Sectional and Tilting Door Opener
Installation Instructions and User Guide

600N / 800N / 1000N

S/N	

WARNING

Please read the manual carefully before installation and use. The installation of your new door opener must be carried out by a technically qualified or licensed person. Attempting to install or repair the door opener without suitable technical qualification may result in severe personal injury, death and / or property damage.

CONTENTS

Important safety recommendations

FAILURE TO COMPLY WITH THE FOLLOWING SAFETY RECOMMENDATIONS MAY RESULT IN SERIOUS PERSONAL INJURY, DEATH AND / OR PROPERTY DAMAGE.

1. **PLEASE READ CAREFULLY AND ADHERE TO ALL SAFETY AND INSTALLATION RECOMMENDATIONS.**
2. The opener is designed and manufactured to meet local regulations. The installer must be familiar with local regulations required in respect of the installation of the opener.
3. Unqualified personnel or those persons, who do not know the occupational health and safety standards being applicable to automatic gates and other doors, must in no circumstances carry out installations or implement systems.
4. Persons who install or service the equipment without observing all the applicable safety standards will be responsible for any damage, injury, cost and expense or claim whatsoever any person suffered as a result of failure to install the system correctly and in accordance with the relevant safety standards and installation manual whether directly or indirectly.
5. For additional safety we strongly recommend the inclusion of Photo Beam. Although the opener incorporates a pressure sensitive Safety Obstruction Force system, the addition of Photo Beam will greatly enhance the operating safety of an automatic garage door and provide additional peace of mind.
6. Make sure that the garage door is fully open & stationary before driving in or out of the garage.
7. Make sure the garage door is fully closed & stationary before leaving.
8. Keep hands and loose clothing off the opener and garage door all the time.
9. The Safety Obstruction System is designed to work on STATIONARY objects only. Serious personal injury, death and / or property damage may occur if the garage door comes into contact with a moving object
10. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
11.  Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.
12. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

- WARNING: Important safety instructions. It is important for the safety of persons to follow all instructions. Save these instructions.
- Do not allow children to play with door controls. Keep remote controls away from children.
- Watch the moving door and keep people away until the door is completely opened or closed.
- Take care when operating the manual release since an open door may fall rapidly due to weak or broken springs, or being out of balance.
- Frequently examine the installation, in particular check cables, springs and mountings for signs of wear, damage or imbalance. Do not use if repair or adjustment is needed since a fault in the installation or an incorrectly balanced door may cause injury.
- Each month check that the drive reverses when the door contacts a 50 mm high object placed on the floor. Adjust if necessary and recheck since an incorrect adjustment may present a hazard, for drives incorporating an entrapment protection system depending on contact with the bottom edge of the door.
- Details on how to use the manual release.
- Information concerning the adjustment of the door and drive.
- Disconnect the supply when cleaning or carrying out other maintenance.
- The installation instructions shall include details for the installation of the drive and its associated components.

Basic function introduction

1. PTC Fuse inside the transformer, to protect the overload of the transformer.
2. O/S/C button on the display board. Make adjustment, maintenance and emergent opening or closing easier.
3. Copper worm gear inside the motor. With higher impact-resistance strength.
4. Multiple highlight LED, makes the lighting effect even better.
5. Multifunctional external terminal, can connect to various external device, like: photo beam(optional), wall switch(optional), and so on.
6. LED displayer, easy to adjust.
7. Use rolling code transmitter, with billions of codes, won't be coincident code or pirated code.
8. Soft start, soft stop. Minimize start-up load on garage door opener and garage door. With strong power and low noise.
9. During operation, the opener makes real-time detection of resistance to ensure precise positioning.
10. With Auto-close function, the time is adjustable.
11. Self locking function. When power off, can lock the door by hand after disengaging the clutch.
12. With strong lifting force.
13. Safety reverse function. The door will reverse to full open when it is overload during closing. The safety reverse force is adjustable. Can use photo beam(optional) to make safety protection.
14. Backup battery interface available in case of power failure or low voltage.
15. Original opening & closing force self-learning.
16. Low-voltage protection. The process will not perform any action of opening and closing when voltage is too low. The door panel and controller won't be damaged.
17. Metal chassis.
18. Opener rail type: steel rail with chain, steel rail with belt, steel sectional rail with chain, steel sectional rail with belt, aluminum rail, aluminum sectional rail.

Special function introduction

The following functions are made to order in accordance with the special needs of customers:

1. External Fuse
2. Burglar alarm
3. Flash light
4. Pass door protection

Installation recommendations

Remember there are specific standards that have to be strictly followed regarding the safety rules of electrical installations and automatic gates and doors.

As for the legal requirements and standards that must be adhered to, please take notice of the following points to ensure maximum safety and reliability of your installation.

1. Before installing, check the surrounding environment. Carefully evaluate any hazards which could be physical damage (transiting vehicles, parts of trees falling etc.), possible contact with persons' bodies (insects, leaves, etc.), flooding hazards, or any other exceptional events.

2.Check the main voltage numbers is the same as the numbers that are given on the rating plate and in this manual.

3. Check and make sure if there is suitable electrical protection against short circuits/power spikes and proper earthed on the main supply.

Remember the unit having main voltage running through it (electrocution hazard, fire hazard).

4. Take care with the control unit; the parts may be subject to damage if the control unit is abused.

5. Make sure that you have all the necessary materials, and they are suitable for this kind of use.

6. Read all the instructions thoroughly, and make sure they are understood before attempting to install the opener.

7. Before starting the installation carefully analyze all the risks relating to automating the door. Verify that the door is automated in a sound condition and that the mechanisms are in good working order. Observe the safety margins and minimum distances.

8.Carefully evaluate the safety devices to be installed and the right place to install them; always install an emergency stop device for power interruption to the opener if it is required.

9. Once the risks have been analyzed, install the opener and relative safety devices, emergency stop and/or photoelectric cells.

Important note: As for additional safety rules, we strongly recommends the fitting of Photo Electric safety beams on all installations.

10. While installing the opener, strictly follow all the instructions given in the instruction manual. If some points or procedures in this manual are not very clear, do not install the unit until all doubts have been cleared up with our technical department.

Installation

1) Read the instruction carefully.
2) Make sure the door structure is solid and suitable to be motor driven.
3) Make sure when the door is moving, there are no friction point.
4) The door must be properly balanced and must be easily lowered and raised by hand.

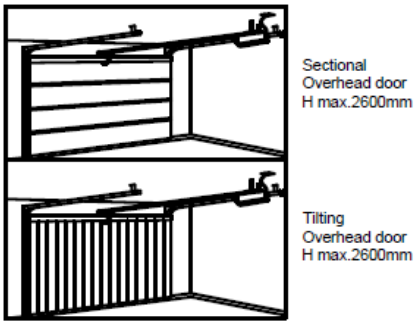


Fig.1

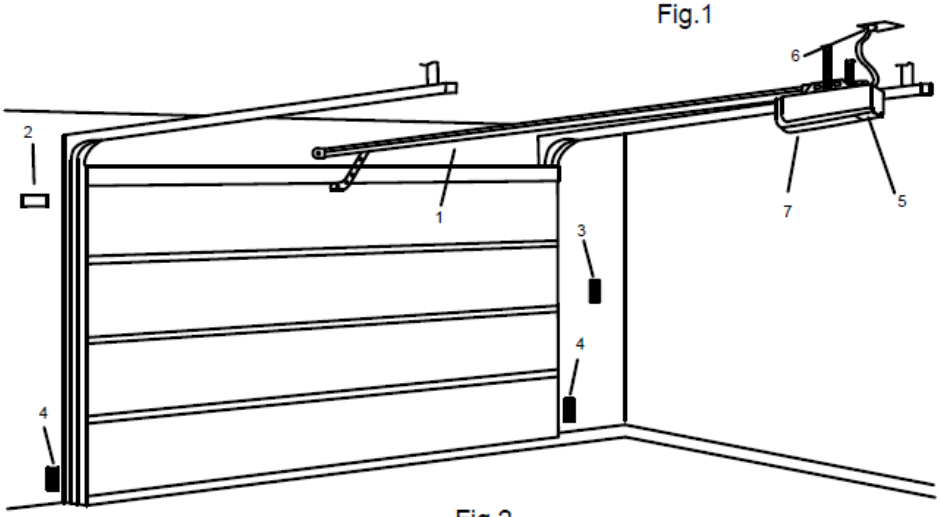


Fig.2

Referring to Fig. 2 for recommended installation

1) Track
2) 24V DC flash light (optional)
3) Wall switch (optional)
4) Photo beam (optional)
5) O/S/C button
6) Power socket
7) Door opener

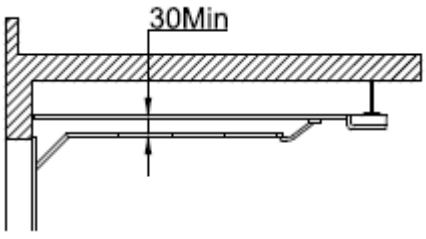


Fig.3

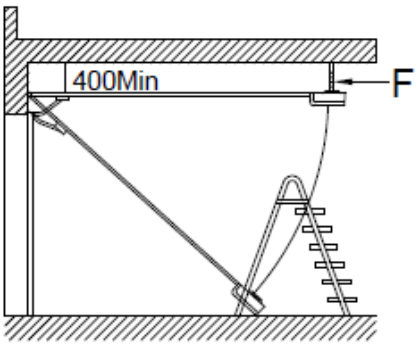


Fig.4

Maintaining a minimum gap of 30mm between the top panel and the bottom of rail (Fig. 3).
Make sure the track is horizontal and vertical to the shaft. Make sure the connection of hanging bracket F and ceiling is firm enough (Fig. 4).

Warning: Make sure the opener is affixed to solid ceiling and not to plasterboard. Failure to have a safe and secure fixing will lead to opener falling, and cause serious persons and /or property damage.

Installation (steel track)

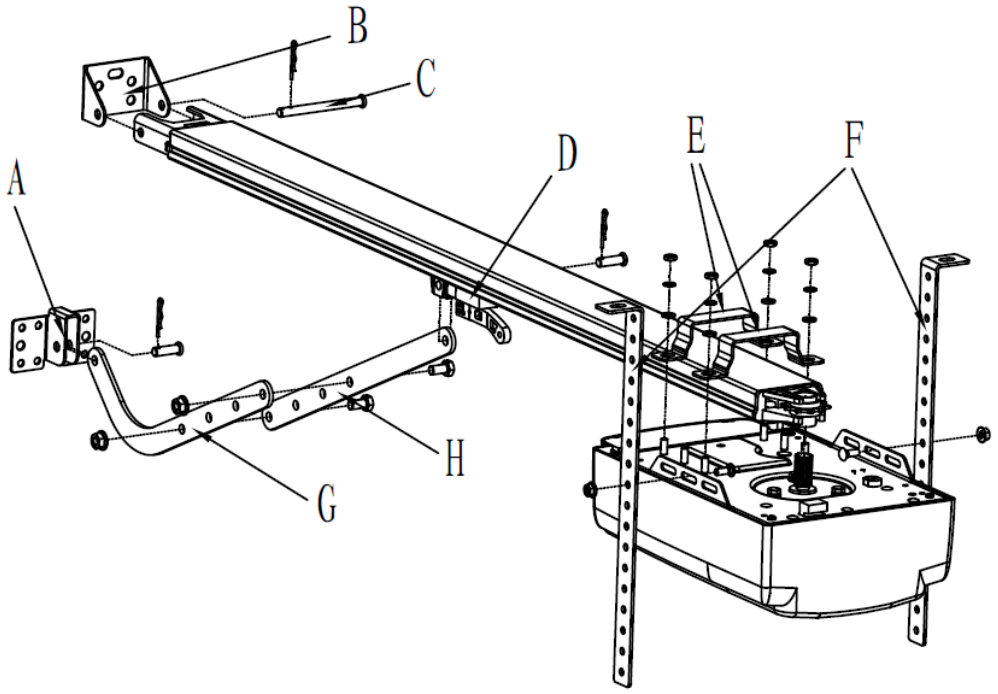


Fig. 5

1. Fixing the wall bracket(B) to the wall 2cm-15cm over the shaft or intermediate bracket ,and should be center horizontally. (depending on the actual installation space).
2. Fixing the steel track to the wall bracket using axis pin Φ8x90 (C) and cotter pin. (Fig. 5)
3. Fixing garage door opener to the track by U bracket(E). Then fasten using Φ6 flat washer, Φ6 spring washer and M6 nut.
4. Fixing the hanging bracket(F) to the edge of the opener as in Fig. 5 using M6x16 carriage bolt(before fastening, cut off any excess hanging bracket).
5. Fixing the opener on ceiling by hanging bracket.

   Notice: Make sure the track is horizontal and vertical to the shaft. Make sure the connection of hanging bracket and ceiling is firm enough.
6. Fix the door bracket(A) to the top edge of the door(should be in the middle and under the wall bracket)
7. Connect the bent arm(G) to the door bracket using a Φ8x25 axle pin and cotter pin as shown in Fig.5.
8. Install the shuttle(D) to the track using 4pcs of M6x23 screws, tie the clutch cord. Connect the straight arm(H) to the clutch using a Φ8x25 axle pin as shown in Fig.5.
9. Connect the bent arm and straight arm using M8 outer hexagon bolt(before connecting, adjust the suitable length of bent arm and straight arm).
10. Release the clutch, try to open and close the door by hand. Make sure there is no resistance between door panel and track.
11. Connecting the opener with power and adjusting the operation.

    Notice: Make sure the opener's voltage is in accordance with the local voltage. Connect the opener to a properly earthed power supply.

Installation (aluminum track)

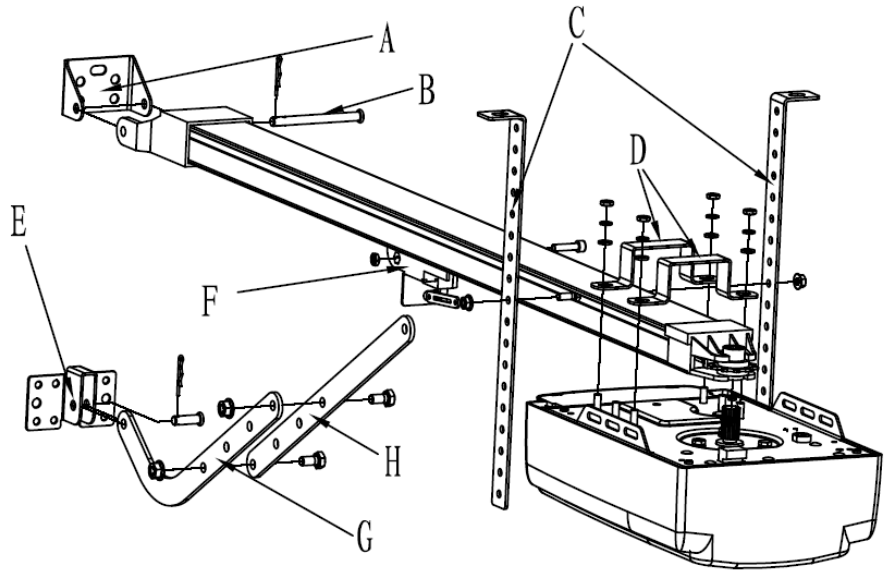


Fig.6

1. Fixing the wall bracket(A) to the wall 2cm-15cm over the shaft or intermediate bracket , and should be center horizontally. (depending on the actual installation space).
2. Fixing the steel track to the wall bracket using axis pin Φ8x90 (B) and cotter pin. (Fig. 6)
3. Fixing garage door opener to the track by U bracket(D). Then fasten using Φ6 flat washer, Φ6 spring washer and M6 nut.
4. Fix two M6 outer hexagon bolts into the hole on both edge of the track and slide along the slot to suitable position (make sure the two bolts are aligned). Then fix the hanging bracket (C) to the edge of the track (matching with the two bolts) as in Fig.7 using M6 nuts (before fastening, cut off any excess hanging bracket).

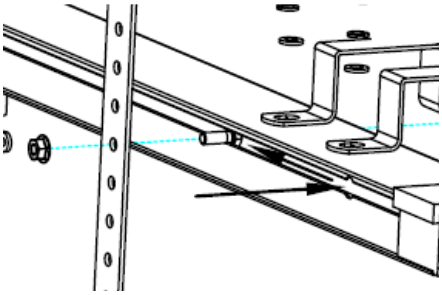


Fig.7

5. Fixing the opener on ceiling by hanging bracket. Notice: Make sure the track is horizontal and vertical to the shaft. Make sure the connection of hanging bracket and ceiling is firm enough.
6. Fix the door bracket (E) to the top edge of the door (should be in the middle and under the wall bracket)
7. Connect the bent arm (G) to the door bracket using a Φ8x25 axle pin and cotter pin as shown in Fig. 6.
8. Install the shuttle(F) to the track(be sure it faces the right direction as shown in Fig.8), tie the clutch cord. Connect the straight arm (H) to the clutch using a Φ8x25 axle pin as shown in Fig.6.
9. Connect the bent arm and straight arm using M8 outer hexagon bolt (before connecting, adjust the suitable length of bent arm and straight arm).

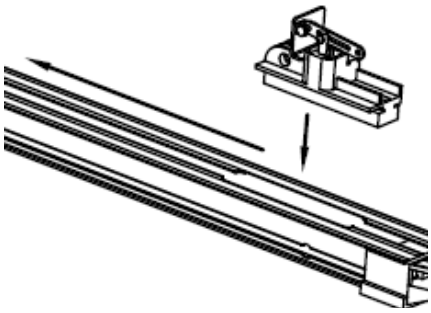


Fig.8

10. Release the clutch, try to open and close the door by hand. Make sure there is no resistance between door panel and track.
11. Connecting the opener with power and adjusting the operation.
    Notice: Make sure the opener's voltage is in accordance with the local voltage. Connect the opener to a properly earthed power supply.
12. The installation of aluminum track also can be just the same as Installation of steel track.

Battery backup Assembly (optional)

Assemble the battery using battery bracket, washers and nuts supplied (Fig. 9, Fig.10).

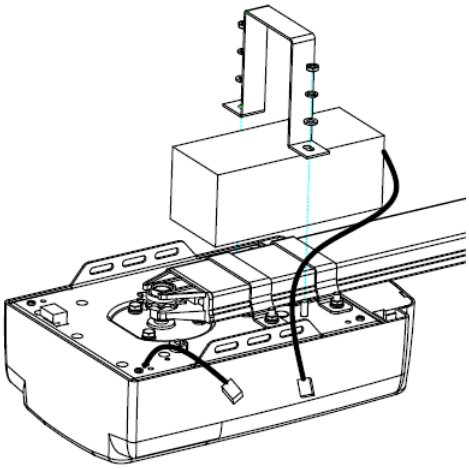


Fig.9

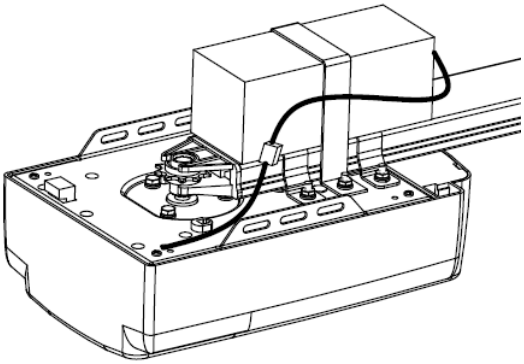


Fig.10

Basic function setting and applying

1. Matching the receiver and transmitter

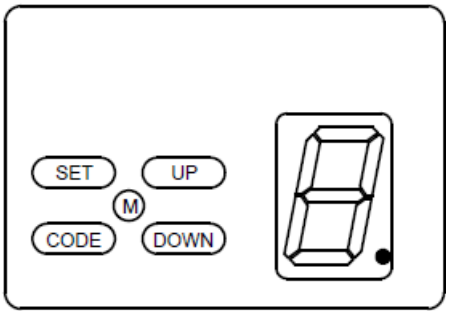


Fig. A

(The opener is supplied with pre-coded transmitters.)

Coding Transmitters:

Press and hold on “Code” button for 1 second until the led dot is on (Fig A). Press button on transmitter once, the dot will go off, press the same transmitter button again and the dot will flash fast for 8 times, and then return to standby mode. The transmitter is now coded into the receiver.

Repeat the above steps to code more transmitters.

The receiver has the capacity to store 20 transmitters.

If the led display flashes “F” and returns to standby mode (after you have pressed the Code button), this indicates that the memory storage is full (20 transmitters).

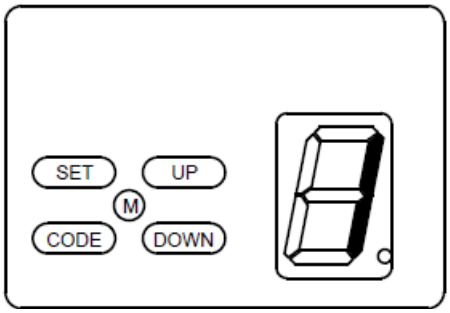
Follow the steps below to **delete all transmitters** that are stored in the receiver memory:

Press and hold on “CODE” button for more than 8 seconds until the LED flashes “C”, all the stored codes are deleted.

Only the matched switch on the transmitter is available.

If failed to match the transmitter within 20 seconds, then it will return to standby mode automatically.

2. Travel limit setting Opening & closing force self-learning



Press and hold on “SET” button for 3 seconds until the LED flashes “1”. Press “SET” button again for 1 second . “1” should now display as steady (not flashing).

Then adjust the up limit by pressing “UP” button.

Fine-tuning “UP” or “DOWN” button to determine the final up limit position (the LED flashes “n” or “u” during opening or closing), then press “SET” button, the display turn into “2” automatically.

Adjust the down limit by pressing “DOWN” button.

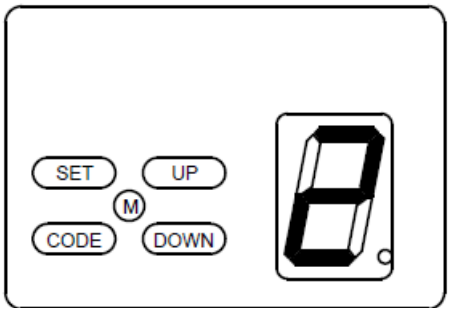
Fine - tuning “UP” or “DOWN” button to determine the final down limit position (the LED flashes “n” or “u” during opening or closing), then press “SET” button.

When press button to operate the opener, if the opener stops after operate a little, and LED flashes “H” or “C”, this indicates there’s no hall signal or the opener is overload.

The opener will operate a cycle automatically to remember the limit positions and the original opening & closing force, then return to standby mode.

During learning, if the door stops unusually, and flashes “H”, “C”, “O”. “L” for 5 seconds, this indicates there’s no hall signal, overload, overtime, wrong limit setting.

3. Safety reverse force adjustment

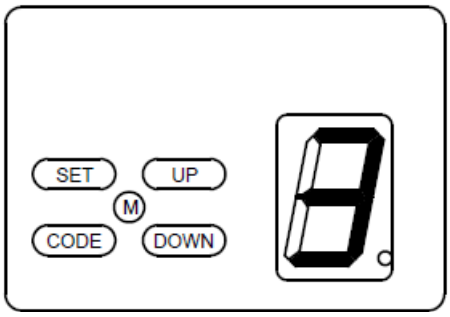


Press and hold on “SET” button for 3 seconds until the LED flashes “1”. Press “UP” or “DOWN” button until LED flashes “2”, then press “SET” button. It’s now under force adjustment mode. The LED displays the current set force.

Press “UP” button to increase the force and “DOWN” button to decrease the force. The maximum force is 9 and the minimum is 1. Press “SET” button to confirm, then the opener returns to standby mode.

The default setting of safety reverse force is 5.

4. Photo beam setting



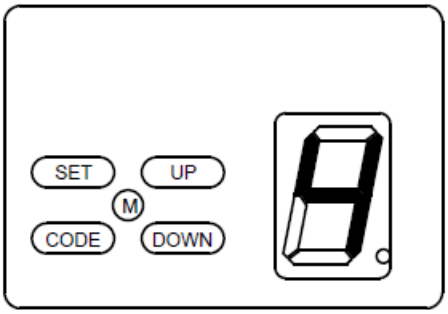
Press and hold on “SET” button for 3 seconds until the LED flashes “1”. Press “UP” or “DOWN” button until the LED flashes “3”, press “SET” button. It’s now under photo beam setting mode. The LED displays the current setting.

Press “UP” button, the LED displays “1”, the Photo beam Function is available. Press “DOWN” button, the LED displays “0” to cancel this function. Press “SET” button to confirm. The opener returns to standby mode.

The default setting of photo beam is “0”.

Notice: Close the photo beam function when you don’t use photo beam sensor.

5. Auto-close setting



Press and hold on “SET” button for 3 seconds until the LED flashes “1”. Press “UP” or “DOWN” to increase or decrease, adjust the LED to flash ”4”, then press “SET” button to enter into auto-close setting, the LED displays the current setting.

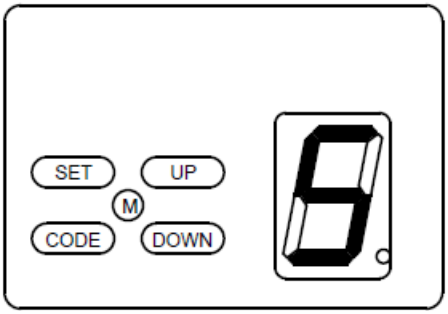
Press “UP” or “DOWN” button to adjust the auto-close time. Press “UP” button once, the auto-close time will increase 1 minute, the maximum time is 9 minutes. Press “DOWN” button once, the auto-close time decrease 1 minute. The auto-close function will be turned off when the LED displays “0”. Press “SET” button to confirm, the opener returns to standby mode.

The auto-close function can only be available when the door is fully open and the photo beam function is on.

The default setting is “o”

6. Lock door setting

(Only when the lock door function is available, the setting can be proceed. The “lock” key can not be matched)



Press and hold on “SET” button for 3 seconds until the LED flashes “1”. Press “UP” or “DOWN” button to increase or decrease. Adjust the LED to flash “5”, press “SET” button to enter into lock door setting. The LED displays the current setting.

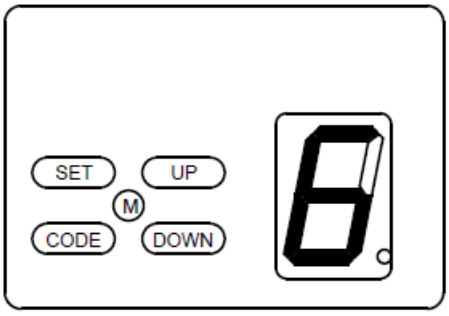
Press “UP” button, the LED displays “1”, the lock door function is on. Press “DOWN” button, the LED displays”0”, the lock door function is off. Press “SET” button to confirm, the opener returns to standby mode.

When the lock door function is on and the door is fully closed, the opener will lock the door automatically. And then the door can only be opened by transmitter after unlocked by the “lock” key(S2) on the transmitter. (If not unlocked by the S2 button on the transmitter, the light will flash twice when press the open key on the transmitter)

The default setting is: invalid.

7. Half-open setting

(Only when the half-open function is available, the setting can be proceed. The half-open key on the transmitter can not be matched)



Press and hold on “SET” button for 3 seconds until the LED flashes “1”. Press “UP” or “DOWN” button to increase or decrease. Adjust the LED to flash “6”. Press “SET” button to enter into half-open setting. The LED displays the current setting.

Press “UP” or “DOWN” button to increase or decrease. When the LED displays ”1”, the half-open height is 30cm. When the LED displays “2”, the half-open height is 60cm. When the LED displays “3”, the half-open height is 90cm. When the LED displays “0”, the half-open function is off. Press “SET” button to confirm, the opener returns to standby mode.

If the half-open function is on, only when the door is fully closed, the door can half-open by the “S1” key on the transmitter. If the door is at other position, the “S1” key will not work.

The default setting is : invalid.

8. Open/Stop/Close Terminal

Connecting a touch off switch to this terminal (Fig.11), you can use the switch when maintaining or the transmitter is left in garage.

Special function, optional parts introduction and application

1. External Fuse (optional)
   Protect the overload of the opener.
2. Burglar alarm (optional)
   Track in real time the close condition of the door. If the door is pried under the abnormal situation, it will alarm loudly.
3. Photo beam/switch control connection (Fig.11, Fig.12)
4. Flash light (optional)
   There are corresponding interfaces for this function and provide 24v-35v flash light voltage. Connect the flash light with DC 24v-28v, current≤100mA. When use AC 220V power flash lights, please match an adapter, and wiring as required(Fig.13).
5. Pass door (SD) protection (optional)
   This function ensures that the door can't be opened unless the small pass door is closed. The door panel won't be damaged. Connect according to Fig.14 .

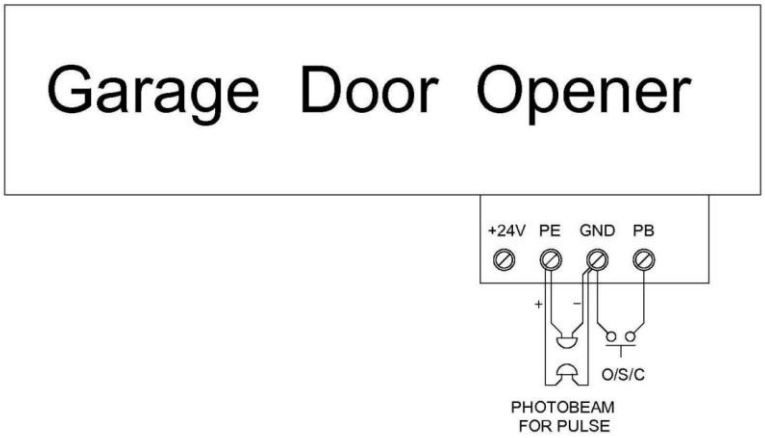
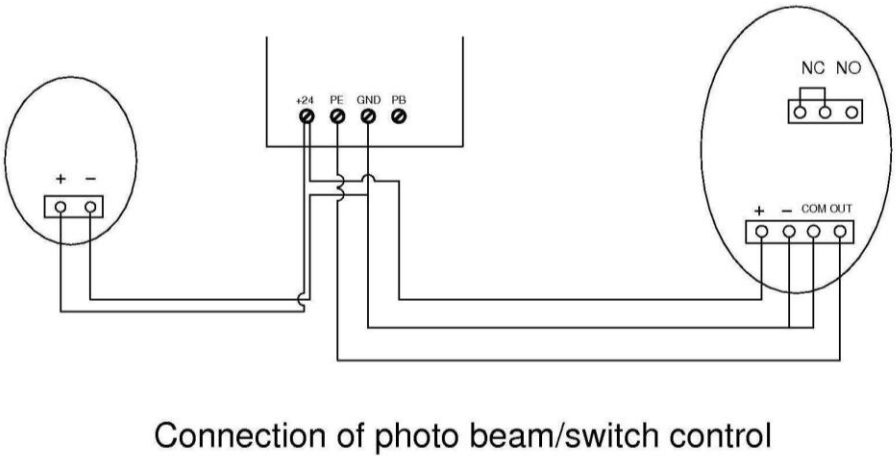


Fig. 11



Connection of photo beam/switch control

Fig. 12

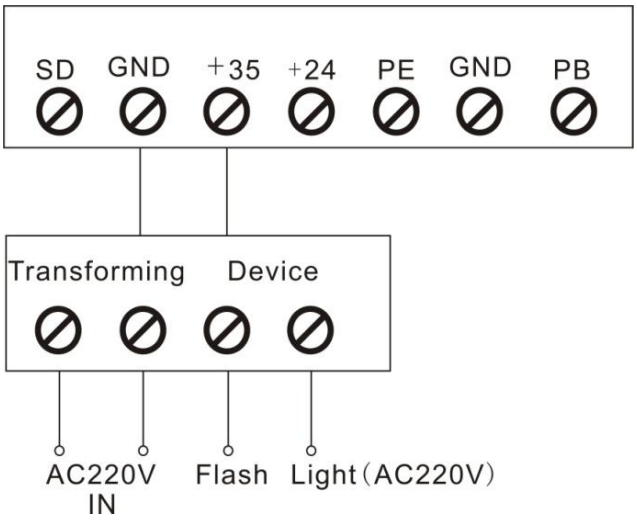
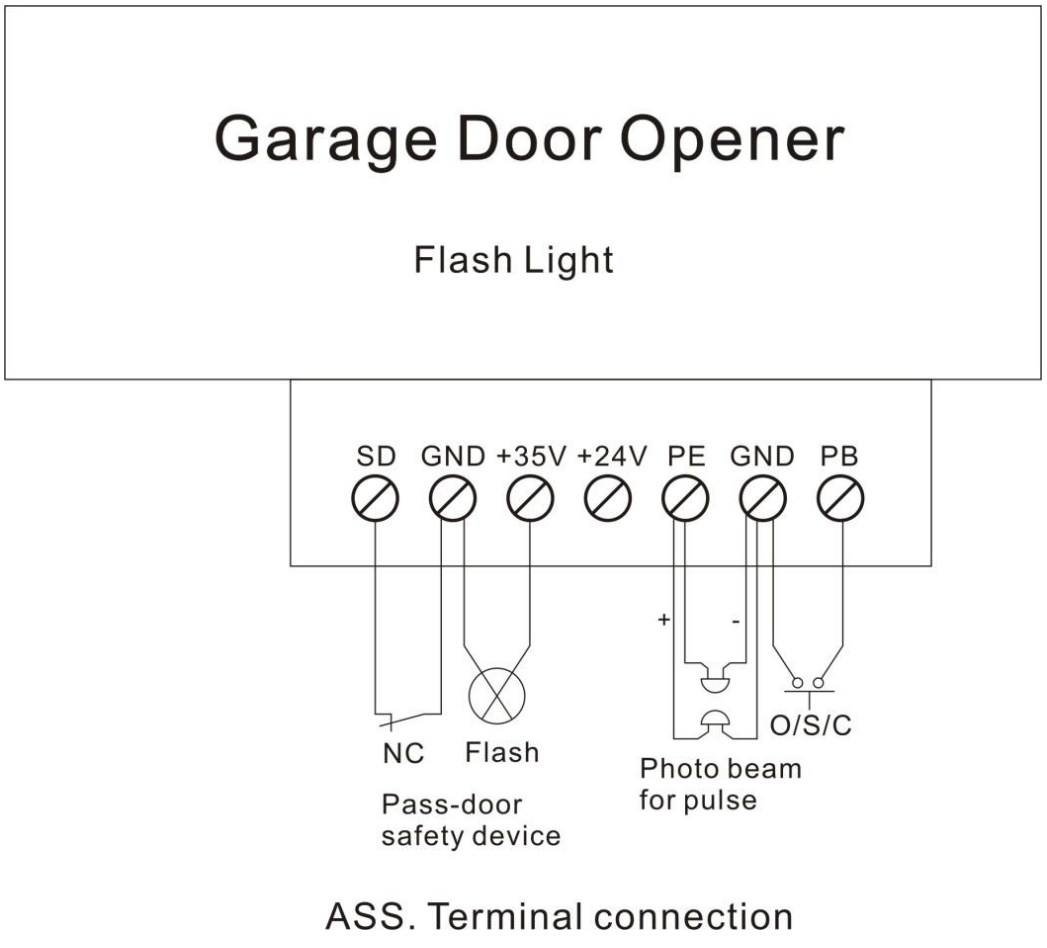


Fig. 13



ASS. Terminal connection

Fig. 14

Manual disengagement

The opener is equipped with a manual release cord to disengage shuttle and move door by hand while holding the handle down (Fig 15). Pull on the handle to disengage the shuttle. To re-engage the door simply run opener in automatic mode or move door by hand until the trolley engages in the chain shuttle.

In some situations that a pedestrian door is not in state, it is recommended that an external disengagement device should be fitted (Fig 16).

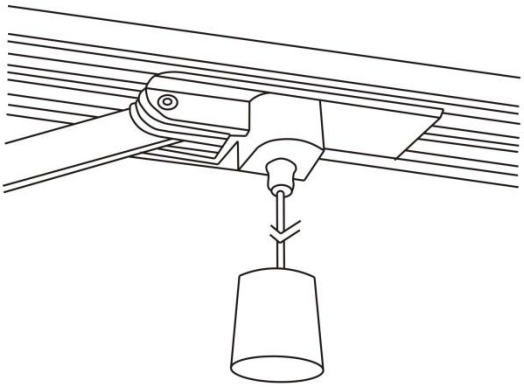


Fig.15

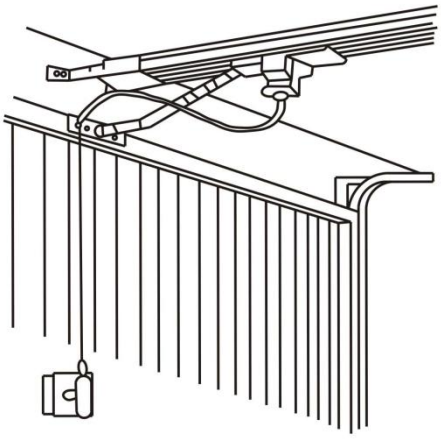


Fig.16

Maintenance

No particular maintenance is required for the logic circuit board.

Check the door at least twice a year if it is properly balanced, and all working parts are in good working condition or not.

Check the reversing sensitivity at least twice a year, and adjust if it is necessary.

Make sure that the safety devices are working effectively (photo beams, etc.)

Notice: A rude operating door can affect the life of the automatic opener due to incorrect loads, and will void the warranty.

Final notes

This manual is only used by technical persons who are qualified to carry out the installation.

No given information in this manual can be considered of any interest to the end user.

It is important for the installer to show their clients correct operation using of the opener including the using of manual disengagement cord.

Inform the owner about the need of a regular and accurate maintenance, especially regarding a regular check of the safety and reversing devices.

Important information for the user

Once the opener has been installed, the user must be informed about how it works and all the risks that can arise if it is used improperly. The user must avoid placing himself/herself in dangerous situations such as standing within the door's operating range when it is moving.

Do not let children play near the door, and keep the remote controls out of their reach.

All services, repairs or checks must be carried out by professionally qualified persons, and noted on a maintenance register kept by the user.

IMPORTANT NOTE: In the case of a malfunction the user must call an authorized installer and should not attempt to repair it by yourself.

Packing list

Item	Quantity
Door opener	1
Track	1
Shuttle components kit	1
Transmitter	2
Transmitter bracket	1
Certificate of approval	1
Warning label	1
Release cord(with caution paper and cord pendant)	1
Door bracket	1
Wall bracket	1
"U" bracket	2
Hanging bracket	2
Bent arm	1
Straight arm	1
Fastener kit	1

Technical Specifications

Model	600N	800N	1000N
Rated door area	≤9.0 sqm	≤12.0 sqm	≤15.0 sqm
Rated lifting force	≤60 kgs	≤80 kgs	≤100 kgs
Rail	Steel / Aluminum	Steel / Aluminum	Steel / Aluminum
Drive	Chain / Belt	Chain / Belt	Chain / Belt
Motor	24V / 100W	24V / 120W	24V / 140W
Input voltage	110V – 270V	110V – 270V	110V – 270V
LED	24V / 14pcs LED bulbs		
Transformer	105℃ Temperature detect switch		
Radio frequency	433.92 MHz or other on request		
Coding format	Rolling code ($7.38x10^{19}$ combinations)		
Standard transmitter	2pcs		
Code storage capacity	20 different codes		
Working temperature	-40℃ - +50℃		
Safety protection	Soft start & Soft stop, photo beam as optional, flash light as optional		

Common Fault & Solutions

Fault appearance	Fault cause	Solutions
Opener without any action	1. Power supply 2. Plug wire are loosing	1. Check the power supply to openers. 2. Carefully open the motor cover, check all plug wire on control boards.
Opener doesn't work, LED displays "-"	Faulty learning of "UP" or "DOWN" travel limit	Learn "UP" and "DOWN" travel limit again follow the manual
The door can only open, can not close	In operation with photo beam. Or photo beam function is available but with no photo beam connected.	Check photo beam, move away the obstruction. Cancel the photo beam function if there's no photo beam connected. (follow the instruction manual)
Open and close action is reversed	Reversed connection of the positive and negative of motor wire to the control board.	＊Power off firstly, open the motor cover and reverse the positive and negative of motor wire on the control board. Re-set the travel limit.
Door auto reverse to full open before closed completely	In operation with safety reverse function. Because some old doors with not well balanced springs or there's some block	1. Check the door springs or any blocks 2. Re-set the travel limit. 3. Increase the force value of safety reverse.
Transmitter doesn't work	1. Flat battery 2. Antenna is loosed or not well extended 3. Interference around nearby	1. Replace new battery 2. Extend the antenna on the opener 3. Get rid of interference
Can not match new transmitters	1. Memory is full 2. New transmitters are not compatible with opener	1. Press and hold on "CODE" button for more than 8 seconds until the LED flashes "C", delete all stored codes, then match new transmitters again. 2. Choose our transmitters only.
LED displays "C", opener does not work	1. Motor plug wire is loose 2. Control board is damaged	1. Re-insert motor plug wire ＊2. Replace new control board
LED displays "H", opener does not work	1. Motor is damaged	＊1. Replace new motor
LED displays "H" after opener operates several centimeters only	1. Hall element wire plug loose between hall element and control board. 2. Hall element or control board is damaged	1. Check the wire plug ＊2. Check the hall element ＊3. Replace control board
Note: Only the qualified professional person can carry out the maintenance marked with "＊".		