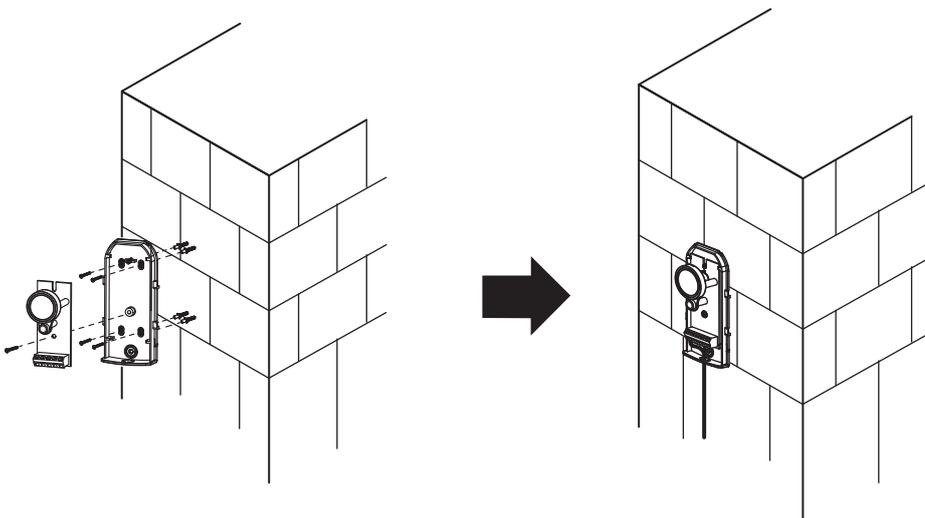
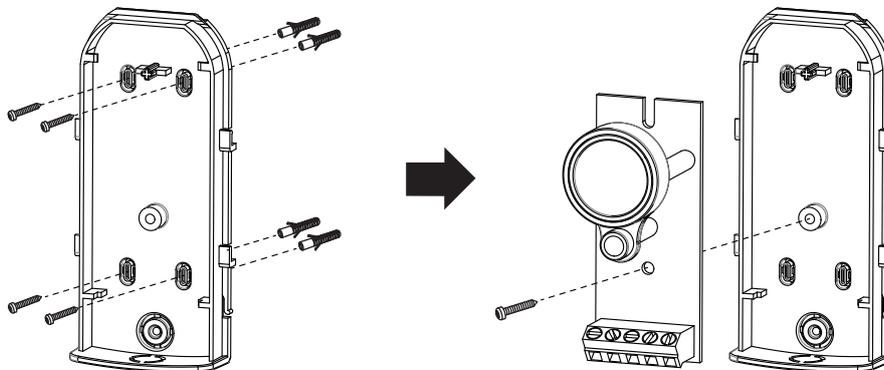
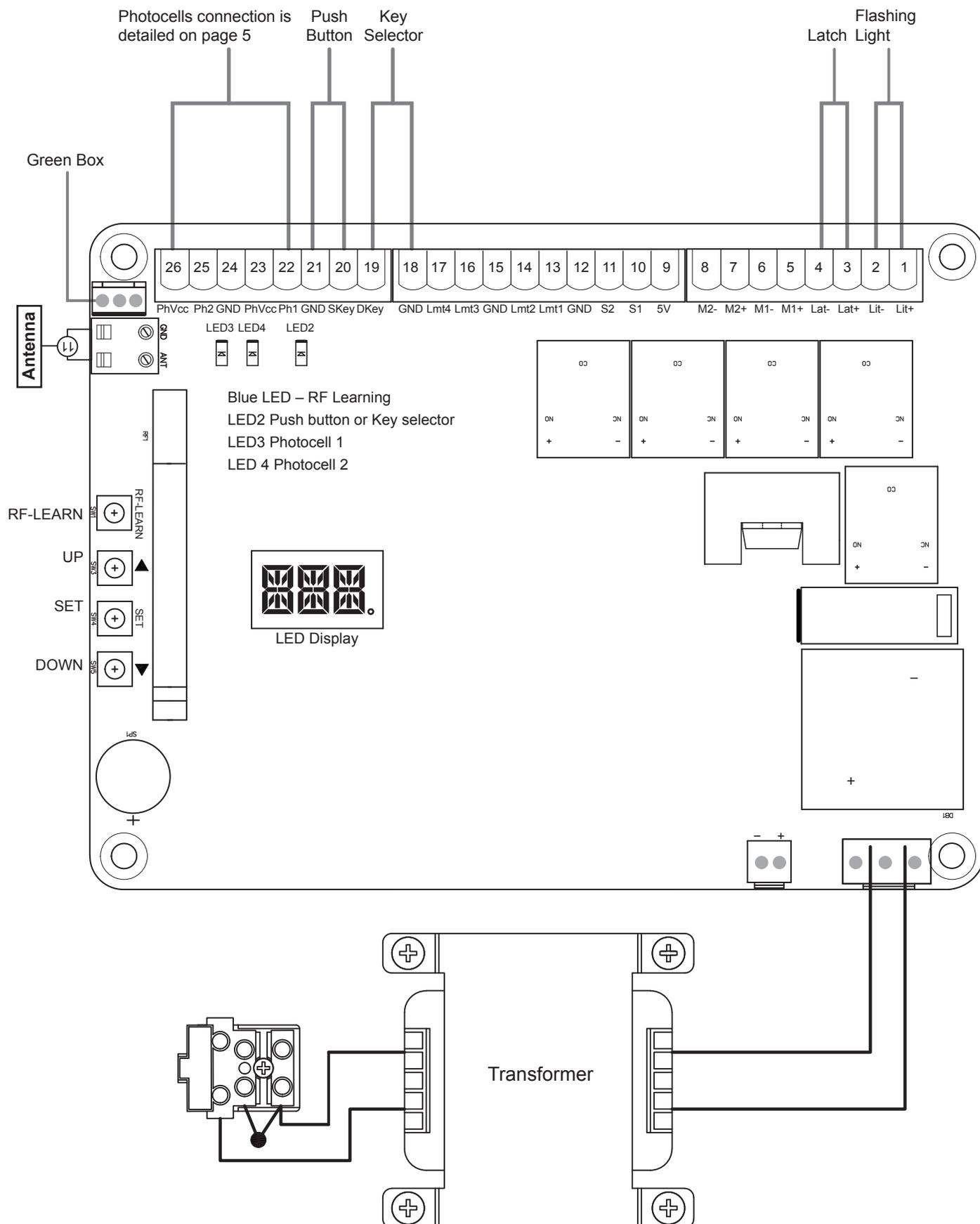


Figure 1(3)



2.1 Wiring Connection

Figure 2(1)



2.1.1 Master Motor is installed at left side

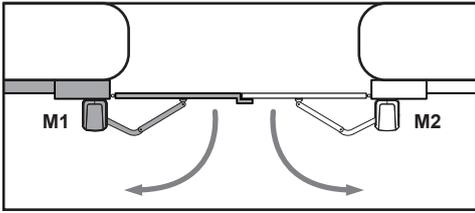
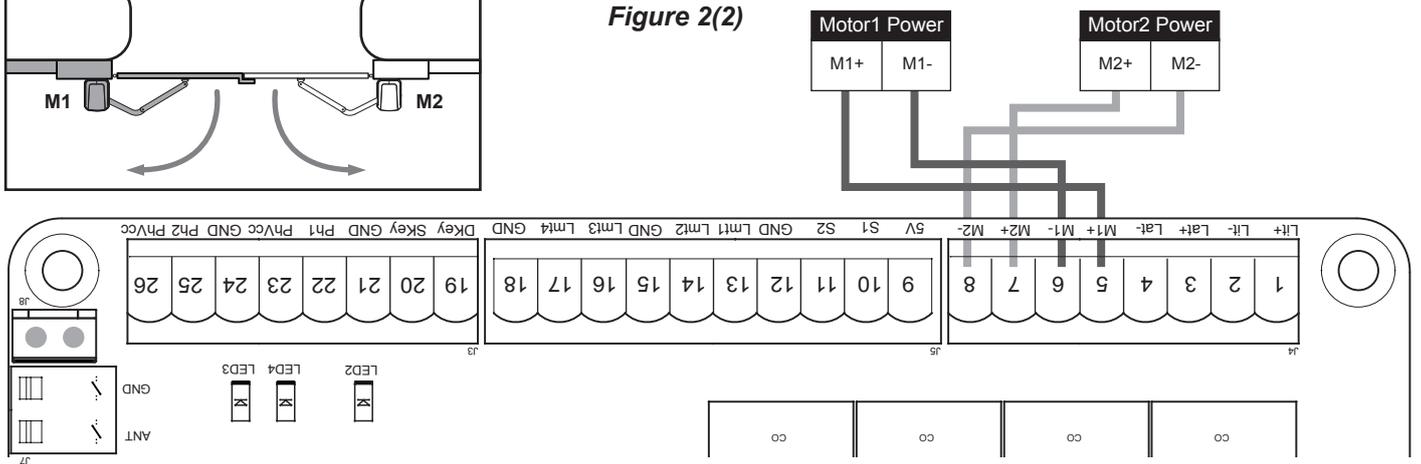
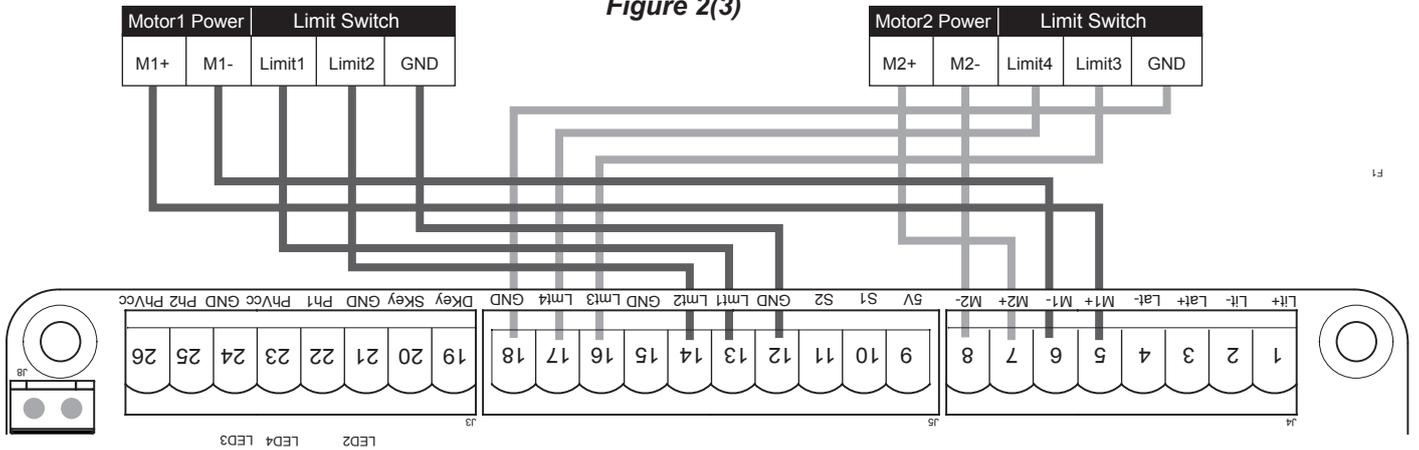


Figure 2(2)



Motor with Limit switch

Figure 2(3)

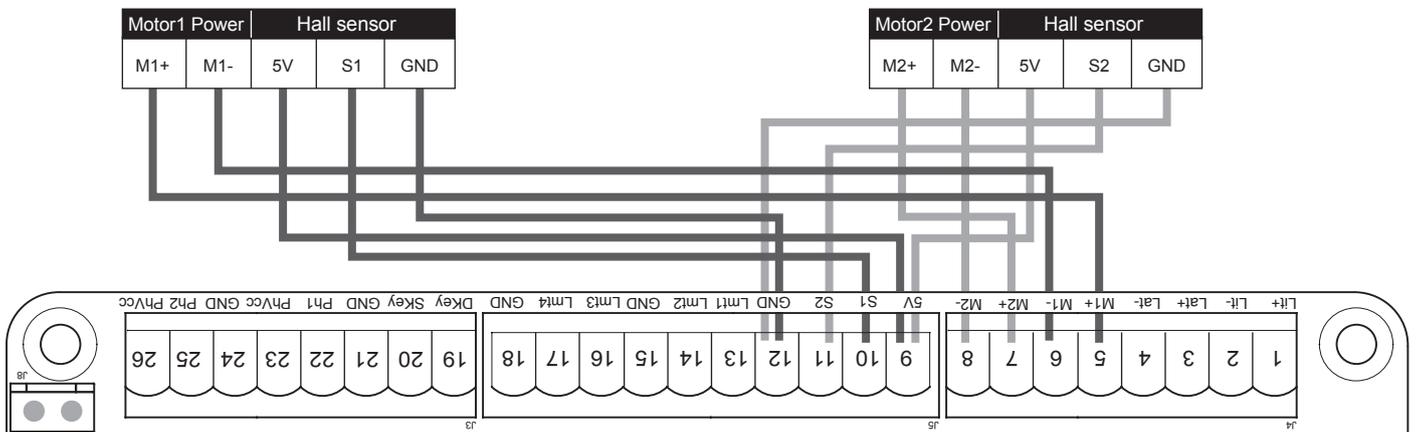


Remark:

- Limit1, Limit3 (Open limit)
- Limit2, Limit4 (Close limit)

Motor with Hall sensor

Figure 2(4)



2.1.2 Master Motor is installed at right side

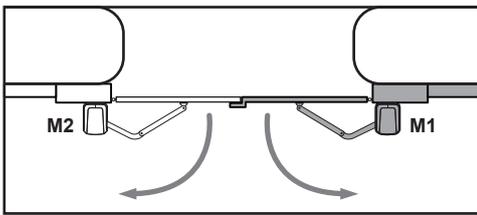
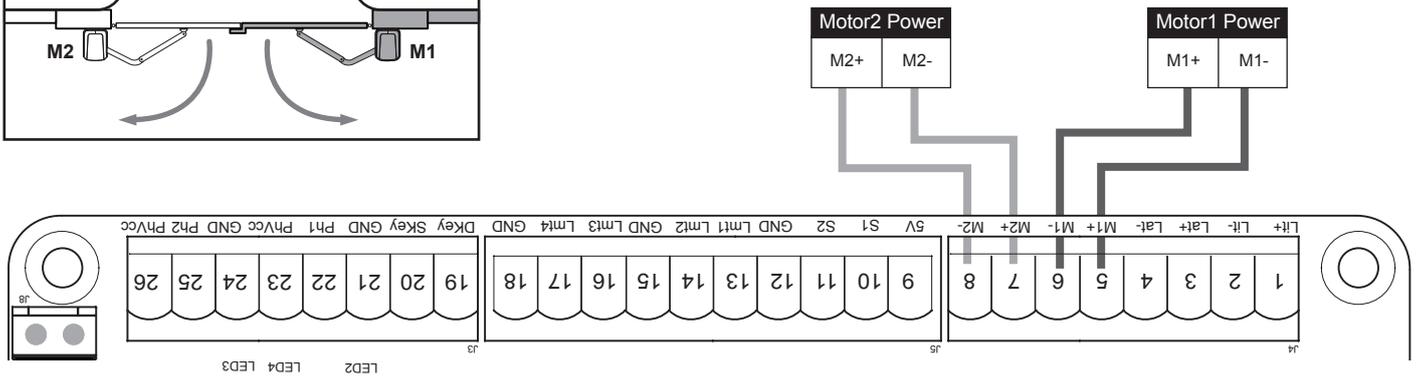
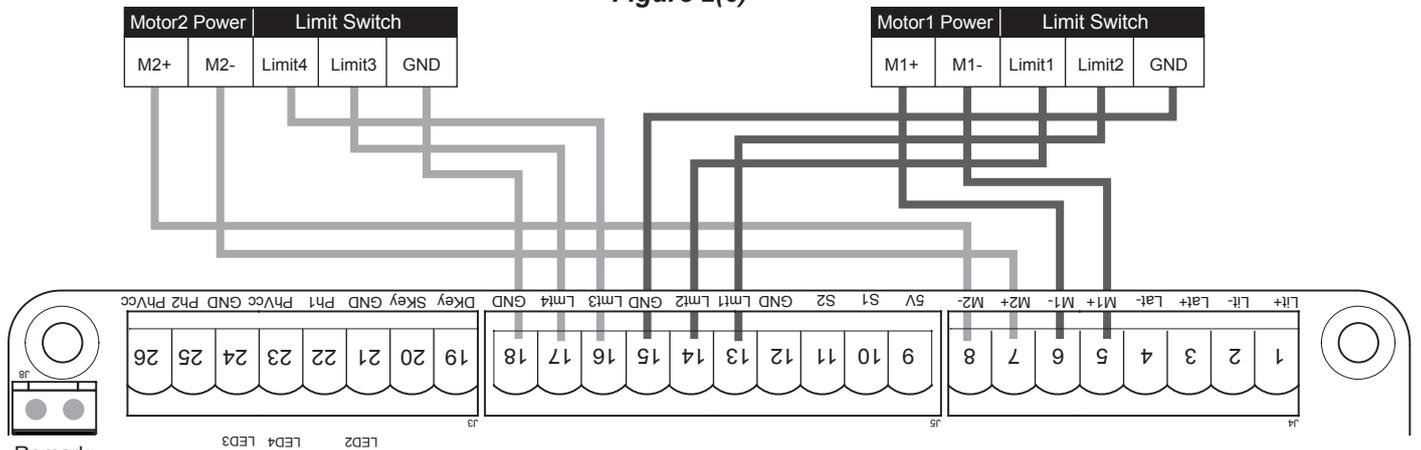


Figure 2(5)



Motor with Limit switch

Figure 2(6)

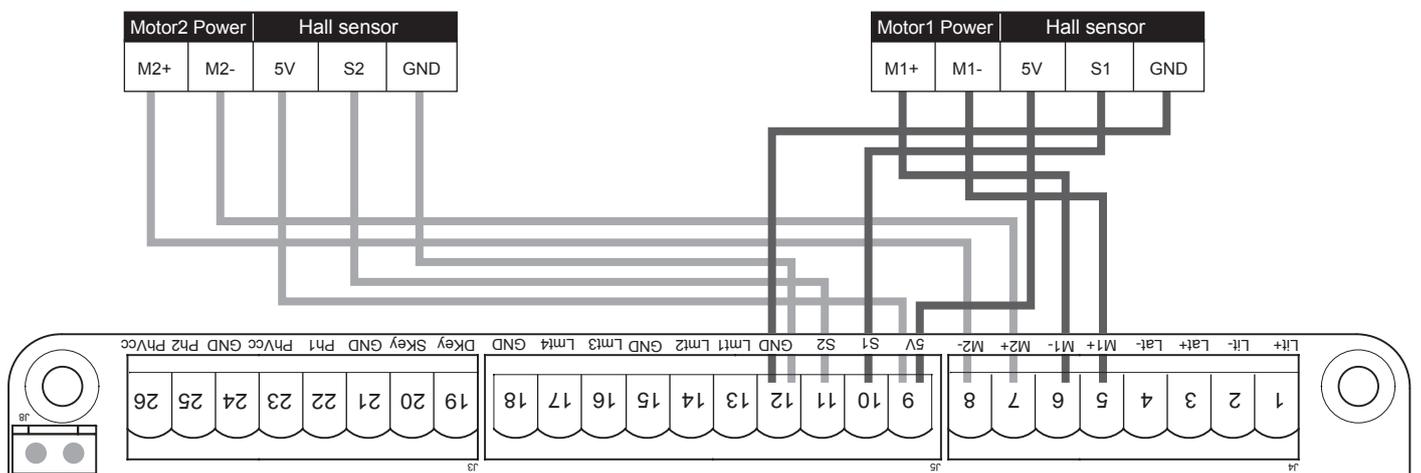


Remark:

Limit1, Limit3 (Close limit)
Limit2, Limit4 (Open limit)

Motor with Hall sensor

Figure 2(7)



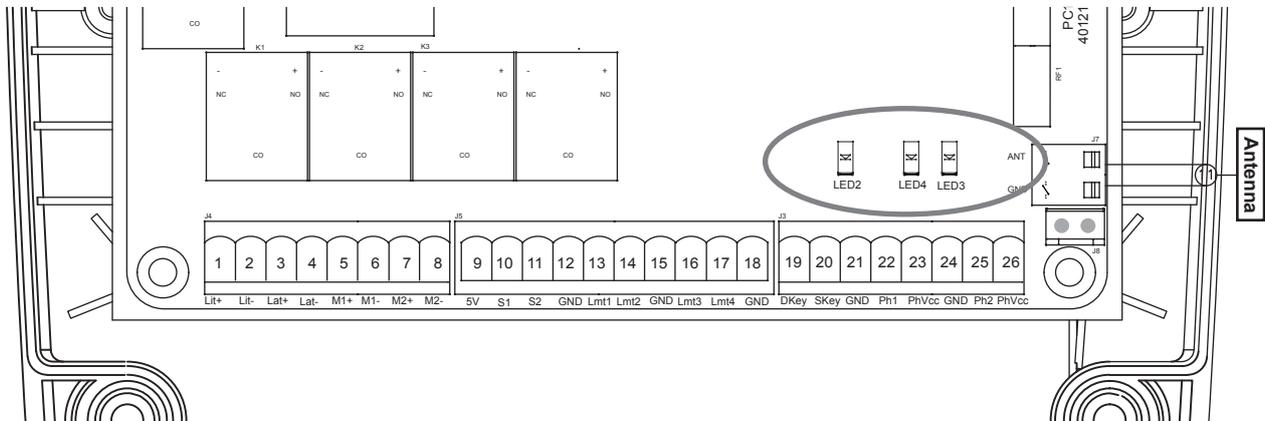
2.2 LED Indication

Blue LED on receiver board: Blinks three times when remote learning is completed.

LED2 External device : If the switch of the key selector, or the push button is activated, LED2 will be on.

LED3 Photocells 1 : LED3 will be on when the first pair of the photocells are activated.

LED4 Photocells 2 : LED4 will be on when the second pair of the photocells are activated.



2.3 Transmitter Memorizing and Erasing Process

(A) Transmitter Memorizing: Press and hold the “RF-LEARN” button on the PCB for 1 second and then the blue LED indicator on the RF board will be “ON”. Press A button for dual-gate installation ; press B button for single-gate installation on the transmitter within 5 seconds. The transmitter learning is completed when the blue indicator is “OFF”.

(B) Transmitter Memory Erasing: Press and hold the “RF-LEARN” button on the PCB for 10 seconds until blue LED off.

(C) One radio receiver can be memorized with 200pcs of transmitters.

2.4 System Learning Process

Step1: Connect the master motor wires to M1 terminals and the slave motor wires to M2 terminals correctly.

If only one gate is installed, the motor wires have to be connected to M1 terminals.

Step2: Set the function F2-1 for dual gate learning; or set the function F2-2 for single gate learning.

Step3: To start dual gate system learning.

To start dual gate system learning.

Press and hold the “UP+SET+DOWN” button on the PCB for 3 seconds. The LED display will show “LEA” and “D-G”. Press the button (A) on the transmitter within 10 seconds to activate the system learning automatically.

LED display will show “ARN”, do not interrupt this procedure by pressing the transmitter or stop the gate. In system learning mode, the gates will proceed with the following procedures **figure 2(8)**. LED display will show “RUN” once system learning completed.

To start single gate system learning.

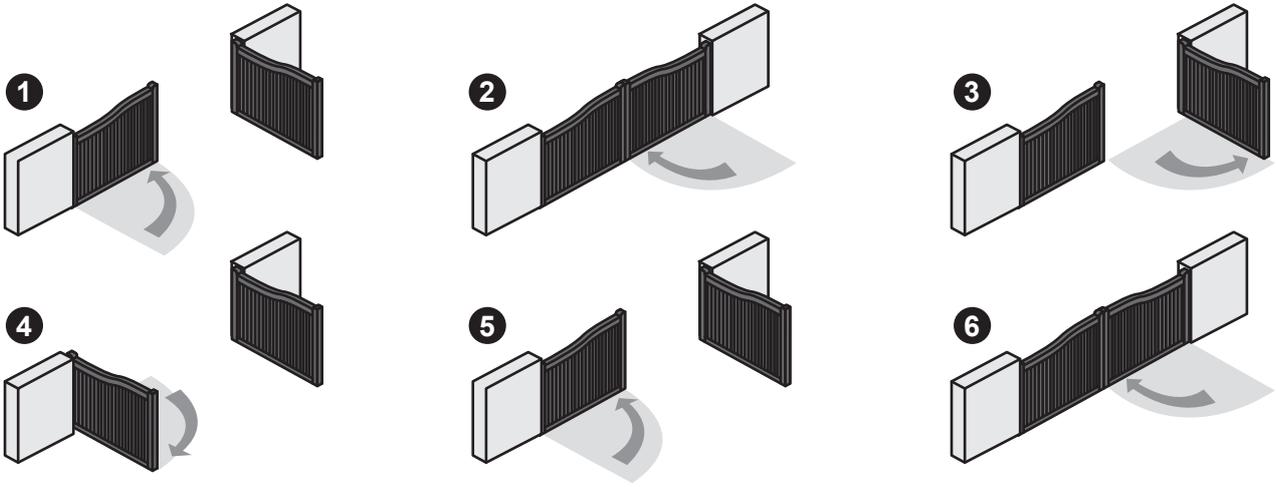
Press and hold the “UP+SET+DOWN” button on the PCB for 3 seconds. The LED display will show “LEA” and “S-G”. Press the button (B) on the transmitter within 10 seconds to activate the system learning automatically.

LED display will show “ARN”, do not interrupt this procedure by pressing the transmitter or stop the gate. In system learning mode, the gates will proceed with the following procedures **figure 2(8)**. LED display will show “RUN” once system learning completed.

figure 2(8)

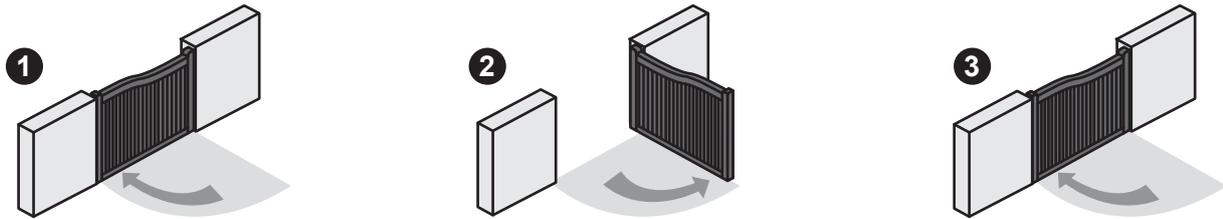
A. Dual Gate:

- 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 Gate :

- ① Master Gate Close → ② Master Gate Open → ③ Master Gate Close



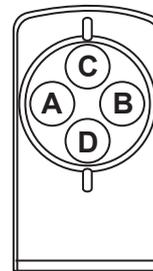
Notes:

- (A) System learning fails and needs to be learned again when an unpredictable interruption occurs.
- (B) Once the system learning is completed, there is no need to proceed with the learning process again when there is a power failure.
- (C) The slave gate opens 3 seconds after the master gate opens and the master gate closes 3 seconds after the slave gate closes.
- (D) While using limit switch mode, please make sure the motor hits the limit switch when it's in deceleration speed.

2.5 Gate Operation

Press the button “A” on the transmitter for dual-gate operation.

Press the button “B” on the transmitter for single-gate operation in either single-gate or dual-gate installation.



2.6 Gate-moving Logic

- (A) In gate-opening phase: The gates stop if the transmitter/push button/key selector is activated, and close when 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.
- (C) In gate-opening or gate-closing phase: For safety purpose, the gates stop if encountering obstacles.

2.7 Checking the Gate Movement

- 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 reaches the limit switch at least 2~3 centimeters before the mechanical stop.

3. Function Setting

3.1 Function Of The Led Display

LED Display	Programmable Functions
	“N-L”: The system learning is not done.
	“RUN”: The system is in normal performing.
	“LEA”: Enter learning mode and then wait for learning instructions. The operation of gate learning: (1). Press “SET” + “DOWN” + “UP” for 3seconds, and the LED display shows “LEA” +”DG”; and then press the transmitter (A) button one time. After 1~3seconds, the LED display shows the current value during learning mode, it shows 10 for 1A.
	“CLN” The memory of the system is all cleaned/deleted. Press and hold “UP+DOWN” for 5 seconds.
	“ME”: Motor operation error
	“STP”: The motor stop in the middle of the operating process.

3.2 Photocell Adjustment

The actions of the photocells safety edge loop detector when they detecting obstacles.

1. F9-1

Position of Gate	When safety devices are activated	
Type of Safety Device	Safety Device2 : Photocell-OPEN	Safety Device1 : Photocell-CLOSE
FULLY CLOSED	Open not allowed	No effect
FULLY OPENED	No effect	Reload automatic closing time
STOP DURING MOVING	Open not allowed	Reload automatic closing time
CLOSING	No effect	Open
OPENING	Close	No effect

2. F9-2

Position of Gate	When safety devices are activated	
Type of Safety Device	Safety Device2 : Safety Edge	Safety Device1 : Photocell-CLOSE
FULLY CLOSED	Open not allowed	No effect
FULLY OPENED	Reload automatic closing time	
STOP DURING MOVING	Locks	Reload automatic closing time
CLOSING	Reverse to open for 2 seconds	Open
OPENING	Reverse to close for 2 seconds	No effect

3. F9-3

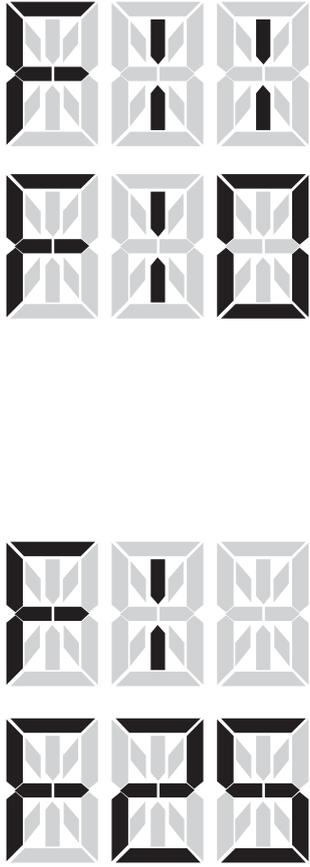
Position of Gate	When safety devices are activated	
Type of Safety Device	Safety Device2 : Opening Device	Safety Device1 : Photocell-CLOSE
FULLY CLOSED	Open	No effect
FULLY OPENED	Reload automatic closing time	
STOP DURING MOVING	Open	Reload automatic closing time
CLOSING	Open	Open
OPENING	No effect	No effect

4. F9-4

Position of Gate	When safety devices are activated	
Type of Safety Device	Safety Device2 : Photocell-OPEN/CLOSE	Safety Device1 : Photocell-CLOSE
FULLY CLOSED	Open not allowed	No effect
FULLY OPENED	Close not allowed, Open for 2 seconds when auto closing is ON	
STOP DURING MOVING	Locks	Close not allowed
CLOSING	Stop	Open
OPENING	Stop	No effect

3.3 Operations for Function Settings

For example: How to set the function “F1-0”; the steps are following:

Step	Operations	LED Display after the Step
1.	<p>(1) Press the “SET” button for 3seconds then releases it, and the system enters the first option. The LED will display “F1” (*) as the right hand-side picture.</p> <p>(*) If you would like to enter “F2” function or others as the first option, please press the “UP” button to adjust F2~F8 until you get “F2”.</p>	
2.	<p>(2) After completing the operation (1), then press the “SET” button again, you will enter the second option as the right hand-side picture. And you will see the third number for the second option.</p> <p>(3) Continually press the “Down” button until you search the function “0” (**) of F1 as the right hand-side picture. “F1-0” is set completely.</p> <p>(**) If you would like to set one of functions “0 ~ 8” as the second option, please press the “UP” or “Down” button to adjust it.</p> <p>(4) If you would continue setting up the next functions, please press “SET” to return the first option, like F1 or F2 or F3...or F8.</p> <p>For example, after complete “F1-0” setting. You would continue setting “F2-5”, please press “SET” to return the formal option. The LED display shows the first two numbers as as the first option as the right hand-side picture, “F1”. And then follow the operation (*) and (2) ~ (3) until you get “F2-5” as the right hand-side picture. “F2-5” is set completely.</p>	
3.	<p>After setting all functions you need, then wait for 10seconds, the LED will display “RUN”. And you can use transmitter to operate the gate.</p>	

3.4 Function Settings

LED Display	Definition	Parameter	Table	Description
F1	Motor Type	F1-1	Motor only	1. The factory setting is "F1-1".
		F1-2	Motor with Limit Switch	
		F1-3	Motor with Hall sensor	
F2	Dual or Single Gate	F2-1	Dual Gate	1. The factory setting is "F2-1".
		F2-2	Single Gate	
F3	Over Current Setting	F3-1	2A	1. The factory setting is "F3-1", 2. F3 setting is for F1-1 Motor only and F1-2 Motor with Limit Switch
		F3-2	3A	
		F3-3	4A	
		F3-4	5A	
F3	Over Current Setting	Note(F3 Setting is for F1-3 Motor with Hall sensor): Only in "F1-3"Hall sensor mode, the PCB will record all the current value while learning mode. Please set F3 function after learning mode. The LED display 10 to indicate all of the recorded values will increase 1 ampere as the over current value. In other words, the LED shows 20 to indicate all the recorded values will increase 2 ampere as the over current value. The value can be adjusted by pressing button UP and DOWN. The maximum value is 40(4.0A) and the minimum value is 05(0.5A).		
F4	Operation Speed	F4-1	100% Full speed	1. The factory setting is "F4-1".
		F4-2	80% Full speed	
F5	Deceleration function	F5-1	Function ON	1. The factory setting is "F5-1".
		F5-2	Function OFF	
F6	Deceleration Speed	F6-1	70% Full speed	1. The factory setting is "F6-2".
		F6-2	50% Full speed	
F7	Open/Close delay of dual gate operation adjustment	F7-1	2 sec	1. The factory setting is "F7-1".
		F7-2	3 sec	
		F7-3	4 sec	
		F7-4	5 sec	
		F7-5	6 sec	
		F7-6	7 sec	
		F7-7	8 sec	
		F7-8	9 sec	
		F7-9	10 sec	
F8	Auto-Close adjustment	F8-0	Function OFF	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 "F8-2".
		F8-1	3 sec	
		F8-2	10 sec	
		F8-3	20 sec	
		F8-4	40 sec	
		F8-5	60 sec	
		F8-6	120 sec	
		F8-7	180 sec	
		F8-8	300 sec	
F9	Photocell function mode	F9-1	Mode 1	1. The factory setting is "F9-1".
		F9-2	Mode 2	
		F9-3	Mode 3	
		F9-4	Mode 4	
FA	Pedestrian Mode function	FA-0	Function OFF	1. When function on and push B key in the transmitter, one gate will open partially. 2. The factory setting is "FA-1".
		FA-1	Function ON	
FB	Pre-Flashing function	FB-0	Function OFF	1. When function ON, the light will flash before the gate operate 3 seconds. If set OFF, the flash light will operate with motor in the same time. 2. The factory setting is "FB-0".
		FB-1	Function ON	

LED Display	Definition	Function	Table	Description
FC	Photocell 1 function	FC-0	Function OFF	1. The factory setting is "FC-0".
		FC-1	Function ON	
FD	Photocell 2 function	FD-0	Function OFF	1. The factory setting is "FD-0".
		FD-1	Function ON	
FE	Buzzer function	FE-0	Function OFF	1. The factory setting is "FE-1".
		FE-1	Function ON	
FF	Latch release function	FF-0	Function OFF	1. If the function on, the gate will move forward a little before the gate operate for releasing the latch. 2. The factory setting is "FF-1".
		FF-1	Function ON	
FG	Open/Stop/Close/Stop function key	FG-1	A Key	1. The factory setting is "FG-1".
		FG-2	B Key	
		FG-3	C Key	
		FG-4	D Key	
FH	Pedestrian Mode function key	FH-0	Function OFF	1. The factory setting is "FH-2".
	Auto-Close function Key	FH-1	A Key	
		FH-2	B Key	
		FH-3	C Key	
		FH-4	D Key	
FI		FI-0	No key to control	1. The key is to turn on or off the Auto-Close function. 2. The factory setting is "FI-3". 3. When the flasher and buzzer is running, the auto closed button has no function till flasher and buzzer finish running.
		FI-1	A Key	
		FI-2	B Key	
		FI-3	C Key	
		FI-4	D Key	

5.2 Technical Feature:

Model	PA250
Motor	24Vdc motor
Gear type	Electromechanical worm gear
Nominal thrust	2500N
Maximum Gate Weight	250 kg per leaf
Maximum Gate Length	2.5 meters per leaf
Operating Temperature	-20°C~+50°C
Dimension	256 x 187 x 267mm
Weight	6 kg

Model	PC190
Main power supply	230Vac/110Vac, 50Hz/60Hz
Back-up battery	2pcs of batteries for emergency operation, 1.2A each
Receiver board	433.92MHz; 200 transmitters memory
Installation	Built - in PCBA
Operating Temperature	-20°C~+50°C
Dimension	275mm x 195mm x 102mm

6. Maintenance

Conduct the following operations at least every 6 months. If in high intensity of use, shorten the period in between.

Disconnect the power supply:

- (1) Clean and lubricate the screws, the pins, and the hinge with grease.
- (2) Check the fastening points are properly tightened.
- (3) Make the wire connection are in good condition.

Connect the power supply:

- (1) Check the power adjustments.
- (2) Check the function of the manual release.
- (3) Check the function of photocells or other safety devise.