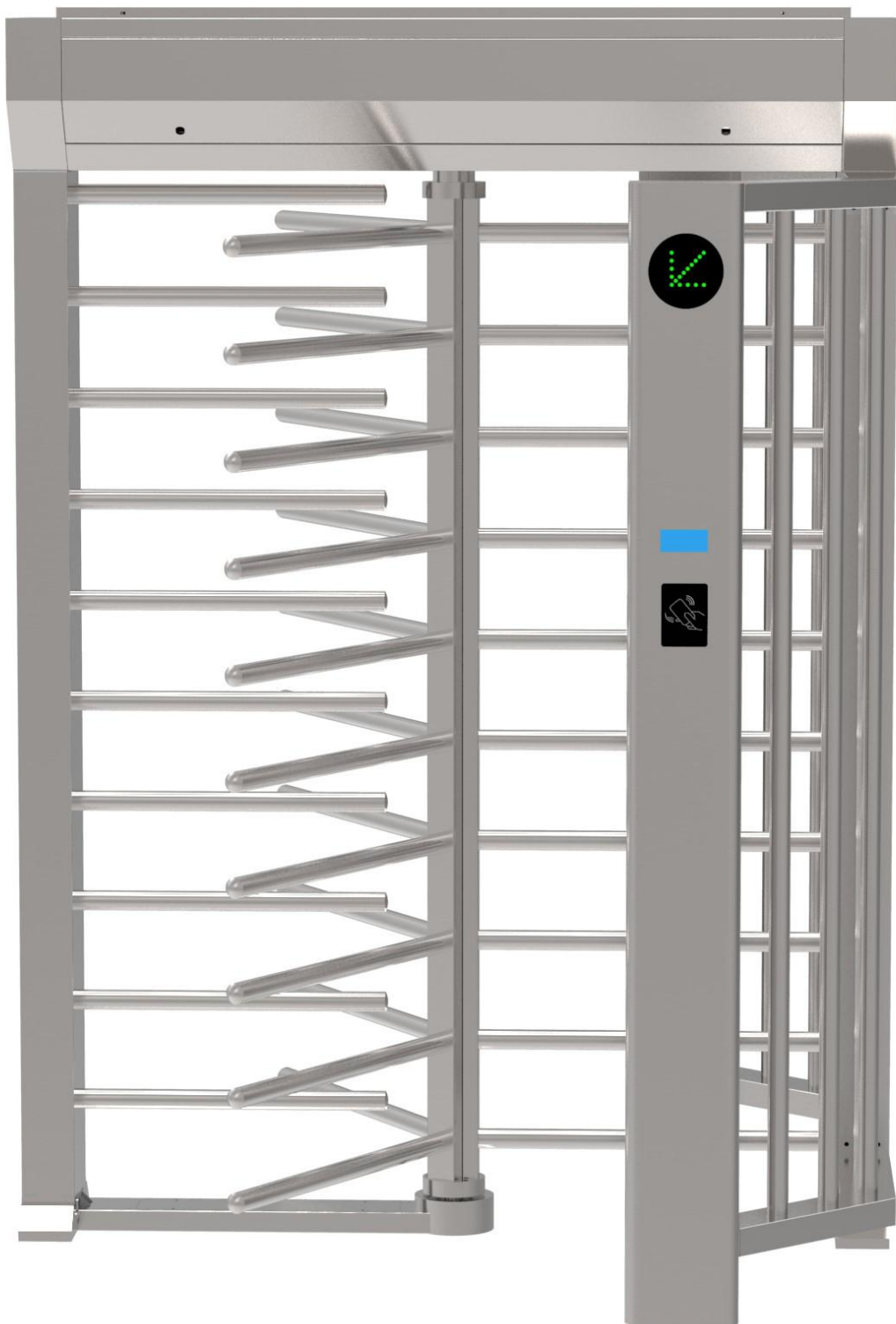


TTS721



Stainless Steel Full Height Turnstile



1. Technical Specifications

1.1 Product Parameter

Description	Parameter
Power Supply Input	AC 220V 50HZ
Power Voltage	DC 24V /50W
Open Signal	Passive signals (relay signals, dry contact signals)
Fire / Emergency Alarm	Gate open, free for passing
Passage Width	≤650mm
Response Time	≤0.2s
Optimal Pass Speed	25-30 person/min
Housing / Arm	304 Stainless Steel
Arm Rotation Angle	90/120 degree
Working Environment	Indoor and outdoor
Working Temperature	-20°C~+70°C
IP Rating	IP 52

1.2 Product Dimension

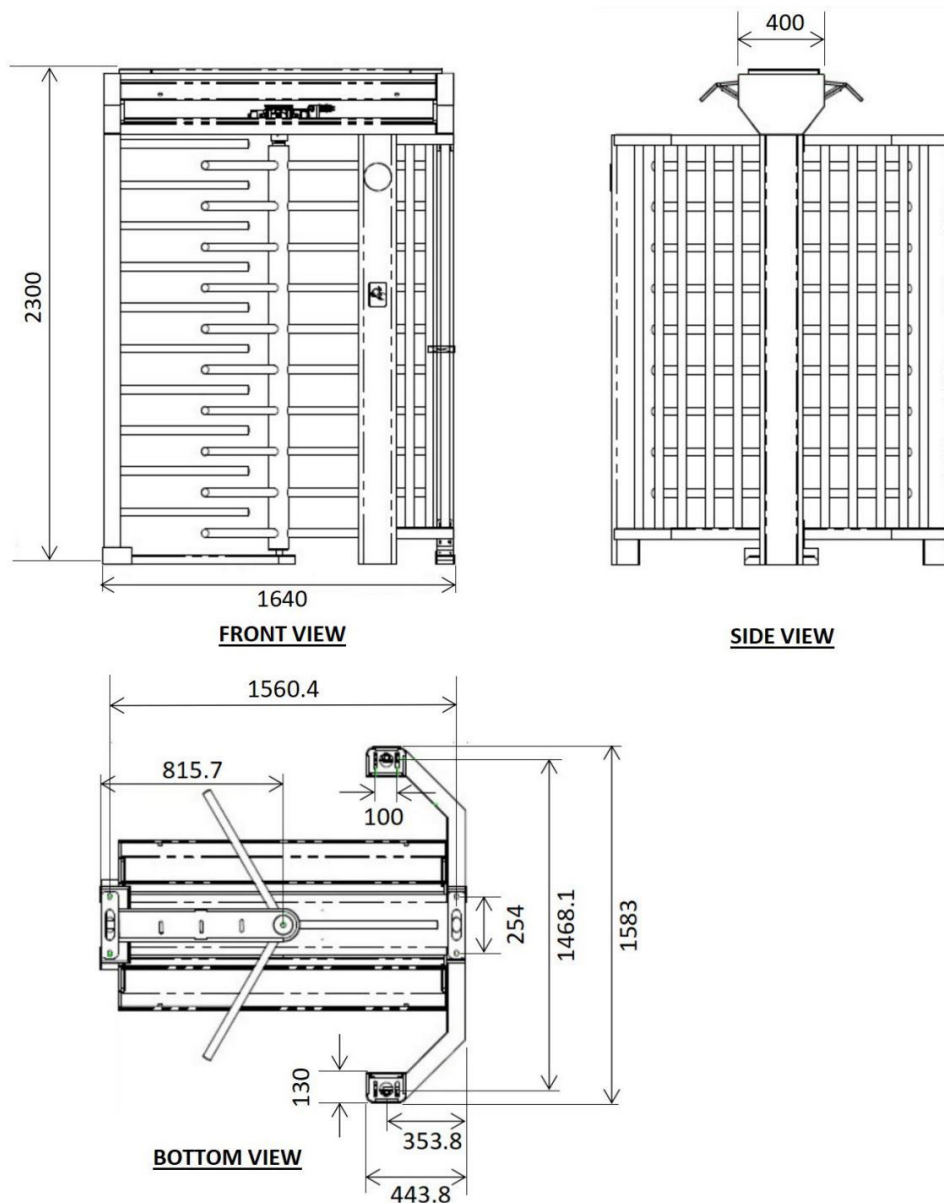
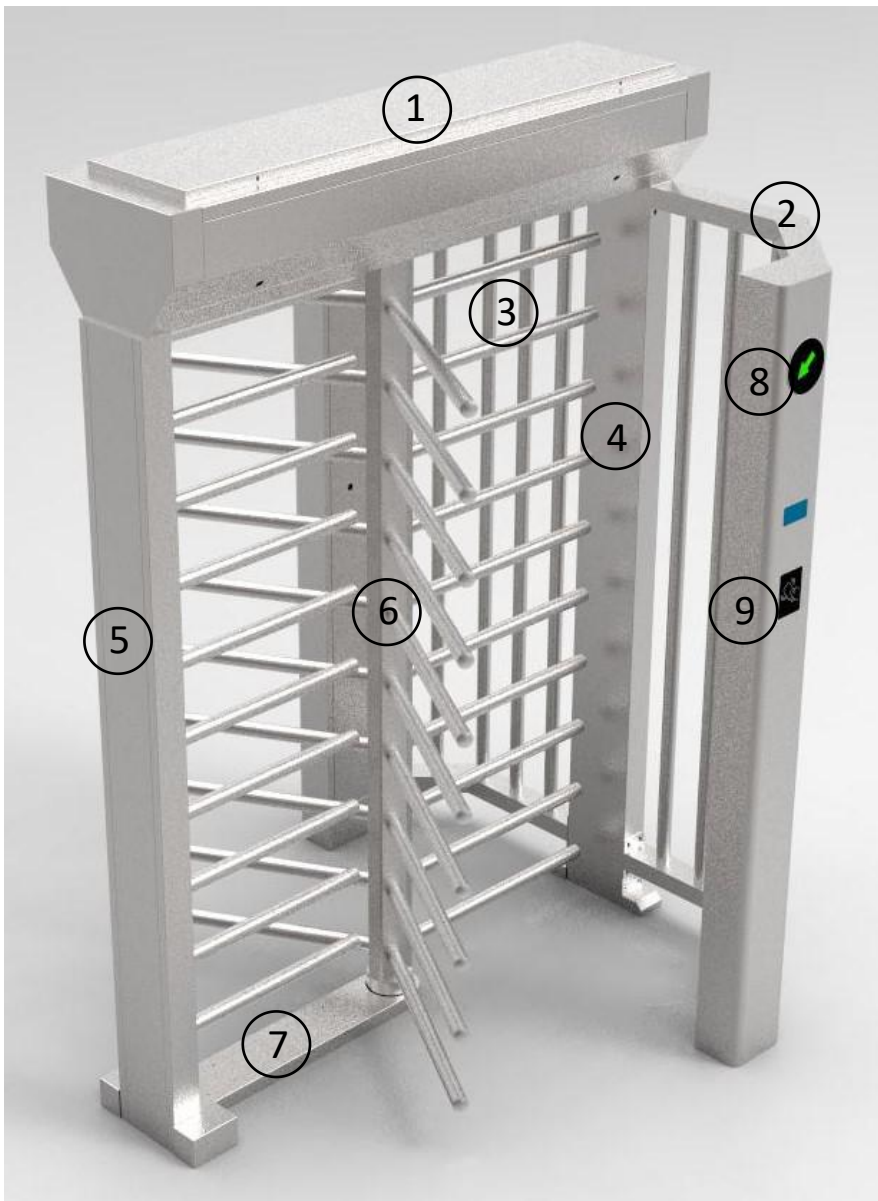


Figure 1.

1.3 Product Structure and Principle



1. Top Assembly
2. Side Fence Assembly R
3. Side Fence Assembly L
4. Side Pole
5. Side Blocking Pole Assembly
6. Central Rotation Axis
7. Base Plate
8. Side Indicator
9. Card Reader Bracket

Figure 1.1

The structure of the product is mainly composed of mechanical system and electric control system. The mechanical system is composed of top assembly, side fence assembly, side blocking pole assembly, central rotation axis and machine core.

The control system of full height turnstile is composed of reader, control panel, access controller, direction indicator:

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

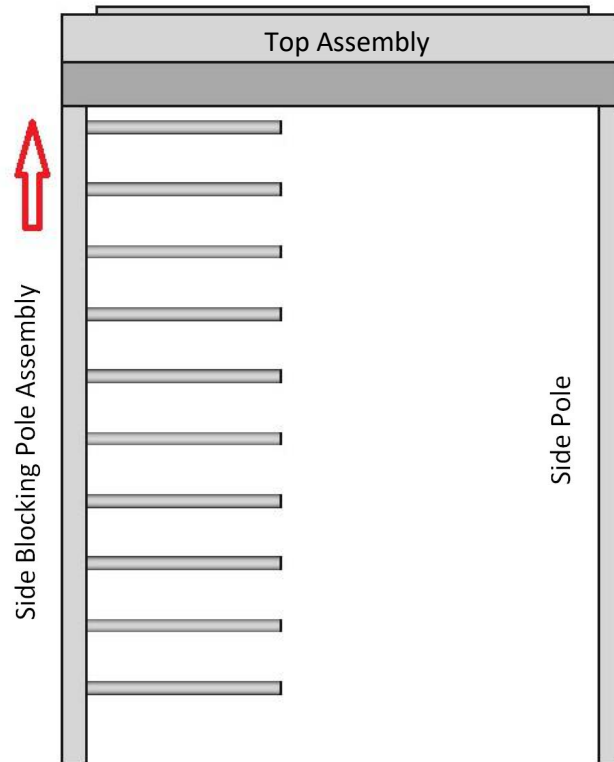
Control panel: the control panel is the system's control center that receives signals from the access controller. After the signals have been processed by the control panel, the control panel will deliver commands to the indicator.

Direction indicator: This indicator displays the current status of the sign at the channel, and directs the pedestrian to pass the channel.

2. Equipment Installation and Equipment Testing

2.1 Equipment Installation

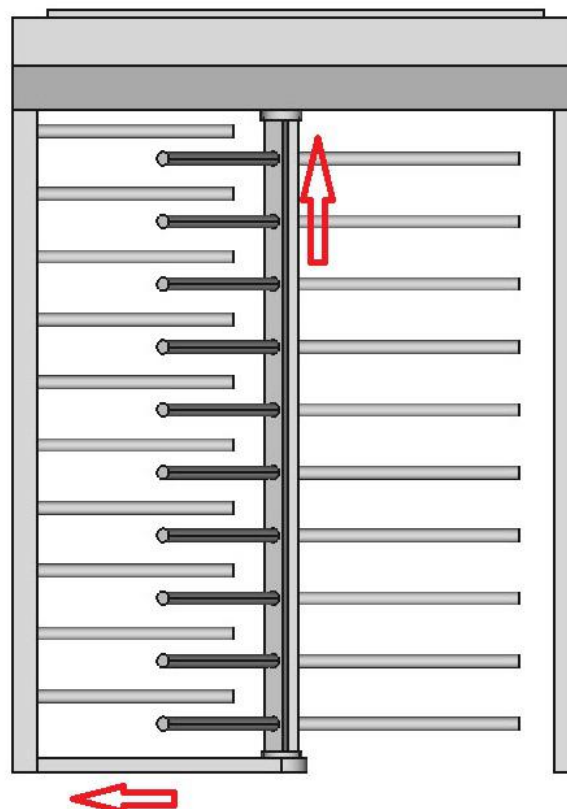
- 1) Before setup the full height turnstile, must make sure the floor is flat by using water level gauge.
- 2) Step 1 - Fix the "Side Blocking Pole Assembly" and "Side Pole" to the "Top Assembly".



Note:

Can lay down all the parts and join together. After secured the screws then only raise up the turnstile.

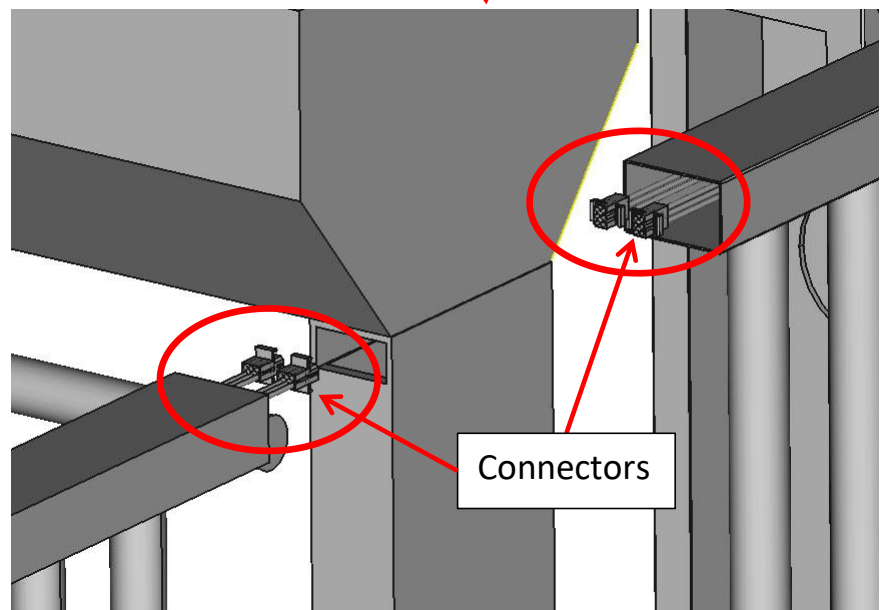
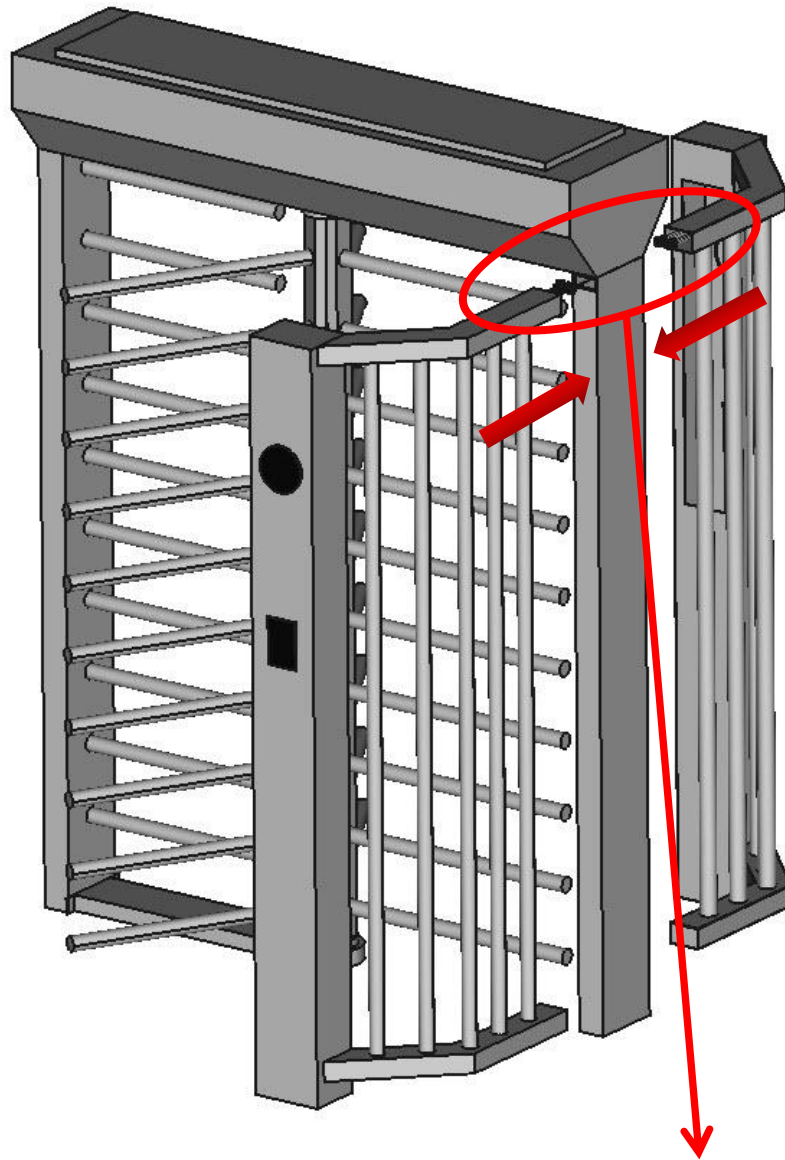
- 3) Step 2 - Fix and align "Base Plate" and "Central Rotation Axis".



Note:

Must make sure the center pole straight. Use water level gauge if necessary.

4) Step 3 - Fix "Side Fence Assembly R" and "Side Fence Assembly L" to "Side Pole". Join all the wire connectors (with labeling) before fixing the side fence.



Note:

Join all the connectors together according to the correct labeling. After that fix both side fence to the pole and secure with screws.

***Take note that need to connect the cables from the Top Assembly as well.**

2.2 Equipment Testing

- 1) Check wire: Check all wiring connection before power on. Make sure no wire loosen.
- 2) Function test:
 - ❖ Access control relay time should be set to 0 seconds or 1 second.
 - ❖ Make sure turnstile cannot be pushed without flashing a valid card.
 - ❖ Indicator should show green arrow and the turnstile can be pushed to rotate 120 degree by flashing a valid card.
 - ❖ Make sure turnstile will lock after 5 seconds from flashing a valid card without any passing through.

2.3 Notice of use

- ❖ The product must be grounded to earth, and an earth leakage breaker is necessary on the power supply.
- ❖ User must pass through the turnstile one after another.
- ❖ Do not push the rotation arm before flashing card.
- ❖ Please keep the control button or remote control far away from the children.

Please don't use the turnstile under the thunder and lightning condition to avoid damage to the equipment.

3. Connection

3.1 Connect wire of indicator

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

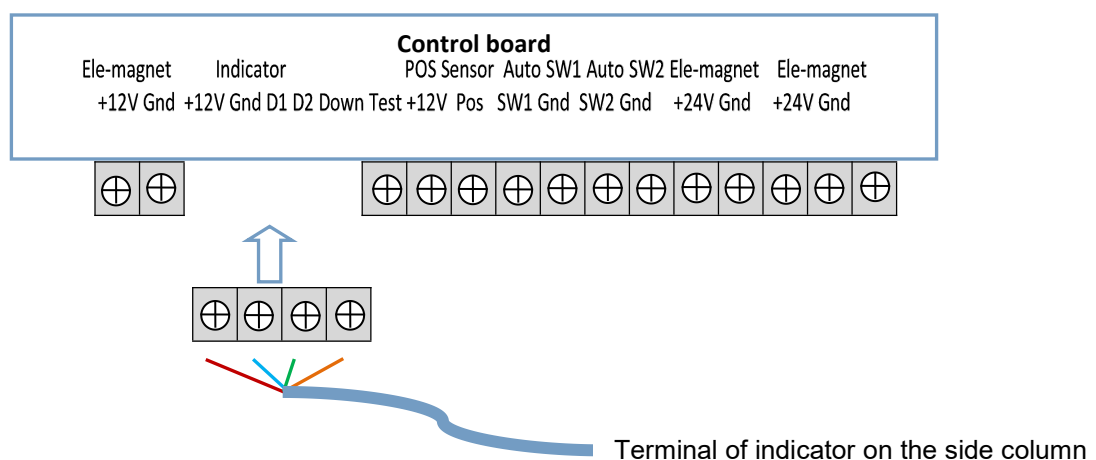
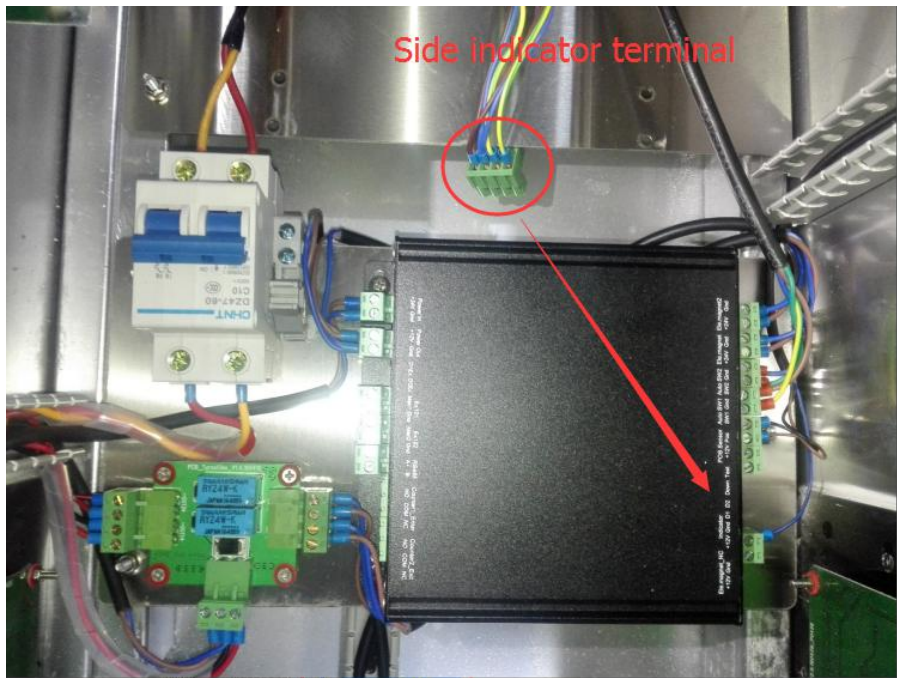
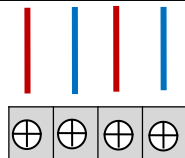


Figure 3.1



3.2 Connect wire of access control device

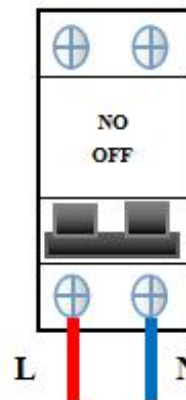
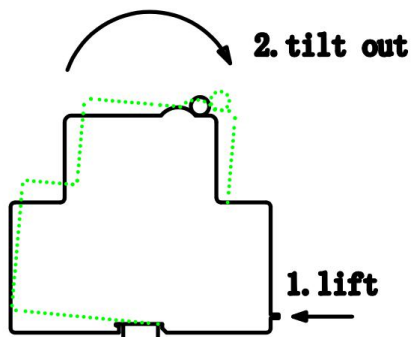
Ele-magnet		Indicator		Control board				Ele-magnet	
+12V	Gnd	+12V	Gnd	D1	D2	Down	Test	+12V	Pos
				SW1	Gnd	SW2	Gnd	+24V	Gnd



NO COM NO COM

Open signal of access
Control board

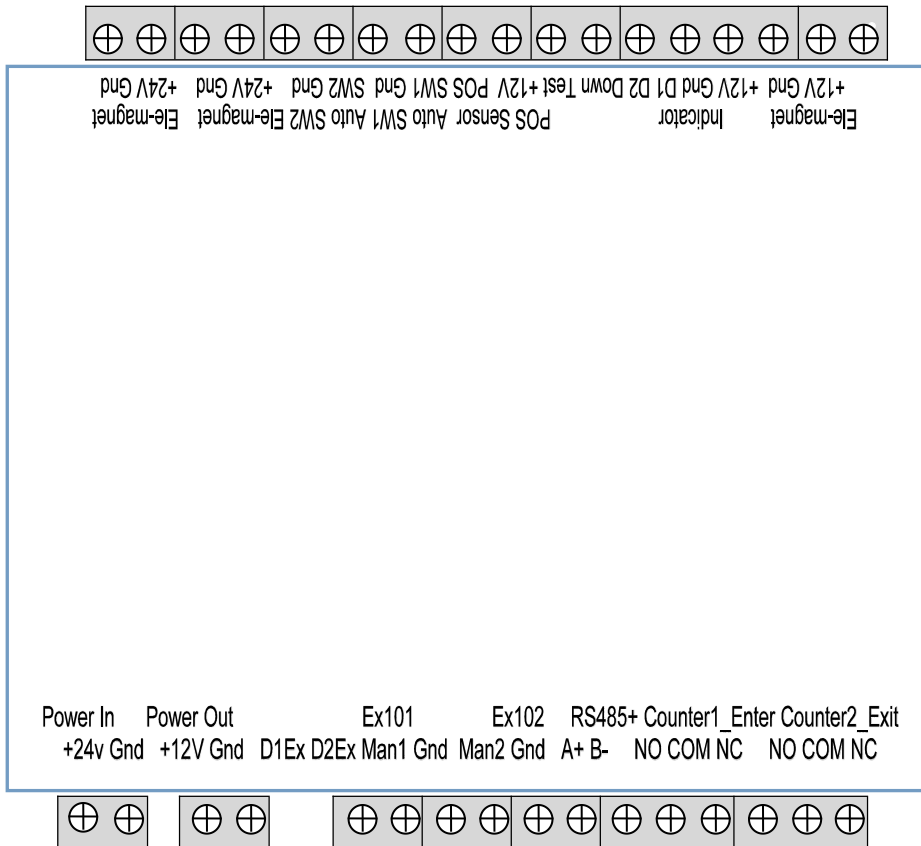
3.3 Connecting AC220V power input



AC100-220v Input connecting wires

4. Connection diagram

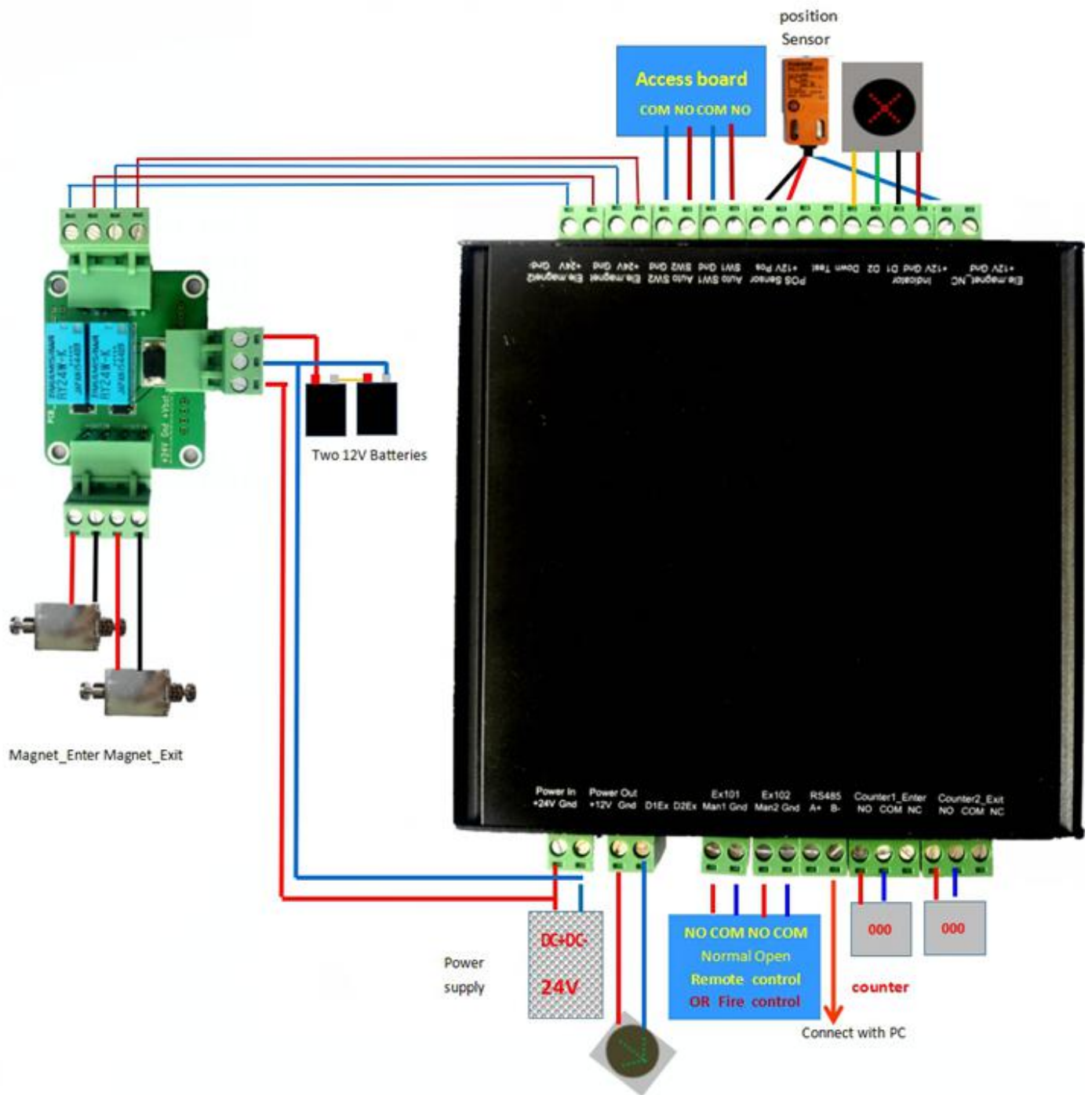
4.1 Board instruction



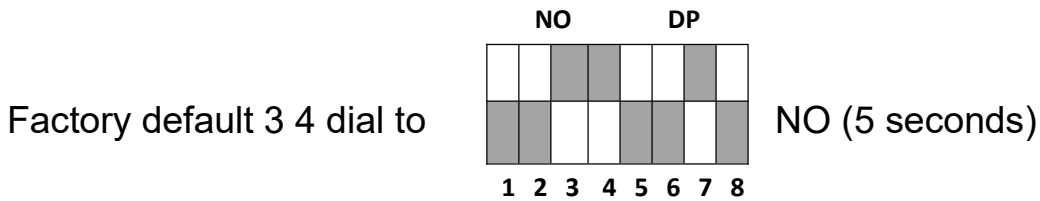
No	Port Sign	Instructions
1	+24V	24V input power supply to PCB board
2	GND	
3	+12V	12V power Output to indicator
4	GND	
5	D1Ex	NOT USED
6	D2Ex	
7	Man1	Entry button for manual opening gate input
8	GND	
9	Man2	Exit button for manual opening gate input
10	GND	
11	A+	NOT USED
12	B -	
13	NO	Entry relay normally open and normally close interface which also can connect entry counter
14	COM	
15	NC	

16	NO	Exit relay normally open and normally close interface which also can connect exit counter
17	COM	
18	NC	
19	+12V	+12 V power supply for arm drop down circular solenoid
20	GND	
21	D1	Entry LED indicator signal input
22	D2	Exit LED indicator signal input
23	+12V	+12 V power supply for indicator
24	GND	
25	Down	NOT USED
26	Test	
27	+12V	Position sensor full close in place signal input,once arm turn 120 degree , it will give closing gate signal
28	POS	
29	SW1	Entry opening signal input, Dry contact signal and Access control PCB board entry opening relay signal (NO connect SW1, COM connect GND, and the relay time of access control board should be set "0" or "1")
30	GND	
31	SW2	Exit opening signal input, Dry contact signal and Access control PCB board exit opening relay signal (NO connect SW2, COM connect GND, and the relay time of access control board should be set "0" or "1")
32	GND	
33	+24V	Output for entry square solenoid, normally 0v t, when board receive open signal,This port will be 24v output
34	GND	
35	+24V	Output for exit square solenoid, normally 0v t, when board receive open signal,This port will be 24v output
36	GND	

4.2 Wiring diagram



3.3 DIP switch instructions



1-6 DIP indication						Automatic reset times	7	8
6	5	4	3	2	1	Times	Full high turnstile	Swipe card
0	0	0	0	0	1	2S	Default NO	Swipe card memory(Default no open)
0	0	0	0	1	0	2S		
0	0	0	0	1	1	2S		
0	0	0	1	0	0	2S		
0	0	0	1	0	1	2.5S		
0	0	0	1	1	0	3S		
0	0	0	1	1	1	3.5S		
0	0	1	0	0	0	4S		
0	0	1	0	0	1	4.5S		
0	0	1	0	1	0	5S		
0	0	1	0	1	1	5.5S		
0	0	1	1	0	0	6S		
0	0	1	1	0	1	6.5S		
0	0	1	1	1	0	7S		
0	0	1	1	1	1	7.5S		
0	1	0	0	0	0	8S		
0	1	0	0	0	1	8.5S		
0	1	0	0	1	0	9S		
0	1	0	0	1	1	9.5S		
0	1	0	1	0	0	10S		
0	1	0	1	0	1	10.5S		
0	1	0	1	1	0	11S		
0	1	0	1	1	1	11.5S		
0	1	1	0	0	0	12S		
0	1	1	0	0	1	12.5S		
0	1	1	0	1	0	13S		

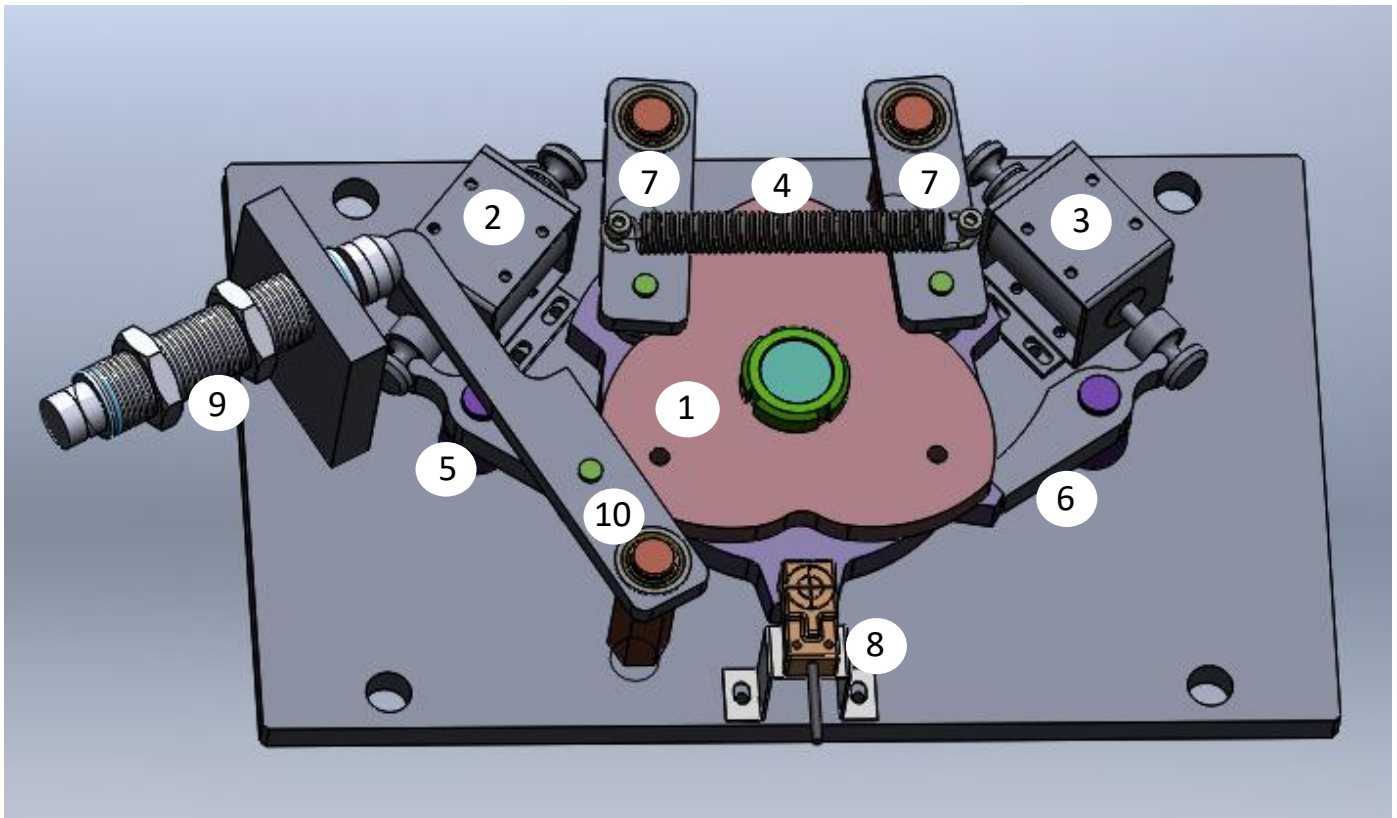
with memory function, if swiping valid card 5 times, it can pass five peoples; without memory function, if swiping valid card 5 times, it only can pass one people.

5. Mechanical Equipment

5.1 Description and Function of Mechanical Equipment

Mechanical equipment controls the movement of the turnstile. Signal from reader will trigger Left/Right Solenoid to open, the turnstile will be rotate for 120 degree, proximity sensor will sense the notch and trigger solenoid to close back.

Mechanical equipment need to carry out preventive maintenance every 6 months to prevent wear and tear. Mechanical movement parts need to apply grease every time during maintenance.



Item:

- 1) Flower Disc
- 2) Left Square Solenoid
- 3) Right Square Solenoid
- 4) Spring
- 5) Left Lock Arm
- 6) Right Lock Arm
- 7) Disc Clamp
- 8) Proximity Sensor
- 9) Absorber
- 10) Absorber Hinge

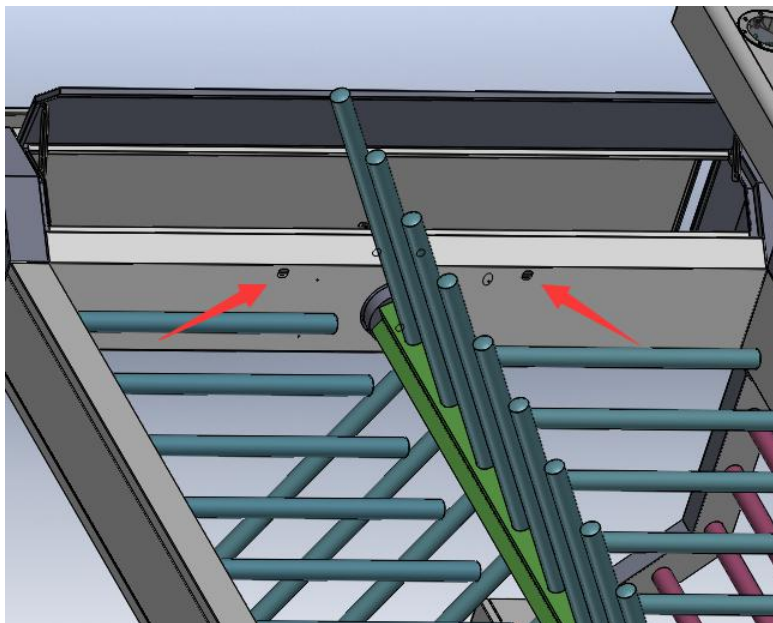
6. Frequently Asked Questions

Q1: During power failure, will the full height turnstile fully locked or fully opened?

Answer: During power failure, the full height turnstile will remain locked for security purpose.

Q2: If the turnstile remain locked during power failure, what happened if pedestrian needs emergency evacuation?

Answer: There are 2 locks underneath the Top Assembly box that can be manually open using a key kept by the security guard. The turnstile can be rotate freely after the both locks have been opened.



Q3: How to connect readers to the control board?

Answer: Connect the signal wires from readers to SW1 and SW2 at the control board.

Q4: How to connect fire alarm signal to the control board?

Answer: Connect the fire alarm signal to MAN1 and MAN2 at the control board.

7. Troubleshooting and Maintenance

7.1 Troubleshooting

Q1: When access board send open signal, arm move reverse and indicator show reverse?

Reasons: Open signal reverse connection.

Solution: Exchange SW1 GND and SW2 GND terminal of board.

Q2: Indicator is not working?

Reasons: 1. Wires loose. 2. Indicator or board damage.

Solution: 1. Check connect wire of indicator.

2. Replace indicator or board.

Q3: How to achieve free entrance for one way ?

1. Remove one of square solenoid.

Q4: Arm can not be pushed after flashed card and indicator show green ?

Solution: 1. Check 24V GND output for square solenoid

2. Replace new board or solenoid.

Q5: Passing two or three people after swipe card at a time.

Reasons: 1. The positioning sensor (proximity sensor) did not triggered due to sensor position out / sensor malfunctioned.

2. The square solenoid does not stretch smoothly.

3. Control board damage

Solution: 1. Move the position sensor inward, Check connect wires to board

2. Adjust square solenoid or replace new one.

3. Changing the square solenoid.

4. Replace a new board.

Q6: Turnstile cannot turn 120 degree for one pass?

Reasons: 1. The position sensor is too close to the wheel.

2. The speed of user go through is too slow causing times out.

Solution: 1. Open the cover of top assembly, adjust position sensor.

2. Set DIP switch to adjust for the time out setting.

Q7: It is hard to push the shaft rotation?

Reasons: 1. Bottom bearing rusty or damage; 2. The shaft is not vertical

Solution: 1. Replace new bearing; 2. Adjust the shaft to vertical

7.2 Maintenance

Full height turnstile require regular maintenance by professionals and daily cleaning to ensure long-term stability and extended equipment life.

A) Maintenance Content:

- ❖ Keep the turnstile housing and card reader panels of turnstile gates clean.
- ❖ Fasten and lubricate the internal movement structure.
- ❖ Check the dust of the driver board and make it cleans.
- ❖ Check the connectors and wiring points to ensure the reliability of the connection.
- ❖ Check the bearings at the bottom of the shaft, make sure it rotate smoothly.

B) Maintenance Methods:

1. **Cleaning:** Check the housing and card reader panels of the gate, and remove the dust and other dirt to make them clean;wipe rust inhibitor to keep stainless steel bright.
2. **Rust removal and Lubrication:** Check the movement of the gate, remove rust with sand paper and spread with anti-rust oil if corroded;
3. **Screws fastening:** Check the connection of the various moving parts, fasten the screws where they are loose to avoid causing fault for long-running;
4. **Clean Bearing:** Cleaning the bearings at the bottom of the shaft and add grease.
5. **Circuit board cleaning:** Cut off the power, and wipe dust of the board by using a clean brush;
6. **Lines Checking:** Check the connecting lines and solder reinforcement if they are loose off.

Note: This product is a professional technical equipment. In addition to daily maintenance, do not attempt to disassemble it. If a fault occurs while running, kindly notify our service departments or the authorized service agencies promptly to have it maintained. Do not disassemble it at random to avoid damaging the internal structure or causing any injuries.



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