User Manual

TTS351L

Stainless Steel Tripod Turnstile

1. Technical Specifications

Description	Parameter
Power supply input	AC230 ± 10V
Power voltage	24 V DC
Power consumption during idle	AC : 0.07 Amp DC : 0.16 Amp
Power consumption during operation	AC : 0.02 Amp DC : 0.72 Amp
Passage width	60 cm
Response time	0.3 second
Optimal pass speed	20 to 25 person per minute
Housing / Arm	Stainless Steel
Internal mechanism	Mild Steel
Arm disc	Alloy chromed
Working temperature	-25° - 55°
IP Rating	IP 52

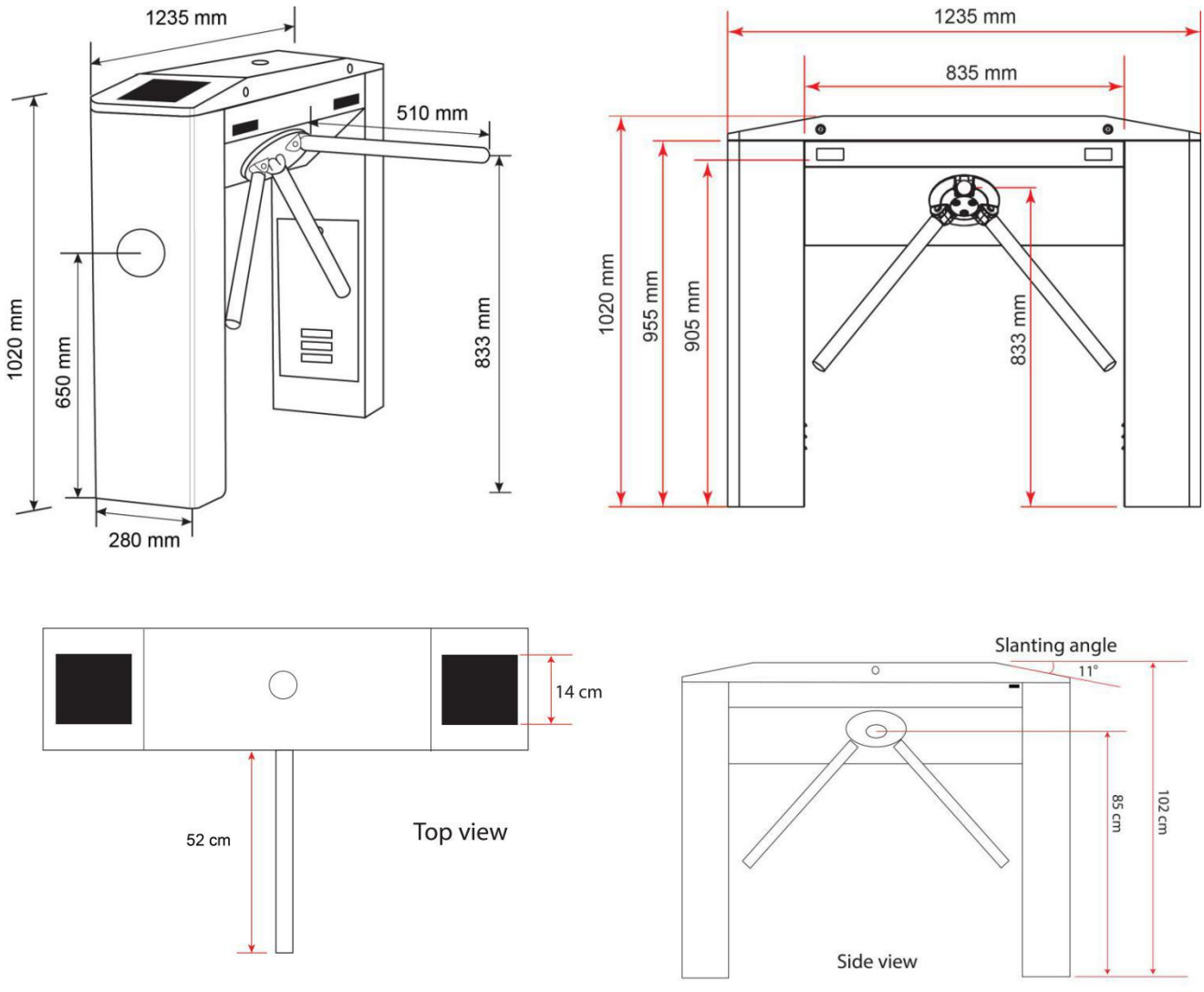

Figure 1.

2. Arm Installation and Equipment Testing

2.1 Arm installation method

1. Installation procedure
- Insert the arm to the connection points. Insert cylinder rod lock to arm holder as figure 2.0.

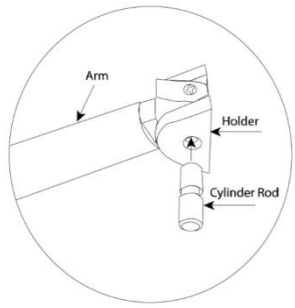

Figure 2.0

2. Fasten the cylinder rod lock with Hex key to prevent arm out off track as figure 2.1

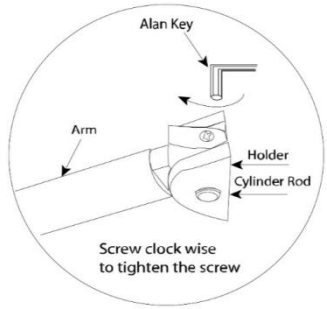

Figure 2.1

2.2 Equipment Testing

1. Please make sure the power requirement are strictly met to avoid permanent damage to the unit. Input voltage 100V ~ 240V is self-adaptive.

   Note : The tripod turnstile must be connected to Ground (Earth).
2. Power on and wait 10s for tripod turnstile to finish the self-check program.
3. Lift the arm manually, as shown in figure 2.2 and figure 2.3.
4. Check whether the tripod turnstile and LED indicator work properly.

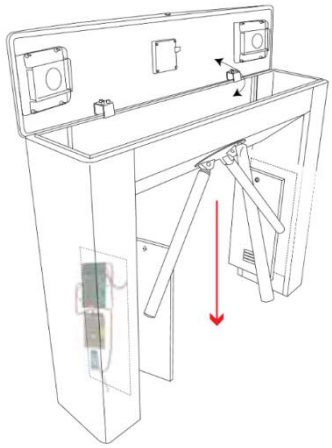

Figure 2.2

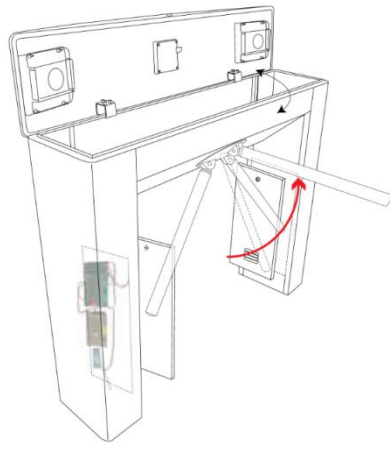

Figure 2.3

3. Equipment Installation

3.1 Installation Conditions

The equipment must be installed on concrete ground, ensuring the expansion bolts nuts can be secure firmly. See figure 3.1.

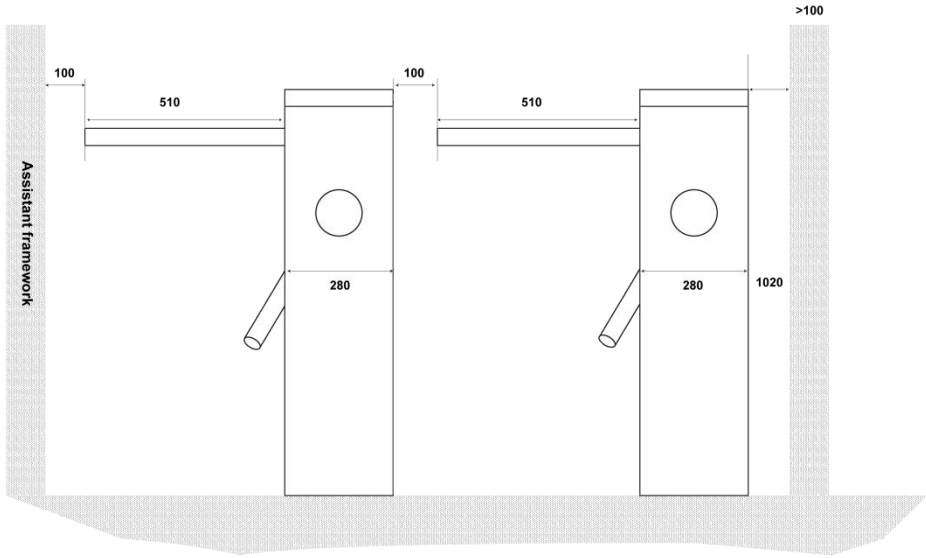

Figure 3.1

Note:

1. When installing the tripod turnstile against the wall, please reserve at least 100mm space in order to open the cover for adjustment and maintenance.
2. The space at end arm shall not be greater than 100mm.
3. Setting a warning line for card swiping (see figure 3.2). A warning line is suggested to prompt user to swipe cards in a distance, which would greatly reduce the probability of equipment failure caused by improper used.

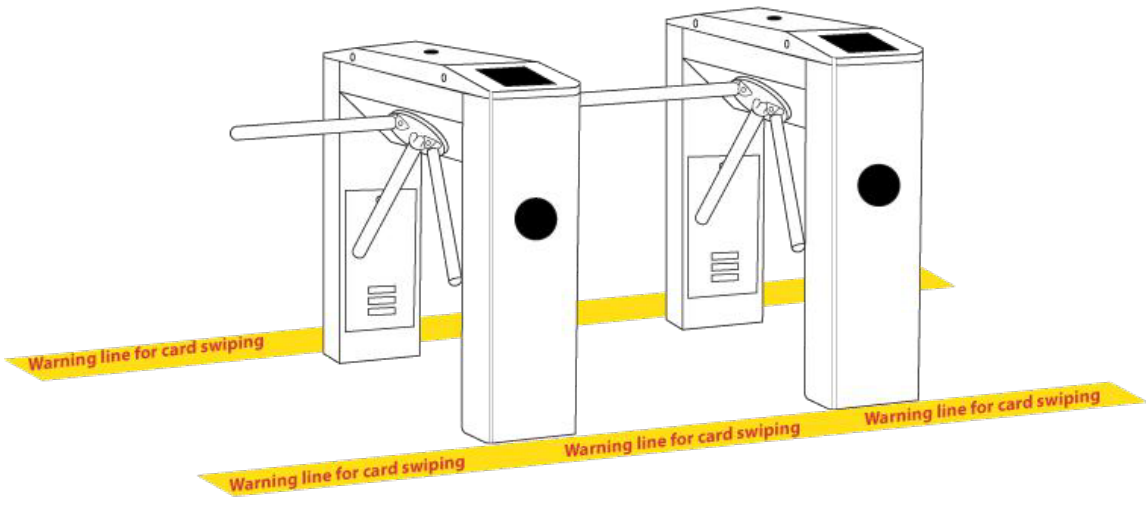

Figure 3.2

3.2 Cabling

There are inlets in the bottom for cabling, as shown in figure 3.3. Power supply and communication wire should go through the inlet. Cable protection covers are suggested to use if it surface mounted.

Warning: The tripod turnstile must be connected to EARTH, there is wiring interface near the main DB.

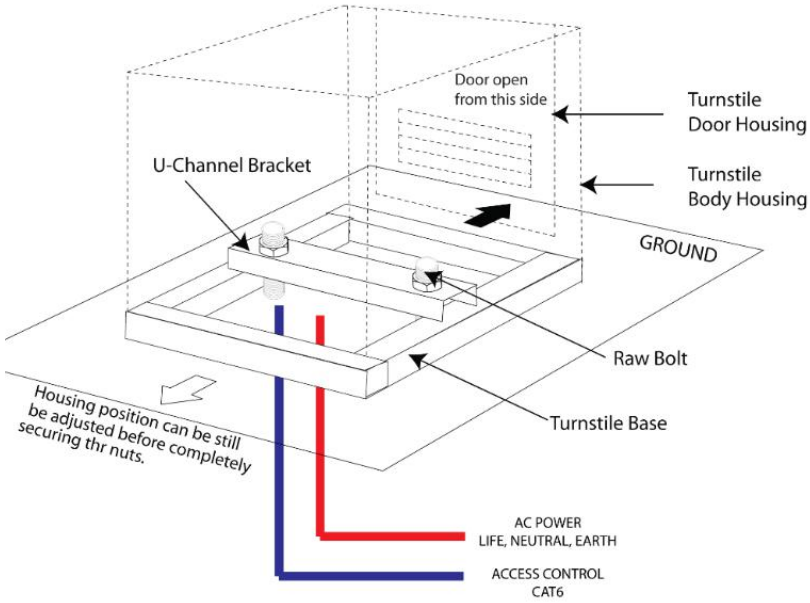

Figure 3.3

3.3 Installation

1. Drill holes

Drill holes based on the locations of the holes shown in figure 3.3.

2. Fix the based on mounting u-bracket to its original position.

Placing the mounting u-bracket properly and install four expansion bolts to secure the u-bracket, and used the horizontal ruler to test the levelness of the u-bracket. If the u-bracket not levelness adjust it by the gasket provided. Note that all the expansion bolts must installed properly, and two expansion bolts on each column, as shown in figure 3.4 and figure 3.5.

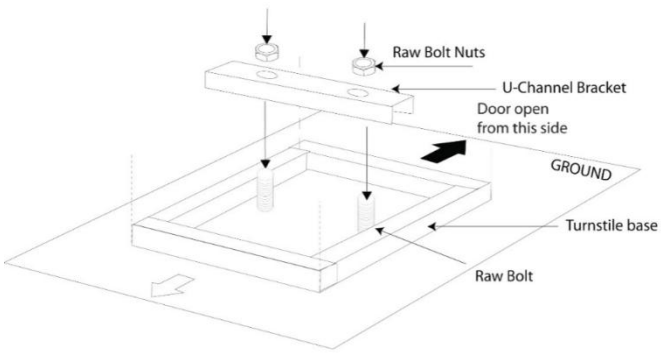

Figure 3.4

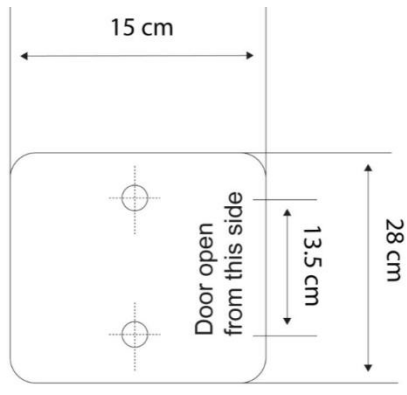

Figure 3.5

4. Cabling Diagram

4.1 Function Description Of The Turnstile Control Board

Access control need to connect to the main board, please check the content in this chapter carefully. (See figure 4.1).

Warning: The third party access control system lock relay trigger time should be 1 second or less than 1 second.

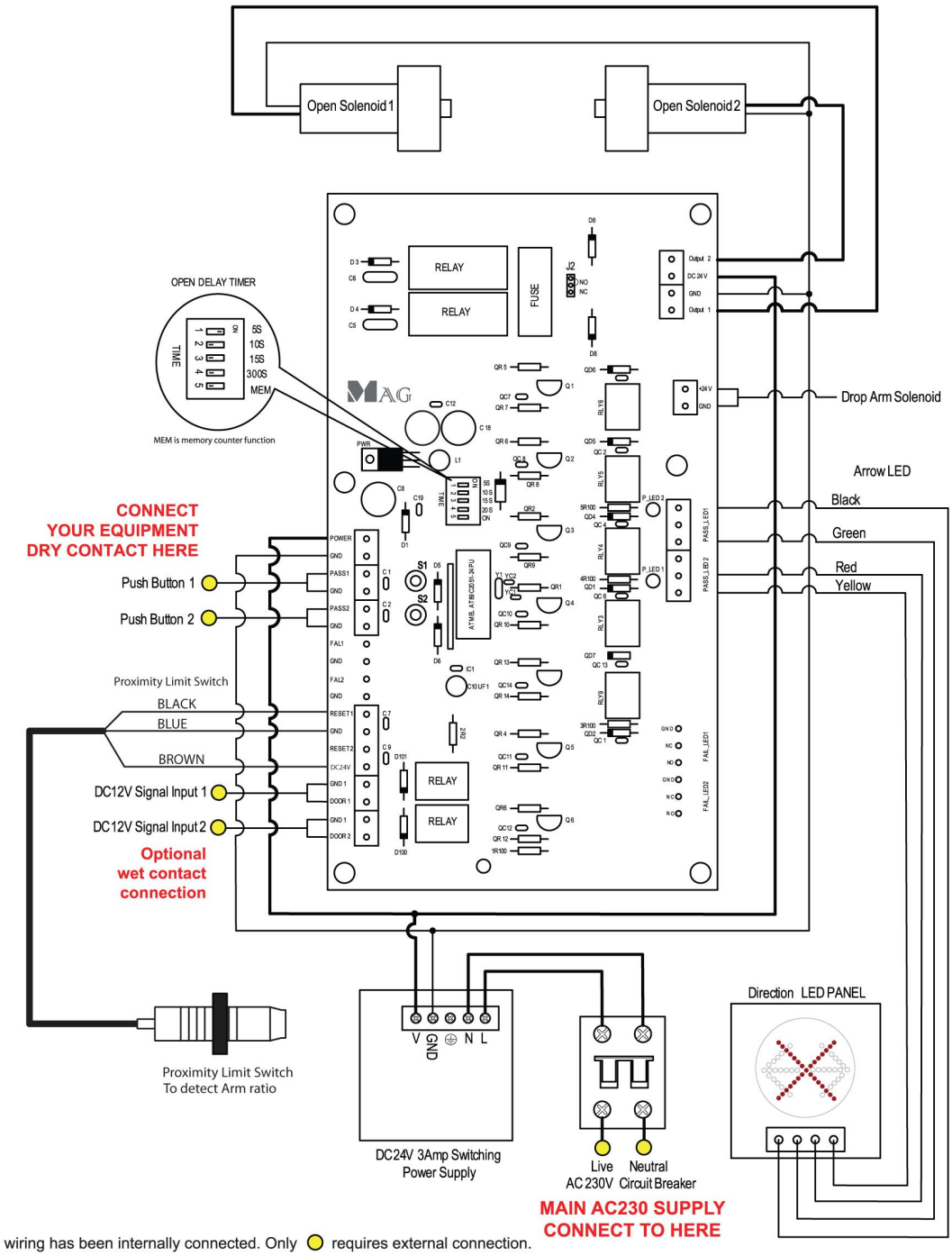

Figure 4.1

5. Mechanical Equipment

5.1 Description and Function of Mechanical Equipment

Mechanical equipment need to be regular maintenance every 6 month to prevent wear and tear of gear mechanical.

Warning: Movement mechanical part need to lubricant with grease every time regular maintenance provide. (See figure 5.1).

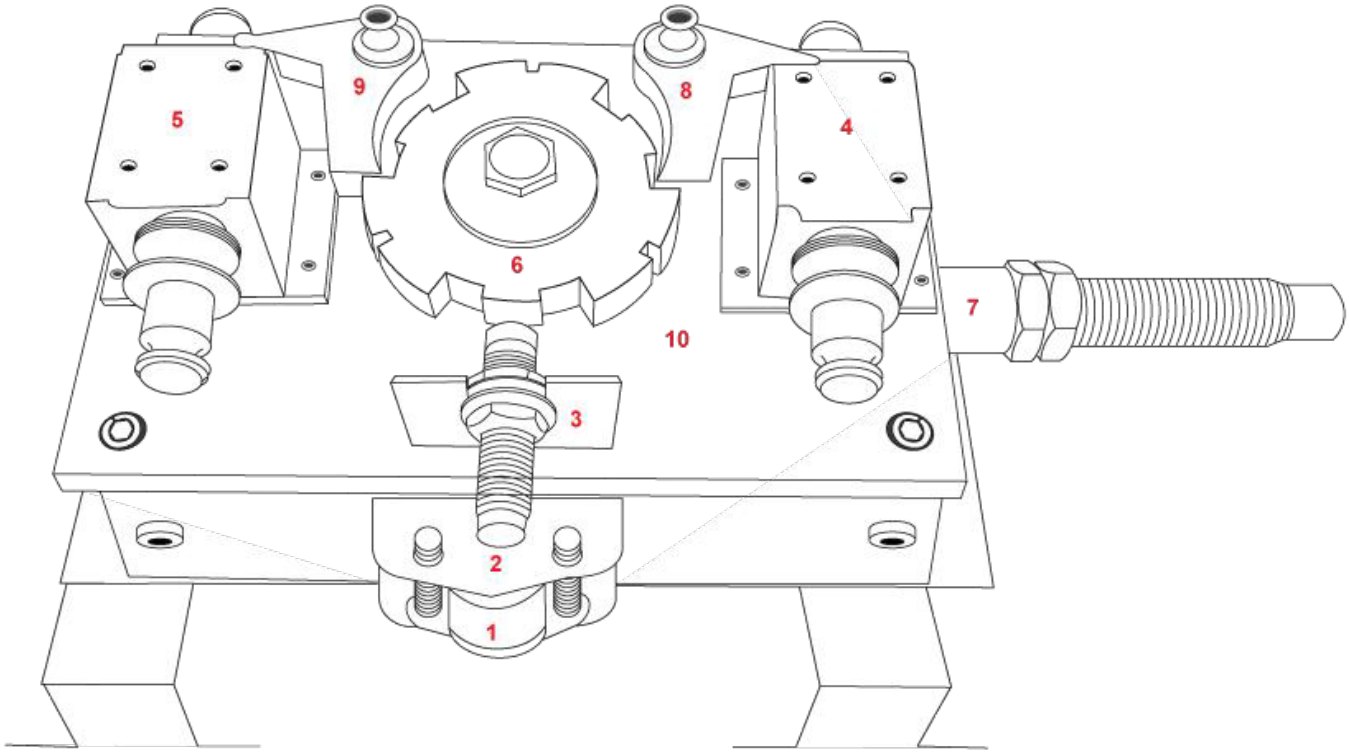

Figure 5.1

Item:

1. Drop Arm Solenoid
2. Drop Arm Solenoid Bracket
3. Reset Proximity Sensor
4. Left Lock Solenoid
5. Right Lock Solenoid
6. Lock Gear Wheel
7. Absorber
8. Left Metal Bird Lock
9. Right Metal Bird Lock
10. Mechanical Gear Box

6. Equipment Precautions and Maintenance

6.1 Precautions

1. It is recommended optional accessories to use in outdoor environment
   a. It shall install optional cooling fans for the equipment if the working temperature is often above 50° Celsius.
   b. It is equivalent to IP52 waterproof under proper installation. However, it cant work in the region that may suffer typhoon.
   c. If the temperature -30°C, a heating plate suggested to install. It might need multiple times to power on while getting hot automatically through the self-check program.
   d. The service life of this equipment may be shortened if it works outdoors in coastal areas or region prone to acid rain.
2. If the power and signal cable are connected properly, this equipment can be immersed in water of 250mm 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 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”.**

In case of emergencies

This tripod turnstile is designed to drop arms automatically if there is power failure thus make the passage being open to the public. Note: After power restoration, please wait for more than 6sec and then lift the arms manually.

6.2 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 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 lock gear wheel.

Note: Regular maintenance should be performed after power off the equipment. The absorber is used to adjust the tripod turnstile's elasticity and return speed. You can rotate it in clockwise direction to enhance and in anticlockwise direction to weaken the elasticity and return speed of the turnstile. See figure 6.2 and figure 6.3 shows the mechanical structure of equipment.

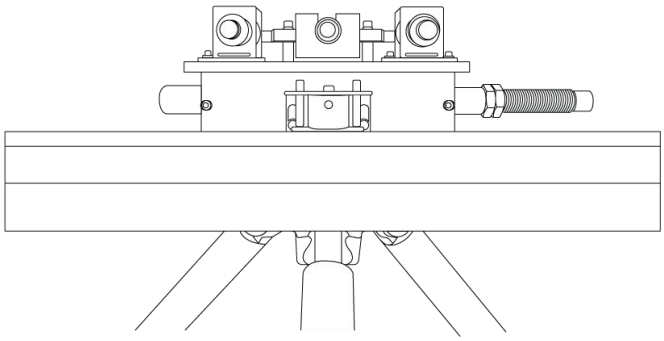

Figure 6.2

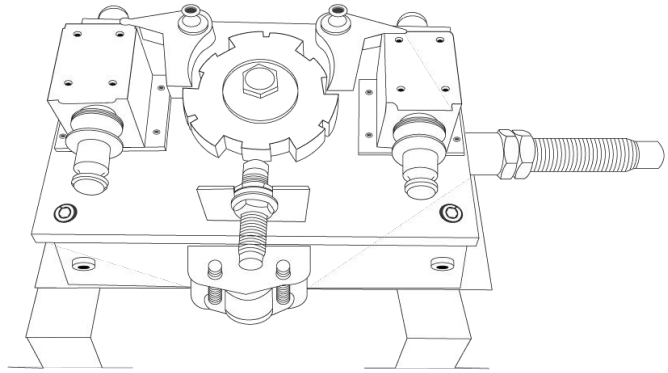

Figure 6.3

7. Troubleshooting

Symptom	Troubleshooting
The indicator LED is not lighted when tripod turnstile is power on	It may be caused by the power supply or circuit. Check whether the connection cable and power cable between area damaged or the wiring is loose.
The arms of the tripod turnstile cannot be lifted manually after the power is on	It may be caused by the problem of relative components or drop arm solenoid. 1. Check whether the drop arm solenoid is operating. Open the upper cover. Check the work status of the drop arm solenoid shown in figure 6.3 2. Check voltage output for drop arm solenoid at turnstile control board by using multimeter. As shown in figure 4.1.
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 "PASS 1,GND" and "PASS 2, GND", if the turnstile is successfully opened, it would

	be the problem of controller.
The passing is not smooth after the turnstile is opened, it encounters resistance when pushing the arms, and the arms cannot return to the home position after they rotate.	It may be caused by the absorber. Adjust the tension of absorber.
The arms drop during the use.	It may be caused by the problem of relative components or drop-arm solenoid. 1. Check whether there is any gap at the position shown in figure 7.1. 2. Check whether the drop-arm solenoid is totally closed. If not, power off the equipment and power on it again 1 minute later.

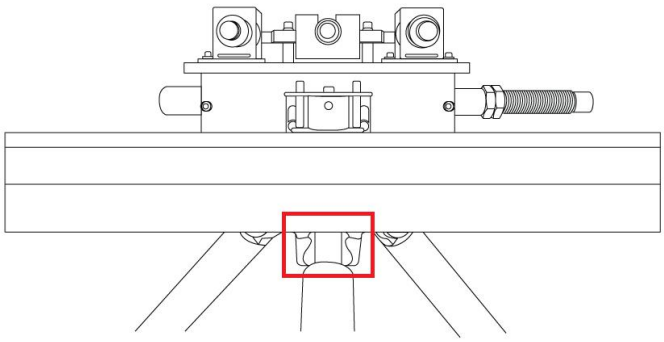

Figure 7.1

NOTE: Recommended usage are assuming 700 per day. Continuously exceeding this limitation may cause a few movable components to experience faster wear and tear than normal rate.

NOTE: Recommended perform maintenance service every 3 month. Turnstile with heavier traffic should be maintained more frequently. Serviceable internal are as follow:

a) Solenoid lock

b) Roller bearing and spring

c) **Shock absorber**