

# Swing Barrier Instructions

Applicable Models: SBTL 2000 / 3000

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# Chapter 1 Product Introduction

## 1.1 Model number and access control

Access Model	NO	C3-200 with two KR100E reader	inBIO260 with two FR1200/ID reader
SBTL2000	√		
SBTL2011		√	
SBTL2022			√
SBTL3000	√		
SBTL3011		√	
SBTL3022			√

## 1.2 Chassis and dimensions

SBTL2000/3000 series, with stainless steel housing, provide simple and beautiful design with anti-corrosion. It is provide orderly and civilized passage to people while eliminating illegal personnel access. In case of emergency, it ensures timely evacuation channel smoothly and convenient personnel.

SBTL2000's appearance and dimensions are as shown in figure 1-2A:

SBTL3000's appearance and dimensions are as shown in figure 1-2B:

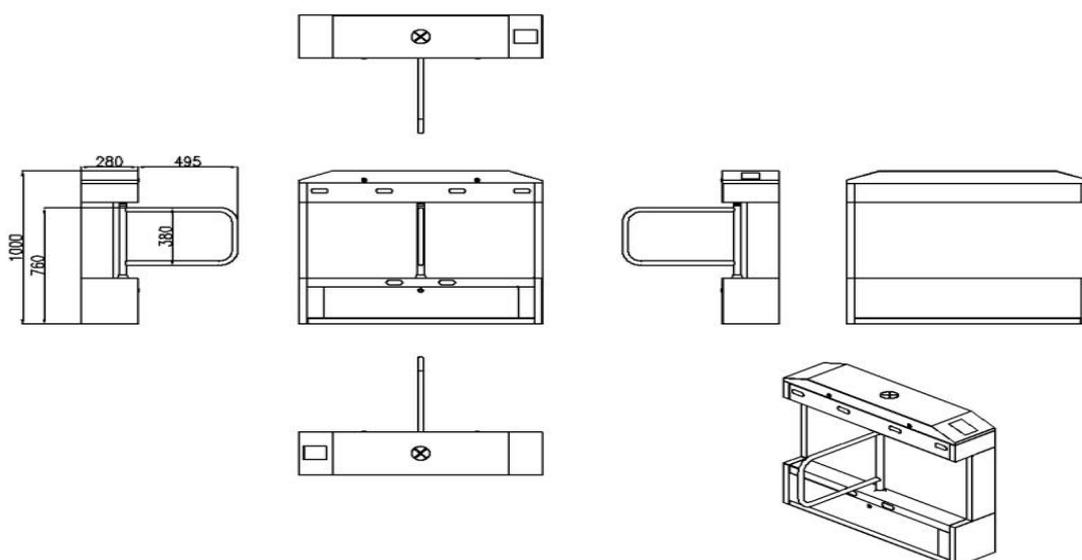


Figure1-2A

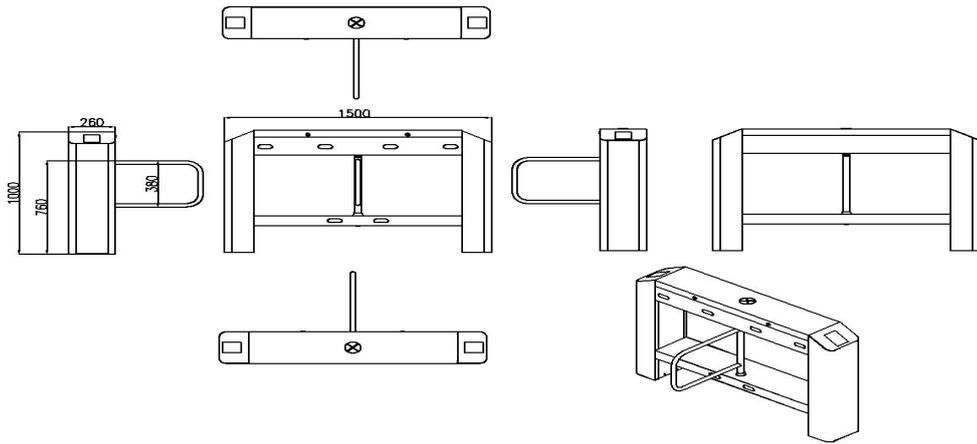


Figure1-2B

### 1.3 Mechanical system of the swing barrier

The mechanical system of a swing barrier turnstile includes the chassis and the core component. The chassis is a carrier where the direction indicator, the read-write device, the Infrared sensor, and the door locks is installed. The core component mainly consists of the electric motor, the frame, the belt, and the swing boom.

### 1.4 Electronic control system

The electronic control system of a swing barrier turnstile is mainly composed of the reader, master control panel, access controller, infrared sensor, direction indicator, alarm, and the transformer.

Reader: The reader reads the data onto the card and sends it to the controller.

Master control panel: The master control panel is the system's control center that receives signals from the reader and the photoelectric switch, performs logical judgment and processing of these signals, also sends executive commands to the direction indicator, electric motor and alarm.

Infrared sensor: It detects the position of a pedestrian and plays the role of safety protection.

Direction indicator: This indicator displays the current status of the sign of the channel, and directs the pedestrian to pass through the channel in a safe and orderly manner.

Alarm: The alarm gives an alarm message if the system detects any unauthorized entry to the channel.

## **1.5 The working principle of swing barrier**

1.5.1 After powered on, the system performs self-check. If no failure is detected, the machine starts to operate normally. If a failure is detected, the system displays related messages on the LCD Display screen so that the user can have a quick knowledge of and solve the problem.

1.5.2 When the reader detects a valid card, the buzzer will give a nice audible prompt to the pedestrian, indicating that the card is being read successfully. And then, the reader sends signals to the access controller to request permission to pass through the passage. The access controller will send the signal to the master control panel.

1.5.3 After receiving the signal from the access controller, the master control panel sends valid control signals to the direction indicator and the electric motor. And the direction arrow turns green.

1.5.4 Pedestrians pass through the channel according to the direction indicator signs, infrared sensors detect the pedestrians pass through the whole process, and continue to send signal to the master control board until the pedestrian has been completely through the channel.

1.5.5 If the pedestrian enters the channel but forgets to have the card read by the reader, or the card held by the pedestrian is invalid, that the system will stop the pedestrian, and give an audible alarm until the pedestrian retreats from the channel. The pedestrian can pass through the channel only after a valid card is read by the card reader.

## **1.6 System composition of the product**

The single-channel management system is composed of two single-core swing barrier turnstiles. The multi-channel management system is composed of two single-core barriers and multiple dual-core barriers.

### **1.6.1 Working modes of the system**

To meet the requirements for use for different places, this system provides multiple working modes for the user. Including fire protection mode, normal working mode, testing mode, etc. The parameters can be set by using three built-in keypads ("ENT", "UP", and "DOWN") on the master control panel.

Option 16 in the menu is configurable using the values 0, 1, and 2.

If 0 is used, the system is being under the normal mode and does not detect the fire protection signals.

If the detected fire protection signal is a pulse signal, the value is set to 1. Once this pulse signal is

detected, the system will automatically open the barriers and stop actions until it is powered off to restart. If the detected fire protection signal is a continuous level signal, the value is set to 2. Once this continuous high-level signal is detected, the system will automatically open the barriers and then wait until this high-level signal disappears. After this signal disappears, the system automatically closes the barriers and falls into the normal working mode.

Option 15 can be used to set the self-testing mode of the system. If the value is set to 1, the system will enter the automatic testing mode. Under this mode, the system automatically figures out the parameters such as the inertia of the swing arm.

### 1.7 Product related parameters

Dimension(mm)	SBTL2000 : L=1200, W=280, H=1000 SBTL3000 : L=1500, W=260, H=1000		
Communication Interface	RS485	Input voltage	AC100-120V/200-240V,50-60Hz
Input control signal	Switching signal	output voltage	DC 24V
Time of opening/closing	0.6S(adju stable)	Relative humidity	5%-10%
temperature	-28℃-60℃	Pass speed	RFID: Maximum 42/minute Fingerprint: Maximum 35/minute Face: Maximum 11/minute Vein: Maximum 23/minute
Infrared sensor	6	Working environment	indoor/Outdoor

## Chapter 2 The installation of the product

### 2.1 Installation notes

2.1.1 It is recommended that the swing barrier turnstile should be installed on a cement platform with 50mm to 100mm in height.

2.1.2 It is recommended that the swing barrier turnstile should not be used in corrosive environment.

2.1.3 Make sure the protective earth wire of the system is reliably connected to avoid personal injuries or other accidents.

2.1.4 After installation, check whether connection is reliable at the connecting points of the protective earth wire, at the connector assemblies and wiring points of the circuits, as well as at each movable part of the swing barrier turnstile. Any loose nuts, screws and other fasteners should be tightened in time to avoid swing barrier turnstile failures caused by long-time operations.

### 2.2 Installation position of the swing barrier

The installation position depends on the size of the swing barrier. If the swing barrier turnstile is installed near a wall, a distance from 100mm between the swing barrier turnstile and the wall needs to be reserved for ease of opening the top cover of the machine to perform maintenance and adjustment. The master and slave of a SBTL2000 swing barrier turnstile may either form a channel, or form two channels with a SBTL2200 swing barrier turnstile, as shown in figure 2-2A;

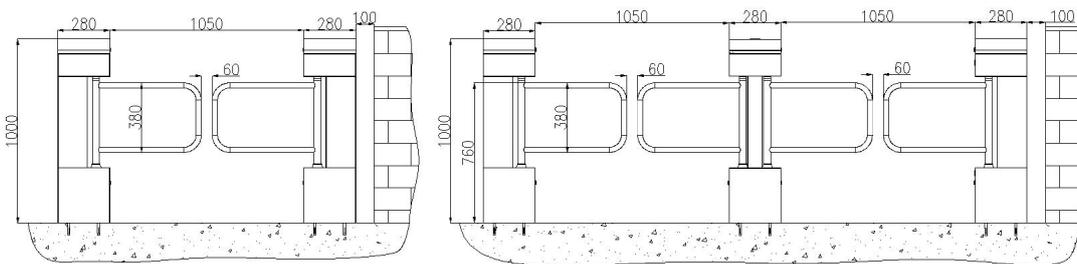


Figure2-2A SBTL2000 Single channel and dual channel

The master and slave of a SBTL3000 swing barrier turnstile may either form a channel, or form two channels with a SBTL3200 swing barrier turnstile, as shown in figure 2-2B;

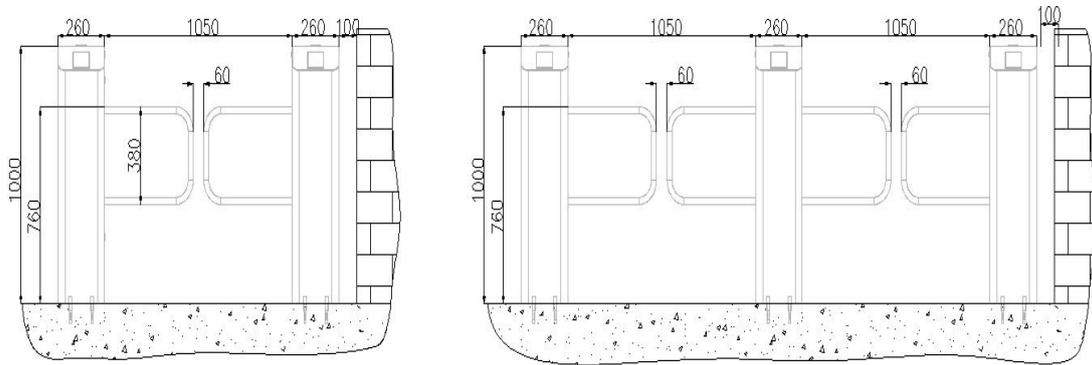


Figure2-2B SBTL3000 Single channel and dual channel

### 2.3 Cables Installation and Fixation

For the outlets of the concealed cables, please refer to the drawing showing the mounting holes. The input voltage for this swing barrier turnstile is AC100-120V/200-240V and its master and slave are connected by a 6-core cable. When installing this swing barrier turnstile, the user only needs to connect it to the corresponding ports. Note that the PVC conduits are buried 100mm below the ground, with the height of the exposed part not exceeding 100mm. In addition, the conduit outlet is bent back to prevent ingress of water into the conduit.

SBTL2000 installation holes and cabling positions as shown in Figure 2-3A.

SBTL3000 installation holes and cabling positions as shown in Figure 2-3B.

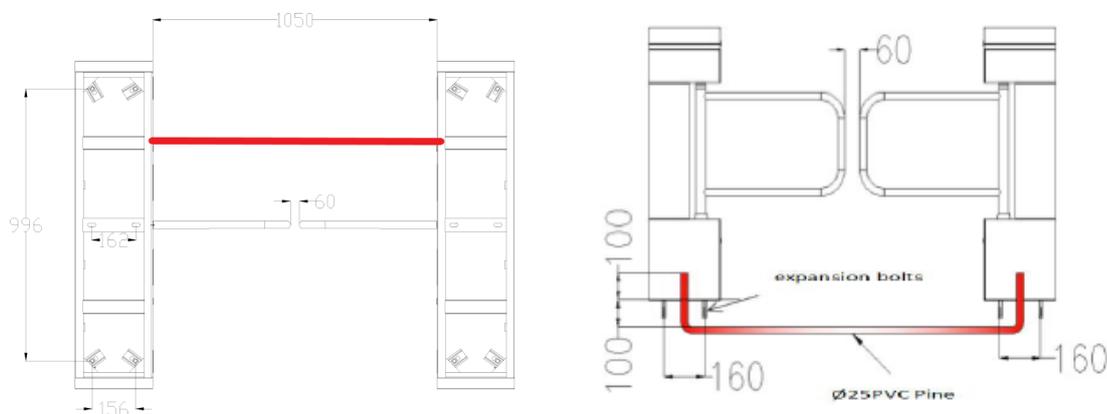


Figure 2-3A

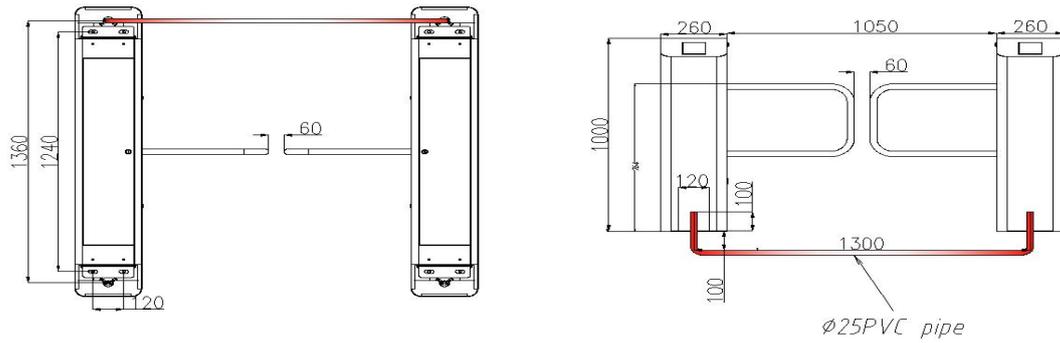


Figure 2-3B

Mark out the screw hole centers of the stand, and the edge of the chassis bases on the ground according to the sizes as shown on the figure 2-3A. Use a hammer drill to perforate M12 screw holes and then install the screws. Place the swing barrier turnstile according to the sizes and positions as shown in the figure before installation and fixation. Connect the online cables and perform the power-on test. If the test is OK, tighten the screws. It is recommended that a warning line was marked out on the ground after the machine is installed, so as to prompt the pedestrian to stand behind the warning line when swiping the card. As shown in Figure 2-3C:

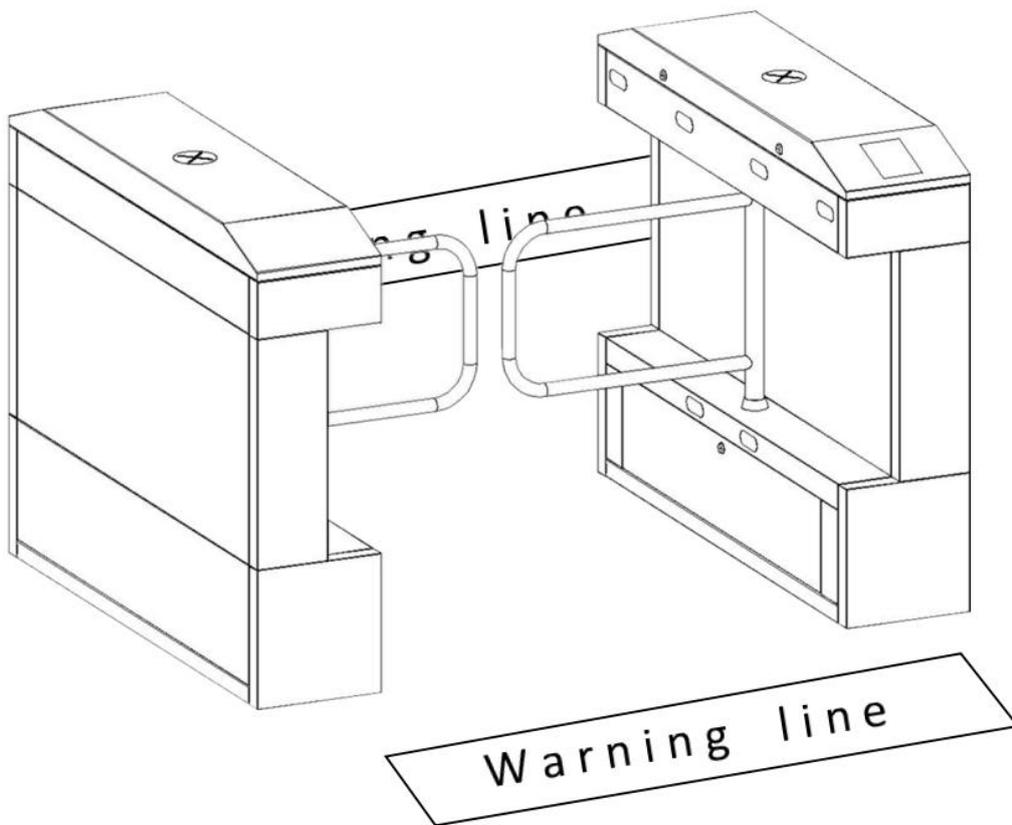


Figure 2-3C

## Chapter 3 Menu Operation

### 3.1 Function Introduction

1. After powered on, the LCD screen on the control board will display the default state showing the current working mode.

2. There are 4 buttons on the control board: UP, DOWN, ENT, and ESC, show as Figure 3-1:

UP: to move upwards or increase the value.

DOWN: to move downwards or decrease the value.

ENT: to enter a menu setting item or confirm the current modified value.

ESC: to return to the previous menu or cancel the current operation.

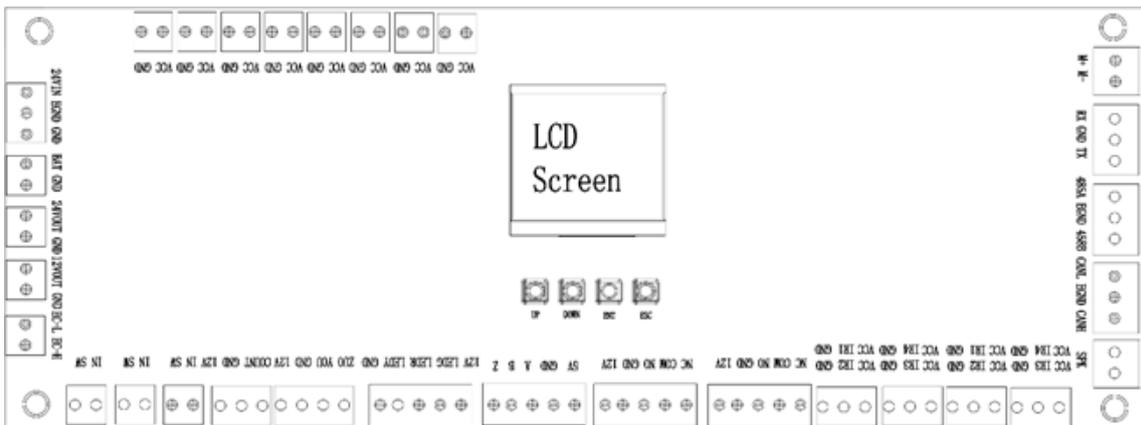


figure 3.1

### 3. Operation and instruction of menu

Press the ENT button and enter the password input interface. The default password is: UP, UP, DOWN, DOWN, DOWN, DOWN. You may press the ESC button to erase the last input. After entering the menu, press UP or DOWN to choose a menu item, then press ENT to enter the interface and adjust such function or value.

There are four keys on the control panel, including "UP", "DOWN", "ENT", and "ESC". Press "ENT" to modify settings, press "UP" and "DOWN" button to select a function, and press "ESC" to exit.

## **3.2 Menu Introduction**

After input correctly password then press ""OK"" and the menu operation interface is displayed. The menu has the following options:

### **1.Barrier positioning**

Zero position (Default).

Left opening position.

Right opening position.

### **2.Opening mode**

Bi-direction swiping card(Default)

Left free + Right swiping card.

Left swiping card + Right free.

Bi-direction control by IR sensor.

Left forbidden + Right swiping card.

Left swiping card + Right forbidden.

Left forbidden + Right free.

Left free + Right forbidden.

Bi-direction forbidden.

### **3.Open duration**

5~60s (The default is 10s).

### **4.False direction entry**

Close door and voice alarm.

Voice alarm (Default).

Alarm disabled.

### **5.Speed of barrier closing and opening**

Low speed.

Middle speed (Default).

High speed.

### **6.Anti-tailgate**

Alarm disabled.

Voice alarm (Default).

Close door and voice alarm.

## **7.Reset counter**

Exit counter (Default).

Entry counter.

Both.

## **8.Gate closing delay time**

0~10s (The default is 0).

## **9.Unlock brake**

Delay to unlock (Default).

Unlock after card swiping.

## **10.Brake starting angle**

3~10° (The default is 3°).

## **11.Fire signal setting**

Right opening (Default).

Left opening.

Disable.

## **12.System working mode**

Working mode (Default).

Test mode.

Factory reset.

## **13.Volume setting**

Disable.

1~16 (The default is 5).

## **14.Exchange voice of door opening**

No (Default).

Yes.

## **15.IR anti-pinch setting**

Disable.

Stop turning for anti-pinch (Default).

Open the barrier for anti-pinch.

## **16.Memory function**

Disable (Default).

Enable.

### **17. Select anti-pinch area**

No anti-pinch (Default).

All IR areas for anti-pinch.

### **18. Master device speed compensation**

0~20 (The default is 0).

### **19. Slave device speed compensation**

0~20 (The default is 0).

### **20. Swiping card mode**

Allow to swipe card in passage (Default).

Not allow to swipe card in passage.

### **21. Version**

V6.0.4.



Functions of terminals at each zone:

System power input: The main voltage is changed by a transformer to 24V and supplied to the main panel.

Battery input: (optional) After a power outage, the swing barrier of the machine is opened with power from the backup battery and no longer closed.

Fire switch: During emergencies ensuring users fast unencumbered exit to safety.

Right entry, common, left entry: Control the barrier opens to left or right side.

Access control power supply: Supply for the access board.

RS485 communication port: receive external signals

Master/slave terminal: It is connected to the master and slave boards to transfer signals.

Electromagnetic brake: It is connected to the electromagnet inside the core component to prevent collision and pinch.

Connecting cable of the motor: It is connected to the motor and supplies power to the motor.

Left infrared detectors, left anti-pinch/right infrared detectors, right anti-pinch detectors: It detects the position of a pedestrian in the channel. It has the detecting and anti-pinch function.

Direction indicator board terminal: This terminal is connected to the LED board to indicate whether the pedestrian can pass through the channel.

## Chapter 4 Common failure analysis

Number	Failure phenomena	Analysis and solution
1	Direction indicator no response or indication is not correct.	Check whether the connection to the roof lamp is correct or not.
2	After swipe the card there is only a swing arm action.	Check the type setting and the 6 core connection line of main and auxiliary machine.
3	Barrier opens after a long time without closing.	Check whether the time of the opening is too long.
4	Swing the arm swing at zero position.	This situation may be caused by the thirteenth sets of the menu is too large. to decrease the value of the thirteenth items may solve the problems.
5	"Serious malfunctions. Pendulum rod rotation is out of preset range,please do zero correction".	User needs to correct the zero position,left open position and right open position in seventh items.

## Chapter 5 Product maintenance

### 5.1 Chassis maintenance

The chassis is made up of 304 stainless steels. There may be rust stains on its surface after using for a long time. Regularly sand the surface along the grain softly and carefully, Coat the surface with anti-rust oil, Do not cover the infrared sensor.

### 5.2 Movement maintenance

Cut off power supply before maintenance. Open the door, clean surface dust, apply butter to the transmission mechanism. Check whether the belt is loose, if loose, adjust the position of the motor to make the belt tightening. Check and tighten others connection parts.

### 5.3 Power maintenance

Cut off power supply before maintenance. Check whether the plug is loose, if loose need to tightly it, do not replace the connection position at random, check whether the external power supply is exposed, timely wrapped, whether there is any leakage, timely treatment. Check the technical parameters of interface is normal, the aging of electronic components to be replaced.

(Attention: Above swing barrier maintenance must be maintained by professional personnel, Especially the movement and the electric control part, first cut off the power supply, ensure the operation safety.)

