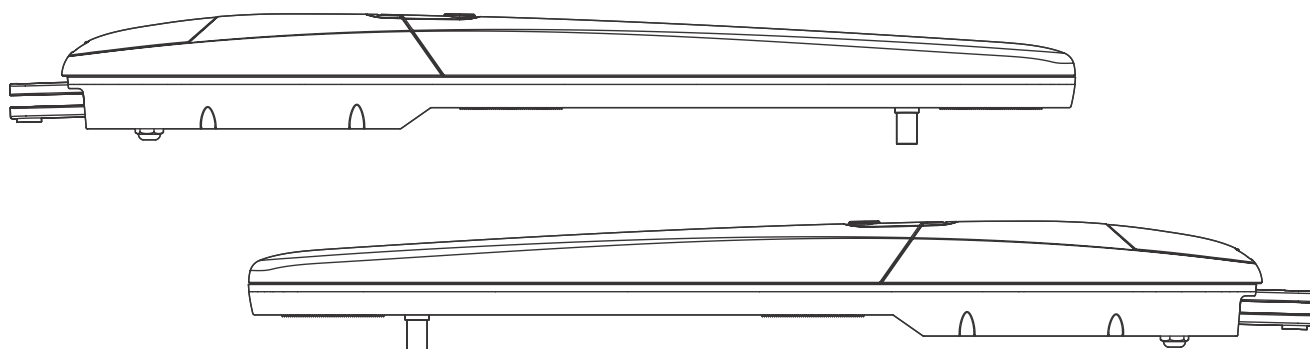




Proteous Series

APC-STAR6 & STAR12

SUPER DUTY STAR6 24V System Gate Automation Actuator Installation Manual

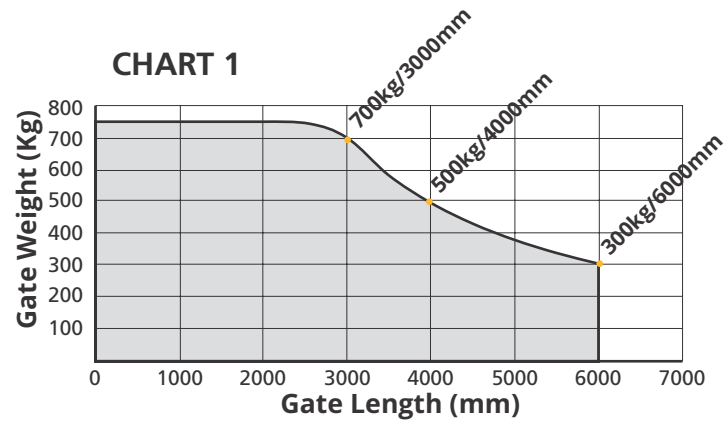


Attention Installer

The manual should be read cover to cover at least once prior to beginning installation

Specifications

	APC-STARK6	APC-STARK12 (2x APC-PS-3000)
Max gate length	6m	12m Total (2x6m)
Max gate weight	750kg	1500kg Total (750kg x2)
Motor Power Supply	24V DC	24V DC
Peak Thrust	2400N	2400N
Operation Stroke	540 mm	540 mm
Duty Cycle	80%	80%
Protection grade (IP)/ Protection class	IP 44	IP 44
Working temperature/ Operating temperature	-20~+55	-20~+55
Full load current	7A	7A
Absorbed power (W)	120W	120W
Manual release	key	key



The above specifications are based on perfect free flowing installations on non-cladded or covered gate using ball bearing hinges.
*Larger sized gates may require an electric lock

Preliminary Checks

To ensure safety and an efficient automation make sure the following requirements are met:

1. The gate structure must be suitable for automation.
2. Make sure that the gate leaves move properly and uniformly without any irregular friction during their entire travel.
3. The gates hinges must be in good condition with no biting, no rust and must be well greased.
4. The gates should be able to be freely opened and closed before installing the gates automation system.
5. It is strongly suggested to have a gate stop installed for the closed position.

Important Safety Information

Installer and owners should observe the following:

1. Make sure that there is sufficient space for the gate(s) to swing open fully to the desired opening angle.
2. The control Panel Box must be installed in the area within 9 meters maximum cable distance from motor and cannot be damaged.
3. Do not change with parts or components not supplied by the manufacturer, this includes sensors, buttons, solar panels, transformers and any component not listed in the compatibility list.
4. Make sure all wiring works are correct and in good condition before connecting the battery, solar panel or transformer to the control panel.
5. Turn off the power and disconnect the battery when doing any maintenance.
6. Ensure the control panel box is free from water leakage to avoid short circuiting of the control panel.
7. Do not supply mains power directly to the motor, control box or any accessories.
8. Do not install the operating system if in doubt. Contact the manufacturer.
9. Do not cross the gate while it is operating, Safety sensors are only to prevent accidents or injuries.
10. Keep the remote controls in safe place and away from children.

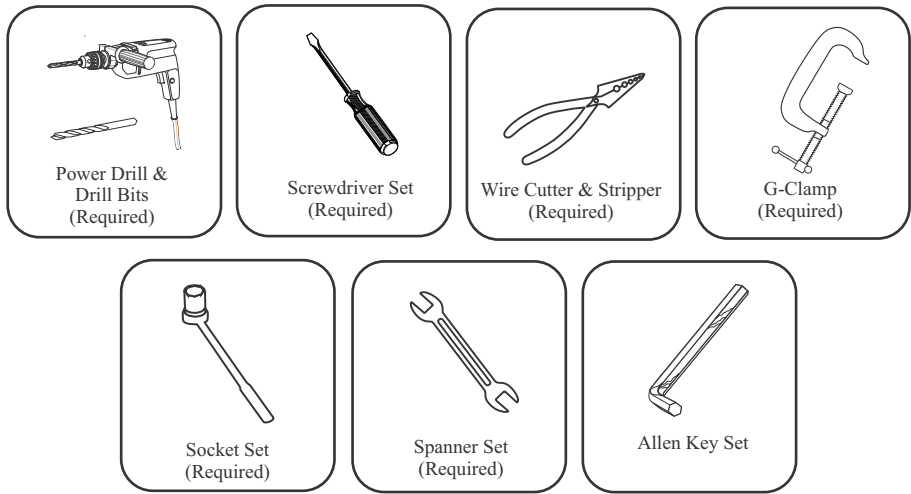
Before beginning installation the manual should be read thoroughly concerning all aspects of the installation including all precautions and safety information.

Proper steps should be taken to ensure efficient and safe installation for vehicles, property and persons within the operators working radius.

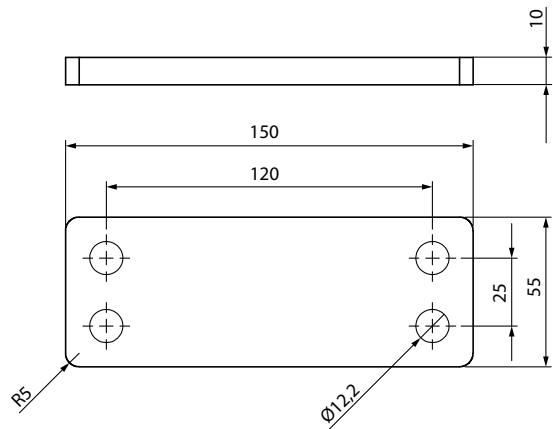
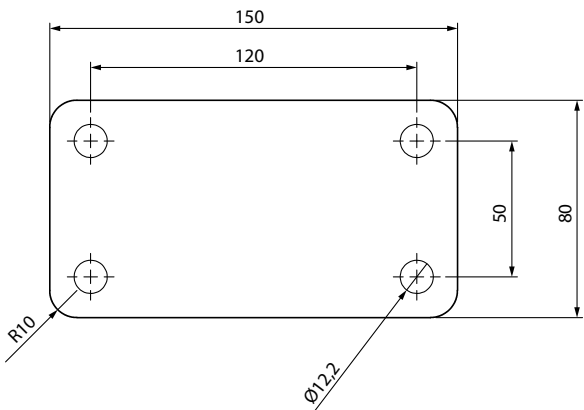
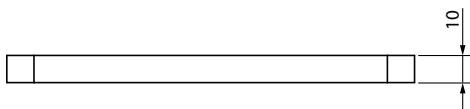
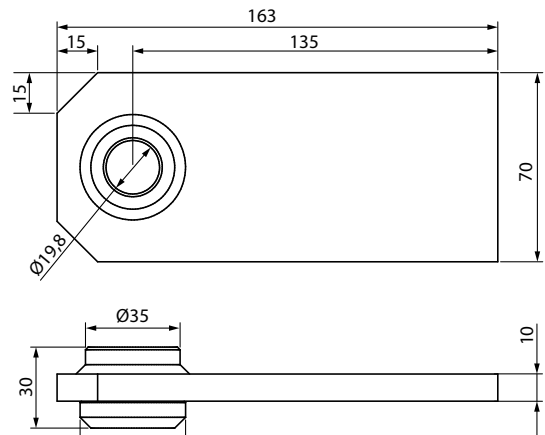
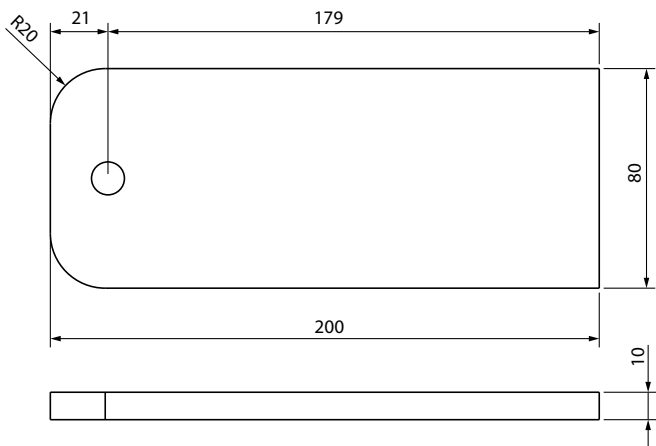
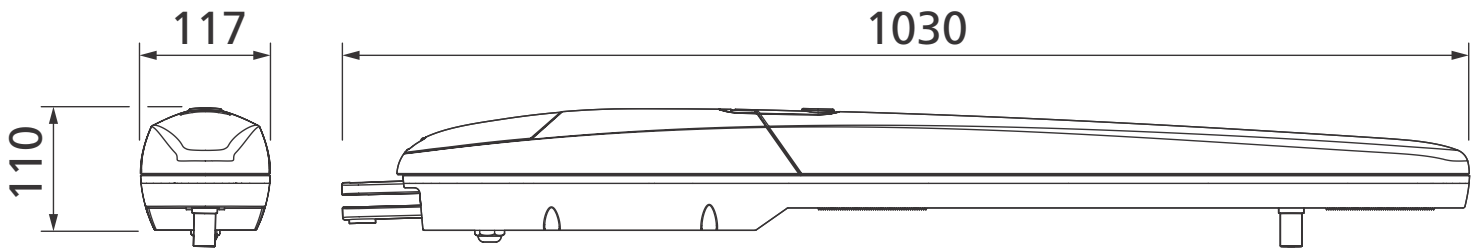
The system is fitted with an over current sensing feature to assist in preventing damages, injuries and death. All precautions must be taken by the installer that adjustments are set correct based on the gates weight, height and length. The system sensitivity should be set to allow consistent operation of the gates under normal operating conditions. This does not include operating against wind. The system may not detect (Over current sense) against light loads such as small object, young children and animals. It is the operators duty to ensure that the area is clear prior to operation. Photo sensors or Reflective sensors should always be installed to assist in accident or death prevention. Rubber edging should be installed onto the gates to assist in dampening any accidents or damages.

You agree to install this product following any and all safety requirements listed in this manual or required under local, state or national regulations. APC Australia, its distributors, stockist or sellers are not liable for any direct, indirect, incidental, special or consequential damages or loss of profit wether based in contract or any other legal theory during the course of warranty or afterwards. If you do not feel capable of properly installing the operator based on the above information or otherwise do not proceed.

Tools Required



Motor and Brackets Dimensions



Clutch Override

In case of an emergency or requirements during installation the gate can be moved open and close by hand operation if the clutch is disengaged. To disengage the clutch follow the procedure below.

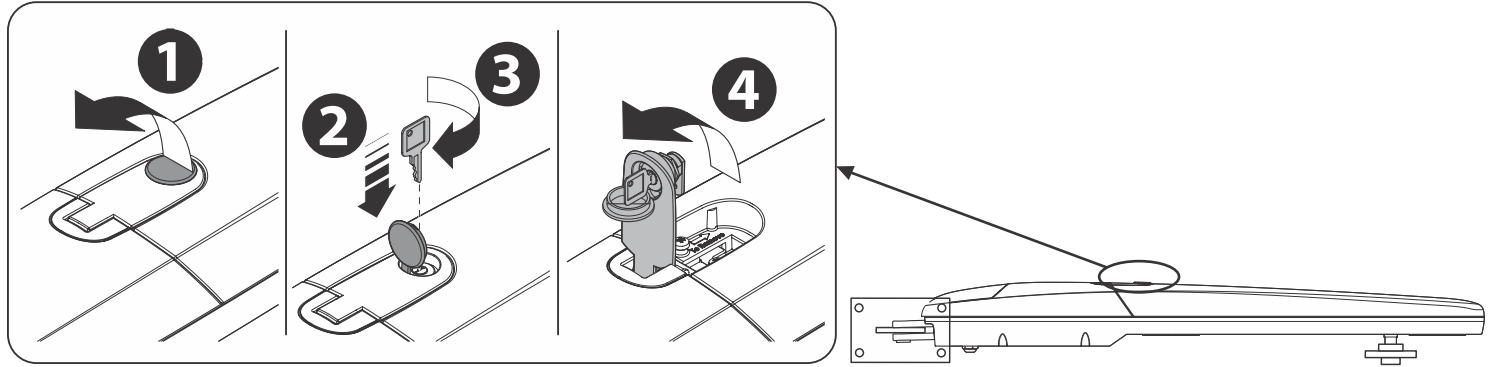
To Disengage

1. Insert the Key and Turn Clockwise
2. Pull the override lever up using the key.

To Engage

1. Push the override lever down.
2. Turn the Key Counter-Clockwise and remove key.

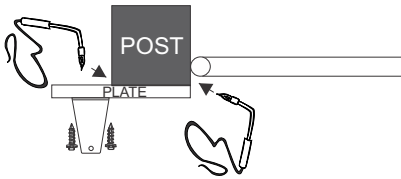
Release the gearmotor as shown below



Post installation methods

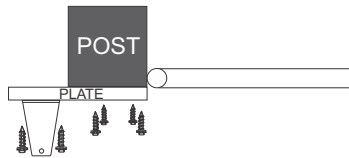
Small Square Post

Welding equipment accessible
Tek Screw Fixing (Not Included)
Using 200x100mm Plate (Not Included)



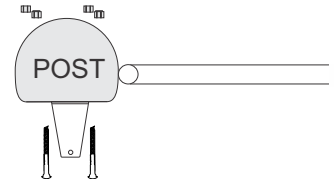
Small Square Post

Welding equipment not accessible
Tek Screw Fixing (Not Included)
Using 200x100mm Plate (Not Included)



Round Post

Cut to allow square fixing
Coach Bolt Fixing (Not Included)
200x100mm Plate may be required (Not Included)



Gate Stop Installation

For Single gate systems the gate stop can be installed in two different methods.

1. On the driveway itself at the furthest point from the hinge as illustrated in the diagram below (Fig A).
2. On the post that the gate will close too (Fig B).

For Double gate systems the gate stop must be installed in the center of the driveway stopping both gates (Fig C).

Alternatively the stoppers built into the motor can be used after the unit is installed, see installation steps.

When installing on the driveway itself it is recommended to use a rubber floor stop to prevent damage to vehicle entering and exiting.

When installing on the post for single gate installations a 90° opening angle can be used with a rubber padding to dampen or soften the close and prevent damage to the gate.

Single Gate Installation

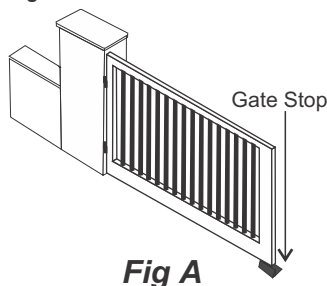


Fig A

Single Gate Installation

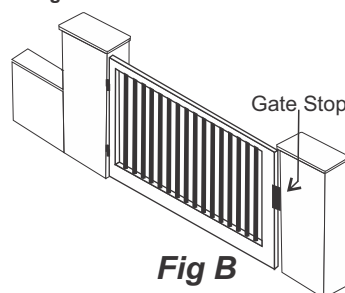


Fig B

Double Gate Installation

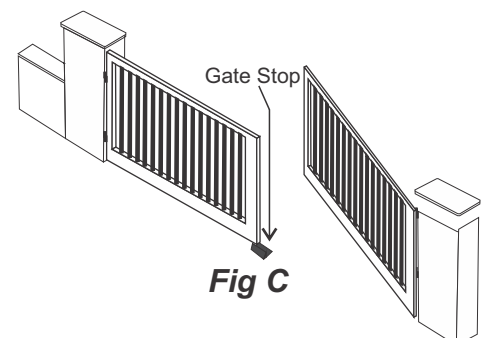


Fig C

UNDER NO CIRCUMSTANCES SHOULD THE EXPANDED STROKE OF THE MOTOR BE USED AS A LIMIT

FIG.2

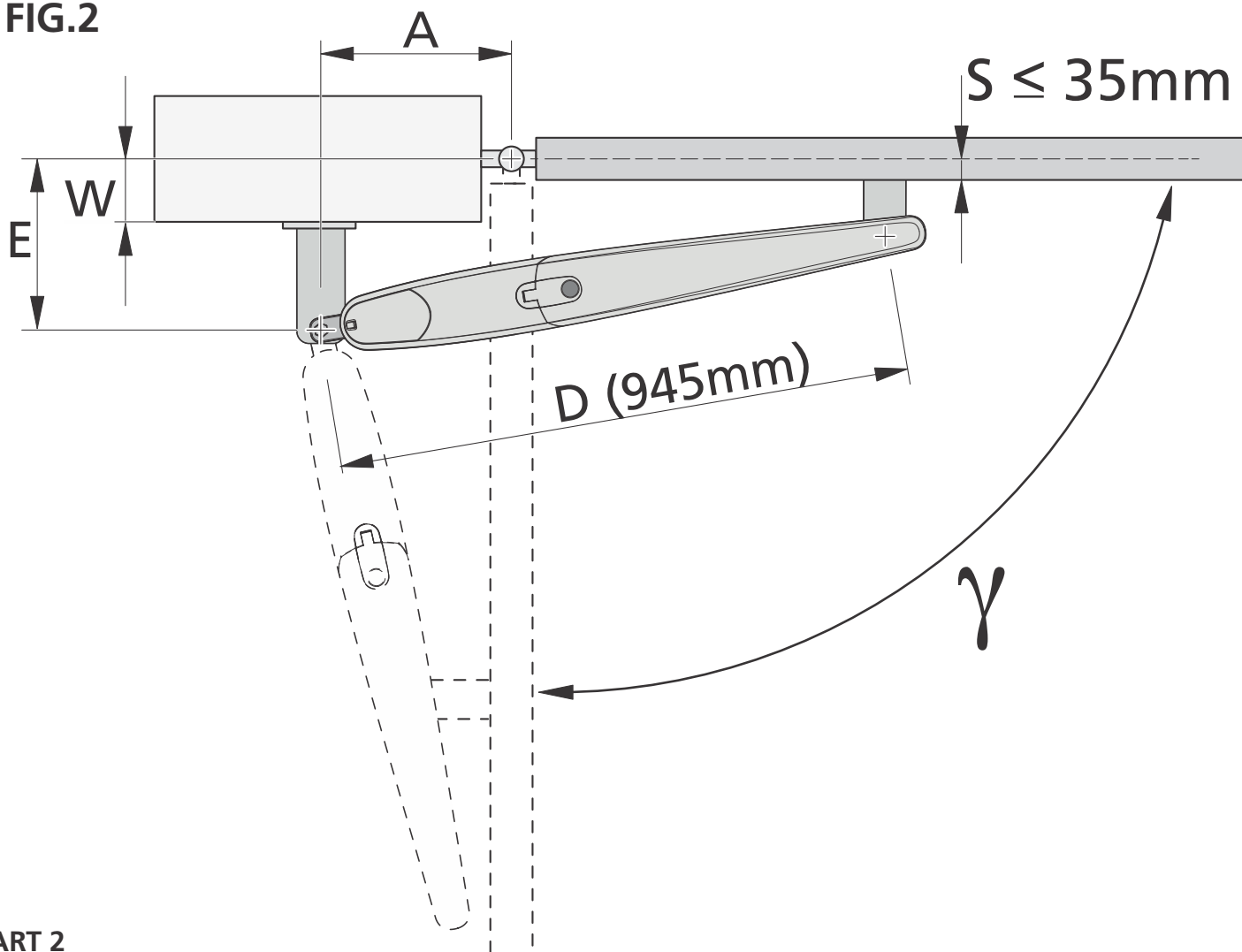


CHART 2

γ	W [mm]	E [mm]	A [mm]	γ	W [mm]	E [mm]	A [mm]
90°	20	200	if $S \geq 20$ $A = 80 + (S - 20)$ if $S = 0$ $A = 80$	100°	20	200	$A = 120 + S$
	30	210			30	210	
	40	220			40	220	
	50	230			50	230	
	60	240			60	240	
	70	250			70	250	
	80	260			80	260	
	90	270			90	270	
	100	280			100	280	
	110	290			110	290	
	120	300			120	300	
	130	310			130	310	
	140	320			140	320	
	150	330			150	330	
	160	340			160	340	
	170	350			170	350	
180	360	180	360				
190	370	190	370				
200	380	200	380	110°	20	200	$A = 155 + S$
					30	210	
					40	220	
					50	230	
					60	240	

INSTALLATION OF THE REAR FIXING BRACKET

Calculate the rear bracket position using **CHART 2**. This chart is used to define distances **A** and **E** and the maximum opening angle of the gate leaf.

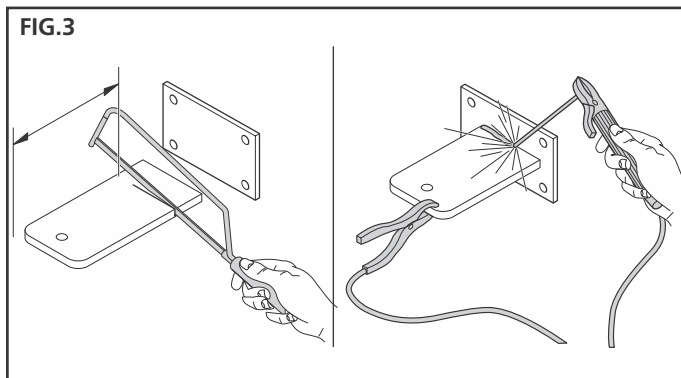
Important - Distances A and E must be similar, to ensure a linear automation movement.

We suggest that the values inside the recommended installation area are used; only consider the maximum installation area if staying within the recommended values is not possible.

1. Measure value **E**, and then trace a straight horizontal line by that value.
2. Select a point in the line, taking into account the desired opening angle, suitable for the column. Trace a straight vertical line starting from the identified point, and obtain value **A**.
3. Before proceeding with the installation, make sure that value **A** allows to fix the rear bracket, otherwise select another point on the chart.
4. Lastly, to fix the bracket move the piston to the limit of the stroke (see Fig. 2).

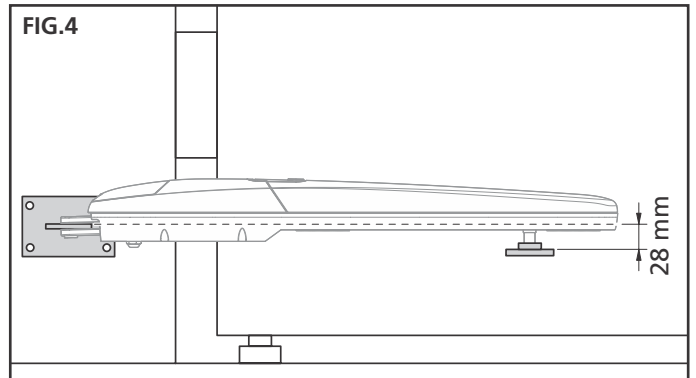
CAUTION: Failure to comply with the bracket installation distances may lead to automation operation faults, such as:

- **Cyclical movements and accelerations at some positions of the stroke.**
 - **Increased motor noise.**
 - **Limited opening, or no opening at all (in case of counter-lever fixed motor).**
5. Before it can be fixed to the wall, the bracket must be welded to the fastening plate (Fig. 3); the bracket may be cut to the desired length, adjusting distances **A** and **E** accordingly



NOTE - The bracket supplied with the gearmotor is 180 mm long

WARNING! – Before fixing the rear bracket, make sure that the front bracket will be fixed to a solid position of the gate leaf; the front bracket will have to be secured at a different height than the rear bracket (Fig. 4).



6. Fix the bracket in place using suitable plugs, screws and washers (not supplied)

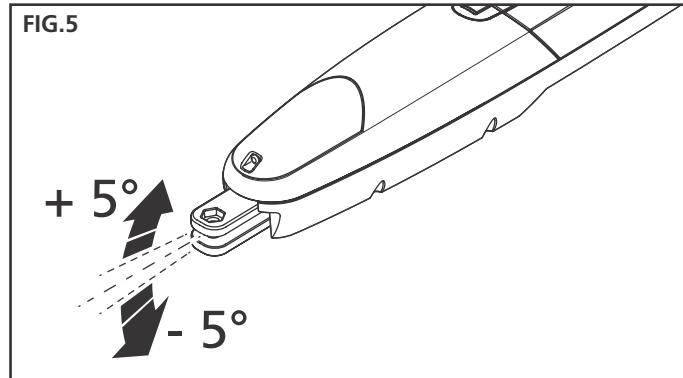
INSTALLATION OF THE FRONT FIXING BRACKET

1. For the installation of the front bracket to the gate leaf, refer to distance **D** (fig. 2).
2. Define the front bracket installation height in accordance with fig. 4.
3. Fix the bracket to the solid section of the gate leaf.

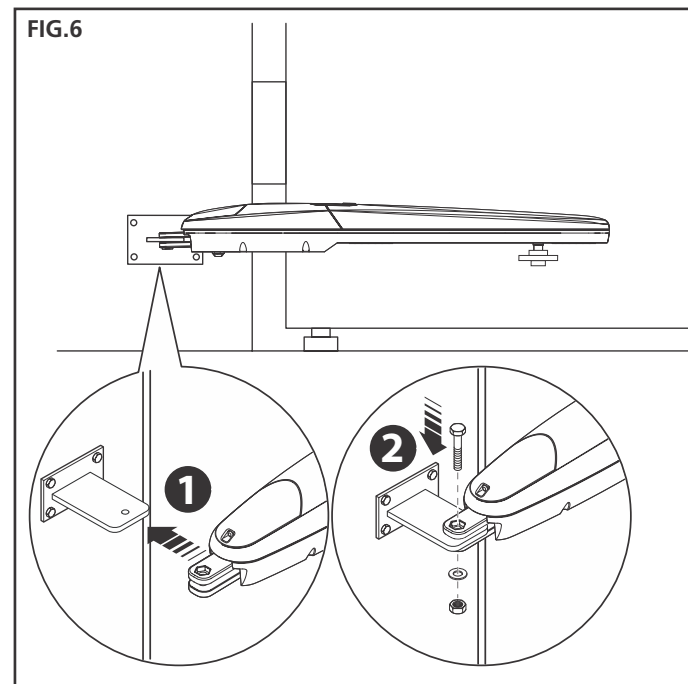
SECURING THE GEARMOTOR TO THE FIXING BRACKETS

1. Secure the gearmotor to the rear bracket:

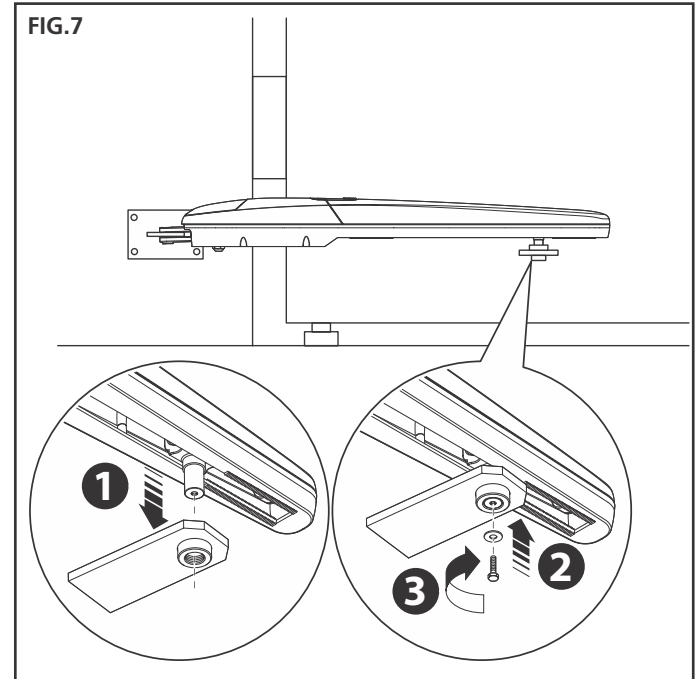
NOTE: if the rear bracket is not completely level, the back tilting section can help compensate for any axis misalignments between the two brackets (+/-5°).



2. Secure the gearmotor to the bracket as shown in fig. 6, using the screw, washer and nut supplied;
3. Fully tighten the nut and then loosen it again by approximately 1/10 of a turn, to allow a minimum clearance between the parts.

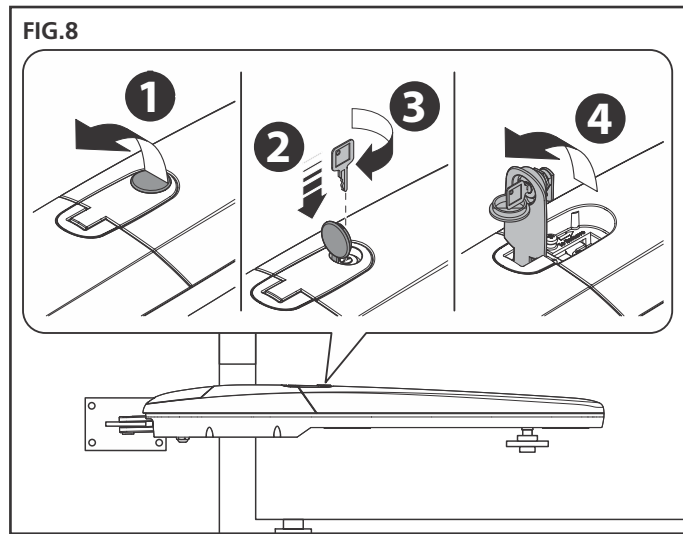


4. Secure the gearmotor to the front bracket.
5. Secure the gearmotor to the bracket as shown in fig. 7, using the screw and the washer supplied.
6. Fully tighten the screw.

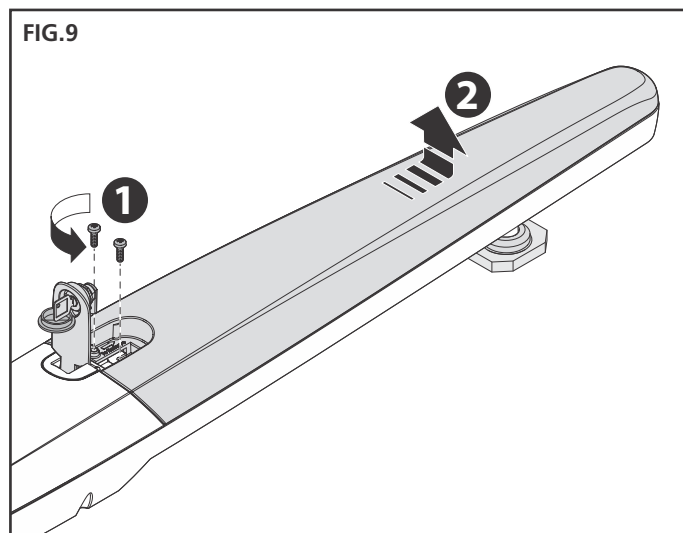


ADJUST THE END OF STROKES

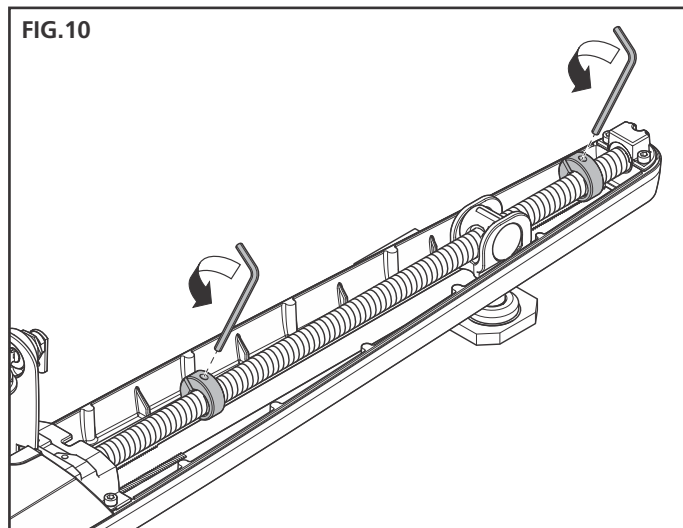
1. Release the gearmotor as shown in fig. 8.



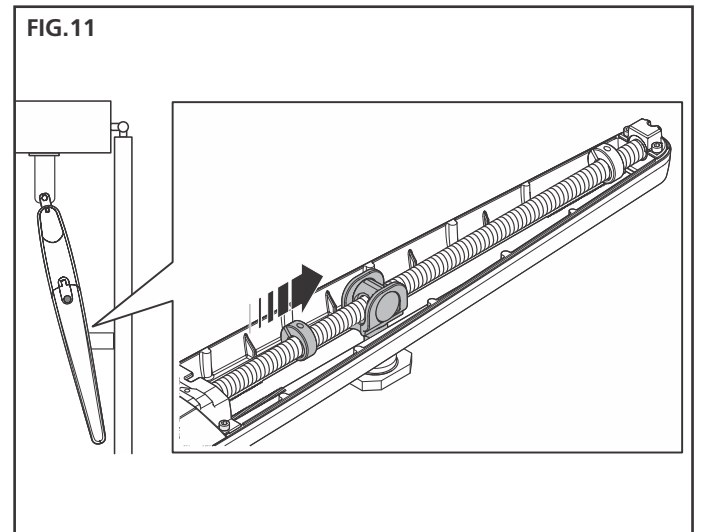
2. Remove the 2 screws underneath the handle and remove the cover as shown in fig. 9.



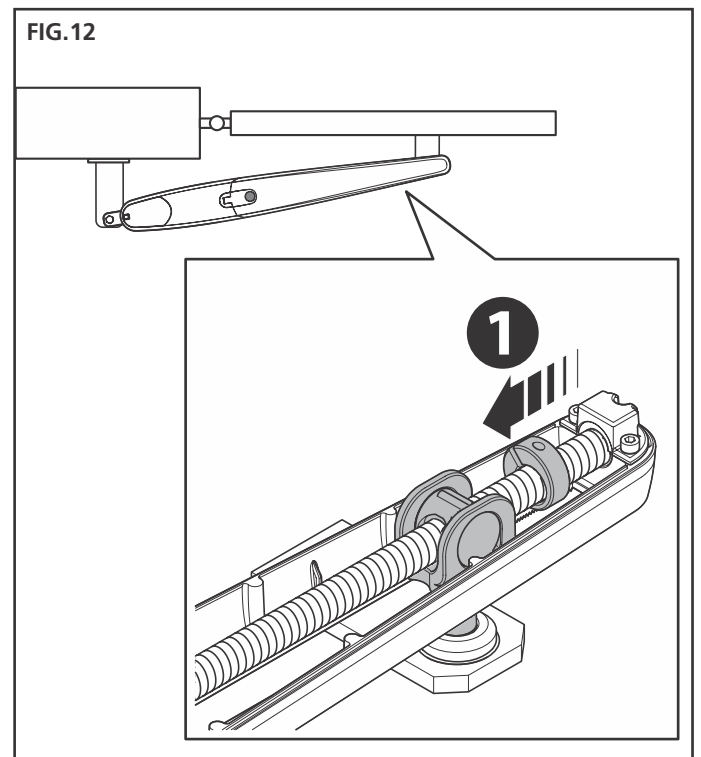
3. Manually move the gate leaf until the mechanical stop screw is visible; loosen the screw (fig. 10)



4. Manually move the gate leaf to the desired open position.
5. Move the mechanical stop against the pin and tighten the screw (fig. 11).



6. Now repeat the procedure by manually moving the gate leaf to the maximum closed position, to adjust the closing limit switch (fig. 12).



7. Replace the cover and tighten the two screws.
8. Lock the gearmotor..

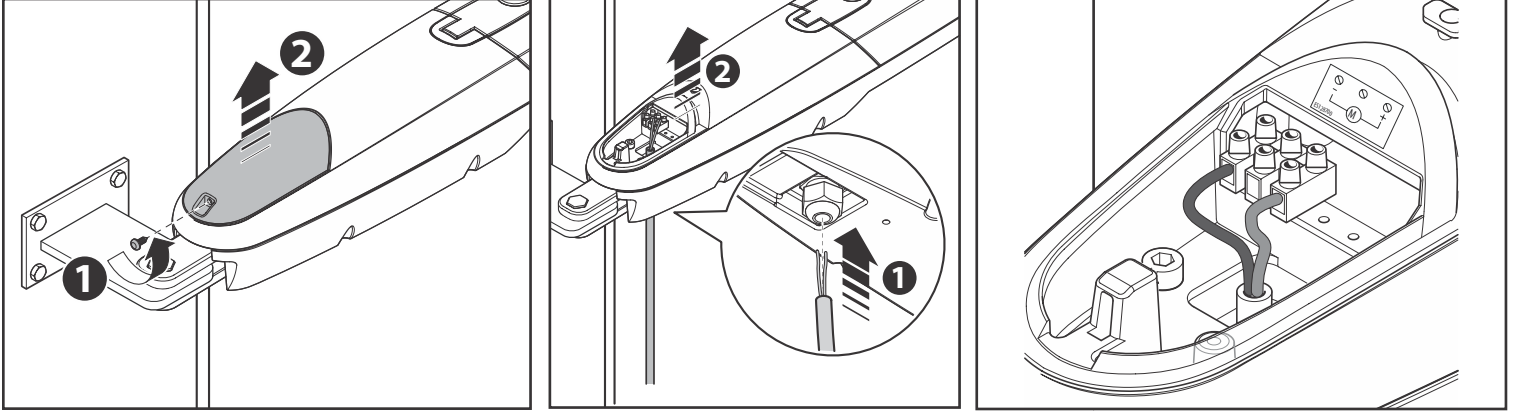
Wiring

CAUTION!

- A wrong connection can cause faults or danger; therefore follow scrupulously the connections set out.
- Perform the connection operations when the electricity is off.

To connect the gear motor to the control unit, proceed as follows:

1. Remove the lid of the gear motor as shown below
2. Loosen the cable way of the gear motor and insert the connecting cables inside it
3. Connect the various wires and grounding cable, exactly as shown in the below wiring diagram



4. Replace lid on gear motor.

Control Board Connection

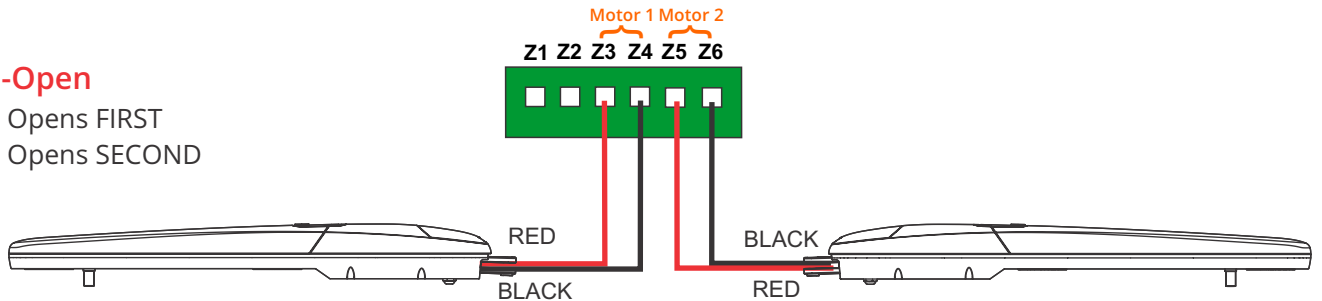
Pull-To-Open

Motor will be pulling the gate towards it for OPENING.

Gates (Left and Right) are based on observation of the gates from the same side the motors will be installed on.

Pull-To-Open

Motor 1 Opens FIRST
Motor 2 Opens SECOND



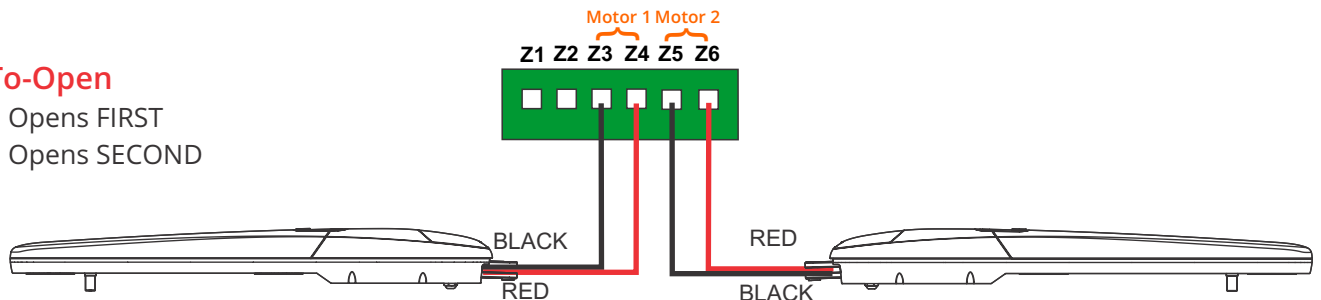
Push-To-Open

Motor will be pulling the gate towards it for CLOSING.

Gates (Left and Right) are based on observation of the gates from the same side the motors will be installed on.

Push-To-Open

Motor 1 Opens FIRST
Motor 2 Opens SECOND



Please follow the above motor connections then proceed to the control panel manual.



APC WARRANTY

APC warrants the original purchasers or the APC gate(s) opening system for a period of twelve months from the date of purchase (not installation), the product shall be free of defects in materials and workmanship under normal use.

During the warranty period, APC shall, as its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials.

Any replacement and/or repaired parts are warranted for the remainder of the original warranty,

The original owner must promptly notify APC in writing that there is defect in material or workmanship, such written notice must be received in all events prior to expiration of the warranty.

International Warranty

APC shall not be responsible for any freight fees, taxes or customs fees.

Warranty Procedure

To obtain service under this warranty, AND AFTER CONTACTING APC, please return the item(s) in question to the point of purchase.

All authorized distributors and dealers have a warranty program, anyone returning goods to APC must first obtain an authorization number. APC will not accept any shipment for which prior authorization has not been used.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- Damage incurred in shipping or handling
- Damage caused by disaster such as fire, flood, wind, earthquake or lightning
- Damage due to causes beyond the control of APC such as excessive voltage, mechanical shock or water damage
- Damage caused by unauthorized attachment, alterations, modifications, or foreign objects.
- Damage caused by peripherals (unless such peripherals were supplied by APC)
- Defects caused by failure to provide a suitable installation environment for the products
- Damage caused by usage of the products for purpose other than those for which it was designed.
- Damage from improper maintenance
- Damage arising out of any other abuse, mishandling, and improper application of the products.

Under no circumstances shall APC be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose). And of all other obligations or purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

Out of Warranty Repairs

APC will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to APC must first obtain an authorization number.

APC will not accept any shipment whatsoever for which prior authorization has not been obtained. Products which APC determines to be repairable will be repaired and returned. A set fee which APC has been predetermined and which may be revised from time to time will be charged for each unit repaired. Products which APC determines not repairable will be replaced by the nearest equivalent product available at that time. The current market price for the replacement product will be charged for each replacement unit.