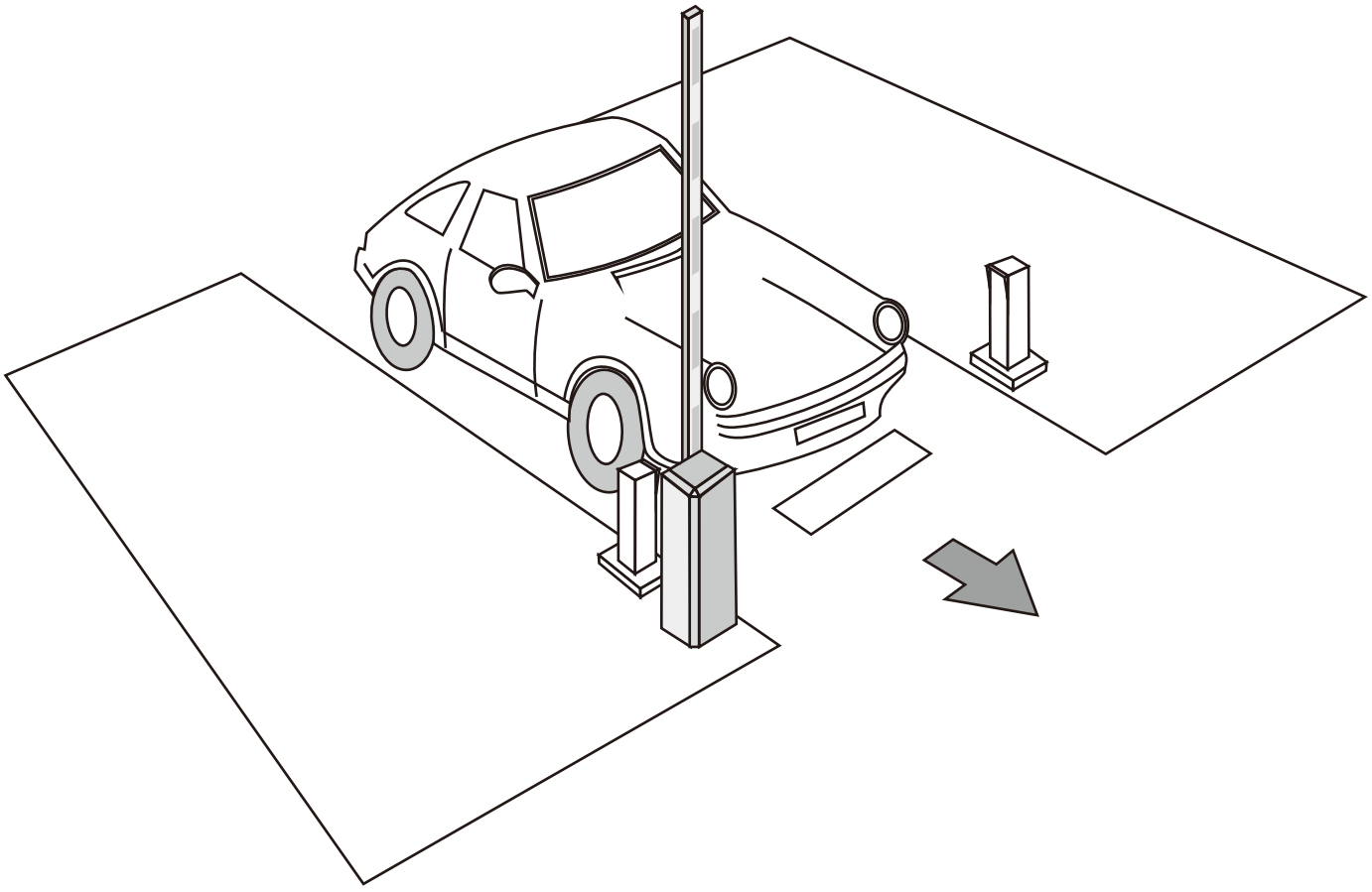
Automatic Boom Barrier System

User Manual



Automatic boom gates are not for pedestrians

Automatic Barrier Gate Opener System is powerful while working. It may cause serious body injury or death to pedestrians if they walk through/around the automatic barrier inappropriately. Should have other separate walkway for pedestrians.

1.Before starting installation and operation or maintenance, cut off power supply.

2.The product must be earthed, and an earth leakage is necessary on the power supply.

3.Do not change the original inside wiring.

4.If power failure, please switch off the power supply first, then open the gate and rotate the handle on the motor manually to open the gate completely.

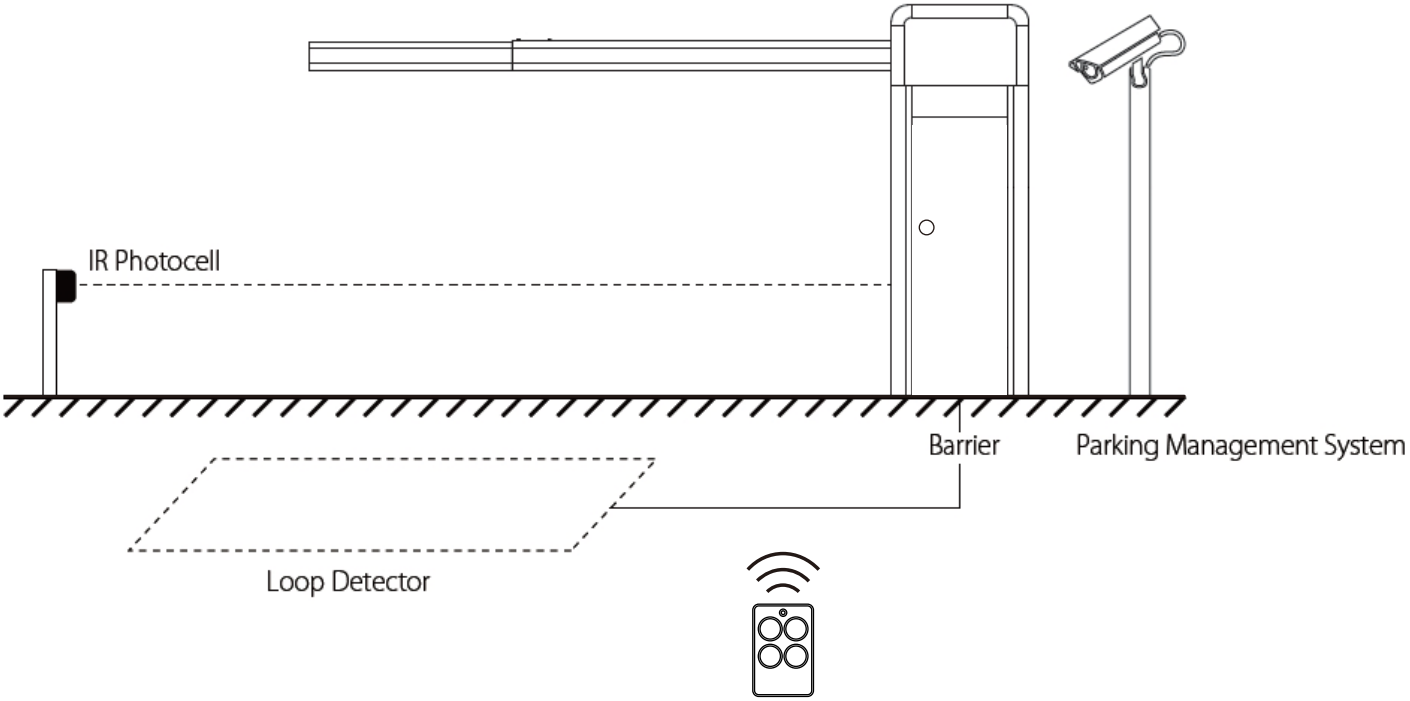
5.Keep the automatic control (push-button, remote control,etc)out of the reach of the children. The control system must be installed at a minimum height of 1.5m from the ground surface.

6.Use transmitters or button only where you can see the gate clearly.

7.Never open the gate or the cover of the cabinet when the machine is working.

8.Don't permit children to play on or around a gate.

Overview

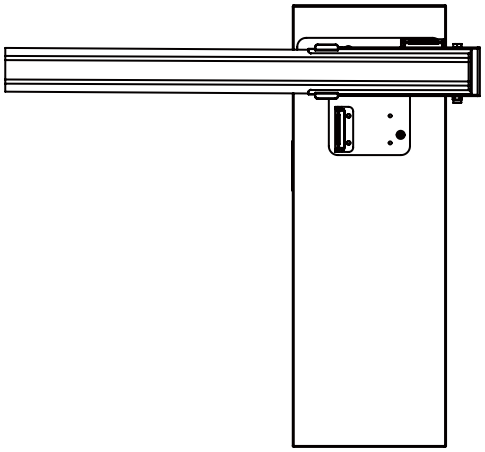


1. Technical Specifications:

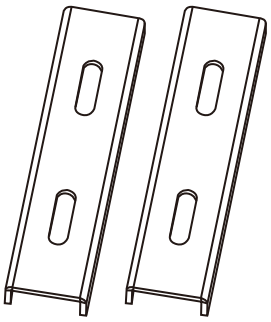
Power Supply	AC 220V
Time of Up/Down	3s-5s
Max. Boom Length	4.5M
Remote Control Distance	≤50M
Working Temperature	-20℃～60℃

2. Products List

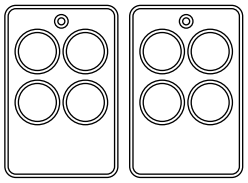
1×Boom barrier machine
1×4.5M barrier arm
2×Remote controls
2x Clamping plate
4×M12x120 expansion bolts



1pcs



2pcs



Remote Control Optional
2pcs

3. Installation Steps

(1) Before installation, please make sure there is no any obstacle within 4.5 meters of installation field. Please refer to the Figure 1.

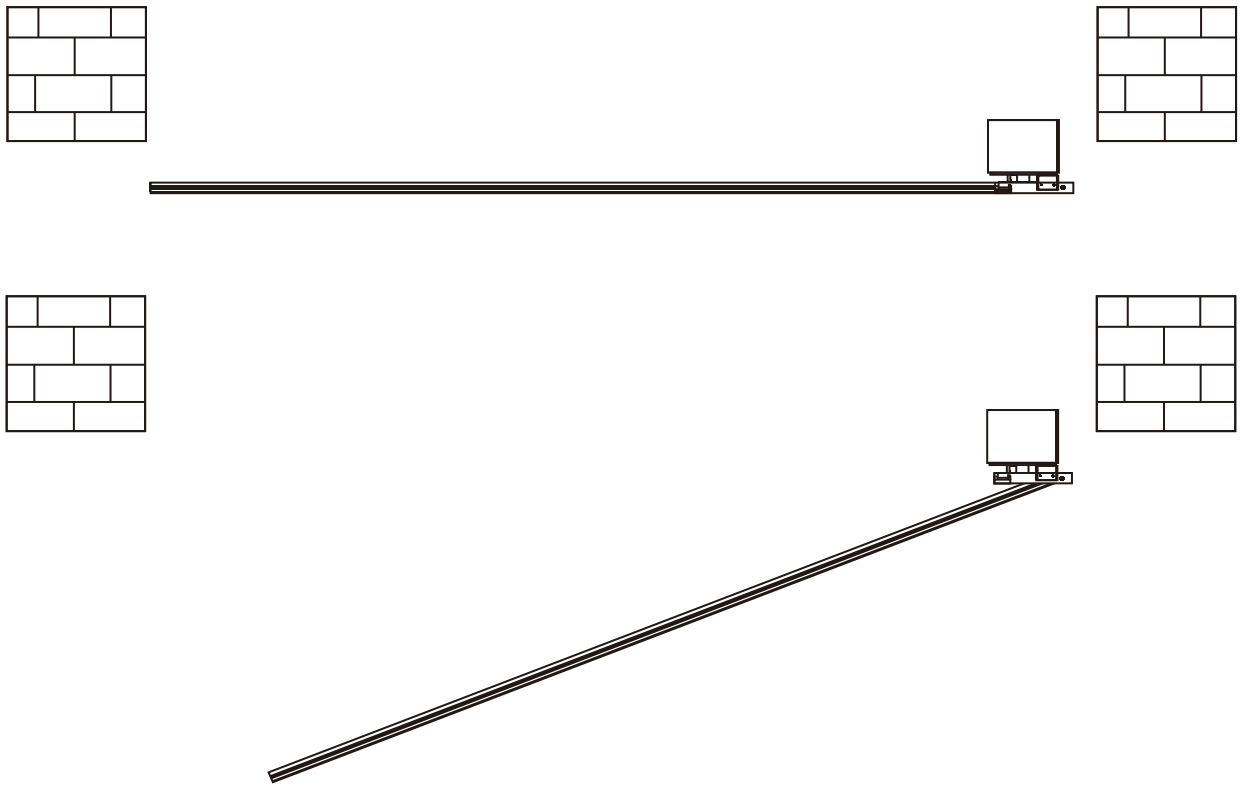


Figure 1

(2) Put the boom barrier on the ground, usually use the pen to mark out the position of 4 pieces expansion bolts. Drill holes with electric drill based on the marked position of 4 pieces expansion bolts. After drilling holes, put the 4 pieces bolts into the holes, or strike the bolts into holes with hammer carefully. Then fasten the bolts well. Please refer to the Figure 2.(Step 1-Step 5)

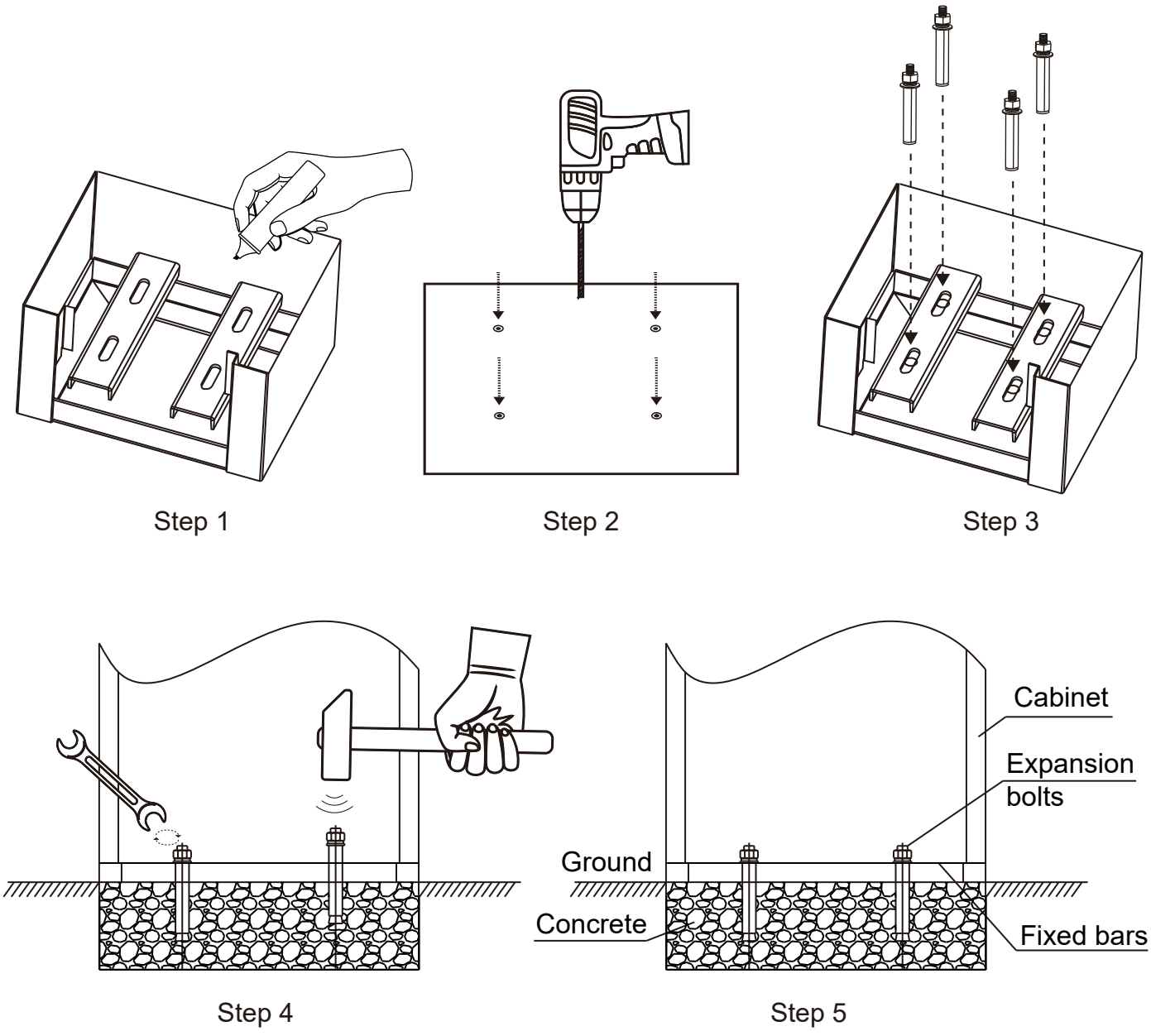


Figure 2

(3) Assemble the 4.5 meters boom arm into the shell of rod that is on boom barrier motor. Then fasten the bolts on the shell as the Figure 3.

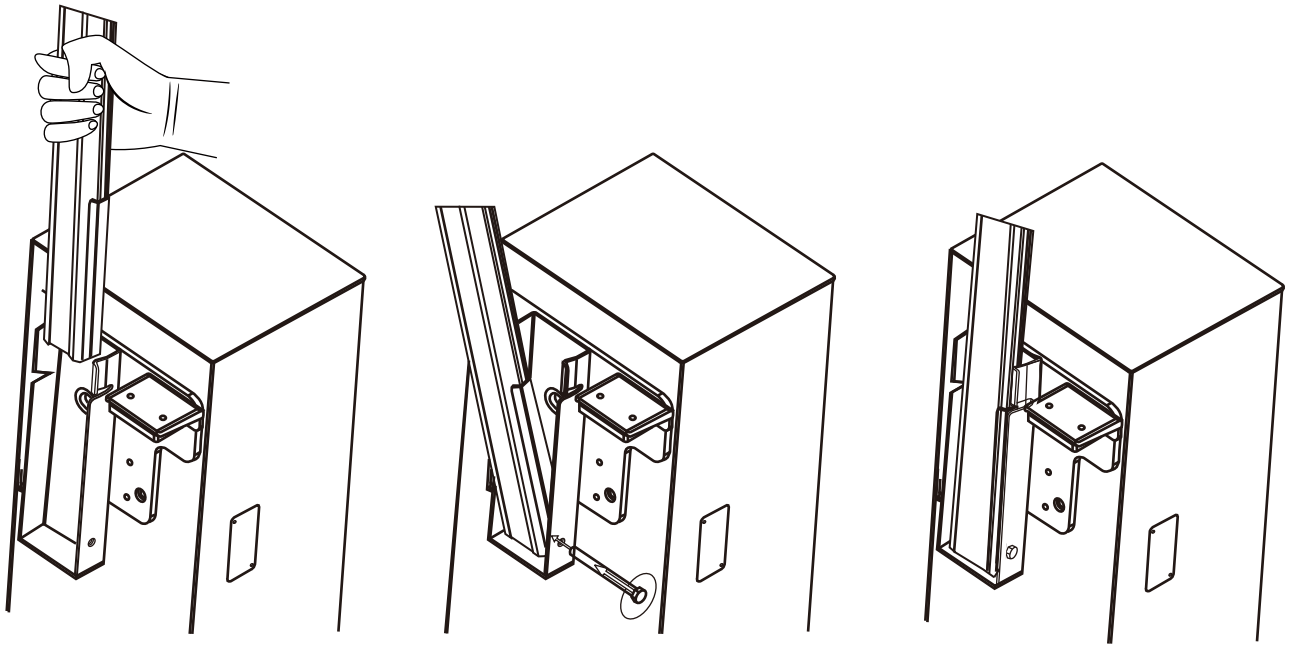


Figure 3

(4) Connection of power cable, press the remote control to test if it is working normally as the figure 4.

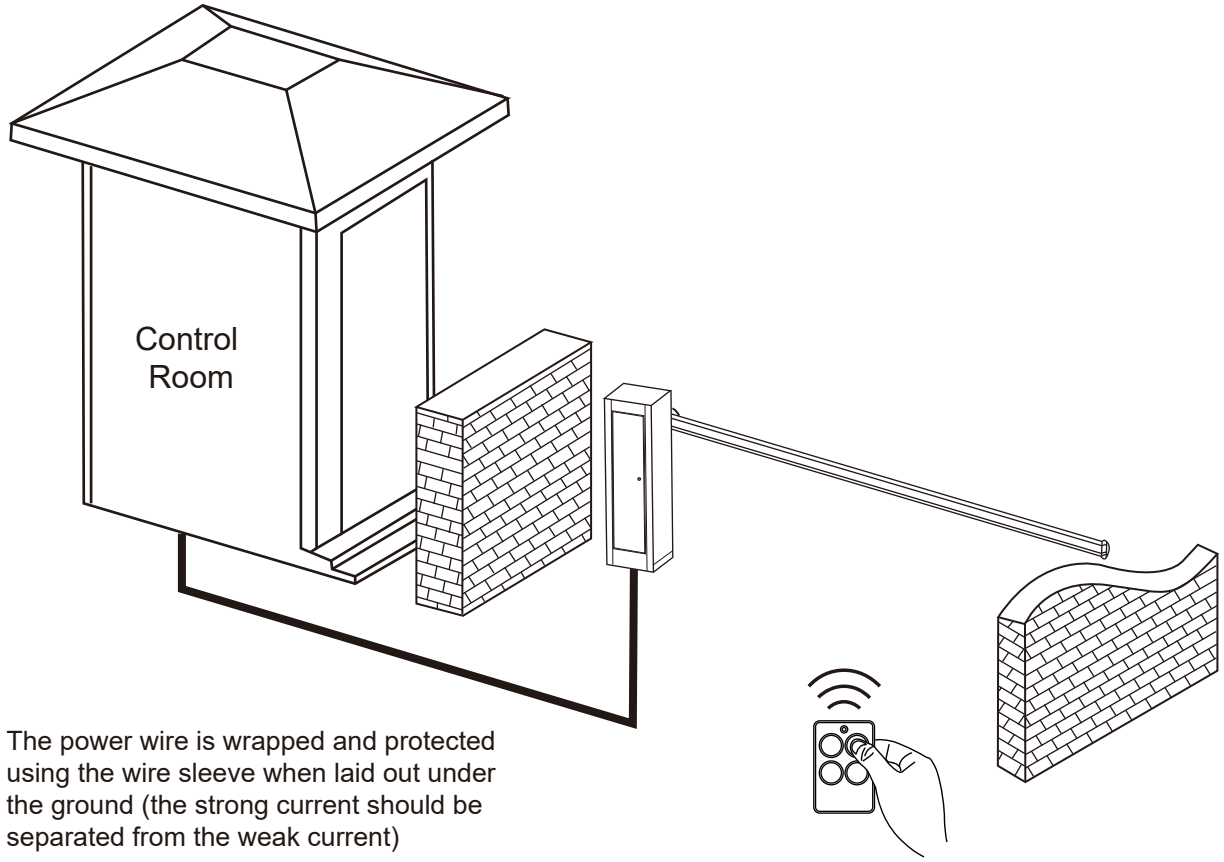
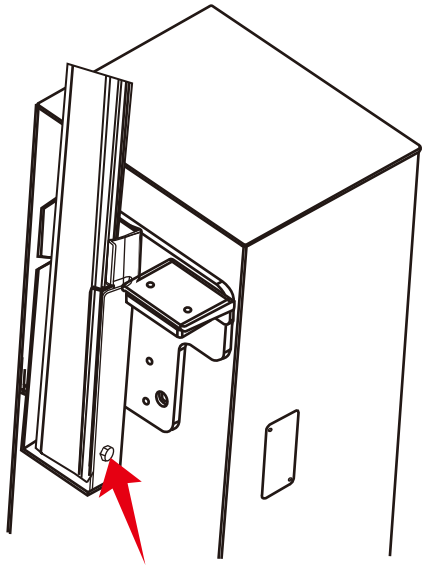


Figure 4

4. Manual Release

When the power failure or other emergency situation, please operate the manual release to take out the boom. Loosen the screw, push the boom out manually, then take out it.



Loosen the screw

Figure 5

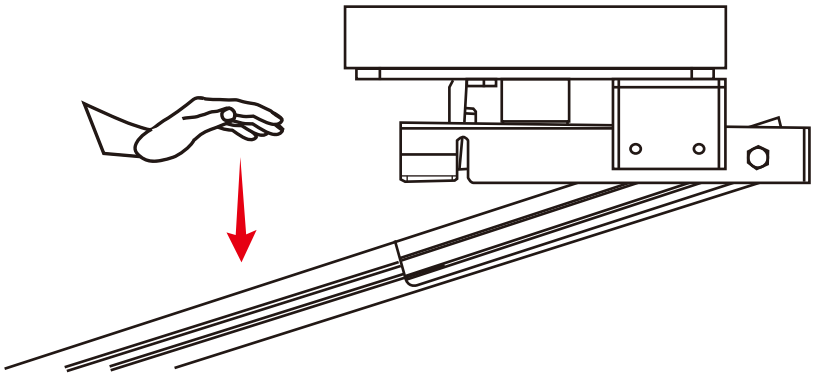


Figure 6

5. Set Open/Close limit position of barrier boom

Method 1

Step 1. Open the gate opener housing, disassemble the control box, you will access the control board. Fig 7

Step 2. Press and hold the **"Fun"** button for about 3s until the menu shows **P0** and release the button. Press **"Dec/Smart"** button 3 times, the menu shows **"Pr"**. Then press **"Fun"** button **1 time** to confirm and enter the setting parameters. Note, set 5 for **Pr** to trigger the setting operation of opened/closed in position. Fig 8

Step 3. Press the **"Inc/Start"** button 5 times to set value is 5 and press **"Fun"** to save the data. Now the buzzer will sound 1 long beep and the menu will trigger the timer from 99s to 0. During the time, you need to complete the setting operation. Fig 8

Step 4. Press and hold the **"Dec/Smart"** button to close the gate, until the gate is closed in position then release the button. Press the **"Fun"** button to confirm the closed fully position. Fig 9

Step 5. Press and hold the **"Inc/Start"** button to open the gate, until the gate is opened in position then release the button. Press the **"Fun"** button to confirm the opened fully position. Then it will auto exit the learning process. Set opened and closed in position(Adjust the vertical and horizontal line of barrier boom) successfully.

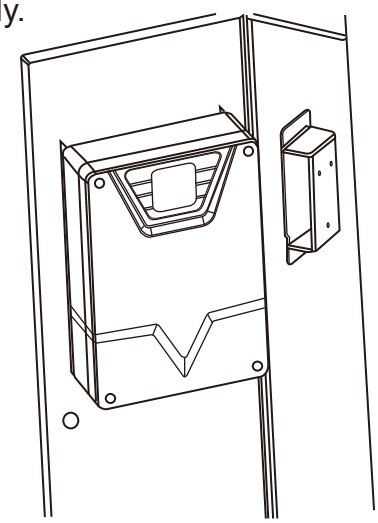


Figure 7

Figure 8

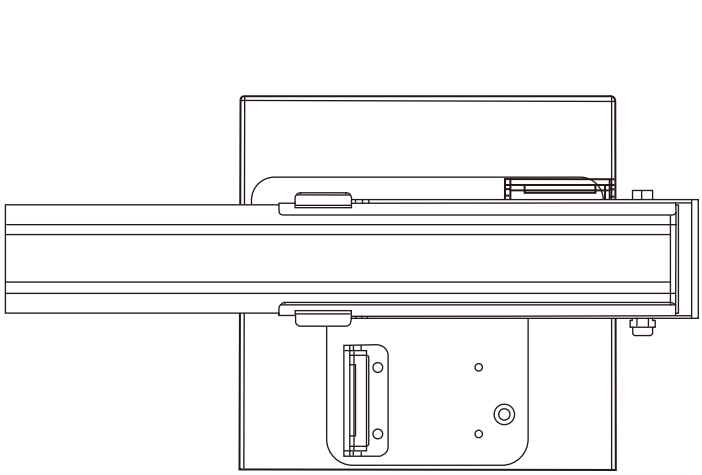


Figure 9

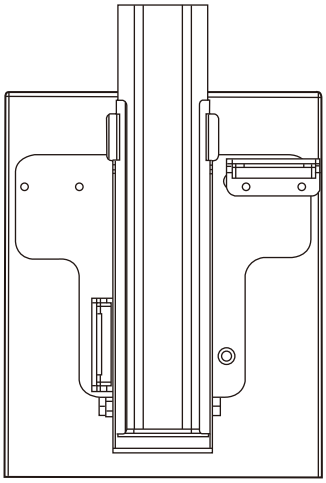


Figure 10

Method 2

Step 1. Open the gate opener housing, you will access the control box, there are 3 buttons in the box housing, includes UP, Stop and Down. Fig 11

Step 2. Press and hold the **"Stop"** button for about 6s until the buzzer sounds 2 beeps, then release the button right now. Within 1.5s, Press **"Stop"** button **again**, the buzzer sounds 1 long beep and trigger the learning of opened/closed in position. You need to complete the setting operation within 99s. Fig 12

Step 3. Press and hold the **"Down"** button to close the gate, until the gate is closed in position then release the button. Press the **"STOP"** button to confirm the closed fully position. Fig 13

Step 5. Press and hold the **"UP"** button to close the gate, until the gate is opened in position then release the button. Press the **"STOP"** button to confirm the opened fully position. Then it will auto exit the operation. Set opened and closed in position(Adjust the vertical and horizontal line of barrier boom) successfully. Fig 14

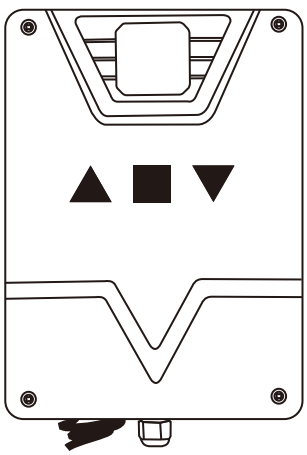


Figure 11

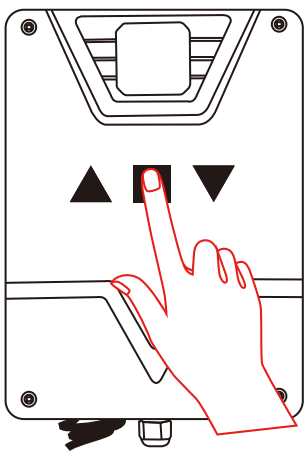


Figure 12

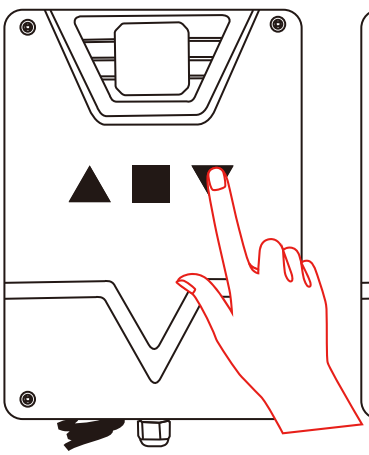


Figure 13

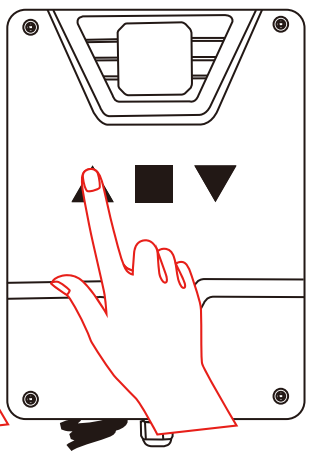


Figure 14

6. Set Left / Right direction of the barrier boom

Left and right directions

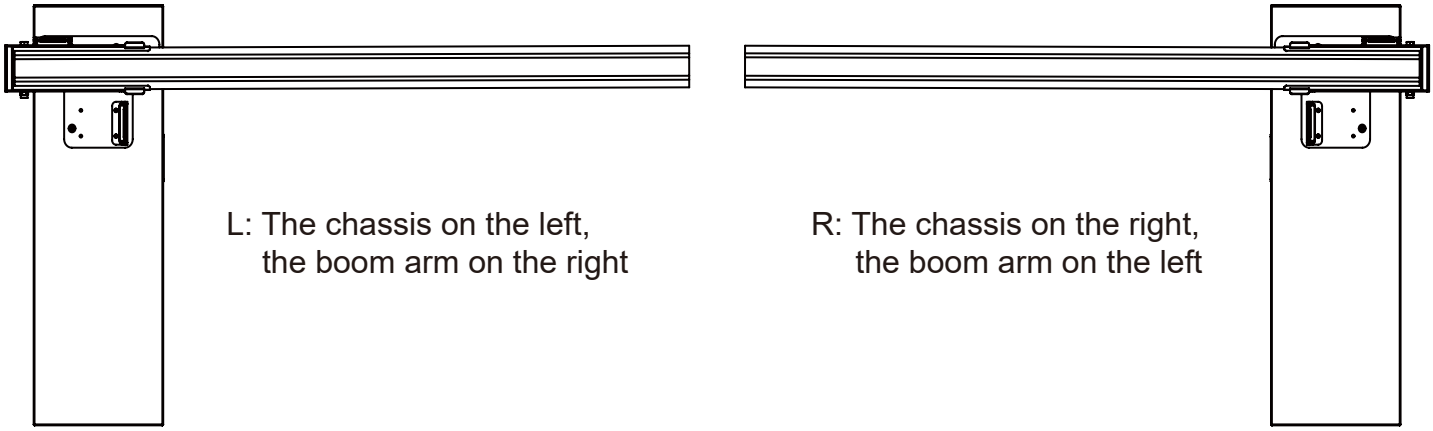


Figure 15

When you need to swap the left and right direction of the barrier boom, please follow the operation:
Step 1. Turn off the power, loosen 4 screws from opened and closed limit block, and take out 2pcs limit blocks。
Step 2. Install the limit blocks in the reverse direction as figure 17 shown, then tighten 4 screws to fixed the opened and closed limit block.

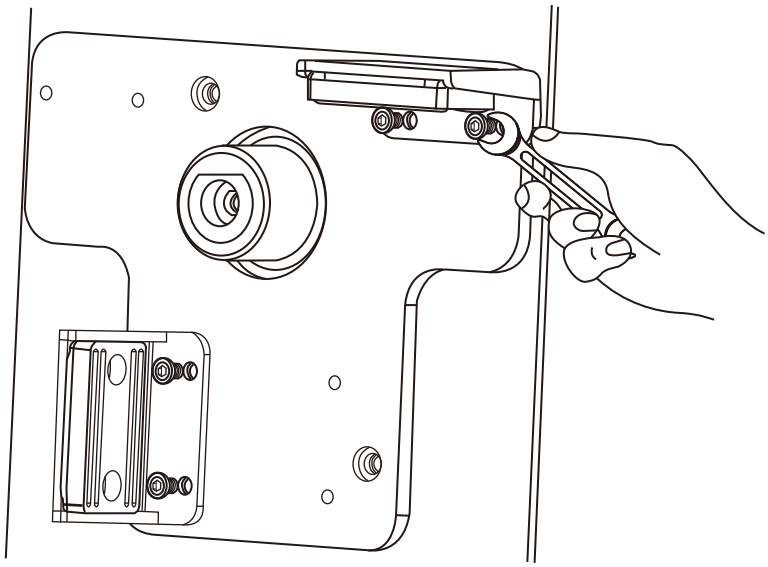


Figure 16

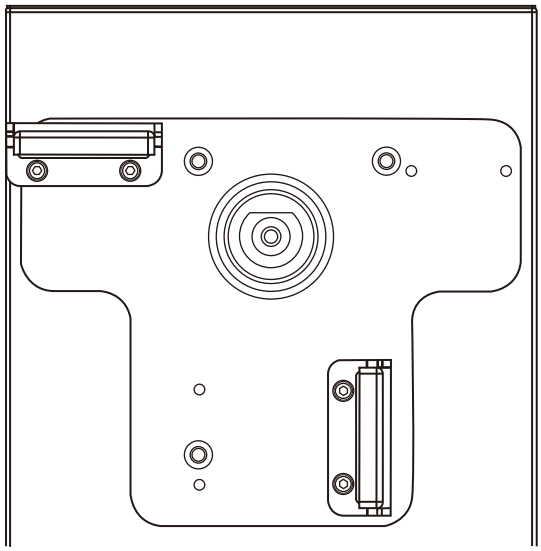
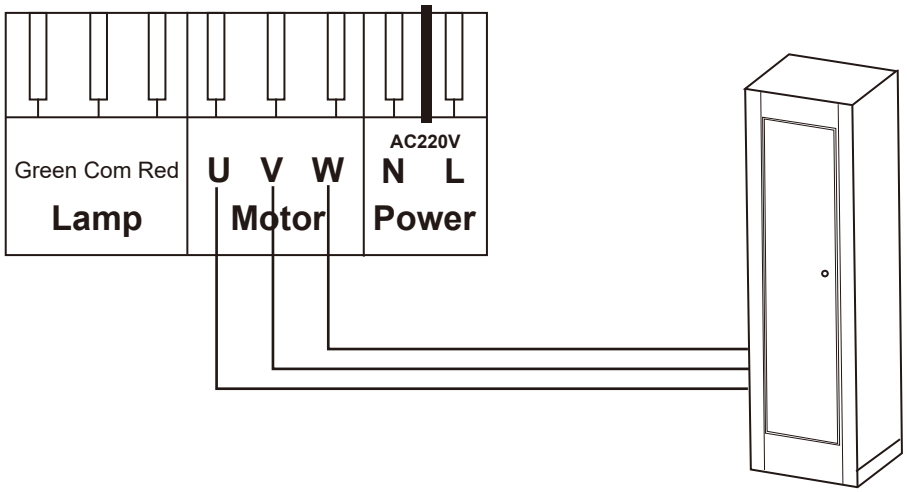
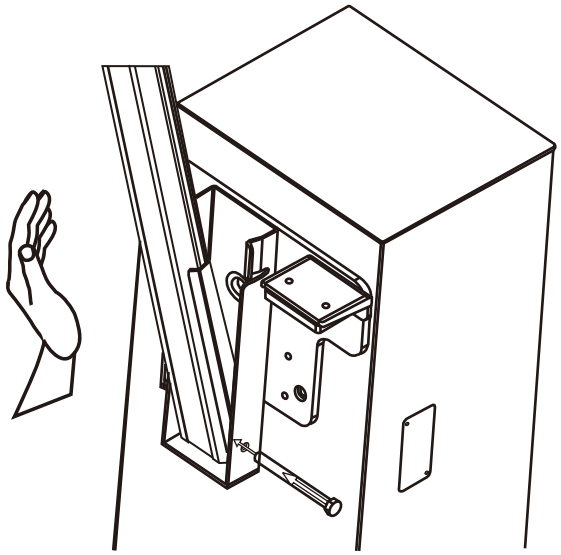


Figure 17

Step 3. Swap any 2 motor wires.



Step 4. Assemble the boom, tighten the screw.



Step 5. Set Open/Close limit position of barrier boom again in control box. Refer to page 4 & 5.

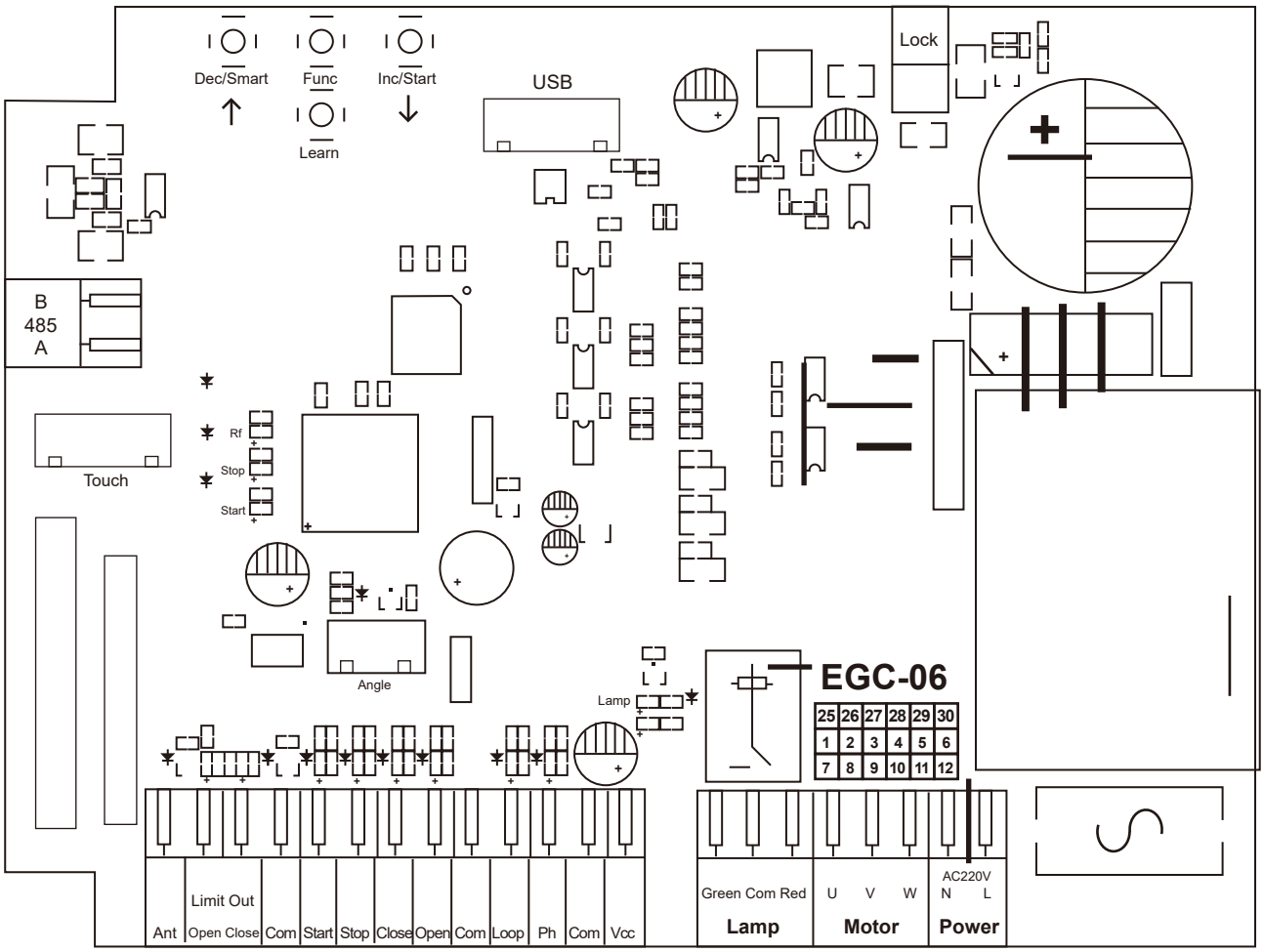
Control Board Instruction

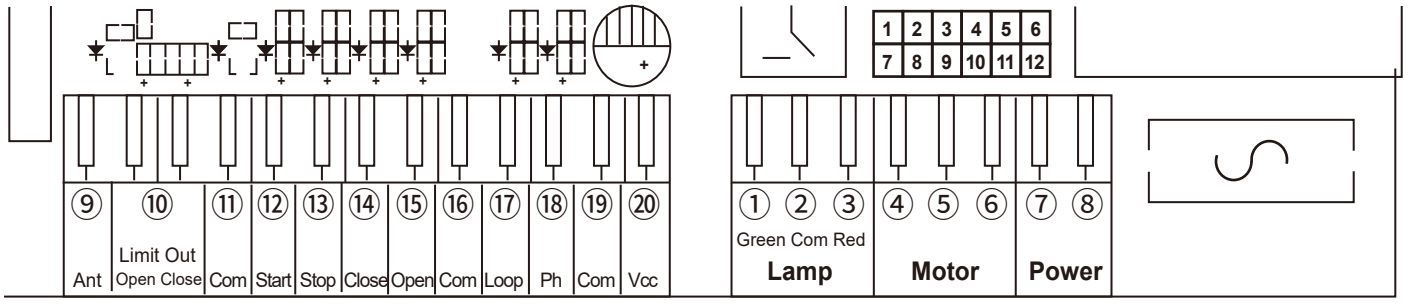
Technical Parameters

1.Power supply: AC 220V
2.Power: 160W
3.Application: AC three phase asynchronous boom barrier gate opener
4.Remote control: Giant customized rolling code
5.Remote control memory: max support 120pcs

Note: After user turned off the power for the control board, due to the existence of the large capacitance of the board, there will be residual power, please do not touch the exposed wires of the board directly.

Terminal and Buttons instruction



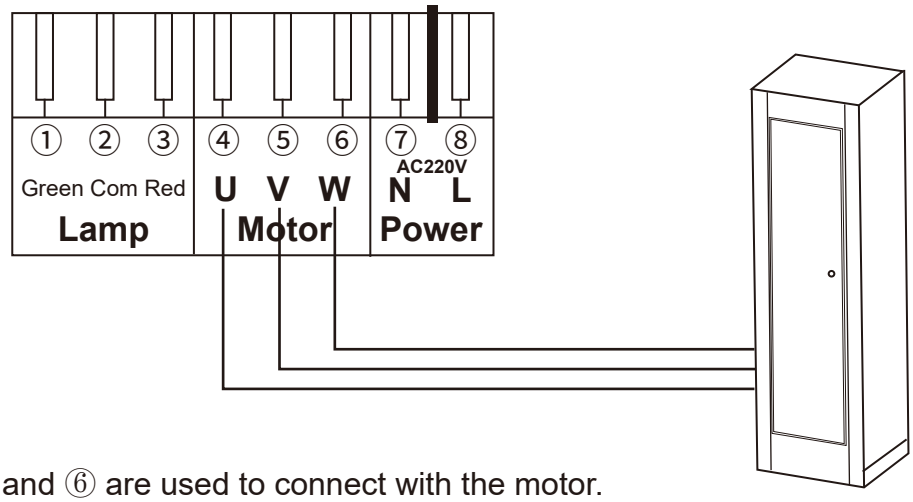


1 & 2 & 3. Lamp: used for connecting with flashing light, output voltage is AC 220V.
Note! If you only connect with a common lamp, please connect it with “Green” and “Com” port.
4 & 5 & 6. Motor: used for connecting with gate motor’s wire.
7 & 8. Power: used for connecting with AC 220V power.
9. Ant: antenna connection.
10. Limit Out(Open/Close): used for connecting with extra limit switch.
11. COM: used for connecting with COM terminal or GND.
12. Start: It is a single button control mode switch for controlling the gate by “open -stop-close - stop - open” cycle.
13. Stop: used for connecting with external devices that will operate to stop the gate.
14. Close: used for connecting with external devices that will operate to close the gate.
15. Open: used for connecting with external devices that will operate to open the gate.

16. COM: used for connecting with COM terminal or GND.
17. Loop: used for connecting with loop detector.
18. Ph: used for connecting with the photocell sensor.
19. COM: used for connecting with COM terminal or GND.
20. VCC: DC 12V output used for connecting with external devices, max 100mA.
21. DEC/SMART: used for figure decreasing of setting the data and operate the smart module.
22. FUN: Used for enter the menu setting and confirm the data.
23. INC/START: used for figure increasing of setting the data and setting the single button control mode.
24. LEARN: used for programming/erasing the remote control.

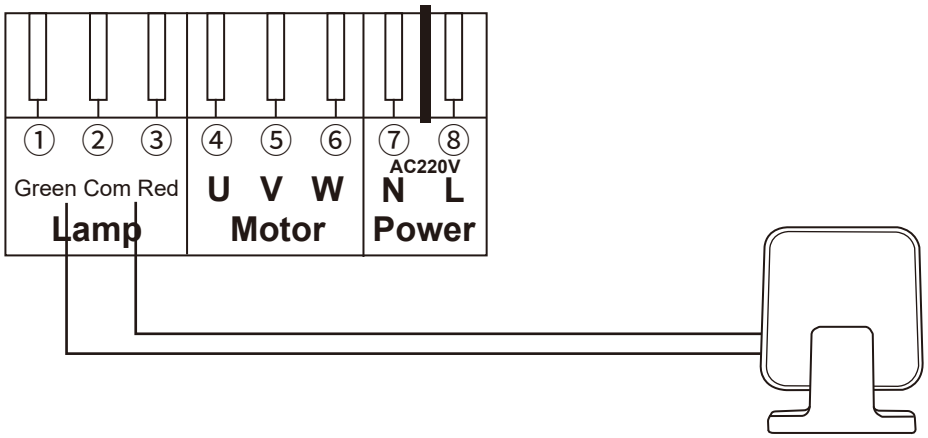
Control Board Wire Diagram

• Install the motor on the right-hand of gate



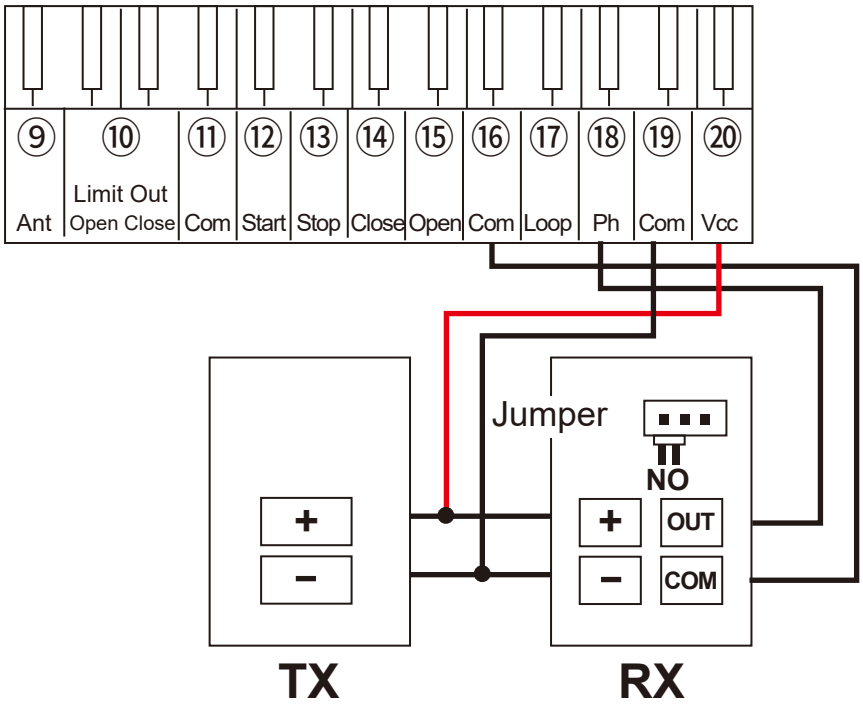
Terminal ④, ⑤ and ⑥ are used to connect with the motor.
If you want to install motor in the left-hand of gate, please swap the two motor wires randomly and connect them again. And set the open/close limit position and left/right direction for the barrier boom.

• Connect with flash lamp



Terminal ③ and ④ is for connecting with the flash lamp .
Note! If you only connect with a common lamp, please connect it with “Green” and “Com” port. “Red” port is used to connect with second flash lamp, when you install 2pcs different colors flash lamp.

• Connect with photocell sensor

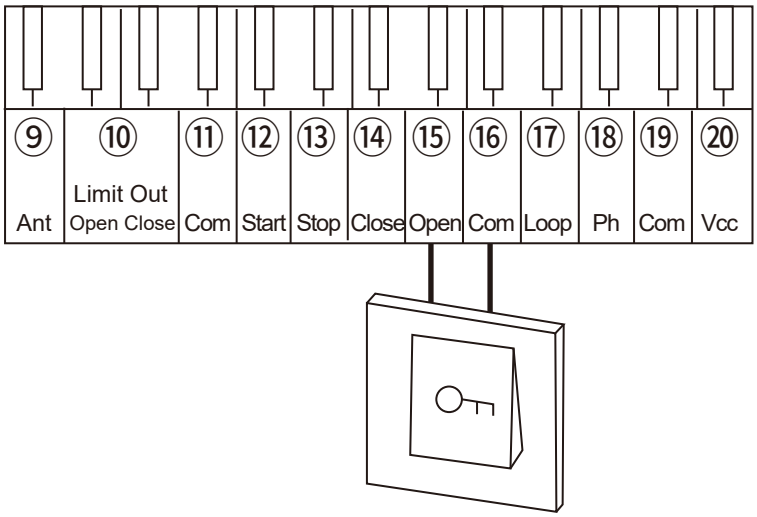


Connect terminal ⑯ with the “COM “ of photocell RX.
Connect terminal ⑱ with the “OUT “ of photocell RX.
Connect terminal ⑳ with the “+ “ of photocell RX and TX.
Connect terminal ⑲ with the “- “ of photocell RX and TX.

• Connect with start terminal

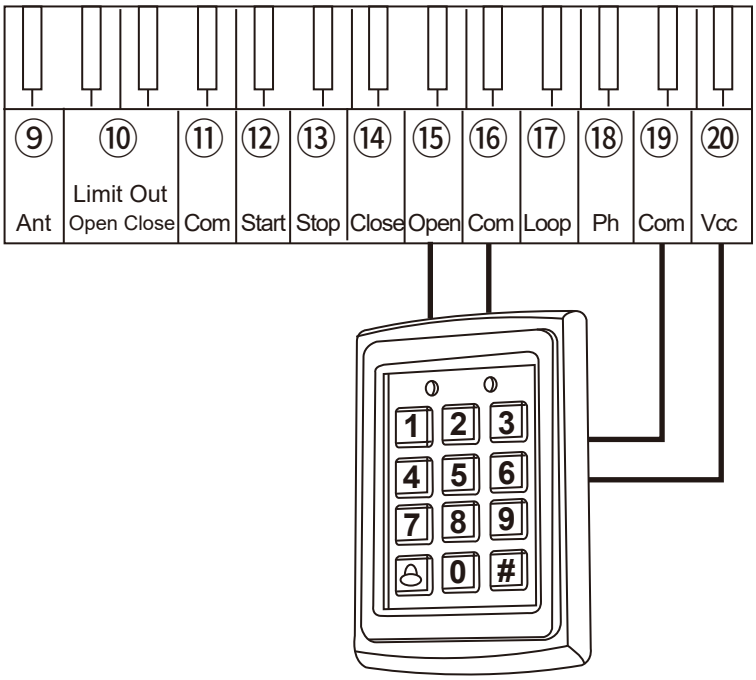
Start terminal is used for connecting with some external devices , such push button, wired keypad, receiver etc.

Control gate by “ open-stop-close-stop-open ” mode



Terminal ⑮ and ⑯ is for connecting with the push button.
Note! If you connect the wired keypad, etc devices, please also connect with ⑳ Vcc and ⑲ Com to get the power supply.

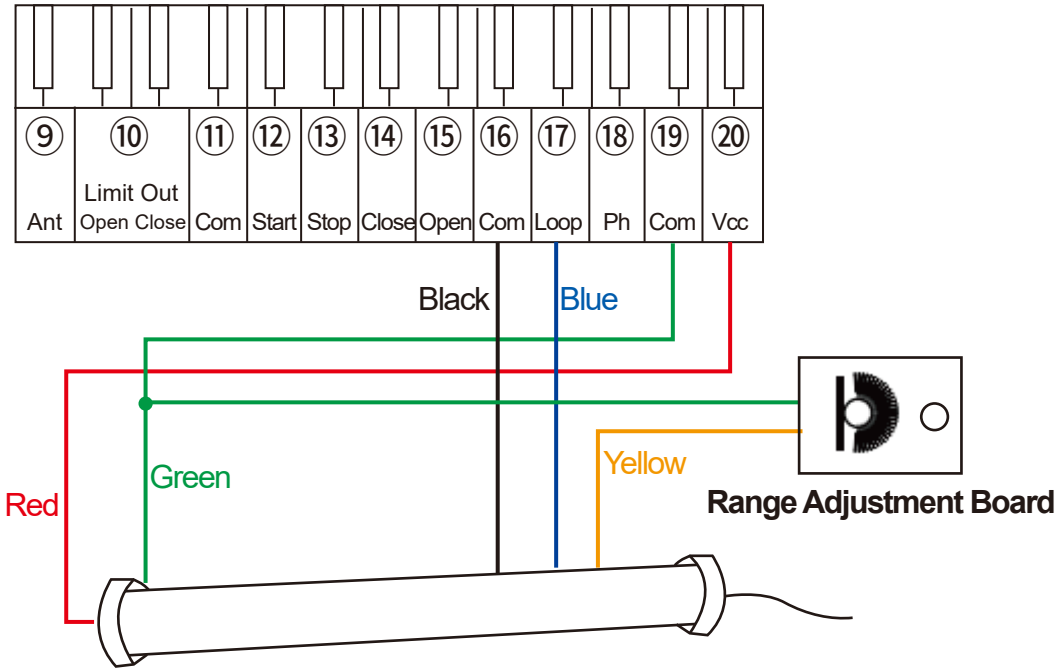
• Connect with open/close gate device



Open gate device:
Terminal ⑲ and ⑳ is for supplying the power to wired keypad.
Terminal ⑮ and ⑯ is for connecting with the device.

Close gate device:
Terminal ⑲ and ⑳ is for supplying the power to the wired keypad.
Terminal ⑭ and ⑯ is for connecting with the device

• Connect with loop detector



• Loop detector wire information:

Definition of the 5 –core cable:
RED → Input Voltage (+)
GREEN → Ground/Common (-)
BLACK → Relay's Common
BLUE → Relay's Normally Open
YELLOW → Range adjustment potentiometer (POT)

• Red wire: connect with terminal ⑳.
Green wire: connect with terminal ⑲ and range adjustment board.
Black wire: connect with terminal ⑯.
Blue wire: connect with terminal ⑰.
Yellow wire: connect with range adjustment potentiometer.

How to Program or Erase the Remote

• **Program the remote:** Press **learn** button for at least 1 second and then release, the LED indicator will light on. Now user needs to **press the button on the remote control**, with the buzzer short beep, which means the code learning is successful, the digital LED will show the quantity of that remotes were learned.

After the user presses the learn button, within 8 seconds, if the controller doesn't receive the signal from the remote, the controller's LED indicator will turn out and exit the code learning statute.

Note: Due to the digital display only can show two digital numbers, if the controller already learned more than 99pcs remote, from the 100th remote, the digital display will show A to replace the ten and hundred digits. Such as the 100th remote will show A0, and the 101st remote will show A1. If the controller already learned more than 109pcs remote, from the 110th remote, the digital display will show b to replace the ten and hundred digits. Such as the 110th remote will show b0. And 120th remote will show C0.

Max capacity: 120pcs remote. If the digital display show "- -" with a buzzer short beep 5 times, then means can not learn more remotes.

• **Erase the remote:** Press and hold the **learn** button for **5 seconds**, while the user hears the buzzer with a long beep, release the button, and the digital display show "00". Now all remotes can not control the gate.

How to Use the Remote to Operate Your Gate Opener

Each remote has 4 buttons, can set them with different work mode independently through the digital display menu L1, L2, L3 and L4,

0: No function.

1: Open-Stop-Close...

2: Pedestrian mode

3: Open only.

4: Close only.

5: Stop only.

6: Turn auto close off via remote

Control board function description

Item	Description
Power on	After the control board powered on, the buzzer will sound, and the digital display will show model number and version,and the status indicator LED lit up.
Setting of Loop terminal	**The loop detector have 2 function for optional, set them by the digital display menu:** **Mode 0:**When the gate is closing, trigger the loop port, the gate will reverse back to open the gate until move to the opened position. And after the loop port signal is gone, it will trigger the auto-closing timer countdown. When the gate is opened , trigger the loop port, and after the loop signal is gone, it will trigger the auto-closing timer countdown. The auto-closing timer can be set by the menu F5. When the gate is on closing, trigger the loop terminal, the gate will rebound to open right now. And after the loop signal is gone, then the gate will auto close immediately. **Mode 1:** Triggering the loop port, the gate will open and move to the opened position, the control board will enter the auto-closing timer countdown, set the timer by the menu F5. Note! 1.If the loop port signal isn't gone, the gate can't close. Loop port only support to work with Normal Open mode.
Safety beam mode	1.While the gate is closing, if trigger the Ph port, the gate will reverse back to open the gate. When it moves to the opened position and the safety beam signal is gone, will countdown the auto-closing timer. 2.If the safety beam signal exists, the gate closing action will not be executed. 3.The safety beam mode can be be selected by menu F2, the default mode is 1, it is normal open mode. The auto-closing timer can be set through the menu C0.
Auto-closing timer for fully opening	1.The auto-closing function is only triggered after the gate is fully opened. 2.When auto-closing timer start to countdown, the STATE LED will flash one time each second. 3.Auto-closing timer for fully opening can be set through the menu. 4. If the loop signal, safety beam signal or RF signal are exists, the gate closing action will not be executed and the auto-closing timer after fully opening will always be reset.

Item	Description
Flash Lamp Mode	The the lamp work mode can be set by menu. **Mode 0: used to connect a common flash lamp to the Green and Com ports.** Flashing lamp and motor will operate and stop at the same time. And when the gate is on the auto-closing timer countdown statue, the lamp also will light on. **Mode 1: used to connect with red and green flash lamps. The green lamp will connect to Green and Com ports, and the red lamp will connect to Red and Com ports.** The green lamp stays on when fully opened. Otherwise, the red lamp remains on.
Overcurrent	The overcurrent function can achieve an anti-smashing car. While the gate is opening, it detects the overcurrent and stop. If the gate is closing and detects the overcurrent, gate will reverse back to the opened position. Setting overcurrent for opening and closing the gate through the digital display menu.
Motor protection	1.As soon as the motor runs continuously for more than the 10s, the motor will automatically stop working to protect the motor. 2.When the control board detects that the motor driver module temperature exceeds the threshold, it will immediately turn off the motor power supply. The digital display menu will show “HE”, indicating the system has entered overheat protection mode during which motor running is disabled. The system will auto exit the overheat protection state when the temperature drops to a safe level
RS485 Communication port	Communication at 9600 baud (8 data bits, no parity, 1 stop bit) is used to control the barrier gate from a computer or system and check its status.
Upgrade controlboard system by USB device	1.Before you upgrade the system, please confirm the U disk document isFAT32 or not. If not, please format the U disk as FAT32. 2.Copy the upgrade file into the root directory of the U disk and name it EGC-06.bin. 3. Insert the U disk into the upgrade module, and then connect the upgrade module to the USB port. 4. Enter the menu, select the PU and set 5, and confirm. At this time, the system will start to the upgrade operation.

Control board function description

• ress and hold the **[FUN]** button for 3 seconds, and the digital display will indicate **“A0”**, then release the button, now the menu can be set to **[INC/START]** and **[DEC/SMART]** for increasing and decreasing numbers or values.

• After adjusting the value, press the **[FUN]** button to store the data, and the buzzer will beep one time to show the store successfully.

• After the menu setting is finished, press the **[LEARN]** button to exit the menu setting and close the display.

Item	Function description	Value	Factory default	Explanation
A0	Opening overcurrent setting in high speed	0~20 level	5	Opening overcurrent setting in high speed, the bigger the value is, the harder the motor to stop. Setting value from 0-20.
A1	Closing overcurrent setting in high speed	0~20 level	5	Closing overcurrent setting in high speed, the bigger the value is, the harder the motor to stop. Setting value from 0-20.
A2	Opening overcurrent setting in slow speed	0~20 level	5	Opening overcurrent setting in high speed, the bigger the value is, the harder the motor to stop. Setting value from 0-20.
A3	Closing overcurrent setting in slow speed	0~20 level	5	Closing overcurrent setting in high speed, the bigger the value is, the harder the motor to stop. Setting value from 0-20.
A8	Overcurrent sensitivity	0-3 level	0	Closing overcurrent setting in high speed, the bigger the value is, the harder the motor to stop. Setting value from 0-20.
B0	Setting slow speed running time for opening	0-5 level	2	Used for setting the slow speed running time of the gate opening, gate will run in slow speed within this setting, then change to high speed with its rest travel. Setting from 0-5 seconds.
B1	Setting slow speed running time for closing	0-5 level	2	Used for setting the slow speed running time of the gate closing, gate will run in slow speed within this setting, then change to high speed with its rest travel. Setting from 0-5 level.

Item	Function description	Value	Factory default	Explanation
C0	Auto-closing timer for fully opening	0-99 seconds	0	Setting from 0-99 seconds, 0 means No auto-closing for fully opening.
D0	Setting high speed for opening	0-5 level	3	Setting speed of high speed for opening, setting from 0-5
D1	Setting high speed for closing	0-5 level	3	Setting speed of high speed for closing, setting from 0-5
D2	Setting slow speed for opening	0-5 level	0	Setting speed of slow speed for opening, setting from 0-5
D3	Setting slow speed for closing	0-5 level	0	Setting speed of slow speed for closing, setting from 0-5
F2	Safety beam mode	0-1	1	0： NC mode. 1： NO mode.
F3	Flash lamp mode	0-1	1	0: common lamp. 1: red and green lamp.
F4	Setting of loop terminal	0-1	0	0: When gate is closing, triggering the terminal, the gate will reverse back to open. After the loop signal is gone, the gate will auto close immediately. When gate is opened, triggering the terminal, after the loop signal is gone, gate will auto close immediately. 1: Loop is only used to open the gate.
F5	Auto closing timer of loop terminal	0-99 seconds	2s	Setting from 0-99 seconds, 0 means No auto-closing for loop terminal.
L1	Button A function (Remote control)	0-5	1	0: No function. 1: Open-Stop-Close. 2: Open only. 3: Close only. 4: Stop only. 5: Turn auto close off via remote.
L2	Button B function (Remote control)	0-5	0	0: No function. 1: Open-Stop-Close. 2: Open only. 3: Close only. 4: Stop only. 5: Turn auto close off via remote.

Item	Function description	Value	Factory default	Explanation
L3	Button C function (Remote control)	0-5	0	0: No function. 1: Open-Stop-Close. 2: Open only. 3: Close only. 4: Stop only. 5: Turn auto close off via remote.
L4	Button D function (Remote control)	0-5	0	0: No function. 1: Open-Stop-Close. 2: Open only. 3: Close only. 4: Stop only. 5: Turn auto close off via remote.
Pr	Trigger angle limit resetting	0-10	0	Setting from 0-10. Set 5 will trigger the angle limit resetting for opened/closed position.
Pr	Upgrade the system by USB device	0-10	0	Setting from 0-10. Set 5 will trigger to upgrade the system. 0 means No upgrade the system.
Po	Factory reset	0-10	0	Setting from 0-10. Set 5 will trigger to reset operation. 0 means No reset.

Control board digital display information show:

1. When the gate is start to open, the digital display will show “OP”
2. When the gate is start to close, the digital display will show “CL”
3. After the gate stop moving, the digital display will show “--”
4. When the gate is fully opened, the digital display will show “LO”
5. When the gate is fully closed, the digital display will show “LC”
6. When the motor reaches max working time, the digital display will show “EC”
7. When the motor trigger the overcurrent in high speed, the digital display will show “OH” .
When the motor trigger the overcurrent in slow speed, the digital display will show “OL” .
8. After the loop is activated, the digital display will show 1S“LP”
9. After the photocell is activated, the digital display will show “PH”
10.After the motor protection is activated, the digital display will show “HE”