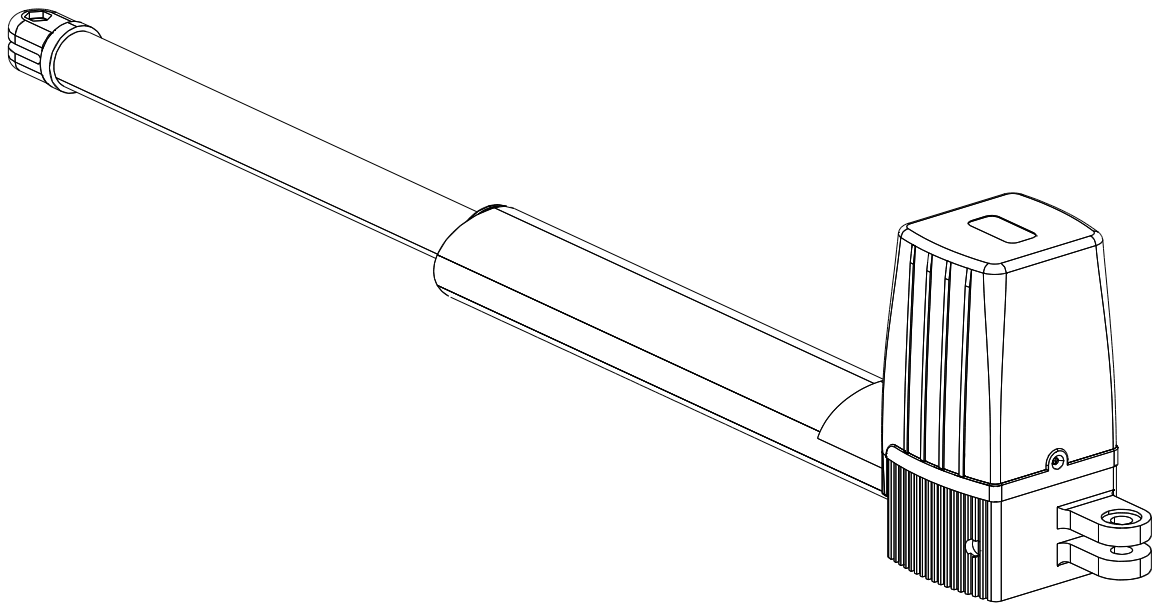
PK300DC/PK350DC
Swing Gate Opener
User Manual



202001

Dear users,
Thank you for choosing this product. Please read the manual carefully before assembling and using it. Please do not leave out the manual if you send this product to a third party.

1. Safety Instruction



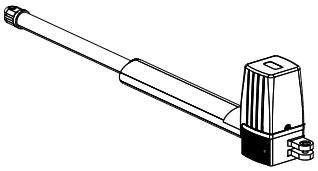
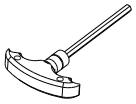
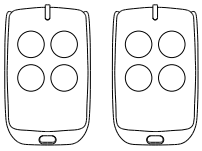
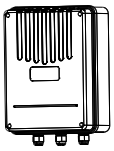
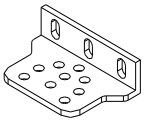
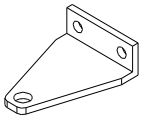
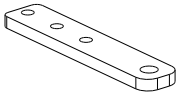
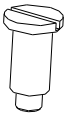
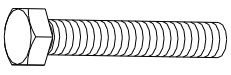
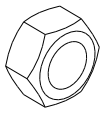
Please ensure that the using power voltage matches with the supply voltage of gate opener (AC110V or AC220V); kids are forbidden to touch the control devices or the remote-control unit.

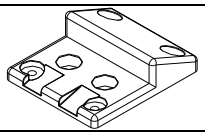
The remote-control unit is controlled by a single button mode or three button mode (please refer to the instructions of the remote control in accordance with the actual gate opener type). The indicator light on the remote-control unit will flicker when the button on it is pressed. Main engine and gate can be unlocked by disengagement wrench and the gate can move with manual operation after disengagement.

Please ensure that no one is around the main engine or gate when the switch is operated and it is usually demanded to examine the stability of installation. Please temporarily stop using if the main engine needs repairing or regulation.

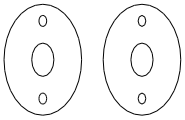
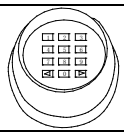
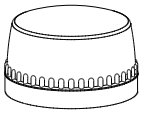
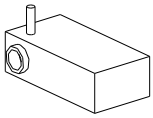
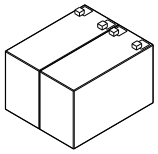
The installation and maintenance of the products must be carried out by professionals.

2. Packing List (standard)

No.	Picture	Name	Quantity
1		Main engine	2
2		Manual release bar	1
3		Remote control	2
4		Control box	1
5		Wall bracket	4
6		Front mounting bracket	2
7		Connecting bracket	2
8		Mounting screw (short)	2
9		Mounting screw (length)	2
10		Screw M8×25	4
11		Nut M8	8

No.	Picture	Name	Quantity
12		Safety stopper	1

2. Packing list (optional)

No.	Picture	Name	Quantity
1		Infrared sensor	1
2		Wireless keypad	1
3		Alarm lamp	1
4		Electronic lock	1
5		Storage battery	2

3. Technical parameters

Model	PK300DC	PK350DC
Power supply	220V/50Hz;110V/60Hz	220V/50Hz;110V/60Hz
Motor power	80W	80W
Gate moving speed	18~22 second per 90 (approx)	18~22 second per 90 (approx)
Max.single-leaf weight	300Kg	300Kg
Max.single-leaf length	2.5M	3.0M
Max.piston stroke:	34cm	54cm
Max.force	1500N	1500N
Remote control distance	≥30m	≥30m
Remote control mode	Single button mode	Single button mode
Storage battery (optional)	DC24V (4.5AH or 9.0AH)	DC24V (4.5AH or 9.0AH)
Noise	≤58dB	≤58dB
Working duty	S2, 30min	S2, 30min
Recording of up remote controls	32	32
Frequency	433.92 MHz	433.92 MHz

Working temperature	-20°C - +70°C	-20°C - +70°C
Package weight	17Kg	19Kg

4. Installation

PK300DC/PK350DC swing gate opener is applicable to single leaf gate weight less than 300kg, and length of the single leaf swing gate should be less than 2.5m/3m. The drive mode adopts the worm and worm gear to combine the screw rod transmission. This gate opener must be installed inside the enclosure or yard for protection.

4.1 Installation drawing

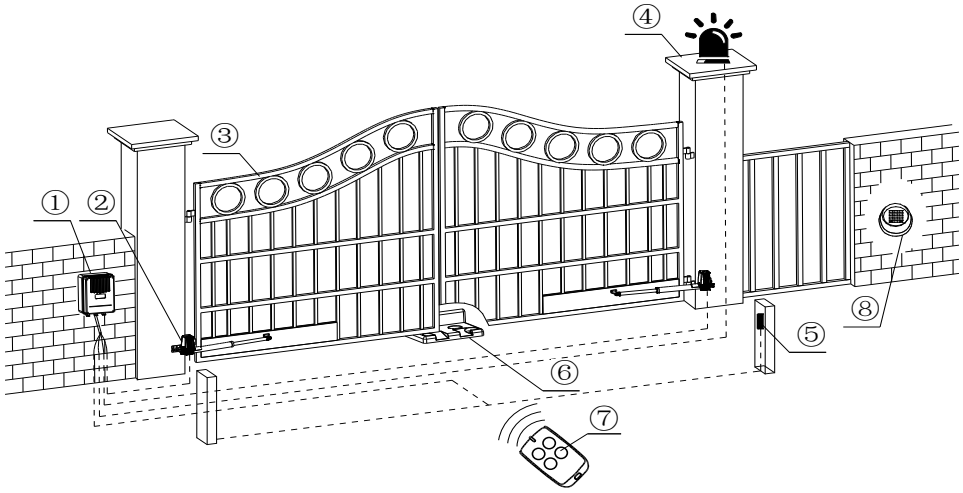
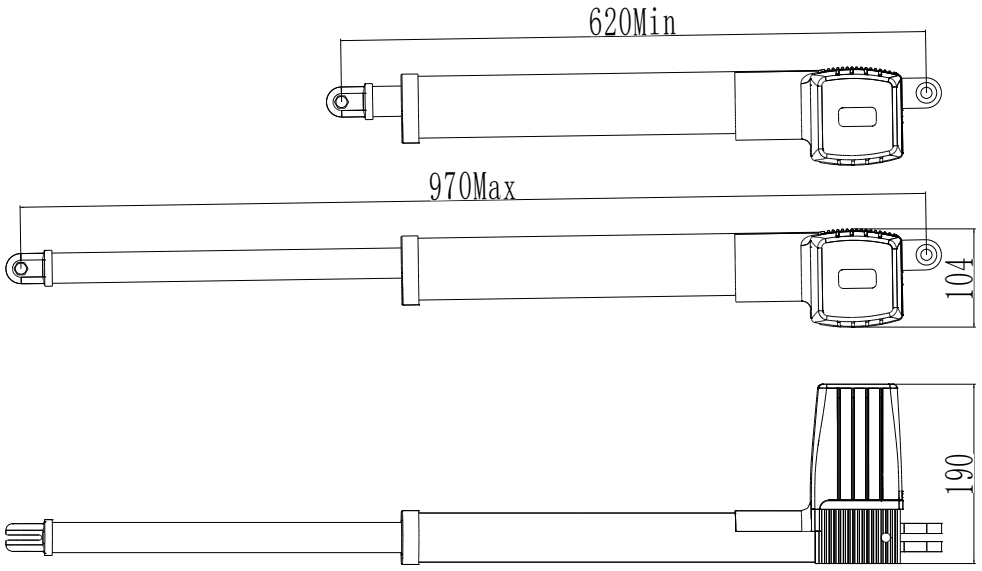


Figure 1

① Control box; ② Gate opener; ③ Gate; ④ Alarm lamp (optional);
⑤ Infrared sensor (optional); ⑥ Stopper; ⑦ Remote control; ⑧ Wireless keypad (optional);

4.2 Size of main engine and accessories

4.2.1 Size of main engine



PK300DC



PK350DC

Figure 2

4.2.2 Size of mounting plate

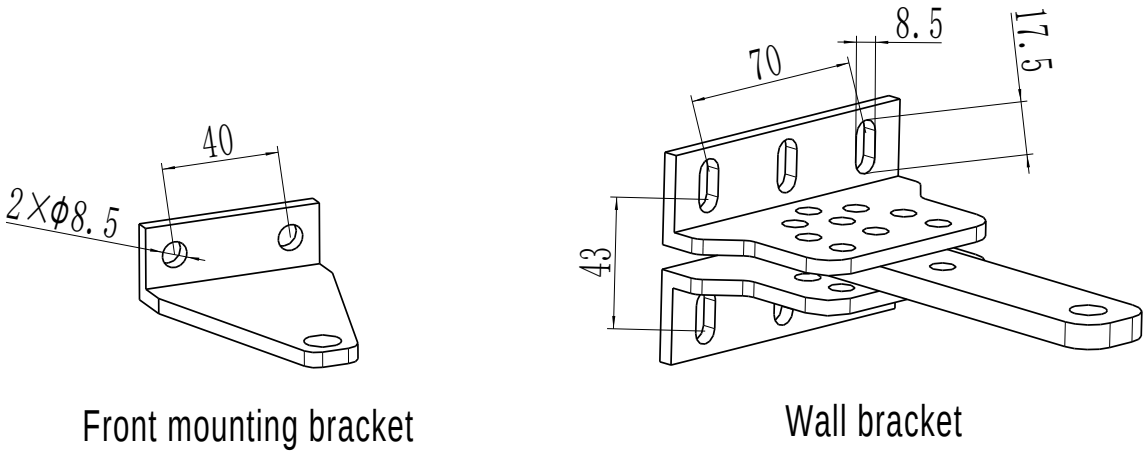


Figure 3

4.3 Installation steps

4.3.1 Preparation before main engine installation

a) Before installing the door opener, please confirm the correct installation of the door to ensure that the door can be easily manually operated, and the door safety stopper can effectively prevent the door to continue moving.

b) Install the electric lock, the distance between the door bottom and ground should be 40-50mm. If not install the electric lock, the distance between door bottom and ground should be ≥20mm;

c) The main engine recommended mounting height is about 300 ~ 800mm from the ground, and make sure there are reliable fixed points for mounting brackets.

Cable

In order to ensure the normal operation of the door opener and protect the cable from damage, please use PVC pipe laying motor, power cable, and control cables, and separate two PVC pipes to lay (motor and power cable) and (control cable), respectively.

Mounting brackets

In order to install the PK300DC / PK350DC main engines firmly, recommend to use the expansion screws to fix the mounting brackets.

4.3.2 Accessory

a) Before installing the main engine, install the wall bracket on the wall, then fix the connecting bracket, and install the front mounting bracket on the door.

Note: Please detect by gradienter before fixing, to ensure that the front mounting bracket and the connecting bracket in the same level.

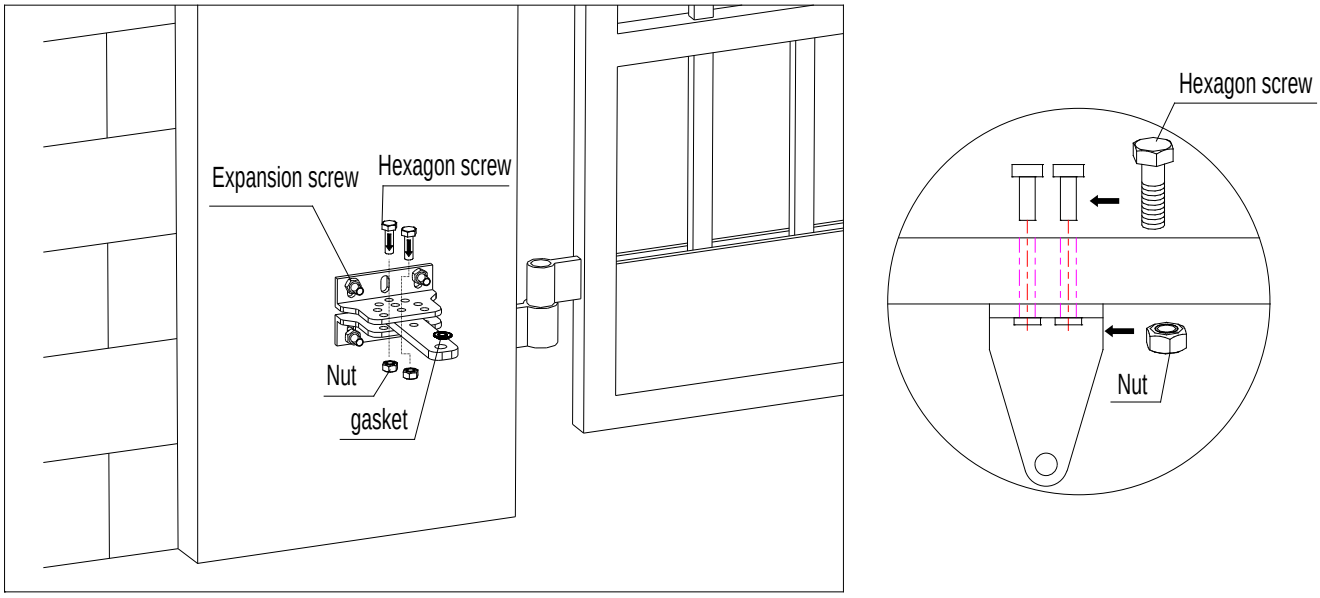


Figure 4

b) The connecting bracket and the wall bracket can be connected according to different conditions, as shown in figure 5.

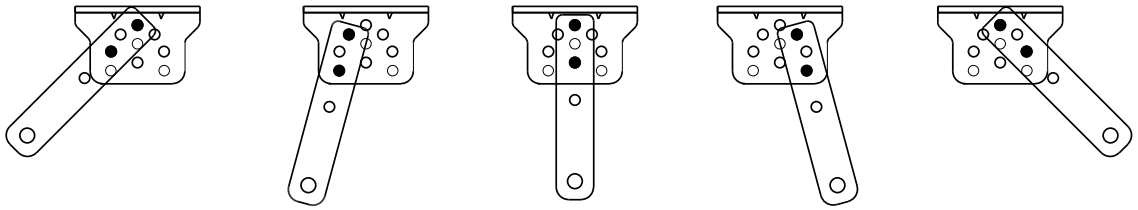


Figure 5

c) Users shall prepare power cables for the control box and main engines, according to different installation environment, the power cable of the control box is not less than 3 cores, and the power cable of the control box with 2 cores. If you need to install electric locks, infrared sensor, alarm lamp, external button switch and other external equipment, please increase corresponding the embedded wire, and the sectional area of electric lock cable core shall not be lower than 1.5mm², others shall not be lower than 0.5mm². The length is determined by the user of according to the situation in the installation site.

Note: The pipe outlet should be facing down to avoid rain water entering the pipe along the cable.

d) Before the installation, please unlock the main engine. Method: Remove the cover, insert the manual release bar, rotate the bar until the release, as shown in Figure 6, then turn the telescopic arm to make it easily stretch.

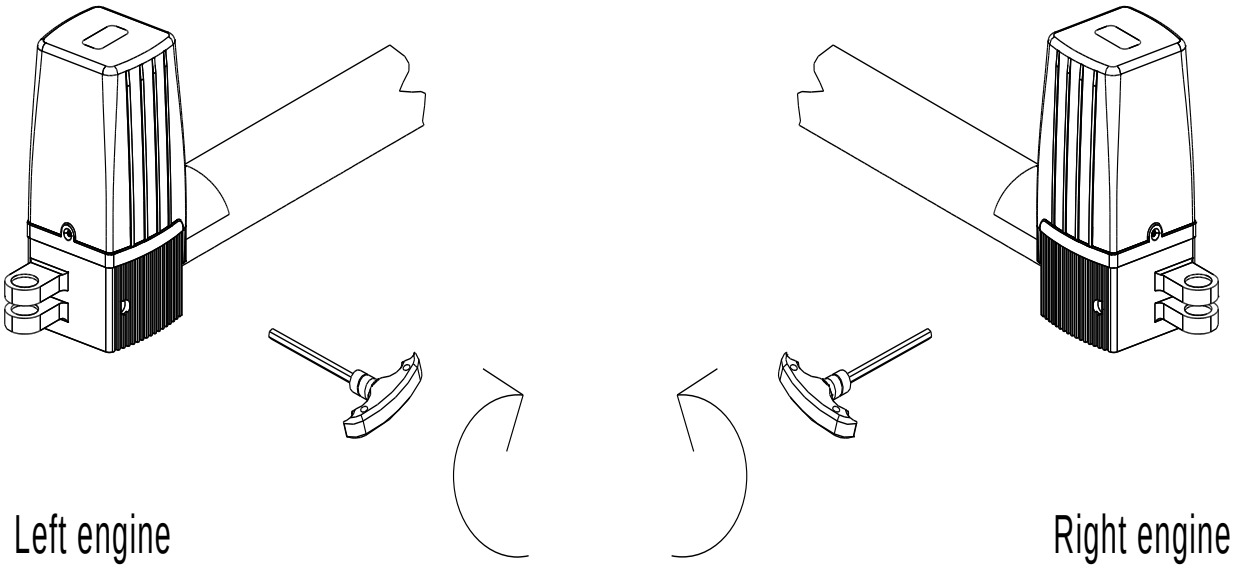


Figure 6

4.3.3 Main engine installation

As shown in Figure 7, the tail of the main engine and the connecting bracket are fixed together through the installation of screws, and then manually adjust the telescopic arm to the appropriate length, and finally fix the telescopic arm connector and the front mounting bracket with the installation screws. Pull the door after the completion of the installation to ensure the entire process flexible without jamming.

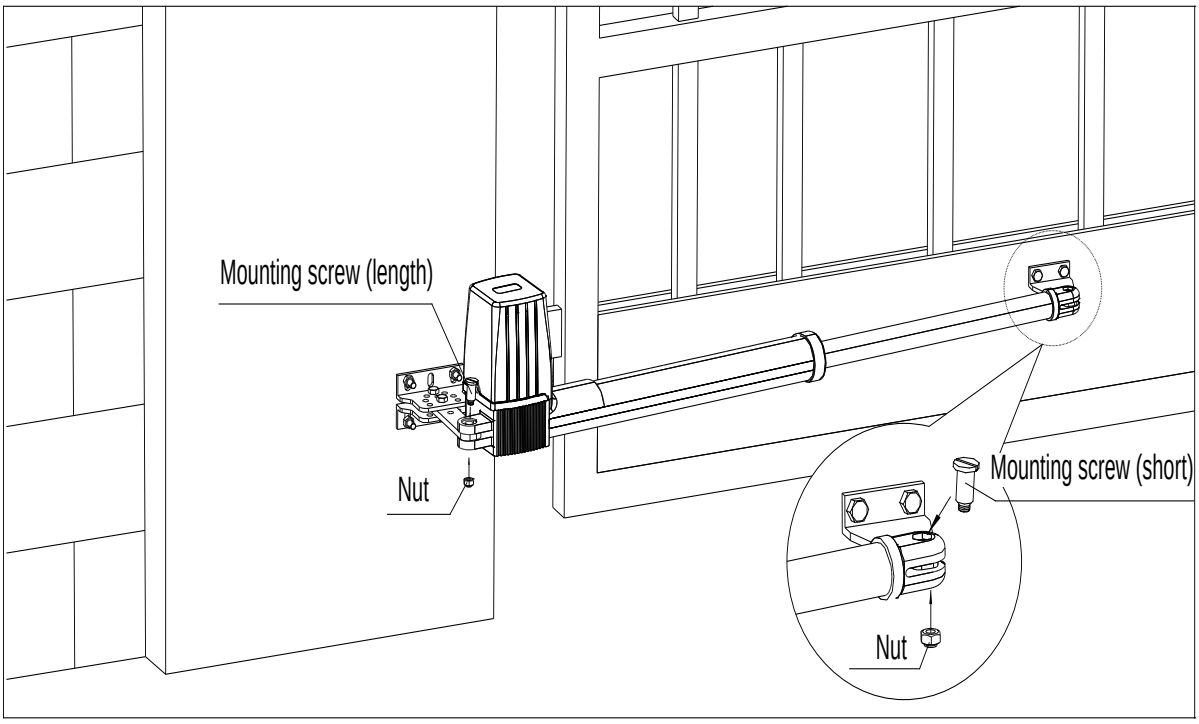


Figure 7

Installation direction: door open facing inward (PK300DC)

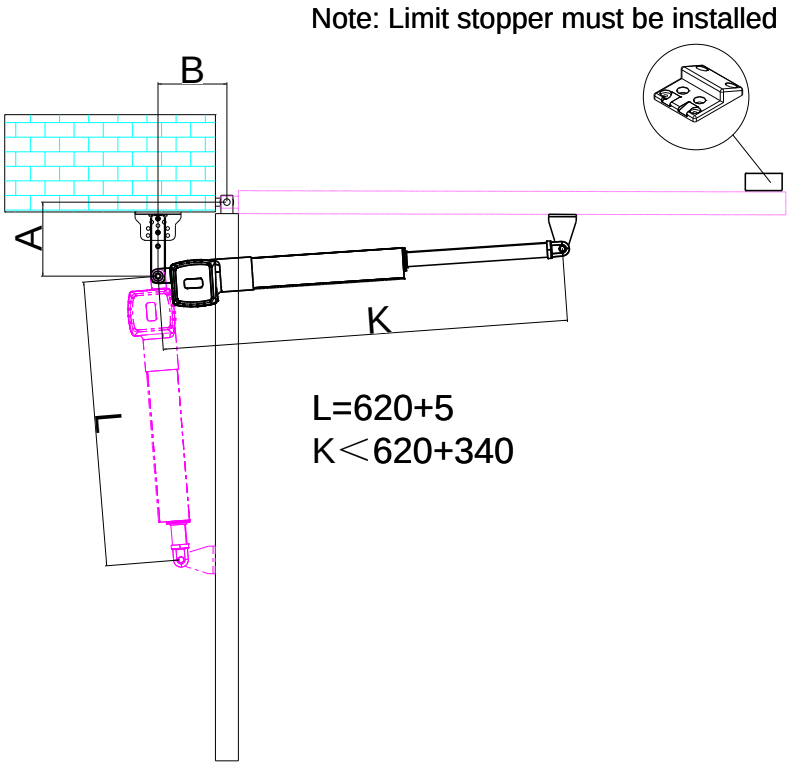


Figure 8

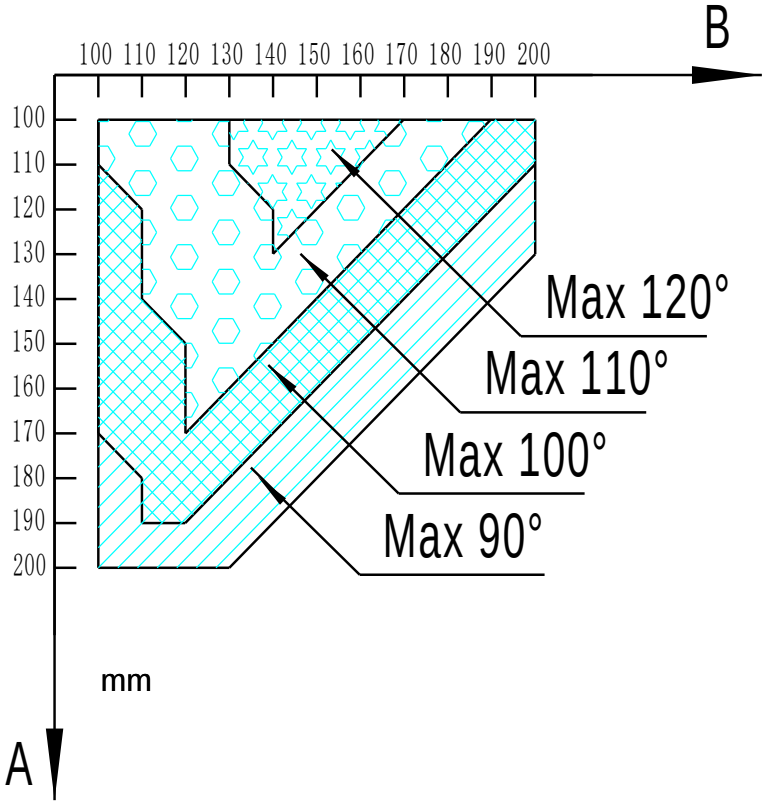


Figure 9

Note: Value B must be close to or equal to the value A to obtain the best mechanical advantage.

Installation direction: door open facing outward (PK300DC)

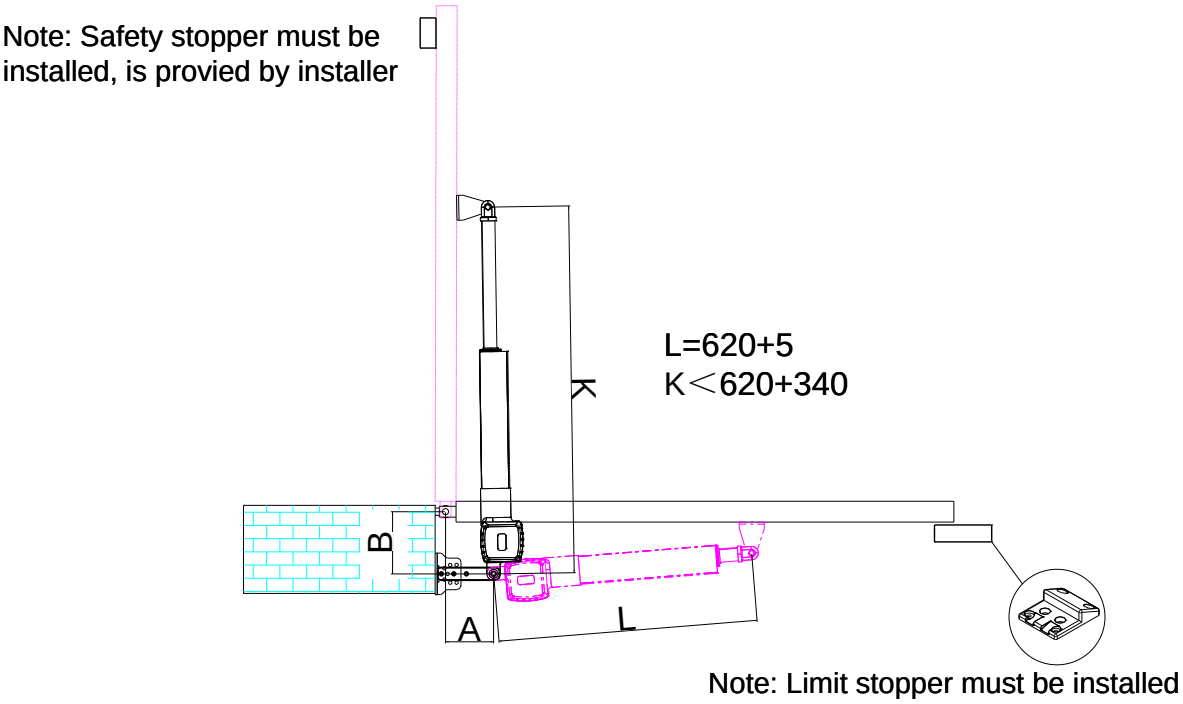


Figure 10

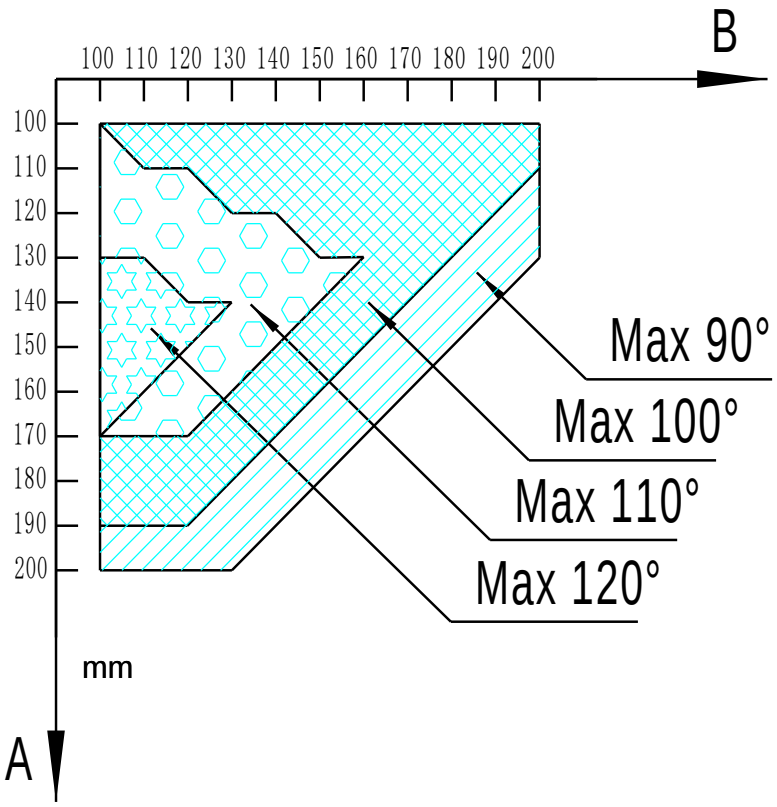


Figure 11

Note: Value B must be close to or equal to the value A to obtain the best mechanical advantage.

Installation direction: door open facing inward (PK350DC)

Note: Limit stopper must be installed

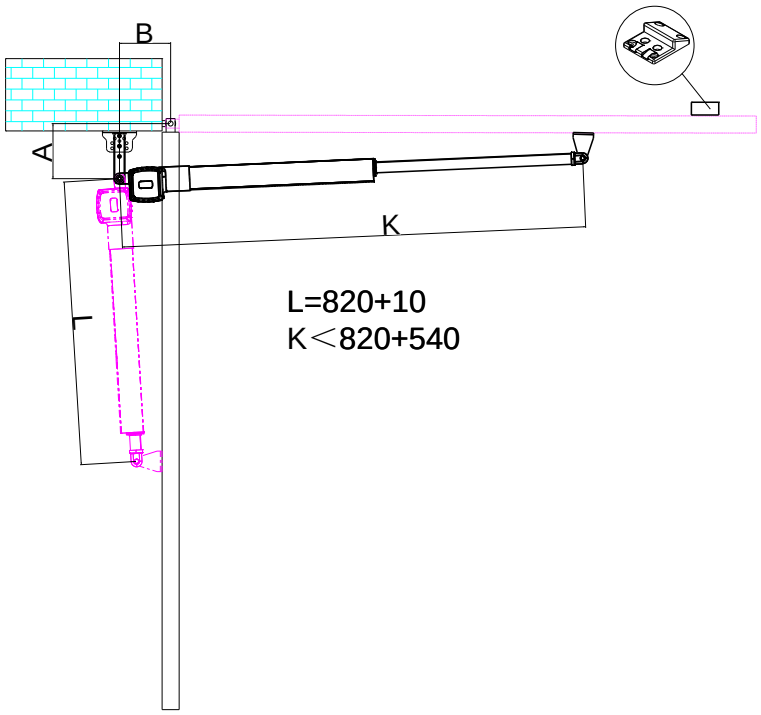


Figure 12

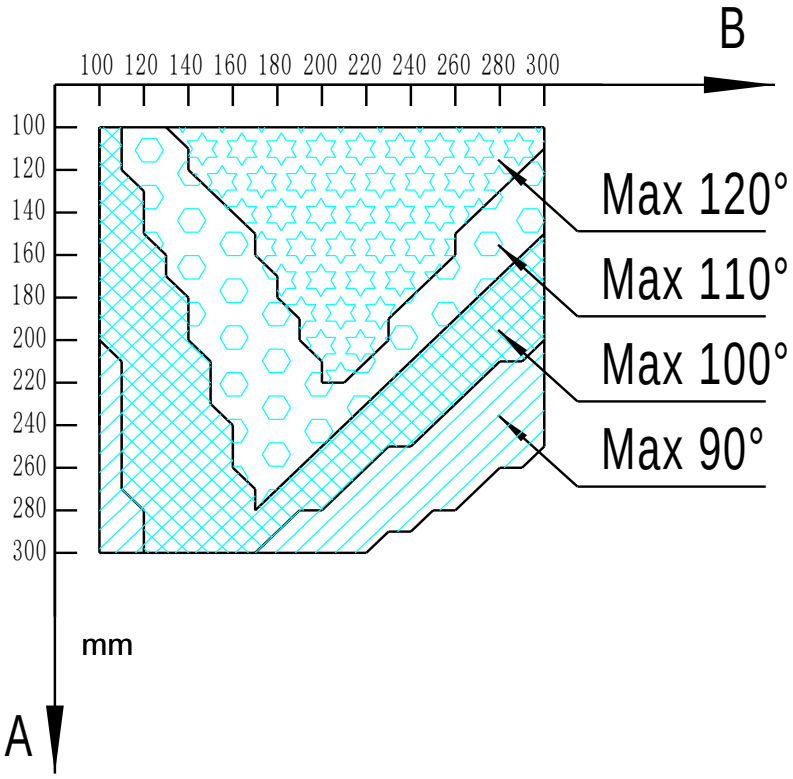


Figure 13

Note: Value B must be close to or equal to the value A to obtain the best mechanical advantage.

Installation direction: door open facing outward (PK350DC)

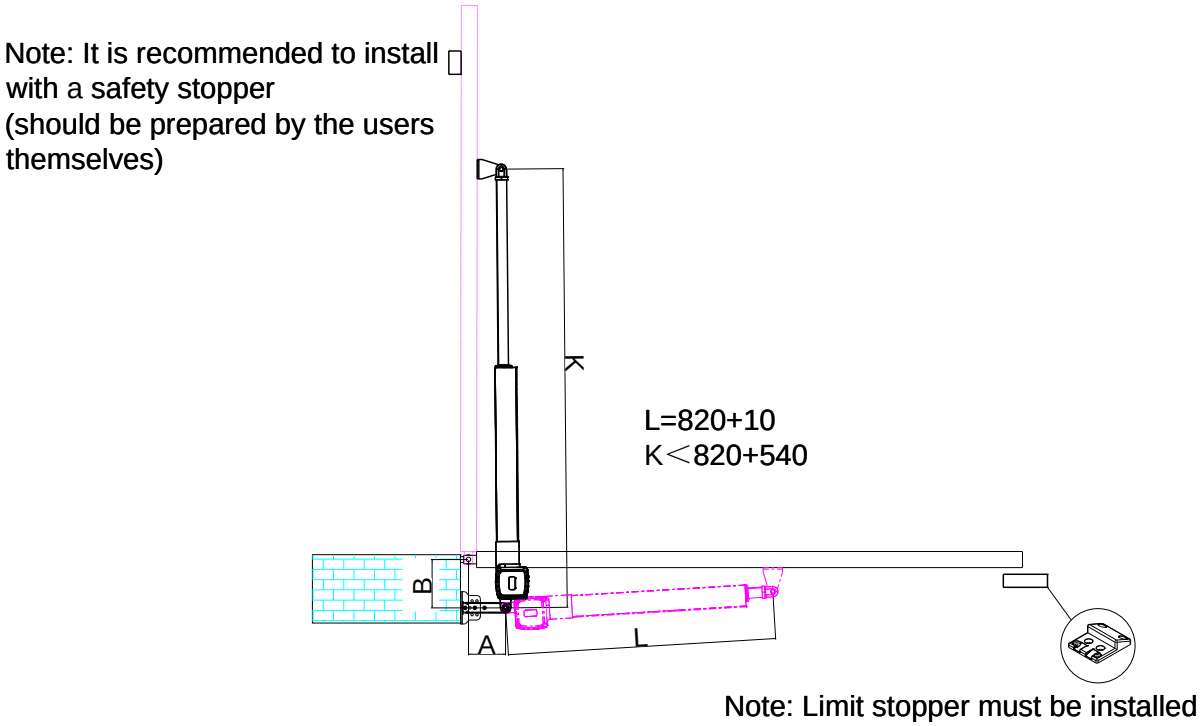


Figure 14

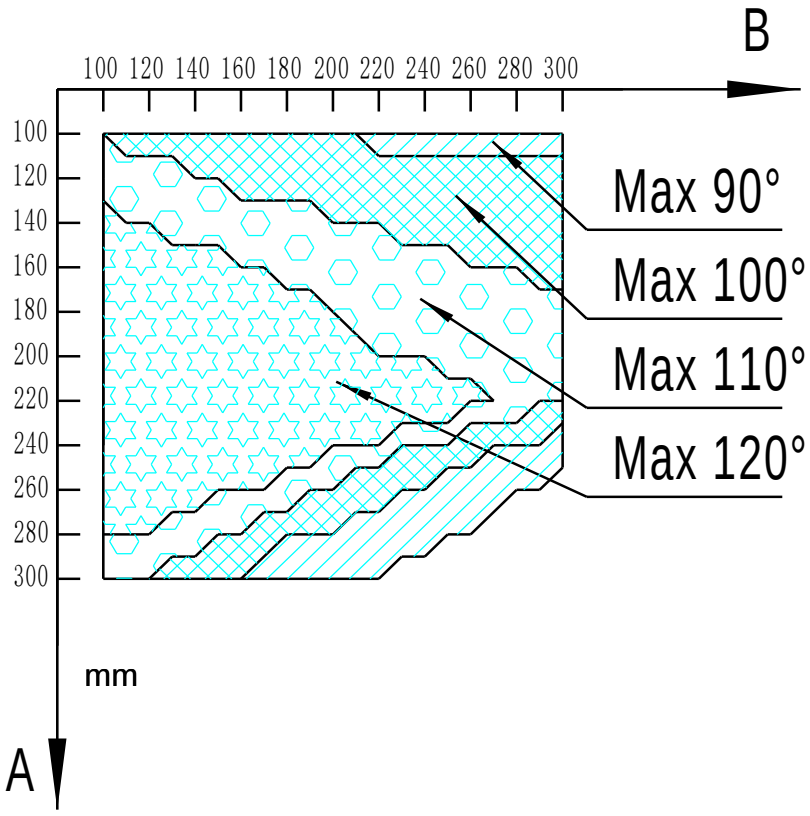


Figure 15

Note: Value B must be close to or equal to the value A to obtain the best mechanical advantage.

4.3.4 Size of control box

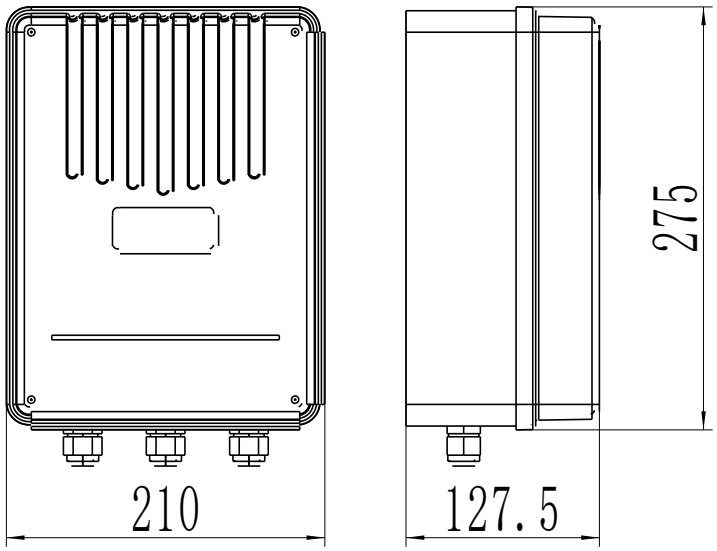


Figure 16

Warnings

·To ensure safety, when door open facing outward, the safety block must be installed at the OPEN limit position to prevent the door opening angle from exceeding the machine range; the safety stopper must be installed at the CLOSE limit position, to make two doors stopping at the CLOSE limit position accurately (as shown in figure 10, 14). When door open facing inward, the safety stopper must be installed at the CLOSE limit position (as shown in figure 8, 12).

·Before installing the main engine, make sure that the main engine and components are in good mechanical performance and that the door can be operated manually.

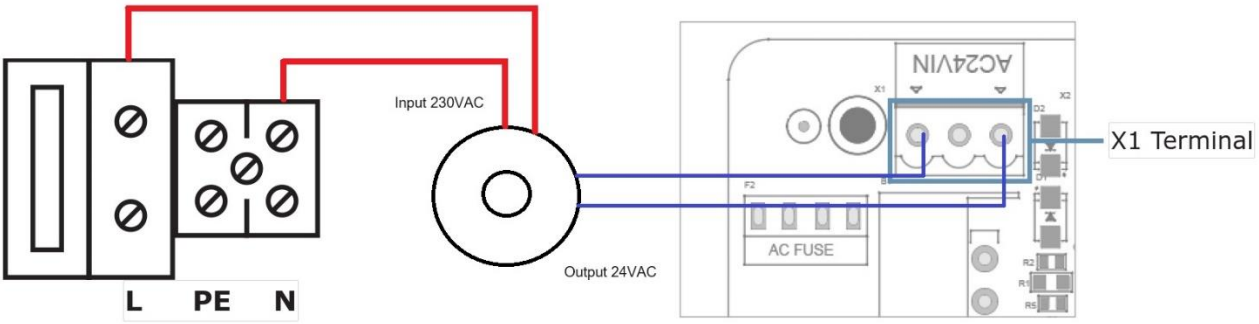
·One control unit can control driving one main engine or two main engines.

·Earth leakage circuit breaker must be installed where the gate movement can be seen, and the minimum mounting height of control box is 1.5m to protect it from being touched.

·After installation, please check whether the mechanical property is good or not, whether gate movement after manual unlocking is flexible or not, and whether the infrared sensor (optional) is installed correctly and effectively.

5. Wiring and Debugging

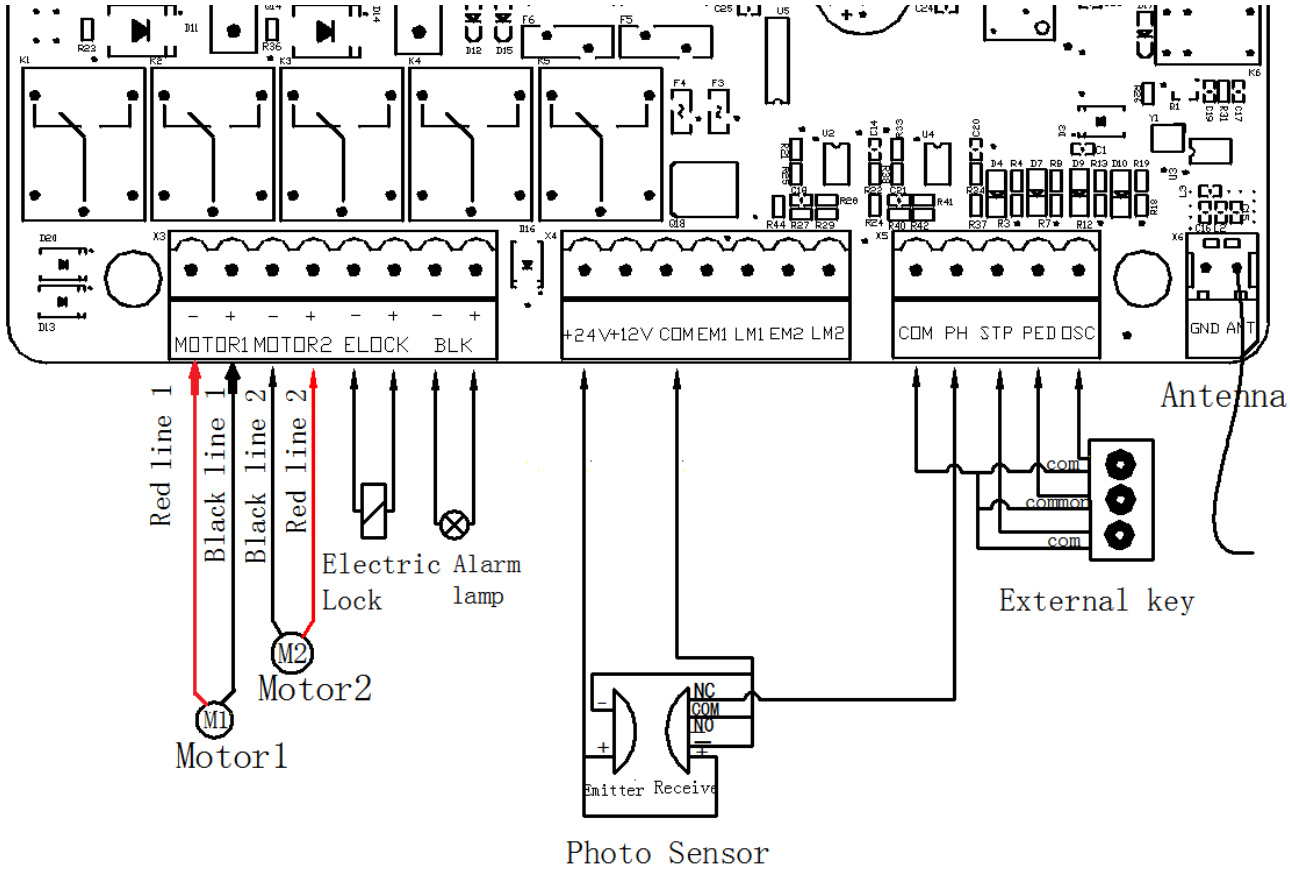
5.1 Wiring Instructions



Connect Power cable L & N to this white box, this small white box runs to a 10 A fuse and 24V transformer which should be prewired to the part of the circuit board's X1 terminal marked AC24VIN.

Note: The model of the transformer will be adjusted according to different regions, 110V or 220V, please pay attention to the parameters on it

Figure 11



5.2 Control Board Drawing and Instructions

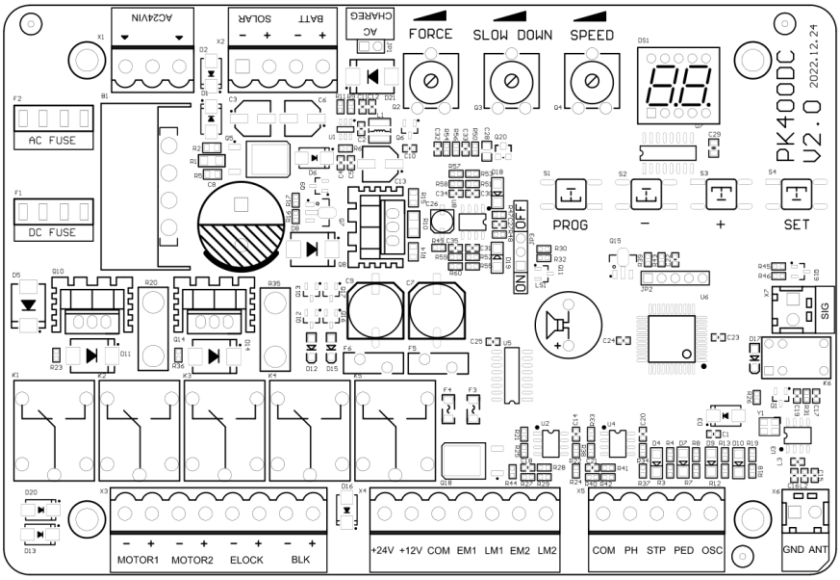


Figure 12

Terminal	Description
1. AC24VIN	24VAC Power Supply Input
2. +SOLAR-	Solar Power Input
3. +BATT-	24V Battery Input
4. FORCE	Resistance Force
5. SLOW DOWN	Slow Stop Distance
6. SPEED	Moving Speed
7. MOTOR1	Motor1 Output
8. MOTOR2	Motor2 Output
9. -ELOCK+	Electric Lock Output
10. -BLK+	Alarm Lamp Output (Note: pay attention to the negative and positive.)
11. +24V	24V Output Positive
12. +12V	12V Output Positive (No output under dormant state)
13. EM1	Motor1 Hall Sensor Power Output
14. LM1	Motor1 Hall Sensor Limit Signal Input
15. EM2	Motor2 Hall Sensor Power Output
16. LM2	Motor2 Hall Sensor Limit Signal Input
17. PH	Photo Sensor Input Active
18. PED	Single Gate/Pedestrian Mode Input Active
19. OSC	Single Channel Input Active
20. ANT	Antenna
21. COM	Common
22. SIG	The signal is normally closed only after the door is in place

Photo Seneor Wiring Instructions

Photo Seneor Wiring Instructions(N.O)

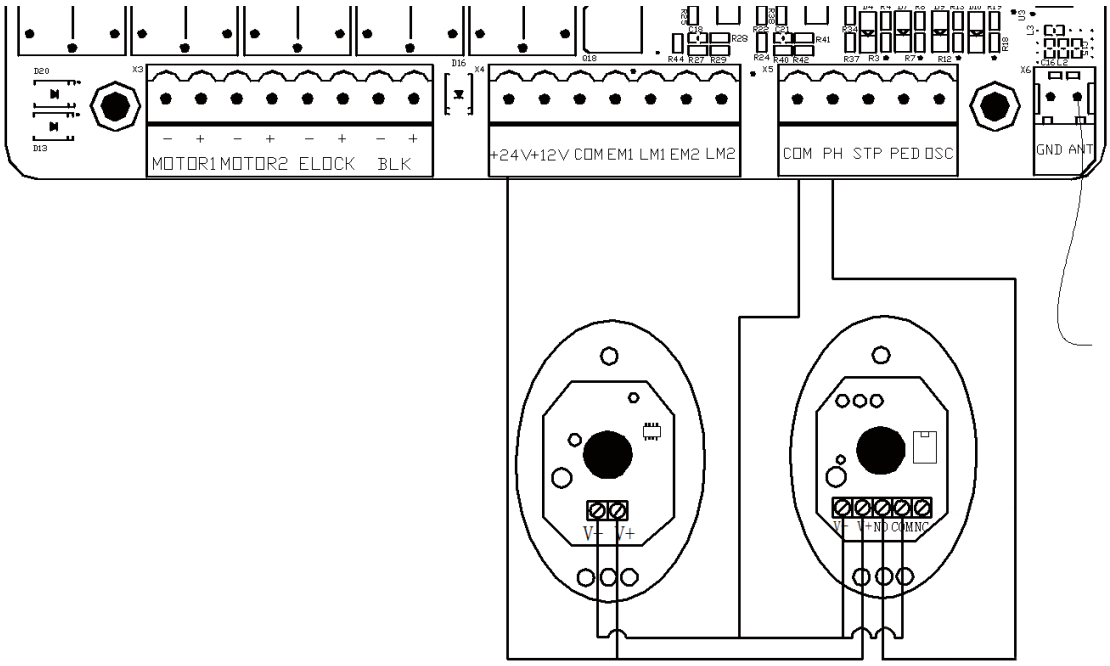
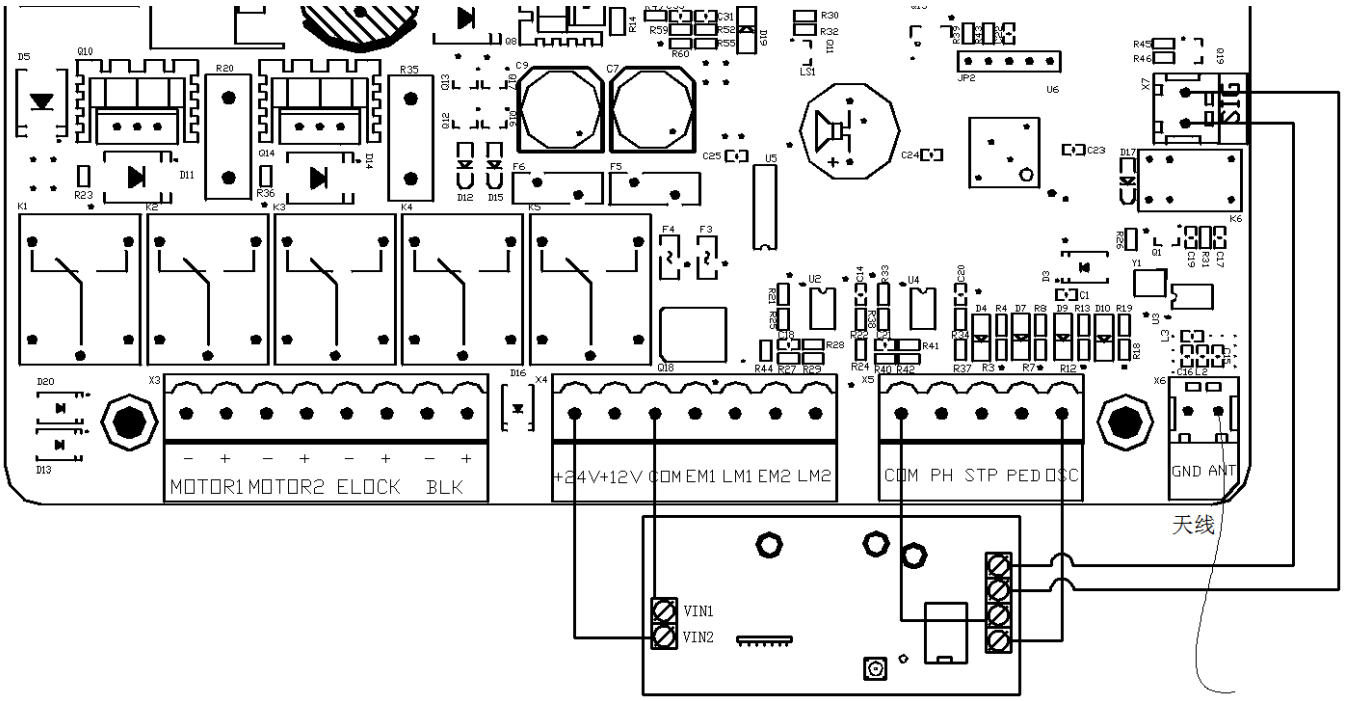


Figure 13

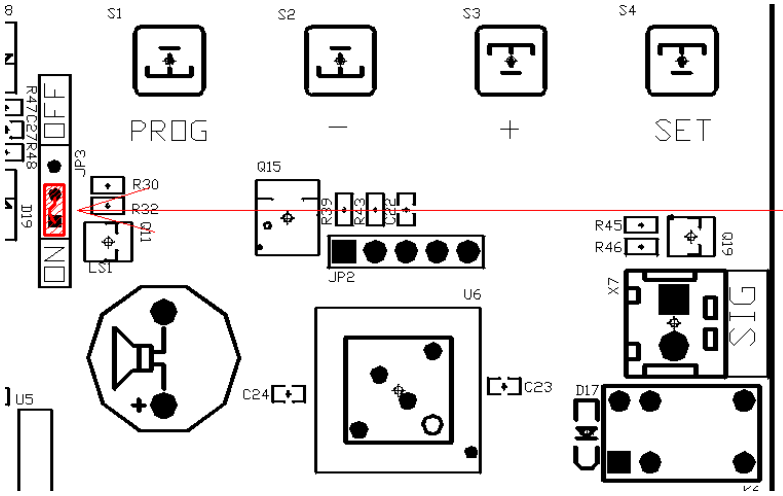
WIFI Module Wiring Instructions



WIFI Module(24VDC)

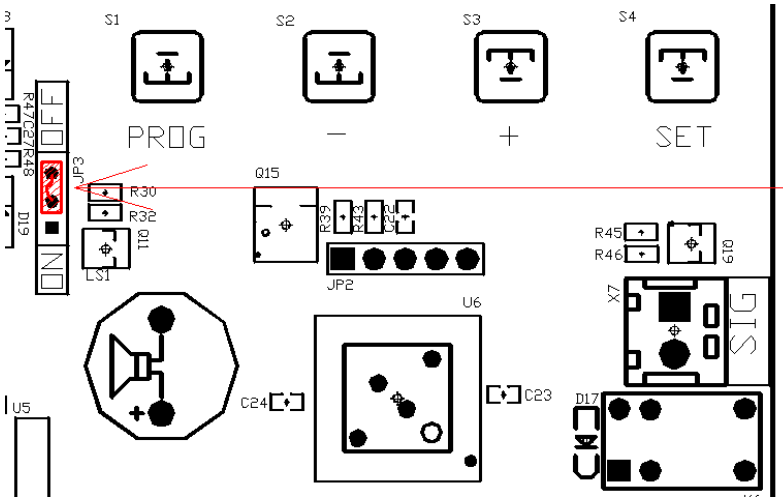
Figure 14

The buzzer is enabled



Insert the jumper cap to ON to enable the buzzer function

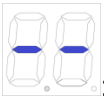
The buzzer function is disabled

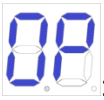


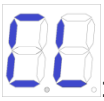
Plug the jumper cap into OFF and disable the buzzer function

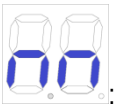
5.3 Digital Screen Setting

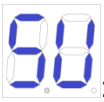
When the control board is working, the users can check working state of gate opener by digital screen on the control board.

: no input;

: under opening state;

: under closing state;

:manual mode;

: travel setting;

5.4 Travel Setting (VERY IMPORTANT)

In the first installation of gate openers, the installer need to set open and closed limit switch positions for running the travel.

5.4.1 Learn the journey in the distress limit mode

Open both sides of the gate and lock the clutch, and then press and hold the "+" button on the control board until the digital screen shows "SU". After this step, the gate will firstly run towards the closing direction and stop, and then the gate will automatically open. When the two swing gates are fully open, the gates will automatically close for the second time, and the travel setting will be completed when the gates are closed. If the distance of starting slow speed of gate is not appropriate, adjust the "SLOW DOWN " button to revise the distance.

Note:

- Wiring: the black wire of main engine 1 is connected to the left side of MOTOR1; The brown cable of host 1 connects to the right side of MOTOR1.The black cable of main engine 2 connects to the left side of MOTOR2; The brown cable of main engine 2 connects to the right side of MOTOR2.
- In single-door mode,the host connects to MOTOR1.
- If the gate suddenly stops during travel setting, please increase the resistance force.
- If the gate didn't stop when meets the obstacles during travel setting, please appropriately reduce the resistance force.
- Installer must redo travel setting after modifying the "SPEED" trimmer.

5.5 Trimmers Setting

Obstacle Sensibility Trimmer

To adjust the sensitivity of obstacle -- clockwise to increase, counterclockwise to reduce the sensitivity of obstacle. If there are environmental effects, such as heavy winds, adjust the trimmer according to environment.

Slow Speed Distance Trimmer

To adjust slow speed distance -- clockwise to increase, counterclockwise to decrease slow speed distance. Please do not set very short slow speed distance, to avoid the gate collision.

Gate Moving Speed Trimmer

To adjust gate moving speed -- clockwise to accelerate, counterclockwise to slow down. The trimmer can be adjusted to change the opening and closing travel time. This adjustment must be finished before travel setting.

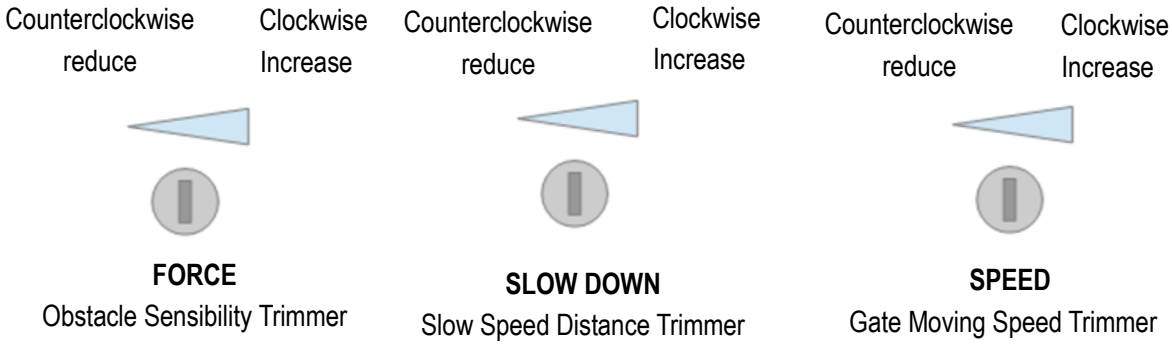


Figure 15

5.6 Learning Remote Control & Delete Remote Control

5.6.1 Learning Remote Control

Press and hold "-" button, the alarm light will keep flashing, and digital screen displays remote control mode -- “PO” -- two swing gates single channel mode; “Pd" -- single gate four channel mode; Press the button of the remote control to be learned, the digital screen will show the number of current learned remote control, then the remote control learning is completed. (The default of new paired remote control is two swing gates single channel mode).

5.6.2 Delete Remote Control

Enter into “AE” in the digital screen and then to choose “rE” to delete the remote controls.

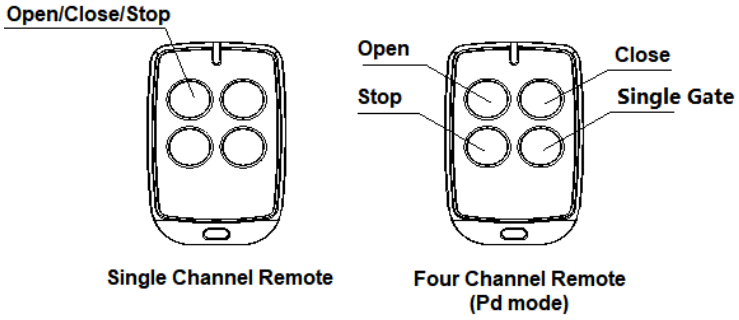


Figure 16

5.6.3 Special Remote Control Key-button

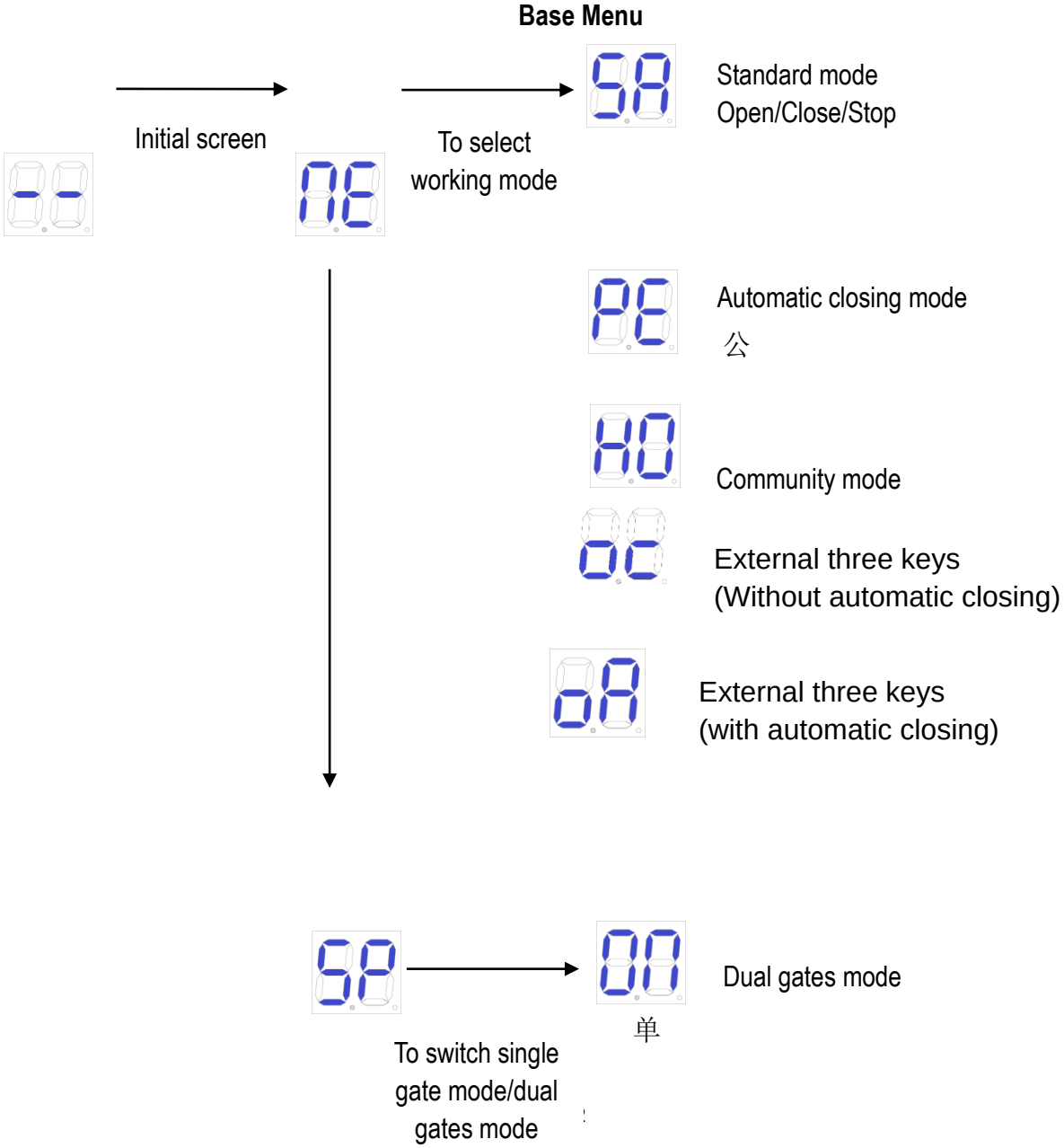
Press and hold the combination keys for 5S.

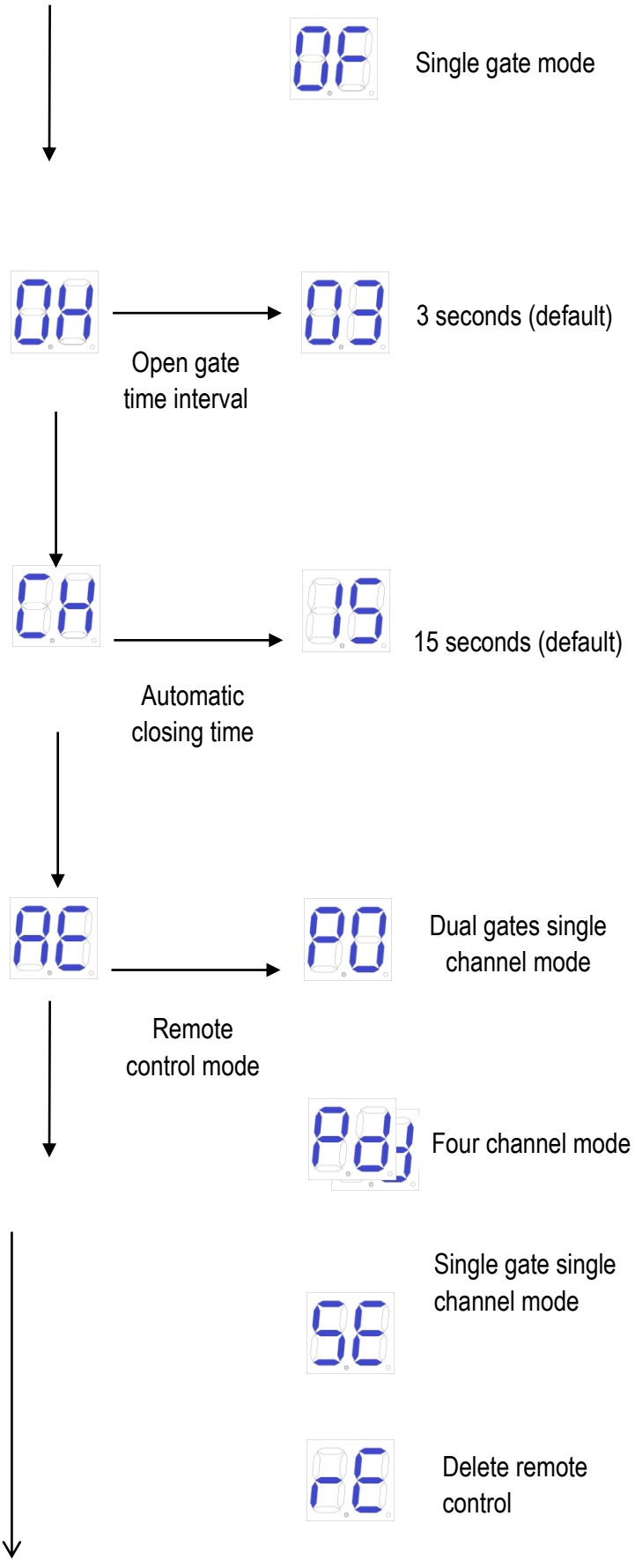
C(stop)+D(single gate) combination key -- enter into remote control learning.

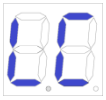
5.7 Control Board Settings

5.7.1 Base Menu

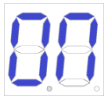
Press "PROG" to enter into base menu;
Digital screen shows “NE”, select other functions of this menu by “+” and “-” buttons.
Press "SET" to confirm or to enter into sub-menu.
To exit menu, press "PROG".
If no command for one minute, the menu will automatically exit.



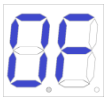

Single gate mode
Open gate time interval
3 seconds (default)
Automatic closing time
15 seconds (default)
Remote control mode
Dual gates single channel mode
Four channel mode
Single gate single channel mode
Delete remote control



Low consumption mode

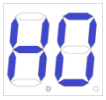


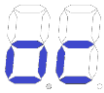
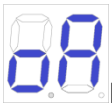
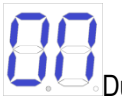
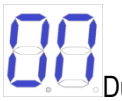
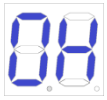
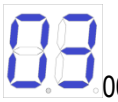
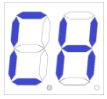
Low consumption mode on

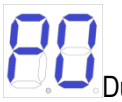
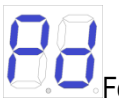
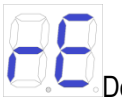
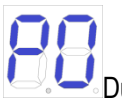
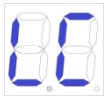
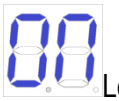
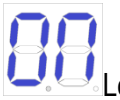


Low consumption mode off

5.7.2 Base Menu Instruction

Menu Press "PROG" to enter into base menu.	**Option** Press “+”(up) or “-”(down) to select; Press “SET” to confirm.	**Default/Attention**
 **Working Mode**	 Standard mode; O/C/S (Open/Close/Stop).  O/S/C standard mode with automatic closing function. When the gate opens, it will automatically close after automatic closing time. If a “close the gate” command is sent during the automatic closing time waiting time, the automatic closing function will be canceled.  Community mode(with automatic closing function). When the gate opens, any gate command will not be responded until it closes automatically. If user sends gate command during the closing process, then the gate will reopen. If a gate command is sent during the automatic closing waiting time, this waiting time will be recalculated. If the gate is not closed completely for more than ten consecutive times, the automatic closing function will be canceled and the gate will be closed by re-sending the gate closing command. Note that in community mode, the gate still has the automatic closing function in case of meeting obstacles.	 Standard mode; O/C/S (Open/Close/Stop).

	 External three keys （open/close/stop）  External three keys o/p/s (Automatic closing with)	
 **Single Gate/Dual Gates Switch**	 Dual gates mode(default).  Single gate mode.	 Dual gates mode.
 **Open Gate Time Interval**	 00-10: Open gate time interval is 0-10 seconds(default 3 seconds). If the interval shorter than 2 seconds, then the electric lock cannot be used.	 3 seconds.
 **Automatic Closing Time**	 Automatic closing time can be set as 15(default), 30, 60, 90 seconds.	 15 seconds.

 **Remote Control Mode**	Dual gates single channel mode. Four channel mode. Single gate single channel mode. Delete all paired remote controls	Dual gates single channel mode.
 **Low consumption mode**	Low consumption mode on （When there is no operation in the initial screen, the control board will automatically enter the low-consumption mode after 1 minute.） Low consumption mode off	Low consumption mode on

9.7.3 Advanced Menu Instruction

Long press "PROG" 2 seconds to enter into advanced menu.

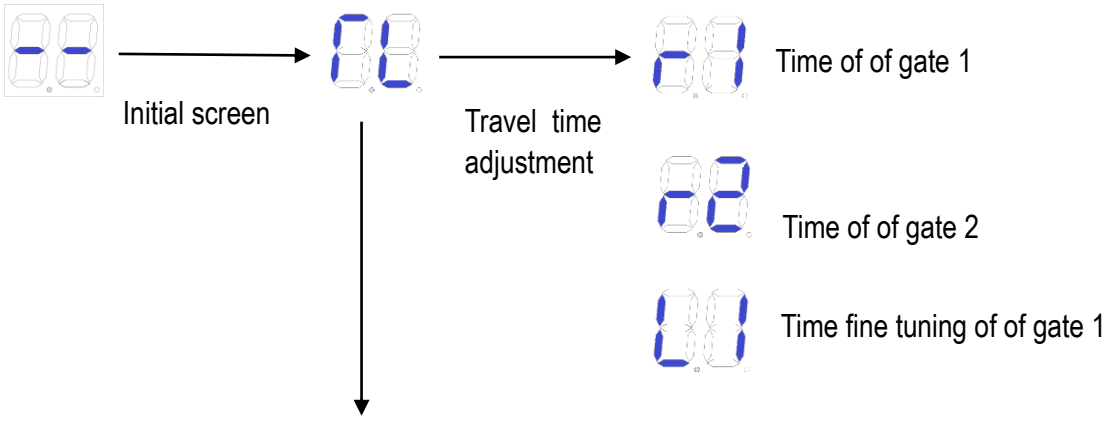
Digital Screen shows “TL”, press “+”(up) or “-”(down) to select;

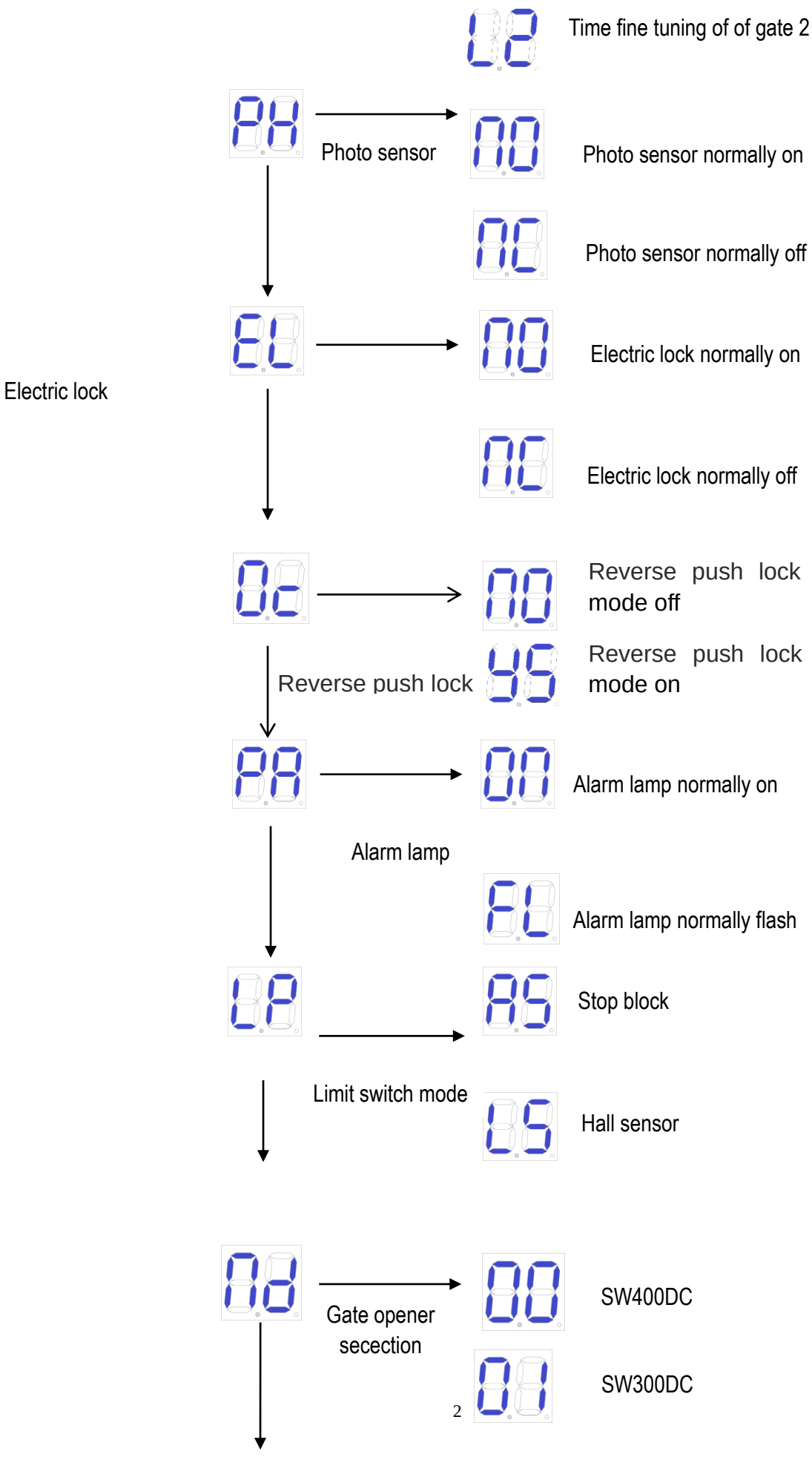
Short press “SET” to confirm or to enter into sub-menu.

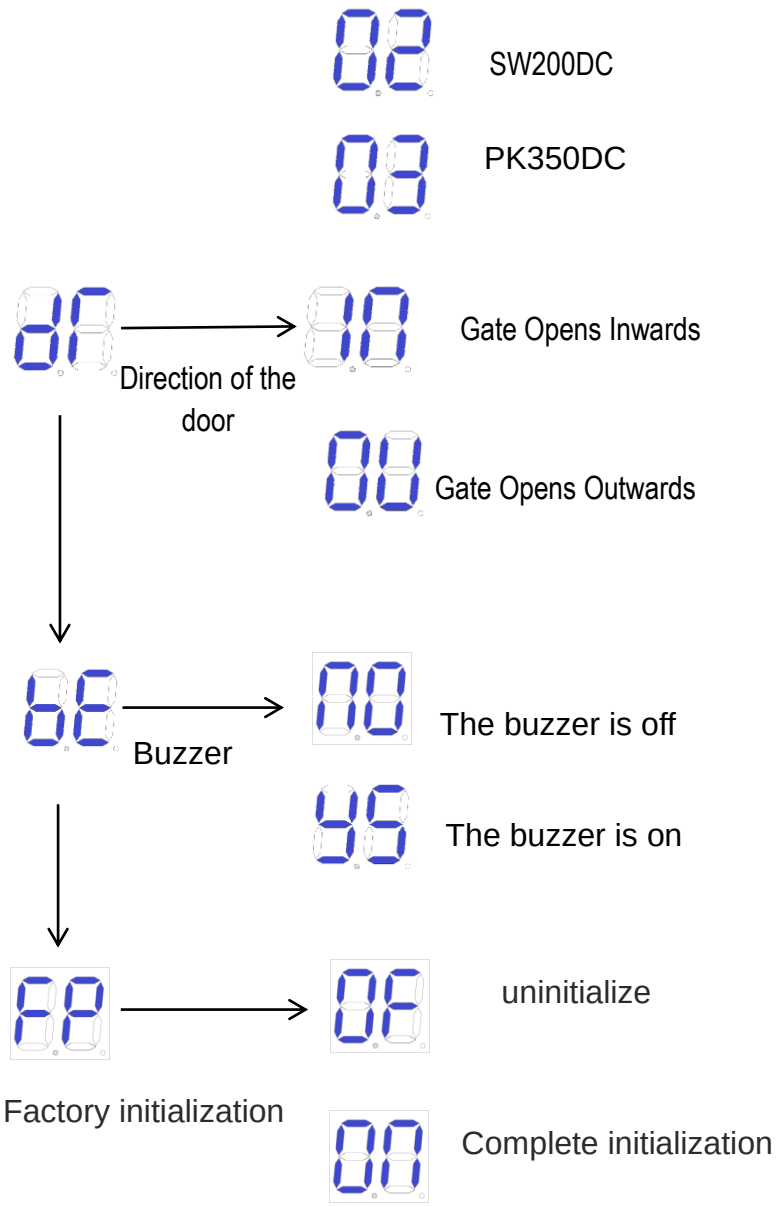
Short press “PROG” to exit.

If no command for one minute, the menu will automatically exit.

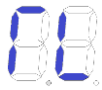
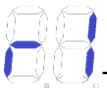
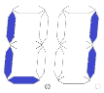
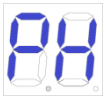
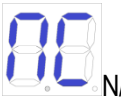
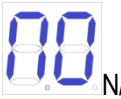
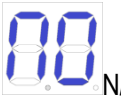
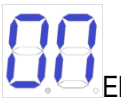
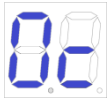
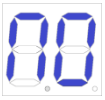
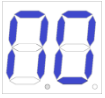
Advanced Menu

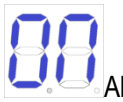
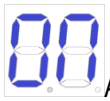
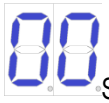
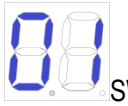
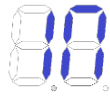
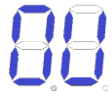
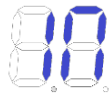


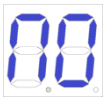
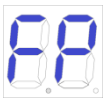
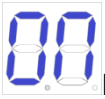

Time fine tuning of of gate 2
Photo sensor
Photo sensor normally on
Photo sensor normally off
Electric lock
Electric lock normally on
Electric lock normally off
Reverse push lock
Reverse push lock mode off
Reverse push lock mode on
Alarm lamp
Alarm lamp normally on
Alarm lamp normally flash
Limit switch mode
Stop block
Hall sensor
Gate opener secection
SW400DC
SW300DC


02
SW200DC
03
PK350DC
dF
Direction of the door
01
Gate Opens Inwards
00
Gate Opens Outwards
bE
Buzzer
00
The buzzer is off
05
The buzzer is on
FP
Factory initialization
0F
uninitialize
00
Complete initialization

9.7.4 Advanced Menu Instruction

Menu Long press "PROG" 2 seconds to enter into base menu.	**Option** Press “+”(up) or “-”(down) to select; Press “SET” to confirm.	**Default/Attention**
 **Travel time adjustment**	 Time of of gate1  Time of of gate2  Time fine tuning of of gate 1  Time fine tuning of of gate 2	After automatic learning, if the stroke is not ideal, it can be adjusted manually. The shorter the time under the resistance limit, the farther the deceleration distance of the door. And in the Hall limit, the shorter the time, the shorter the door travel.
 **Photo Sensor**	 N/C; photo sensor normally is on.(Default)  N/O; photo sensor normally off.	 N/O; photo sensor normally on.
 **Electric Lock**	 Electric lock normally is on. (Default)  Electric lock normally is off.	 Electric lock normally on.
 **Reverse push lock**	 Reverse push lock mode off Reverse push lock mode on  (When the electric lock is started, M1 will run for a distance in the direction of the door to prevent the electric lock from getting stuck and unable to be opened.)	 Reverse push lock mode off

Alarm Lamp	 Alarm lamp normally is on. 24V power supply. (Default)  Alarm lamp normally flashes. 24V power supply.	 Alarm lamp normally is on. 24V power supply.
Limit Switch Mode	 Stop block.(Default)  Hall sensor.	 Stop block.
Gate Opener Secection	 SW400DC.  SW300DC. (Default)  SW200DC.  PK300DC	 SW200DC.
Direction of the door	 Gate Opens Inwards (Default)  Gate Opens Outwards	 Gate Opens Inwards

 **Buzzer**	 The buzzer is off  The buzzer is on (When the mains is running normally, the buzzer buzzes short and long. When the battery is in normal use, the buzzer buzzes for 6S and then stops. When the battery power is low, the buzzer stops after 3 seconds. When the control board runs incorrectly, the buzzer buzzes fast and long.)	 The buzzer is on
 **Factory Default Setting**	Cancel factory default setting. Factory default setting completes.	

10. Others

10.1 Maintenance

Check whether the gate operates normally every month.

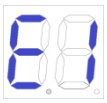
For the sake of safety, each gate is suggested to be equipped with infrared protector, and regular inspection is required as well.

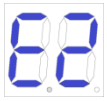
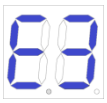
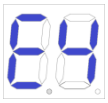
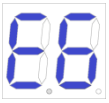
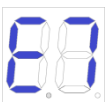
Before installation and operation of the gate opener, please read all instructions carefully.

We reserve the right to change the instruction without prior notice.

10.2 Error Message

Errors that may occur when the door is operating properly

Wrong Indication	Cause of Error	Solution
	Door 1 Obstructed in opening	1. Check whether there are obstacles when opening door 1 2. Adjust resistance sensitivity appropriately 3. Increase deceleration distance appropriately

	Door 2 Obstructed in opening	1. Check whether there are obstacles when opening door 2 2. Adjust resistance sensitivity appropriately 3. Increase deceleration distance appropriately
	Door 2 is closing with difficulty	1. Check whether there are obstacles when door 1 is closed 2. Adjust resistance sensitivity appropriately 3. Increase deceleration distance appropriately
	Door 2 is closing with difficulty	1. Check whether there are obstacles when door 2 is closed 2. Adjust resistance sensitivity appropriately 3. Increase deceleration distance appropriately
	Infrared disconnect	1. Check the infrared setting status 2. Whether there are occlusions in the infrared
	Door 1 closes before door 2	1. Relearn your itinerary 2.Adjust the opening time interval
	The motor works for too long	1. Check whether you have completed the itinerary 2.Hall component damage
	No study itinerary	Re-complete the trip

10.3 Troubleshooting

Problems	Possible Reasons	Solutions
The gate cannot open or close normally, and Display does not light.	1.The power is off. 2.Fuse is burned. 3.Control board power wiring with problem.	1.Switch on the power supply. 2.Check the fuse, change the fuse if burnt. 3.Re wiring according to instructions.
The gate can open but cannot close.	1.Photocell wiring with problem. 2.Photocell mounting with problem. 3.Photocell is blocked by objects. 4.Sensitivity of obstacle is too high.	1.If not connect photocell, please make sure that the 5 and 6, 5 and 7 short circuit; if connect infrared sensor, please make sure the wiring is correct and the photocell is N.C. 2.Make sure that the photocell mounting position can be mutually aligned. 3.Remove the obstacle. 4.Reduce the sensitivity of obstacle.
Remote control doesn't work.	1.Battery level of the remote control is low. 2.Remote control learning is not completed.	1.Change the remote control battery. 2.Re-conduct remote control learning.
Press OPEN, CLOSE button, the gate is not moving, motor has noise.	Gate moving is not smoothly.	According to the actual situation to adjust the motor or the gate.
Leakage switch tripped.	Power supply line short circuit or motor line short circuit.	Check wiring.
Remote control working distance is too short.	Signal is blocked.	Connect external receiver antenna, 1.5 meters above ground.
The gate moves to the middle position to stop or reverse.	1.Motor output force is not enough. 2.Sensitivity of obstacle is too high. 3.Gate meets obstacle.	1.Check whether the transformer power is normal, if not, change the transformer. 2.Adjust the TR2. 3.Remove the obstacle.