

CLEARLOCK 639

Security booth

TECHNICAL MANUEL

(Translated from the original English version)

Rev. 05 • Update 05/2022





TABLE OF CONTENTS

1.	Symbols used	4
2.	Introduction	5
2.1.	Warranty	5
2.2.	Intended use	5
2.3.	Identification	5
2.4.	General safety rules	6
2.5.	Safety devices	6
2.6.	Risk assessments	6
2.6.1.	Warnings for users	6
2.6.2.	Warnings for Service Technicians	7
2.7.	Risk evaluation	7
2.8.	Maintenance warnings	9
3.	Functioning	10
3.1.	Product Description	10
3.2.	Booth functioning	11
3.2.1.	Ignition of security booth	12
3.2.2.	Normal transit	13
3.2.3.	Metal detector alarm (Optional)	13
3.2.4.	Transit with metal objects (if metal detector is present)	13
3.2.5.	Closed door to the public	13
3.2.6.	Anti-hostage alarm	13
3.2.7.	Consent procedure for the transit of two persons	13
3.2.8.	Emergency door opening	13
3.2.9.	Automatic operation when power failure	14
3.2.10.	Internal stop button of the safety booth	14
3.2.11.	Authorization of transit	14
3.2.12.	Manual function	14
3.2.13.	Function not correct	14
3.3.	Control console	15
3.4.	Control console operation modes	16
3.5.	Lights of the booth	18
4.	Electronic description	19
4.1.	Block diagram	19
4.2.	Power supply	20
4.2.1.	Power supply 220 VAC	20
4.2.2.	Power supply UL - 100/240VAC 2.8A 50/60Hz	21
4.3.	ED Electronic control unit	22
4.3.1.	Connectors	23
4.3.2.	Programming	31
4.3.3.	Parameterization and diagnosis	33
5.	Installation	35
5.1.	Preliminary checks	35
5.2.	Unpacking	35
5.3.	Security booth placing	36
5.4.	Wall mounting	37
5.5.	Wiring	40
5.6.	Testing	41
5.7.	Disabling and removing	41
6.	Inputs and outputs	42
6.1.	Electronic control unit	42



7.	SOFTWARE OF WEIGHT MANAGING, SYNTHESIS AND DIAGNOSIS: IUPPITER.....	44
7.1.	Parametrization	44
7.1.1.	Actuation Page	44
7.1.2.	ED setup page - Actuation	46
7.1.3.	ED setup page - Master	47
7.1.4.	Weight Page - Synthesis.....	50
7.2.	Diagnosis.....	52
7.2.1.	Expansion I/O 315 Page (Optional).....	52
7.2.2.	Diagnostics page	53
8.	Instructions for disassembly and reassembly of security booth (Optional)	54
8.1.	Disassemble the safety cab as described in the following steps	56
9.	Maintenance.....	57
9.1.	Ordinary maintenance.....	57
9.2.	Troubleshooting.....	58
10.	Technical specifications	59
10.1.	Weighed base model H2350 (Standard).....	59
10.2.	People counting model H2575 (Optional)	60
11.	Technical characteristics.....	61

ILLUSTRATIONS TABLE

Fig. 1 - Identification label	5
Fig. 2 - External side view	11
Fig. 3 - Internal side view	12
Fig. 4 - Control console	15
Fig. 5 - Block diagram	19
Fig. 6- Power supply 220 VAC	20
Fig. 7 - Power supply UL	21
Fig. 8 - ED Electronic control unit	22
Fig. 9 - ED Electronic control unit / Connectors	23
Fig. 10 - Programming Software icon	31
Fig. 11 - Programmer	31
Fig. 12 - Programming connector	31
Fig. 13 - Software for parameterization icon	33
Fig. 16 - Connector for Iuppiter mainboard parameterization	33
Fig. 14 - 5819317 Iuppiter ED cable	33
Fig. 15 - USB/RS485 converter	33
Fig. 17 - Positioning / Handling points	36
Fig. 18 - Positioning / Rollers	36
Fig. 19 - Levelling feet and fixing holes	37
Fig. 20 - Fixture attachment	37
Fig. 21 - Wall mounting on safety booth centerline	38
Fig. 22 - Wall mouting with cantilevered safety booth	39
Fig. 23 - Wiring	40
Fig. 24 - Iuppiter - Inverter page	44
Fig. 25 - Iuppiter - ED Setup page - Actuation	46
Fig. 26 - Iuppiter - ED Setup page / Master	47
Fig. 27 - Iuppiter - Weight page	50
Fig. 28 - Iuppiter - I/O 315 page	52
Fig. 29 - Iuppiter - Diagnostics page	53
Fig. 30 - Exploded view	54
Fig. 31 - Upper parts	55
Fig. 32 - Lower parts	55
Fig. 33 - Optional metal detector models	56
Fig. 34 - ClearLock 639 with weight detection	59
Fig. 35 - ClearLock 639T with volumetric detection	60

1. SYMBOLS USED

The following symbols represent a state of more or less severe danger. They were incorporated in almost every chapter to draw the reader's attention.

	<p>Danger for people's health. Non-compliance with the warnings of this symbols may cause serious injury to persons.</p>
	<p>Potentially dangerous situation or a forbidden use, which may cause a major damage to the machine. Non-compliance with these warnings may cause damage to the machine.</p>

The symbols below represent a state of more or less severe danger. They were put in strategic parts of the machinery to point out the danger

DANGER

	<p>General Hazard</p>
	<p>Danger of Electrocutation</p>
	<p>Grounding</p>
	<p>Crushing</p>
	<p>Burning</p>
	<p>Obstacles</p>

PROHIBITION

	<p>Do not remove safety devices</p>
	<p>Do not repair or record while in motion</p>
	<p>Do not use water to extinguish the fire</p>

2. INTRODUCTION

This manual describes all the operating instructions and some maintenance information to get the best results and the highest levels of efficiency from the booth. We suggest you read carefully all recommendations before using the machinery. For any further information about reparations, regulations and settings which are not described in this manual must be request directly 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. Please note that the non-compliance of our guidelines could result in a withdrawal of guarantee.

The guarantee will be cancelled if the user will fail to accomplish the manual's instructions or if he will make changes without prior written permission of the manufacturer and/ or will use non-authentic spare parts.

Automatic Systems reserves the right to make all the necessary modifications considered needed for a better functioning of security booth.

2.2. INTENDED USE

The security booth must exclusively be used as a safety door for accesses control.

Limitations:

Security booth must be used exclusively for its original purpose, considering these restrictions. Other uses are considered inappropriate and wrong. The manufacturer is not responsible for any damage caused by improper, erroneous or unreasonable use.

2.3. IDENTIFICATION

The plate represented below, contains all the information regarding the system's functions and identification.

It is located inside the structure.

In case of support request, please provide the serial number illustrated on the plate.

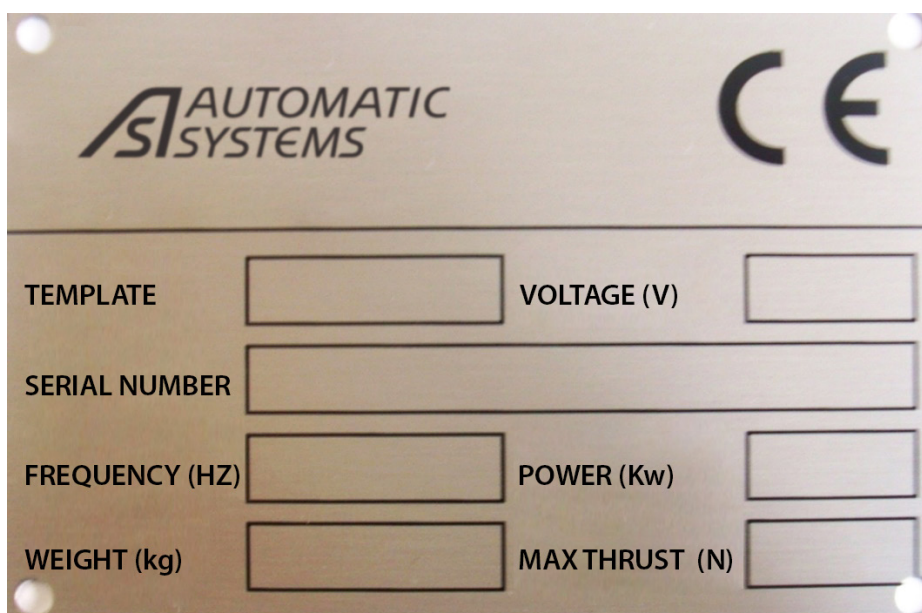


Fig. 1 - Identification label

2.4. GENERAL SAFETY RULES

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.

Removing or tampering any safety devices involves a breach of European safety rules.

Our machines are predisposed to accept only original accessories. Installation must be executed by authorized and competent staff in full respect of the instructions given below. Make you sure that no dangerous condition occurs while operating the system. Stop immediately the system in case of operational irregularities and call the customer service.



Any maintenance on the electrical system, even minor, require the intervention of professionally qualified staff.

2.5. SAFETY DEVICES

- Manual release of the system in case of total lack of energy
- Internal button of aid call
- Inaccessible mechanic motion
- Metal plates showing the correct procedures to be followed
- Accident prevention sensor which stops and opens the door in case something is intercepted during the closing phase
- Electronic torque adjuster that regulates the door push power
- Electric isolation
- Safety transformer
- Peripherals devices working by 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 ASSESSMENTS

The booth has been designed in compliance with safety rules and in respect of possible risks for the user and for the authorised staff, following all the right practices and technical criteria for situations not supplied by the regulations.

However, there are still risks for users and maintainer, related to the machinery characteristics, for which it has not been possible to find any technical solution. That is why further specific precautions must be taken.

During the common operating, the user must not access to moving parts.

In case of manual release or during maintenance operations, the mandatory signals are displayed in the considered area, asking to turn off the machine's alimentation before going on. The areas accessible to operators which are in danger of electric shock are identified by CEI EN 60204-1. There is no risk of getting caught into a security smooth in case of power failure thanks to the manual release of the system.

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 EVALUATION



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

We can define the following categories:

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

CATEGORY 1 - HANDLERS

People at risk: Truck drivers, porters, installers.

Type of risk:

- Machine tilting.
- Finger and feet crushing.
- Traumas from excessive strain while moving the machine.

Avoiding the risks:

- Do not free the machine from its packaging before reaching the installation place.
- Pick up and move the machine using proper equipment.
- Stay away from the machine when it is lifted.

CATEGORY 2 - INSTALLERS

People at risk: Assemblers, electricians, technicians.

Type of risk:

- Trauma from excessive strain when moving the booth.
- Noise while drilling fixing holes.
- Danger of electrical shock while drilling the holes and while connecting the wires.
- Danger of cutting off fingers while mechanical parts are in movement when internal ceiling or external roof are removed.

**Avoiding the risks:**

- Lift and move the security booth using proper equipment.
- Wear protective equipment.
- Use tools to check the electric voltage.
- Don't operate on mechanical parts while the machine is on.
- During handling do not release the booth from the frame.

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.
- Verify the operation of the safety systems.
- Do not operate while mechanical parts are moving.

CATEGORY 4 - CLEANING STAFF

Persons at risk: Cleaning staff, service staff.

Type of risk:

- Use of harmful substances.
- Crushing between closing doors.
- Trapped cleaning cloths during doors movement.

Avoiding the risks:

- Use appropriate protective equipment.
- Don't clean the door while in motion.
- Disable doors movement from the control console.

CATEGORY 5 - USERS

Persons at risk: Adult and disabled users.

Type of risk:

- Impact on the doors while opening/closing.

Avoiding the risks:

- Do not rush while passing.
- Do not try to go back while passing.
- Keep umbrellas and bags close to the body.

Persons at risk: Children accompanied by adults.

Type of risk:

- Impact on the doors while closing.

Avoiding the risks:

- Children must be in front and very close to the adult.
- Do not rush while passing.
- Do not drag children by hand.
- Do not leave the children alone while 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 anti-robbery booth is equipped with a special system, which allows you to check the presence of metal objects and / or people (anti-hostage function) inside the transit compartment. On request it can be equipped with Biometric systems for the recognition of people. Information on the dimensions can be found in the manual.



The object detection system only affects the internal compartment; it is therefore possible anchor the booth to lateral structures (frames, ceiling) without compromising its functioning!

The structure of the anti-robbery door is made of steel plate, suitably reinforced with thick tubes.

Painting is performed using special materials that give the finished product an excellent finish resistance to atmospheric agents and impacts. The passage area is made of special high-strength materials, as are the door supports where the bullet-proof curved glass is housed.

The management logic is positioned in the upper compartment of the booth and can be easily inspected. A plastic cover protects the upper compartment from dust.

The movement of the doors is of electromechanical type managed by DC motors. There underfeeding of the engines guarantees an additional protection against accidents, in addition to the sensors of the doors.

The booth is also provided with:

- Intercom system for conversation between external and control console;
- Push-button panels that include the signalling LED (red, yellow, green color), door phone call button, microphone, door opening button;
- Stop button and emergency call intercom call located inside the booth.
- Mechanical key for power on of the booth and night closing.
- Voice synthesis with one or more messages (optional);
- Weighed base
- Personal presence sensor (optional).
- Person counting sensor (optional).



Failure to use the night lock by mechanical key can give rise to the possibility that the doors remain unlocked, then open manually, in case there is a depletion of battery power reserve.

3.2. BOOTH FUNCTIONING

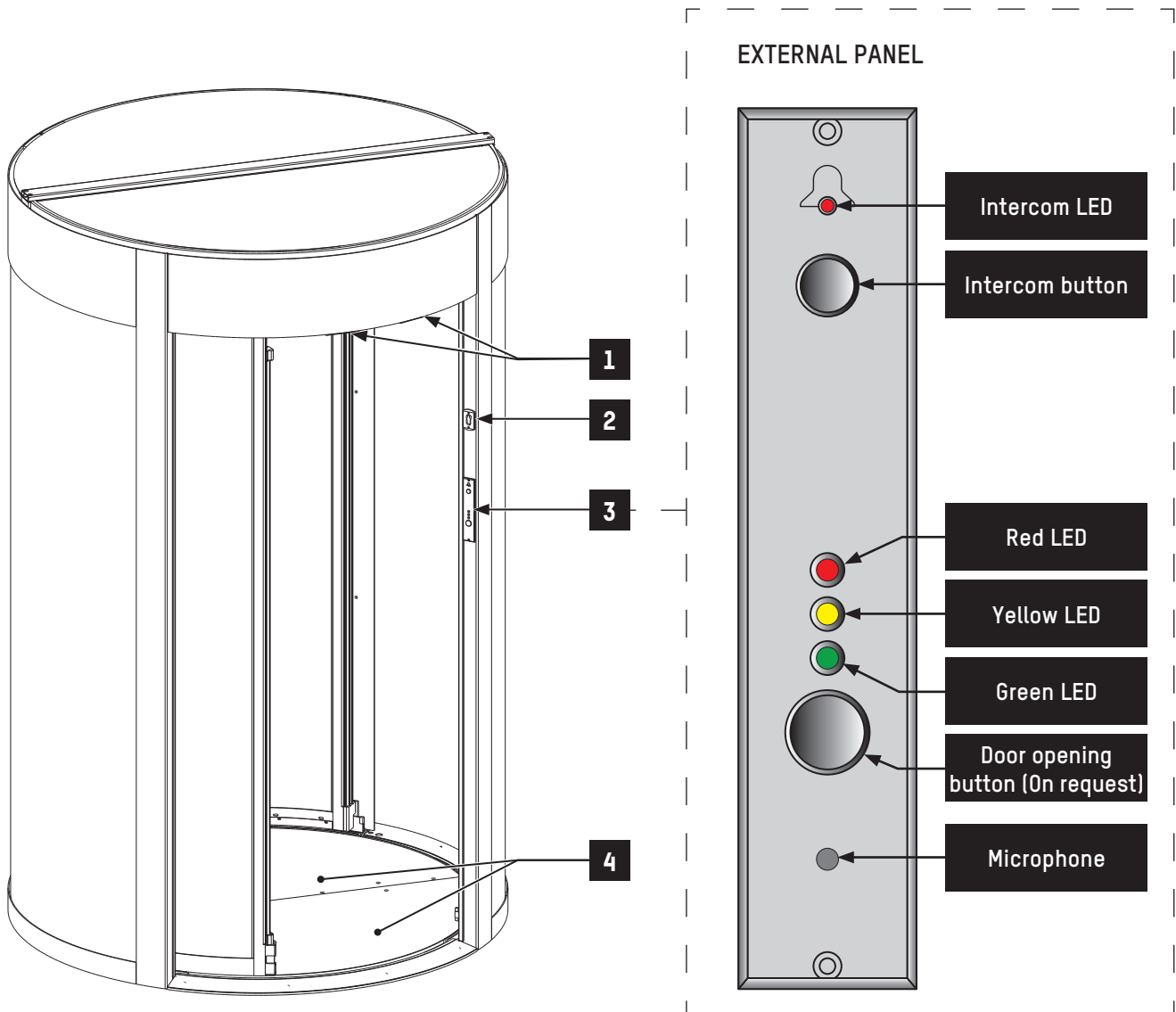


Fig. 2 - External side view

Ref.	Designation
1	Radar
2	Mechanical lock
3	External push-button panel
4	Weighed-base

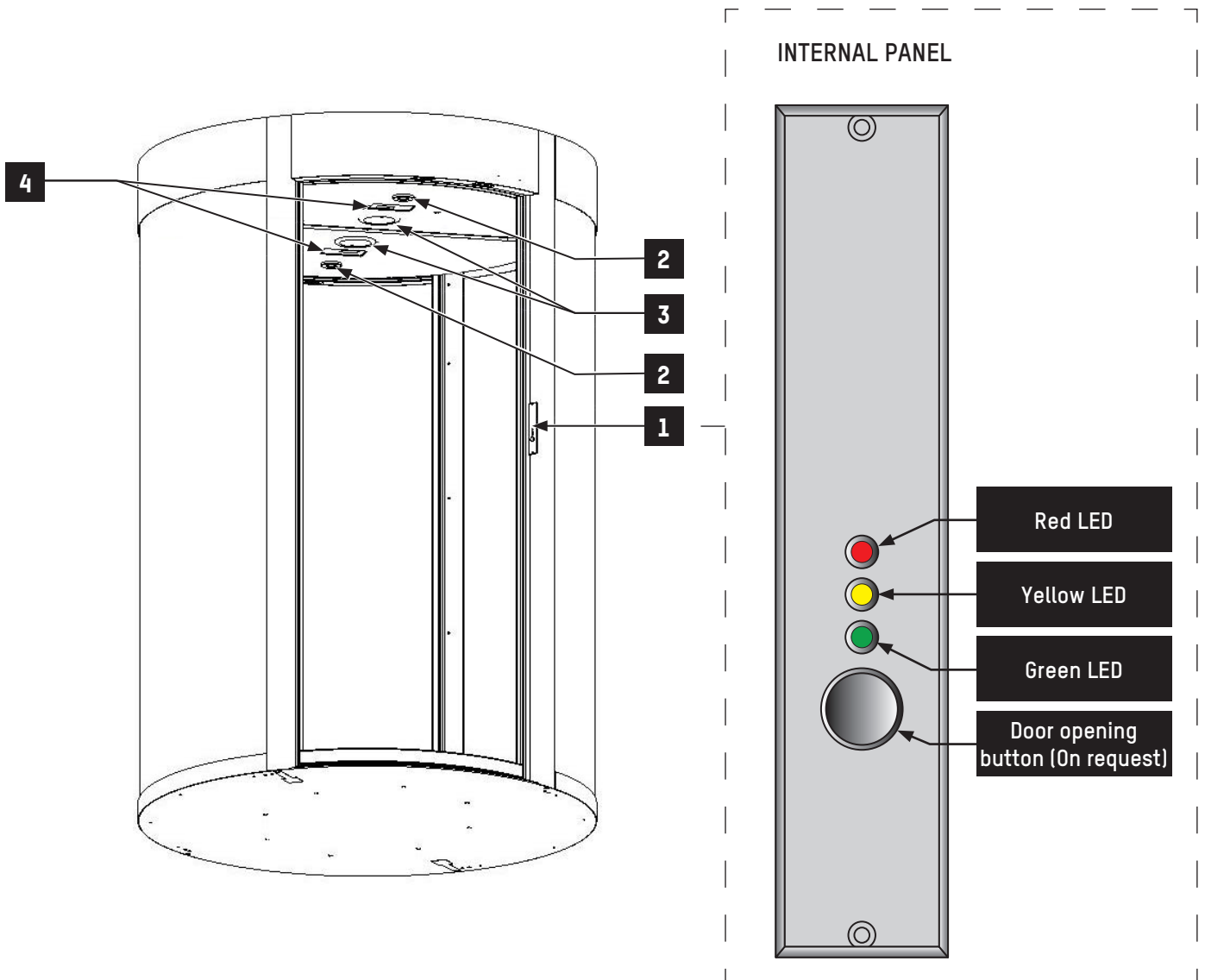


Fig. 3 - Internal side view

Ref.	Designation
5	Internal push-button panel
6	Spotlights
7	Person presence sensor (optional)
8	Person counting sensor (optional)

3.2.1. IGNITION OF SECURITY BOOTH

The security booth can be turned on and off with the control console key or with the mechanical lock situated on the top of the external side of the booth (⇒ Fig. 2).

Use the mechanical lock for the first entrance and the last exit.

When it is switched on, a first cycle of doors opening will be automatically performed, which needs to be used for the entrance of the first person.

For security reasons, if set up from the console, even the first passage is protected from people presence sensor.

3.2.2. NORMAL TRANSIT

After the switching on, make sure that the console it is programmed for the normal transit, that must happen as below:

1. Press the call button (part 3, Fig. 2 - External side view) situated on the side of the passage compartment and wait for the door to open
2. Enter inside the security booth
3. Wait for the closing of external door and the opening of the internal one
4. Exit the security booth

3.2.3. METAL DETECTOR ALARM (OPTIONAL)

Every time one customer tries to pass through the booth with a metal object, comparable in dimensions and weight to a weapon, this will cause the metal detector alarm. The state of alarm will activate an appropriate message recorded on the voice synthesis board, that will invite the user to go out and to deposit all the metal objects inside a special drawer.

The first door stays open to let the entering user go out, it will then close and automatically, a check of the transit compartment will be done, verifying the presence of metal objects within the booth. If the check is negative, the machine will auto-reset itself and it will be ready for a new transit. Otherwise the external door continues to open and close itself, as long as the registered object is not removed.

3.2.4. TRANSIT WITH METAL OBJECTS (IF METAL DETECTOR IS PRESENT)

To allow the entrance of a person who owns metal objects or weapons (ex. Security guards, values holders etc ...) into the place to protect, the following procedure must be followed:

1. If by entering the user has caused the metal detector alarm, he must go out and wait for the alarm phase to finish. Therefore, the machine operator, with the help of the console, can exclude the metal detector, allowing the entrance.
2. If before entering, the person asks the entrance permission by intercom, the machine operator with the use the console will be able to exclude the metal detector.

In both cases, to activate again the metal detector it is enough that the machine operator puts back the metal detector in ON position.

3.2.5. CLOSED DOOR TO THE PUBLIC

In the hours in which you want to prevent entry to the public, you will need to exclude the external door opening button with the console Bidirectional-single-output. In this case the user will have to make an entry request with the intercom.

3.2.6. ANTI-HOSTAGE ALARM

The volumetric control system is set for a person whose volume is equivalent to max. 120 kg of weight (unless specifically requested by the customer). This means that in the presence of a higher volume than the one set, the entry procedure will be interrupted and the external door will remain open for evacuation, meanwhile a voice synthesis will invite to contact the operator via intercom.

3.2.7. CONSENT PROCEDURE FOR THE TRANSIT OF TWO PERSONS

If you want to allow two people to transit at the same time (or in any case with the anti-hostage alarm activated), pressing the Reset button will allow the system to complete the entry procedure.

3.2.8. EMERGENCY DOOR OPENING

The emergency command on the console allows the contemporary doors opening. In case a total lack of power supply or a state of breakdown of the booth occurs, it will be necessary to proceed with the manual emergency. In this case open the inspection door positioned above the booth (on the internal bank side), switch the power supply off, remove the batteries connector and proceed with the manual opening of the doors.



Carry out this operation after deactivating the machine with the main switch.

3.2.9. AUTOMATIC OPERATION WHEN POWER FAILURE

In the absence of a 220V power supply, the batteries are automatically activated to ensure at least 30 minutes of further operation. After this period the doors stop and by pressing the reset switch of the electronic logic it is possible to take advantage of an additional reserve of energy to allow a certain number of door openings.



The electronic logic reset switch should only be used in emergencies as it can make battery charging critical and therefore the need to replace them. The reset function after use must be reset by turning the electronic logic off and on again by pressing the ON / OFF key.

3.2.10. INTERNAL STOP BUTTON OF THE SAFETY BOOTH

If the stop function is activated with the doors in movement, those stop themselves and they can be moved just manually.

If the stop function is activated when the doors are both closed, the external door brake is released, and the movements of the doors can be inhibited manually.

To take the booth functioning back to normal you must make the reset procedure.

3.2.11. AUTHORIZATION OF TRANSIT

In case of recognition of undesired people or necessity to interrupt the entrance transit, it is possible to block the flow excluding the transit by enabling with the special switch in the console in OFF position. (⇒ Fig. 4 - Control console)

To restore the normal transit, it is enough to put the switch back in ON position.

3.2.12. MANUAL FUNCTION

In case the operator wants to check the transit flow both in entrance and in exit, this is possible thanks to the special button on the console, by inserting the manual function. Then the operator does the transit through the "external door" "internal door" buttons.

3.2.13. FUNCTION NOT CORRECT

In case abnormalities of functioning are found, before proceeding with other checks, verify that the console commands are in the position of NORMAL TRANSIT.

Tensions swings on the power supply line or a prolonged absence of electric current, can create a bad functioning of the booth simulating, for instance, the presence of a metal object inside the passage compartment.

To restore the normal functioning conditions, switch the booth off with the console power on key and after some seconds switch it on again.

In case of blackout and terminated batteries, it is possible to unlock the two doors as described in the "Emergency door opening".

In the event that malfunctions or anomalies other than those listed above persist, inform immediately our after sale service.

3.3. CONTROL CONSOLE

The serial control console is equipped with the main functions usually used to programme the booth operating modes; furthermore, can be used both as a single console and as a secondary console combined with the digital console.

The functions can be enabled and disabled with a key: a LED will indicate its state.

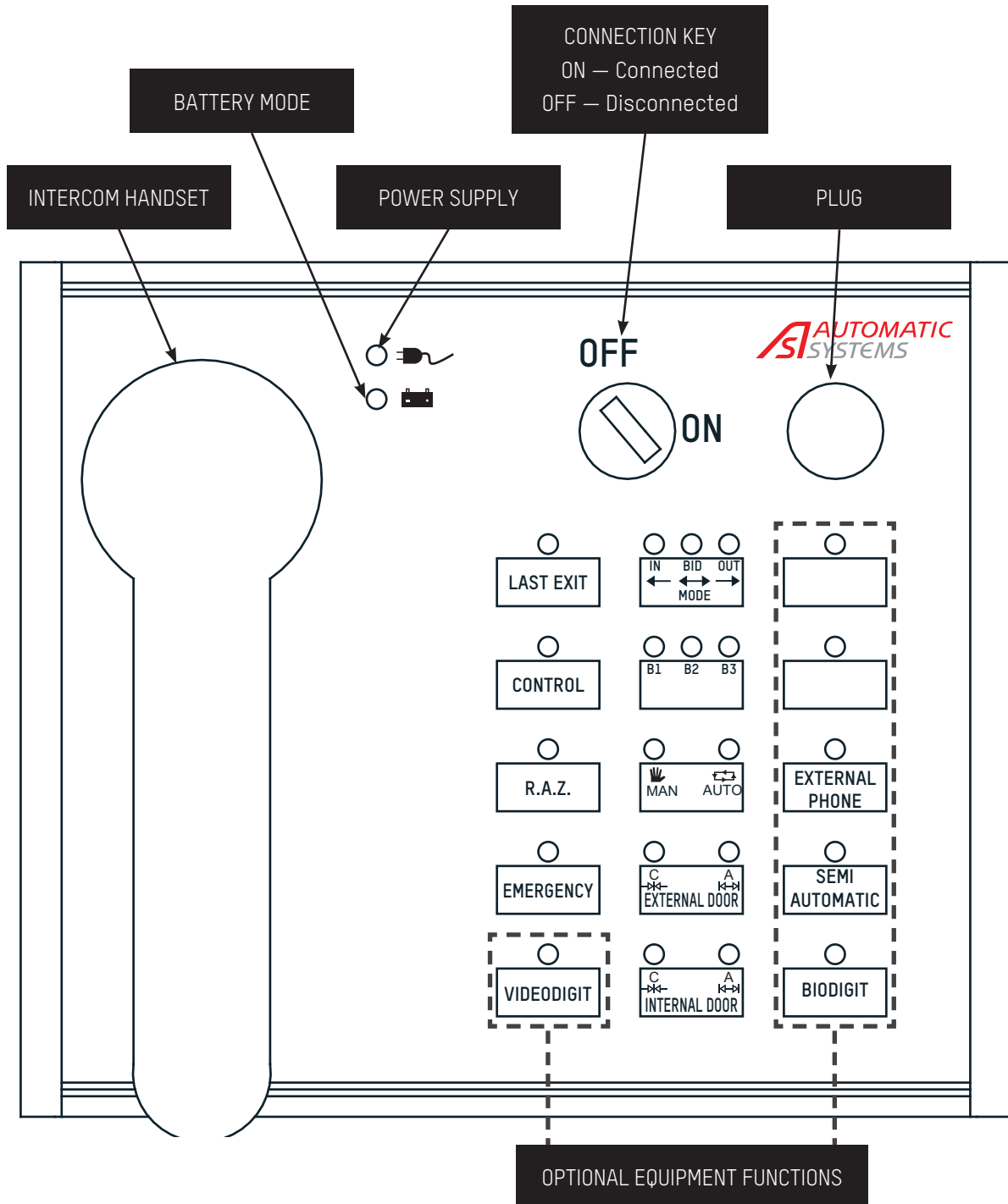


Fig. 4 - Control console

3.4. CONTROL CONSOLE OPERATION MODES

ON/OFF console key

This key enables and disables the console

ON - Console enabled

OFF - Console disabled

Last exit

By pressing this button, the access is enabled or by the mechanic door lock or with impulsive contact (lock with spring contact, electronic key, badge reader, etc.), for cleaners, maintenance workers, etc.

LED ON = function enabled

LED OFF = Standard function

Check

This function manages the permanent exclusion of weight control.

LED ON = Check enabled

LED OFF = Check disabled

Reset

This button allows to cancel the alarms in progress for one passage, signalled by an acoustic signal.

LED ON = Reset for one passage

LED OFF - Standard working

Emergency

This function opens the two doors simultaneously.

LED ON = both doors open

LED OFF = normal operating

Videodigit (optional)

It allows to connect and disconnect the video-digit control.

LED ON = videodigit enabled

LED OFF = videodigit disabled

Mode

It gives the possibility to choose the functioning of the security booth.

Left LED ON: entry only

Central LED ON: bidirectional way

Right LED ON: exit only

Booth (B1, B2, B3)

It controls up to three booths together using the same console. By pressing this button, it is possible to select a booth and, in case of alarm, it will move automatically.

Automatic/Manual

By pressing this button, it is possible to control the manual and automatic modes.

Left LED ON: manual mode

Right LED ON: automatic mode



External door

It allows to open the external door during the manual mode.

During the automatic mode this key can be used to activate / deactivate the "Lock" function for the external door. With the "Lock" function activated, the console makes a continuous alarm until the function is deactivated. In addition to this alarm, the unopened doors will be signaled by the simultaneous lighting of their two LEDs status.

Green Led ON: external door closed

Red Led ON: external door open

Internal door

It allows to open the internal door during the manual mode.

During the automatic mode this key can be used to activate / deactivate the "Lock" function for the internal door. The function operates as described above for the external door.

Green Led ON: internal door closed

Red Led ON: internal door open

Intercom

In case of an intercom call from a booth, a bell in the console goes on. By lifting the intercom handset, the console connects with the booth from where the call came from. When the handset is raised, and there are more booths on line, press the "B1 B2 B3" key to connect with the desired booth.

External intercom (optional equipment)

It connects and disconnects the external phone panel separated from the booth (optional equipment).

Green Led ON: external intercom selected

Red Led ON: internal intercom selected

Semi-automatic (optional equipment)

During the semi-automatic mode, the user enters the security booth using the external electronic key reader. The external door of the security booth remains open. The console makes an intermittent sound which alerts the operator about the presence of a person inside the security booth. By pressing the Reset button, the operator enables the person who is inside the security booth to finish the transit. The exit from the sensible area is always free.

Led ON: semi-automatic mode enabled

Led OFF: semi-automatic mode disabled

Biodigit (optional equipment)

It allows to connect and disconnect the biodigit control.

Led ON: biodigit enabled

Led OFF: biodigit disabled

Power supply



The Led ON indicates the presence of power supply (220V).

Battery

The Led ON indicates the battery operation mode.

Resetting the control logic

For a complete Reset of the main panel, press the "B1 B2 B3" and "Internal Door" keys simultaneously until all the booth start reset.

		While resetting, do not perform other operations on the console or on the booth.
---	---	---



3.5. LIGHTS OF THE BOOTH

BOOTH STATE	EXTERNAL LIGHT	INTERNAL LIGHT
Stillness Bidirectional	Green	Green
Stillness Mono-entry	Green	Red
Stillness Mono-exit	Red	Green
Stillness Manual	Red	Red
Entry transit with external door opening /open	Green	Yellow
Entry transit with external door closing	Yellow	Yellow
Exit transit with internal door opening /open	Yellow	Green
Exit transit with internal door closing	Yellow	Yellow
Entry / exit transit with reservation on the entry side	Yellow and Green Flashing	Yellow
Entry / exit transit with reservation on the exit side	Yellow	Yellow and Green Flashing
Entry transit in manual mode with external door opening /open	Green	Red
Entry transit in manual mode with external door closing	Red	Red
Exit transit in manual mode with internal door opening /open	Red	Green
Exit transit in manual mode with internal door closing	Red	Red
Emergency	Green	Green
Resume from emergency	Red	Red
Metal Detector alarm	Red	Red
Latest exit	Red	Green
Latest exit with transit in progress	Red and Yellow	Green

4. ELECTRONIC DESCRIPTION

4.1. BLOCK DIAGRAM

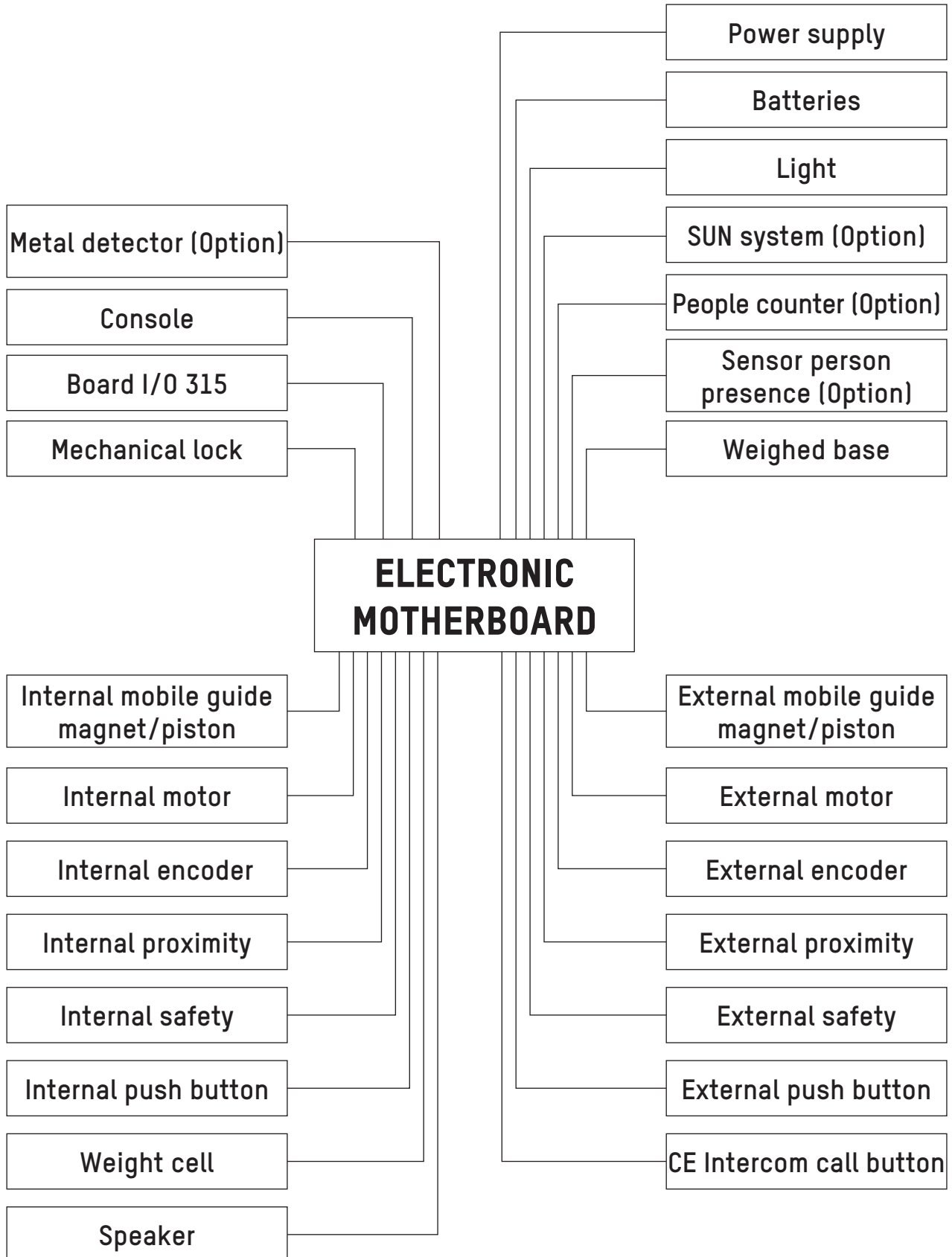


Fig. 5 - Block diagram

4.2. POWER SUPPLY

The security booth can be equipped with two different types of power supply, according to the requested features.

4.2.1. POWER SUPPLY 220 VAC

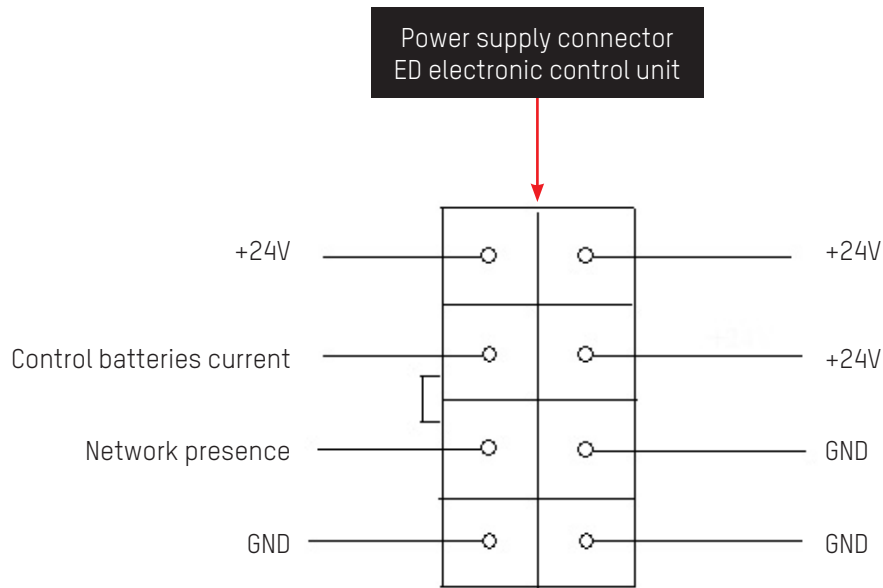
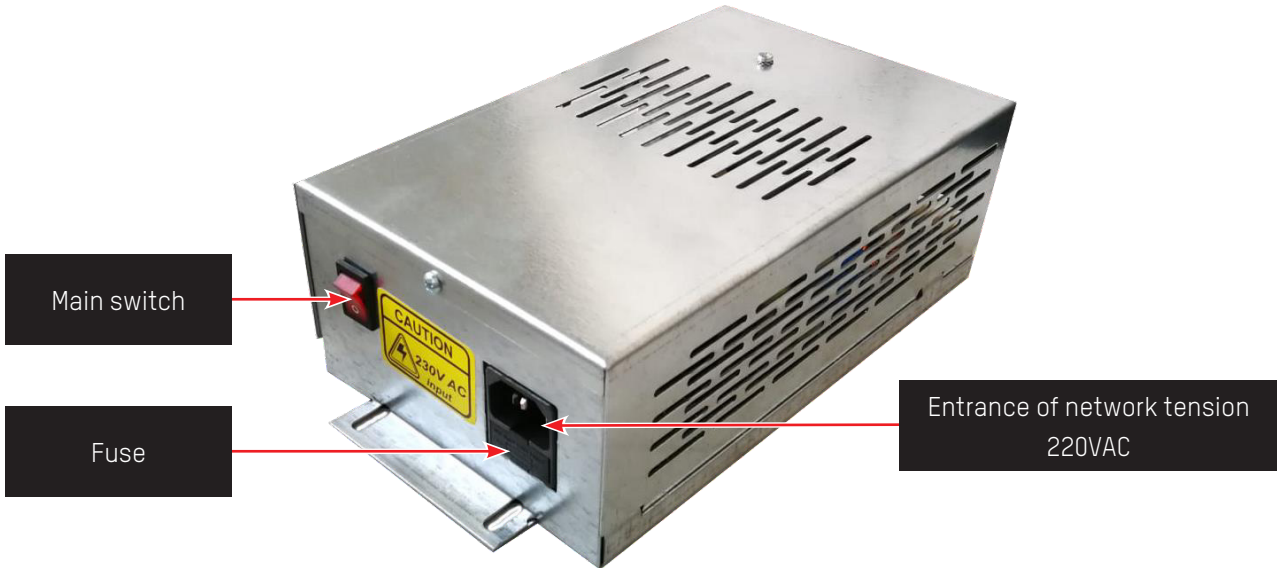


Fig. 6- Power supply 220 VAC

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

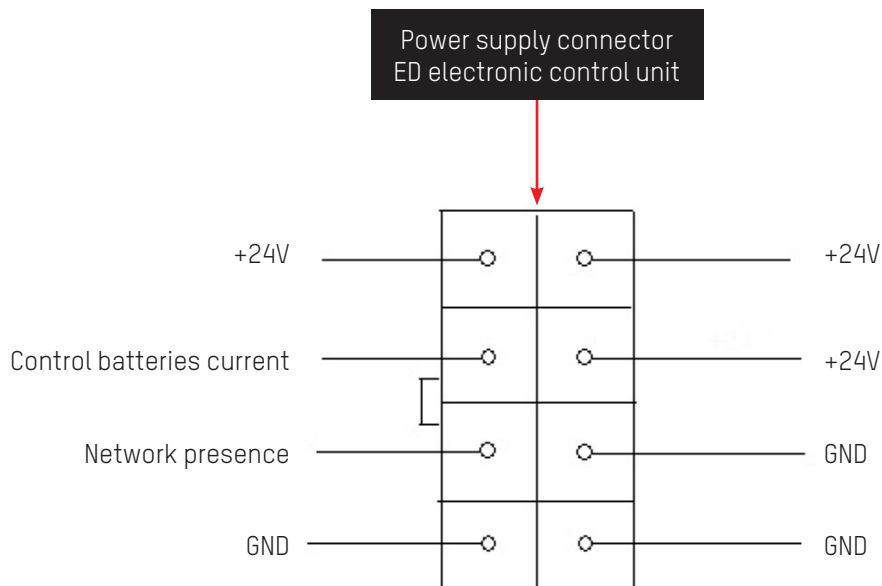


Fig. 7 - Power supply UL

4.3. ED ELECTRONIC CONTROL UNIT

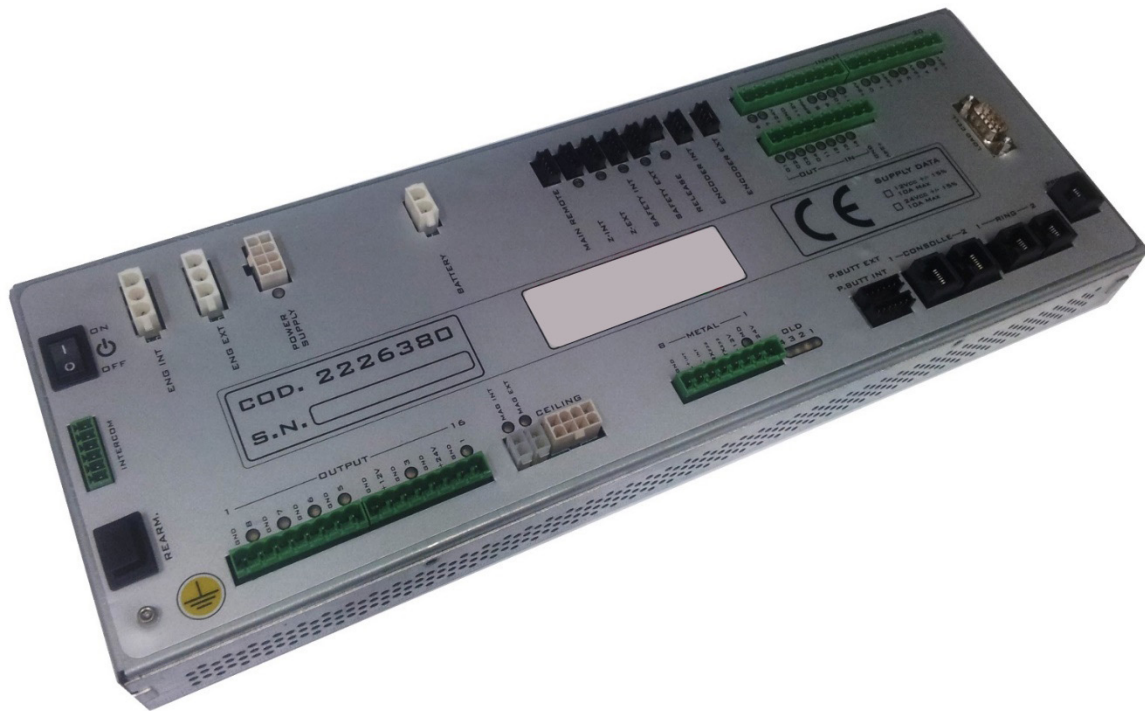


Fig. 8 - ED Electronic control unit

The board presents the following characteristics and peripherals:

- Power supply 24 V 10A
- Programmable microcontrollers
- 2 RS485 serial lines
- 1 RS232 serial dedicated to 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 coastal inputs;
- 2 step/step encoder inputs
- 2 inputs for proximity sensors
- 16 programmable optocoupled digital inputs
- 10 outputs in MOSFET 24VDC – 3A programmable
- 2 MOSFET outputs
- Management 2 serial control panels
- Dedicated connector for the management of the metal detector
- Management of the LED spotlights
- Record and reproduction of vocal synthesis

4.3.1. CONNECTORS

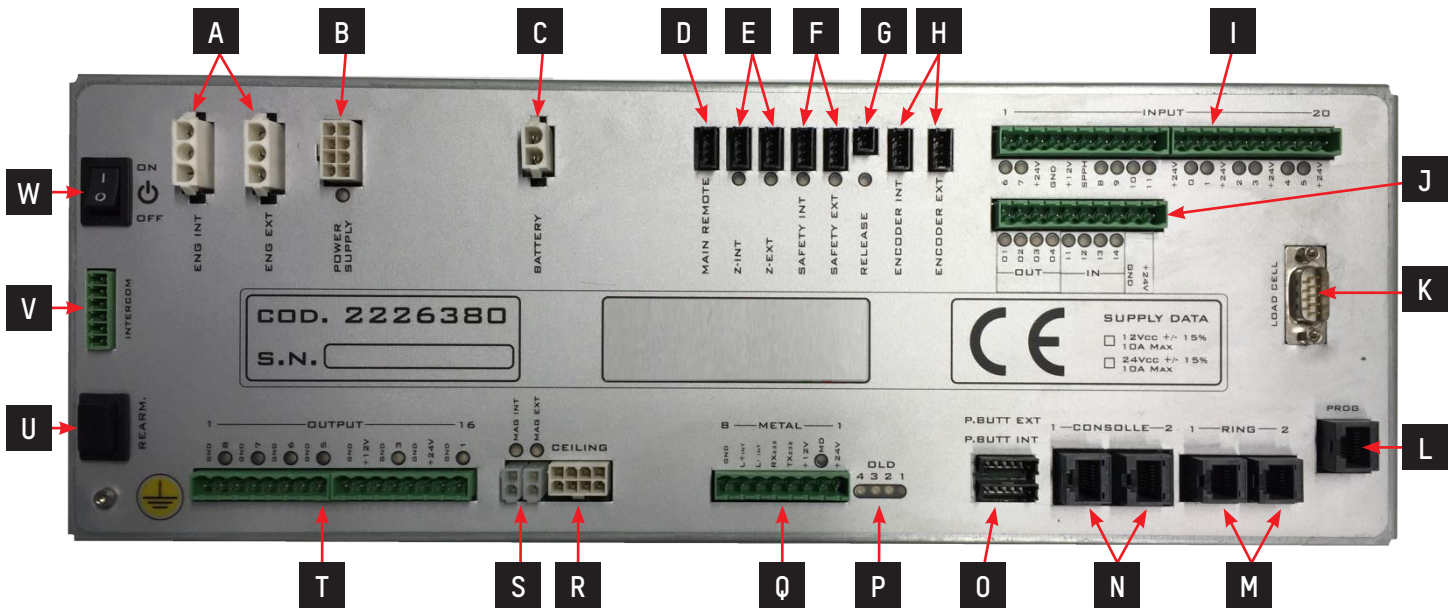
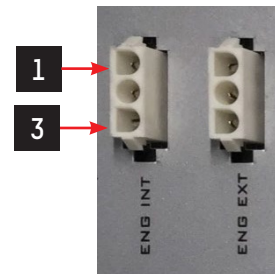


Fig. 9 - ED Electronic control unit / Connectors

Ref.	Designation
A	Connectors for external and internal motors
B	Power supply connector
C	Batteries connector
D	Remote control connector
E	Internal and external proximity sensors connectors
F	Internal and external safety connectors
G	CE release connector
H	Internal and external encoder connectors
I	Inputs connector
J	Inputs and Outputs connector
K	Load cell connector
L	Programming connector
M	Internal serial connector
N	External serial connector
O	Internal and external pushbutton connectors
P	Status LEDs
Q	Metal detector connector
R	Speaker/intercom/spotlights connector
S	Internal and external magnets connector
T	Outputs connector
U	RESET button
V	Commercial intercom connector
W	Power switch

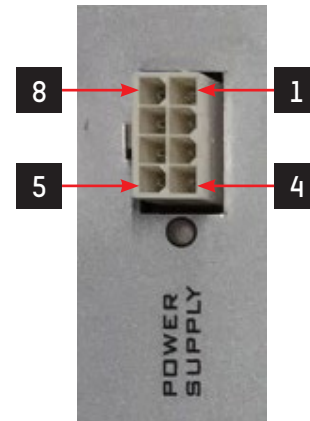
4.3.1.1. CONNECTORS FOR EXTERNAL AND INTERNAL ENGINES

Ref.	Designation
1	Engine
2	GND
3	Engine



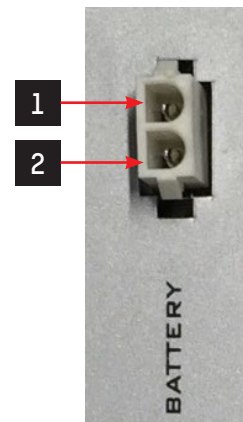
4.3.1.2. CONNECTOR OF POWER SUPPLY

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



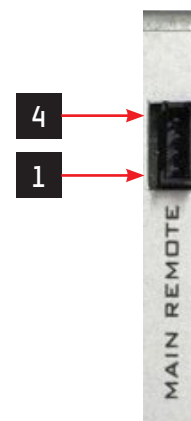
4.3.1.3. BATTERIES CONNECTOR

Ref.	Designation
1	+24 VDC battery
2	GND battery



4.3.1.4. REMOTE CONTROL CONNECTOR

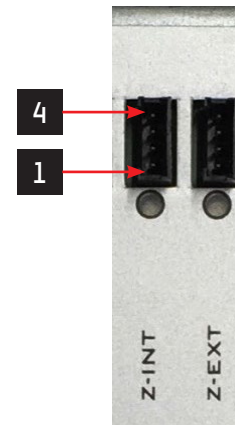
Ref.	Designation
1	Not used
2	Not used
3	Ignition contact
4	GND



4.3.1.5. INTERNAL AND EXTERNAL PROXIMITY SENSORS CONNECTORS

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

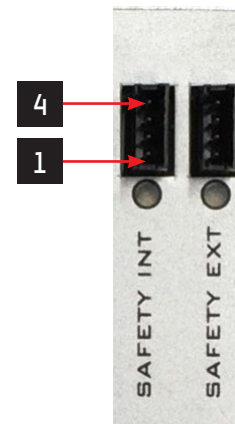
- Use a PNP - NO proximity sensor



4.3.1.6. INTERNAL AND EXTERNAL SAFETY CONNECTORS

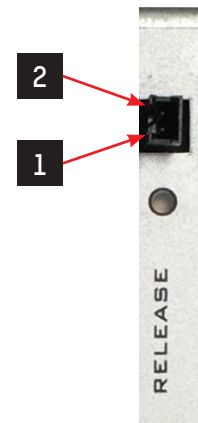
Ref.	Designation
1	+24VDC
2	Not used
3	SAFETY CONTACT
4	GND

- Use a safety NPN – NO



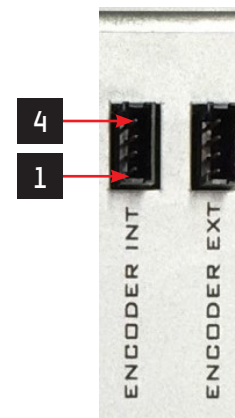
4.3.1.7. UNLOCK CONNECTOR CE

Ref.	Designation
1	Button
2	GND

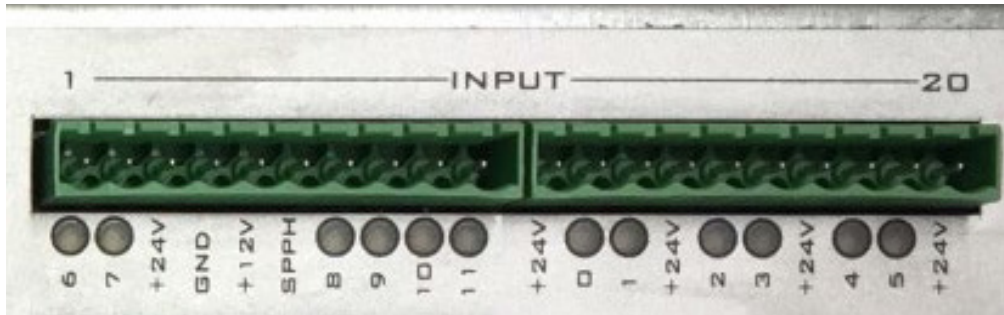


4.3.1.8. INTERNAL AND EXTERNAL ENCODER CONNECTORS

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



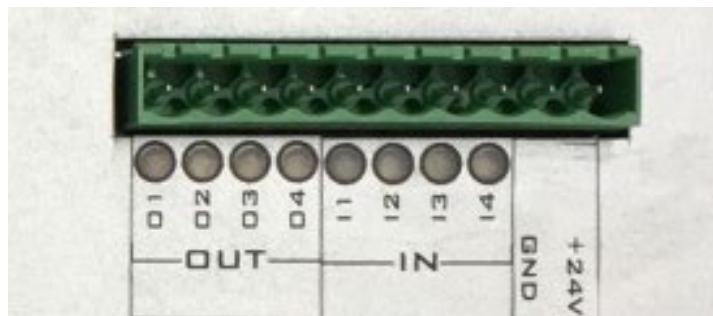
4.3.1.9. CONNECTORS OF THE INPUTS



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

4.3.1.10. 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

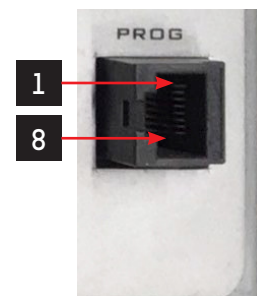
4.3.1.11. LOAD CELL CONNECTOR

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



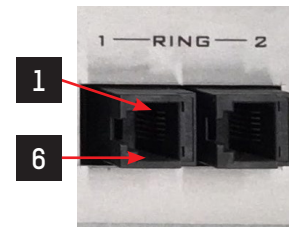
4.3.1.12. PROGRAMMING CONNECTOR

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



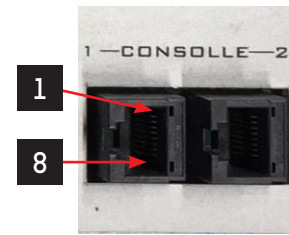
4.3.1.13. SERIAL INTERNAL CONNECTORS

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



4.3.1.14. EXTERNAL SERIAL CONNECTORS

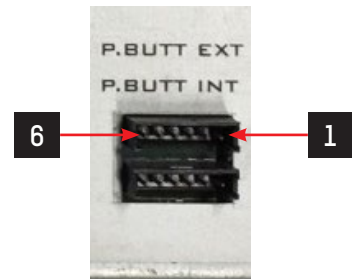
Ref.	Designation
1	L- EXT
2	L+ EXT
3	+12 VDC/+24 VDC
4	+12 VDC/+24 VDC
5	GND
6	GND
7	LISTEN
8	SPEAK



- Outside from the MAINBOARD it is reported if the output voltage from the connector is set up at 12 VDC or 24 VDC.

4.3.1.15. INTERNAL AND EXTERNAL PUSH-BUTTON CONNECTORS

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



- In the internal push-button the intercom is only present only in certain specifications.

4.3.1.16. STATUS LED

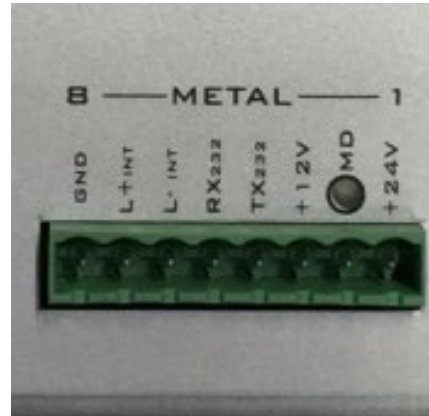
- The LEDs are used to show the functioning state of the ED mainbord
- Leds status table for types of malfunctions:

Type of error	Led 4	Led 3	Led 2	Led 1
Flash	ON	ON	ON	OFF
Encoder	OFF	OFF	OFF	ON
Wight	OFF	OFF	ON	OFF
Micro position	OFF	ON	OFF	OFF
Encoder direction	OFF	ON	OFF	ON
Push button	OFF	ON	ON	OFF



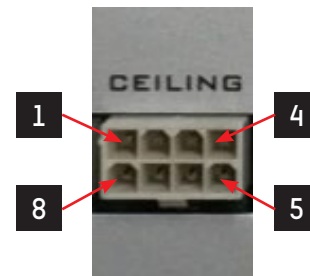
4.3.1.17. METAL CONNECTOR

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



4.3.1.18. 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



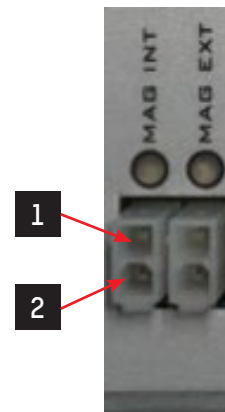
4.3.1.19. INTERNAL AND EXTERNAL MAGNETS CONNECTORS

Internal Magnet

Ref.	Designation
1	+24 VDC
2	GND

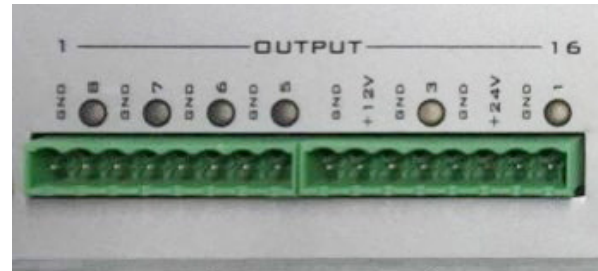
External Magnet

Ref.	Designation
1	GND
2	+24 VDC



4.3.1.20. 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 +24 VDC 1,4A
- Out1 and Out3 give +24 VDC 2,8A

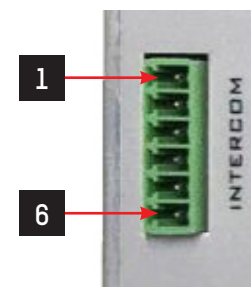
4.3.1.21. REARMING BUTTON

- The reset button it is used to switch again the MAINBOARD on in the case it is switched off during the status of network lack. Verify that the batteries must be plugged and sufficiently charged.



4.3.1.22. COMMERCIAL INTERCOM CONNECTOR

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



4.3.1.23. IGNITION SWITCH

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



4.3.2. PROGRAMMING



Fig. 10 - Programming Software icon



Fig. 11 - Programmer

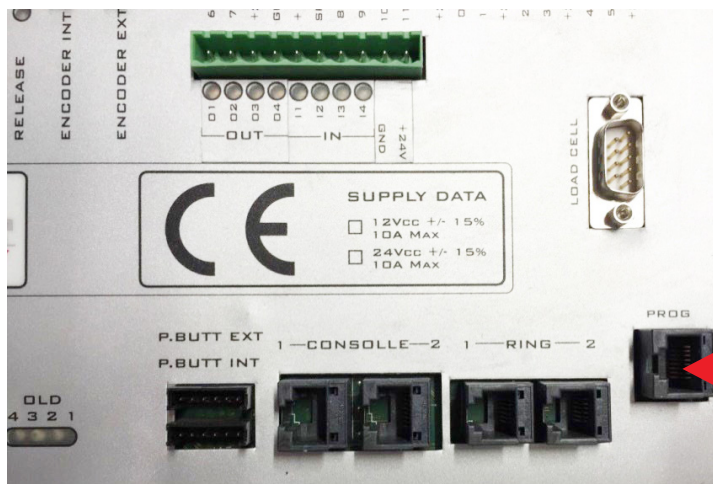


Fig. 12 - Programming connector

4.3.2.1. 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. Double click on the firmware to insert inside the ED MAINBOARD
 2. The **"FLASH DEVELOP TOOLKIT"** program starts automatically
 3. Select the **"DEVICE"** icon
 4. Select the **"CONFIGURE FLASH PROJECT"** [item](#)
 5. The list of micro-processors opens automatically (CHOOSE DEVICE)
 6. Select the **"H8/3687F"** micro-processor
 7. Select **"NEXT"**
 8. Select the COM (DOORS COMUNICATION)
 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 of the **"programming"** connector
 17. Set up the programming interface on **"Prog"**
 18. Press **"Reset"** of the programming interface
 19. Connect the PC serial to the programming interface
 20. Click the **"DOWNLOAD ACTIVE FILES"** button
 21. Wait for programming
 22. End of the programming
 23. Press the **"FDT DISCONNECT"** button
 24. Wait to disconnect
 25. Close the **"FLASH DEVELOP TOOLKIT"** program
 26. Set on **"Run"** the programming interface selector
 27. Press **"Reset"** of the programming interface
 28. Programming ended
- d. Disconnect the programmer from connector the ED MAINBOARD.

4.3.3. 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/RS485 convertor.

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

- convertor USB/RS485;
- 5819317 luppiter ED cable;
- Hardware key;



Fig. 13 - Software for parameterization icon



Fig. 14 - 5819317 luppiter ED cable



Fig. 15 - USB/RS485 converter

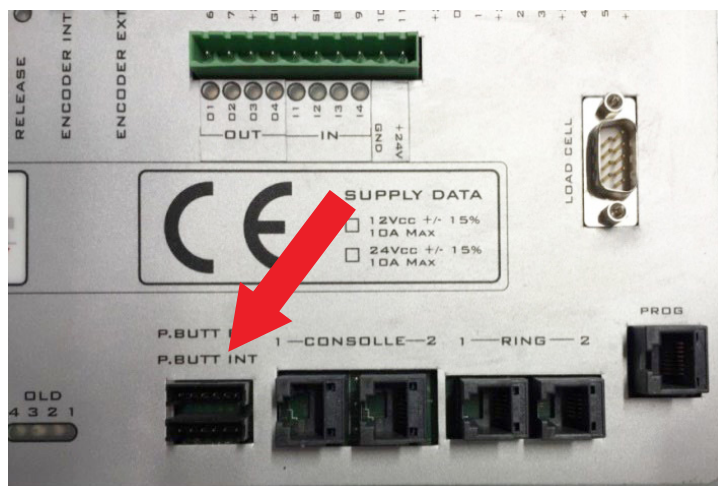


Fig. 16 - Connector for luppiter mainboard parameterization



4.3.3.1. IUPPITER

The Iuppiter software allows to regulate the parameters of various mainboards, the screens used for the ED CONTROL UNIT 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.
- **OPERATION:** 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 [operating](#) and use of Iuppiter refer to the manual, which is automatically installed with the installation package.

5. INSTALLATION

5.1. PRELIMINARY CHECKS

Before installing the booth, it is necessary to check what follows very carefully, in order to avoid possible failures.



Any floor defects may cause incorrect operation of the system.

Verify that the booth can be carried in vertical position up to the defined point.

The booth cannot be reduced in its dimensions but can be put horizontally for a short path and then taken back to its vertical position.



Moving the booth can be dangerous and it may cause mechanical damage. We suggest you to assign this task only to a qualified and equipped staff.

Please inform us when this operation is necessary.

Verify that the ceiling of the installation area is at least 280 cm high. This will ensure enough space to access the top of the booth in order to carry out the assembly and the maintenance operations.

5.2. UNPACKING

We recommend to free the booth from the external package only after positioning it. After the unpacking operations, make sure about the integrity of all the components of the booth by checking that there are no visible damaged parts. See if there are any visibly damaged parts. In case of doubts, please contact us.



Packing parts (such as plastic bags, foam polystyrene, nails, screws, wood etc.) must be kept away from children's reach, as they can be extremely dangerous.



Put the above-mentioned materials in the special places for collection.



Once the unpackaging ended, while you wait to assemble the booth, put the material in in a clean and dry place.



Only skilled staff, which has been authorised by us, can carry out the installation and the assembly of the booth. The handbo oks must be followed.

After assembling, the technician, and the customer, will test the booth and fill in the testing form. The customer will sign the form if the test is positive.



The testing and adjustment operation, and commissioning of the booth must be performed only by a professionally qualified technician.

5.3. SECURITY BOOTH PLACING

1. Place the booth in the chosen place, putting the external side towards the outside of the place. For the handling use a crane with minimum flow of 1500 kg, by using chains attached to the four upper corners "A" of the booth (⇒ Fig. 17). If necessary, it is possible to displace the booth using a crowbar to lift it slightly and place the rollers under the base, the crowbar on the bottom and the rollers under the base (⇒ Fig. 18).

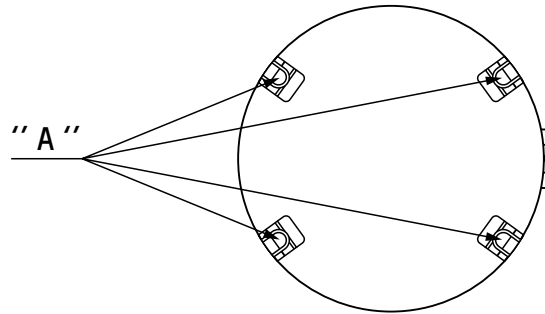


Fig. 17 - Positioning / Handling points

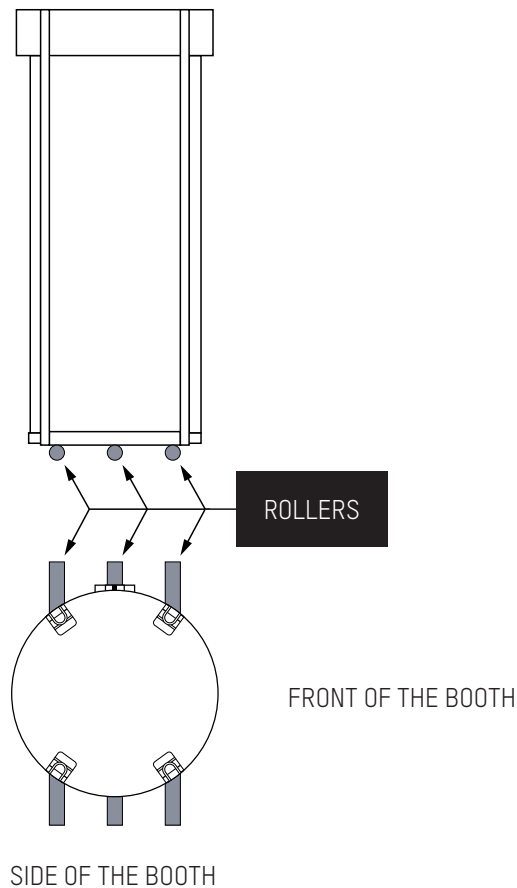


Fig. 18 - Positioning / Rollers

2. The security booth is equipped with levelling feet (⇒ Fig. 19), operate on these until the desired levelling is achieved.
3. After levelling, the cab shall be grounded with no.4 anchoring screws with a minimum diameter of 12 mm - maximum 14 mm, using the holes provided in the floor.

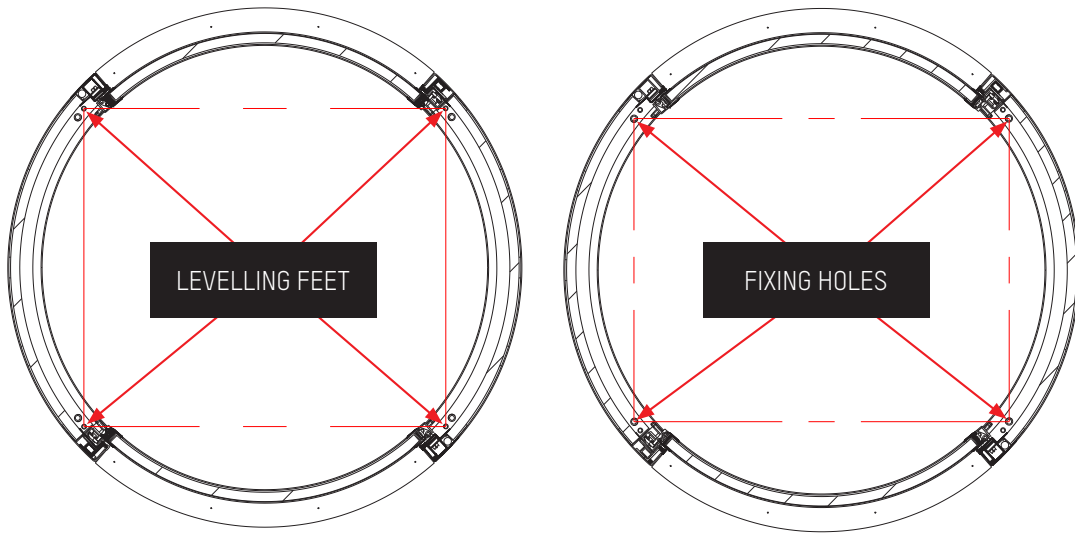


Fig. 19 - Levelling feet and fixing holes



The levelling of the booth can modify the position of the doors.
Manually check to see that the doors run smoothly.

5.4. WALL MOUNTING

The security booth shall be installed on a wall with the same strength characteristics.

There are two options for anchoring the booth to the absorbing structures (⇒ Fig. 20):

1. Wall mounting on the central side of the booth.
2. Wall mounting on the outside or inside of the booth.

The profiles shown in Fig. 20, page 37, which have a special shape to adapt the cabin to the wall, can be supplied on request.

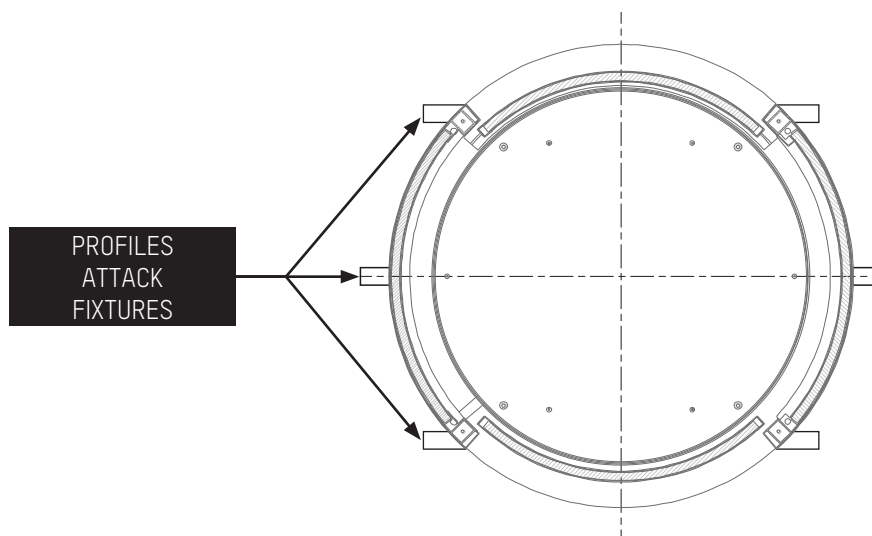


Fig. 20 - Fixture attachment

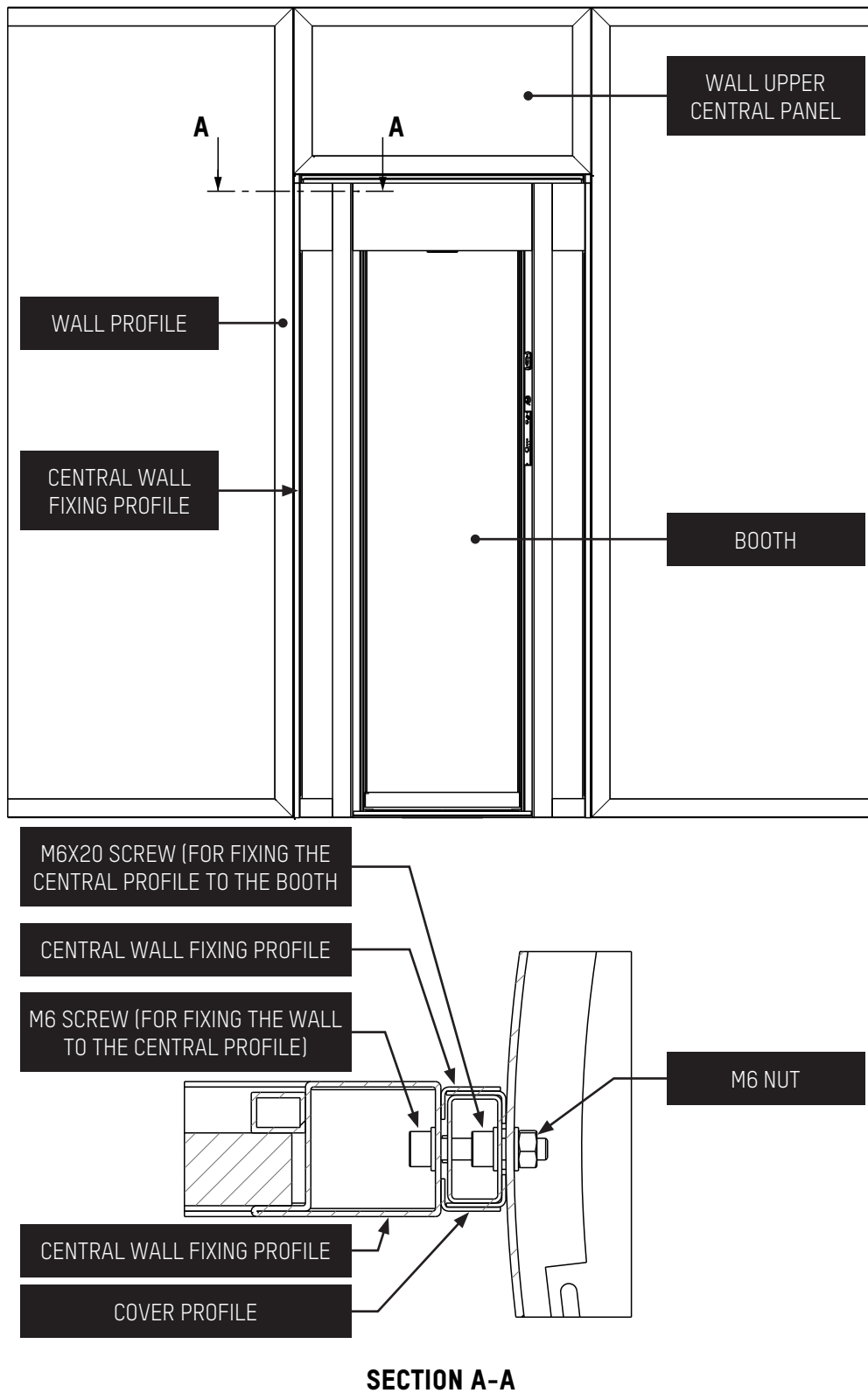


Fig. 21 - Wall mounting on safety booth centerline

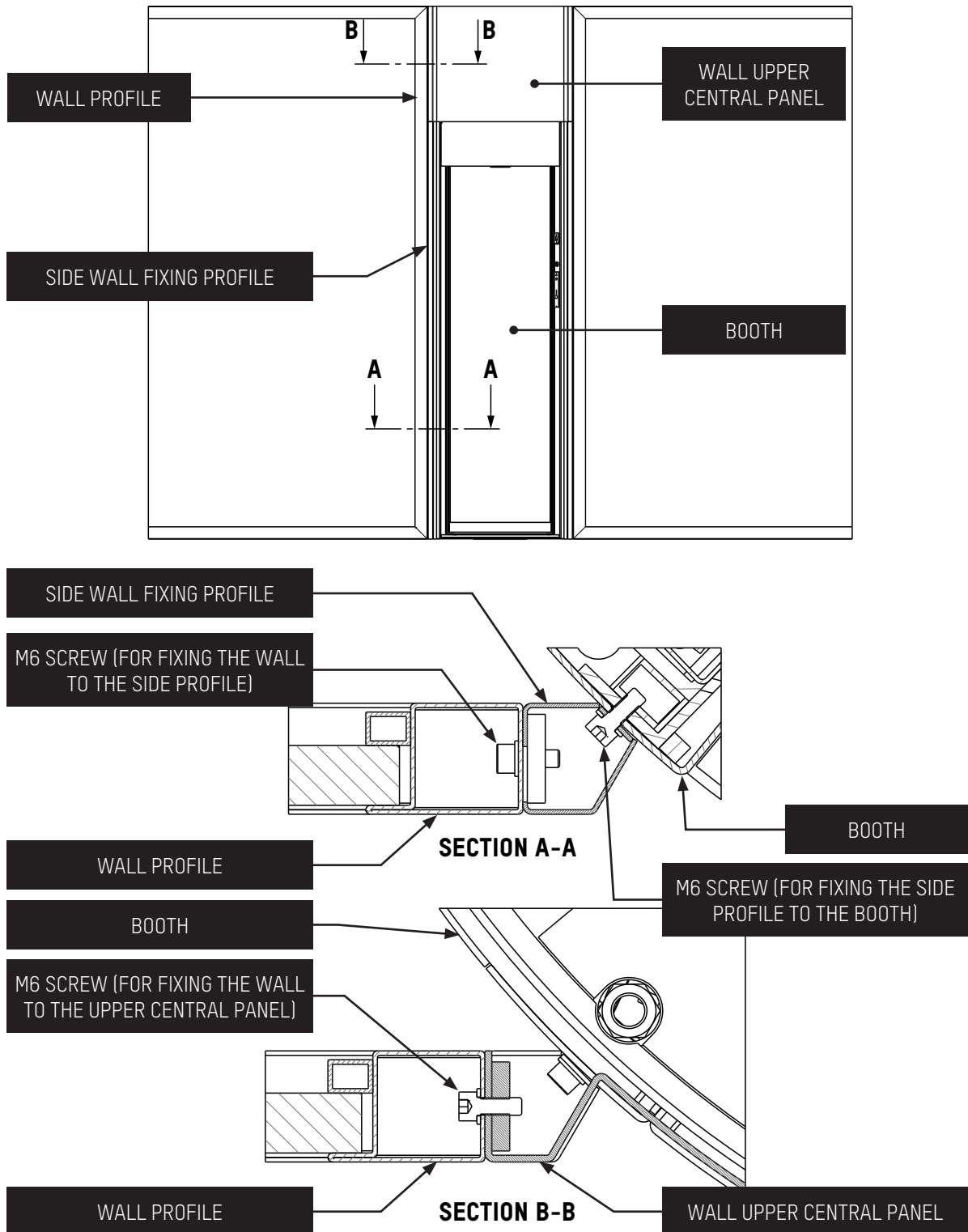


Fig. 22 - Wall mounting with cantilevered safety booth

5.5. WIRING

1. Connect the booth with 3 x 2,5 mm supply-power cable to the main electrical panel, using a dedicated duct. It is recommended to protect the supply-power cable with 15A Id = 0,03A differential switch. Moreover, verify the presence of an appropriate track-side assembly.



To comply with the laws, it is mandatory for the facility, to have a grounding connection.

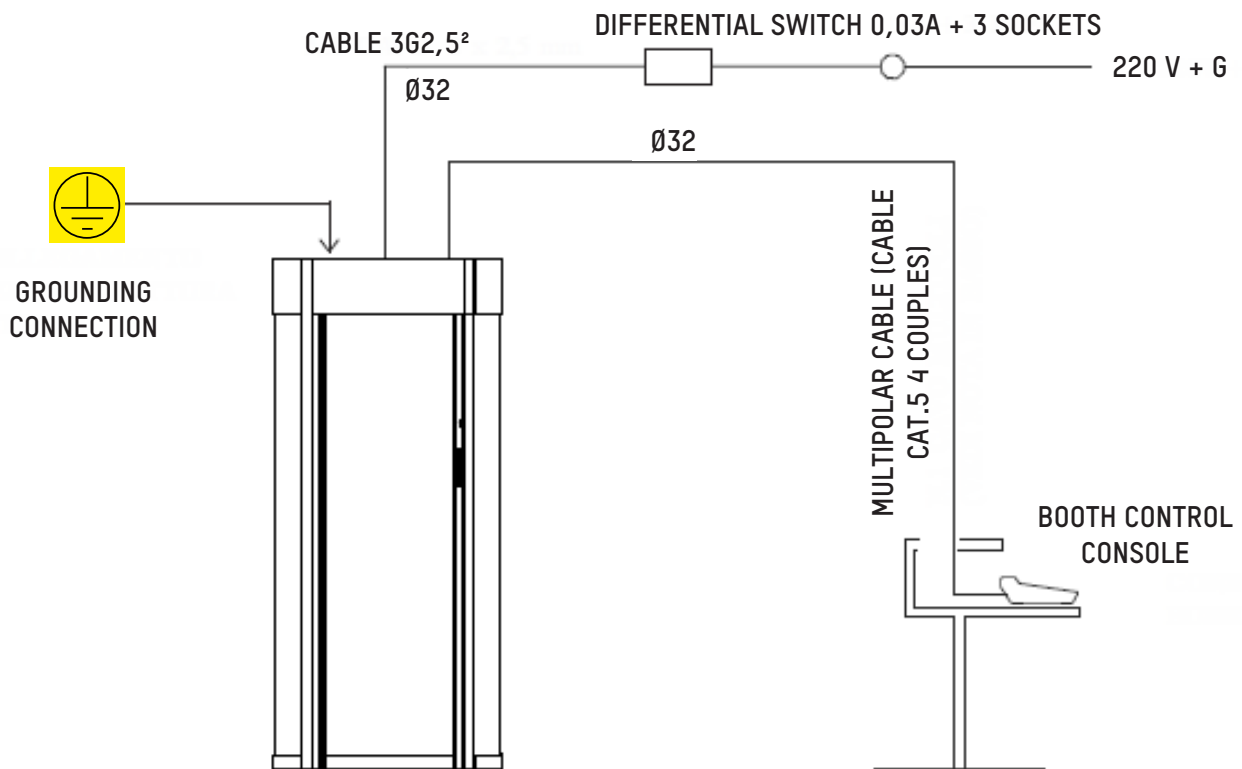


Fig. 23 - Wiring

2. Connect the safety booth to the control console with a multipolar cable, using a dedicated sheath.



Use a different sheath from the one used for the power supply.

3. In the case of coupled safety cabs, the power supply from the junction box shall be separated. All safety cabs must be connected to each other for connection to the console with connection cable Cod.5804530.
4. Arm the general circuit breaker of the bank switchboard which supplies the booth through the privileged line. Then arm the general safety cab switch.
5. Switch on the booth through the ignition key on the console or with the ignition key on the outside of the booth. Wait 10 minutes during which it is necessary to avoid touching the doors, in order not to distort the calibration.
6. The booth is now ready for the test procedure (to be carried out only with authorized staff) and for use.

5.6. TESTING

Once the installation finished, please check:

- Operation of the control console.
- CE release button.
- Photocells and radars operation.
- Verify the movement of the doors.
- Verify the automatic reset.
- Verify luminous alerts and buttons.

For settings different from the already set ones, ask Automatic Systems.

5.7. DISABLING AND REMOVING

In case of prolonged inactivity of the booth, disconnect the power supply cable.

Disconnect the batteries. We recommend to store the product in a dry and protected space and insulate the booth from the floor and the walls.



We remind that the disassembly of the machinery can be performed exclusively by a qualified and equipped personnel authorized by the manufacturer.

6. INPUTS AND OUTPUTS

6.1. ELECTRONIC CONTROL UNIT

INPUTS

CLAMP	ELECTRONIC CONTROL UNIT OUTPUT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	6	ED IO	MASTER - IN 6	POWER ON (Contact N.O.)
2	7	ED IO	MASTER - IN 7	PERSON SENSOR
3	+24VDC			POWER ON (Common)
4	GND			NOT USED
5	+12VDC			NOT USED
6	SPPH			ACTIVATION OF OPTOCOUPLERS
7	8	NOT VISIBLE	MASTER - IN 8	SAFETY OPENING Common GND
8	9	DRIVE	DRIVE - IN 2	EXT UNLOCKED Common GND
9	10	DRIVE	DRIVE - IN 4	INT UNLOCKED Common GND
10	11	NOT VISIBLE	MASTER - IN 9	METAL EXCLUSION 1 PASS Common GND
11	+24VDC			24 VDC
12	0	ED IO	MASTER - IN 3	MECHANICAL LOCK (Contact N.O.)
13	1	ED IO	MASTER - IN 2	AUXILIARY METAL INPUT ALARM (See even Metal Connector)
14	+24VDC			FIRST ENTRY KEY (Contact C.)
15	2	ED IO	MASTER - IN 1	FIRST ENTRY KEY (Contact N.O.)
16	3	ED IO	MASTER - IN 0	INTERNAL RADAR (Contact N.O.)
17	+24VDC			RADAR (Common)
18	4	ED IO	MASTER - IN 4	EXTERNAL RADAR (Contact N.O.)
19	5	ED IO	MASTER - IN 5	MAIL KEY (Contact N.O.)
20	+24VDC			MAIL KEY (Contact C.)

- External side IN1 Actuation
- Internal side IN3 Actuation
- Z-EXT micro closing external door IN5
- Z-INT micro closing internal door IN6
- Connect terminal 6 to terminal 5 to activate inputs
- The inputs from IN 0 to IN 7 are activated with a positive (with a tension that varies from 5 VDC to 24 VDC)
- The inputs from IN 8 to IN 11 are activated with the GND



OUTPUTS

CLAMP	ELECTRONIC CONTROL UNIT OUTPUT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	GND			GND
2	8	INVERTER	OUT 3	
3	GND			GND
4	7	INVERTER	OUT 4	
5	GND			GND
6	6	ED IO	MASTER - 0 2	
7	GND			GND
8	5			DAY-NIGHT
9	GND			GND
10	+12VDC			12 VDC
11	GND			GND
12	3	ED IO	MASTER - 0 4	
13	GND			GND
14	+24VDC			24 VDC
15	GND			GND
16	1	ED IO	MASTER - 0 3	

7. SOFTWARE OF WEIGHT MANAGING, SYNTHESIS AND DIAGNOSIS: IUPPITER

The Iuppiter software is used for the adjustments of the control unit. The following are the pages and the standard operating settings that we consider indicative for the correct operation of the machine, the other pages are used for other products. The values not given in the following parameters used for the machinery shall not be changed.

Anyway, after installation, the correct operation of the door movement shall be verified and, if necessary, the parametrization shall be refined.

7.1. PARAMETRIZATION

7.1.1. ACTUATION PAGE

Parameter	Door 1 Value	Door 2 Value
Max Current	100	120
Setup Speed	15	20
Opening Speed	50	50
Breaking Speed	10	10
Closing Speed	25	50
Torque	35	40
Start Breaking Op	4000	4000
Closing Braking	1200	1200
Open	5000	5000
Kp	10	10
Kd	100	100
Ki	1	1
Ki Speed	200	200
Kp Speed	20000	20000
Kp Torque	100	100
Ramp	4	4
Ramp 1	1	2
Ramp 2	6	6
Ramp 3		
Ramp 4		

Fig. 24 - Iuppiter - Inverter page



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

In this product the Inverter cannot be used as a "stand alone" board, because it is not possible to be directly connected to it, due to the fact that the connection is made with the Master board situated inside the Electronic control unit. For this reason, the Flag "Inverter board" must not be selected, because all the commands between the PC and Inverter are made by the Master. The "Door 1" and "Door 2" control groups are not enabled, to move the doors the commands must be sent to the "Master" board through the console on the left of Iuppiter and so this last one will manage the doors movement.

Connect on one of the two connectors "plug 8 poles" and wait for few seconds. Once connected, the computer downloads the inverter parameters and makes the controls of the page full; wait to modify the parameters until the "progress bar" above the "Update" button is not completed.

The "I-0" box shows the inputs and outputs status of the inverter board. Through the "Baud Rate" check it is possible to set the baud rate of the switching on inverter, but the automatic search stays active: if the communication does not work, the inverter tries continuously to change the baud rate until it does not find an active connection. The "Usage" check allows to select the device that the inverter must manage.



FOR THIS SPECIFIC PRODUCT THE VALUE OF THE "USAGE" MUST STAY SET AT "1".

PARAMETERS

Maximum Current: This is the check in current. The higher this value is, the less sensitive the check in current is. The possible settings go from 0 (maximum sensitivity) to 255 (the check is almost deactivated).

Setup speed: it is the speed used by the board during the initialization phase, both in opening and in closing.

Opening speed: it is the speed used by the board during the opening phase.

Braking speed: it is the speed used by the board during the braking, both in opening and closing.

Closing speed: it is the speed used by the board during the closing phase.

Torque: it is the force with which the inverter moves the mechanics.

Start of opening brake: it is the position, express in encoder steps, in which the inverter, during the opening phase, goes from "Opening Speed" to the "Braking Speed". If, for instance, the "Opening" parameter is set as 6000 and this parameter at 4500, the inverter does the first 4500 steps at opening speed, then starts the braking doing the last 1500 steps at braking speed.

Closing braking: it is the position expressed in encoder steps, in which the inverter, during the closing phase, goes from "Closing Speed" to "Braking Speed". If, for instance, the "Opening" parameter is set at 6000 and this parameter at 1500, the inverter does the last 1500 steps at the braking speed.

Kp, Kd, Ki, Ki Vel, Kp Vel e Kp Torque: those parameters can vary according to the type of mechanics used (booth, pass, etc...), they are set in the factory and they cannot be modified without a declared authorisation by Automatic Systems.

Ramp: it expresses the speed with which the inverter goes faster and slower. A value next to the zero creates a kind movement, a high value makes the movement so sharp. Attention, in case of a booth with metal detector you must prefer a very low value, so that you do not risk false alarms during the doors' movement. If this parameter is set on a high value, even the "Maximum Torque" value must be put up, because a sharp ramp causes higher absorptions.

Parameters that can vary according to the used movements:

1, 3: this parameter, defines the strength with which the inverter pushes on the line all those devices that at the closure, added to the closed-door reference, force on the mechanical end stop before considering the closing movement ended.

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

7.1.2. ED SETUP PAGE - ACTUATION

Fig. 25 - Iuppiter - ED Setup page - Actuation



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.



TO SET THE ED SETUP PAGE, SELECT "LINK MASTER" IN THE BOX AT THE TOP RIGHT AND SELECT ADDRESS "197".

FLAGS

- **FLAG 1 - EXTERNAL DOOR N.C.:** by selecting this flag the program manages the external door piston with N.C. logic; if the flag is not selected the program manages the external door piston with N.O.
- **FLAG 2 – INTERNAL DOOR N.C.:** by selecting this flag the program manages the internal door piston with N.C. logic; if the flag is not selected the program manages the external - door piston with N.O.

1° SELECTION FIELD – TYPE OF BLOCK OF THE EXTERNAL DOOR

- SEL 0 - MOBILE GUIDE: the external door is locked by a mobile guide
- SEL 1 - BRAKE: the external door is locked with a brake
- SEL 2 - PISTON: the external door is locked by a piston

2° SELECTION FIELD – TYPE OF BLOCK OF THE INTERNAL DOOR

- SEL 0 - MOBILE GUIDE: the internal door is locked by a mobile guide
- SEL 1 - BRAKE: the internal door is locked with a brake
- SEL 2 - PISTON: the internal door is locked by a piston

7.1.3. ED SETUP PAGE - MASTER

Fig. 26 - Iuppiter - ED Setup page / Master



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

FLAGS

- **FLAG 1 - TWO DOORS EXIT:** by selecting this Flag, in Night, with the pressure of the internal button, the booth does not start a transit in exit during interlock regime, but opens both doors in Emergency.
- **FLAG 2 - WAKE:** By selecting this Flag, if at the end of a transit the person remains in the booth, the doors close again and a new transit in the opposite direction is started.
- **FLAG 3 - FIRST ENTRANCE WITH THE BOOTH LIT:** by selecting this Flag, the booth allows the first entrance even in Day
- **FLAG 4 - EXCESSIVE PHOTOCELLS CONTROL:** by selecting this Flag, the control of the of entrance coherence inside the booth through accident prevention photocells is activated. A time-out is available for passing through the photocells, if a major time of that set through PARAM 1 is used, the booth creates an alarm equivalent to the excessive weight.
- **FLAG 5 - FIRST ENTRANCE IN EMERGENCY:** by selecting this Flag, in Night, turning the mechanical key, the booth does not start a transit in entrance during interlock regime, but opens both doors in Emergency.
- **FLAG 6 - M.D INHIBITION:** by selecting this Flag, the Metal Detector is deactivated with booth in quiet and then, in case of a transit request, first M.D. is activated, then the door is opened.
- **FLAG 7 - SUN ACTIVE:** Select this flag when the booth uses the SUN board to detect possible objects after a metal alarm
- **FLAG 8 - PERSON SENSOR:** by selecting this Flag, the booth considers the reporting of a person inside the booth coming from the sensor (contact) and not from the weighed base
- **FLAG 9 - ELECTRONIC UNIT:** Select this flag in presence of the ELECTRONIC UNIT



- **FLAG 10 - BAUD 19200:** by selecting this Flag, the Baud Rate is set at 19200 on the internal ring
- **FLAG 11 - AUTOMATIC INTERLOCKING** (reserved)
- **FLAG 12 - SYNTHESIS DURING THE TRANSIT** (reserved)
- **FLAG 13 - SYNTHESIS IN EXIT:** by selecting this Flag, during the transit in exit, the message "Goodbye" is activated
- **FLAG 14 - SYNTHESIS IN ENTRANCE:** by selecting this Flag, during the transit in entrance, the message "Welcome" is activated
- **FLAG 15 - SIMULTANEOUS OPENING OF THE TWO DOORS:** By selecting this Flag, in Emergency, the two doors open at the same time
- **FLAG 16 - EXIT IN SEMIAUTOMATIC:** by selecting this Flag, the transit in exit happens in semiautomatic function (with the same modalities of the semiautomatic transit in entrance)
- **FLAG 17 - CONTINUE TRANSIT STARTED FROM I/O 315:** by selecting this Flag, the booth lets the person closed inside the booth carry on the transit started from the contacts of the I/O 315 "Open internal in Manual" or "Open external in Manual"
- **FLAG 18 - NO BIO FIRST ENTRANCE:** by selecting this Flag, the booth does not make the biometric control during the first entrance
- **FLAG 19 - EXIT IN MANUAL:** by selecting Flag, in Manual, the booth allows the transit in exit
- **FLAG 20 - EXIT IN MANUAL NO FIRST ENTRANCE** – If activated, in Manual, the exit is allowed and the first entrance is not allowed. If the booth is in Night, the first entrance works independently from this Flag
- **FLAG 21 - INTERFACE BOARD:** Select this flag in presence of INTERFACE BOARD
- **FLAG 22 - METAL FROM CONSOLE:** by selecting this Flag, is possible to vary the parameters of the Metal Detector, if present, by using the console
- **FLAG 23 - TX WEIGHT PRESENT:** select this flag in presence of "TX WEIGHT" board.
- **FLAG 24 - NO WEIGHT CONTROL IN EXIT:** by selecting this Flag, the booth does not perform the weight control during transit in exit, even if the control is selected from the console
- **FLAG 25 - BOOKING:** by selecting this Flag, if during a transit another one is requested, the request is memorized and, at the end of the first transit, a second one starts immediately
- **FLAG 26 - PERSON BLOCKED ACTIVE:** by selecting this Flag, if the booth detects a person's presence with closed doors, or opens the opposite door to the last opened (if the SCIA Flag is selected and with the booth in two-way operation) or opens the last opened door (if the SCIA flag is not selected with booth in one-way operation).
- **FLAG 27 - EMERGENCY N.C.:** by selecting this Flag, the emergency of I / O 315 will act with logic N.C. instead of the N.O.
- **FLAG 28 - BLOCK ON ALARM EXCESSIVE WEIGHT AND TIMER MAXIMUM TIME OF TRANSIT START:** by selecting this Flag in case of excessive weight alarm, the booth does not allow to finish the transit even if the weight becomes regular at a later time. Furthermore, at the beginning of a transit with a badge, a time delay of "Param 2" in seconds on the "Ed Setup" page starts. If at the end of the time delay the first door still has not closed, the transit stops and the overweight alarm is activated. The alarm ends with doors closed with no people inside. This is because transit validation is accepted by access controls only within a defined time.
- **FLAG 29 - DYNAMIC WEIGHT EXCLUSION WITH BADGE:** if active during transits that start with badges, the dynamic weight will be excluded but the excessive weight threshold value will always be checked. So if the compass has the active dynamic weight and the excess weight threshold is set at 180 kg, during a transit started with the badges, a dynamic weight alarm will not be considered but an alarm will be generated if the compass weight is higher at 180 kg. The badges must be connected on the inputs of the radars in a mainboard.
- **FLAG 30 - INTERCOM ON THE INTERNAL ENTRANCE PANEL:** if active, it allows the internal entrance push-button to be used as an intercom instead of the external one. It will therefore be sufficient to invert the two push-button panels and activate this flag to use the intercom on the internal door and no longer on the external one.
- **FLAG 31- SENSOR EUROTEK**
- **FLAG 32 - SENSOR VIVOTEK**



PARAMETERS

- **PARAM 1 – PHOTOCELLS TIME:** maximum time available to go through the accident prevention photocells during the entrance inside the booth; this time is expressed in hundreds of milliseconds (10 = 1 second). To activate this control, the FLAG 4 must be selected.
- **PARAM 2 - TIMEOUT BIO:** time (in seconds) that passes between the closure of a person inside the booth during a un biometric control and the opening of the last opened door in case the biometric system has not given an answer (user not recognized).
- **PARAM 3 - ALARM BIO:** time (in seconds) that passes between the closure of a person inside the booth during a biometric control and the activation of the buzzer in Console.
- **PARAM 4 – HIGH LIGHT:** value of the maximum intensity of the spotlights.
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 5 – LOW LIGHT:** value of the lowest intensity of the spotlights.

1° SELECTION FIELD – TYPE OF ACCESS CONTROL

- SEL 0 - NO CONTROL: no type of access control
- SEL 1 - BIODIGIT: biometric access control with the Biodigit system (fingerprint)
- SEL 2 - VIDEODIGIT: biometric access control with the Videodigit system (face)
- SEL 3 - BIVIDEO: biometric access control with the Bivideo system S (fingerprint and face)
- SEL 4 - CONTACTS: access control with system, not necessarily Automatic Systems, at contacts.

2° SELECTION FIELD – DIRECTION OF ACCESS CONTROL

- SEL 0 - ENTRANCE: access control in entrance only
- SEL 1 - EXIT: access control in exit only
- SEL 2 - BIDIRECTIONAL: access control both in entrance and exit

3° SELECTION FIELD – TYPE OF THE ACCESS CONTROL SYNTHESIS

- SEL 0 - NO SYNTHESIS BIO / BADGE: no type of synthesis for the access control
- SEL 1 - BADGE SYNTHESIS: specific synthesis for the access control at contacts
- SEL 2 - BIO SYNTHESIS: specific synthesis for the biometric access control with fingerprint / face

4° SELECTION FIELD –METAL CONTROL FIRST ENTRANCE

- SEL 0 - METAL CONTROL FIRST ENTRANCE FROM CONSOLE: control can be activated from Console
- SEL 1 – NEVER METAL CONTROL FIRST ENTRANCE: control never active
- SEL 2 – ALWAYS METAL CONTROL FIRST ENTRANCE: control always active

5° SELECTION FIELD – METAL CONTROL

- SEL 0 - METAL CONTROL FROM CONSOLE: control can be activated from Console
- SEL 1 – NEVER METAL CONTROL: control never active
- SEL 2 – ALWAYS METAL CONTROL: control always active

6° SELECTION FIELD – WEIGHT CONTROL FIRST ENTRANCE

- SEL 0 - WEIGHT CONTROL FIRST ENTRANCE FROM CONSOLE: control can be activated from Console
- SEL 1 – NEVER WEIGHT CONTROL FIRST ENTRANCE: control never active
- SEL 2 – ALWAYS WEIGHT CONTROL FIRST ENTRANCE: control always active

7° SELECTION FILED – WEIGHT CONTROL

- SEL 0 - WEIGHT CONTROL FROM CONSOLE: control can be activated from the Console
- SEL 1 – NEVER WEIGHT CONTROL: control never active
- SEL 2 – ALWAYS WEIGHT CONTROL: control always active

7.1.4. WEIGHT PAGE - SYNTHESIS

Fig. 27 - Iuppiter - Weight page



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

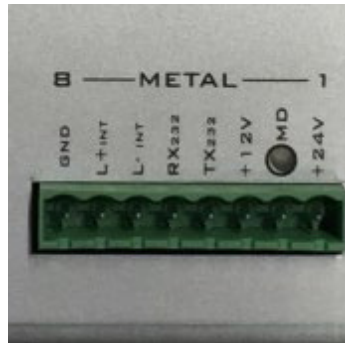


IN THE SECTION LIMIT VALUES ARE REPORTED THE STANDARD VALUES, DO NOT MODIFY IF NOT AUTHORISED.

7.1.4.1. WEIGHT PROCEDURE

1. Select the tab "Weight - Synthesis"
2. Verify that the platform is empty
3. Press **CALCULATE TARE**, press **APPLY** and **SAVE SETTINGS**
4. Insert a known weight higher than the **PERSON WEIGHT** above the platform
5. Put the weight within the field **SAMPLE WEIGHT (in KG)**
6. Press **CALCULATE AMPLIFICATION**
7. As the result has stabilized, press **APPLY** and **SAVE SETTINGS**
8. Check that in the field **SECURITY BOOTH WEIGHT** you can visualize the actual weight of the object in the platform.
9. Remove the object from the platform and verify that the value is around the 0 (tolerance of + 4KG).

7.1.4.2. VOCAL MESSAGE REGISTRATION PROCEDURE



1. Connect with the audio output of a pc to the metal connector on the pins:
 - RX232
 - TX232
2. In the section **RECORD** press the button +.
3. Select the file to upload within the mainboard, inserting first the file in the 0 position.
4. Press **OK** and wait for few seconds that the system finishes the registration.
5. Listen again to the messages through the Vocal synthesis panel.

7.2. DIAGNOSIS

7.2.1. EXPANSION I/O 315 PAGE (OPTIONAL)

Input			Output		
Clamp	10	<input type="checkbox"/>	Clamp	38-39-40	<input type="checkbox"/>
Clamp	9	<input type="checkbox"/>	Clamp	35-36-37	<input type="checkbox"/>
Clamp	8	<input type="checkbox"/>	Clamp	32-33-34	<input type="checkbox"/>
Clamp	7	<input type="checkbox"/>	Clamp	29-30-31	<input type="checkbox"/>
Clamp	6	<input type="checkbox"/>	Clamp	26-27-28	<input type="checkbox"/>
Clamp	5	<input type="checkbox"/>	Clamp	23-24-25	<input type="checkbox"/>
Clamp	4	<input type="checkbox"/>	Clamp	20-21-22	<input type="checkbox"/>
Clamp	3	<input type="checkbox"/>	Clamp	17-18-19	<input type="checkbox"/>

In 0 - Transit allowed	In 11 - Lock door	Out 0 - Valid. in
In 1 - Transit denied	In 12 - Transit in with Bios, Badge	Out 1 - Valid. out
In 2 - Open int in manual	In 13 - Transit out with Bios, Badge	Out 2 - Emergency
In 3 - Open ext in manual	In 14 - Manual mode, free exit	Out 3 - Internal door
In 4 - Emergency	In 15 - Manual	Out 4 - External door
In 5 - Unlock doors	In 16 - Reset hw	Out 5 - In transit allowed
In 6 - Reset once Bio, Badge	In 17 - Magnete EM locked	Out 6 - Out transit allowed
In 7 - Internal pushbutton	In 18 - Intercom	Out 7 - Manual
In 8 - External pushbutton	In 19 - Transit allowed in semiauto	Out 8 - External pushbutton
In 9 - Fire alarm	In 20 - RES 1	Out 9 - Internal pushbutton
In 10 - Reset once weight alarm	In 21 - RES 2	Out 10 - Person in the
	In 22 - RES 3	Out 11 - Metal alarm
	In 23 - RES 4	Out 12 - Weight alarm
		Out 13 - Intercom pushbutton
		Out 14 - Power fault
		Out 15 - End of in transit
		Out 16 - End of out transit
		Out 17 - Power EM magnet
		Out 18 - Start Badge, Bio control
		Out 19 - In transit in progress
		Out 20 - Out transit in progress
		Out 21 - CE on
		Out 22 - RES 1
		Out 23 - Biometric control OFF

Refresh

Miscellaneous	Settings	IO Expansion	Sun	Console	Diagnostics	J.R.	Sun Saima
Engines	Inverter	Weight - Speech	Access Control	Inputs	ED IO	ED Setup	Address

Fig. 28 - Iuppiter - I/O 315 page



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

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 MEANINGS OF THE LED OF THIS PAGE, SEE INPUTS AND OUTPUTS.

7.2.2. DIAGNOSTICS PAGE

The screenshot shows a diagnostics page with a table of voltage readings and a navigation menu at the bottom.

Voltage	
3V5 B	3.25
5V5 B	4.93
VCC M	4.98
V ALIM PART	26.80
12V PART	12.52
BATT PART	25.16
3.3V P	3.66
VCC P	4.99

Refresh

Miscellaneous | Settings | IO Expansion | Sun | Console | **Diagnostics** | J.R. | Sun Saima

Engines | Inverter | Weight - Speech | Access Control | Inputs | ED IO | ED Setup | Address

Fig. 29 - Iuppiter - Diagnostics page



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

8. INSTRUCTIONS FOR DISASSEMBLY AND REASSEMBLY OF SECURITY BOOTH (OPTIONAL)

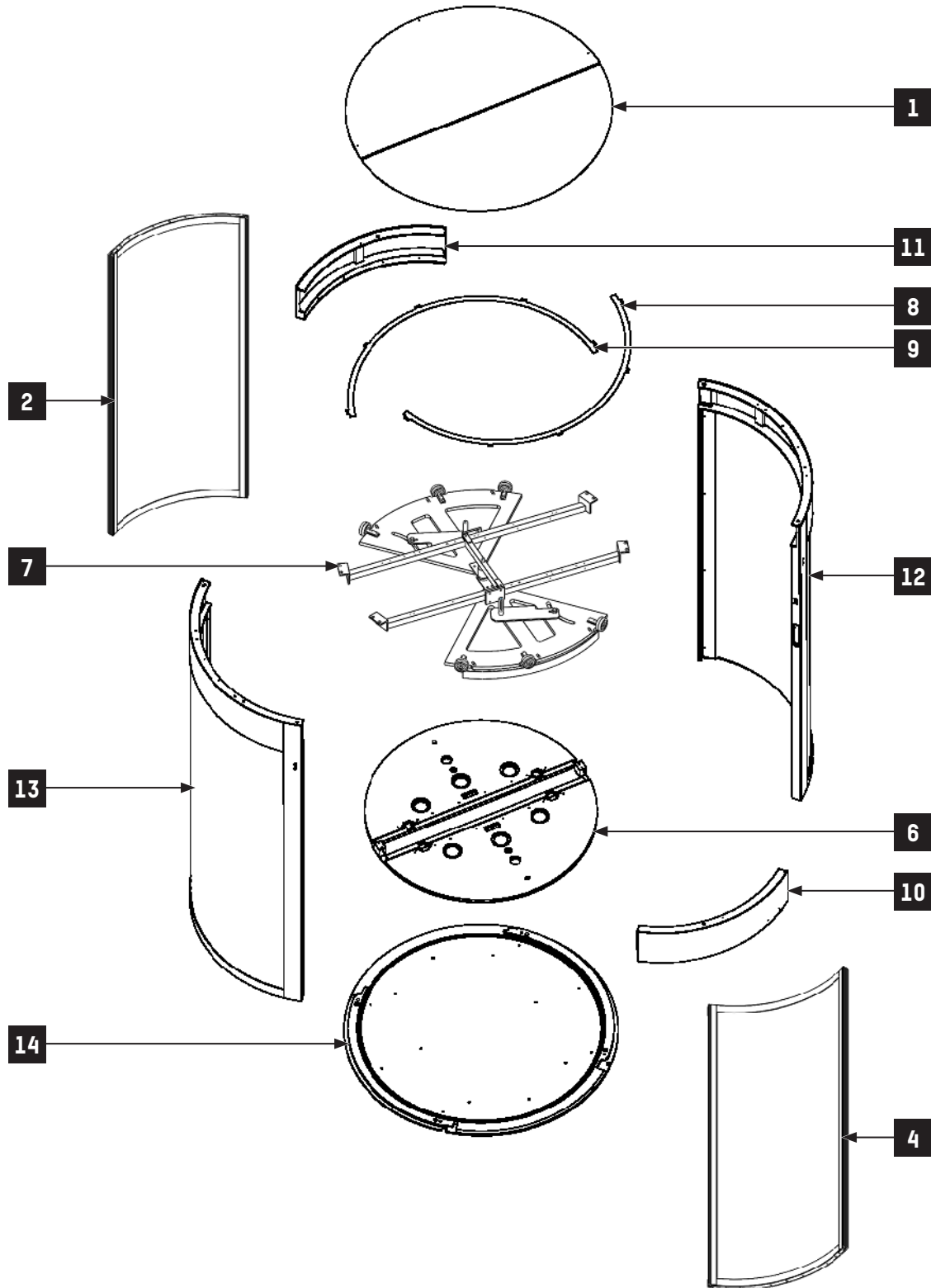


Fig. 30 - Exploded view

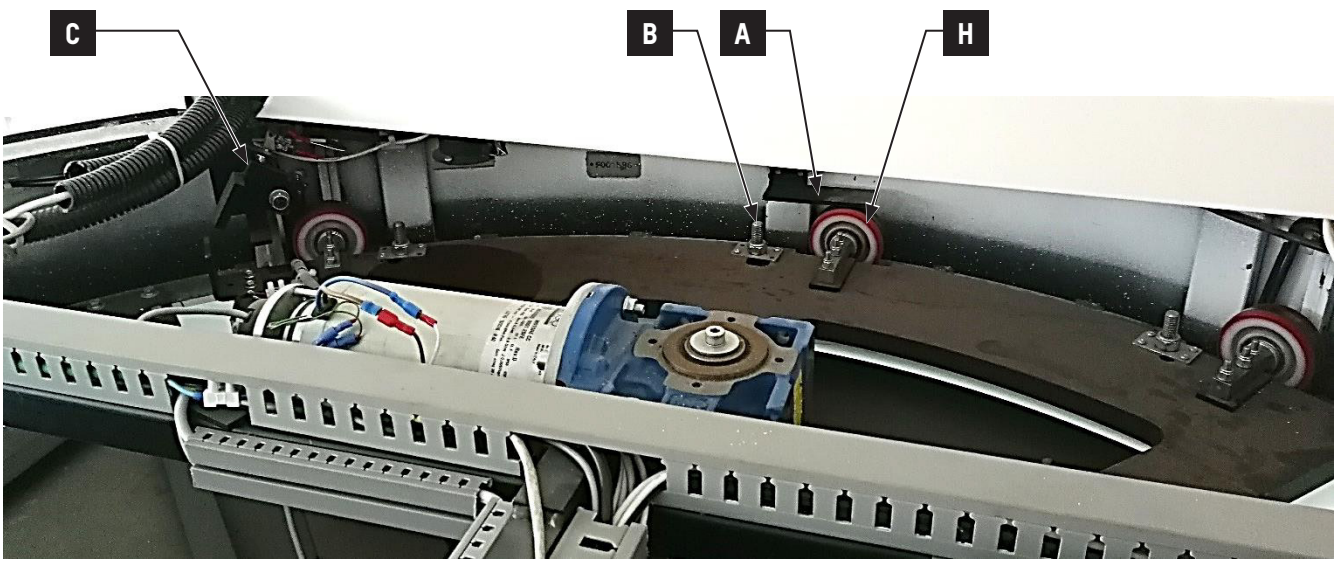


Fig. 31 - Upper parts



Fig. 32 - Lower parts

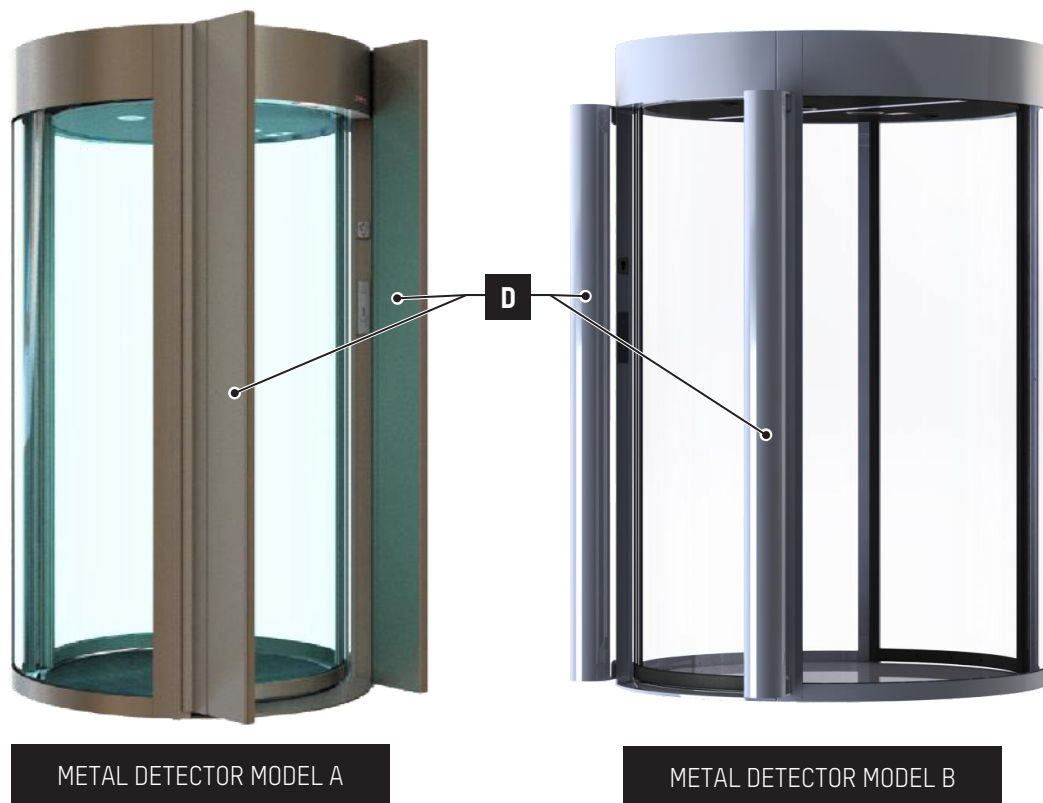


Fig. 33 - Optional metal detector models



MAKE SURE YOU IDENTIFY ALL THE COMPONENTS THAT YOU WILL DISASSEMBLE TO REASSEMBLE THEM IN THE SAME POSITION.

8.1. DISASSEMBLE THE SAFETY CAB AS DESCRIBED IN THE FOLLOWING STEPS

1. Dismantle dust-proof roofs (Part 1, Fig. 30, page 54).
2. Disconnect the various electrical terminals and connectors.
3. Remove the ceiling (Part 6, Fig. 30, page 54).
4. Disassemble anti climbing arches (Part A, Fig. 31, page 55).
5. Unscrew the nuts (Part B, Fig. 31, page 55) and remove the doors (Parts 2-4, Fig. 30, page 54).
6. Disassemble the handling pylon (Part 7, Fig. 30, page 54).
7. Remove the wheel slide supports (Parts 8 and 9, Fig. 30, page 54).
8. Disassemble the lock holder (Part C, Fig. 31, page 55).
9. Disassemble metal detector columns (Part D Figure 7-4).
10. Disassemble the upper fronts (Parts 10 and 11, Fig. 30, page 54) by unscrewing the side screws.
11. Disassemble vertical glass stoppers (Part E, Fig. 32, page 55) and lower horizontal glass stopper (Part F, Fig. 32, page 55) of both side walls (Parts 12 and 13, Fig. 30, page 54).
12. Remove the steel arc (Part G, Fig. 32, page 55) and the underlying thickness of both side walls.
13. Unscrew all screws joining the side walls (Parts 12 and 13, Fig. 30, page 54) to the base of the safety cab (Part 14, Fig. 30, page 54) and remove the walls.

For replacement, perform the above operations in the opposite direction.



ATTENTION: WHILE REASSEMBLING THE ANTI CLIMBING ARCHES (PART. A FIG. 31, PAGE 55) PLACE THEM, IN HEIGHT, AT A DISTANCE OF NOT MORE THAN 3 MM AND NOT LESS THAN 2 MM FROM THE WHEELS OF THE TRUCKS (PART. H FIG. 31, PAGE 55)

9. MAINTENANCE

9.1. ORDINARY MAINTENANCE

FREQUENCY IN CYCLES/TIME	ACTIVITY/ OBJECT TO BE CONTROLLED	ACTIVITY
6 months / 500.000 cycles	Cleaning	<ul style="list-style-type: none"> - Cleaning of the internal and external glazed parts . - Cleaning and lubrication of guides, arms and bearings. - Cleaning of the stand.
6 months / 500.000 cycles	Rug	<ul style="list-style-type: none"> - Verify the integrity of the materials
6 months / 500.000 cycles	Safety	<ul style="list-style-type: none"> - Verify the integrity of the rubber supports. - Check the sensibility of the health and safety sensors. - Verify the maximum torque.
6 months / 500.000 cycles	Push buttons and ceiling light	<ul style="list-style-type: none"> - Check luminous signals. - Check the opening buttons and doorbell.
6 months / 500.000 cycles	Weighing system	<ul style="list-style-type: none"> - Verify the floor alignment. - Verify the answer to the persons' weight, return to zero with $\pm 4\text{Kg}$ tolerance.
6 months / 500.000 cycles	Clearance on moving parts	<ul style="list-style-type: none"> - Check the sliding and wear status of moving parts. - Check the condition of the moving cables. - Check motor noise and kinematics.
6 months / 500.000 cycles	Metal detector (opt.)	<ul style="list-style-type: none"> - Tests with passage of people without metal objects and with metal objects comparable as mass to a gun.
6 months / 500.000 cycles	Peripheral equipment (opt.)	<ul style="list-style-type: none"> - Check (if present) biometric systems, cameras and monitors.
6 months / 500.000 cycles	Electric control unit	<ul style="list-style-type: none"> - Control that must not be infiltrated liquids. - Control that must not be overheated parts. - Control the LED of the machine.
6 months / 500.000 cycles	Command console	<ul style="list-style-type: none"> - Verify the functioning of the switches. - Verify the functioning of the buttons. - Verify the LED functioning. - Control and calibration, if necessary, of the intercoms' volume.
6 months / 500.000 cycles	Motorization	<ul style="list-style-type: none"> - Control that must not be oil leaking within the geared motors. - Control clearance on the mobile parts in the static condition.
6 months / 500.000 cycles	Power supply system	<ul style="list-style-type: none"> - Batteries control and their possible substitution. - Control the machine functioning without network supply (just the internal lamp of the booth must stay off). - Verify the functioning of the network/batteries supply groups. - Control of the technical data of load, tension, resistance and absorption of the machine at the level of the command apparatus and of the supply groups. - Verify the power supply tension empty and under load. - Verify the whole machine absorption. - Control of the ground connections.
6 months / 500.000 cycles	Cylinders and keys	<ul style="list-style-type: none"> - Control of functioning mechanical lock, electrics and the related keys, if present.

FREQUENCE IN CYCLES/TIME	ACTIVITY/ OBJECT TO BE CONTROLLED	ACTIVITY
6 months / 500.000 cycles	System of booth closing	<ul style="list-style-type: none"> - Verify the electric piston functioning and cleaning. - Verify the electromagnets functioning and cleaning.
6 months / 500.000 cycles	Structure	<ul style="list-style-type: none"> - Control of glazing fixing. - Ceiling control and fixing. - Door fixing and adjustment control.

9.2. TROUBLESHOOTING

PROBLEM	CAUSE	INTERVENTION
The doors do not open	Power Supply Mechanical lock Console Tampering Safety Engine brake	<ul style="list-style-type: none"> - Verify that the booth is on - Verify that the booth is in the right position - Verify that the emergency function is not active - Verify that the movements are free - Verify that the safety is working - Verify that the brake is not active - Verify the status of the sliding doors
The doors do not close	Power supply	<ul style="list-style-type: none"> - Verify that there are not 2 people inside the booth - Verify that there is not a person with excessive weight or an adult with child inside the booth
Booth in alarm	Load cell Safety	<ul style="list-style-type: none"> - Verify the weight settings through luppiter - Verify the functioning of the safety
Door that open and close continuously	Safety	<ul style="list-style-type: none"> - Verify the functioning of the Safety
Users not able to transit	Load cell	<ul style="list-style-type: none"> - Verify the weight settings through luppiter
The booth allows transits just in one direction	Console	<ul style="list-style-type: none"> - Verify that the mono-directional function is not inserted
The door doesn't open with the red lights	Mechanical lock	<ul style="list-style-type: none"> - Verify that the key isn't turned in the closed position - Verify the door lock contacts
The booth allows the transit to more than one user with just one validation	Console Load cell	<ul style="list-style-type: none"> - Verify that the control is active - Verify the weight settings through luppiter

10. TECHNICAL SPECIFICATIONS

10.1. WEIGHED BASE MODEL H2350 (STANDARD)

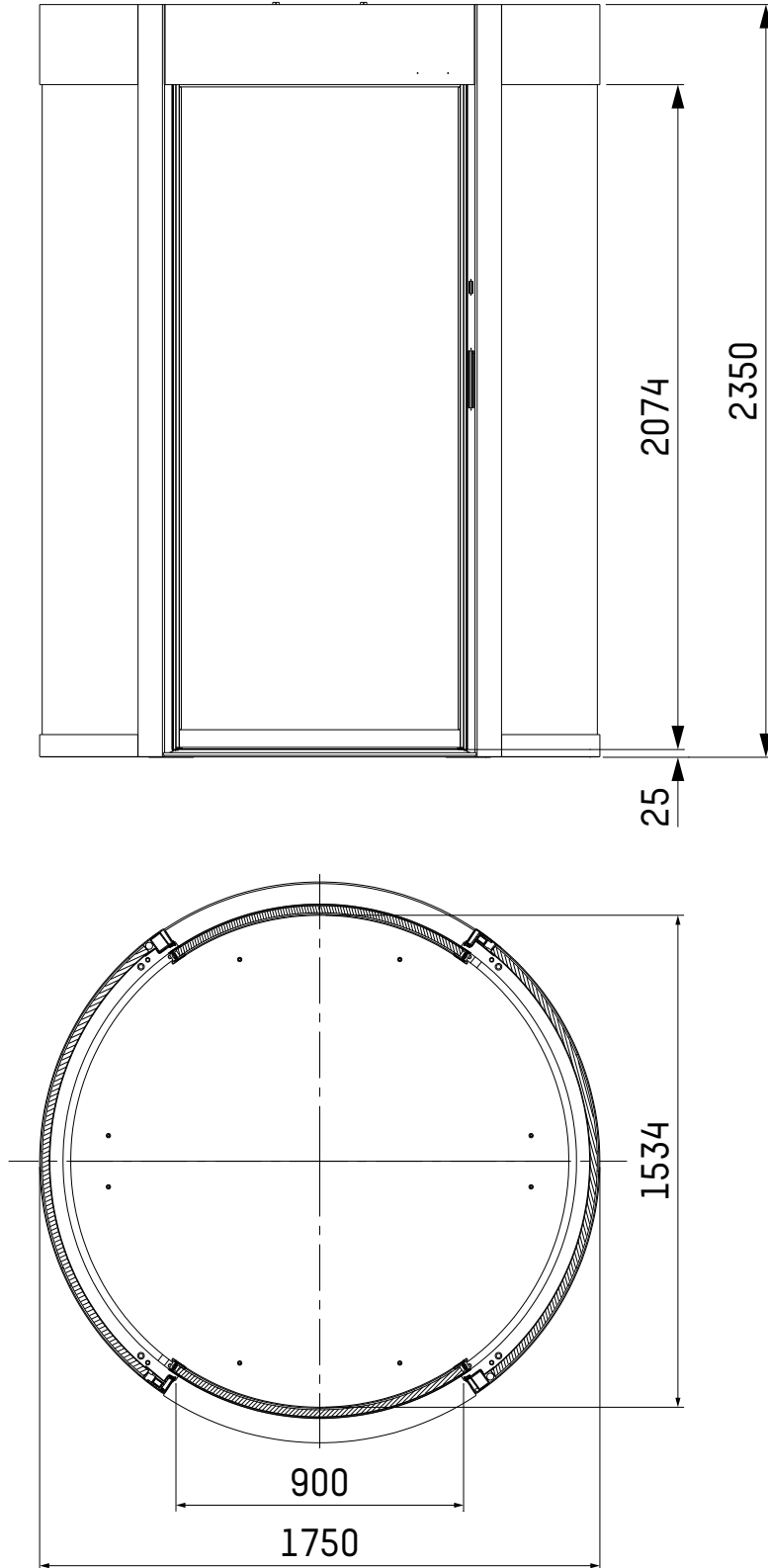


Fig. 34 - ClearLock 639 with weight detection

10.2. PEOPLE COUNTING MODEL H2575 (OPTIONAL)

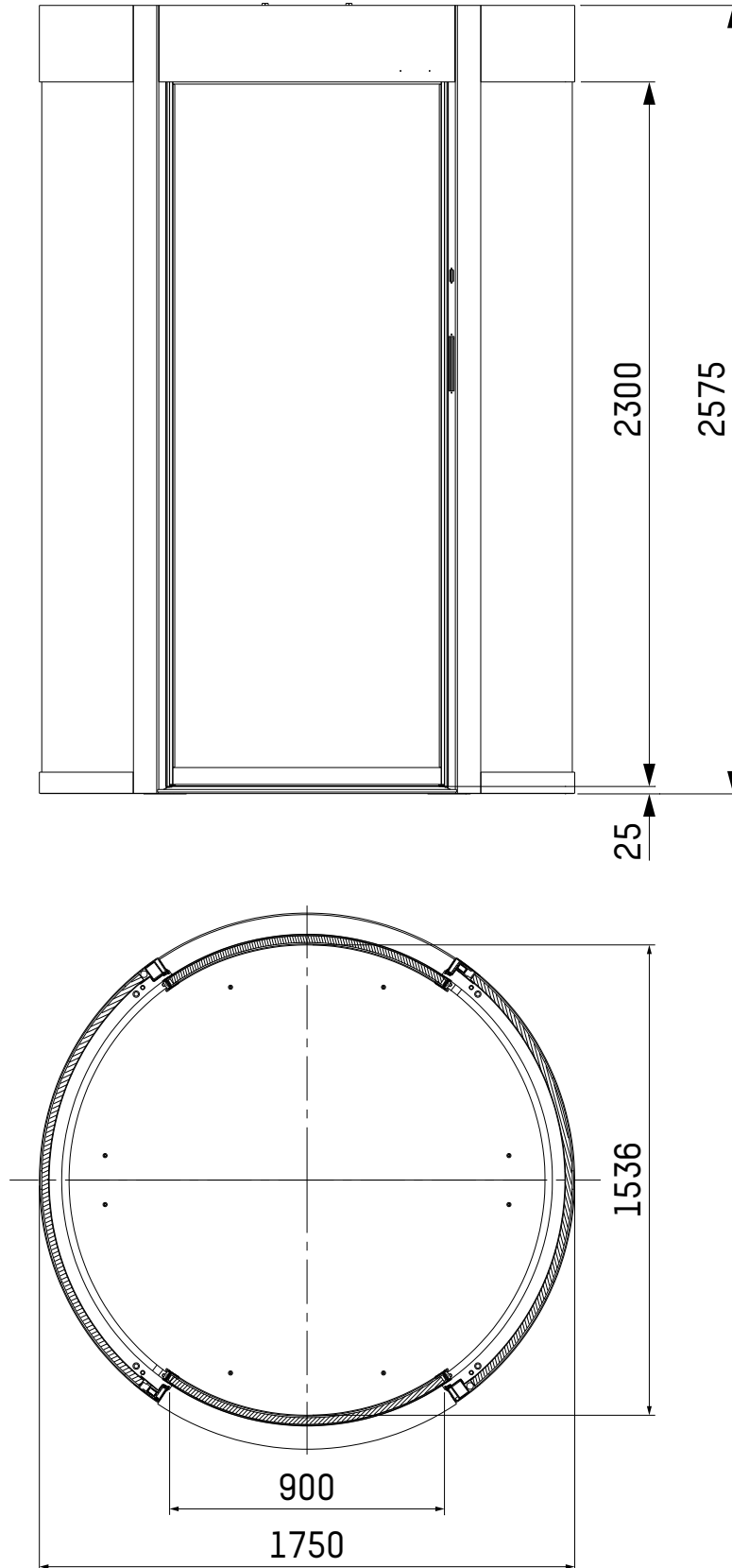


Fig. 35 - ClearLock 639T with volumetric detection

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	
Maximum humidity revealed	85 % (without condensation)	
Degree of protection	IP20	
Backup battery	2 Batteries - 12V-2Ah	
Motor	2 Engines - 24 VDC	
Management logics	Programmable by micro-processor	
Autonomy without power supply	60 minutes with 200 passages	
Transit speed	6 passages per minute 8/9 passages per minute in both directions ((excluding the time of action of any readers or badges).	
Dimensions		
	ClearLock 639	ClearLock 639T
Overall dimensions (mm)	Height: 2350	Height: 2575
	Diameter: 1750	Diameter: 1750
Passage dimensions (mm)	Height: 2025	Height: 2300
	Width: 900	Width: 900
Weight	1100 kg	1200 kg
MTBF/MCBF	2 years/ 1.000.000 of passages respecting the ordinary maintenance	
MTRR	1 hours	
CE	Comply with the European standards	



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

