

# Swing Barrier Turnstile User Manual

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Applicable Models: SBT1000S

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# Chapter 1 Product Introduction

## 1.1 Model number and access control

Model \ Access	NO	C3-200 with two KR800 reader	inBIO260 with two FR1500/ID reader
SBT1000S	√		
SBT1011S		√	
SBT1022S			√

## 1.2 Chassis and dimensions

SBT1000S 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.

SBT1000S's appearance and dimensions are as shown in Figure 1-2A:

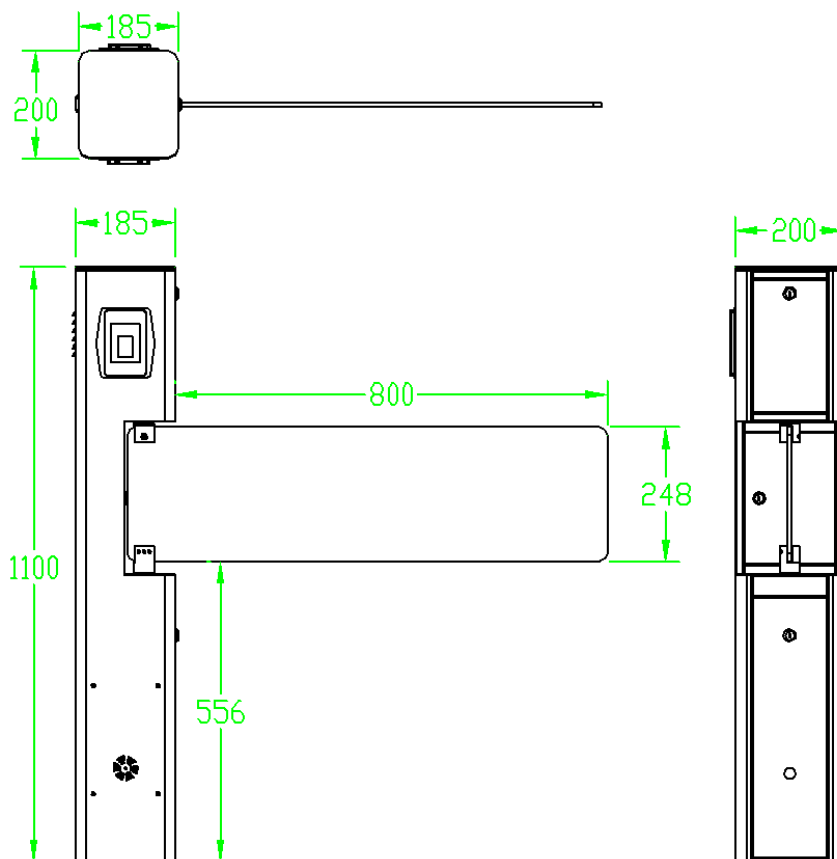


Figure1-2A

## 1.3 Mechanical system

The mechanical system of a swing barrier turnstile includes the chassis and the core component. The chassis is a carrier where the reader, the sensor, and the lock are installed. The core component mainly consists of the motor, the frame and the swing arm.

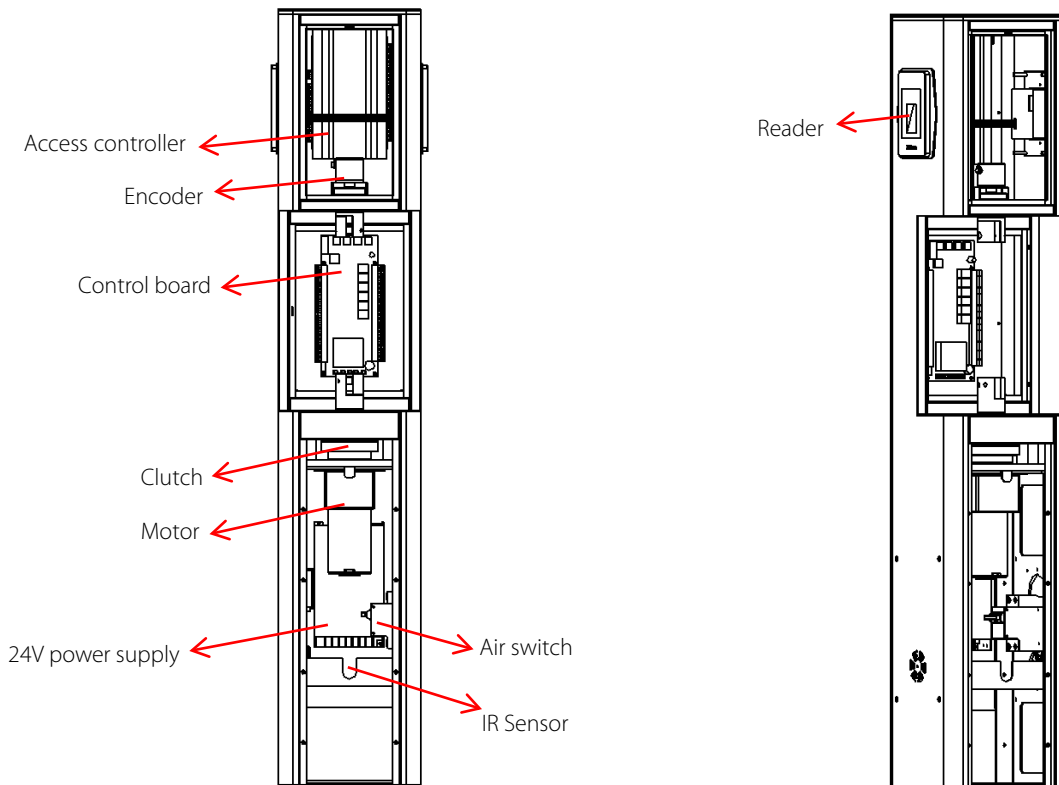
## 1.4 Electronic control system

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

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

**Control panel:** The control panel is the system's control center that receives signals from the access controller, performs logical judgment and processing of these signals, and sends executive commands to the electric motor.

**IR sensor:** anti-pinch function.



### 1.5 The working principle of swing barrier turnstile system

- 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.
- 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. If the signal is legal, the access controller will send the open signal to the master control panel.
- 3) After receiving the signal from the access controller, the control panel sends valid control signals to the electric motor and opens the barrier.

### 1.6 Product related parameters

Dimension(mm)	SBT1000S: L=200, W=185, H=1100		
Input voltage	AC100-120V/200-240V,50-60Hz	Output voltage	DC 24V
Input control signal	Switching signal	Relative humidity	20%-93%
temperature	-28°C-60°C	Pass speed	Maximum: 30/minute
Infrared sensor	1	Working environment	Indoor/Outdoor ( If shelter )

## Chapter 2 The 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 recommended that the swing barrier turnstile should not be used in corrosive environment.
- 3) Make sure the protective earth 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 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 turnstile

The installation position depends on the size of the swing barrier. If the swing barrier turnstile is installed near a wall, a distance of 100mm between the swing barrier turnstile and the wall needs to be reserved for ease of installing the device. The SBT1000S swing barrier turnstile may form a channel, or form two channels with a SBT1000S swing barrier turnstile, as shown in figure 2-2A;

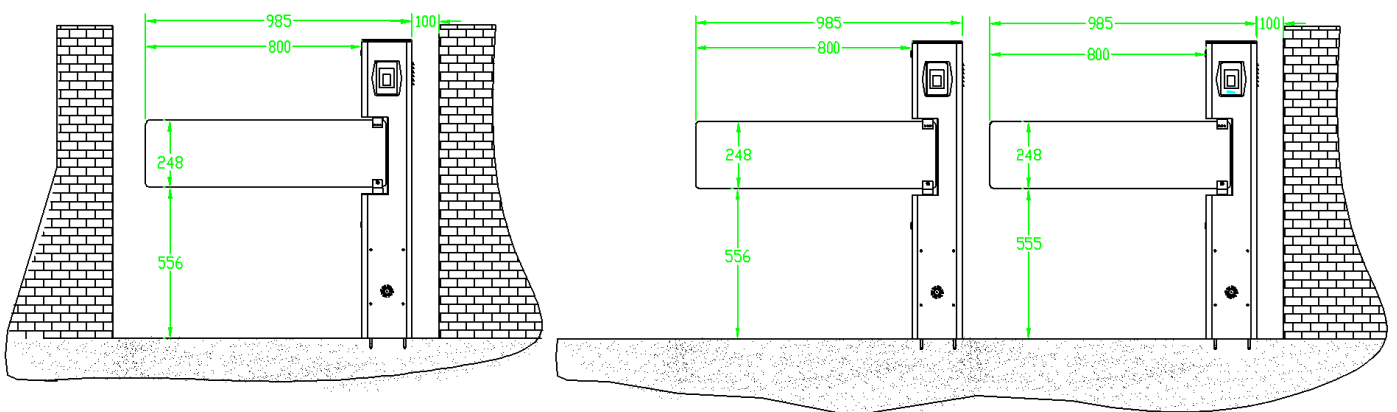


Figure 2-2A SBT1000S Single channel and dual channel

### 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. The PVC conduits are buried 100mm under the ground, with the height of the exposed part about exceeding 100mm. In addition, the conduit outlet is bent back to prevent ingress of water into the conduit. SBT1000S installation holes and cabling positions as shown in Figure 2-3A.

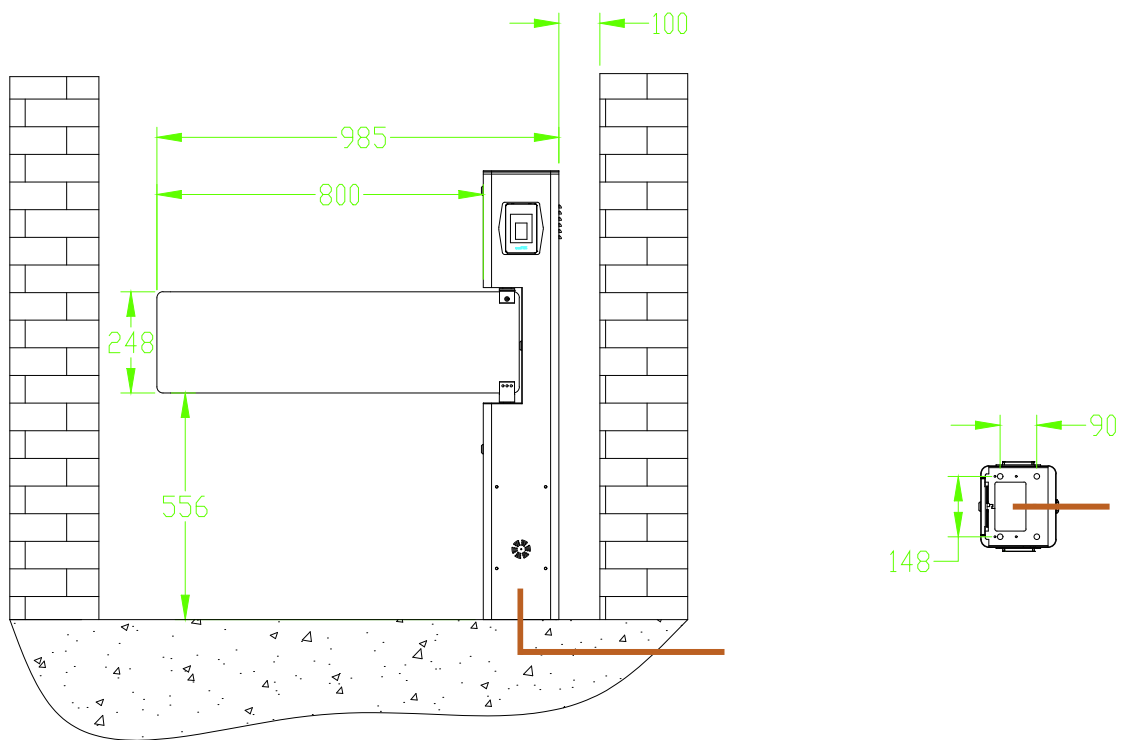


Figure 2-3A

Mark out the screw hole centers 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 fixation. Connect to the power and 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.

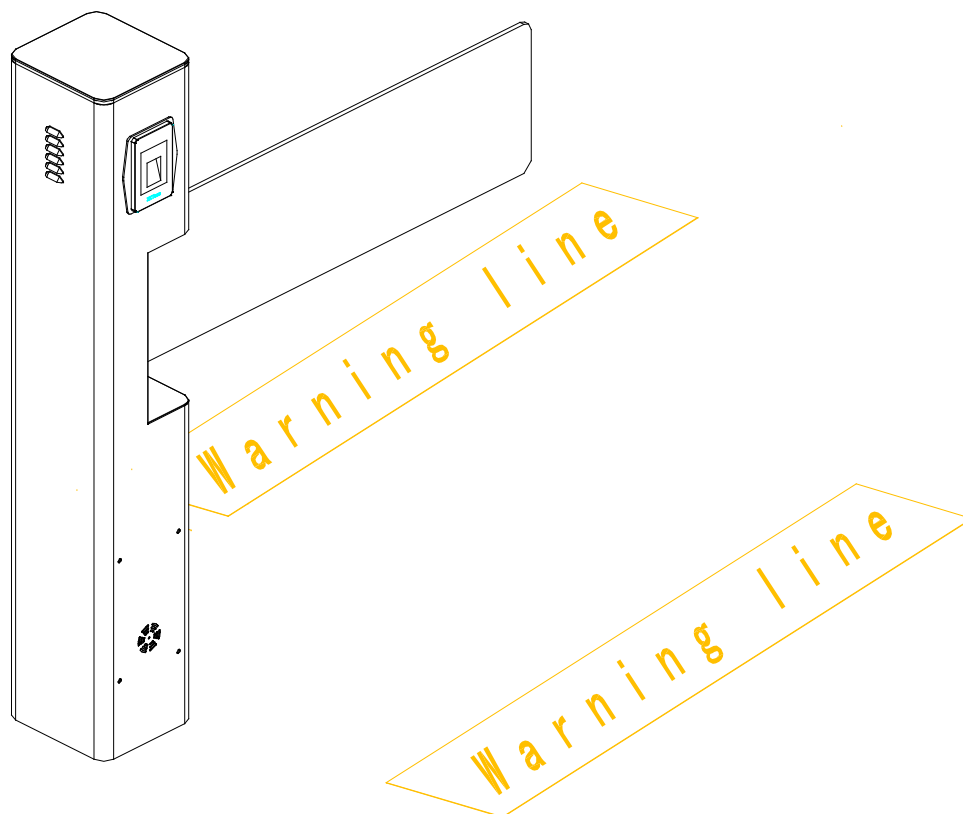


Figure 2-3B



#### **4. Opening mode setting**

- 1) Bi-direction swiping card
- 2) Left direction swiping card
- 3) Right direction swiping card
- 4) Bi-directional prohibition

Press "ENT" key to modify, press "UP/DOWN" to select opening mode, press "ESC" to exit.  
The default value is Bi-direction swiping card.

#### **5. Min speed compensation**

Adjustable range from 0 to 20.

Press "ENT" key to modify, press "UP/DOWN" to select compensation, press "ESC" to exit.  
The default value is 0.

#### **6. Delay closing gate time**

Adjustable range from 2 to 10.

After pedestrian passes through the last infrared sensor, the gates will keep opening the time what you set, then close immediately.

Press "ENT" key to modify, press "UP/DOWN" to select delay closing gate time, press "ESC" to exit, default value is 5 seconds.

#### **7. Brake starting angle**

Adjustable range from 3 to 10 degrees.

Press "ENT" key to modify, press "UP/DOWN" to select brake angle, press "ESC" to exit.  
The default value is 3 degrees.

#### **8. Unlock brake method.**

About the method of unlocking, it uses delay release. The time of the delay is affected by the times of lock. The first lock takes 2s, second lock takes 2s, third lock takes 4s, and then it's all 4s. In this process, if the swing arm is back where it should have been before, it will reset the time.

#### **9. Firefighting signal setting**

- 1) Open
- 2) Close

Press "ENT" key to modify, press "UP/DOWN" to select fighting signal, press "ESC" to exit.  
The default value is open; it is required firefighting device connection with fire port.

#### **10. System working mode**

- 1) Work mode
- 2) Auto test
- 3) System initialization

Press "ENT" key to modify, press "UP/DOWN" to select system working mode, press "ESC" to exit, default value is work mode.

#### **11. Volume setting**

- 1) Adjustable range from 1 to 16, default value is 5.
- 2) Close sound

Press "ENT" key to modify, press "UP/DOWN" to select volume level, press "ESC" to exit.  
The default value is 5.



## 12. IR anti-pinch setting

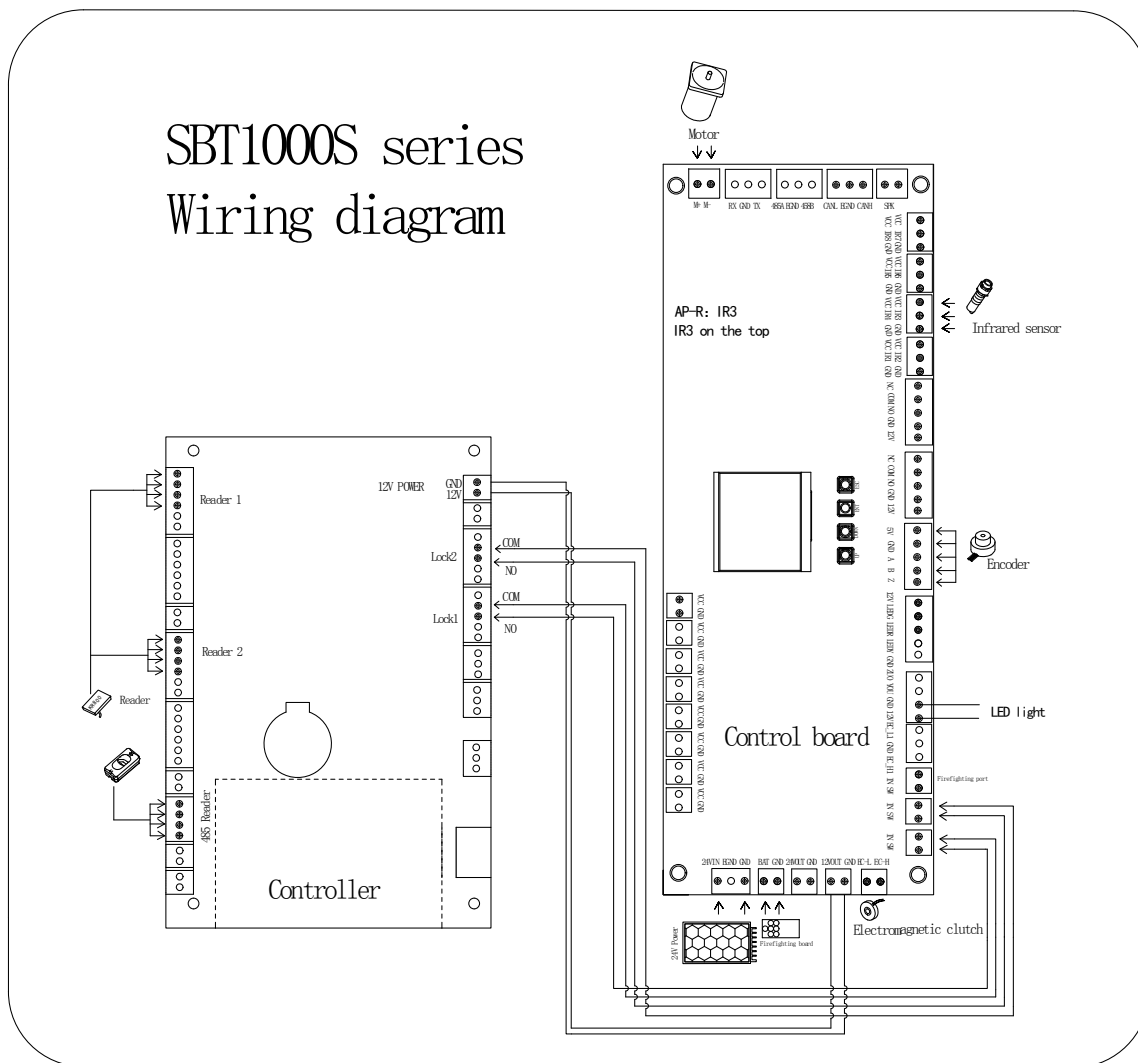
When the gate closes, if the infrared sensors is triggered, the swing arm stops moving.

## 13. Version

V2.1.2

### 3.3 Wiring diagram and function

Check circuit according to the following wiring diagram:



Functions of terminals at each zone:

**Power input 24V:** The voltage is changed by a transformer to 24V and supplied to the control panel.

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

**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.

**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.

**LED light:** Connect to the light belt on the top of the device.

**IR Sensor:** It is connected to the infrared sensor to achieve anti-pinch function.

**Encoder:** It is connected to the encoder to determine the position of the barrier.

## Chapter 4 Product Maintenance

### 4.1 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.

### 4.2 Movement maintenance

Cut off power supply before maintenance. Open the door, clean surface dust, apply butter to the transmission mechanism. Check and tighten others connection parts.

### 4.3 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.)

## Chapter 5 Troubleshooting

Number	Failure description	Analysis and solution
1	Gate open, but it is not in place	Motor resistance may be too large, Increase the value of minimum compensation speed.
2	No sound	<ol style="list-style-type: none"> <li>1. Check if the speaker wire is loose.</li> <li>2. Check if voice is turned off.</li> </ol>
3	Swing arm is not centered	Enter the menu of "Swing arm zero correction" to adjust the zero position.
4	The control panel LCD shows "Encoder wiring error"	Please check if the wiring of encoder A, B phase is reversed, If yes, replace it.
5	The direction of gate open is inconsistent with swiping card.	Access controller left and right gate signal line is reversed, right and left can be adjusted
6	Swipe card, but gate does not open.	<ol style="list-style-type: none"> <li>1. Check if the menu setting interface does not exit.</li> <li>2. Check if the gate signal of the access controller is connected to the gate controller.</li> <li>3. Enter menu to see if current mode is set to card unavailable.</li> </ol>