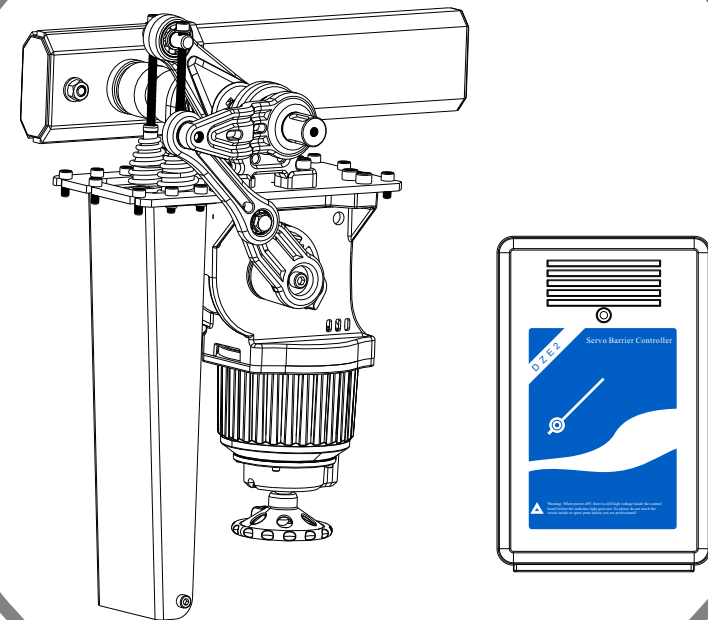


DC Servo Barrier Gate

DZE2

Manual



Pictures for reference only, the product prevails in kind

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Warning!

For safety, please do follow the instruction strictly to manage this product:

1. It is forbidden to open the barrier cabinet top cover or door when it is working.
2. There must be a grounding connection for the barrier cabinet.
3. Make sure there is no person or any obstruction under the boom when it is falling.
4. Before delivery, the barrier gate spring and the boom length are well-balanced. It is not allowed to change the boom length randomly. If needed, please check with the technician.

1. Brief Introduction

This is our newly-produced DC servo barrier gate, which utilizes the updated electronic control technology and machinery processing technology, no limit switch design, to realize non-adjust of mechanism, adjustable speed, automatic speed reduction, ext. In this way, make the barrier operate more steadily and more reliably. This product is highlighted in frequency applications and longer lifetime.

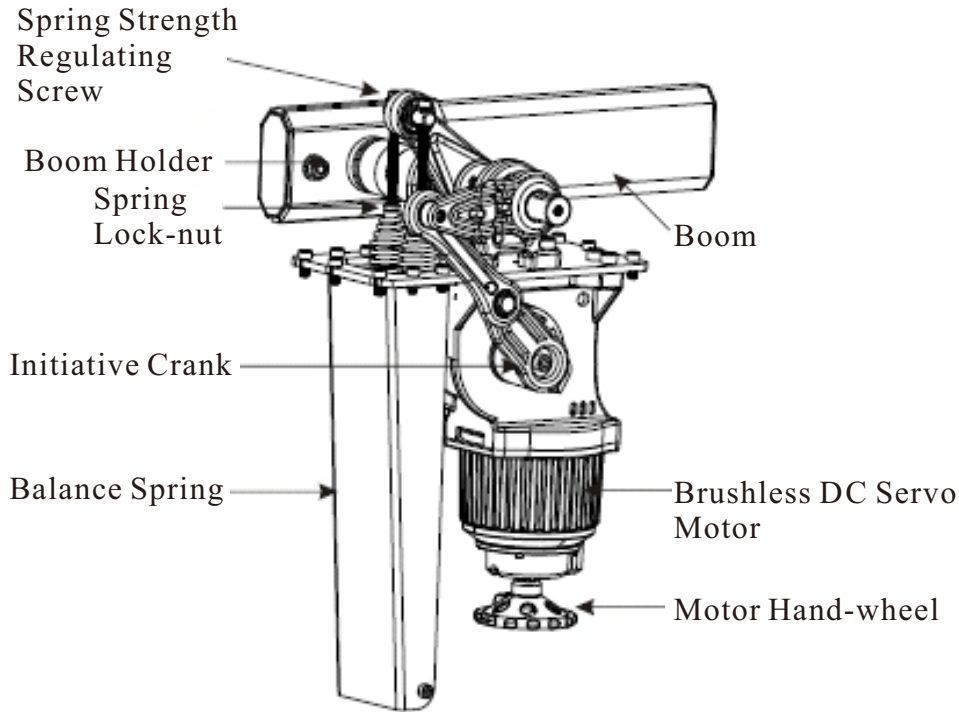
2. Functions and Features

- 2.1. No clutch design: open the barrier gate by manual hand wheel when power of.
- 2.2. No limit switch design: the motor can detect the boom position automatically.
- 2.3. Bi-direction boom holder design: left-installation and right-installation can be exchanged easily and quickly.
- 2.4. Self-detect after power-on, open/close speed is adjustable.
- 2.5. With auto-reversing on obstruction function.
- 2.6. Infrared photocell interface is available. (need to install photocell device).
- 2.7. Loop detector interface is available, to avoid hitting the vehicle, and control the boom falling down automatically after vehicle passing. (need to install loop detector)
- 2.8. Built-in delay auto-closing function, coordinated with counting function, if the numbers of vehicle passed less than the stored numbers, the boom will fall down automatically by countdown, but will be new countdown if there is up or loop detector signal.
- 2.9. With auto-aging test function.
- 2.10. NO/NC wire control signal input are optional.

3. Technical Data

- 3.1. Working temperature (motor): $-35^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- 3.2. Working Power: $220\text{V} \pm 10\%$, $110\text{V} \pm 10\%$
- 3.3. Motor Power: 120W MAX
- 3.4. Humidity: $\leq 90\%$ RH
- 3.5. Distance of remote control: $L \geq 30\text{M}$
- 3.6. Insulation Grade: F

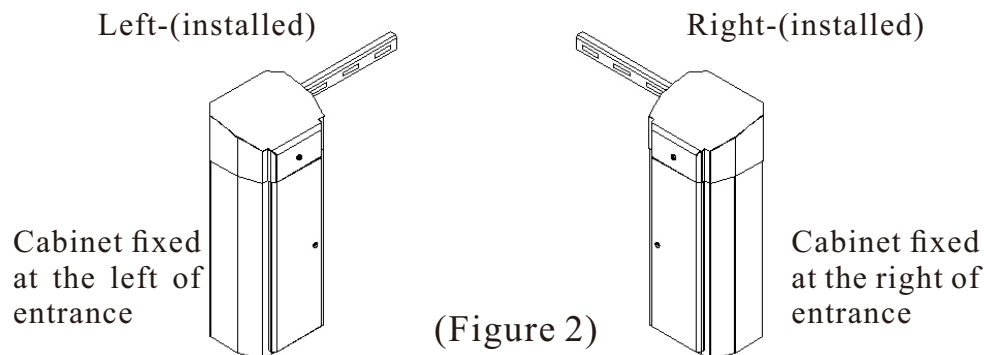
4. Mechanism Structure



(Figure 1)

5. Installation Direction Definition

When placing the order, please confirm “left-installed” or “right-installed”. Figures as below:

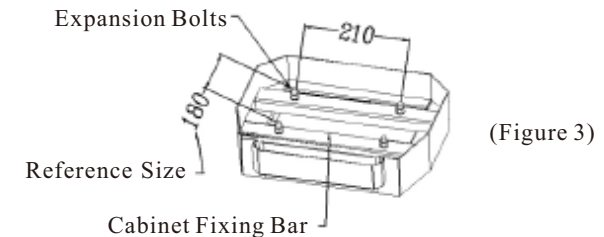


(Figure 2)

6. Mechanical Part Installation and Adjustment

6.1. Installation of cabinet

Please select the correct type of barrier gate according to the specifications of the place, and then fix the barrier cabinet with expansion bolts. (refer to Figure 3)



(Figure 3)

(According to the supplementary size)

6.2. Spring selection, installation and adjustment

The barrier gate is well-adjusted before delivery. If need cut off the boom, please re-set the menu “ Boom Length Selection” in the control unit to ensure the smooth operation of the barrier.

6.2.1. Spring selection

The length of spring prevails in kind, designing change without notice. The spring selection please refer to the spring selection table in the Appendix I of the Manual or which sticks on the door of the barrier cabinet.

6.2.2. Spring installation, disassembly and replacement

Dismantlement steps: Keep the boom at vertical position, see figure 1, loosen the spring fastening nuts, unscrew the M8*140 spring adjusting screws by a hexagonal spanner, then take off the spring. The steps for installation and disassembly the spring are the opposite.

6.2.3. Spring force adjustment

When power off, please turn the motor hand wheel to make the boom move towards the closing direction, when the boom gets close to the horizontal position, if the hand wheel can not be turned smoothly, which means that the spring force is small, users need to tighten the spring; and then please turn the motor hand wheel to make the boom move towards the opening direction, when the boom gets close to the vertical position, if the hand wheel can not be turned smoothly, which means that the spring force is big, users need to loose the spring. Repeat the below operations and adjustment until the hand wheel can be turned smoothly, which mean the spring force is at balance status.

6.3. Mechanism installation direction change

This barrier mechanism can be both left-installed and right-installed. The users can change the installation direction according to the actual situation. We will take the left-installed barrier mechanism as an example. The below description is telling you how to change from left-installed to right-installed:

6.3.1. Disassemble boom holder: take out the 10MM screw by turning 8MM Allen wrench counterclockwise; And then push out the boom holder by turning wrench clockwise with a 14MM* 150 screw.

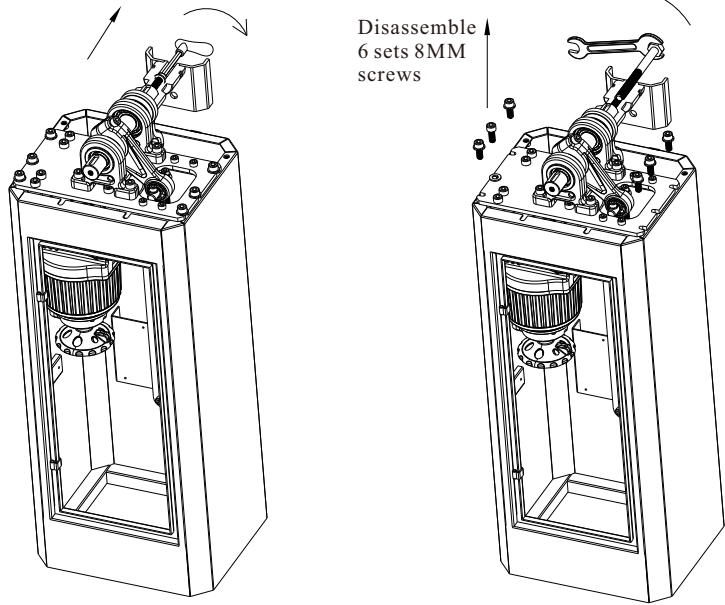
6.3.2. Change the mechanism installation direction: disassemble 6 sets 8MM screws for fixing the mechanism panel, turn the mechanism 180 degrees vertically and put back into the cabinet. And then fix it with the 6 sets screws.

6.3.3. Assemble boom holder: assemble the boom holder back, and fix the 10MM screw by turning 8MM Allen wrench clockwise. And then the mechanism installation direction change is finished.

Take out the 10MM screw by turning 8MM Allen wrench counterclockwise

Push out the boom holder by turning wrench clockwise with a 14MM* 150 screw

Disassemble 6 sets 8MM screws

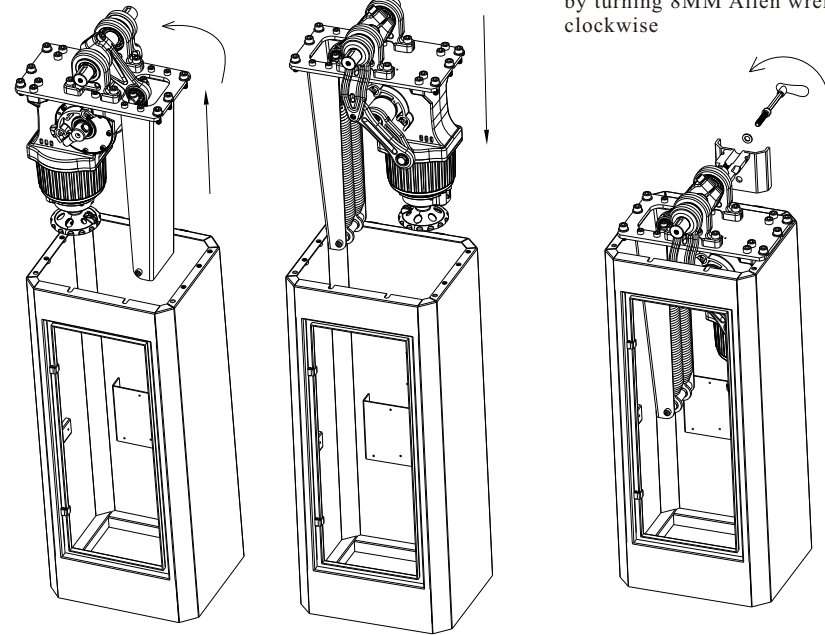


(step 1) → (step 2)

Turn the mechanism 180 degrees vertically

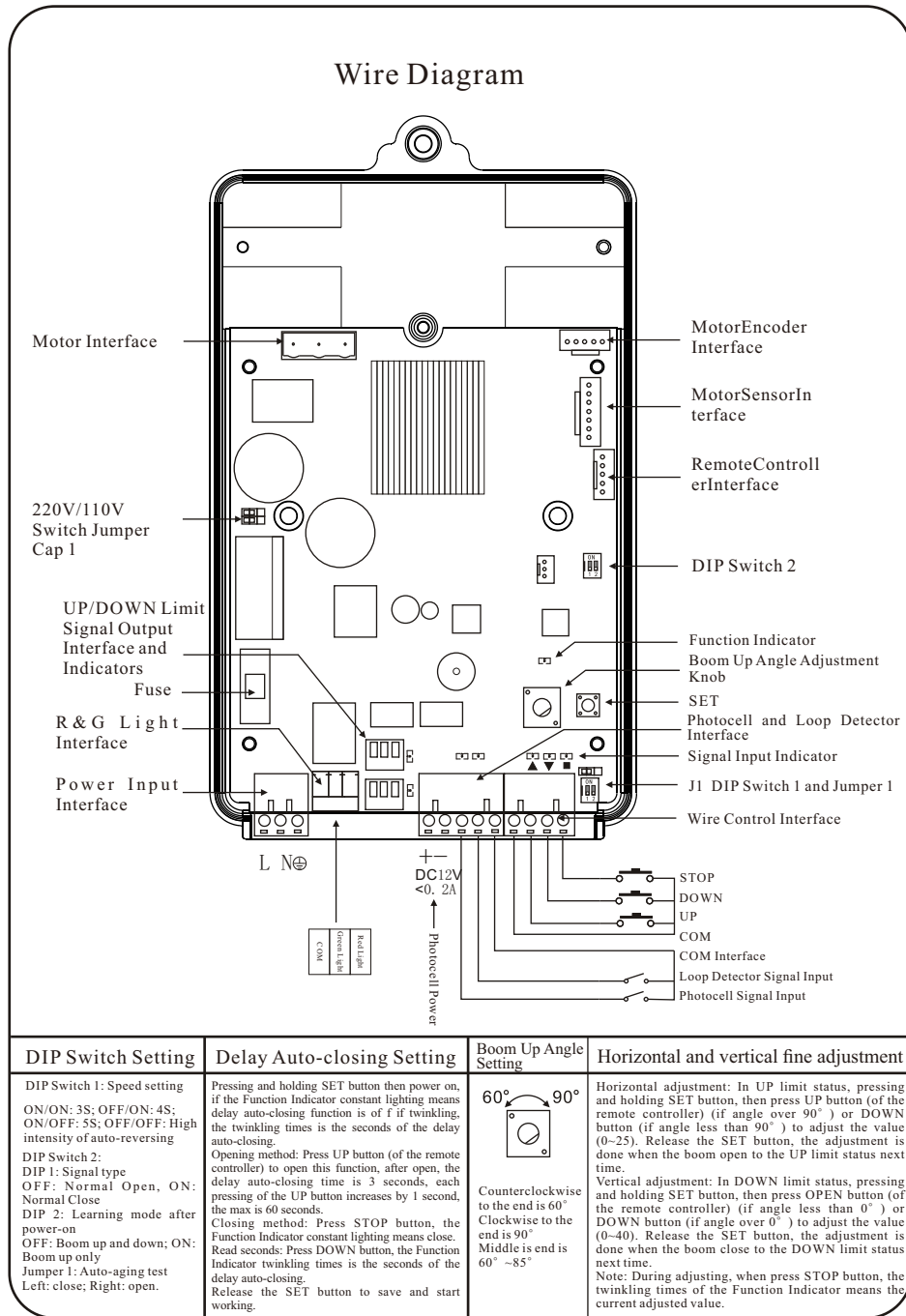
Put the mechanism into the cabinet

Assemble the boom holder back, and fix the 10MM screw by turning 8MM Allen wrench clockwise



(step 3) → (step 4) → (step 5)

7. Controller Explanations and Instructions



7.1. Controller interface explanations

All the electrical connections are done before delivery. The necessity is to connect the power and grounding connection. Explanations and instructions for the main function interfaces and indicator light is as following:

7.1.1. 220V/110V switch jumper cap:

This barrier motor and controller support AC220V/110V power input, the jumper cap is plugged in before delivery, if need to change the input voltage, please plug the jumper cap into correct position before power on (plug on the left is 220V, plug on the right is 110V).

7.1.2. R&G light interface:

This function is no power, same as switch, MCOM ” need to connect with corresponding power of the R&G light. When boom falling down to horizontal position, red light will keep lighting; when boom lifting up to vertical position, green light will keep lighting. During the boom falling down or lifting up, the red light will keep lighting. (Please refer to Appendix II for wire diagram)

7.1.3. Wire control signal input interface:

This interface is dry contact input signal, UP/ DOWN / STOP connect with MCOM ”, the control board will respond accordingly. User can use this interface to connect with parking system, and it can also connect button switch to control the barrier. (Please refer to Appendix III for drive requirement for main control board wire control)

7.1.4. Photocell and loop detector interface:

This interface is dry contact input signal, only for responding opening when shorts circuit MPhotocell” and“ COMH during closing, responding closing when shorts circuit “ LoopHand MCOMH if opening to up limit position, responding opening when shorts circuit “ LoopHand MCOMH during



7.1.7. Jumper 1:

This Jumper is for closing (insert left) or opening (insert right) auto-aging test function; Opening this function can realize barrier gate auto-open, close, and open during closing process for auto-aging test.

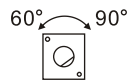
7.1.8. DIP Switch 2:

DIP 1 for setting signal input type, means the wire signal input type of “STOPH, MLOOP DETECTOR” and “PHOTOCELL”. DIP set to be OFF, means the barrier responses action when short circuited signal interface and COM interface; DIP set to be ON, means the barrier responses action when disconnected signal interface and COM interface. DIP 2 for learning mode after power-on: set to be OFF, means the barrier will open and close slowly one time after power-on; set to be

ON, means the barrier will only open slowly (for longer fence boom).

7.1.9. Boom up angle setting:

Counterclockwise to the end is 60° , clockwise to the end is 90° , middle is end is $60^\circ \sim 85^\circ$.



7.1.10. SET button:

This button can set delay auto-closing time and boom horizontal and vertical fine adjustment.

Delay auto-closing setting

Power-off firstly, pressing and holding SET button then power on, if the Function Indicator constant lighting means delay auto-closing function is off; if twinkling, the twinkling times is the seconds of the delay auto-closing.

Opening method: Press UP button (of the remote controller) to open this function, after open, the delay auto-closing time is 3 seconds, each pressing of the UP button increases by 1 second, the max is 60 seconds.

Closing method: Press STOP button, the Function Indicator constant lighting means close.

Read seconds: Press DOWN button, the Function Indicator twinkling times is the seconds of the delay auto-closing.

Release the SET button to save and start working. (Note: During setting, please don't release SET button)

Boom horizontal and vertical fine adjustment

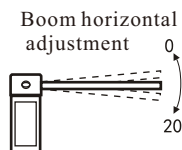
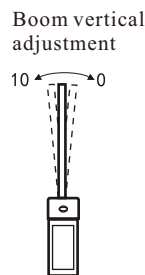
Horizontal adjustment: In UP limit status, pressing and holding SET button, then press UP button (of the remote controller) (if angle over 90°) or DOWN button (if angle less than 90°) to adjust the value (0~25). Release the SET button, the adjustment is done when the boom open to the UP limit status next time.

Vertical adjustment: In DOWN limit status, pressing and holding SET button, then press OPEN button (of the remote controller) (if angle less than 0°) or DOWN button (if angle over 0°) to adjust the value (0~40). Release the SET button, the adjustment is done when the boom close to the DOWN limit status next.

(Note: During adjusting, when press STOP button, the twinkling times of the Function Indicator means the current adjusted value.)

7.2. Controller auto-detect after power-on description.

The controller should be learning the position of boom after power-on: The barrier gate will open and then close slowly one time by default. During learning process, it detects all open and anti-bumping signal interface, and it



will stop learning if there is signal. After finish leaning, the boom stays at the down limit position.

The buzzer will sound 1 long and 5 short error, if the barrier installed spring but no boom, or there is obstruction on the boom during up or down process, or the spring and boom in serious imbalance, need to remove the obstruction or adjust the spring, then power-on again.

If learning mode is MBoom up only", the barrier gate will open to up limit position, and not close; during learning process of opening, if the barrier can't open to up limit position due to obstruction, and can't close normally, need to power on learning again.

8. Common Malfunctions and Solutions

8.1. When power-on, press "UP" or "DOWN" button, there is no reaction on the boom.

8.1.1. Check up the power supply and the fuse.

8.1.2. Check if the remote controller matches the radio receiver; or check up the battery inside and then change it if it is lack of power.

8.1.3. Check whether there is co-channel interference, and press the buttons on the control board to check if can work.

8.1.4. Check up if the external protection circuit is failure or in protection status. Check up the condition of photocell and loop detector are lighting.

8.2. The barrier gate closes half, and then stop learning, during controller self-test after power-on.

8.2.1. Check up if the boom is installed, the barrier gate need to work with boom if springs installed.

8.3. Fence boom or 6m boom lifts up automatically when closing.

8.4.1. Set DIP Switch 1 to be OFF position.

9. Warranty and Service Items

9.1. Free service is offered for component parts in one year warranty time. (not includes the barrier boom or remote)

9.2. Lifetime service with charge accordingly.

9.3. Technical questions are supported.

9.4. The below items and situations are not included in the range of free service:

9.4.1. The user does not follow the instruction and cause any damage of the product.

9.4.2. The power supply is not stable, over the range of permitted voltage or not accordant to safety electric using standard.

9.4.3. The user installs or uses the product in wrong methods, cause damage to the appearance of product.

9.4.4. Natural disaster causes damage to the product.

9.4.5. Warranty time is over.

9.4.6. Service items are out of our promises.

10. Maintenance

- 10.1. Keep the barrier gate clean.
 10.2. Check the joints ever month in case of any loose parts.
 10.3. Check the balance status of spring after the barrier gate running 1 million times; change new springs after running 3 million times, to avoid spring breaking due to excessive fatigue.
 10.4. Check the easily worn-out parts every half year and renew it.
 10.5. Remote control distance will be shortened or not work in cases like big object screening, battery exhausting, extreme weathers.

11. Packing List

Name	Specification	Quantity	Unit	Application
Screws, Nuts, Flat Pad	M12*70	2	sets	Fixing theboom
Boom Fixing Bar		1	pcs	Fixing the boom
Boom Holder Plastic Cover		1	sets	Optional
Cabinet Fixing Bar		2	pcs	Fixing the cabinet
ExpansionScrews	M16*150	4	sets	Fixing the cabinet
Support Post		1	pc	Optional
RadioEmitter		1	pcs	Optional
Keys		2	pcs	For cabinet door
RemoteController		2	pcs	
Manual		1	pcs	

Appendix I. Spring Selection Table

This mechanism comes standard with 1pcs 3.5mm and 1pcs 4.5mm springs. If the standard springs don't meet the actual boom length requirement, please replace or add the corresponding spring.

Boom Length(Meter: M)	Spring DiameterΦ (mm)		DIP switch 1 speed option in the controller
	Link Hole Selection		
$4 \geq L \geq 3$	empty	4.5	3.0/4.0/5.0
$4.5 \geq L > 4$	3.5	4.5	3.0/4.0/5.0
$6 \geq L > 4.5$	4.5	4.5	5.0
Fence Boom, Two-levels			
$4 > L \geq 3$	4.5	4.5	4.0/5.0
$4.5 \geq L \geq 4$	5.5	5.5	5.0
Fence Boom, Three-levels			
$3 \geq L \geq 2$	4.5	4.5	4.0/5.0
$4 \geq L > 3$	5.5	5.5	5.0

Appendix II: Remote Control Coding

Two types of remote control, multi frequencies for choice. If need to add or change remote control, methods as following:

1. Learning type

Learning method 1: Before connect power to the barrier gate, keep pressing button “STOP”, then connect to power, after about 6 seconds, indicator of the receiver from lighting to flashing 4 times then oFF. That means learning well. (Note: during learning, please don't loose the button, or you need to relearn).

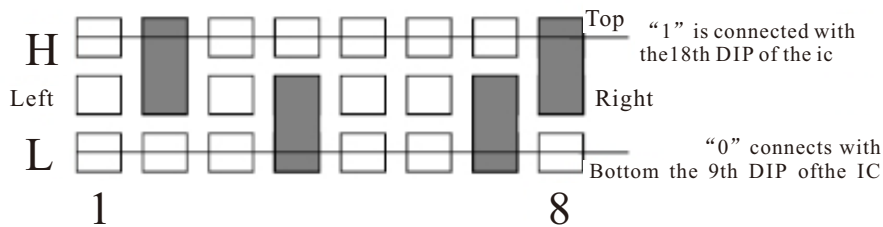
Learning method 2: Press button “UP” and “STOP” of the well learning remote controller at the same time for 4 seconds, indicator of the receiver keep lighting means entering to learning status; during 3 seconds, press button “STOP” of the not learning remote controller for 2 seconds (or press 2 times continuously), indicator of receiver flashes 4 times. That means learning well. If the remote controller doesn't receive any eFFective signal, it will quit learning status.

Clear the code of remote controller: take out the cover of the radio receiver, and power on, then make short circuit of the left 2 dial plate on the receiver mould, until the indicator goes out. Then the code of remote controller is cleared.

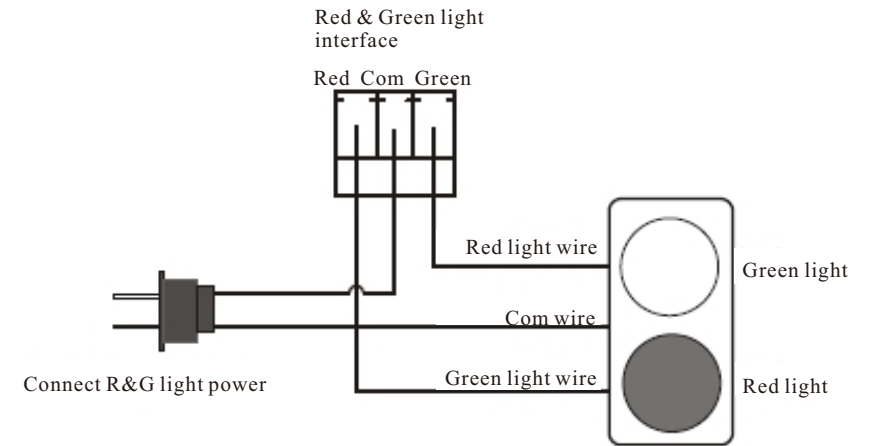
2. Fixing type:

The code of remote controller and receiver should be the same.

Coding method: open the remote controller, take out the battery, there is dial plate, the direction is from right to left. The solder between middle port and top port is state “1”. The solder between middle port and bottom port is state “0”. Empty is state “X”. The code as below is 10XX0X1X (Warning: please take out the battery before coding!).



Appendix III: Wiring Diagram for R&G Light Interface



Appendix IV. Drive Requirement for Main Control Board Wire Control

