

Automatic Sliding Gate Opener

User's Manual



Attention

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

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1. Summary

This equipment is one of the auto gate openers launched by our company adopting a new design and integrated control system. Our sliding gate opener has many features such as: low noise, light weight, powerful starting torque, stability, reliability and is compact and stylish. The motor will still work for a short period of time using lower voltage. The control board has overload protection. When there is a power failure, the motor drive can be separated by the use of the clutch, by using the specified key the user has the ability to disconnect the clutch enabling the gate to be opened or closed manually. Using the optional infrared photocells the gate will automatically stop and re-open if an obstacle is sensed.

2. Appearance and dimensions

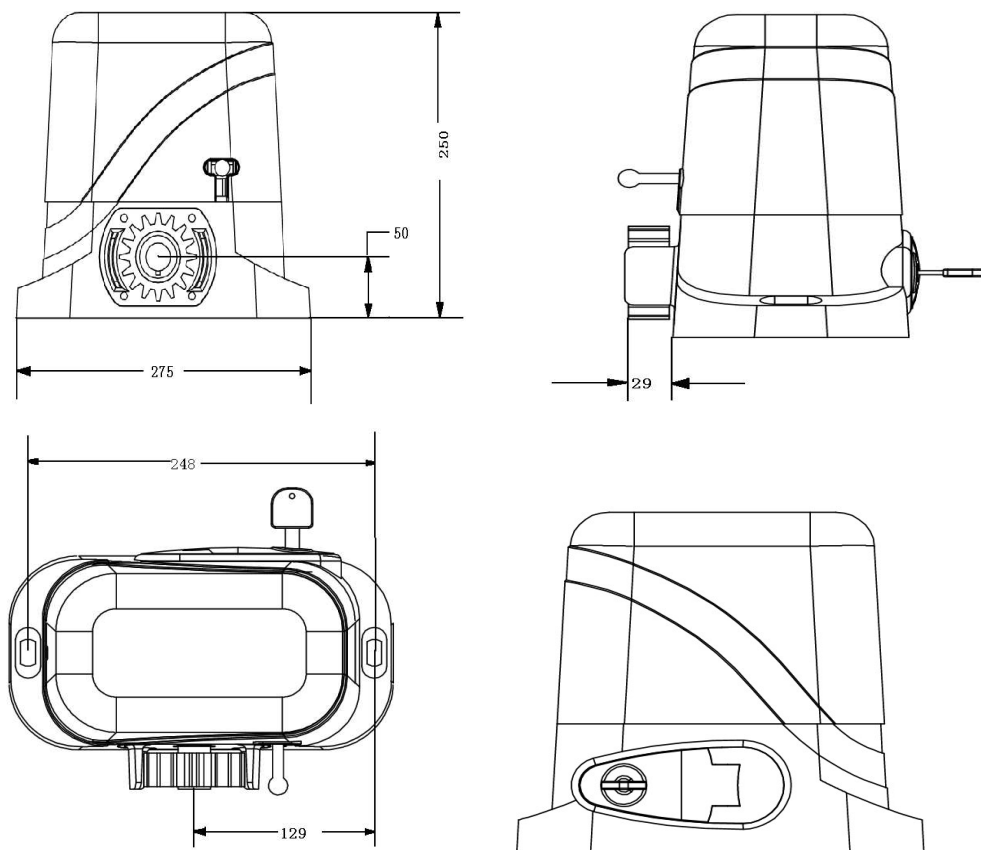


Fig 1

3. Parameters

1. Working temperature of motor: $-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$
2. Working humidity: $\leq 85\%$

3. Power supply: 220VAC \pm 10%/110VAC \pm 10% 50Hz/60Hz
4. Rated power: 250W
5. Output gear module: M=4
6. Output gear number: Z=16
7. Output torque: 16.0 N.m
8. Open(close) speed: $v=12\text{m/min}$
9. Rated speed: 1400RPM
10. Maximum pull: 1100N
11. Maximum load: 600KG
12. Net weight: 11KG
13. Remote control distance: $\leq 50\text{meter}$
14. Packing: In a standard carton
15. Protection Class: B

4. Features of control board

1. Totally integrated electrical mechanical system (excludes racks)
2. Single button control circularly /three buttons control can be choosed
3. Control board interface for optional impact-proof infrared photocells
4. Alarm lamp interface
5. Automatic delayed closing
6. Pedestrian mode
7. Adjustable resistance sensitivity
8. Gate will auto stop and re-open when an obstacle is encountered
9. Wireless remote control or wired remote control are optional

5. Installation of mechanical parts

5.1 Installation of motor base plate

1. Depending on the installation size of the motor and mounting height of racks, after determine the installation position of the motor base plate, first let the bolt embedded or use expansion bolt to make base plate fixed on watering good cement foundation. See Fig 2

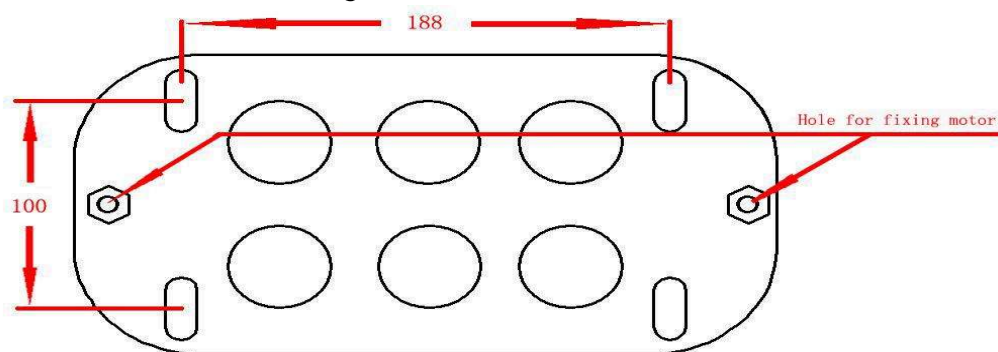


Fig 2

2. If the rack has been installed on the door, the motor can be fixed on the base plate. use a Allen key rotation to the clutch "off" position, the motor and the gear rack so as to better determine the position of the motor base plate, then remove the motor and fixed base plate.

5.2 Installation of gate opener

1. Let the sliding gate opener put on the base plate. use a random matching hexagon screw make the motor fixed on the base plate.
2. Unscrew the screws fixed the motors cover, and then remove the motor cover. according to the electrical wiring diagram ,connected the power cord, after adjust in good position, Then install cover and use screws to fixed it

5.3 Installation of racks

1. After the motor is installed, the racks teeth the down ,then put the gear on the motors. and final connected with screws and gate. push the door with hand. so can

let door sliding it and can move it without any problem. after confirmed, fixed the racks.

2. Rack is usually unit assembly, in order to avoid gate run jitter or jammed, rack and joint clearance must be corrected. Suggest use this way, see diagram 3. with a small correction of the rack, after connecting right with racks 1 and racks 2, then fixed racks 1 and 2.

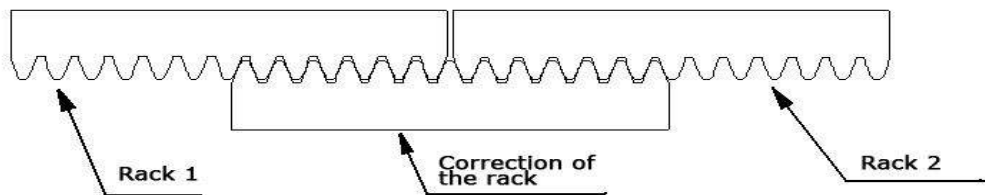


Fig 3

5.4 Installation of limit levers.

There are 2 limit levers supplied. Note there is a left hand and a right hand lever. The levers should be installed one at either end of the rack. See Fig5.

To install the levers in the correct position, open the clutch door and press the 'CLOSE' button on the remote, the motor will run but will not drive the gate. Close the gate manually and adjust the limit lever to contact the toggle switch and switch the motor off at the desired gate position. To adjust the stop position of the gate when it is open, press the 'OPEN' button, manually open the gate and adjust the other limit lever to contact the toggle switch and switch the motor off.

When you are satisfied the levers are in the correct positions, tighten the screws in the levers to clamp them to the rack, close the clutch door and using the remote control check the gate opens and closes to the desired positions. Adjust the limit levers if necessary.



Fig 4

5.5 Function of clutch

When the clutch is opened to the open position, you can manually push the door; when closing the clutch, electric door can run on, off, when touching limiting the bezel will stop automatically.

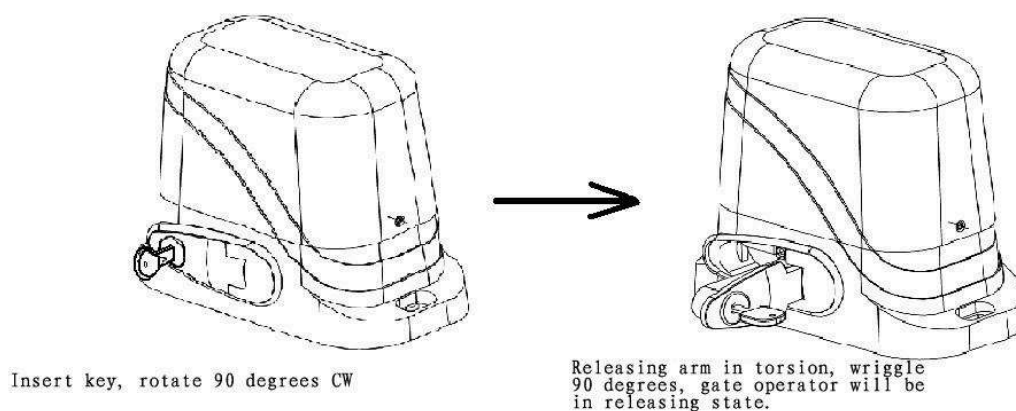


Fig 5

6. Installation diagram of electrical parts (Fig 6)

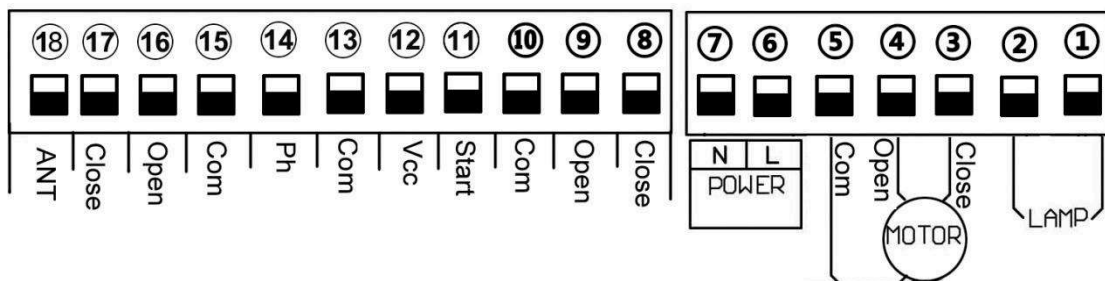


Fig 6

6.1. Terminal ⑥ and ⑦ it for connecting to 220V power

6.2. Connect to sliding gate motor

A. Install the motor on the right of gate.(Please see Fig 7)

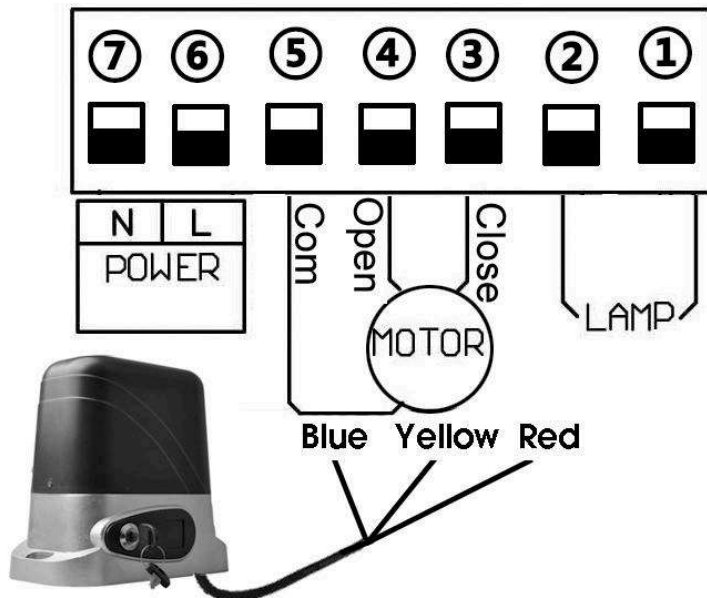


Fig 7

When the motor being installed to the right of gate , motor wires diagram follows

Terminal ③ connect the red wire from motor. and

Terminal ④ connect the yellow wire from motor.

Terminal ⑤ connect the blue wire from motor.

Please note: Our factory setting is install motor on the right of gate!

B. Install the motor on the left of gate. (Please see Fig 8)

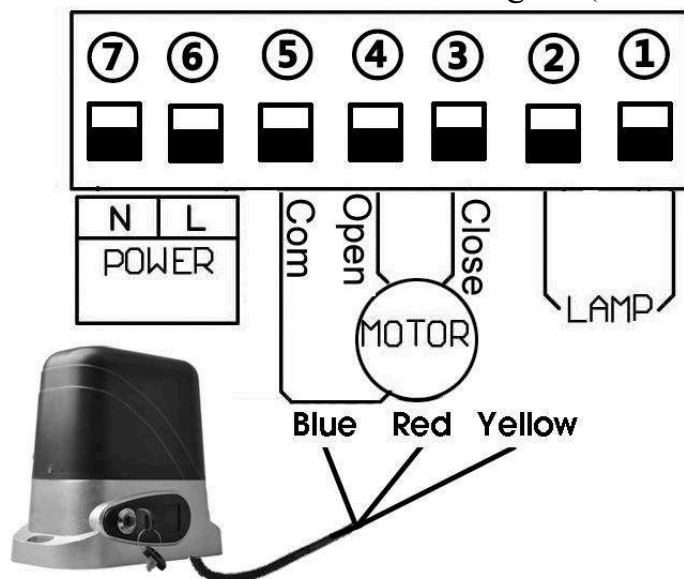
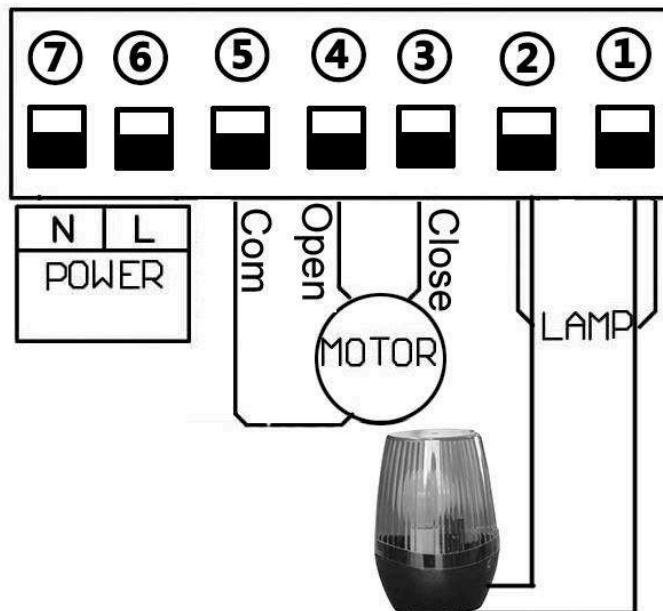


Fig 8

When the motor being installed to the left of gate , motor wires diagram as follows:
Terminal ③ connect the yellow wire from motor. and
Terminal ④ connect the red wire from motor.
Terminal ⑤ connect the blue wire from motor.

Please note : When you exchange red and yellow wire, please check if the motor can close and stop normally. If can't ,please up or down the “J1” to the opposite direction. Note: “J1” includes two pcs short circuit caps, you need to adjust the caps simultaneously, then it work.

C. Connect to flashing light. (Please see Fig 9)



Flashing light

Fig 9

Terminal ① and ② is for flashing light .

AC220V power output, flashing light on when motor start running, after motor stop 30s, the flashing light turn off

D. Terminal ⑧⑨ and ⑩ is for external limit switch.

E. Connect to infrared sensor.(Please see Fig 10)

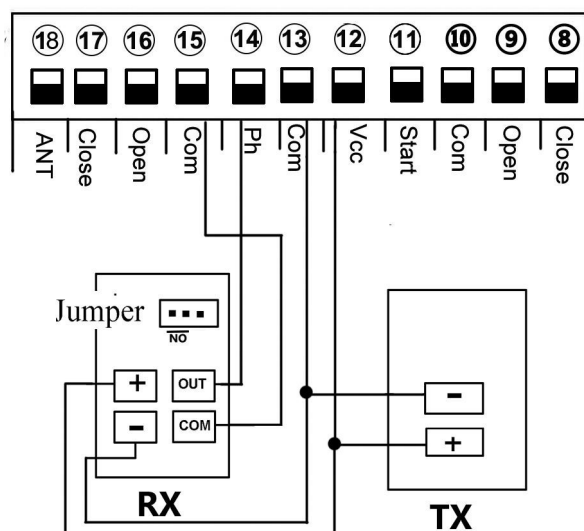


Fig 10

connect terminal ⑮ to the “COM “of photocell RX.

connect terminal ⑭ to the “OUT “of photocell RX.

Terminal is supplying power for external device.

So, connect terminal ⑫ to the “+ “of photocell RX and TX.

connect terminal to ⑬ the “-“of photocell RX and TX.

F. Connect to start terminal. (Please see Fig 11)

When you don't want to use the remote control to control the gate . Terminal ⑪ is for you connect some external device , such push button, wired keypad, receiver etc.

Control gate open, stop ,close.

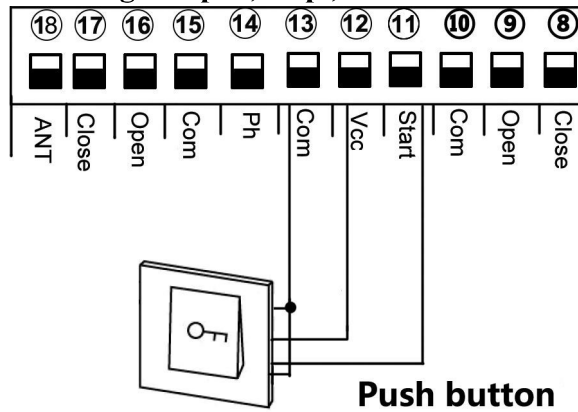


Fig 11

Example for push button;

Terminal ⑮ and ⑮ connect to push button. Terminal ⑮ and ⑮ to supply power for push button

G. Connect to open device. (Please see Fig 12)

Terminal ⑮ is open only , for external device, such push button, wired keypad, receiver etc.

Only control gate open

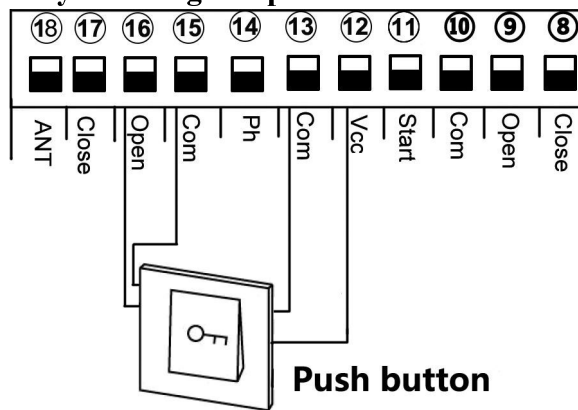


Fig 12

Example for push button;

Terminal ⑮ and ⑮ connect to push button. Terminal ⑮ and ⑮ to supply power for push button

H. Connect to close device. (Please see Fig 13)

Terminal ⑮ is close only , for external device, such push button, wired keypad, receiver etc.

Only control gate close

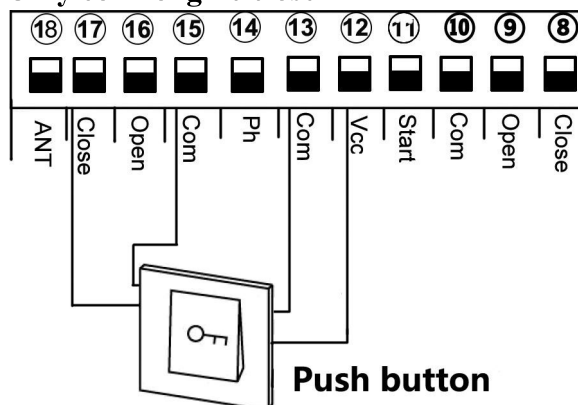


Fig 13

Example for push button;

Terminal ⑮ and ⑮ connect to push button. Terminal ⑮ and ⑮ to supply power

for push button

7. Function Testing

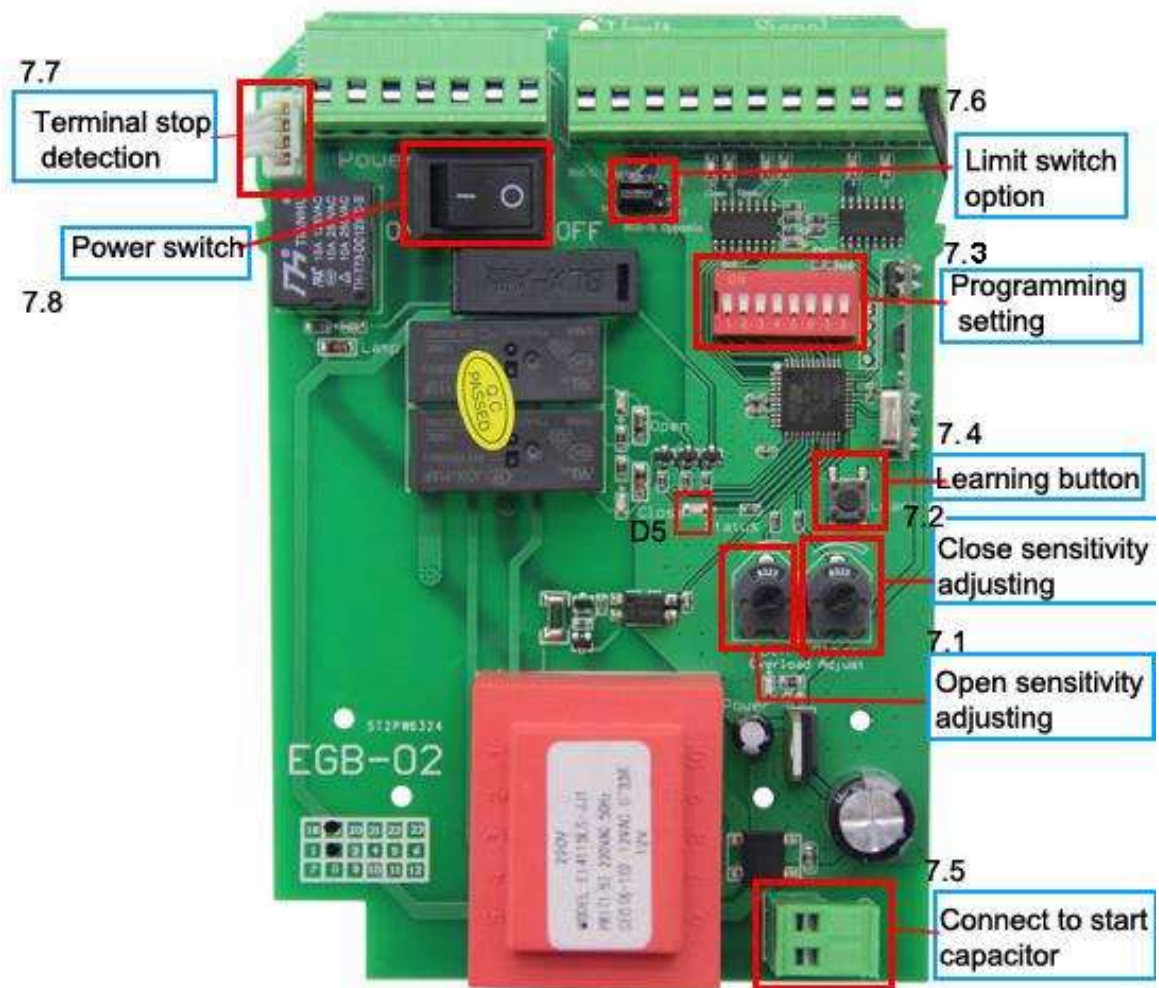


Fig 14

The following functions refer to the picture Fig 14

7.1 Gate open blocked detection:

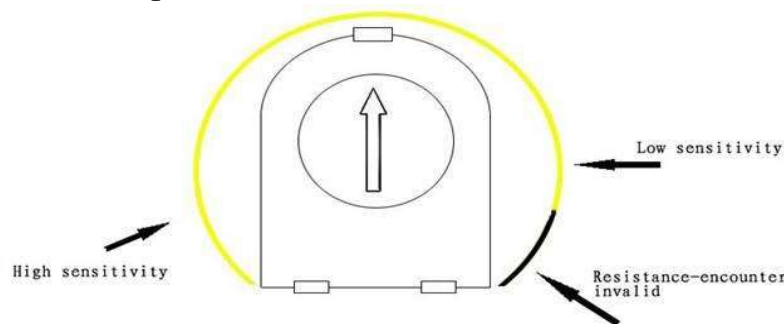


Fig 15

As picture show, we can rotate "Open overload " potentiometer to adjust the motor open sensitivity of blocked

A. High sensitivity : when the motor is rotation, will meet some minor resistance, then control board will send a signal to let motor stop rotating.

B. Low sensitivity : when the motor is rotation, will meet greater resistance, then control board will send a signal to let motor stop rotating.

C. As picture show, when pointer rotate to black part ,the control panel will quit this system

7.2 Gate close blocked detection:

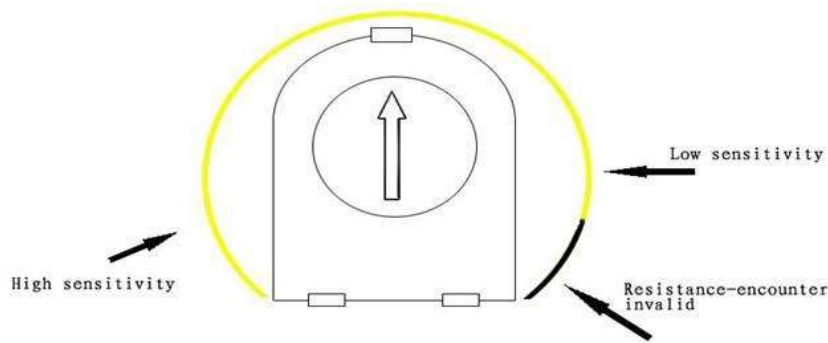


Fig 16

As picture show, we can rotate "Close adjust " potentiometer to adjust the motor close sensitivity of blocked

- A. High sensitivity : when the motor is rotation, will meet some minor resistance, then control board will send a signal to let motor stop rotating.
- B. Low sensitivity : when the motor is rotation, will meet greater resistance, then control board will send a signal to let motor stop rotating.
- C. As picture show, when pointer rotate to black part ,the control panel will quit this system

7.3. programming setting:

A. Dial-up 1: Limit mode optional

OFF: NC mode(Factory setting)

ON : NO mode

Limit switch direction setting(J1):

Normal :Short circuit cap simultaneously No1 and No2 of J1 (Factory setting)

If motor system install at left of gate . Please adjust the J1 ,short the cap simultaneously No2 and No3

B. Dial-up 2: Infrared mode

OFF: NC mode(Factory setting)

ON: NO mode

If the gate meet obstacles during closing, It will auto stop and auto open. After The gate complete open to its place, it will auto close again if the obstacle disappear within 2s, if not , it will not auto close until to the obstacle disappear

C. Dial-up 3 &4: Auto close time setting

Auto close function activated after gate complete open to its place and stop by limit switch

Dial-up 3 &4, OFF-OFF: Auto close function disabled(Factory setting)

Dial-up 3 &4, ON-OFF: 10S

Dial-up 3 &4, ON-ON: 30S

Dial-up 3 &4, OFF-ON: 60S

D. Dial-up 5&6: Auto close time setting when pedestrian mode activated

When remote control triggers the pedestrian mode (remote control button 2 or 4), the gate will stop after open 6s. If auto close function activated, the gate will auto close after gate open to 6s. Auto close time setting as follows:

Dial-up 5 &6, OFF-OFF: Auto close function disabled(Factory setting)

Dial-up 5 &6, ON-OFF: 5S

Dial-up 5 &6 , ON-ON: 10S

Dial-up 5 &6 , OFF-ON: 30S

Note:

- 1.When the motor is running, the motor will stop immediately if triggers pedestrian mode
- 2.After triggering the pedestrian mode to open the gate for 6s, no mater it enter the countdown to close the gate or stop status, If trigger again, the gate will close the gate immediately.

E. Dial-up 7: Condominium mode setting

OFF: Condominium mode disabled(factory setting)

ON: Condominium mode activated

When the gate is opening, trigger remote control and the start interface are invalid until the door is opened.

When the gate is closing, trigger remote control and the start interface , the gate will stop to close and auto open until the opening limit is reached (the remote control and the start interface are invalid when the gate is opening).

E. Dial-up 8: Remote control buttons mode

OFF: Single button control circularly

First button control gate open,stop, close, second button use for pedestrian mode

ON: Three buttons control

First button control gate open,second button control gate stop ,third button control gate close , fourth button use for pedestrian mode

Not:Please choose the remote control mode firstly before remote control code clearing to control board

7.4 Learn remote control code:

A. Control panel can memory more than 50 pcs remote control

B. Code learning: Press board "LEARN" button, LED indicator light on, press remote control first button, LED indicator flash twice, code learning succeed. If no remote control signals received within 2.6s, the receiver will automatic quit learning functions.

C. Code clearing: Press and hold the button 6 seconds, LED indicator flash twice, all the code that has been memorized in control board will be cleared

7.5 Motor Start Capacitors:

Capacitors are connected with control board before use motor, please confirmed the interface of capacitors is secure. Please see picture Fig 14

7.6 Limited switch options (J1):

Limit switch is used to switch terminal stop detection interface, that direction of open and close the gate

7.7 Terminal stop detection interface:

Terminal for limit switch, such as spring limit or magnetic limit .

7.8 Power switch:

Switch on /off power stop when do some setting on the control board

8.Trouble Shooting

Problem	Possible causes	Repair method
Gate fails to operate	1. Check the clutch states ,power-driven state or not 2. Power no indication, and power trip. 3. The fuse has broken 4. Remote control failure or invalid 5. Damaged power cable 6. Remote control or motor problem	Recovery To restore power Change the fuse Detection or change Detection and Repair Detection and Repair
Working distance of remote control reduced	1. Low battery power or damaged 2. Interference from equipment using the same frequency 3. The receiver of controller was damaged	Replace battery Wait eliminate interference Replace the control board

Gate fails to stop at start or end position	1. The terminal stop toggle switch is damaged or obstructed. 2. Limit switch of the motor and the limit detection of the interface PCB board plug off. 3. Limit of open and close is in wrong position.	Replace toggle switch or remove obstruction Insert and fixed it Adjust of limit switch(K1)
Press open and close key of motor, but cant working and operate	1. Blocked sensitivity is too high(set too big) 2. The gate has lifted off the track and disengaged the drive gear from the rack	Make blocked sensitivity lowered ,and check gear and racks can operate normally. Maintenance and replace.

9. Important Notes

1. When someone or obstructions between the gate, do not open or close the door to ensure safety.
2. The power supply for the control board should be equipped with a separate switch with a fuse rated at 10AMP.
3. There is strong electricity in the control box. Please cut off the power supply before opening the cover.
4. Motor gear modulus $M = 4$, number of teeth = 16, use the corresponding racks
5. the gate should be as straight as possible, making sure after racks fixed good and the gate can be in a good position with motor gear.
6. Racks and gear should be controlled in good gap. so can make sliding steady.
7. After confirm the direction of gate movement . please check if the limit block fixed in good position to avoid the motor run out of control due to failure