Sliding Gate Operator

Manual

☐ WJKMP201   ☐ WJKMP202

Read the manual carefully before using the product.

Contents

1. Overview

This is a conventional sliding gate operator, with brand-new design, brand-new clutch structure, fashionable exterior design and brand-new control technique, making the motor more humanistic.

Furthermore, the integrated electromechanical design and the streamlined appearance also make our product look more fashionable and elegant.

2. Technology specifications

Model / Parameter	WJKMP201		WJKMP202	
Voltage	220V±10%	110V±10%	220V±10%	110V±10%
Frequency	50Hz	60Hz	50Hz	60Hz
Current	2A	4.5A	2.7A	5.8A
Motor voltage	AC220V/110V		AC220V/110V	
Capacitor	18μf	60μf	20μf	60μf +14μf
Power	250W		350W	
Absorbed power	440W	495W	594W	638W
Torque	22.5nm		35nm	
Mode number	M=4			
Motor speed	1350rpm	1620rpm	1350rpm	1620rpm
Reduction ratio	23:1			
Gear speed	58.5rpm	70.2rpm	58.5rpm	70.2rpm
Travel speed	11m/min	13.2m/min	11m/min	13.2/min
Working temperature	- 40°C～+55°C			
Overload protection temperature	130°C			
Relative humidity	≤90%			
Motor making technique	Die casting aluminum alloy			
Manual Release	yes			
Remote distance	≥30m			
Product weight, approx	9.13kg	9.18kg	10.19kg	10.25kg
Max. weight of gate	1000kg	1000kg	1800kg	1800kg

3. Outline and installation size（Fig. 1）

Fig. 1   Unit（mm）
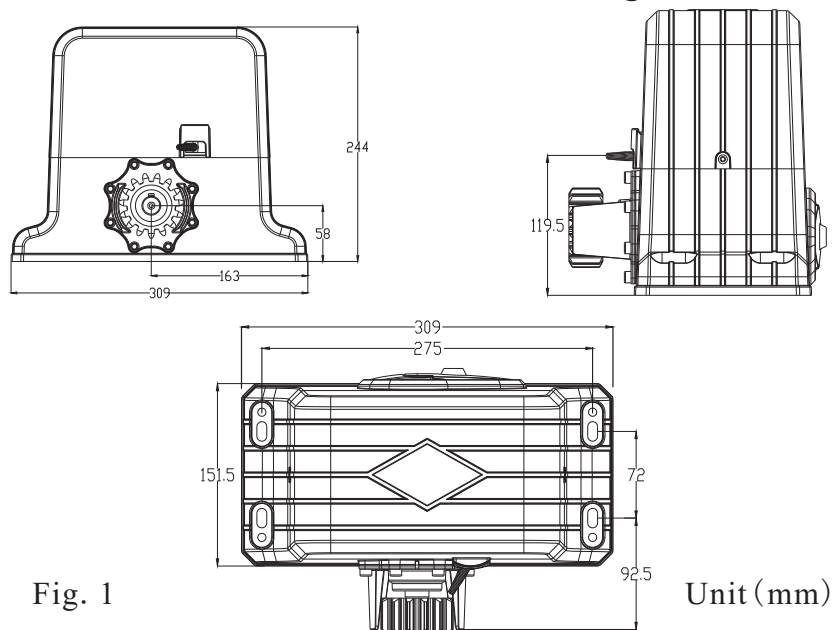
4. Function and Features

4.1. Integrated structure of the mechanic and electron. No need to install other controllers

4.2. Electronic soft-start

4.3.Automatically restraining when meets obstacle4.4. Crash proof and automatically restraining socket

4.5. Crash proof (photocell)

4.6. Alarm light socket

4.7. Line control and Remote control are optional

4.8.Intelligent automatic heating function

4.9.Automatically increase the temperature when the temperature is below 0 degree.

5. Mechanism installation
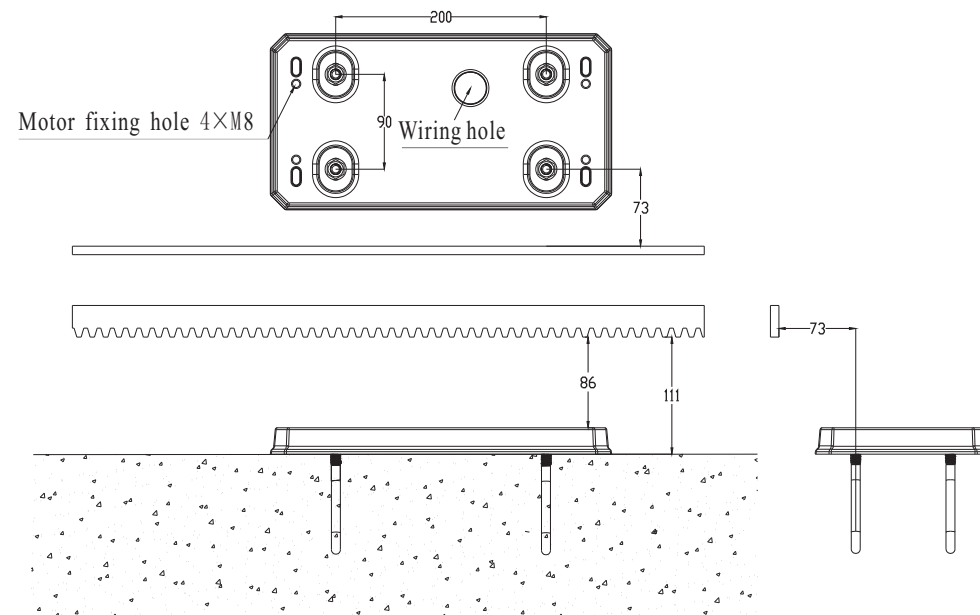
5.1 Motor base and it's installation（Fig. 2）

Fig. 2

1. Motor base installation：set the installation position of the base tray according to the size of the motor and the height of the installation position of the gear rack. Then Embed the bolts in advanced or use the expansion bolts to embed the base into the cement foundation（Fig. 2）

2. If the gear rack has already been installed, fix the motor to the base and turn the clutch with the clutch key to the off position, then make the gear of the motor suit right to the gear rack, then the position of the base can be set. Take off the motor and fix the base.

5. 2 Motor installation

1) Put the motor on the base, fix up the motor with hexangular screws.
2) Loosen the four screws on the outer shell and remove the shell. Connect the wire according to the electric diagram. After debugging, install the shell and fix it with bolts.
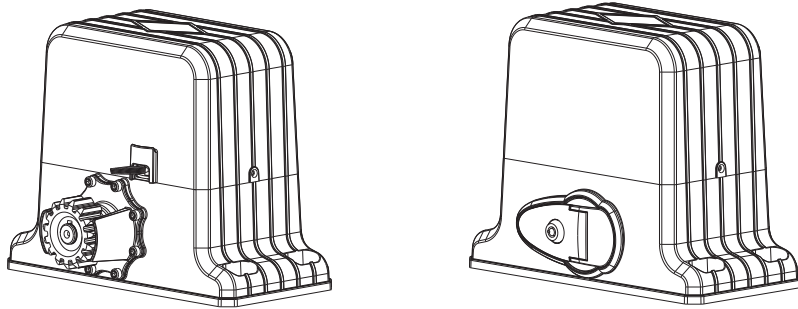

Fig. 3

5. 3 Rack installation

Make the gear of the gear rack towards the floor. Make the gear of the rack fit the gear of the motor. Fasten the gear rack to the door with the screws. Push the gate and make it move the whole route. Fasten the gear to the gate after assuring that the gate run smoothly the whole route.

Rack is usually installed piece after piece. To avoid dithering or blocking, please adjust the gap of the gear rack. We suggest one way(refer to Fig-3): fix up the rack1 and rack2 after adjusting the two racks with the small adjusting rack.
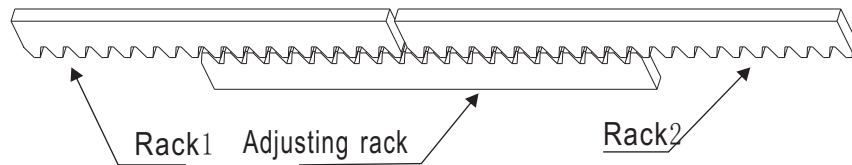

Rack1   Adjusting rack   Rack2

Fig. 4
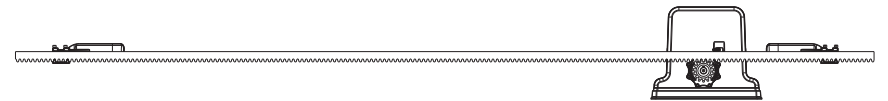
5. 4 Travel limit iron installation

After the gear racks are fixed, open the clutch device and make the motor in idling status. Put the motor onto the base tray. Adjust the gear of the motor and make it fit the racks of the door. After fixing the motor by bolts, connect the power for it.

Press the 'close' button of the controller, the motor will work towards the closing direction in loosening status. Move the gate to the end position of the closing gate by hands. When the gate completely closes, check whether the limit iron could touch the spring limit switch and make the motor stop. If the limit iron can not touch the spring limit switch, loosen the screws of the limit iron and move the limit iron to the right position and fasten it. Adjust the position of it in the same way again.

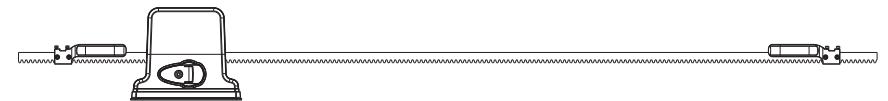A   Top view

B   Back view

C   Front view

Fig. 5

5. 5 Function of release

When the release is opened, we can push the gate by hands, when the release is closed, the gate can be opened or closed by electricity and stop automatically when meets the limit iron.(Fig.6)
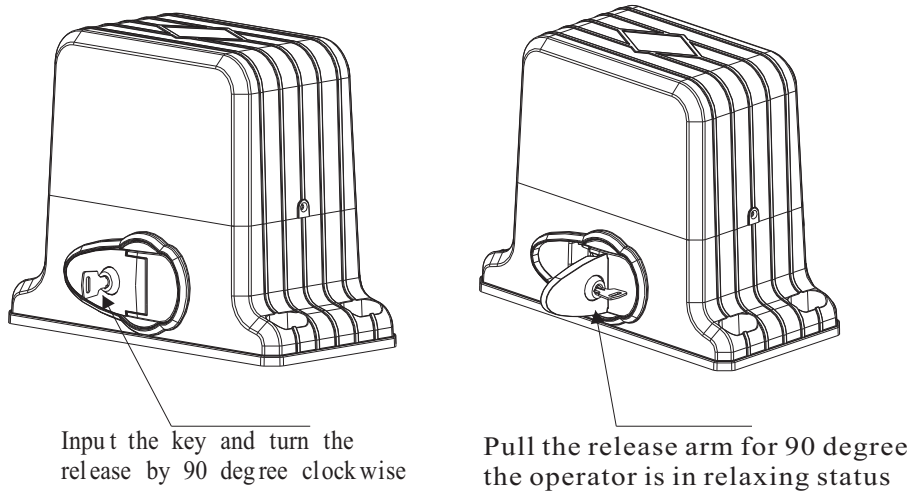
Input the key and turn the release by 90 degree clockwise

Pull the release arm for 90 degree the operator is in relaxing status

Fig. 6

5. 6 Installation of photocell

1. Loosen the screws and take off the water-proof cover.
2. Put photocell signal wire and power wire through the hole of the base. Connect the wire according to the electric diagram.
3. Fix the photocell base with screws to appointed position.
4. Put on the top lid and fasten it with screws.

(Notice: During the installation, do not take off the rubber ring)
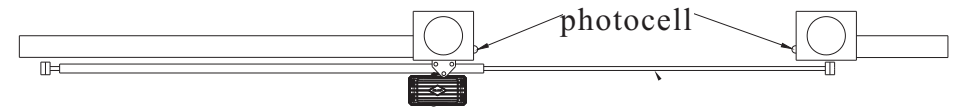
Installation of the gate operator:

photocell

Fig. 7 A. Top view of opening

Opening limit block

Closing limit iron

Opening limit iron
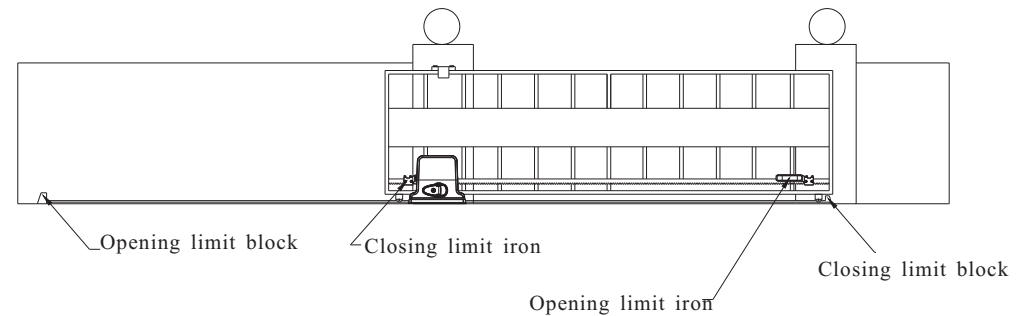
Closing limit block

Fig. 7 B. Top view of closing

6. Installation of Electric Part

6. 1 The electric control panel is set inside the outer shell and installed together with the motor(Fig.8)
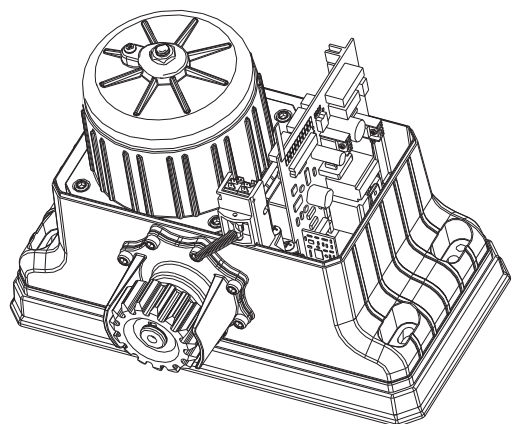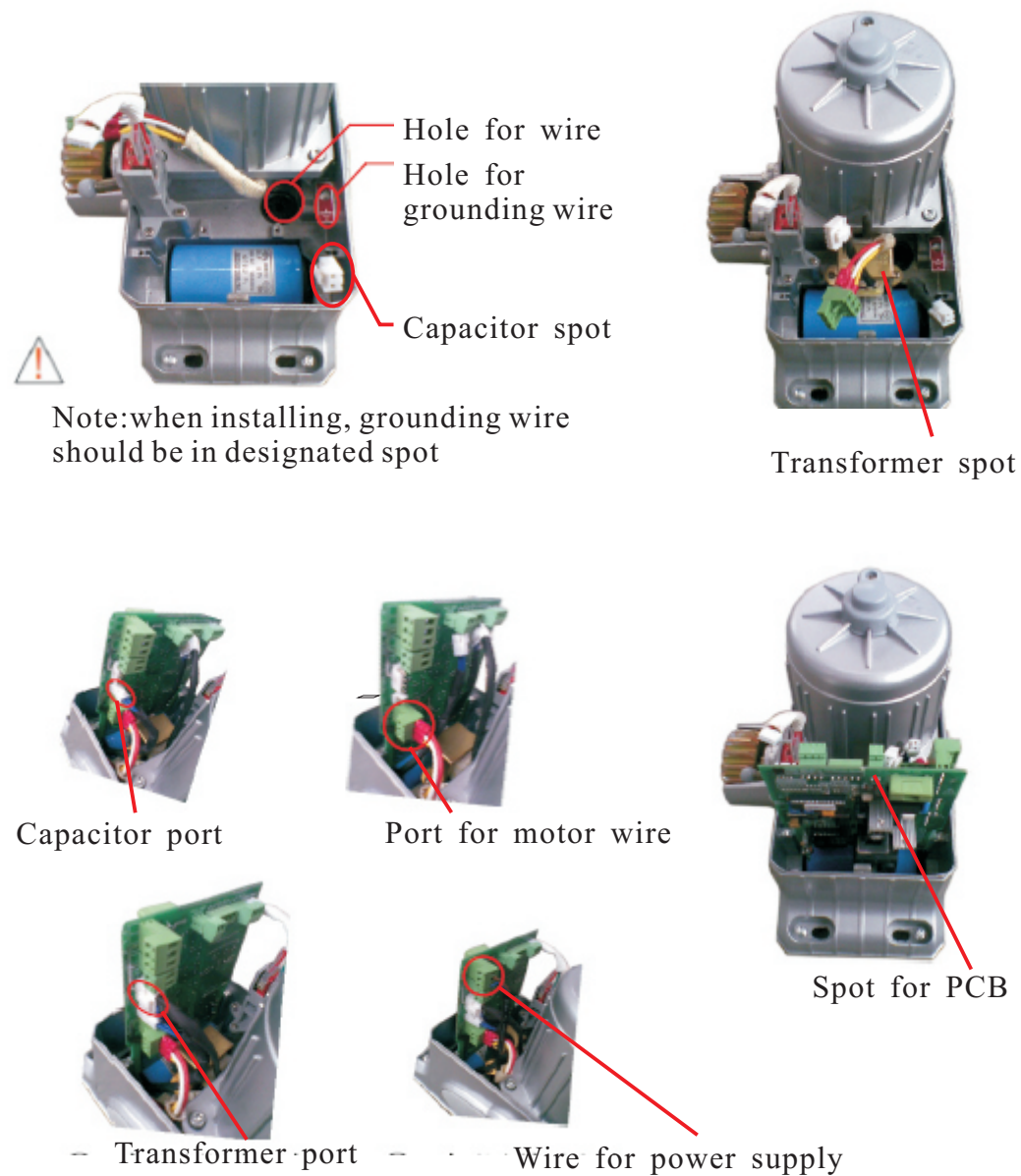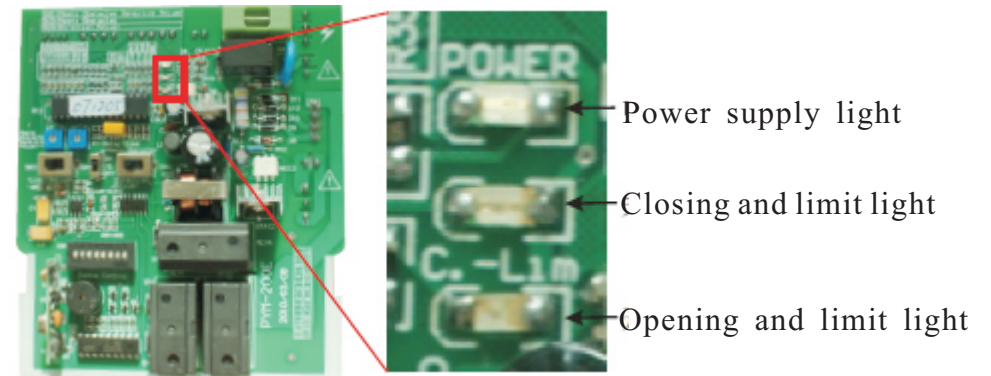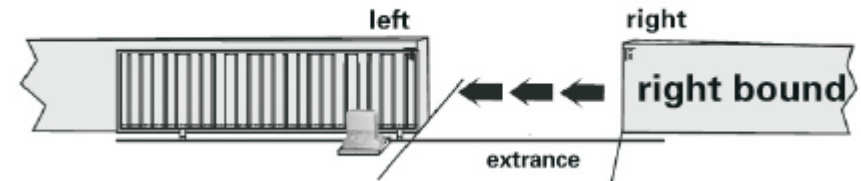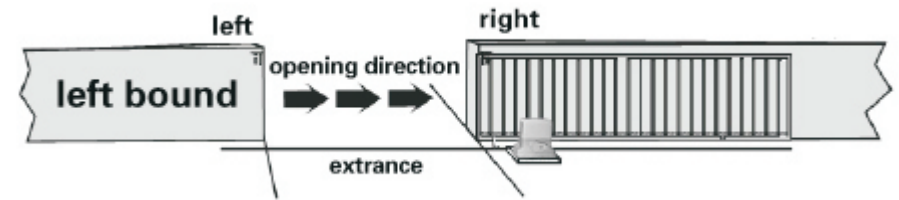
Fig . 8

6. 2 For the electric connection, please refer to the electric connection diagram.

Hole for wire

Hole for grounding wire

Capacitor spot

⚠ Note:when installing, grounding wire should be in designated spot

Transformer spot

Capacitor port

Port for motor wire

Spot for PCB

Transformer port

Wire for power supply

Instructions for the motor circuit board

Antic-crashing adjuster

Opening time delayer

button for automatic reverse function

Limit direction setting switch

Opening direction setting switch

left bound → opening direction → left right

right bound ← extrance → left right

Power supply light

Closing and limit light

Opening and limit light

Electric connection diagram

Earth leakage circuit-breaker

Alarm light

Line control box

Vehicle detector

Emitter

Receiver

power

Infrared sensor equipment

Winding

7. Debugging and instruction of use

7. 1 Debugging

1). Check the electric connections to make sure that the wiring has been connected well. Turn the power on and make the motor run itself. Send an "open" signal, then observe whether the rotational direction of the gear is the same as the direction of opening the gate. If not, send a "stop" signal to make the motor stop running, and then rotate the direction adjustment switch to adjust the running direction of the motor. Send an "open" signal again, make sure the rotation are of the same. then send a "stop" signal to stop the motor. Adjust the closing direction in the same way.

2). Adjustment of the limit switch. Send an "open" signal, press the limit switch towards the direction of opening the gate, observe whether the motor is stopped and limited. if not, rotate the limit adjustment switch to adjust again to make sure the opening limit switch functions. Then send a "close" signal, adjust the closing limit switch in the same way.

3). Check whether the gate is fixed well. Rotate the key of the clutch to opening direction according to the tips on the cover of the lock. Move the gate back and forth through the route by hand to see if it runs well or blocked. If the gate not move freely, adjust the position of the motor or the rack until it runs freely.

4). Close the clutch, if the gate runs in the opening direction, it can not respond to the CLOSE command, but can respond to the STOP, OPEN and LIMIT CLOSING command. If the gate runs in the closing direction, it cannot respond to the OPEN, STOP, LIMIT CLOSING and LIMIT OPENING command, but the OPEN and LIMIT CLOSING direction light are on.

5). Three means to your safety: loop detector, photocell, crash proof. When the gate is opening, these three functions can not be applied. When the gate is closing and meets some obstacles, the direction lights of the opening and closing limit are on at the same time and then turn to opening limit. When the signal of the infrared photocell is cut, the gate will turn to the opening limit and open till the direction light of the opening limit is on all the time. When there is a signal to the loop detector, the gate will open for 10 seconds and then close automatically. You can adjust the crash proof sensitivity on the control panel. Rotate the clockwise, the sensitivity will be higher.

6). Temperature control function, when the system detects that the ambient temperature is below 0 degrees, the motor will heat automatically.

7. 2 Instruction of use

1). After checking and debugging all the parts, fix up the motor shell, close the clutch and the cover of the lock hole.

2). When the power is cut off, open the clutch. Then move the gate manually. When the power is on, close the clutch and run it by electricity.

8. Maintain

8. 1 The antifreeze lubricant oil has been applied to the sliding gate operator. There is no need to add the oil before using.

8. 2 After using the sliding gate operator for one month, please check the antifreeze lubricant oil. If it needs to be changed, please change the oil with the same type. Then check the oil every year. If the oil turns bad, change the oil with the same type.

8. 3 After using the gate operator for some time, please check if any parts are loose. If they turn loose, please tighten them.

9.Troubleshooting

9.1 The motor runs but the sliding gate operator doesn't work.

   A: Check whether the clutch is closed.

9.2 The power indicator light doesn't flash and the key doesn't react.

   A: Check whether power is connected right.

   B: Check whether the fusel is burned, it yes, please exchange it.

9.3 The opening and closing limit can not work.

   A: Check whether the limit adjustment switch is installed right.

   B: Check whether the limit iron is installed right. Adjust the position of the limit iron.

9.4 Crash proof is not effective.

   A: Check whether the connection of crash proof is correct.

   B: Check whether the photocell is installed right.

   C: Check whether the connection of the wire of the loop detector is right .

9.5 When the gate just close up, it turns to open.

   A: Check whether the voltage is normal.

   B: If the crash proof equipment is installed, please check whether it works well.

9.6 The remote control doesn't work

   A: Check whether the battery is low. If yes, change it.

   B: Check whether the code of the remote control is the same with the code of the control panel.

10. Remote Controller Coding

If the remote controller or the radio emitter doesn't match the code of the control panel, please adjust the code of the control panel or the code of the remote control to make them match.

Steps:
Reading the code :
The code is in the back of the remote control or the radio emitter. Users can make the code according to the codes

Control panel coding:
The code is from left to right. The above stands for the "1", the middle stands for " X", the bottom stands for "O". The follow code is :01XX1X0X
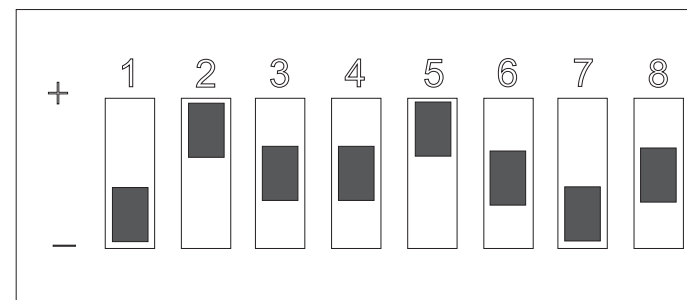

Fig. 10

Remote control coding:
Open the back cover of the controller and take off the battery. You can see the code of the pad on the PCB. The code is from right to left. The first code is on the right. When the middle pad and the above pad are shorted, it stands for "0". When the middle pad and bottom pad are shorted, it stands for "1". Nothing stands for the"X". The follow code is: 01XX1X0X
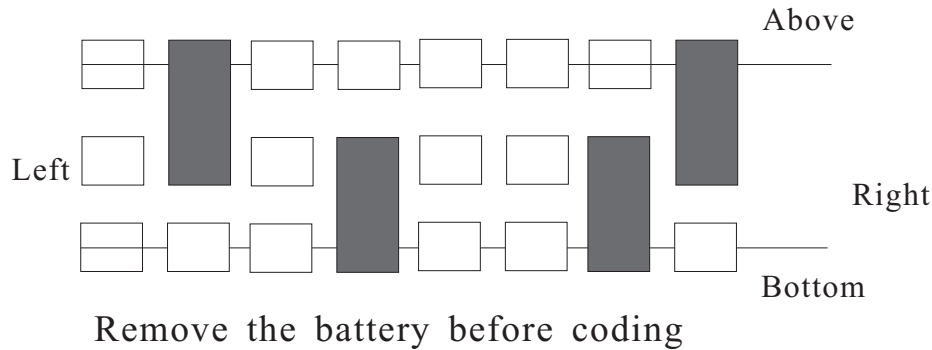
Above

Left

Right

Bottom

Remove the battery before coding

Fig. 11

11. Service Item

11. 1 One year maintenance services provided free of charge

11. 2 Life-long repairing with charge offered.

11. 3 Technical support.

The following situations are charge for repairing.
1）Broken by wrongly installed.
2）The supply power is not stable and over the specific voltage. Or broken by not using the standard electricity power of the country.
3）The gate operator is broken by wrongly using.
4）The gate operator is broken by natural disaster.

5）The gate operator is without the warranty time.
6）Not within the service items.

The upgrade and improvement of the product won't be notified if there is any.

The interpreting right of this manul and service items belong to the manufacturer.

Notice：
1）The working voltage is 10% of the rated voltage, use power regulator if in area of volatile supply voltage.

2）The gear modulus: M=4 Gear scalar: Z=15. Please use the correspondent rack.

3）The gate should be balanceable and level. So the gear and rack can fix well.

4）The gap between gears should be figured right so the gate operator can move smoothly.

5）The rail should be embedded right. The wheel of the gate should be right and installed well. These are key points for the gate running well. Adjust the bolts which can make the gate operator up or down to make the gear fit the rack well. Make sure that the gate can be moved by an adult when the clutch is opened.

6）Make sure the running direction of the gate operator. The limit iron should be fixed at the right position, otherwise limit doesn't work and then the motor will be stocked and out of control.
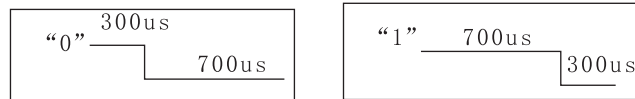
Appendix

Bus function:
Bus function is a communication device custom-made for other interfaces, which is defined as follows:

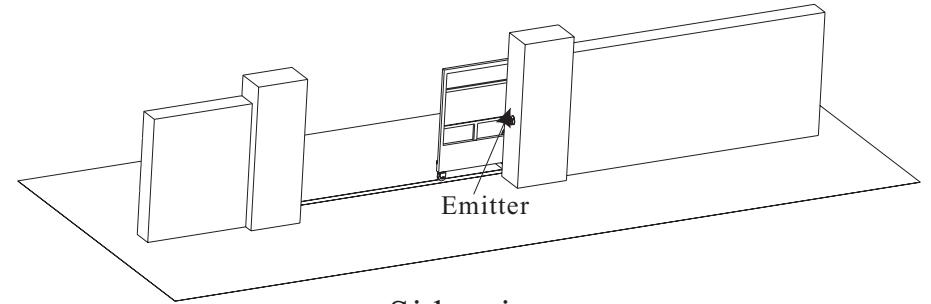## 1. Communication waveform

| 20ms induction | data | end |

2. Level definition

"0" 300us 700us

"1" 700us 300us

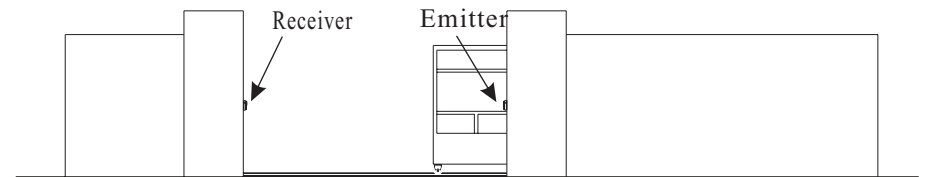## 3. Example: Open: 6543H

0 1 1 0 0 1 0 1 0 1 0 0 0 0 0 1 1

Open:6543H Close:4343H Stop: 6565H Alarm:1234H

12. Attached Figures

Photocell installation（Fig. 13）

Emitter

Side view

Receiver Emitter

Front view

Photocell

Top view

13. Packing list

Name	Photo	Qty.	Unit	Remark
Sliding gate operator		1	Set	
Remote controller		2	Pcs	
Internal hexangular bolt		4	Pcs	M8X40
Internal hexangular bolt		4	Pcs	M6X16
Left limit iron		1	Pcs	
Right limit iron		1	Pcs	
Base		1	Pcs	
Release Key		2	Pcs	
Manual		1	Pcs	
Infrared Photocell		1	Pcs	Optional
Radio emitter		1	Set	Optional

Warm tips

1. Please install leakage power switch on the main power.
2. please cut off the main power when connecting.
3. Electric products should be grounded.
4. High voltage is dangerous, if you are non-professionals, please do not dismantle and repair.