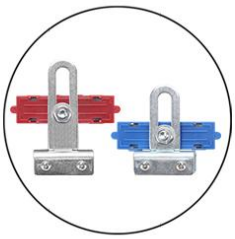
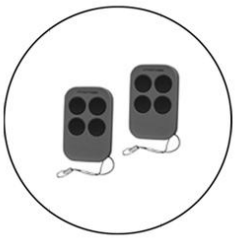
Automatic Sliding Gate Opener

User's Manual





V2.2.2

Contents

1. Summary

This equipment is one of the auto gate openers launched by our company adopting a new design and integrated control system. Our new 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

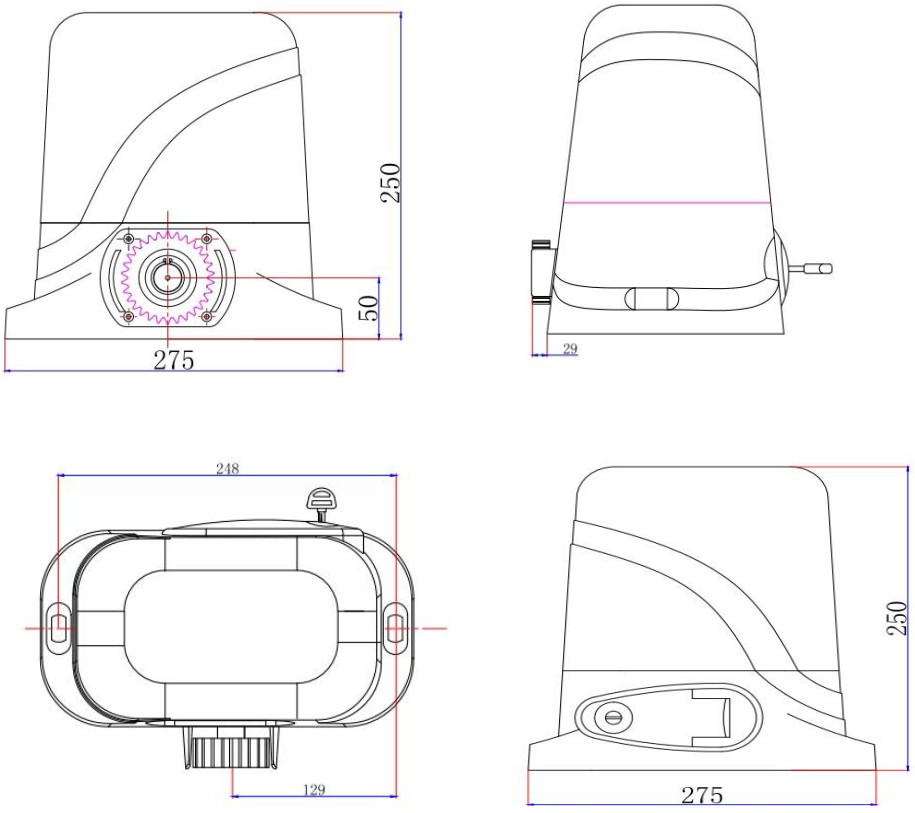


Fig 1

3. Parameters

1. Working temperature of motor：-25°C～ +55°C
2. Working humidity：≤85%
3. Power supply：220VAC±10%/110VAC±10% 50Hz/60Hz
4. Rated power：90W

5. Output gear module：M=4
6. Output gear number：Z=16
7.Output torque:22.0 N.m
8. Open(close) speed：v=16m/min
9. Rated speed ： 1400RPM
10. Maximum pull：1100N
11. Maximum load：800KG
12. Net weight：11KG
13.Remote control distance : ≤50meter
14.Packing : In a standard carton
15. Protection Class : B

4. Features of sliding gate opener

1.Stylish appearance design and built-in control panel integrated inside the mechanism, no external controller or receiver needed.
2.Built in limit switch allowing the motor to switch off once the cycle is finished
3.Built in manual override with 2 supplied unique override keys in case of emergency or power failure.
4.The motor is constructed of all metal gears make it durable and long lasting.
5. Pedestrian mode
6.Resistance sensitivity and auto-closing delay time adjustable
7.Stop/Reverse in case of obstruction during gate opening and closing .
8.Easy installation, firm and solid structure, stable and reliable driving, permanently lubricated, maintaining-free.
10.Single-phase self-lock, anti-pushing, anti-lifting ,safe and reliable.

5. Installation of mechanical parts

5.1 Installation of motor

1. Depending on the installation size of the motor and mounting height of racks, after determine the installation position of the motor base plate. Install the motor on proper position ,and then fixed in that place.so that the motor can open the gate normal and operation.

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 fig 2. With a small correction of the rack， after connecting right with racks 1 and racks 2 ,then fixed racks 1 and 2.

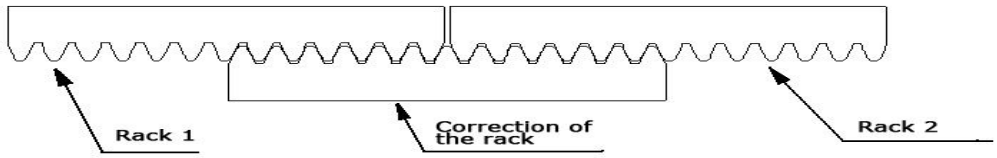


Fig 2

5.4 Installation of limit magnet

There are 2 limit magnet supplied. Note there is a left hand and a right hand magnet. The magnet should be installed one at either end of the rack. See Diagram 4

To install the magnet 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 magnet 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 magnet to contact the toggle switch and switch the motor off.

When you are satisfied the limit magnet are in the correct positions, tighten the screws in the limit magnet 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 magnet if necessary.

Install the motor on the right-hand of gate

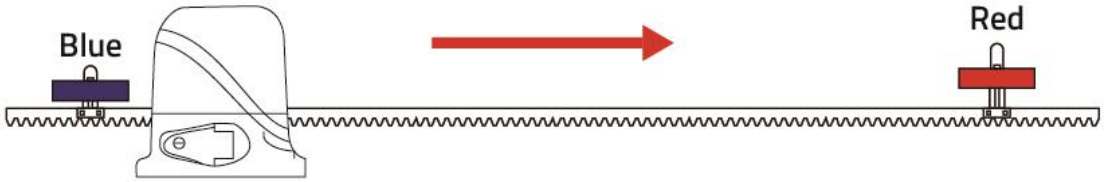
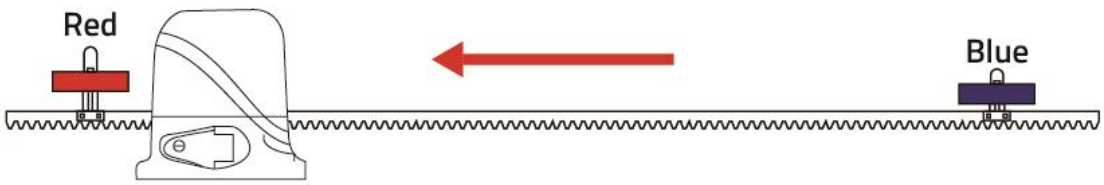


Fig 3

If you install the motor on the left of the gate, please adjust the blue and red limit magnet position as below picture show.



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.

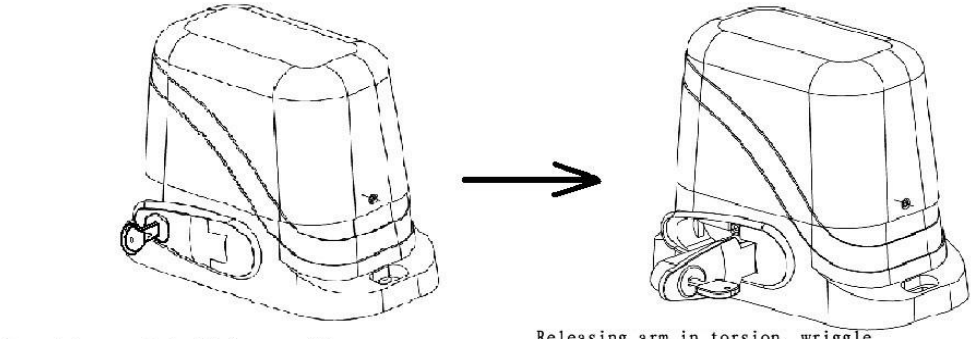


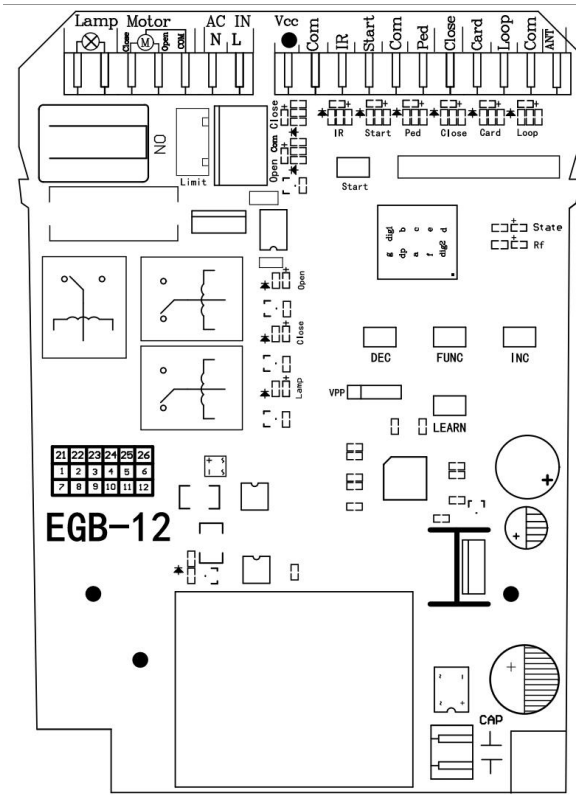
Fig 4

6.Control board

6.1 Technical parameters

1. Power supply: AC110 or 220V / 50Hz/60Hz
2. Application: AC sliding gate opener
3. Remote control: Giant customized rolling code
4. Remote control memory: max support 120pcs

6.2 Terminal and buttons instruction



1&2. Lamp: used for connecting with flashing light, output voltage is AC 110V/220V.
3&4&5. Motor: used for connecting with sliding gate motor's wire.
6&7. AC IN: used for connecting with AC 110V/220V power.
8.Vcc: DC 12V output used for connecting with external devices, max 200mA.
9.Com: used for connecting with COM terminal or GND.
10.IR: used for connecting with the photocell sensor.
11.Start: It is a single button control mode switch for controlling the gate by "open -stop-close - stop - open" cyclically.
12.Com: used for connecting with COM terminal or GND.
13.Ped: Pedestrian mode signal (gate open signal) input port.
14.Close: used for connecting with any external devices that will operate to close the gate.
15.Card: used for connecting with any external devices that will operate to open the gate.
16.Loop: used for connecting with loop detector etc device.
17.Com: used for connecting with COM terminal or GND.
18.ANT: antenna connection.
19. Digital display: It is for showing you the setting data.
20. DEC- button: It is for figure decreasing of setting the data.
21.FUN: Used for enter the menu setting and confirm the data.
22.INC+ button: It is for figure increasing of setting the data.
LEARN button: It is for programming/erasing the remote control.

6.3 Control board wire diagram

- **Install the motor on the right-hand of gate**

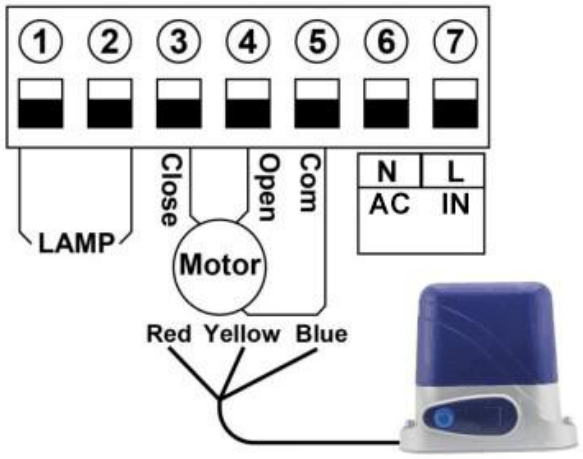


Fig 5

Terminal ③, ④ determines the forward and backward direction of the motor
Terminal ⑤ is for connecting with Com(GND)

Please note : Our factory setting is install motor on the right of gate! When you want to install motor on the left of gate ,please exchange 3 and 4 motor wire .

- **Connect with flash lamp**

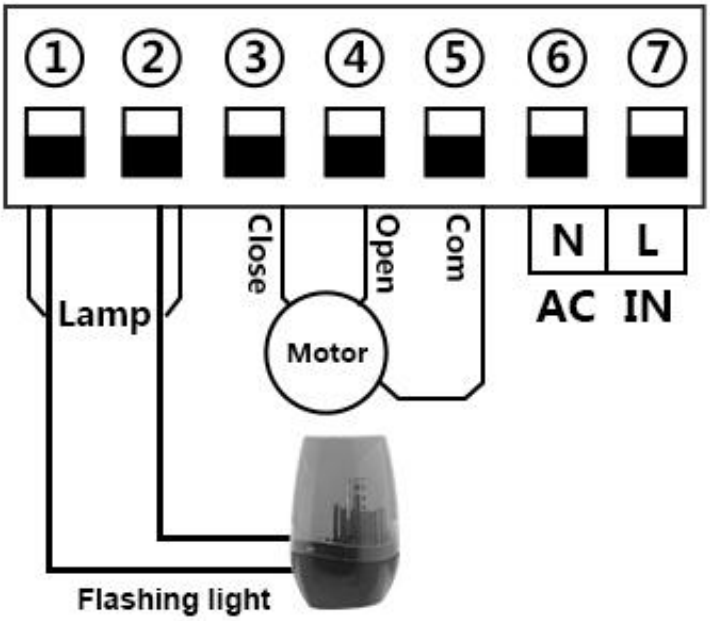


Fig 6

Terminal ① and ② are for connecting with the flash lamp .

- **Connect with safety beam**

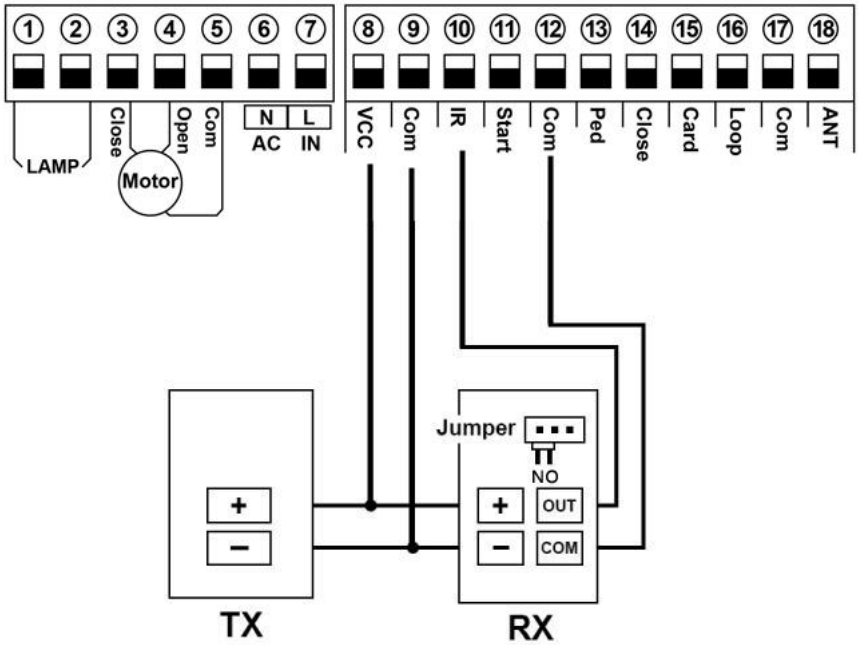


Fig 7

Connect terminal ⑫ with the "COM " of photocell RX.
Connect terminal ⑩ with the "OUT " of photocell RX.
Connect terminal ⑧ with the "+ " of photocell RX and TX.
Connect terminal ⑨ with the "- " of photocell RX and TX.

● Connect with start terminal

Start terminal is used for connecting with some external devices , such push button, swipe card, wired keypad, receiver etc.

Control gate by " open-stop-close-stop-open " mode

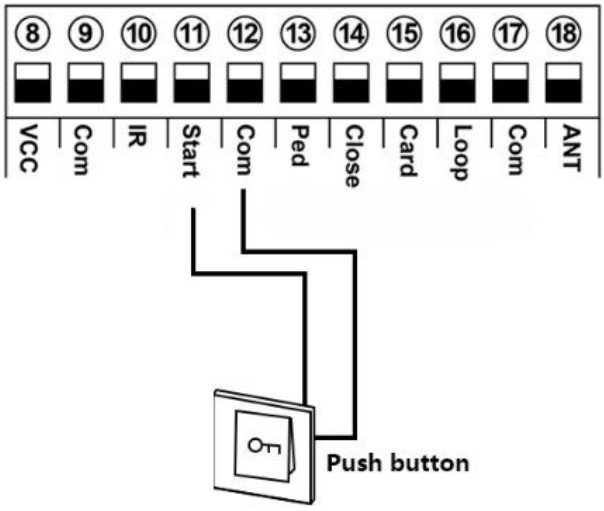
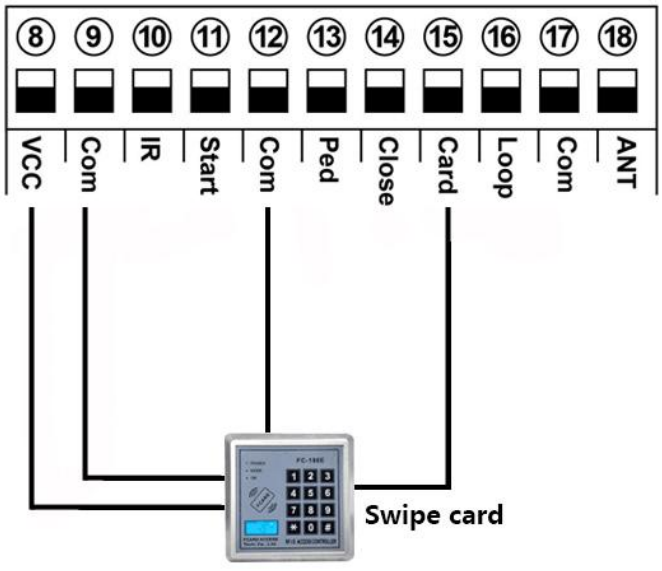


Fig 8

Terminal ⑪ and ⑫ is for connecting with the push button.

Note! If you connect the swipe card or wired keypad, etc devices, please also connect with ⑧ Vcc and ⑨ Com to get the power supply.

● Connect with swipe card



Terminal ⑮ is for opening the gate only , for external device such swipe card, wired keypad etc.

Terminal ⑮ and ⑫ is for connecting with the swipe card. Terminal ⑧ and ⑨ is for supplying the power to the swipe card.

- **Connect with loop detector**

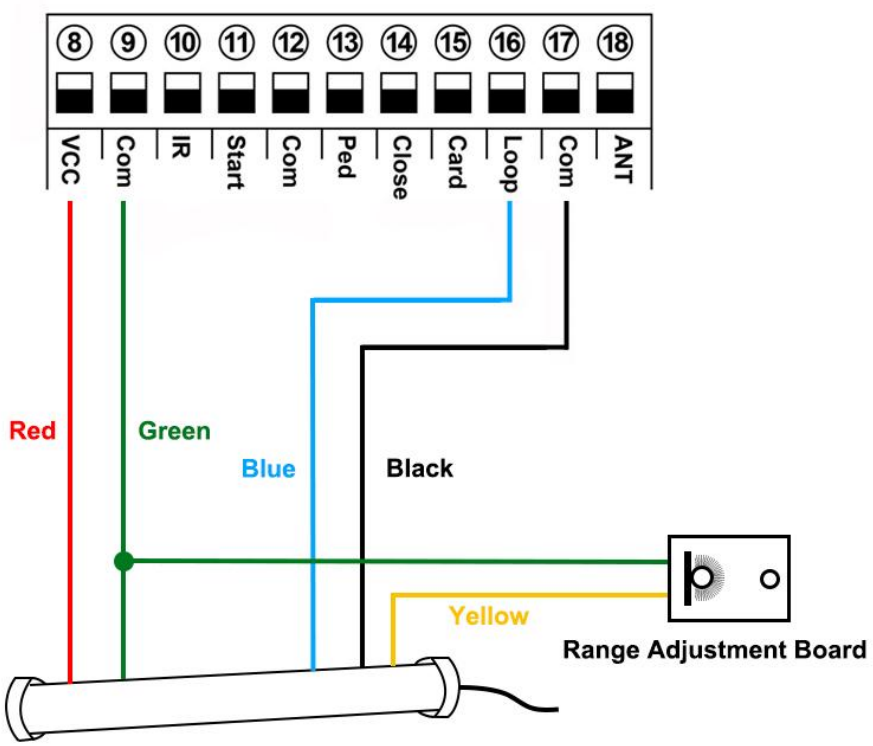


Fig 10

- **Loop detector wire information:**

Definition of the 5 –core cable:
RED →Input Voltage (+)
GREEN →Ground/Common (-)
BLACK →Relay's Common
BLUE →Relay's Normally Open
YELLOW →Range adjustment potentiometer (POT)

- Red wire: connect with terminal ⑧.
  Green wire: connect with terminal ⑨ and range adjustment board.
  Black wire: connect with terminal ⑰.
  Blue wire: connect with terminal ⑯.
  Yellow wire: connect with range adjustment potentiometer.

7.How to program or erase the remote

● Program the remote: Press learn button for at least 1 second and then release, the LED indicator will light on. Now user needs to press the button on the remote control, with the buzzer short beep, which means the code learning is successful, the digital LED will show the quantity of that remotes were learned.

After the user presses the learn button, within 8 seconds, if the controller doesn't receive the signal from the remote, the controller's LED indicator will turn out and exit the code learning statute.

Note: Due to the digital display only can show two numbers, if the controller already learned more than 99pcs remote, from the 100th remote, the digital display will show A to replace the ten and hundred digits. Such as the 100th remote will show A0, and the 101st remote will show A1. If the controller already learned more than 109pcs remote, from the 110th remote, the digital display will show b to replace the ten and hundred digits. Such as the 110th remote will show b0.

Max capacity: 120pcs remote. If the digital LED show "- -" with a buzzer short beep 5 times, then means can not learn more remotes.

● Erase the remote: Press and hold the learning button for 5 seconds, while the user hears the buzzer with a long beep, release the button, and the digital display show "00". Now all remotes can not control the gate.

8.How to operate your gate opener

Each remote has 4 buttons, there are two remote control modes for optional. The factory default is single button control mode. If you want to change to use three-button control mode, please reference the data set of P7 on the digital display menu.

- **Single button control mode:** the 1st remote button is used to control the gate as "open-stop-close-stop", the 2nd button is used to control the PED mode. Then if needed, the 3rd and 4th button can be programmed into another gate opener controller, same function as the 1st and 2nd button.

- **Three-button control mode:** remote 1st button uses to control gate open, 2nd button uses to control gate close, 3rd button use to control gate stop and 4th button use to control gate PED mode.

Note: If you adjust the remote control mode, please program the remote into your gate opener again to operate it.

9.Control board function description

Item	Description
Power on	After the control board powered on, the buzzer will sound, and the digital display will show model number and version,and the state indicator LED lit up.
Open/close gate indicator LED	While the gate opener work normally, opening the gate will turn on blue, close the gate will turn on red.
Lamp indicator LED	While the lamp is working, the LED will light on, and the lamp port will output AC power.
Overcurrent	The overcurrent function can achieve an anti-smashing car. While the gate is opening, it detects the overcurrent and stop. If the gate is closing and detects the overcurrent, the gate will be reverse back to the opened position. The overcurrent setting in the high speed can be set through the digital display menu P1.
Limit switch mode	1. When the gate is fully opened/closed, and trigger the limit switch, the motor will auto stop. 2. The limit switch mode NO mode and NC mode can be set through the digital display menu P0. 3. Factory defaults NC mode.
Safety beam mode	While the gate is closing, if the IR terminal is triggered, the gate will reverse back to open. When the gate is opened, the safety beam signal is gone for 2s, the gate will auto close.
Auto-closing timer for fully opening	1. The auto-closing function is only triggered after the gate is fully opened. 2. Auto close timer for fully opening can be set through the digital display menu P5. When auto-close timer start to countdown, the STATE LED will flash one time each second.
Pedestrian mode	1.The remote 2nd and 4th button can trigger the Pedestrian mode, the gate will partially open then stop, not fully open. This mode is convenient for

	users walking in and out. 2. The pedestrian opening time could be set through the digital display menu P6. 3. When the gate complete the command, it will trigger the auto-closing timer after Pedestrian mode. The timer can set through the digital display menu P4.
Setting of Loop terminal	1. When the gate is opened or opening, trigger the loop terminal, when the loop signal is gone for about 2s, will auto close immediately. 2. When the gate is closing, detect an obstacle and triggering the loop terminal, gate will reverse back to open, when the loop signal is gone for about 2s,will auto close immediately. **Note: When the digital display menu P9 set 0, means No auto-closing function for loop terminal.**
Auto travel learning	Steps: Move the gate to close limit position, press the button “INC” and “DEC” at the same time about 2s, you can hear a long beep from the buzzer on board, the motor will start working a complete cycle of open/close. After the auto travel learning operation is successfully, you will hear a long beep, the board will automatically set the high speed and slow speed working time, and the digital display will show the time. Note: 1. Before the auto travel learning, if the gate don’t stay in close limit position(close limit indicator is off), the buzzer will sound 2 short beep, it means can not operate the function. 2. While user trigger the auto travel learning operation, the remote control/push button/infrared/loop detector/resistance can not be activated, every auto travel learning operation need to cost over 2s, otherwise it will cause the failure. 3. User not only can press the button “INC” and “DEC”, but also can set the digital display menu to enter the auto travel learning operation.
Maximum motor working time protection	If motor works continuously more than 90s, motor will stop running for protection

10. Digital display menu setting

- Press and hold the [FUN] button for 3 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	Function description	Value	Factory set	Explanation
P0	Limit switch mode	0~1	0	0: NC mode 1:NO mode
P1	Overcurrent setting in high speed	0~20	9	The bigger the value is, the harder the motor to stop.
P2	Setting slow speed running time	0~5s	2s	0: No slow speed running time.
P3	Auto-closing timer after swipe card	0~99s	10s	0: No auto-closing timer after swipe card
P4	Auto-closing timer after Pedestrian mode	0~99s	10s	0: No auto-closing timer for after Pedestrian mode
P5	Auto-closing timer for fully opening	0~99s	0	0: No auto-closing timer for fully opening
P6	Pedestrian mode	0~20s	5s	
P7	Remote button control mode	0~1	1	0: Three-button control mode. 1st button is opening, 2nd button is closing, 3rd button is stopping, 4th button is Pedestrian mode. 1:Single button control mode
P8	Flash lamp mode	0~1	1	0: Flashing light and motor will operate and stop at the same time. 1: Flashing light will turn off 30 seconds after the motor stop.
P9	Setting of Loop terminal	0~1	1	0: No auto-closing function for loop terminal. 1: Triggering the loop terminal, when the loop

				signal is gone for about 2s, will auto close immediately.
PA	Safety beam mode	0-1	0	0: NO, 1: NC
PB	Auto travel learning	0-10	0	Set 5 and confirm, the buzzer will sound a long beep, trigger the auto travel learning operation.
Po	Reset	0-10	0	Set 5 and confirm, then start the reset operation, the buzzer will sound a long beep. Other values are invalid.

Control board digital display information show:

1. When the gate is start to open, the digital display will show 1S “OP”
2. When the gate is start to close, the digital display will show 1S “CL”
3. After the gate stop moving, the digital display will show 1S“--”
4. When the gate moves to the full open limit, the digital display will show 1S“LO”
5. When the gate moves to the full close limit, the digital display will show 1S“LC”
6. When the PED mode is activated, the digital display will show 1S“PD”
7. After the motor trigger the overload protection, the digital display will show 1S“OU”
8. After the photocell is activated, the digital display will show 1S “PH”
9. After the loop is activated, the digital display will show 1S“LP”