

Manual of roller swing door operator

OB-DO-08-V1.01



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1、Warning

1.1 Safety warnings

Important! This manual contains important safety-related information. Improper installation may result in serious safety accidents. Please read this manual thoroughly before installation. If you have any questions in installation, stop and contact the opener bear's technical service center.

Important! Please Store this manual for future reference.

1.2 Installation warning

Before installation, please confirm whether the product meets the application requirements (see "3.1 Pre-installation check"). If not, do not install the product. All installation, commissioning and maintenance work must be carried out with the main unit power cut off.

* The door operator body must have a safe grounding measure.

When installing, be careful not to touch this product, avoid collision, compression, dropping or contact with any liquid. This product should be placed away from high temperature and open flame. The above situation may cause motor damage. If this problem occurs, stop installation immediately and contact the opener bear's technical service center.

Do not modify any part without authorization. Otherwise, such operation may cause equipment failure. opener bear declines all liability for any equipment damage caused by modification of products.

If the door body of this product is installed with a small door, the automatic door system should be installed with a control device, which can not run the automatic door when the small door is open to ensure safety.

Packaging materials and other wastes of this product shall be disposed of in accordance with local laws.

1.3 Use a warning

This product is not suitable for use by children, persons with disabilities, or person without relevant knowledge and experience.

Children, the elderly and pregnant women must be supervised when passing through to avoid accidental injury caused by contact.

Prevent children from touching motors and control equipment, and keep remote controller out of their reach.

2、Product information

2.1 application range

This product has the excellent characteristics of compact structure, large starting torque, large thrust, convenient installation, beautiful appearance, simple structure, complete functions, economy and practicality, etc. In case of power failure, the special key can be used to conveniently switch from the automatic state to the manual state. The door operator is installed on the side of the door far away from the hinge, which is efficient, safe and saves electricity. The door operator's unique sliding bar shock absorbing device can automatically lift and lower, adapt to slightly undulating road surfaces, and does not need to lay tracks. The door can be opened at any angle and is not limited by the door operator itself. This door operator can be installed and used for any new or old door, which does not damage the original structure of the door body and the door post, and can reduce the self-weight of the door body. Its humanized design is extremely scientific and reasonable, and has incomparable advantages over the traditional geographical type and arm-hanging type. It is not only a replacement product of the traditional hydraulic press screw push rod type door operator, but also a perfect choice for various villa door, iron door and courtyard door to realize automation and intelligence.

2.2 Product specifications

Item	Specifications
Supply Voltage	AC220V or DC24V
Open Thrust	500n
Remote Control Distance	50m
Lift-fall Drop	0 ~ 90mm 0 ~ 250mm
Running Speed	20m/min
Ambient Temperature	-40℃ ~ +50℃
Motor Power	40 w×2 80 w×2 120 w×2
door operator Dimensions	350×128×175
Controller Dimensions	225×180×90
Packaging Weight	18.6kg/box

2.3 Main Functional Characteristics

1. Single and double door selection: Key operation can realize single door or double door operation.
2. Controller locking: Remote control key operation can avoid illegal theft.
3. Automatic detection and protection: When opening the door, it will automatically stop in case of obstacles, and when closing the door, it will automatically return in case of obstacles.
4. Infrared detection and protection: If vehicles and pedestrians pass through during the closing operation, the door will automatically return to open.
5. Automatic detection and release: Card reader, fingerprint machine, anti-theft alarm, camera identification, etc. can be connected for automatic release.
6. Standby power supply interface: In case of power failure, it will automatically switch to storage battery or solar cell for power supply.
7. Sequential door opening and closing: Any opening angle and doors requiring sequential opening and closing can be configured.

Please refer to the instructions attached to the controller for the above functions, interfaces, detailed use and setting methods.

2.4 Structure and Classification of door Operator

2.4.1 The structure of the door operator is shown in Figure 1:

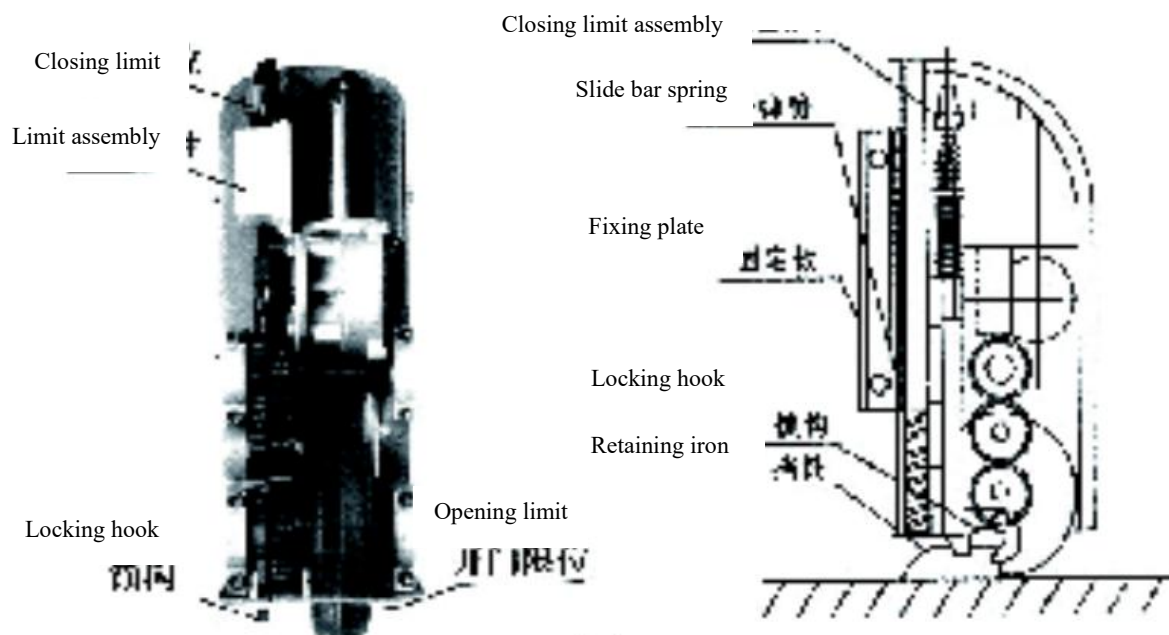


Figure 1

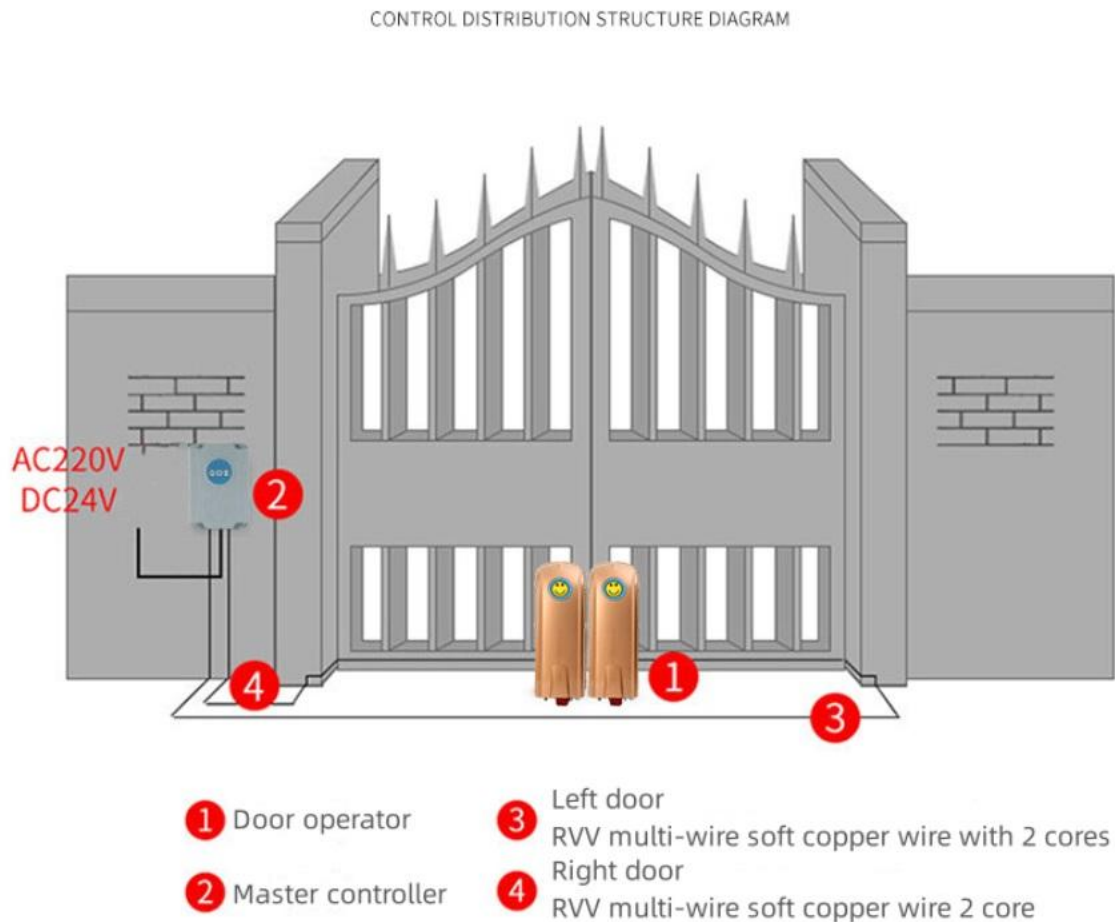
1. Classification of door operators:

It can be divided into inward door operator and outward door operator.

2. Classification of control systems:

It can be divided into two-way five-wire control system and two-way two-wire control system.

2.4.2 The control power distribution structure is shown in Figure 2:



Wiring diagram of door operator: 1. door operator 2. Control box 3 & 4. Cable

Figure 2

3、Installation Method and Debugging

3.1 Preparation

1. Check the flexibility of the opening and closing process of the door: at the same time, make sure that the door does not rebound under the limit state of closing or opening.

When the door is in the closed position, the height from the bottom edge of the door frame to the ground shall be greater than or equal to 25mm (slightly higher than the height of the retaining iron Figure 3). If it is less than 25mm, special treatment shall be given.

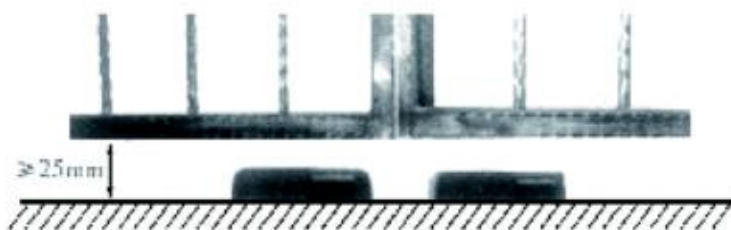


Figure 3

2. Determine the ground drop h within the operation range of the door operator:
Drop h = Height of highest ground point - Height of lowest ground point
 - a) When $0 < h \leq 80$ mm, it belongs to normal drop, and the standard configuration should be selected:
 - b) When $80\text{mm} < h \leq 140\text{mm}$, it belongs to large drop, and lengthening configuration should be selected;
3. Determine the configuration power of the door operator:
Measure the width, height and weight of the single door, and at the same time determine whether the door is sealed and the external environment (such as ground conditions, wind force, etc.) to select the ordinary type or the powerful type motor.
4. Select the model and configuration of the door operator: according to the user type and functional requirements.
5. Embedded the wire guard pipe according to the electrical wiring diagram of the power distribution system of the door operator (Figure 2 on page 3), and determine the wire diameter and core number of multi-strand soft wires (cables) at the same time. According to the connection mode between the door operator and the control product, connect the door operator to the controller with two routes or two channels of two-core cables.

If an electric lock is installed, a two-core cable should be used to connect the electric lock to the controller.

If an infrared counter-radiation sensor is installed, a three-core cable should be used to connect the infrared sensor to the controller, and a two-core cable should be used to connect the transmitting end and receiving end of the infrared sensor.

If a card reader is installed, a four-core cable should be used to connect the card reader to the controller.

Note:

- a) The pipe buried under the projection of the closed position of the door shall not conflict with the retaining iron to be installed.
- b) In order to minimize the line loss, the cross-sectional area of the connecting conductor (or cable) of the door operator shall be more than 1 square millimeter, and the conductor of about 0.5 square millimeter can be selected for other signal wires.

3.2 Installation of the controller

1. The installation of the controller (indoor or outdoor) shall comply with the electrical safety specifications for electricians.
2. The installation position close to the door should be selected as far as possible, which can shorten the circuit lead, reduce the line loss and save electric energy.
3. There should be independent mains switch, leakage protection or overcurrent circuit breaker.
4. If an outer box is to be installed, the antenna should be led out of the box considering the shielding effect of metal products on remote control reception.

5. The installation position and height of the controller should be appropriate, and the environment should be ventilated to avoid rain, sun or being touched by children.
6. Circuit wiring method: Please refer to the instructions attached to the controller matched with the door operator.
7. Control board definition:

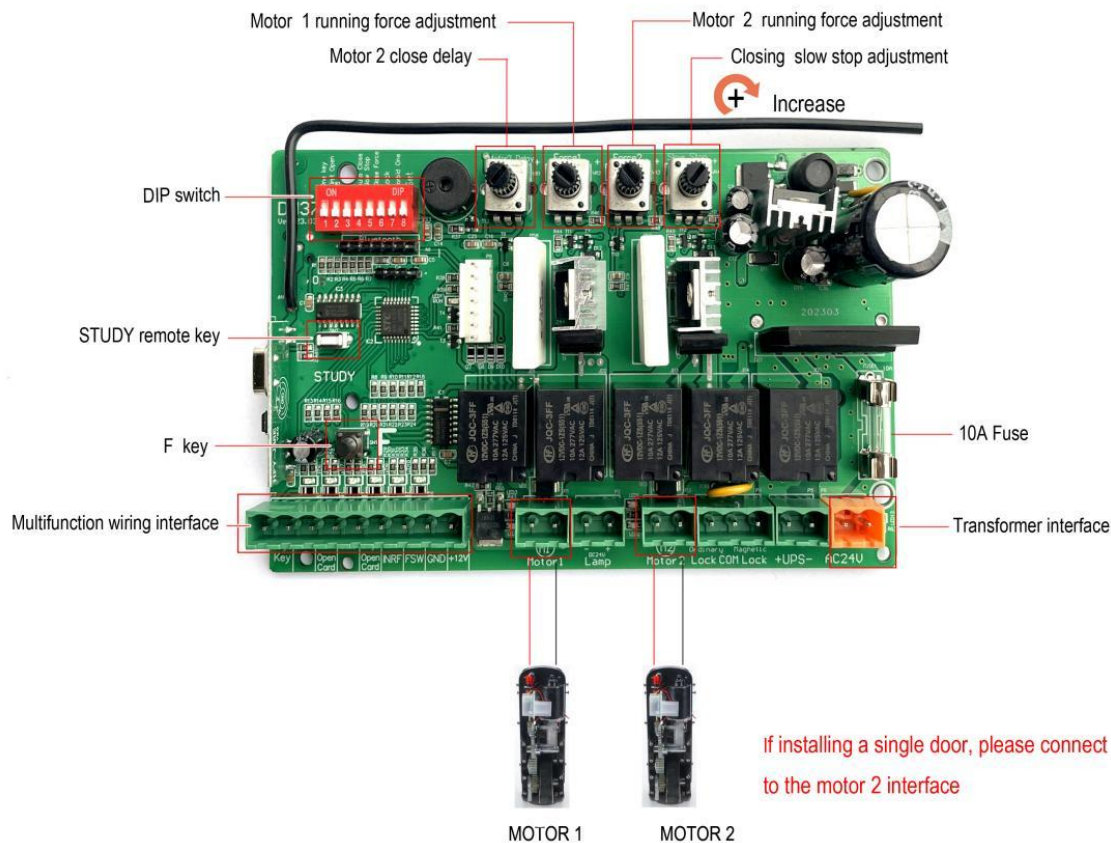


Figure 4

3.3 Installation of door operator:

1. Determine the installation position of door operator: When the two doors are closed, write down the installation position of the two doors on the door body. Note: The inner margin (outer cover) of the two door operators cannot be less than 70mm, so as not to affect the manual door opening.
2. There are two methods to determine the installation height of door operator fixing plate: First, move the door to the lowest place on the ground within the moving range of the door operator.
 - a) Method 1: Move the fixing plate up and down so that the bottom edge of the fixing plate is 100mm-120mm from the lowest part of the ground, and mark to determine the installation height of the fixing plate.
 - b) Method 2: Keep the door operator in a natural state (the spring is not pressed or stretched), rest vertically on the door body, and write down the position of the fixing plate on the door body at this time. Then, move the fixing plate further down 10-40mm from this marked position, which is the actual installation height of the door operator retainer plate.

Whether method 1 or method 2 is adopted, the installation height of the fixing plate shall

be appropriately increased or decreased depending on factors such as ground smoothness, door body size and weight, hinge flexibility, etc.

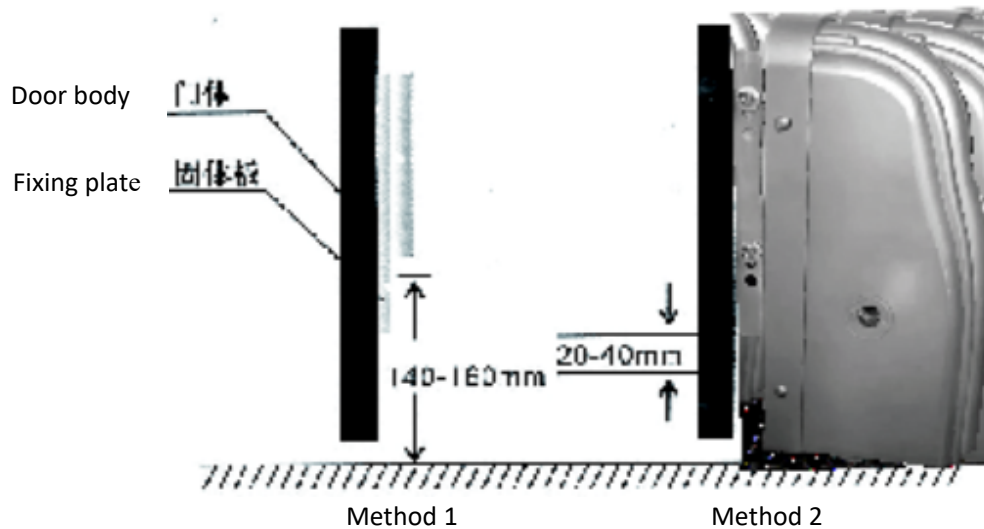


Figure 5

Note: When installing the fixing plate, it should be kept vertical and fixed with bolts or welded on the door body by electric welding.

3. Open one hole (wire inlet hole and wire outlet hole) on both sides of the inner side of the door bottom frame to pass through the wire, and a section of flexible sleeve shall be added to the different line at the opening.

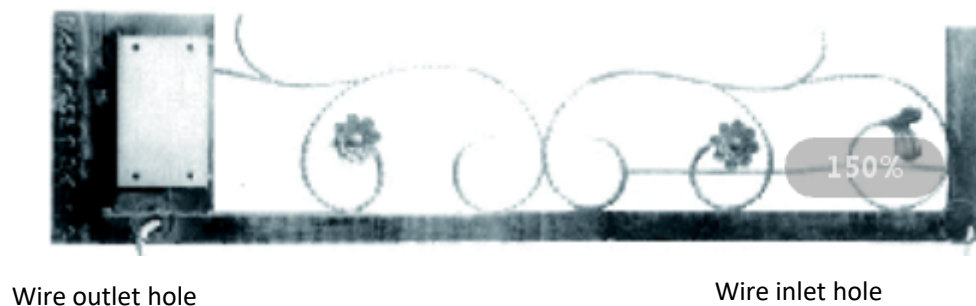


Figure 6

4. Fix the door operator and connect the wires (which shall be consistent with the color of the plug wire marked by the wiring block in the controller)

Check: Switch the door operator to manual state with special key and push the door body back and forth.

At this time, the door operator should be able to rise and fall freely with the ups and downs of the ground, without locking, hanging, wheels not reaching the ground and other phenomena.

5. Installation of door closing lock fixed retaining iron (refer to the following points for attention):

When the door operator is in a manual state, move the door to the closed position and install the fixed retaining iron into the locking hook. And then switch the door operator to the electric state with the special key and lock it. Move the fixed retaining iron to align the center line of the locking hole with the locking hook of the door operator, and mark down

the retaining iron position. And then drill holes in the ground and tighten the retaining iron with expansion bolts.

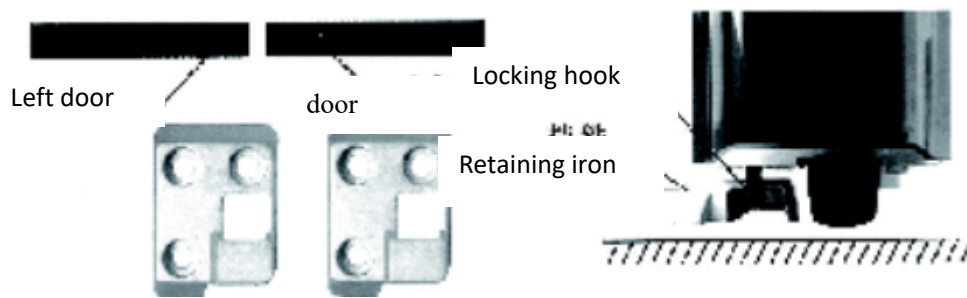


Figure 7

Figure 6 Positional relationship between retaining iron and door (top view) Figure 7 Positional relationship between retaining iron and locking hook

Note	A) In the case that the door has a door stop, the fixed retaining iron of the door that is closed first shall be installed first, and the two fixed retaining iron shall be staggered back and forth by 10-15mm. B) In the closed position of the door, the landing ground of the wheel of the door operator and the landing ground of the fixed retaining iron shall be horizontal. C) If cushion rubber pads are to be installed between the pressure plates of the two doors, they should be installed before the door operator is installed. Otherwise, it will affect the reliable locking of the door operator and even cause the door operator to fail to operate normally. D) The fixed retaining iron shall be installed firmly and shall not be loosened or displaced during use.
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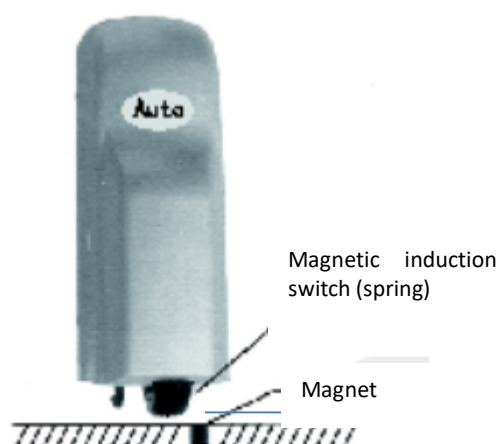
After installing the retaining iron, manually open and close the door to verify whether the retaining iron is installed correctly:

a. In the manual state, push the door close to the retaining iron, and then switch to the electric state with the special key. Push the door to the fixed retaining iron, and the door shall be locked reliably.

b. By using a special key, the door operator can be switched back to the manual state and the door can be easily pushed open.

6. Installation of door limit magnet:

Open the door to the maximum or designated position, then return 200mm, find the magnetic induction switch at the bottom of the door operator at the projection place on the ground, punch a hole (22mm) here, and bury the magnet to level with the ground.



3.4 Operation and commissioning of electronic control door

Before operation, check whether the circuit wiring is correct and whether the power supply voltage meets the requirements. Disengage or close the clutch with a special key to check whether the manual opening and closing process is normal: push the door halfway and close the clutch of the door operator (electric state); Then switch on and switch on the power supply, indicating normal.

1. Press the button of the remote controller or controller to try to open, stop and close the door, and observe whether the door operator runs smoothly and continuously and whether the automatic stop in place is accurate. Otherwise, the relevant installation should be re-checked for accuracy.
2. Whether the running direction of the door corresponds to the control key. If not, the wiring of the front door operator (or motor) should be changed.
3. Please read the controller manual for the locking method of keys.
4. Debugging of self-stop in case of resistance and motor load capacity: According to the size of the door body, the flexibility of the door hinge and the flatness of the ground, the potentiometer (pressure or resistance) of the controller shall be properly adjusted to increase or decrease the resistance capability of the motor.
5. Test methods for self-stop in case of resistance when opening and self-return in case of resistance when closing (the adjustment method is the same as above):
 - a) During the operation of opening the door, apply reaction force (pull or push by hand) to one door respectively, and the door self-stop when blocked.
 - b) If a reaction force is applied to any one door during the closing operation, both doors will run in the opening direction at the same time. If the resistance capacity of the motor is set too small, it is easy to stop during normal operation, which will affect the use. However, if the setting is too large, it will not play a protective role.
6. Please read the controller manual for the protection time of door operation. If the set time is too short, the door will stop automatically if it does not run properly.
7. For automatic door closing setting and time adjustment, please read the controller manual.
8. The condition of delay closing time difference shall be adjusted according to the different opening degrees of the two doors.
9. Please read the attached instructions for card reader, infrared protection and wiring.

4、 Maintenance

1. The transmission part of the door operator shall be kept clean and free of attachments.
2. The sundries in the iron trough should be cleaned frequently.
3. Every season, lubricating oil should be properly added to all mechanical moving parts.
4. The performance of power protection device and standby power storage point shall be checked once a month.

5、 Troubleshooting

Faults and failure	Cause of Failure	Solution
The door cannot operate.	1. Check whether the clutch is in the electric state	Recovery
	2. (No indication of power supply) Power failure and trip	Restore power supply
	3. Fuse blow	Replace
	4. The remote controller is out of order or invalid	Test and replacement
	5. Circuit disconnection and contact	Overhaul
	6. Failure of controller or door operator	Maintenance
The remote control is close or the remote control is invalid.	1. Battery power is insufficient or damaged	Replace the battery
	2. The controller is locked, not coded or damaged.	Unlock or replace
	3. Co-frequency interference	Waiting for interference source clear
	4. That receive module of the controller is bad	Replacing remote control receiving panel
Open the door and keep in place.	1. Ground magnetic steel removal loss	Recovery
	2. Failure of opening limit switch or limit component	Overhaul and replacement
Open the door in place or reopen it.	1. The closing limit switch fails or the tension spring is damaged.	Replace
	2. The blocking iron is loose or has obstacles.	Overhaul
	3. Wrong closing sequence	Rerun
	4. Circuit fault	Overhaul
Press on, the key door operator will operate but cannot operate.	1. Motor operation resistance protection (set too small)	Adding lubricating oil to overhaul hinge or door operator lifting
	2. Circuit failure of limit assembly, limit switch or controller	Overhaul and replacement
Press on, the indicator light will turn on and off first when it is critical, but the door operator will not move, and the detection signal when the controller is no-load will drive the host machine to have abnormal sound.	1. System circuit disconnection, wire collision or poor wiring	Overhaul
	2. Loose fasteners or damaged components	Overhaul and replacement
	3. Motor damage	Overhaul and replacement

If the product quality problem cannot be solved, please contact the distributors around the country and follow the relevant after-sales service terms of the company.

6、 Standard Packing List for door operator

Name	Specifications	Quantity	Unit
Drive host	Two-wire system	2	Set
Controller	One-line system	1	Set
Remote control	31 5MHZ	2	Piece
Clutch key		2	Piece
Locking retaining iron		2	Block
Limiting magnetic steel	Φ22mm	2	Piece
Expansion bolt	Φ8x 100mm	6	Piece
Bellows	Φ12x 400mm	2	Piece
Warranty form		1	Piece
Certificate of conformity		1	Piece
Product description		1	Piece

7、 List of Some Optional Accessories

Name	Specifications	Quantity	Unit
UPS standby power supply	DC24v/4AH	1	Set
Card reader	DC12V	1	Set
Infrared detector	DC12V	1	Pair
Lengthened lifting skateboard	0 ~ 140mm	1	Set
Visual doorbell	Color, 4 or 7	1	Set
Encoded remote controller	Battery powered	1	Piece