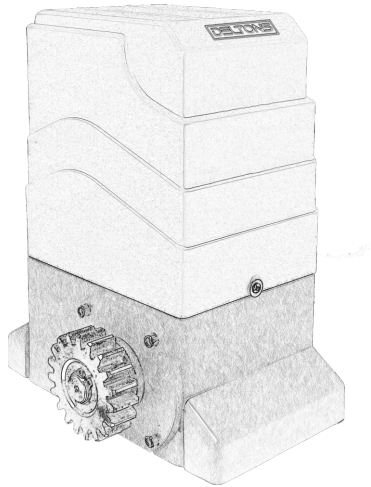


DELTONS[®]

AUTOMATIC OPENER SOLUTION

DSG - SERIES



Sliding Gate Opener User Manual



WARNINGS FOR THE INSTALLER

1. GENERAL SAFETY OBLIGATIONS

- **ATTENTION!** To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.
- Carefully read the instructions before beginning to install the product. Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.
- Store these instructions for future reference.
- This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
- DELTONS declines all liability caused by improper use or use other than that for which the automated system was intended.
- Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.
- DELTONS is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorized, or for any deformation that may occur during use.
- The installation must conform to Standards EN 12453 and EN 12445. For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.
- Before attempting any job on the system, cut out electrical power.
- The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.
- Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.
- Make sure that the earthing system is perfectly constructed, and connect metal parts of the means of the closure to it.
- The automated system is supplied with an intrinsic anti-crushing safety device consisting of a torque control. Nevertheless, its tripping threshold must be checked as specified in the Standards indicated at point 10.
- The safety devices (EN 12978 standard) protect any danger areas against mechanical movement Risks, such as crushing, dragging, and shearing.
- Use of at least one indicator-light (e.g. DELTONSLIGHT) is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point "16".
- DELTONS declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by DELTONS are used.
- For maintenance, strictly use original parts by DELTONS.
- Do not in any way modify the components of the automated system.
- The installer shall supply all information concerning manual operation of the system in case of an emergency, and shall hand over to the user the warnings handbook supplied with the product.
- Do not allow children or adults to stay near the product while it is operating.
- Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.
- Transit is permitted only when the automated system is idle.
- The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.
- Maintenance: check at least every 6 months the efficiency of the system, particularly the efficiency of the safety devices (including, where foreseen, the operator thrust force) and of the release devices.
- Anything not expressly specified in these instructions is not permitted.

1. Technical parameters

Model	DSG-800	DSG-1200	DSG-2000
Power supply	220V/50Hz;110V/60Hz	220V/50Hz;110V/60Hz	220V/50Hz;110V/60Hz
Motor power	400W	550W	550W
Gate moving speed	11 -13m/min	11 -13m/min	11 -13m/min
Maximum weight of gate	1000Kg	1500Kg	2000Kg
Remote control distance	≥30m	≥30m	≥30m
Remote control mode	Single button mode / Three button mode	Single button mode / Three button mode	Single button mode / Three button mode
Limit switch	Magnetic limit switch	Magnetic limit switch	Magnetic limit switch
Noise	≤60dB	≤60dB	≤60dB
Working duty	S2, 20min	S2, 20min	S2, 20min
Recording of up remote controls	25	25	25

2. Installation

DSG-800/1200/2000 sliding gate opener is applicable to gate weight less than 1000kg/1500kg/2000kg, and length of the sliding gate should be less than 12m. The drive mode adopts the gear and rack transmission. This gate opener must be installed inside the enclosure or yard for protection.

2.1 Installation Drawing

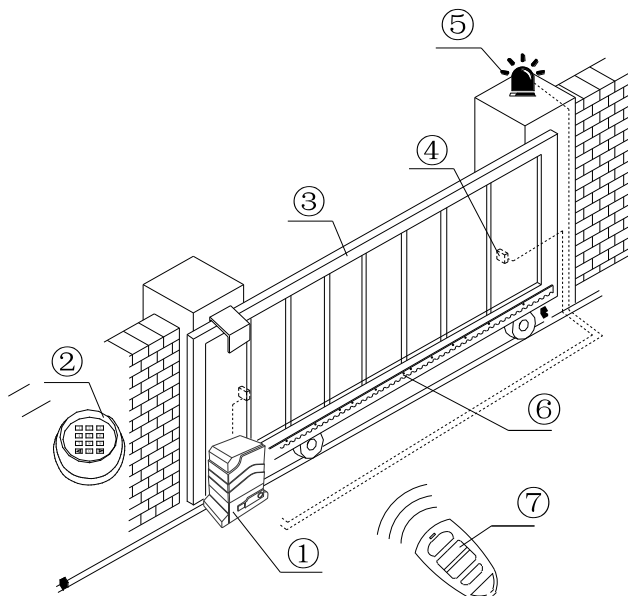


Figure 1

- ① Gate opener; ② Access Control (optional); ③ Gate; ④ Infrared sensor (optional);
⑤ Light Strobe (optional); ⑥ Gear rack; ⑦ Remote control;

2.2 Size of Machine

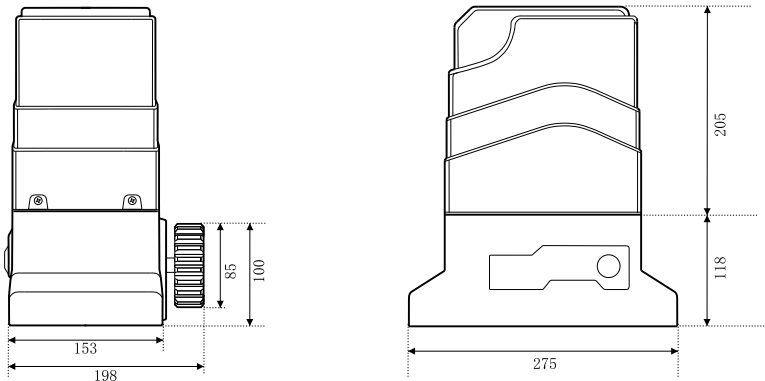


Figure 2

2.3 Size of Mounting Plate

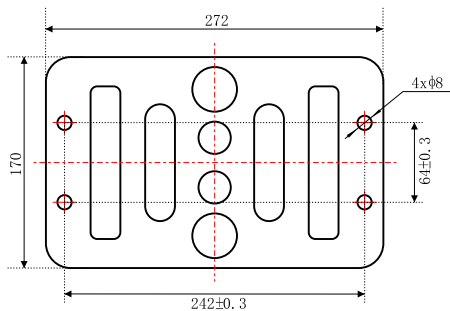


Figure 3

2.4 Installation procedures

Preparation work before installation

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

Cable installation

Please bury the motor & power cable and controlling cable with PVC tube, and use two PVC tubes to bury (motor & power cable) and (controlling cable) separately, so as to guarantee normal operation of the gate opener and protect the cables from damages.

Concrete pedestal

Please cast a concrete pedestal with the size of 500mm x 300mm and depth of 250mm in advance, so as to firmly install DSG800/1200/2000 gate opener. **Please verify whether the distance between the gate and gate opener is suitable before casting the pedestal.**

Embedded screws

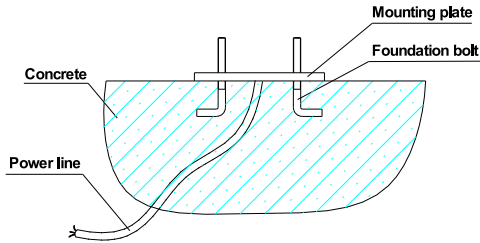


Figure 4

2.3 Main Engine Installation

- a) Please prepare the power line for connecting mounting plate and main engine (the number of power supply cable core shall not be less than 3 PCS, the sectional area of cable core shall not be lower than 1.5mm² and the length shall be determined by users according to the field situation) due to different installation environments;
- b) Please unlock the main engine before installation, the unlock method is: take out the key cover, insert the key, and open the manual release bar till it rotates by 90° as shown in Figure 5. Then turn the output gear and the gear can be rotated easily;

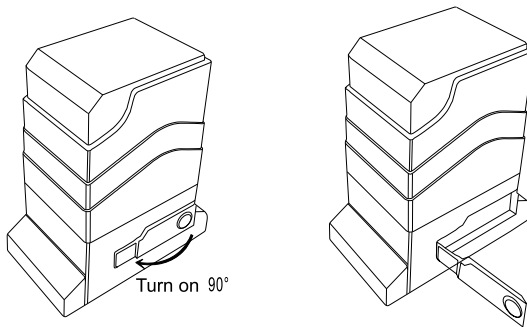


Figure 5

2.4 Gear Rack Installation

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

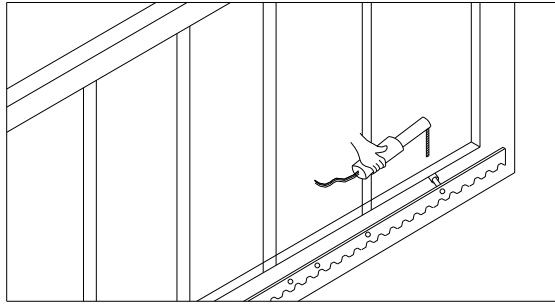


Figure 6

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

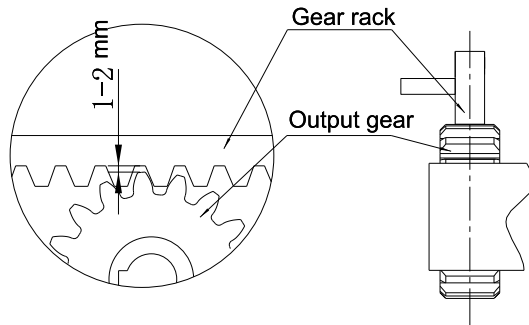


Figure 7



Warnings

- To ensure safety, install safety stop blocks on both ends of the rails to prevent the gate out of the rail. Before installing the main engine, make sure that the safety stop blocks are in place and whether it has the function of preventing the gate from moving out of the rail and out of the safety range.
- Please ensure that the main engine and its components have good mechanical properties, and the gate can operate flexibly when moved by hands before installing the main engine.
- In this product, one control can drive one main engine only, otherwise, the control system will be damaged.
- Earth leakage circuit breaker must be installed where the gate movement can be seen, and the minimum mounting height is 1.5m to protect it from being touched.
- After installation, please check whether the mechanical property is good or not, whether gate movement after manual unlocking is flexible or not, and whether the infrared sensor (optional) is installed correctly and effectively.

2.5 Limit Switch Adjustment

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

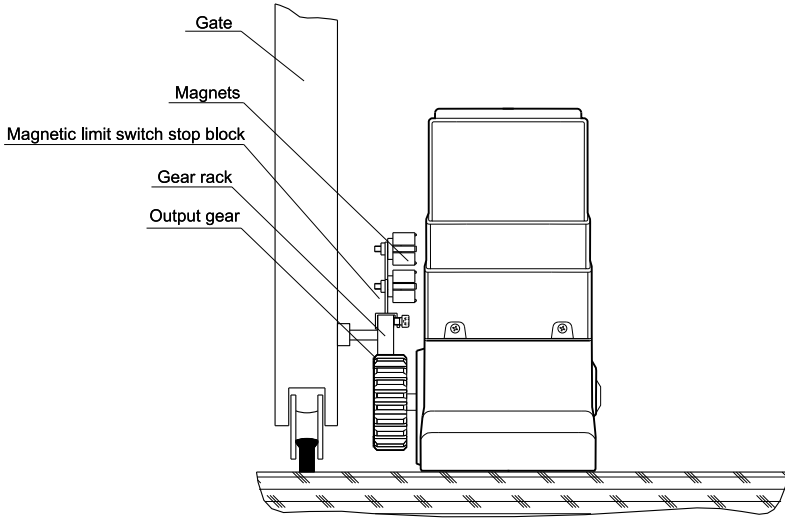


Figure 8

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

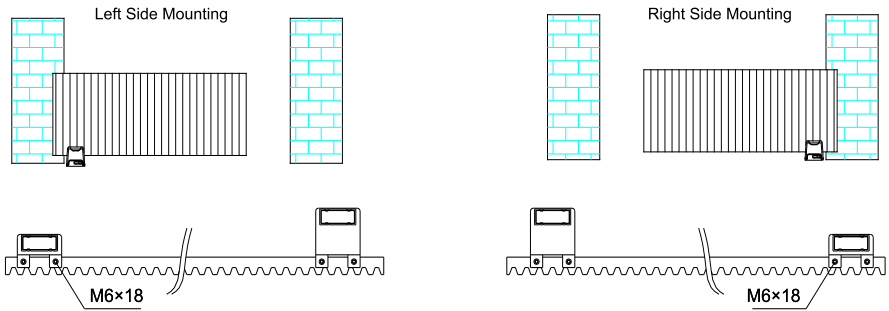


Figure 9

Note: The default setting is right side mounting.
(According to actual situation, please refer to figure 10, direction switch to adjust)

3. Control Board Wiring

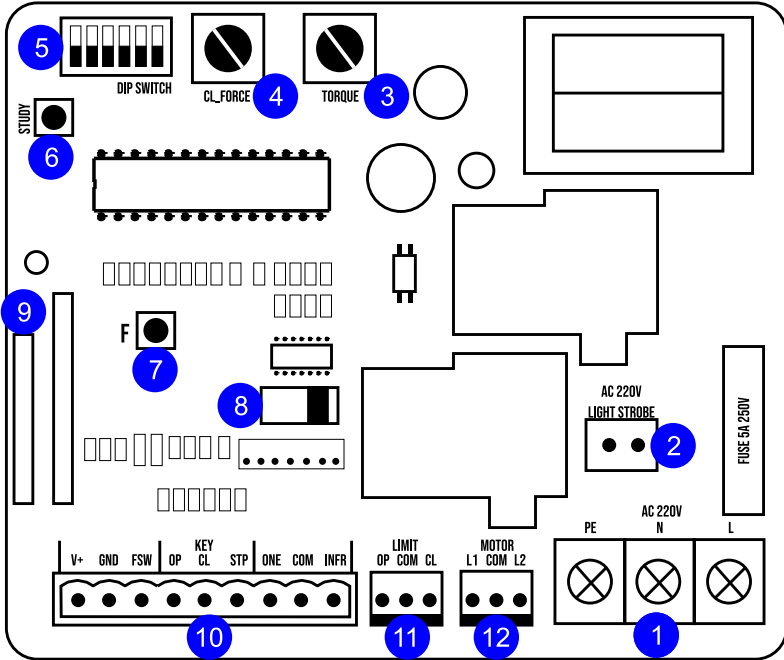


Figure 10

- | | |
|--|---|
| <ul style="list-style-type: none"> ① Supply Power Terminal. AC 220V / 50Hz
L : Live wire N : Neutral wire PE : Grounding wire ② Light Strobe Terminal
Output for AC 220V Light Strobe / Warning Light ③ Torque Knob
Torques Adjustment ④ Force Knob
CL_Force Adjustment ⑤ DIP Switch Function Set
D1 : RF ONE - Single button remote control
D2 : RF LOCK - Remote manual lock function
D3 : AUTO CL - Automatic closing function
D4 : Soft Start function
D5 : CL FORCE - Meet obstacles reversal function
D6 : Set | <ul style="list-style-type: none"> ⑥ Study Key
Remote study / learning / registering ⑦ F Key
Manual cycling switch to OPEN - STOP - CLOSE the gate ⑧ Direction Switch
Adjust the motor/gate direction. Right open or left open ⑨ Receiver Module
Remote control receiver module ⑩ Optional Accessories Terminal
Infra red sensor, Manual button, Access Control ⑪ Limit Switch Terminal
OP - COM - CL ⑫ Motor Line Terminal
L1 - COM - L2 |
|--|---|

Infrared sensor connection

Infrared photocell function: In the closing process, when infrared ray of the infrared sensor is covered, the gate will open immediately, to protect user and property security.

The distance between photocell receiver and photocell emitter should be not less than 2 meters, otherwise will affect the induction of the photocell. Please set the infrared sensor relay output as NO

See figure 11 for infrared connection

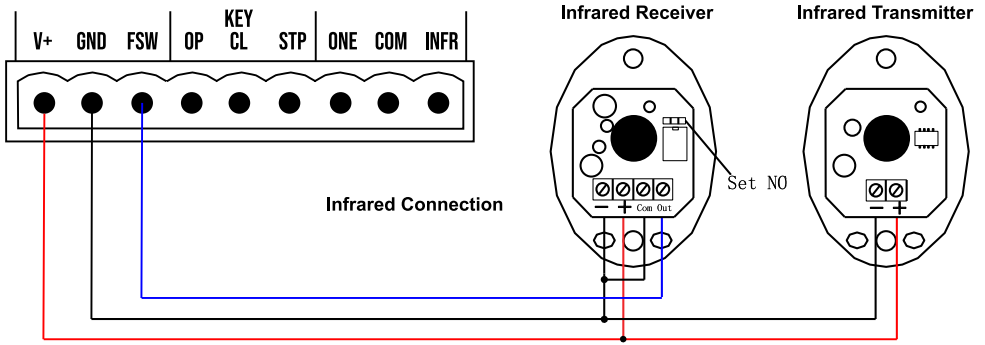


Figure 11

Accessories Terminal Connection

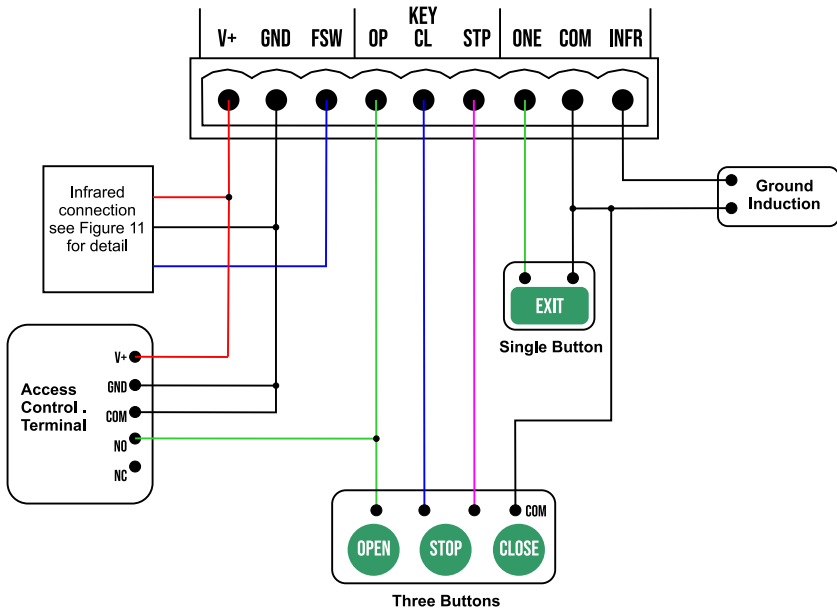


Figure 12

External Switch Button

External single button manual, such as exit button for access control with single bond / Two terminal. Using this single button can do perform to : Open - Stop - Close - Stop.

External three buttons, please connect each terminal wiring like in figure 12. If the wiring is correct, each button is used for a specific function.

Access Control

If using access control device, after validation, the access control device will give signal to open or close the gate. The gate controller can set up to automatic closing function, so that after gate open, the gate will automatic close after perform delay (please refer to automatic closing function). But for safety reason, you must install infrared sensor to prevent the clip into things when automatic closing

Automatic Closing Function

(Please refer to DIP Switch Function on Control Board)

The user can set the automatic-closing function as needed.

D3 set ON - Enable Automatic Closing

D3 set OFF - Disable Automatic Closing

When D3 is set ON, After the gate is fully open, the gate will stop and the controller will run a time delay.

After the delay is over, the gate will close automatically.

Auto-closing Delay Time Setting

- Set D3 and D6 ON
- Press the function key F, each time you press F it will add 1 second. Example: If you want set delay time 10s you can press F key 10 times.
- After finish setting delay time, set D6 to OFF
-

Meet obstacles reversal function

(Please refer to DIP Switch Function on Control Board)

The user can set meet obstacles reversal function as needed.

D5 set ON - Enable

D5 set OFF - Disable

If D5 is set ON, when the gate is on its way closing then meet obstacles, the gate will auto return (open).

The sensitivity of meet obstacle can adjust with CL_FORCE knob. Clockwise rotation to reduce sensitivity, counterclockwise rotation to increase sensitivity of obstacle.

Remote Control Operation

A. Remote Control Mode

(Please refer to DIP Switch Function on Control Board)

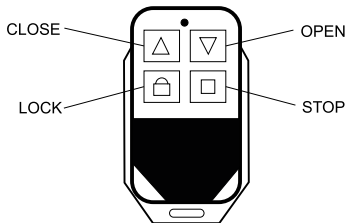
The user can set Remote control button mode.

D1 set ON - Single Button Mode

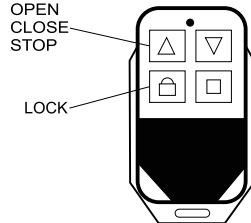
D1 set OFF - Three Button Mode

When remote control is **three button mode**, three buttons on the remote control to control the main engine OPEN/CLOSE/STOP separately.

When remote control is **single button mode**, one same button on the remote control to circularly control the main engine OPEN/STOP/CLOSE/STOP.



Three Button Mode



Single Button Mode

Figure 13

B. Remote Control Lock Function

(Please refer to DIP Switch Function on Control Board)

The user can set Lock function on Remote Control.

D2 set ON - Enable Lock

D2 set OFF - Disable Lock

If D2 is set ON, when the lock button on the remote control is pressed (see figure 13), the open or close buttons on the remote control will not work, including the external buttons.

Press the stop button on the remote control to unlock / restore to normal conditions

C. Remote Control Learning

Add extra remote control (remote control learning)

- Remove the upper cover of main engine
- Press the STUDY button once on the control board, can hear beep sound and indicator light STUDY will flash once and then go out;
- Press any button on the remote control, the STUDY flashes repeatedly and then goes on;
- Remote control learning is succeed. At most 20 remote controls can be learned.

Delete remote control:

Delete remote control that have been learned;

- Press the STUDY button and hold (in this condition the STUDY light is off)
- Still hold the STUDY button around 8s until hear beep sound and the STUDY light goes on.
- All Remote controls that learned previously have been deleted

4. Others

4.1 Troubleshooting

Problems	Possible Reasons	Solutions
The gate cannot open or close normally, and LED does not light.	1.The power is off. 2.Fuse is burned. 3.Control board power wiring with problem.	1.Switch on the power supply. 2.Check the fuse (code FU), change the fuse if burnt. 3.Re wiring according to instructions.
The gate can open but cannot close.	1.Infrared wiring with problem. 2.Infrared mounting with problem. 3.Infrared is blocked by objects. 4.Sensitivity of obstacle is too high (CL_Force).	1. Please make sure the infrared wiring is correct 2.Make sure that the Infrared mounting position can be mutually aligned. 3.Remove the obstacle. 4.Reduce the sensitivity of obstacle (CL_Force).
Remote control doesn't work.	1.Battery level of the remote control is low. 2.Remote control learning is not completed.	1.Change the remote control battery. 2.Re-conduct remote control learning.

Press OPEN, CLOSE button, the gate is not moving, motor has noise.	1.Capacitor is broken. 2.Capacitor is poor connected. 3.Gate moving is not smoothly.	1.Change capacitor. 2.Check the capacitor wiring. 3.According to the actual situation to adjust the motor or the gate.
Not stop at the limit position when opening / closing.	1. The limit direction is wrong. 2. The mounting of magnetic limit switch with problem.	1.Check whether the limit switch wiring is consistent with the actual direction of operation. 2. Check whether the distance between magnetic limit switch and motor, and the height of the magnetic limit switch can reach up the mounting requirement.
Leakage switch tripped.	Power supply line short circuit or motor line short circuit.	Check wiring.
Remote control working distance is too short.	Signal is blocked.	Check internal antenna
The gate moves to the middle position to stop or reverse.	1.Motor output force is not enough 2.Sensitivity of obstacle is too big(Intelligent type). 3.Gate meets obstacle.	1.Adjust the TORQUE. 2.Adjust the CL1_FORCE. 3.Remove the obstacle.

4.2 Maintenance

Check whether the gate operates normally every month.

Apply grease on gear rack, to reduce rust and noise.

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

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

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

