

User Manual

TS2000 Pro Series Tripod Turnstile

Date: March 2021

Doc Version: 2.2

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.



For further details, please visit our Company's website

<https://www.zkteco.in/>

Copyright © 2021 ZKTECO CO., LTD. All rights reserved.

Without the prior written consent of ZKTeco, no portion of this manual can be copied or forwarded in any way or form. All parts of this manual belong to ZKTeco and its subsidiaries (hereinafter the "Company" or "ZKTeco").

Trademark

ZKTeco is a registered trademark of ZKTeco. Other trademarks involved in this manual are owned by their respective owners.

Disclaimer

This manual contains information on the operation and maintenance of the ZKTeco equipment. The copyright in all the documents, drawings, etc. in relation to the ZKTeco supplied equipment vests in and is the property of ZKTeco. The contents hereof should not be used or shared by the receiver with any third party without express written permission of ZKTeco.

The contents of this manual must be read as a whole before starting the operation and maintenance of the supplied equipment. If any of the content(s) of the manual seems unclear or incomplete, please contact ZKTeco before starting the operation and maintenance of the said equipment.

It is an essential pre-requisite for the satisfactory operation and maintenance that the operating and maintenance personnel are fully familiar with the design and that the said personnel have received thorough training in operating and maintaining the machine/unit/equipment. It is further essential for the safe operation of the machine/unit/equipment that personnel has read, understood and followed the safety instructions contained in the manual.

In case of any conflict between terms and conditions of this manual and the contract specifications, drawings, instruction sheets or any other contract-related documents, the contract conditions/documents shall prevail. The contract specific conditions/documents shall apply in priority.

ZKTeco offers no warranty, guarantee or representation regarding the completeness of any information contained in this manual or any of the amendments made thereto. ZKTeco does not extend the warranty of any kind, including, without limitation, any warranty of design, merchantability or fitness for a particular purpose.

ZKTeco does not assume responsibility for any errors or omissions in the information or documents which are referenced by or linked to this manual. The entire risk as to the results and performance obtained from using the information is assumed by the user.

ZKTeco in no event shall be liable to the user or any third party for any incidental, consequential, indirect, special, or exemplary damages, including, without limitation, loss of business, loss of profits, business interruption, loss of business information or any pecuniary loss, arising out of, in connection with, or

relating to the use of the information contained in or referenced by this manual, even if ZKTeco has been advised of the possibility of such damages.

This manual and the information contained therein may include technical, other inaccuracies or typographical errors. ZKTeco periodically changes the information herein which will be incorporated into new additions/amendments to the manual. ZKTeco reserves the right to add, delete, amend or modify the information contained in the manual from time to time in the form of circulars, letters, notes, etc. for better operation and safety of the machine/unit/equipment. The said additions or amendments are meant for improvement /better operations of the machine/unit/equipment and such amendments shall not give any right to claim any compensation or damages under any circumstances.

ZKTeco shall in no way be responsible (i) in case the machine/unit/equipment malfunctions due to any non-compliance of the instructions contained in this manual (ii) in case of operation of the machine/unit/equipment beyond the rate limits (iii) in case of operation of the machine and equipment in conditions different from the prescribed conditions of the manual.

The product will be updated from time to time without prior notice. The latest operation procedures and relevant documents are available on

<https://www.zkteco.in/>

If there is any issue related to the product, please contact us.

ZKTeco India

Address ZKTeco Biometric India Pvt. Ltd. ,
Survey No 01/01, Outer Ring Road, Mahadevpura,
Bengaluru, Karnataka – 560048

Phone 080-68281342/48

For business related queries, please write to us at: sales@zkteco.in

To know more about our global branches, visit www.zkteco.com.

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 **TS2000 Pro Series Tripod Turnstile** product.

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

Features and parameters with ★ are not available in all devices.

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.

Table of Contents

1	TECHNICAL SPECIFICATIONS.....	6
2	ARM INSTALLATION AND EQUIPMENT TESTING.....	7
2.1	ARM INSTALLATION METHOD	7
2.2	POWER-ON TEST BEFORE THE INSTALLATION OF DEVICE	7
3	EQUIPMENT INSTALLATION	8
3.1	INSTALLATION CONDITIONS	8
3.2	CABLING	9
3.3	INSTALLATION	10
4	CABLE DIAGRAM	11
4.1	WIRED REMOTE CONTROL.....	11
4.2	WIRELESS REMOTE CONTROL★	12
5	EQUIPMENT PRECAUTIONS AND MAINTENANCE	13
5.1	PRECAUTION.....	13
5.2	MAINTENANCE	14
6	TROUBLESHOOTING.....	15
	ATTACHMENT 1 DEFAULT FACTORY SETTINGS.....	15
	ATTACHMENT 2 CONNECTION DIAGRAM OF CONTROL BOARD AND ACCESS CONTROL PANEL	16

TS2000 Pro: Tripod Turnstile.

TS2011 Pro: Tripod Turnstile with Controller and RFID Reader.

TS2022 Pro: Tripod Turnstile with Controller and Fingerprint Reader with RFID function.

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

1 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	Ingress Protection Degree	IPX4
Operating Environment	Indoor and Outdoor (shelter)	Arm Length (mm)	500
Operating Temperature	-28°C ~ 60°C	Net Weight	42kg
Operating Humidity	5% ~ 85%	Gross Weight	48kg
Flow Rate	Max 30 passages / minute	Dimension(mm) Figure 1	L = 1110, W = 280, H = 990
Input Control Signal	Dry contact	Package Size (mm)	L = 1175, W = 370, H = 1070

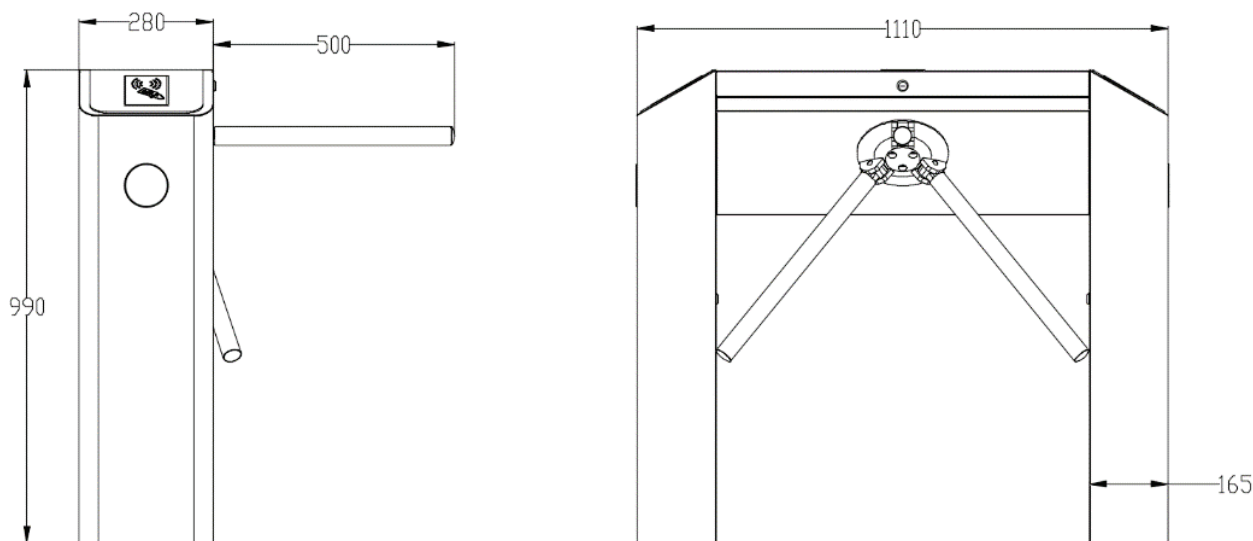


Figure 1

2 Arm Installation and Equipment Testing

2.1 Arm Installation Method

In order to keep the arm won't be damaged during the transportation. The arm wasn't install on device.

Installation procedure

Put arm kit into the hole of cabinet, make sure the screw holes match with mechanism core, then tighten 3 hex screws, as shown in Figure 2-1.

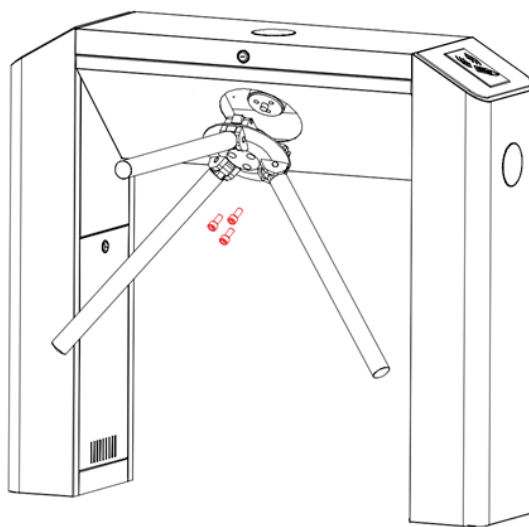


Figure 2-1

2.2 Power-on Test before the Installation of Device

1. Please make sure that the power requirements are strictly met to avoid permanent damage to the unit. Input voltage: AC 100~120V /200~240V.

Note: The tripod turnstile must be connected to the ground (earth).

2. Power on and wait 30s for the tripod turnstile to finish the self-check program.
3. Lift the arms manually, as shown in Figure 2-2.
4. Check whether the tripod turnstile and the LED indicators work properly.

If there is any problem, please contact the supplier.

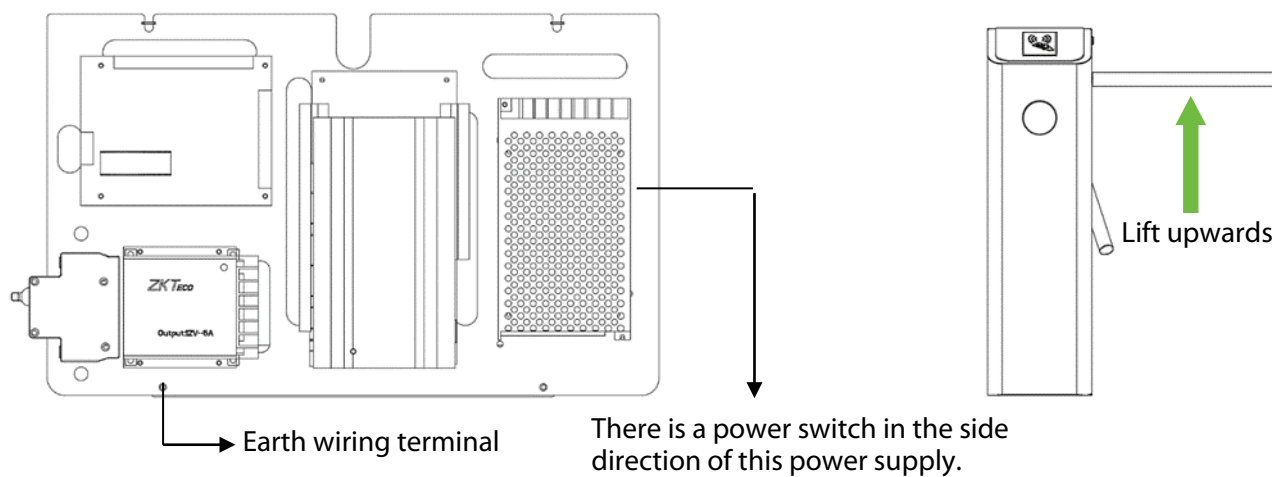


Figure 2-2

3 Equipment Installation

3.1 Installation Conditions

The equipment must be installed on concrete ground, ensuring that expansion bolts can be secured firmly.

You are suggested to install an assistant framework or fence to form a passageway, as shown in Figure 3-1.

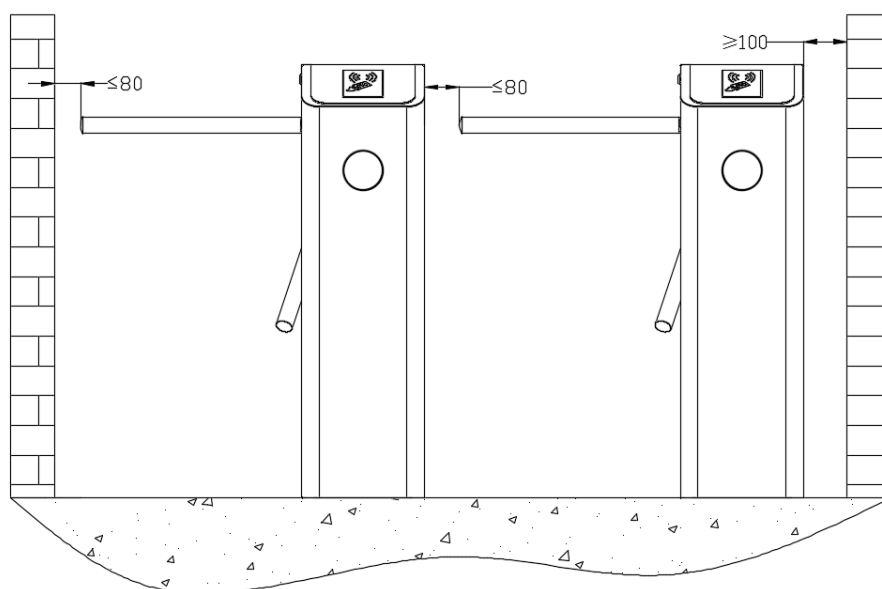


Figure 3-1

Notes:

1. When installing the tripod turnstile against the wall, please reserve at least 100 mm space in order to open the cover for future adjustment and maintenance.
2. The space at the end of the arm shall not be greater than 80 mm (see Figure 3-1).
3. Setting a warning line for card swiping (see Figure 3-2). A warning line is suggested to prompt users to swipe cards in a distance, which would greatly reduce the probability of equipment failure caused by improper operations.

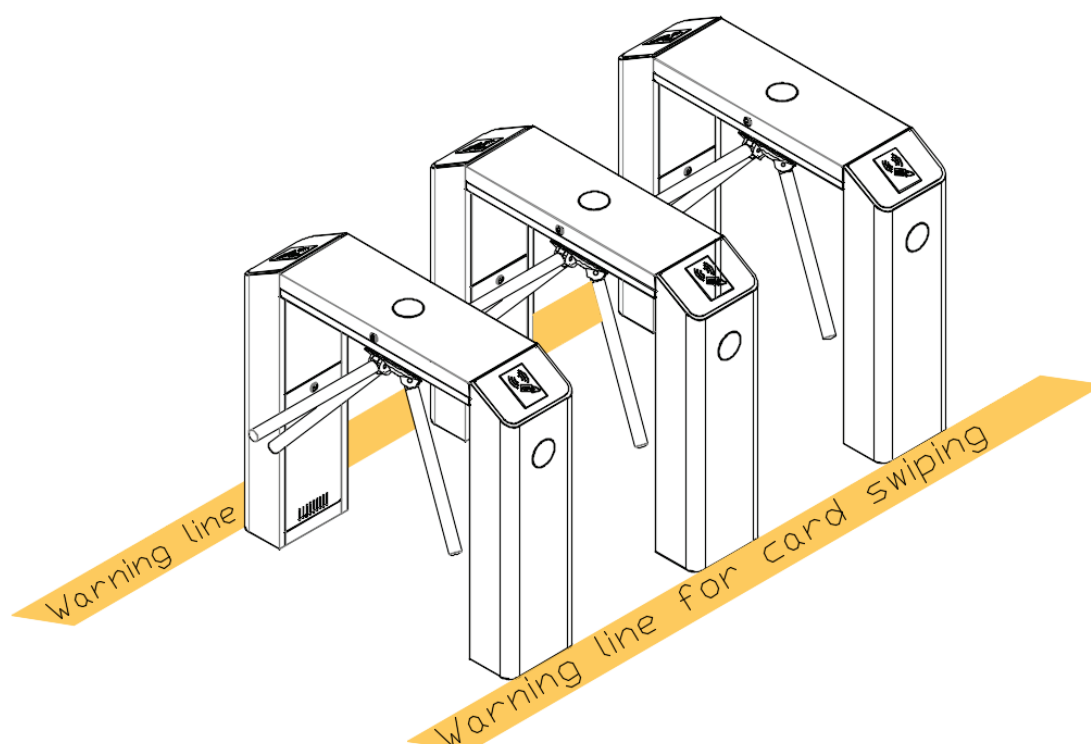


Figure 3-2

3.2 Cabling

There are inlets in the bottom plate for cabling, as shown in Figure 3-3, the unit is millimeter. Power supply and communication wire should go through the inlet. Cable protection covers are suggested to use if it is surface mounted.

Warning: The tripod turnstile must be connected to the ground (earth), there is wiring interface near the power switch.

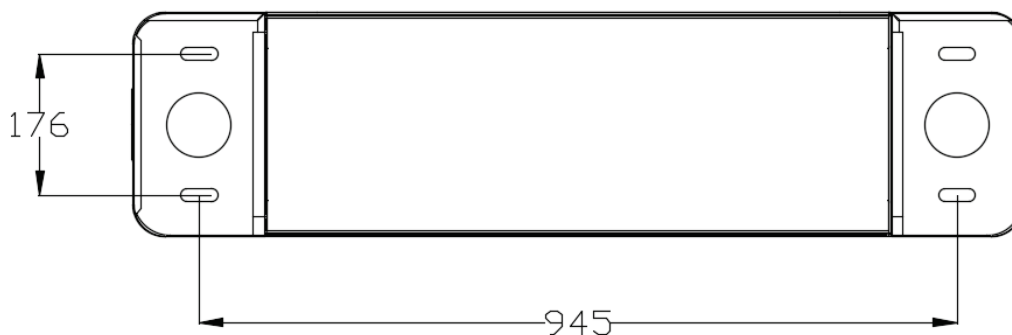


Figure 3-3

3.3 Installation

1. Drill holes.

Drill holes based on the locations of holes as shown in Figure 3-3.

2. Fix the mounting plate to its original position.

Placing the mounting plate properly and apply screw securing glue on the surface and the threads of the expansion bolts, install four expansion bolts to secure the mounting plate, and use a horizontal ruler to test the levelness of the mounting plate. If the mounting plate is not level, adjust it by the gaskets provided. Note that all the four expansion bolts must be installed properly, as shown in Figure 3-4.

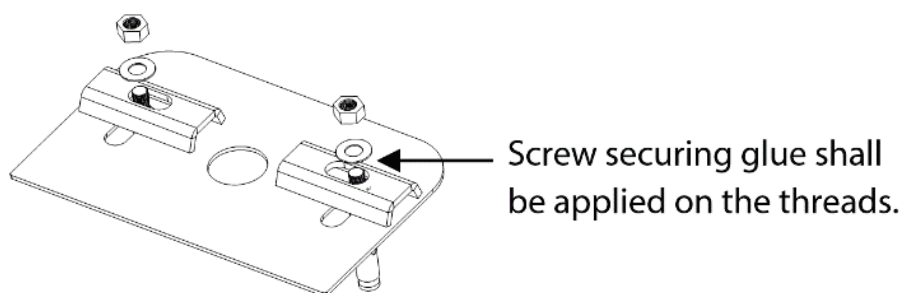


Figure 3-4

3. Put the turnstile on the mounting plate and tighten the screws. Apply screw securing glue before using and putting gaskets on the screws to adjust the direction of the turnstile. If the tripod turnstile is not level, you can place gaskets to adjust, as shown in Figure 3-5.

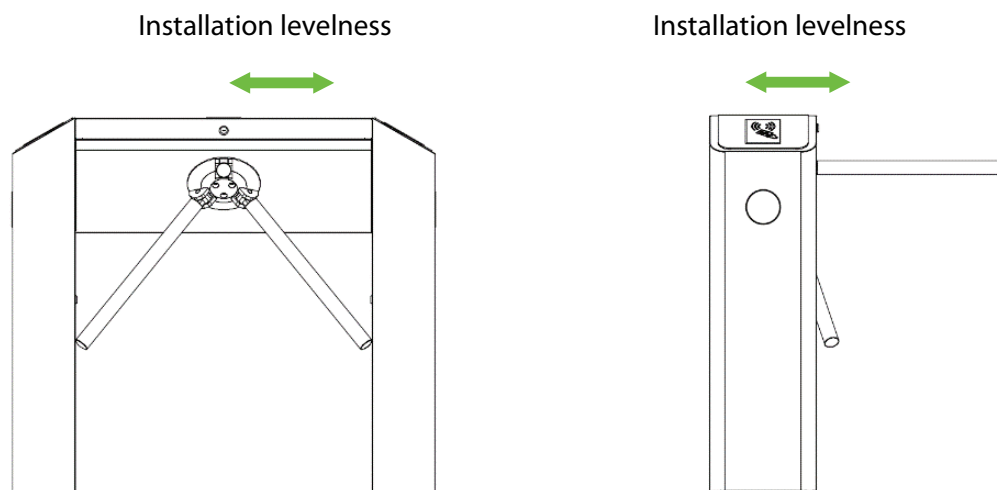


Figure 3-5

4 Cable Diagram

4.1 Wired Remote Control

Dial code description:

The DIP switch is divided in eight dial codes from KE-1 to KE-8. Move the switch up to turn ON and down to OFF.

Description of function Setting:

*Dial 0 to turn off

*Dial 1 to turn on

Dial code function item:

Unmanned passage time(KE-1,KE-2,KE-3):

Switch Status	Time Period
000 (OFF OFF OFF)	5S (Default)
001 (OFF OFF ON)	10s
010 (OFF ON OFF)	15s
011 (OFF ON ON)	20s
100 (ON OFF OFF)	30s

101 (ON OFF ON)	40s
110 (ON OFF ON)	50s
111 (ON ON ON)	60s

Memory Swipe Mode(KE-6):

Dial 1(ON) to turn on.

Dial 0(OFF) to turn off.

Turn on Alarm Mode (KE-8)

Dial 1(ON) to turn on.

Dial 2(OFF) to turn off

4.2 Wireless Remote Control★

To code:

1. First, power the controller of the tripod turnstile.
2. Short press the learning button on the controller, and a light corresponding to the button will flash slowly. Then press any switch on the remote control for acquiring the information. After the successful operation, the light turns off.

Clear mode:

Long press the learning button on the three roller gate controller for 3 seconds. The learning light stays on for a while then turns off indicating the code is cleared successfully. The original learning remote control cannot be used again and can only be remote-controlled by the code again.

Please read the **Remote Control of Tripod Turnstile User Manual** to get more information about the two types of remote controls.

5 Equipment Precautions and Maintenance

5.1 Precaution

1. It is recommended to purchase optional accessories to use in outdoor environment.
 - 1) It shall install optional cooling fans for the equipment if the working temperature is often above 50 °C.
 - 2) It is equivalent to IP54 waterproof under proper installation. However, it cannot work in the region that may suffer typhoon.
 - 3) If the temperature is -30°C, a heating plate is suggested to install. It might need multiple times to power on while getting hot automatically through the self-check program.
 - 4) The service life of this equipment may be shortened if it works outdoors in coastal areas or a region prone to acid rain.
2. If the power and signal cables are connected properly, this equipment can be immersed in water of 250 mm deep, but it must not be powered on for operating when it is immersed in water.
3. It is highly recommended that a card swiping warning line to set for prompting passers-by to swipe cards properly and a reasonable passage width shall be set to prevent passers-by from squeezing in illegally.
4. It is recommended that a warning sign is placed at a conspicuous position, and prompt: **"Please swipe your card outside the warning line and pass in order. Thank you!"**

The maximum tolerance of the tripod turnstile's arms

Please note that the maximum stress tolerance at the center of the arm is 80kg and at the ends of the arm is 40kg (See Figure 5-1).When the impact force on the tripod turnstile reaches the designed limit, the arms break down first to ensure that the whole equipment is not damaged and the passer-by is not injured.

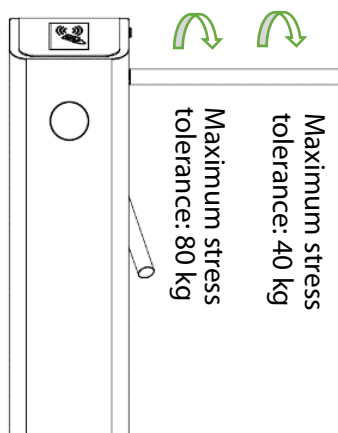


Figure 5-1

In case of emergencies

This equipment is designed to drop down arms automatically if there is power failure thus make the passage being open to the public. And there is interface in the turnstile control board to connect an emergency switch (J6 Drop Arm) which would make the tripod turnstile keep open in case of emergencies. Note after power restoration, wait for more than 6s and then lift the arms manually.

5.2 Maintenance

Forming maintenance consciousness

The tripod turnstile needs to be maintained regularly and repaired once it is damaged. It is recommended that warning signs being placed at conspicuous positions for prompting passers-by to pass in a proper way and in good order. Reasonable maintenance consciousness helps to guarantee long-term usage of the tripod turnstile.

Regular maintenance

Cleaning and protection liquid dedicated for stainless steel are recommended to wipe the outer shell of the equipment regularly. The tripod turnstile used outdoors or in an environment with lots of dust must be maintained once a year at least, for example, clean up the dust and add appropriate lubricating oil to Disk Wheel. Note regular maintenance should be performed after power off the equipment, as shown in Figure5-2.

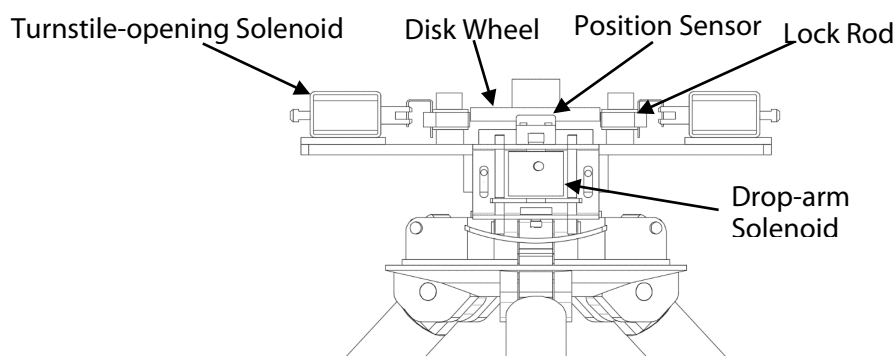


Figure 5-2

6 Troubleshooting

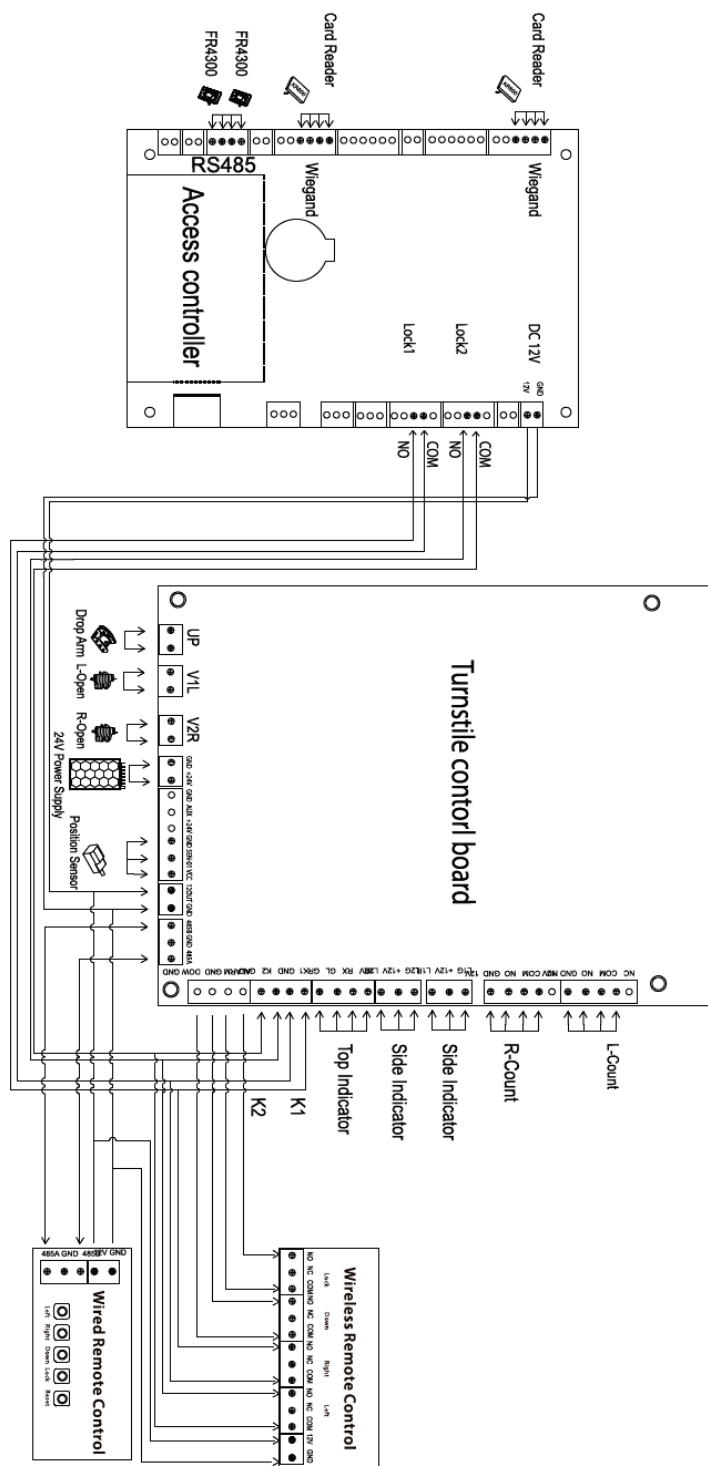
Symptom	Troubleshooting
The indicator is not lighted when the equipment is powered on.	It may be caused by the power supply or circuit. Check whether the connection cable and power cable between are damaged, or the wiring is loose.
The arms of the tripod turnstile cannot be lifted manually after the equipment is powered on.	It may be caused by the problem of relative components or drop-arm solenoid. Check whether the drop-arm solenoid is operating, and check the work status of the solenoid, as shown in Figure 5-2.
The tripod turnstile does not open after authentication.	It may be caused by lack of permission or a circuit problem. 1. Check whether the user has the permission to open the turnstile. 2. Use a multimeter to check whether the NO and COM ports of the access control system has a relay signal output. 3. Short-circuit the ports "K1, GND" and "K2, GND", if the turnstile is successfully opened, it would be the problem of controller. In this case, please refer to Attachment 2 Connection Diagram of Control Board and Access Control Panel to check the cable connection of the controller.
The turnstile allows people continue passing one-way side during the use.	1. Check the Turnstile-opening Solenoid. 2. Check the access controller 'Lock driving duration', whether set to 1s. 3. Check whether the Turnstile-opening solenoid is operating and check whether the Turnstile-opening solenoid is stuck, as shown in Figure 5-2.

Attachment 1 Default Factory Settings

No.	Function	Default
1	Lock Driving Duration	5s
2	Door Sensor	None
3	Verification Interval	1s
4	Controller Communication	TCP/IP: 192.168.1.201
5	Turnstile Opening Duration	5s
6	Passing Direction Indicator	Passing is allowed in both directions
7	Continue Passing Function	Disabled
8	Alarm Function	Disabled

Note: The Lock Driving Duration is default 5 seconds, please set to 1 second. Forbidden using an electrically charged objects to connect to any one port of Opening Signal Input, otherwise will damage the control board.

Attachment 2 Connection Diagram of Control Board and Access Control Panel



Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

ZKTeco Biometrics India Pvt. Ltd. Global R&D Centre

Survey No 01/01, Outer Ring Road, Mahadevpura,

Bengaluru, Karnataka – 560048

Phone: 080-68281342/48 | Email: sales@zkteco.in | Website: www.zkteco.in

