Installation Guide

Version 03-02

SD
Sliding Gate Opener

CE SGS UKAS

1. Features:

1. Fully built-in compact design with fashionable streamline
2. Pedestrain opening or full open function
3. With interface of flashing lamp (AC/DC) for pre-warning (with LDR control)
4. Autoclose delay time adjustable
5. Backup battery is available with battery status display
6. Full speed operation selectable
7. Digital gate limits positioning system (DLPS)
8. Electronic soft start and soft stop
9. Magnetic limit switch control (optional)
10. Door alarm (when gate in closed position)
11. Photocell sensor to prevent hitting obstacles
12. Automatic stop when hitting obstacle during opening
13. Automatic reverse when hitting obstacle during closing
14. Solar System compatible

2. Technical Specifications

■ Electrical

Power supply	AC240/ AC110V±10%V, 50Hz
Operating Voltage	DC 24V
Electronic Controller	Microcontroller Based
Safety Detection	Over Current Detection
Safety Barrier	Infrared Beam Sensor
IP Rating	IP57

■ Mechanical

Model	SD
Max. Gate Weight	800 kg
Gate moving speed	13m/min
Gate Limit type	Intelligent Position Detection/ Magnetic Limit Switch (optional)
Operating distance	≥50m Frequency:433.92 MHz
Remote control mode	Close/ Open/ Stop/ Pedestrain Open
Auto close time	0~99 sec (Adjustable)
Noise	≤65dB
Product actual size	29*23*15 cm
Packing size	40*30*18.5 cm
Environmental temperature	-15℃ to +55℃

3. Installation

Motor Dimension

230
107
290
150
220

（Unit：mm）

Gear & Rack Installation

28
93
16T

36
101
20T

（Unit：mm）

SD
Sliding Gate Opener
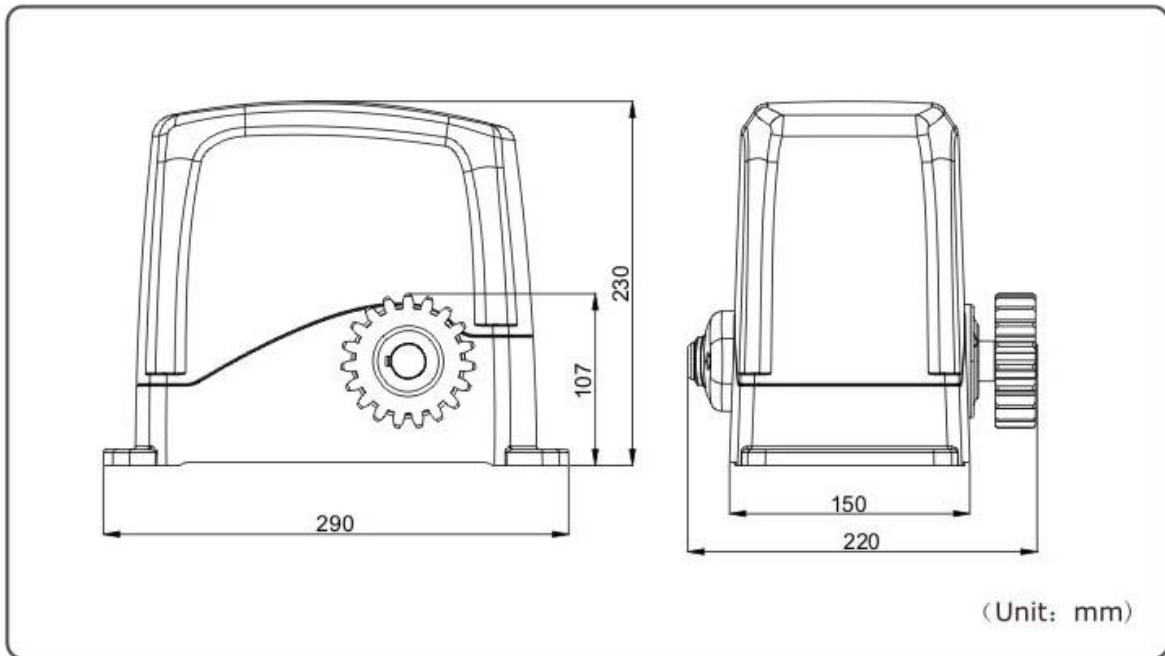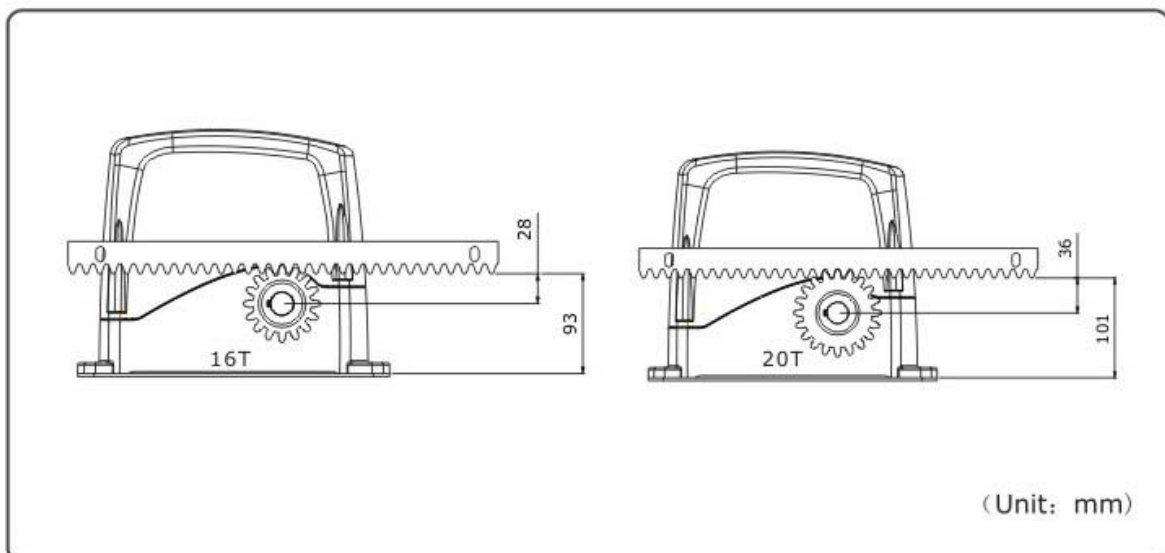
Mounting Plate/ Base Dimension

Mounting Plate

Mounting Base

(Unit: mm)

Installation Diagram

1. Push Button
2. Photocell
3. Magnetic Limit Switch
4. Rack
5. AC Flashing Light
6. DC Flashing Light
7. SD Sliding Motor
8. Remote Control

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Sliding Gate Opener
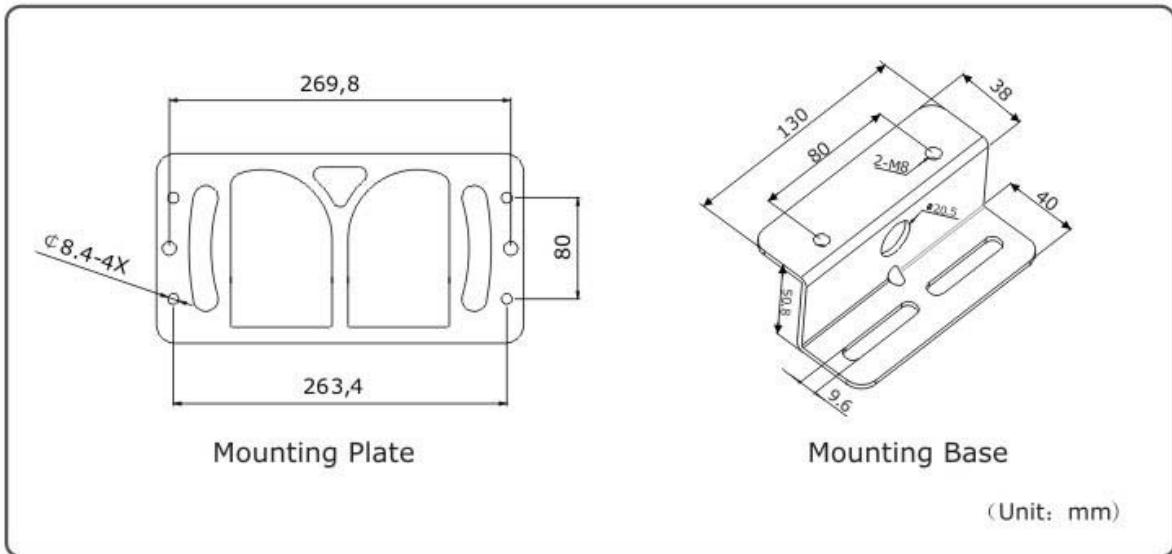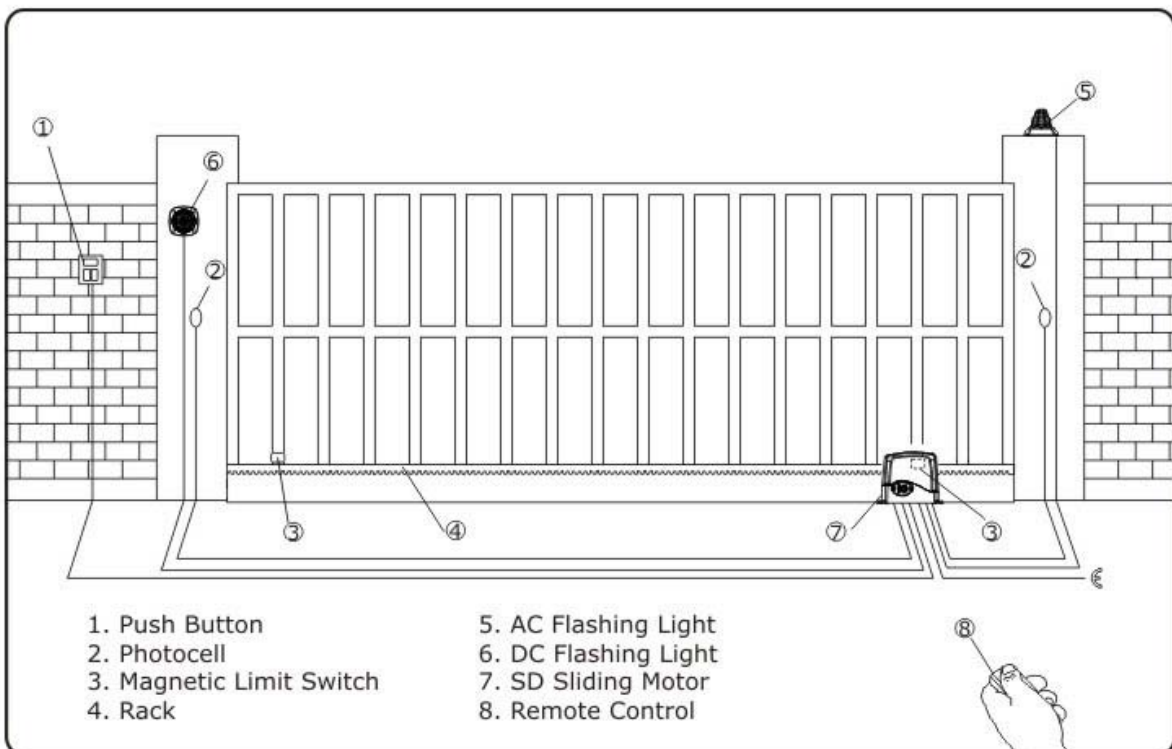
Motor & Rack Installation

1. Reserve a place for the mounting plate
2. Arrange all necessary electric wire in advance
3. Fix the bolt onto the mounting plate, make the threaded portion 25-35mm higher than the plate, lock up the plate with nuts
4. Pour cements on the ground, put the mounting plate in place before the cements solidified. Make sure the mounting plate is in a level and horizontal position with the gate.
5. Take off the nut from the bolt, put the slider motor onto the plate, make sure there is 20mm space between the gear wheel of the motor and the side of the gate, fix the nuts.
6. Manual release the slider motor (Follow steps stated in the Manual Release page 5)
7. Fix the rack onto the gate, keep 1-2mm space between the rack and the gear wheel.
8. Move the gate for several times by hand, make sure the rack work well with the gear, and the gate can move smoothly.
9. Turn the slider motor to the electric mode.

1. Installation of the mounting plate

2. Installation of the slider motor

3. Installation of the rack
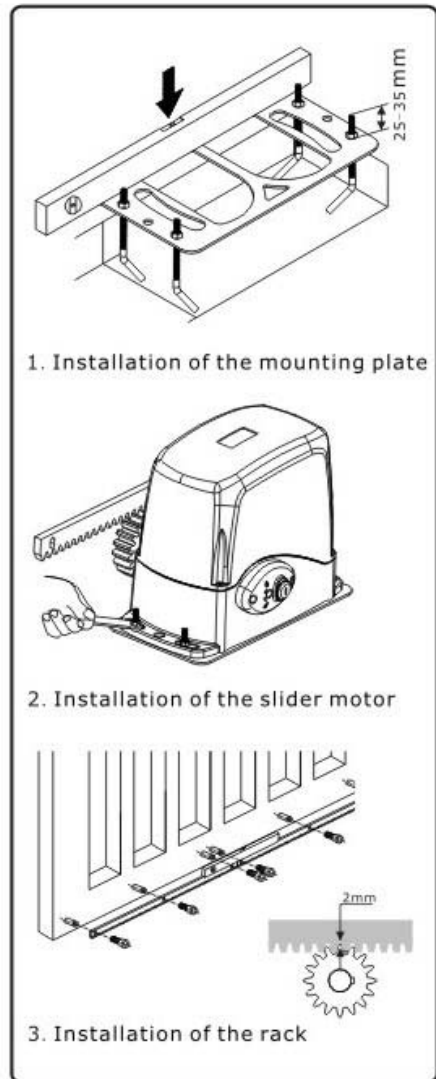
If use mounting base , please complete the following steps

1. Fix the mounting base with the screws on the ground.
2. Fix the motor on the mounting base and make sure motor gear contrate with the door side keeping 20 mm space, then screwing on the nuts.
3. Manual release the slider motor (Following steps on page 5).
4. Fix the rack onto the gate, keep 1-2mm space between the rack and gear.
5. Move the gate several times with hand, make sure the rack work well with the gear, and the gate can move smoothly.
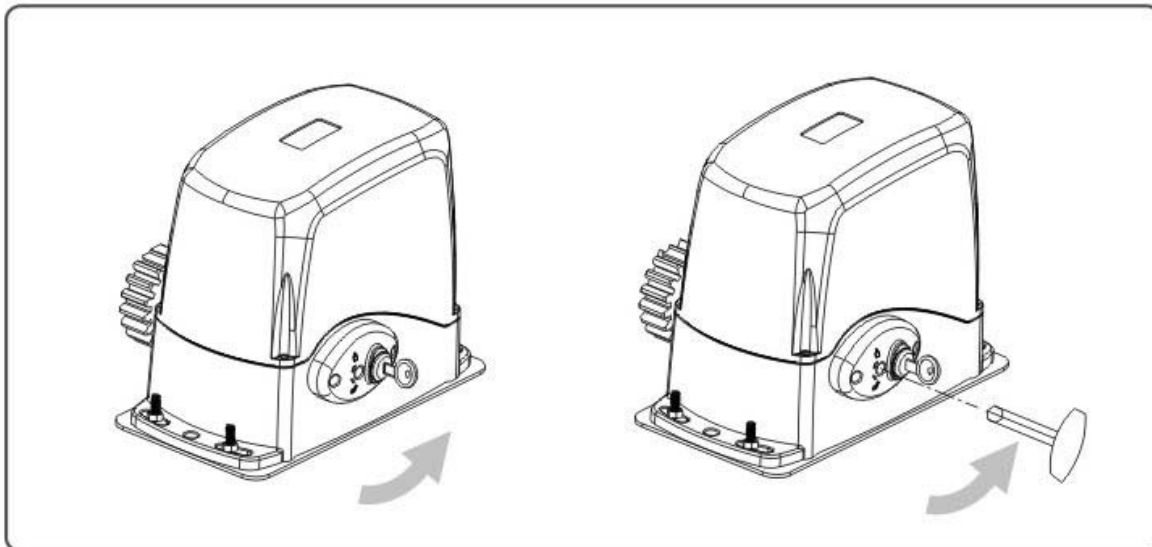6. Turn the slider motor to electric mode.

Mounting Base Installation
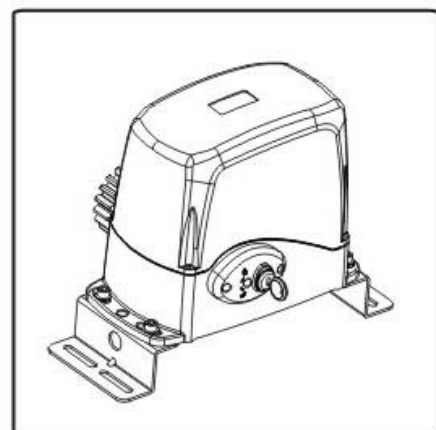
SD
Sliding Gate Opener

4. Manual Release

1. Put the key into the key hole and rotate it to turn 90 degree clockwise
2. Put the alley key to rotate 90 degree clockwise
3. Now you can move the gate by hand

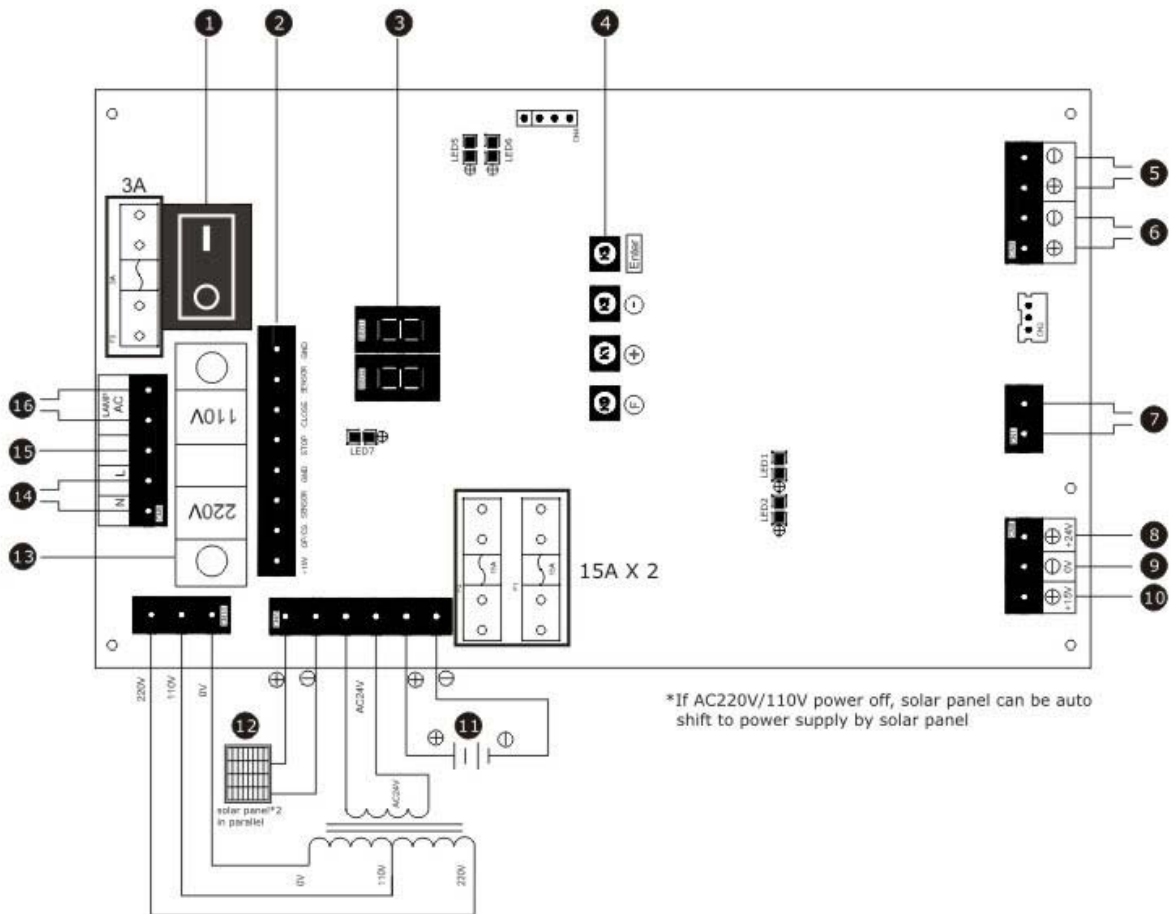*If you want to swift the mode from manual to electric, do the steps contrarily

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Wiring

5. Wiring

*If AC220V/110V power off, solar panel can be auto shift to power supply by solar panel

1. Power Button
2. Accessories and command device's terminals
3. Indicator
4. Function Adjustment Button
5. DC Flashing Light
6. Buzzer
7. DC24V Motor
8. Output DC24V (unstable voltage)
9. 0V "−" output
10. Output DC15V stable voltage (load current can't be over 500mA)
11. Backup Battery (12V 7Ah X 2 in series)
12. Connector for solar panel / adaptor
13. Switch (AC 220V & 110V)
14. Power Supply (AC 220/110V)
15. Earthed
16. AC Flashing Light

6. LED Diagram
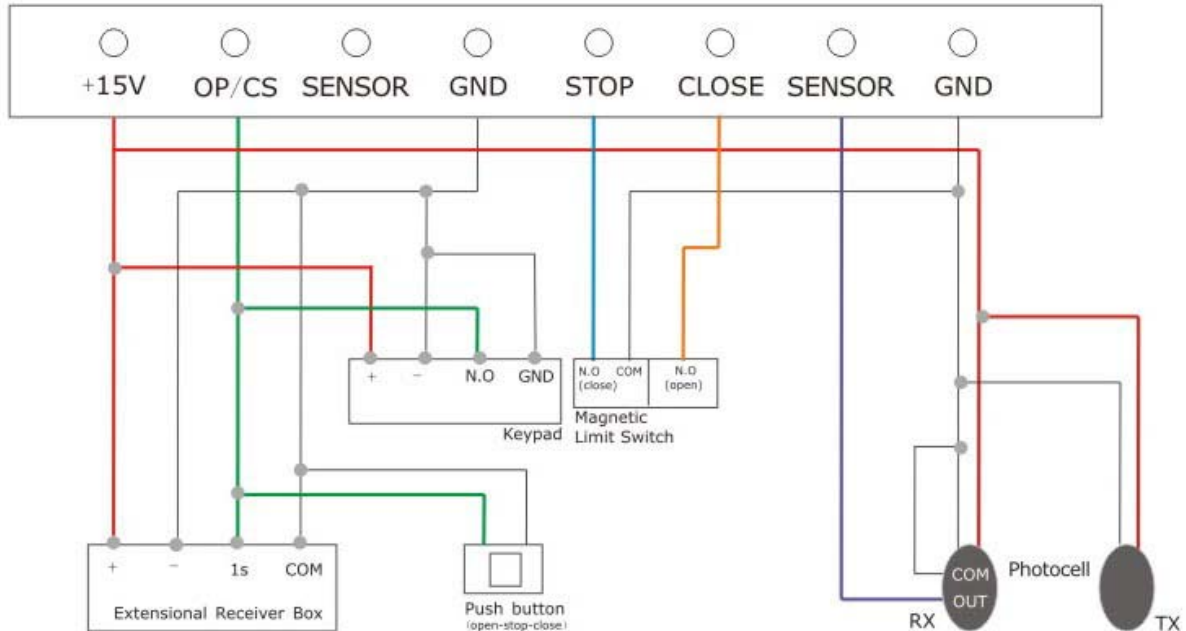
Power On, LED5 will blink.

LED1 Open LED
LED2 Close LED
LED5 Power LED
LED6 Received signal for remote control LED
LED7 Push Button LED

SD
Sliding Gate Opener

7. Wiring for optional accessories

| Item	+15V	OP/CS	SENSOR	GND	STOP	CLOSE	SENSOR	GND	Remarks
Description	Stable voltage output	Open/Stop/Close	back-up	"-" & "Concentration line"	close limit	open limit	Normally opening signal	"-" & "Concentration line"	
Extensional Receiver Box	●	●		● ●					
Keypad	●	●		● ●					
Push button		●		●					
Photocell (sender)	●							●	
Photocell (receiver)	●						●	● ●	
Magnetic Limit Switch					●	●		●	

" ● "Means the connection port

＊Instructions for photocell:
During closing, if active the signal of photocell, the PCB will activate opening operation
When photocell sensed the obstacle, the door will be stopped then opened immediately.
After remove the obstacles, the door will operate according to the new command

SD
Sliding Gate Opener
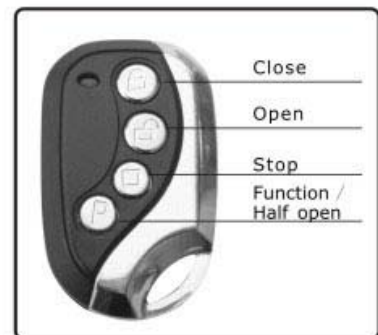
8. Remote Control Setting

Press and hold "F" button for approximately one second (without pressing the button of remote control) until the indicator appears "FF" and keep blinking, release the "F" button, then start to the setting (Do step 8.1 or 8.2)
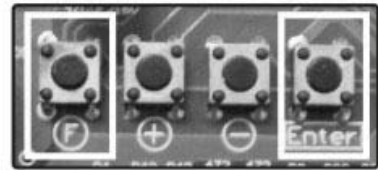
8.1 Activating the Remote Control

Keep pressing any button on the remote control, if the indicator retain lighting, it means the remote controls are valid (50 remote controls can be set at most)

*Verify the remote control is activated by pressing the remote control button. The LED will be on/Off (see notes LED Diagram)

8.2 Erasing the Code

Press and Hold on "Enter" button on the PCB for over one second until the indicator retain lighting Then all the remote controls are invalid.

Close
Open
Stop
Function /
Half open

433MHZ Remote control

9. Motor Setting (For first time use)

9.1 Entering the learning mode

Keep pressing "+" button on the PCB until the indicator appears "AA" and keep blinking, the motor setting get started. then proceed to TOTAL TIMER ADJUSTMENT, after finish the setting, please press the "F" button for exit the motor setting.

Function adjustment button

F   +   ⊖   Enter

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Sliding Gate Opener
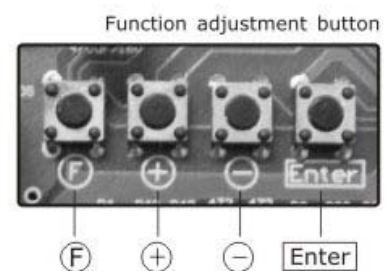
9.2 Total Timer Adjustment

Learning of the total time for opening gate

Make sure the gate are in closed position before start learning of the total time for opening the gate.

While keep pressing the "Ⓟ" button on the remote control, press the " 🔓 open" button until the indicator blinking quickly, then release the buttons. The motor will operate with low speed until the end and stop, the system will memorize the total operation time automatically and allocate the time for low speed and fast speed operation.

Learning of the total time for closing the gate

Make sure the gate are in fully opened position before start learning of the total time for closing the gate.

While keep pressing the "Ⓟ" button on the remote control, press the " 🔒 close" button until the indicator blinking fastly, then release the buttons. The motor will operate with low speed until the end and stop, the system will memorize the total operation time automatically and allocate the time for low speed and fast speed operation.

	Close
	Open
	Stop
	Function
	Half open

Remote Control

***Please following the steps if no magnetic limit switch, and then Do the Motor Setting**

1. Make sure it has endstop at the gate opening and closing position.
2. Make sure the gate is at closed position.
3. After Powered on, making the gate move a small distance when you press the "open" button , then press the "Close" button, the gate will move till meeting the endstop.

Reset gate limits memory after power failure

In case of power off, and we need to do following steps before getting the gate operator working properly again

Press the " 🔓 open" or " 🔒 close" button on the remote control. The motor will operate with low speed, keep pressing " 🔓 open" or " 🔒 close" button, the motor will operate with full speed, release the button, the motor will operate with low speed again. After the motor operate to the ends, the data system has been initialized, and the gate operator can working properly again. If the gate motor encounters obstacles and stopped, it will require to turn off power supply and start the procedure above again

*When we are doing the motor adjustment, make sure the gates are in fully closed or opened position.

SD
Sliding Gate Opener

Adjustment (Follow the steps below)

After you done "Total Timer Adjustment", we recommend not to change the setting for A0-B0. If you prefer to change, please refer to following steps.

Step 1: Press "F" button, the indicator will appear "C8"
Step 2: Press "+" button, it'll appear in turn "C8,C9,D0,D1,D2,A0,A1,A2,A3,A4......
Press "-" button, it'll appear reversely
Step 3: Press "F" button, after choose the item, the indicator will appear numbers
Step 4: Press "+" or "-" button to select levels
Step 5: Press "Enter" button to confirm
Step 6: Press "F" button for return to previous configuration menu

Function debug form

Item	No#	Description	Setting Range	Remark
Motor	A0	Automatic stop/reverse force sensitivity during low speed	0-99	Default : 10 / Lower value means higher sensitivity
	A1	Automatic stop/reverse force sensitivity during fast speed	0-99	Default : 25 / Lower value means higher sensitivity 99= cancel
	A2	Motor rotation circle/ distance Setting when opening gate	0-99	Default : 67 decimal/ unit digits (LED)
	A3	Motor rotation circle/ distance Setting when opening gate	0-99	Default : 07 kilo/ hundreds digits (LED)
	A4	Motor rotation circle/ distance Setting when closing gate	0-99	Default : 67 decimal/ unit digits (LED)
	A5	Motor rotation circle/ distance Setting when closing gate	0-99	Default : 07 kilo/ hundreds digits (LED)
	A6	Force Setting for low speed	0-99	Default : 30
	A7	Force Setting for fast speed	0-99	Default : 99
	A8	Deceleration distance setting when opening gate	0-99	Default : 40
	A9	Deceleration distance setting when closing gate	0-99	Default : 40
	B0	Force Setting for Pedestrain opening speed	0-99	Default : 60
Function parameter	B1	Remote control operating (Push Button)	0-2	0= Normal Operation / 1= Delay 2 seconds to start the operation / 2= First press stop button then close/ open button
	B2	Initial Self distance learning - fast start	0-1	o= low speed learning / 1= fast speed learning when push open button
	C0	Actual Display of A2 and A4 setting		Display decimal/ unit digit when Motor Start
	C1	Actual Display of A3 and A5 setting		Display kilo/ hundreds digit when Motor Start
	C2	Alarm Setting	0-1	0= cancel 1: Armed when gate closed
	C3	Automatic Closing	0-99	0= cancel / (1-99)= delay 1-99 seconds
	C4	Automatic Closing when pedestrain opening	0-99	0= cancel / (1-99)= delay 1-99 seconds
	C5	Pedestrain Opening Distance Setting	0-99%	Default : 30%
	C6	Full Speed Opening Setting	0-1	0= Linear acceleration start(soft start) / 1= full speed start
	C7	LDR (light dependent resistors) Setting **	0-99	0= cancel / 1-99= LDR Sensitivity Setting
	C8	Battery capacity display	0-99	Percentage Display, 99= fully charged
	C9	Reserved terminal for maintainance and testing		
	D0	Model		Reserved function
	D1	Software version		
	D2	Restore default setting		" 09 " = restore factory settings / default setting: 00

* Remark:C0 & C1 means the number of rotation of motor shaft
For example, if C0 display"52", C1 display "12", that means the motor rotates 1252 rotations

SD
Sliding Gate Opener

Solar Panel Installation

1. Measure and mark halfway along the long sides of both solar panel sides (170mm half way)

2. Place the holding brackets over this halfway point and mark the holes. Attach the plastic washers to the holding brackets and holding arms

3. Carefully drill the 4 holes with a 13/64 drill bit and be suer you don't drill into the glass. Use a piece of thin metal between the frame you are drilling and the white to protect it.

4. Place the holding brackets and use the 10mm screws and bolts to hold in place (You can also use the 4*13mm hex screws included).

5. Install the holding arm to the holding brackets with the 25mm screws and bolts. This can be done after you attach the holding arm to your fence post with the wiring. For maximum sun exposure, align the solar panel so the bottom is facing sunrise and the top is facing sunset.
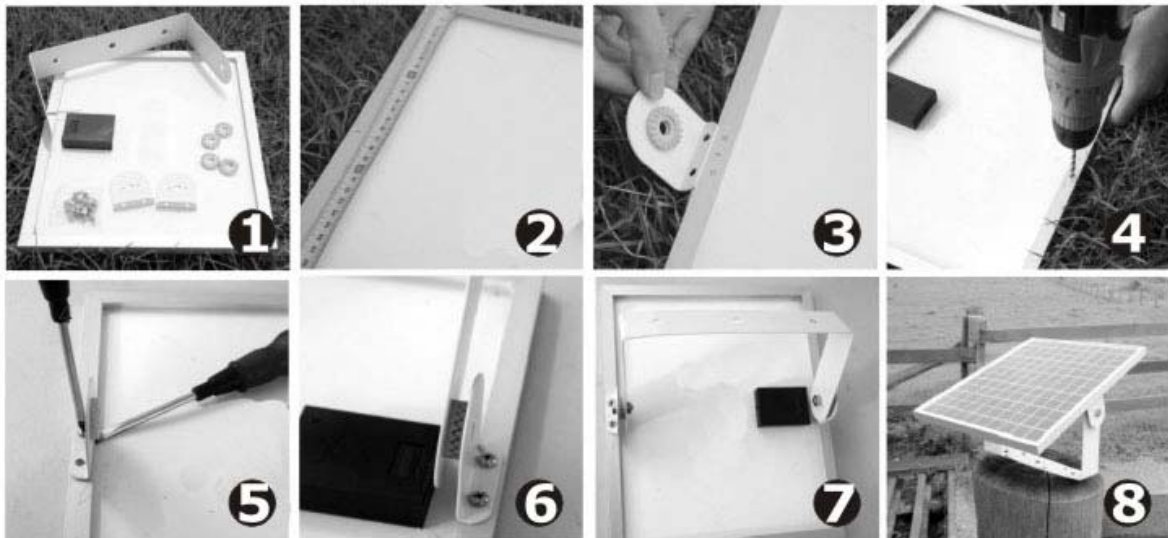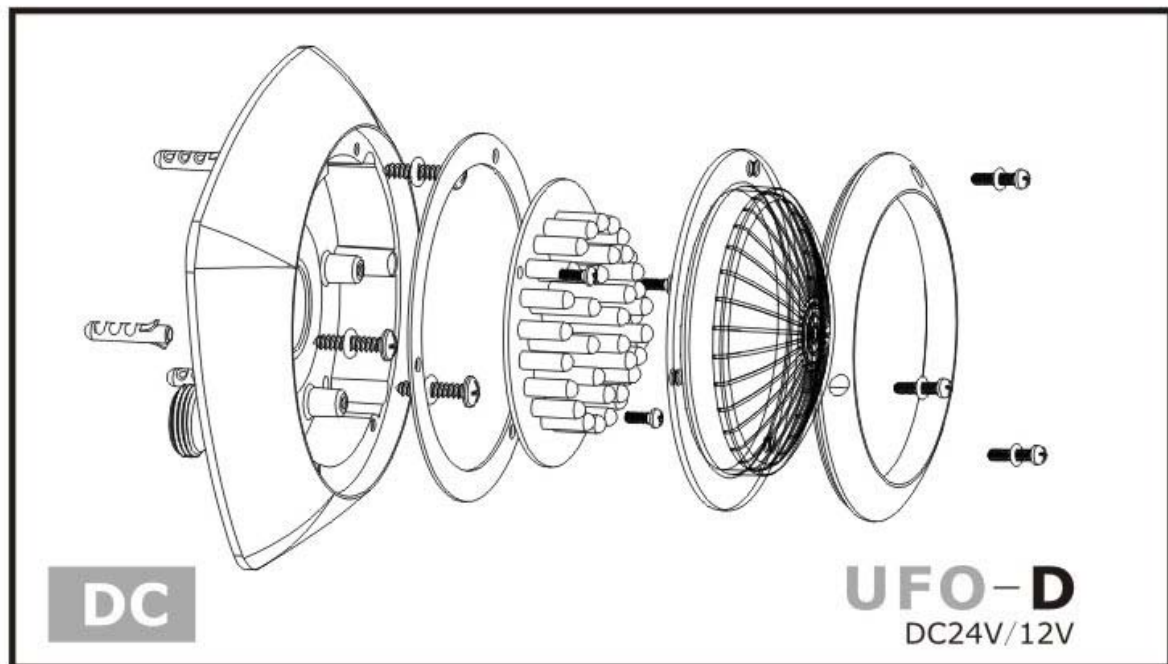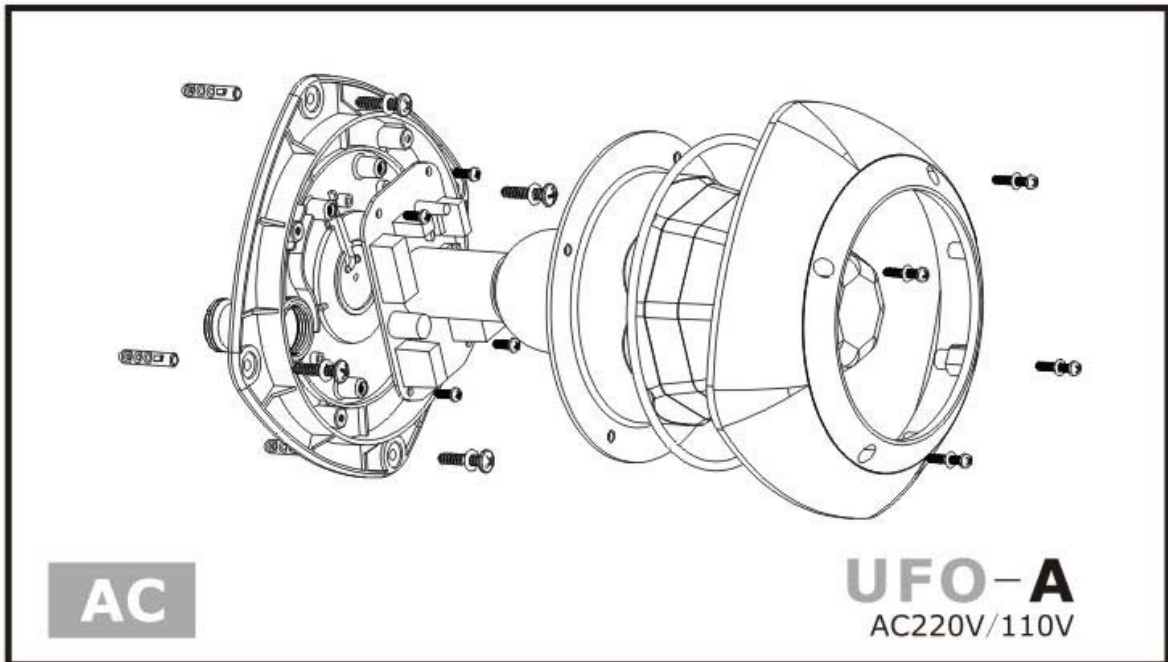

Battery Maintenance

Before use the backup batteries, please make sure that they are fully charged, it will lead to wrong operation if it is not fully charged, and need to check or replace the batteries by qualified person on a regular time basis.

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Sliding Gate Opener

Flashing light installation

AC

UFO–**A**
AC220V/110V

DC

UFO–**D**
DC24V/12V

If using solar systems, connect with DC24V only
*wiring for flashing light, (see Page 7)

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Sliding Gate Opener

Smart / Auto Detection
Sliding Gate Opener

DC 24V

Gear Driven	Pre-Flash Warning Lamp	n Speed	Over Current Safety	Automatic Closing	Backup Battery

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