

IL 68X

The high-security booth

TECHNICAL MANUAL

(Translated from the original English version)

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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.

	<p>Danger to the health of people. The failure to comply with the directions bearing this symbol may cause serious physical damages to the people.</p>
	<p>Potentially dangerous situation or prohibited 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.</p>

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



High voltage



Grounding



Danger crushing of fingers



Danger hot surface



Danger obstacle

PROHIBITION



Do not remove any safety gear



Do not remove/adjust in motion



Do not use water in case of fire

2. INTRODUCTION

This manual describes all the rules of use as well as some information regarding the maintenance 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 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 security booth.

2.2. DESTINATION OF USE

The security booth must exclusively be used as security door with access control.

Limitations of the intended use:

The booth must be only 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 here 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.



The image shows a metal identification plate for the Automatic Systems IL 68X. The plate features the AS logo and the text 'AUTOMATIC SYSTEMS' on the left, and the CE mark on the right. Below this, there are several fields for technical specifications, each with a corresponding label and a rectangular box for the value:

MODELLO	<input type="text"/>	TENSIONE (V)	<input type="text"/>
MATRICOLA	<input type="text"/>		
FREQUENZA (Hz)	<input type="text"/>	POTENZA (Kw)	<input type="text"/>
MASSA Kg	<input type="text"/>	SPINTA MAX (N)	<input type="text"/>

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 **Automatic Systems** 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 power supply failure
- Internal button of aid call
- Inaccessible mechanic motion
- Metal plates showing the correct procedures to be followed
- Electric isolation
- Safety transformer
- Peripheral 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 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



- The 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.
- Activating 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 on.
- While nobody is working on the machine, keep the internal ceiling and the external roof assembled to the booth and fixed with screws.
- Do not leave the keys in the locks. Do not give the keys to untrained or not authorised staff.

2.7. RISK ASSESSMENT



Accidental risks coming from the machine may 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 - CARRIERS

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:

- 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:

- Use protective equipment.
- Use instruments to verify the electric voltage.
- Do not operate on the mechanical parts while the machine is on.

CATEGORY 3 – SERVICE TECHNICIANS

People at risk: Maintenance and service staff.

Type of risk:

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

Avoiding the risks:

- Use 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 adequate protection devices.
- Disable doors movement from the control console.
- Do not clean the doors while in motion.

CATEGORY 5 - USERS

Persons at risk: Adult users, disabled people.

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 ADVERTISES

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 Robbery Booth is equipped with a particular system, that allows to verify the presence of metal objects and/or people (*ant hostage function*) within the transit compartment. On request it can be equipped with a Metal Detector and Biometric systems for the peoples' recognition.

N.B. The system of objects detection, interests just the internal compartment. So, it is possible to anchor the booth to lateral structures (*fixtures, ceiling*) without compromising the functioning.

The robbery doors' structure is made in steel plate, properly reinforced with con tubulars of big thickness. The painting is made using special materials that give to the finished product a great resistance to the atmospheric agents and other impacts. The parts of the passage compartment are made with special materials of high-strength, similarly the supports of the doors where the bulletproof glass is placed.

The management approach is situated in the upper compartment of the booth and is easily controllable. A covering of plastic material covers the upper compartment up from the dust.

The opening of the doors is of manual type.

In the normal functioning, the doors are blocked by electric-strike-locks that are unlocked through external pushbuttons. In case of malfunctioning of the booth the electric-strike-locks can be unlocked both from the outside and inside of the booth, through the keys placed under the pushbuttons (*in case the booth with Metal Detector, in the local external side the electric-strike-lock can be unlocked just from the outside of the booth*).

The booth is even provided with:

- Door phone implant for a conversation between the outside and the command console;
- Speech synthesis with one or more messages (*on request*);
- Pushbuttons that include the alert LEDs (*red, yellow, green*), button of intercom call, microphone, button of door opening;
- Button of intercom aid call of stop and call which is situated inside the booth.
- Ceiling lamp made of spotlights, speaker and intercom button (*on request*);
- Mechanic key for the switching on of the booth and for the night closure.



THE MISSING USE OF THE NIGHT CLOSURE WITH THE MECHANIC KEY CAN CAUSE THE POSSIBILITY THAT THE DOORS REMAIN UNLOCKED, SO THEY CAN BE OPENED MANUALLY, IN THE CASE WHICH AN EXHAUSTION OF THE CHARGE RESERVE OF THE BATTERIES HAPPENS.

3.2. FUNCTIONING OF THE SECURITY BOOTH

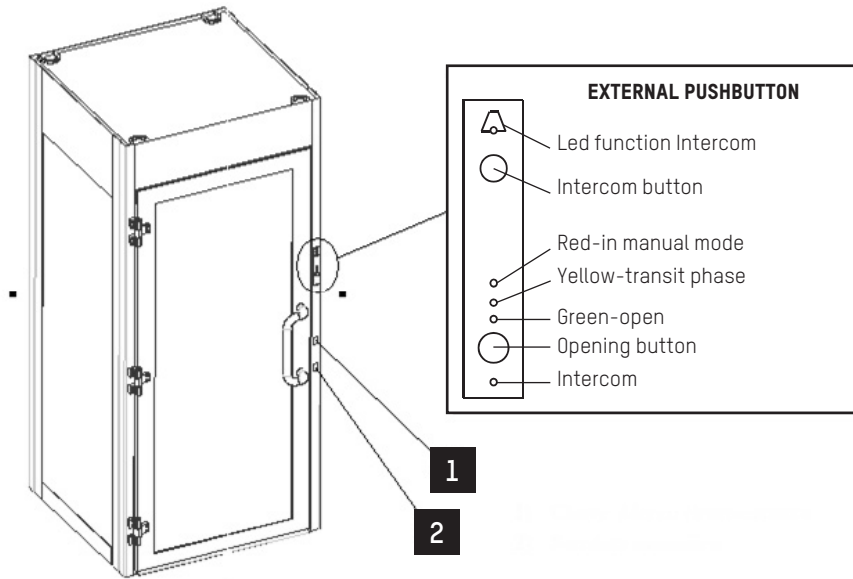


Fig. 1 - View of external side

Landmarks	Designation
1	Key of electric-strike-lock unlock
2	Tumbler System

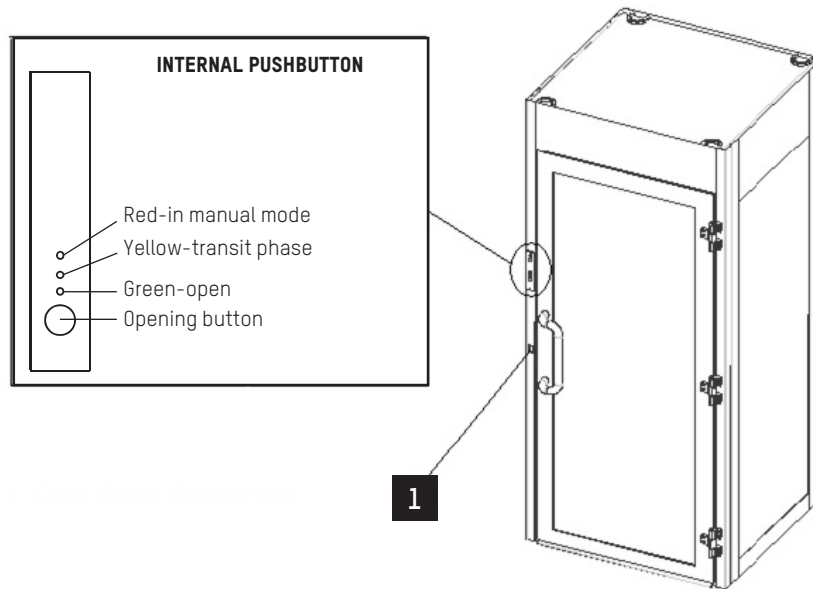


Fig. 2 - View of internal side

Landmarks	Designation
1	Key of electric-strike-lock unlock

POWER ON OF THE BOOTH

The security booth can be switched on and off with the mechanical key situated on the top of the external side of the booth (*part. 2, Fig. 1 - View of external side*).

Use the previously mentioned key for the first admission and e for 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.

The mechanical key will not be present in the versions managed with the redundant management of the opening.

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. 1, Fig. 2 - View of internal side*) 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 the door and the opening of the other door
4. Exit the booth

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.

TRANSIT WITH METAL (if 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 interphone, 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.

CLOSED DOOR TO THE PUBLIC

In the hours in which you want to prevent the public to enter, it will be necessary to put the console command button in "Exit Only" mode. In this case the user has to ask to enter through the interphone.

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.

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.

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.

AUTOMATIC OPERATION IN THE ABSENCE OF CURRENT

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.

BUTTON OF INTERNAL STOP OF THE 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, we have the unlock of the magnet of the external door and the inhibition of the doors' movements.

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

AUTHORISATION 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 (*Figure 3*) in OFF position.

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

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.

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 maintenance 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.

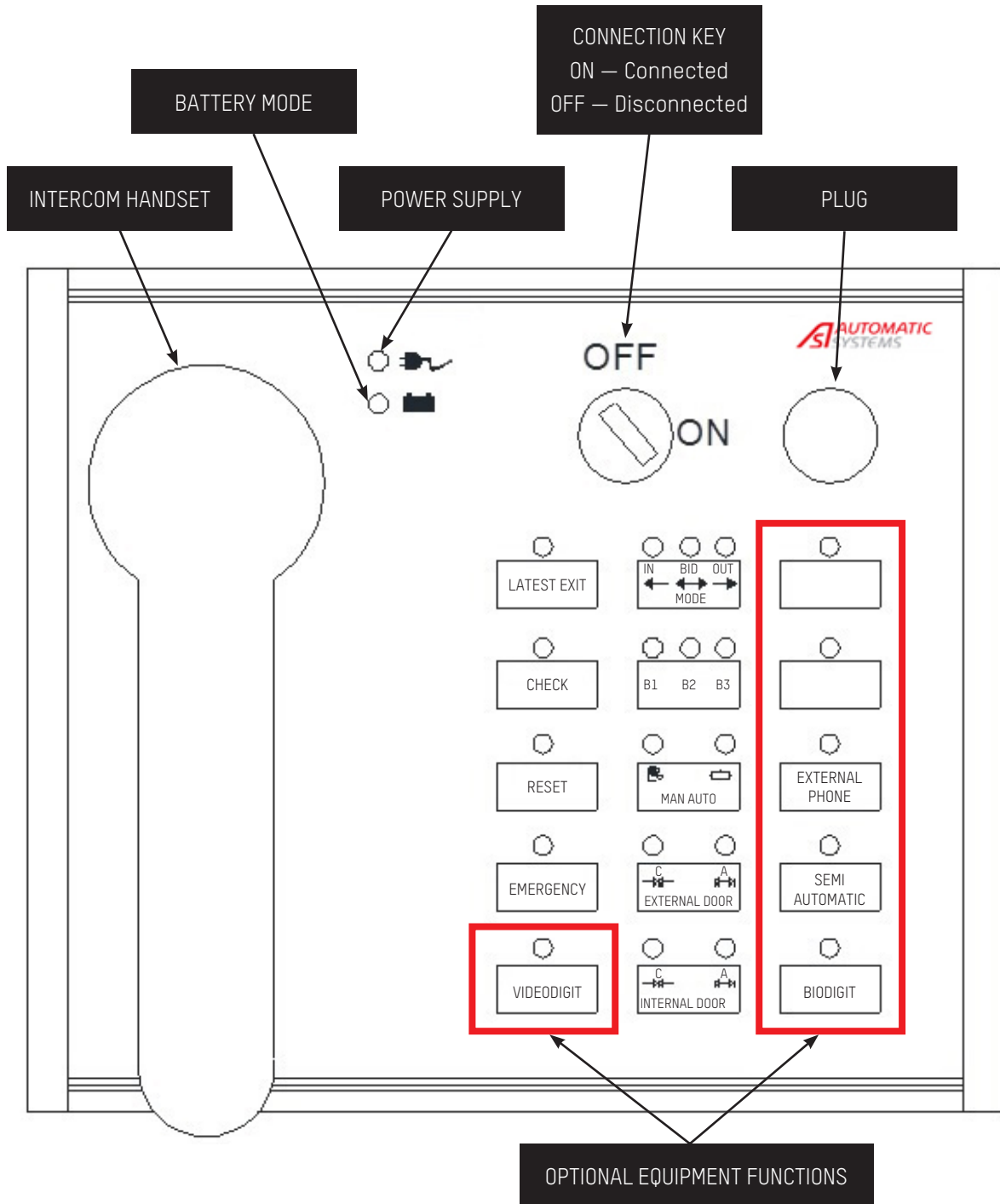


Fig. 3 - Serial control console

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 - Standard working

Video-digit (optional)

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

LED ON - Video-digit enabled

LED OFF - Video-digit 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 phone (optional equipment)

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

Led ON - External phone selected

Led OFF - Booth phone selected

Semi-automatic (optional equipment)

During the semiautomatic 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

Bio-digit (optional equipment)

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

Led ON - Bio-digit enabled

Led OFF - Bio-digit 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 keys simultaneously until all the booth start reset.



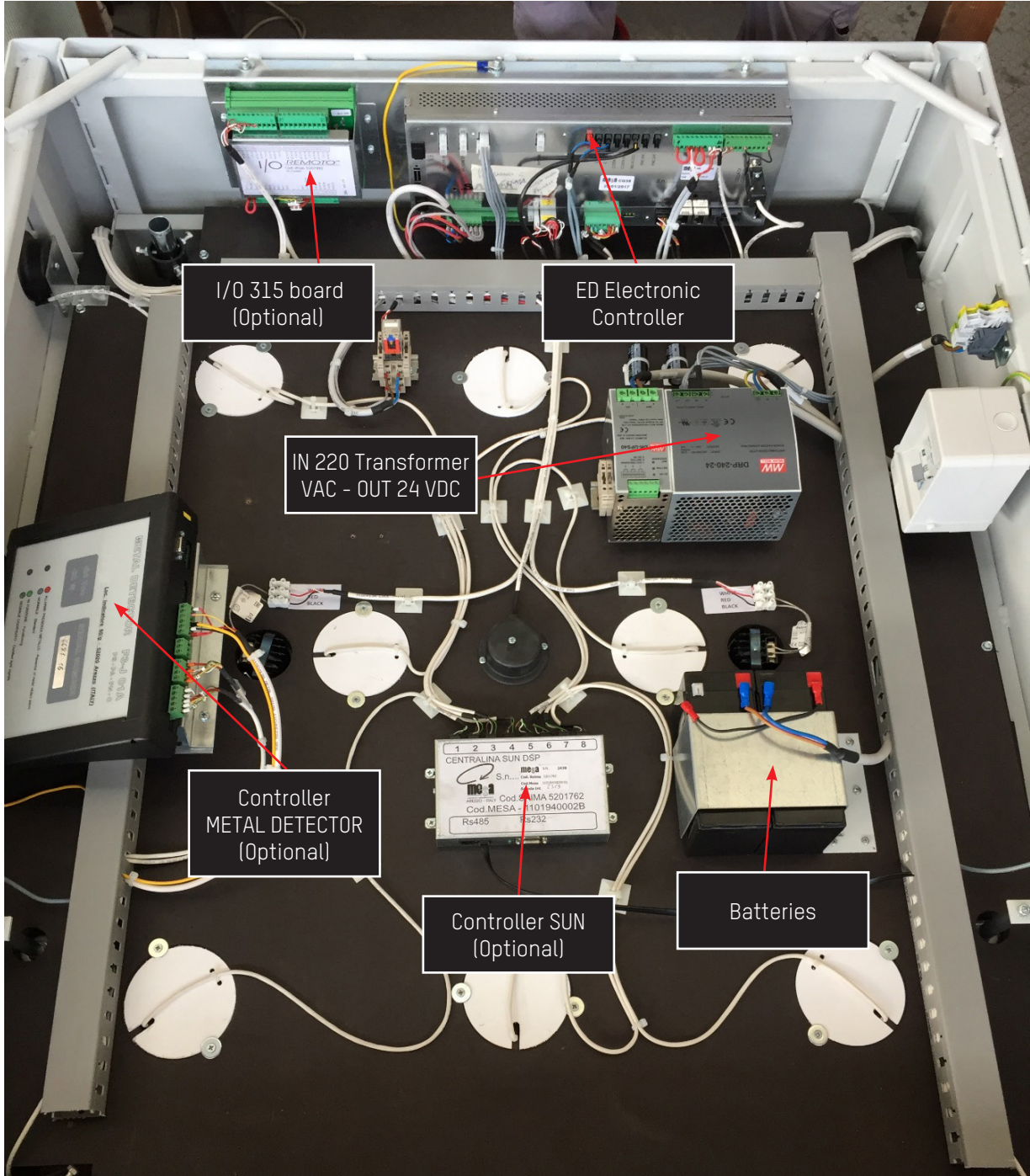
WHILE RESETTING, DO NOT DO OTHER OPERATIONS ON THE CONSOLE OR ON THE BOOTH.

3.5. LIGHT FLASHING IN EACH STATE OF THE BOOTH

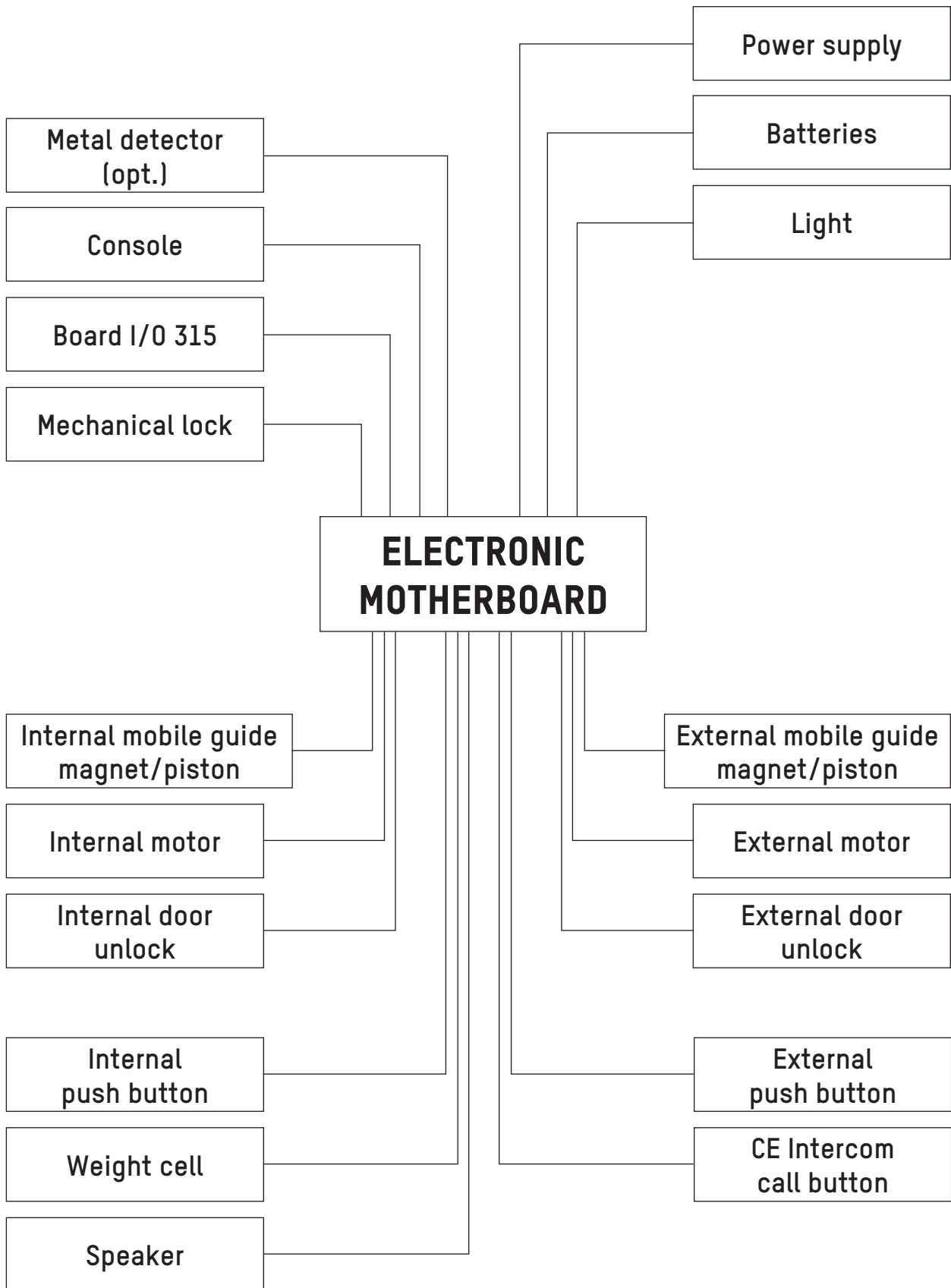
Booth state	External light	Internal light
Standby Bidirectional	Green	Green
Standby Mono-entry	Green	Red
Standby Mono-exit	Red	Green
Standby Manual	Red	Red
Entry transit with external door opening / open	Green	Yellow
Entry transit with external door closing	Yellow	Yellow
Exit transit with internal door 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
Mechanical lock closed with external door closed	Red	Light off
Mechanical lock closed with external door open	Red and Green	Red and Green
Encoder error	Red and Green	Red and Green

4. ELECTRONIC DESCRIPTION

4.1. ELECTRONIC PLATE



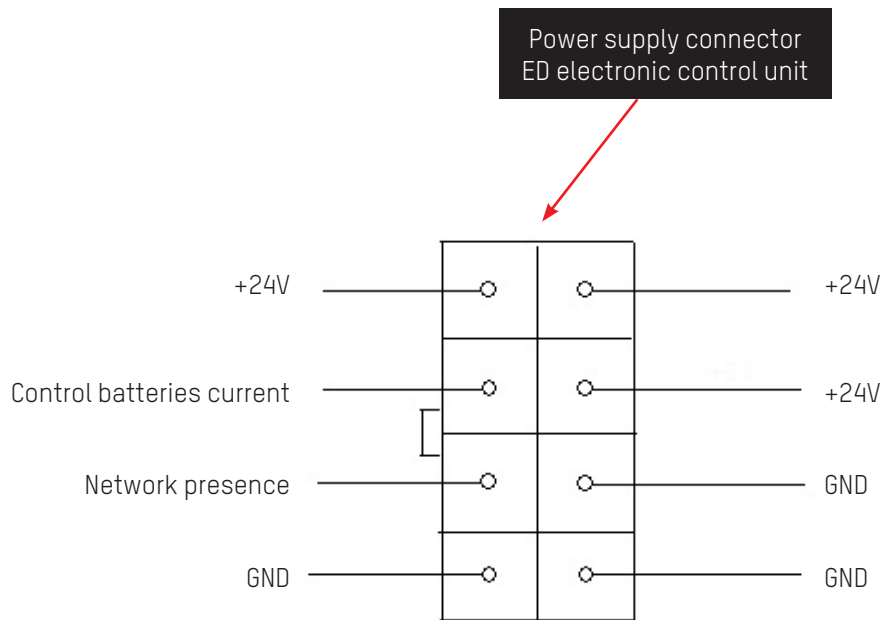
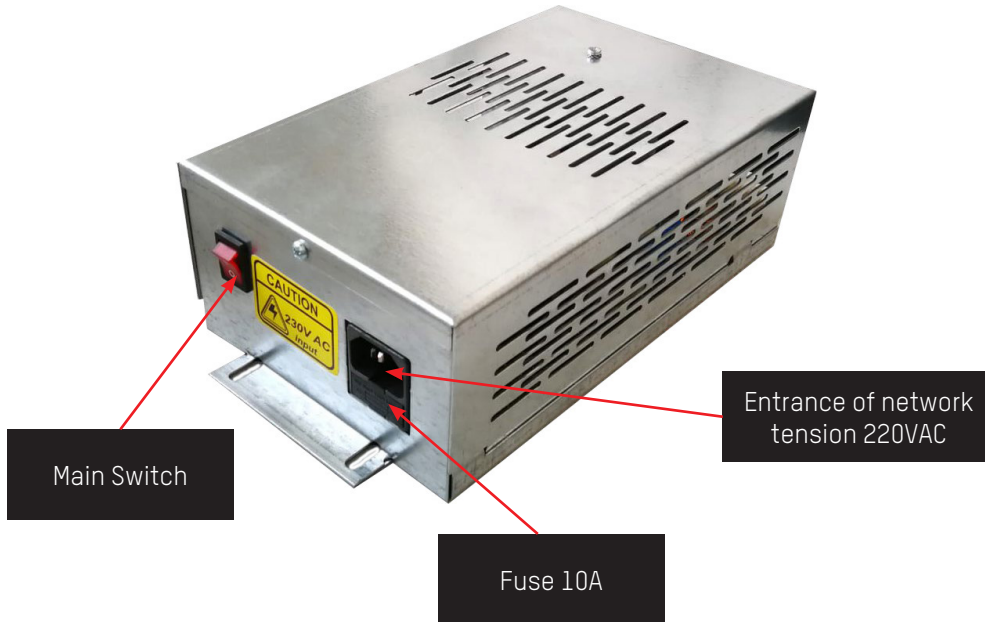
4.2. BLOCKS SCHEME



4.3. POWER SUPPLY

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

4.3.1. POWER SUPPLY 220 VAC



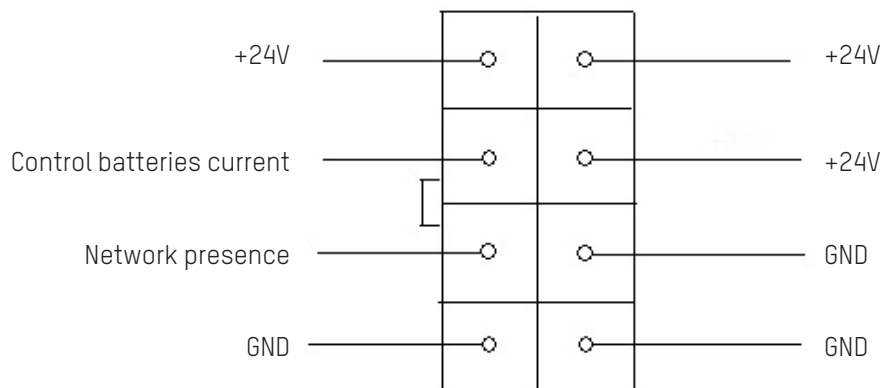
4.3.2. POWER SUPPLY UL - 100/240VAC 2.8A 50/60HZ

Exit of tension 24VDC 10A

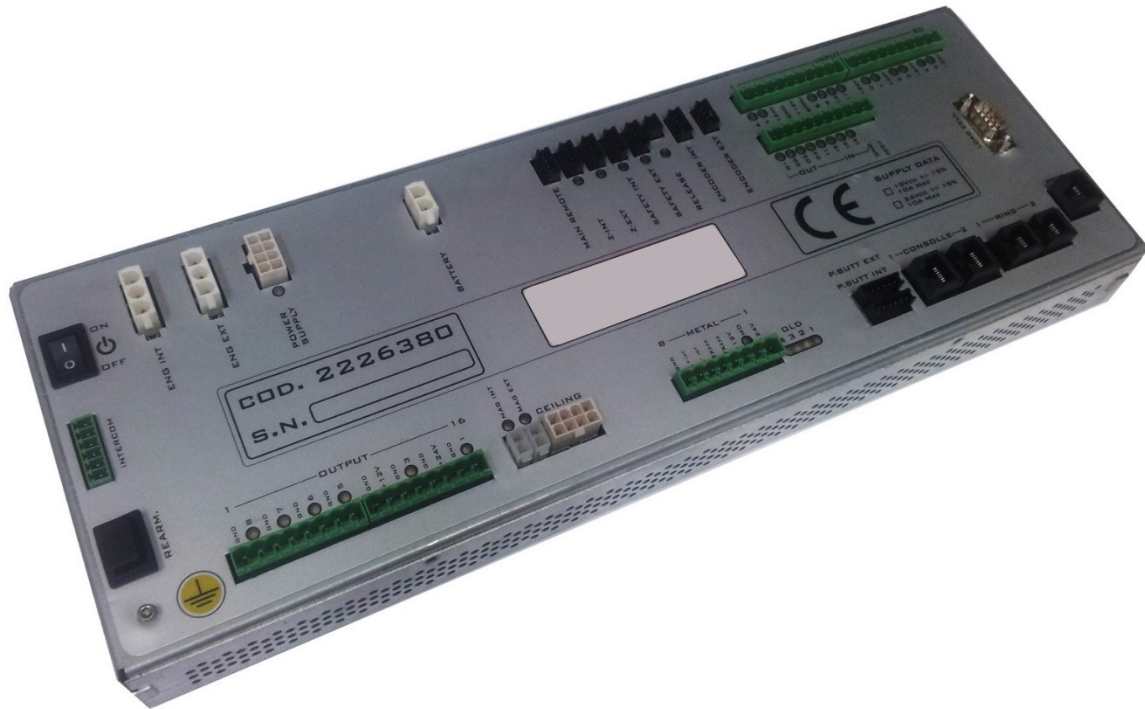


Entrance of network tension 100/240VAC 2.8A 50/60Hz

Power supply connector ED electronic control unit



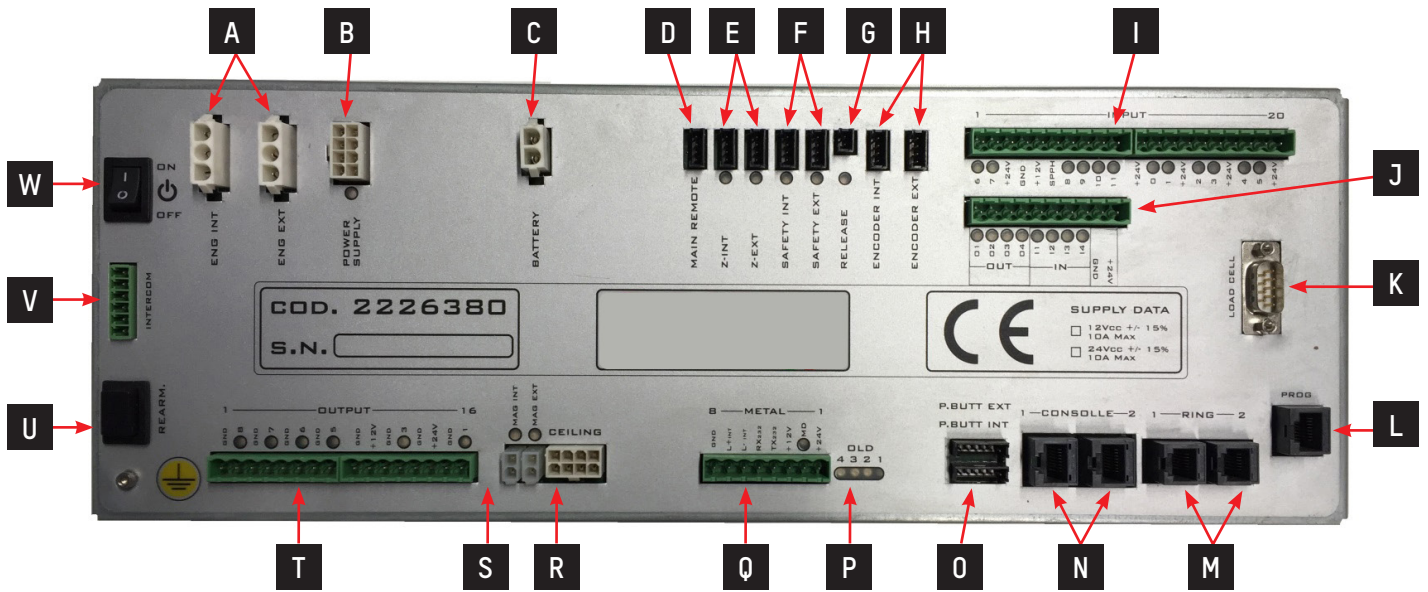
4.4. ELECTRONIC CONTROL ED UNIT



The mainboard shows the following characteristics and peripherals:

- Power Supply 24 V 10A
- Programmable micro-controls
- 2 Serials RS485
- 1 serial RS232 dedicated to the programming
- Management of 3 intercoms
- Load cell management
- Management emergency hardware opening
- 2 engines management in CC
- Management/ batteries charge 24VDC
- Management switch on/off from a remote
- 2 ribbed entrances
- 2 step/step encoder entrances
- 2 inputs for proximity sensors
- 16 digital programmable inputs opto-isolated
- 10 outputs in MOSFET 24VDC – 3A programmable
- 2 mosfet outputs
- 2 serial push-button panels management
- dedicated Connector to manage the metal detector
- Management led spotlights
- Record and reproduction of speech synthesis

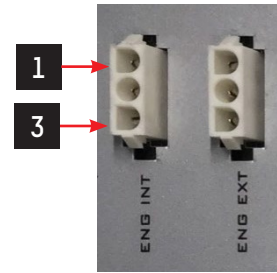
4.4.1. CONNECTORS



Landmarks	Designation
A	Connectors for internal and external engines
B	Power Supply connector
C	Batteries connector
D	Remote control connector
E	Internal and external proximity sensors connectors
F	Internal and external 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 push-buttons Connectors
P	Status Led
Q	Metal Connector
R	Speaker/intercom/spotlights Connectors
S	Internal and external Magnets Connectors
T	Outputs Connectors
U	Reset Button
V	Commercial intercom Connector
W	Power on switch

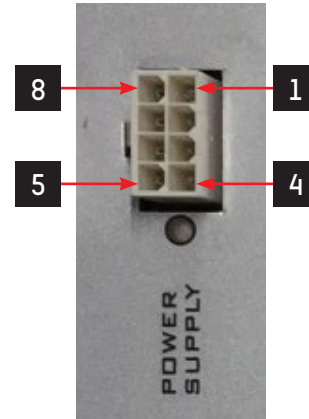
4.4.1.1. CONNECTORS FOR EXTERNAL AND INTERNAL ENGINES

Landmarks	Designation
1	Engine
2	GND
3	Engine



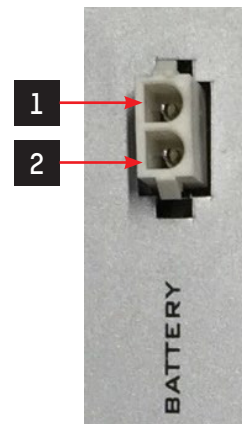
4.4.1.2. POWER SUPPLY CONNECTOR

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



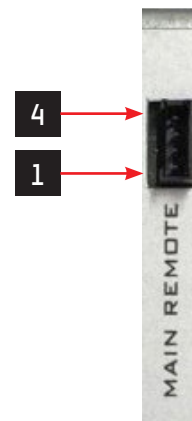
4.4.1.3. BATTERIES CONNECTOR

Landmarks	Designation
1	+24 VDC battery
2	+24 VDC battery



4.4.1.4. REMOTE CONTROL CONNECTOR

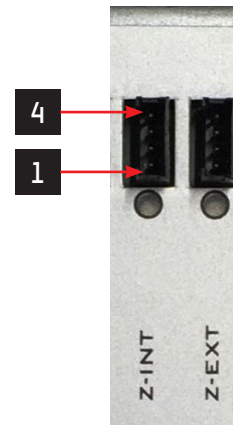
Landmarks	Designation
1	Not used
2	Not used
3	Contact of power on
4	GND



4.4.1.5. INTERNAL AND EXTERNAL PROXIMITY SENSORS CONNECTORS

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

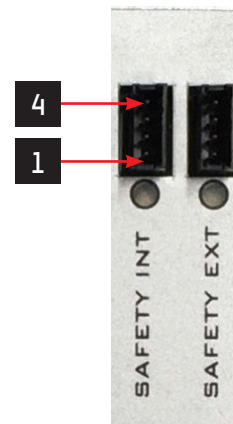
- Use a PNP - NO proximity sensor



4.4.1.6. INTERNAL AND EXTERNAL SAFETY CONNECTORS

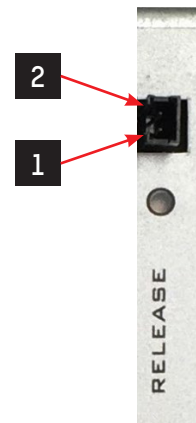
Landmarks	Designation
1	+24VDC
2	Not used
3	SAFETY CONTACT
4	GND

- Use a safety NPN - NO



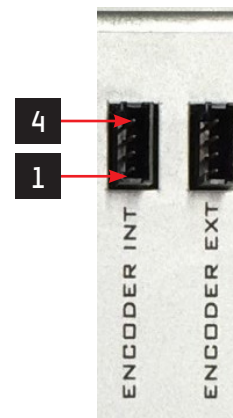
4.4.1.7. UNLOCK CE CONNECTOR

Landmarks	Designation
1	Button
2	GND

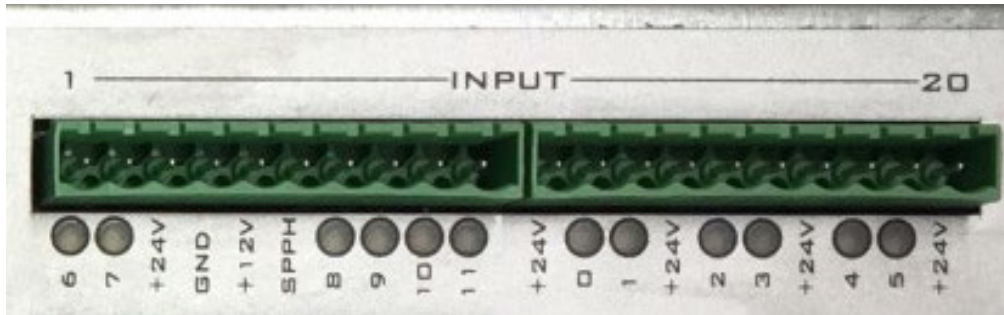


4.4.1.8. INTERNAL AND EXTERNAL ENCODER CONNECTORS

Landmarks	Designation
1	+5VDC
2	B
3	A
4	GND



4.4.1.9. INPUTS CONNECTORS

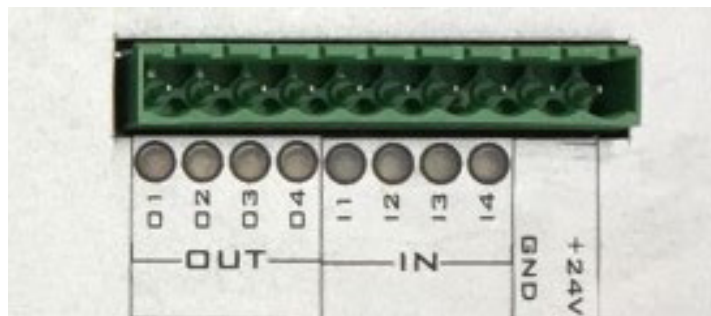


Landmarks	Designation	Landmarks	Designation
1	Inp6	11	+24VDC
2	Inp7	12	Inp0
3	+24VDC	13	Inp1
4	GND	14	+24VDC
5	+12VDC	15	Inp2
6	Not used	16	Inp3
7	Inp8	17	+24VDC
8	Inp9	18	Inp4
9	Inp10	19	Inp5
10	Inp11	20	+24VDC



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

4.4.1.10. INPUTS AND OUTPUTS CONNECTORS



Landmarks	Designation	Landmarks	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 24VDC 1.4A

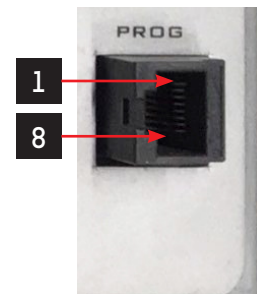
4.4.1.11. LOAD CELL CONNECTOR

Landmarks	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



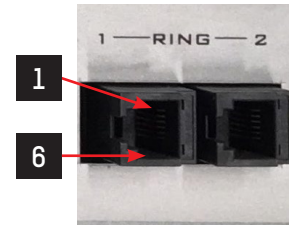
4.4.1.12. PROGRAMMING CONNECTOR

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



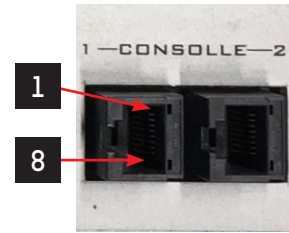
4.4.1.13. SERIAL INTERNAL CONNECTORS

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



4.4.1.14. EXTERNAL SERIAL CONNECTORS

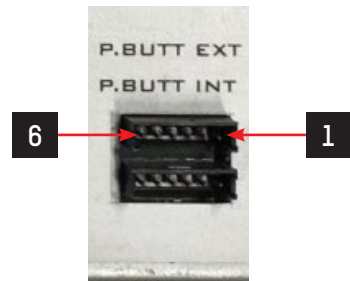
Landmarks	Designation
1	L- EXT
2	L+ EXT
3	+12VDC/+24VDC
4	+12VDC/+24VDC
5	GND
6	GND
7	LISTEN
8	SPEAK



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

4.4.1.15. INTERNAL AND EXTERNAL PUSHBUTTON CONNECTORS

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



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

4.4.1.16. STATUS LED

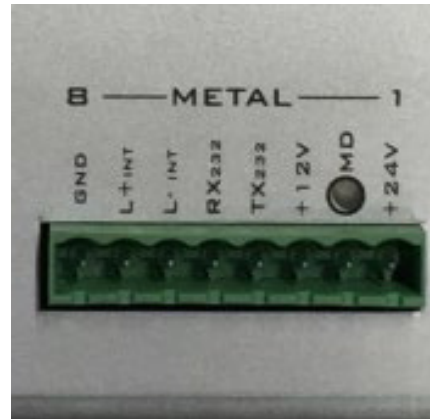
- The LEDs are used to show the functioning state of the ED mainbord
- The LEDs light up in sequence to indicate correct operation.
- Leds status table for types of malfunctions:



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

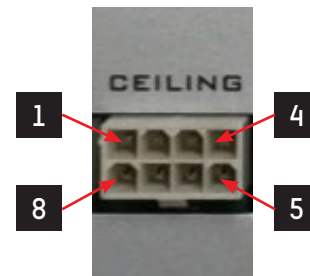
4.4.1.17. METAL CONNECTOR

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



4.4.1.18. SPEAKER/INTERCOM/SPOTLIGHTS CONNECTOR

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



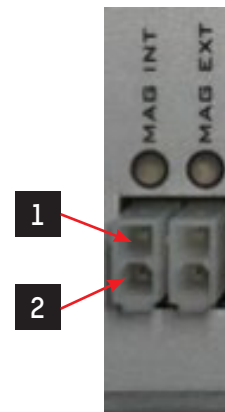
4.4.1.19. INTERNAL AND EXTERNAL MAGNETS CONNECTORS

Internal Magnet

Landmarks	Designation
1	+24VDC
2	GND

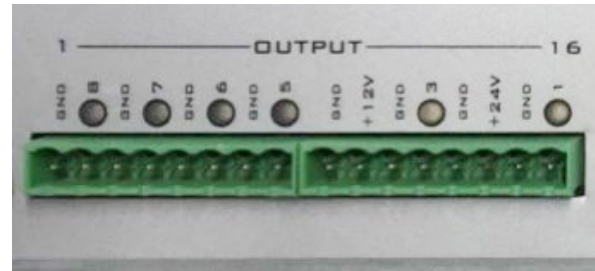
External Magnet

Landmarks	Designation
1	GND
2	+24VDC



4.4.1.20. OUTPUTS CONNECTORS

Landmarks	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 1.4A
- Out1 e Out3 give +24VDC 2.8A

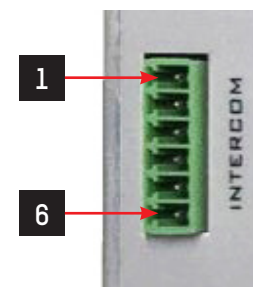
4.4.1.21. RESET BUTTON

- 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.



4.4.1.22. COMMERCIAL INTERCOM CONNECTO

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



4.4.1.23. IGNITION SWITCH

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



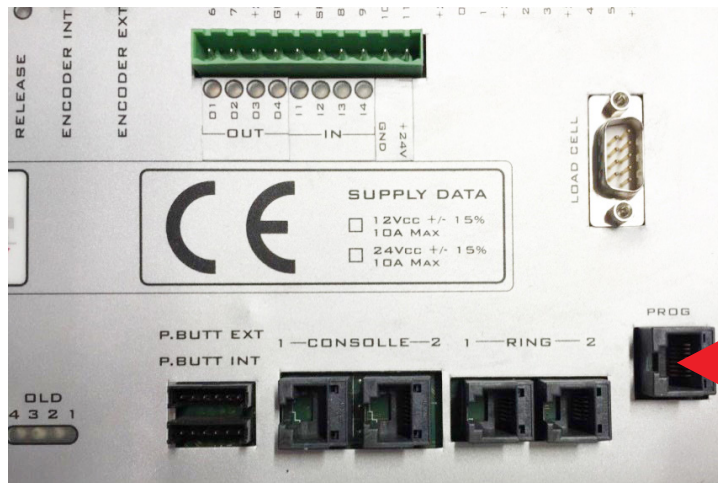
4.4.2. PROGRAMMING



Programming Software



Programmer



Programming connector

4.4.2.1. PROCEDURE

- a. Connect the programmer the PC with a RS232/USB convertor
- b. Connect the programmer on the connector dedicated to the ED mainboard
- c. Verify that the board is switched on and follow the instructions stated here below:
 1. Do double click on the firmware to be inserted inside the ED mainboard
 2. The **"FLASH DEVELOP TOOLKIT"** programme starts automatically
 3. Select the **"DEVICE"** window
 4. Select the **"CONFIGURE FLASH PROJECT"** voice
 5. The list of micro-processors opens automatically (*CHOOSE DEVICE*)
 6. Select the **"H8/3687F"** micro-processor
 7. Select **"AHEAD"**
 8. Select the COM (*COMUNICATION PORTE*)
 9. Select **"AHEAD"**
 10. Set the quartz frequency at 14.7456 (*DEVICE SETTING*)
 11. Select **"AHEAD"**
 12. (*CONNECTION TYPE*)
 13. Select **"AHEAD"**
 14. (*PROGRAMMING OPTIONS*)
 15. Select **"AHEAD"**
 16. Connect the programming interface of the **"programming"** connector
 17. Set the programming interface selector 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"** programme
 26. Set on **"Run"** the programming interface selector
 27. Press **"Reset"** of the programming interface
 28. Programming ended
- d. Disconnect the ED mainboard programming connector

4.4.3. PARAMETRIZATION 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: "Iuppiter", given on request by *Automatic Systems*. The program "Iuppiter" 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 *Automatic Systems* 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 Iuppiter ED cable
- Hardware key



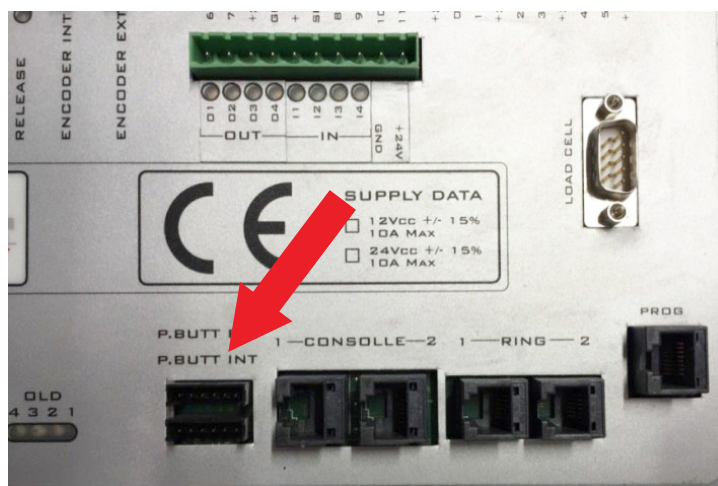
Software for parameterization



5819317 Iuppiter ED cable



USB/RS485 converter



Connector for Iuppiter mainboard parameterization

4.4.3.1. 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 the different products where the ED mainboard is used;
- **ED I/O:** sees in real time the status of the inputs and outputs;
- **INVERTER:** modify the movement parameters of the doors;
- **WEIGHT/SYNTHESIS:** visualise 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.

5. INPUTS AND OUTPUTS

5.1. ELECTRONIC CONTROL UNIT

CLAMP	ED mainboard INPUT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	6	ED IO	MASTER - IN 6	SWITCH ON <i>(Contact N.C.)</i>
2	7	ED IO	MASTER - IN 7	PERSON SENSOR
3	+24VDC			SWITCH ON <i>(Common)</i>
4	GND			NOT USED
5	+12VDC			NOT USED
6	SPPH			ACTIVATION OPTO-ISOLATORS
7	8	NOT VISIBLE	MASTER - IN 8	SAFETY OPENING Common GND
8	9	INVERTER	INVERT. - IN 2	EXT UNLOCKED Common GND
9	10	INVERTER	INVERT. - 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	TUMBLER SYSTEM <i>(Contact N.O.)</i>
13	1	ED IO	MASTER - IN 2	AUXILIARY METAL ALARM INPUT <i>(See also Metal Connector)</i>
14	+24VDC			KEY OF FIRST ENTRANCE <i>(Contact N.C.)</i>
15	2	ED IO	MASTER - IN 1	KEY OF FIRST ENTRANCE <i>(Contact N.C.)</i>
16	3	ED IO	MASTER - IN 0	INTERNAL RADAR <i>(Contact N.O.)</i>
17	+24VDC			RADAR <i>(Common)</i>
18	4	ED IO	MASTER - IN 4	RADAR ESTERNO <i>(Contact N.O.)</i>
19	5	ED IO	MASTER - IN 5	POST KEY <i>(Contact N.C.)</i>
20	+24VDC			POST KEY <i>(Contact N.C.)</i>

- Connect the clamp 6 to the clamp 5 to activate the inputs
- The inputs from IN 0 to IN 7 are activated with a positive *(with a tension that varies from 5VDC to 24VDC)*
- The inputs from IN 8 to IN 11 are activated by the GND

5.2. I/O 315
INPUTS

FUNCTION	DESCRIPTION	N° IN THE BOARD I/O
00	TRANSIT ALLOWED	0
01	TRANSIT NOT ALLOWED	1
02	OPEN INTERNAL IN MANUAL	2
03	OPEN EXTERNAL IN MANUAL	3
04	EMERGENCY	4
06	RESET FOR A PASSAGE OF THE ACCESS CONTROL	5
09	FIRE-FIGHTING	6
16	ELETTRONICS RESET	7

OUTPUTS

FUNCTION	DESCRIPTION	N° IN THE BOARD I/O
00	ENTRY VALIDATION	1
01	EXIT VALIDATION	2
02	BOOTH IN EMERGENCY	3
03	INTERNAL DOOR NOT CLOSED	4
04	EXTERNAL DOOR NOT CLOSED	5
10	PERSON PRESENCE	6
12	EXCESSIVE WEIGHT	7
18	READY TO READ	8

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

For the management of weight, Synthesis and Diagnosis it is used the Iuppiter software. Here below are indicated the pages and the standard functional settings that *Automatic Systems* considers important for the correct functioning of the machine, the other pages are used for other products. The values not reported in the following parameters used for the machine do not need to be modified.

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

6.1. PARAMETRIZATION

6.1.1. INVERTER PAGE

The screenshot displays the 'Inverter' page in the IUPPITER software. It is divided into sections for Door 1 and Door 2, each with a list of parameters and their corresponding values. On the left, there are control buttons for 'Open', 'Close', and 'Stop' for both doors, along with an I-O status section showing red indicator lights for IN 1-6 and OUT 1-2. Below that are 'Settings' for safety contacts, closing time, and usage, and a 'Refresh' button. At the bottom, there is a navigation menu with tabs for various system components.

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	-
Ramp 2	6	-
Ramp 3	-	2
Ramp 4	-	6



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 “27”.

Parametres

Maximum torque: 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.

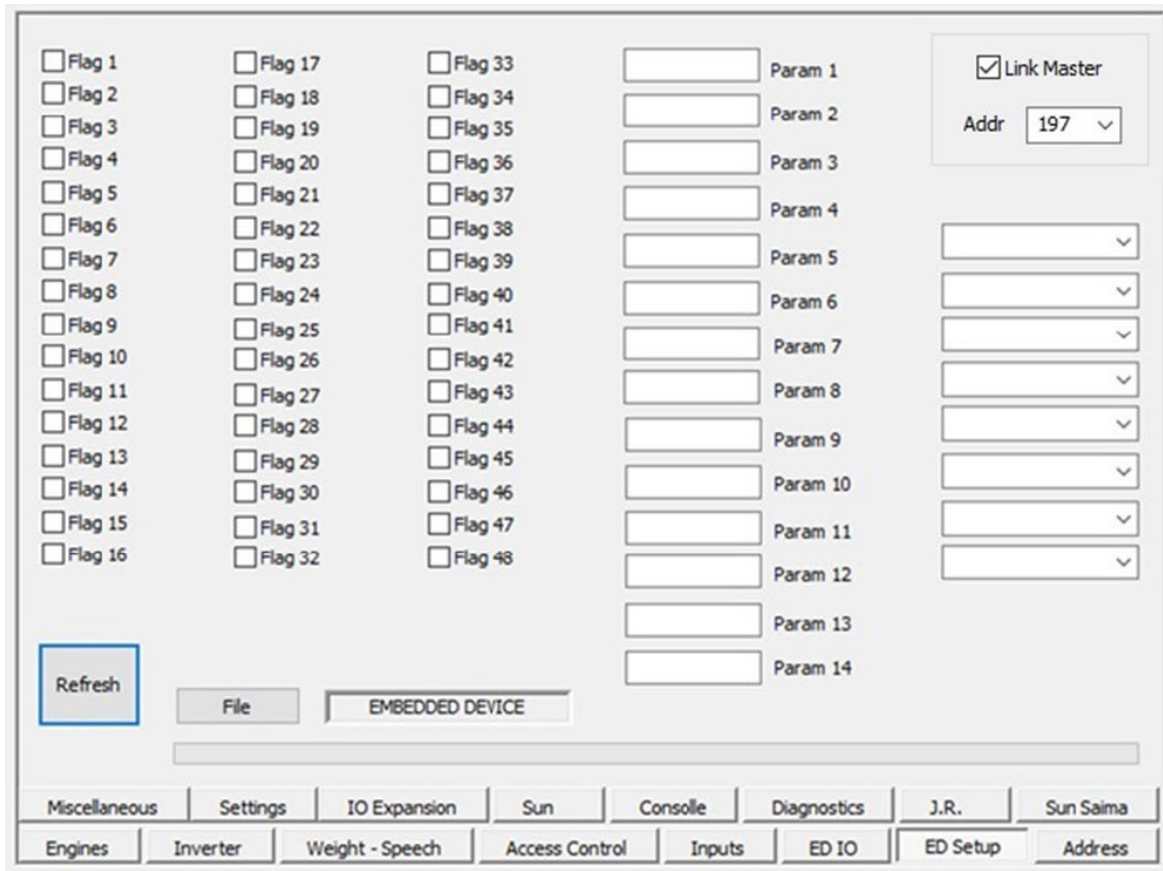
Ramp: it expresses the speed with which the inverter goes faster and slower. A value next to the zero creates a kind movement, a high value makes the movement so sharp. Attention, in case of a booth with metal detector you must prefer a very low value, so that you do not risk false alarms during the 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.

6.1.2. ED SETUP PAGE – INVERTER




THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.



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

Flag

- **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

6.1.3. 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 - SCIA:** 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 SWITCHED ON:** 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 ELECTRONIC UNIT
- **FLAG 10 - BAUD 19200:** by selecting this Flag, the Baud Rate is set at 19200 on the internal ring
- **FLAG 11 - AUTOMATIC INTERLOCK** *(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 - CONTEMPORARY 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.

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
- **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 Biodigit system (*fingerprint*)
- **SEL 2 - VIDEODIGIT:** biometric access control with Videodigit system (*face*)
- **SEL 3 - BIVIDEO:** biometric access control with Bivideo system S (*fingerprint and face*)
- **SEL 4 - CONTACTS:** access control with system 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

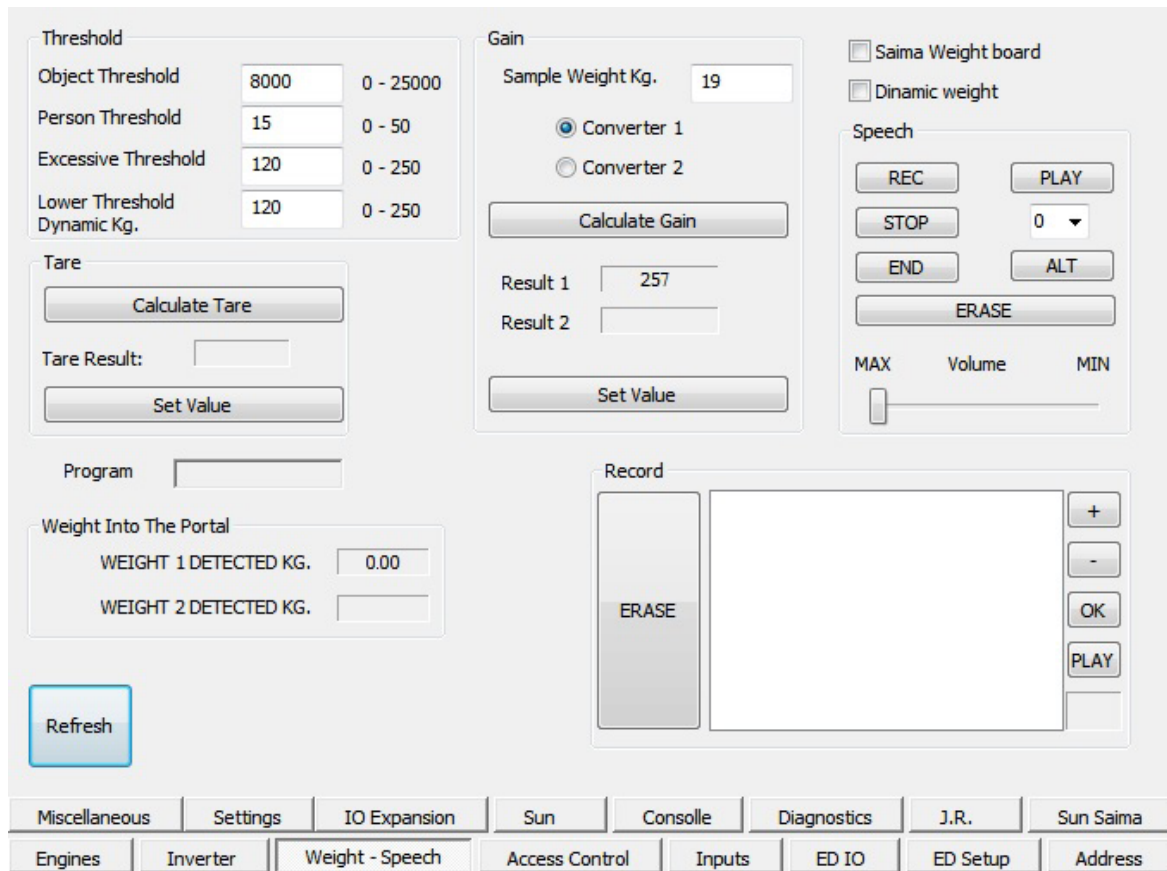
6° Selection field – Weight Control First Entrance

- **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

6.1.4. WEIGHT PAGE - SYNTHESIS




THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

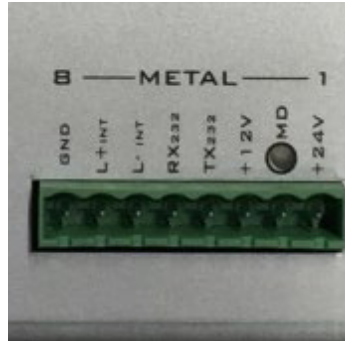


IN THE SECTION THRESHOLDS ARE REPORTED THE STANDARD VALUES, DO NOT MODIFY IF NOT AUTHORISE.

6.1.4.1. 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'S WEIGHT** above the platform
5. Put the weight within the field **SAMPLE WEIGHT** (in KG)
6. Press **CALCULATE AMPLIFICATION**
7. As the result is stabilized press **APPLY** and **SAVE SETTINGS**
8. Verify that in the **WEIGHT IN THE BOOTH** field the real weight of the object in the footboard is present
9. Take the object off the foot board and verify that is around the 0 (*tolerance + 4KG*)

6.1.4.2. REGISTRATION SYNTHESIS PROCEDURE



1. Connect with a PC audio output to a metal connector on the pin:
 - 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 few seconds that the system finishes the registration.
5. Listen again to the messages through the Vocal synthesis panel.

6.2. DIAGNOSIS

6.2.1. EXPANSION I/O PAGE (OPTIONAL)

Input			Output			
Clamp	10	<input type="checkbox"/>	Clamp	38-39-40	<input type="checkbox"/>	Out 0 - Valid. in
Clamp	9	<input type="checkbox"/>	Clamp	35-36-37	<input type="checkbox"/>	Out 1 - Valid. out
Clamp	8	<input type="checkbox"/>	Clamp	32-33-34	<input type="checkbox"/>	Out 2 - Emergency
Clamp	7	<input type="checkbox"/>	Clamp	29-30-31	<input type="checkbox"/>	Out 3 - Internal door
Clamp	6	<input type="checkbox"/>	Clamp	26-27-28	<input type="checkbox"/>	Out 4 - External door
Clamp	5	<input type="checkbox"/>	Clamp	23-24-25	<input type="checkbox"/>	Out 5 - In transit allowed
Clamp	4	<input type="checkbox"/>	Clamp	20-21-22	<input type="checkbox"/>	Out 6 - Out transit allowed
Clamp	3	<input type="checkbox"/>	Clamp	17-18-19	<input type="checkbox"/>	Out 7 - Manual
						Out 8 - External pushbutton
						Out 9 - Internal pushbutton
						Out 10 - Person in the
						Out 11 - Metal alarm
						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

In 0 - Transit allowed	In 11 - Lock door
In 1 - Transit denied	In 12 - Transit in with Bios, Badge
In 2 - Open int in manual	In 13 - Transit out with Bios, Badge
In 3 - Open ext in manual	In 14 - Manual mode, free exit
In 4 - Emergency	In 15 - Manual
In 5 - Unlock doors	In 16 - Reset hw
In 6 - Reset once Bio, Badge	In 17 - Magnete EM locked
In 7 - Internal pushbutton	In 18 - Intercom
In 8 - External pushbutton	In 19 - Transit allowed in semiauto
In 9 - Fire alarm	In 20 - RES 1
In 10 - Reset once weight alarm	In 21 - RES 2
	In 22 - RES 3
	In 23 - RES 4

NO-NC-C

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

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



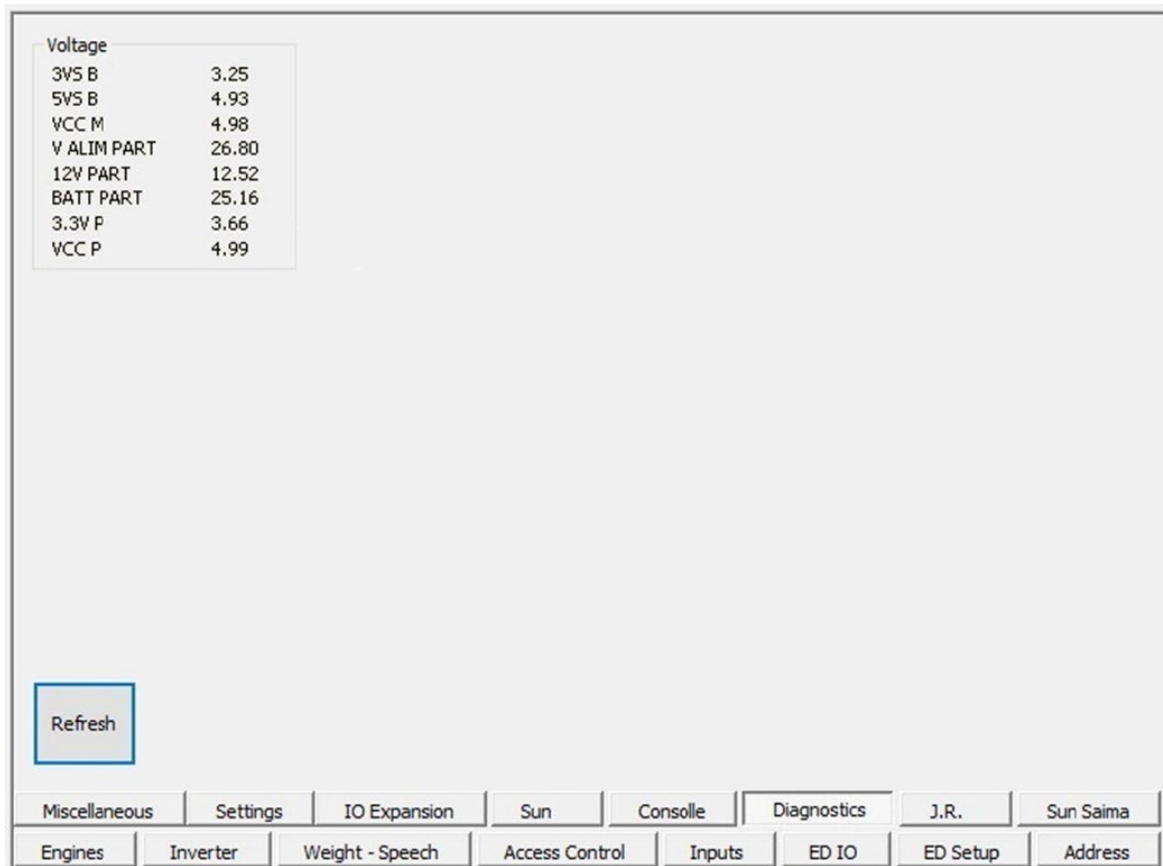
THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT.

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.

6.2.2. DIAGNOSTICS PAGE



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

Voltage	
3VS B	3.25
5VS 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

Below the table is a "Refresh" button. At the bottom, there is a navigation menu with the following items: Miscellaneous, Settings, IO Expansion, Sun, Console, Diagnostics (highlighted), J.R., Sun Saima, Engines, Inverter, Weight - Speech, Access Control, Inputs, ED IO, ED Setup, and Address.



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

7. MECANICAL INSTALLATION

7.1. POSITIONING OF THE BOOTH

1. Put the booth in the predetermined place, disposing the external side towards the outside of the place. For the movements use a crane with minimum capacity of 1500 kg, using chains attached to the four superior edges "A" of the booth (Figure 4-1), the crowbar on the bottom and the rollers under the basement (Figure 4-1).

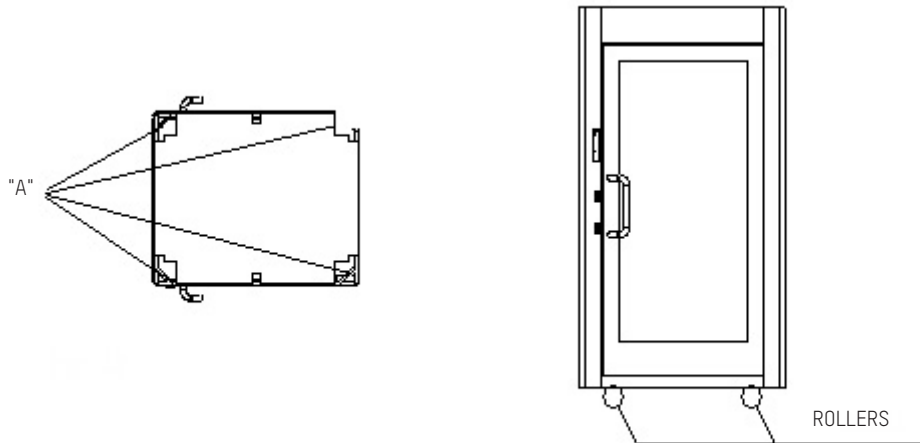


Fig. 4-1

2. Make the booth free from the external packaging protection, just after the positioning.
3. Make the booth stable on the ground, so that it does not move. The stability is essential for the good functioning of the booth.
4. Attach potential sashes to the lock of the booth, being careful that the screws are inserted no more than two centimetres. Do not pierce the lock in its plastics and glass parts. Do not pierce next to the glasses, stay away at least 3 cm from the edge that surrounds the lateral glasses. Keep the inspection hatches free from tamponade structures.
5. In case of two or more coupled booths, identify which one is the right booth and which one is the left booth. Adequate indications are shown in the external side of the booth under the packaging. It is important to respect the indications of position of each booth compared to the respect of the installation environment.

7.2. APPLICATION OF THE LATERAL FIXTURES

For the possibility of anchorage of the booth to the tamponade structures see the Figure 4-2.

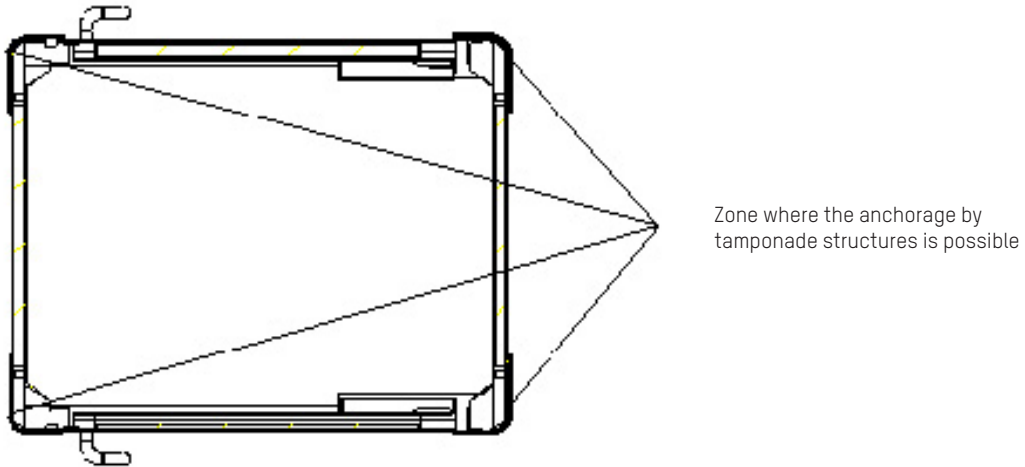
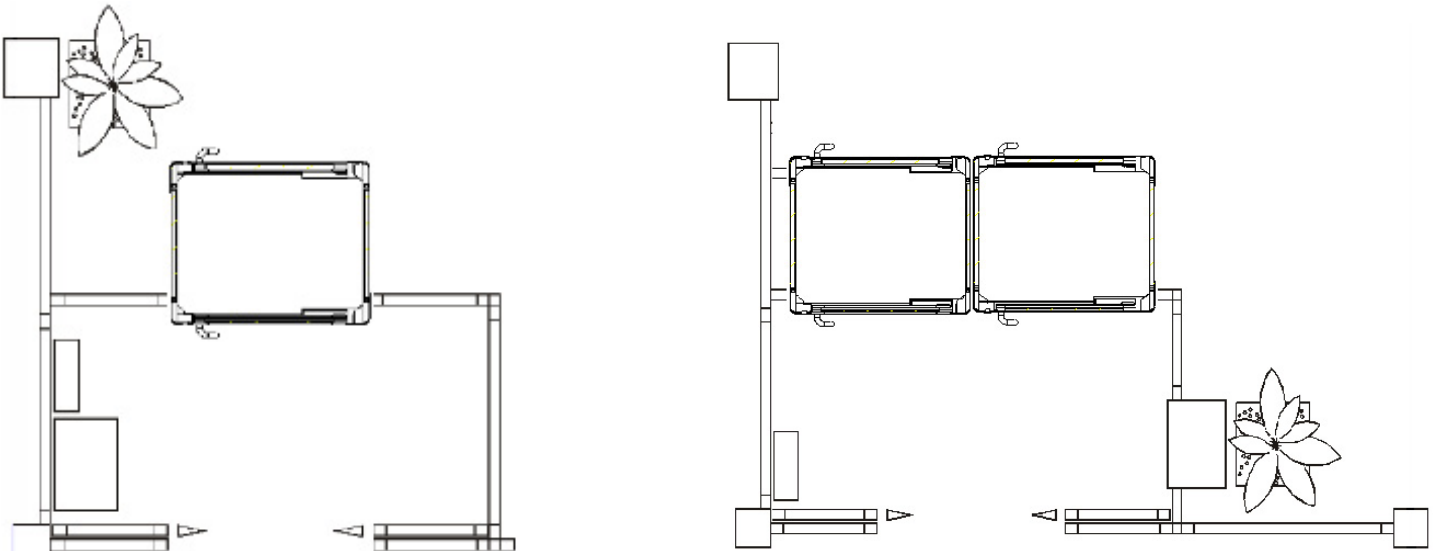


Fig. 4-2

The procedure of application of the fixtures is the following:

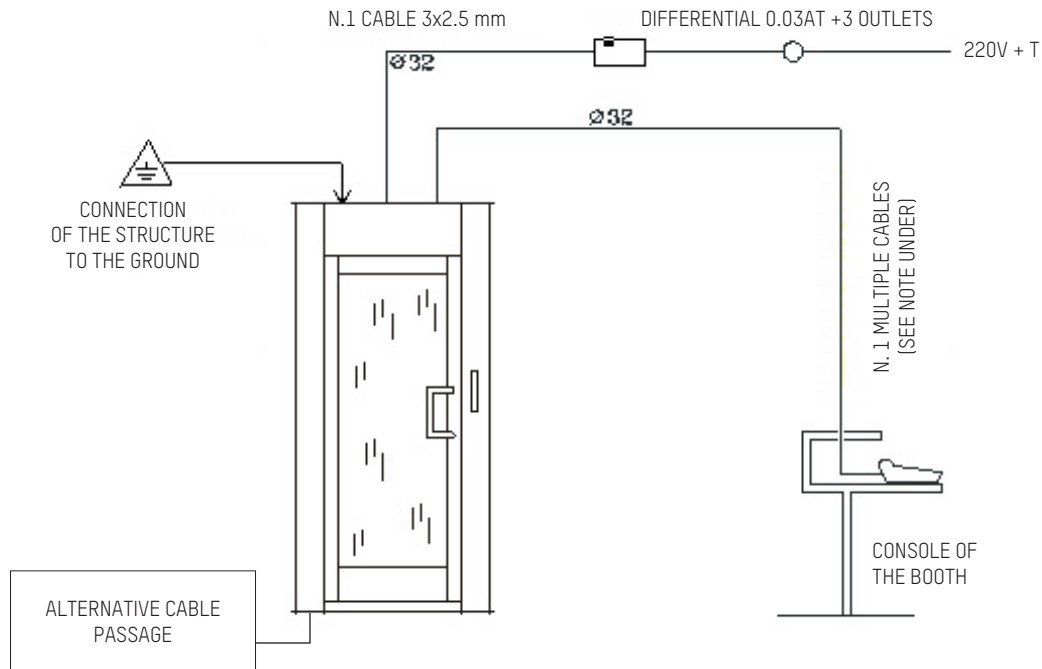
1. Put the booth in the predetermined point.
2. Put yourself to the chosen anchorage zone of the booth with the tamponade fixture (Figure 4-2).
3. Pierce contemporary the fixtures and the sheet of the booth with an adequate drill and bit.
4. Insert the screws of adequate dimensions.
5. Close the screws firmly.

7.3. EXAMPLES OF INSTALLATION



7.4. WIRING

- Next to housing place of the booth, realize a box of electrical derivation, powered by a cable from the main switchboard of the bank. Connect the booth to the 3x2.5 electric cable from the clamps to the box of electrical derivation. We recommend to protect the power supply cable with the 15A $I_d = 0.03A$ differential switch. Furthermore, verify the presence of an adequate grounding implant.



SERIAL CONSOLE: AWG CABLE CAT.5 4 COUPLES.

DIGITAL CONSOLE: 2 x 0.50 + 6 x 0.22 CABLE.

N.B.1: we advise to realize the box of electrical derivation with n°2 power outlets and incorporate the differential within the same box.

- Prepare an 8 poles cable shielded of connection on the upper part of the booth up to the place where the operator responsible for the console will work, using a channelling with diameter of 32 mm.
Use a different channelling from the one intended for the power supply cable.
- In case of coupled booths, the power supply from the derivation box must be separated. All the booths must be connected between each other for the connection to the console with the cod. 5804530 connection cable.
- Connect the cable of the console.

N.B.2: the passage of the cables can be made even from the bottom. In this case predict the insertion of the cables inside the vertical holes of passage on the booth when it is positioned on the floor.



Use a separated canalization from the one used for the cable of power supply. In respect of the European legislation, the connection to the ground is essential.

- Arm the main switch of the bank switchboard that feed the booth through the privileged line. Then, arm the general switch of the booth.
- Switch the booth on through the ignition key placed on the console and with the one placed on the external side of the booth. Let ten seconds pass during which you must avoid to touch the doors, no to fake the calibration.
- Now the booth is ready for the testing procedure (*to be done just with an authorised personnel*) and to be used.

8. MAINTENANCE

8.1. ORDINARY MAINTENANCE

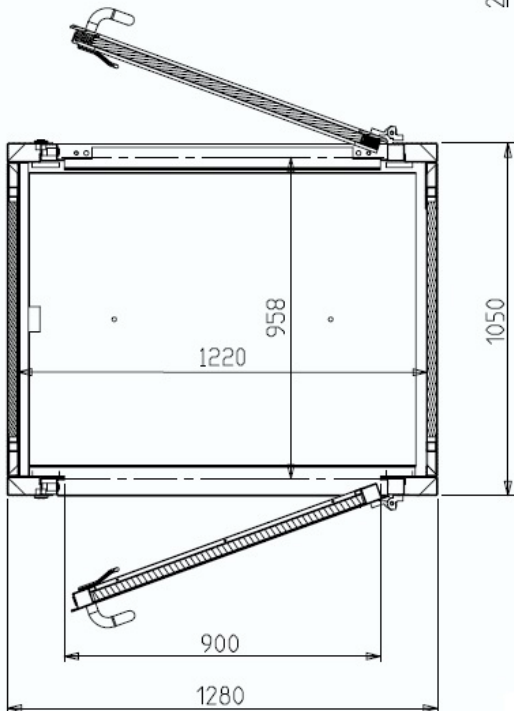
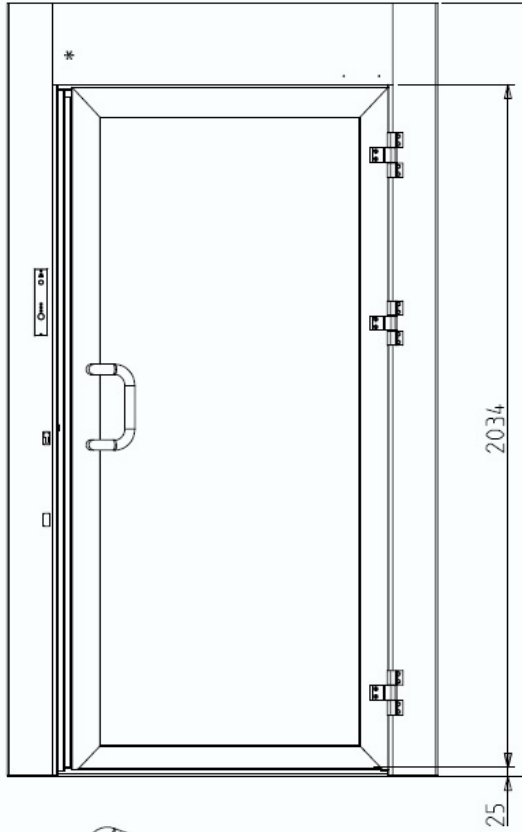
FREQUENCE IN CYCLES/ TIME	ACTIVITY/ OBJECT TO CHECK	ACTIVITY
3 months/ 500.000 cycles	Cleaning	<ul style="list-style-type: none"> - Cleaning of internal and external glass parts - Cleaning of the steel parts - Cleaning of the basement
6 months/ 500.000 cycles	Carpet	<ul style="list-style-type: none"> - Verify the integrity of the materials
6 months/ 500.000 cycles	Pushbutton and ceiling lamp	<ul style="list-style-type: none"> - Check bright alerts - Check the opening buttons and the bell
6 months/ 500.000 cycles	Weighing system	<ul style="list-style-type: none"> - Verify the alignment of the floors - Verify the person's weight answer, go back to zero with a $\pm 3\text{Kg}$ tolerance
12 months/ 1.000.000 cycles	Electric box	<ul style="list-style-type: none"> - Check that there are no infiltrated liquids - Check that there are no overheated parts - Check the LEDs of the machine.
12 months/ 1.000.000 cycles	Command console	<ul style="list-style-type: none"> - Verify the functioning of the commutators - Verify the functioning of the buttons - Verify the functioning of the LEDs - Check and calibration, if necessary, of the intercom volume
12 months/ 1.000.000 cycles	Implant of alimentation	<ul style="list-style-type: none"> - Batteries check and their possible substitution. - Check the functioning of the implant without network of power supply (<i>only the internal booth lamp must stay switched off</i>) - Verify the functioning of the power supply groups network/ batteries. Check the load technical data, tension, resistance and absorption of the implant, at the level of the command equipment and of the power supply groups - Verify the power supply tension when empty and under load - Verify absorption of entire implant - Check the grounding connections
12 months/ 1.000.000 cycles	Cylinders and keys	<ul style="list-style-type: none"> - Check the tumbler systems functioning, electronic and the related keys, if present
12 months/ 1.000.000 cycles	Systems of booth closure	<ul style="list-style-type: none"> - Verify the functioning and cleaning of electro-pistons - Verify the functioning and cleaning of electro-magnets
24 months/ 2.000.000 cycles	Structure	<ul style="list-style-type: none"> - Check the glazing fixing - Check e fixing of ceilings

8.2. RESOLUTION OF DAMAGES

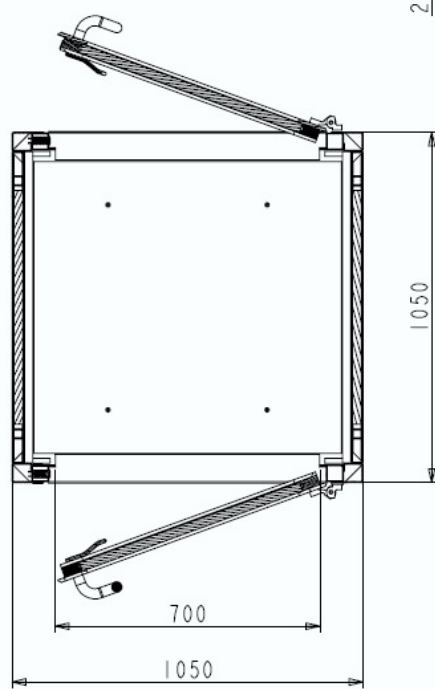
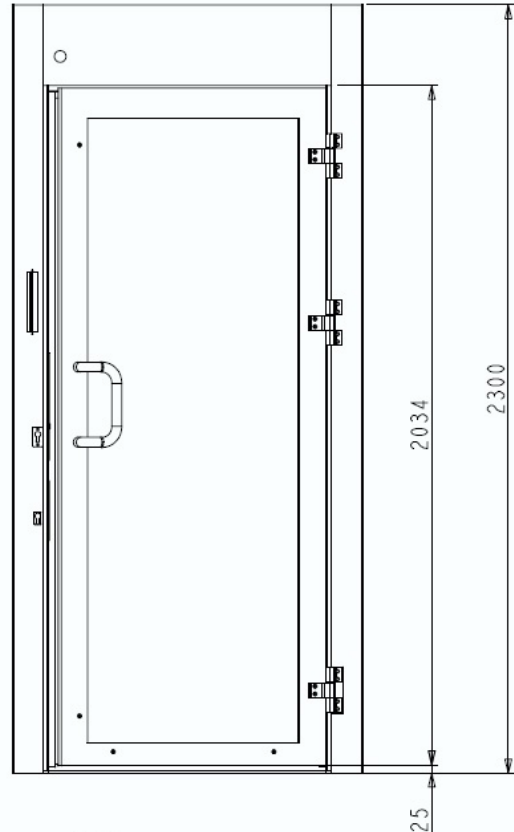
PROBLEME	CAUSE	INTERVENTION
The doors do not open	Power Supply Mechanical lock Console Handling	<ul style="list-style-type: none"> - Verify that the booth is on - Verify that the booth is in the right position - Verify that the emergency function is not active - Verify that the movements are free
The doors do not close		<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	<ul style="list-style-type: none"> - Verify the weight settings through luppiter
Door that open and close continuously	Load cell	<ul style="list-style-type: none"> - Verify the weight settings through luppiter
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 must be inserted - Verify the weight settings through luppiter

9. TECHNICAL SPECIFICATIONS

IL 681



IL 682



10. TECHNICAL CHARACTERISTICS

Power supply	220VAC o 100-240VAC 2.8A 50/60Hz <i>(see chapter Power supply)</i>
Maximum power absorbed	200 W
Temperature of work	-10 °C / +55 °C
Maximum relative humidity	85 % <i>(without condensation)</i>
Level of protection	IP20
Battery backup	n. 2 batteries of 2 Ah 12 V connected in series for functioning in absence of current
Type of Restoration	Automatic
Logics of management	Programmable at microprocessor with n. 1-line RS232, n. 2 RS485 <i>(n. 1 RS485 reserved)</i>
Metal Detector	OPTIONAL <i>(the antennas TX-RX are inside)</i>
Speed of transit	6 passages per minute
Dimensions	<p>IL 681: Total dimensions (mm): Height 2300, Length 1050, Width 1050 Passage dimensions (mm): Height 2034, Width 700</p> <p>IL 682: Total dimensions (mm): Height 2300, Length 1280, Width 1050 Dimensions of passage (mm): height 2034, Width 900</p>
Weight	<p>IL 681: 700 Kg</p> <p>IL 682: 730 Kg</p>
Loom	Self-supporting structure realized in tubulars of 3mm and a steel sheet press-bended of 3mm
Tamponade Structures	Plain glass 26/27 mm BR3S-P6B
Painting	Polyurethane with epoxide basis with a thin relief
MTBF/MCBF	2 years / 1.000.000 of passages respecting the ordinary maintenance
MTTR	2 hours
CE	In accordance to the European rules



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



Headquarters 

Avenue Mercator, 5
1300 Wavre - Belgium

www.automatic-systems.com 