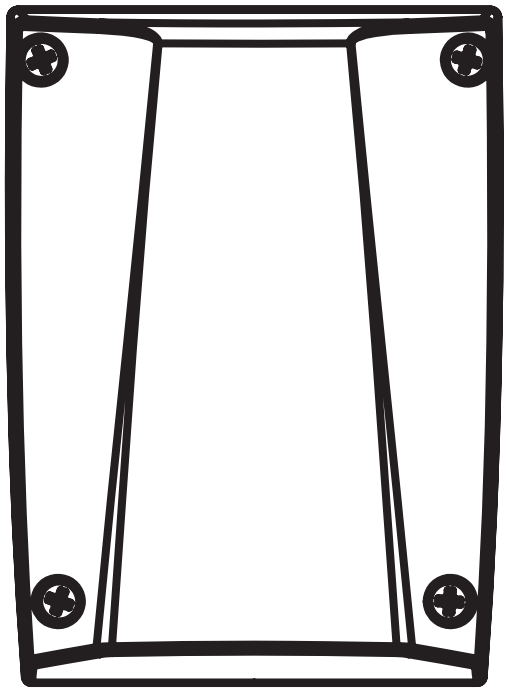
CB19

CONTROL SYSTEM

24V DC FOR RESIDENTIAL

USER MANUAL

Software Version: PS21068B



Reuse
Reduce
Recycle

Index

1). Control Box Installation

1. Decide the installation position of control box first, it is suggested to be installed near the gate and should be protected from possible damage. Be aware of the motor cable length before deciding the installation position.
2. Remove the cover by unscrewing the four screws on the cover. See Figure A.
3. Use a screwdriver to puncture the holes beneath the bottom of the control box. See Figure B.
4. Secure it on the wall Figure C.

Figure A

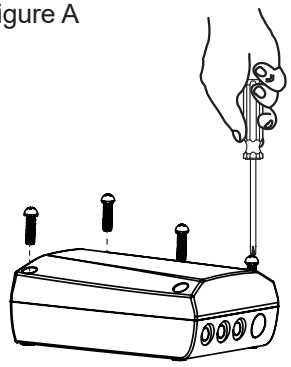


Figure B

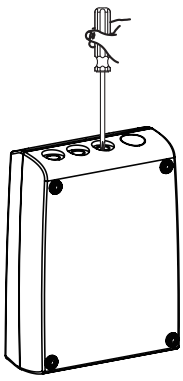
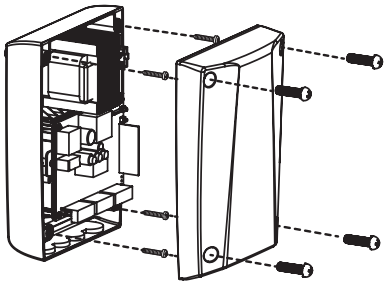
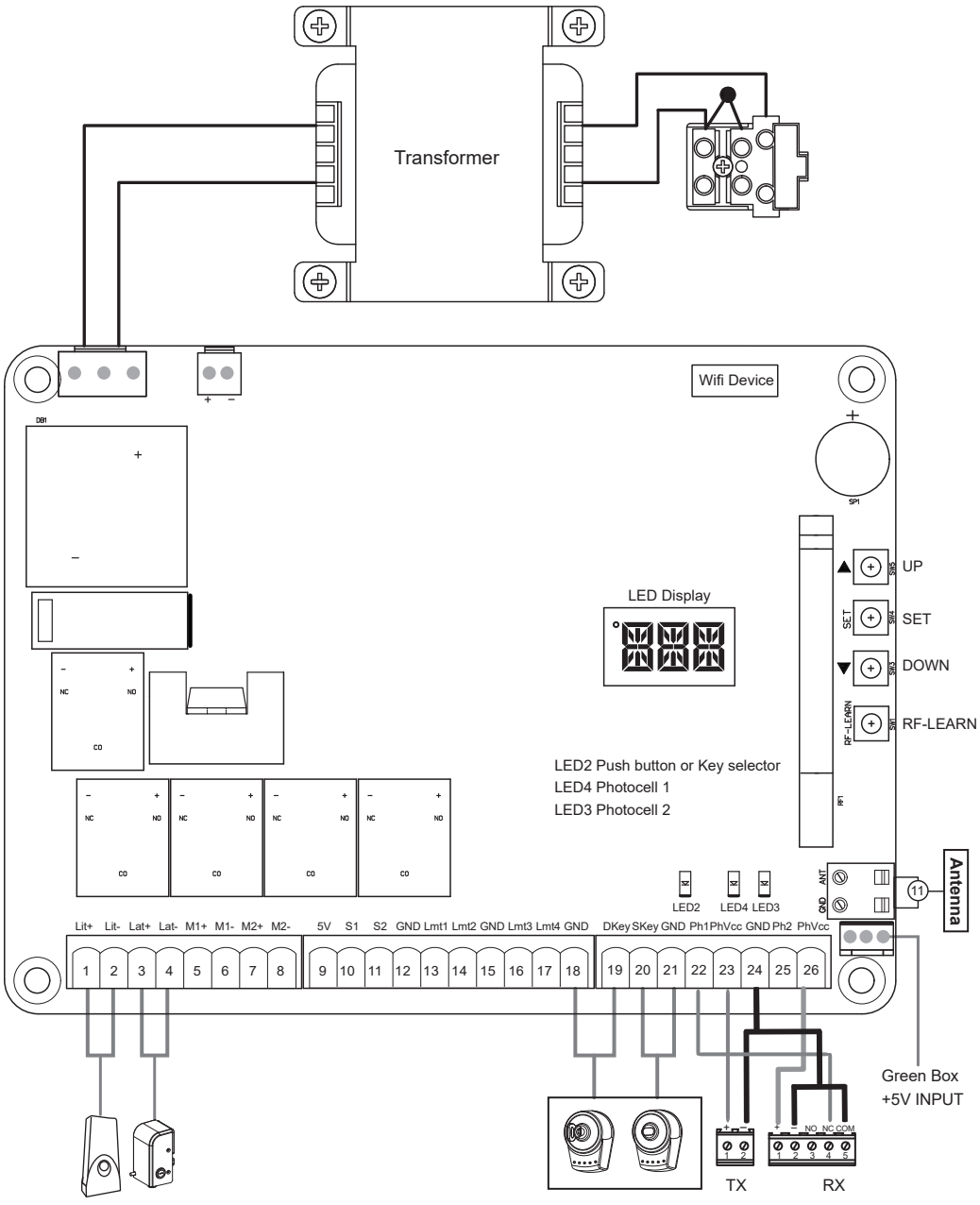


Figure C

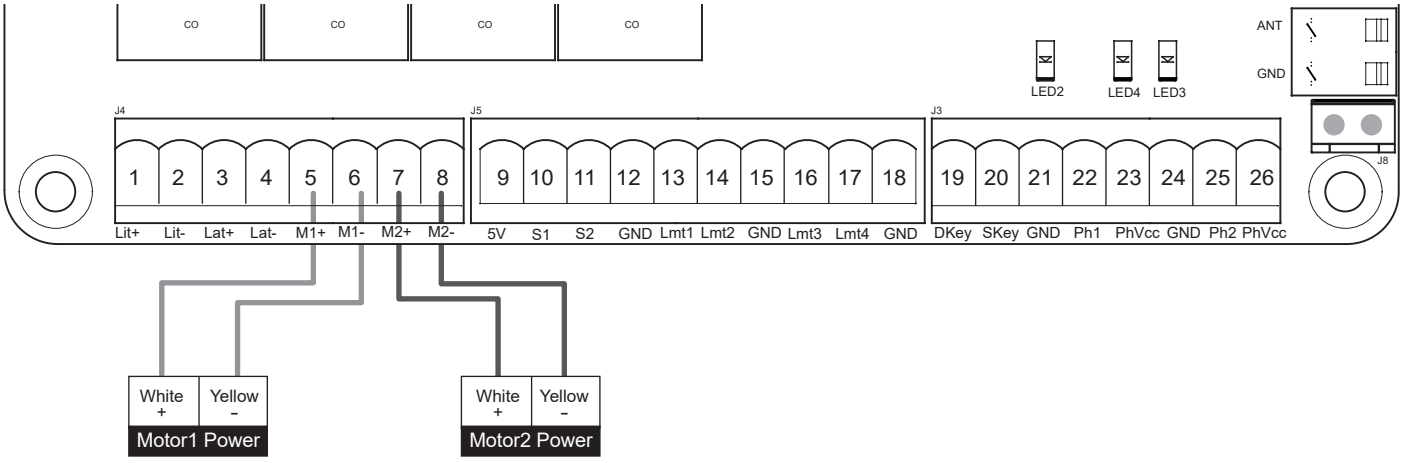


2). Wiring Connection

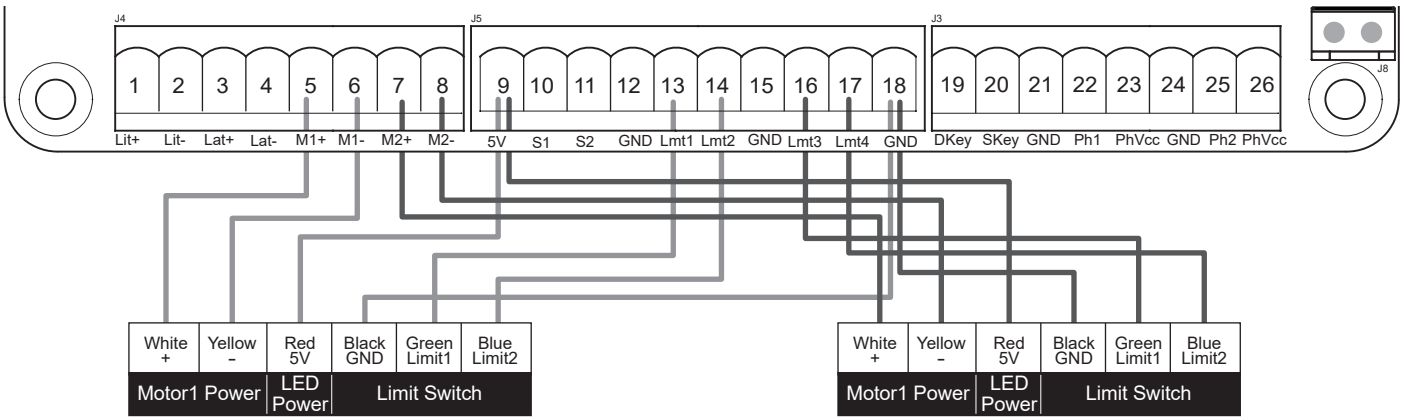


2.1 Motor Connection

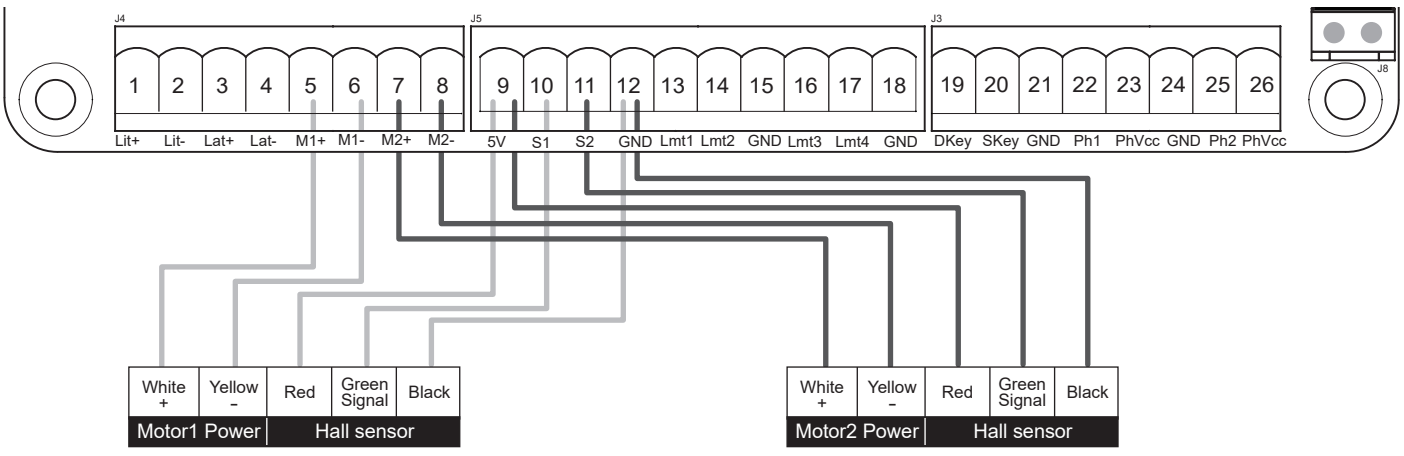
2.1.1 Motor Only



2.1.2 Motor With Limit Switch + LED indicator

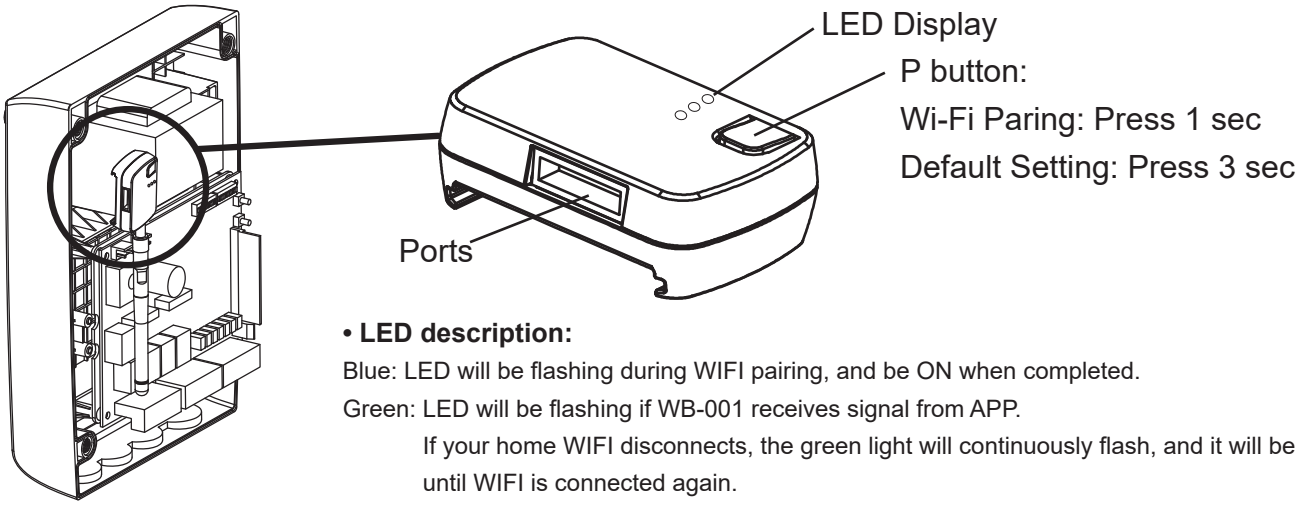


2.1.3 Motor With Hall Sensor



2.2 Wifi Device

Functions of Buttons and Terminals



• LED description:

Blue: LED will be flashing during WIFI pairing, and be ON when completed.

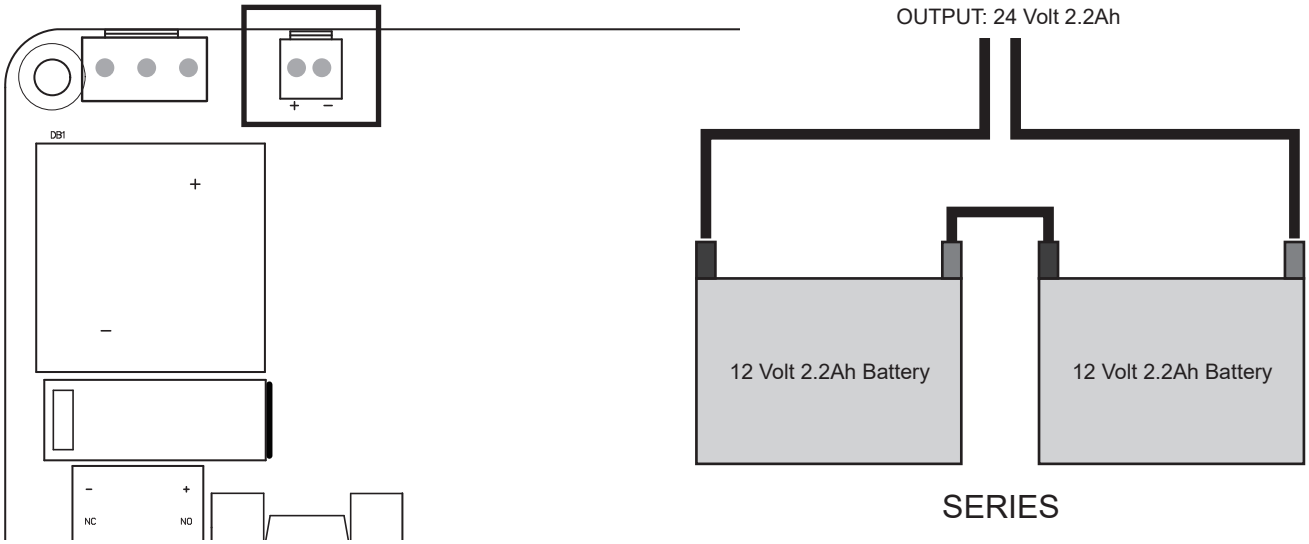
Green: LED will be flashing if WB-001 receives signal from APP.

If your home WIFI disconnects, the green light will continuously flash, and it will be off until WIFI is connected again.

Red: System failure or wrong PIN.

2.2.1 Back-up Batteries

Battery Power: The battery white connector must be fitted the correct way round (positive red to +positive) or you will short circuit the control board. There are 2 x 12v batteries fitted under the control board. They are connected together in series to make 24vDC via a black cable with a yellow fuse with positive of one battery to negative of second battery. The remaining positive and negative terminals go to the control board as per the photo above

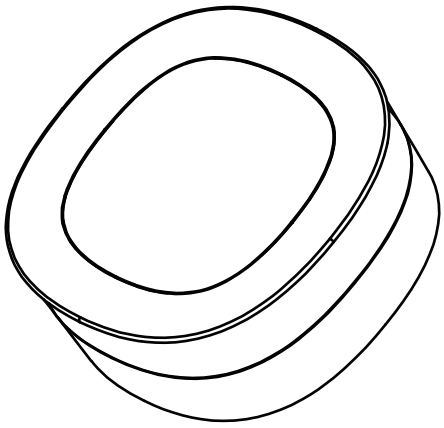


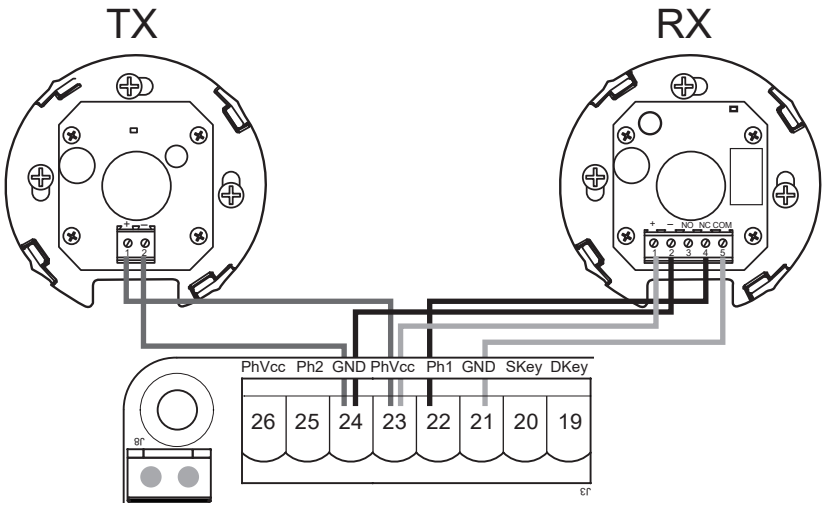
2.3 Accessories
2.3.1 Photocells

The safety photocells are security devices for control automatic gates. Consist of one transmitter and one receiver based in waterproof covers; it is triggered while breaking the path of the beams.

SPECIFICATION:

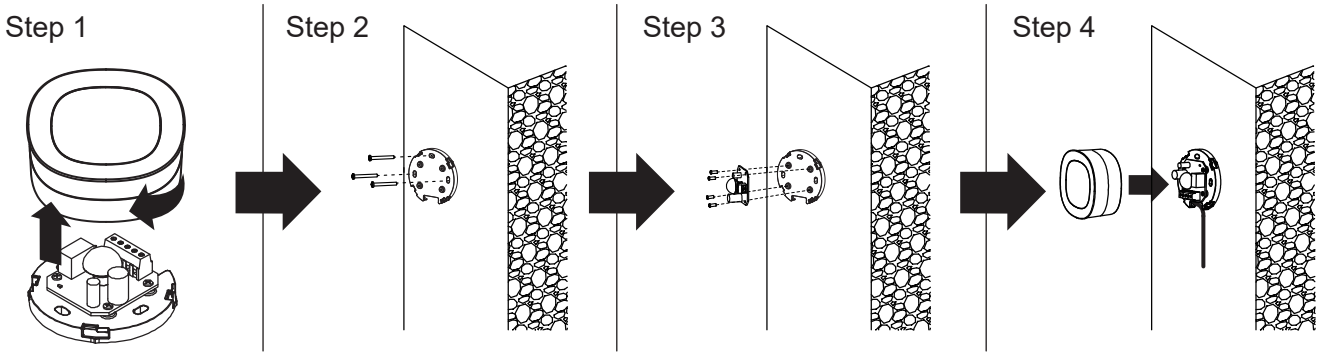
Detection Method	Through Beam
Sensing Range	MAX~15m
Input Voltage	AC/DC 12~24V
Contact Current	TX: 30mA Max , RX: 25 mA Max
Response Time	<100mS
Emitting Element	Infrared LED/ Wave Length：940nm
Operation Indicator	RX：Red LED On (beam broken) / Off (beam aligned) TX：Red LED On
Dimensions	63*63*30 mm
Output Method	Relay Output
Current Consumption	Beam aligned：RX<25ma\TX<30ma Beam broken：RX <10ma\TX <30ma
Connection Method	Terminal Block
Housing Material	ABS / PC
Water Proof	IP44
Safety Standard	CE





INSTALLATION:

1. Open the cover and connect wires.
2. Mounted the receiver and transmitter on the proper position.
3. Ensure there are no obstacles between receiver and transmitter.
   For optimal efficiency, the receiver and transmitter should be properly aligned.
4. Power-up the photocells and make sure the LED light on receiver and transmitter are ON.



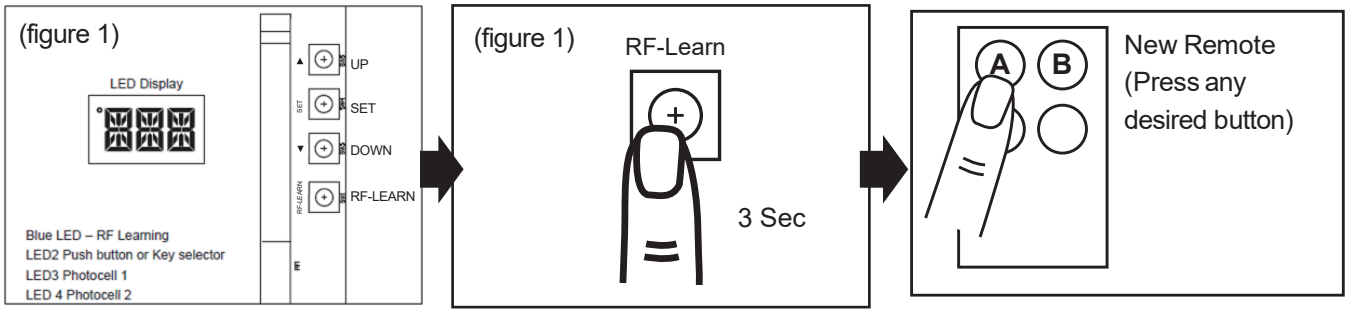
3). Get Started

Note:
(A) Transmitter memorizing must be done first before system learning.
(B) CHECKING THE Gate MOVEMENTS
1) Release the gearmotor with the release key and move the gate to the middle so that it is free to move in both opening and closing directions; then lock the gearmotor.
2) Perform the gate opening and closing several times and make sure the gates touches the limit switch at least 2~3 cm before the mechanical stop.

3.1 Step 1: Remote Memorizing

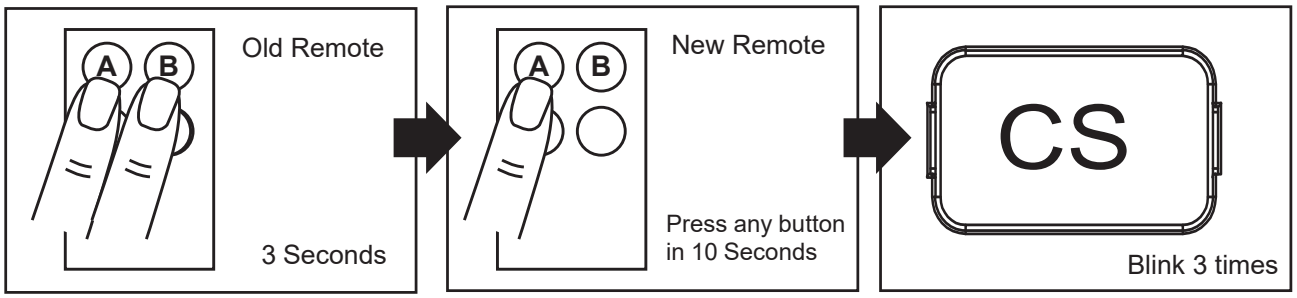
3.1.1 Memorizing

(1) Press “RF Learn” button for 3 seconds, and the LED display shows “CS”. Then press any desired button on the remote; the LED display will blink "CS" three times and stay on. After 7 seconds without any new remote learn then the LED will be off The transmitter learning is completed.



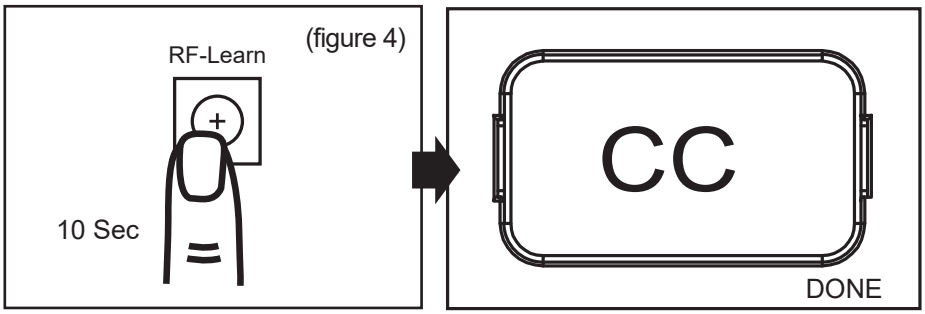
3.1.2 Remote learning without Control board:

(1) Press the A & B buttons on the OLD remote and hold down for at least 5s, then release them. (the alarm will buzz 2 secs, and LED will display "CS")
(2) Press any desired button on the NEW remote within 10 seconds (the alarm will buzz 3 times, LED blinks "CS" for 3 times)



3.1.3 Deleting all memory of all remotes:

With this operation all the memorized transmitters will be deleted.
(1) Press and hold down RF-LEARN button (Figure 4) on the control board for 10 seconds.
(2) Wait until the LED display shows “CC”. All memory is deleted.



3.2 Step 2: System Learning

Step1:

Press and hold SET & DOWN buttons for 3 secs till the LED shows “LEA”. Within 20 secs, press the "open-stop-close-stop" button on the remote or SET button on the control board. Then the motor runs the system learning procedure automatically. Once the learning is completed, the LED will show “D-G” or “S-G”.

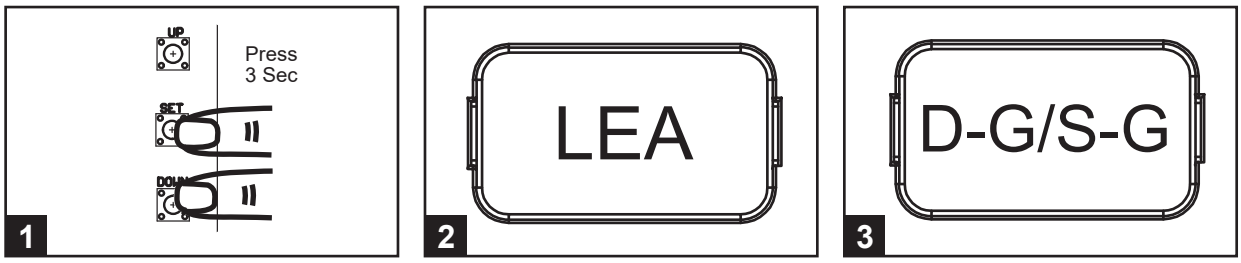
Note: Please check the parameter setting of “F1”(Dual/Single) before going into system learning.

Restore system default setting

Press and Hold the UP + DOWN button for 5 secs and panel restores back to default setting

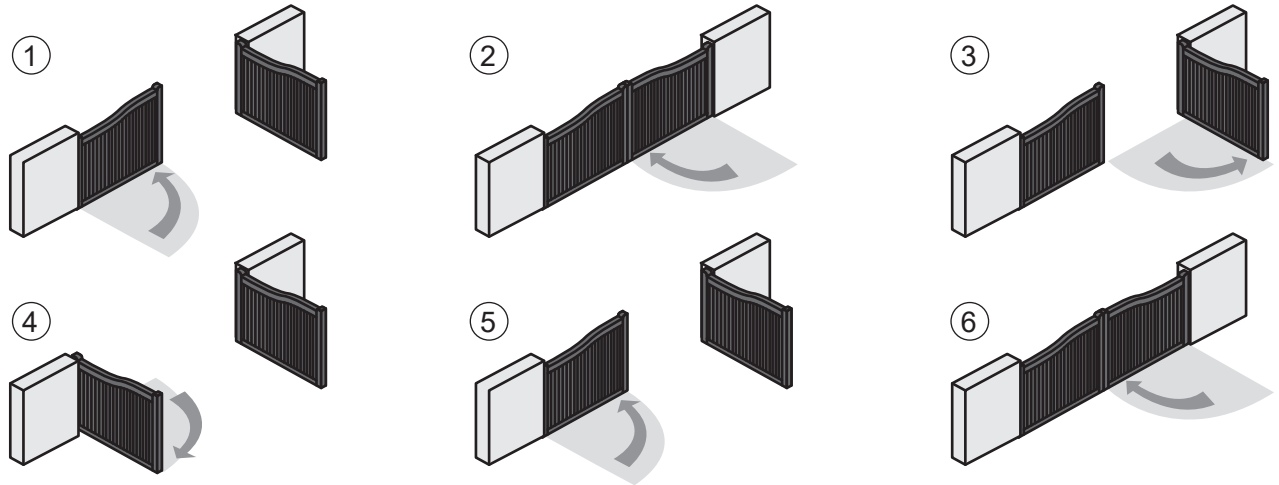
Note:

1. LED shows "D-G" tells the system learning has be completed for Dual Gate installation
2. LED shows "S-G" tells the system learning has be completed for Single Gate installation



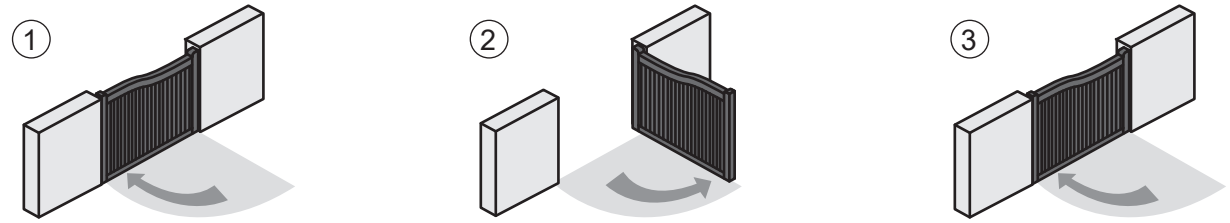
A. **Dual Gate**

(1) Slave Gate Close → (2) Master Gate Close → (3) Master Gate Open →
(4) Slave Gate Open → (5) Slave Gate Close → (6) Master Gate Close



B. Single Mode :

(1) Master Gate Close → (2) Master Gate Open → (3) Master Gate Close



4). Gate Operation Logic

(A) In gate-opening phase: The gates stop if the transmitter/push button/key selector is reactivated.

(B) In gate-closing phase: The gates stop if the transmitter/push button/key selector is activated; and open when the transmitter/push button/key selector is reactivated.

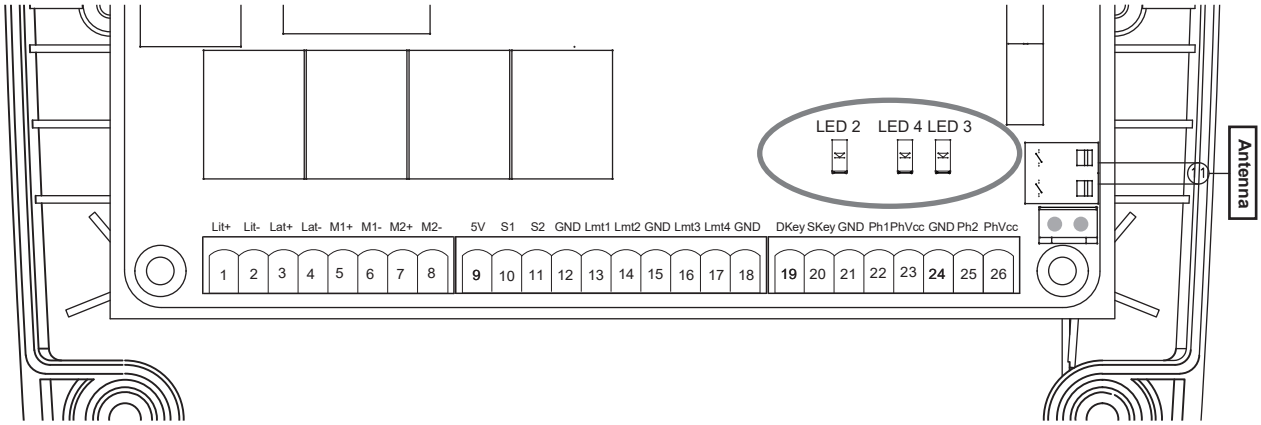
5). Safety For Gate Operation

In gate-opening phase: For safety purpose, the gates stop if encountering obstacles.
In gate-closing phase: For safety purpose, the gates reverse for 2 secs if encountering obstacles.

6). LED Indication

6.1 LED Lighting

Blue LED System Learning: Blue LED in receiver board blinks two times when learning is completed.
LED2 RF: Key selector, or the push button i activated, LED2 will be ON.
LED3 Ph1: LED4 will be ON when Ph1 are triggered.
LED4 Ph2: LED3 will be ON when Ph2 are triggered.



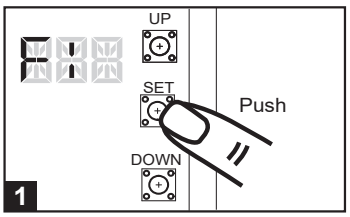
6.2 Function of the LED display

LED Display	Programmable Functions
LEA	[LEA] means motor into the system learning mode, do not interrupt during this procedure.
d-G	[D-G] means motor completed the learning procedure for dual gate installation.
S-G	[S-G] means motor completed the learning procedure for single gate installation.
N-L	[N-L] means system learning failed.
CLR	The memory of the system is all deleted/cleaned by press and hold the UP + SET+ DOWN button together for 5s and the panel will be back to default settings
OPN	When the gate is opening, the LED Display show ‘OPN’ for 2s and then change to Amp current indication

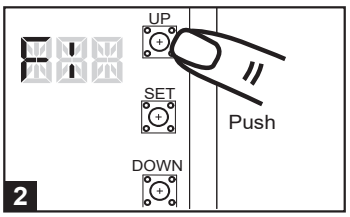
LED Display	Programmable Functions
STP	When the gate is stopped, the LED Display show ‘STP’ until next commend has been made, after 10s no further movement, the LED turns to OFF
CLS	When the gate is closing, the LED Display show ‘CLS’ for 2s and then change to Amp current indication
S01	LED display shows “S01” means the panel did not detected the M1+/M1 and M2+/M2 both been connected before the system learning procedure, check for 2 motors’ wire connection, for dual gate system
S02	LED display shows “S02” means the panel did not detected the M1+/M1 but detected M2+/M2 been connected, notice the installer to check the motor wire connection, if this is single gate system, motor wire should connect to M1+/M1 not on M2+/M2
S03	LED display show “S03” means same button on the remote has been identified for more than 2 functions

7). Parameter Modification

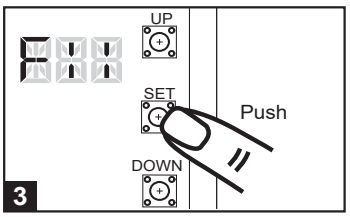
7.1 Parameter Learning



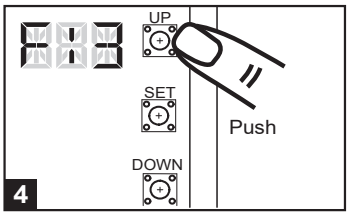
Press "SET" for 3 secs to get into the program setting display from F1



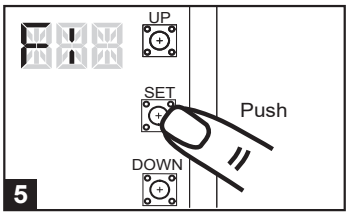
Press "UP" or "DOWN" to change setting items from F1 to FW.



Press "SET" button again to get into the sub-setting



Press "UP" for "DOWN" to change from F11 to F12



Press "SET" button again to confirm

7.2 Parameter

LED Display	Definition	Parameter	Table	Description
F1	Dual / Single Gate	F11	Single Gate	1. The factory setting is "F12"
		F12	Dual Gate (Default)	
F2	Motor Type	F21	Over current (Default)	1. The factory setting is "F21"
		F22	Limit Switch	
		F23	Hall Sensor	
F3	Overcurrent for Gate Opening	F31	2A	1. The factory setting is "F33".
		F32	3A	
		F33	4A (Default)	
		F34	5A	
		F35	6A	
		F36	7A	
F4	Overcurrent for Gate Closing	F41	2A	1. The factory setting is "F43".
		F42	3A	
		F43	4A (Default)	
		F44	5A	
		F45	6A	
		F46	7A	
F5	Motor Speed for Opening	F51	50% of full speed	1. The factory setting is "F55".
		F52	60% of full speed	
		F53	70% of full speed	
		F54	80% of full speed	
		F55	90% of full speed (Default)	
		F56	100% of full speed	
F6	Motor Speed for Closing	F61	50% of full speed	1. The factory setting is "F65".
		F62	60% of full speed	
		F63	70% of full speed	
		F64	80% of full speed	
		F65	90% of full speed (Default)	
		F66	100% of full speed	

LED Display	Definition	Parameter	Table	Description
F7	Deceleration Speed for Opening	F71 F72 F73 F74	20% of full speed 30% of full speed 40% of full speed (Default) 50% of full speed	1. The factory setting is "F73".
F8	Deceleration Speed for Closing	F81 F82 F83 F84	20% of full speed 30% of full speed 40% of full speed (Default) 50% of full speed	1. The factory setting is "F83".
F9	Deceleration Point for Opening	F91 F92 F93 F94 F95	75% of full distance 80% of full distance 85% of full distance (Default) 90% of full distance 95% of full distance	1. The factory setting is "F93".
FA	Deceleration Point for Closing	FA1 FA2 FA3 FA4 FA5	75% of full distance 80% of full distance 85% of full distance (Default) 90% of full distance 95% of full distance	1. The factory setting is "FA3".
FB	Time Gap b/w Two Gates (Opening)	FB0 FB1 FB2 FB3 FB4 FB5 FB6 FB7 FB8 FB9	0 sec 2 sec (Default) 4 sec 6 sec 10 sec 15 sec 20 sec 25 sec 30 sec 35sec	1. The factory setting is "FB1".
FC	Time Gap b/w Two Gates (Closing)	FC0 FC1 FC2 FC3 FC4 FC5 FC6 FC7 FC8 FC9	0 sec 2 sec (Default) 4 sec 6 sec 10 sec 15 sec 20 sec 25 sec 30 sec 35 sec	1. The factory setting is "FC1".
FD	Auto-closing	FD0 FD1 FD2 FD3 FD4 FD5 FD6 FD7 FD8	Function OFF (Default) 3 sec 10 sec 20 sec 40 sec 60 sec 120 sec 180 sec 300 sec	1. Auto-close mode activates when the gates move to the end position or stopped manually. If the transmitter, push button, or the key selector is activated before the auto-close counting, the gate will close immediately. 2. The factory setting is "FD0".

LED Display	Definition	Parameter	Table	Description
FE	Safety Device Function Mode	FE1 FE2 FE3 FE4	Mode 1 (Default) Mode 2 Mode 3 Mode 4	1. Please see 7.3 photocell adjustment for photocell logic 2. The factory setting is "FE1".
FF	Pedestrian Mode	FF0 FF1	Function OFF Function ON (Default)	1. The factory setting is "FF1". 2. When it's set "FF0": there won't be any response while pressing remotes & D/Skey terminals 3. When it's set "FF1": *single gate installation >> master gate fully opens *dual gate installation >> master gate opens 50%
FG	Flashing Light	FG0 FG1	Function OFF (Default) Function ON	1. When function FG1, the light will flash for 3 seconds before the gate operates. If set OFF, the flash light will operate with motor at the same time. 2. The factory setting is "FG0".
FH	Photocell 1 Activation	FH0 FH1	Function OFF (Default) Function ON	1. The factory setting is "FH0".
FI	Photocell 2 Activation	FI0 FI1	Function OFF (Default) Function ON	1. The factory setting is "FI0".
FJ	Alarm Buzzer	FJ0 FJ1	Function OFF (Default) Function ON	1. The factory setting is "FJ0".
FK	Electric Latch Mode	FK1 FK2	Standard Gate Opening (Default) Release Gate Tension before Opening (Gate Reversing for 0.25s)	1. If the function is FK2, the motor will be reversed for 0.25 sec. to release the tension. 2. The factory setting is "FK1".
FL	LED Direction	FL0 FL1	When Terminal Block is at bottom (for swing gate motor >> Default) When Terminal Block is at top (for articulated-arm motor)	1. The factory setting is "FL0". The UP(▲) and Down(▼) buttons will switch according to the parameter setting. When FL0, button SW5 stands for ▲(UP) , and button SW3 stands for ▼(DOWN). When FL1, button SW3 stands for ▲(UP) , and button SW5 stands for ▼(DOWN)
FN	Over Current Reverses Time when Close	FN0 FN1 FN2 FN3 FN4 FN5 FN6	Function OFF (Default) 0.1 sec 0.2 sec 0.3 sec 0.4 sec 0.5 sec 0.6 sec	1. The factory setting is "FN0"
FO	A Button Function (Remote)	FO0 FO1 FO2 FO3 FO4	Function OFF Open-Stop-Close-Stop (Default) Pedestrian Mode Turn auto-closing OFF via remote Open ONLY	1. The factory setting is "FO1"
FP	B Button Function (Remote)	FP0 FP1 FP2 FP3 FP4	Function OFF Open-Stop-Close-Stop Pedestrian Mode (Default) Turn auto-closing OFF via remote Open ONLY	1. The factory setting is "FP2"
FR	C Button Function (Remote)	FR0 FR1 FR2 FR3 FR4	Function OFF (Default) Open-Stop-Close-Stop Pedestrian Mode Turn auto-closing OFF via remote Open ONLY	1. The factory setting is "FR0"
FS	D Button Function (Remote)	FS0 FS1 FS2 FS3 FS4	Function OFF (Default) Open-Stop-Close-Stop Pedestrian Mode Turn auto-closing OFF via remote Open ONLY	1. The factory setting is "FS0"

LED Display	Definition	Parameter	Table	Description
FT	D Key Function (PCB Terminal)	FT1	PB Function: Open-Stop-Close-Stop (Default)	1. The factory setting is "FT1" 2. Fire Alarm Mode: * Terminal Detect NO - normal operation * Terminal Detect NC - Open the gate and lock all the functions before returning to NO
		FT2	Open ONLY	
		FT3	Pedestrian Mode	
		FT4	Close ONLY	
		FT5	Fire Alarm Mode	
FU	S Key Function (PCB Terminal)	FU1	PB Function: Open-Stop-Close-Stop (Default)	1. The factory setting is "FU1" 2. Fire Alarm Mode: * Terminal Detect NO - normal operation * Terminal Detect NC - Open the gate and lock all the functions before return to NO
		FU2	Open ONLY	
		FU3	Pedestrian Mode	
		FU4	Close ONLY	
		FU5	Fire Alarm Mode	
FW	Over current Sensitivity Setting	FW1	0.1 sec	1. The factory setting is "FW5"
		FW2	0.2 sec	
		FW3	0.3 sec	
		FW4	0.4 sec	
		FW5	0.5 sec (Default)	
		FW6	0.6 sec	
		FW7	0.7 sec	
		FW8	0.8 sec	
		FW9	0.9 sec	
		FWA	1 sec	

The value can be adjusted by pressing button UP and DOWN. The maximum value is 50(5.0A) and the minimum value is 05(0.5A).
LED display example:

Indicate 1.0 ampere: all of the recorded values will increase 1 ampere as over current value.

Indicate 2.8 ampere: all of the recorded values will increase 2.8 ampere as over current value.

Indicate 0.6 ampere: all of the recorded values will increase 0.6 ampere as over current value.

7.3 Photocell Logic

FE1 Photocell OPEN/CLOSE (Standard set up)

Position of Gate	When safety devices are activated	
Type of Safety Device	PH1 Photocell-CLOSE	PH2 Photocell-OPEN
FULLY CLOSED	No effect	Open not allowed
FULLY OPENED	Reload automatic closing time	No effect
STOP DURING MOVING	Reload automatic closing time	Open not allowed
CLOSING	Open	No effect
OPENING	No effect	Close

FE2 Safety Edge

Position of Gate	When safety devices are activated	
Type of Safety Device	PH1 Photocell-CLOSE	PH2 Safety Edge
FULLY CLOSED	No effect	Open not allowed
FULLY OPENED	Reload automatic closing time	
STOP DURING MOVING	Reload automatic closing time	OPEN/CLOSE not allowed
CLOSING	Open	Reverse to open for 2 seconds
OPENING	No effect	Reverse to close for 2 seconds

FE3 Open Only Device (Vehicle detector)

Position of Gate	When safety devices are activated	
Type of Safety Device	PH1 Opening Device	PH2 Photocell-CLOSE
FULLY CLOSED	Open	No effect
FULLY OPENED	Reload automatic closing time	
STOP DURING MOVING	Open	Reload automatic closing time
CLOSING	Open	Open
OPENING	No effect	No effect

FE4 Double photocell set up

Position of Gate	When safety devices are activated	
Type of Safety Device	PH1 Photocell-OPEN/CLOSE	PH2 Photocell-OPEN/CLOSE
FULLY CLOSED	No effect	No effect
FULLY OPENED	Reload automatic closing time	
STOP DURING MOVING	Reload automatic closing time	
CLOSING	Open	Open
OPENING	No effect	No effect

8) .Trouble Shooting

Issue:	Solution:	Parts to look at:
No power on the board	- Power to the transformer is on and the connector block from the AC power lead to the transformer and to the control board is wired correctly. - At the control board check the transformer white connector blocks are correctly plugged into board and the battery connector if equipped. - Check fuses are both working. * 15amp for stand-alone transformer. - Check there is 24vac into and out of the Control box fuse. - The batteries are connected to the control board and read higher than 24vdc if equipped. - Try removing optional extras such as beams and probes to see if they are draining the power. And reset the control panel to default and testing the motor operation	- Fuse - Transformer power - Loose wires - Incorrect wire contact at connector blocks - Short circuit in wiring between transformer and board - Battery
A single arm activation isn't working.	- Check function setting is set correctly for single arm. F11 single gate mode. - Make sure the arm is connected to motor 1 and not motor 2. - Your remote is programmed in. - You have done a systems learn. - There is adequate power going to the board.	- Motor connection - Function setting for single mode

Issue:	Solution:	Parts to look at:
Remotes or wireless keypad not working.	Re-program remotes by pressing the RF-Learn button on the control broad. - You can program in several remotes or devices at a time however all signals need to be sent before the blue light goes off again. - Push the button fairly solid and hold it in for a whole second. The blue light should flicker. - If the blue light is on continuously without pressing the RF learn button it means the receiver is faulty and needs to be replaced. - The blue light will still flash when a remote that has not been programmed in is used. It will however not activate. - Reset the keypad. Do this by flicking of the front cover with a small screw driver. Undo the 2 nuts, turn over and repeat until left with the control board on the casing. Undo the 3 screws in the corner. Turn over the circuit board and there is a button there. Hold it until you hear a beep. Try keypad again and reassemble.	- RF Learn button on control board
Lights on the board but arm(s) not moving.	- Check the LED3 and LED4 on the board are on, which is located on the button right of the board if it is on check the photocell connection and function - Check that the battery is 24V+ - Make sure your connections aren't loose - The power input is feeding in 24V+. - The gate is free from any obstructions. - The arm is locked into place (A good way to test this is if you can move the gate freely, then it won't work via the motors). - Try depowering and repowering the board. - If it still keeps glowing please call or email us. The receiver may need a replacement	- The gate - Power source - Arm wires.
Gates remain open after systems learn/one arm stays open and the other one closed.	- Ensure you have matched the + and - of each ram to the equivalent + and – motor symbols on the board. - Change the polarity connection of the positive(+) with the negative(-) of the motor if the gate both stay open instead of close after the system learning - Clear any obstructions to the gates - Make sure that the arms are going no further than 100 degrees - The function setting should be set for a double swing and not a single. - Check the LED display during the system learning showing the motor current, once the reading is too high check the installation or the gate condition . - Ensure the motors are locked in - Increase the power amp settings by function setting F3 for opening and F4 for closing overcurrent setting (mentioned above).	
Gates not fully opening or closing	- Ensure there is nothing obstructing the gate or the arms - If the gate is a bigger or heavier gate change the power settings using the F3 for opening and F4 for closing overcurrent setting. You should not have to use the maximum power setting. This is intended for a 500kg double swing gate (or 250kg single). - Re-do the systems learn	
One gate opens part of the way/not at all.	- Make sure you are pressing the open-stop-close-featured button. - Both arms are wired onto the control board correctly. They should identical. I.E. black, red. Black, red.	
Remote/ keypad range is less than 20M	- Make sure the antenna is attached and screwed in on the control board - Make sure there is nothing obstructing the antenna such as the power cable or motor cables	

9). Technical Specification

Main power supply	230Vac/110Vac, 50Hz/60Hz
Back-up battery	2pcs of batteries for emergency operation, 2.2A each
Receiver board	433.92MHz; 200 transmitters memory
Installation	Wall mounted vertically
Operating Temperature	-20℃~+50℃
Dimension	275mm * 195mm * 102mm