Intelligent Remote Control Swing Door Opener

Instruction Manual





Contents	Pages
Ⅰ. Summary	1
Ⅱ. Structures & Classification	1
Ⅲ. Main Technical Parameters	2
Ⅳ. Function Characteristics	2
Ⅴ. Operating Methods	4
Ⅵ.Installation Method & Debugging	5
Ⅶ. Maintenance and services	15
Ⅷ. Trouble shooting	16
Ⅸ. Packing List	17
Ⅹ. Optional accessories List	18

Ⅰ. Summary

Dear user:

Thank you for selecting of our intelligent remote control swing gate opener ! Please carefully read this Instruction Manual before installation and use.

Ⅱ. Structures & Classification

1. Opener structure: as Fig. 1

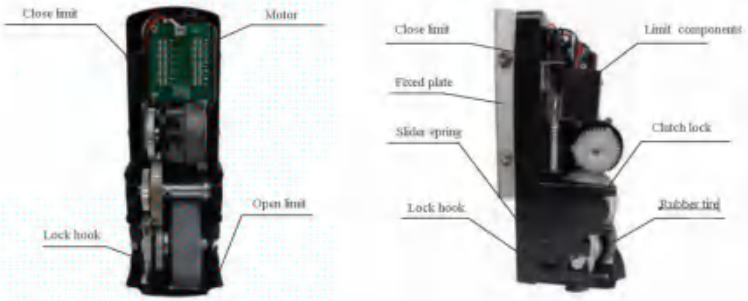


Fig.1

2. Control and power distribution structure,as shown in Fig.2

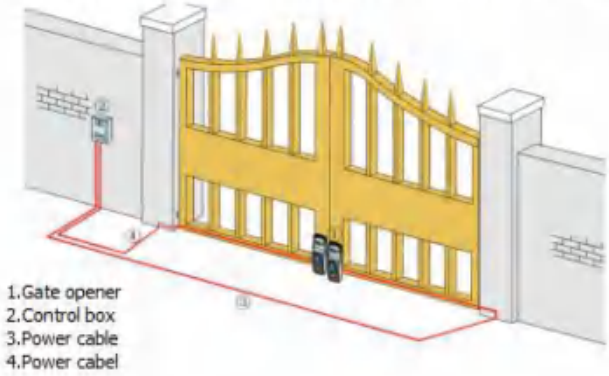


Fig.2

3.Classification of gate opener: Inward gate opener and outward gate opener.

4.Classification of Control system: 2- channel 5- line ordinary control system and 2- channel 2- line wisdom control system.

Ⅲ. Main Technical parameters

Description	Specification
Supply voltage	AC220V or DC24V
Open thrust	600N
Remote control distance	70m
Lifting range	0～300mm
Travel speed	10～15m/min
Environmental temperature	-50℃～+50℃
Rate of motor	120W×2
Size of door opener	H360mm×W130mm×D150mm
Size of control box	H250mm×W180mm×D90mm
Packing weight	21kg/ctn or 23 kg/ctn or 25kg/ctn

Ⅳ. Function Characteristics

1.Single-leaf or double-leaf opening: This function can be activated by pressing button.

2.Control box locking: To avoid unauthorized opening, this function can be activated by remote control.

3. Automatic detection and protection: The gate opener will

automatically stop if any obstruction is detected during opening; it will return to the original position automatically if any obstruction is detected during closing.

4.Infrared detection and protection: The gate will automatically re-opened if any passing vehicle or person is detected during closing.

5.Automatic detection and access control: The gate opener can be connected to card reader, fingerprint scanner ,anti-theft alarm, camera or any other devices for automatic access control.

6.Gate operating indication: The blue LED light on the gate opener will flash during gate opening, the red LED light on the gate opener will flash during gate closing, indicating vehicle and pedestrian that the gate opener is operating, make attention to the safety.(Optional)

7. Back up battery interface: The gate opener will be automatically switched to storage battery or solar cell mode upon external power failure.

8. Sequential operation: The gate opening angel and sequence can be set.Please refer to the Instructions Manual of the control box for the foregoing functions, interfaces and detailed operating and setting methods.

V. Operating Methods

This gate opener can be controlled electrically and manually. Please remove any obstructions within the working scope of the gate body and no vehicle or person allowed access during Operation.

(I) Electric control operation

1. Press the button of the control box to realize automatic gate opening, closing or stop.
2. Press the button of the remote control to realize automatic gate opening, closing or stop.
3. The gate access control system can identify and control access automatically.

(II) Manual control operation

1. Manual opening: insert the clutch key into the lock hole and rotate it clockwise to disengage the clutch (the gate opener in manual mode) , then push the gate open by hand.
2. Manual closing: push the gate to near the close position when it is in manual mode, insert the clutch key into the lock hole and rotate it anticlockwise to engage the clutch(the gate opener now in electric mode),then push the gate to the lock position by hand.

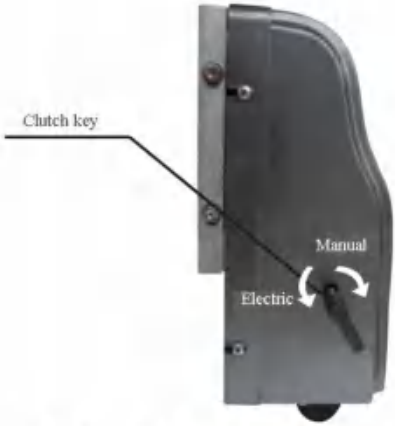


Fig. 3 Manual and electric switching

VI. Installation methods & Debugging

(I) Preparation

1.Check the flexibility of the gate during opening and closing, make sure that the gate does not bounce back when the gate reaches the open or close limit position.

When the gate is in the close position, the bottom edge of the gate frame shall be at least 25mm above the ground (slightly higher than the stop iron, as shown in fig.4).Make special adjustments if the gap is less than 25mm.



Fig.4 Heights of Gate Frame and Stop Irons

2. The unevenness of the ground within the working scope of the gate opener.

Fall h=Height of the highest point of the ground- height of the lowest point of the ground.

A) when 0＜**h**≤80mm, the fall is normal, choose the standard configuration.

B) when 80mm＜**h**≤140mm, the fall is large, choose long configuration.

C) when 140mm＜**h**≤300mm, the fall is too large, choose special configuration (dual slide)

3. Determination power of the gate opener

Measure the width, height, weight of the gate leaf and determine if ordinary or high-duty motor shall be chose according to the sealing conditions and external environments (e.g. ground conditions, wind force etc.)

4. Choose the model and configuration of the gate opener

according to the user type and functional requirements.

5. Bury the wire pipes with reference to the wiring diagram of the power distribution system of the gate opener(Fig.2) and determine the diameter and number of cores of muti-strand flexible wires(power cables).
   Two ways of system configuration are available according to the connection ways of gate opener and control box:
   a) 2-channel 2-line gate opener and control box
   the gate opener and the control box are connected via two circuits of two-core power cables.
   b) 2- channel 5-line gate opener and control box
   the gate opener and the control box are connected via two circuits of five-core power cables.

If any electric lock is added, please adopt two-core power cables to connect the electric lock to the control box.

If any infrared sensor is added, please adopt three-core power cables to connect infrared sensor to the control box, and use two-core power cables to connect the infrared sensor's transmitting terminal with receiving terminal.

If any card reader is added, please adopt four-core power cables to connect the card reader to the control box.

Cautions:

a) The wire pipes buried right below the projection of the gate at the close position shall not conflict with the stop iron to be mounted.

b) In order to minimize circuit losses, the connecting wires (or power cables) of the gate opener shall have a sectional area above 1 square mm, while other signal wires shall have a sectional area of about 0.5 square mm.

6. Ensure that an inward gate opener is adopt for an inwardly-opening gate, while an outward gate opener shall be adopted for an outwardly-opening gate.

(II) Installation of control box

1. Please install the control box (indoors or outdoors) according to relevant electrical safety code.
2. Install the control box as close to the gate as possible in order to shorten the wires, reduce circuit losses and save electricity.
3. An independent external power switch ,leakage protector or over-current circuit braker shall be installed.
4. If any external packing box is to be installed, the shielding effects of metal products to remote signals shall be considered and the antenna shall be stretched out of the packing box.

5. The control box shall be installed in an appropriate position and the height and environment shall be well ventilated. Measures shall be taken to avoid rainfalls, sunshine or child access.
6. The wiring method: please refer to the Instructions Manual of the control box.

(III) Installation of gate opener (the pair of gate openers shall be of the same specifications)

1. Determine the installation position of the gate opener: mark the installing positions of the two gate openers on the gate body when the two gate leaves are closed.

Noted: The distance of the inner edges (outer covers)of both gate openers shall not be less than 70mm for the purpose of convenient manual operation.

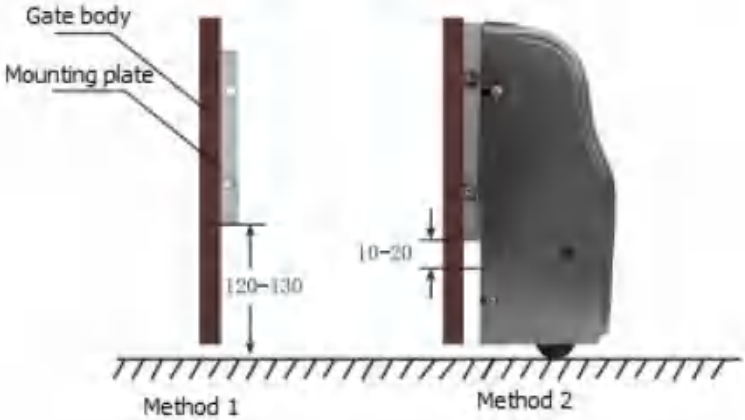
2. There are two methods to determine the installing heights of the mounting plate:

Firstly push the gate to the lowest position of the travelling area.

a) Method 1: move the mounting plate up and down until the bottom edge of the mounting plate is 130 to 120 mm above the lowest point of the ground. Mark the installing height of the mounting plate.

b) Method 2: keep the gate opener in nature state (the spring is neither compressed nor extended)

and against the gate body vertically. Mark the position of the mounting plate on the gate body. Move the mounting plate further downward by 10-20mm from the mark, this is the actual installing height of the mounting plate.
In either method, the installing height of the mounting plate shall be appropriately adjusted according to the ground smoothness, gate size and weight, hinge flexibility and other factors.



Note: 1. Fasten the mounting plate with four bolts before mounting plate installation.
2. Keep the mounting plate vertical during installation and bolt or weld it onto the gate body.
3. Make one hole on either of the inner sides of the gate on the bottom fame (for entry and exit of wires) for wires.

One flexible sleeve cover the wires shall be used where they go through the holes.



Fig.5 Holes on both inner sides of the gate on the bottom frame

5. Fix the gate opener and connect the wires (whose color shall be the same as label of terminal block of the control box or the color of the plug wire).
   Check: Use the key to switch the gate opener to manual mode and push the gate body forward and backward.
   The gate opener shall rise and fall freely with the fluctuation of the ground and no dead locking, hanging and suspending etc.

6. Installation of the stop iron (please refer to the following points):
   When the gate is in the mode of manual operation, move the gate to the close position and install the stop iron into the lock hook. Use the key to switch the gate opener to electric mode and lock it there. Move the stop iron so that the centerline of the lock hole is aligned to the lock hook and mark the position of the stop iron. Drill a hole on the ground and fasten the stop iron with expansion bolts.



Fig.6

Position of stop iron and gate(overlook)

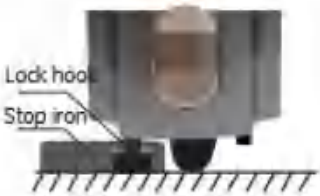


Fig.7

Position of stop iron and lock hook

Note	a) The stop iron for the gate leaf that is firstly closed shall be installed first when the gate has a floor stop. The two stop irons shall be distanced from each other by 10-15mm.
	b) The ground where the wheels of the gate opener are rested and the ground where the stop irons are rested shall be on the same level when the gate is at the close position.
	c) If any rubber buffer is to be installed between the pressure plates of the two leaves, they should be installed before the gate opener is installed. Otherwise, the reliable locking of the gate opener may be affected and the proper operation of the gate opener may even be disabled.
	d) The stop irons should be installed firmly and they shall not become loosened or displaced in operation.

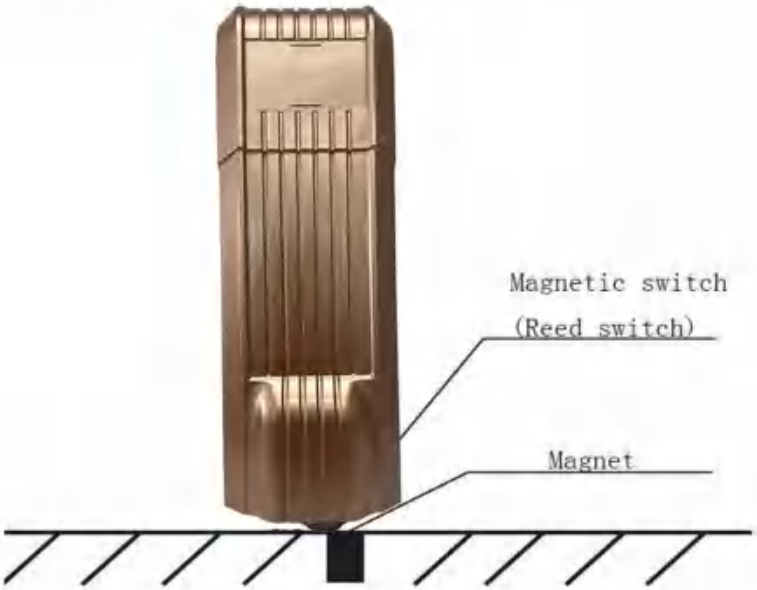
Manually open and close the gate to check if the stop irons are properly installed.

a.Push the gate towards the stop iron when the gate is in manual mode, then use the key to switch it to electrical mode. Push the gate forward and the gate shall be reliably locked.

b.Use the key to switch the gate opener back to manual mode and the gate can be easily pushed open.

4. Installation of limit magnet for opening

Open the gate to maximum or designed position and retreat it by 200mm.Find the ground projection of the magnetic switch at the bottom of the gate opener, drill a hole there (Ø22mm) and bury a magnet leveled with the surface.



(IV) Operation and debugging of the electric gate opener

Check if the wiring is properly done and if the voltage meet the requirements before operation. Use the key to disengage or engage the clutch and check if the gate can be properly manually opened and closed. Push the gate to the mid-position and engage the clutch of the gate opener (in electric state).Switch on the mains power and the indicators are in normal condition.

1.Press the button of the remote control or the control box to open, stop and close the gate .Observe if the gate opener works in a stable and consistent manner and if it automatically stops in an accurate manner when the required position is reached. Otherwise, check it relevant parts are properly installed.

2.Check if the gate moves in the right direction as displayed by the control key. Otherwise, please correct wiring of the gate opener or motor.

3.Please see the control box's Instructions Manual for the locking method of keys.

4.Debugging of automatic stop upon obstacle and motor's loading capacity: it is necessary to appropriately adjust the potentionmeter (pressure or resistance) of the control box according to the gate size, hinge flexibility and ground evenness in order to increase or decrease the motor's capacity against resistances.

5.Test methods of automatic stop upon obstacle during

1. opening , and re-open upon obstacle durding closing:

a)Apply a counterforce (push or pull with hands) on one leaf during opening and the gate shall stop opening.

b)Apply a counterforce on one leaf during closing and both leaves shall retreat in the opening direction. If the motor's capacity against resistance is set to be too small the motor may easily stop operation. If it is set to be too big, the protective effects may be reduced.

2. Please read the control box's Instruction Manual for the protection time of the gate during operation. If the protection time is setting too short, the gate will stop automatically before it reaches the desired position.

3. Please read the control box's Instruction Manual for setting and time adjustment for automatic gate closing.

4. The time difference for delayed closing of the gate leaves shall be adjusted according to the different degrees of opening of both leaves.

5. Please see the Instruction Manual for details about the card reader, infrared protector and wiring.

Ⅶ. Maintenance and services

1. The turning parts of the gate opener shall be kept clean and free of any attachments.

2. Frequently clean away the debris in the grooves of the stop iron.

3. Properly lubricate various mechanical moving parts very quarter.

4. Check the power protector and the performance conditions of the backup storage battery once a month.

Ⅷ. Trouble shooting

Faults	Possible reason	Removal method
Door not move when press the remote control	1.Check if clutch is in electric state 2.Power outage 3.Fuse wire burn 4.Remote controller invalid 5.Circuit broken 6.Control box or door machine broken	Recover Recover power supply Replace Check and replace Check and maintain Maintain
Short remote control distance or remote controller invalid	1.Low battery 2..Control box locked or damage 3.Same frequency interference 4.The receive module of control box damage	Replace Unlock or replace Wait for the elimination of inference source Replace the receive module of control box
Fail to stop when travel to the limit	1.The magnetic steel missing 2.Open limit switch or components invalid	Recovery Maintain, replace
Fail to stop or re-open when travel to the limit	1.Close limit switch invalid or spring damage 2.Locating iron loose or barriers 3Sequence error of open and close 4.Circuit faults	Replace Maintain Re-travel Maintain
Door not move when press OPEN, CLOSE	1.The blocking protection of motor travel (the set value is small) 2.Limit components, limit switches or circuit board of control box faults	Check hinge or add lubricant on lifter door opener. Maintain, replace
Press OPEN , CLOSE, the indicator light flashes but the door opener can not move.	1.Circuit short or unwell connected 1.Fastening pieces loose or damage 3.Motor damage	Maintain Maintain, replace Maintain, replace

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Ⅸ. Packing list

Description	Specification	Quantity	Unit
Driven motor	5 cables (or 2 cables)	2	set
Control box	5 cables (or 2 cables)	1	set
Remote controller		2	PC
Clutch key		1	PC
Locating iron		2	PC
Limit magnet	Ø22mm	2	PC
Expansion bolt	Ø8×22mm	6	PC
Instruction Manual		1	Copy

X. Optional accessories list

Description	Specification	Quantity	Unit
UPS back-up battery	DC24V/2.5AH or DC24/4.5AH	1	Set
Card reader	DC12V	1	Set
Infrared detector	DC12V	1	Pair
Lengthened lifting sliding board	0～140mm	1	Set
Special lifting slider	0～300mm	1	Set
Visual doorbell	colorful, 4 or 7	1	Set
Encoded remote controller	Battery power supply	1	PC
Encoded remote controller	AV220V	1	PC