

Installation Manual

HSE-D07 DC Boom Barrier



Menu

1. Product introduction.....	1
2. External device considerations.....	1
3. Installation and commissioning instructions.....	2
4. Main board wiring diagram.....	2
5. Setup operation.....	3
6. Parameter list set up.....	5
7. Main board debugging.....	6

1. Product introduction

This product is a DC brushless motor boom barrier:

- ① Product power supply is used for 24V DC power supply, eliminating the traditional 220V AC power supply, and the risk factor is reduced during the installation process to meet the safety production requirements;
- ② The motor is a 24V brushless motor. Compared with the traditional 220V gate motor, there is no carbon brush wear to make the motor life longer. In high-speed operation and long-term operation, there will be no traditional high-speed and long-term use. The overcurrent protection caused by the operation stops the motor;
- ③ Exempting the traditional gate limit plate, digital control of the whole process of the product, avoiding the cumbersome process of mechanical limit adjustment;
- ④ According to different environmental occasions, the corresponding landing speed (0.75-6s) and various functions can be freely adjusted on the gate control panel.
- ⑤ unique anti-mite function, fully digital monitoring, mast force and reaction time can be adjusted freely, no need to add any auxiliary equipment (pressure wave, infrared sensor, etc.)
- ⑥ This boom barrier has a variety of communication function interfaces to realize the monitoring of the gate stroke and the remote control of the gate;
- ⑦ Can realize secondary development; can expand 24V uninterrupted power supply, the gate can operate normally during power failure; expandable solar power supply

2. External device considerations

- ① The DC motor voltage is related to the input voltage. The input is 24V, the optional motor voltage is 24V, and the power is controlled at 100W or above.
- ② The voltage on the board is 24V, and the current should be controlled within 1A. If it exceeds, it will cause overcurrent protection and the output voltage will decrease, which may cause some components to not work properly.
- ③ DC power supply is 24V 10A or more

3. Installation and commissioning instructions

① the line is buried

According to the customer's request, the position of the chassis is fixed. If the concrete foundation needs to be poured, it can be completed in advance (the size of the base is about 100-150mm larger than the size of the bottom of the gate), and the center of the fixed position of the chassis can be controlled to the control room or Pre-buried or excavated cable trenches between the booths, buried the conduits, and penetrated the 3X1.5 square millimeter power cord and the 4X0.5 square millimeter control cable used in the equipment. After confirming the error, the concrete was backfilled.

② fixed chassis

Place the chassis in a fixed position. Then mark the center of the screw hole on the bottom plate of the chassis and the edge of the chassis base, remove the gate, and drill the hole vertically on the screw hole with the mark (the size of the drill should match the expansion bolt with the equipment). The depth is to comply with the length of the expansion screw. Move the chassis to its original position, insert the expansion screw and tighten it to secure it.

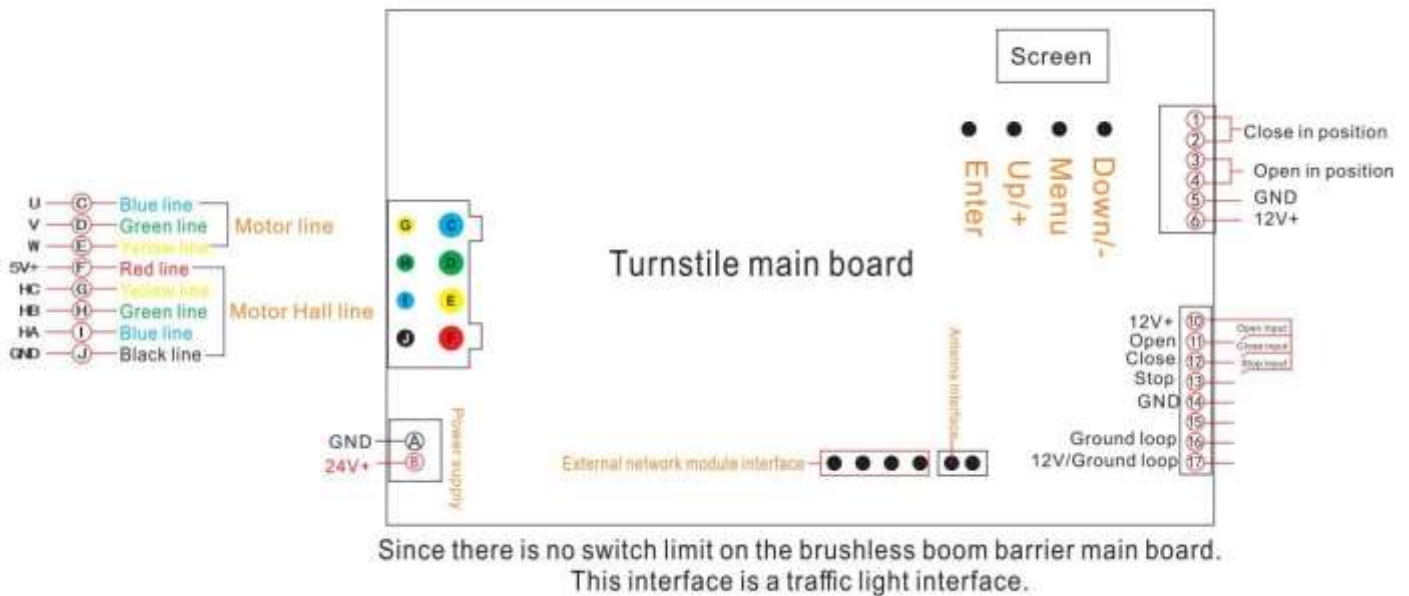
③ Installation of the brake rod

After the gate housing is fixed firmly, the brake lever can be installed in the lever position, tightened with the equipped screws, and the brake lever is not tilted.

④ Installation of peripheral equipment

The gate gate is installed firmly, and after the commissioning is completed, the control circuit of the chassis line and related peripheral equipment can be connected according to the customer's needs, according to the wiring diagram of the gate control panel, and relevant debugging can be carried out.

4. Main board wiring diagram



Precautions:

A. Motor movement interface: There are 8 lines from the movement, and the three thick lines are connected to the motor movement interface. The wiring is as follows. (Note: The following is the wiring method used by our company. The motor used by our company is a city-state brushless motor. The colors of the three thick lines are blue, green and yellow respectively. If the actual motor model is inconsistent with our motor model Please wire according to the corresponding wiring standard. If the wiring is not correct, the motor will shake when it is running.)
The interface marked "U" on the main board, the wiring is thick blue;
The interface marked "V" on the main board, the wiring is thick green;
The interface marked "W" on the main board, the wiring is thick yellow.

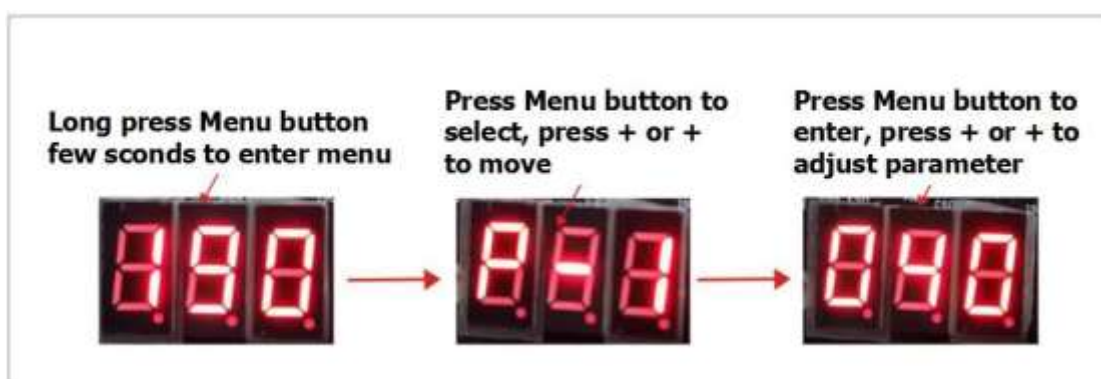
B. motor Hall interface wiring:

The interface marked "red" on the main board, connected to the motor Hall 5V power line;
The interface marked "black" on the main board is connected to the motor Hall GND;
The interface marked "HA" on the main board, the color of the wiring is the same as the color of the "U" line of the motor movement interface (thin blue);
The interface marked "HB" on the main board, the color of the wiring is the same as the color of the "V" line of the motor movement interface (fine green);
The interface marked "HC" on the main board, the color of the wiring is the same as the color of the "W" line of the motor movement interface (fine yellow);
If the motor model is different from our motor, please wire according to the corresponding wiring standard.

5. Setup operation

Step 1: Do not connect the motor first. After power-on, press and hold the menu button for a few seconds to enter the menu item interface, display (PX), press the plus or minus button to select the option corresponding to the parameter to be adjusted (example: P-1), press the menu function key to enter the option adjustment parameter, and press the menu function key again to return to the menu item interface. After entering the corresponding option, press the plus or minus button to adjust the parameter value (for example, 080).

Adjustment parameters:



Refer to the default values of the setup parameter table. After setting the parameters, press the OK button to exit.

Step 2: After setting the parameters, press the reset button to restart the motherboard. If the self-test is correct, you can modify the parameters later without restarting the motherboard. Observe whether the gate is self-tested, that is, the gate will automatically drop when the power is turned on, and the parameter display will decrease. If it is not self-test, check if the line is wrong, and then confirm the line is correct, then restart the motherboard. If it still does not self-test, the motherboard has a problem. If the self-check status of the gate is not correct, the P-D parameter should be adjusted to make the self-check status of the gate correct, otherwise the gate may be damaged.

Step 3: Then run the device, if there is an inappropriate place, adjust the corresponding parameters as needed.

Step 4: Pair the remote control, press and hold the menu button on the remote control for a few seconds. When you hear the motherboard drop, the pairing is successful, press the OK button, and then restart the motherboard. One motherboard can be equipped with three remote controllers at the same time. The remote control can be used in a range of more than 10 meters. Considering that the remote control button can be pressed incorrectly, when using the remote controller, it takes a little longer to release the button. If you just press it and let go, the gate may not respond. After a

motherboard is paired with the remote controller, after another pair of remote controllers are used for five consecutive times, the previous remote controller can no longer control the gate.

Step 5: After adjusting the parameters, lock the chassis and you can use it normally.

6. Parameter list set up

DC Boom Barrier Parameter Setup Form			
Menu number	Setup range	Default value	Parameter description
L-1	0-90	90	Boom barrier speed adjustment, bigger value means moving faster
L-2	0-90	70	Boom barrier speed adjustment, bigger value means moving faster
L-3	0-90	15	In-position speed adjustment
L-4	0-255	15	Anti-bumping reaction time
L-5	0-255	70	Motor strength value: higher means bigger motor strength
L-6	0-255	5	Boom barrier horizontal position adjustment value
L-7	0-255	0/1	Test mode selection: 0(manual testing), 1(auto testing), after 1, 1-255 means auto run interval time
L-8	0-255	0/1	Open barrier memory function setup: 0(no memory), 1(with memory)
L-9	0-255	5	Boom barrier vertical position adjustment value
L-L	0-255	45	Open barrier distance deceleration
L-B	0-255	30	Close barrier distance deceleration
L-C	0-255	20	Anti-bumping strength adjustment

L-D	0-255	0/1/2/3	Motor spinning direction setup: 0: motor positive, reduction gear forward 1: motor positive, reductions gear backward 2: motor negative, reduction gear forward 3: motor negative, reduction gear backward
L-E	0-255	30	Motor starts strength set up
L-F	0-255	0	Controller signal receive matching function
L-H	0-255	0	Open barrier distance deceleration (for high speed boom barrier only)
L-P	0-255	0	Close barrier distance deceleration (for high speed boom barrier only)

Note: All parameters above are for reference only, they should be based on actual operating parameters on site.

7. Main board debugging

A: confirm the motor polarity

1: Power on the motherboard normal display: 190, the motor does not move.
 2: Manually turn the motor on/off, and automatically detect the open limit/close limit. (The on/off limit needs to be detected.) When the on/off limit motor is blocked, it will stop automatically. At this time, the self-test data will be saved automatically, the buzzer will sound once, and the self-test will open the limit or limit. The bit is considered complete, and both the open limit and the limit limit require the same operation to complete the self-test action, and the board operation will be normal.
 3 If the motor and motherboard display data are reversed during manual detection (on: display data will continue to increase, off: data will continue to decrease), then you need to enter the motherboard menu LD, change the motor polarity mode until it is correct (standard city state motor The mode is 001).

B: Debug the horizontal and vertical position of the gate

After the self-test is completed, manually turn on/off the state of the normal operation of the gate, and check whether the gate opening/closing is normal. If there is a deviation in the on/off position, please go to the main menu L-6 (offset offset value) , and L-9 (open in-position offset value) debugging (according to the field situation to debug the corresponding parameters, refer to the parameter table parameter description debugging).

C: Debug the speed and running smooth state of the gate opening/closing.

- 1: Opening speed L-1: The larger the value, the faster the speed.
- 2: Closing speed L-2: The larger the value, the faster the speed.
- 3: Open brake deceleration stroke L-L: The larger the value, the larger the deceleration distance.
- 4: Deceleration stroke L-B: The larger the value, the larger the deceleration distance.
- 5: The larger the on/off deceleration stroke value will affect the opening/closing speed, and adjust it in real time according to the on-site operating status.
- 6: Whether the brake lever is shaking when the on/off gate is in place, adjust the L-3 parameter value (adjust according to the site conditions). If the parameter is too small, the gate will not move when the switch is turned on/off. If the parameter is too large, the on/off lever will be shaken.

D: Resisting rebound adjustment

1:L-4 adjusts the resistance of the rebound

2: L-C adjusts the resistance to rebound

If the parameter is too small, the gate will be returned to the half when it is turned on/off, and the parameters will be adjusted according to the site conditions.