

# Operational Instructions

## For Horizontal Automatic Door Operator

Model: KMJ 00

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## Chapter 1 Product Introductions

In order to meet the automation requirements of modern flat-opening door, our company has developed and produced intelligent horizontal automatic door operator which adopts microcomputer chip, digital control, powerful function, high safety performance, easy installation and debugging.

**Note:** In order to use the equipment better and more comprehensively, please read the operation instructions carefully before you install and use it.

### 1.1 Work flow:

#### A. Main Process:

open the door→open & slow down→keep in place→  
close the door→close & slow down→lock the door.

#### B. Detailed Work flow :

**Step 1:** The open signal from external equipment triggers the electromagnetic lock of the door operator to shut down.

**Step 2:** Open the door .

**Step 3 :** Open & slow down.

**Step 4:** Stop it.

**Step 5:** Open &hold (permissible time 1 to 99 seconds).

**Step 6:** Close the door (permissible speed 1 to 12 gears ).

**Step 7:** Close & slow down(permissible speed 1 to 10 gears)

**Step 8:** Electromagnetic lock power on.

**Step 9:** Press door closed.

**End of a work flow.**

**Note:** In the process of closing the door, if there is a trigger signal for opening the door, the action of opening the door will be executed immediately.

### 1.2 Product Characteristics

- 1). Low consumption, static power  $< 2W$ , maximum power: 50W.
- 2). Super silence, working noise less than 50 dB.
- 3). Small size, easy installation.
- 4). Powerful, maximum push door weight 100Kg.
- 5). Support relay signal input.
- 6). Motor over-current, overload, short-circuit protection.
- 7). Intelligent resistance, push-door reverse protection.
- 8). Motor current (thrust), speed accurate regulation.
- 9). Self-learning limitation, abandoning tedious limitation debugging.
- 10). Enclosed shell, rain and dust proof.

### 1.3 Main Technical Parameters

Product Types	KMJ 100
Range of application	Various flat-open doors with the width $\leq 1200\text{mm}$ and the weight $\leq 100\text{Kg}$
Open Angle	$90^\circ$
Power Supply	AC220v
Rated Power	<b>30W</b>
Static Power	$< 2W$ (no electromagnetic lock)
Open/Close Speed	1-12 gears, adjustable (corresponding opening time 15-3S)
Open Hold Time	1~99 seconds
Operating Temperature	$-20^\circ\text{C} \sim 60^\circ\text{C}$
Operating Humidity	30%~95%(no condensation)
Atmospheric Pressure	700hPa~1060hPa
External Size	L 518mm*W 76mm*H 106mm
Net Weight	about 5.2kg
Three guarantee period	12 months

## Chapter II Installation

### Installation Notes:

- A. The power supply of the Horizontal Automatic Door Operator is AC 220V, put off the power before installing and live work is strictly prohibited.
- B. The Horizontal Automatic Door Operator is suitable for inside room. Installation must be carried out according to the size provided in the instructions. Improper Installation will directly cause the door operator to fail to work properly and damage the equipment in serious cases.
- C. During installation, it is forbidden to change the structure of the door operator and no holes can be made in the shell to avoid water and air entering and causing electronic and electrical components failure.

### 2.1 Installation of mechanical part of door operator.

#### 2.1.1 Installation Size

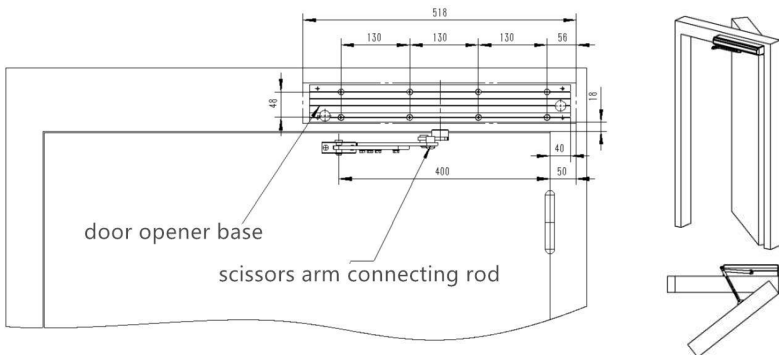


Diagram 2-1 ( Left /right inside open for push-rod open door )

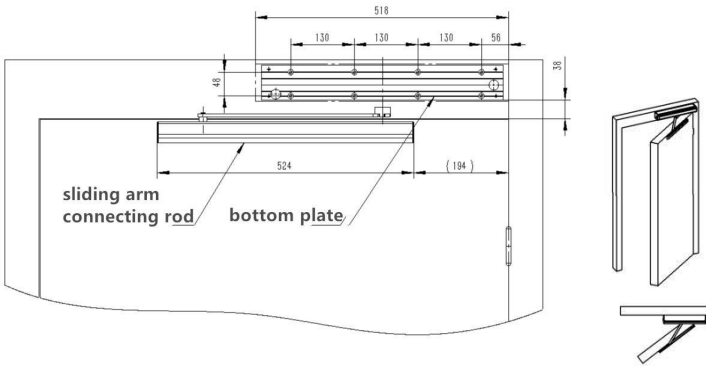


Diagram 2-2 (Left/right outside open for slide-rod open door)

## 2.1.2 Installation Method

1. Check and ensure the machine is not damaged. And then remove the movable cover on the door opener by pressing. Use the inner hexagonal screw remove the screw that fixes the whole machine and the bottom plate inside. As follows:

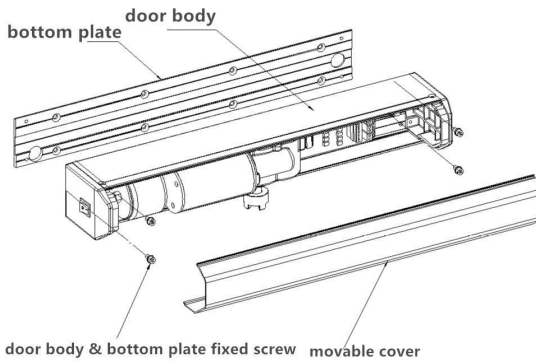


Diagram 3-1

2. According to the installation size diagram, fix the bottom plate of the door opener to the door frame or the wall with the self-tapping screw or expansion screw.

As follows:

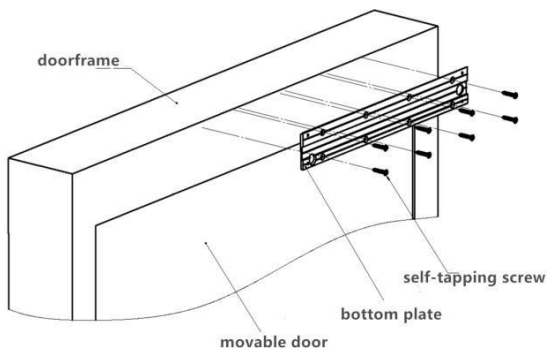


Diagram 3-2

3. Hang the host of the door opener on the installed bottom plate through the slot at the bottom of the host, pay attention to the fixed holes on both sides, and fix with the inner hexagon screw removed before.

AS follows:

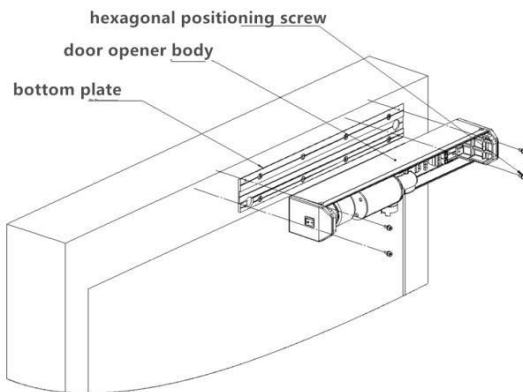


Diagram 3-3

4. Install the connecting rod, pay attention to the direction of the connecting rod. Fixed the connecting rod on the output shaft and door of the reducer with matching M6 screw and tapping screw respectively.

As follows:

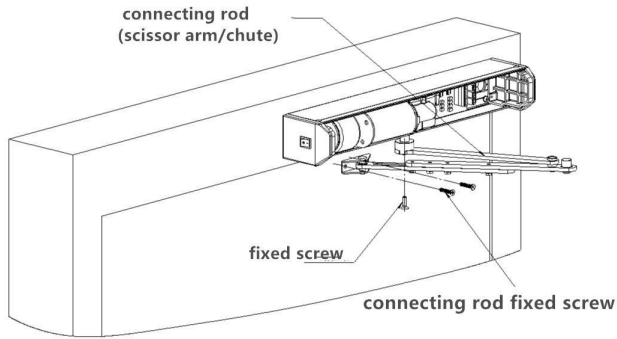


Diagram 3-4

5. After the electrical wiring and debugging, make the movable cover covered on the door crane, and fix the two ends with matching self-tapping screw.

As follows:

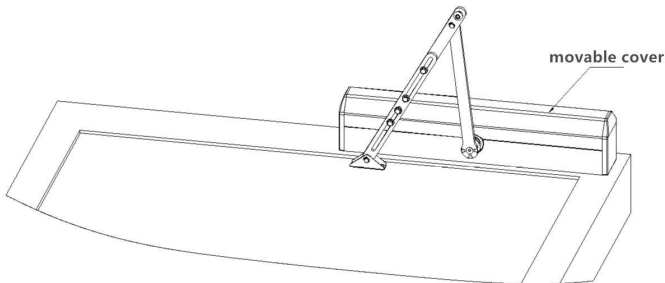


Diagram 3-5

## 2.2 Connection of electrical part of door opener

### 2.2.1 Description of the control port:

**Warning:**

**A. When the electrical part is connected, live work is strictly prohibited. Power can be energized after all connections .**

**B. Do not connect the positive and negative poles of the power supply inverse, otherwise the equipment will be damaged.**

**Note: A. Please choose an electromagnetic lock with supply voltage is 12V DC and the power  $\leq 9W$  or our company's electromagnetic lock. Otherwise it will cause abnormal operation or circuit damage.**

**B: When leaving factory, the motor wire has been connected, do not take it out without any special case.**

**C: Opening signal of external access control equipment :**

**① When the access control equipment is the output of switch quantity (dry contact), the close switch controls the opening of the door, and the switch should be open usually, without polarity requirements.**

**② When voltage output (wet contact), add transfer module.**

Name	Standby Power Supply	Infrared photoelectric switch interface	Open Signal	Fire fighting linkage	Electromagnetic lock
Name	Control main board	Power Supply	Electromagnetic lock		Access Control Machine
Standby Power Supply	GND	negative			
	24V	positive			
Infrared photoelectric switch interface	GND				
	Switch 2				
	Switch 1				

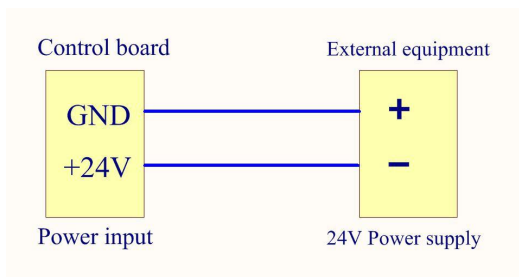


	12V			
Open Signal	GND			GND COM
	NO			NO
Fire fighting linkage	Fire fighting			
	input			
	output			
	12V			12V
Electromagnetic lock	12V		Red line	
	GND		Black line	

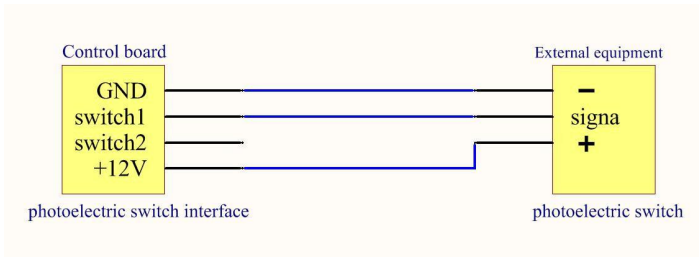
### 2.2.2 Diagram of control signal wiring.

Connect power supply, electromagnetic lock and external door opening control equipment according to the diagram. After checking ,start the power commissioning.

1. Standby power interface connects 24V standby power supply (standby power supply can be selected without connection according to user's needs)

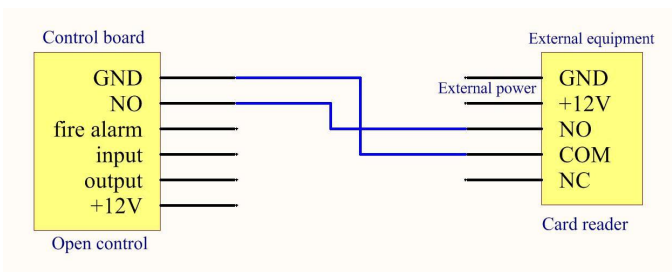


2. Infrared photoelectric switch interface  
(Note: please use NPN normal open type)

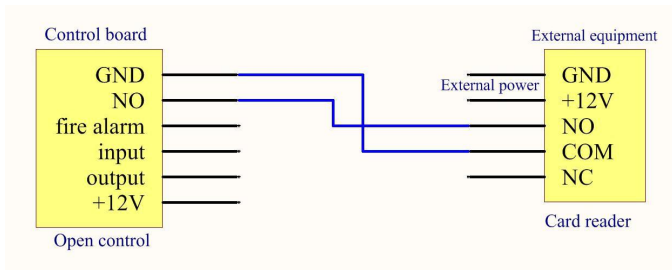


3. Access Control machine Connects the control signal of door operator:

the first connection:

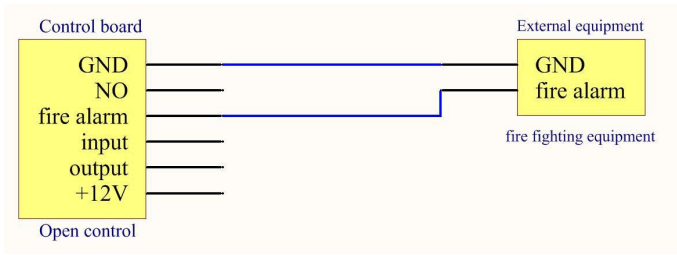


the second connection:

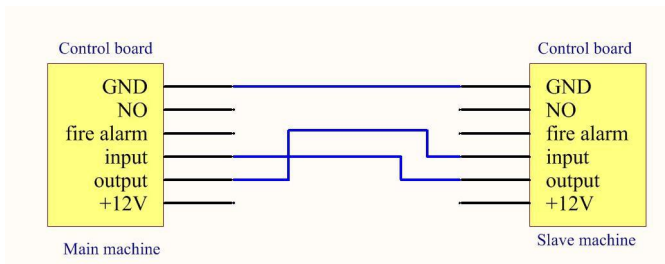


**Note: All door opening signals should connect to the same point (GNG, NO)**

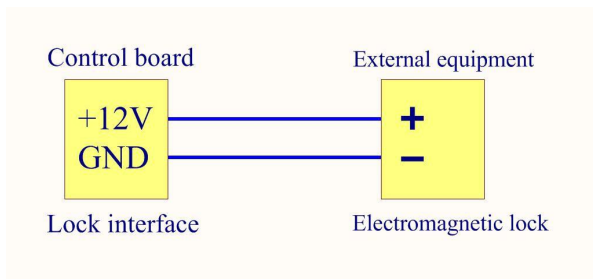
4. Fire signal interface connects fire fighting equipment



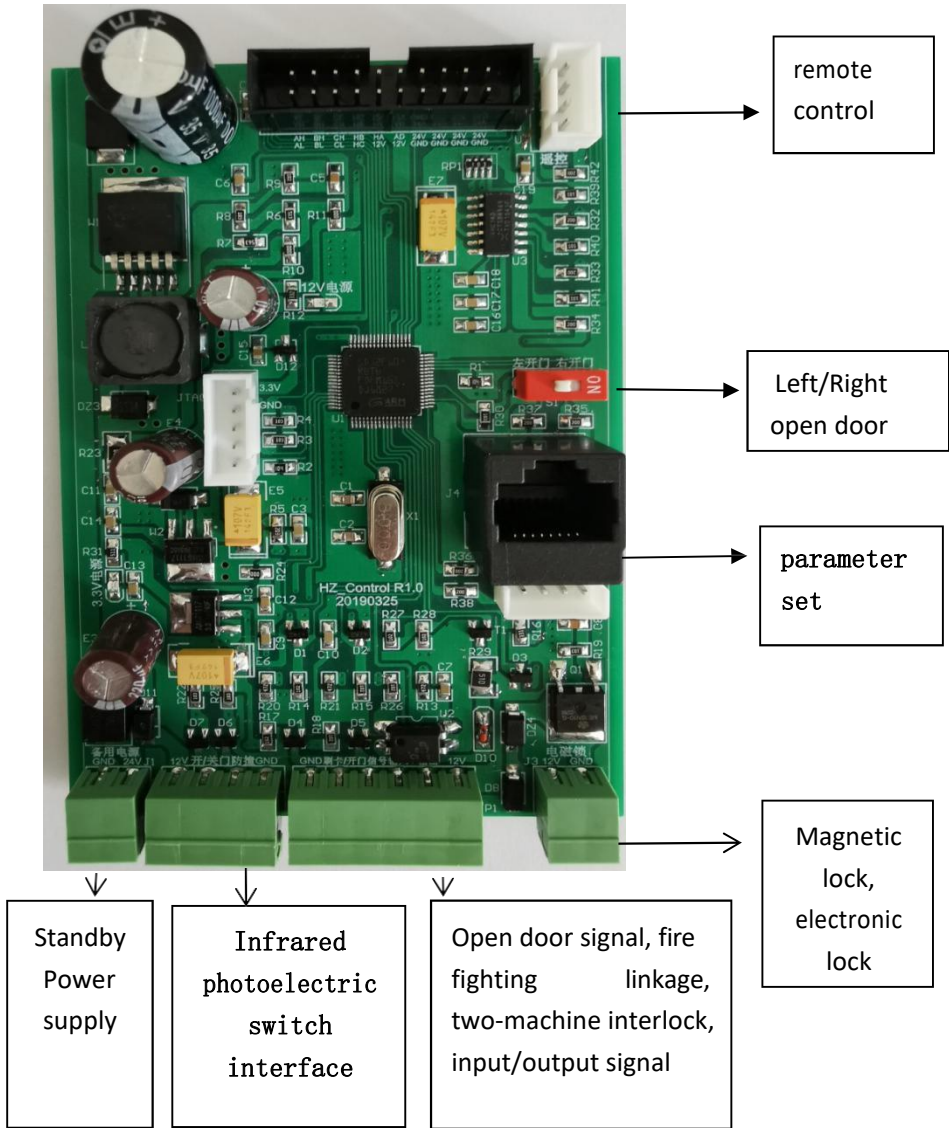
5. Two-machine interlocking input/output connection (the master/slave can be determined by setting parameters)



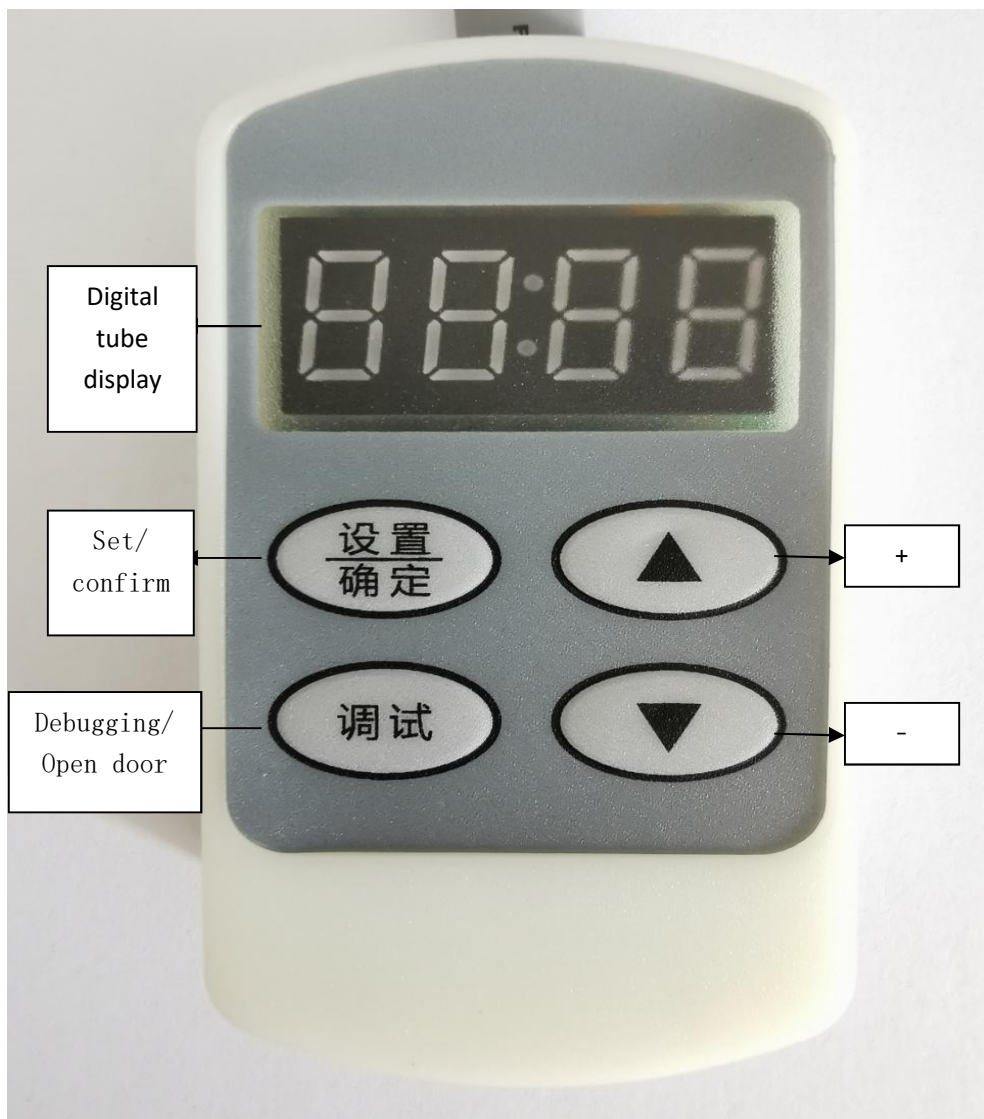
6. Electromagnetic lock interface connecting electromagnetic lock



2.2.3 Control main board and parameter setting, function description of handle.



Horizontal automatic door operator control main board



Horizontal door operator parametric setting handle

3.2 Connect parameter setting handle with control main board .After installation and wiring , turn on the power and the door opener will enter the learning state of the closing position (digital tube display “H07”) .

After close and finish learning , it enters the standby state, and the

digital tube displays"\_\_\_"in the standby state.

## Chapter 3 Parameter Setting and State Display

### 3.1 Parameter Setting

Function and corresponding digital tube display:

Dis-play	Explain	Defaults value	Range	Remarks
P01	Closing speed	5	1-12	The numerical value larger, the speed faster.
P02	Closing slow speed	3	1-10	The numerical value larger, the speed faster.
P03	Closing delay	5	1-15	Force the door close in place.
P04	Opening &holding time	5	1-99	Residence time after opening the door in place.
P05	Closing slow angle	35	5-60	The numerical value larger, the angle larger.
P06	High speed torque(High Speed Electric current)	110	20-200	Unit is 0.01A
P07	Wind resistance time	3	1-10	Unit is S
P08	Left / Right open door	3	=1 left open door =2 right open door  =3 testing	Default 3: Open the door according to the red dial switch on the circuit board.

P09	Check closing position	1	1. Close again 2. Open again 3. No checking	When the door is not closed in position At1 it will close again At2 it will open again At3 No action
P10	Open speed	5	1-12	The numerical value larger, the speed faster.
P11	Opening slow speed	3	1-10	The numerical value larger, the speed faster.
P12	Opening slow angle	15	5-60	The numerical value larger, the angle larger.
P13	Open angle	135	50-240	Connecting rod angle
P14	Locking force	10	0-20	0 No locking force 1-10 locking force from low to high(low power) 11-20 locking force from low to high(high power)
P15	Factory reset	2		02 Working mode 03 Test mode 66 Factory rest
P16	Working mode	1	1-3	1 Single machine 2 Main machine 3 Slave machine
P17	Main machine close delay time	5	1-60	1 means 0.1S Only use in host mode
P18	Delay before opening	2	1-60	1 means 0.1S
P19	Low-speed current	70	20-150	Unit 0.01A
P20	Fire fighting linkage	1	1-2	1. signal as an open signal 2. signal as a fire signal
P21	Factory reset	0	0-10	Factory reset

P22	Remote mode selection	1	1-2	1. Inching (all keys can be used as open key, the door opening time delay to automatic closing) 2. Interlocking (press open key to open the door and keep it open normally, need to press close key to close).
P23	Factory holds			Factory holds
P24	Selection of Magnetic /Electronic Lock	1	1-2	1. Magnetic lock (power on and lock) 2. Electronic control lock(power on and open)
P25	Factory holds			Factory holds
P26	Coefficient of downwind resistance	4	1-10	0-4 Wind resistance (high speed use) 5-10 Wind resistance (low speed use)

### 3.2. State Display Description

Work Display H01-H09

Dis-play	Explain	Remarks
- - -	Hold State	Standby without work
H01	High speed open door	Open the door high speed
H02	Open&slow	Open stop &slow down
H03	Open&slow Delay	Open stop&slow down
H04	Open&hold	Open in place&hold
H05	High speed close door	Close the door high speed
H06	Close&slow	Close stop&slow down



	down	
H07	Close door in place Delay	Close door in place
H08	Push-door Protection	If the motor driving current is too high when open/close door, or push the door reverse.
H09	Fast Protection for back-push door	

### 3.3. Error Alarm

Work Display E01—E04

Display	Explain	Remarks
E01	Report error of open door	
E02	Report error of close door	
E03	Close stop error	
E04	Motor fault	continuous detection & error report 5times

## Chapter IV Debugging

### 4.1 Closing Position Learning

A. Normal state: Power on, the digital tube on the circuit board shows "H07", and the door moves slowly towards closing automatically(in the learning closing position), waiting for the door to close in place and digital display “---” ;

B. Abnormal state: Power-on, the door repeatedly switch back andforth,

then set the P15 parameter as 02, when power on again, and then observe whether it enters the normal state A.

C. Abnormal state: Power-on, the digital tube on the circuit board shows "H07". When the door moves towards opening ,please refer to(3.1) and dial the open direction dial switch(red) on the circuit board to the opposite direction, and then observe whether it enters the normal state A.

**Note: please do not block when learning closing position, otherwise the blocking position will be regarded as the closing position!**

#### **4.2 Opening Debugging**

- A. Opening Angle: if the opening Angle is not enough, increase the value of P13; if it is too large, decrease the value of P13 to reach the desired Angle.
- B. Opening speed: adjust the value of P10, the larger the value, the faster the speed, the smaller the slower speed.
- C. Time of open and hold : When the door open in place, the time of stopping at the position, and adjust the value of P04 (inseconds).

#### **4.3. Closing Debugging**

- A. Closing speed: Adjust the value of P01, the larger the value, the faster the speed, the smaller the slower;
- B: Close-slow Angle: Adjust the value of P05, the larger the value, the larger the Angle, the smaller value the smaller angle.

#### **4.4. Other Debugging**

A: Adjust high-speed current:

Set P06, factory value is 110, that is, set motor working current to 1.10A.

If the motor works abnormally or do not work, the P06 or P19 value must be increased.

If it is blocked or back stepped ,reduce P06 or P19.

- B. If the door is not closed in place, increase the value of P19 or P02.
- C. If the close buffer speed is too fast, reduce the P02 and P26 or increase P05.
- D. Please refer to 3.1 for setting other parameters, it should be according to the situation on site.

## Chapter V: Common Troubles and Removal

Fault phenomena	Fault Judgment		Treatment Measures
No working, and the 3.3v power indicator and digital tube do not light.	Power switch on, 220 power indicator status	Not bright	1. Check & replace insurance . 2. Check & replace wiring. 3. Check & replace switch.
		Bright	Replace the circuit board.
Motor not working	Set P6 parameters by referring to 3.1.3, increase high-speed current (high-speed torque), and restart the work.	Problem solve	End
		Fault remain	1. Replace the circuit board. 2. Disconnect the connection from the door to the rocker arm and check whether the door is blocked. 3. Replace the motor or gearbox.
Open not in place	Increase the value of P13 , increase the angle of open door .		

Open without buffer	Increase the value of P 12, increase the buffer angle of open door.		
Close not in place	Increase the value of P19 , increase the value of low-speed current (low-speed torque), or increase the value of P2 , increase the buffer speed.		
Close without buffer	Increase the value of P05, increase the buffer angle of close door. Reduce P26		
When the door is closed, the lock cannot lock the door.	Use a universal meter to Check whether there is a 12V voltage at the two points of "electromagnetic lock" on the circuit board terminals.	12V	1. Check and adjust the electromagnetic lock , make it flat with the iron plate. 2. Replace the electromagnetic lock. 3. Check and replace the connection.
		no 12V	Replace the circuit board.

## Parking List

No.	Part Name	Unit	QTY	Remarks
1	Horizontal Automatic Door Operator	set	1	
2	Installation arms	set	1	
3	Installation screws	bag	1	
4	Parameter setting handle	piece	1	
5	Wireless Remote Controller (including 1 receive module, 2 remote control handles) .	set	1	
6	Operation Instructions, Certificate, Warranty Card.	set	1	

