Sliding Gate Opener
User Manual

S540DC

WARNING：

Always read this manual before installation, it contains important information concerning installation, use, maintenance and safety.

Any operation not described in this manual is not permitted; incorrect use may damage the product and even injure people and property.

Considering the possible dangers that may arise during the installation and use of the gate opener, the installation must be carried out in strict compliance with building construction standards and electrical operating procedures, in particular:

- **Before starting the installation, check whether additional equipment or materials are required to meet specific needs.**
- **Packaging materials must be handled in compliance with local regulations.**
- **Do not alter any parts except as described in this manual. Unexplained alterations may cause malfunction. We are not responsible for any damage caused.**
- **Do not leak water or any liquid into the controller or other open devices. In such a case, disconnect the power supply immediately. Continued use under such conditions is very dangerous.**
- **When installing and positioning the motor, make sure that the power cord is unplugged and the cover is removed before installing the motor on the mounting plate.**
- **The motor's operation involving electricity must be installed by a licensed professional.**
- **Do not install the product in an environment where there is an explosive atmosphere or any risk of flooding.**
- **Use only original parts for all maintenance or repairs. If you use parts made by other suppliers, we refuse to be responsible for the safety of the automatic control of this product.**
- **Do not modify the components of the control section of the product without the express authorization of our company.**

Keep this manual for future use.

WARRANTY

1. To repair against this warranty card and invoice during the warranty period.
2. Warranty period: 1 year after the date of invoice.
3. Without unauthorized dismantling, any product broken or damage due to quality problem, we’ ll offer the repair service for free or replace for free.
4. The malfunction and damages caused by incorrect use or man fault is not covered by this warranty.

CONTACT US

- Please fill in the order information in the form below.
- All personal information you provided will be only used for warranty service and kept strictly confidential.
- Refer to this list when contacting GATEXPERT for technical service or assistance with your automatic gate opener.

Order Number	Product Model	Purchase Date	Country / Region
Email Address			
Issue Details			

CONTENTS

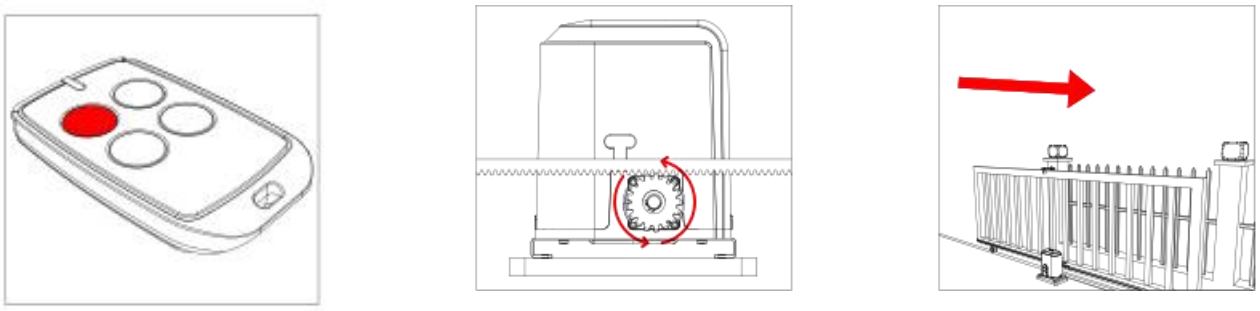
Default Setting Instruction

The gate opener will open the gate to the right-hand side as its default setting. By default, the opener mounts on the right-hand side. (Figure 1)

Figure 1

Gate in closed position **Gate in open position**

Before installation: Test the gate opener by plugging it into a power source and pressing the remote. Press the opening button, the output gear rotates, then press the stop button, the output gear stops rotating. Finally, press the closing button, the output gear rotates to the opposite direction. This will give you an understanding of the way in which the opener will move the gate.



Press the first/top button on the remote.

Rotating output gear will drive the gate frame.

Then the gate will move in the set direction.

Figure 2

Note: Ensure that the gate opener is unplugged before proceeding with installation. Please keep fingers away from the motor output gear whilst it is turning.

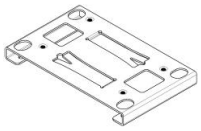
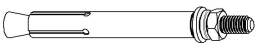
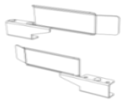
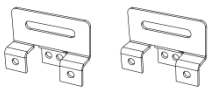
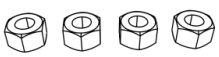
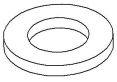
If your gate needs to open from the other direction (to the left, refer to Figure 3), your opener needs to be mounted on the left-hand side as shown, the relative wires need to be swapped over, please check under “Terminal Instructions” for swapping. (Factory default setting is for right-hand opening: opener mounted on the right-hand side).

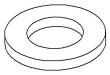
Figure 3

Any works done to the gate opener must be completed whilst the power is off, and the opener is unplugged.

Parts List

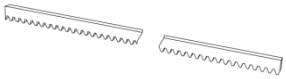
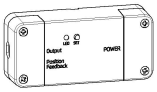
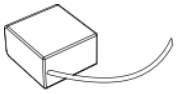
Parts List (standard configuration)

No.	Picture	Name	Quantity	Note
1		Motor	1	
2		Mounting Plate	1	
3		Expansion Bolt M8×120	4	
4		Manual Release Keys	2	
5		Remote Control	2	
6		Spring Limit Switch Accessories Box/ Magnetic Limit Switch Accessories Box	1	
6-1-1		Spring Limit Switch Bracket	1	For use when installing spring switch limit.
		Spring Stop Mounting Screw M6X10	4	
6-1-2		Magnet Bracket	2	For use when installing magnet switch limit
		Magnets（S/N）	2	
		Magnetic Limit Switch Stop Mounting Screws M6X18	4	
		Nuts M8	4	
		Flat Washers φ8	2	

No.	Picture	Name	Quantity	Note
		Spring Washers φ8	2	
6-2		Nuts M8	4	
6-3		Flat Washers φ8	8	
6-4		Spring Washers φ8	8	
6-5		Hexagon Head Bolt M8×40	4	

Note: Extra flat washers and spring washers are spare parts.

Parts List (optional)

No.	Picture	Name	Quantity
1		Galvanized Gear Rack	1m/pc
2		Nylon Gear Rack	1m/pc
3		Infrared Photocell	1 set
4		Wireless Keypad	1 pc
5		Alarm Lamp	1 pc
6		WIFI Adapter	1 set
7		Lithium Battery(24V/2A)	1 pc

Additional remote controls: Spare/Additional remotes for the automatic gate kit, these will need to be paired to the motor.

Infrared photocell: Detects pedestrians, vehicles and objects that cross an infrared beam and prevents the gate from closing.

Wireless keypad: Allows secure access through the gate used with a user set code.

Wired control: Allow users to control the opening and closing of the door through an external push-button.

Alarm lamp: Alerts people near the gate and users that the gate is in operation.

Technical Parameters

Model	S540DC
Power Supply	110VAC/60Hz; 220VAC/50Hz
Motor Power	150W
Gate Moving Speed	18m/min
Maximum Loading Weight	500KG
Remote Control Distance	≥30m
Remote Control Mode	Single button mode / Three button mode
Limit Switch	Spring limit switch / Magnetic limit switch
Working Noise	≤56dB
Working Duty	S2, 20min
Recording of up Remote Controls	25
Remote Frequency	433.92 MHz
Working Temperature	-20°C - +70°C
Overlook Size	267×219×285mm
Package Weight	10.5KGS

Installation

Before You Start

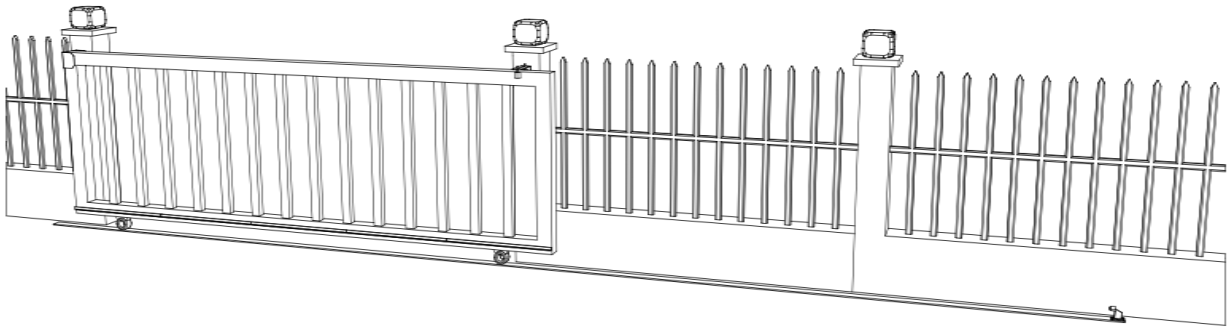
- S**540DC** Sliding Gate Automation Kit is suitable for powering the opening and closing motion of gates up to 500kg in weight, up to a length of 8m.
- Gate motion is achieved by the rotating output gear of the gate opener driving the gear rack (sold separately) fitted to the moving gate.
- The gate opener requires you to press the remote control once to open, and once again to close. This is a safety feature to ensure safe operation.
- The opener must be fitted within private property, never externally to a property's boundary.

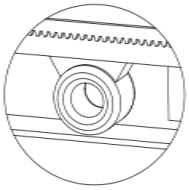
Any works done to the gate opener must be completed whilst the power is off and the opener is unplugged. Any modifications/alterations/works to AC power components must only be completed by a licensed electrician.

Tools Required

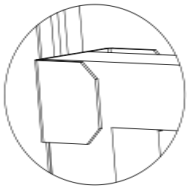
- Tape measure
- Level
- 12mm concrete drill and hammer (when uses expansion screws)
- Phillips head screwdriver
- Straight screwdriver

Example Sliding Gate

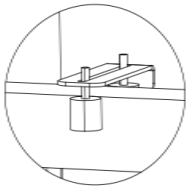




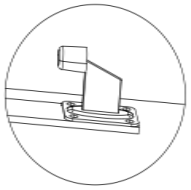
Gate Track and Track Wheel



Gate End Catch



Gate Guide Rollers



Gate Stop

Figure 4

Please ensure that the gate opener power cable is not plugged in at any stage before Step 9.

Step 1 - Gate Preparation

- Ensure that the sliding gate is correctly installed.
- The gate is horizontal and level and the gate can glide back and forth smoothly when moved by hand before installing the gate opener.
- Wheels and guide rollers should rotate easily and be free from dirt or grime.
- Track should be flat, level and firmly affixed.
- Any misalignment in the gate will affect performance of the automatic gate opener.

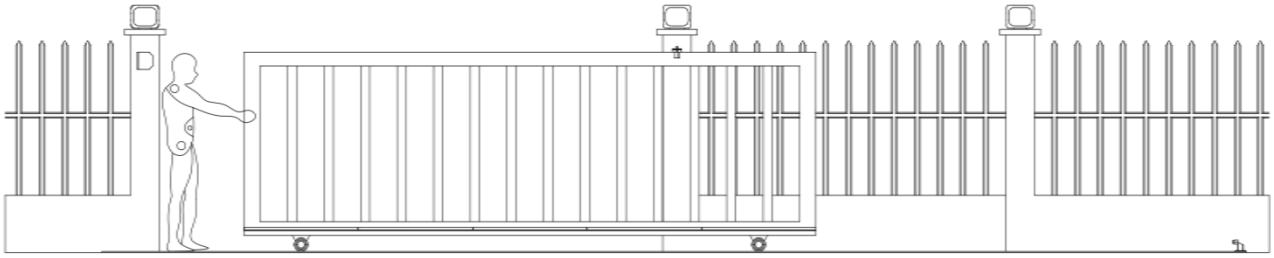


Figure 5

The gate should slide smoothly by hand before attempting to install the gate opener.

Step 2 - Checking Manual Release

- Insert the key and open the manual release bar to enable the motor get into manual mode and check that the motor output gear rotates freely by hand (Figure 6).

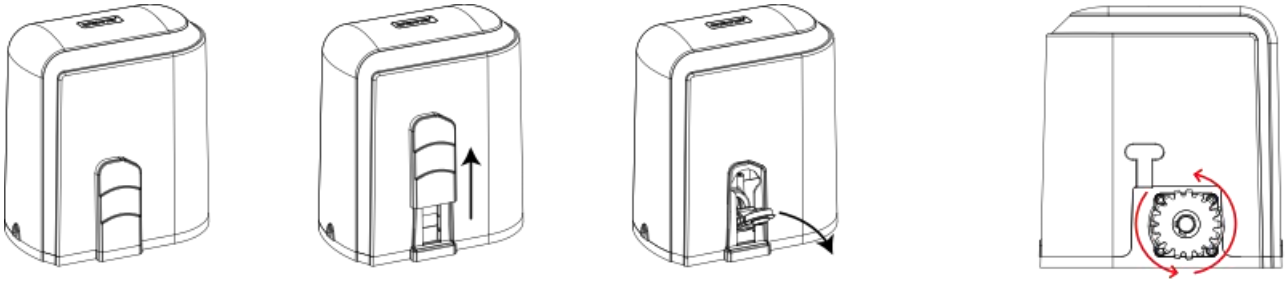


Figure 6

To make the motor into manual mode, remove the slide cover, insert the key and open the manual release bar.

In manual mode, the gear can turn freely and the gate can be operated by hand.

Step 3 - Removing / Installing Motor Cover

- Unscrew the two cover screws located at each side of the motor cover.
- Remove the rubber grommet below the limit switch (Figure 7).

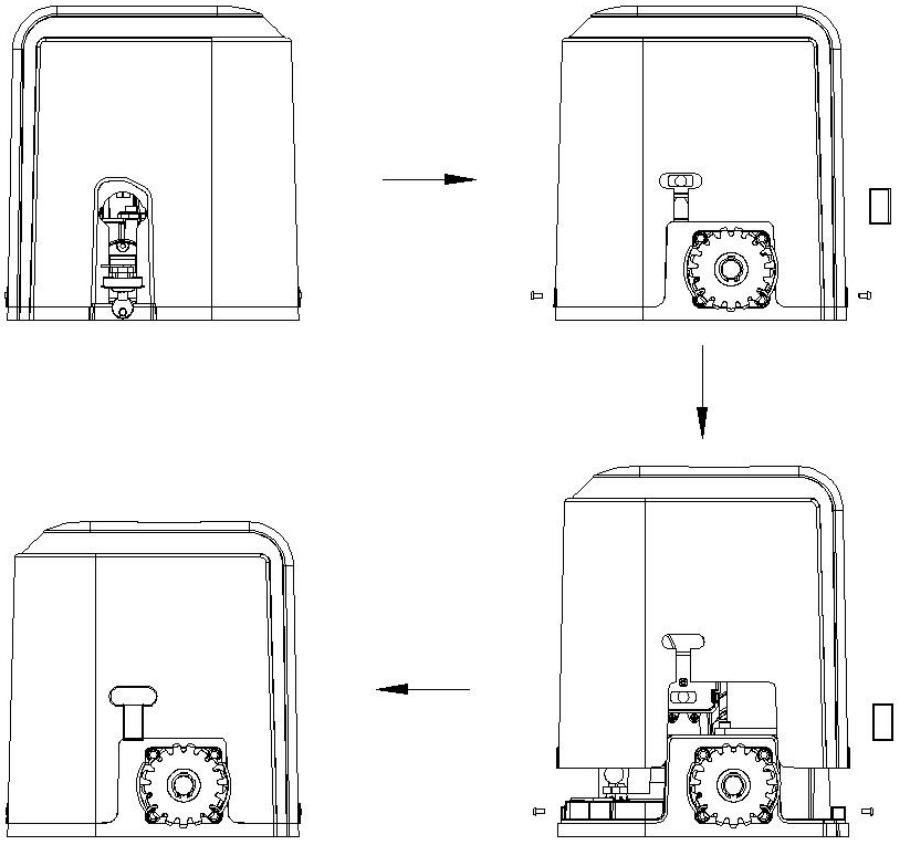
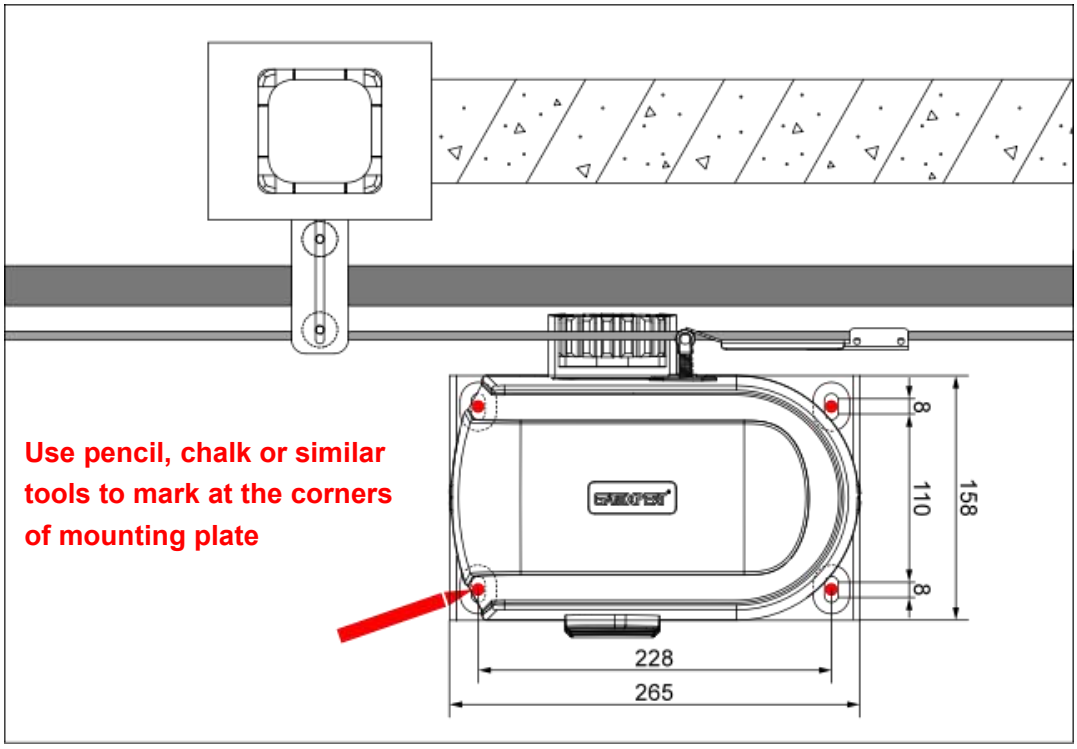


Figure 7

Please Note: the rubber grommet must be fitted back onto the motor cover once the cover has been re-fitted/replaced onto the base of the motor.

Step 4 - Motor Pad Footing

- The motor pad concrete footing requires an area of no less than 450mm long x350mm wide and a minimum depth of 200mm (Standard requirement).
- Ensure surface is level and parallel to the driveway.



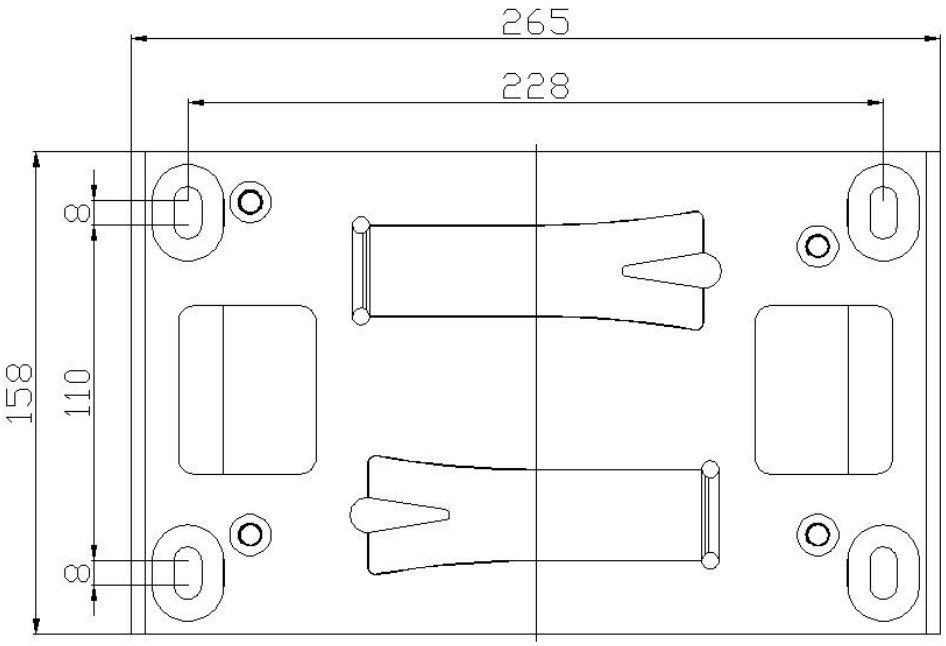


Figure 8

Mounting Plate Dimensions

Step 5 - Fitting Mounting Plate and Motor

- Place the mounting plate and pre-fix it, tighten the nuts making sure to add spring and flat washers (see Figure 9).
- Pre-position the machine according to (Figure 10) to ensure that the machine output gears and racks are aligned and that the gears and racks are centered as far as possible (see Figure 11). Tighten the expansion bolts and nuts on the mounting plate (ground screws are available).
- Secure the motor to the mounting plate by pre-tightening the bolts using M10x35 mm bolts with spring and flat washers.

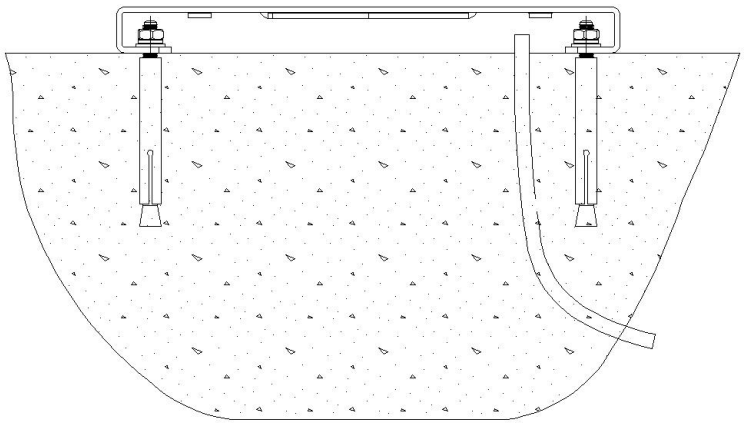


Figure 9

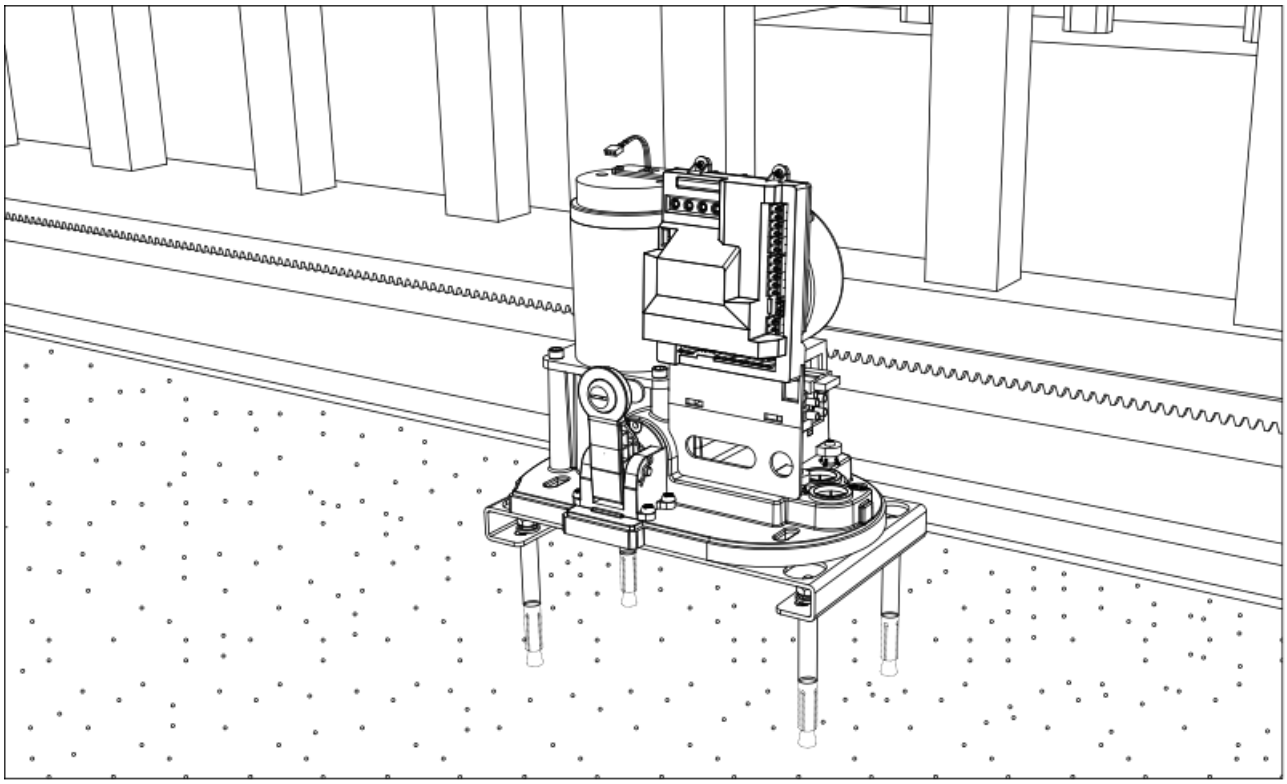


Figure 10

Step 6 - Motor Position Adjustment

· Place the motor and mounting plate on the concrete base.

· After placing, the motor can be fine-tuned back and forth, and tighten the fixing bolts after putting it in the right position.

Step 7 - Gear Rack & Motor Alignment

- Ensure that the output gear has a minimum clearance of 1.5-2.5mm along the entire length of gear rack fitted to the gate (as per Figure 11).
- Ensure output gear and gear rack are correctly aligned. Under no circumstances should the gate opener output gear carry any weight of the gate. It is the task of the gate castors or wheels to carry the weight of the gate.
- If the gate doesn't slide freely by hand, adjust the height of the gear rack accordingly until the full length of gate slides freely by hand.

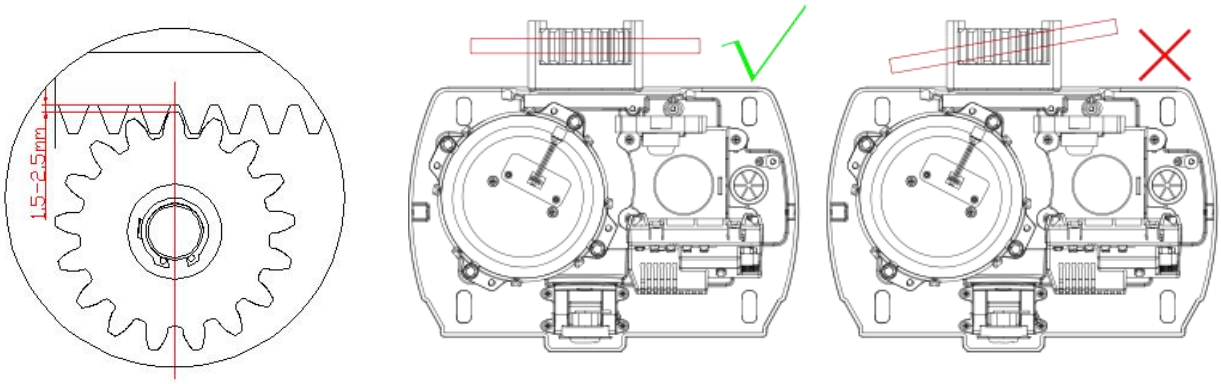
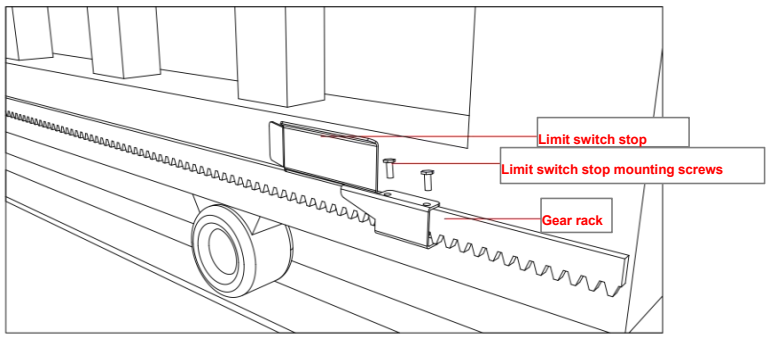


Figure 11

Step 8 - Limit Switch Stops

A. Spring Limit Switch（6-1-1Accessories）

Included in your gate opener kit are two limit switch stops which must be fitted to the gear racks on your gate to ensure safe operation.

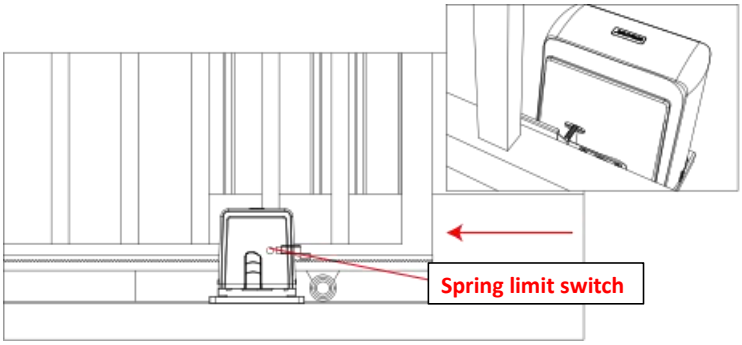


The limit switch stops are designed to set the desired opening and closing position of your gate. These limit switch stops are designed to come into contact with the spring/magnetic limit switch.

It is extremely dangerous that without or incorrect installation of the limit switch stops can cause crash of gate, damage of internal structure of the motor, moreover, the gate may slide off the guide rail.

Setting the Limit Switch Stops

Closed Position

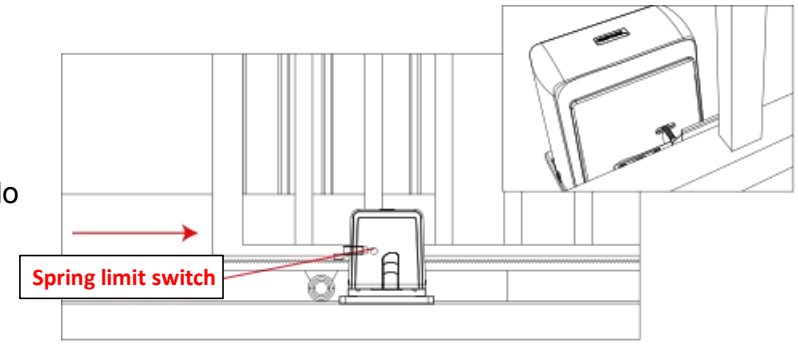


· Position gate 150-200mm back from the gate end catch closed position. This will help in making sure you do not slam the gate into the end stop/catch when setting the closed position under power.

· Fit limit switch stop onto the top of gear rack at the point where it meets the Spring limit switch on the motor.

· Tighten locking screws of limit switch stop.

Open Position

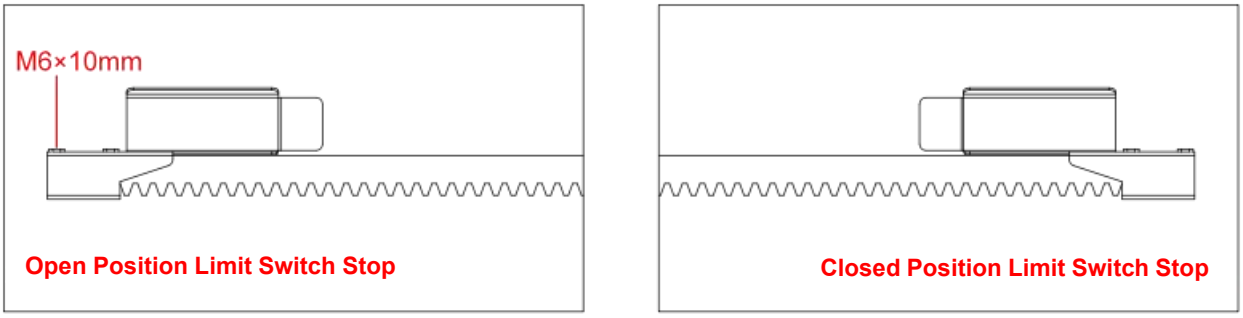


· Position gate 150-200mm back from the gate stop open position. This will help in making sure you do not slam the gate into the end stop/catch when setting the open position under power.

· Fit limit switch stop onto the top of gear rack at the point where it meets the Spring limit switch on the motor.

· Tighten locking screws of limit switch stop.

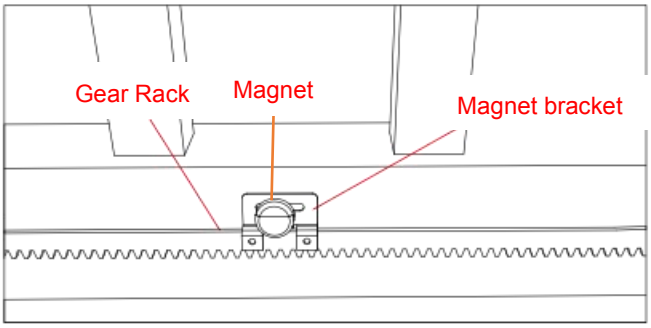
Test the spring limit switch stops by moving the gate manually until you hear a click, making sure contact is made with the spring limit switch on the motor.



The installation of spring limit switch stops is shown in figure above.

B. Magnetic Limit Switch（6-1-2Accessories）

Included in your gate opener kit are two magnet limit switch stops with two different polarities: stop in black color(N), stop in blue color(S). Before installing the magnet bracket, please fix the magnet on the magnet bracket, and then install the magnet bracket on the proper position of the door gear bar (refer to Figure 12).



To change the gate opener from right-hand installed to left-hand installed, you should only set it on the control board, no need to switch over the two magnet limit switch stops. So it's extremely important to decide the limit switch stops position and make sure the polarities are 100% correct.

Installation drawing of limit switch stop polarities for right-hand and left-hand:

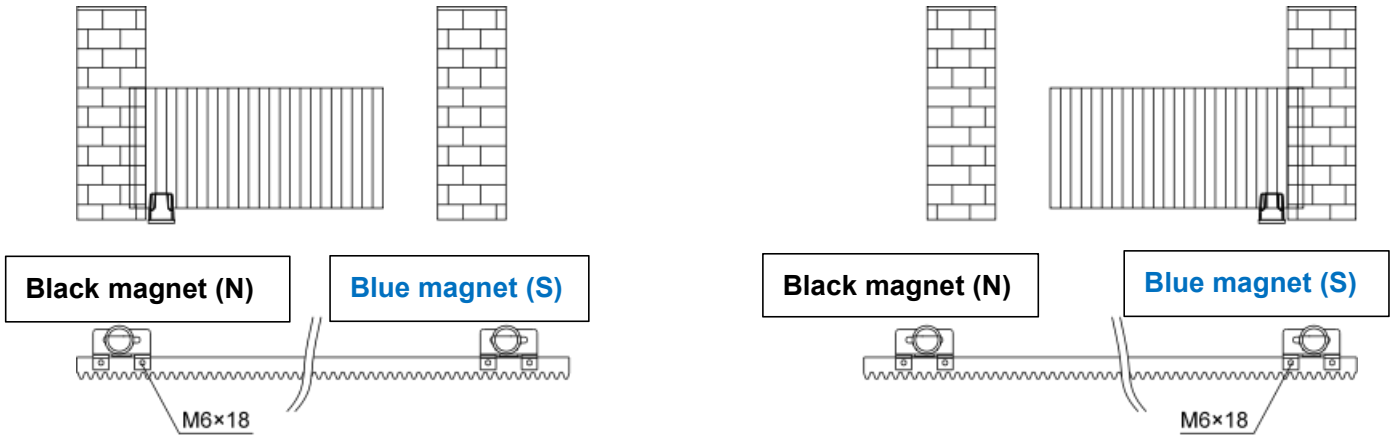
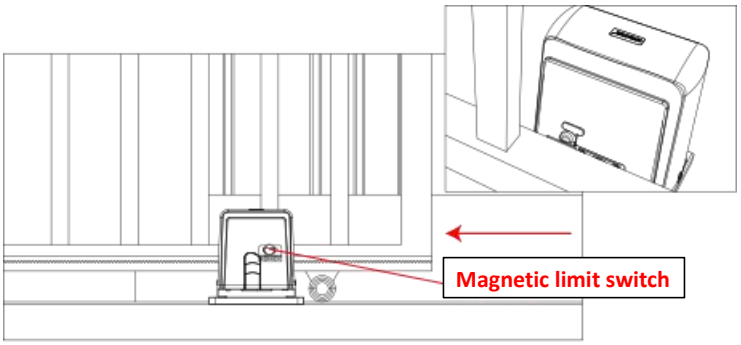


Figure 12

The magnet holder is mounted as shown

Setting the Limit Switch Stops

Closed Position

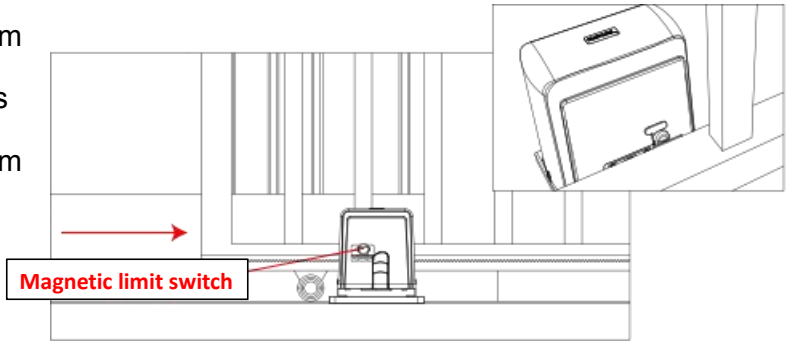


・Position gate 150-200mm back from the magnet bracket closed position. This will help in making sure you do not slam the gate into the end stop/catch when setting the closed position under power.

・Fit magnet bracket onto the top of gear rack at the point where it meets the Magnetic limit switch on the motor.

・Tighten locking screws of limit switch stop.

Open Position



・Position gate 150-200mm back from the magnet bracket open position. This will help in making sure you do not slam the gate into the end stop/catch when setting the open position under power.

・ Fit magnet bracket onto the top of gear rack at the point where it meets the Magnetic limit switch on the motor.

・ Tighten locking screws of limit switch stop.

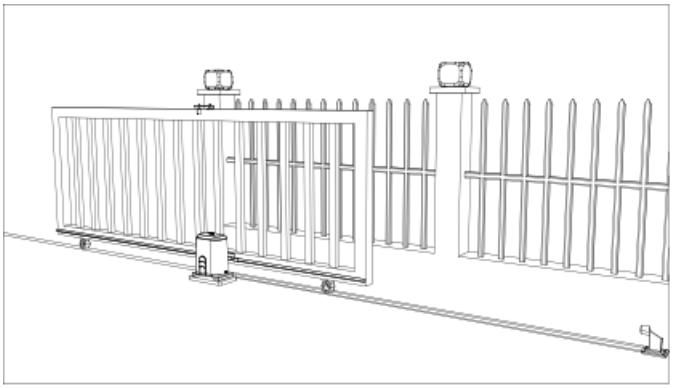
Test the magnetic limit switch stops by moving the gate manually until you hear a click, making sure contact is made with the magnetic limit switch on the motor.

To Reset: Turning the power off will reset the limit switch stop memory. Power on the gate opener again, pressing remote control or external push button switch to open and then close the gate once, then new limit switch stop setting is completed.

Please note: Warning signs provided must be displayed facing the street side.

Step 9 - Powering on

- Ensure that the outer cover has been fitted and fastened back onto the motor base.
- Before powering up the gate opener make sure the gate can travel by hand in manual mode (key unlocked).
- Slide the gate to between the middle of the posts, approximately (see below diagrams).
- Lock the manual release spanner (key locked) in readiness for automatic mode.
- Plug the power cord into an approved RCD protected weatherproof outlet.
- Remote controls included in this kit are factory paired ready for use.



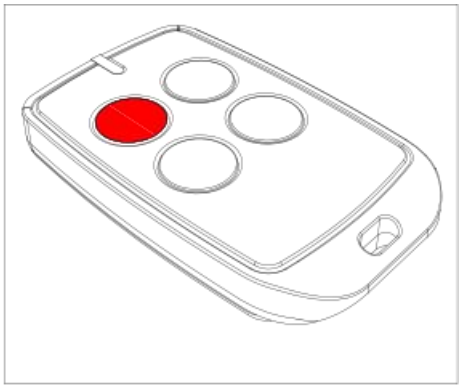


Figure 13

Step 10 - Testing Travel and Limit Stops

Testing the Closed Position

- Ensure gate opener is installed as per step 5, 6 and 7 and the sliding gate is in the middle position.
- Press remote (remotes included in kit are factory paired to the motor). The sliding gate will begin to close.
- The limit switch stop will hit the limit switch and the sliding gate will stop.
- When the gate stops, measure the distance remaining between the sliding gate and the desired closed position.
- You have now determined the closed position of the sliding gate when the limit switch stop hits the limit switch.
- Adjust the limit switch stop from the measurement you have taken to get your final gate closed position. The ideal closed final position for the gate frame is 10-15mm from closed gate end catch.

Testing the Open Position

- Press remote, the sliding gate will begin to open.
- The limit switch stop will hit the limit switch and the sliding gate will stop.
- When the gate stops, measure the distance remaining between the sliding gate and the desired open position.
- You have now determined the open position of the sliding gate when the limit switch stop hits the limit switch
- Adjust the limit switch stops from the measurement you have taken to get your final gate open position. The ideal open final position for the gate frame is 10-15mm from the gate stop.

Now the basic open and closed positions are set, for further setting functions and adjusting parameters, please refer to pages 15-53 in this manual.

Control Board

Programming and Wiring

Any works to the 110V/220V AC must only be performed by a licensed electrician. Ensure power is off before any modifications are made.

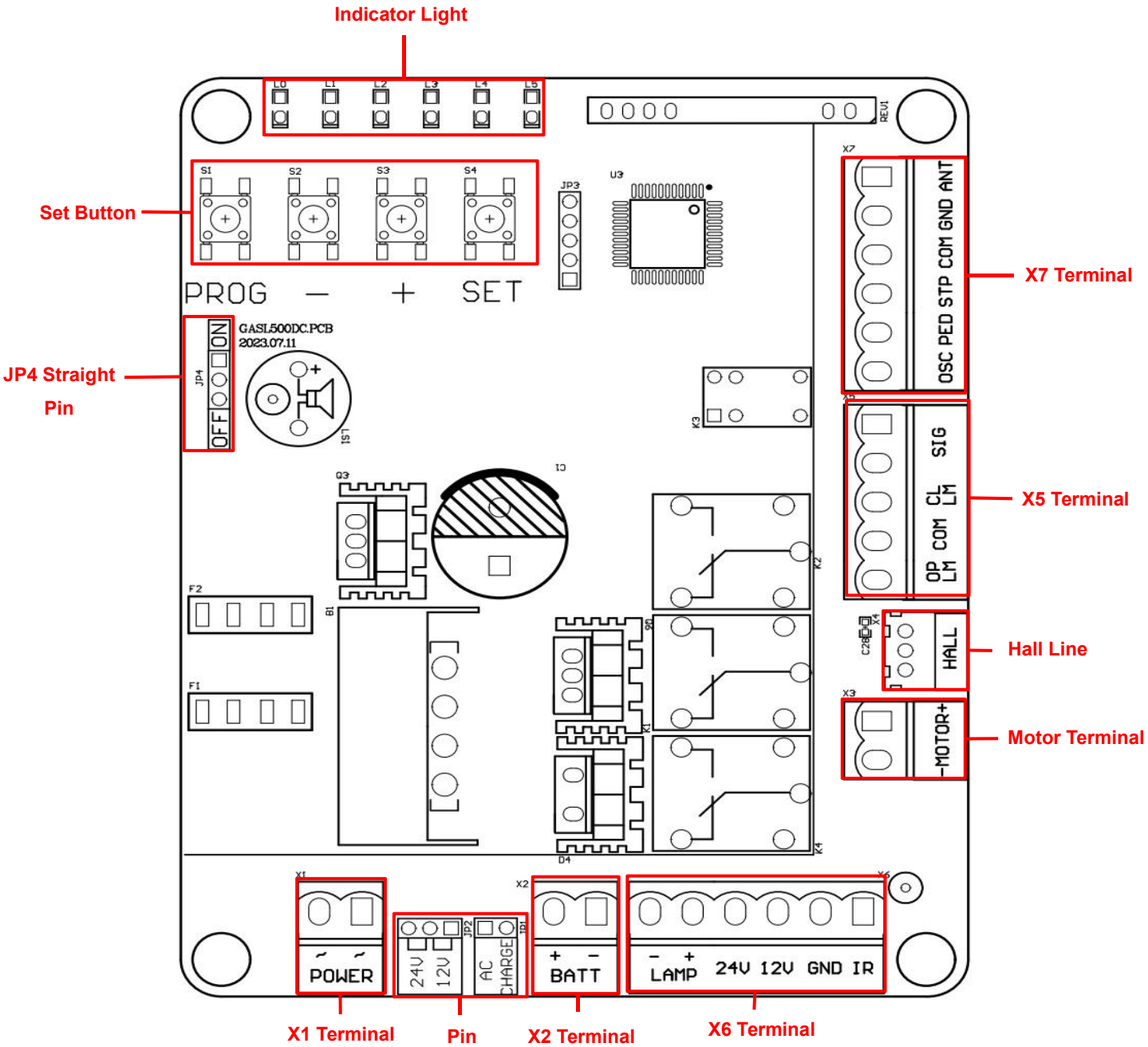
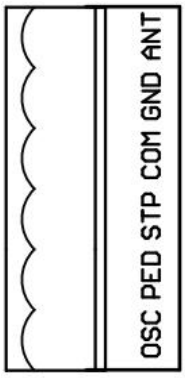


Figure 14

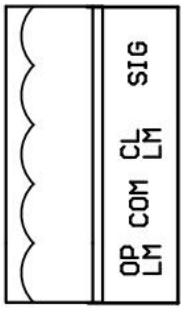
Terminal Instructions

All changes to these settings below must be completed by licensed electrician.



X7 Terminal: (as per Figure 14):

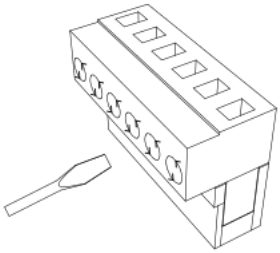
ANT: Extra Antenna
GND: Extra Antenna Shield
COM: Common Terminal for External Push Button
STP: External Stop Push Button Switch
PED: External Close Push Button Switch
OSC: External Open Push Button Switch

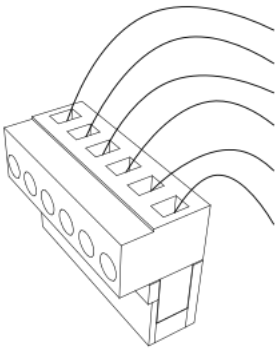


X5 Terminal:

SIG: Output close signal after gate closed in place.
OPLM: Open Limit Switch(Red)
COM: Limit Switch Common Terminal.
CLLM: Close Limit Switch(Green)

Figure 15





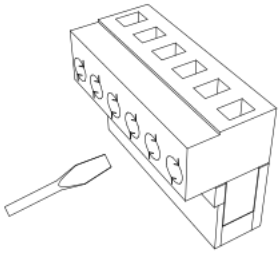


Figure 16

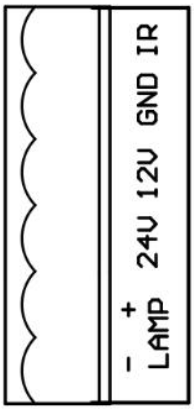
Using a screwdriver to loosen the screw on the side of the terminal.

Insert the wire into the number on the terminal that you are looking to connect to. Refer to Page 14.

Tighten with a screwdriver to secure the wire in place.

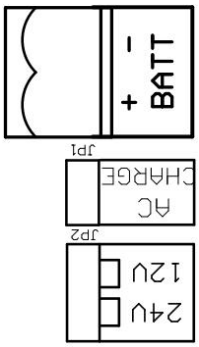
JP4 Straight Pin:

SIG: Output close signal after gate closed in place.
OPLM: Open Limit Switch
COM: Limit Switch Common Terminal.
CLLM: Close Limit Switch



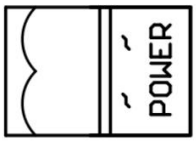
X6 Terminal:

IR: Photocell Input Common Terminal for Photocell(N.C.)
GND: Ground
12V: Additional Accessories +12VDC, after gate closed in place, the board will enter into low power consumption mode, this terminal will cut off the 12V power supply.
LAMP+: Alarm Lamp +12/24VDC
LAMP-: Alarm Lamp -12/24VDC



X2 Terminal and Straight Pins:

JP2 Straight Pin: The jump wire on this pin is for switching the battery type to be connected to the motor.
JP1 Straight Pin:
Has jump wire on this pin:mains power will charge the battery, the power consumption is high;
No jump wire on this pin: only for motor runs 100% against solar power, the power consumption is low.
X2 Terminal:
Jump wire on 24V, it can connect with 24V lithium battery;
Jump wire on 12V, it can connect with 12V lithium battery;
Note: + and - must be wired correctly, wrong wring will damage the control board.



X1 Terminal:

Power: Power Supply(Transformer Output)
Transformer Specification: 240VAC/22VAC or 120VAC/22VAC
Rated Power: 120W

Figure 17

Connecting Infrared Photocells

The below steps must be completed by licensed electrician.

Highly recommend the use of infrared photocells as an additional safety feature.

While closing, if the ray of the Infrared Photocell is blocked, the gate will stop and reverse immediately, to protect user and property security. To install photocells, connect wiring as per Figure 18. You must remove the wire jumper between terminal IR and terminal GND on X6 (ref to Figure 14).

The distance between photocell receiver and photocell transmitter should not be less than 2 meters; otherwise, the induction effect of photocell may be affected.

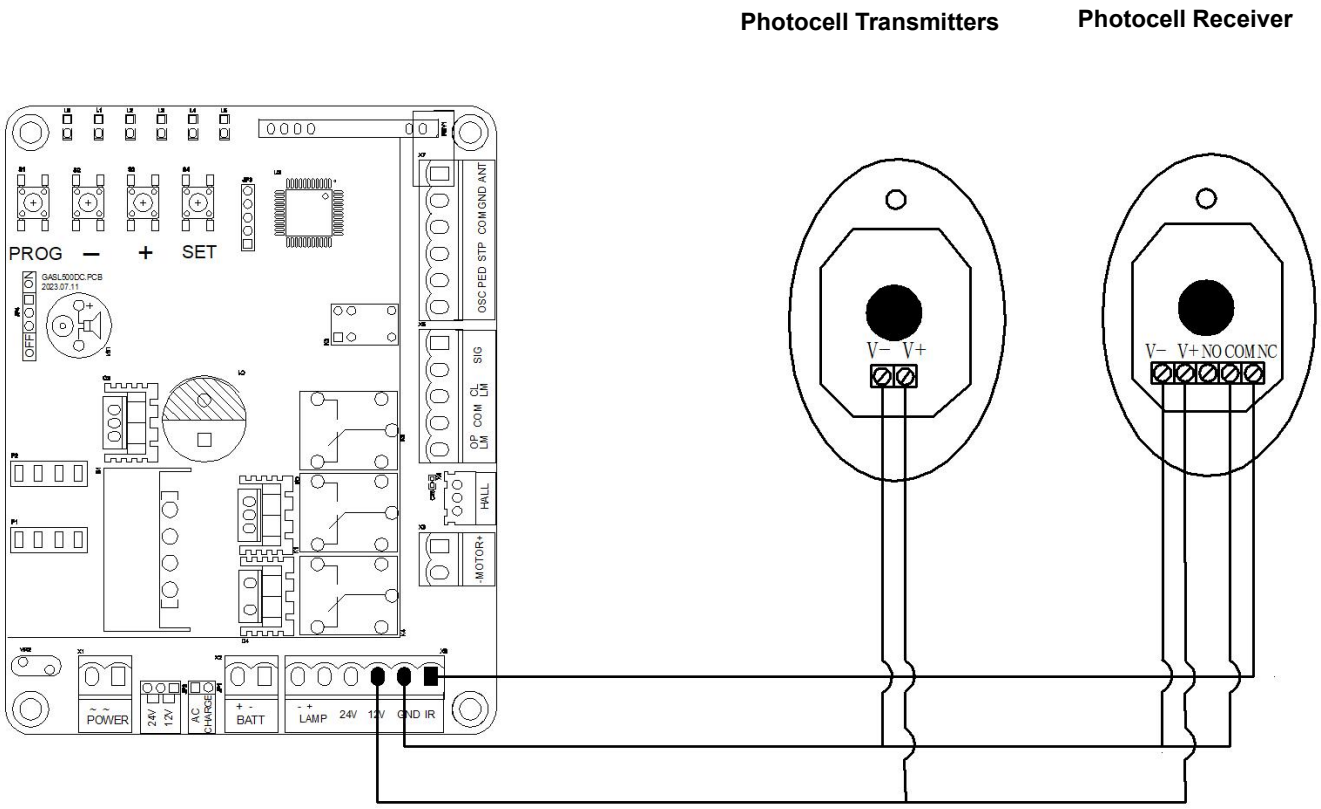


Figure 18

WIFI Controller (Optional)

I. Main parameters of the module:

1). Power Supply: AC110V/220V

2). Output single channel signal

3). Can accept closed in place signal

II. Wiring Instruction

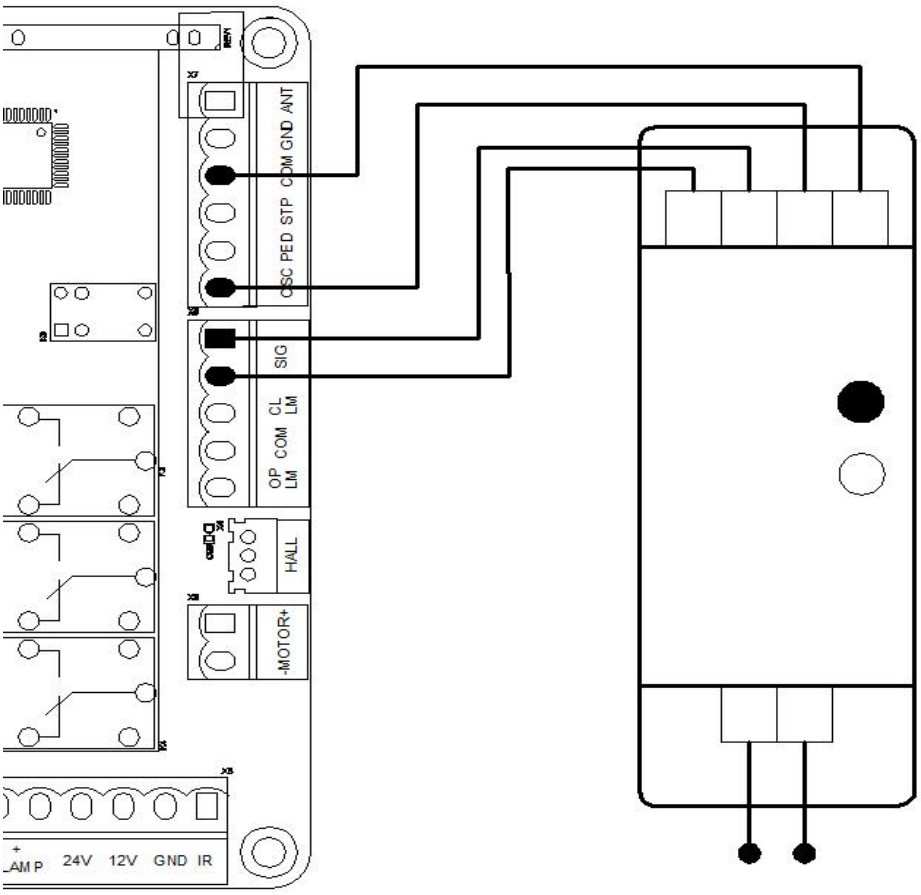


Figure 19

As shown above:

Output Terminal: Output signal, should connect to “O/S/C” and “COM” terminals on the motor control board.

Position Feedback Terminal: Open or Closed in place feedback signal. Should connect to open/closed in place terminal if the motor control board has a standalone terminal for it. If the control board doesn’t have a standalone terminal, then should connect to the door magnetic alarm.

Power: Should connect to AC 110V/220V mains power.

III. Connect to Equipment

Make sure your mobile phone has connected to the internet through 2.4G WIFI.

This WIFI device only supports 2.4G WIFI. If you router supports both 5G and 2.4G WIFI, please select 2.4G WIFI.

Download the Tuya or Smart Life App from App Store or Google Play Store.

During paring, make sure your mobile phone and WIFI device is connected to the same WIFI router.

Make sure the Mac address of your router is open, if not, please close the Mac flittering.

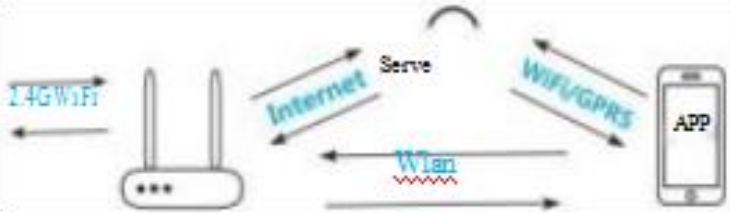


Figure 22

Figure 21

IV. APP Operation

Step 1: Open the App, click “add device”.

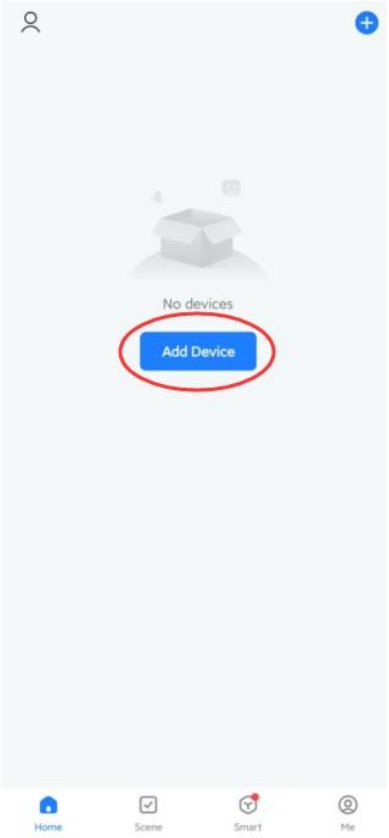


Figure 22

Step 2: If your mobile has connected to WIFI(must be 2.4GHz), long press the “reset”

button on the WIFI device, your mobile will search the device automatically(Mark ①); If the device can not be found automatically, please add it under “Add Manually”(Mark ②): select Socket WIFI and follow its instructions to go proceed.

Figure 23

Step 3: After added, the device will be shown in the list, you can re-name it to your required.

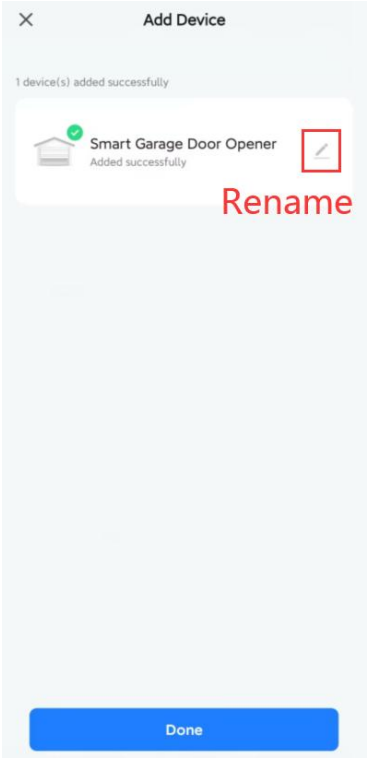


Figure 24

Step 4: Before using your mobile to control the motor, please operate your gate for a single(no matter open or close) travel and record the travel time, then go to the settings to set the run time, this run time should be decided according to your gate running travel. For example, the travel time of opening is 23 sec., you can set the run time to be 25s.(recommended to set it a little bit longer than travel time, default setting is 20 sec.) If you set the run time on the APP shorter than travel time, then after the time is up on the APP, but the travel still hasn't finished, there will be a reminder between this gap time:

Step 5: Now you can operate on your mobile, it will show "opening" while gate is opening, after reaching open limit switch, it will show opened. The same for closing.

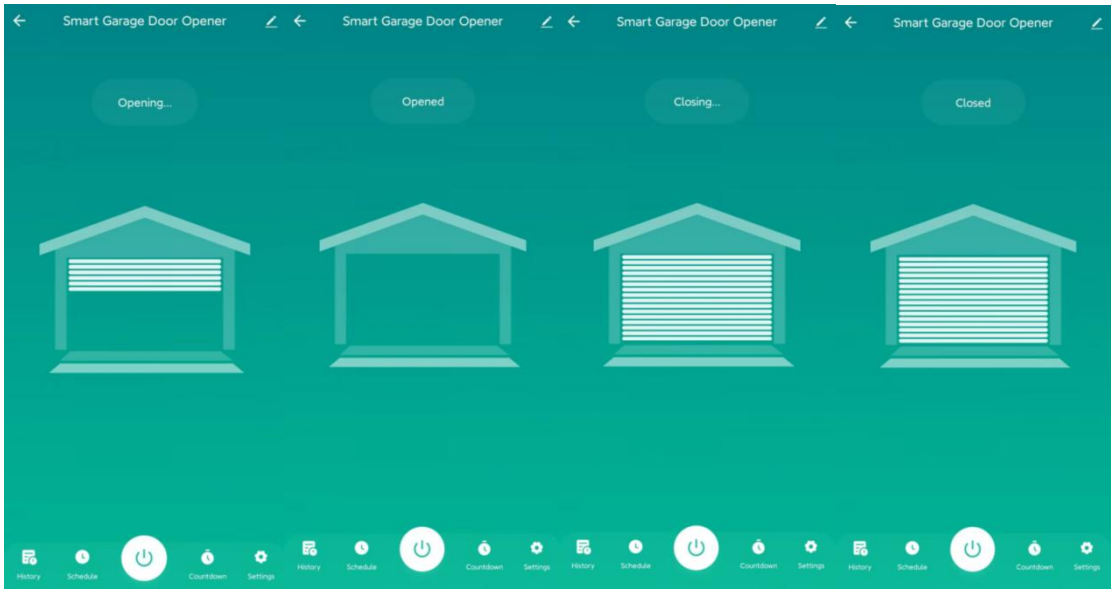


Figure 25

Note: If your motor control board doesn't have open/closed in place feedback signal, the app will send a reminder:

You can still control the opening and closing, but there is no feedback on the app after opened or closed.

It is suggested to use this WIFI control under your visible sight of the gate to avoid damage to persons or properties.

For specific operation teaching, please refer to the video 1(overall operation), video 2(record the travel time) and video 3(operation after adjustment)

Operation Interface Instruction

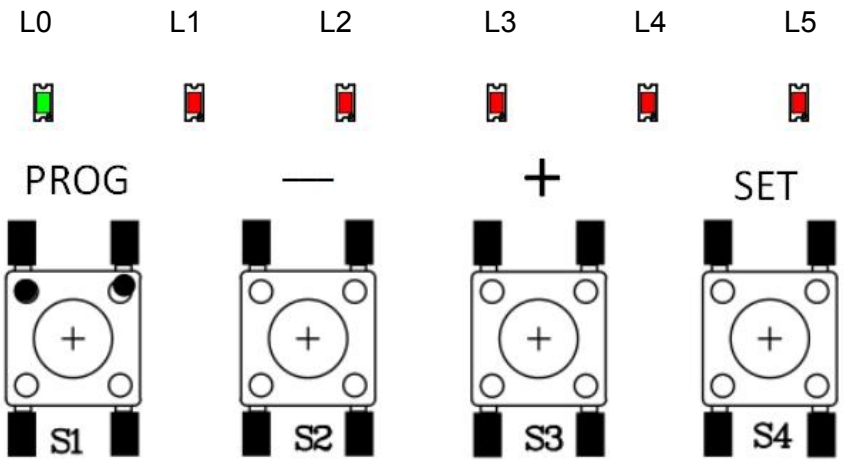


Figure 26

Indicator Lights:

L0 (Green): Indicating the control board working status and menu status.
L1-L5 (Red): Indicating the settings, parameters, errors and battery level.

Set Buttons:

PROG: Enter into or exit the setting menu.
- and +: Function select and parameter adjust.
SET: Choose the selection, confirm the setting.

Note:

Press the setting button for a short while (within 1 sec.) or long press the button (over 2 sec.) will be for different functions.

Manual Control Mode

In order to make sure that the first installation of this product is in good condition, users can test the opening/closing running under manual control mode. If there are any abnormalities, please exit the manual control mode and re-adjust the gate, gate opener and the limit switch.

A. Operation Instruction:

1. Press and hold “SET” button for 3 sec. → Indicator light L3 will flicker.
2. Press “+” button to open the gate, then release “+” to stop running; Press “-” to close the gate, then release it to stop running.

3. Press “PROG” button once to exit the manual control mode. → Indicator light L3 will be off.

B. Operation Graphic Illustration

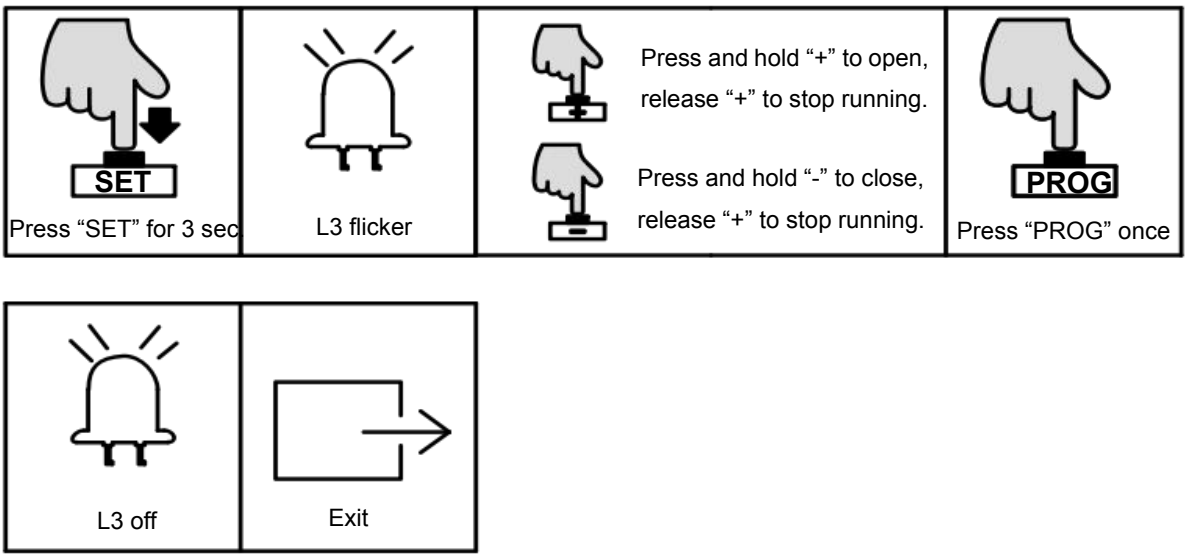


Figure 27

Note:

1. If there is no operation under the limit switch position setting for 60 sec., system will automatically exit the setting.
2. If need to exit during setting, press “PROG” once to directly exit. Under manual control mode, if the gate didn’t stop when it arrived at limit switch, please exit the manual control mode, and check if the two magnet limit switch stops are within the detection range of the magnetic limit switch.

Quick Setting for Running Travel

A. Operation Instruction

a. Press “+” button for 2 sec., motor will automatically start it’s travel learning.

b. During gate closing, the indicator lights will be on from L5 to L1 in sequence and repeatedly.

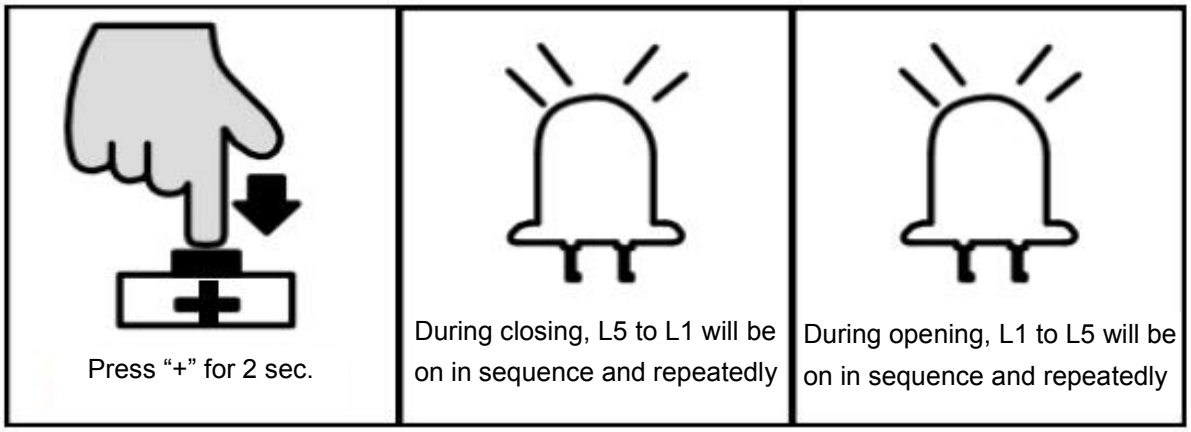
c. During gate opening, the indicator lights will be on from L1 to L5 in sequence and

repeatedly.

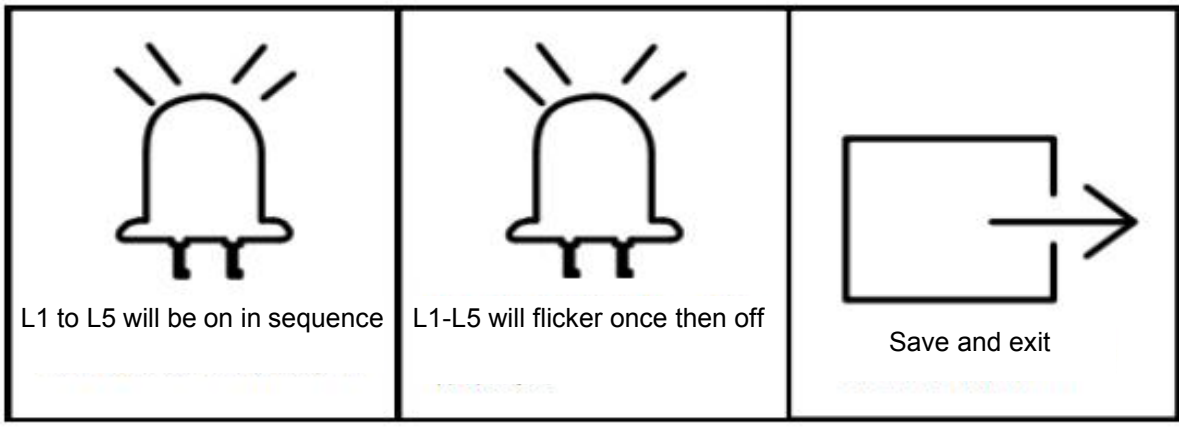
d. After travel is set, the indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

1. Enter into Quick Setting:



2. After Travel is Set:



Note:

1. If there is no operation under the limit switch position setting for 60 sec., system will automatically exit the setting.
2. If need to exit during setting, press “PROG” once to exit.

Manual Setting for Running Travel

1. Please switch the running travel to manual setting mode under “Other Menu”- “Running Travel Setting”.

2. After switching to manual setting mode, press the remote control, the gate will automatically open and close, “L1” and “L2” will flicker during travel setting, after running travel complete, “L1” and “L2” will be off.
3. Please install the limit switch stops at limit switch position and make sure the polarities are correct. If you are not sure about the polarity, please enter into manual control mode to verify. After installed, please do not move or remove it anymore.

Note:

1. Under manual setting mode, there is no travel memory function, every time the mains is cut off, the running travel has to be re-set.

2. Soft start-slow stop function is not valid until running travel is set successfully.

Remote Control Management

Operation Instruction:

1. Press “-” button for 2 sec. under standby mode to enter into the first function of remote control management.
2. Different functions can be selected through “+” and “-” buttons.
3. Press “SET” button to enter into the corresponding parameter settings.

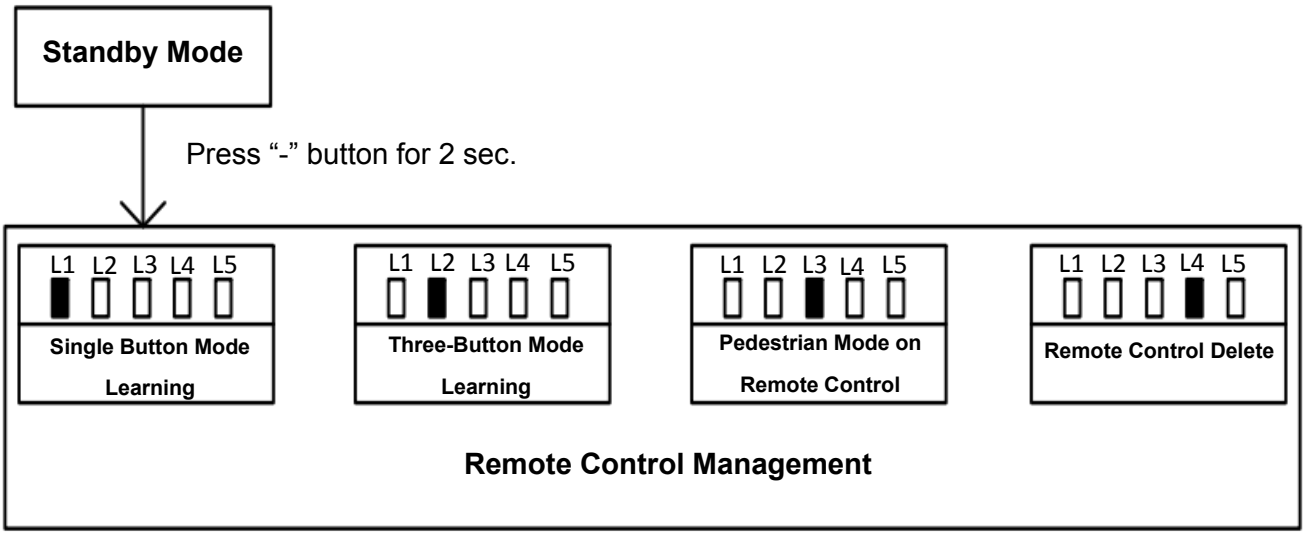


Figure 28

Remote Control Mode Instruction:

There are two modes available for remote control under this control board. Users may pair the remote control in their required mode.

1. Single button mode: Open/Stop/Close of the gate opener is controlled by only one button on the remote control.
2. Three button mode: Open/Stop/Close of the gate opener is controlled by three different buttons on the remote control.

Single Button Mode Learning (L1)

Under this mode, one of the remote control buttons which is paired to the gate opener can individually control the operation of one opener. The rest buttons on this remote control can be used to pair to other openers.

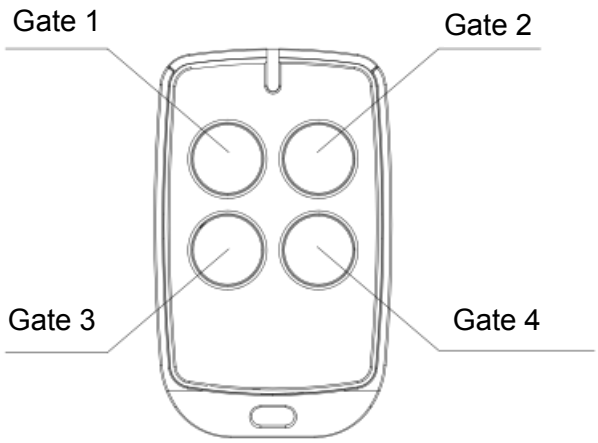


Figure 29

A. Operation Instruction

1. Press and hold “-” button for 2 sec. to enter into remote control management mode. → Indicator light L1 will be steady on.
2. Press “SET” button once to enter into single button learning mode. → All indicator lights will flicker repeatedly from L1 to L5. (If an alarm lamp is connected, it’ll blink as well).
3. Press the button which is to be paired on the remote control twice. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off. (If an alarm lamp is connected, it’ll be on for one sec.). Learning is complete thereafter.

B. Operation Graphic Illustration

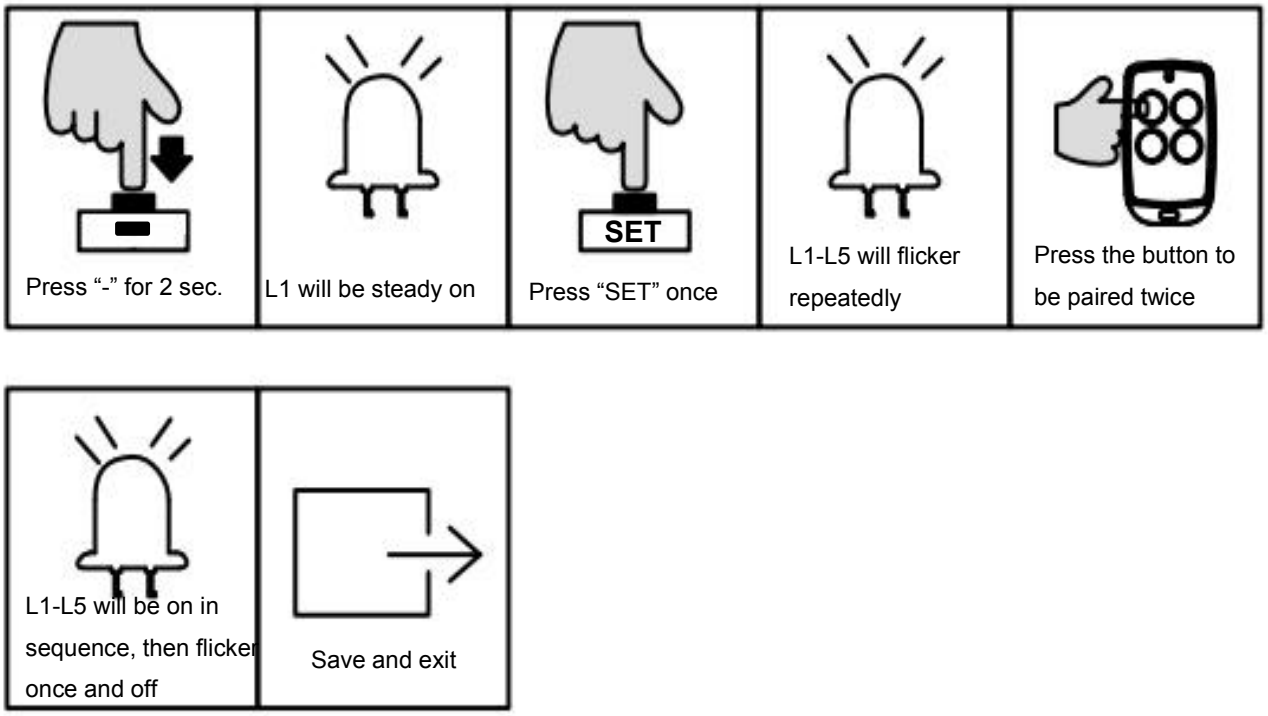


Figure 30

Three-button Mode Learning (L2)

Under this mode, all buttons on the remote control which are paired to the gate opener will be separately used for gate opening、closing and stop. (Please refer to Figure 26 for the usage for the forth button on the remote control)

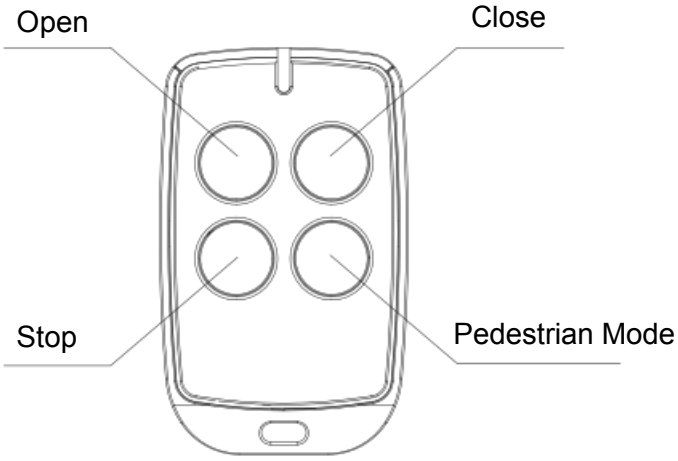


Figure 31

A. Operation Instruction

1. Press and hold “-” button for 2 sec. to enter into remote control management mode. → Indicator light L1 will be steady on.
2. Press “+” button once to select three button learning mode option. → Indicator light L2 will be steady on.
3. Press “SET” button once to enter into three button learning mode. → All indicator lights will flicker repeatedly from L1 to L5. (If an alarm lamp is connected, it’ll blink as well)
4. Press the button which is to be paired on the remote control twice. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off. (If an alarm lamp is connected, it’ll be on for one sec.) Learning is complete thereafter.

B. Operation Graphic Illustration

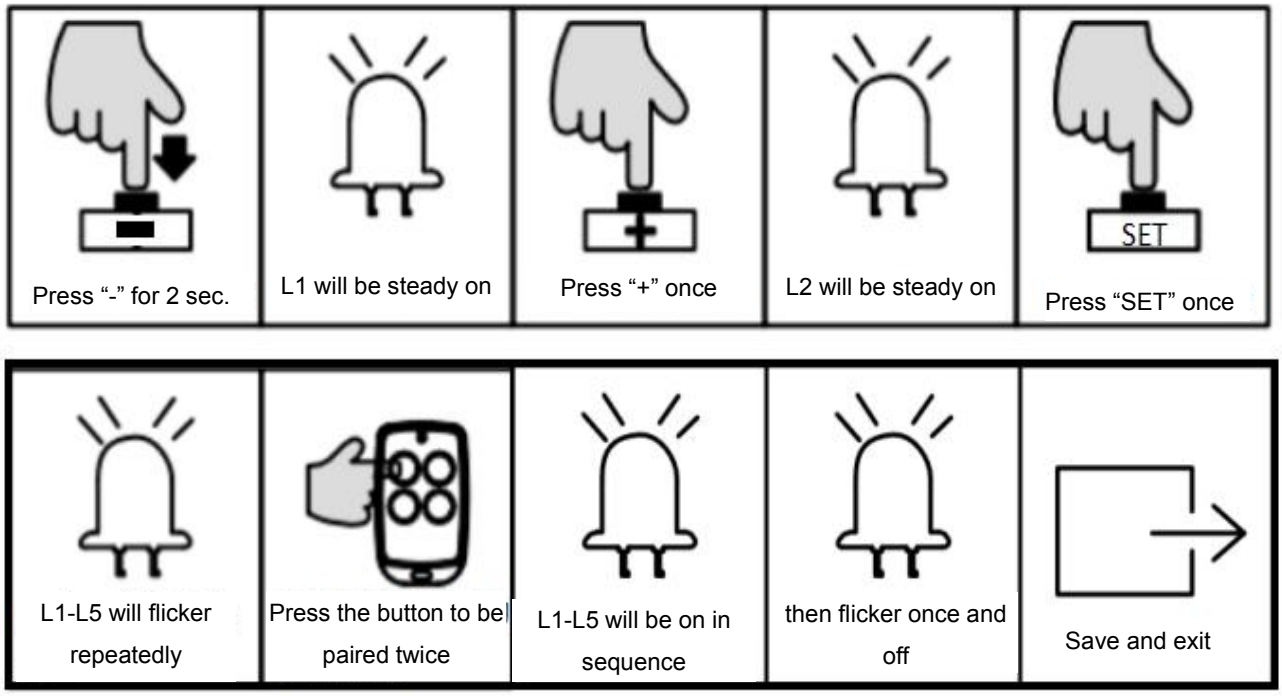


Figure 32

Note: If there is no operation under the remote control learning status for 20 sec., system will automatically exit the setting and save all the paired remote controls.

Pedestrian Mode on Remote Control (L3)

Pedestrian mode function: when gate is closed, press the Pedestrian button on the remote control, the gate will open 1m wide to allow pedestrian access.

A. Operation Instruction:

1. Press and hold “-” button for 3 sec. to enter into remote control management mode. → Indicator light L1 will be steady on.
2. Press “+” button twice to select pedestrian mode function.→ Indicator light L3 will be steady on.
3. Press “SET” button once to enter into pedestrian mode setting. → All indicator will flicker repeatedly from L1 to L5.
4. Press the button which is to be paired on the remote control once. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.. Learning is complete thereafter.

B. Operation Graphic Illustration:

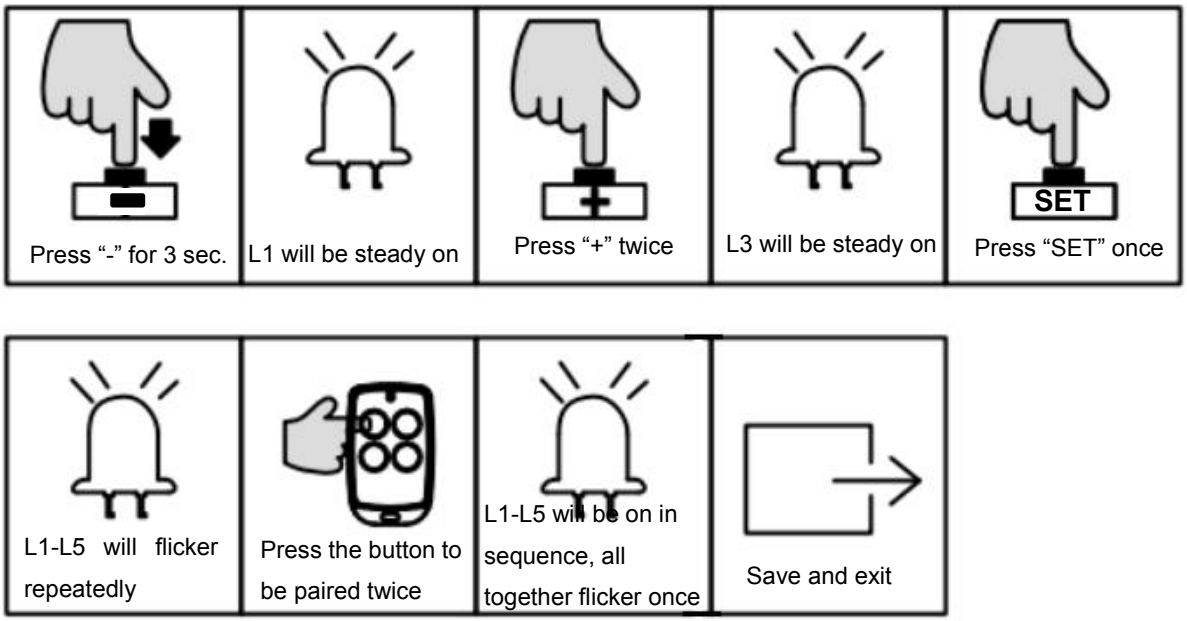


Figure 33

Remote Control Delete (L4)

This operation will delete all the remote controls that are paired to this control board.

A. Operation Instruction:

1. Press and hold “-" button for 2 sec. to enter into remote control management mode. → Indicator light L1 will be on.
2. Press “+" button three times to select remote control delete option. → Indicator light L4

will be on.

3. Press “SET” button once to enter into remote control delete option. → Indicator lights L1-L5 will be steady on.
4. Press and hold “SET” button for 2 sec. will delete all remotes and it will automatically exit. → Indicator lights will be off in sequence from L5 to L1, after which indicator lights L1-L5 will be on for one sec.

B. Operation Graphic Illustration:

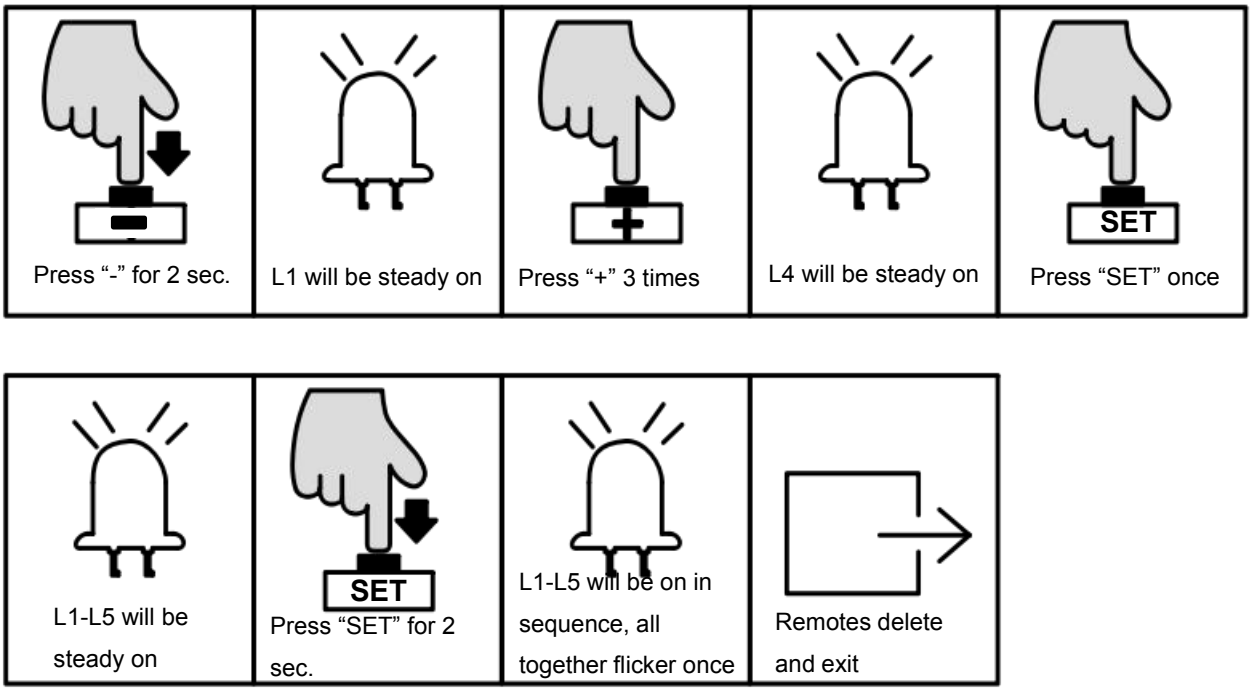


Figure 34

Basic Menu Setting

Operation Instruction:

1. Under standby mode, press and hold “PROG” button for 3 sec., the indicator light L0 will flicker once and enter into basic menu setting.

2. Press “+” or “-” button to select the different function settings.

3. Press “SET” button to enter into the selected function setting.

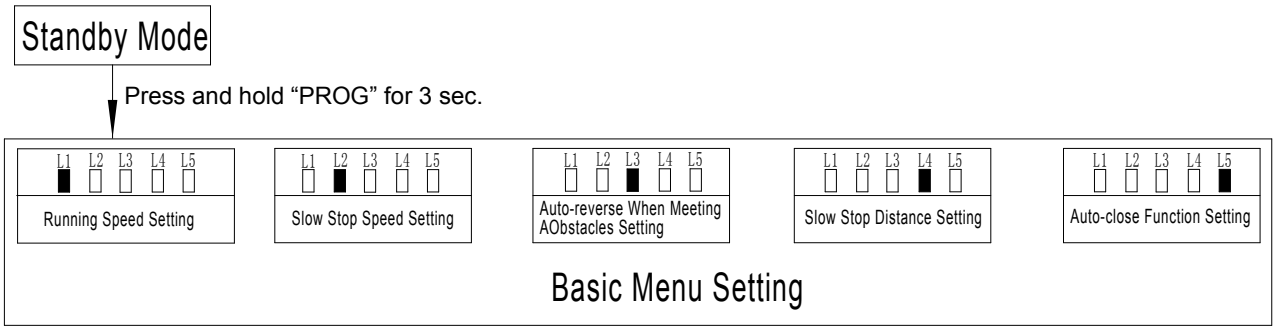


Figure 35

Running Speed Setting (L1)

Users can adjust the gate opening and closing speed according to the actual installation and using condition.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “SET” button once to enter into running speed setting. → Indicator lights L1-L5 will show the current running speed. (The default is L5)
3. Press “+” or “-” button to adjust the running speed. → Indicator lights L1-L5 will indicate different speed status. The more the indicator lights are on, the faster the running speed will be.
4. Press “SET” button to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

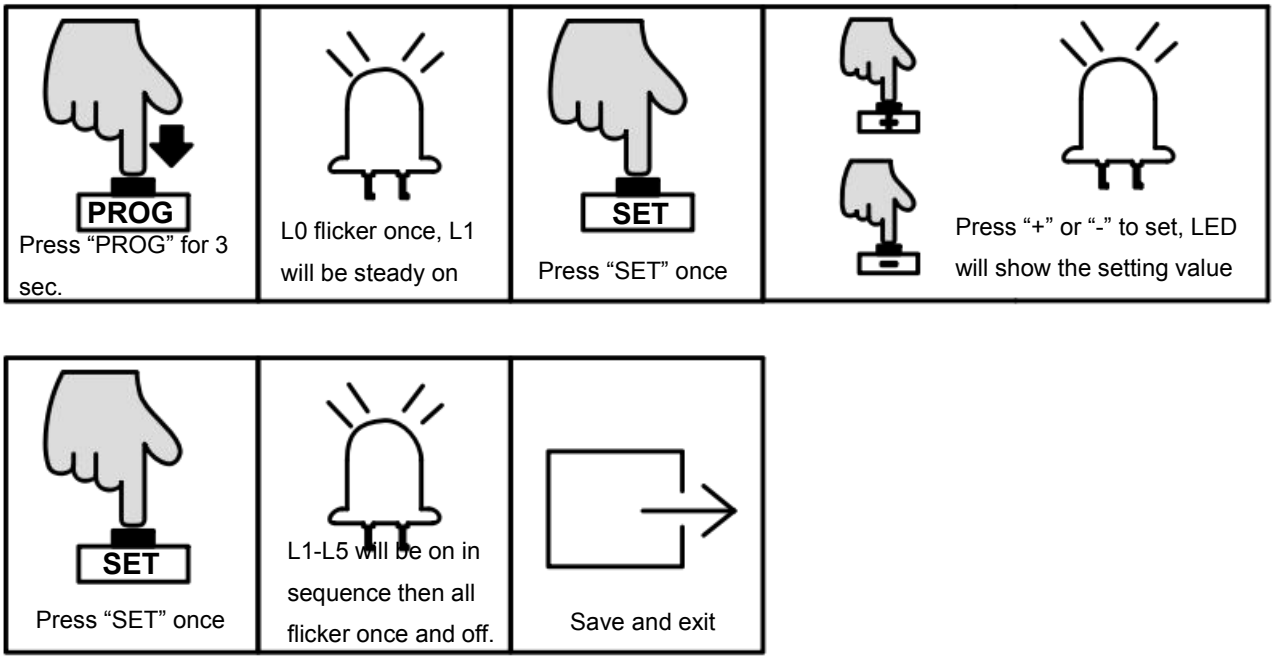


Figure 36

Slow Stop Speed Setting (L2)

The setting for slow stop speed can effectively reduce the inertial force when the gate is open or closed to its limit position, which will extend the lifetime of both gate and gate opener.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “+” button to select slow stop speed setting. → Indicator light L2 will be steady on.
3. Press “SET” button once to enter into setting mode. → Indicator lights L1-L5 will show the current slow stop speed. (The default is L1)
4. Press “+” or “-” button to adjust the slow stop speed. → Indicator lights L1-L5 will show the different speed status. The more the indicator lights are on, the faster the slow stop speed will be.
5. Press “SET” button to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

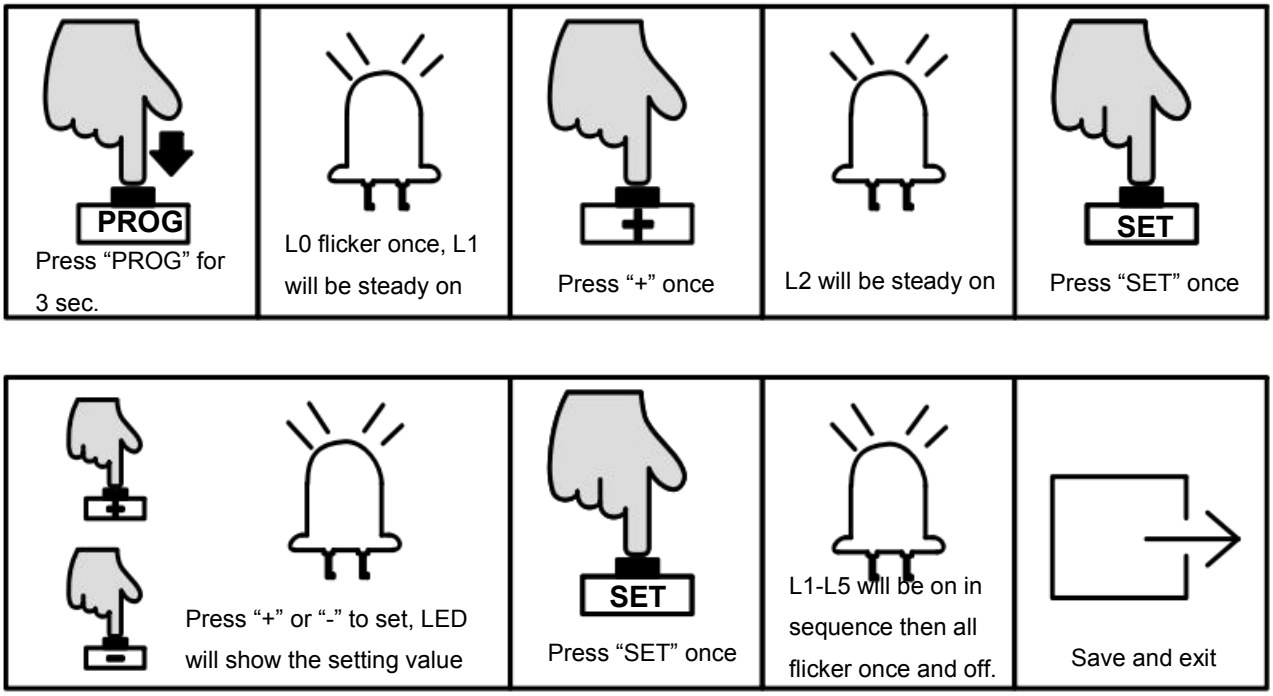


Figure 37

Reverse When Meeting Obstacles Setting (L3)

During the gate opening or closing, accidental collision with obstacles may pose a threat to people and property. In order to prevent impact of such collision, users may adjust the sensitivity of meeting obstacles to reduce the impact damage.

A. Operation Instruction:

1. Press “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “+” button twice to select the reverse option. → Indicator light L3 will be steady on.
3. Press “SET” button once to enter into setting mode. → Indicator lights L1-L5 will show the current setting. (The default is L2)
4. Press “+” or “-” button to set the sensitivity of meeting obstacles. → Indicator lights L1-L5 will show the different sensitivity of meeting obstacles. The less the indicator lights are on, the more the sensitivity will be. L1-L5 are all off means to cancel the Auto-reverse function.

5. Press “SET” button once to save the setting and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

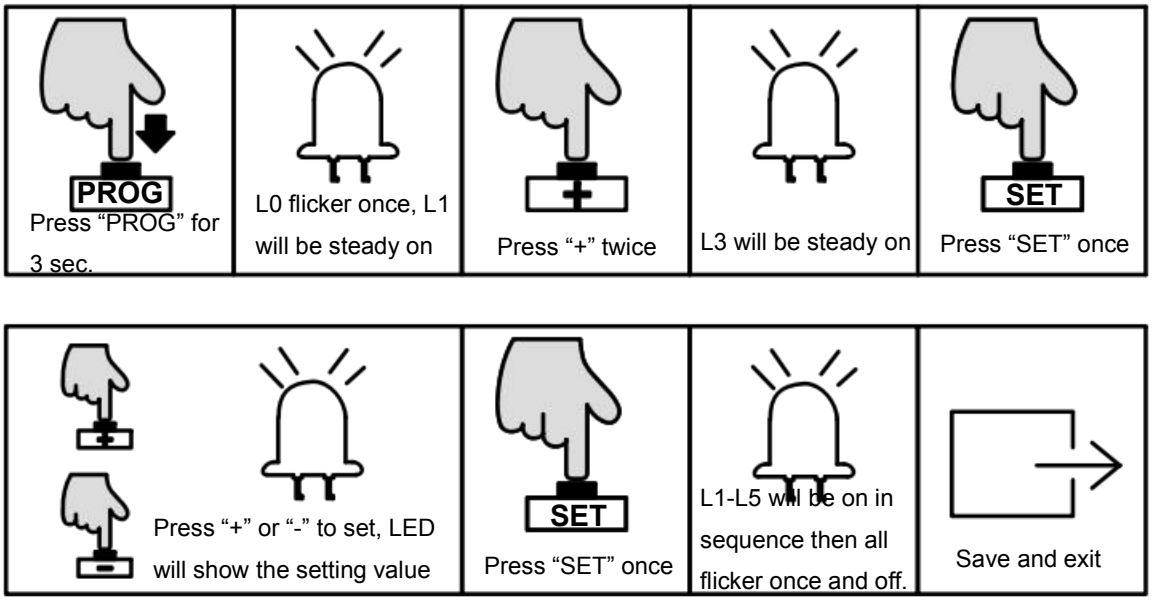


Figure 38

Note: The default setting of this function is suitable for gate weighting 500kg and the glide rail for running the gate is smooth, if this function is not workable or reverse frequently, please adjust the settings to reduce or increase a little bit.

Slow Stop Distance Setting (L4)

Setting a slow stop distance enables the gate to run more smoothly, which will extend the service life of gate and gate opener.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “+” button three times to select slow stop distance option. → Indicator light L4 will be steady on.
3. Press “SET” button once to enter into slow stop distance setting. → Indicator lights L1-L5 will show the current distance of slow stop. (The default is L4)
4. Press “+” or “-” button to set the slow stop distance. → Indicator lights L1-L5 will show the different slow stop distance. The more the indicator lights are on, the longer the

distance will be. If the gate is heavy(over 800kg), it is recommended to set it on L4 or L5 to have a better slow stop running. If the gate weight is less than 500kg, it is recommended to set it on L2 or L1 to have a better slow stop running.

5. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

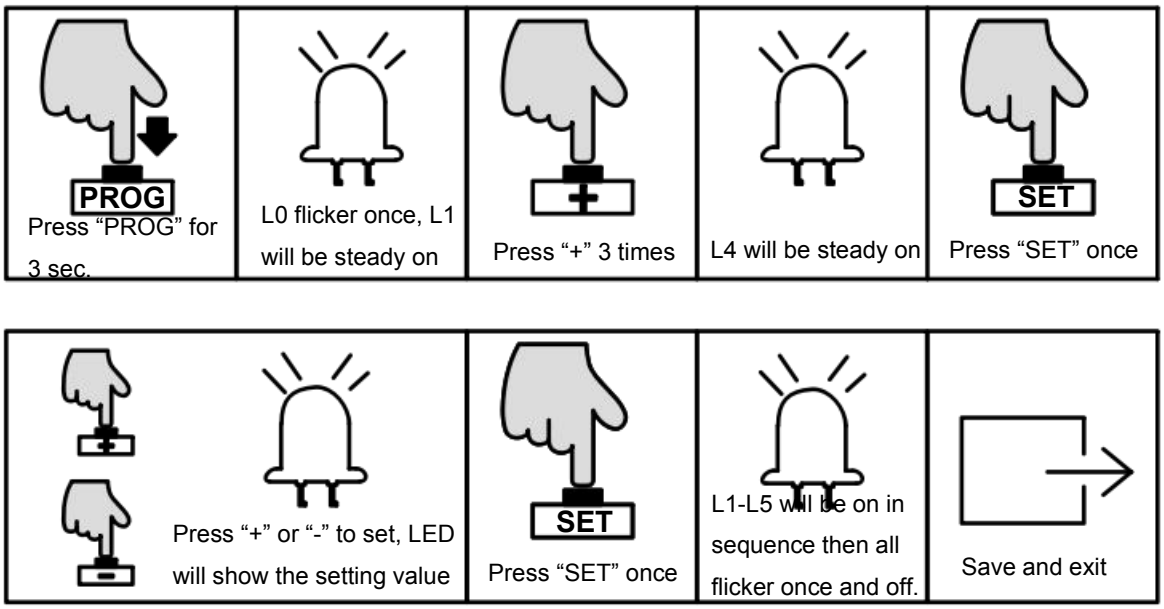


Figure 39

Auto-close Function Setting (L5)

When the gate is completely open, the control board will send the auto-close signal to enable the gate to close automatically according to the pre-set auto-close time.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “+” button four times to enter into Auto-close option. → Indicator light L5 will be steady on.
3. Press “SET” button once to enter into setting. → Indicator lights L1-L5 will show the current auto-close time. (The default is all indicator lights off)
4. Press “+” or “-” button to set the auto-close time. → The number of steady on indicator

lights will indicate the Auto-close time. (Table 1 Auto-Close Time)

5. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

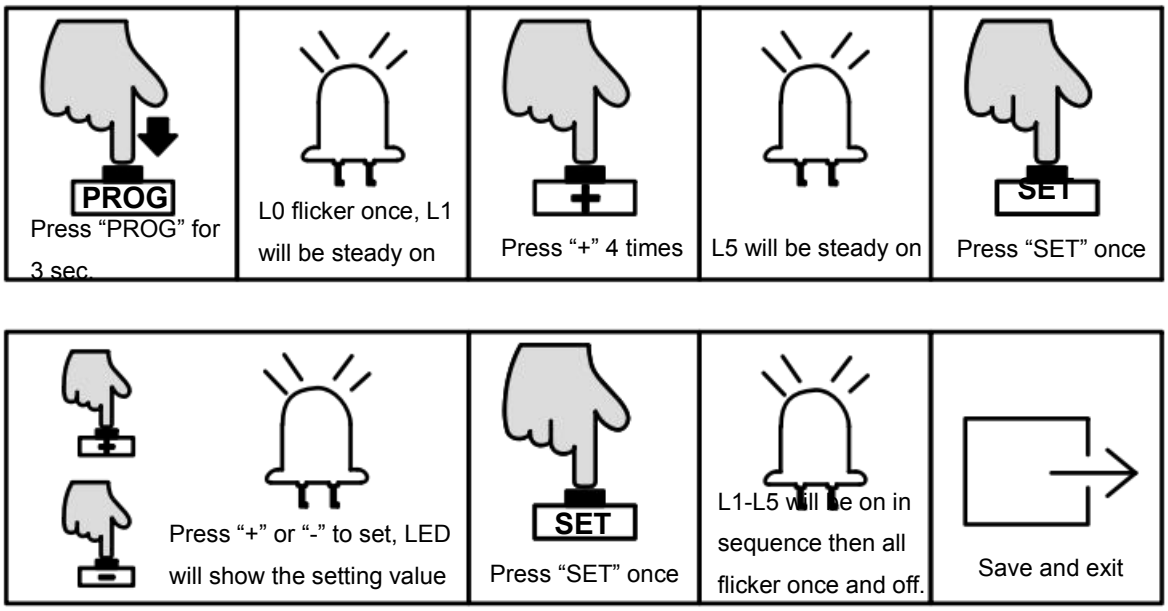


Figure 40

Indicator light status : Off On Flicker	Status Instruction
L1 L2 L3 L4 L5	Cancel Auto-close function
L1 L2 L3 L4 L5	Auto-close after 10 sec.
L1 L2 L3 L4 L5	Auto-close after 20 sec.
L1 L2 L3 L4 L5	Auto-close after 30 sec.
L1 L2 L3 L4 L5	Auto-close after 40 sec.
L1 L2 L3 L4 L5	Auto-close after 50 sec.

Table 1 Auto-Close Time

Advanced Menu Setting

1. Press “PROG” button for 3 Sec. under the standby mode, indicator light L0 will flicker once to enter into basic menu setting. Press “PROG” button again for 3 sec. indicator light L0 will flicker twice to enter into the advanced menu setting.

2. Different functions can be selected through “+” and “-” buttons.

3. Press “SET” button to enter into the selected function settings

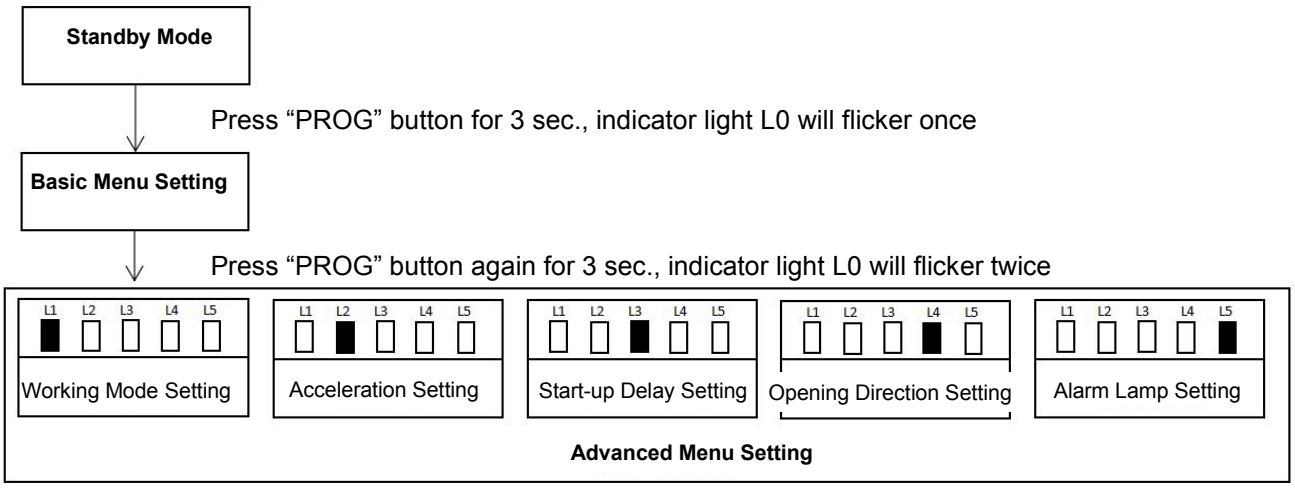


Figure 41

Working Mode Setting (L1)

Due to the usage for this product is different for users from different regions, the control board for this product offers 3 different working modes for users to choose.

1. Standard Mode (L1):

Terminals for external buttons:

OSC: Single button control PED: Pedestrian button STP: Stop button

2. Three Button Mode (L2):

Terminals for external buttons:

OSC: Opening button PED: Closing button STP: Stop button

3. Community Mode (L3):

Terminals for external buttons:

OSC: Single button control PED: Pedestrian button STP: Stop button

Special function: Only the gate is completely open, can it be closed thereafter. If the gate is not completely open, then only opening and stop can be operated in order to prevent any interruption which will trigger closing during the opening travel operated by the first user.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.

2. Press “PROG” button again for 3 sec. to enter into advanced menu. → Indicator light L0 will flicker twice, then L1 will be steady on.
3. Press “SET” button once to enter into working mode setting. → Indicator lights L1-L3 will show the current selection. (The default is L1)
4. Press “+” or “-” button to select the working mode. → Indicator lights L1-L3 will show the current selection.
5. Press” SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

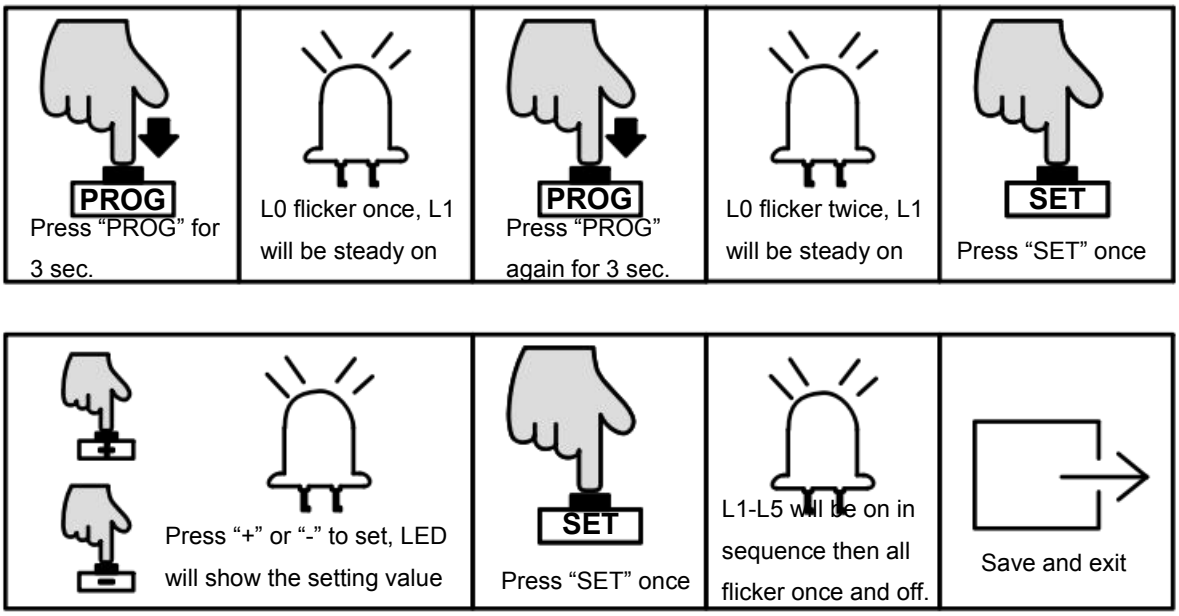


Figure 42

Acceleration Setting (L2)

Due to the different installation environment and gate installation status, users can adjust the acceleration of starting and deceleration of buffering of the gate opener to their necessary.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “PROG” button again for 3 sec. to enter into advanced menu. → Indicator light L0 will flicker twice, then L1 will be steady on.

3. Press “+” button once to select acceleration option. → Indicator light L2 will be steady on.
4. Press “SET” button once to enter into acceleration setting. → Indicator lights L1-L5 will show the current acceleration value. (The default is L2)
5. Press “+” or “-” button to set the acceleration value. → Indicator lights L1-L5 will indicate the different acceleration values. The more the indicator lights will be on, the faster the speed changes.
6. Press” SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

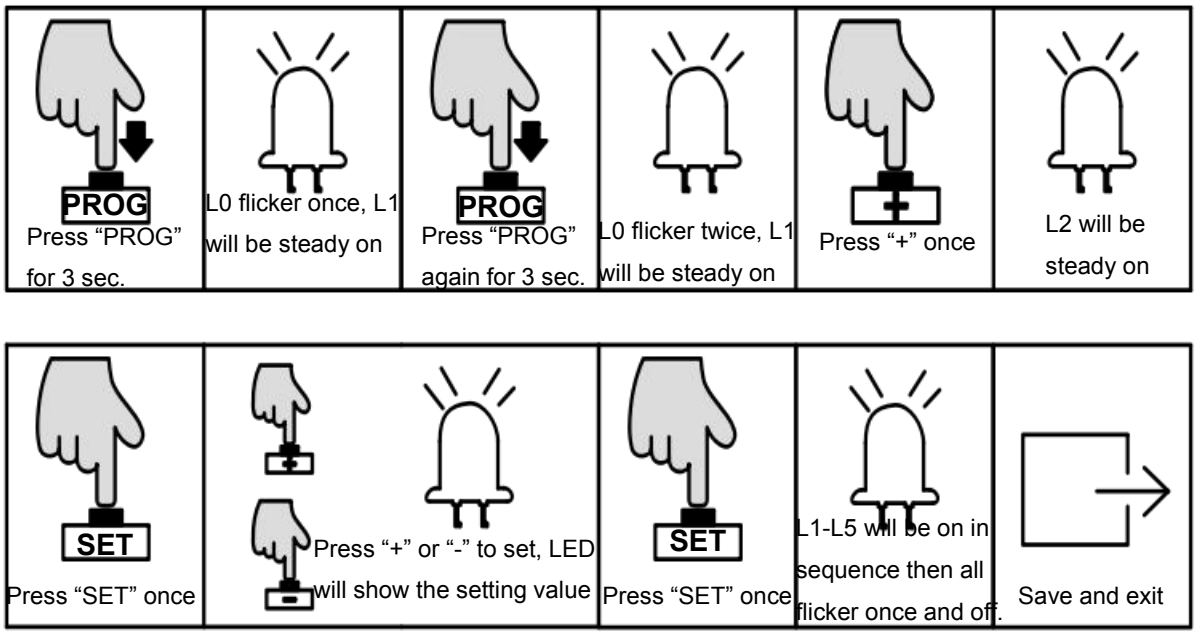


Figure 43

Start-up Delay Setting (L3)

The control board of this product is with low power consumption function under standby mode. When the gate opener stopped working, the control board will automatically enter into low power consumption mode to reduce the power consumption and extend the using time of the battery. Meanwhile, in order to reduce the power consumption of external accessories under standby mode, the control board will turn off the power for infrared sensor after entering into standby mode. When the gate opener is about to operate, it’ll

supply the power for accessories. In order to ensure the reliability of the infrared sensor, it is requested that the control board performs delay detection to the input signal of infrared sensor. When the gate opener receives the opening/closing signal, it'll start to work after a certain time (the settled delay time)

A. Operation Instruction:

1. Press and hold "PROG" button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press "PROG" button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press "+" button twice to select start-up delay setting. → Indicator light L3 will be steady on.
4. Press "SET" button once to enter into start-up delay setting. → Indicator lights L1-L3 will show the current setting. (The default is L1)
5. Press "+" or "-" button to set the start-up delay time. → Indicator lights L1-L3 will show the current setting. (Table 2 Start-up Delay Time)
6. Press "SET" button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

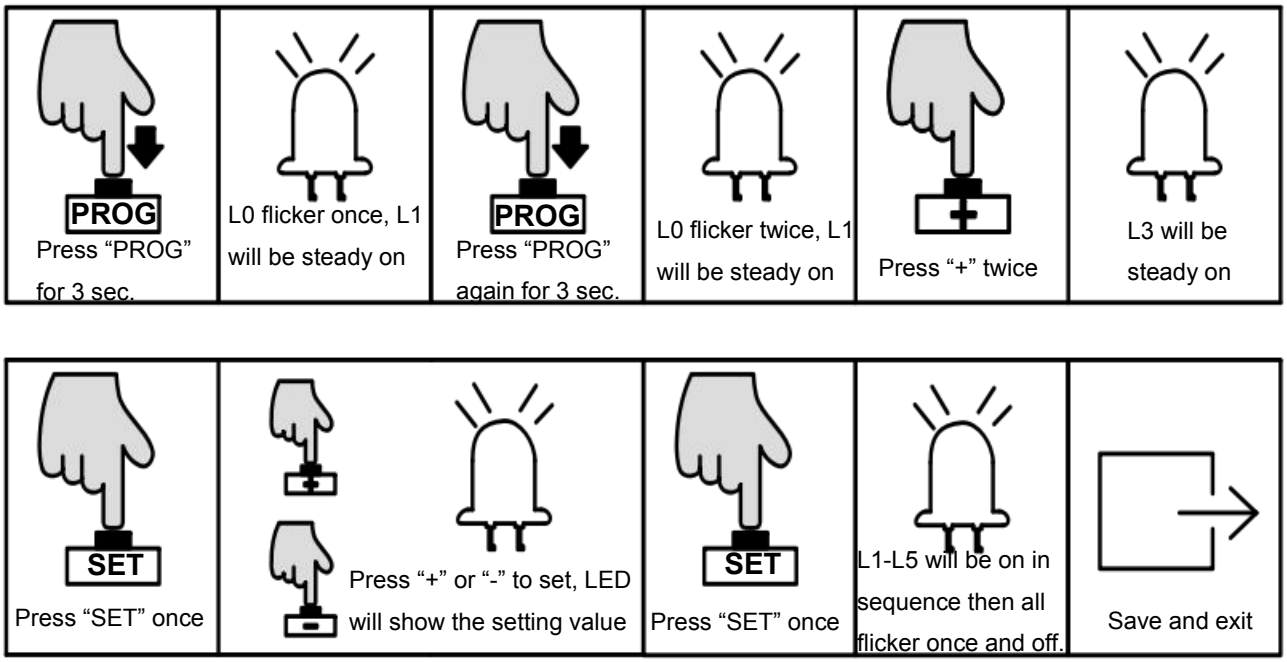


Figure 44

Indicator light status : Off On Flicker	Status Instruction
L1 L2 L3 L4 L5	Cancel start-up delay function
L1 L2 L3 L4 L5	Delay for 0.5 sec
L1 L2 L3 L4 L5	Delay for 1 sec
L1 L2 L3 L4 L5	Delay for 1.5 sec

Table 2 Start-up Delay Time

Gate Moving Direction Setting (L4)

User can change the gate moving direction under menu L4 without switching the motor wires. But should notice the polarities of the 2 magnets.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “PROG” button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press “+” button three times to select gate moving direction setting. → Indicator light L4 will be steady on.
4. Press “SET” button once to enter into gate moving direction setting. → Indicator light L1 will show the current setting. (The default is L1 on)
5. Press “+” or “-” button to set the gate moving direction. → Indicator light L1 on: open the gate to the right-hand side; L1 off: open the gate to the left-hand side.
6. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

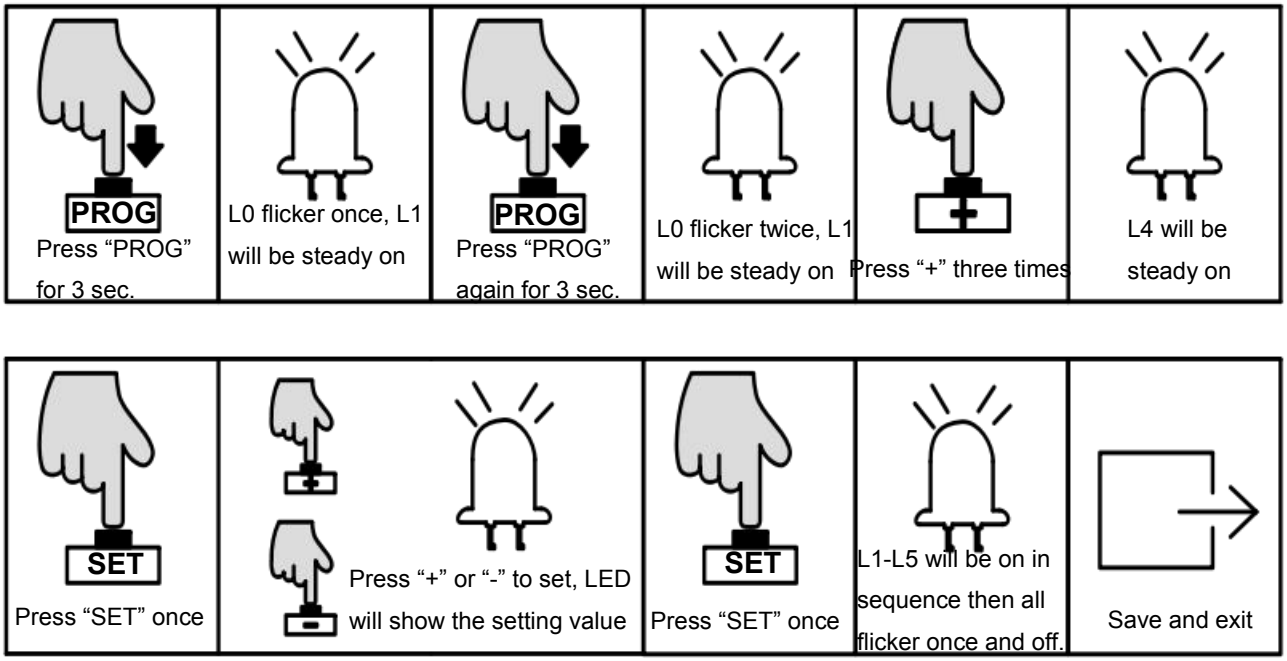


Figure 45

Note: After resetting the gate moving direction, indicator lights L1 and L2 will flicker simultaneously, this is to remind you to re-set the running travel. Before re-setting the running travel, please switch to manual control mode first and make sure the polarities of the blue and black magnets are 100% correct and can be activated after reaching the limit switch positions.

Alarm Lamp Setting (L5)

There are 2 types of the alarm lamp: Blink and steady on.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “PROG” button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press “+” button four times to select alarm lamp type. → Indicator light L5 will be steady on.
4. Press “SET” button once to enter into alarm lamp type setting. → Indicator light L1 will show the current setting. (The default is L1 off)

5. Press “+” or “-” button to set the alarm lamp type. → Indicator light L1 on: blink type; L1 off: steady on type.
6. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

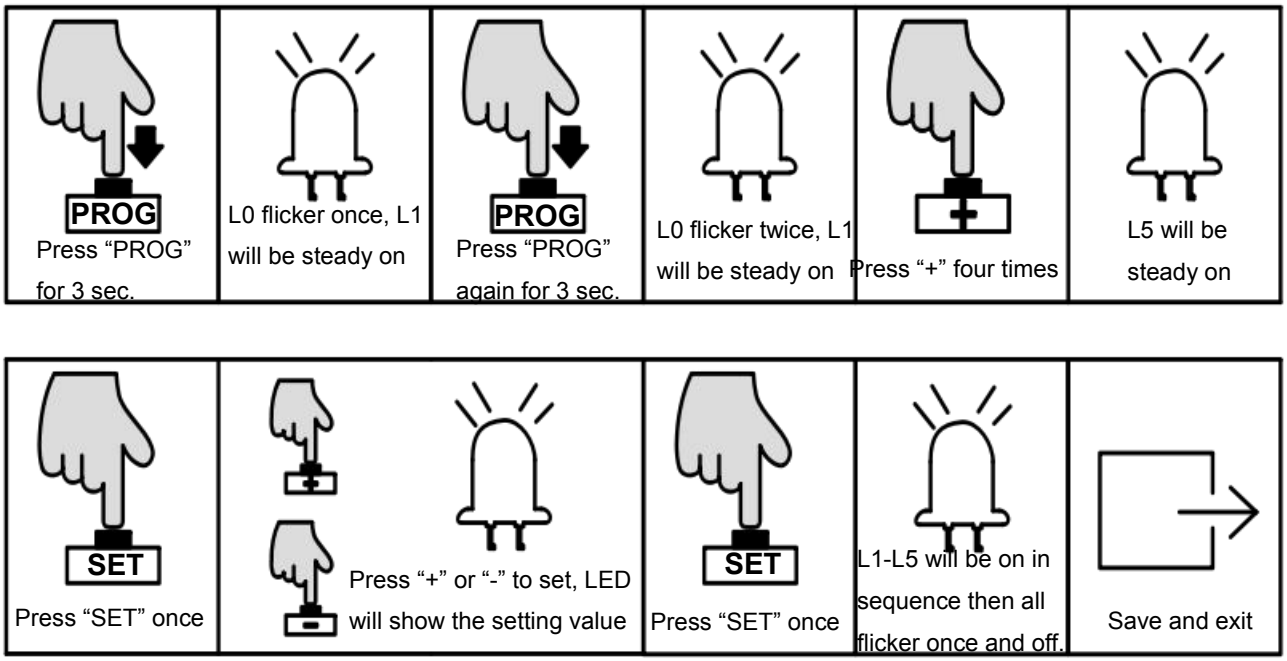


Figure 46

Other Menu Setting

1. Press “PROG” button for 3 Sec. under the standby mode, indicator light L0 will flicker once to enter into basic menu setting. Press “PROG” button again for 3 sec. indicator light L0 will flicker twice to enter into the advanced menu setting. Then press “PROG” button for 3 sec., the indicator light L0 will flicker three times then enter into other menu setting.
2. Different functions can be selected through “+” and “-” buttons.
3. Press “SET” button to enter into the selected function settings.

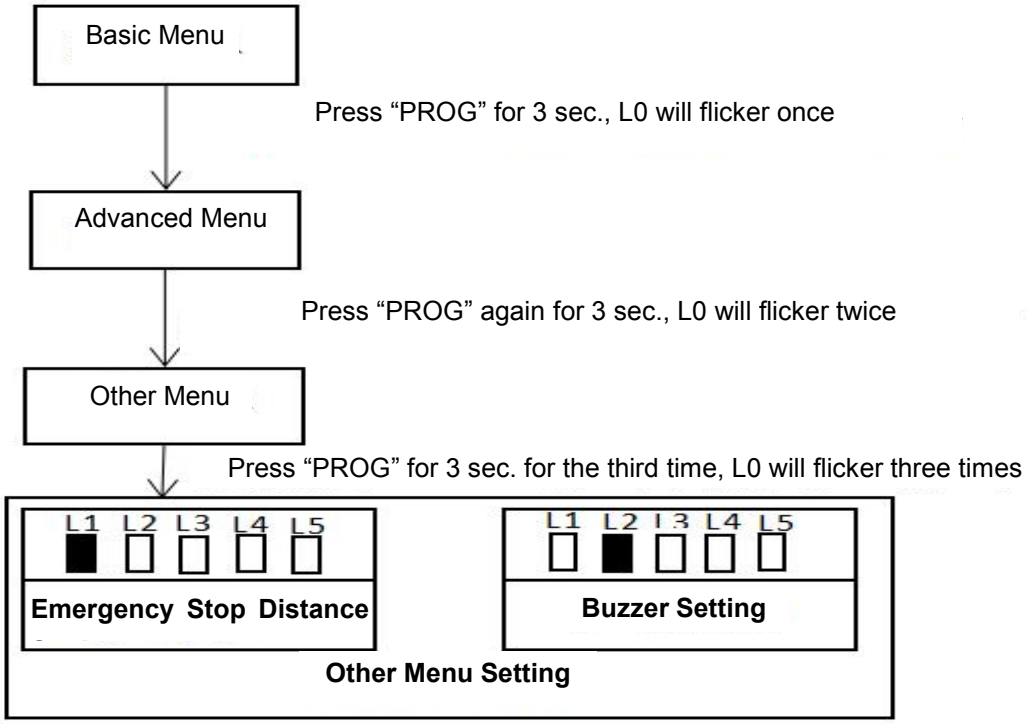


Figure 47

Emergency Stop Distance Setting(L1)

This setting is to change the distance of emergency stop during gate running. A longer distance will reduce the damage to the gate brings by impact force of emergency stop. Users can set the distance to their required.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “PROG” button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press “PROG” button for 3 sec. for the third time to enter into other menu setting. → L0 will flicker three times, then L1 will be steady on.
4. Press “SET” button once to enter into emergency stop distance setting. → Indicator light L1 to L5 will show the current setting value. (Default is L2)
5. Press “+” or “-” button to set the emergency stop distance. → Indicator lights L1-L5 will indicate different distance, the more the indicator lights are on, the longer the distance will be, the better the buffering will be before gate stopped.

6. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

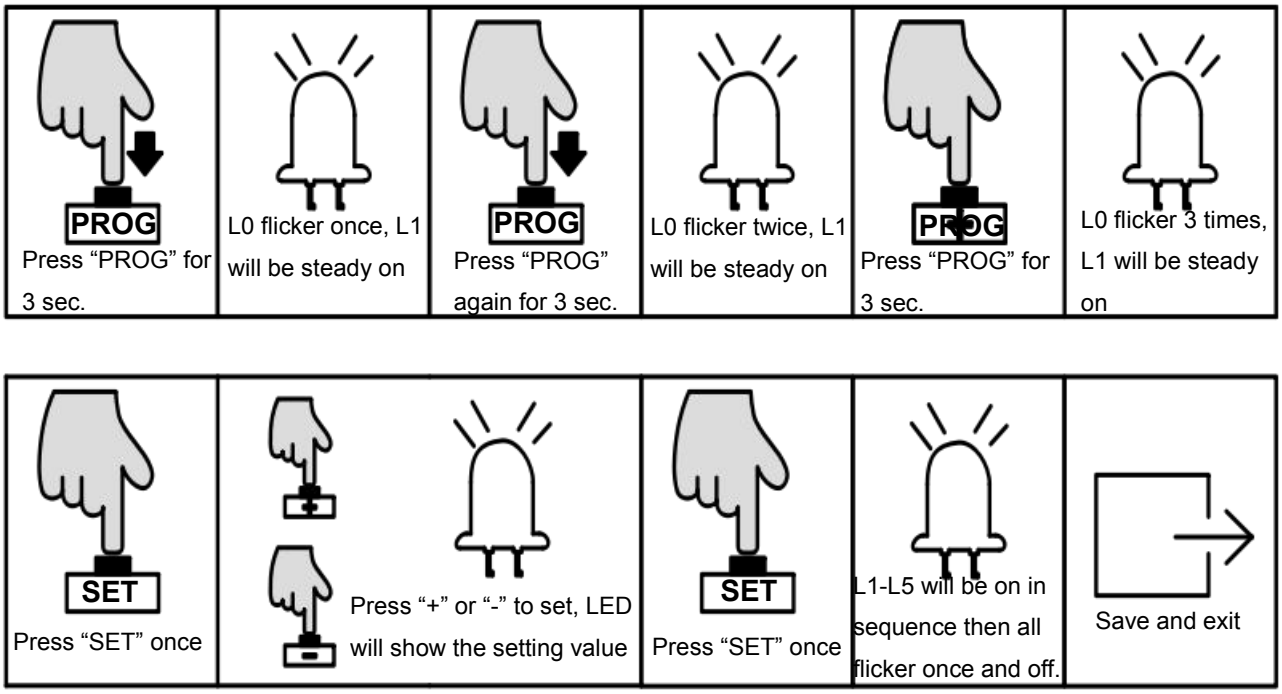


Figure 48

Note:

1. This function can directly affect the infrared emergency stop effect. Non professionals should not adjust it.

2. Only when the emergency stop distance is set to the minimum (only L0 lights up), the door opener will immediately stop and retreat to the closed position after triggering infrared when closing the door. But the impact force generated during an emergency stop will reduce the lifespan of the door opener.

3. When the emergency stop distance increases (excluding "minimum emergency stop distance"), the door opener will slowly slide for a certain distance before stopping and retreating to the closing position after triggering infrared when closing the door. This setting can effectively reduce the damage caused to the door opener during emergency stop, but the emergency stop triggered by infrared is no longer sensitive when closing the door. Please adjust it as needed to be careful not to cause personal injury and property damage due to improper setting.

Buzzer Setting(L2)

This setting is to enable or disable the buzzer, users can set to their required.

There are four types of buzzer this motor will make for different conditions:

1. Motor works normally under mains power: the buzzer sounds short but long lasting.
2. Motor works normally under battery power: the buzzer sounds strident but long lasting, and will stop after 6 sec.
3. Motor works abnormal due to low battery power: the buzzer sounds strident but long lasting, and will stop after 3 sec.
4. Motor works abnormal due to control board error: the buzzer sounds strident but long lasting.

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “PROG” button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press “PROG” button for 3 sec. for the third time to enter into other menu setting. → L0 will flicker three times, then L1 will be steady on.
4. Press “+” button twice to select buzzer setting option. → Indicator light L2 will be steady on.
5. Press “SET” button once to enter into buzzer setting. → Indicator light L1 on or off will indicate the current setting value. (Default is L1 off)
6. Press “+” or “-” button to enable or disable the buzzer. → Indicator light L1 off: enable; on: disable.
7. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

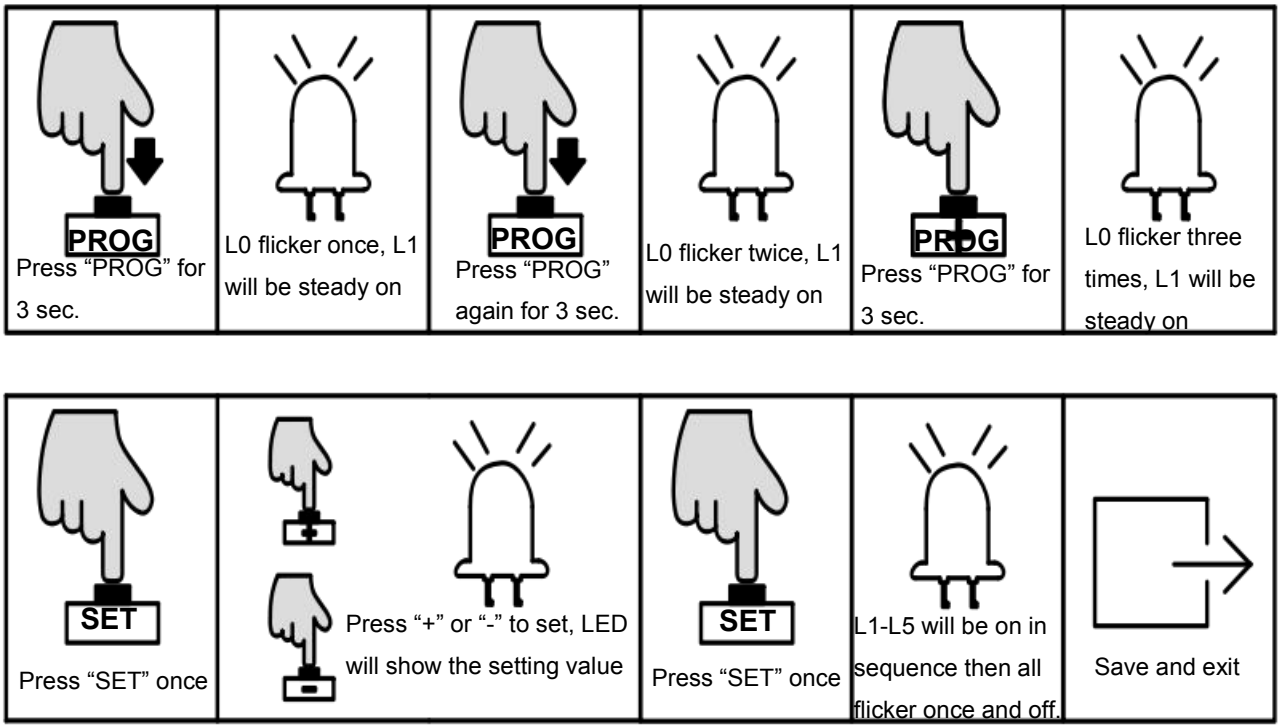


Figure 49

Note: The buzzer cannot be disabled under battery powered.

After turning on the buzzer function, when the motor is running normally and the buzzer is still not working, please check whether the "JP3 terminal" is inserted at the ON end.

Limit Switch Polarity Setting(L3)

Users can switch the polarity of the limit switch in case that the limit switch type changed. If the limit switch type is normal open, please enter into this menu to change the polarity into N.O.(L1 off); If the limit switch type is normal CLOSE, please enter into this menu to change the polarity into N.C.(L1 on);

A. Operation Instruction:

1. Press and hold “PROG” button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press “PROG” button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press “PROG” button for 3 sec. for the third time to enter into other menu setting. → L0 will flicker three times, then L1 will be steady on.

4. Press “+” button twice to select limit switch polarity setting. → Indicator light L3 will be steady on.
5. Press “SET” button once to enter into limit switch polarity setting. → Indicator light L1 on or off will indicate the current setting value. (Default is L1 on)
6. Press “+” or “-” button to select the polarity. → Indicator light L1 on or off will indicate the current setting value. (L1 off: N.O.; L1 on: N.C.)
7. Press “SET” button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

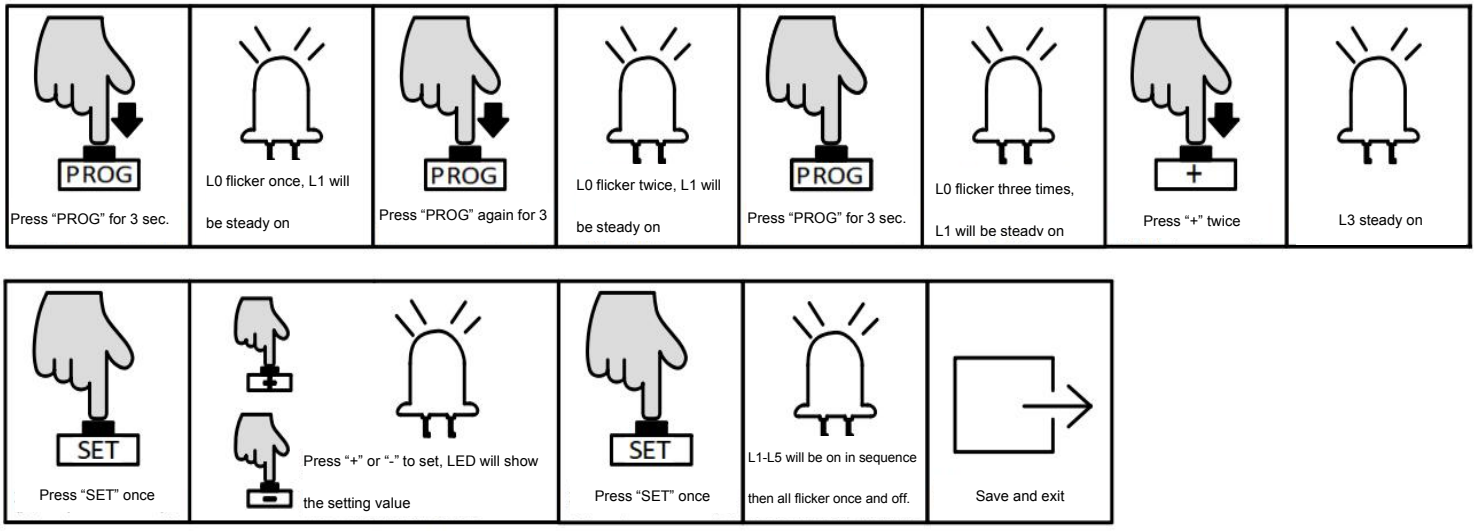


Figure 50

Travel Learning Mode Setting(L4)

There are 2 ways of travel learning: manual mode and quick mode.

Manual mode: after powering on, user should press the button on the remote control to start the travel learning, first running is closing, then it will open(during travel learning, the motor will run at full speed), only after closing and opening running, will the travel learning complete. (If the power is cut off, travel learning should be set again after power is back.)

Quick mode: after powering on, press and hold “+” button on the control board, gate opener

will automatically learn it's travel, users no need to press button on the remote. Under this mode, control board will record the travel, if the power is cut off and back, no need to set the travel again)

A. Operation Instruction:

1. Press and hold "PROG" button for 3 sec. to enter into basic menu. → Indicator light L0 will flicker once, then L1 will be steady on.
2. Press "PROG" button again for 3 sec. to enter into advanced menu. → L0 will flicker twice, then L1 will be steady on.
3. Press "PROG" button for 3 sec. for the third time to enter into other menu setting. → L0 will flicker three times, then L1 will be steady on.
4. Press "+" button three times to select travel learning mode setting. → Indicator light L4 will be steady on.
5. Press "SET" button once to enter into travel learning mode setting. → Indicator light L1 on or off will indicate the current setting value. (Default is L1 on)
6. Press "+" or "-" button to select the polarity. → Indicator light L1 on or off will indicate the current setting value. (L1 off: manual mode; L1 on: quick mode.)
7. Press "SET" button once to save and system will automatically exit. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off.

B. Operation Graphic Illustration

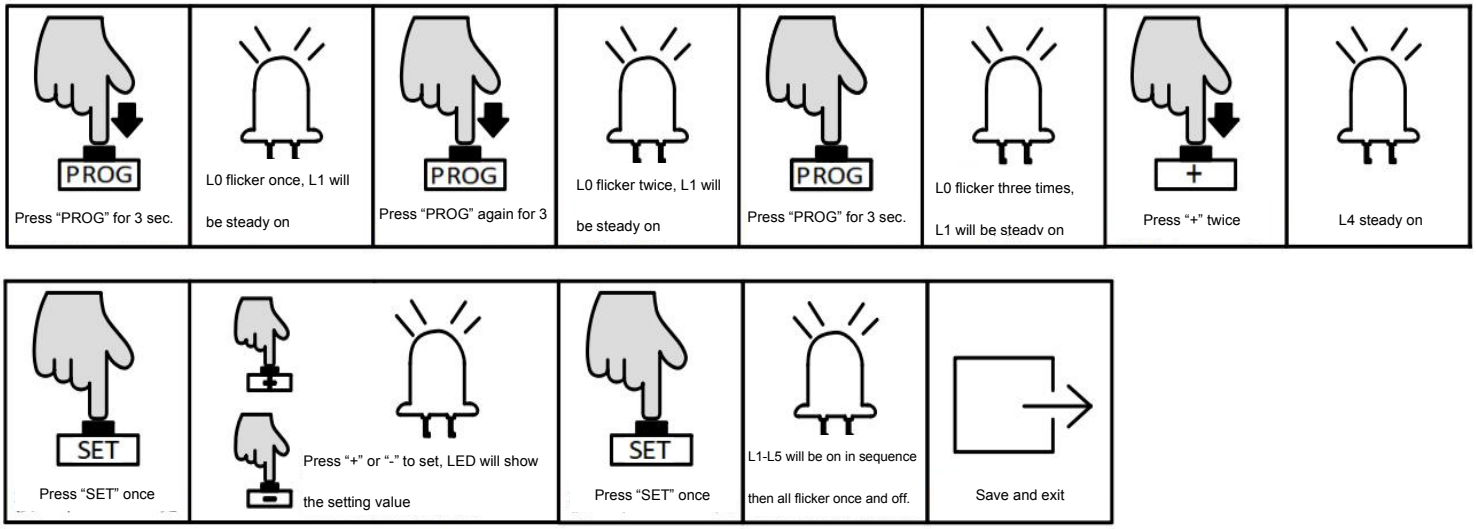


Figure 51

Battery Level Checking

The current battery level can be checked through the indicator lights. When the battery power is low (12V battery voltage＜10.3V; 24V battery voltage＜19V), the gate opener will stop running to protect the battery being damaged. Under such circumstance, users may have to unlock the gate opener first, then move the gate by hand.

A. Operation Instruction:

1. Press “SET” button once. → Indicator lights L1-L5 will indicate the current battery level (Table 3 Battery Level)
2. Press “PROG” button once to exit the battery level checking. → Indicator lights L1-L5 will be off.

B. Operation Graphic Illustration

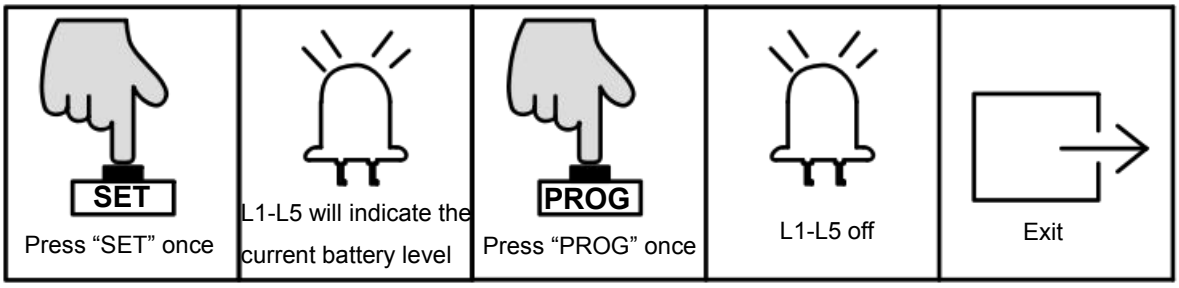


Figure 52

Indicator Light Status	Status Instruction	
Off □ On ■ Flicker ◪	12V/9AH	24V/9AH
L1■ L2■ L3■ L4■ L5■	Battery Level ≥12.4V	Battery Level ≥24.6V
L1■ L2■ L3■ L4■ L5□	Battery Level ≥12V	Battery Level ≥23.5V
L1■ L2■ L3■ L4□ L5□	Battery Level ≥11.6V	Battery Level ≥12.1V
L1■ L2■ L3□ L4□ L5□	Battery Level ≥11.2V	Battery Level ≥21V
L1■ L2□ L3□ L4□ L5□	Battery Level ≥10.7V	Battery Level ≥19.6V
L1□ L2□ L3□ L4□ L5□	Battery Level ＜10.7V	Battery Level ＜19.6V

Table 3 Battery Level

Restore Factory Setting

1. Simultaneously press the three buttons “SET”、“+” and “-” for 3 sec. → The indicator lights L1-L5 will be on in sequence, then all will flicker once and off. Save and exit.

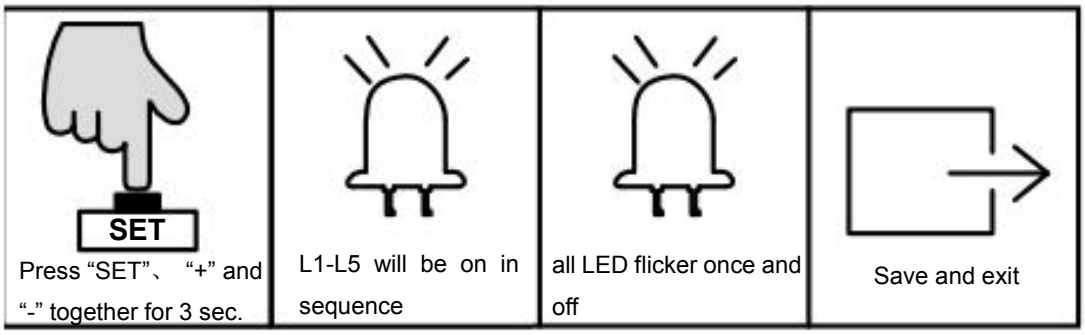


Figure 53

Control Board Error Instruction

The indicator light will display the error during gate running:

Indicator Light Status： □ Off ■ Flicker	Status Instruction
L1 ■ L2 □ L3 □ L4 □ L5 □	Meeting obstacles during gate opening
L1 □ L2 ■ L3 □ L4 □ L5 □	Meeting obstacles during gate closing
L1 □ L2 □ L3 ■ L4 □ L5 □	Running time over 60S
L1 □ L2 □ L3 □ L4 □ L5 ■	Infrared photocell disconnected
L1 ■ L2 □ L3 ■ L4 □ L5 □	No hall sensor
L1 ■ L2 ■ L3 □ L4 □ L5 □	No travel

Table 4 Error Instruction

Maintenance

The gate should be checked every month to make sure it operates normally.
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 keep the right to change the instruction without prior notice.

Troubleshooting

Any troubleshooting work below done to the motor must be completed by a licensed electrician and only whilst the power is off and the motor is unplugged!

Problem	Possible Reason	Solution
The gate cannot open or close normally, and LED does not light.	1. The power supply is cut off. 2. Fuse is blown. 3. Control board power supply terminal wrongly wired.	1. Connect the power supply. 2. Check the fuse (FU) and replace if blown. 3. Re-wiring according to user manual.
The gate can only open, but cannot close.	1. Photocell wrongly wired. 2. Photocell wrongly installed. 3. Photocell is blocked by objects. 4. Sensitivity of obstacle is too high.	1. If not connect photocell, please ensure the infrared port and GND port has a jumper wire; if connect photocell, please ensure the wiring is correct and the photocell status is N.C. 2. Ensure that the photocell mounting position can be mutually aligned. 3. Remove the obstacle. 4. Reduce the sensitivity of obstacle.
Remote control doesn't work.	1. Battery level is too low. 2. Remote control not paired.	1. Change the battery. 2. Pair the remote control to the gate opener.
Not stop when running to opening or closing limit switch position.	1. Limit switch damaged. 2. The polarities of black and blue magnets opening are opposite. 3. Hall sensor damaged.	1. Replace the limit switch. 2. Switch the black and blue magnets. 3. Replace the hall sensor part.
Leakage switch tripped.	Power supply cable short circuit or motor wire short circuit.	Check wiring.