

User Manual

Swing Barrier SBTL5000 series

Applicable Models: SBTL5000/5200, 5011/5211, 5022/5222

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1. Product Introduction

1.1 Model number and access control

Access Model	None	C3-200 and 2*Wiegand reader	inBio 260 and 2* FR1500/ID reader
SBTL5000	√		
SBTL5011		√	
SBTL5022			√
SBTL5200	√		
SBTL5211		√	
SBTL5222			√

1.2 Chassis design and dimensions

SBTL5000 series is with SUS304 housing, provides simple and beautiful design with anti-corrosion. It provides legal access to the persons while eliminating illegal personnel access. In case of emergency, it ensures that evacuation passage runs smoothly and is convenient for personnel.

SBTL5000's appearance and dimensions are as shown in Figure 1-2:

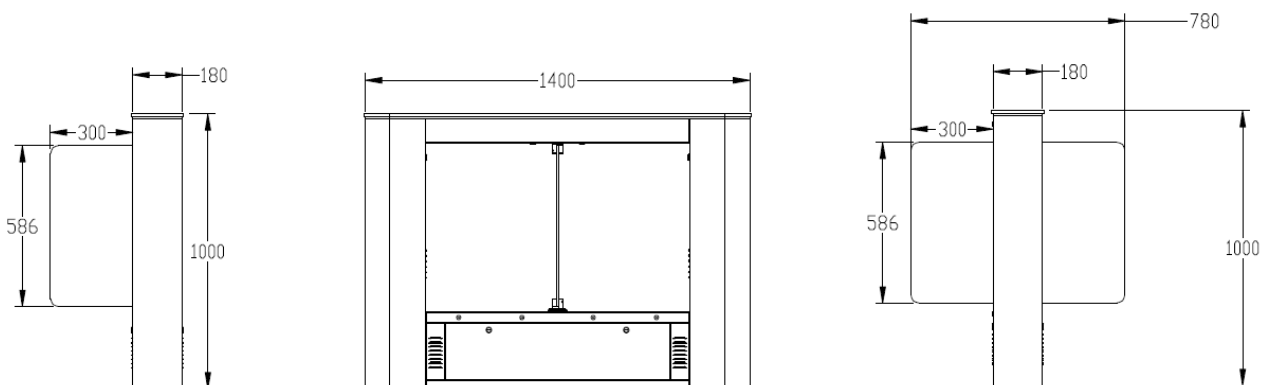


Figure 1-2

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 reader, the Infrared sensor, and the door lock are installed. The core component mainly consists of the motor, the frame, the belt, and the swing arm.

1.4 Electronic control system

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

Reader: The reader reads the data in 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, and sends executive commands to the direction indicator, the electric motor and the 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 at the lane, and directs the pedestrian to pass through the lane in a safe and orderly manner.

Alarm: The alarm gives an alarm voice if the system detects any unauthorized entry to the lane.

1.5 The working principle of swing barrier

- ◆ 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.
- ◆ 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 lane. The access controller will send the signal to the master control panel.

- ◆ 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.
- ◆ Pedestrians pass through the lane according to the direction indicator signs, infrared sensors detect the pedestrians pass through the whole process, and continue send signal to the master control board until the pedestrian has been completely through the lane.
- ◆ If the pedestrian enters the passage but forgets to flash the card read by the reader, or if the card held by the pedestrian is invalid, the system will stop the pedestrian, and give an audible alarm until the pedestrian retreats from the lane. The pedestrian can pass through the lane only after a valid card is read by the card reader.

1.6 System composition of the product

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

Working modes of the system

To meet the requirements of being used in different places, this system provides multiple working modes for the user. Including normal working mode, normally open and normally close mode, testing mode.

After powered on, the LCD screen on control board will display a default state, which displays currently work mode.

1.7 Specification

Dimension(mm)	SBTL5000 Series : L=1400, W=180, H=1000		
Communication	RS485	Input voltage	AC100~240V, 50-60Hz
Input control signal	Switching signal	Output voltage	DC 24V
Time of opening/closing	0.8S(adjustable)	Relative humidity	20%-95% (Non-condensing)
Temperature	-28°C-60°C	Passage rate	Maximum 30/minute
Infrared sensor	6	Working environment	Indoor

2. Installation of the Product

2.1 Installation notes

- 1) It is recommended that the swing barrier turnstile be installed on a horizontal solid platform with 50mm to 100mm in height.
- 2) It is also recommended that the swing barrier turnstile should not be used in corrosive environment.
- 3) Make sure the protective ground wire of the system is reliably connected to avoid personal injuries or other accidents.
- 4) After installation, check whether connection is reliable at the connecting points of the protective ground 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

A distance of 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 reference figure as below:

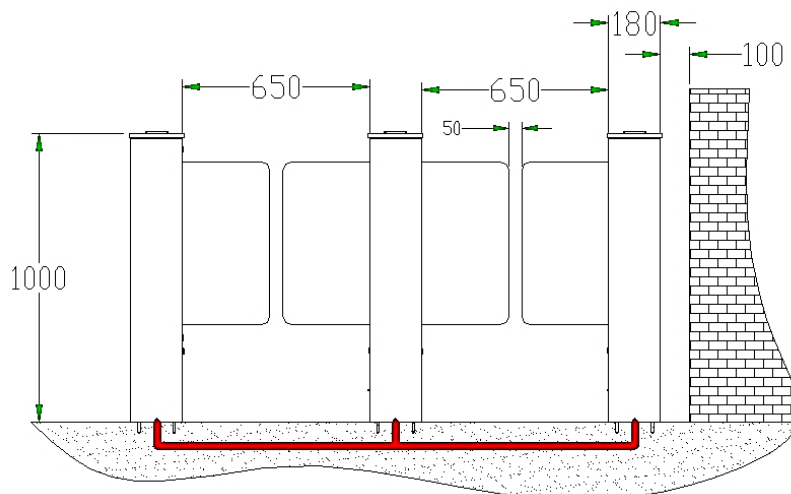
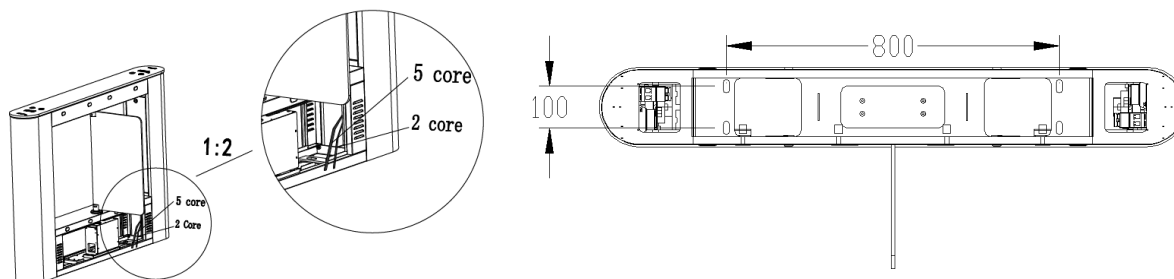


Figure 2-2 SBTL5000 series dual-lane

2.3 Cables installation and fixing

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 **5-core cable (signal)** and a **2-core cable (power)**. 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** under 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.

SBTL 5000 series installation holes and cabling positions as shown in Figure 2-3a:



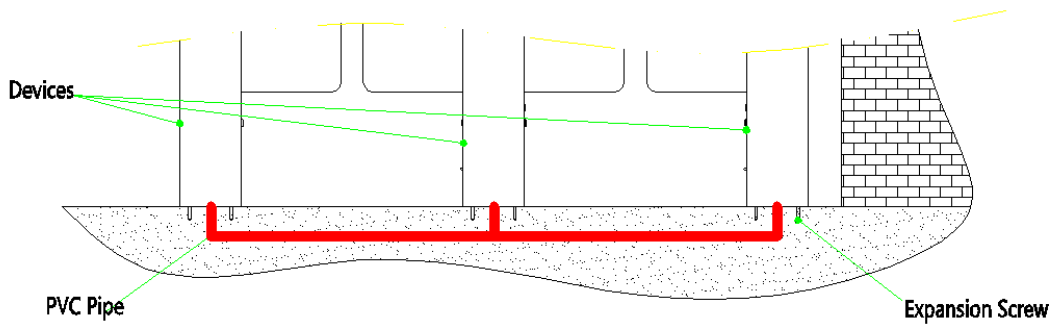


Figure 2-3a

Mark the screw hole centre of the stand, and the edge of the chassis base 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 fixing. 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 be 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 2-3b:

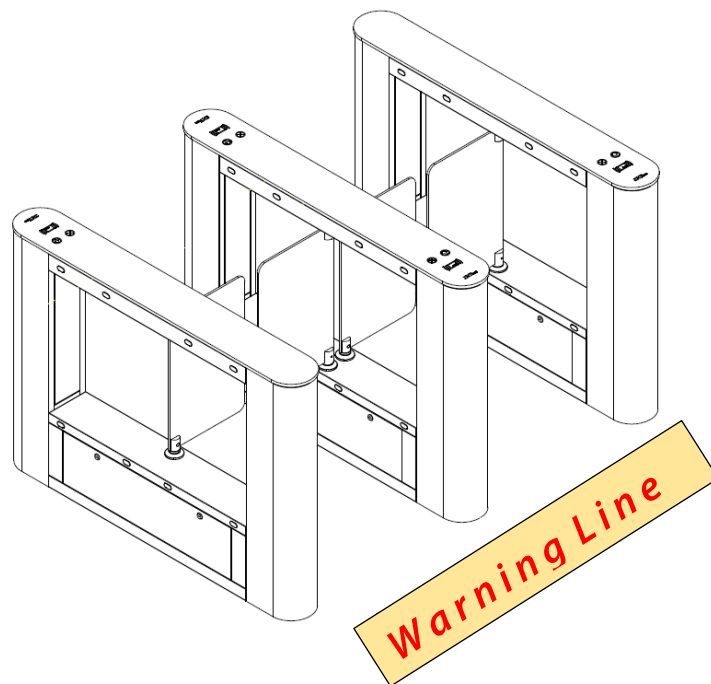


Figure 2-3b

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

V6.0.3.

3.3 Functions introduction of wiring and terminal

1) Wiring diagram

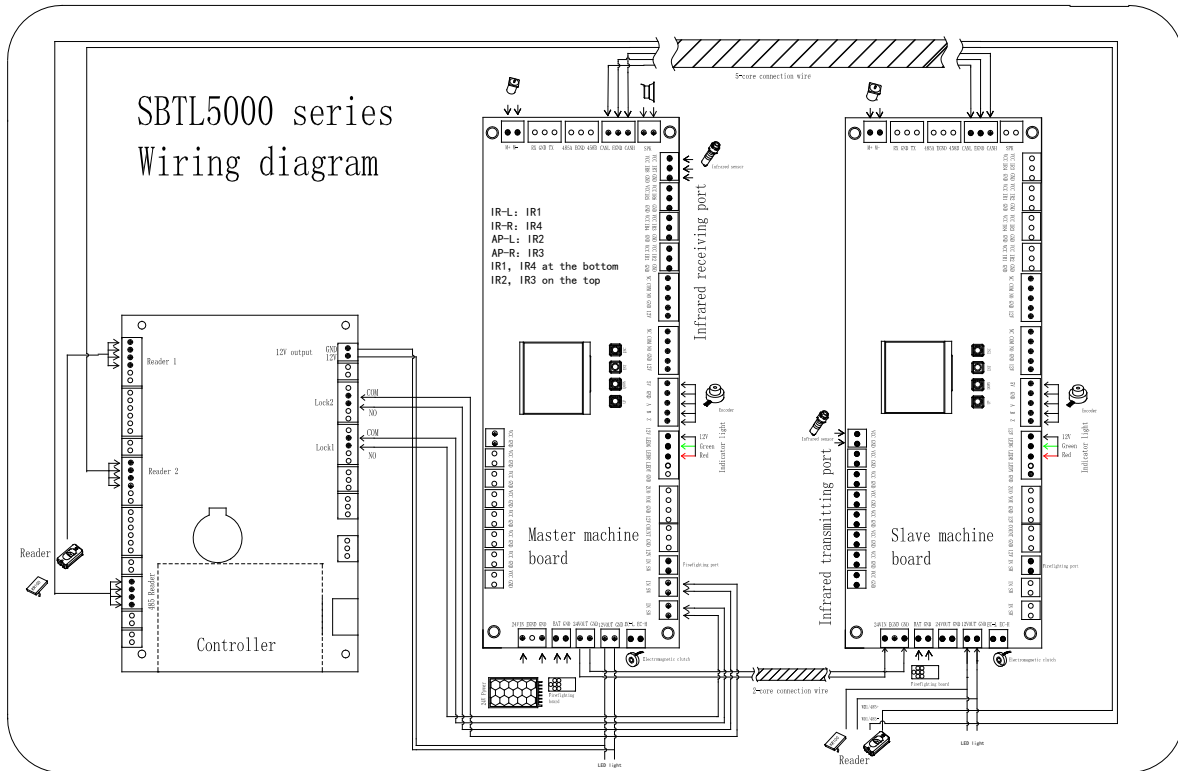


Figure 3-2

2) Functions of terminals at each zone:

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

Firefighting board: After a power outage, the swing barrier of the machine is opened with power from the backup battery and is no longer closed.

Right open (DOWN button), left open (UP button): Controls the barrier to open to left or right side.

Access control power supply: Supplies power for the access board.

RS485 communication port: Receiving external signals.

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

Electromagnetic clutch: 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 detector, left anti-pinch/right infrared detector, right anti-pinch detector: It detects the position of a pedestrian in the passage. It has the detecting and anti-pinch function.

Direction indicator board terminal: This terminal is connected to the LED board to indicate whether or not the pedestrian can pass through the passage.

Firefighting port: During emergencies ensuring users fast unencumbered exit to safety.

4. Troubleshooting

Number	Failure description	Analysis and solution
1	No response from direction indicator or indication is not correct.	Check whether the connection of the roof lamp is correct or not.
2	After swiping the card there is only a swing arm action.	Check the master and slave machine type setting and the 5-core, 2-core connection line.
3	Barrier open after a long time no closing.	Check whether the time of the opening is too long or the IR sensor is covered by others.
4	Motor doesn't rotating or the resistance too great or belt loosen.	If the motor working properly, but the rotated angle not enough, which may caused by belt loosen. If can't solve it, try to increase the value of twelfth menu.
5	When power on, the swing arm can't turn back to the initial position	Ensure that no obstacle in the passway, then restart the equipment.

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 being used 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 found loose, adjust the position of the motor to make the belt tight. Check and tighten others connection parts.

5.3 Power maintenance

Cut off power supply before maintenance. Check whether the plug is loose, if found loose, tight it. Do not replace the connection position at random. Check whether the external power supply is exposed, timely wrap it. Whether there is any leakage, do timely treatment. Check if the technical parameters of interface is normal, the aged electronic components should 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.

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