

User Manual

TS5000A Tripod Turnstile

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English

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.



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About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

About the Manual

This manual introduces the operations of TS5000A Tripod Turnstile 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
Bold font	Used to identify software interface names e.g. OK, Confirm, Cancel
>	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 Model and Specification

1.1 Model Number

TS5000A/TS5200A: Tripod Turnstile.

TS5011A/TS5211A: Tripod Turnstile with Controller and RFID Reader.

TS5022A/TS5222A: Tripod Turnstile with Controller and Fingerprint Reader with RFID function.

Please read this document carefully before installation and using the device.

Model \ Access	None	C3-200 with two RFID reader	inBIO260 with two FP reader
TS5000A	✓		
TS5011A		✓	
TS5022A			✓
TS5200A	✓		
TS5211A		✓	
TS5222A			✓

Table 1-1

1.2 Chassis Design and Dimensions

The chassis of the TS5000A serie products are made of international standard SUS304 stainless steel, with a glass panel on the top, which is beautiful in appearance and clean and is anti-corrosion. It grants legal access to the authorized persons and restricts illegal access. In case of an emergency, the lock will release to allow fast evacuation and egress.

Below is the design and dimensions of TS5000A:

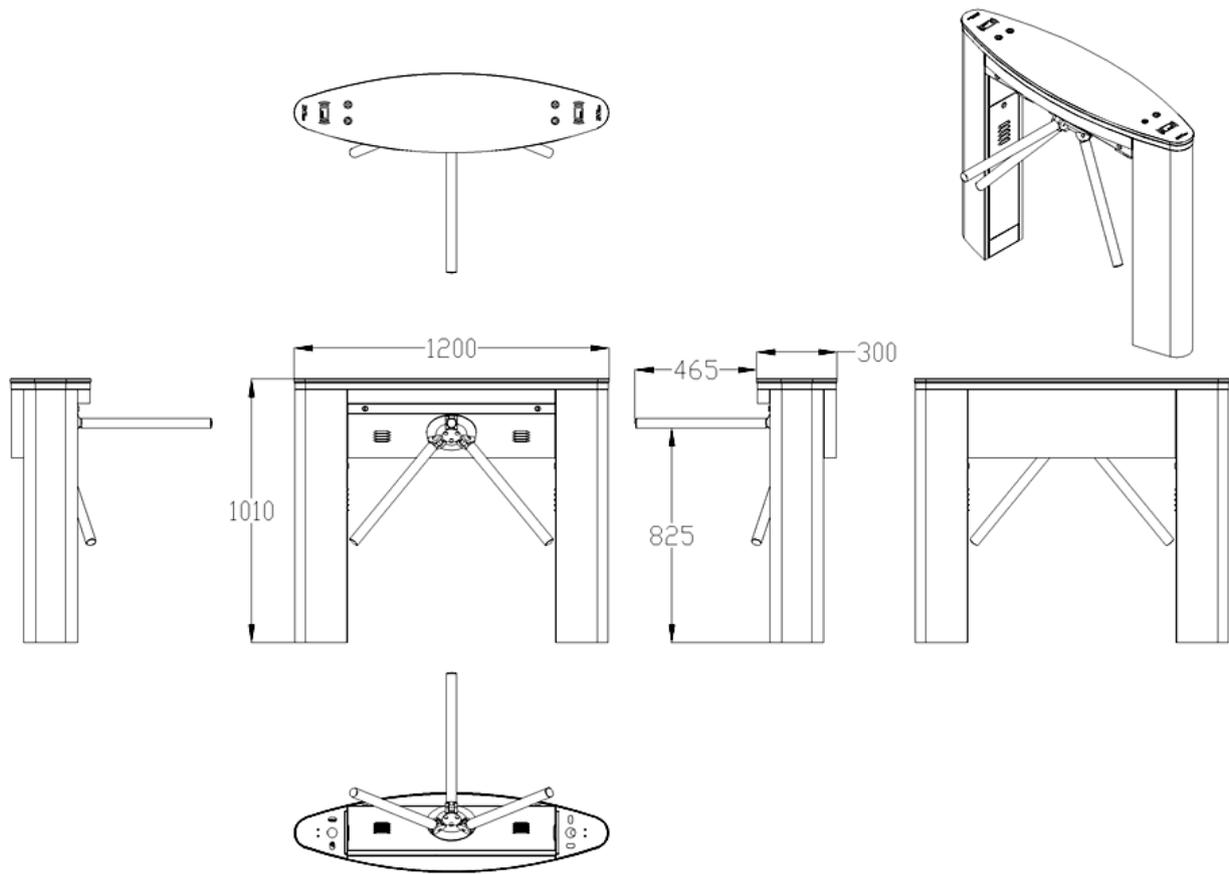


Figure 1-1

1.3 Technical Specifications

Input Voltage	AC 100~120V /200~240V, 50Hz /60Hz	Max. Tolerance of Arms	Center: 80 kg End: 40 kg
Rated Power	60 W	Drive Mode	Motorized
Operating Environment	Indoor and Outdoor (shelter)	Arm Length (mm)	500
Operating Temperature	-28°C ~ 60°C	Net Weight	60kg
Operating Humidity	5% ~ 80%	Gross Weight	90kg
Flow Rate	Max 30 passages / minute	Dimension(mm) Figure 1	L = 1200, W = 300, H = 1010
Input Control Signal	Dry contact	Package Size (mm)	L =1330 , W =420 , H =1110

Table 1-2

1.4 Mechanical System

The mechanical system of the automatic tripod turnstile is composed of the cabinet and the movement. The cabinet is equipped with the direction indicator and the reader sensor. The movement is mainly composed of motor, frame, and brake lever turntable.

1.5 Electric Control System

The electric control system of the automatic tripod turnstile is mainly composed of the card reader, the access controller, the master control panel, the direction indicator, and the speaker.

Card reader: Used to read the card/fingerprint informations and feed it back to the access controller which will determine whether the card/fingerprint is legal.

Access controller: To determine whether the card/fingerprint is legal, and output the result to the master control panel.

Master control panel: To receive the verification signal of the access controller and processes it and control the direction indicator, motor and other components to perform corresponding actions, is the control center of the system.

Direction indicator: To show the current passage status of the passage and guide the pedestrians to pass through the passage.

Speaker: To give an alarm when the system detects a pedestrian illegally entering the passage.

1.6 How the System Works

- When the device is connected to the power, the system will perform self-check. If there is no problem, the device will operate normally.

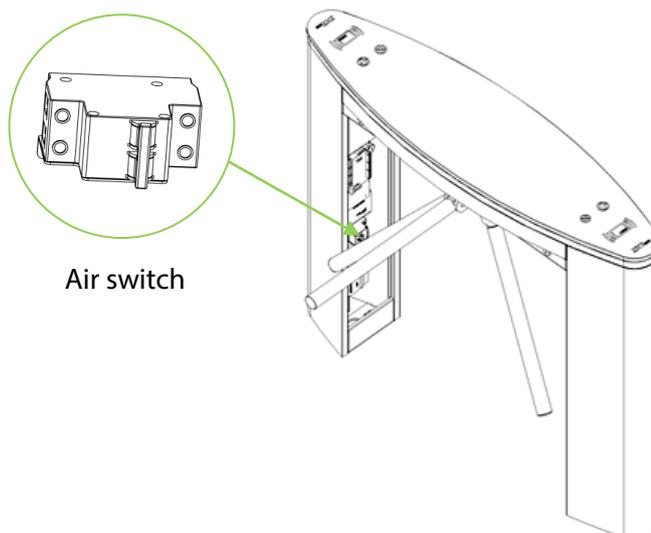


Figure 1-2

- When the card reader reads a valid card/fingerprint, the buzzer emits a sound shows that the card swiping is successful; the signal is transmitted to the access controller for judgment, and then transmitted to the master controller panel which to issue an instruction is whether to pass.

- After swiping the valid card, the master control panel receives and processes the signal from the access controller, and then sends an effective control signal to the direction indicator and the motor, and the direction indicator turns into a green arrow pass mark.
- Pedestrians push the arm according to the direction indicated by the indicator, and it will automatically be pushed away.
- If a pedestrian swipes an invalid card or doesn't swipe, they will be prohibited from passing through by the system and an alarm will be issued which will be cancelled until the pedestrian exits the passage. A pedestrian can pass through the passage only after successful verification with a valid card read by the card reader.

1.7 System Composition

The single-passage management system consists of two single-core channel gates. The multi-passage management system consists of multiple single-core channel gates.

To meet different needs, this system provides multiple working modes for users, including Two-way Swipe, In Free & Out Swipe, In Swipe & Out Free, Two-way Free, and test mode, etc.

2 Installation of the Product

2.1 Installation Notes

1. It is recommended that the tripod turnstile must be installed on a horizontal solid platform with a height of 50mm to 100mm.
2. It is also recommended that the tripod turnstile should not be used in a corrosive environment.
3. Make sure the protective ground wire of the system is reliably connected to avoid personal injuries or other accidents.
4. The equipment shell is made of stainless steel. You may gently remove any dirt or dust on the surface with a soft and smooth fabric. Do not scrub the surface with hard objects. Do not rinse the device with water, otherwise there may be a short circuit or damage to the equipment.
5. 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 tripod turnstile. Any loose nuts, screws and other fasteners should be tightened in time to avoid tripod turnstile failures caused by longer operations.

2.2 Installation Position of the Tripod Turnstile

The installation position depends on the size of the tripod turnstile. If the tripod turnstile is installed near a wall, a distance of 100mm between the tripod turnstile and the wall needs to be reserved for ease of opening the top cover of the machine to perform maintenance and adjustment. The TS5000A may either form one channel, or form dual channels with two TS5000A tripod turnstiles, as shown in Figure 2-1.

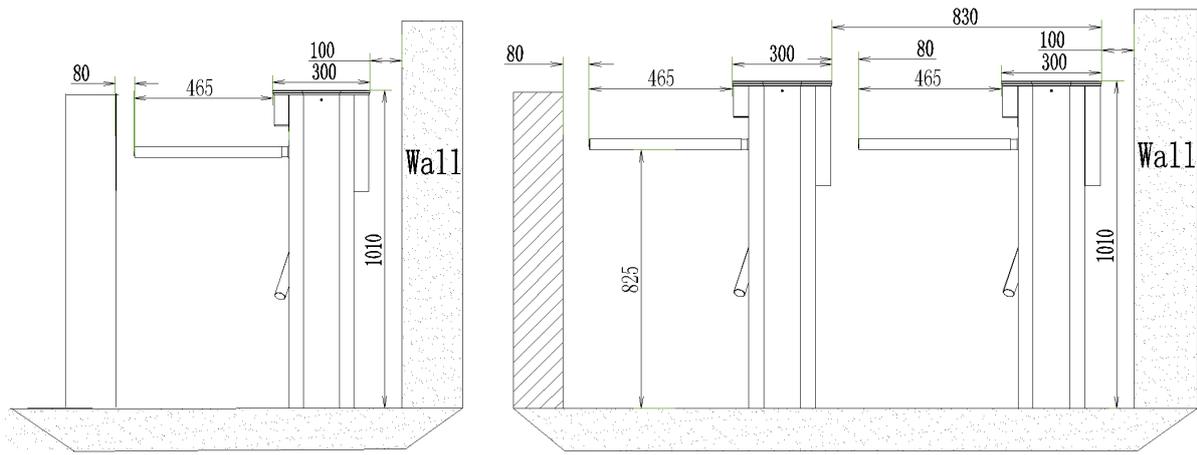


Figure 2-1 TS5000A Single channel and dual channel

2.3 Cables Installation and Fixing

For the outlets of the concealed cables, please refer to the drawing indicating the cable holes. The input voltage for this tripod turnstile is AC110-220V, and its master and slave are connected with an 5-core cable (signal) and a 2-core cable (power). When installing the tripod 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 to prevent the ingress of water into the conduit.

TS5000A series installation holes and cabling positions are as shown in Figure 2-2:

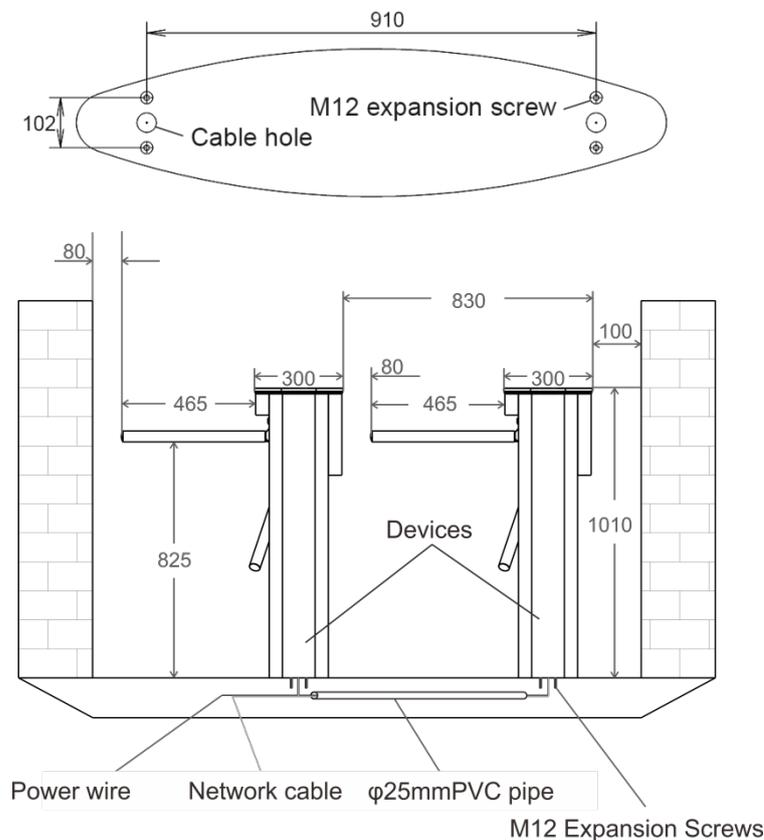


Figure 2-2

Mark the anchor hole at the centre of the stand, and the edge of the chassis base on the ground according to the size as shown in Figure 2-2. Use a hammer drill to drill M12 screw holes, then install the screws. Place the tripod turnstile according to the size and respective installation position as shown in the figure before installation and fixing. Connect the turnstile to the power supply and perform a power-on test. If the test is passed, tighten the screws. It is recommended to mark a warning line on the ground, as shown in Figure 2-3, after installing the device to remind the pedestrian to stand behind the line when swiping the card.

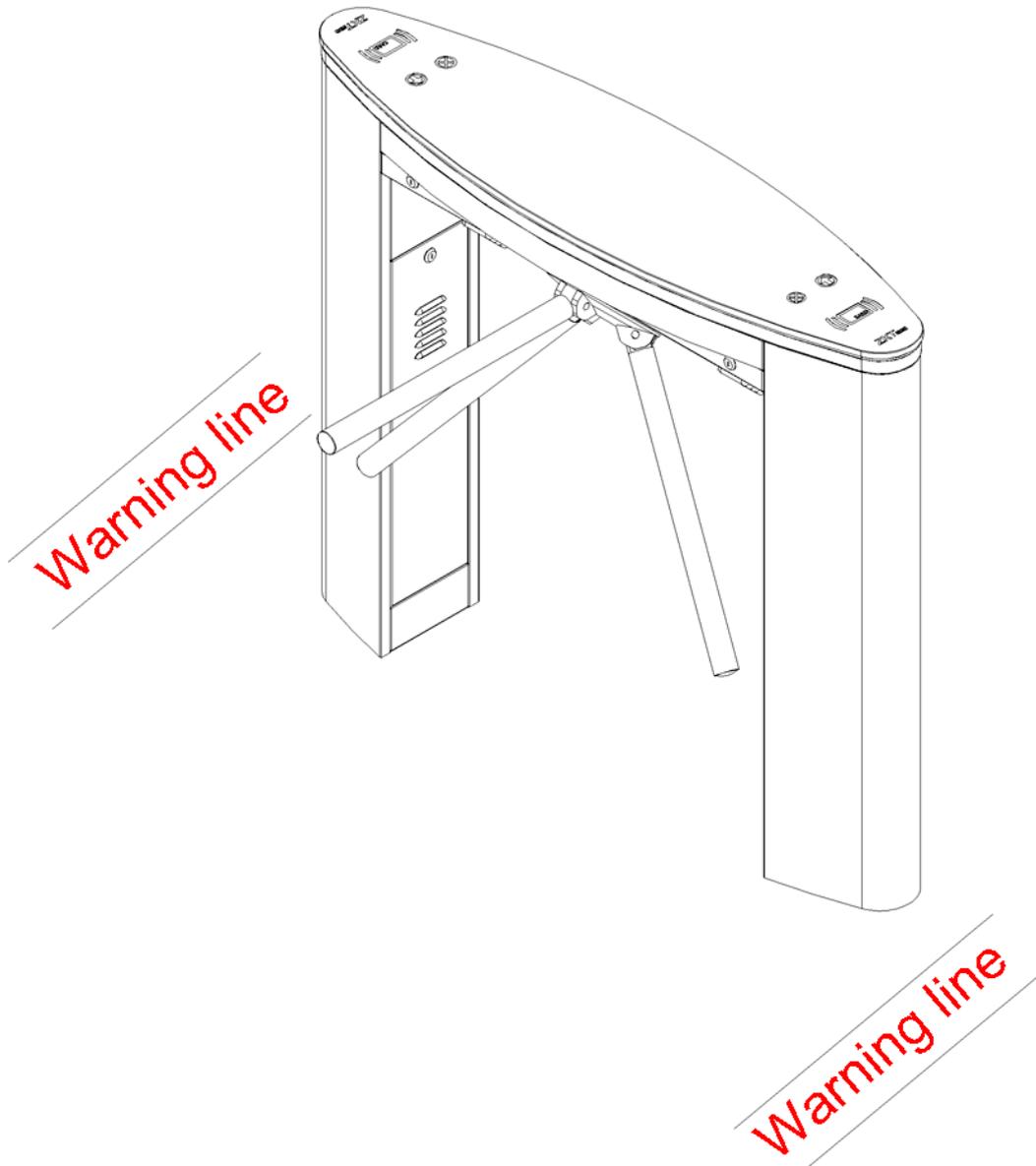


Figure 2-3

Left swipe, Right free

Left free, Right swipe

Two-way free

Left swipe, Right prohibit

Left prohibit, Right swipe

Left free, Right prohibit

Left prohibit, Right free

Two-way prohibit

3. Opening duration (Press 'ENT' to modify)

After the gate is opened, it will automatically close if no one passes through within a certain time duration. The value ranges from 5 to 60 (The default value is 10 seconds).

4. Volume setting

Disable.

1~16 (The default is 5).

5. Exchange voice of door opening

No (Default).

Yes.

6. Entrance and exit direction setting

Direction setting: left is the exit, right is the entrance (Default).

Left is the entrance , right is the exit.

7. Reset counter

Exit counter (Default).

Entry counter.

Both.

8. System working mode

Working mode (Default).

Test mode.

Factory reset.

9. Version

V3.0.2

3.3 Functions introduction of wiring and terminal

1. Wiring diagram

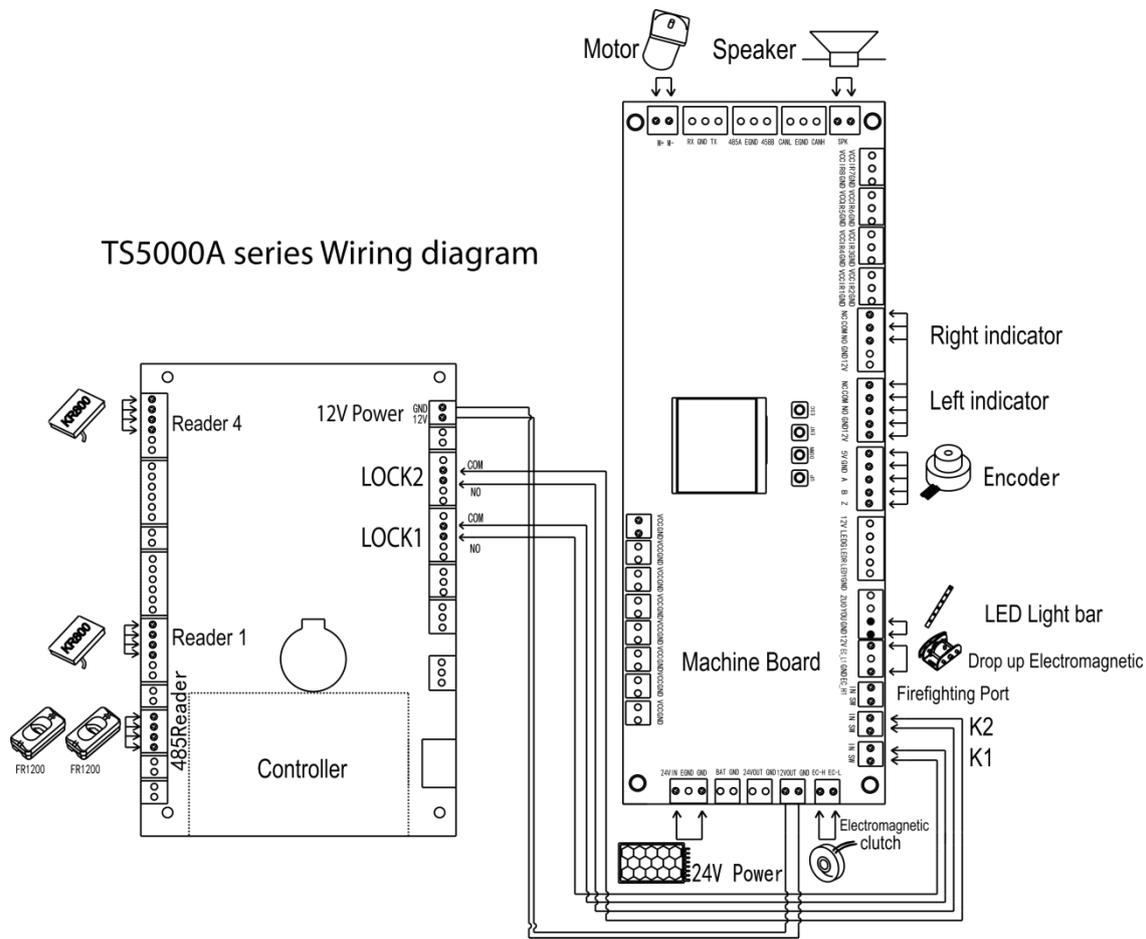


Figure 3-1

2. Functions of terminals at each zone:

System power input: The city power provides a 24V voltage to the master panel through the power adapter.

Access control power supply: The city power provides a 12V voltage to the access controller through the power adapter.

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

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

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

Speaker: Used for alarm notification.

Drop up Electromagnetic: Controls the barrier to up and down.

4 Troubleshooting

Sr. NO	Descriptions	Solutions
1	No response from direction indicator or indication is not correct.	Indicator lights may be broken or the contact is poor. Please open the top lid of the device and check.
2	Arms are not lifted when the device is powered on or the arms cannot drop when power off.	Check to see if the wiring or the screws is loose.
3	Turnstile's arm is not centering properly.	Please refer to the operation instructions for more information.

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. Use a soft cloth to wipe off the dust on the sprayed or spray-painted chassis. If there are scratches on the exterior, use the same color paint to repair it.

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 movement mechanism is running smoothly. Check whether the screws of the connecting parts are loose, and tighten them if they are loose.

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.

The upper lid must be removed for maintenance of the movement, the LED light bar, and backlight. After turning the door lock, lift the upper cover to perform maintenance of the components, as shown in Figure 5-1.

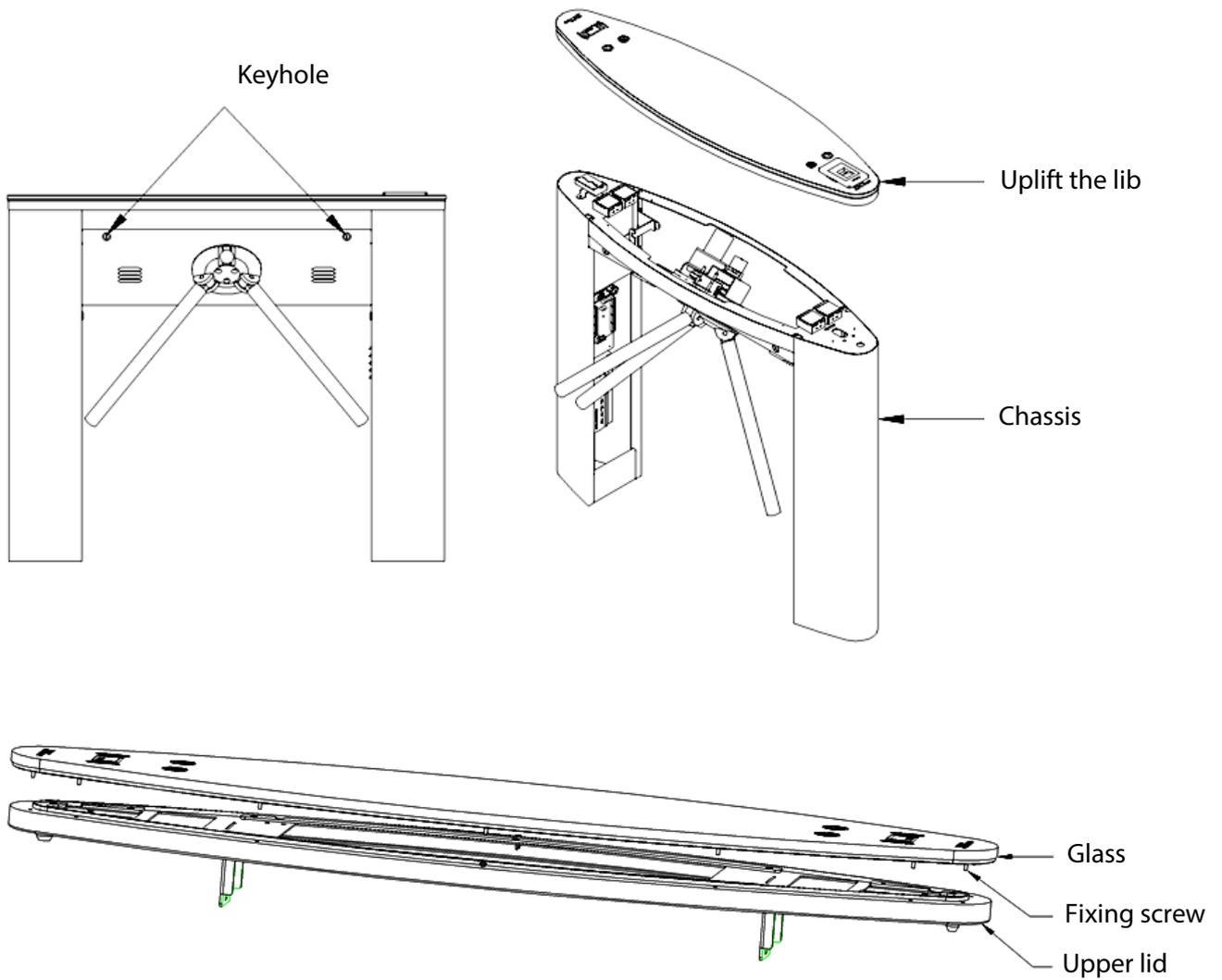


Figure 5-1

Attention: The maintenance of the above-mentioned tripod turnstile 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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