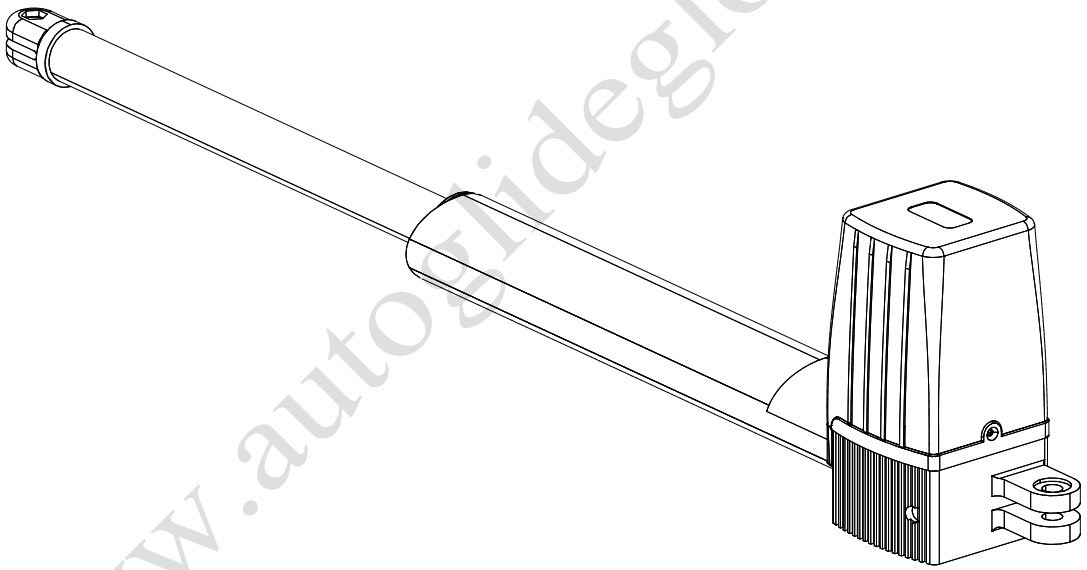
Magro-J – Series

Swing Gate Opener
User Manual



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

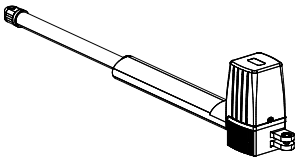
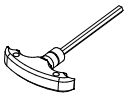
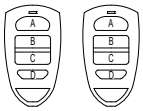
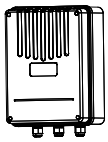
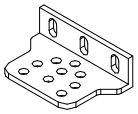
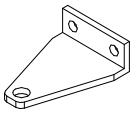
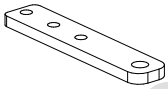
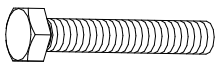
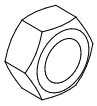
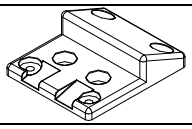
Please ensure that the using power voltage matches with the supply voltage of gate opener (AC110V or AC220V); kids are forbidden to touch the control devices or the remote-control unit.

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.

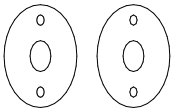
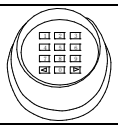
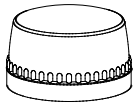
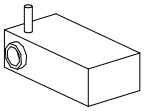
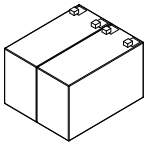
Please ensure that no one is around the main engine or gate when the switch is operated and it is usually demanded to examine the stability of installation. Please temporarily stop using if the main engine needs repairing or regulation.

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
12		Safety stopper (Optional)	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	Magro - 500 J	Magro - 650 J
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	250 Kg	325 Kg
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 /Three button mode	Single / three 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	25	25
Frequency	433.92 MHz	433.92 MHz
Working temperature	-20°C - +70°C	-20°C - +70°C
Package weight	17Kg	19Kg

4. Installation

Magro J Series swing gate opener is applicable to single leaf gate weight less than 225/300 kg, 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

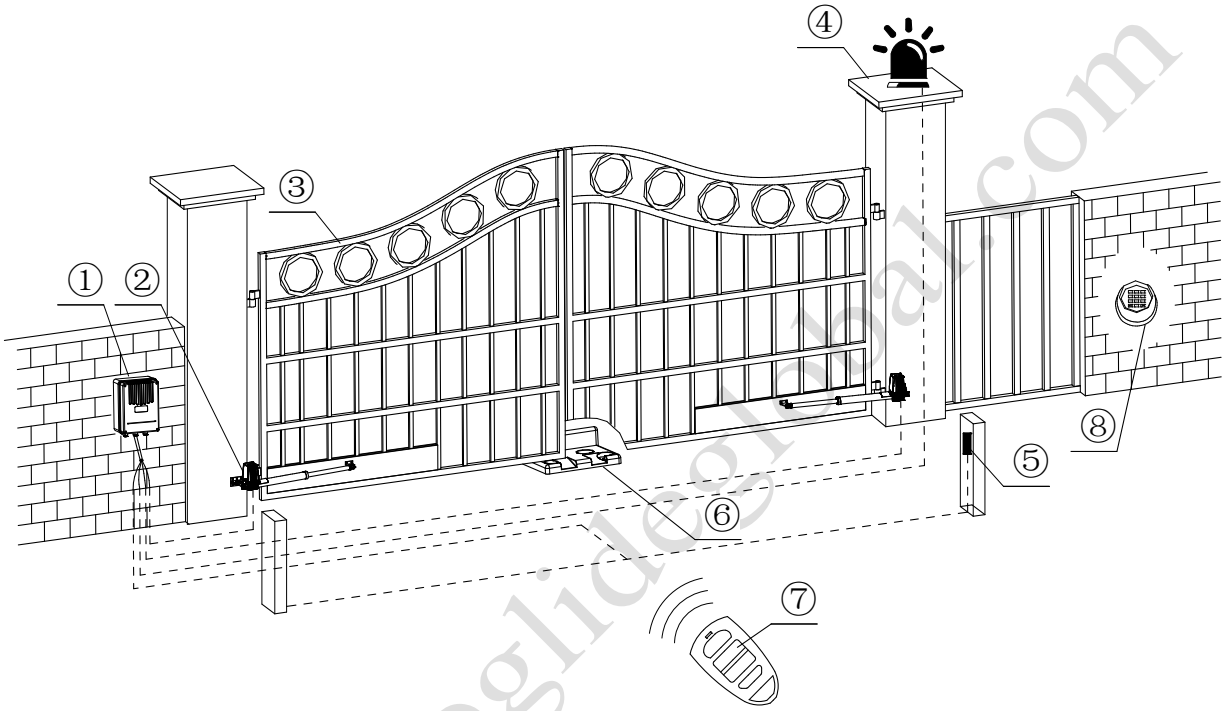


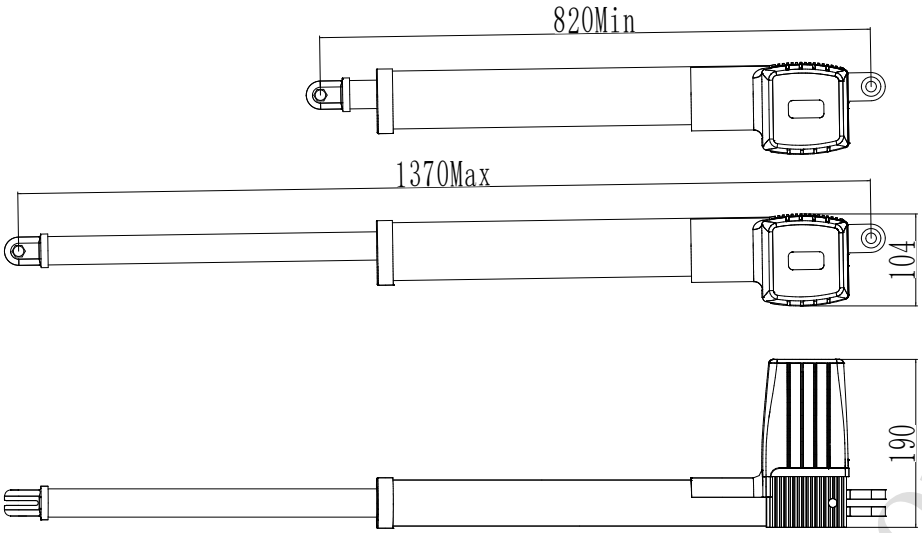
Figure 1

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

Magro - 500 J



Magro – 650 J

Figure 2

4.2.2 Size of mounting plate

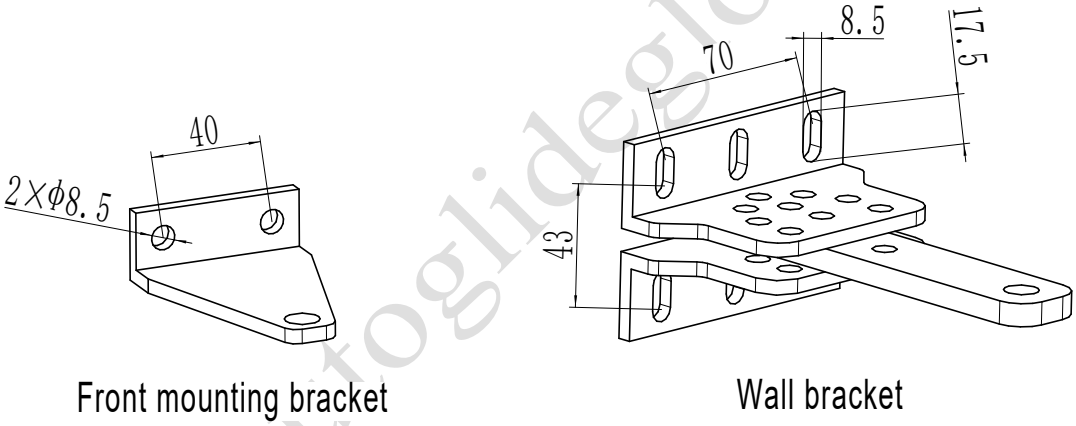


Figure 3

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 Magro - 500 J / Magro - 650 J 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.

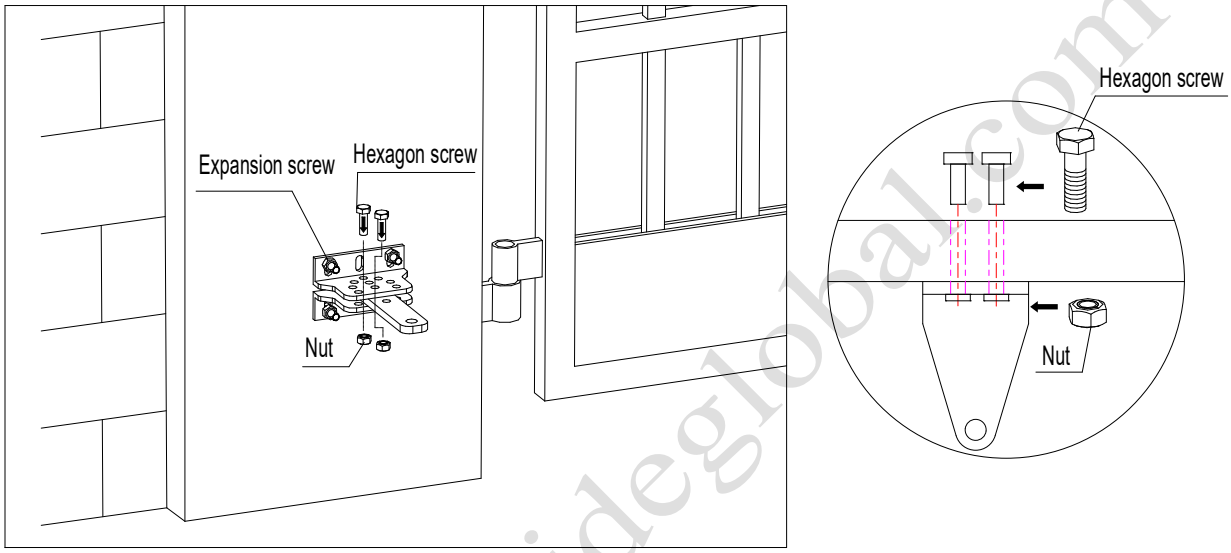


Figure 4

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

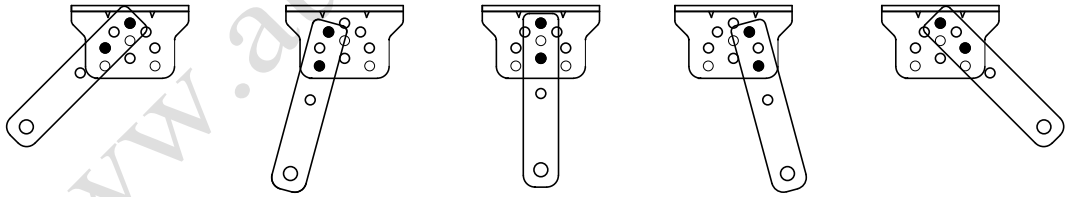


Figure 5

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 motor cable 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.

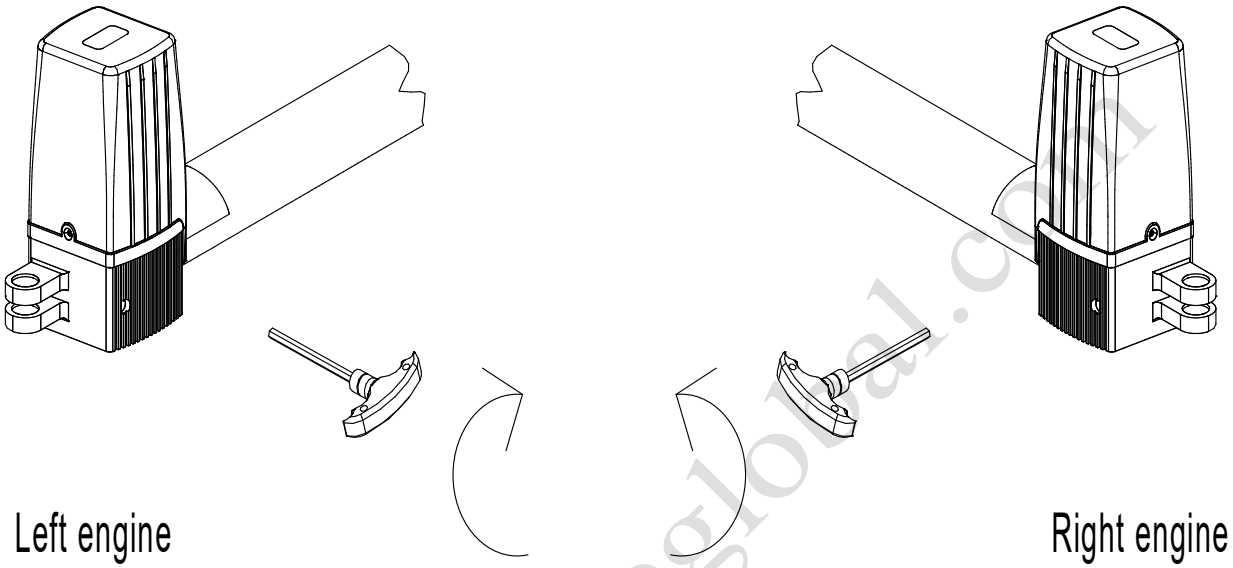


Figure 6

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.

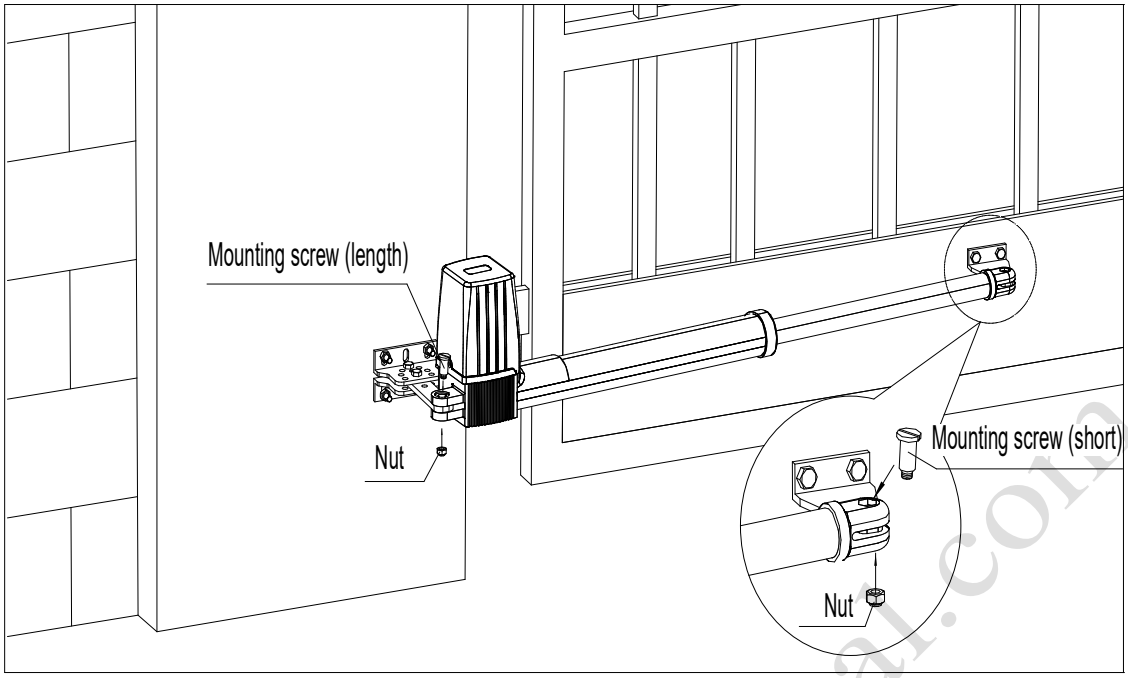


Figure 7

Installation direction: door open facing inward (Magro - 500 J)

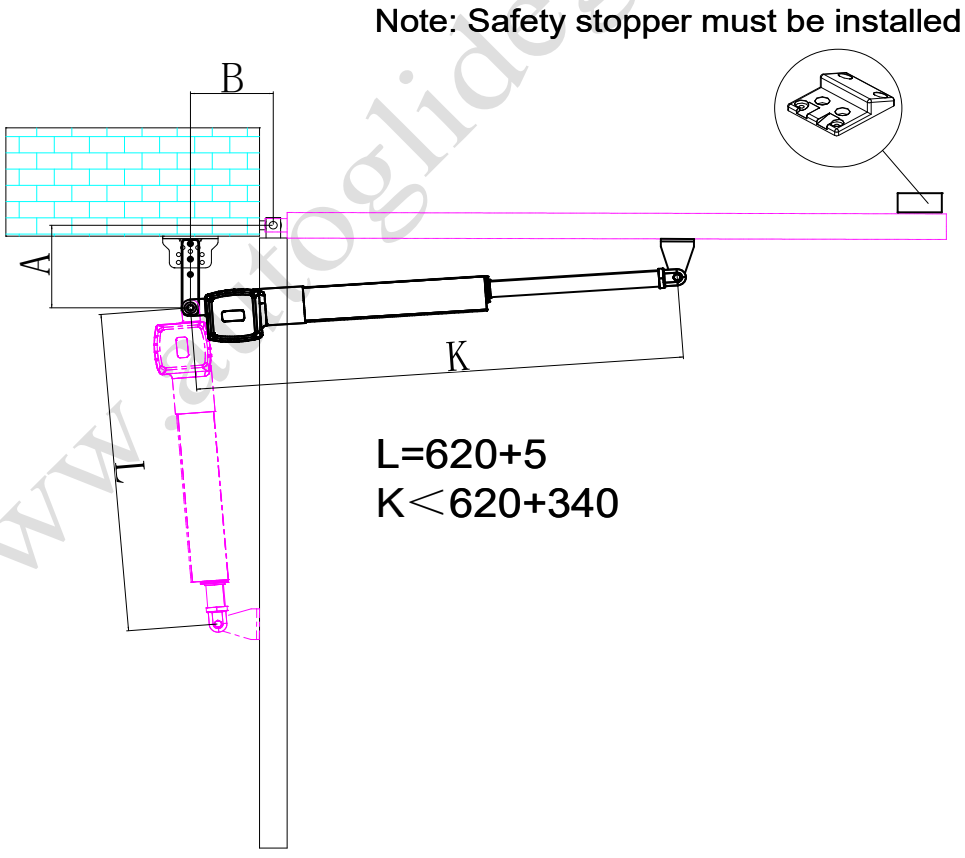


Figure 8

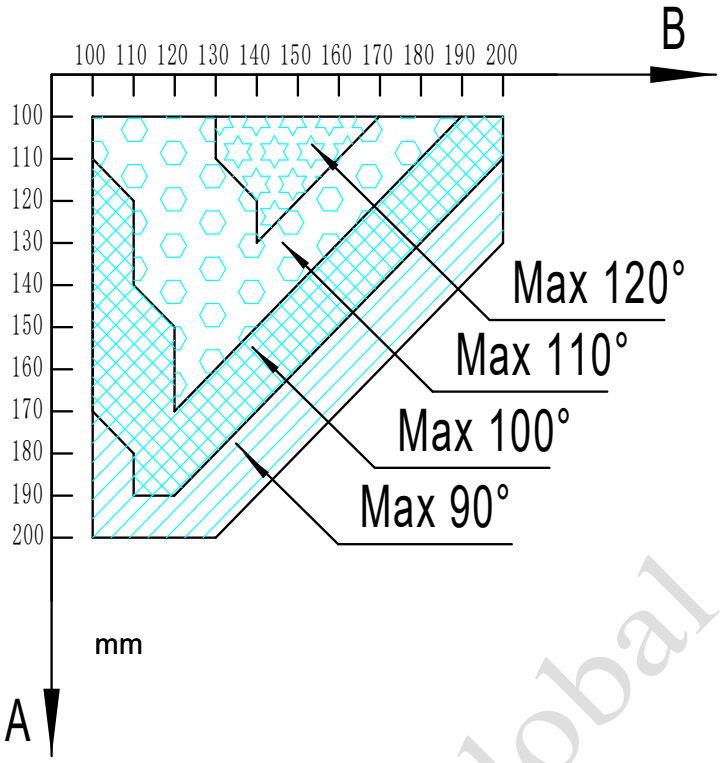


Figure 9

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 (Magro - 650 J)

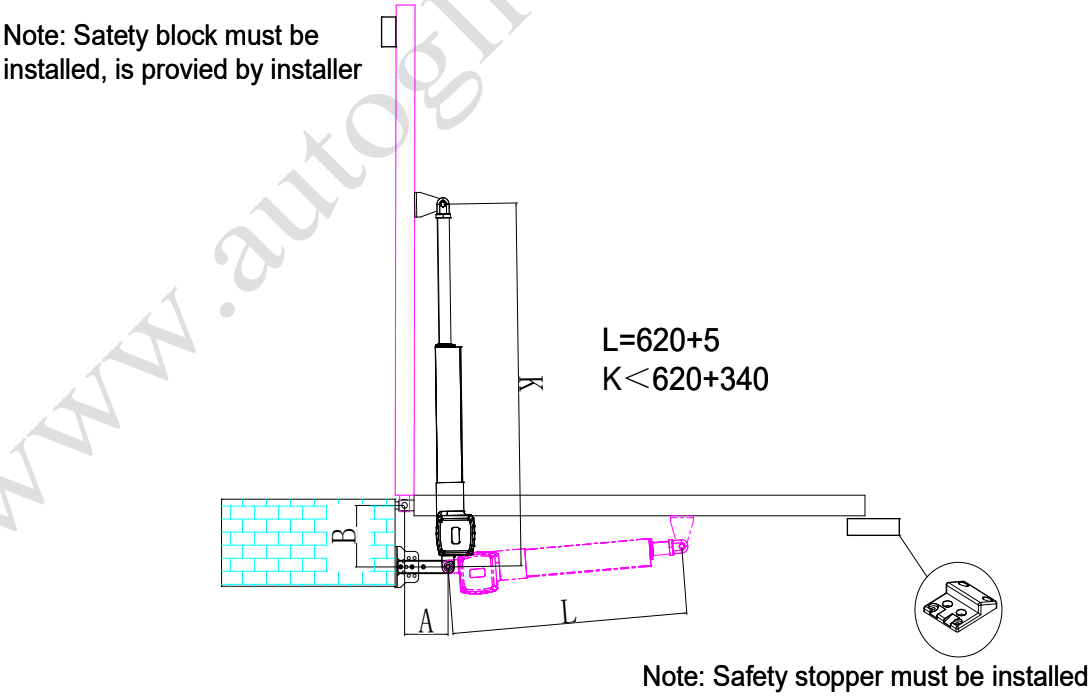


Figure 10

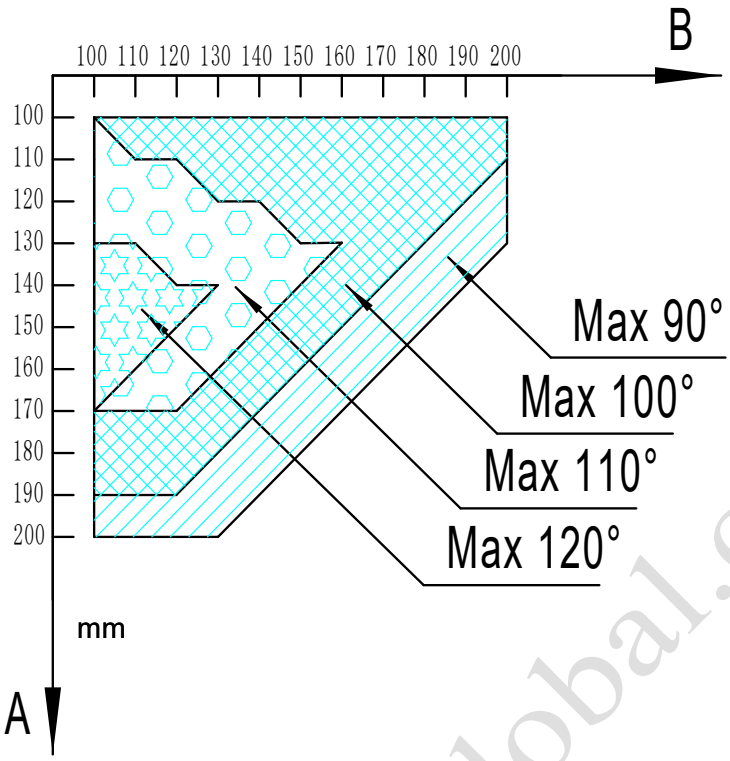


Figure 11

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 (Magro - 500 J)

Note: Safety stopper must be installed

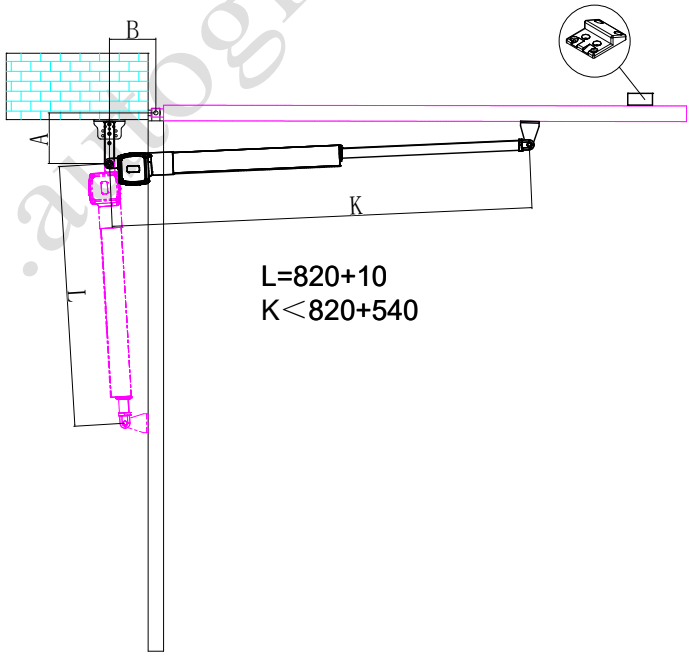


Figure 12

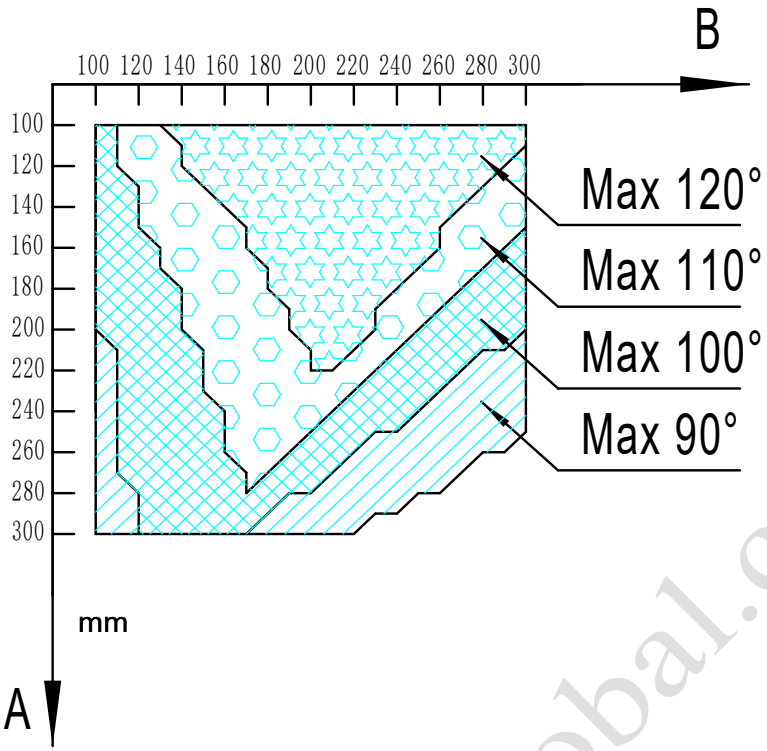


Figure 13

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 (Magro - 650 J)

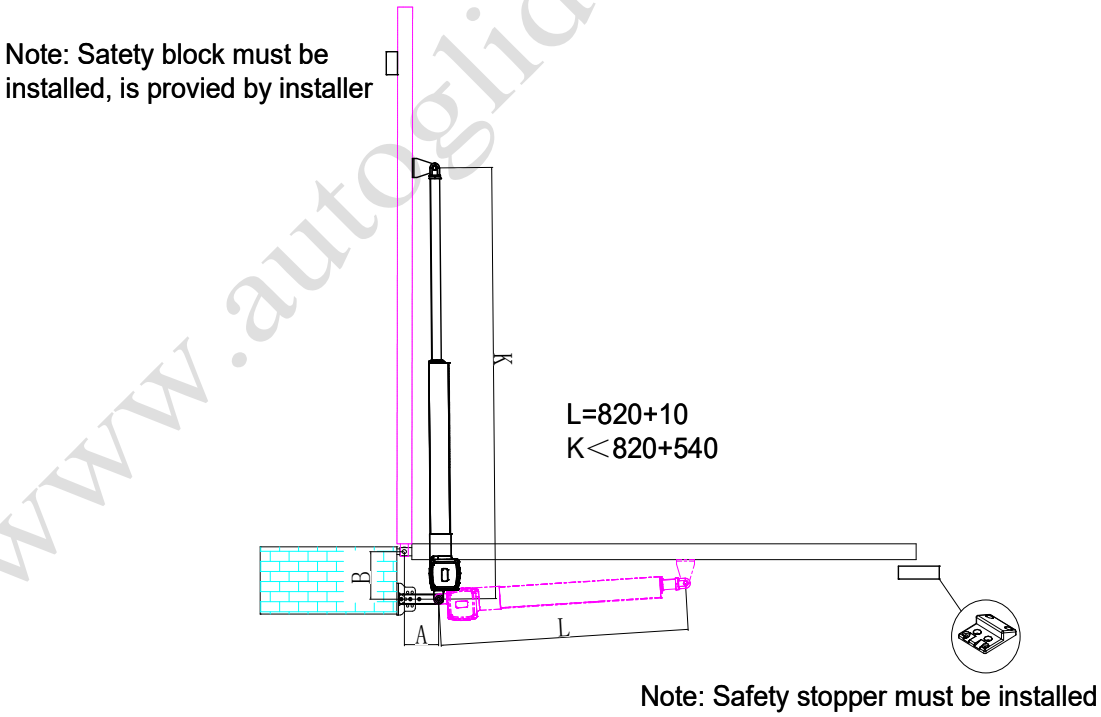


Figure 14

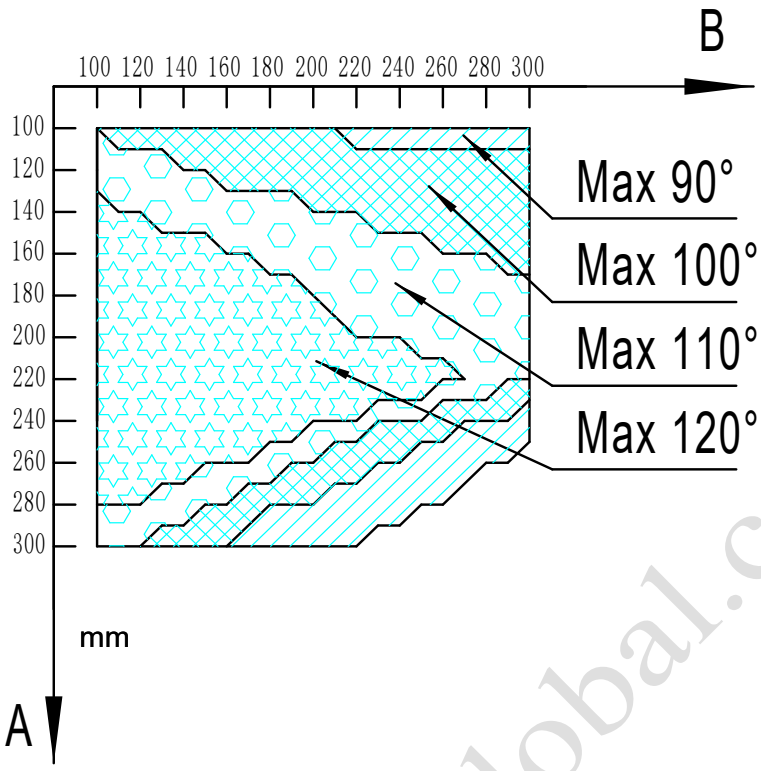


Figure 15

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

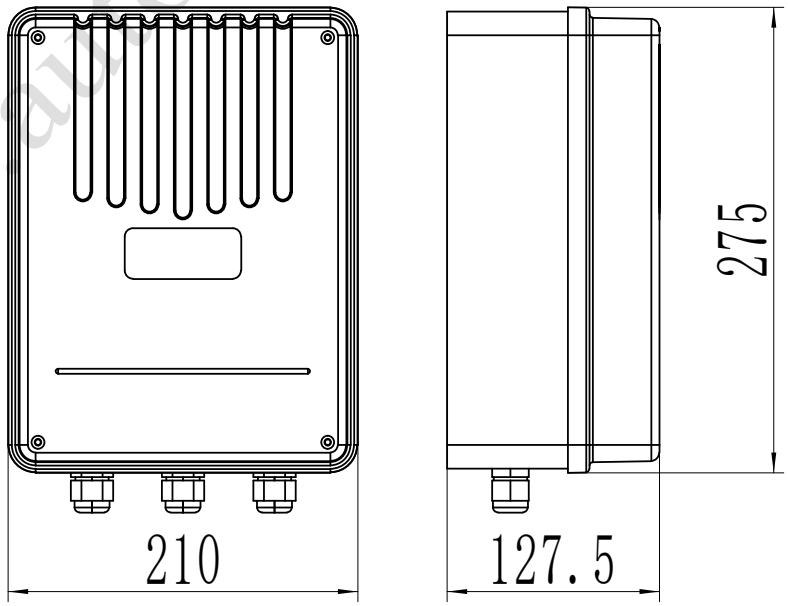


Figure 16

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.

4.3.5 Control board wiring

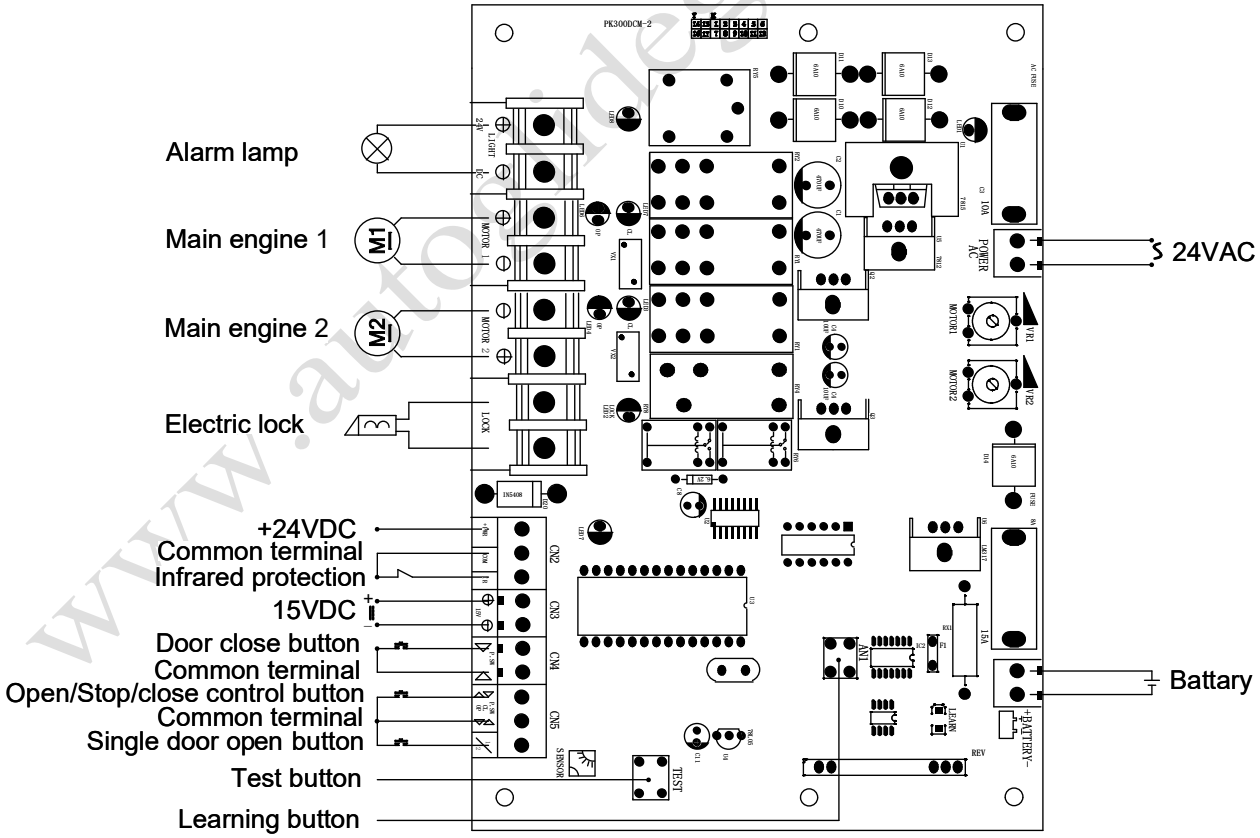


Figure 17

Wiring instruction:

POWER AC terminal 24VAC alternating current power.

＋BATTARY－ terminal Storage battery.

8P terminal:

LIGHT Alarm lamp (24VDC);

MOTOR 1 Main engine 1;

MOTOR 2 Main engine 2;

LOCK Electronic lock (24VDC).

CN2 terminal:

＋PWR Power supply for fittings +24VDC;

COM Common;

IR Input of infrared sensor (N.C.).

CN3 terminal: Power supply for fittings 15VDC.

CN4 terminal:

◁ Signal input of gate close control button;

▷ Control button common terminal.

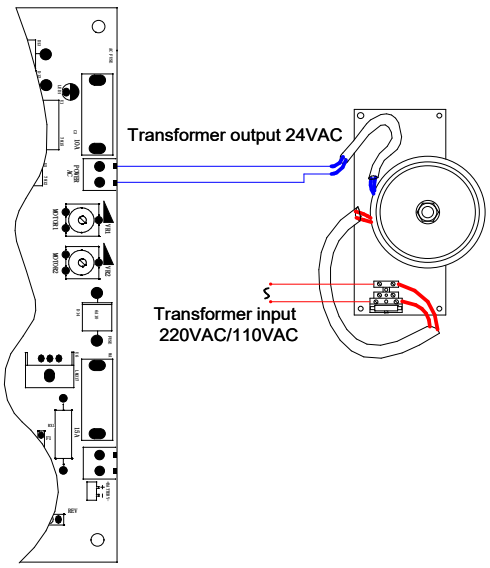
CN5 terminal:

▷ ◁ Open/Stop/Close/Stop loop control button;

◁ ▷ Control button common terminal;

1 / 2 Single door opening button.

Transformer wiring



DIP switch

Dial	Function
1	Door closing delay function: ON: Enabled - Motor 2 is 5 seconds delay to close the door than Motor 1; OFF: Disabled.
2	Door opening status: ON: Enabled - Motor 1 and motor 2 conduct 0.5-second close action before open the door; OFF: Disabled.
3	Single / Double door mode: ON: Single door mode; OFF: Double door mode.
4	/
5	Automatic close function: 5 ON 6 ON——Automatic close time is 60s; 5 ON 6 OFF——Automatic close time is 10s; 5 OFF 6 ON——Automatic close time is 5s; 5 OFF 6 OFF——No automatic close function.
6	

Adjusting knob

Adjust the sensitivity of meet obstacle: clockwise adjusting VR1 can reduce sensitivity of obstacle of the motor 1; clockwise adjusting VR2 can reduce sensitivity of obstacle of the motor 2.

Infrared connection

Infrared photocell function: In the closing process, when infrared ray of the infrared sensor is covered, the gate will open immediately, to protect user and property security.

The distance between photocell receiver and photocell emitter should be not less than 2 meters, otherwise will affect the induction of the photocell.

If connect the infrared photocell, please remove the short connection between IR and COM on the CN2 terminal.

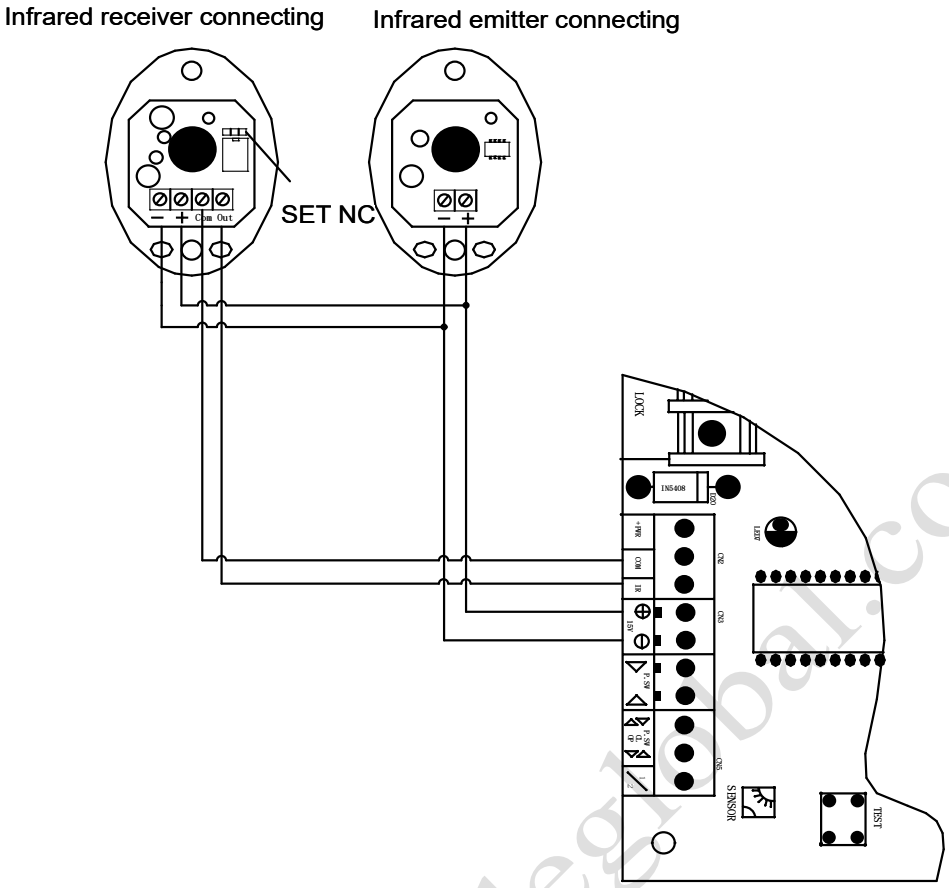


Figure 19

Adjustment and operation

Remote control operation

Remote control is single button mode, one same button on the remote control to circularly control the main engine OPEN/STOP/CLOSE/STOP.

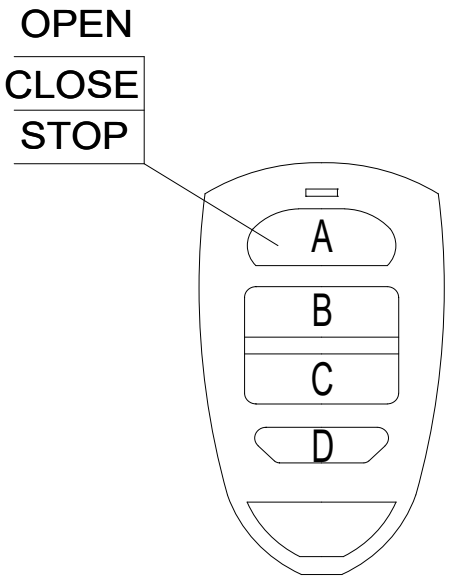


Figure 20

Add extra remote control (remote control learning): Remove the upper cover of main engine; press the learning button S1 on the control board, and indicator light LEARN will flash once and then go out; press the same button on the remote control twice, the LEARN flashes repeatedly and then goes out; remote control learning is succeed. At most 25 remote controls can be learned.

Delete remote control: Delete remote control that have been learned; press the learning button S1 and LEARN will be on; loosen the button until LEARN is off. This indicates that all remote controls that learned previously have been deleted.

Note: Unlock the door opener, move the door to the middle position, reversely rotate the manual release bar to lock, electrify and then press TEST button after relay restoration, the door would automatically operate once, LED4 LED6 on the control panel is the door-opening indicator light that shows green; LED3 LED6 is the door-closing indicator light that shows red. If the opening-closing direction is incorrect, the direct-current motor wire could be exchanged to alter the moving direction of the electrical machine.

Battery connection:

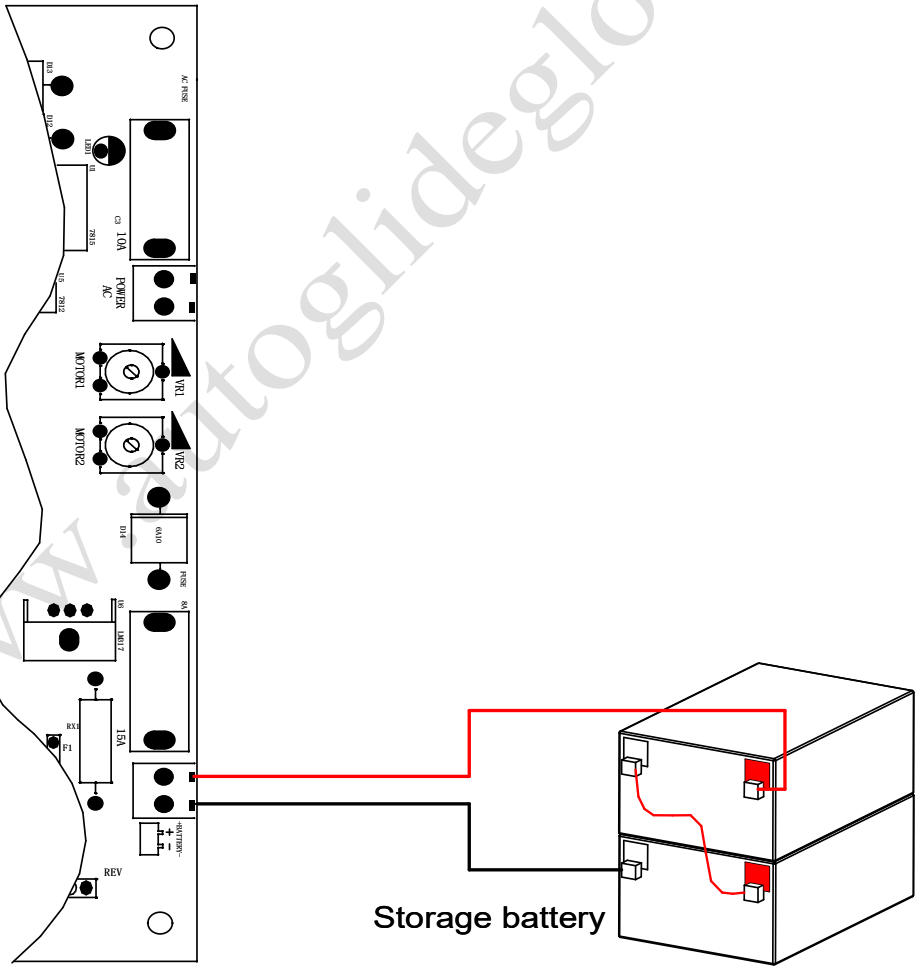


Figure 21

Solar panel connection:

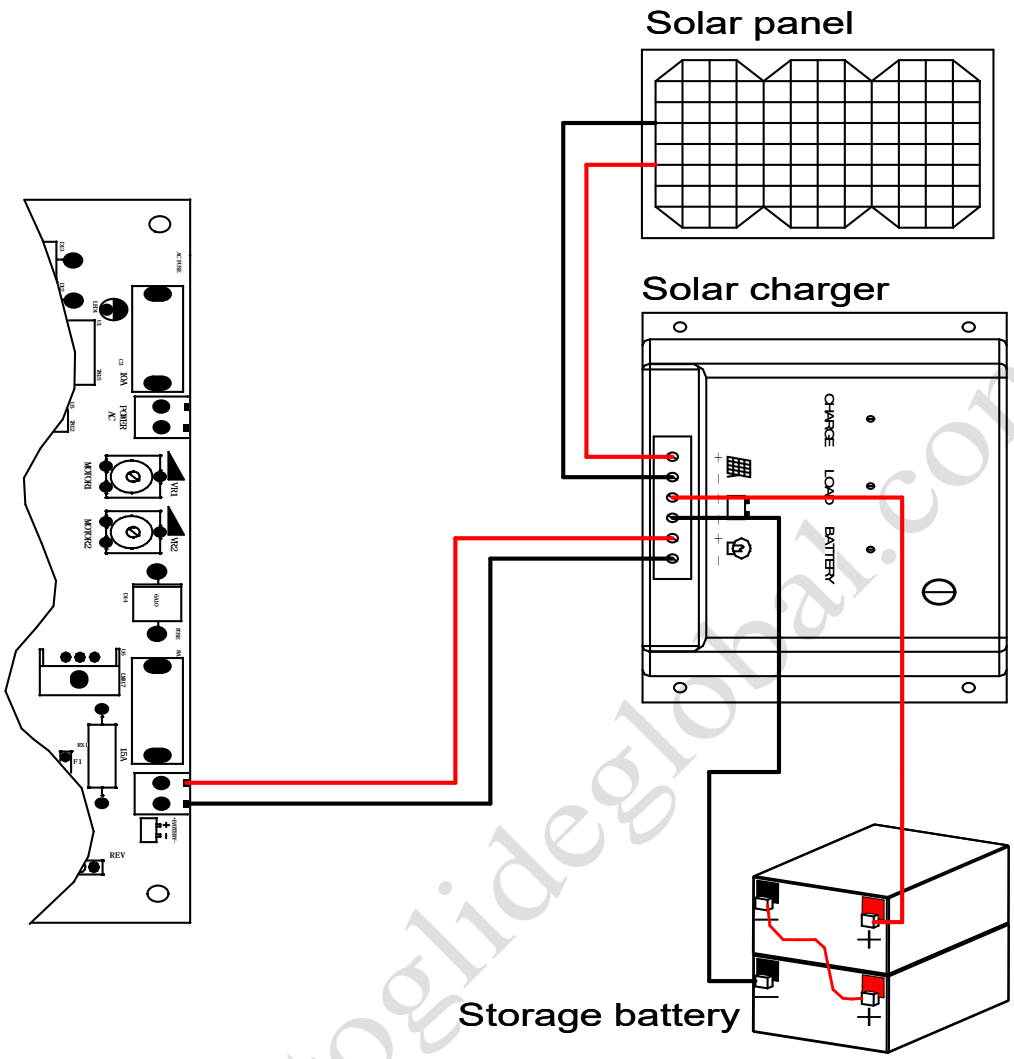


Figure 22

5. Others

5.1 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.

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

Our company has the right to change the instruction without prior notice.

5.2 Troubleshooting

Problems	Possible Reasons	Solutions
The gate cannot open or close normally, and LED 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 IR and COM 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 VR1, VR2. 3.Remove the obstacle.