



Technical Manual  
**RAC JETFLEX**



All images in this manual are for illustrative purposes only.



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**⚠ ATTENTION:**  
Do not use the equipment  
without first reading the  
instruction manual.

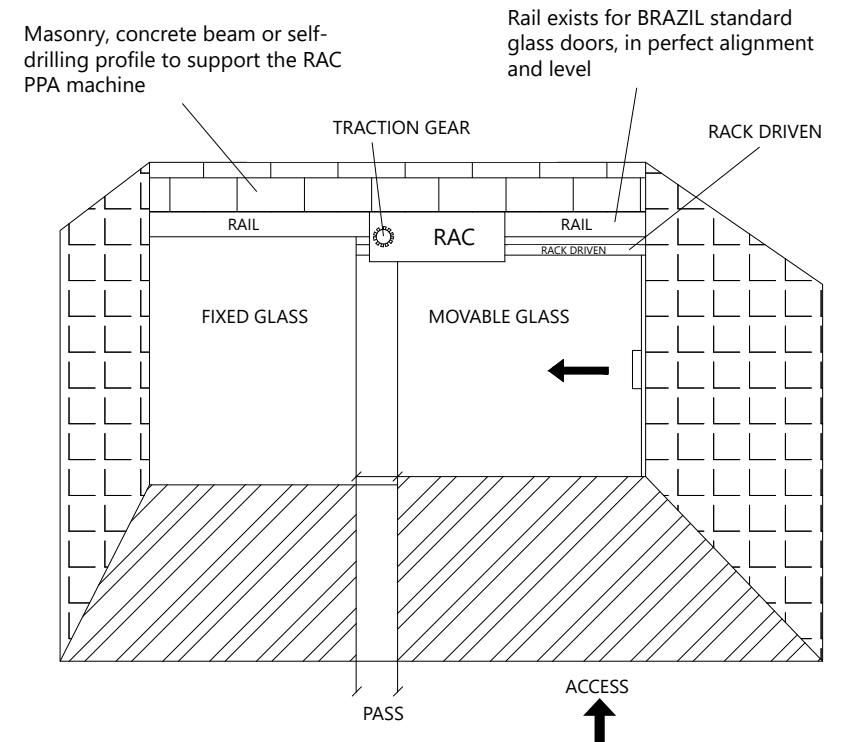
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## 1. INTRODUCTION

PPA's automatic sliding social door systems with rack are the best solutions for operating sliding doors, making it possible to increase the user's accessibility. This product was developed to operate existing sliding social doors, without the need to modify their physical structure.

Before starting the installation, make a preview of the place with the product applied, making sure that the right foot below the operator is at an adequate height inside and outside the passageway. RAC is an operator for sliding doors with rack traction system. It is a compact system designed to open a door leaf in: glass (10mm), aluminum, iron and wood. It was designed to operate sliding door systems with JETFLEX technology, where the motor system does not use brushes, which guarantees more product durability and low electrical energy consumption; thus offering the installation, in different environments such as: residential, commercial, clinics, stores, etc.



### ⓘ IMPORTANT

We suggest, whenever necessary, the installation of a door locking device, as the RAC operator does not prevent the door from moving manually.

## 2. TECHNICAL CHARACTERISTICS

|                             |                           |
|-----------------------------|---------------------------|
| <b>Operator type</b>        | Sliding                   |
| <b>Power supply</b>         | 127V / 220V               |
| <b>Output frequency</b>     | 50Hz / 60Hz               |
| <b>Rated power</b>          | 127V = 115W / 220V = 100W |
| <b>Motor rotation</b>       | 3000 rpm                  |
| <b>Nominal chain</b>        | 127V = 1.3A / 220V = 1A   |
| <b>Reduction</b>            | 2:20                      |
| <b>Linear speed</b>         | 41.4 m/min                |
| <b>Maximum weight leaf</b>  | 100 KG (~220lb)           |
| <b>Maneuvers</b>            | 60 cycles/hour            |
| <b>Degree of protection</b> | Class B, 130°C            |
| <b>Rack driven</b>          | White gold                |

## 3. TOOLS NEEDED FOR INSTALLATION

Here are some tools needed to install the RAC port:



## 4. ELECTRICAL INSTALLATION

To start the operator installation, a connection to 127V or 220V electrical network through a point of energy symbolized, here as an outlet, based on the official socket standard, (standard NBR 14136), a standard provided with a ground conductor.

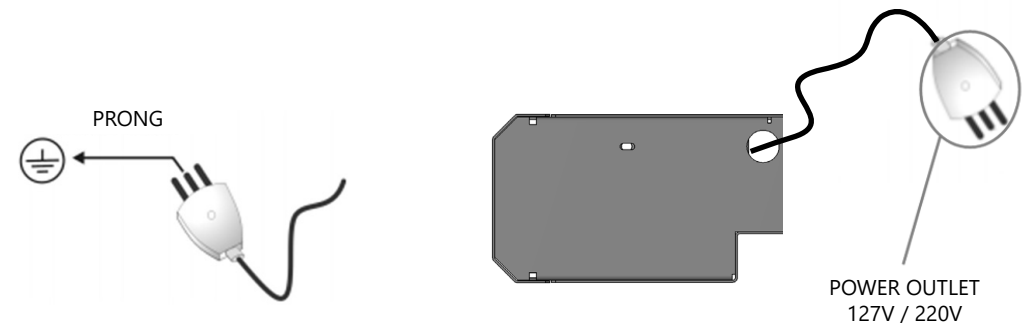


**⚠ ATTENTION**  
Batteries are sold separately.

## 5. POWER CORD WITH GROUNDING PLUG

For the installation of the operator, it contains a power supply cable with a 3-pin plug. The middle pin is connected to the metallic part of the operator, which, when connected to the socket, is in direct contact with the mains ground wire, increasing user safety. (As the image below).

**OBS:** removing the product from the power outlet does not imply the guarantee of turning off the product, which can continue to move the door normally. With the batteries, the complete shutdown takes place through the ON/OFF switch.

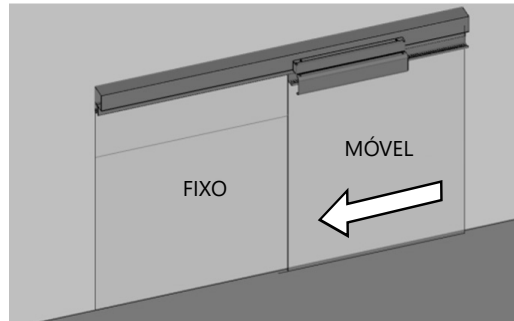


**⚠ IMPORTANT**  
The device must be powered via a residual current device (DR) with a rated residual operating current exceeding 30 mA.

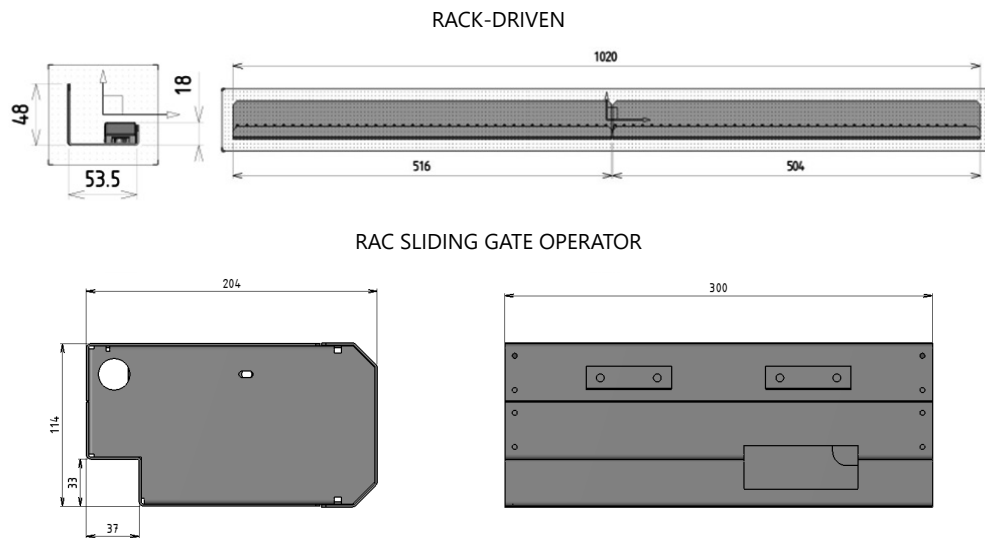
## 6. INSTALLATION AND FIXING THE OPERATOR

### PROCEDURE BEFORE INSTALLATION

Identify the dimensions, weight, mounting structure of the operator and the conditions for opening and closing the door at the installation site. Also check the condition of the ROLLS that hold the glass. It is important to ensure that they are new and in perfect alignment and working order by pulling manually to open and close the door.



Below is the dimensions in (mm) of the rack and operator.



### HOW TO CALCULATE THE WEIGHT OF DOOR LEAF

To calculate the weight of the leaf, find the square area of the leaf by multiplying the height x width. The result is multiplied by 25 which is the weight of the m<sup>2</sup> of the 10 mm<sup>2</sup> glass. Then you will have the weight of the leaf.

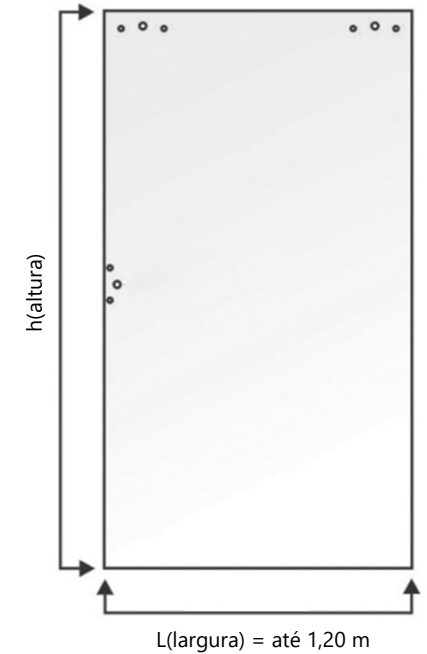
$$P = h(m) \times L(m) \times 25 \text{ kg} \quad \text{Data: } h(\text{height}), L(\text{width})$$

The operator for sliding doors with PPA rack-driven can be installed on any type of door: glass (10mm), aluminum, iron, wood and with a leaf of up to 1.20 m (range of passage 950 mm).

#### ⚠ IMPORTANT

Before installing the operator, make sure that the product will meet the door weight limits and operating cycles/hour, determined in the product's technical characteristics.

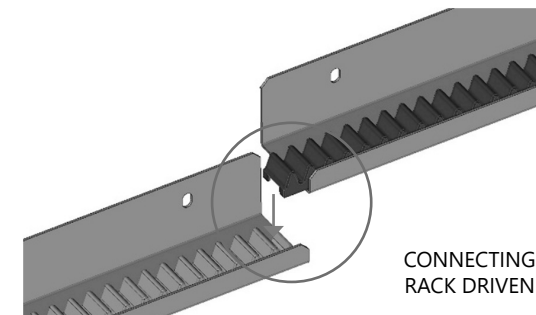
**NOTE:** with the rack driven kit you can move a 1.20 meter gate leaf, however we have a separate rack driven available.



### RACK DRIVEN INSTALLATION

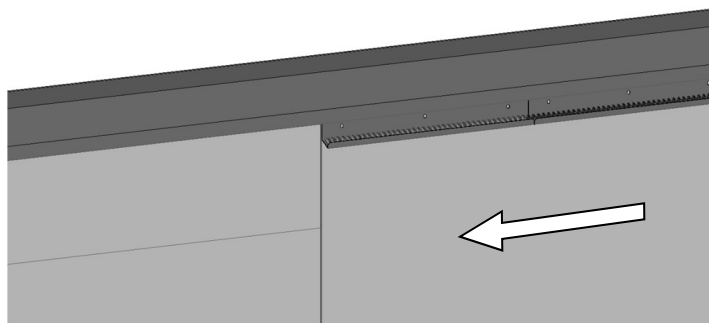
Before installing the rack driven, the installer must certify the opening and closing conditions of the door, if the door leaf is not heavy or having difficulty in carrying out the route. It is recommended to handle the leaf manually to make sure the door is really suitable for installing the rack driven. In case of difficulties in handling the leaf manually, we advise you to carry out an analysis of the pulleys and review the feeding of the door leaf, in order to have a good functioning of the product.

**NOTE:** The installation brackets are defined for rail mounting for sliding glass doors in the Brazilian standard. To apply products to other forms of rail or material, these accessories must be revised or adapted.



**FIRST STEP:** Check door size to install correct size of the rack driven. According to the size of the door, one or more rack driven must be installed. The rack driven set is approximately 1.00 m long with the two rack driven connected. To fix the rack driven, it is recommended to use a common or leisure level. If the door is symmetrical or properly squared, the installation kit contains two L-shaped plates to fix the rack driven at the level, but remembering that for the use of the L-shaped plate, it is recommended that the door leaf is squared and aligned. After performing this rack leveling procedure, the second part is to fix the rack driven to the door leaf, for this you should use a good quality double-sided tape for glass doors, in other materials such as aluminum, iron and wood, use appropriate screws. Make a marking, glue or screw according to the structure of the leaf of the door to rack driven starting close to the movable door, if there is excess rack driven, cut it by removing it.

**NOTE:** If necessary, purchase more rack driven pieces separately to obtain the desired opening.

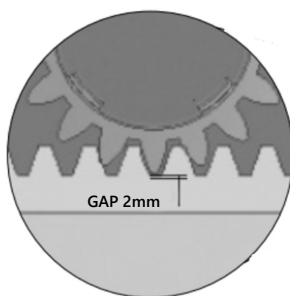


Picture: rack fixed to the glass (with good quality double-sided tape, already included in the product).

**! ATTENTION**

For the best adhesion of the double-sided tape, be sure to clean the surface of the product well.

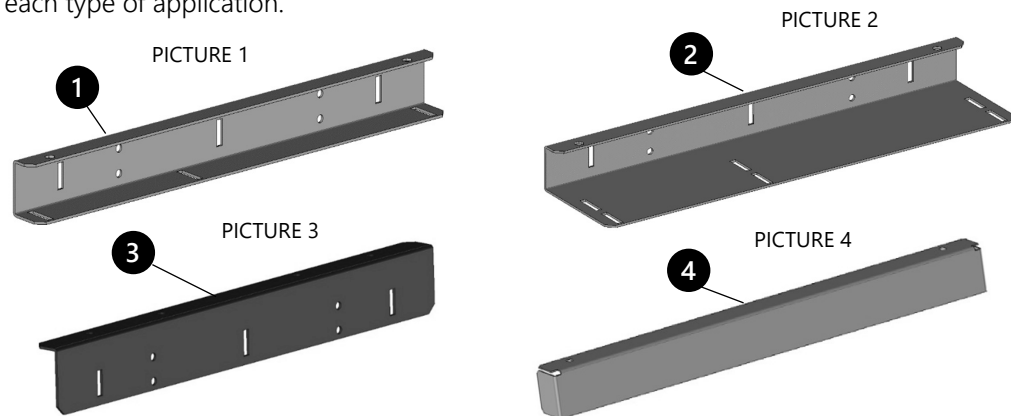
**SECOND STEP:** After fixing the rack driven, the next step is to fix the angle profile with screws and plugs according to the structure, ie: brick wall (masonry), wooden structure, iron structure. Check which rail fixing model; whether it will be installed on the STRUCTURE or inside the STRUCTURE span, so that the correct angle bracket for the operator can be placed. Remembering that to fix the gearmotor on the rack driven, it is recommended to leave the center of the gear in the middle of the passage of the mobile door with the fixed part, and you should always pay attention to the 2mm gap between the gear of the gearmotor and the rack driven as shown in the picture.



PICTURE A

**OPERATOR INSTALLATION**

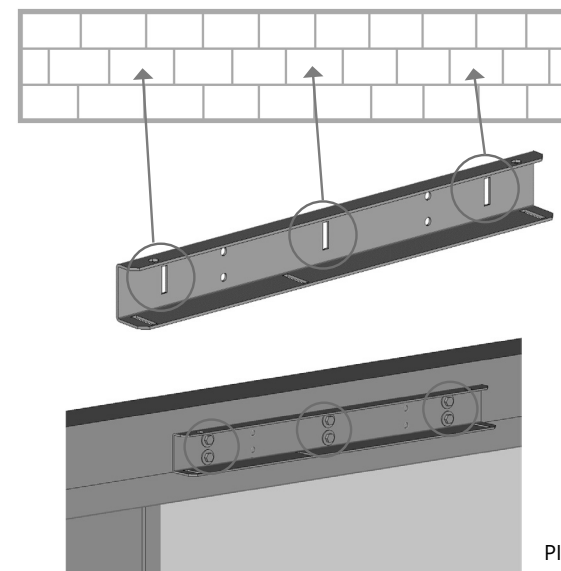
To start the process of installing the gearmotor on the rack driven, the installer must pay attention to the type of application the installation will be for, for example: inside the masonry, on the masonry or on the slab. Just below there are the types of angle profile for each type of application.



PICTURE 1- Angle profile for fixing inside the structure (smaller profile);  
 PICTURE 2- Angle profile for fixing on the structure (larger profile);  
 PICTURE 3- Angle profile for fixing on the slab;  
 PICTURE 4- Finishing profile.

**NOTE:** For fixing to the slab use angle 3 and 1

To install the operator, it is important to fully open the door leaf, and after leaving a gap of 2mm between the gear and the rack driven, as shown in picture A; The next step is to fix the angle profile to the structure of the place, as shown in the picture below.

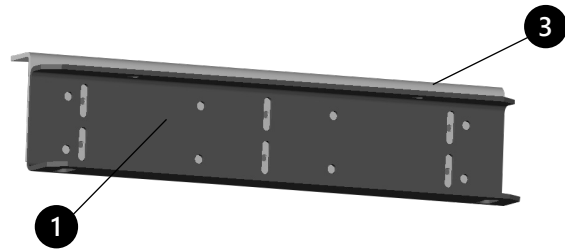


PICTURE B

**- ASSEMBLY 3: ON THE SLAB (USE ANGLE PROFILE - FIGURE 3)**

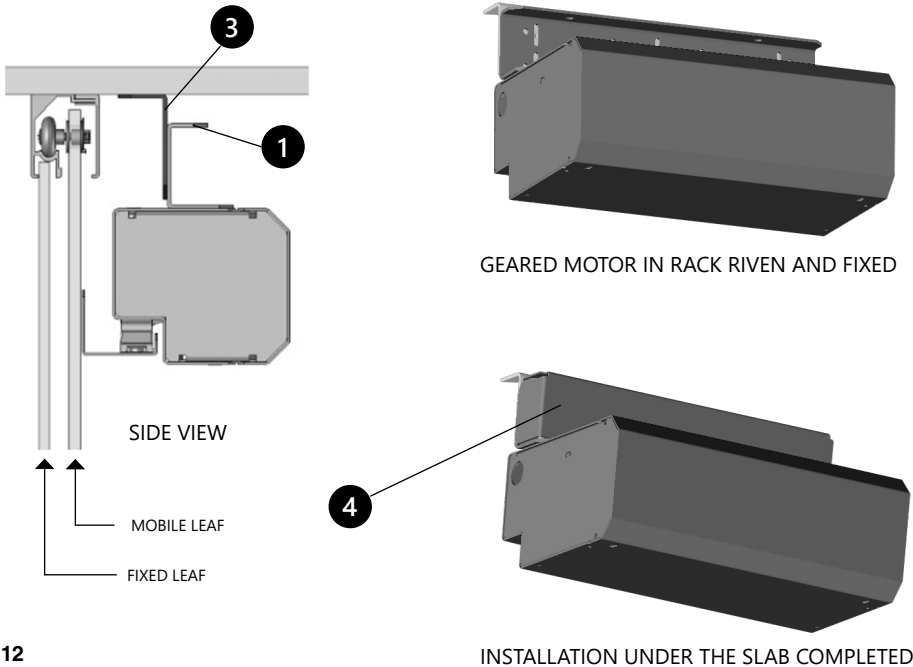
To fix the angle profile on the structure when the door leaf is considered inside the structure as shown in the picture below, it is recommended to use screws, bushings and washers appropriate for the physical structure of the place.

**FIRST STEP:** Below is the installation process of the angle profile fixed to the slab. For this type of installation, two profiles must be used; the angle profile (figure 3 and figure 1) according to figure C. Fixing the angle profile figure 3 on the structure, after that process will fix the angle profile picture 1 in the angle profile picture 3 as shown in picture C below.



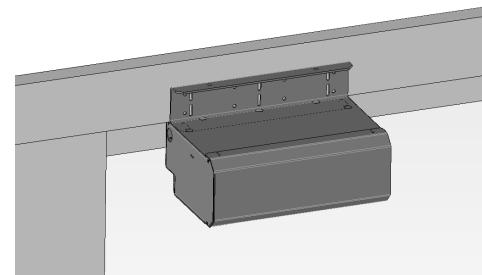
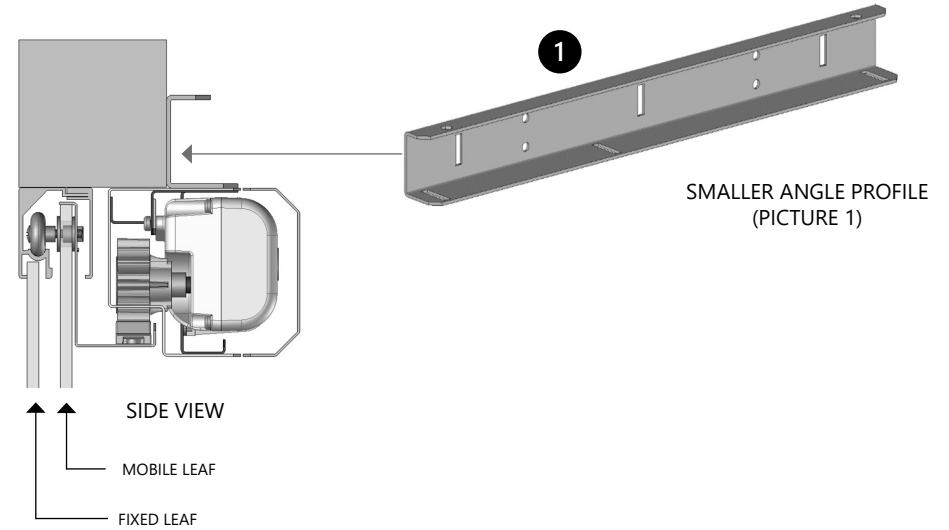
PICTURE C

**SECOND STEP:** Fixing the gearmotor on the angle profile (figure 1) and on the rack driven, as shown below.

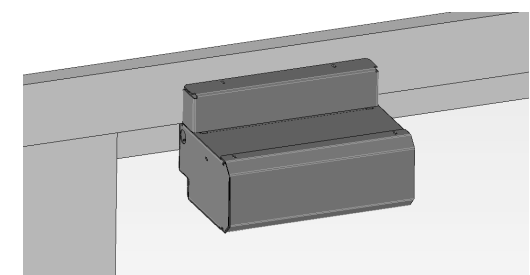


**- ASSEMBLY 1: INSIDE THE STRUCTURE (USE ANGLE PROFILE - FIGURE 1)**

To fix the angle profile on the structure when the door leaf is considered inside the structure as shown in the picture below, it is recommended to use screws, bushings and washers appropriate for the physical structure of the place.



RAC OPERATOR WITHOUT FINISHING

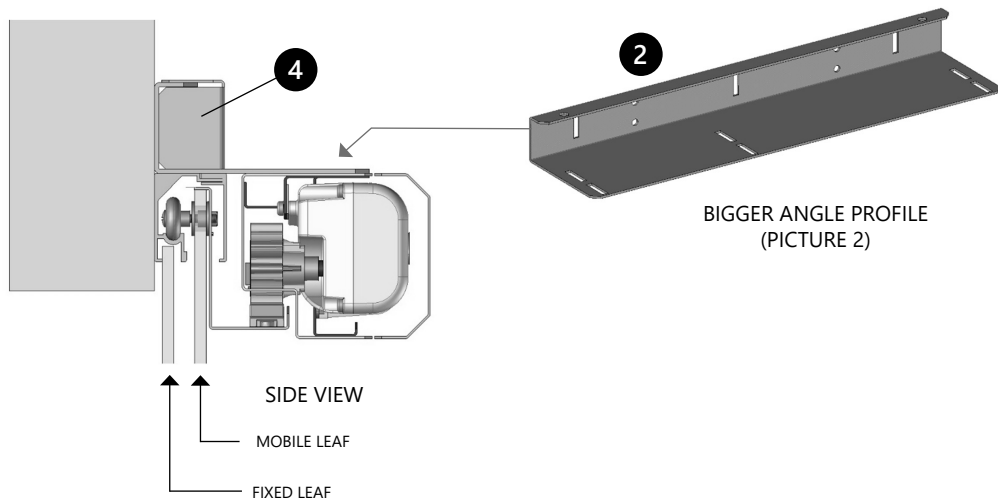


RAC OPERATOR COMPLETED

The interesting thing about the angle profile, at the time of installation in the physical structure or in the gearmotor, is that the profile has three bilong holes for adjustment in the fixing of the structure or in the gearmotor. These bilong holes make it very easy to install.

## - ASSEMBLY 2: UNDER THE STRUCTURE (USE ANGLE PROFILE - FIGURE 2)

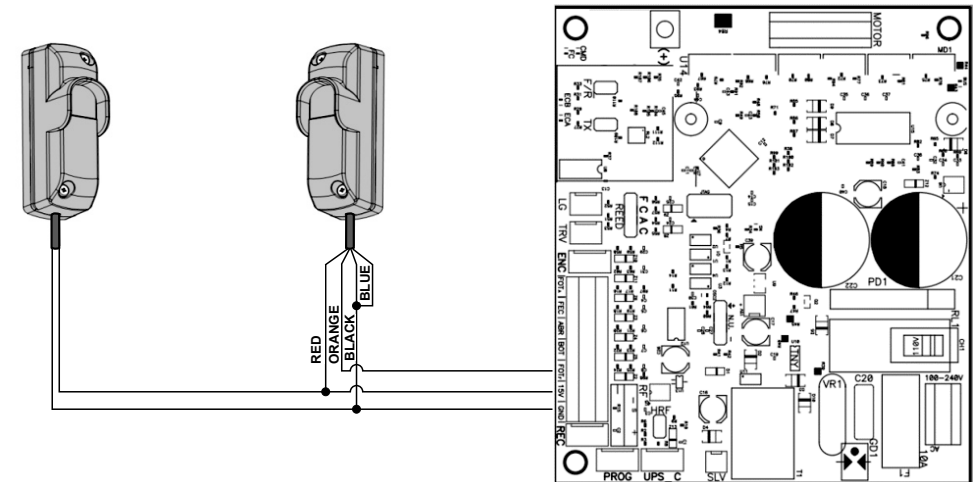
To fix the angle profile to the structure when the door leaf is considered on the structure as shown in the picture below, it is recommended to use screws, bushings and washers appropriate for the physical structure of the place.



## 7. TRIFLEX FULL RANGE ELECTRONIC BOARD

### TECHNICAL CHARACTERISTICS OF THE BOARD

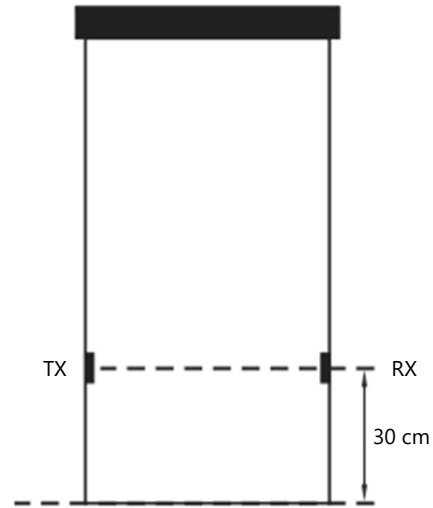
- Automatic bivolt 127VAC/220VAC 50 or 60Hz
- Frequency inverter for induction motors
- Embedded switching font, provides 15V / 400mA
- Compatible with standard rolling code transmitters with PPA's own protocol.



## 8. PHOTOCELL

### FIXING AND CONNECTION OF THE PHOTOCELL

Step 1: 1 4-way cable from the TX to the board, passing through the rail and fixed with cable ties.  
Step 2: 1 4-way cable going from RX to the board, passing through the rail and fixed with cable ties.  
The command to activate the photocell must be made from an NC (Normally Closed) contact.



## 9. DEFECTS, POSSIBLE CAUSES AND CORRECTIONS

Some defects, probable causes and corrections that may occur in your automation will be mentioned, if maintenance is required.

| DEFECTS                             | POSSIBLE CAUSES   | CORRECTIONS   |
|-------------------------------------|---|---|
| Door opening and closing by itself. | <ul style="list-style-type: none"><li>- Dirt on the track.</li><li>- Dirt on the door guide.</li><li>- Unregulated radar, picking up leaf movement.</li></ul> | <ul style="list-style-type: none"><li>- Clear the track.</li><li>- Clean the door guides.</li><li>- Adjust the sensitivity of the radar</li></ul> |
| Door opening slowly.                | <ul style="list-style-type: none"><li>- Lack of electricity.</li></ul>  | <ul style="list-style-type: none"><li>- Give the command and wait for the door to open and close slowly.</li></ul>                                |
| Door opened and did not close       | <ul style="list-style-type: none"><li>- Photocell obstructed.</li></ul>   | <ul style="list-style-type: none"><li>- Unclog the photocell.</li></ul>   |