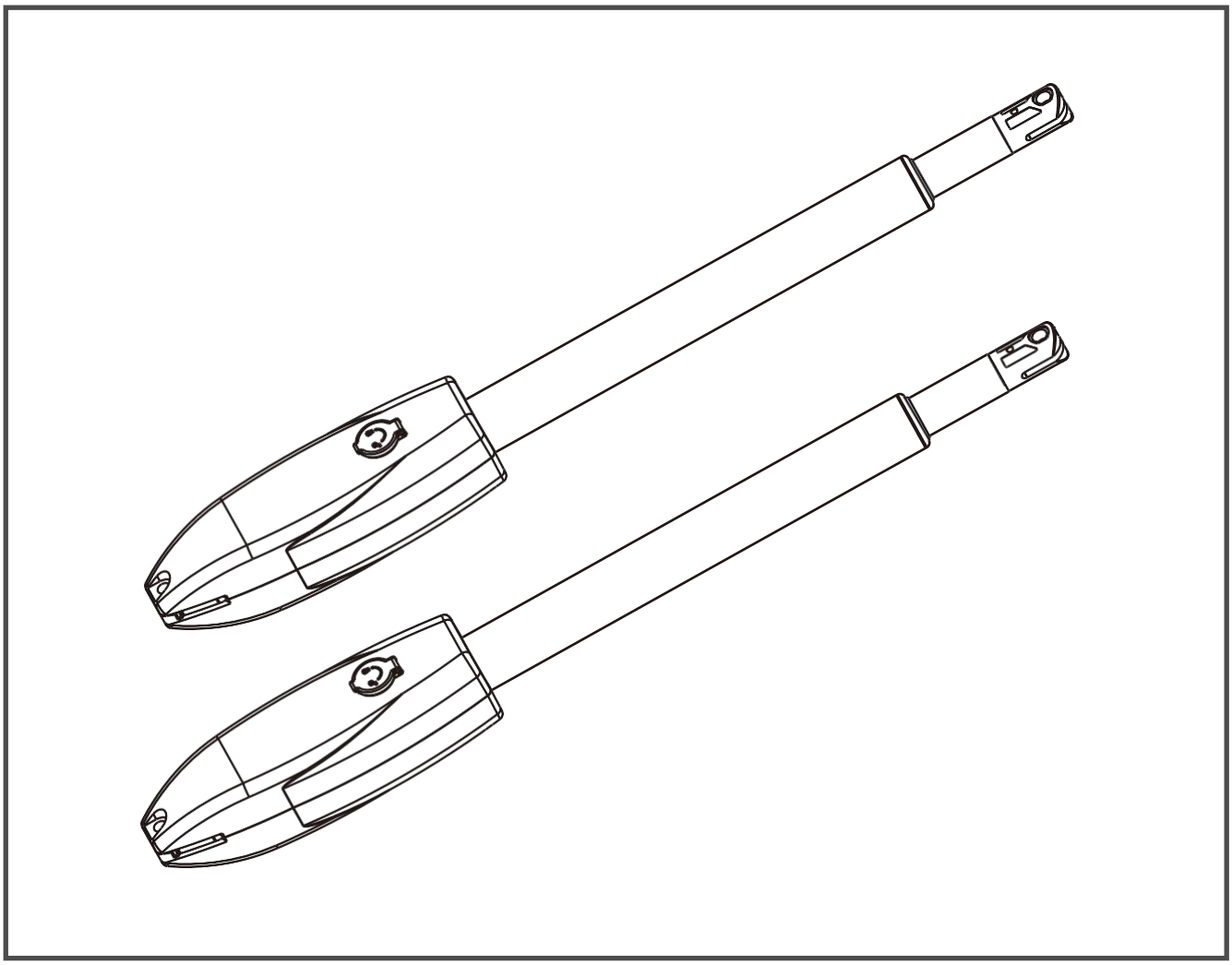
DC24V Heavy Duty Swing Gate Opener Manual



★ Thank you for purchasing this product

★ Please read and follow all warnings, precautions and instructions before installation and using

★ Periodic checks of the opener are required to ensure safe operation

★ Keep the manual for future reference

V3.2.1

Table of Contents

Safety Installation Information

1. READ and FOLLOW all instructions.

2. The gate opener is intended for use with class I vehicular swing gates.
   Class I denotes vehicular gate opener (or system) dwellings, or a garage or parking area associated therewith.

   Install the gate opener only when the opener is appropriate for the construction and the usage class of the gate.

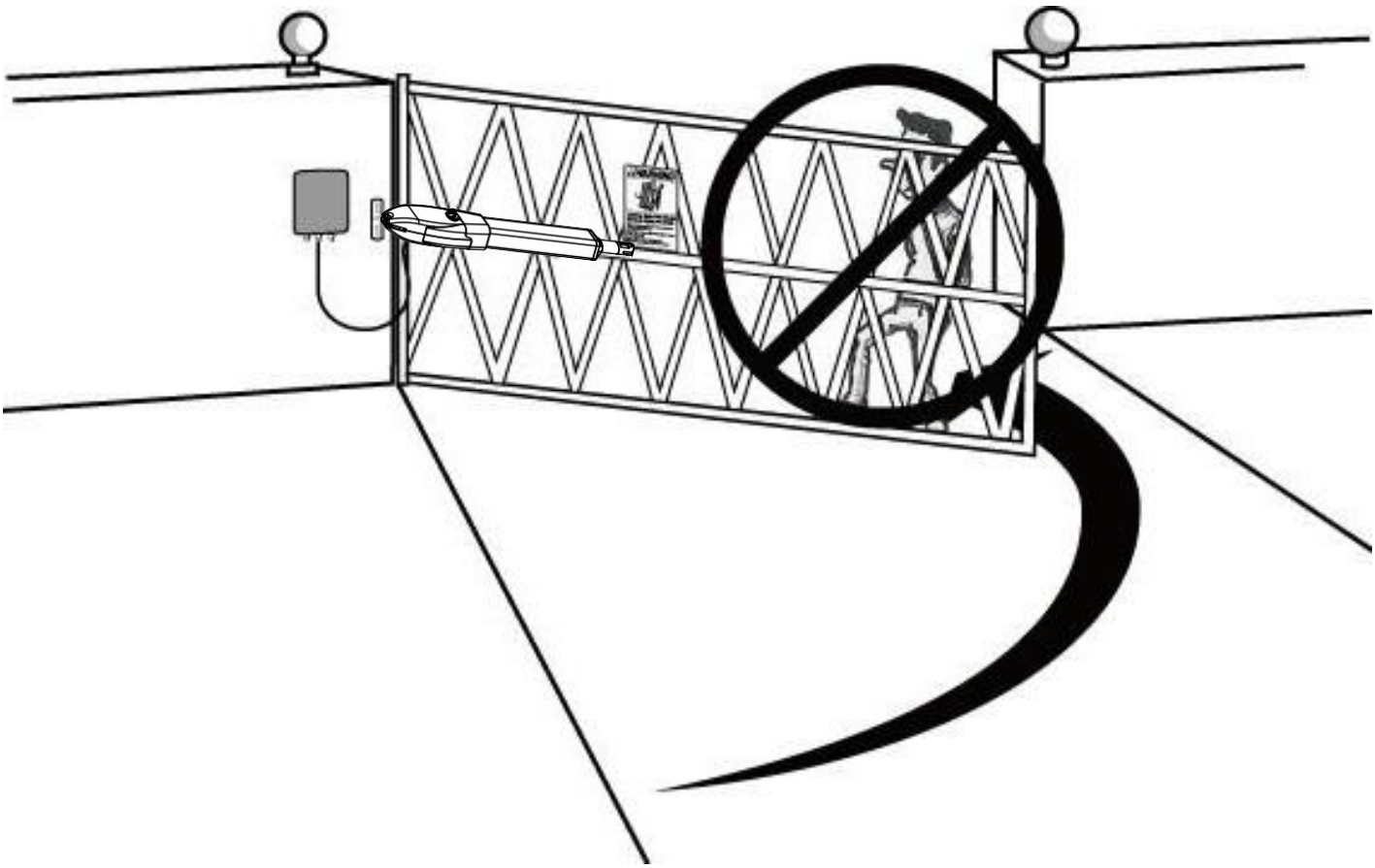
3. Gate opening system designers, installers and users must take into account the possible hazards associated with each individual application. Improperly designed, installed or maintained systems can create risks for the user as well as the bystander. Gate system design and installation must reduce public exposure to potential hazards. All exposed pinch points must be eliminated or guarded.

4. A gate opener can create high levels of force during normal operation. Therefore, safety features must be incorporated into every installation. Specific safety features include safety sensors.

5. The gate must be properly installed and work freely in both directions prior to the installation of the gate opener.

6. The gate must be installed in a location so that enough clearance is provided between the gate and adjacent structure when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.

7. The opener is intended for use only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. The pedestrian access shall be located such that persons will not come in contact with the moving vehicular gate.



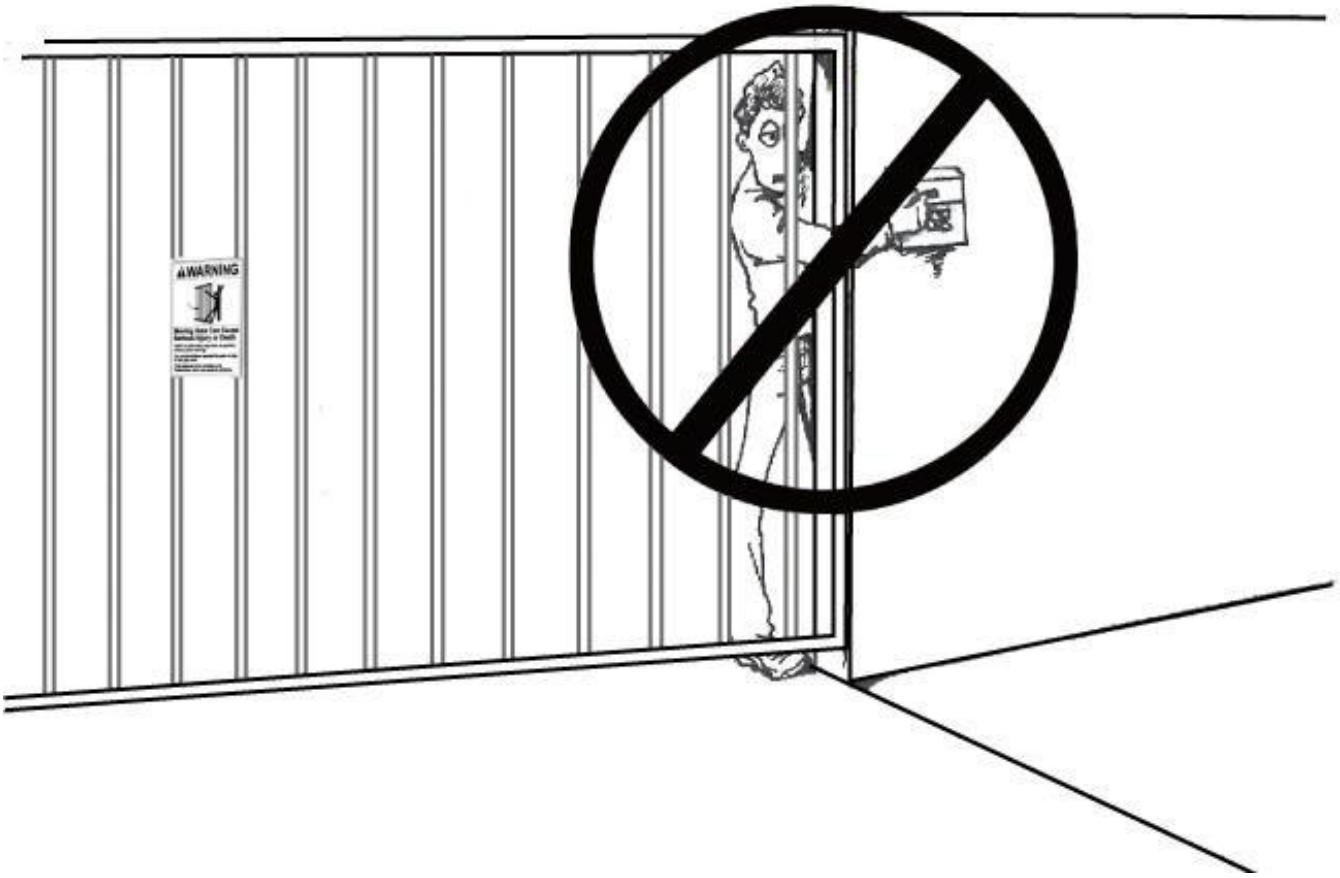
8. Pedestrians should never cross the pathway of a moving gate. The gate opener is not acceptable for use on any pedestrian gate. Pedestrians must be supplied with separate pedestrian access.

9. For an installation utilizing non-contact sensors, see the product manual on the placement of non-contact sensors (safety sensors) for each type of application.

a. Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the safety sensor while the gate is still moving.

b. One or more non-contact sensors (safety sensors) shall be located where the risk of entrapment of obstruction exists, such as the perimeter reachable by a moving gate or barrier.

10. Never mount any device that operates the gate opener where the user can reach over, under, around or through the gate to operate the controls. Controls are to be placed at least 6’ (1.8m) from any part of the moving gate.

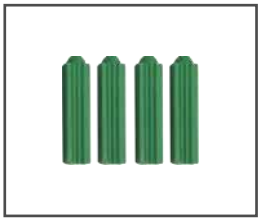


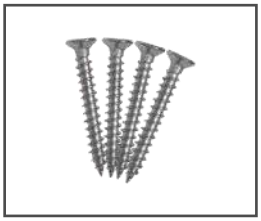
11. Controls intended to be used to reset an operator after 2 sequential activations of the entrapment protection device or devices must be located in the line of sight of the gate, or easily accessible controls shall have a security feature to prevent unauthorized use. Never allow anyone to hang pon or ride the gate during the entire travel of the gate.

Swing Gate Opener Part List

Gate Opener
2 pcs

Control box
1pc





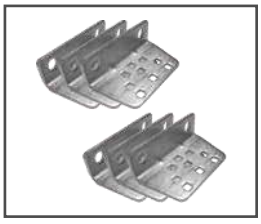
Control box Screws Pack

Rubber Stopper
1 pcs

Rubber stopper Screw
2 pcs

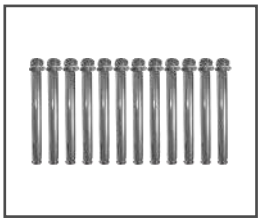
Remote Control
2 pcs

Manual Release Key
2 pcs



Post Bracket
6 pcs

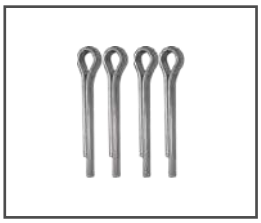
Post Pivot Bracket
2 pcs



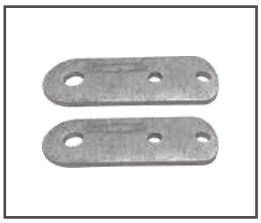
Bolt ①
12 pcs

Bolt ②
8 pcs

Clevis Pin
4 pcs



Hairpin Clip
4 pcs



Post Pivot Bracket
2 pcs

• Optional Accessories Parts List

Wireless Keypd

Photocell Sensor

Loop Detector

Flash Lamp

Electric lock

Swipe Card Keypad

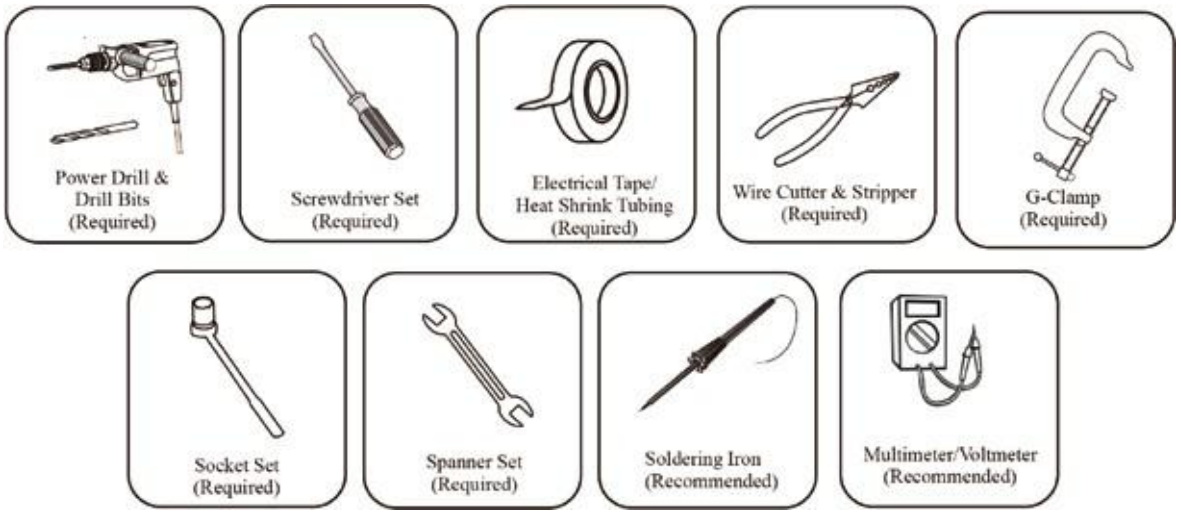
WiFi Controller

Solar Controller

Back Up Battery

Bluetooth Controller

• Tools Required



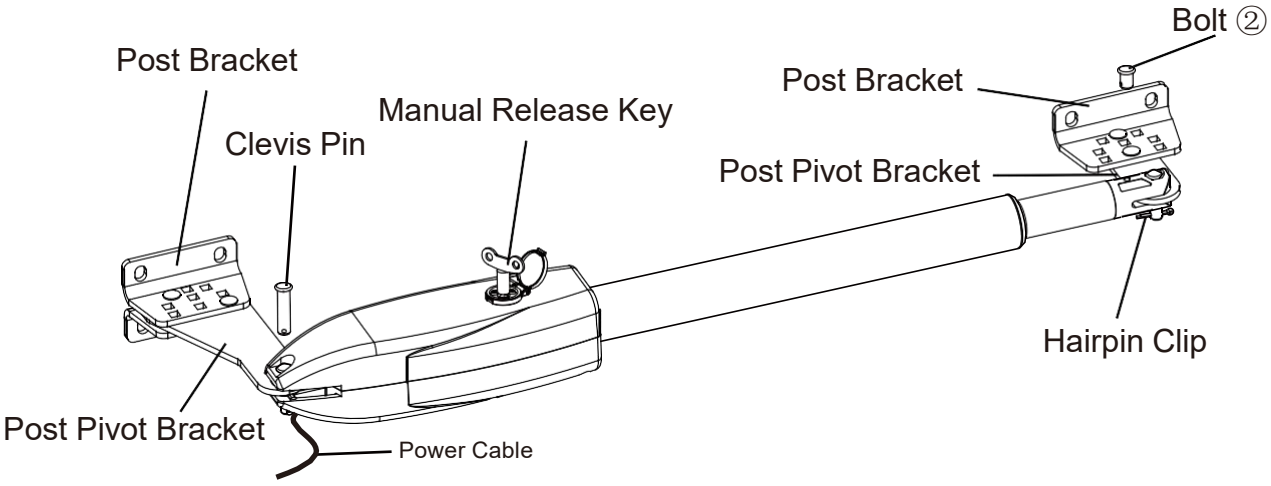
Technical Specification

Specifications	
Input power	AC 110V/220V ± 10%
Motor voltage	24V DC
Power	60W
Actuator speed	2.4 cm/s
Max. Actuator travel	400mm
Max single-leaf weight	350KGS
Max single-leaf length	3.8 meters
Ambient Temperature	-22°C ~ +55°C
Protection class	IP55
Max Gate Opening Angel	110°

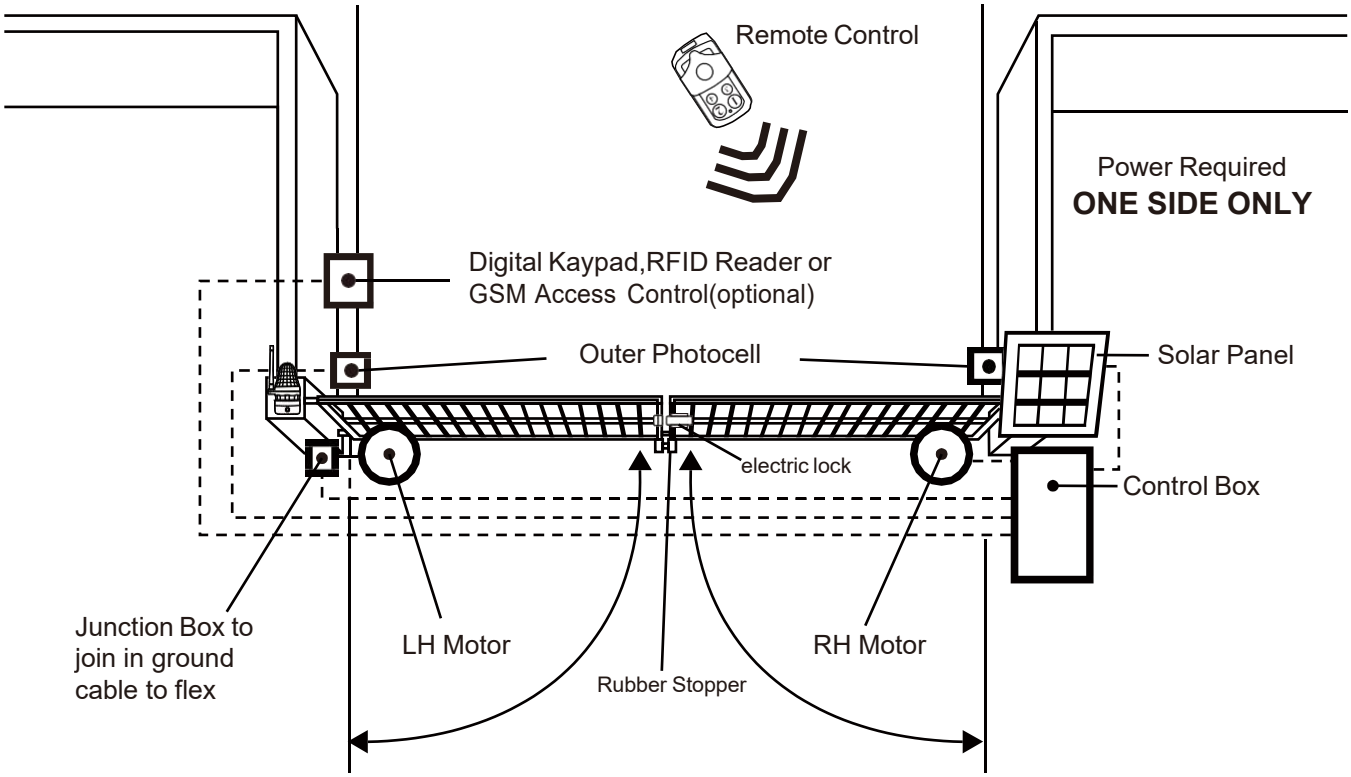
Gate Weight (per leaf)	350KG(660lbs)	✔	NR	NR	NR	NR
	300KG(660lbs)	✔	✔	NR	NR	NR
	250KG(560lbs)	✔	✔	✔	NR	NR
	200KG(440lbs)	✔	✔	✔	✔	NR
	150KG(330lbs)	✔	✔	✔	✔	✔
	100KG(220lbs)	✔	✔	✔	✔	✔
		1.5M(5')	2M(6.5')	2.6M(8.5')	3.2M(10.5')	3.8M(12.4')

Installation

• Installation Overview



• Dual Gate Overview

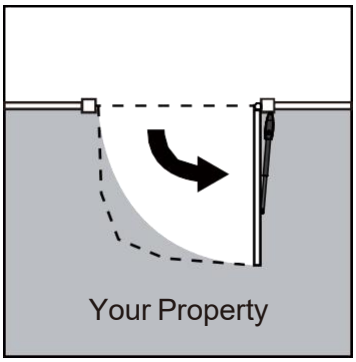


Photocell Beam System，Warning Sign，Flash Lamp，Solar Panel，
Gate Opener (Gate 2) (Left)，Electric Lock，Gate Opener (Gate 1) (Right)，Rubber Stopper

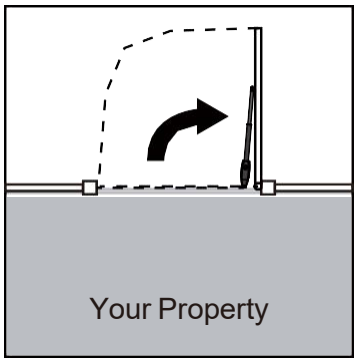
Important:
The gate opener cable should be put into the PVC conduit(not provided) which is buried underground. This protects the cable from lawn mowers and string trimmers.

• Installation Step

There are two installation types for the gate opener, check for Proper Gate Installation & Direction of Gate.



Pull-to-Open Option

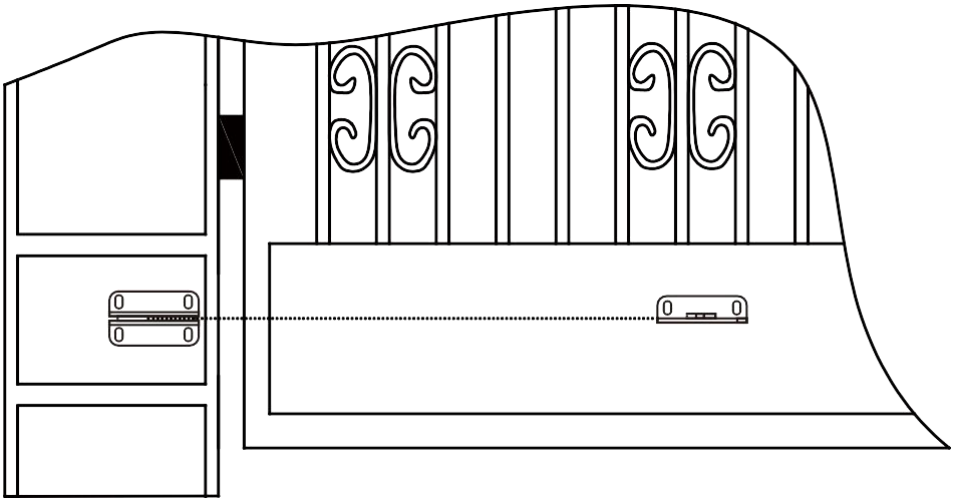


Push-to-Open Option

NOTE: Ensure the gate does not open into public areas.

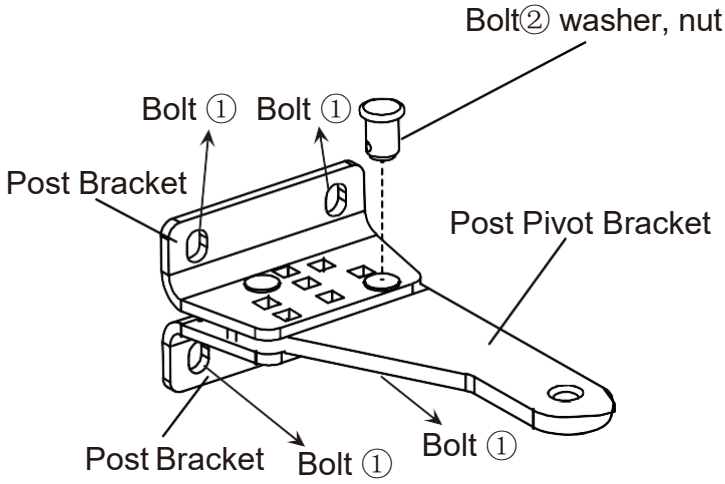
Step 1.

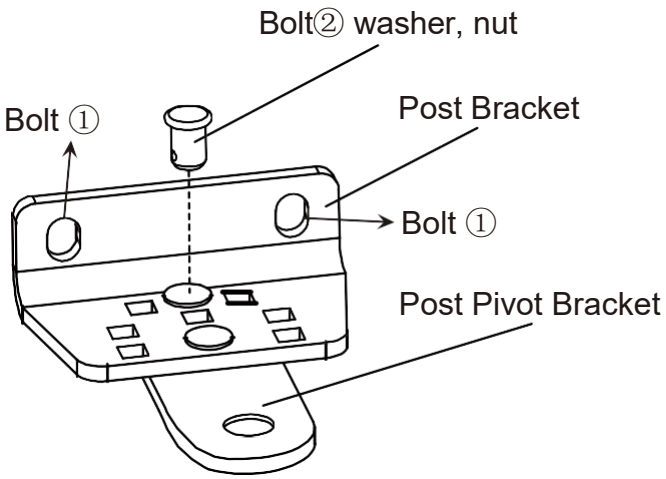
Ensure that the Post bracket height is in the same exact level with the gate bracket height. Failing to ensure accurate common heights will cause the motor arm to bend leading to failure. Also, the force to push or pull the gate will be be reduced causing the motor to open or close the gates with difficulty or may not operate successfully at all. Severe different in height will damage the motor and the motor arm.



Step 2. Post Bracket Installation

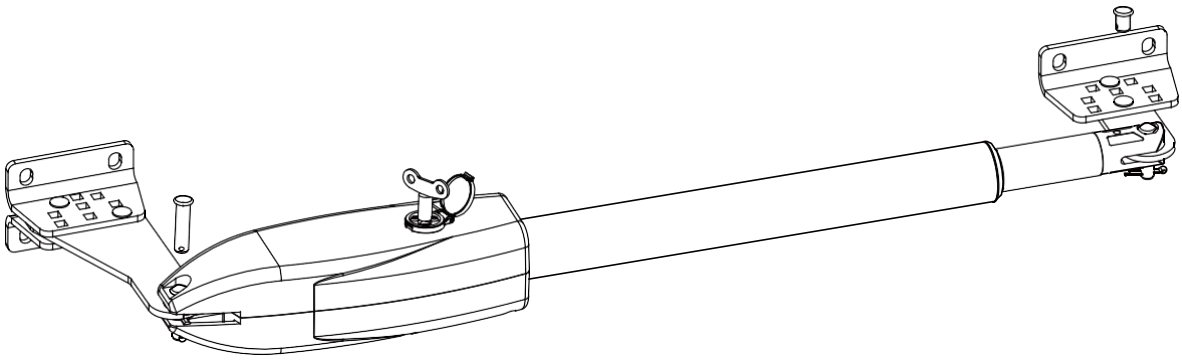
Insert the Bolt ② through the center hole of the post bracket and post pivot bracket as shown. Place the washer, nut on the bottom of the bolt and hand tighten.

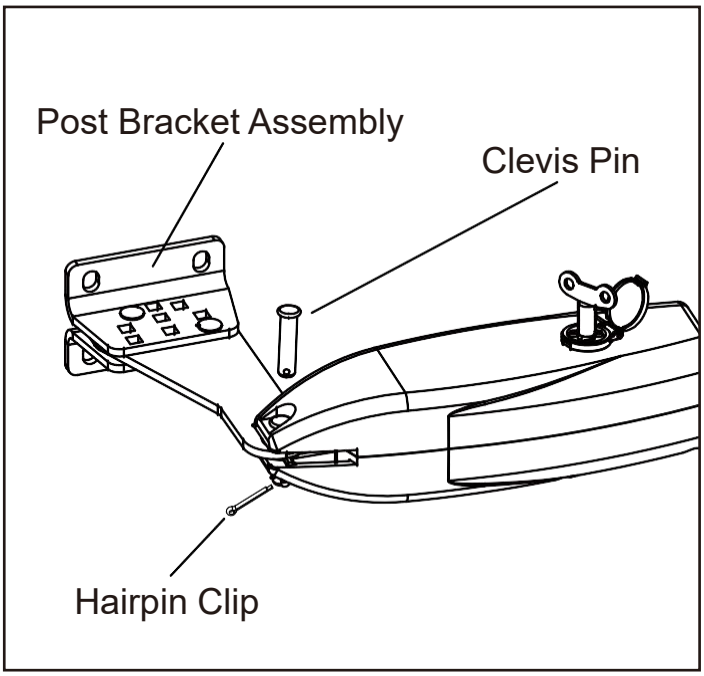


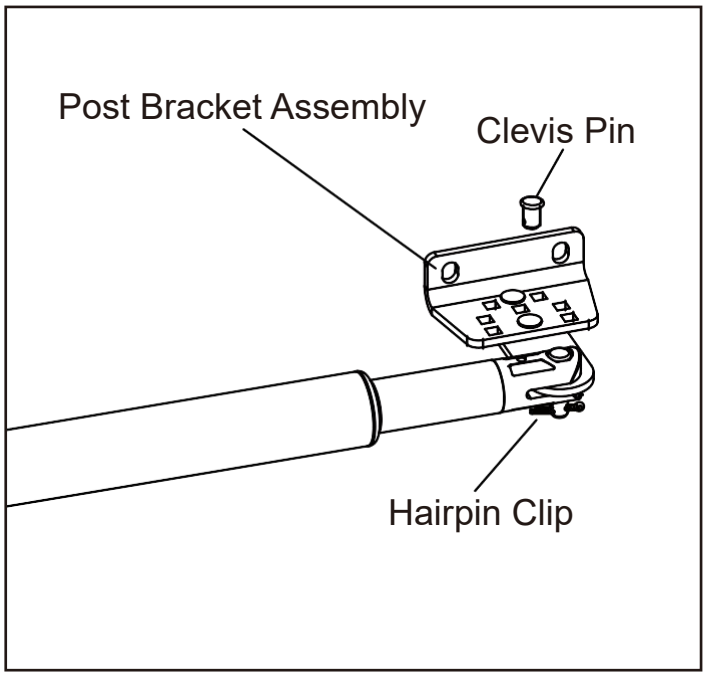


Step 3. Install the Motor Fixed-End to the Gate Post-Bracket

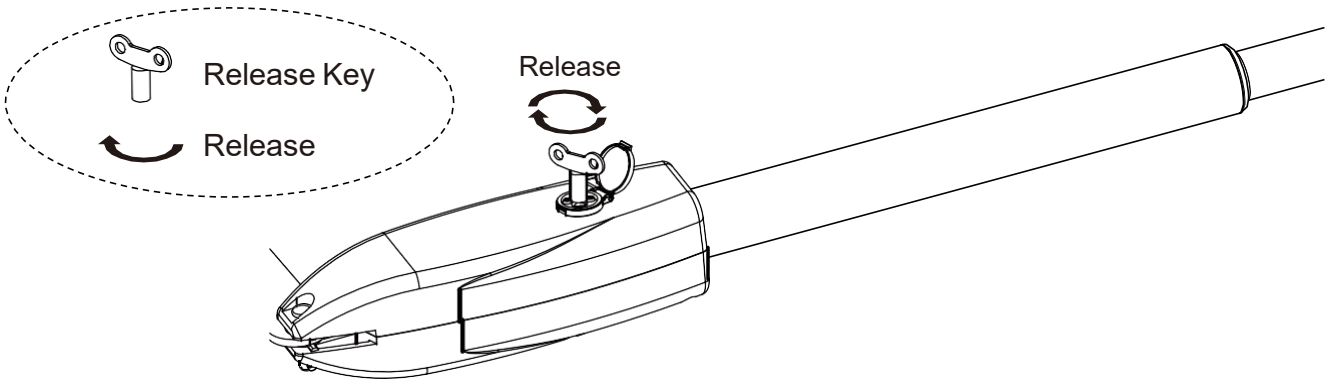
(1). Attached the gate bracket and post bracket assembly to the opener by inserting a clevis pin. Secure the clevis pins using the hairpin clips.







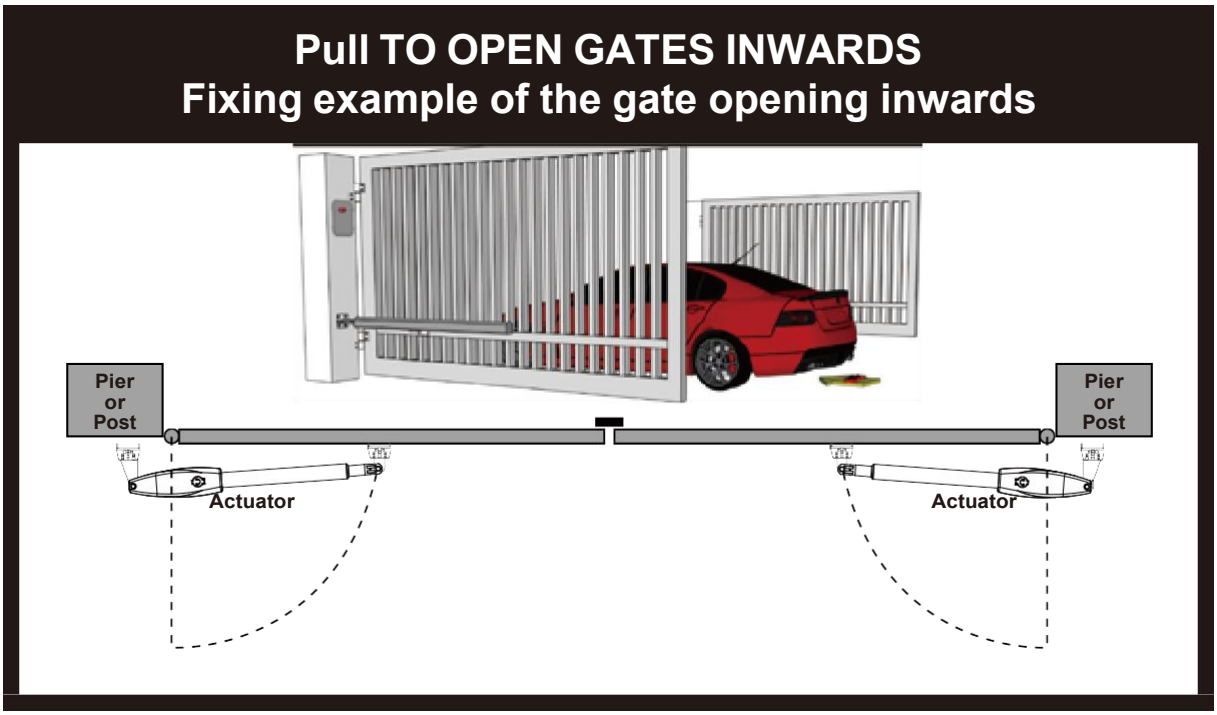
(2). Open the release hole plug on the top of the gate opener, insert the release key, and turn the key 90°clockwise. This releases the motor and allows the push-pull rod to be manually extended and retracted. To restore normal operation, turn the key 90°counter clockwise.

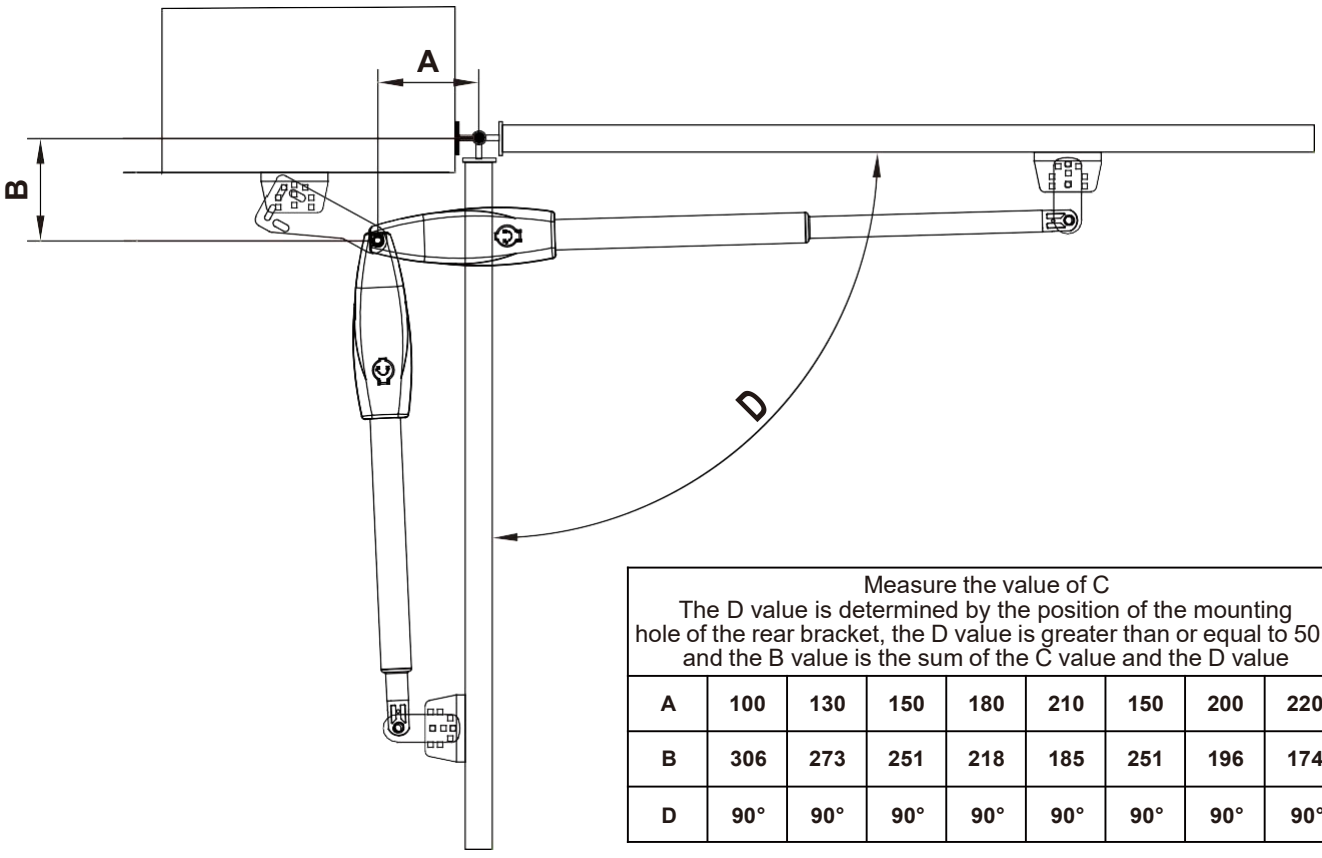


Step 4. There are two installation types for the gate opener, check for Proper Gate Installation & Direction of Gate.

Pull-To-Open Installation Mode:

The installation possition of the bracket is very important. Please refer to the figure to measure according to the angle you need to open. Unit: mm (for example: A is 150mm, B is 105mm. At this time, the maximum opening angle of the gate is 110°), determine the center point of the shaft and mark it.

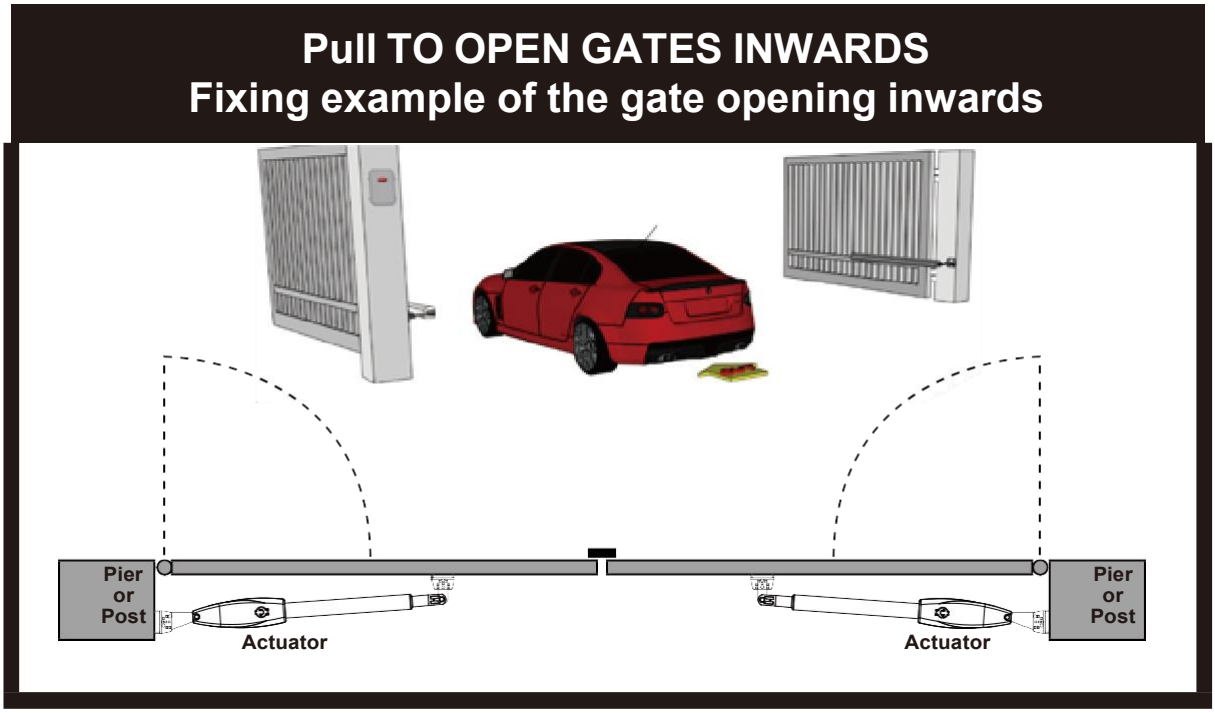


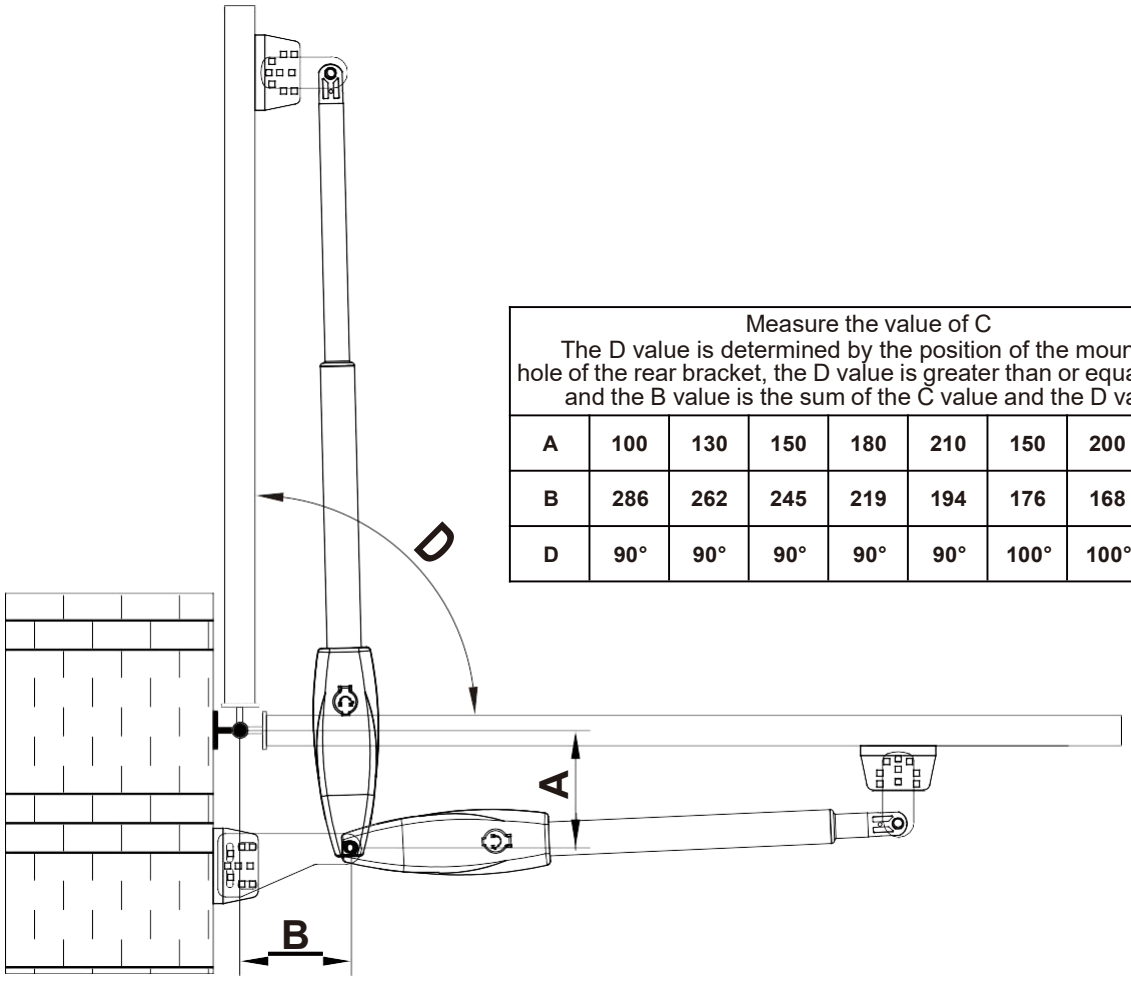


Measure the value of C The D value is determined by the position of the mounting hole of the rear bracket, the D value is greater than or equal to 50, and the B value is the sum of the C value and the D value								
A	100	130	150	180	210	150	200	220
B	306	273	251	218	185	251	196	174
D	90°	90°	90°	90°	90°	90°	90°	90°

Push to Open Installation Mode

The installation possition of the bracket is very important. Please refer to the figure to measure according to the angle you need to open. determine the center point of the shaft and mark it.

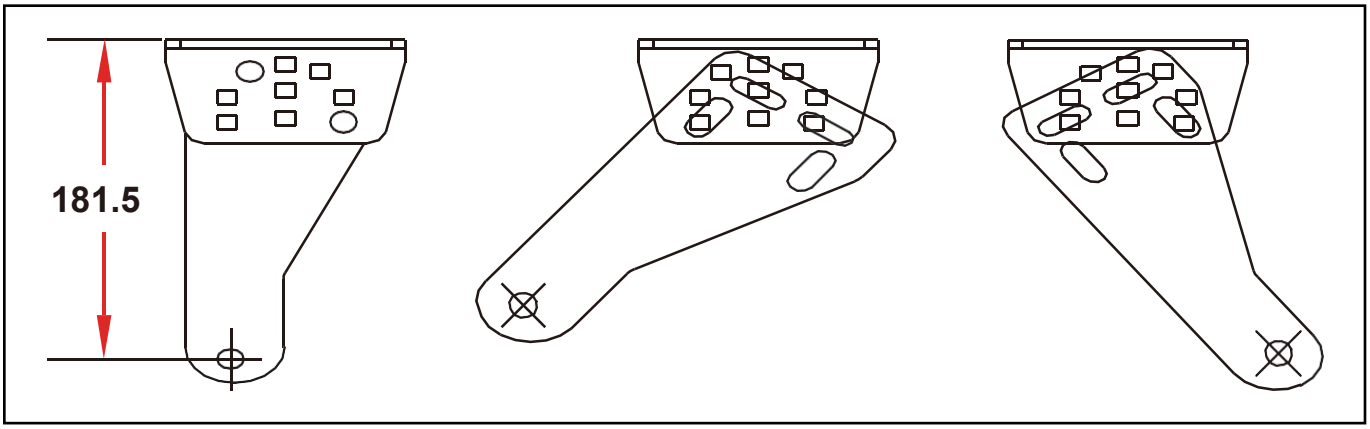


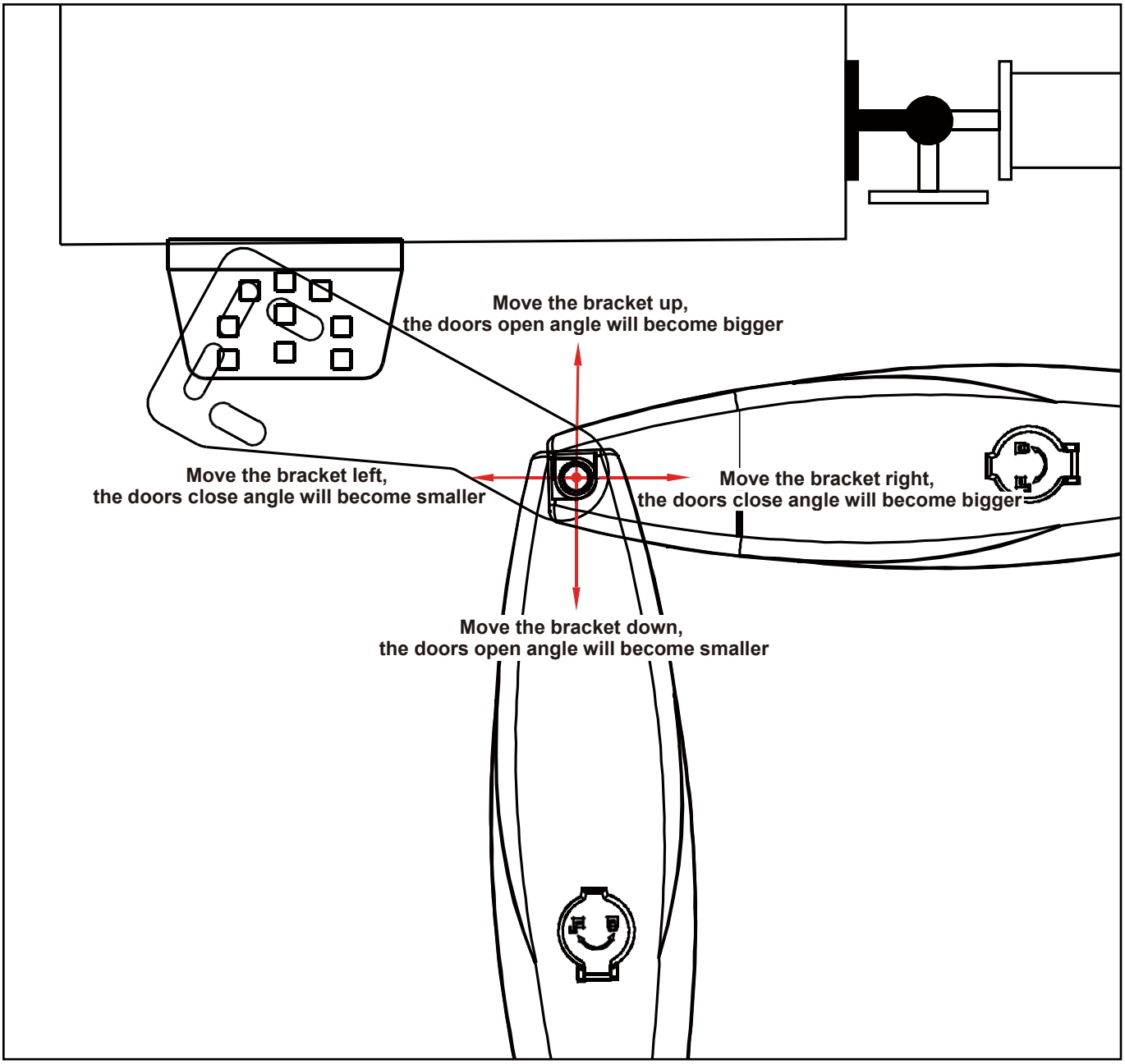


Measure the value of C The D value is determined by the position of the mounting hole of the rear bracket, the D value is greater than or equal to 50, and the B value is the sum of the C value and the D value								
A	100	130	150	180	210	150	200	220
B	286	262	245	219	194	176	168	146
D	90°	90°	90°	90°	90°	100°	100°	100°

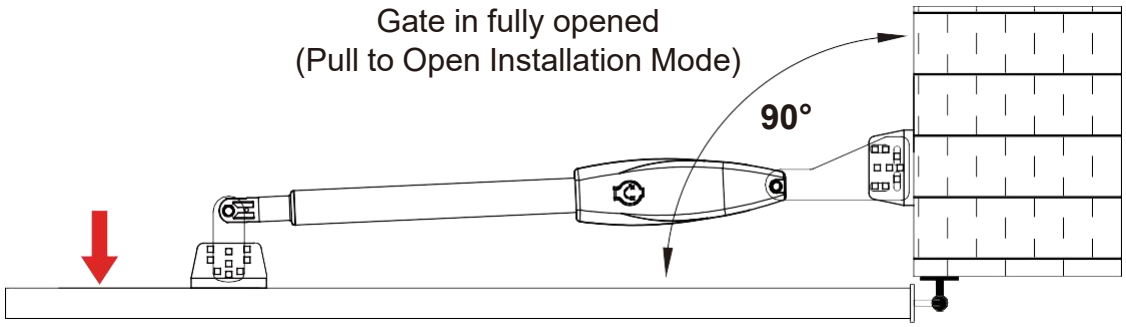
(1). According to the diagram, the post bracket plate is attached the fixed bracket with an appropriate angle. Take out the gate opener arm to install the gate brackets and post brackets on the gate machine (the bracket angle is adjustable).

Adjusting different angles of Rear Bracket Fixed Plate to fit different Installing mode:

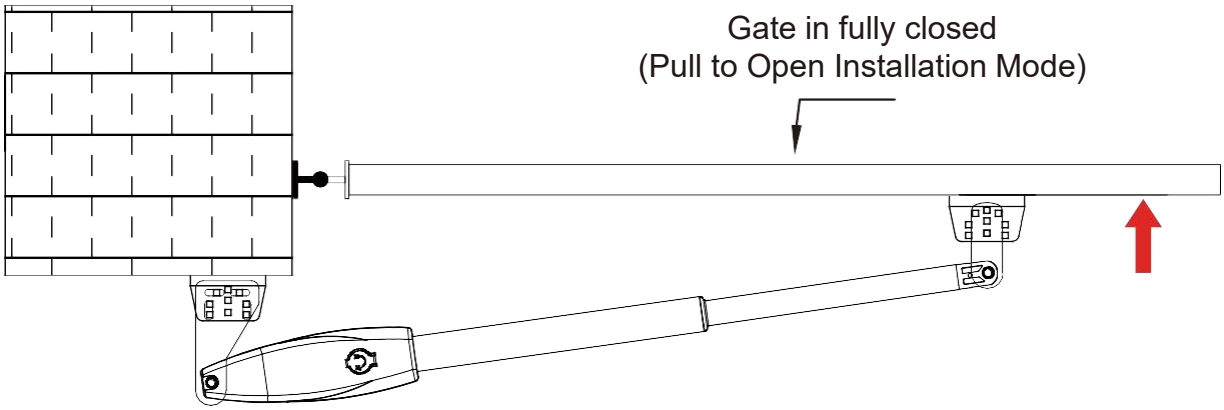




(2). Fully open the gate (take 90°as an example) and retract the arm of the gate opener to the shortest position (when determining the position of the gate bracket on the gate, make the gate and the wall when the rear bracket is vertical). The post bracket is close to the wall, and the gate bracket is close to the gate body. Mark the position on the gate body with a marker.



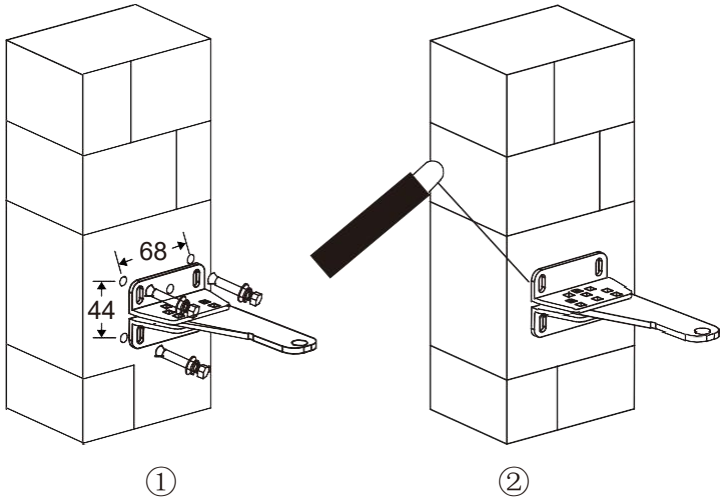
②. Fully close the gate to 180°, extend the arm of the gate opener to the longest, place the gate bracket on the market point on the previous gate, and observe whether the position is correct, drill holes at the marked position on the gate body to mount the bracket. Then the gate machine is placed horizontally, the position of the bracket is determined, and the hole is drilled. Hit the expansion screw to mount the brackets.



Note: It is recommended to open and close the gate back and forth by switching between the longest and shortest position of the gate opener's arm. Determine that the marked point is correct, and then insert perforated lock screws or weld to mount the brackets.

Step 5. Hole Installation/Welding

(1). Fix the post bracket to the wall



Construction Drill and Bolts:

a. Drill 4 Holes of 8mm Diameter.

b. Insert the 4 Provided Concrete Bolts① and Tighten Properly (Do not over tightenas you may strip the bolt out of the concrete or the brick).

c. Place the Motor Connecting Bracket and Tig.

Construction Drill and Weld：

a. Drill 4 Holes of 8mm Diameter.

b. Locate the 4 Slotted Holes Post Bracket above the Drilled Holes.

c. Weld the Motor Bracket to the Post Bracket.

(2) Motor drainage hole angle adjustment

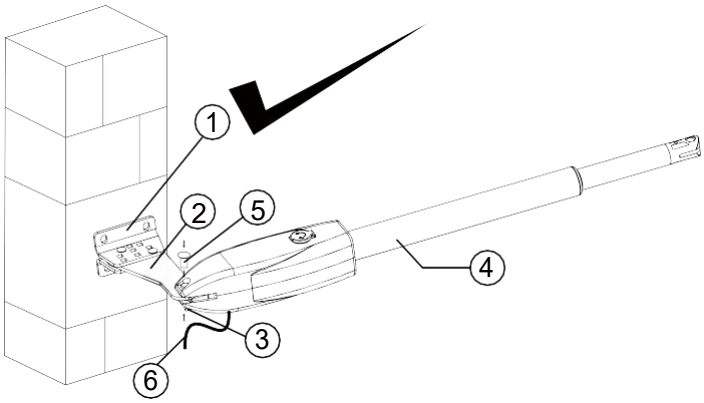


Figure left, Power Cable And Manual Override Release Placed Correctly

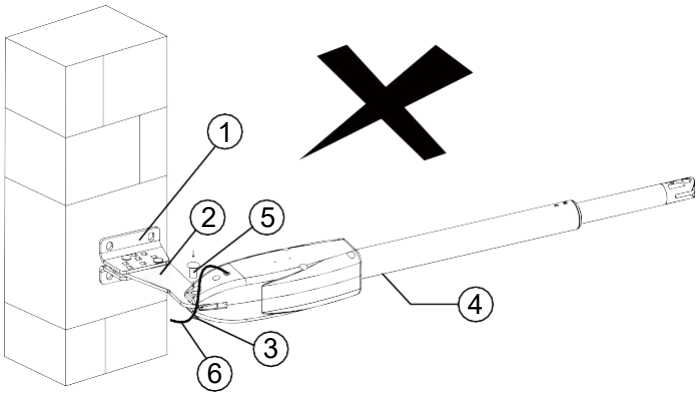


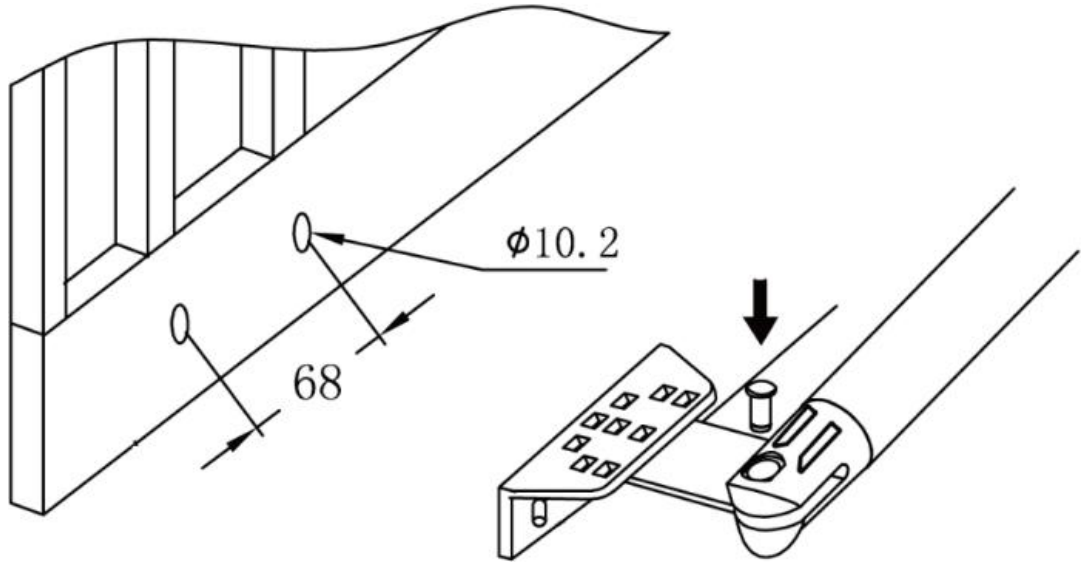
Figure right, Power Cable And Manual Override Release Placed Incorrectly

1. Post Rear Fixed Bracket
2. Rear Bracket Fixed Plate Main Motor Arm
3. Lock Pin
4. Rain Drainage Aperture
5. Washers and Lock Nuts
6. Power Cable

Notice : Incorrect Installation, Figure 8 right:

Cable must not be installed above the motor arm. It may pinch and strip the cable and causes electric shock. Also the manual override release must be located face to the view of the public. Follow correct installation as shown in Figure 8 left.

(3) Attach the rear bracket to the gate body



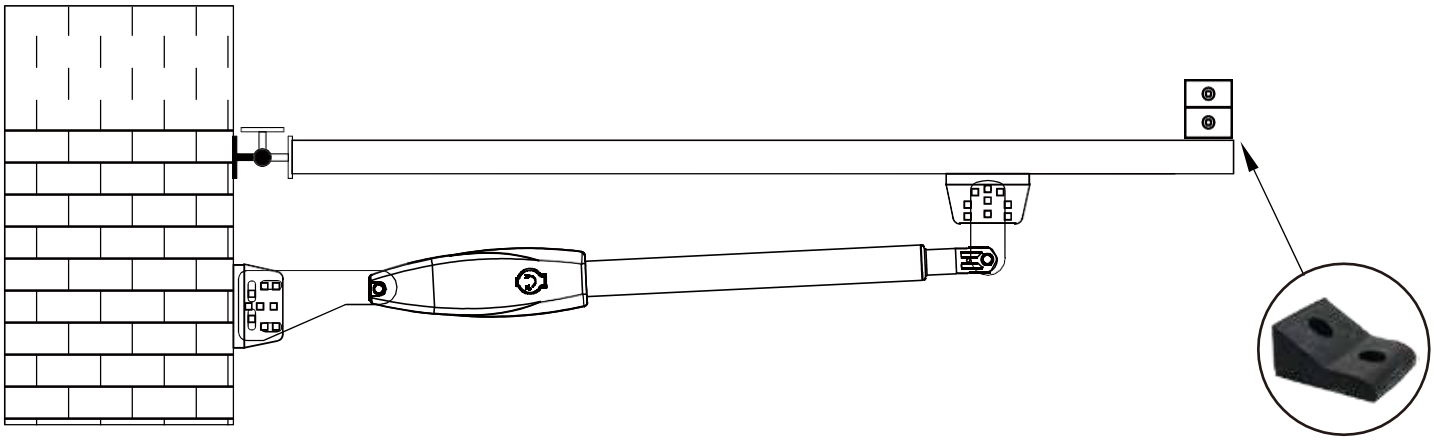
a. Drill 2 Holes of 10.2mm Diameter With Space 68mm Between 2 Holes

b. Locate the 2 Slotted Holes Gate Bracket above the Drilled Holes

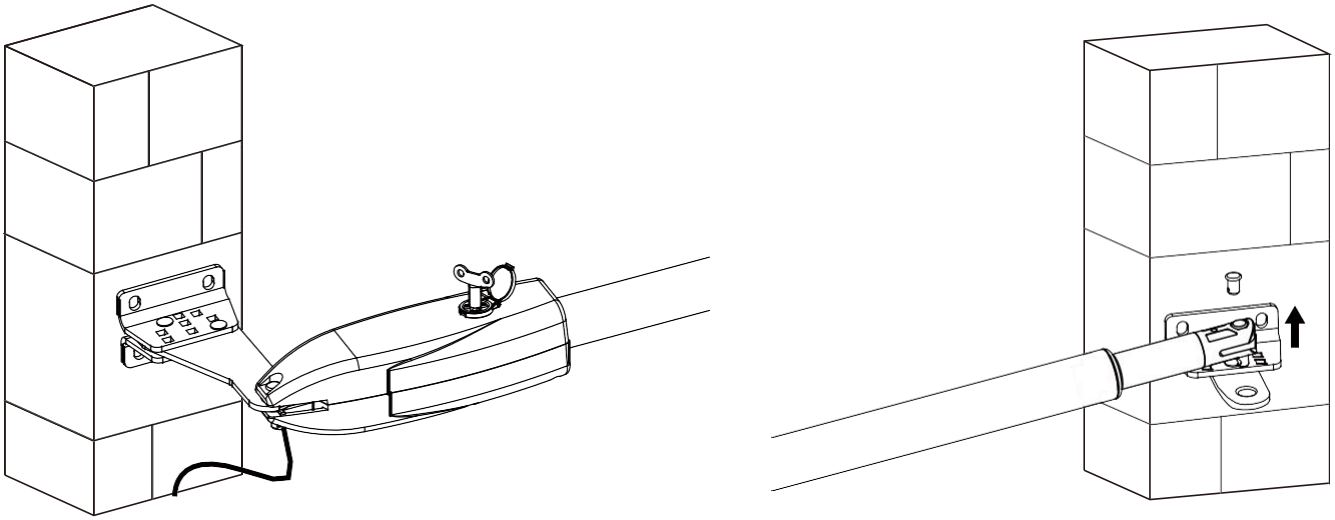
c. Place the End Motor Bracket to the Gate Bracket using the Appropriate Bolts and Tighten Properly (Please note these bolts used to fixed front bracket to the gate are not provided due to the thickness of each gate is different)

d. Insert the Lock Pin and Clamping Washers

Step 6. Gate Rubber Stoper Installation



Step 7. Emergency Release Function

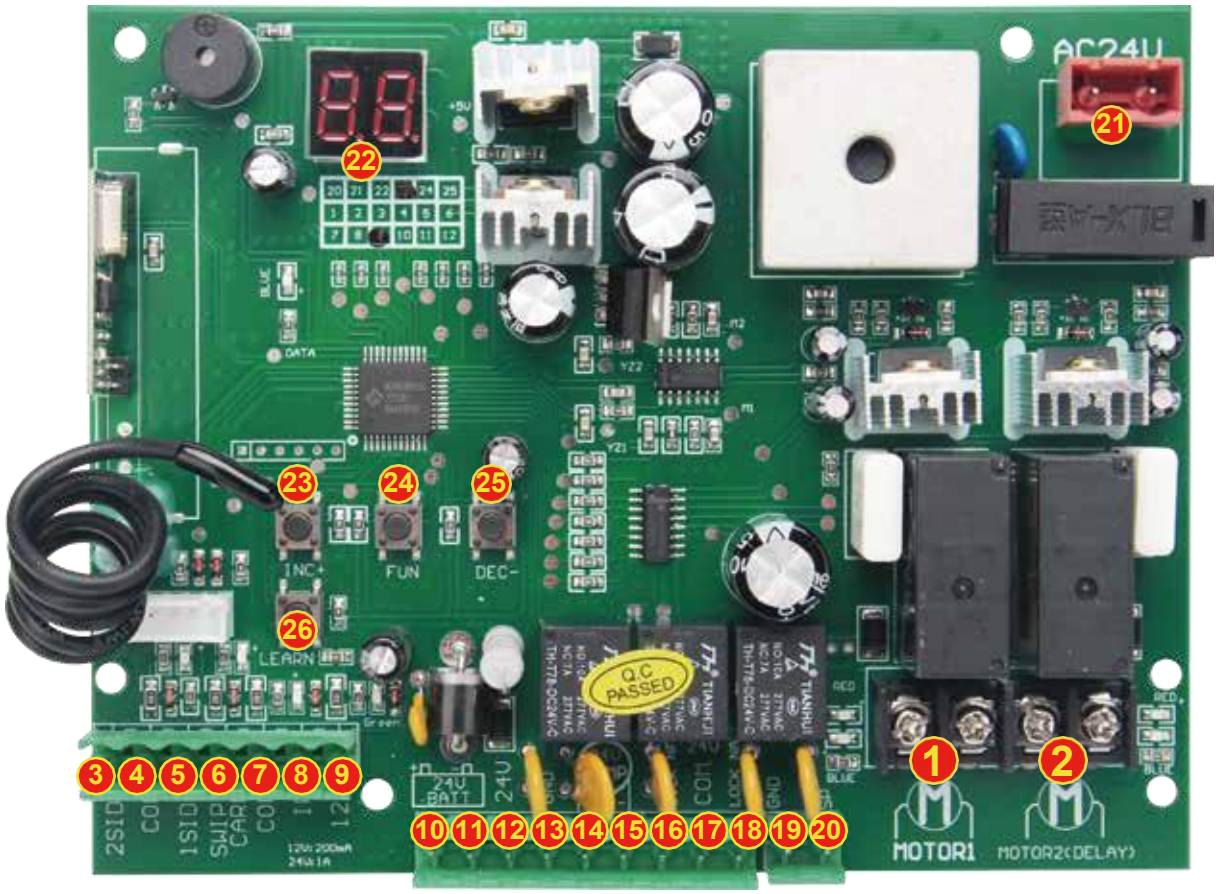


The schematic diagram of opening the gate body when there is no power is shown above. Please use the emergency release key to loosen the gate brecket and the arm of the gete opener. Then lift it up.

Control Board Instruction

Technical Parameters

1.Power Supply: AC 24V , available for adding 24V backup battery.
2.Application: Used for double or single DC 24V swing gate opener.
3.Encoder For transmitter: Factory owns rolling code.
4.Allowed Transmitters Quantity: Up to 120PCS.



1.MOTOR 1: Master gate, close first & open last.This terminal connect 1st red wire (counted from your left hand side to right hand side)
2.MOTOR 2 (DELAY) : Slave gate, open first & close last.This terminal connect 1st blue wire (counted from your left hand side to right hand side).

NOTE! If you only have a single gate, the motor only can connect to the Motor 2 Delay terminal.

3.2 SIDE: It is for connecting to any external device that operates a double gate.

4.COM: It is for connecting to the “ ground ”.

5.1 SIDE: It is for connecting to any external device that operates the single gate.

6.Swipe Card: It is for connecting to any external devices that will operate to open the gate.

7.COM: It is for connecting to the “ ground ” external device.

8.1R: Infrared terminal is for connecting to the safety beam.

9.12V: The output is for connecting to the photocell sensor, continuous output current <=200mA. (24V DC output, current is 1A).

10.24V battery +: It is for connecting the backup battery +.

11.24V battery -: It is for connecting the backup battery -.

12.24V: 24V DC output is for connecting to an external device.
(such as photocell sensor, max current output 1A).

13.GND: It is for connecting to the “ ground ” of an external device.

14.24V LAMP +: It is for connecting to the flash light +.

15.24V LAMP -: It is for connecting to the flash light -.

16.LOCK(NF): The NF terminal which used for connecting to the magnetic lock.

17.COM(24V): COMMON used for connecting to the“ground”of the lock.

18.LOCK(NA): The NA terminal which used for connecting to the electric lock.

19.GND: It is for connecting to the “ ground ” of the alarm system.

20.SP: It is 24V DC output connecting with the alarm system.

21.AC 24V: It is for connecting with the transformer.

22.Digital display: It is for showing you the setting data.

23.INC+: It isfor figure increasing of setting the data.

24.FUN: Used for enter the menu setting and confirm the data.

25.DEC-: It is for figure decreasing of setting the data.

26.26.Learning button: It is for programming/erasing the remote control.

Remote Control

Button “1” is used to operate a single gate Motor 2; button “2” is used to operate a double gate for Motor 1 and Motor 2; button “3” is used to operate the alarm output.

Program new remote control

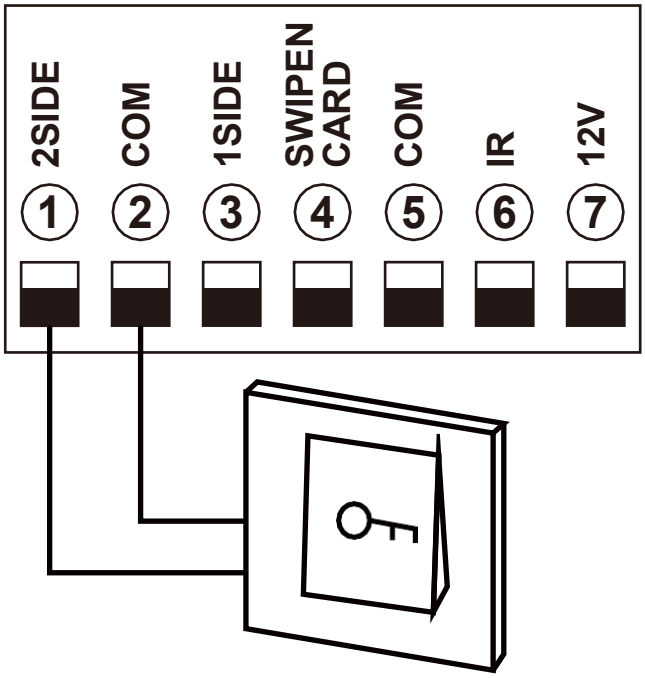
- Press the LEARN button on the control board for about 1 second, and the indicator LED will turn off, then means entering the programming.
- Press any button on the new remote control for about 2 seconds. The digital display will show the remote's number while the board's indicator LED flashes four times with buzzer sound, which means the programming is successful.
- Note! After you press the LEARN button, if the board does not receive the new remote signal within 5s, the indicator LED will turn on and exit programming.

Remove remote control

- Press and hold the LEARN button for about 5 seconds. If there has one buzzer sound and indicator LED light on, then now means removing the remote successfully.

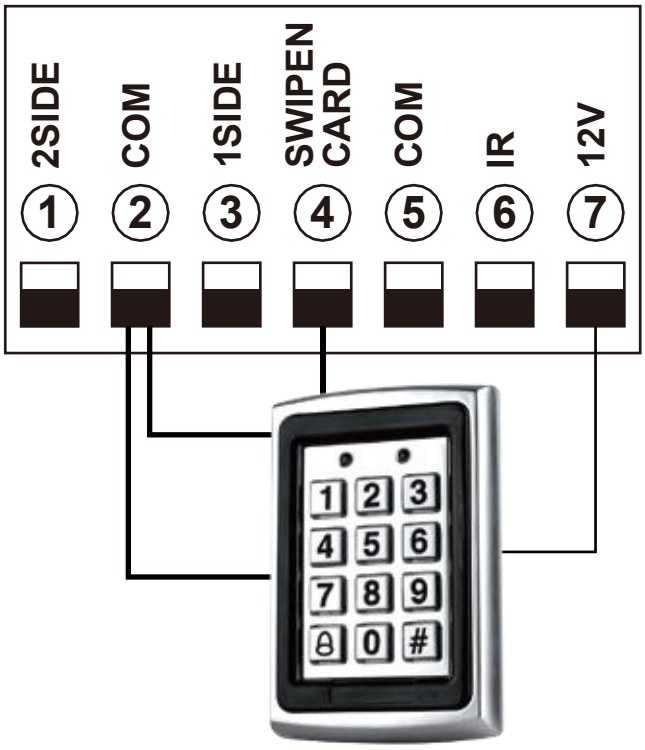
Control Board Wire Diagram

• Connect with control double gates device



Terminal ① 2SIDE and ② COM are use to connect with push button for controlling dual gates.
Note! If you connect the wired keypad, etc devices, please also connect
with ⑦ Vcc and ⑤ Com to get the power supply.
And if you only need to control the single gate motor 2, please swap the wire from ① 2SIDE to ③ 1SIDE.

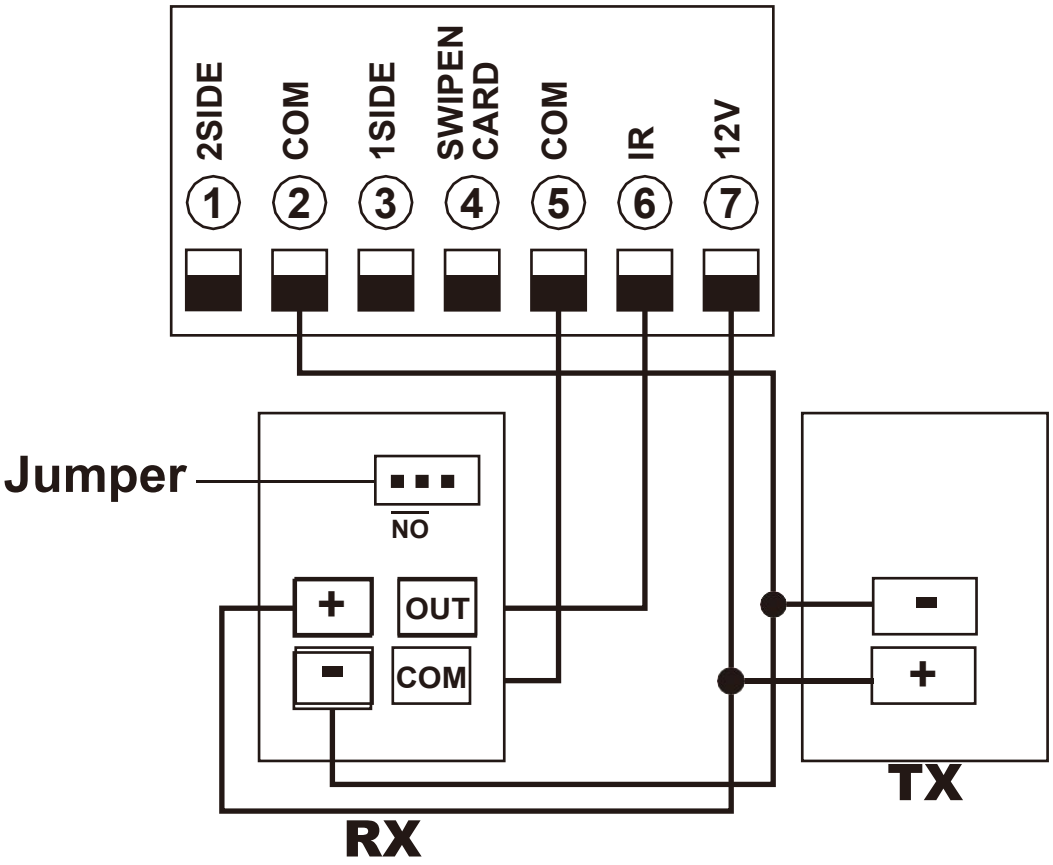
• Connection of swipe card device



Terminal ⑦12V and ②COM are used to supply power to swipe card device.

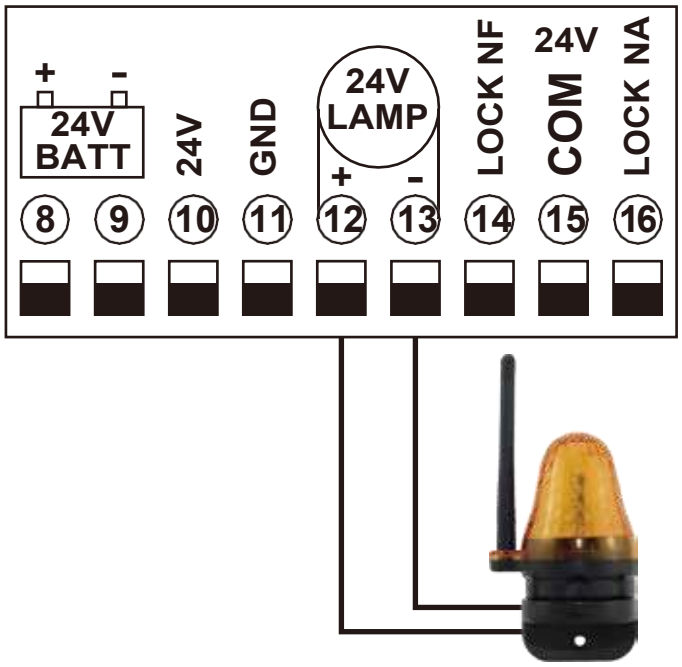
Terminal ④SWIPEN CARD and ②COM are use to connect with swipe card for controlling dual gates.

• Connection of safety beam



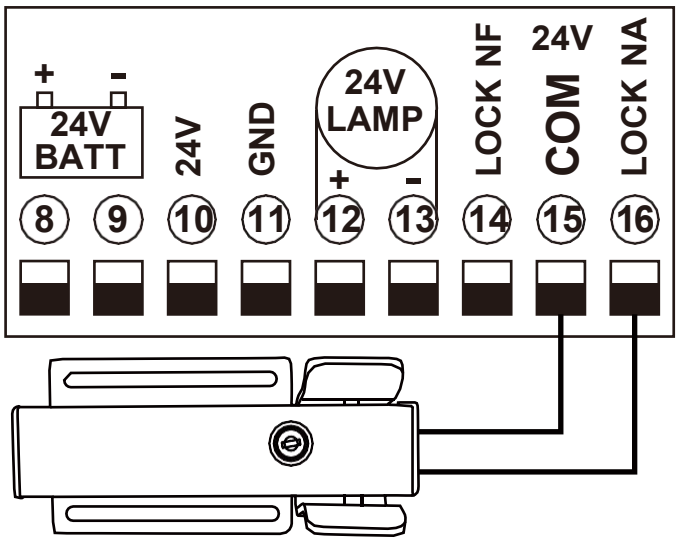
Terminal ⑦12V and ②COM are used to supply power to safety beam..
So, connect terminal ⑦12V with the “+” of the photocell sensor RX and TX device.
Connect terminal ②COM with the “-” of the photocell sensor RX and TX device.
Connect terminal ⑥IR with photocell sensor “OUT”
Connect terminal ⑤COM with photocell sensor “COM”

• Connection of Flash Lamp Device



Terminal ⑫,⑬24V Lamp + / - are used to connect with flash lamp.

• Connection of electric lock Device



Terminal ⑯ LOCK NA is used to connect with electric lock red wire.

Terminal ⑮ COM is used to connect with electric lock blue wire.

Function Description of The Control Board

Function	State
Power On	The digital display will self-check from 00-99 with a buzzer sound. If the indicator LED light on, and the buzzer stop sound, means the system is working well.
Auto-closing timer for swipe card terminal triggering to open the gate	Connect the external swipe card reader, trigger the swipe card terminal to open double gates automatically.If the gate system is setting the single gate mode, the user swipes the card and only operates the single gate. The indicator LED will flash every second. Setting from 0-99 seconds, factory defaults 10 seconds, set 0 means No auto-closing for swipe card terminal triggering.
Auto closing timer（Non-swipe card terminal triggering）	While the gate is opening and detecting the overcurrent, it will trigger the auto closing timer and the indicator will flash at 1s interval. Auto closing timer is setting from 0-99 seconds, 0 means No auto-closing. The last manual door opening is a single door (or double door), then the automatic door closing is a single door (or double door).
Setting motor 1 and motor 2 in the soft start, slow stop, slow speed and high speed running time	The motor 1 and motor 2 running time can be set through the digital display menu. Used for setting the high speed running time of Motor 1 and Motor 2, gate will run in high speed within this setting, then change to slow speed with its rest travel. High speed running time is setting from 0-33 seconds, the factory defaults 5 seconds, 0 is No high speed running. Soft start running time is setting from 0-6s, the factory default is 2s, 0 is No soft start running. The Motor's overcurrent value can be set from 0- 20 levers. NOTE:While the motor is running, if manually control it stopping or trigger the safety beam terminal, after the motor runs again, can not trigger the high-speed running.

Function	State
Overcurrent	Realize automatic stop when the motor is fully opened or closed. The motor will auto stopping when it is running, meeting a obstacle and detecting the overcurrent. The motor's overcurrent value in slow and high speed set through the digital display menu.
Safety beam	While the gate is closing, if trigger the IR terminal, the gate will rebound to fully open. After 2s, the gate will be auto-closed. (No trigger the IR terminal when the gate is opening)
Time delay with 2 gates for opening and closing	This setting is only enabled for double gates mode.When user control double gates to close, Motor 1 will close in advance, then Motor 2 will close later depends on how much delay time set.The setting is 0-10 seconds. Setting 0 is no time delaying with 2 gates for opening and closing.
Control single gate	Remote control button 1 and 1SIDE terminal used for opening and closing the single gate (Motor 2).
Motor overload protection	As soon as the motor runs continuously more than the 60s, the motor will automatically stop working to protect the motor.
Flash lamp mode	Setting flash lamp mode by the digital display menu PA, factory default is mode 0. Mode 0 and 2: Flashing light will turn off 30 seconds after the motor stop. Mode 1 and 3: Flashing light and motor will operate and stop at the same time.
Alarm output	Setting alarm output mode by the digital display menu PA, factory default is 0 mode. Mode 0 and 1: Alarm output is Momentary Output situation(press the remote button 3, alarm will work. Release the button 3, alarm stop working) Mode 2 and 3: Alarm output is Continuous Output situation(press the remote button 3, alarm will work. Press the button 3 again, alarm stop working) Remote control button 3 is used for controlling alarm output. Connect with the door sensor alarm device also can activate the alarm output, press the remote control button 3 to achieve it.
Electric lock output	Digital Display can set Pb for controlling lock output mode, factory default is 2 mode. 0 mode: non-output. 1 mode: lock output 1s. ..... 5 mode: lock output 5s. Note: The gate open time will delay 0.5s to help the electric lock to unlock first.
Gate mode	Setting gate mode by the digital display PE for controlling single gate or double gates. If the system set single gate motor work mode, all operations only apply in Motor 2. If the gate system is active in the single gate work mode, the double gate open mode of the remote control and control board will be adjusted to only for a single gate.
Factory Reset	The factory reset needs to be performed at the factory to restore parameters to the default state; see the table below.

Digital Display Menu Setting

• Press and hold the [FUN] button for 5 seconds, and the Digital display will indicate “P0”, then release the button, now the menu can be set to [INC+] and [DEC-] for increasing and decreasing numbers or values.

• After adjusting the value, press the [FUN] button to store the data, and the buzzer will beep one time to show the store successfully.

• After the menu setting is finished, press the [LEARN] button to exit the menu setting and close the display.

Item		Range	Default
P0	Setting soft start time	1~3s	2s
P1	Motor 1 overcurrent setting in low speed	0~20 Class	6 Class
P2	Motor 1 overcurrent setting in high speed	0~20 Class	10 Class
P3	Motor 2 overcurrent setting in low speed	0~20 Class	6 Class
P4	Motor 2 overcurrent setting in high speed	0~20 Class	10 Class
P5	Setting motor high speed running time	0~33 s	5s
P6	Auto-closing timer for swipe card	0~99 s	10s
P7	Time delay with 2 gates for opening	0~10 s	2s
P8	Time delay with 2 gates for closing	0~10 s	2s
P9	Auto-closing timer	0~99 s	0 (Close)
PA	Flash lamp mode / Alarm output control	0~3	0
Pb	Electric lock time setting	0~5	2
PC	Setting remote control button	0~3	3
Pd	Infrared terminal optional	0(NC) ~ 1(NO)	1(NO)
PE	Gate mode	0(double motors)~1 (single motor)	0 (double motors)
Po	Factory Reset		

Factory reset:
When the digital display indicates Po, the gate opener is on rest setting. After entering the Po setting, press the [FUN] to store, and then now the reset successfully.

PA Value of Lamp / Alarm Output

Value	Alarms output	Lamp output
0	Momentary Output	Mode 0
1	Momentary Output	Mode 1
2	Continuous Output	Mode 0
3	Continuous Output	Mode 1

PC Value of Remote Control Button Optional

Value	Button	Description
0	All buttons are disable	Forbidden to use remote
1	Button 1/3 is valid	Only control single gate(motor 2)
2	Button 2/3 is valid	Only control double gates
3	Button 1/2/3 is valid	Control single gate or double gates

Motor Direction Identification

When the motor is running, if the motor direction LED indicator is blue, now the motor should be in “opening” operation. When the motor direction LED indicator is RED, the motor should be in the “closing” operation.

NOTE! If the gate opens and closes in the wrong direction when you control the gate operator, please cut off the power, swape the wires of the wrong motor and reconnect it to the Motor port, then power on again.