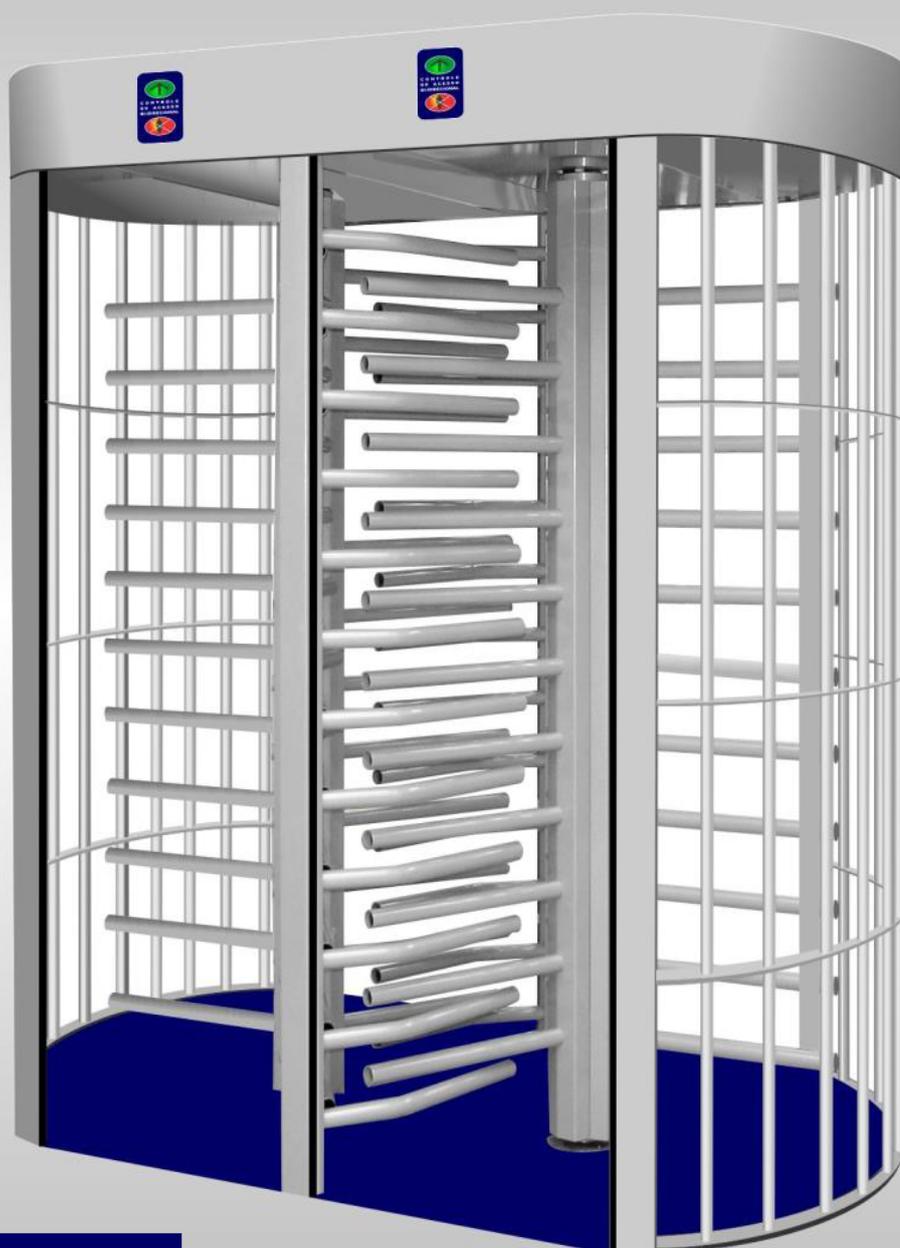


Tandem TS-AA

INSTALLATION MANUAL



**MODEL
TS-AA**

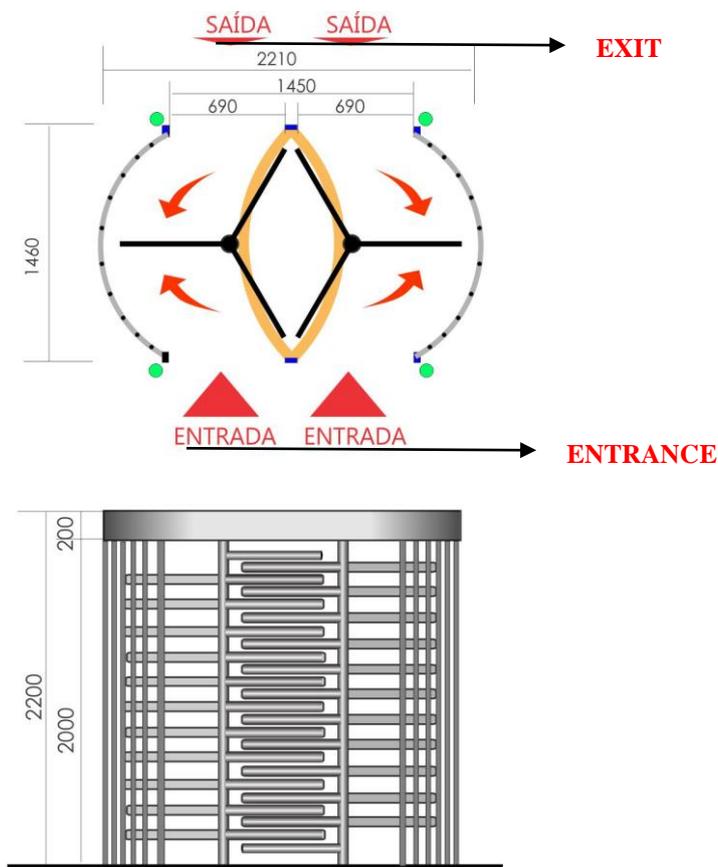
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1. MECHANICAL INSTALLATION

The first section of this manual is intended to assist the technician during the IECO Double Access Turnstile assemble, through images and illustrative pics, as well as the information described step-by-step.

- The IECO Double Access Turnstile has people control at the entrance and exit, so it requires two access controls (card reader, etc.) If the customer wants to control only one direction, it needs to install only one access control or disable software.



DRAWING AND FRONTAL VIEW

- Please, unpack all parts and separate the screws. The parts contained at each box, are described at the end of this manual. Each set have to be assembled with the respective part. For example, SET 1 – Box 1 or 1.10/10 – Set 1 – Box 10 of 10.
- Separate the superior structure (ceiling) and place it in line with the frames structure to be assembled as the image 01.



IMAGE 01

- Separate the upper frame and put it on the floor, where it will be assembled. Mark the outline of the structure, it will be helpful as a guide for the assembly the glasses, the central disc carousel panels (glasses depends of the model). Mark center of the structure using the shaft hole as a parameter centering, as Image 2.



IMAGE 02

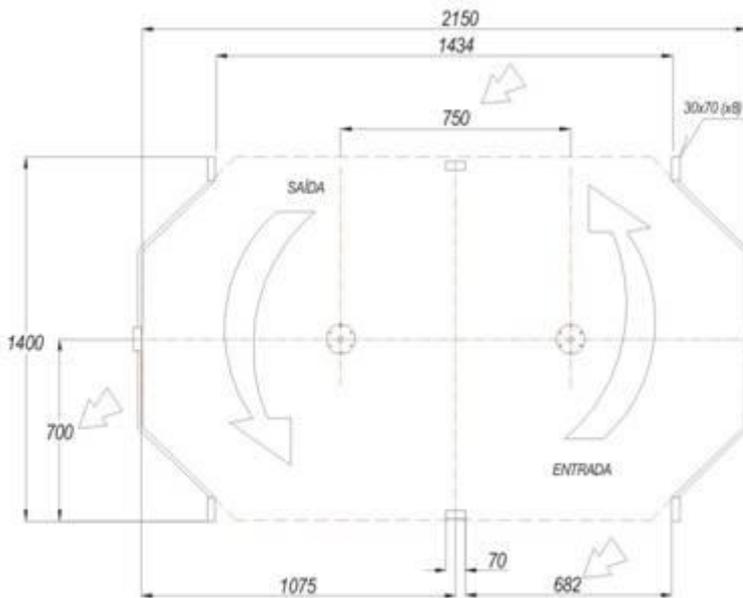
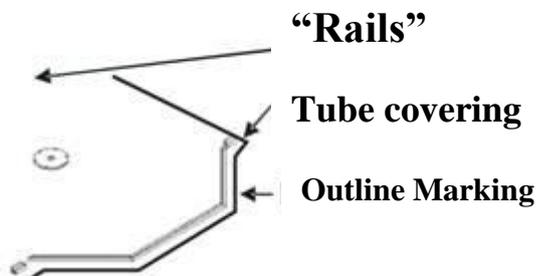
- Remove the structure of the position where the markings were made and positioned exactly in the center disk marking made previously.



IMAGE 03



IMAGE 04



- Drill the floor at the existing holes, on the rails and at the central disc, where the central carousel will be supported (drill the floor with the video drill 6mm and 40 to 50 mm depth). The screws to be used are: (self tapping screw pan head 4,8 x 38mm). P.S.: There cannot have difference in the union of the rails (Figure 05) and the center disk, that should be set right in the center, so that the arms do not touch the carousel or the glasses (it depends of the equipment type).



IMAGE 05

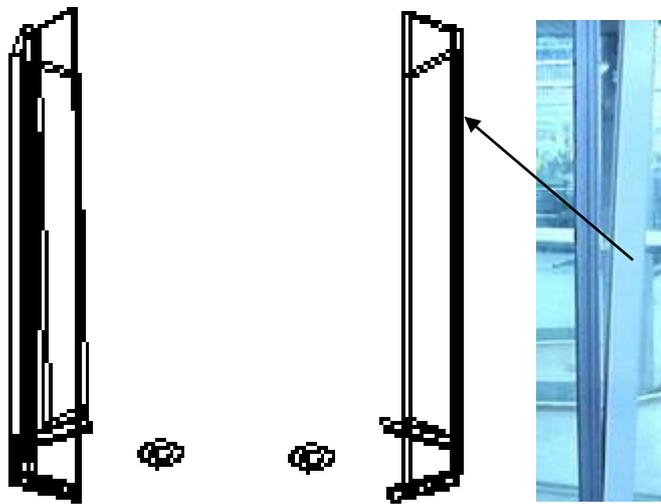


IMAGE 06

IMAGE 07



IMAGE 08



IMAGE 09

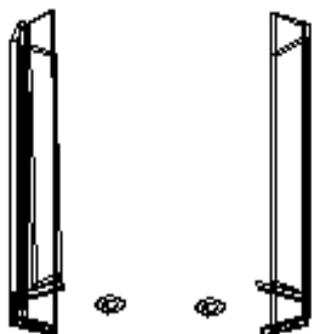


IMAGE 10

IMAGE 11

- Place the glass or outside panels on the curved or rounded contour markings signed earlier, marking the inner holes of the base of the panels are 4 marks per panel. Drilling with drill floor $\varnothing 6\text{mm}$ and depth 50-60 mm and fix the wood panels with cross-slot screw 4.8 x 50 ch (16 units), with plastic bushings M6.
- After securing all the windows, put the top frame snapping it over the glasses as shown in Figure 8 and holding it with through bolts, hexagon cylindrical M5x25mm (16x), with M5 nut, flat washer and pressure as shown

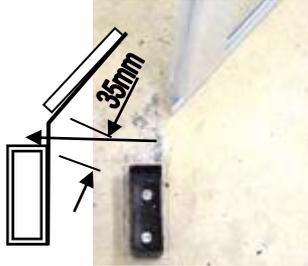


IMAGE 12

IMAGE 13



IMAGE 14

- With all junction box and the fixed columns blockers assembled, one on each side, with a convex hexagon internal screw INOX M6x20mm (28 units) as shown



IMAGE 15



IMAGE 16



IMAGE 17



IMAGE 18



IMAGE 19



IMAGE 20

- Then assembly the engines on the upper structure with through-bolt M8x20 mm hexagon with flat washer and hex nut M8 and pressure, (note: do not tighten the screws before mounting the carousel pass), as shown.

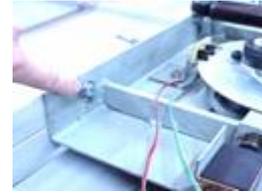
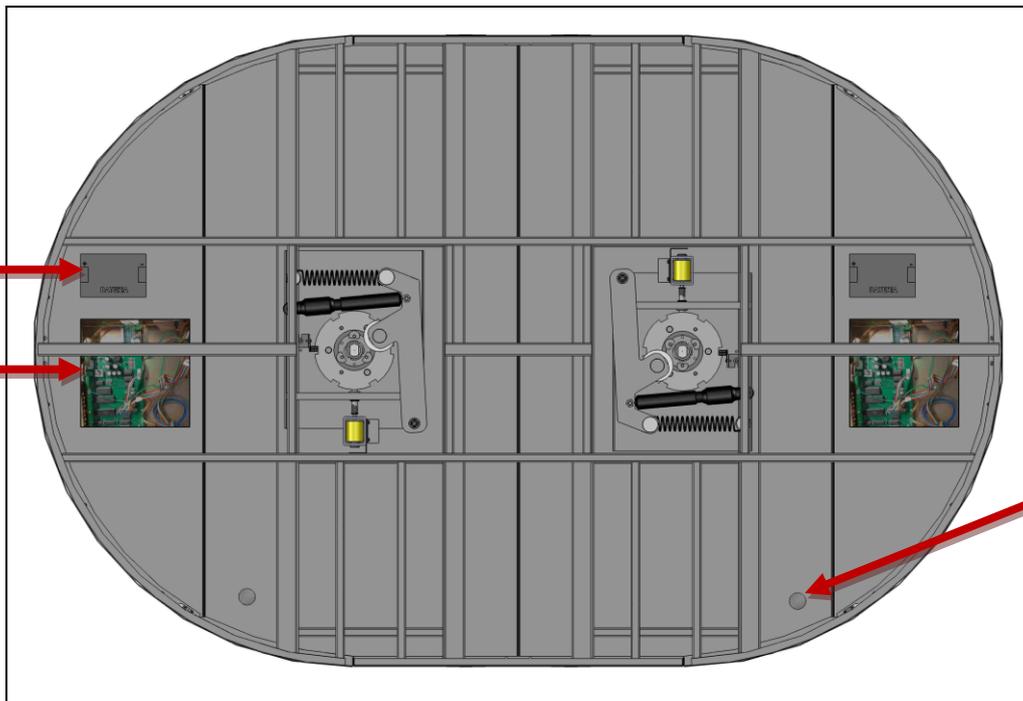


IMAGE 21

IMAGE 22

EXTERNAL SIDE.



INTERNAL SIDE

- After final assemblage and testing equipment and proven operation, we must put the rubber seal on the top listing of the structure, the upper trough lining and finishing (riveted). Once assembled, verify the possibility of water infiltration at critical points and seal with silicone that came with the product.



- Operation: Insert the key into the cylinder at the top of the carousel and rotate counter-clockwise, this procedure will connect the equipment. To enter the controlled environment the user must release the carousel using the handle access control, the carousel is released for five seconds, if not between anyone, the device returns the initial condition, ie, caught, if someone passes it blocks immediately after the start of rotation. To exit the environment, following the same procedure as input.
1. Overview assembled door.



MODELO
S - AA

2. INTRODUCTION

This manual aims to assist the technician in the installation of turnstile command. The only difference between the Simple Access and Double Double Access is that Access uses two boards TOURNIQUET COMMAND WITH SIGNS. One for each access. The wiring diagram is the same for any of the models mentioned.

3. OPERATION

The DOUBLE ACCESS is a safety device with double carousel for access control "individual" that through the unique design of its carousels prevents the passage of two people at the same time by the same access, but allows the simultaneous entry of up to two users by different access.

This control is performed on both input and output of device through identification systems such as card readers: magnetic, barcode, RF and biometric systems. (Identification systems not supplied with the equipment.)

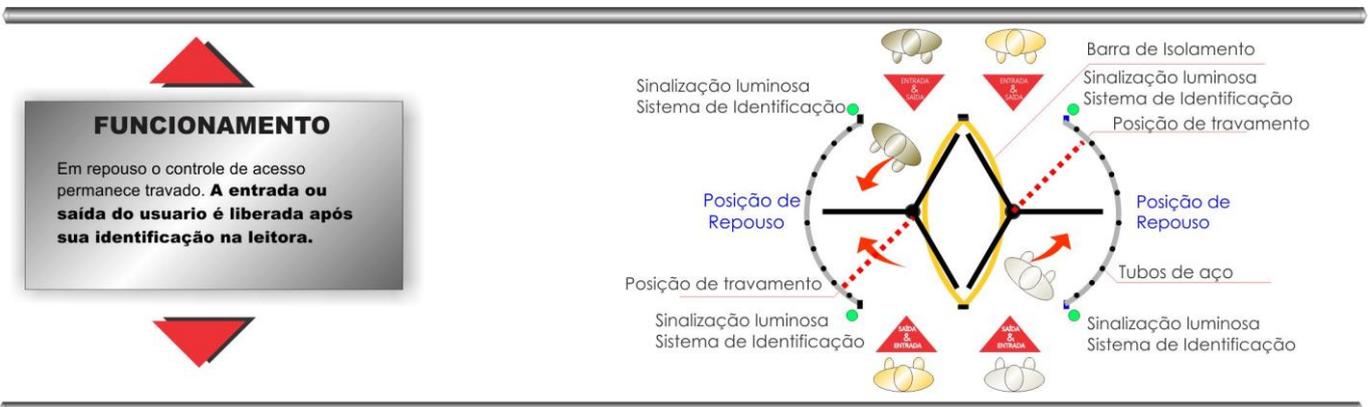
Thanks to its unique characteristics of bi direction and the versatility of the system, the machine delivers an excellent performance in the flow of users.

Each access has an independent



4. PROCEDURE OF INPUT AND OUTPUT

In the rest position, both input and output lights turn red. Any attempt to enter or leave the door without having triggered the button or reader is prevented through the lock. To enter or exit press the button in front or present the card to the card reader. If the card is validated and button or the turn signal in front is green indicating that the door is released to the direction you want to run. If cancellation occurs the system resets after 5s and traffic lights turn red and the door is locked. This is the time available the get access to the port. Being inside the door the same not reset, this will only occur when the cycle of entry-exit or exit-entry is complete. Thus, the system prevents a user not logged enter or take a ride. If the user tries to open access to a person on the other side of the door, it does not get because the direction of rotation is allowed only clockwise or counterclockwise depending on which door location the door was released.



5. CONFIGURATION OF JUMPER JMP1 OF THE BOARD

It is possible to configure the door to monitor input and release output, monitor output and release input or monitor both (input and output). To do this you must turn off the main switch on the door and set the jumper on the board. To RELEASED INPUT / OUTPUT MONITORED close in 1-2 jumper. To MONITORED INPUT / OUTPUT RELEASED close in 2-3 jumper. For input and output MONITORED leave open 1-2 and 2-3 in the jumper. After configure it, turn on the door and test the new configuration. To change again repeat all the previous steps.

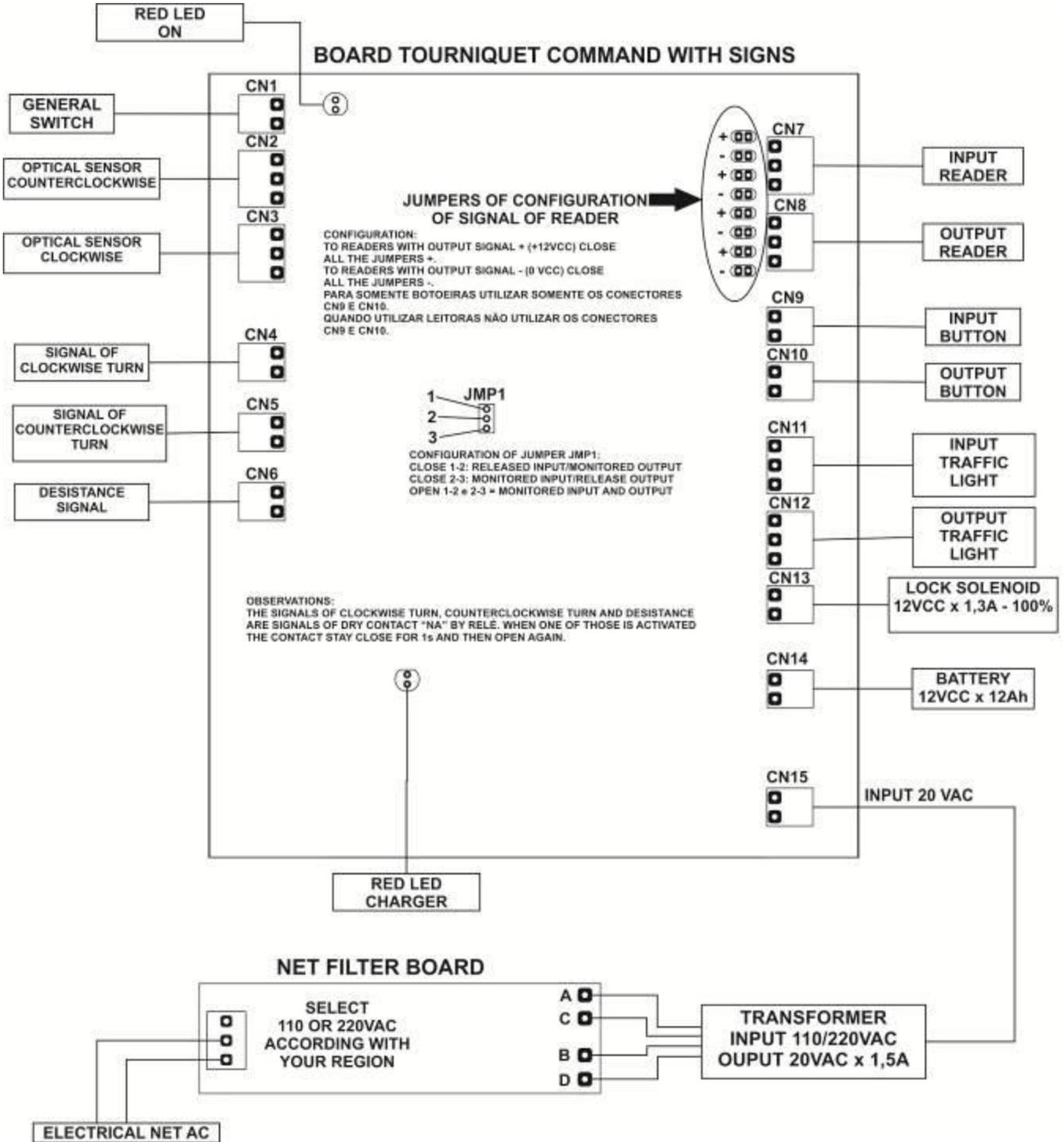
6. CONFIGURATION OF JUMPER TO USE THE READERS

If you are using readers with positive sign all jumpers + sign on the board should be closed and jumpers signal - open. If you are using readers with a negative sign all jumpers sign - on the board should be closed and open jumpers + sign.

7. MONITORING OUTPUTS

Is possible monitor through outputs of dry contact normally open of relay in connectors CN4, CN5 and CN6 for the following signs: in CN4 indication of complete turn in the clockwise of the door in CN5 indication of complete turn in the counterclockwise of the door and CN6 indication of desistance. Complete turn means complete cycle entry or exit through the door and desistance means pass the card or press the button and not enter or exit through the door.

8. ELECTRIC SCHEME



The sensor is connected according is showing in the above drawing case the entry was by right access. Case the entry access was by left, invert the position of the sensors in CN2 and CN3.

Case is not being used readers, is possible connect buttons directly on connectors CN9 and CN10 or in CN7 and CN8.

9. PROBLEMS VERIFICATION

- **THE SYSTEM DOESN'T TURN ON, THE LED LD1 DOESN'T TURN ON.**

Check if the main switch is well connected or if the LED LD1 is well connected and is not burned or reversed. Connect the negative probe of the multimeter on the anode of the diode D9 or D11 and make sure the pin 1 of CN1 is 14V. If not, we do not have power or the battery or the charger via AC network. Make sure you are getting 27 VDC in collector of Q5, if not we do not have AC power or rectifier diode D8 to D11 are damaged. If yes, check if in the OUT pin of voltage regulator LM317 is 14V out. If not, verify if in the collector of transistor Q4 is 15.4 V. If not, change the transistor Q4. If yes, check the output of the LM317 voltage regulator U7, OUT pin is 15V. If not, change the regulator U7. If yes, check if in the pin +12 V of the connector CN10 of the battery has 14.0V without the battery being connected. If not, replace the diode D7.

- **HAVE POWER SUPPLY BUT THE SYSTEM DOESN'T WORK**

Check if you have 5V on pin 1 of the microcontroller U6. If not, change the voltage regulator U5 considering that at pin 1 of CN1 connector has 14V. Verify if the optical sensors are working. To make sure, if the signal of the sensors goes from 0V to 12V in CN2 and CN3 connectors. If one of them don't go, replace the sensor assembly. If yes, check if at the pin 5 of the microcontroller U6 the signal goes from 5V to 0V when drive the sensor. If not, in this case change the optocoupler closest to the connector CN2. Check for the other sensor if at pin 8 of microcontroller U6 the signal goes from 5V to 0V when driver the sensor. If not, in this case change the optocoupler closest to the connector CN3.

- **THE TRAFFIC LIGHTS DON'T FUNCTION, STAY ALWAYS IN RED**

Check if the input traffic light at jumper J8 has 5V when we activate the button or reader input. This usually stays at 0V when not acting. If not, change the microcontroller U6. If yes, verify if the collector of Q1 goes from 12V to 0V. If not, replace the transistor Q1. If goes from 12V to 0V then the RL1 relay must be replaced.

Check if the output traffic lights at jumper J9 has 5V when we activate the button or reader output. If not change the microcontroller U6. If yes, verify if the collector of Q2 goes from 12V to 0V. If not, replace the transistor Q2. If goes from 12V to 0V then the RL2 relay must be replaced.

- **LOCK DOESN'T WORK**

Make sure, if the jumper J10 has 5V when we move the door without pressing any buttons or reader. If not, change the microcontroller U6. If yes, make sure, if the collector of Q3 goes from 12V to 0V. If not, replace the transistor Q3. If goes from 12V to 0V then the RL3 relay must be replaced.

- **INPUT BUTTON DOESN'T WORK**

Check the connections. Verify if the pin 13 of microcontroller U6 goes from 5V to 0V. If not goes from 5V to 0V the optocoupler closest to CN9 should be changed. If changed and not work, replace the microcontroller U6.

- **OUTPUT BUTTON DOESN'T WORK**

Check the connections. Verify if the pin 14 of microcontroller U6 goes from 5V to 0V. If not goes from 5V to 0V the optocoupler closest to CN9 should be changed. If changed and not work, replace the microcontroller U6.

10. CURRENT CONSUMPTION

POWER OF THE SYSTEM = 12VCC

- **CONSUMPTION WITHOUT READERS**
 - WITH LOCKED DOOR = **1,27A**
 - WITH SYSTEM IN REST = **64mA**



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