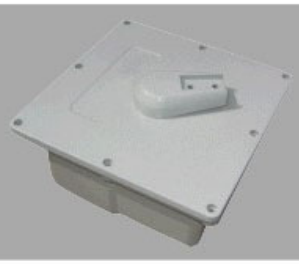
Installation Guide

Version 02-01

UA

Underground Swing Gate Opener



1. Features:

1. Adjustable time of fast speed & slow speed (A2~A5/ B2~B5)
2. Adjustment of force during fast speed & slow speed (A6,A7/ B6,B7)
3. Auto Close function
4. Adjustable closing time delay for motor with electric lock
5. Single & dual swing is optional
6. Max can up to 50 sets of remote controllers,
7. DC 24V backup battery (Optional)
8. Flashing light AC 220V/110V & DC 24V (Optional)
9. Optional Device: DC 24V gate lock, photocell, keypad, push button, extensional receiver box

2. Technical Specifications

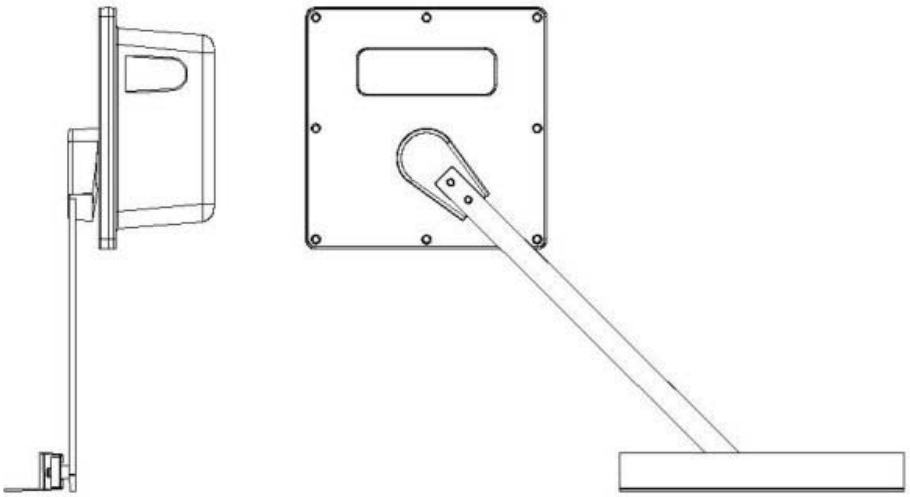
Electrical

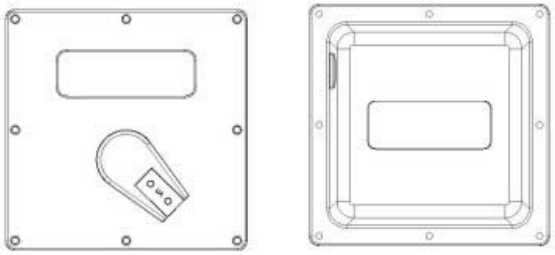
Main Supply Voltage	220V /110V AC
Operating Voltage	DC 24V
Electronic Controller	Microcontroller Based
Safety Detection	Over Current Detection
Safety Barrier	Infrared Beam Sensor (Optional)
IP Rating	IP67

Mechanical

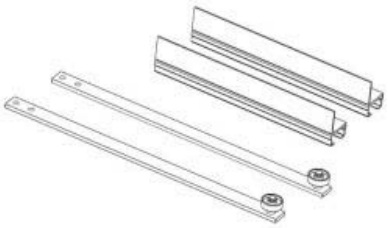
Model	UA
Max. Leaf's Weight	350 kg/ Leaf
Max. Leaf's Length	3 meter/ Leaf
Frame Housing	Aluminum Alloy
Opening Degree	0 to 180 degree
90 Degree Rotation Time	10 seconds
Temperature	-25℃--- +50℃
Clutch System	Adjustable

3. Accessories



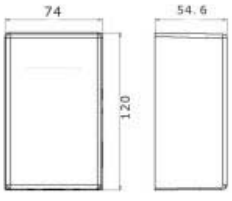


1 UA Motor

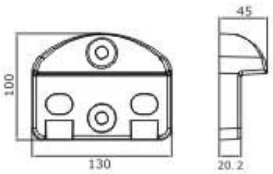


2 Actuator Connector Arms and Brackets

3 DS218 Electric Lock

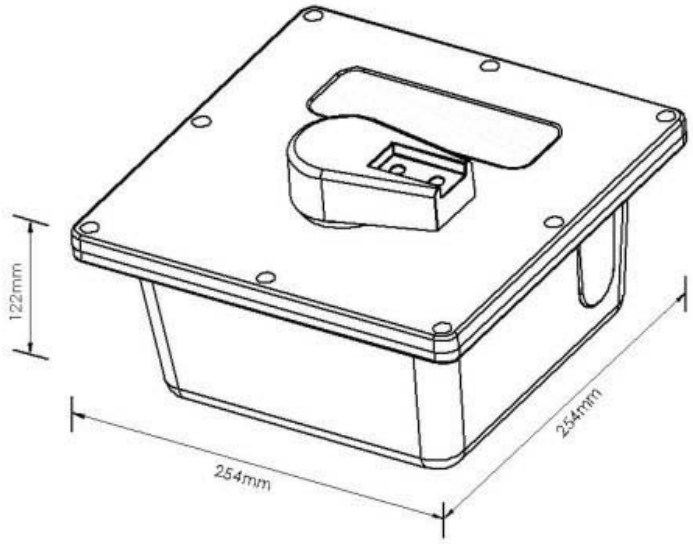


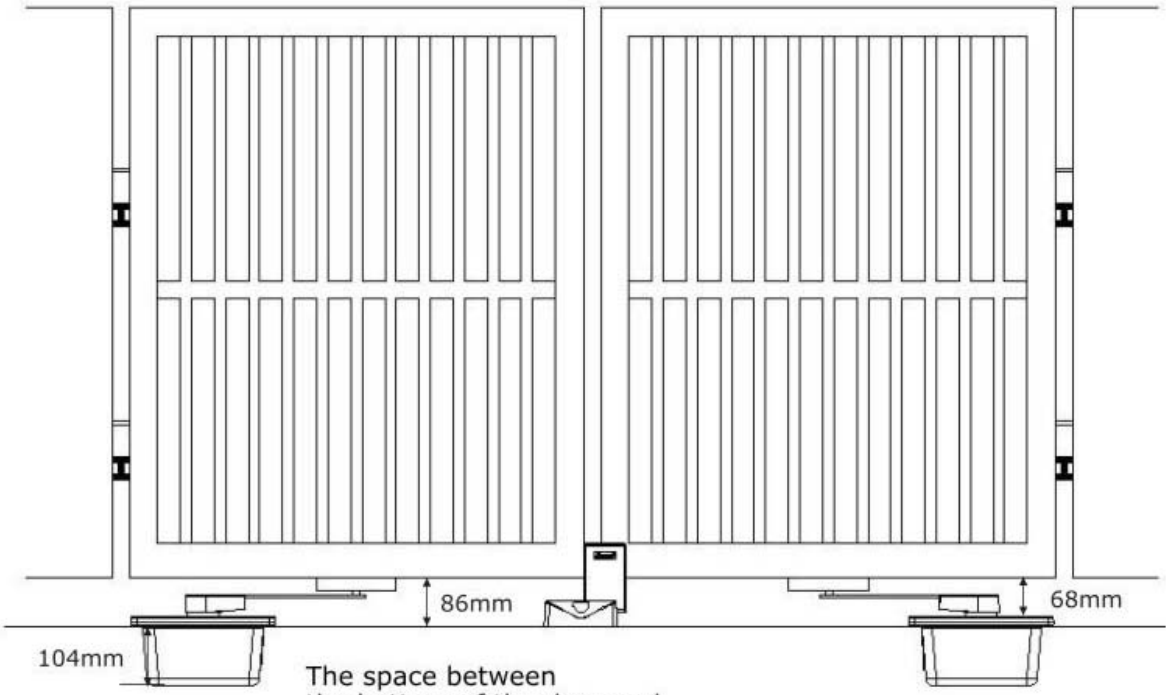
Solenoid Lock



Stopper

4. UA Installation Diagram

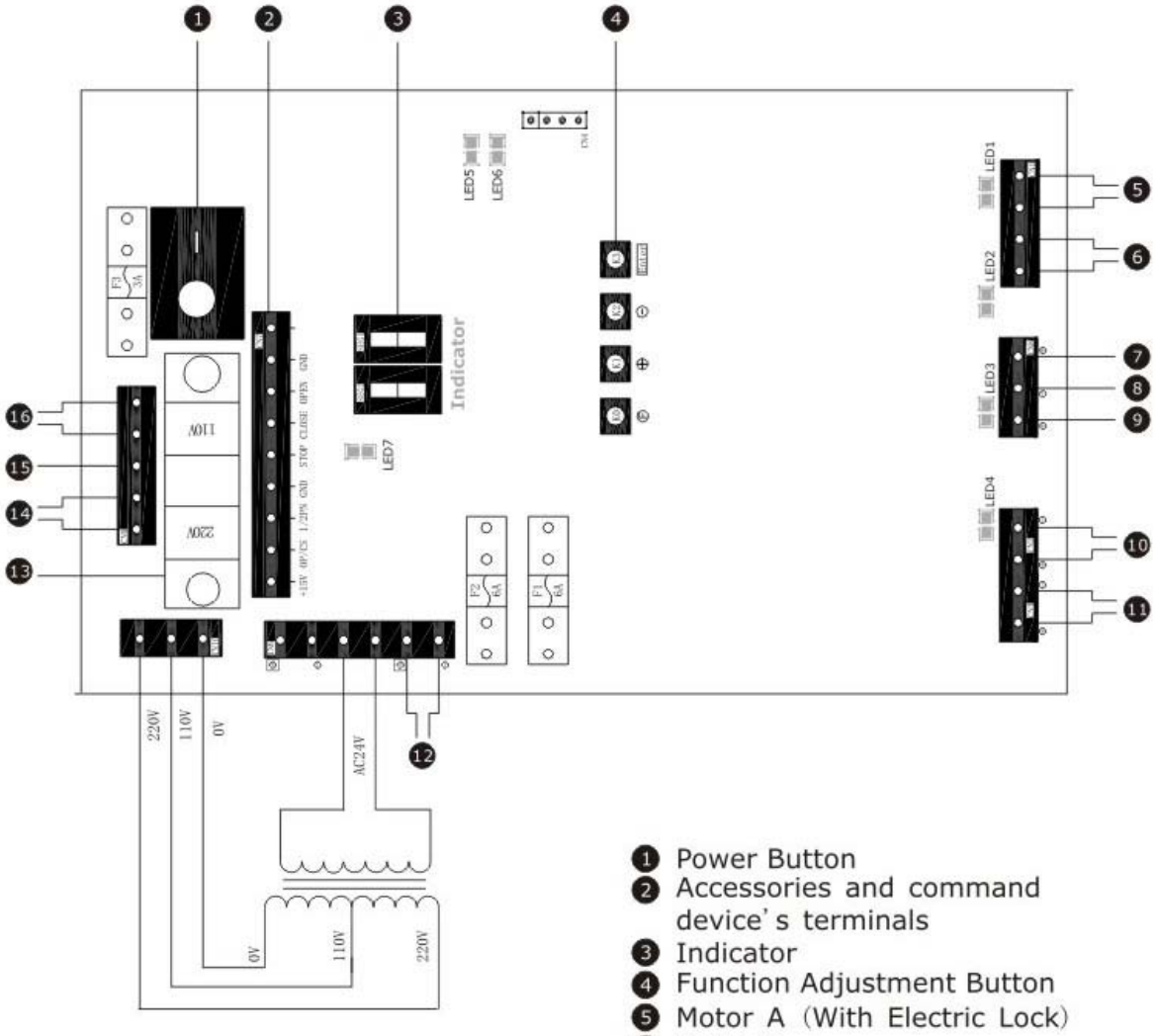




The space between
the bottom of the door and
the ground is 86mm.

Control Box Setting

1. Wiring



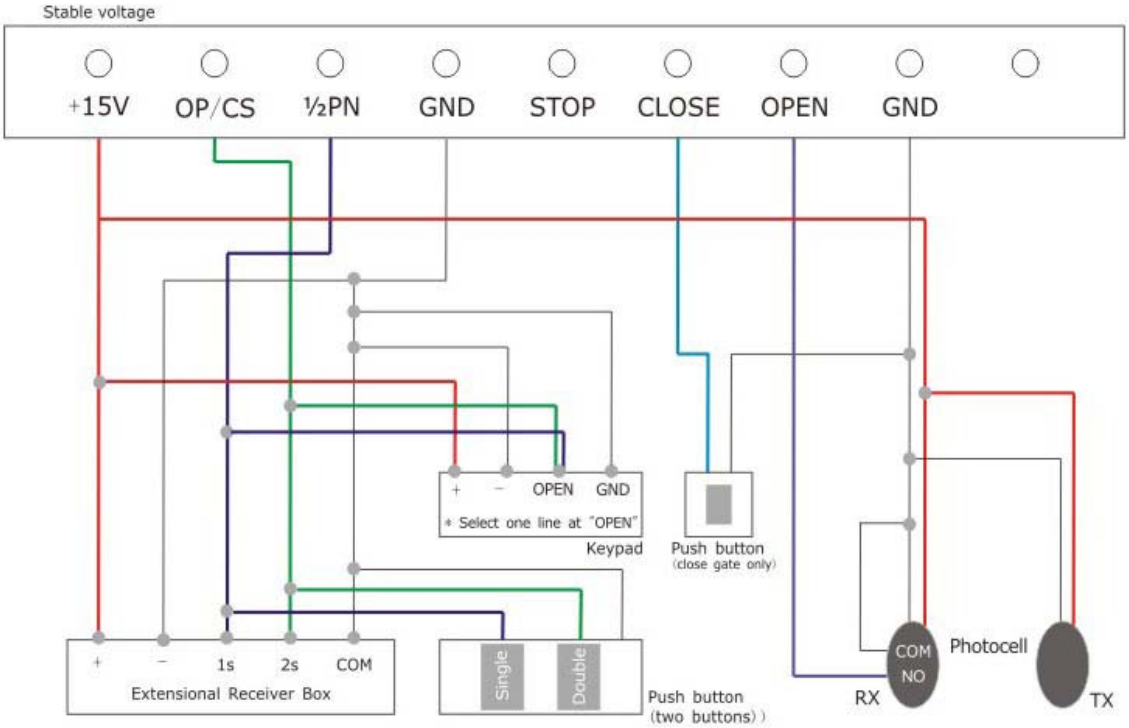
1. Power Button
2. Accessories and command device's terminals
3. Indicator
4. Function Adjustment Button
5. Motor A (With Electric Lock)
6. Motor B
7. Output DC24V (unstable voltage)
8. 0V "－" output
9. Output DC15V stable voltage
   (load current can't be over 500mA)
10. DC24V Electric Lock
11. DC24V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

2. LED Diagram

Power On, LED5 will blink.

LED1 Motor A open LED
LED2 Motor A close LED
LED3 Motor B open LED
LED4 Motor B close LED
LED5 Power LED
LED6 Received signal for remote control LED
LED7 Push button LED

3. Wiring for optional accessories



Item	+15V	OP/CS	1/2PN	GND	STOP	CLOSE	OPEN	GND		Remarks
Description	Stable voltage output	Dual Open	Single Open	"-" & "Concentration line"	Stop	Close	Normally opening signal	"-" & "Concentration line"	Reserved	
Extensional Receiver Box (single gate)	●		●	●●						
Extensional Receiver Box (dual gate)	●	●	●	●●						
Keypad (single open)	●		●	●						
Keypad (dual open)	●	●		●						
Push button (two buttons)		●	●	●						
Push button (one button)						●		●		close gate only
			●					●		single open
		●						●		dual open
Photocell (sender)	●							●		
Photocell (receiver)	●						●	●●		

"●"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.

4. Remote Control Setting

Press and hold "F" button for approximately 1 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 (4.1 or 4.2)

4. 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)

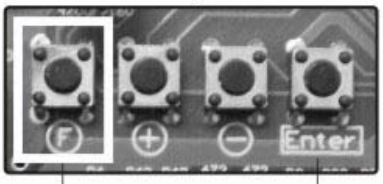
*Verify the remote control is activated by pressing the remote control button. The LED will be on/Off (see notes LED Diagram)

4.2 Erasing the Code

Press and Hold on "Enter" button on the PCB for over 1 second until the indicator retain lighting. Then all the remote controls are invalid.

****Pedestrian opening push "Ⓟ" button to perform single swing opening**

PCB Function adjustment button



Ⓕ/Exit Enter

433MHZ Remote control

The Remote control cyclic form is "open – stop – close"

Make sure the opener is installed by qualified technician properly and the gate is in fully opened position before carry out the below procedures.

5. Motor Setting

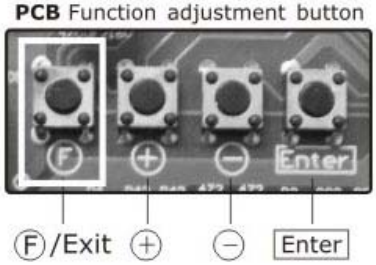
Total timer adjustment

Motor A : A2/ A3/ A4/ A5

Go to learning mode adjustment on PCB

First press the "+" button on the PCB for around 2 seconds, the indicator will show "AA" and keep blinking.

PCB Function adjustment button

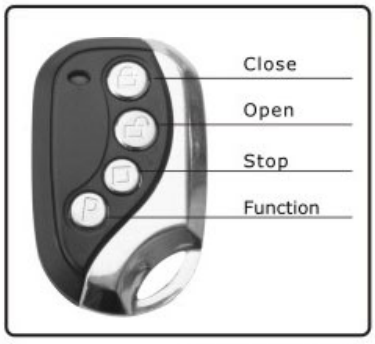


a) setting on closing Ⓟ+🔒 (use Remote Control)

Press and hold the "Ⓟ" and "🔒close" buttons on the remote control simultaneously until the indicator blinking, then release both buttons. The gate will now close, press the "□ stop" button when the gate hits the end stop.

b) setting on opening Ⓟ+🔓 (use Remote Control)

Press and hold the "Ⓟ" and "🔓open" buttons on the remote control simultaneously until the indicator blinking, then release both buttons. the gate will now open, press the "□ stop" button when the gate hits the end stop.



Remote Control

Exit the learing mode Ⓕ

press "F" button to exit the learning mode

*Check the parameters of A2/ A3/ A4/ A5 after setting to make sure the adjustment is valid

Motor B : B2/ B3/ B4/ B5

Go to learning mode adjustment on PCB

First press the "-" button on the PCB for around 2 seconds, the indicator will show "BB" and keep blinking.

Set up motor B by refering to steps a) and b) above

Exit the learing mode Ⓕ

press "F" button to exit the learning mode

*Check the parameters of B2/ B3/ B4/ B5 after setting to make sure the adjustment is valid

Function Adjustment

(Follow the steps below)

Step 1: Press ″F″ button, the indicator will show ″A0″

Step 2: Press ″+″ button, it' ll show in turn ″A1, A2, A3, A4, A5, A6, A7, B0, B1, B2, B3, B4, B5, B6, B7, C0, C1, C2, C3, C4, C5, C8, C9, D0, D1, D2″, Press ″−″ button, it' ll show reversely

Step 3: Press ″F″ button, after choose the item, the indicator will show numbers

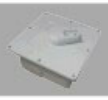
Step 4: Press ″+″ or ″−″ button to select levels

Step 5: Press ″Enter″ button to confirm

Step 6: Press ″F″ button for return to previous configuration menu

Function Debug Form

Item		Name	Setting Range	Descriptions	Remarks
A0	B0	Overload force adjustment during slow speed	0~99	default setting : 20	A0 to A7 : motor A B0 to B7 : motor B
A1	B1	Overload force adjustment during fast speed	0~99	default setting : 50	
A2	B2	Time of opening slow speed	0~9.9s	default setting : 5	
A3	B3	Time of opening fast speed	0~99s	default setting : 3	
A4	B4	Time of closing slow speed	0~9.9s	default setting : 5	
A5	B5	Time of closing fast speed	0~99s	default setting : 3	
A6	B6	Adjustment of force during slow speed	0~99	default setting : 43	
A7	B7	Adjustment of force during fast speed	0~99	default setting : 99	
C0		Reverse swing of motor A	0~2	" 0 " = neither gate lock or opposite open operation	default setting: 2
				" 1 " = having gate lock operation but no opposite open operation	
				" 2 " = both having gate lock operation and opposite open operation	
C1		Electrical lock	0~1	" 0 " = no gate lock operation when close	default setting: 1
				" 1 " = having gate lock operation when close	
C2		Motor Parameter Setting	0~3	" 0 " motor A single swing	default setting: 2
				" 1 " motor B delay start when opening	
				" 2 " motor A start first during opening motor B start first during closing	
				" 3 " = motor A and B double swing without delay	
C3		Auto close time adjustment	0~99s	" 0 " = cancel auto close	default setting: 0
				" 1-99 " = auto close	
C4		Delay Start time adjustment for both motor A and B	0.1~9.9s	Delay adjustment of start operating time for both motors	default setting: 2
C5		Delay activating time for remote control button (for avoiding misoperation)	0~2	" 0 " = normal operation	
				" 1 " delay 2 seconds then start the operation	
				" 2 " first press stop button for 2 seconds, then close /open button to activate the operation	
C8		Battery capacity display	0~99	Below 30 = Battery soon will be run out 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



Recommendation:

1. For windy area, the travel time of motor should be set longer by few seconds to ensure the gate can open/close fully in order to overcome wind resistant. Increase the value of overload stop setting of fast/slow speed（A0/A1, B0/B1).
2. After completion of total timer learning procedure, if the gate stop halfway during open/close, INCREASE the overload stop setting value (A0/A1, B0/B1).
3. After completion of total timer learning procedure, if the gates stop a little distance before they reach the end stops during open/close, INCREASE the time of fast speed opening/closing setting value（A3/A5, B3/B5).
4. If the gate impact force when slamming to the end stop is too large during open/close, DECREASE the time of fast speed opening/closing value (A3/A5, B3/B5), INCREASE the time of slow speed opening/closing value (A2/ A4, B2/ B4) and the force of slow speed value (A6, B6) should be DECREASED.
5. During the case the gates stop due to overload, must press the "open" button first to let the gates open fully, then press" close" button to make the system work properly.
6. If gate B is blocked then close it jamming gate A, gate B must be pulled physically open by hand to allow gate A to open.

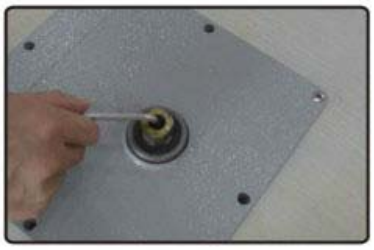
6. Clutch Adjustment

1. Removing the Cap

2. Loosen/ Tighten the clutch

Loosen the clutch (Reduce Force) :
Plug in the allen key and turn counter clockwise.
Now the clutch is loose and the force is reduced.

Tighten the clutch (Increase Force) :
Plug in the allen key and turn clockwise.
Now the clutch is tight and force is increased.

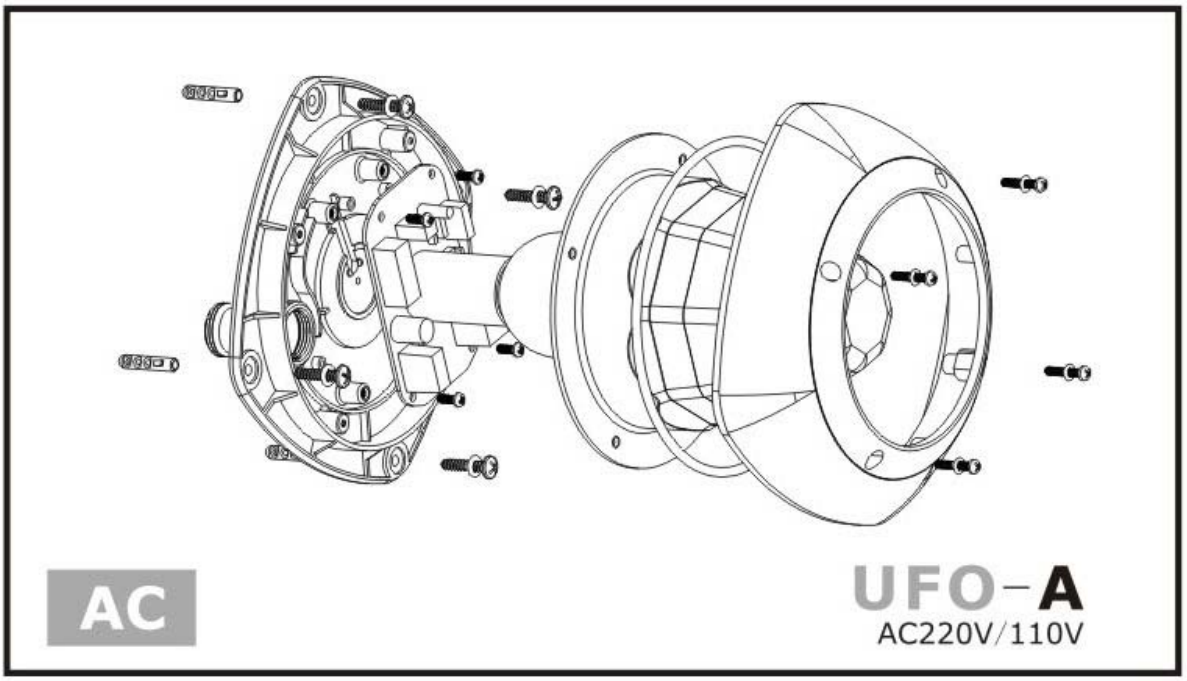


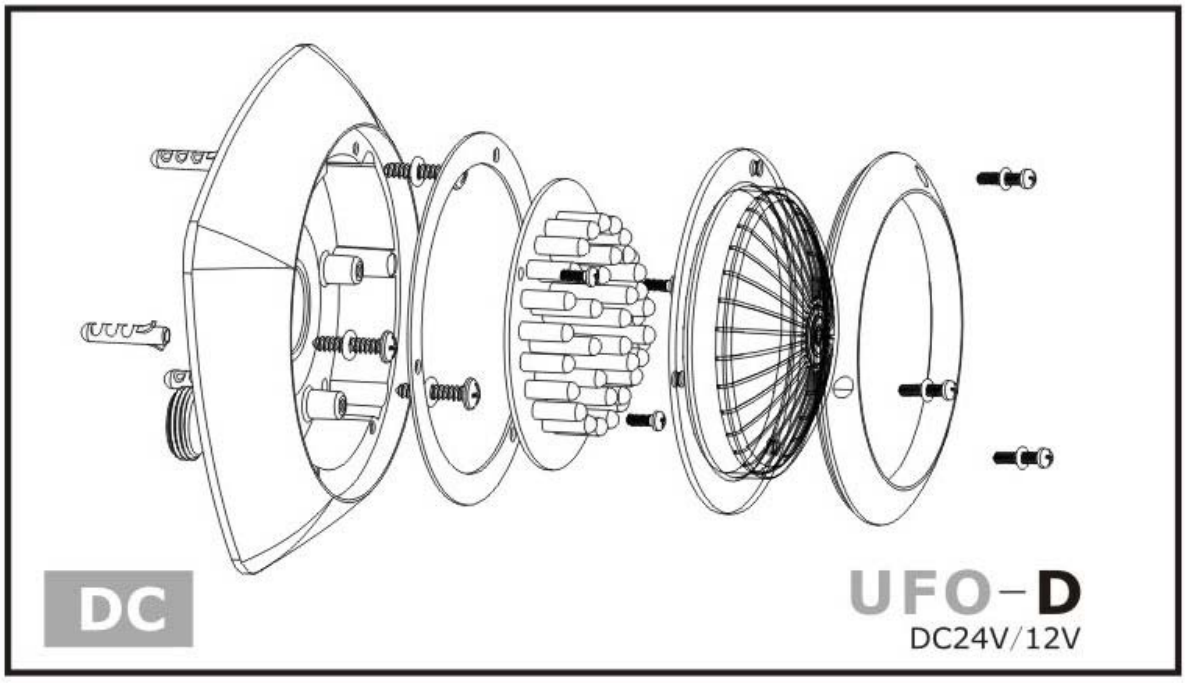
* For larger / heavier gate, bigger force is needed. hence the clutch should be tighten.

3. Reposition back the cap and connect the actuator arm to the gate. Test the gate operation using remote control to make sure it can function normally.

* The recommended gate width is 2.5m, weight not more than 300kg. For non fully covered gate, use the factory default setting for the clutch tightness, clutch adjustment normally not required.

Flashing light installation

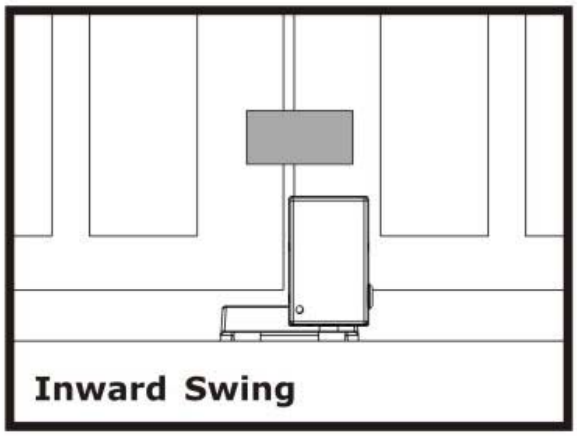


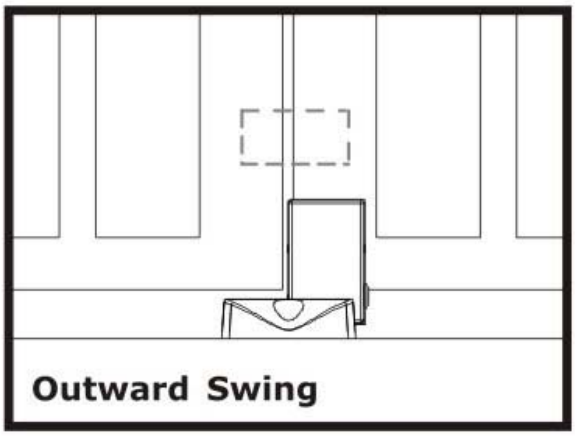


*wiring for flashing light, (see Page 4)

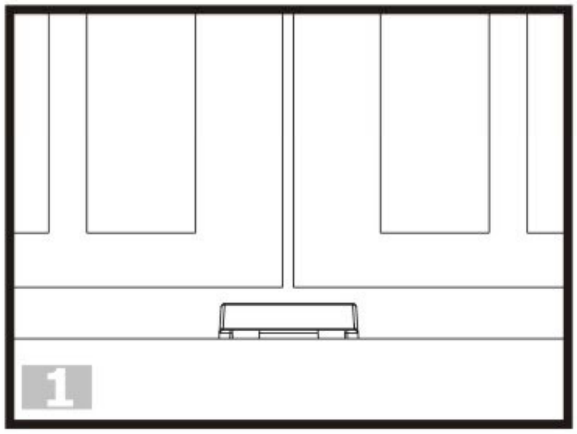
Gate lock installation

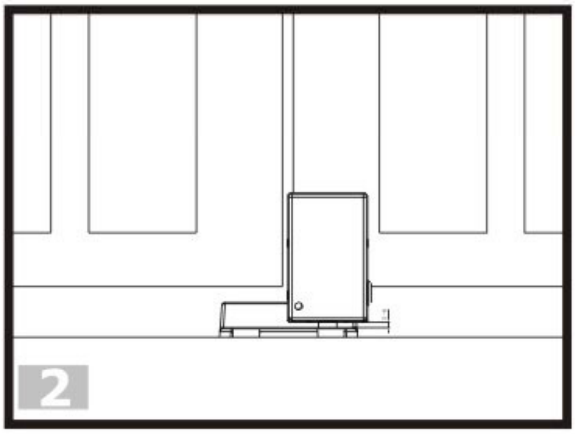
Model: Ds218

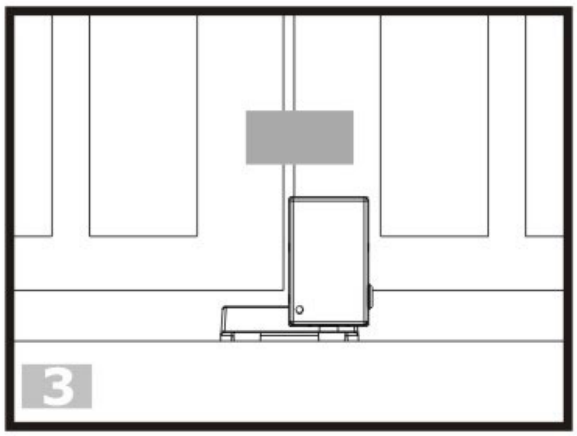




Installation



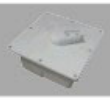




1. Install the stopper
2. Fix the lock body onto the first moving side of the gate leaf, **make sure there is at least 5 to 8 mm** space between the stopper location hole surface & the bottom of lock body.
3. Install the stopper plate in corresponding position onto the same leaf which installed with lock DS218, this is to make sure when 2 leaves are closed, the stopper plate can limit the leaf which cannot opened either.

* The lock bolt pin must be in vertical position with the bolt pin of the stopper .

If the electric lock unable to disengage after misfunction press the CLOSE button first then only proceed to re-open.



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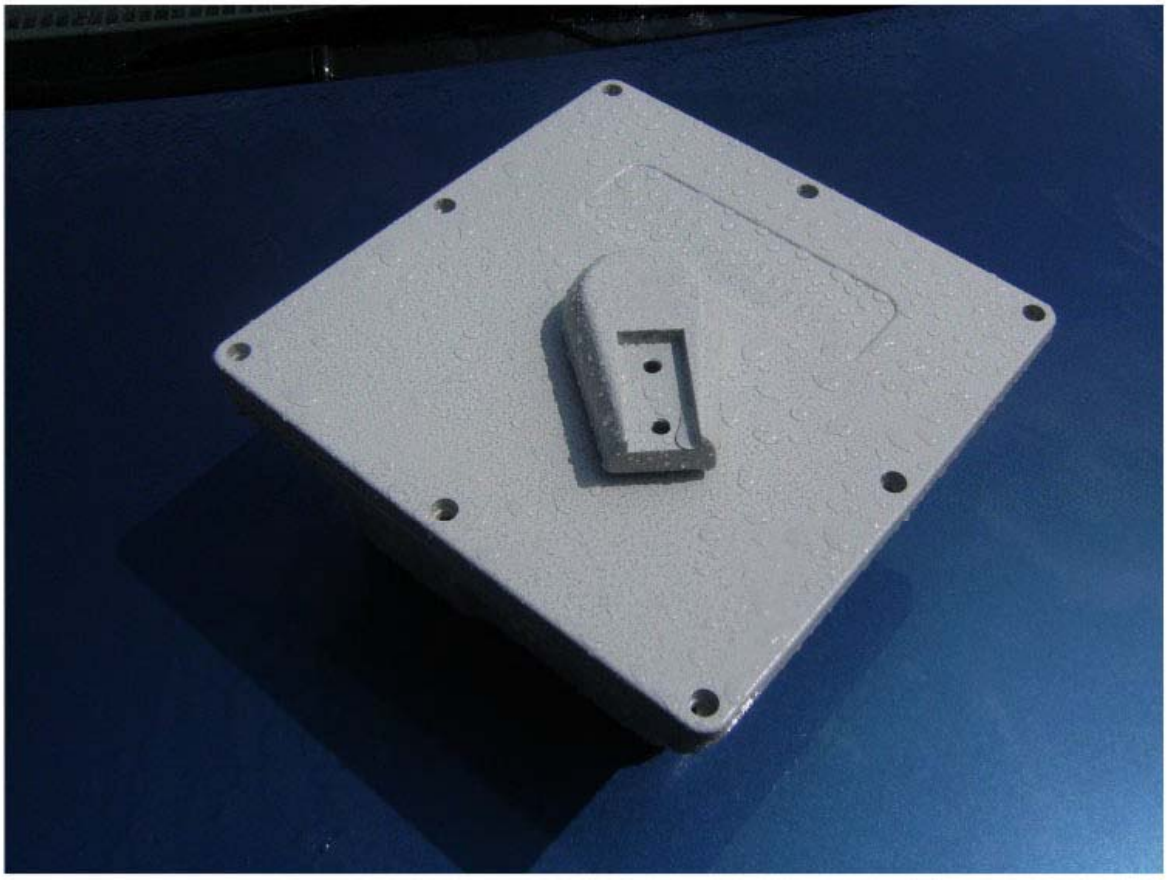

Dual Inswing/Outswing | Single Inswing/Outswing | Dual Speed Adjustable | Over Current Safety | Automatic Closing | Install Easily

Underground Swing Gate Opener

UA