

# User Manual

## Swing Barrier-SBTL300 Series

Date: September 2020

Doc Version: 1.0

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.

## About the Manual

This manual introduces the operations of **SBTL300 Series** product.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.






## Document Conventions

Conventions used in this manual are listed below:

### GUI Conventions

For Software	
Convention	Description
<b>Bold font</b>	Used to identify software interface names e.g. <b>OK, Confirm, Cancel</b>
>	Multi-level menus are separated by these brackets. For example, File > Create > Folder.
For Device	
Convention	Description
< >	Button or key names for devices. For example, press <OK>
[ ]	Window names, menu items, data table, and field names are inside square brackets. For example, pop up the [New User] window
/	Multi-level menus are separated by forwarding slashes. For example, [File/Create/Folder].

### Symbols

Convention	Description
	This implies about the notice or pays attention to, in the manual
	The general information which helps in performing the operations faster
	The information which is significant
	Care taken to avoid danger or mistakes
	The statement or event that warns of something or that serves as a cautionary example.

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# 1 Product Introduction

## 1.1 Chassis Design and Dimensions

SBTL300 series comes with SUS304 housing which provides simple and beautiful design with corrosion protection. It provides legal access to the persons and restricts illegal personnel access. In case of emergency, it ensures that evacuation passage runs smoothly and is convenient for personnel.

SBTL300's appearance and dimensions are shown in Figure 1-1:

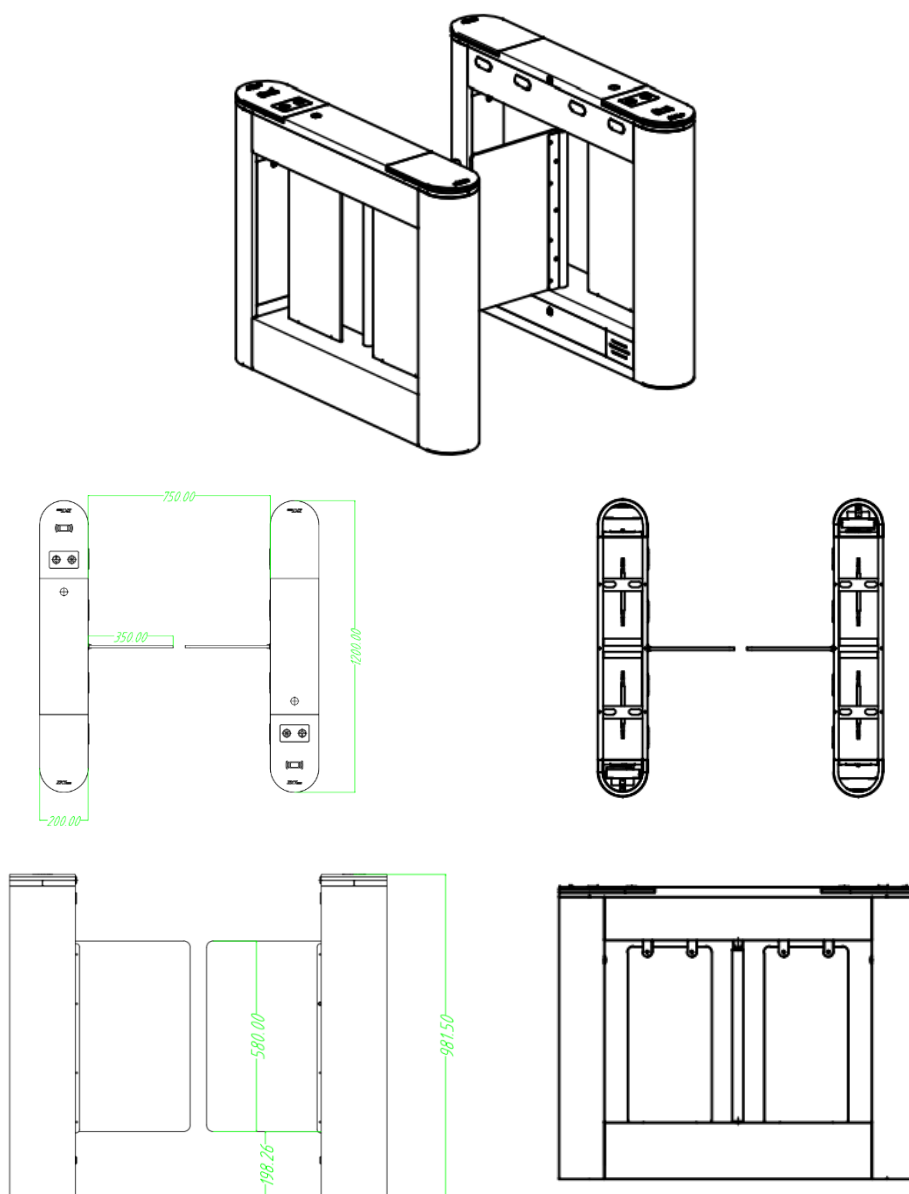


Figure 1-1

## 1.2 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.

## 1.3 Electronic Control System

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

**Reader (optional):** 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 pedestrian passage path, and directs them 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.

## 1.4 System Composition of the Product

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

### Working modes of the system

To make the product more versatile, this system provides multiple working modes for the user, including normal working mode, normally open and normally close mode, testing mode. After supplying power to the device, the digital screen on control board will display a default state, which displays current work mode.

There are 4 operation buttons on the keypad, "MENU", "MODE", "ADD" and "DEC". (Figure 1-2)

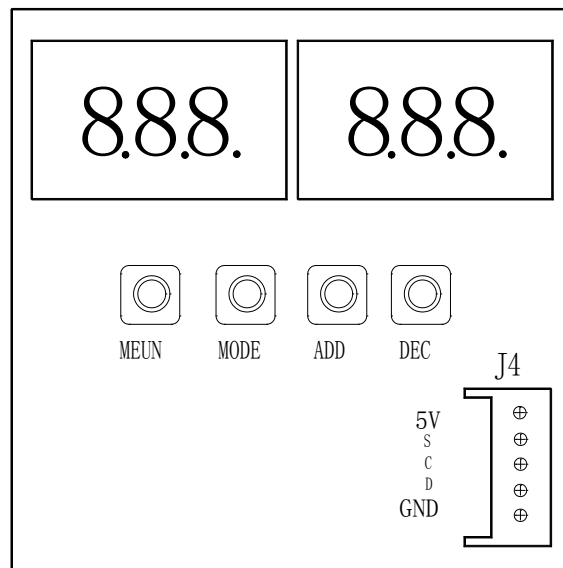


Figure 1-2

## 1.5 Specification

<b>Dimension(mm)</b>	SBTL300 Series: L = 1200, W = 200, H = 981.50		
<b>Communication</b>	RS485	<b>Input voltage</b>	AC110~240V, 50-60Hz
<b>Input control signal</b>	Switching signal	<b>Output voltage</b>	DC 24V
<b>Time of opening/closing</b>	0.8 Sec (adjustable)	<b>Relative humidity</b>	20% - 95% (Non-condensing)
<b>Temperature</b>	-28°C to 60°C	<b>Passage rate</b>	Maximum 30/minute
<b>Infrared sensor</b>	4	<b>Working environment</b>	Indoor

## 2 Installation of the Product

### 2.1 Installation Notes

- 1) It is recommended that the swing barrier must be installed on a horizontal solid platform with a height of 50mm to 100mm.
- 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 if the connection is done correctly 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 longer 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 is shown below:

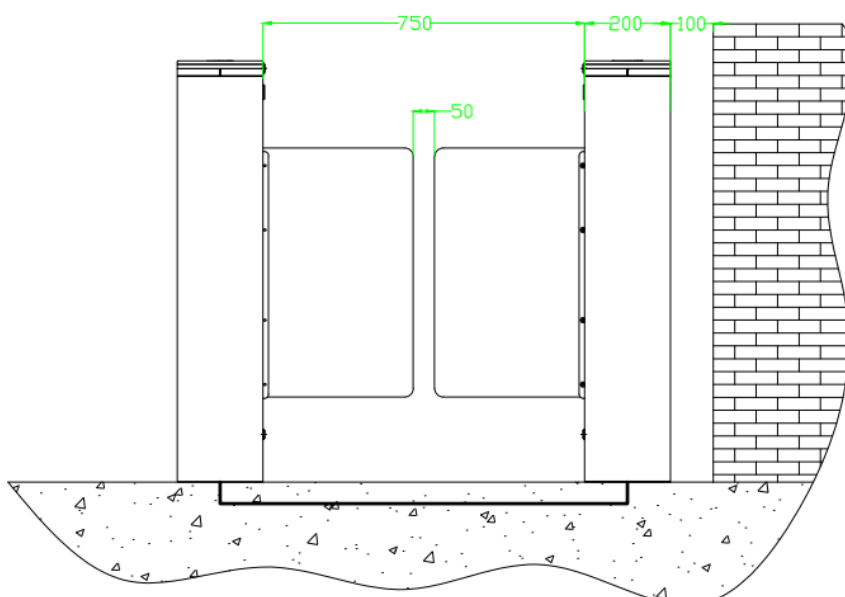


Figure 2-1 SBTL300 series dual-lane



## 2.3 Cables Installation and Fixing

For the outlets of the concealed cables, please refer to the drawing indicating 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 **3-core cable (signal)** and a **2-core cable (power)**. When installing the swing barrier turnstile, the user only needs to connect it to the corresponding ports. Note that the PVC conduits are laid **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 300 series installation holes and cabling positions is shown in Figure 2-2:

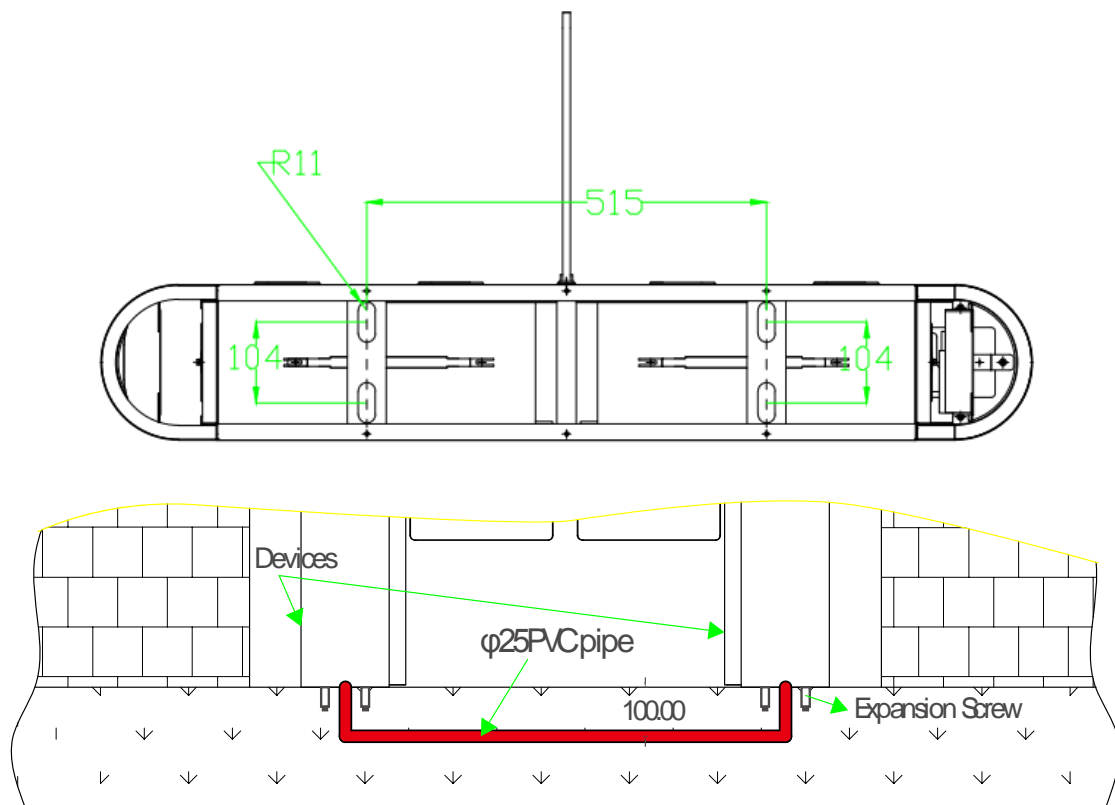


Figure 2-2

Mark the screw hole at the centre of the stand, and the edge of the chassis base on the ground according to the sizes as shown on the Figure 2-2. Use a hammer drill to make 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 on the ground after installing the device, so as to prompt the pedestrian to stand behind the warning line when swiping the card. As shown in Figure 2-3:

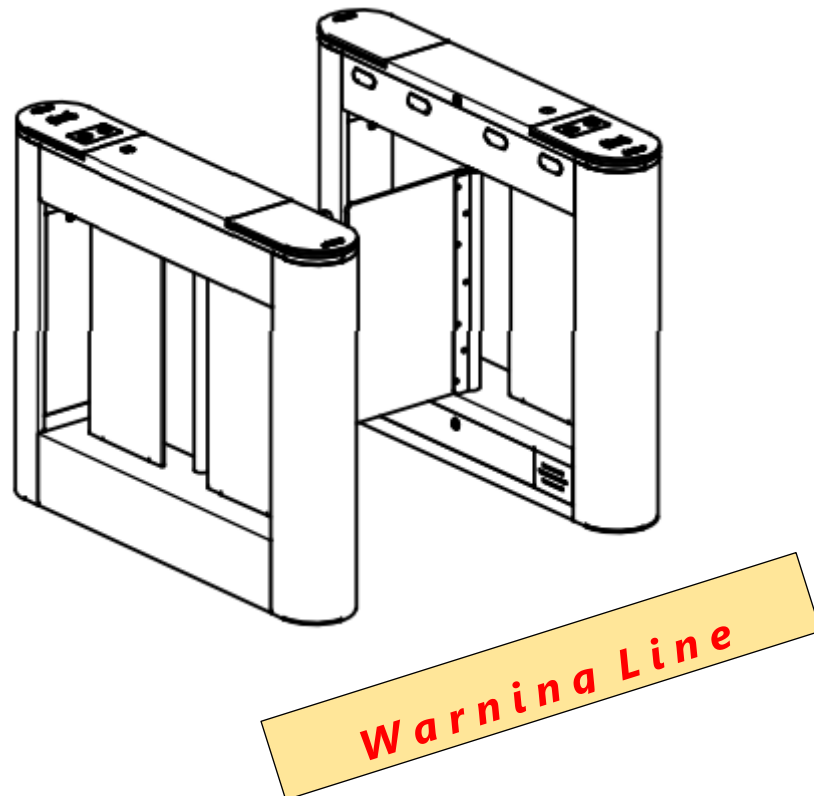


Figure 2-3

## 3 Menu Introduction

### 3.1 Function Introduction

1. It has clear traffic direction indication function, which indicates whether it can pass or not in the form of intuitive LED light indication (additional direction light board is required).
2. It has anti tailing function: the system will alarm automatically when it detects the following phenomenon in the channel (the person behind is close to the person in front, intending to pass without swiping the card).
3. There are a variety of working modes to choose from, including one-way traffic, two-way traffic, infrared switch on or pass control through the main board switch on signal (additional control system, access control, fingerprint, etc.) can be set through the main board menu.
4. It has the function of automatic reset: when the passer fails to pass within the specified time after receiving the opening signal, the system will automatically cancel the current access authority of the user, and the restricted passage time can be set in the main board menu.
5. It has voice prompt function.
6. It has the function of zero position self-check, which is convenient for users to maintain and use.
7. It has the function of anti-pinch. When the personnel are passing through and the set passage time has arrived, it can prevent the swing arm from closing and injuring people.

8. It has 485 and 232 serial port communication function, and can control the gate opening through 485/232 serial port. After powered on, the digital screen on the control board will display the default state showing the current working mode.

## 3.2 Operating instructions

1. There are 4 operation keys on the key board, namely "MENU", "MODE", "ADD" and "DEC".
2. Key operation instructions:
  - The first button on the menu control panel is the menu button. Long press to enter the menu options;
  - Enter the menu and press the second key to select the menu function;
  - The third and fourth keys are menu function value options, which can adjust function parameters up and down. After adjustment, long press the first key to save parameters;
  - Short press the first or second key to open the brake manually.

## 3.3 Menu Introduction

Item	Name	Menu	Function	Description
1	01EXXX	Display mode	0 -- display the current position of barriers (default value: 0) 1 -- infrared input signal 2 -- control input signal 3 -- Test Mode	Display description: XFX.XXX 1. Equipment status 2. Equipment status 3. Display status 4.5.6--Display the gate position in mode 0 (the test mode displays "---")
2	02EXXX	Opening mode	0 -- right controlled, left controlled (default value: 0) 1 -- right prohibition and left prohibition 2 -- right controlled, left forbidden 3 -- right forbidden, left controlled 4 -- right free, left controlled 5 -- right free, left prohibition 6 -- right free, left free	

			7 -- right prohibition, left free 8 -- right controlled, left free	
3	03EXXX	Speed of barrier opening	0~30 (default: 15)	The higher the number, the faster the speed
4	04EXXX	Opening brake stroke	10~25 (default: 25)	The larger the number, the longer the deceleration time and the smoother the swing arm
5	05EXXX	Brake speed of opening	0~30 (default: 10)	The larger the number, the slower the speed when decelerating, and the more stable the swing arm is
6	06EXXX	Speed of barrier closing	0~30 (default: 15)	The higher the number, the faster the speed
7	07EXXX	Closing brake stroke	10~25 (default: 25)	The larger the number, the longer the deceleration time and the smoother the swing arm
8	08EXXX	Brake speed of closing	0~30 (default: 10)	The larger the number, the slower the speed when decelerating, and the more stable the swing arm is
9	09EXXX	Master and vice machines Setting	0 -- master (default: 0) 1 -- vice	
10	10EXXX	RS485 address	0~250	
11	11EXXX	Open duration	0~60 (default: 5)	Unit: s
12	12EXXX	Gate closing delay time	0~60 (default: 0)	Unit: s
13	13EXXX	Barrier positioning	1 -- Zero position (default) 2 -- Left opening position 3 -- Right opening position 4 -- Vice opening position	The corresponding position can only be adjusted in place

14	14EXXX	Memory function	0 -- Closing memory function (default: 0) 1 -- Opening memory function	
15	15EXXX	Swiping card mode	0 -- Allow to swipe card in passage (default: 0) 1 -- Not allow to swipe card in passage	
16	16EXXX	Volume setting	0~31 (default: 20)	The higher the value, the louder the sound
17	17EXXX	Alarm mode	0 -- Opening alarm voice (default: 0) 1 -- Closing alarm voice	
18	18EXXX	Exchange entrance and exit voice	0 -- Right entrance, left exit (default: 0) 1 -- Left entrance, right exit	
19	19EXXX	Traffic detention alarm time	5~30 (default: 10)	Unit: s
20	20EXXX	Intensity adjustment	10~60 (default: 40)	The greater the value, the greater the force
21	21EXXX	Fire signal setting	0 -- Right opening (default: 0) 1 -- Left opening	
22	22EXXX	Failure to pass infrared completely, delay closing time	5~60 (default: 15)	
23	23EXXX	Reset	1 – Reset (default: 0)	

## 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 3-core, 2-core connection line.
3	Delay in barrier opening doesn't close.	Check whether the time of the opening is too long or the IR sensor is covered.
4	Motor doesn't rotate, the resistance is much, or the belt is loose.	The motor works properly, but the rotated angle is not sufficient, so it may cause loosening of belt.
5	When powered ON, the swing doesn't return to the initial position.	Ensure that no obstacle is in the sensing area, then restart the equipment.

## 5 Product Maintenance

### 5.1 Chassis Maintenance

The chassis is made up of SAE 304 stainless steel. If it is in service for a longer period, then there may be rust stains on its surface, 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

Switch off the power supply before maintenance. Open the door, clean surface dust, lubricate the transmission mechanism. Check the belt movement, if found loose, adjust the position of the motor to tighten the belt. Check and tighten others connection parts.

## 5.3 Power maintenance

Switch off the power supply before maintenance. Check the plug connection, if found loose, fix it properly. Do not change any connection position randomly. Check the external power supply insulation periodically. Do periodic check for any kind of leakage. Check if the technical parameters of interface are normal. Check the service life of the electronic components and replace accordingly.

**Caution:** Above mentioned maintenance method for swing barrier must be carried out by professional personnel. Especially the movement and the electric control part, first switch off the power supply, ensure the operation safety.

# Appendix Internal Wiring Diagram

