

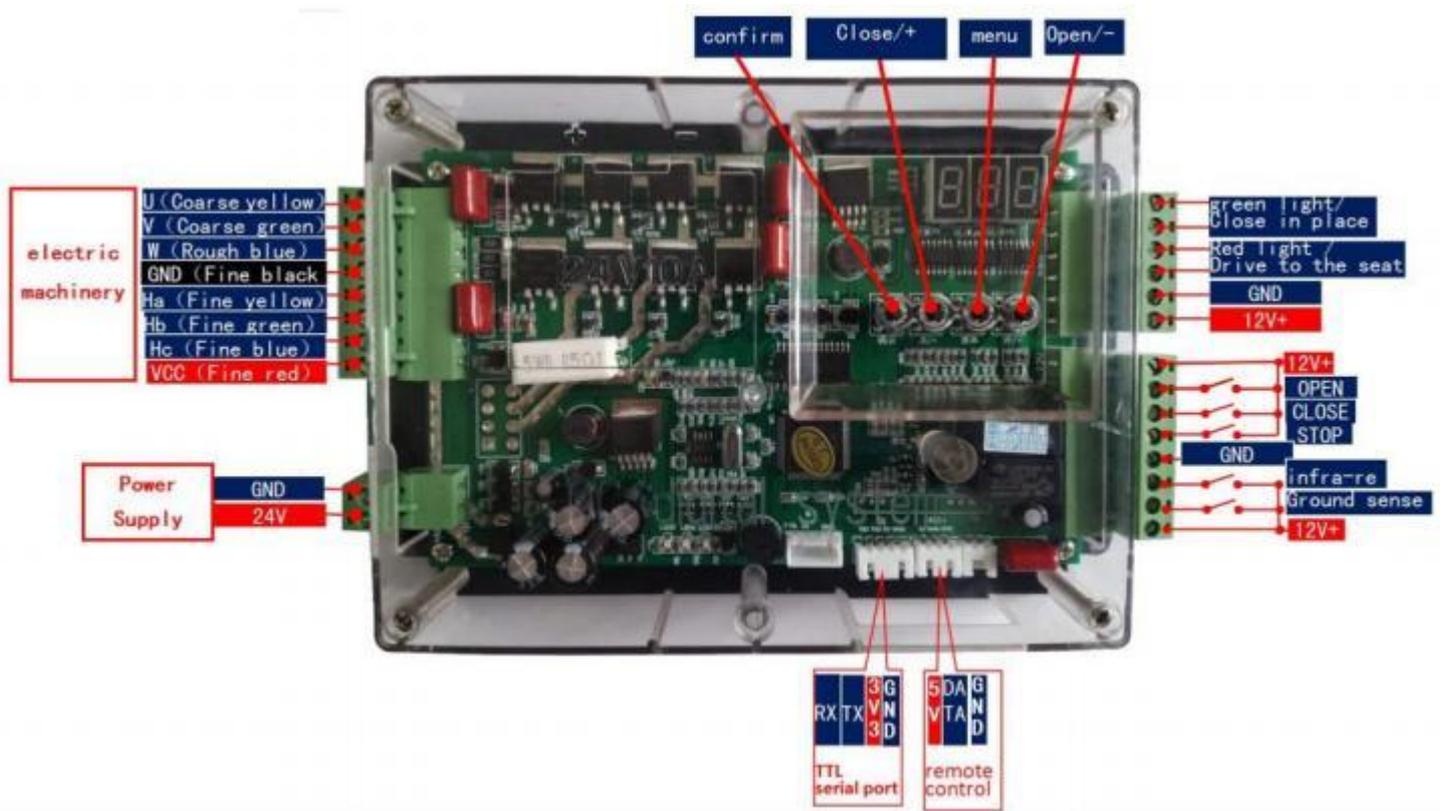
# User's Manual of Brushless DC Railing control board

## User's Manual of Brushless DC Railing Control Board (V3.0)

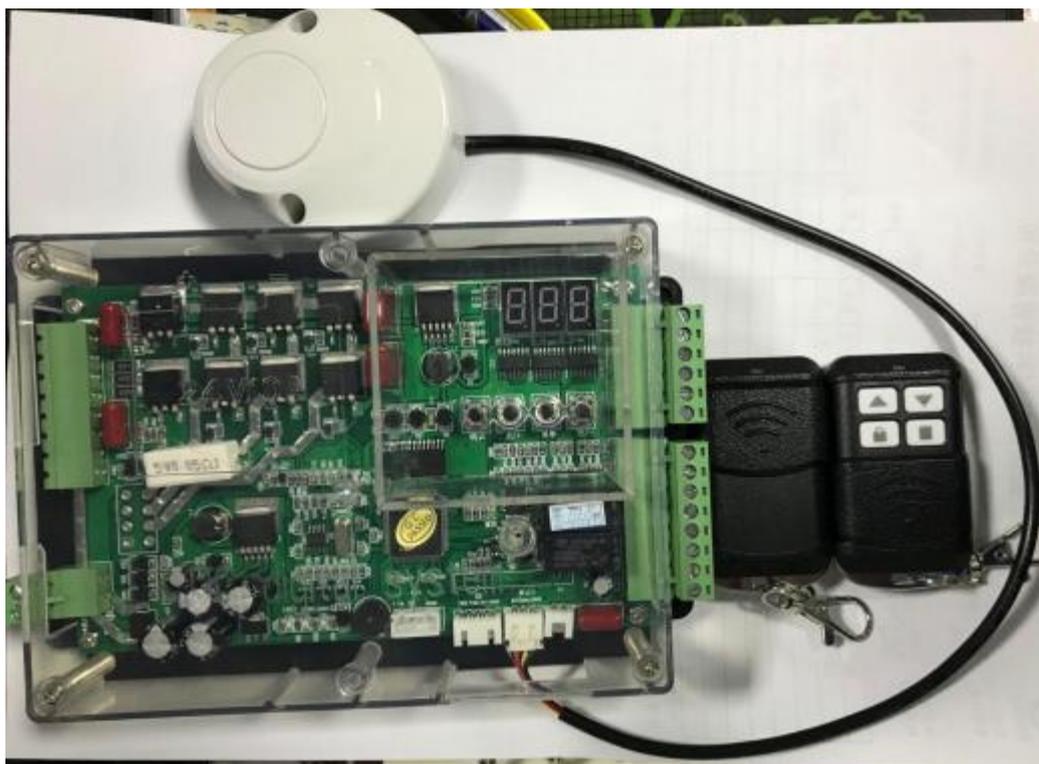


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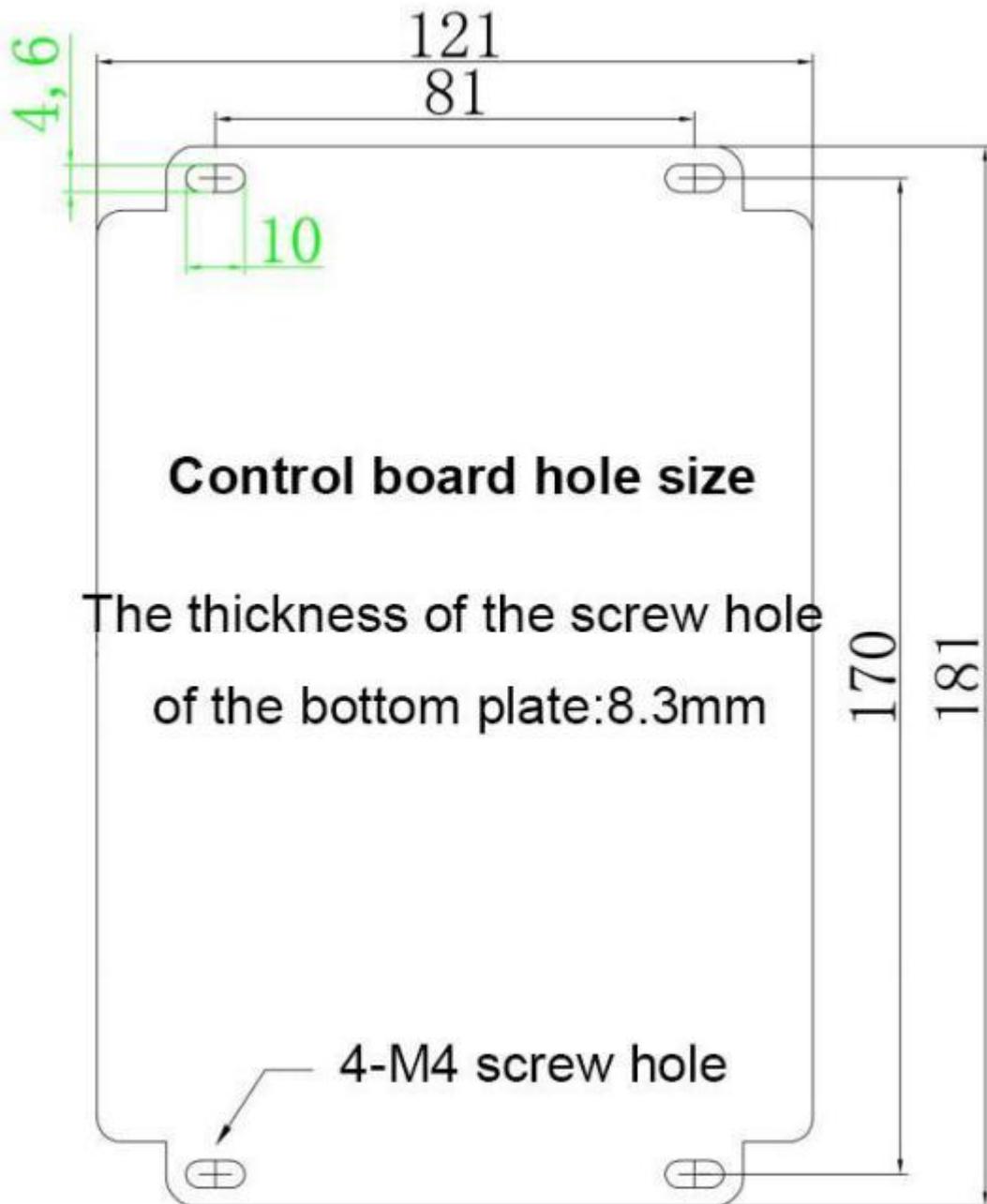
## 1. Mainboard installation wiring diagram



## 2. External receiver and motherboard connection diagram



### 3. Base plate size and screw hole size



## **4. Check before power on**

Before power on, please check the following items:

1. The power supply is 24 V 10 a DC power supply.
2. Whether the polarity and sequence of all external wiring (power line, motor line, ground sensing line) are correct, and the connection is firm and the wiring is stable.

## **5. Power on self test process**

1. After the gate is powered on, the digital tube of the main board displays "190". For the first self-test of the main board and the motor, it is necessary to manually press the "on" and "off" buttons on the main board to conduct self-test and learn the stroke once. The main board automatically memorizes the motor travel. After the subsequent power failure, only the remote control or the license plate recognition camera can send the "on" or "off" instructions.
2. The self-test of the barrier gate is two limit positions fixed by the learning motor. Please ensure that when the button self checks the learning stroke, the opening position is greater than 90 ° and the closing position is less than 0 ° so as to facilitate the subsequent horizontal and vertical debugging.

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Note: after the first installation and power on for the first time, you must use the "on" and "off" buttons on the main board to complete self-test and learn the opening and closing stroke once!

## 6. Power on self check precautions

Please pay attention to the following items during self inspection:

1. Whether the motor polarity is correct: if the motor polarity is wrong, the self-test of the barrier gate cannot be completed.

The motor polarity adjustment menu is L-d

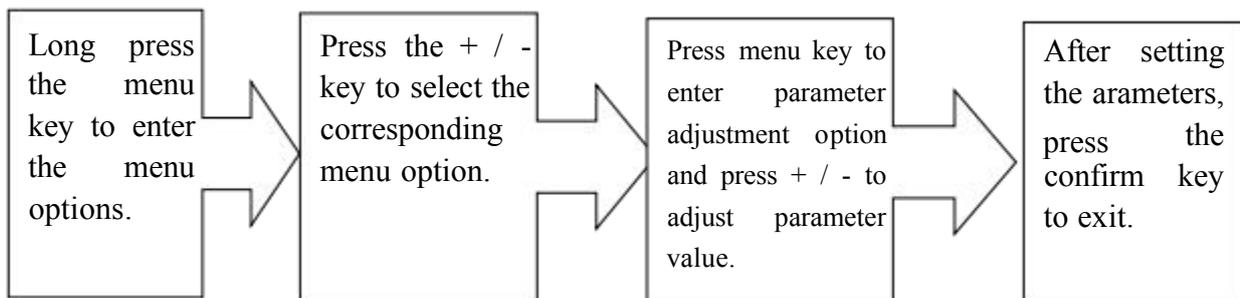
2. Whether the left and right directions are correct: if not, when the motor is "on", the gate actually acts as "close". When the motor is "off", the gate is actually "on".

The digital state displayed by the main board nixie tube will be reversed accordingly,

The normal is: "on", the number of digital tube increases, and "off", the number of digital tube decreases. If not, adjust the menu L-d.

## 7. Operation flow of mainboard parameter setting

Operation process:



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## 8.Parameter setting table

function	letter menu	number menu	Parameter range	Default value	explain
Opening speed regulation	L-1	L01	20-95	65	The larger the value is, the faster the opening speed is; the smaller the value is, the slower the opening speed is.
Closing speed regulation	L-2	L02	20-95	65	The larger the value is, the faster the closing speed is, and the smaller the value is, the slower the closing speed is.
Adjustment of stability of brake rod in place	L-3	L03	8-15	12	The smaller the theory is, the more stable it will be, but if it is too small, the gate lever may not reach the position.
Response time sensitivity adjustment of anti crashing vehicle	L-4	L04	15-30	30	Theoretically, the smaller the gate is, the more sensitive it will be. However, if it is too small, it will automatically lift the lever when it is half way down.
Motor force value adjustment/ Menu display form setting	L-5	L05	70-90	70	When the numerical value is large, the motor force is large, the value is small, and the motor force is small, When the setting parameter is even, the nixie tube is displayed as an alphabetic menu, When the number is odd, the digital tube displays the digital menu.
Horizontal position adjustment of gate lever	L-6	L06	3-90	20	The smaller the value is, the smaller the angle of gate rod is.
Manual / automatic mode selection	L-7	L07	0-6	0	0 (manual) 1 (automatic) The following 1-5 are the interval time of automatic operation, 1 is the fastest and 5 is the slowest 6 is the half stroke operation of the gate.
Opening memory function setting.	L-8	L08	0-1-4	0	0 (without memory) 1 (with memory) 4 (peak mode, after opening the gate in place, Press the stop button of the remote control to turn on the function. To cancel, press the switch off button of the remote control).
Vertical position adjustment of gate lever	L-9	L09	3-90	20	The smaller the value is, the smaller the opening angle of gate rod is.
Adjustment of deceleration stroke of the first section	L-L	L10	20-90	55	The smaller the value is, the smaller the starting and decelerating travel is.
Adjustment of deceleration travel of first section closing railing	L-b	L11	20-90	55	The smaller the value, the smaller the off deceleration travel
Anti smashing force adjustment	L-C	L12	15-100	102	The larger the value is, the greater the anti smashing force will be. If the value exceeds 100, the anti smashing function will be cancelled, <b>The default setting of the factory is 102, which cancels the anti smashing function, and the customer needs to adjust the parameters.</b>
positive and negative operation of	L-d	L13	0-3	1	1: Motor negative, reducer forward 2: Motor negative, reducer reverse
Strength value of starting motor of barrier gate	L-E	L14	20-40	30	Motor running speed during self inspection
Add remote control	L-F	L15	0-255	0	Enter the menu, 000 is the increase state, 253 automatically clear the remote control and then exit automatically
The second paragraph Adjustment of brake opening / closing deceleration travel	L-H	L16	1-10	0	Use of 0.3 second Expressway barrier
Power off automatic pole lifting function	L-p	L17	0-21	0	The parameter value represents the voltage value, which is generally set to 20 or 21. When the voltage is lower than the set value, the switch will be opened automatically. <b>(this function can only work with a backup power supply installed)</b>
Traffic light / light strip / detection state mode adjustment	L18	L18	0-2	0	0 is traffic light mode, 1 is in place detection mode, 2 is tricolor light strip Mode (need to be realized by external relay)
Adjustment of earth induction delay and gate closing time	L19	L19	1-255	000	The setting value represents the delay of rod dropping time for several seconds after the earth pressure sensing is completed. For example, 1 is 1 second, 2 is 2 seconds, and 000 represents that this function is disabled.
Adjustment of automatic rod falling time for lifting limit	L20	L20	1-255	000	Set the value, which represents the delay of rod falling time and waiting for several seconds, for example, 1 is 1 second, 2 is 2 seconds. 000 means this function is disabled.

## 9.Add remote control

Remote control pairing: enter the mainboard menu to L-F [L15], and the LED displays "000". At this time, press any button on the remote control, and hear the main board drip, and automatically return to the menu selection status, indicating that the pairing is successful. Then press the save exit key to exit the menu.

Clear remote control: clear all paired remote controls, enter the main board menu to L-F [L15], press the menu key to enter the learning state, adjust the parameter to 253, and automatically return to L-F [L15], at the same time, all remote controls are cleared.

- ❖ **Note: before learning the remote controller for the first time, clear all remote controllers in the motherboard first, so as to avoid the existence of other remote control codes, which may affect the normal use.**