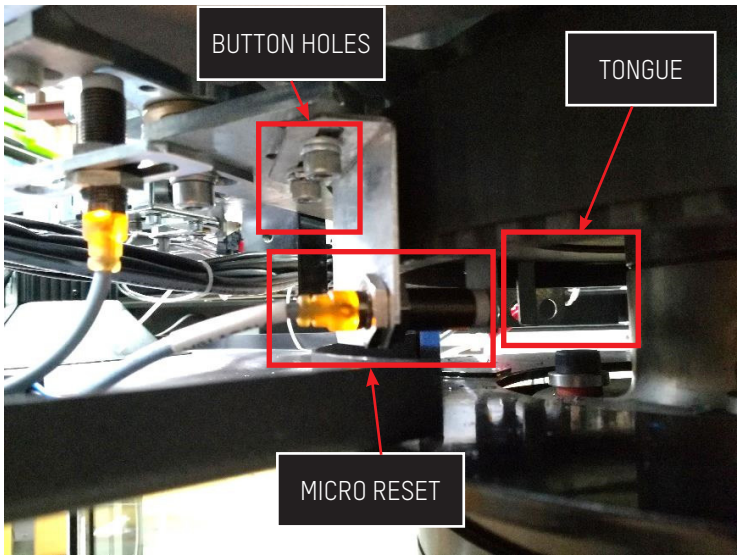


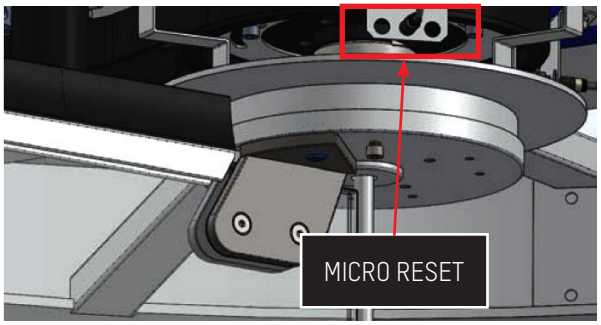


7.2. TIMING OF THE SENSOR

- Once the procedure of Mechanic Phasing is ended, place the **MICRO RESET** sensor correctly.
  This sensor must read each of the four "tongues".

  1. Verify that all the four "tongues" are intact, straight and at the same distance from the **MICRO RESET** sensor. The more similar between them they are, the better the reading of the sensor is and less will be the mistakes on the positioning of the doors.
  2. The regulation of the sensor must be done in a way that the doors of the star wheel close in the position of the mechanical timing, previously done. For this type of regulation, work on the 2 TCEI M6 screws that block the support stirrup of the **MICRO RESET** sensor, as soon as each door is positioned in the center of the related pillar, so in the **"RESET position"**.
     For the regulation work on the related button holes.





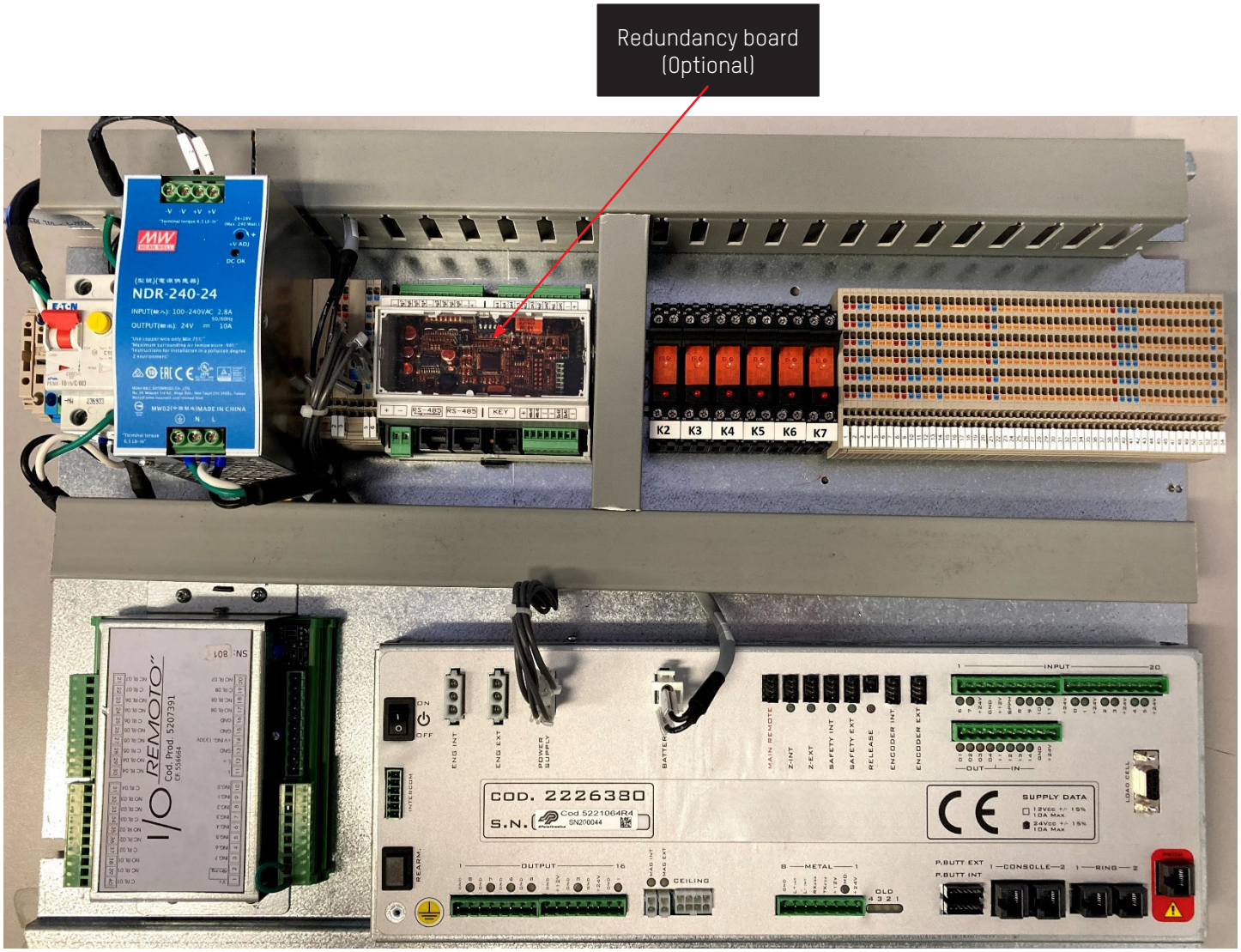
<u>REGULATION OF THE PARAMETER OF CONTROL WINDOW END</u>

- Once the booth has been switched on and mechanically regulated, it is necessary to set the correct values of the Control Window, referring to the booth specification.
  The window End parameter must be smaller than the smallest maximum value reached by the encoder of each segment, whereas the Window Start parameter can be the one defined by the specification.

  1. With the star wheel stuck in "position of RESET", put the booth in Emergency. The steps counter of the encoder is (next to) 0.
  2. Push one of the doors in counterclockwise sense, paying attention to push it very slowly when approaching to the end of the segment.
  3. When the encoder becomes zero, mark the maximum value reached before the reset.
  4. Go back to push still the same door always in a counterclockwise sense, repeating all the points 2. e 3. even for the other three segments.
     (Ideally, at the end of every segment, the steps counter of the encoder points out 3000, but in the reality, it is not like that, being a tolerance of about 100 steps both in excess and in defect).
  5. Among the four maximum values reached before every zeroing, mark down the lowest one.
  6. Set the value of the ending window parameter 15 steps less than the value found at the previous point.

8. REDUNDANCY (OPTIONAL)

The system has been designed in such a way as to guarantee in every condition, including the fault condition of the main electronics, the possibility of doors rotation and the escape of people in case of emergency.



8.1. SETTINGS

In order to activate redundancy (where present), FLAG 37 “Redundant Booth” of the luppiter parameterization must be selected.

9. MAINTENANCE

9.1. ORDINARY MAINTENANCE

FREQUENCE IN CYCLES/TIME	ACTIVITY/ OBJECT TO CHECK	ACTIVITY
3 months / 500.000 cycles	Cleaning	- Cleaning of the internal and external glazed parts - Cleaning of the steel parts - Cleaning of the base (MECHANICAL INSTALLATION - Phase 16) - Cleaning and lubrification of the chain (MECHANICAL INSTALLATION - Phase 11)
6 months / 500.000 cycles	Carpet Brushes	- Verify the integrity of the materials.
6 months / 500.000 cycles	Safety backwards Safety forwards Safety in slowdown	- Verify the integrity of the materials (MECHANICAL INSTALLATION - Phase 27) - Control the sensibility of the health and safety sensors. (MECHANICAL INSTALLATION - Phase 27) - Verify the maximum torque.
6 months / 500.000 cycles	Controllers and ceiling lamp	- Control of the luminous alerts. - Control the opening buttons and the bell. (MECHANICAL INSTALLATION - Phase 26)
6 months / 500.000 cycles	Weighing system	- Verify the pavements alignment (MECHANICAL INSTALLATION - Phase 16) - Verify the weight person answer, go back to zero with ±3Kg tolerance.
12 months / 1.000.000 cycles	Electric control unit	- Control that there are not infiltrated liquids. - Control that there are not overheated parts. - Control the LED of the machine.
12 months / 1.000.000 cycles	Control console	- Verify the functioning of the commutators. - Verify the functioning of the buttons. - Verify the functioning of the LEDs. - Control and calibration, if necessary, of the intercom volume.
12 months / 1.000.000 cycles	Motorization	- Verify the positions of the block doors arms. (MECHANICAL INSTALLATION - Phase 11) - Control that there are no oil losses in the gearboxes. - Control of backlashes on the mobile parts in static condition. (MECHANICAL INSTALLATION - Phase 11)
12 months / 1.000.000 cycles	Implant of power supply	- Batteries control and their possible substitution. - Control of the implant functioning without network of power supply (just the booth internal lamp must stay on). - Verify the functioning of the groups of the network/batteries power supply. Control of the load technical data, tension, resistance and absorption of the installation at the level of the command apparatuses and of the power supply groups. - Verify power supply tension empty and under load. - Verify absorption of whole installation. - Grounding connection control.

FREQUENCE IN CYCLES/TIME	ACTIVITY/ OBJECT TO CHECK	ACTIVITY
12 months / 1.000.000 cycles	Cylinders and keys	- Control functioning of the mechanical lock, electric and related keys. (MECHANICAL INSTALLATION - Phase 19)
12 months / 1.000.000 cycles	System of booth closure	- Verify the functioning and cleaning of the electro-pistons. (MECHANICAL INSTALLATION - Phase 11) - Verify the functioning and cleaning of the electromagnets. (MECHANICAL INSTALLATION - Phase 11)
24 months/2.000.000 cycles	Structure	- Glass fixing control. - Control and fixing of the roofs.

9.2. RESIDUAL RISKS

PROBLEME	CAUSE	INTERVENTION
The turnstile does not rotate	Verify power supply Tumbler system Console Movement Clockwise safety Mechanic harpoon Engine braking	- Verify that the booth is switched on - Verify that is set in the right position - Verify that the emergency function is not activated - Verify that the movement is free - Verify that the safety is functioning - Verify that the harpoons are free - Verify that the brake is deactivated
Booth in alarm	Load cell Camera Sensor Safety counter-clockwise	- Verify weight settings through luppiter - Verify camera sensor settings - Verify the functioning of the Safety
Turnstile that rotates in clockwise and counterclockwise sense continuously	Safety counterclockwise	- Verify the functioning of the Safety
Turnstile that alternates normal speed to slow speed	Safety in slowdown	- Verify the functioning of the Safety
Turnstile that rotates continuously	Console	- Verify that the continuous rotation function is not inserted
Users cannot transit	Load cell Camera sensor	- Verify the weight settings through luppiter - Verify the camera sensor settings
Booth allows transits just in one direction	Console	- Verify that the mono-directional function is not inserted
The turnstile does not rotate with red semaphores	Mechanical lock	- Verify that the key is turned in the closed position - Verify the locker contacts
The booth lets more than one person with just one validation	Console Load cell Camera sensor	- Verify that the control is inserted - Verify the weight settings through luppiter - Verify the camera sensor settings

10. TECHNICAL DATA

Below is a summary table with the main features of the RevLock - 3 WINGS Standard models produced by Automatic Systems:

DIAMETER (mm)	HEIGHT (mm)	CONTROL OF THE PASSAGE'S UNIQUENESS		OPTIONAL
		CAMERA SENSOR	WEIGHED PLATFORM	
1770	2300		✓	Basement IP33
1770	2500	✓	✓	Basement IP33

10.1. 1770 X 2300 MODEL DIMENSIONS

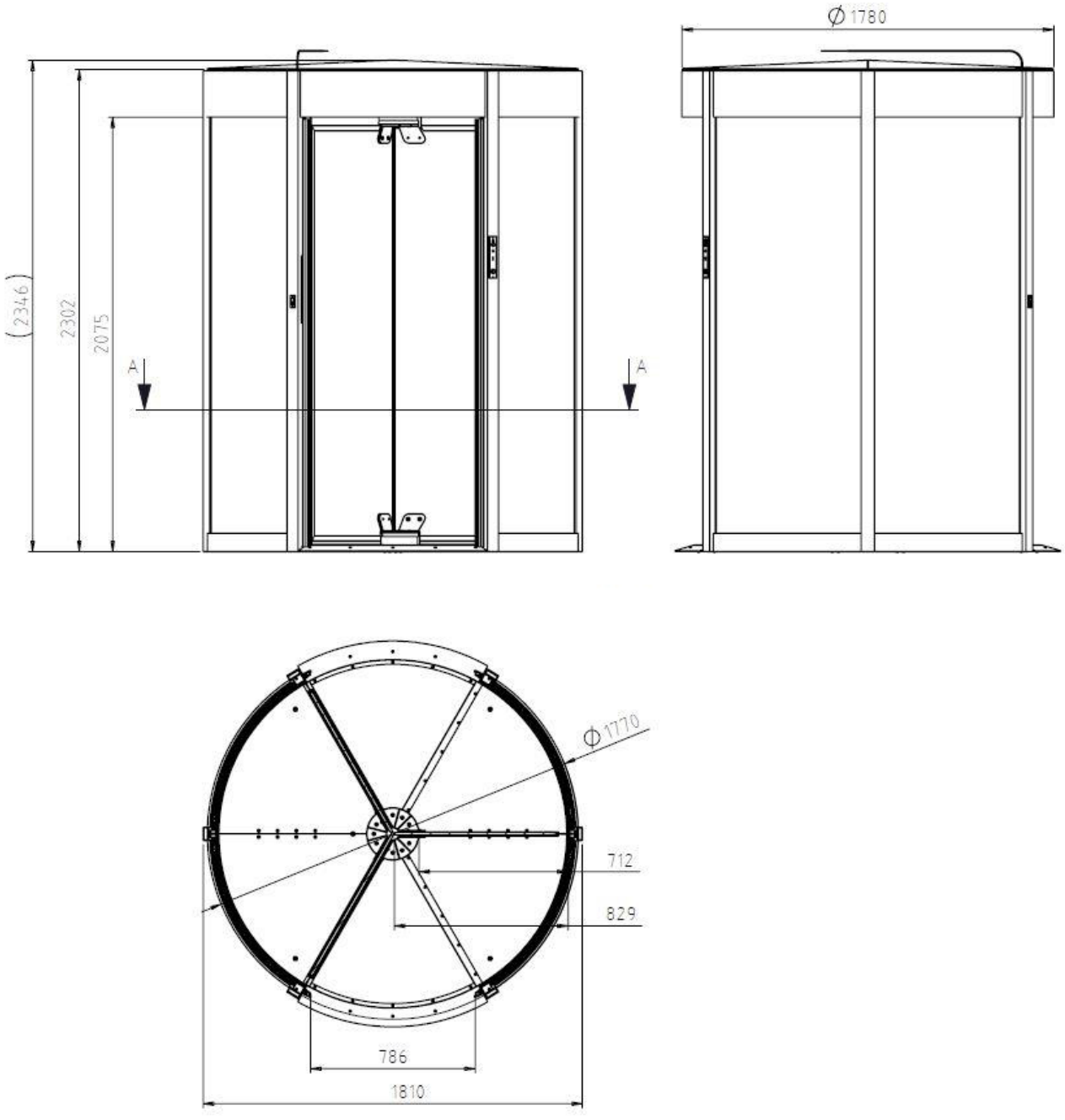


Fig. 37 - 1770 x 2300 model dimensions

10.2. 1770 X 2500 MODEL DIMENSIONS

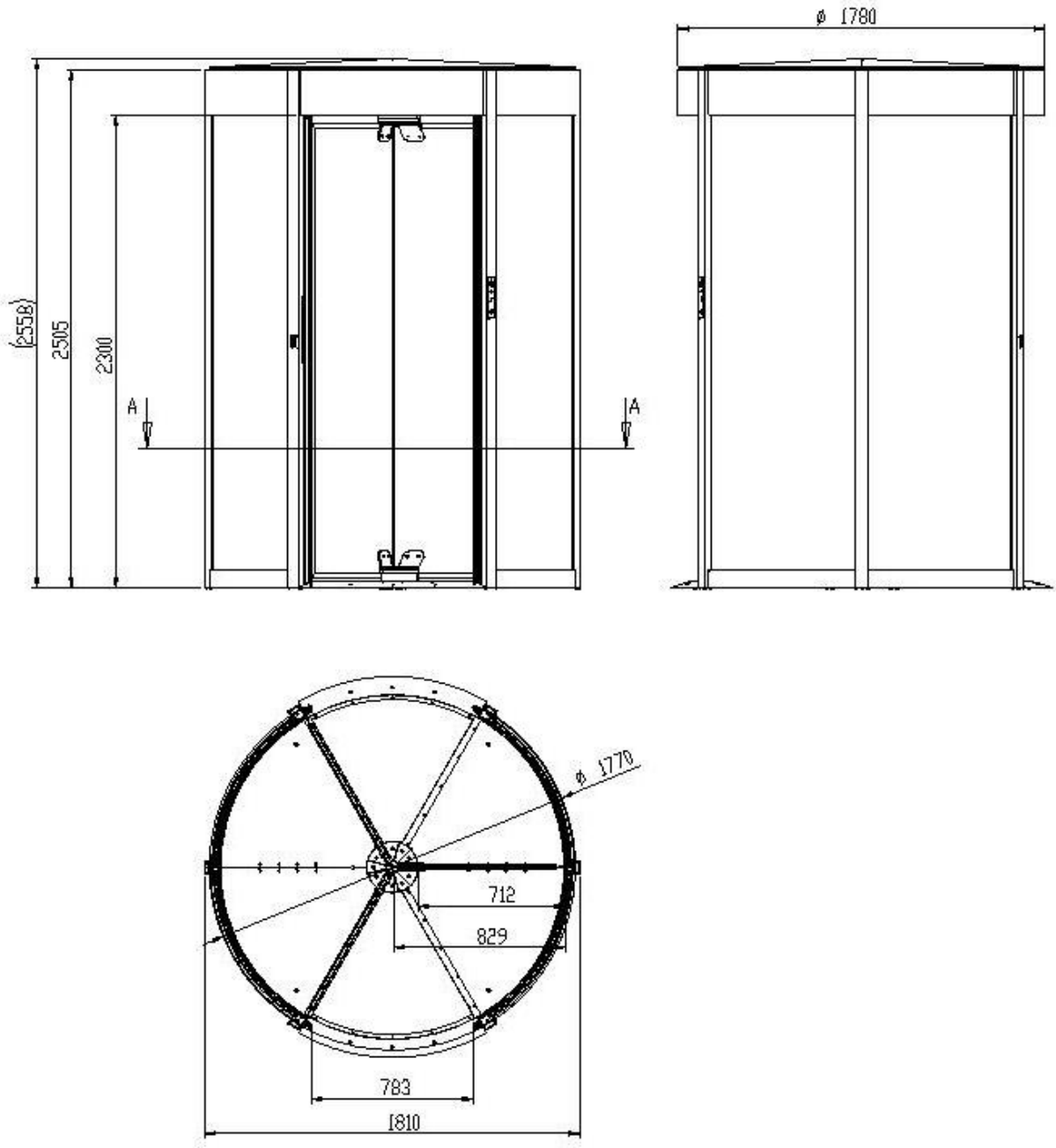


Fig. 38 - 1770 x 2500 model dimensions

11. TECHNICAL CHARACTERISTICS

Power supply	220 VAC or 100-240 VAC 3,4 A 50/60 Hz (see chapter Power supply)
Maximum absorbed power	200 W
Operating temperature	-10° C/+55° C
Relative ambient humidity	85 % (without condensation)
Degree of protection	IP20
Battery Pad	2 batteries of 18 Ah for the functioning in absence of current
Motor	1 motor 24Vcc for the reversible movement of the doors, with the security block in closure
Management Logics	programmable by micro-processor with n. 1 lines RS232, n. 2 RS485 (n. 1 RS485 reserved)
Health and safety security	Sensors on the pillars of the doors both in entrance and in exit and system of control that guarantee the regulation of the motor torque
Speed of transit	20 passages per minute in one sense 40 passages per minute in both senses (excluded action time of possible readers or badges).
Dimensions	Total dimensions (mm): Height 2505 Width 1970 Dimensions of passage (mm): Height 2300 Width 1350
Weight	1400 Kg
MTBF/MCBF	2 years / 1.000.000 of passages respecting the ordinary maintenance
MTTR	2 hours
CE	Comply with the European standards

AUTOMATIC SYSTEMS

BELGIAN & INTERNATIONAL OFFICES

Belgium
Tel.: +32 (0)10 23 02 11
helpdesk.as@automatic-systems.com

France
Tel.: +33 1 30 28 95 53
helpdesk.fr@automatic-systems.com

Germany
Tel.: +49 2303 553 4040
helpdesk.de@automatic-systems.com

United Kingdom
Tel.: +44 (0) 1604 654 210
helpdesk.uk@automatic-systems.com

Spain
Tel.: +34 93 478 77 55
helpdesk.es@automatic-systems.com

United States & Canada
Tel.: +1 450 659 0737
helpdesk.nam@automatic-systems.com

Others countries
Tel.: +32 (0)10 23 02 11
helpdesk.as@automatic-systems.com

RevLock 614-MT-EN-00

Headquarters
Avenue Mercator, 5
1300 Wavre - Belgium

www.automatic-systems.com

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