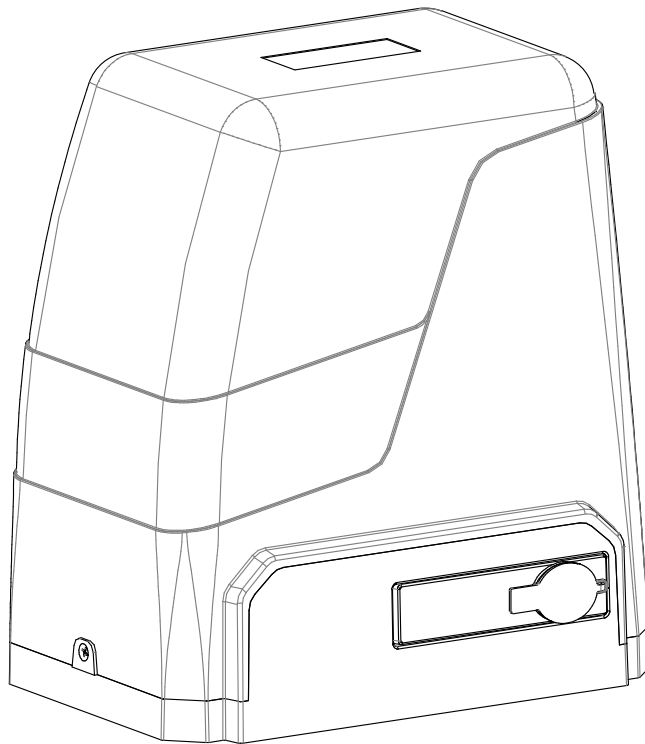


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# GTseries Sliding Gate Opener User Manual



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## 1. Safety Instruction:



Please read this manual carefully before installation, in which involves with important information about installation, using, maintenance and safety.

Any undefined operations under this manual is not allowed, incorrect using may damage the product even causing the injuries or property losses.

To consider the possible danger during the installation or using process of sliding gate operator, installation must strictly comply with the construction standard and Electrical operating procedure, especially the following:

Before installation, please make sure that the power voltage being used matches with the supply voltage of this product. Please check if the leakage protection switch is installed and the grounding system is correct.

Please check if additional equipments or materials are required to meet the specific requirements.

The disposal of packaging material must be complying with the local regulation.

Please do not change any parts except for those defined under this manual. Any undefined changes may cause the malfunction. Any damages to the product arising therefrom shall be beyond the liability of the company.

Please do not leak water or any liquid into the controller or any other open devices. Please disconnect the power immediately if any mentioned cases happened.

Please keep this product away from heat and open fire. Or it may damage the components; cause the failure or other hazards.

Please make sure there is no vehicles, passengers and objects passing through while the sliding gate is moving.

Anti-clip equipment like infrared protection switch must be installed to avoid injuries to person and property losses. The company shall not be liable for any damage or accident arising therefrom.



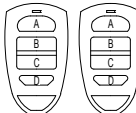

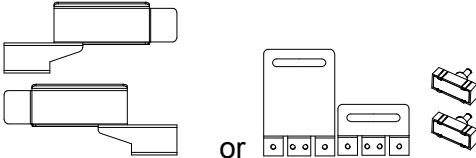
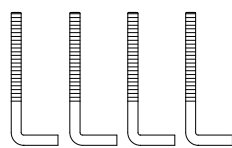
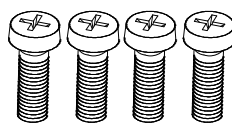
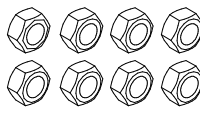
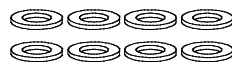

The installation, using and maintenance of this product must be carried out by professionals.

Children are not allowed be touch the control devices or remote transmitters.

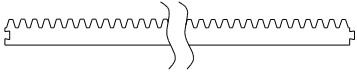
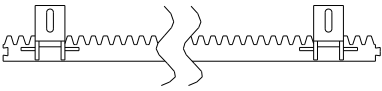
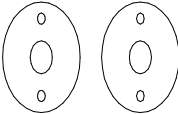
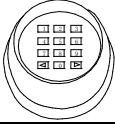
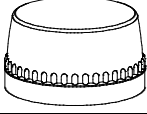
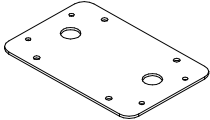
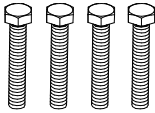
A warning sign must be placed somewhere on the sliding gate according to the national standard.

Please keep this instruction properly for future reference.

## 2. Packing List (standard)

No.	Picture	Name	Quantity
1		Main engine	1
2		Manual release key	2
3		Remote control	2
4		Spring limit switch accessories box / Magnetic limit switch accessories box	1
4-1		Spring limit switch block / Magnetic limit switch block	1
4-2		Foundation bolt M10	4
4-3		Spring limit switch block mounting screw M6X10 / Magnetic limit switch block mounting screw M6X18	4
4-4		Nut M10	8
4-5		Flat washer Ø10	8
4-6		Spring washer Ø10	4

## 2. Packing List (optional)

No.	Picture	Name	Quantity
1		Steel gear rack	1m/pc
2		Nylon gear rack	1m/pc
3		Infrared sensor	1
4		Wireless keypad	1
5		Alarm lamp	1
6		Mounting plate	1
7		Hexagon head bolt M10x60	4

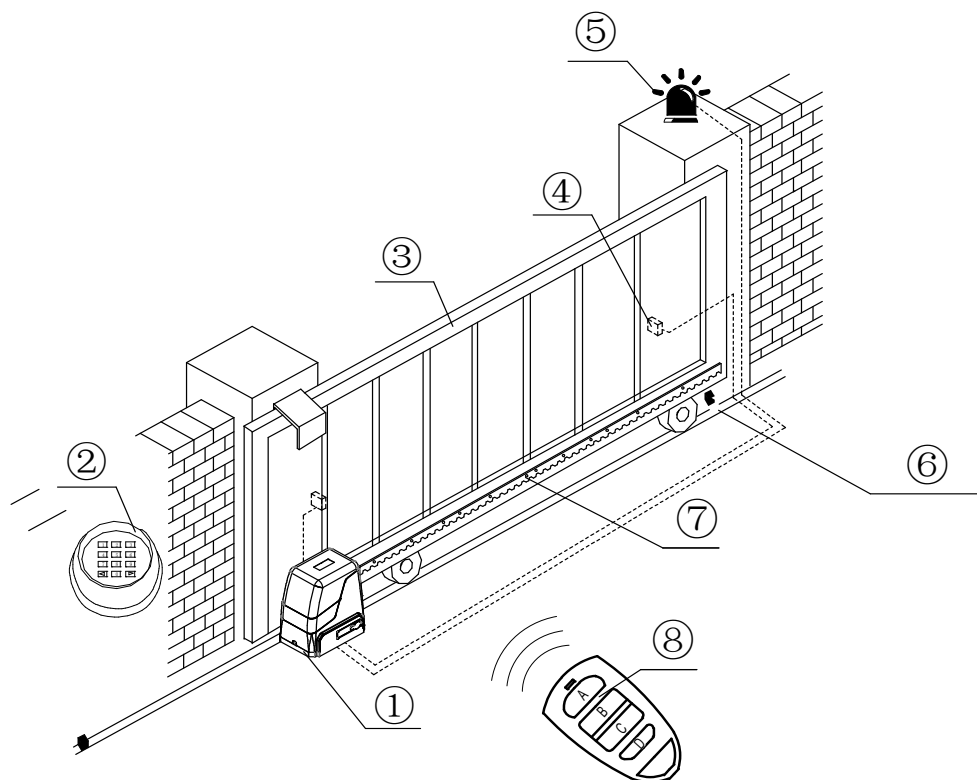
## 3. Technical parameters

Model	GT600AC	GT1000AC	GT1500AC
Power supply	220V/50Hz		
Motor power	400W	400W	550W
Gate moving speed	<b>20-22m/min</b>	11-13m/min	
Maximum weight of gate	600Kg	1000Kg	1500Kg
Remote control distance	≥30m		
Remote control mode	Single button mode / Three button mode		
Limit switch	Spring limit switch / Magnetic limit switch		
Noise	≤60dB		
Working duty	S2, 20min		
Recording of up remote controls	25		
Frequency	433.92 MHz		
Working temperature	-20°C ~ +70°C		
Package weight	15Kg	15Kg	16Kg

## 4. Installation

GT600AC/GT1000AC/GT1500AC sliding gate opener is applicable to gate weight less than 1000kg/1500kg, and length of the sliding gate should be less than 12m. The drive mode adopts the gear and rack transmission. This gate opener must be installed inside the enclosure or yard for protection.

### 4.1 Installation drawing



**Figure 1**

- Gate opener; □ Wireless keypad (optional); □ Gate; □ Infrared sensor (optional);
- Alarm lamp (optional); □ Safety stop block; □ Gear rack; □ Remote control;

### 4.2 Size of main engine and accessories

#### 4.2.1 Size of main engine

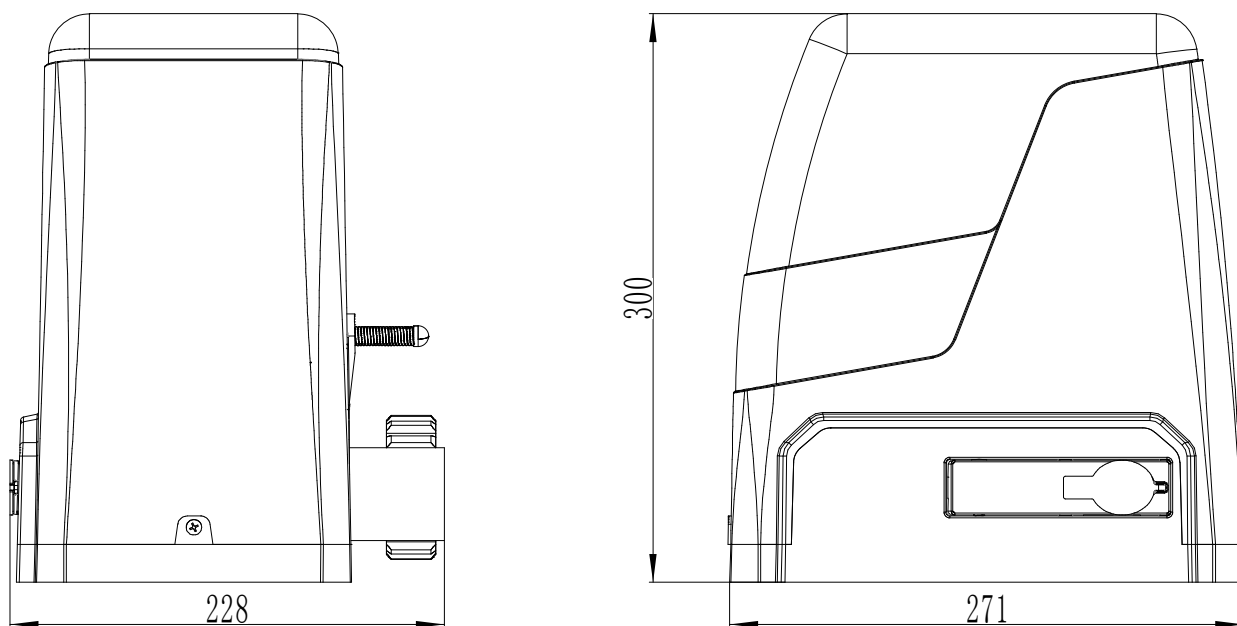


Figure 2

#### 4.2.2 Size of mounting plate

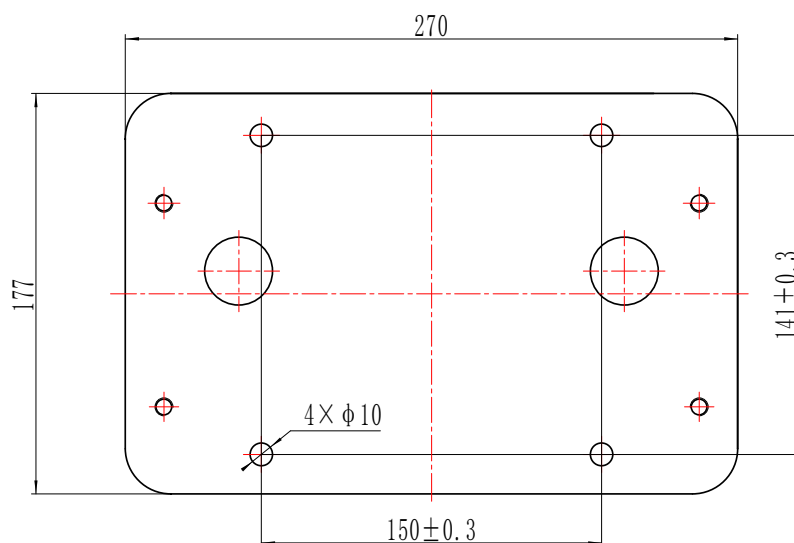


Figure 3

### 4.3 Installation procedures

#### 4.3.1 Preparation work before installation

Please ensure that the sliding gate is correctly installed, the gate rail is horizontal, and the gate can glide back and forth smoothly when moved by hands before installing the gate opener.

#### Cable installation

Please bury the motor & power cable and controlling cable with PVC tube, and use two PVC tubes to bury (motor & power cable) and (controlling cable) separately, so as to guarantee normal

operation of the gate opener and protect the cables from damages.

### Concrete pedestal

Please cast a concrete pedestal with the size of 500mm x 300mm and depth of 250mm in advance, so as to firmly install GT600AC/GT1000AC/GT1500AC gate opener. **Please verify whether the distance between the gate and gate opener is suitable before casting the pedestal.**

### Embedded screws

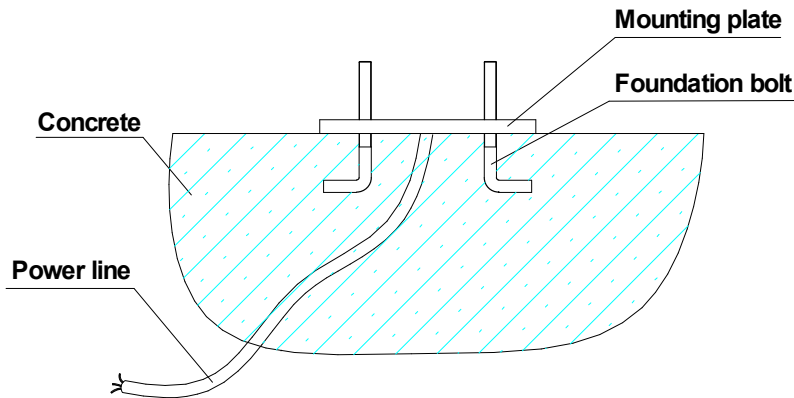


Figure 4

### 4.3.2 Main engine installation

- Dismantle the plastic housing on the main engine before installation and keep relevant fasteners properly;
- Please prepare the power line for connecting mounting plate and main engine (the number of power supply cable core shall not be less than 3 PCS, the sectional area of cable core shall not be lower than 1.5mm<sup>2</sup> and the length shall be determined by users according to the field situation) due to different installation environments;
- Please unlock the main engine before installation, the unlock method is: take out the key cover, insert the key, and open the manual release bar till it rotates by 90° as shown in Figure 5. Then turn the output gear and the gear can be rotated easily;

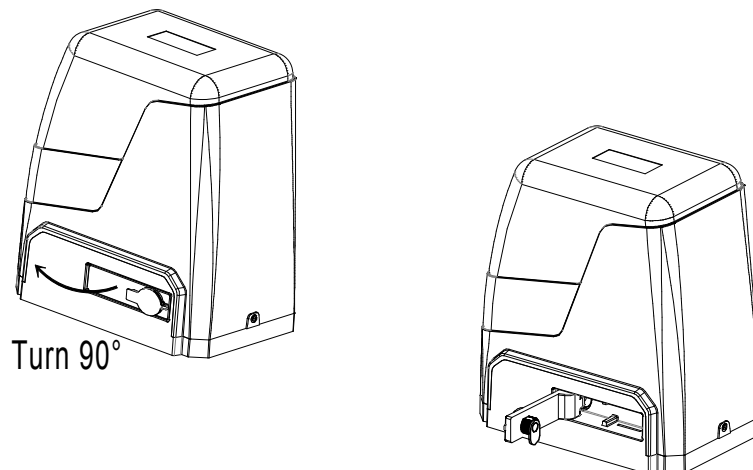


Figure 5

### 4.3.3 Gear rack installation

- Fix the mounting screws to the rack.
- Put the rack on the output gear, and weld the mounting screw to the gate (each screw with one solder joints firstly).
- Unlock the motor and can pull the gate smoothly.
- Please check whether there is a fit clearance between rack and output gear, as shown in Figure 7.
- Weld all the mounting screws to the gate firmly.
- Make sure that all racks on the same straight line.
- Pull the gate after installed, make sure the entire trip is flexible no stuck.

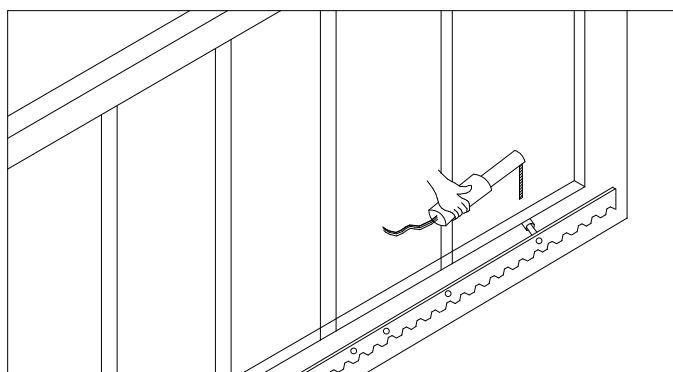


Figure 6

The fit clearance of output gear and rack is shown in Figure 7 below:

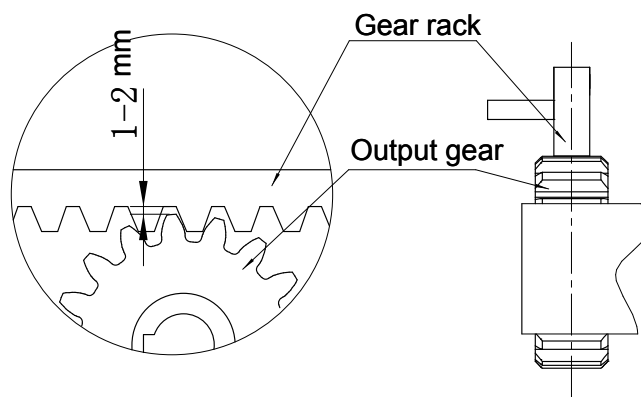


Figure 7



### Warnings

- To ensure safety, install safety stop blocks on both ends of the rails to prevent the gate out of the rail. Before installing the main engine, make sure that the safety stop blocks are in place and whether it has the function of preventing the gate from moving out of the rail and out of the safety range.
- Please ensure that the main engine and its components have good mechanical properties, and the gate can operate flexibly when moved by hands before installing the main engine.
- In this product, one control can drive one main engine only, otherwise, the control system will be



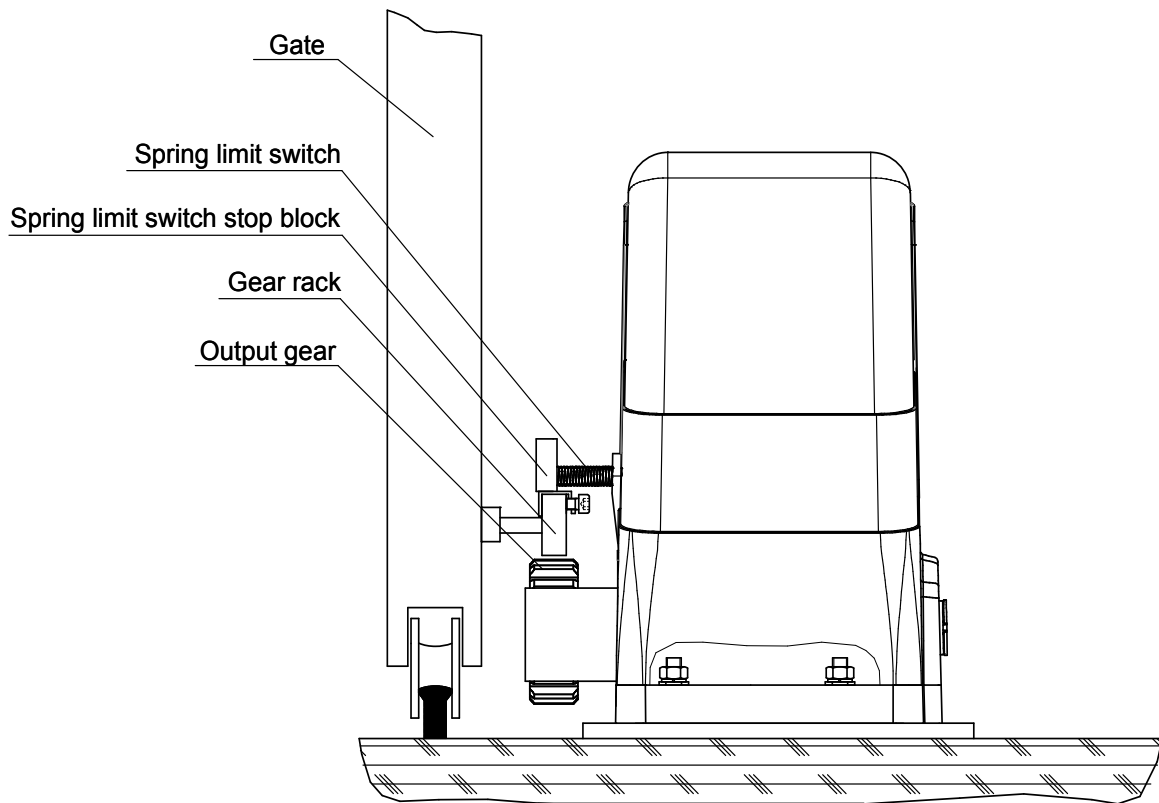
damaged.

·Earth leakage circuit breaker must be installed where the gate movement can be seen, and the minimum mounting height is 1.5m to protect it from being touched.

·After installation, please check whether the mechanical property is good or not, whether gate movement after manual unlocking is flexible or not, and whether the infrared sensor (optional) is installed correctly and effectively.

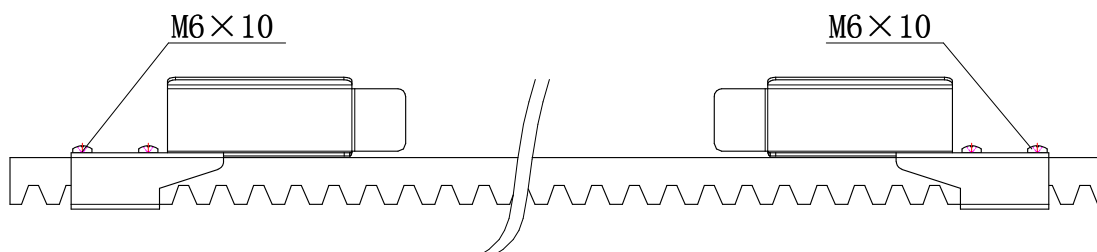
#### 4.3.4 Limit switch adjustment

**Spring limit switch** - The installation site of spring limit switch is shown in Figure 8:



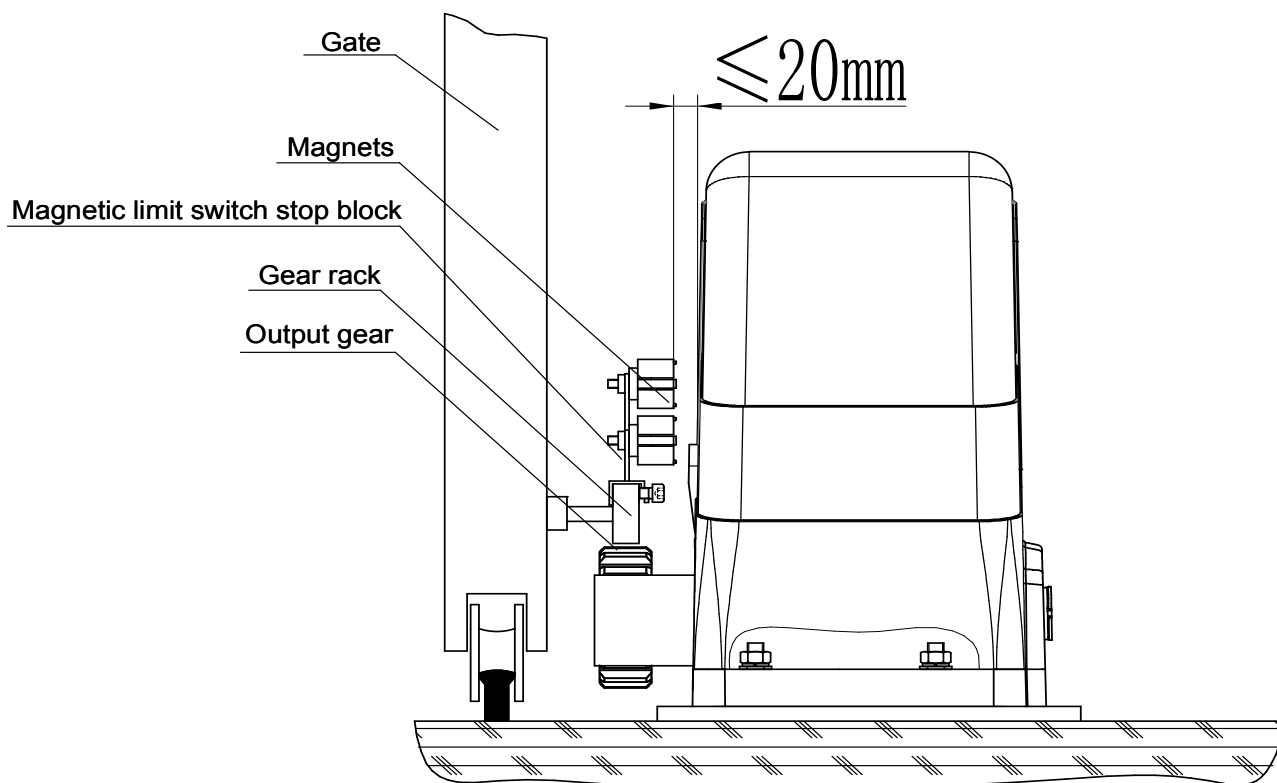
**Figure 8**

The installation of spring limit switch stop block is shown in Figure 9:



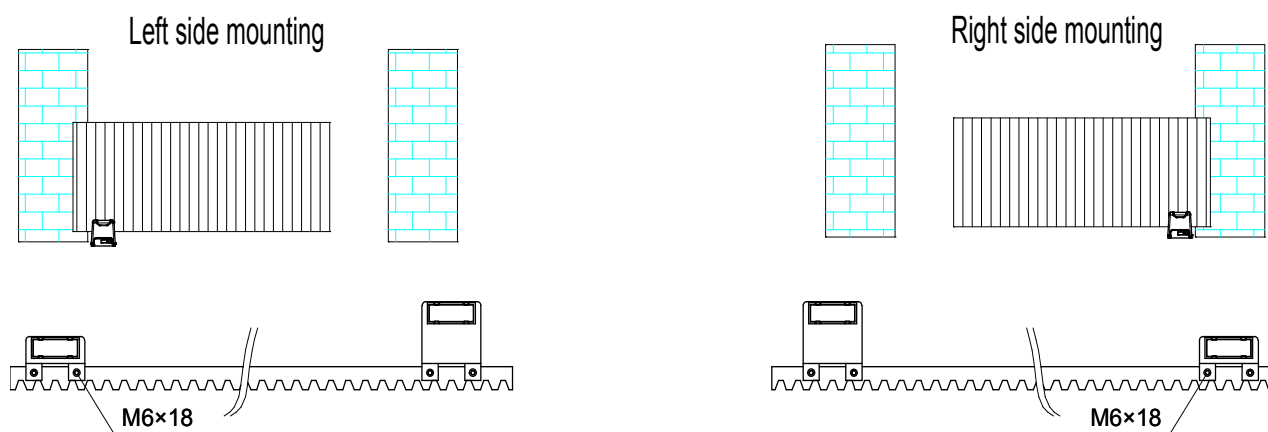
**Figure 9**

**Magnetic limit switch** - The installation site of magnetic limit switch is shown in Figure 10:



**Figure 10**

The installation of magnetic limit switch block is shown in Figure 11:



**Figure 11**

**Note:** The default setting is right side mounting. (According to actual situation, please refer to the “Note” of section 4.3.5.1 and 4.3.5.2 “Adjustment and operation” to adjust.)

## 4.3.5 Control board wiring

### 4.3.5.1 Standard control board

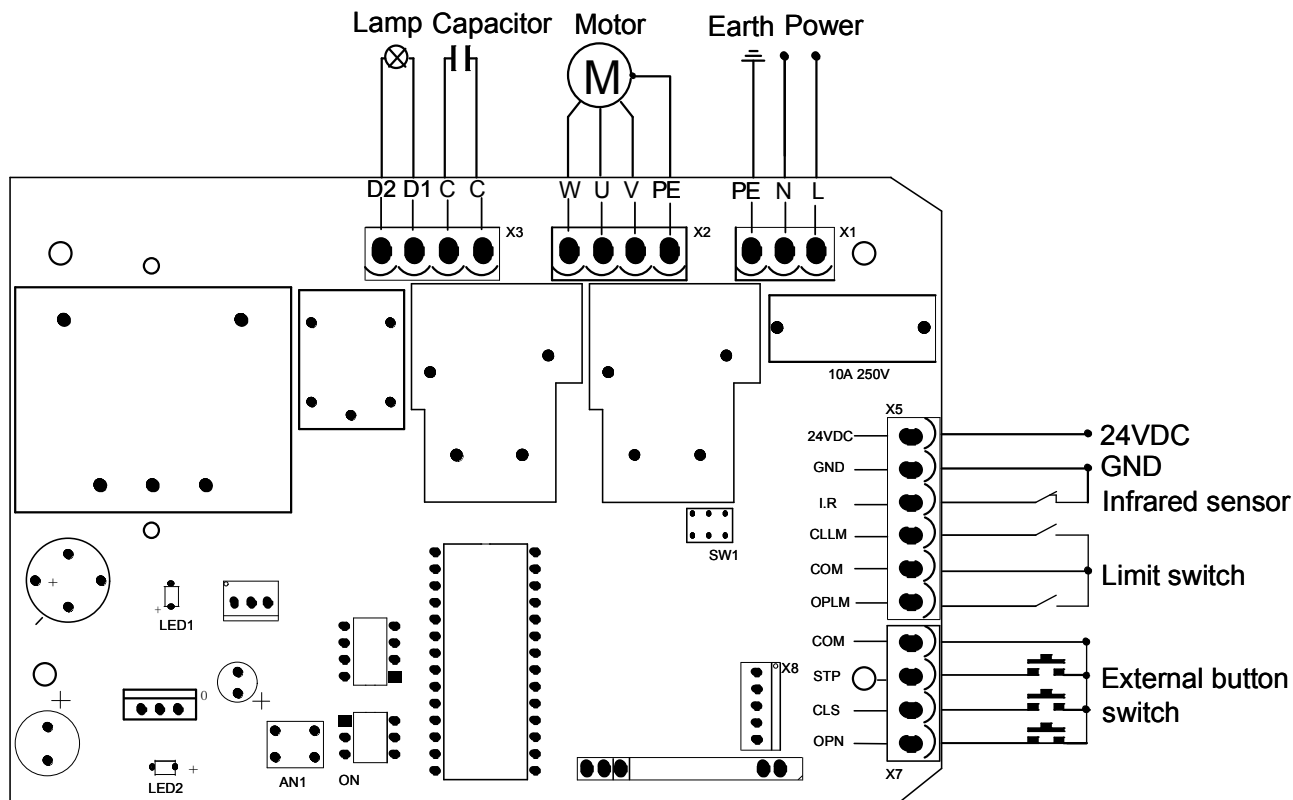


Figure 12

#### Wiring instruction:

1. Connect L and N to the power supply of AC220V/50HZ; AC110V/60HZ; L is live wire, N is Neutral wire, and PE is grounding wire.
2. Connect LAMP to D1, D2; voltage: AC220V/50HZ; AC110V/60HZ.
3. Connect the motor wire U to the REV motor wire, connect W to the FWD motor wire, and connect V to the motor common wire.
4. Connect C, C to the capacitor wire.

#### X5 Terminal

24VDC	Power supply for fittings +24VDC (Electric current $\leq 50\text{mA}$ );
GND	Power ground;
I.R	Photocell input (N.C.);
CLLM	Close limit switch;
COM	Limit switch common terminal;
OPLM	Open limit switch.

#### X7 Terminal

COM	Control button common terminal;
STP	Stop control button (N.O.);
CLS	Gate close control button (N.O.);
OPN	Gate open control button (N.O.).

## DIP Switch

1. External button switch. ON - Three button switch; OFF - One button switch (X7 terminal CLS button can be used to circularly control the main engine OPEN/STOP/CLOSE/STOP).

2. Automatic close time.

3. Automatic close time.

2 ON 3 OFF: automatic close time is 15s,

2 OFF 3 ON: automatic close time is 30s,

2 OFF 3 OFF: automatic close time is 45s,

2 ON 3 ON: no automatic close function.

## Infrared connection

Infrared photocell function: In the closing process, when infrared ray of the photocell is covered by people or objects during its detection range, the gate will open immediately for security protection.

The distance between photocell receiver and photocell emitter should be more than 2 meters, otherwise will affect the induction of the photocell.

If connect the infrared photocell, please remove the short connection between I.R and GND on the X5 terminal.

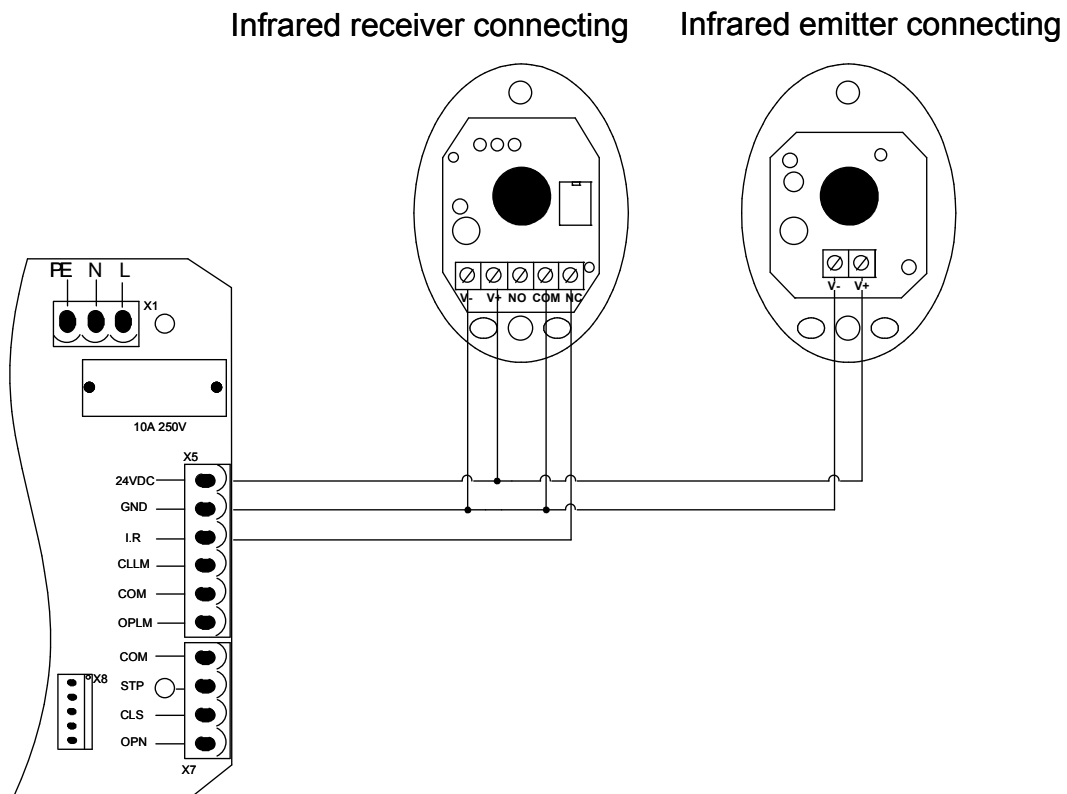


Figure 13

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## Adjustment and operation

### Remote control operation

Three button mode remote control: OPEN/CLOSE/STOP of main engine are controlled by three buttons separately on the remote control.

Single button mode remote control: OPEN/CLOSE/STOP of main engine are controlled by one button circularly on the remote control.

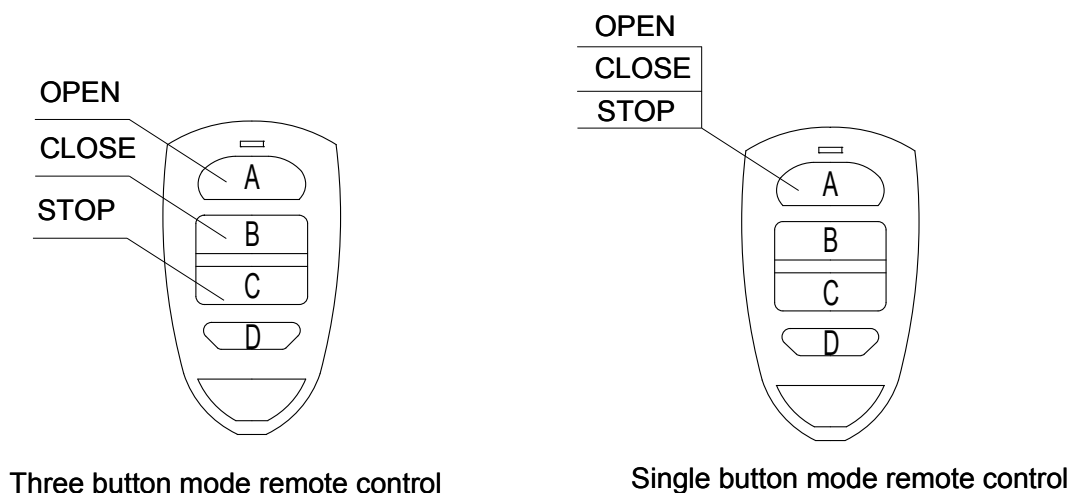


Figure 14

**Add extra remote control (remote control learning):** Remove the main engine housing, then take out the upper cover of the control box, press the learning button AN1 on the control board, and indicator light LED2 will flash. Press the button that to be learned on the remote control once, The LED2 will be off. Press the same button on the remote control twice, the LED2 will flash several times and be off; remote control learning complete. A maximum of 25 remote controls can be learned.

**Delete remote control:** To delete remote control that have been learned: press and hold the learning button AN1, the indicator light LED2 will be on; Then release it until LED2 is off. After the steps, all the matched remote controls will be deleted.

**Note:** To disengage gate opener, move the gate to the middle position, then close the clutch and press the open button of external button switch to open the gate. **If the gate opening direction is wrong, you can change the direction through the toggle switch SW1 on the control board or exchange the motor phase-sequence lines U and W. If the opening or closing limit is wrong, please exchange limit switch lines CLLM and OPLM on the control board.**

### 4.3.5.1 Intelligent control board

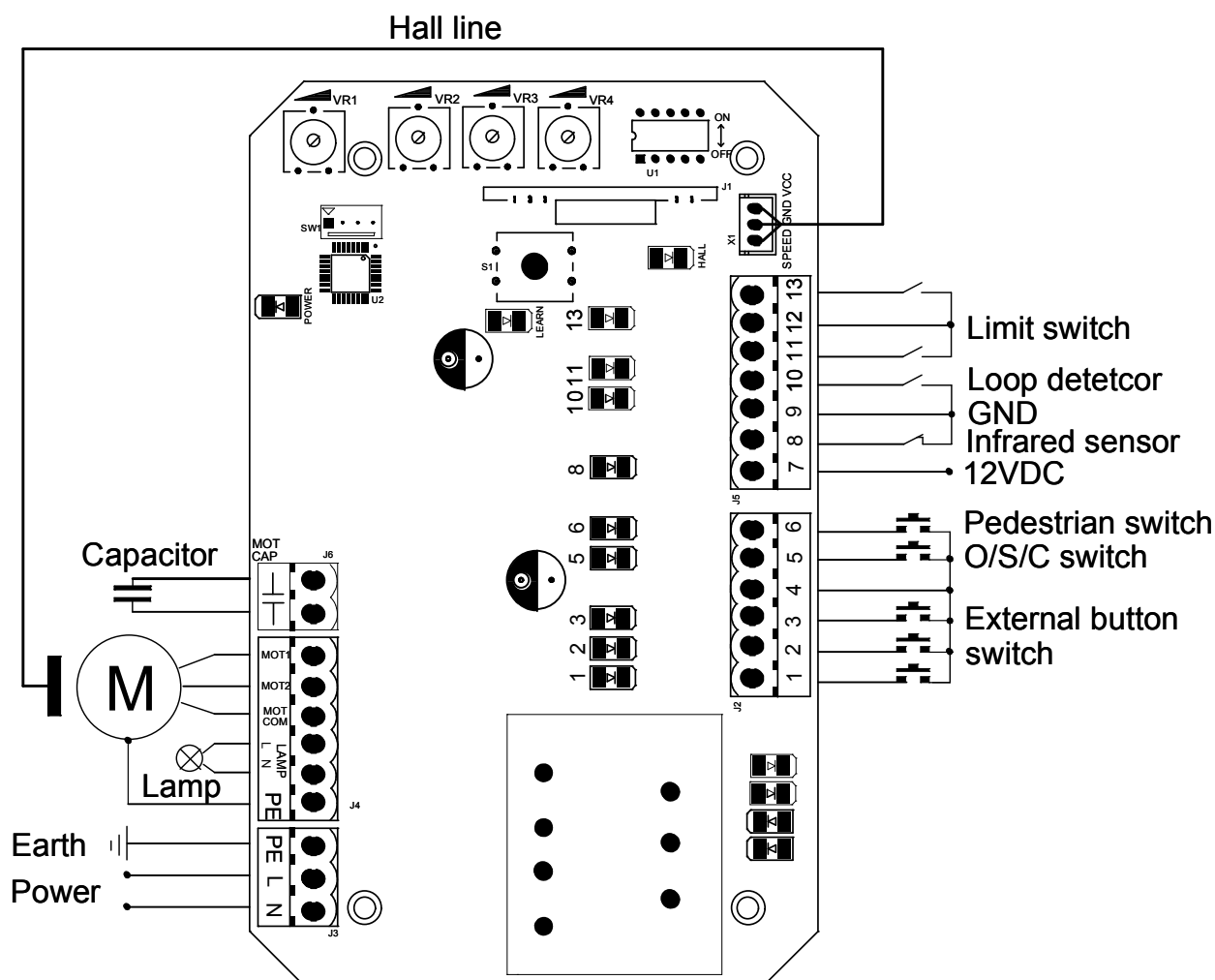


Figure 15

#### Wiring instruction:

1. Connect L and N to the power supply of AC220V/50HZ; AC110V/60HZ; L is live wire, N is Neutral wire, and PE is grounding wire.
2. Connect LAMP to caution light; voltage: AC220V/50HZ; AC110V/60HZ.
3. Connect the motor wire MOT2 to the REV motor wire, connect MOT1 to the FWD motor wire, and connect MOTCOM to the motor common wire.
4. Connect MOTCAP to the capacitor wire.

J2 (For the convenience of wiring, this terminal is accompanied with failure diagnosis light)

1. Gate close control button (N.O.)
2. Gate open control button (N.O.)
3. Stop control button (N.O.)
4. Control button common terminal
5. Open/Stop/Close/Stop loop control button (N.O.)
6. Pedestrian mode control button (N.O.)

J5 (For the convenience of wiring, this terminal is accompanied with failure diagnosis light)

7. Power supply for fittings: +12V (Electric current  $\leq 100\text{mA}$ )

8. Photocell input (N.C.); short out the device if not used.

9. GND

10. Loop detector (sensor coil) connector (N.O.)

In the closing process, once vehicles are detected by the loop detector, the gate will open soon; when the vehicle passes, the gate will close automatically. When the gate is in a halted state, it will keep this state when vehicles are detected; after the vehicle passes, the gate will close automatically.

In the above loop detector function, users can make the gate close automatically 12 seconds later after the vehicle passes. Change the No.4 key of the dip switch on circuit board, and the gate will close automatically 12 seconds later after the vehicle passes.

11. Close limit switch

12. Limit switch and other input signal common terminal

13. Open limit switch

## Function adjustment

Functional parameters of the control board equipped with microprocessor can be adjusted through potentiometer and dip switch, so as to meet different installation requirements.

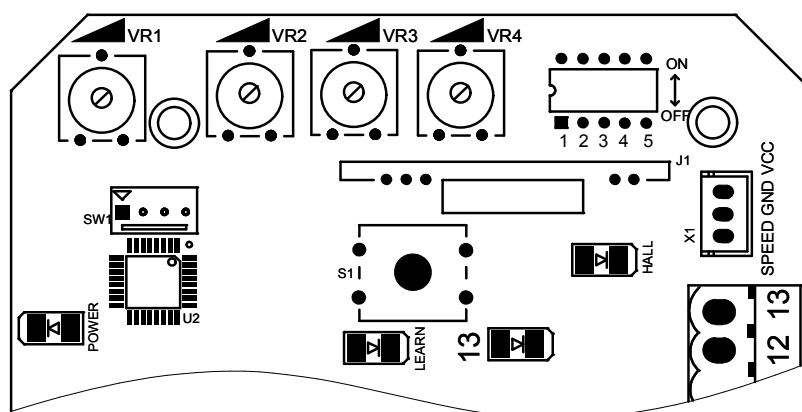


Figure 16

### Adjusting knob

**VR1:** When meet obstacle reverse function is enabled (DIP switch 5 at OFF position and the motor assembled the hall line). This knob is used for sensitivity adjustment of meet obstacle.

Clockwise rotation to reduce sensitivity of obstacle, counter-clockwise rotation to increase sensitivity of obstacle.

When meet obstacle reverse function is disabled (DIP switch 5 at ON position). This knob is used for motor working total time adjustment. Clockwise rotation to increase, counter-clockwise rotation to reduce. The total time can be set to 10 seconds as minimum and 90 seconds as maximum.

**VR2:** For brake force adjustment in limit position.

Clockwise rotation to increase, counter-clockwise rotation to reduce.

Rotate to minimum to cancel brake function in place.

**VR3:** For slow stop width adjustment.

Clockwise rotation to increase, counter-clockwise rotation to reduce.

**VR4:** For motor output force adjustment to keep safe usage.

Clockwise rotation to increase, counter-clockwise rotation to reduce.

**Note:** the default setting is VR1, VR2, VR3, VR4 are the maximum value, and the user can adjust according to the actual requirement.

**Warning:** the motor output force cannot set too large, just to be able to drive the gate.

### Dip switch

1. Soft start function. OFF - enabled; ON - disabled.
2. Limit switch setting. OFF- normal open (N.O.); ON - normal close (N.C.).
3. Automatic close time.
4. Automatic close time.

Setting for automatic close time:

3 OFF 4 ON: automatic close time is 12s,

3 ON 4 OFF: automatic close time is 24s,

3 ON 4 ON: automatic close time is 36s,

3 OFF 4 OFF: no automatic close function.

5. Meet obstacle reversal function. OFF - enabled; ON - disabled.

### Infrared connection

Infrared photocell function: In the closing process, when infrared ray of the photocell is covered by people or objects during its detection range, the gate will open immediately for security protection.

The distance between photocell receiver and photocell emitter should be more than 2 meters, otherwise will affect the induction of the photocell.

If connect the infrared sensor, please remove the short connection between 8 and 9 on the J5 terminal

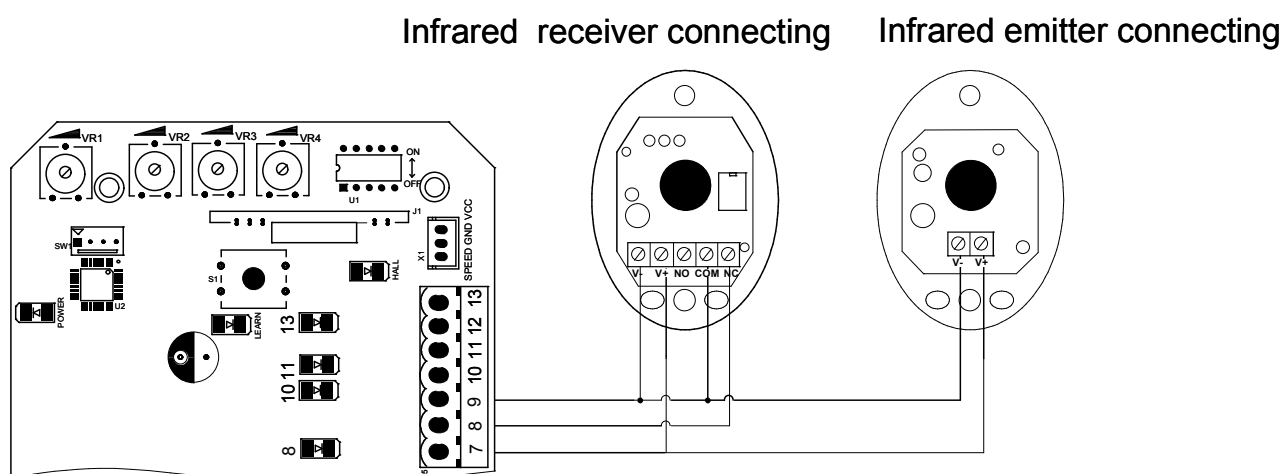


Figure 17



## Adjustment and operation

### Remote control operation

Three button mode remote control: OPEN/CLOSE/STOP of main engine are controlled by three buttons separately on the remote control.

Single button mode remote control: OPEN/CLOSE/STOP of main engine are controlled by one button circularly on the remote control.

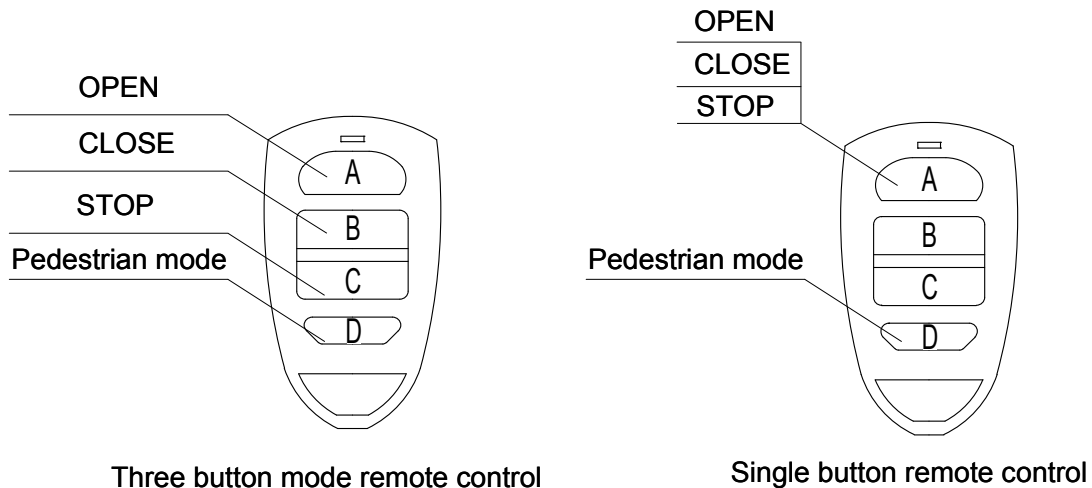


Figure 18

**Add extra remote control (remote control learning):** Remove the main engine housing, then take out the upper cover of the control box, press and hold the learning button S1 for 2 seconds, then the indicator light LEARN will be on; press the button that to be learned on the remote control twice, the LEARN will flash several times and be off; remote control learning complete. A maximum of 40 remote controls can be learned.

**Delete remote control:** To delete remote control that have been learned; press and hold the learning button S1, the indicator light LEARN will be on; Then release it until LEARN is off. After the steps, all the matched remote controls will be deleted.

The fourth button on the remote control is for pedestrian mode, press the button while the door is closed, it will open for 1 meter which is for pedestrian only.

**Note:** To disengage gate opener, move the gate to the middle position, then close the clutch and press the open button of external button switch to open the gate. **If the gate opening direction is wrong, you can exchange the motor phase-sequence lines MOT2 and MOT1. If the opening or closing limit is wrong, please exchange limit switch lines which are connected to the corresponding terminal 11 and 13 on the control board.**

## 5. Others

### 5.1 Maintenance

Check whether the gate operates normally every month.

For the sake of safety, each gate is suggested to be equipped with infrared protector, and regular inspection is required.

Before installation and operation of the gate opener, please read all instructions carefully.

Our company has the right to change the instruction without prior notice.

## 5.2 Troubleshooting

Problems	Possible Reasons	Solutions
The gate cannot open or close normally, and LED does not light.	<ol style="list-style-type: none"><li>1.The power is off.</li><li>2.Fuse is burned.</li><li>3.Control board power wiring with problem.</li></ol>	<ol style="list-style-type: none"><li>1.Switch on the power supply.</li><li>2.Check the fuse (code FU), change the fuse if burnt.</li><li>3.Re wiring according to instructions.</li></ol>
The gate can open but cannot close.	<ol style="list-style-type: none"><li>1.Photocell wiring with problem.</li><li>2.Photocell mounting with problem.</li><li>3.Photocell is blocked by objects.</li><li>4.Sensitivity of obstacle is too high (Intelligent type).</li><li>5.Hall switch parts is damaged (Intelligent type).</li></ol>	<ol style="list-style-type: none"><li>1.If not connect photocell, please make sure that the infrared port and GND short circuit; if connect infrared sensor, please make sure the wiring is correct and the photocell is N.C.</li><li>2.Make sure that the photocell mounting position can be mutually aligned.</li><li>3.Remove the obstacle.</li><li>4.Reduce the sensitivity of obstacle.</li><li>5.Change hall switch parts.</li></ol>
Remote control doesn't work.	<ol style="list-style-type: none"><li>1.Battery level of the remote control is low.</li><li>2.Remote control learning is not completed.</li></ol>	<ol style="list-style-type: none"><li>1.Change the remote control battery.</li><li>2.Re-conduct remote control learning.</li></ol>
Press OPEN, CLOSE button, the gate is not moving, motor has noise.	<ol style="list-style-type: none"><li>1.Capacitor is broken.</li><li>2.Capacitor is poor connected.</li><li>3.Gate moving is not smoothly.</li></ol>	<ol style="list-style-type: none"><li>1.Change capacitor.</li><li>2.Check the capacitor wiring.</li><li>3.According to the actual situation to adjust the motor or the gate.</li></ol>
Not stop at the limit position when opening / closing.	<ol style="list-style-type: none"><li>1. The limit direction is wrong.</li><li>2. The mounting of magnetic limit switch with problem.</li></ol>	<ol style="list-style-type: none"><li>1.Check whether the limit switch wiring is consistent with the actual direction of operation.</li><li>2. Check whether the distance between magnetic limit switch and motor, and the height of the magnetic limit switch can reach up the mounting requirement.</li></ol>

Leakage switch tripped.	Power supply line short circuit or motor line short circuit.	Check wiring.
Remote control working distance is too short.	Signal is blocked.	Connect external receiver antenna, 1.5 meters above ground.
The gate moves to the middle position to stop or reverse.	1.Motor output force is not enough (Intelligent type). 2.Sensitivity of obstacle is too big(Intelligent type). 3.Gate meets obstacle.	1.Adjust the VR4. 2.Adjust the VR1. 3.Remove the obstacle.