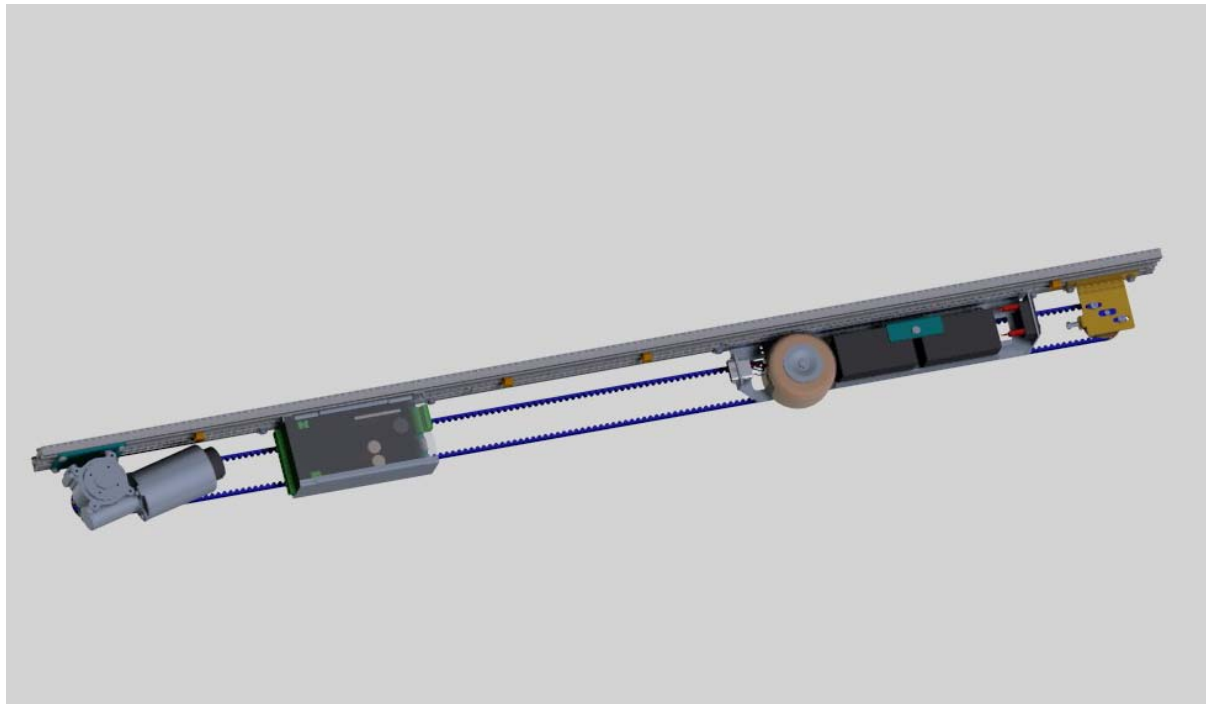




AUTOMATIC DOORS

INSTALLATION MANUAL



ERTAIN SYSTEM Operator 1450/1850

INTRODUCTION

ERREKA Automatic Doors would like to thank you for placing your trust in us and for selecting one of our products. Please read this installation manual carefully to ensure the door is correctly installed.

ERREKA Automatic Doors is not liable for any damages caused by not following the instructions provided in this Installation Manual.

CONTENTS

0. REVIEW
1. KEY TO TOOLS
2. ELECTRICAL PRE-INSTALLATION
3. TECHNICAL SPECIFICATIONS
4. INSTALLATION
5. WIRING
6. START-UP
7. PARAMETER ADJUSTMENT USING THE SELECTOR
8. ANNEXES

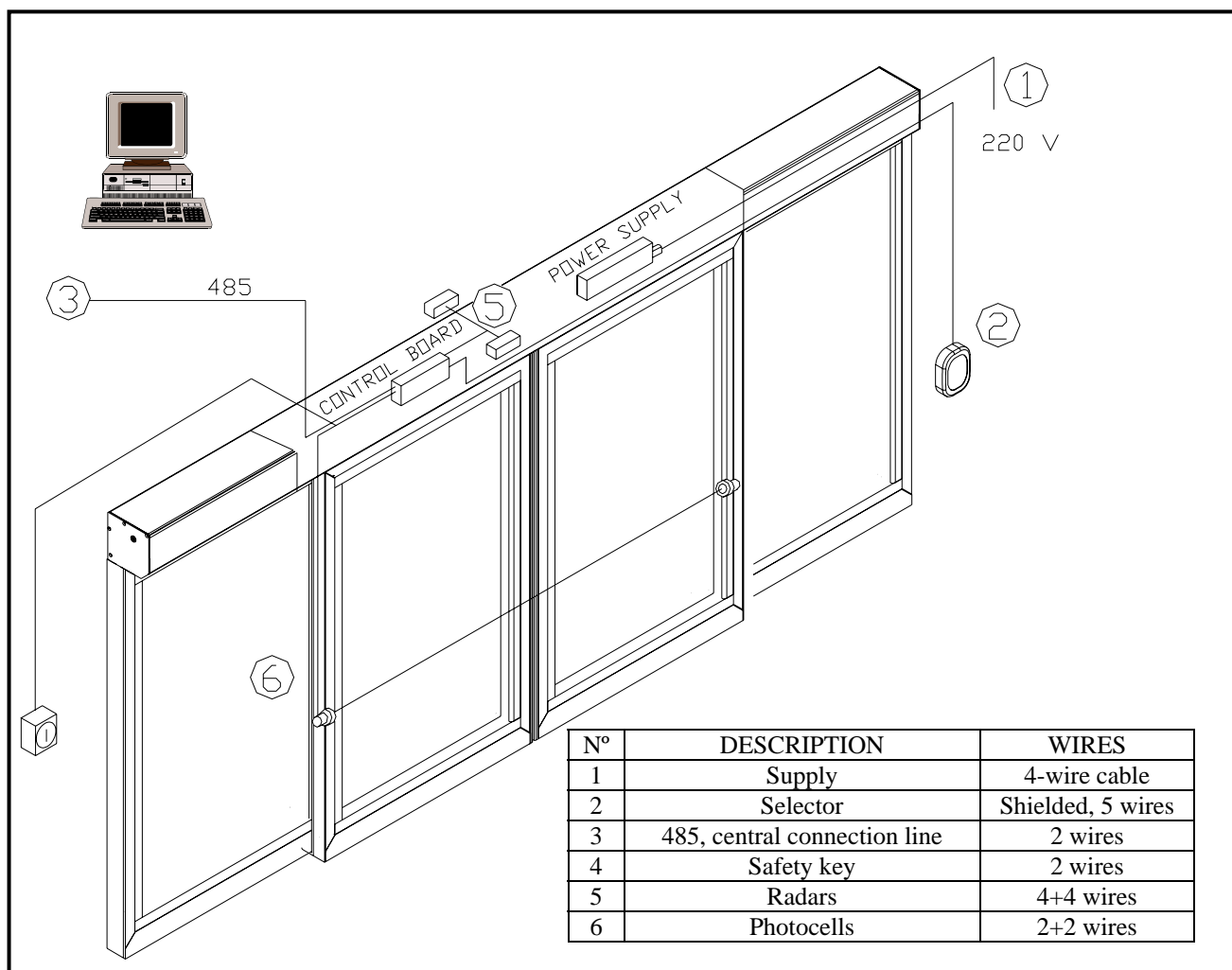
0. REVIEW

Review 0.0

1. KEY TO TOOLS



2. ELECTRICAL PRE-INSTALLATION

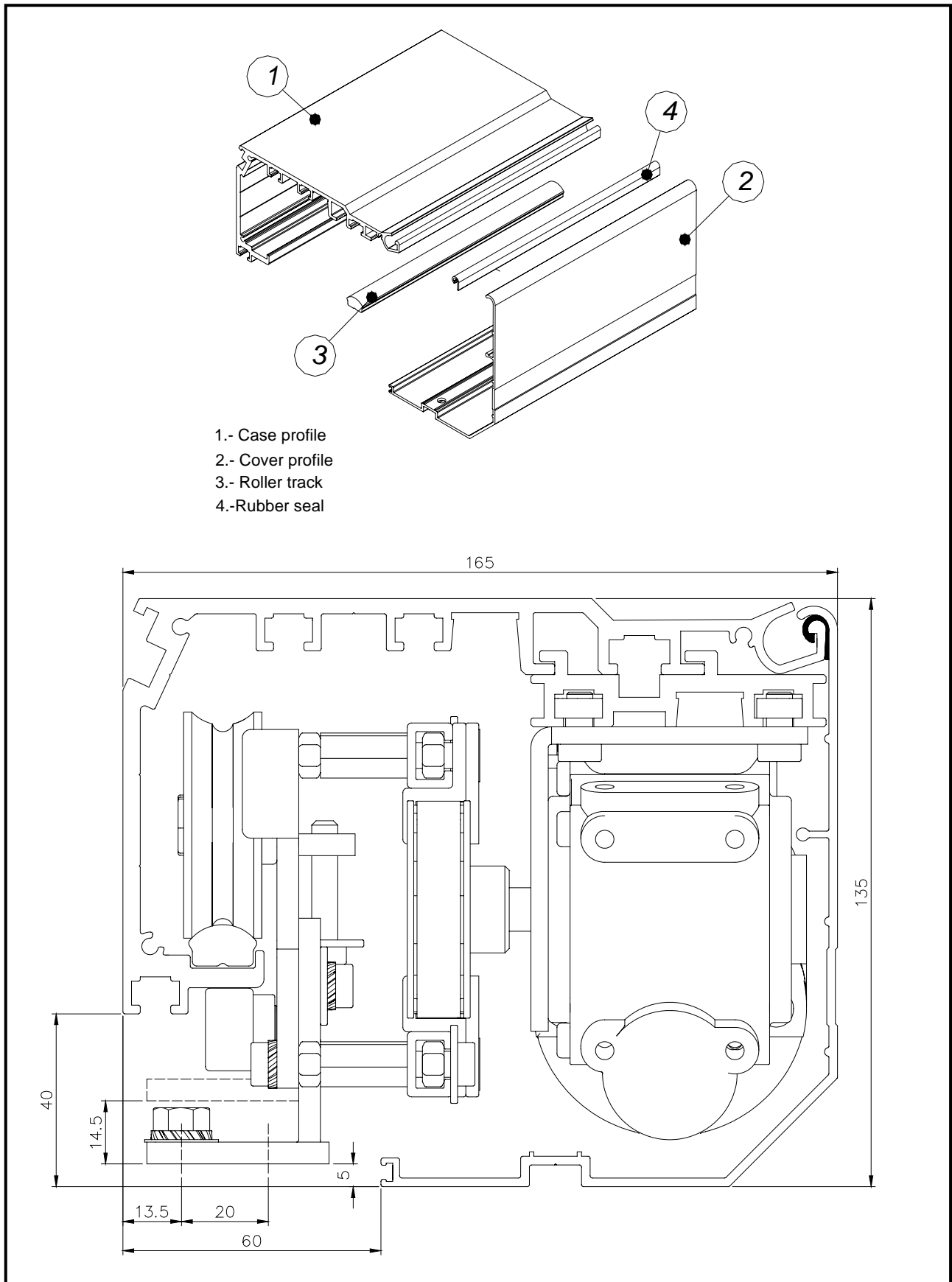


3. TECHNICAL SPECIFICATIONS

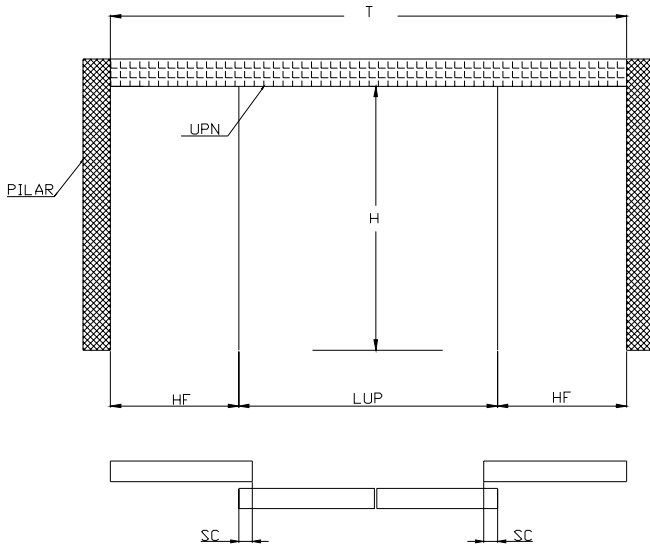
	<i>Operator 1450</i>	<i>Operator 1850</i>
Free passage (2 leaves)	1000-2300mm	1000-3000mm
Free passage (1 leaf)	750-1150mm	750-1550mm
Maximum leaf weight (2 leaves)	80 + 80 Kg.	80 + 80 Kg.
Maximum leaf weight (1 leaf)	120 Kg.	120 Kg.
Maximum opening speed	0.7 m/s	0.7 m/s
Minimum opening speed	0.4 m/s	0.4 m/s
Maximum closing speed	0.6 m/s	0.6 m/s
Minimum closing speed	0.2 m/s	0.2 m/s
Maximum closing force	150 N	150 N
Minimum closing force	50 N	50 N
Door open timing	60 sec.	60 sec.
Latch drop timing	120 sec.	120 sec.
Power supply	220 V (single-phase)	220 V (single-phase)
Consumption	75 W	75 W
Battery	Lead (12+12 v)	Lead (12+12 v)

4. INSTALLATION

This section gives a detailed explanation of how to assemble and install the door. For your information, we have included a Key to the different door sections and external motor unit measurements.



4.1. MEASURE THE EXISTING STRUCTURE



- Measure the distance between the standard U-section and the floor, and the distance between columns.

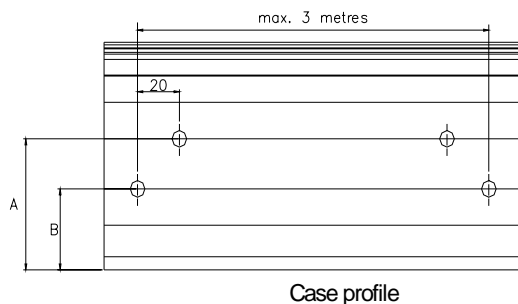
- Erreka recommends using a standard 160 mm U-section between two columns.

- Define the free passage width (LUP), the clear height (H), the fixed leaf width (HF) and the length of the case section (T).

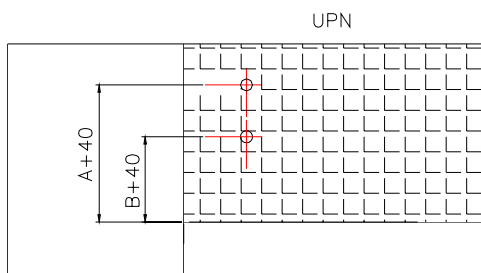
$$T=2 \times LUP+2 \times SC+100$$

- Cut the 5 sections (see page 3) to the length of measurement T.

4.2. DRILL HOLES IN THE CASE SECTION

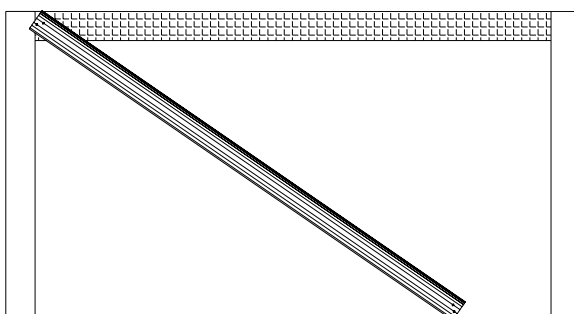


- Drill $\varnothing 8.5$ holes in the case section (8 holes if the case section is $> 4m$, and 6 holes if it is $< 4m$) The lower holes should be on the line, and the upper holes at distance A as indicated in the diagram.



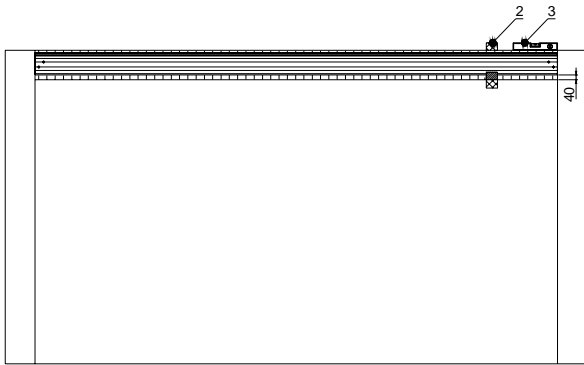
Drill a $\varnothing 7$ hole in the standard U-section. The case section is to be fixed at the measurement shown in the diagram, i.e. the base of the section must be 40mm from the base of the standard U-section. Then thread an M8 bolt through the holes.

4.3. FIT THE CASE SECTION



- Secure the case section to the standard U-section with an M8 hexagonal bolt, using a size 13 spanner, and rest the other side on the floor (do not fully tighten the bolt).

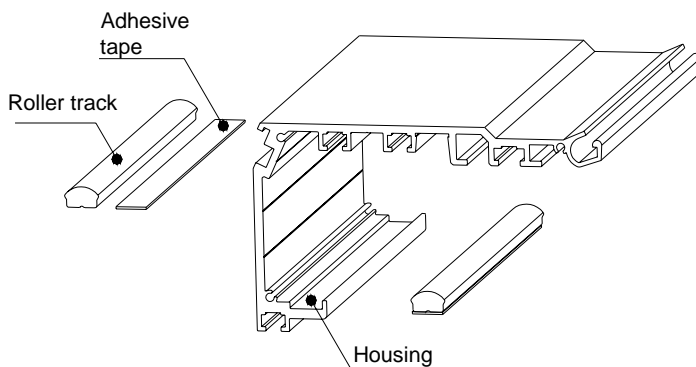
- Raise the other side of the case section and fix it in place with a clamp (2). Place the case section **40mm** above the bottom of the standard U-section.



After levelling it, drill the holes and thread the M8 bolt through them. Lastly, fix the case section to the beam with the M8x25 bolts.

- Make a mark half way along the case section. This will serve as a reference point for centring the motor unit.

4.4. FIT THE ROLLER TRACK

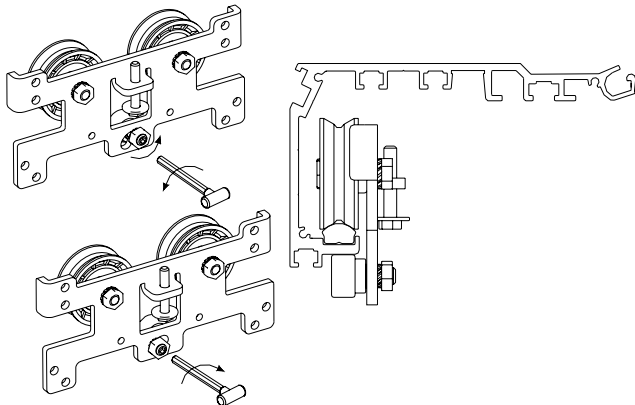


- Stick the double-sided adhesive tape to the roller track.

- Thoroughly clean the roller track housing (remove any shavings).

- Peel off the adhesive backing paper and gradually insert the roller track in the housing.

4.5. POSITION THE CARRIERS ON THE TRACK

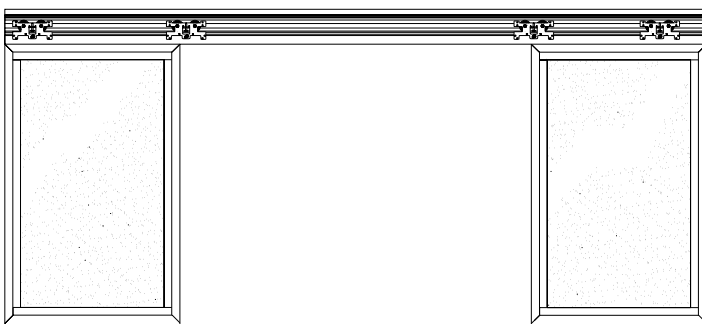


- Loosen the anti-derailing wheel by turning the Allen bolt to the right with the n° 4 Allen wrench, and move the wheel to the central part of the seat.

- Place the carrier on the roller track.

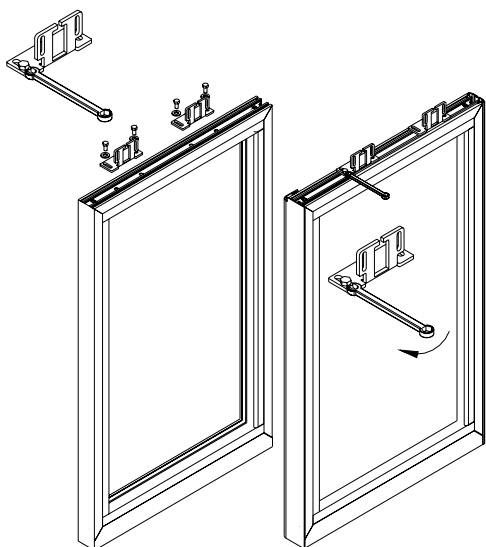
- Then move the wheel to either of the ends, using the Allen wrench, and fix the nut by turning the Allen wrench to the left.

4.6. FIT THE FIXED LEAVES

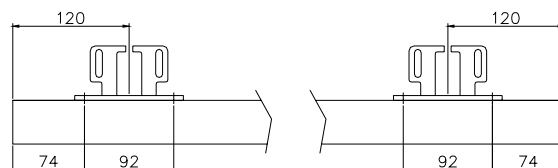


- Mount the fixed leaves, following the instructions provided in the door frame installation manual.

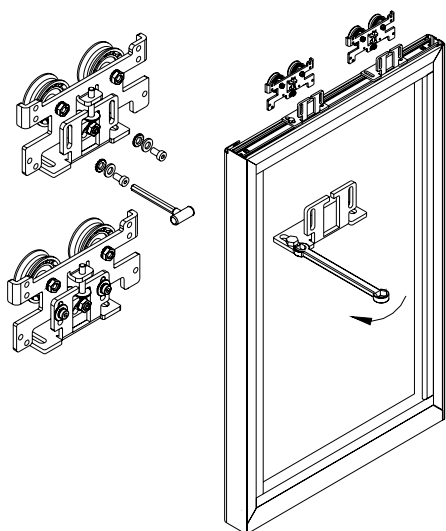
4.7. FIX THE HANGER BAR TO THE LEAVES



- Mount the hanger bars on the sliding leaves as shown in the diagram. The centre of the hanger bar should be approximately 120 mm from the ends of the sliding leaf.
- Fix two M8x25 bolts to each of the hanger bars, using a n° 13 spanner.
- For all the sections, make the holes at each end in accordance with the measurements shown below.

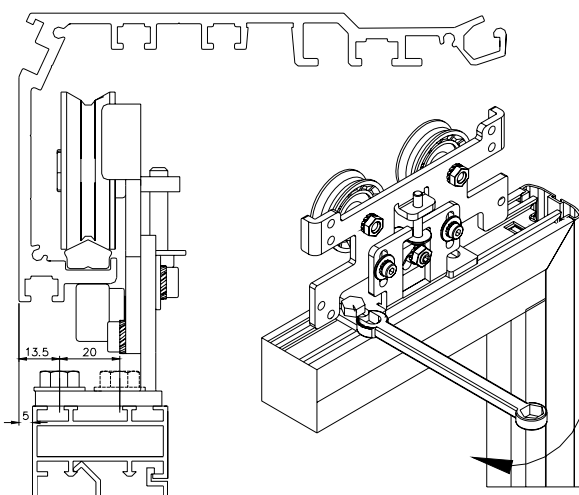


4.8. HANG THE LEAVES ON THE CARRIERS



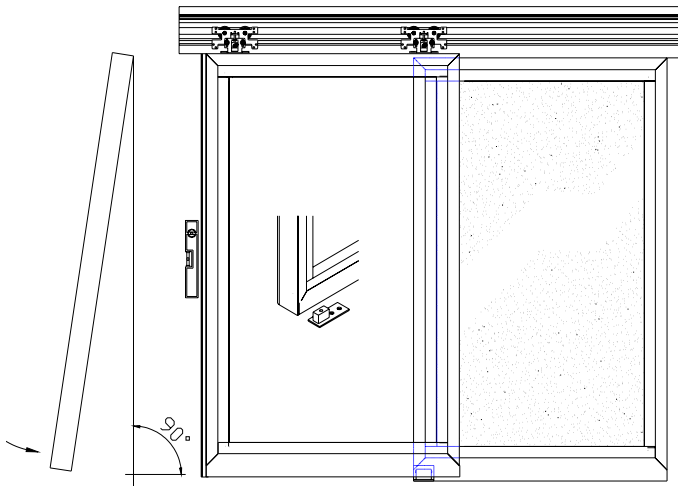
- Fix the hanger bars to the carriers using M6x16 Allen bolts, the toothed washers and the flat washers.

4.9. ADJUST THE DEPTH OF THE MOVING LEAVES



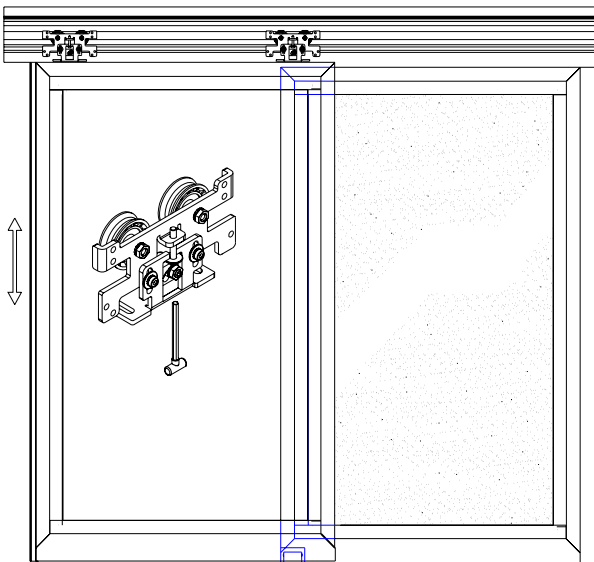
- Use the n° 13 spanner to position the sliding leaf parallel to the case section, then measure the distances between the leaf and the standard U-section. Place the two ends of the leaf at a distance of 5 mm.

4.10. FIT THE GUIDE



- Using a spirit level, move the sliding leaf until it is at 90° to the floor.
- Then position the guide on the floor at the end of the fixed leaf, with the block in the sliding leaf guide. Make a mark on the floor when the leaf is level.
- Then fix the guide to the floor and slide the leaf onto the guide.

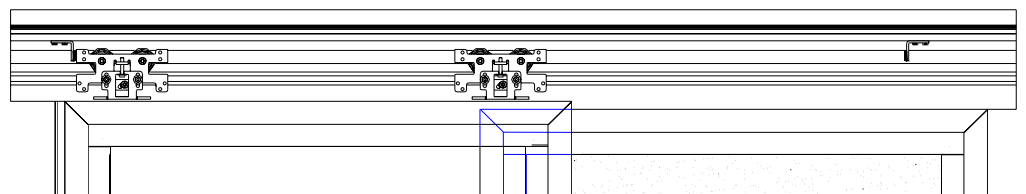
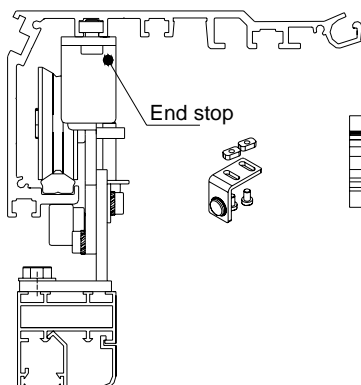
4.11. ADJUST THE HEIGHT OF THE LEAVES



- Using a size 4 Allen wrench, adjust the leaf height with the central carrier bolt. This adjustment is important in order to obtain a perfect fit between the two sliding leaves.

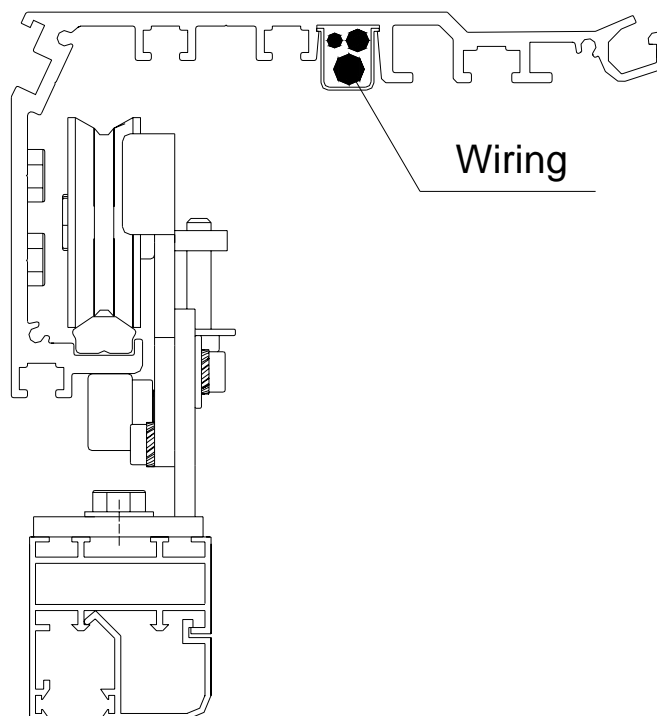
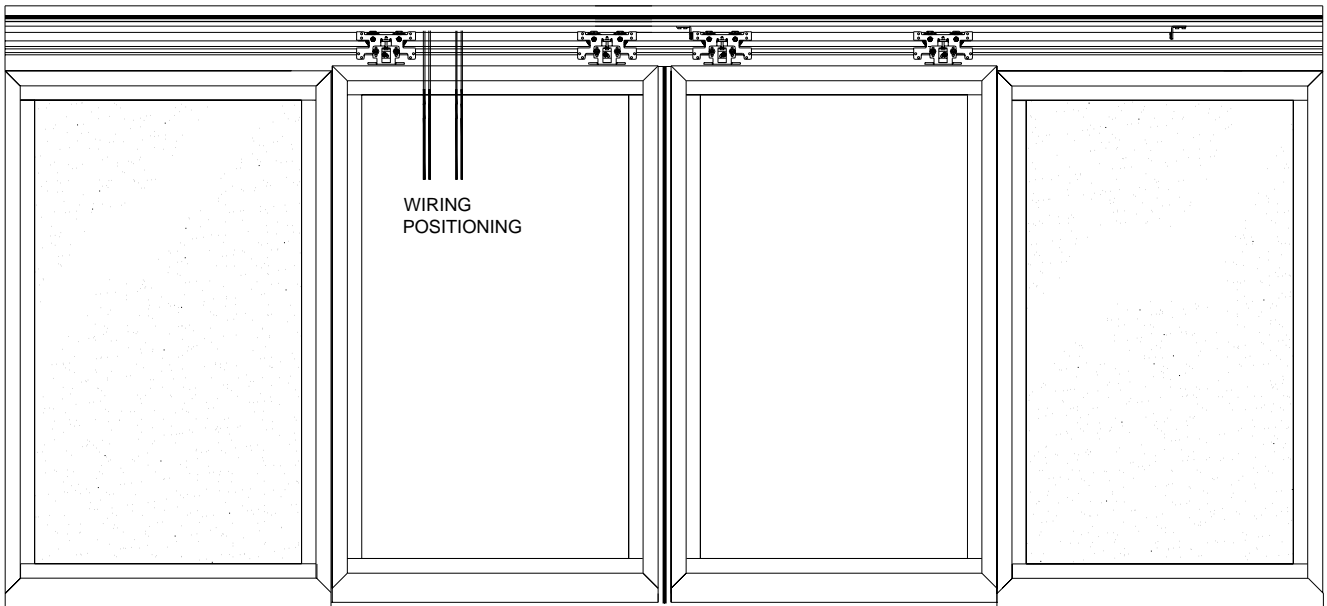
4.12. FIT THE LIMIT SWITCHES

- Place a limit switch at the point where the sliding leaves meet. To do this, insert the long nuts in the slide and fix the limit switch unit in place using M6x10 Allen bolts.
- Fit the other limit switch to one of the sides.



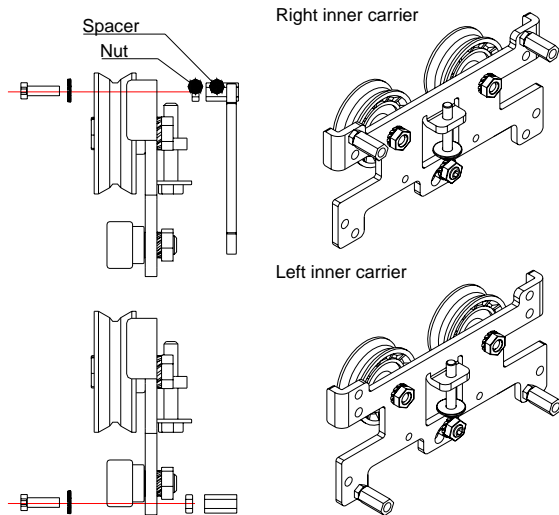
4.13. PREPARING THE WIRING

- It is **VERY IMPORTANT** to wire the peripherals (photocells, radars, selector, etc.) before fitting the operating device, as once this has been done there will be very little space for your hands. Thread the wires up to the panel positioning height to facilitate subsequent panel connection. Use the cable covers supplied to hold the wires in place, placing them in the housing as shown in the diagram below.



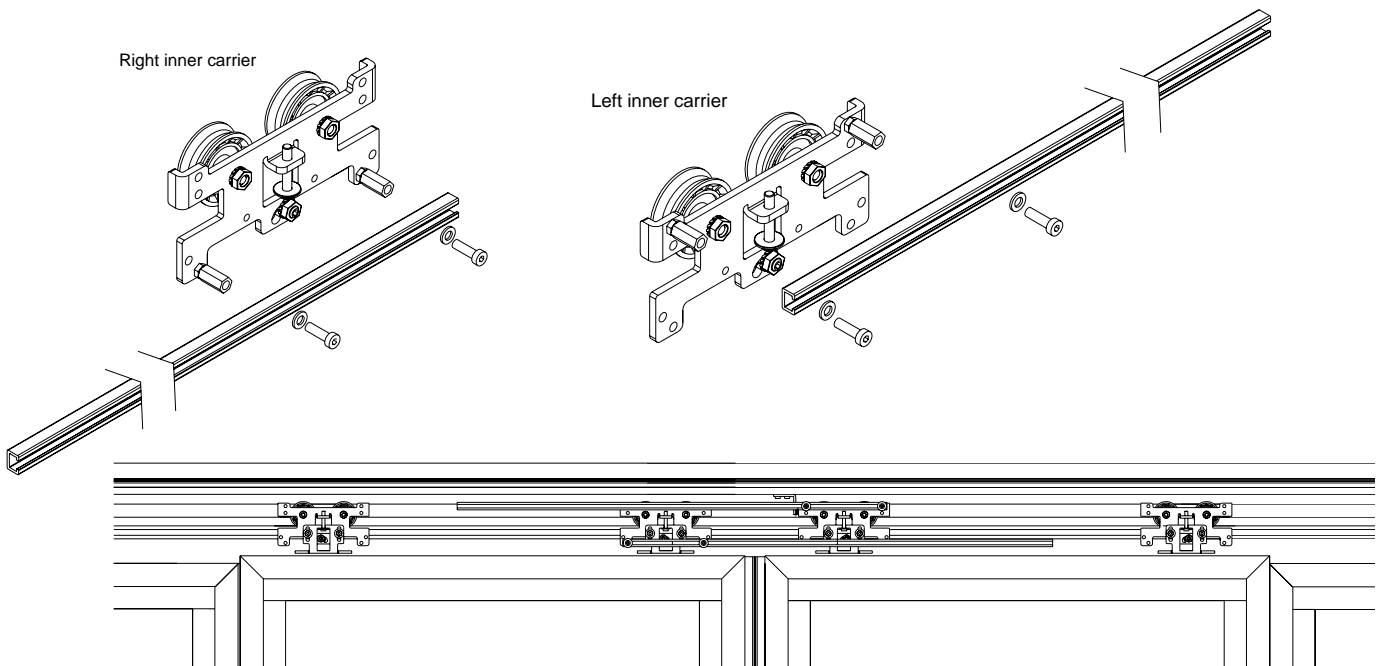
4.14. MOUNT THE ARMS ON THE CARRIERS

- **2 sliding leaves**



- Fix the spacer nuts using a size 10 spanner, inserting the M6x20 bolts in the rear of the carrier with toothed washers.

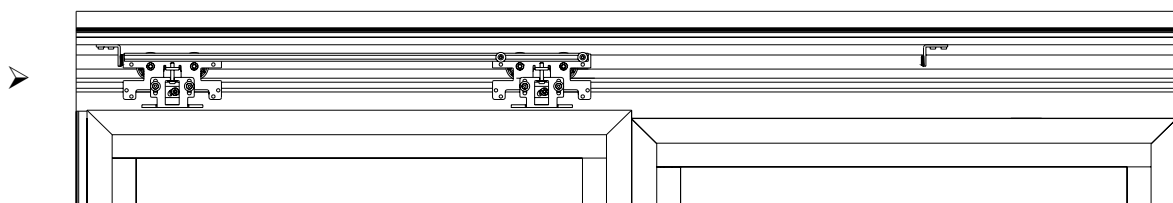
- The arms are positioned as follows: the right arm in upper position (right inner carrier), and the left arm in lower position (left inner carrier).



- **1 sliding leaf**

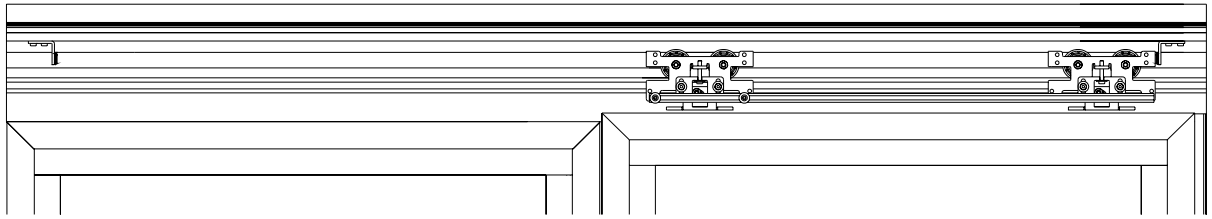
- **Right-opening**

Fix the arm to the right upper carrier.



Left-opening

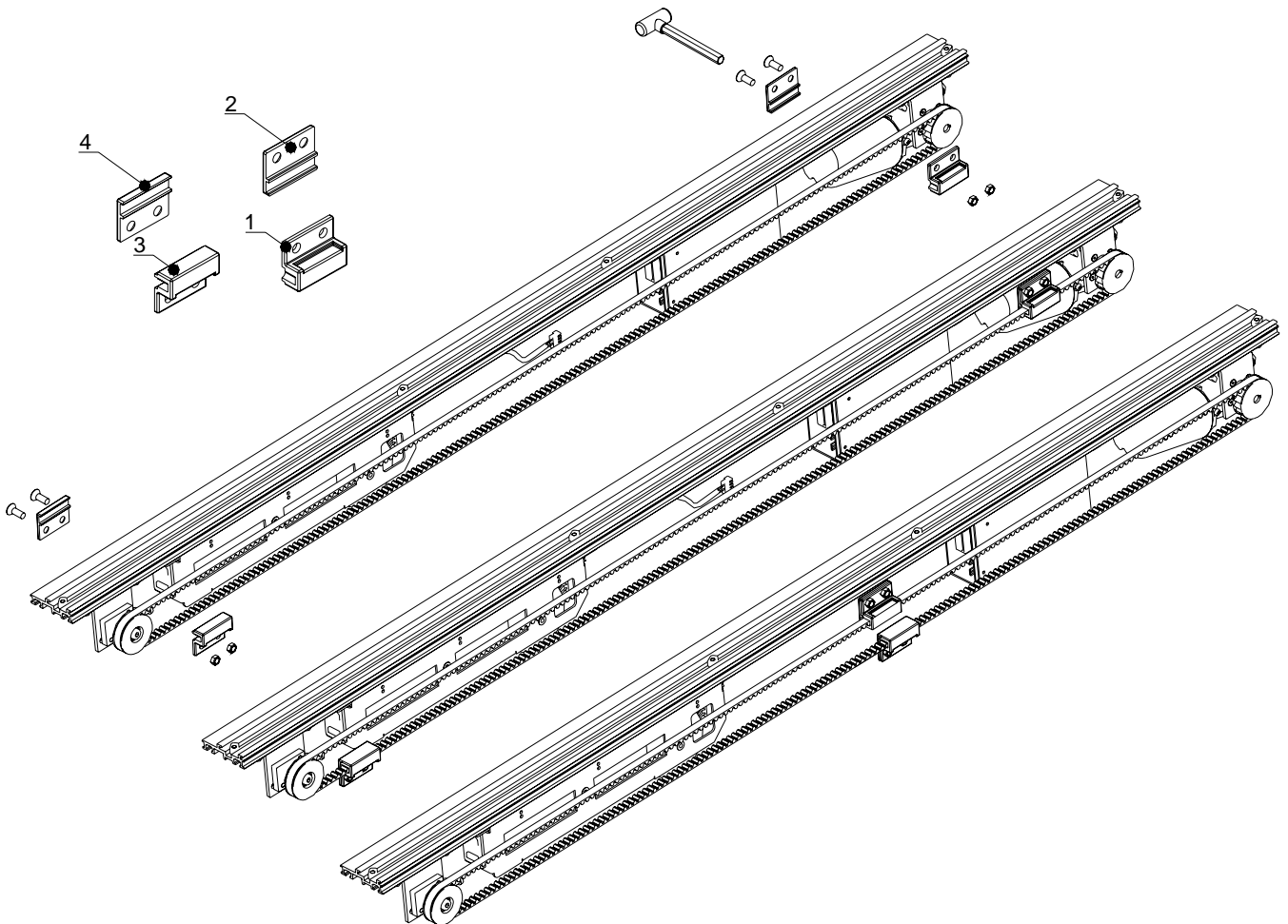
Fix the arm to the left lower carrier.



4.15. FITTING THE BRACKETS TO THE BELT

- Fit the brackets (1 and 3) to the belt, at the same number of teeth from each of the pulleys.
- Fit the covers (2 and 4) to the brackets and fix them in place with 2 countersunk bolts and M6 nuts.
- Slide the brackets to the centre of the drive by pulling the belt.

Important: For doors with only one sliding leaf, use only one bracket.



4.16. POSITION AND FIX THE MOTOR UNIT SECTION

- Loosen the 4 M6x16 bolts until they are at a level with the long nut, and leave them on the track as indicated in the diagram.

- Open the doors before fitting the motor unit, so that the arms do not obstruct the mechanism.

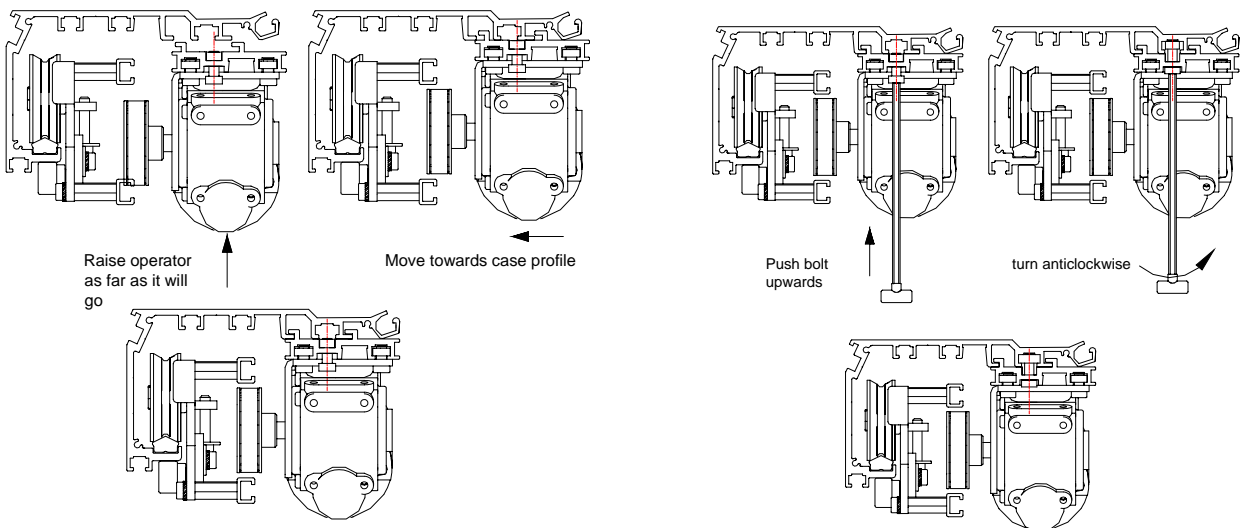
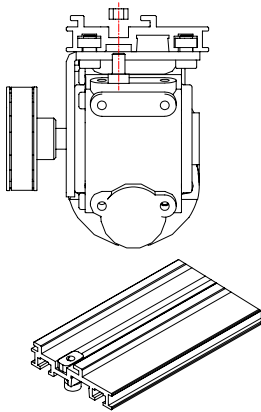
- Take the motor unit and move it upwards until it reaches its limit against the case section.

- Move the motor unit inwards, so that the tabs fit into place. The unit can then be released.

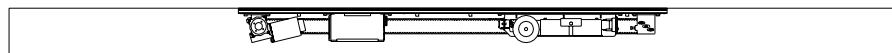
- Place the motor unit laterally, according to the type of installation.

- Insert the M6x16 Allen bolt until it reaches the case section, and turn the bolt until the motor unit is firmly fixed to the case section.

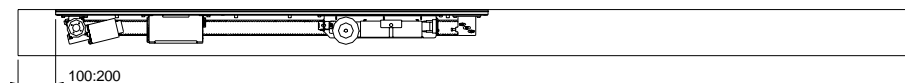
•Fitting the drive to the case section:



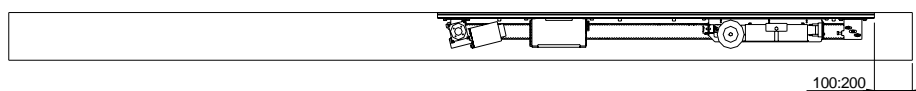
- 2 sliding leaves: IN THE CENTRE



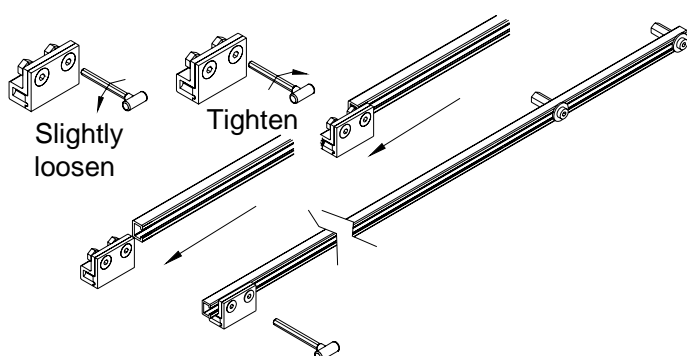
- 1 right-opening sliding leaf: TO THE LEFT



- 1 left-opening sliding leaf: TO THE RIGHT



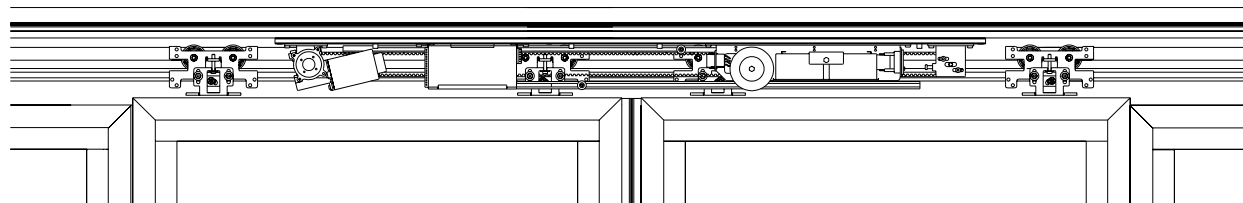
4.17. FIXING THE BRACKETS TO THE ARMS



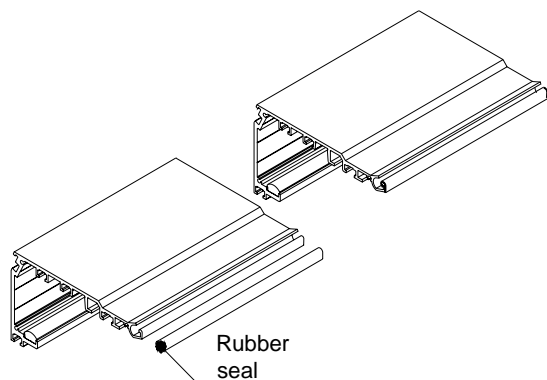
-Slightly loosen the M6x12 countersunk bolts holding the brackets in place, and move one of the sliding leaves. Insert the M6 nuts to fasten the bracket inside the arm rail, then tighten the M6 countersunk bolts using the n° 4 Allen wrench.

-Move the 2 sliding leaves until they make contact, then fasten the other bracket to the other arm.

- Perform the same operation and manually check that the leaves can move to the limit switch

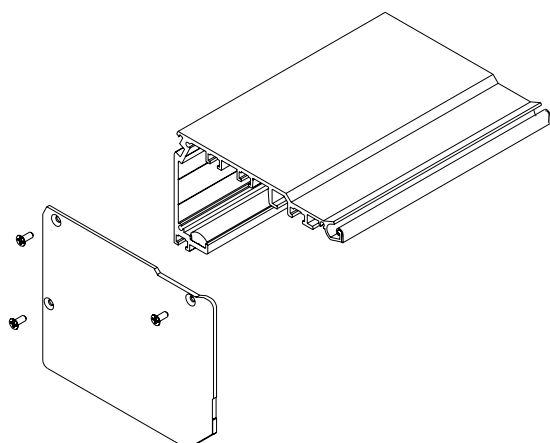


4.18. FIT THE RUBBER SEAL TO THE CASE SECTION



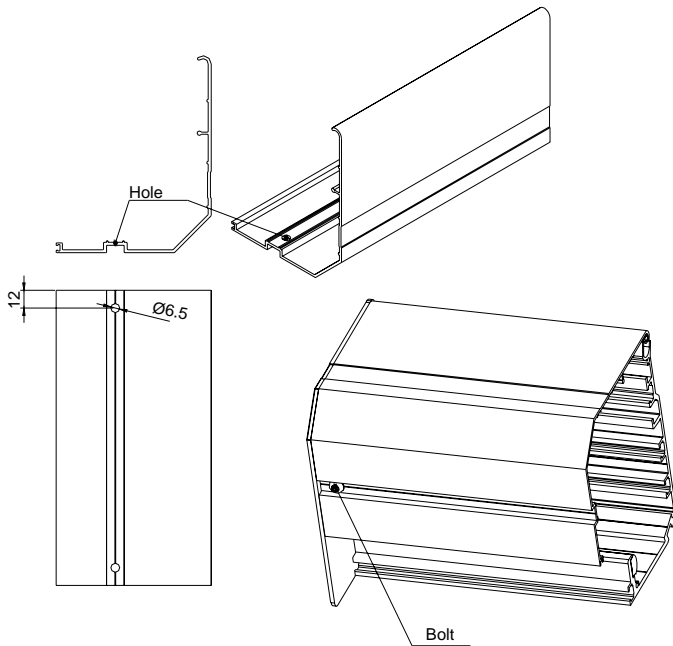
- Fit the entire length of the rubber seal to the case section (see figure).

4.19. FIT THE SIDE COVERS TO THE CASE SECTION



- Fix the side covers to the case section using \varnothing 4.2x13 countersunk plate bolts.

4.20. FIT THE COVER SECTION



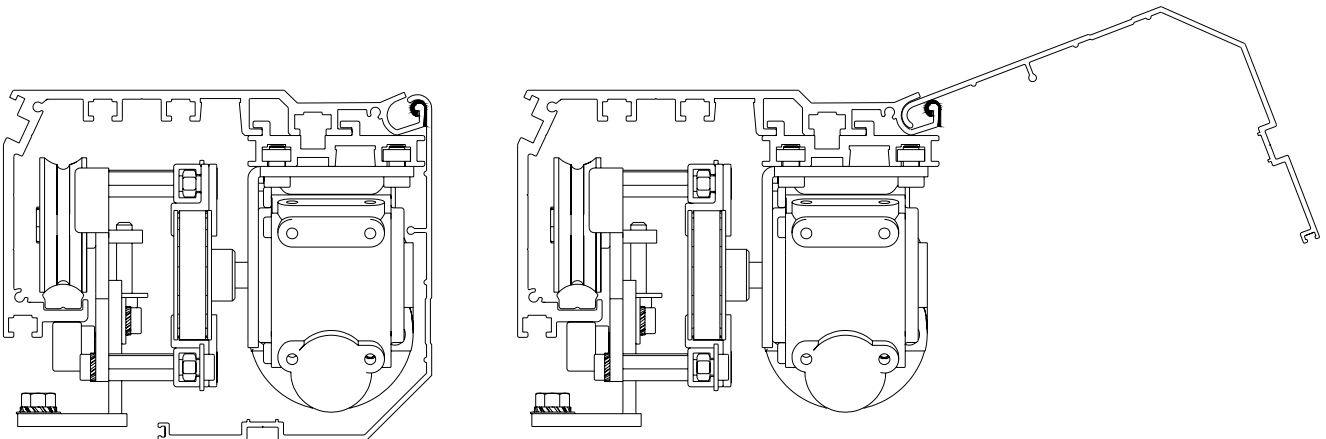
- Drill two 6.5 mm diameter holes in the two ends of the cover section.

The distance from the centre of the hole to the end should be 12 mm.

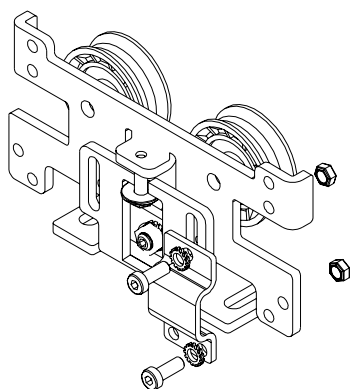
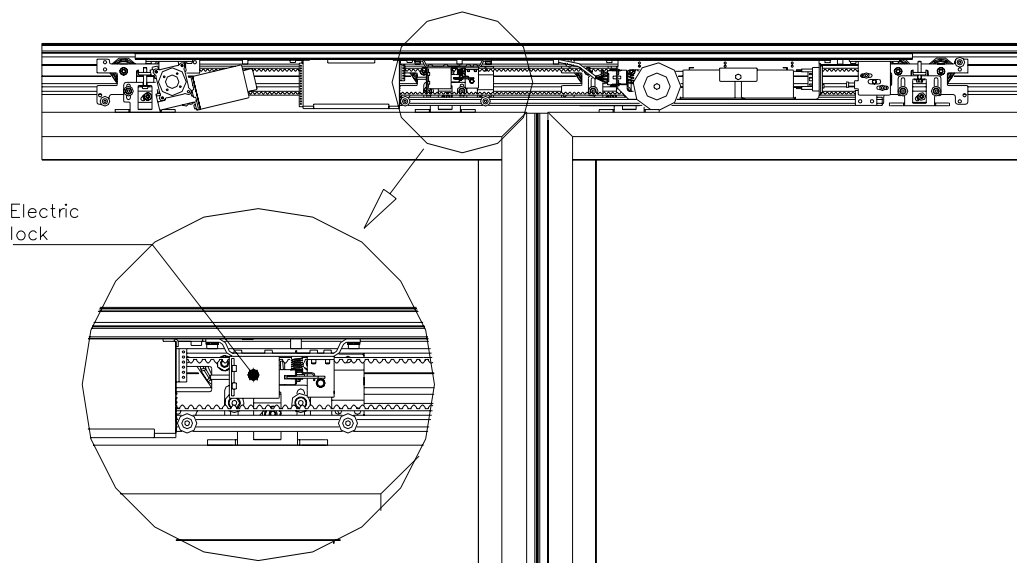
-To fit the cover section, first rest the end of the cover in the case section ball.

- When the section is positioned, allow it to slide down by its own weight until the cover pivots. Lastly, fix the cover section to the side covers using two M6x15 bolts (one at each end).

Important: The cover does not need to be completely detached from the unit for maintenance: it can be partially detached and left hanging.



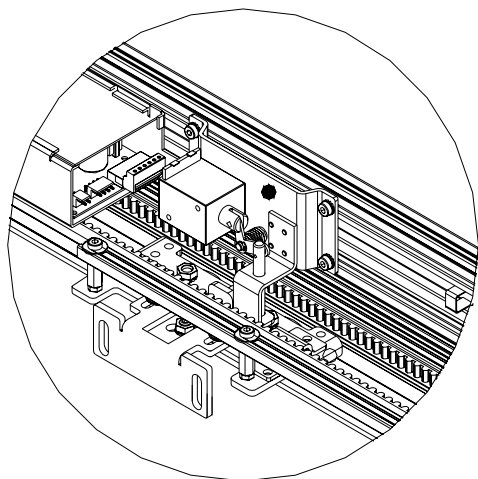
4.21. FIT THE ELECTRIC LOCK



- Insert 4 nuts in the special grooves provided in the motor unit section.

- Fix the carrier blocking plate in place with 2 bolts.

- Place the electric lock level with the carrier, ensuring the bolt is touching the end stop. Fix the support bolts in place, leaving a space of approximately 2 mm between the bolt and the end stop.



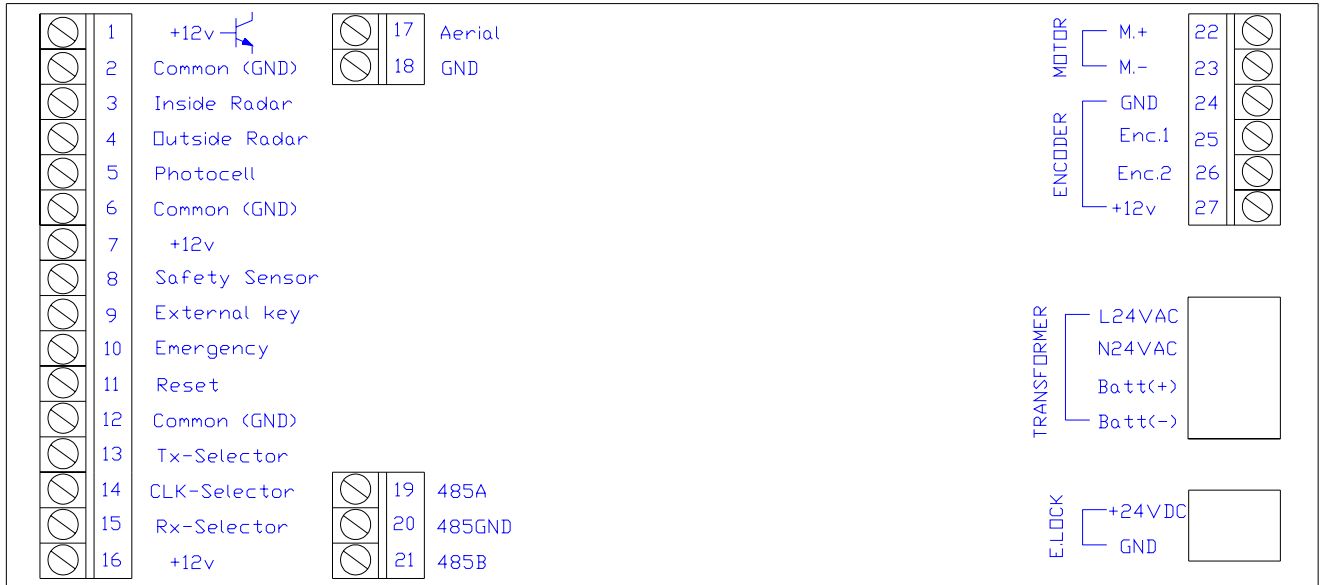
Fitting the manual release device

- Position the handle in the left hand corner of the operating device.

- Fix the cable to the rear axis of the electromagnet and thread it through the handle. Tighten it and then fix it in place by tightening the handle bolt.

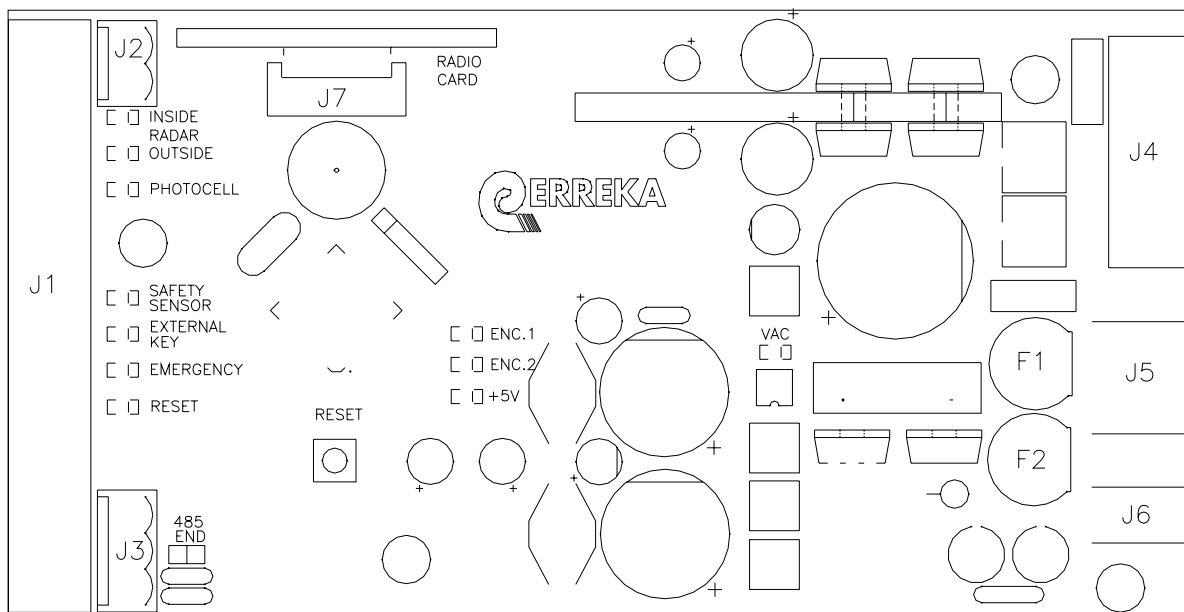
5. ELECTRONIC CONTROL PANEL

5.1 CONNECTION TERMINALS



Normally closed inputs (NC): Photocell: terminals 2 and 5; Safety sensor: terminals 6 and 8; External key: terminals 9 and 12.

5.2 PANEL DIAGRAM



LED DIODES	ON	OFF
VAC	220V mains voltage to unit	No mains voltage
ENC1	Encoder track 1 signal	
ENC2	Encoder track 2 signal	
+5V	Voltage to microprocessor	No voltage to microprocessor
INSIDE RADAR	Internal radar input closed	Internal radar input open
OUTSIDE RADAR	External radar input closed	External radar input open
PHOTOCELL(NC)	Photocell input closed	Photocell input open
SAFETY SENSOR(NC)	Safety sensor input closed	Safety sensor input open
EXTERNAL KEY(NC)	External key input closed	External key input open
EMERGENCY	Emergency input closed	Emergency input open
RESET	Performing reset operation	

CONNECTOR	FUNCTION
J1	Peripheral input terminal strip
J2	Antenna connector
J3	Communication unit input connector (485)
J4	Encoder + gear motor connector
J5	Power input connector (mains + batteries)
J6	Electric lock input connector
J7	Plug-in connector for remote control receiver

FUSE	FUNCTION
F1	5x20 8 A fuse (motor protection)
F2	5x20 2 A fuse (battery protection)

5.3 STANDARD WIRING

5.3.1 PHOTOCELLS

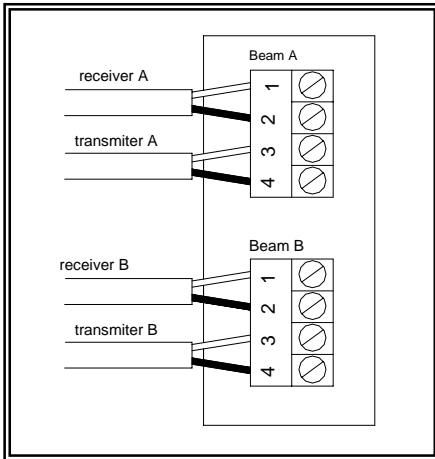


Diagram 1

Place the amplifier on the motor unit or case section, and fix it in place with the adhesive tape on the case section.

- Install the photocell transmitter/receiver in its corresponding position according to the type of door frame. If 1 photocell is installed, place it at 500 mm from the floor. If 2 photocells are installed, place one of them at 1000 mm from the floor and the other at 200 mm.

- Thread the transmitter and receiver cables through the cable conduit to the photocell amplifier, and make the connections as shown in diagram 1.

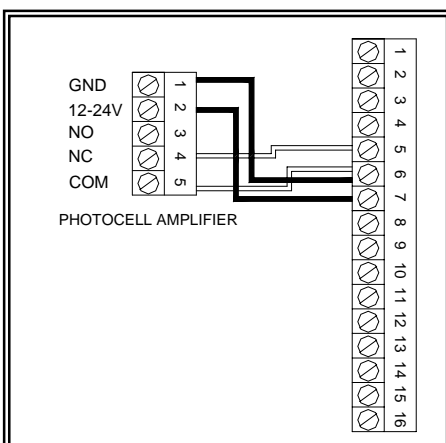
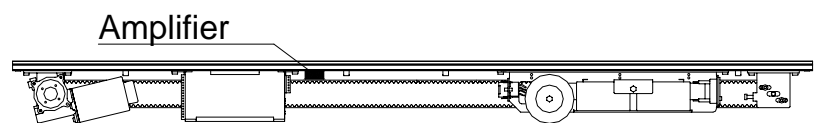
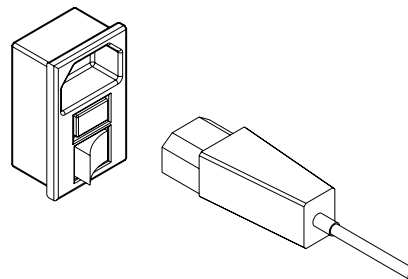
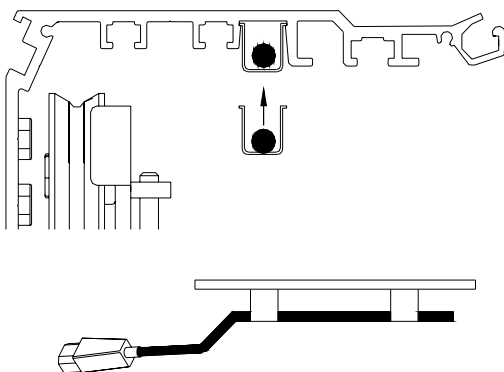


Diagram 2

- Connect the amplifier to the panel with the 4-wire cable as shown in Diagram 2.

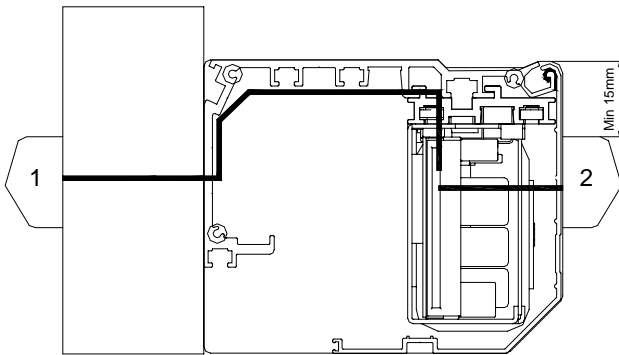


5.3.2 MAINS CONNECTION



- Thread the cable through the cable conduit, then clip it to the case section and run it to the power supply unit. To do this, strip the cables and fix the connector to one end. Finally, insert the connector into its base, located in the power supply unit.

5.3.3 RADARS



- 1. Outside Radar
- 2. Inside Radar

- Connect the internal radar directly to the panel. Run the external radar cable to the left side of the motor unit through the standard U-section. Make a hole through the case profile and thread the cables through the cable conduit to the panel.

- For the wiring connections, see Diagram 3.

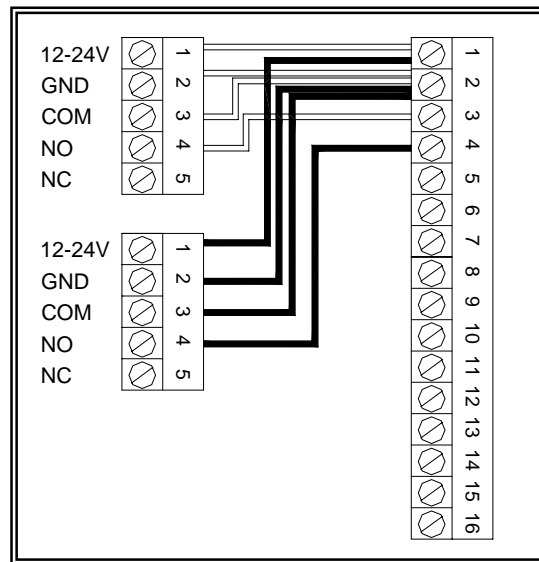
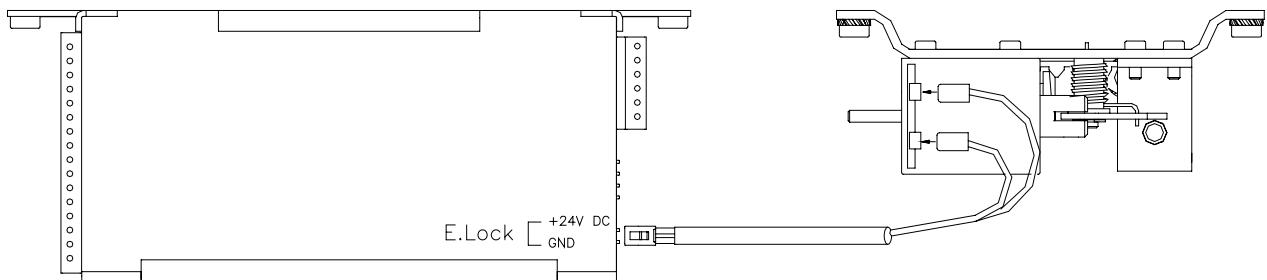
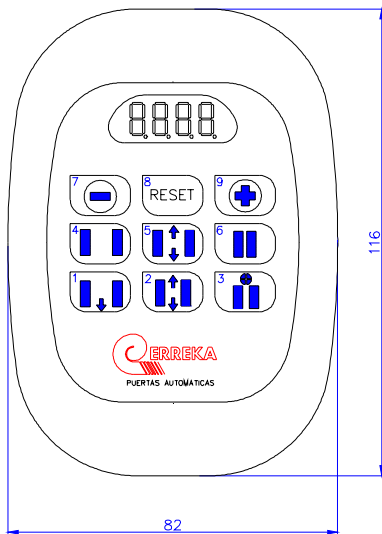


Diagram 3

5.3.4 ELECTRIC LOCK



5.3.5 SELECTOR



- The selector is the user-control panel communication device for controlling and performing the following functions:

- 1.-Selecting the different door operating modes.
- 2.-Setting the operating parameters.
- 3.-Switching the options on and off.
- 4.-Diagnosing failures and error modes.

- While the door is functioning, the working mode it is functioning in will appear on the display.

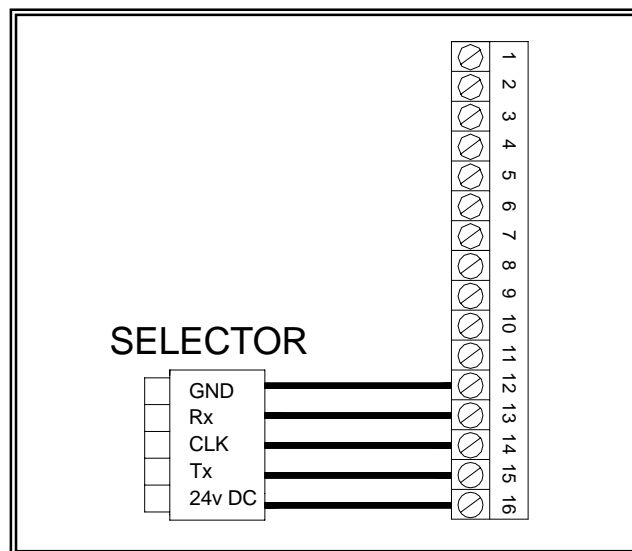
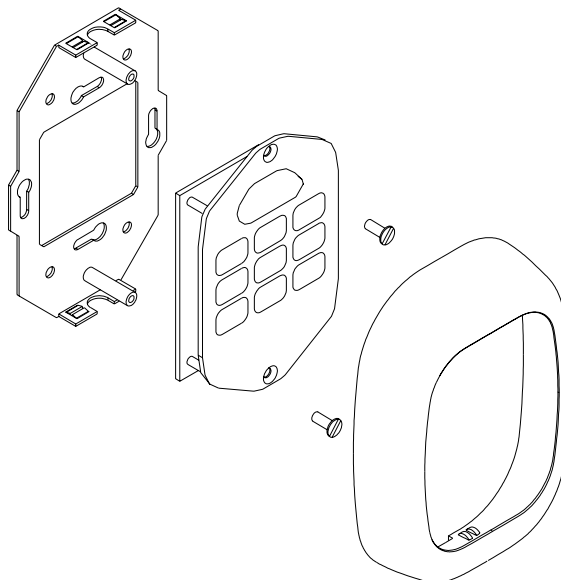


Diagram 4



5.4 AUXILIARY CONNECTIONS

5.4.1 EXTERNAL KEY

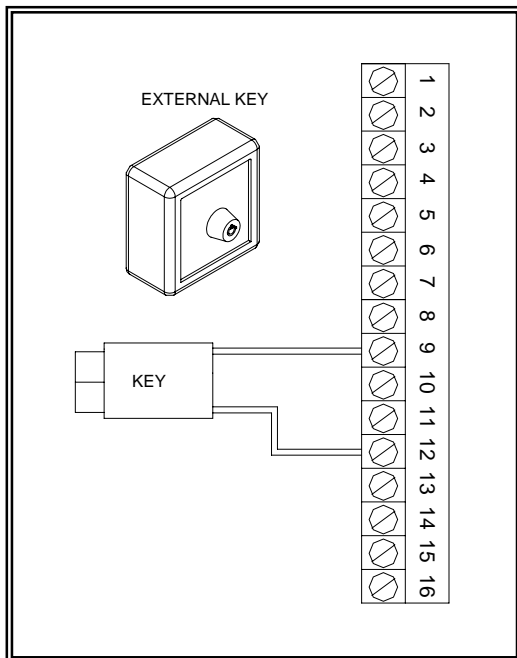


Diagram 5

- The external key is a safety switch operated from outside. The input is NC. It has two positions:
 A: disabled (contact closed)
 C: enabled (contact open)

- When the lock is in position C, the door is in "locked" position and the blocking function is activated (if incorporated).

- In position A, the door returns to the last function it was in before the lock was enabled. However, if it was in "Door closed" position, it will always open once, to enable the person activating the lock to enter.

Pedestrians may exit through the door if the key is activated by pressing "S-SA" on the selector, or button "1". When either of these buttons are pressed, the door will remain in "S-SA" mode for one minute. It will then return to key or door closed mode.

5.4.2 LATERAL SAFETY SENSOR

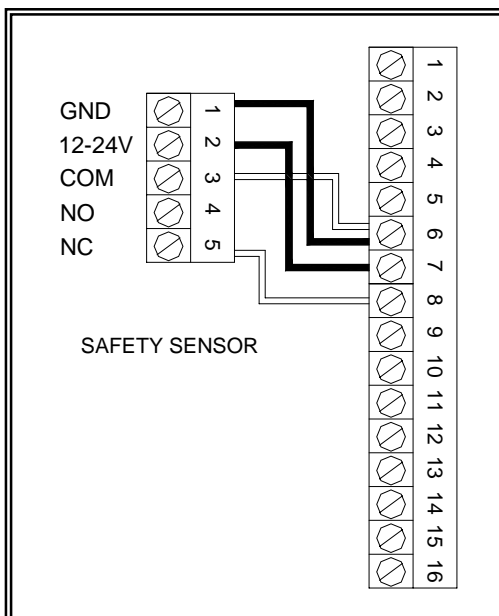
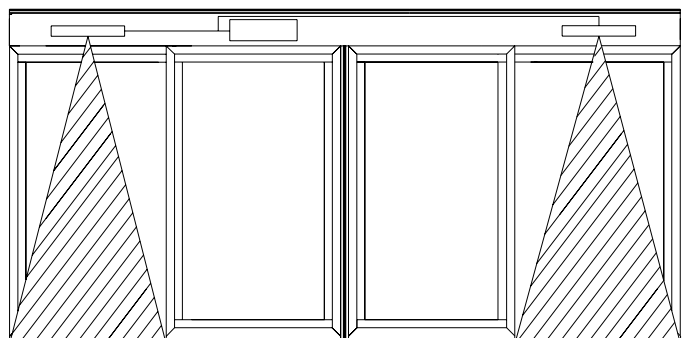


Diagram 6

- This prevents pedestrians from being trapped by the leaves during the opening manoeuvre. The opening process is stopped if any obstacle is detected in the leaf opening path. The cover section is centred above the fixed leaf.

Important: If any obstruction is detected in the sensor detection area, the door will not open.



5.4.3 RESET BUTTON

This is used if the Selector is not installed. Its purpose is to activate the reset manoeuvre, in order for the motor unit to start up.

If the Selector has not been installed, the door can only perform the Two-way Automatic manoeuvre directly; it cannot perform any other manoeuvres such as Doors Open, Doors Closed, Exit Only, etc.

In such cases it is recommendable to fit a reset button, on one of the side covers for example, for cases in which the door parameters need to be reset.

5.4.4 REMOTE CONTROL

This accessory consists of a 433MHz four-channel transmitter and a plug-in receiver connected directly to the panel.

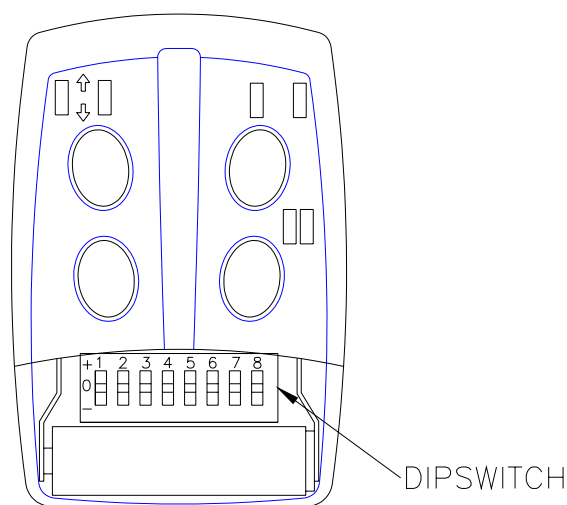
The remote control has two operating modes:

- 1.- Reduced selector, enabling the three operating modes: “Door open”, “Door closed” and “Automatic”. These three modes are shown above each of the buttons.
- 2.- Press to open door: when the button on the remote control is pressed the door will open.

Programming the transmitter

The process for programming the transmitter and receiver is as follows:

- 1.- Select a code from any of those available by turning the 8 transmitter dipperswitches to the desired position (see figure).
- 2.- Press and hold down one of the transmitter buttons.
- 3.- Then press the receiver button, with the receiver already inserted in the panel. Hold it down until the receiver LED flashes three times. The transmitter code will then have been recorded and the receiver and transmitter buttons can be released.



5.4.5 EMERGENCY/FIRE PREVENTION FUNCTION

Terminals 10 and 6 are used for the emergency input.

This input is a safety system and therefore has preference over all the other inputs. It is normally connected to the fire alarm in the building.

There are 2 emergency functioning options: the door either opens or closes. There is also a 2 input signal type option.

Operating mode

1.-This is entered from the function "--++"(FunC) "3" (AI-0)

- (AI-0): When the signal is received, the door goes into total opening position and remains in this position while the emergency signal remains activated.
- (AI-1): The door only obeys the photocell, not the radars, and goes into closed position. When the door is closed it stays in this position while the emergency signal remains activated.

Signal

There are two types of emergency signal: continuous and single.

2.- From functions "--++" (FunC) "6" (LA-0)

- (LA-0): Continuous signal. While this signal remains activated, the door will work in emergency mode. When the signal disappears it will return to its previous working mode.
- (LA-1): Single signal. When one single signal occurs, the door will go into emergency mode and remain in this mode. For the door to return to normal functioning it needs to be reset from the panel.

When the emergency signal occurs, (Err6) will appear on the display.

Power outage emergency

If there is an electricity cut and the emergency signal occurs, the battery-powered panic mode has priority for emergency functioning. The reaction to an emergency signal will therefore be the same whether power is reaching the unit or not.

If there is a power outage before the emergency signal occurs, if the door is open on "Err-5" it will remain in this position (in the case of "Err6") but with the emergency warning on the display.

6. START-UP

Once the automatism and the selector have been installed, the door is to be connected to the mains as follows:

1.- Connect all peripheral elements (sensors, photo beams, selector, etc.) to the panel.

2.- Open the cover and plug the mains connector into the supply source unit. Press the bipolar switch activating the power supply and the batteries. The reset or start operation will begin automatically. Close the cover while the door carries out the operation.

The reset operation will be performed when the door is started up for the first time.

Its purpose is to measure the length of travel of the of the door leaves, set the initial values for all the parameters and start up the counters. The operation consists of one opening cycle until the end of travel limit stop is reached, followed by a closing cycle until the two leaves make contact. During this cycle the panel takes the above measurements and is then ready to begin its normal functioning.

3.- When the reset operation ends, the door will go to “door closed” status. From this position the door can be commanded from the selector.

If the selector has not been installed, it will go directly to “two-way automatic” status.

To regulate it, send the door to “door open” mode, which is the normal working mode. By default, the panel will select a determined displacement curve depending on the conditions calculated on reset, and in principle it will therefore not be necessary to change the parameters. However there is the option of varying the initial parameters and using any others you consider the most suitable for each installation. To do this, see point 6, “Parameter adjustment using the selector”.

4.- When the functioning has been regulated as the customer wishes, the working mode of the door can then be chosen on the selector.

6.1 WORKING MODES


The door can work in any of the different operating modes or statuses shown below. Seven working modes are possible:

1.- Door open  (P – A b)

The door opens and remains in its maximum open position.

2.- Door closed  (P – C E)

The door closes and remains in closed position until the mode is changed. If the electric lock is installed, the door closes and is blocked so that no-one can enter.

3.- Two-way automatic  (A U – b)

This is the most common working mode. It allows the door to travel in both directions and all the detection devices are enabled. The door remains closed until any of the devices are activated. When this occurs, the door opens and after remaining open for a short wait time (adjustable), it closes again until a new detection occurs.

4.- Partial automatic  (A U – P)

The functioning in this case is the same as for two-way automatic mode, with the difference that the leaves do not go to maximum open position but instead open partially. This opening is user-adjustable (see point 6).

5.- Partial door open  (P – A b)

There is no separate button for this mode. It uses the same button as door open, and it functions in the same way, the difference being that the door stops at partially open position.

This mode only functions when the door has previously been in “partial automatic” mode. If you wish to return to “door open (total)”, press “two-way automatic” first.

















6.- Exit only  (S – S A)

The door only functions in exit direction. In exit direction it works in “two-way automatic” mode, and in entry direction in “door closed” mode.

7. PARAMETER ADJUSTMENT USING THE SELECTOR

Always start at “door open” working mode when adjusting the parameters. Adjustments cannot be made from any other mode.

There are 4 adjustable parameters:

   	FUNCTIONS (FunC)		STANDARD
   	MAIN PARAMETERS (PArA)		ADJUSTMENTS
   	OPENING ADJUSTMENTS (PAAP)		SPECIAL ADJUSTMENTS
   	CLOSING ADJUSTMENTS (PAcL)		(For installers)

List of parameters

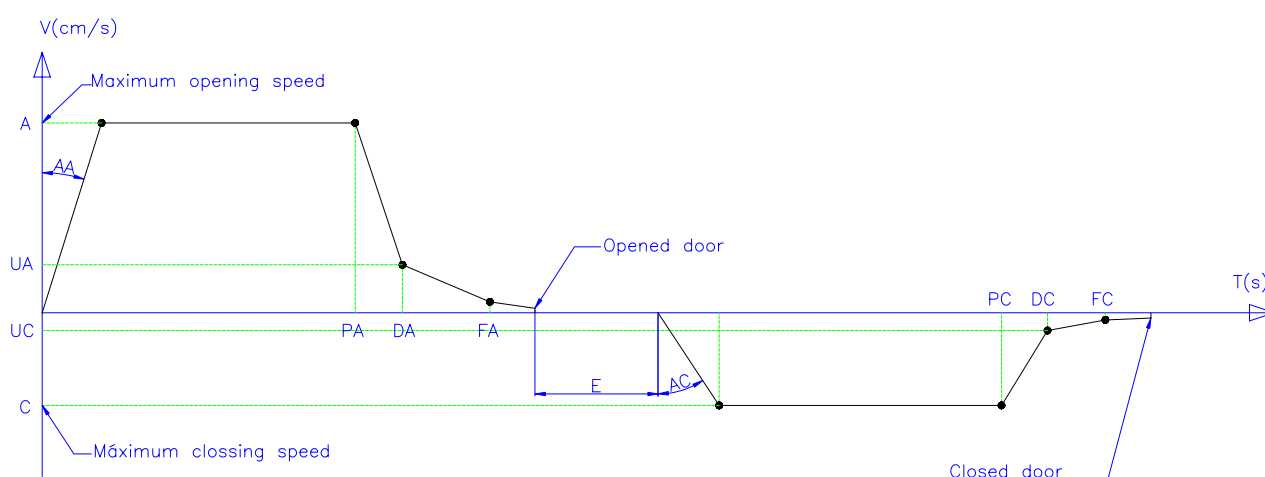
To enter the programming mode, press the “+” and “-” buttons on the selector in accordance with the 4-button sequences shown below. The results are as follows:

- - + + (FUnc)	* “4” (bA-0) → Battery functioning (0): panic mode (1): autonomous mode
	* “2” (rC-0) → Delayed closing (0): off (1): on
	* “3” (AI-0) → Emergency operation (0): Door open (1): Door closed
	* “6” (LA-0) → Emergency signal type (0): Continuous signal (1): Single signal
	* “5” (-n-0) → Transmitter configuration (0): as selector (1): Press to open

- - + - (PArA)	* “4” (A-55) → Maximum opening speed
	* “5” (E-03) → Opening wait time
	* “6” (C-30) → Maximum closing speed
	* “2” (P-50) → Partial opening percentage
	* “3” (b-15) → Closing delay time

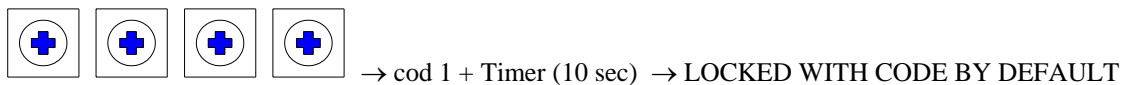
+ + - +(PAAP) * “4” (AA.8) → Closing acceleration ramp
 * “5” (PA.65) → Closing deceleration point
 * “6” (DA.85) → Opening deceleration ramp
 * “1” (FA.02) → Final opening speed
 * “2” (UA.04) → Minimum opening deceleration speed
 * “3” (SA.04) → Opening sensitivity

+ + - - (PACL) * “4” (AC.10) → Closing acceleration ramp
 * “5” (PC.65) → Closing deceleration point
 * “6” (DC.85) → Closing deceleration ramp
 * “1” (FC.02) → Final closing speed
 * “2” (UC.03) → Minimum closing deceleration speed
 * “3” (SC.04) → Closing sensitivity



– SPEED CURVE –

Keypad lock



Cod 2 (appears on display
when a new code is
keyed in, e.g. “3458”)



COdE (key in the new code
again to record)

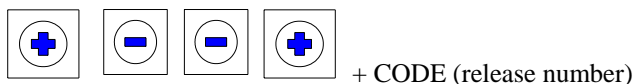
If “+” is pressed 4 times, after 10 seconds it will be locked and the corresponding working mode will appear on the display with dots beneath each digit “P.-.A.b.”
The code must be a number between “1111” and “9998”.

Release

Key in the code previously set from any working mode. When it is keyed in, the dots will disappear from the display and the selector will be activated.

Return to initial parameters

After adjusting the displacement curves, in some cases you may consider the curve calculated by the microprocessor on the first reset to be better. In this case you have the option of returning to the initial curves.



A reset operation will then begin and the parameters will return to the initial curves.

7. ANNEXES

7.1 MAINTENANCE

The automatic door installations need regular maintenance. The frequency of this maintenance will depend on weather conditions and the amount of traffic.

- 1.-Remove any dust and dirt from the mechanism. Dirt in the running track should be removed with methylated spirit.
- 2.-No parts need oiling. The notched belt must be kept clean and dry.
- 3.-Check that all the nuts and bolts are correctly tightened.
- 4.-If necessary, adjust the speeds of the sliding leaves and the time the door remains open, and make sure the position of the moving leaves is in accordance with the regulations and requirements in force.

7.2 GUARANTEE

ERREKA Automatic Doors would remind you that once the installation is complete, they have no liability for any possible damages caused by an installation failing to comply with this Installation Manual.