

Instructions for Automatic Swing Door Opener

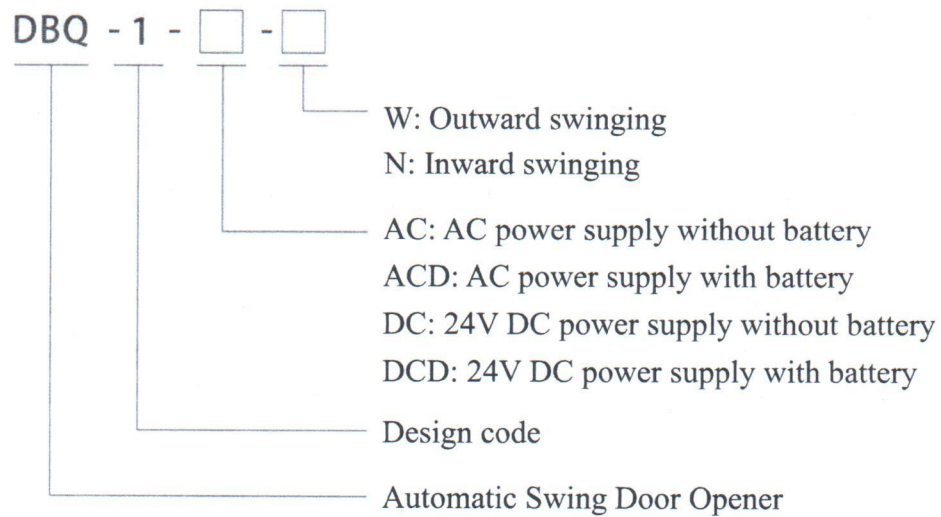
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Chapter I Product Introduction

To meet the touchless automatic door opening and closing requirements, our company develops and produces the intelligent electric door opener. The model adopts the DC brushless motor and the touchless automatic door opening and closing is realized by the FOC driving mode.

Note: To provide a better using experience, use the device more comprehensively and safely, please read the manual carefully before installation and debugging.

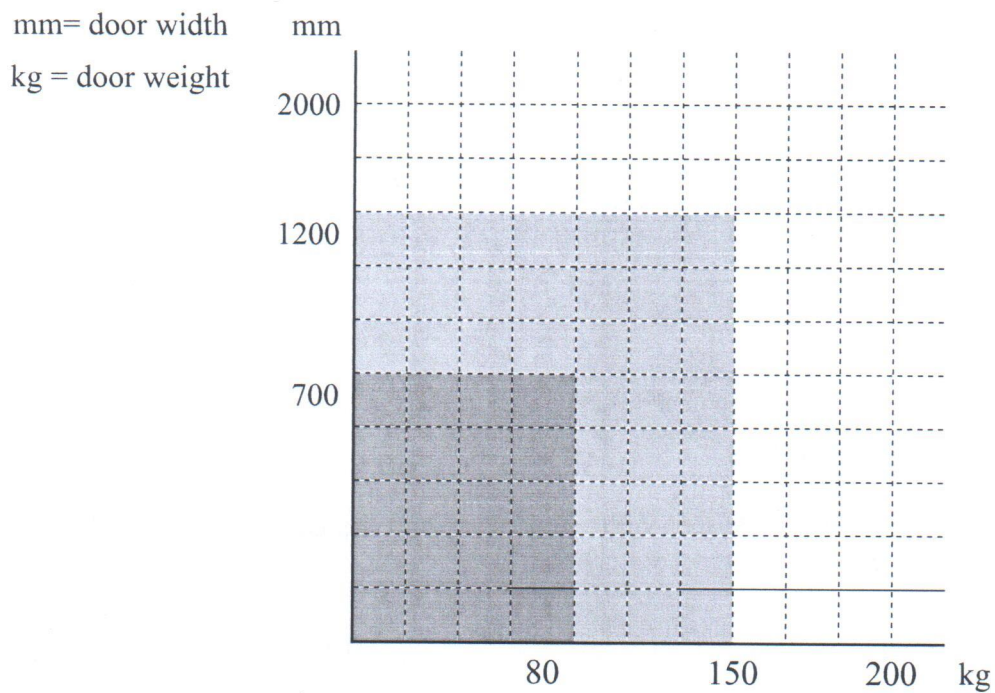


1.1 Working procedures

Door-opening signal - lock opening - door opening - stop - delay - door closing - locking (it will be locked automatically after the lock senses the door magnetic signal).

1.2 Product features

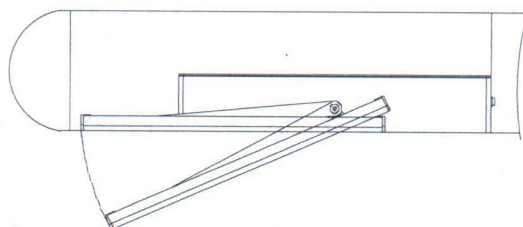
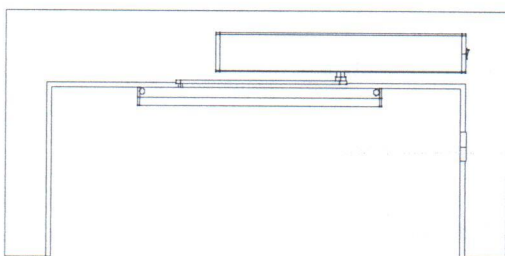
- Support multiple power interfaces, provide the AC power or realize DC power supply.
- Adopt the DC brushless motor and FOC driving mode. It is stable without noise in the motor driving process, and the thrust, speed and the position are controlled accurately.
- It could learn the angle and position of door opening and closing automatically. After learning, the position could be locked and positioned mechanically.
- With the anti-pinch functions, it avoids the injuries caused by the children playing. It prevents the collision and interface collision in opening and closing the door. It could rebound when encountering obstacles and reverse protection when pushing the door.
- The interface could be linked to the peripheral devices, such as the electromagnetic lock, motorized lock, electric drop bolt, human induction device, card reader, fingerprint identification and other access control.
- The driving current of the magnetic lock interface power supply could reach 1A. For the power supply of the internal independent sensor, the driving current could reach 200mA.
- It could realize the locked-rotor protection, software and hardware overcurrent protection, hall fault protection, overheating protection, overvoltage and undervoltage protection, current limiting and other functions.
- The lithium battery is optional and it could be applied to the fire-exit door. The automatic door closing is realized in power off to prevent the smog and ventilation.



Chapter II Installation

2.1 Mechanical installation

Inward-swinging door installation: Suitable for inward swinging, using a sliding rail pull arm.

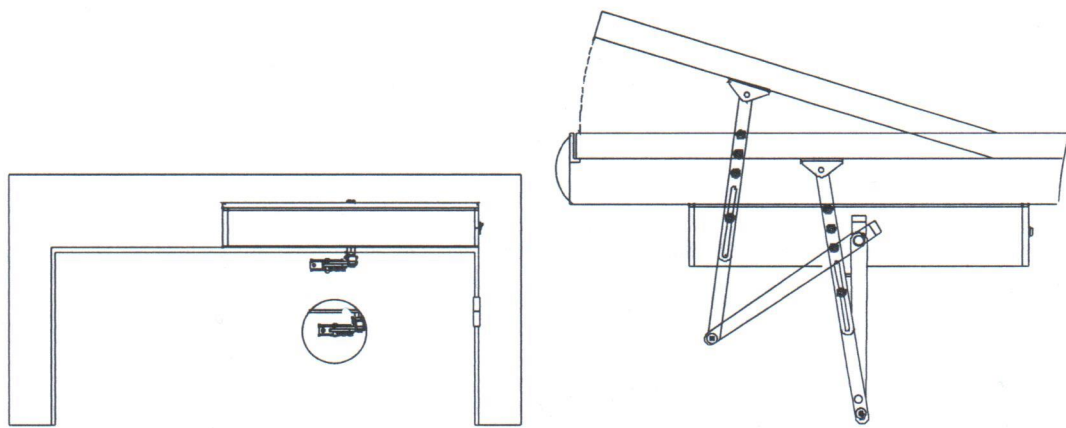


Outward-swinging door installation: Suitable for opening the outward swinging, using scissors arms (push arms).

- It supports the 2-door linkage. The interlock control and the synchronous control could be realized.
- It has the functions of remote start, normal opening and closing, and the remote control could be realized.

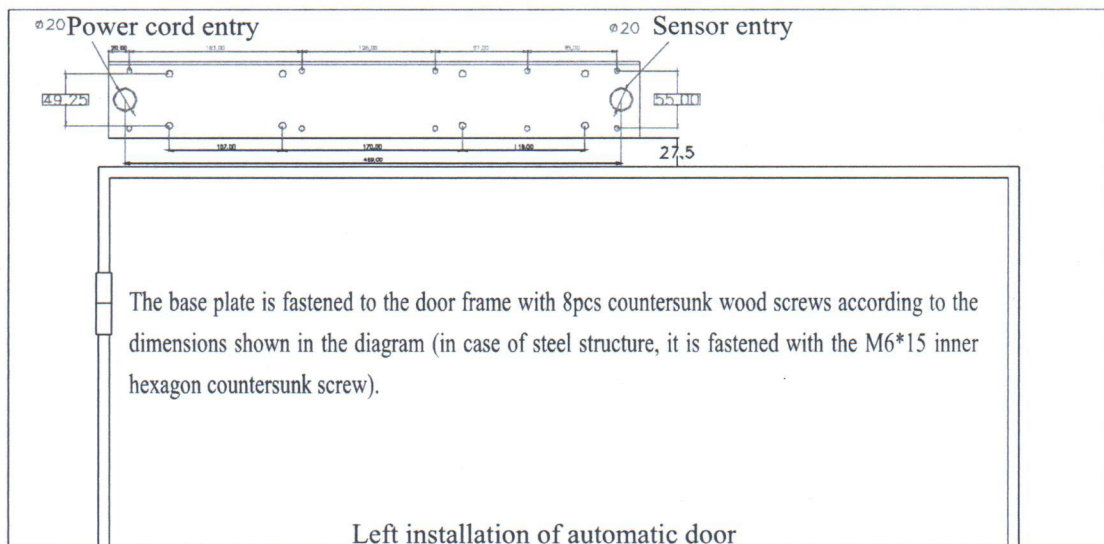
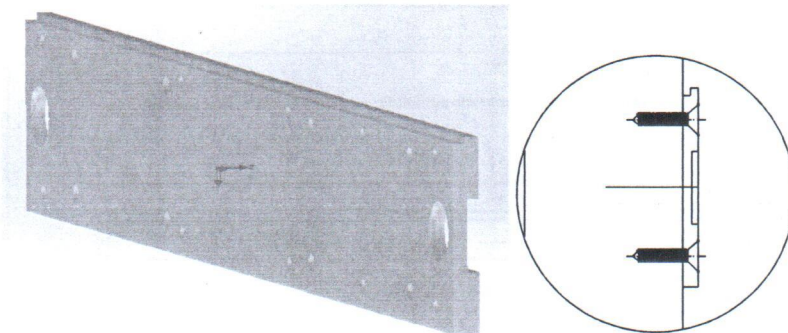
1.3 Technical parameters

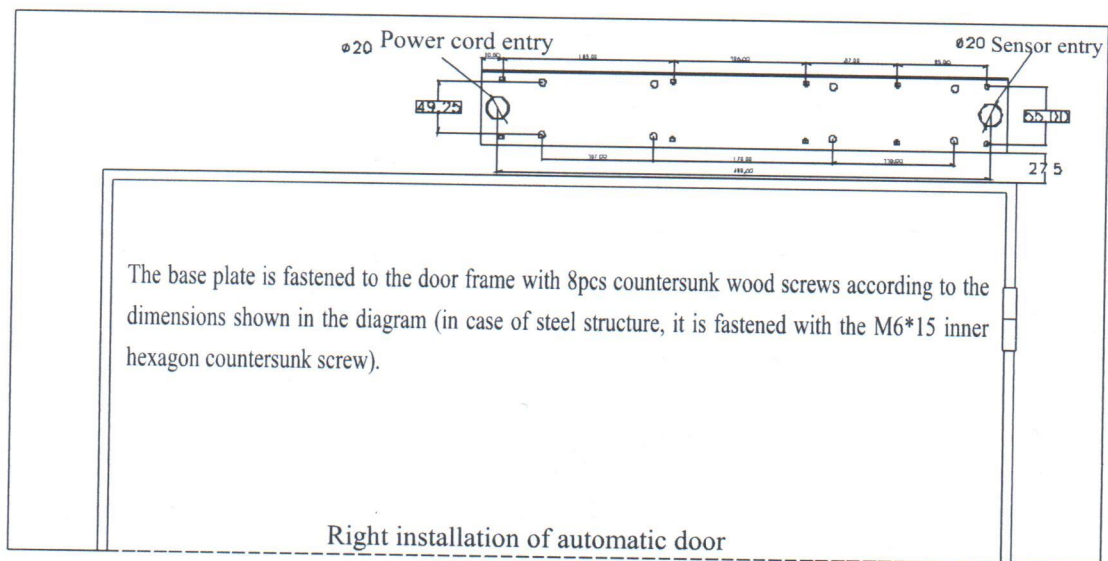
- Power supply: AC85V~AC265V,50~60Hz (support the DC24V $\pm$ 20%,100W power interface)
- Maximum operating voltage is 30V and minimum operating voltage 14V.
- The minimum rotative speed of output shaft is lower than 3RPM (it takes more than 1.5 seconds for the door to operate at 80 degrees). The maximum rotating speed is 5RPM and the maximum torque is greater than 150NM.
- In case of power outage (without any power supply), the torque of the manual door is less than 58NM.
- Operation time: 3~7s/90°
- Opening retention time: 1~9s
- Temperature: -20°C~60°C
- Humidity: 30%~95% (no condensation)
- Atmosphere of operating environment: 700hPa~1060hPa
- Overall dimensions: length 520mm* width 81mm*height 96mm
- Applicable door width: 700mm- 1500mm, within 200kgs



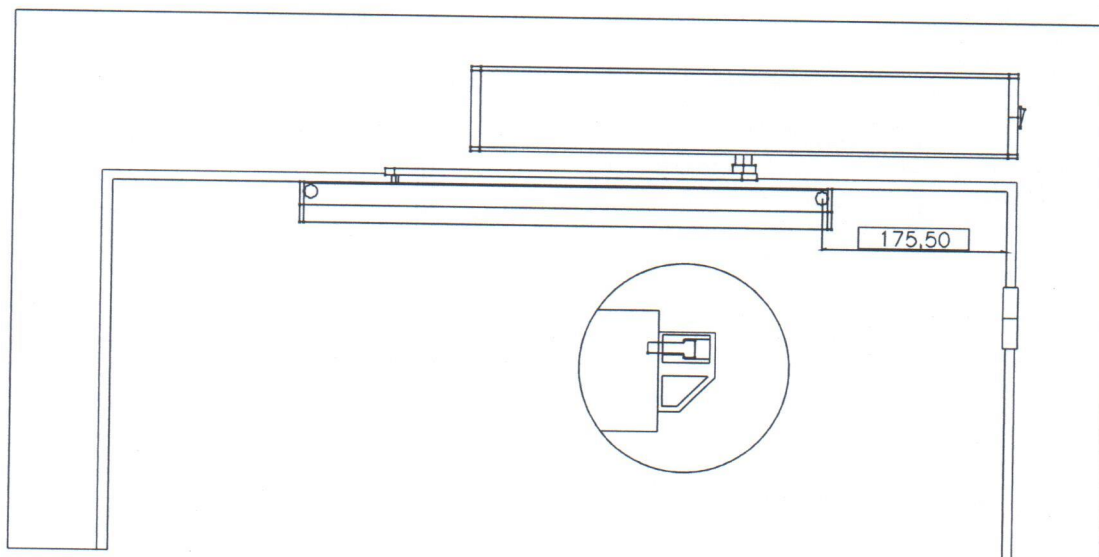
Installation of door opener assembly bottom plate, corresponding to different hinge positions of the door leaf. The installation mode is as follows:

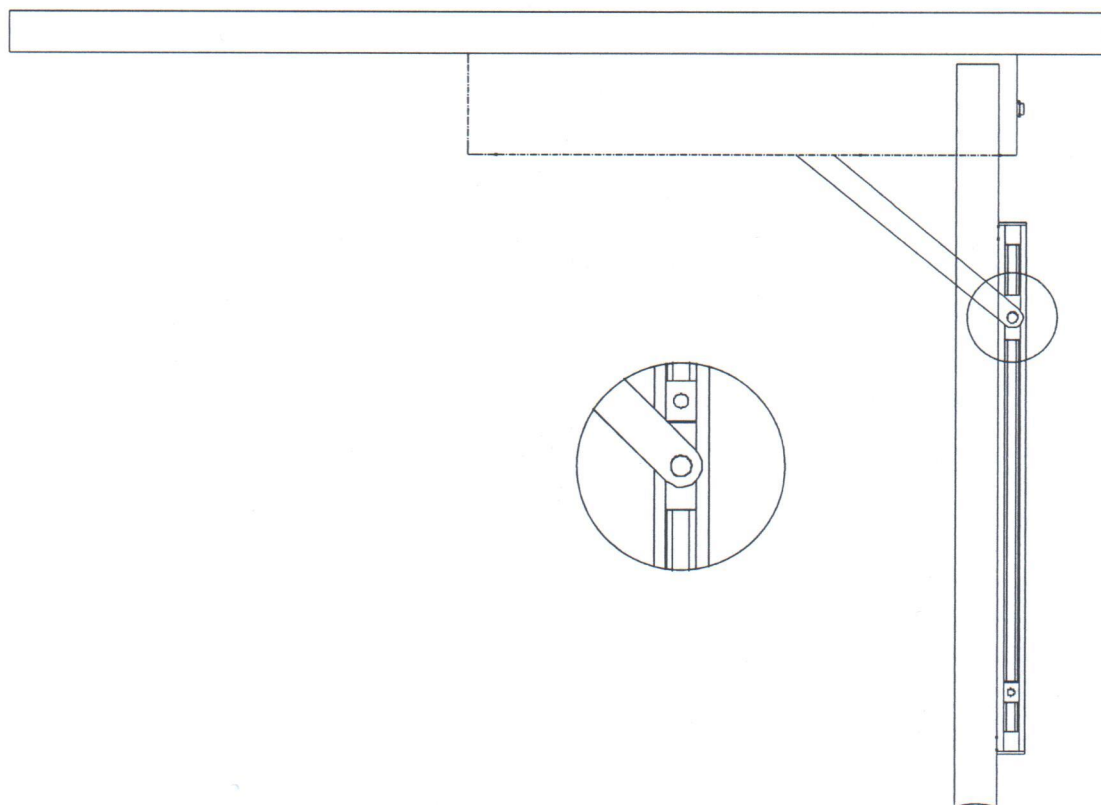
Note: The bottom plate buckle groove faces upward.



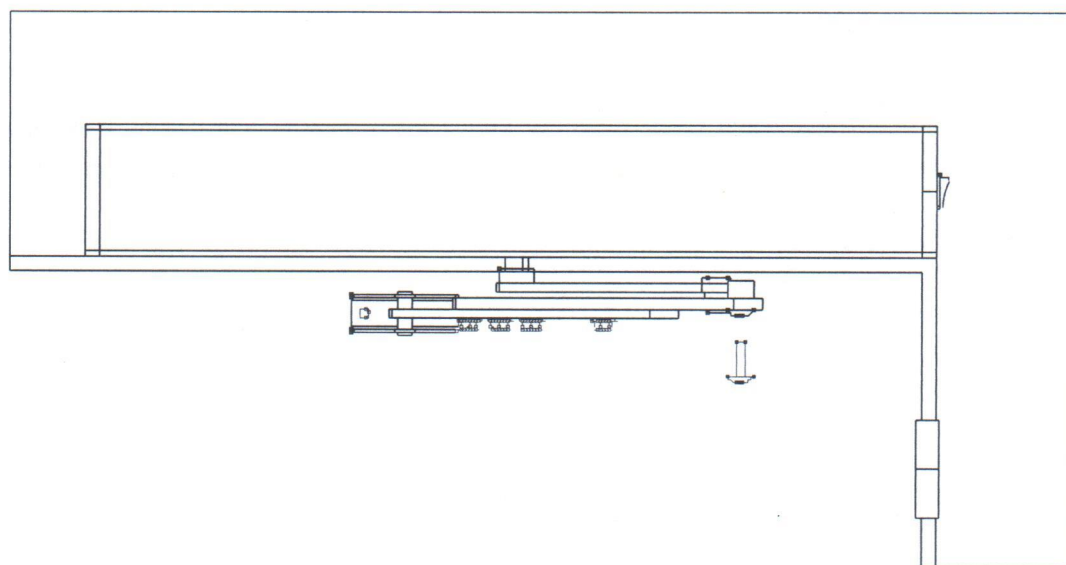


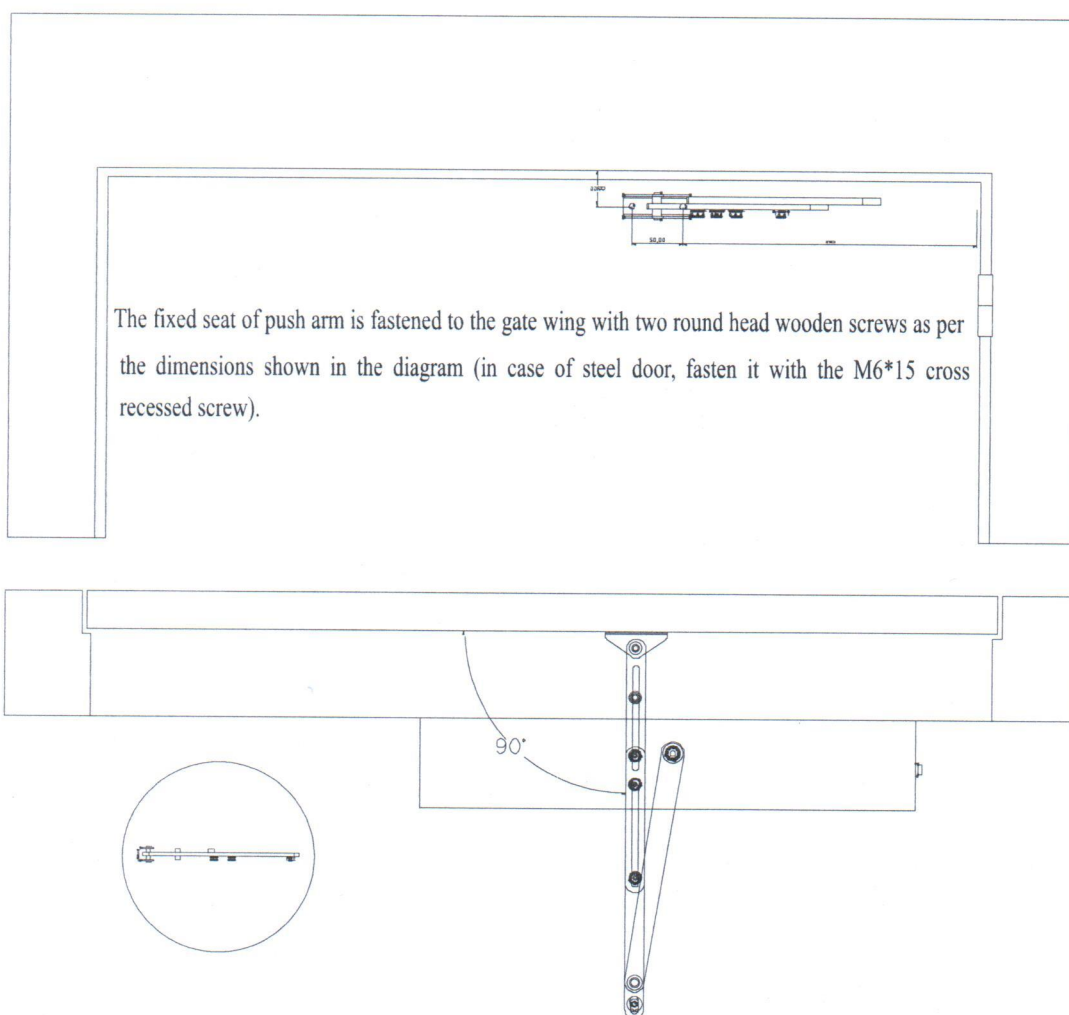
Guide rail installation of inward-swinging door:





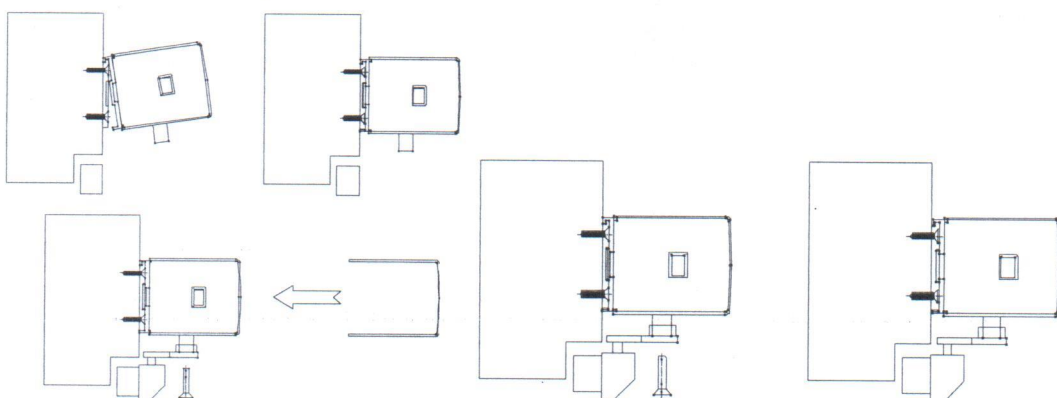
Installation of scissors arms (push arms) for outward swinging:



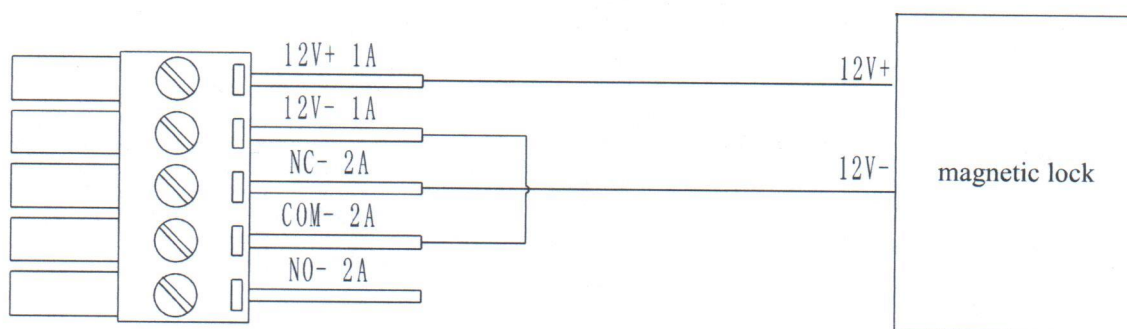
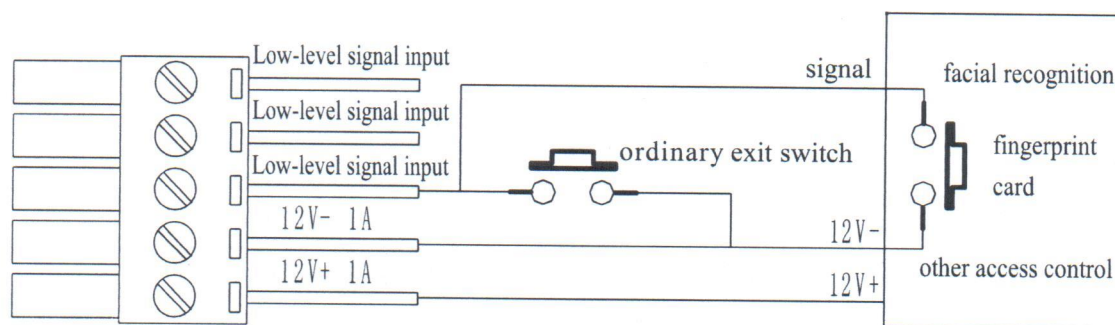


Due to different door-frame depth L, the length of the push arm may be adjusted by loosening three thrust bolts, making the angle between the push arm and the door body to 90° as shown in the figure.

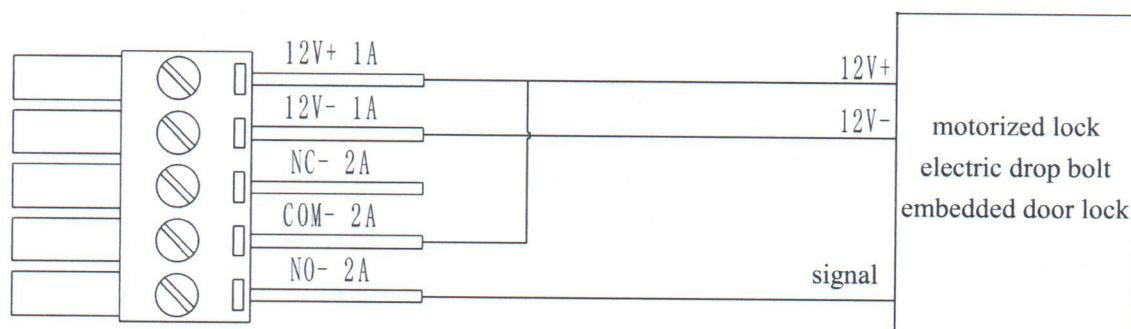
Installation of door opener:



2.2 Electrical installation



magnetic lock parameter item P13=0



motorized lock/electric drop bolt parameter item P13=1

Chapter III Parameter setting and status display

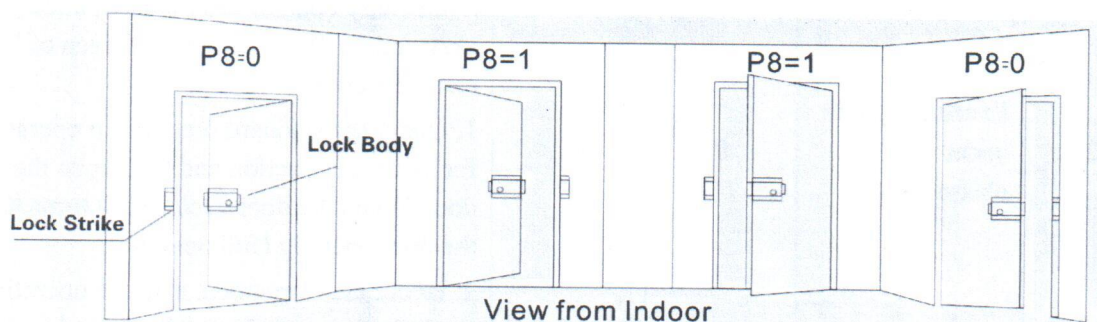
3.1 Parameter settings description

Parameter item	Parameter description	Default value	Operating range	Parameter remarks
P0	Motor force	1	0-9	The larger the value, the larger it will be;
P1	Door opening speed	4	0-9	The larger the value, the faster the operating speed of the door opening;
P2	Door-opening slow-moving distance	2	0-9	The larger the value, the longer the distance at the deceleration section of door opening;
P3	Door closing speed	4	0-9	The larger the value, the faster the operating speed of the door closing;
P4	Door-closing slow-moving distance	2	0-9	The larger the value, the longer the distance at the deceleration section of door closing;
P5	Slow-moving speed	2	0-9	Speed at the door-opening or closing deceleration section;
P6	Door opening time	1	0-9	For the opening time after the door is fully opened, it is 1 second for gear 1 and 9 seconds for the gear 9.
P7	Door locked by motor	0	0-1	Whether to select output after the motor stops, 0: no output, 1: output;
P8	Left-right switch	0	0-1	Direction switch of door opening and closing; [The reset is valid after parameter adjustment]
P9	Fire switch	0	0-3	When it is 0, disconnect the battery circuit. When it is 1 or 2, connect the battery circuit. In case of AC power down, 1 refers to the normal operating. 2 refers to the door normal opening. 3 refers to the door normal closing.
P10	Display the software version number	0		The formal version displays the software version number and it shows the fault code in case of faults; In the test stage, it will display the test parameters;
P11	Operating mode (remote control)	0	0-2	0: Auto key (key A), 1: Normal opening (key B), 2: Door locking (key C):
P12	Execution mode under obstruction	0	0-4	0. Under the default mode, avoid in the opposite direction to the stroke memory point (fully open or fully closed) under the obstruction. Then, continue to open or close the door; 1. Under the standard mode, stop operation for 3s for obstruction and then open the door. When the door is closed, it turns to the door opening (full opening); 2. Under the stop mode, stop the operation for 3s in door opening and closing in case of obstruction. Then, continue to open or

				close the door; 3. Under the avoidance mode, avoid 30 ° in the opposite direction under the obstruction. Then, continue to open and close the doors; 4. Under the intelligent mode, stop firstly under obstruction and push 10° for operation; Note: Do not open the door after 7 times consecutive obstruction; [The reset is valid after parameter adjustment]
P13	Type of door lock	1	0-1	0: Magnetic lock, 1: Motorized lock (pulse signal unlocking); [The reset is valid after parameter adjustment]
P14	Host-slave selection	0	0-1	0: slave, 1: Host;
P15	Door-opening delay time	1	0-9	The unit is 0.5s. 1 more the panel parameter value, 0.5s more;
P16	Distance of door-opening starting stage	0	0-9	The larger the value, the longer the distance at the starting section of door opening;
P17	Distance of door-closing starting stage	0	0-9	The larger the value, the longer the distance at the starting section of door closing;
P18	Speed of starting stage	0	0-9	Speed at the door-opening or closing starting section;
P19	Closing location memory time	0	0-9	It is commissioned to the door doesn't close tight issue. The motor is released and starts to memory closing location after setting time(200ms-2s).

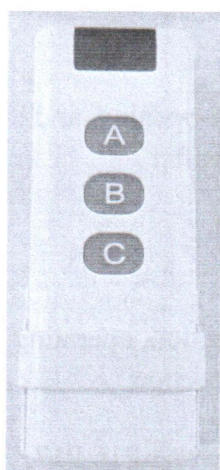
Note:

1. Press the confirmation and save it after the parameter setting. Then, change the setting;
2. Press the confirmation to save after setting the P8, P12 and P13 parameters. Then, change the setting after re-set.



3.2 Key instruction

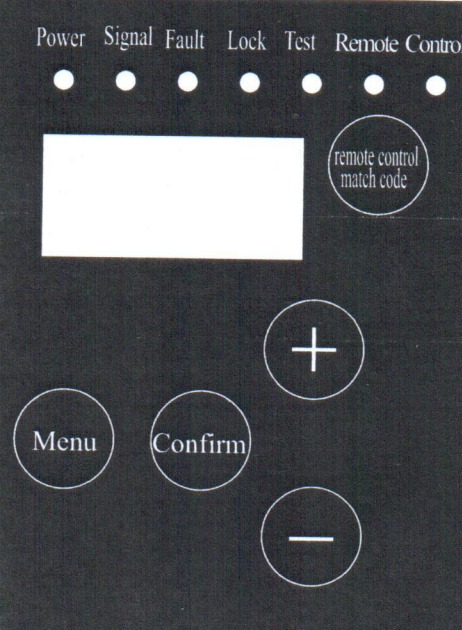
	Menu key: Select the parameters Touch and hold menu key,parameter serial number will change
	① Confirm: Press and save the parameters after the parameters are adjusted; ② Signal key: Press it as the door opening and closing signals without adjustment of parameters;
	Add-subtract key Adjustment of parameter values
Icon of remote-control key	Code matching operation of remote control key: After long press over 2s, the remote control indicator light remains on and the code matching starts. After pressing the key on the remote controller, the remote control indicator is off and the code matching succeeds; After long press of 10s and loosening the button, the remote control indicator flashes to remove all match codes;



Definition of remote control key: A (automatic); B (normally open); C (normally closed)

3.3 Interface description

left interface		right interface	
8P	motor & encoder	4P	sensor power supply 12V+
			sensor power supply 12V-
			sensor signal input 1
			sensor signal input 2
2P	backup 12V-	5P	door lock power supply 12V+
	backup 12V-		door lock power supply 12V-
3P	double-door interlock input		door lock relay NC
	double-door interlock output		door lock relay COM
	double-door interlock COM point		door lock relay NO
3P	double-door synchronous input	5P	door-opening anti-collision input
	double-door synchronous output		door-closing anti-collision input
	double-door synchronous COM point		access control signal input
2P	Battery+		access control power supply 12V-
	Battery-		access control power supply 12V-



Chapter IV Commissioning

4.1 Opening (closing) position learning

After being powered, the controller will automatically search for door opening and positioning. Automatically close the door after finding the door-opening positioning. Then, look for the door-opening positioning.

After learning the position, tighten the slide positioning block and prevent the inconsistency of door-opening positioning after being powered again.

4.2 Setting of door opening (closing) directions

The left door-opening direction is not consistent with that of right door-opening, and it could be adjusted by setting P8. It will be powered down and powered after completing the adjustment, so as to save the data set.

4.3 Door opening (closing) debugging

The door opening (closing) process includes three sections (start-up section, operating section, deceleration section, whose angles could be set as per the proportion.

- The speed and distance at the start-up section could be realized by setting P16,P17 and P18.
- The speed in the operation section could be realized by setting P1 (door -opening operating speed), P3 (door-closing operating speed).

- The speed and distance in the deceleration section could be realized by setting P2, P4 and P5.

Chapter V Common Faults and Elimination

Fault phenomenon	Fault judgment	Treatment measures
The power indicator and the digital tube do not light up	Check whether the plug connection is loose	Insert tightly
	Check whether the power is properly connected	Replace the powerline
	Inspect whether the control power port is outputted	Return to the factory for repair
Motor failure to work	Inspect whether the connecting rods fall off	Replace the connecting rod
	Inspect the connection line of the motor	Re-plugging and connection
After the door is closed, the door lock cannot lock the door	Check parameter settings of P13	Parameter adjustment
	The door lock position is not accurate	Re-adjust the position
	The doors are not closed in place	Set the P0 boost degree
Not open/close the doors in place	Inspect the position of the push or pull arm	Reduce the hinge resistance

Packing list

S/N	Name of parts	Quantity	Unit	Remarks
1	Electric door opener	1	unit	Coupling screw
2	Upper cover	1	piece	
3	Connection rods and limit block	1	set	
4	Slide rail and scissor arm	1	piece	
5	Remote controller	1	piece	23A battery
6	Lubricating grease	1	package	Inner groove of coated slide rail
7	Sliding seal closure	1	piece	Sealing of slide rail screw
8	Expansion pipe + self-tapping screws	1	set	
9	Positioning screw for slide rail/scissor arm	1	piece	
10	Grounding screw	1	piece	Grounding of incoming power lines
11	Instruction	1	1	

Warranty

The warranty period of the product is one year. The maintenance is free in the warranty period. If it is beyond the warranty period, the cost will be charged; In case of the damage due to the non-normal use, force majeure or unauthorized dismantling within the warranty period, the company provides the paid service.