BLAUPUNKT

User Manual

Pešačka barijera sa rotirajućom rukom

BP-TT1216



Enjoy it.

【Preface】

This is a product with high technology, so please read this manual carefully before operation.

Please keep this manual for future reference.

Only trained professionals who understand electric and mechanical risk of product are qualified to install and operate gate system so as to avoid unnecessary dangers caused by misoperation.

All rights to improve and perfect our products are reserved. We can't promise this manual is in full accord with the product you receive, but we will check and revise the manual at regular interval. No further notification will be sent in the case of any modifications to the manual.

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1 Product introduction

1.1 Brief introduction

The electronic tripod turnstile, which is an electric control mechanism installed in the building structure, is used to form an access control system. The rotation unit consists of three tubular arms which are positioned at 120 ° intervals so that when the unit is at rest ,one arm will always be in the horizontal position(Barrier position).The movement of the rotation unit can be realized by pushing arms lightly. If arm rotates more than a settled position, the elastic potential energy will drive the rotation unit to complete the whole process of rotation

The electronic tripod turnstile, which has integrated the electronic and mechanical rotation, is a kind of advanced access controller. After being integrated with RFIC, IC and magnetic card, it can meet various requirements of customers and therefore can be widely used in such sites as conference room, park and railway station, etc

1.2 Function Features

- Standard signal input port, can be connected with most of the access control board, fingerprint device and scanner other equipment;
- The turnstile has automatic reset function, if people swipe the authorized card, but don’t pass through within the settled time, it need to swipe card again for entry;
- Card-reading Recording function can be set

- Automatic opening after emergency fire signal input
- Anti following : prevent illegal passing
- High light LED indicator , displaying passing status.
- Normal open can be also controlled via external button or manual key unlock
- Arm will automatically fall down when power failure

1.3 Technical parameter

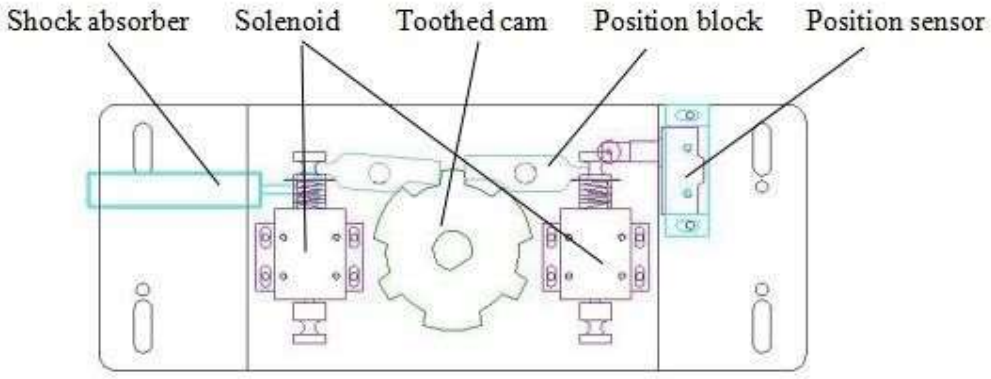
Item	Description
House	304 stainless steel
Reliability of the core	3million, no fault
Weight	55Kg(bridge type)
Arm length	510(mm)
Max thrust capacity	60Kg
Driving force of arms	3Kg
Driving mode	digital
Direction of rotation	Unidirectional/ Bidirectional (controllable)
Indicator lamp	Green means passage
Power supply for core：	AC100-240V
Operational voltage	DC 24V ±5％
Voltage of indicator lamp：	DC12V ±5％(standard)
Power consumption	30W
Working environment	Indoors or outdoors(outdoor is optional)
Working temperature	-20℃～60℃
Humidity	5％～90％
Waterproof	≧IP31
Installation interfaces for card readers：	2
Control interface	relay signal input
Time needed for opening	0.2 seconds
Passing speed	30~45 persons/min

1.4 Product structure and principle

1.4.1 Product structure

The structure of the product is mainly composed of mechanical system and electric control system.

The mechanical system is composed of arm and Rotary unit,core and house.



Core

Note: Configure the core type according to the product series and model..

1)Rotary unit

The unit comprises a shaft, toothed cam assembly and ratchet assembly. The toothed cam assembly comprises a steel toothed cam, polyurethane toothed cam and locking flange that are bolted together with bolts and spacers

2) Locking device

The locking action is performed by the heads of the lock arms on the teeth of the toothed cam assembly.

3) Positioning cam

The positioning cam is machined a guide way with a special profile. In this guide way, three points at a minimum distance from the centre are arranged at 120°intervals and correspond to the three positions of the tripod.

4) Damper (Shock absorber)

The function of the damper is to adjust the force exerted by the spring on the rotary unit in order to ensure that the unit comes to a gentle stop.

The greater the buffer value, the greater the buffer strength.

5)Restoring device.

The function of the restoring device is that the positioning sensor can receive a signal and then transmit it to the drive board when the arm has rotated about 110°.

6） Anti reversal device

The anti-reversal device is used to prevent rotation of the rotary unit in the opposite direction to that of the initial rotation. This means that once the tripod has been moved in one direction, the device will prevent a reverse movement in the opposite direction.

7） Tripod

The tripod, which is fitted by three screws, is composed of three lock arms, three arm detents and a drop arm. The arms are positioned at 120° intervals, so that when the tripod comes to rest, one of the arms will be in the barrier position.

The electric control system consists of access control device, control board, direction indicator, position sensor, solenoid, damper,power supply.

NO	Name	Function
1	Access control device	IC/ID card access control, fingerprint, face recognition, code reader, access control device send delay signal to the turnstile board door signal（It is available according to actual use）
2	Control board	The control center of the system, when receiving the access control device delay signal, it control solenoid open ,the direction indicator light turns green, The arm can be pushed to 120 degree ,the solenoid will lock immediately when receiving closing signal from core position sensor.
3	Indicator	Display the current channel status
4	Position sensor	Detects and controls the opening and closing position of the gate
5	Square solenoid	Control shatf close or open
6	Circular solenoid	Falling and upper arm
7	Damper	Makes the shaft run smoothly(match)

8	Power Supply	power supply to control board

1.4.2 Work principle

Turn on power and lift arm manually,the drop device lock.

The LED indicator light on the surface, if the control PCB board receive open signal, turnstile will have green arrows in the direction.The Square solenoid open ,Push arm and go through,The Square solenoid open arm turn 120 degree.This process position sensor be induced ,send closing signal to board,The Square solenoid lock immediately.

Turn off power the arm will fall down.

2 Equipment Installations

2.1 Installation notes

- If it tests well before installation, then fixed it; before you install and maintain it, please cut off the power;
- The product must be earthed, and an earth leakage breaker is necessary on the power supply;
- The depth of buried PVC tube should be greater than 60mm, and the exposed height above the ground should be greater than 50mm. The exit mouth should be bending back to avoid water dipping inside the tube;
- Don’t change the inside wire of the turnstile casually;
- In installation, please make each door of the lane are in alignment;
- Tighten the mounting screws of the arm

❖ If you use the turnstile outdoor, it need t need to add a canopy to protect the turnstile from sun and rain;

2.2 Equipment Installation

1) Tool preparations

1	A set of hexagon spanner	5	Screw driver and other common wiring tool
2	Cross screwdriver 6mm	6	Millimeter
3	Open spanner 17-19mm	7	M10x100 Expansion screws 8pcs
4	Impact drill D14	8	Cable Tester

2) Ensure the installation location and the system composition ,prepare to install after carrying out the system planning;

3) Make well of installation of equipment foundation base.

4) Mark the fixing position of expansion bolts according to fixing plate on the bottom of each turnstile.

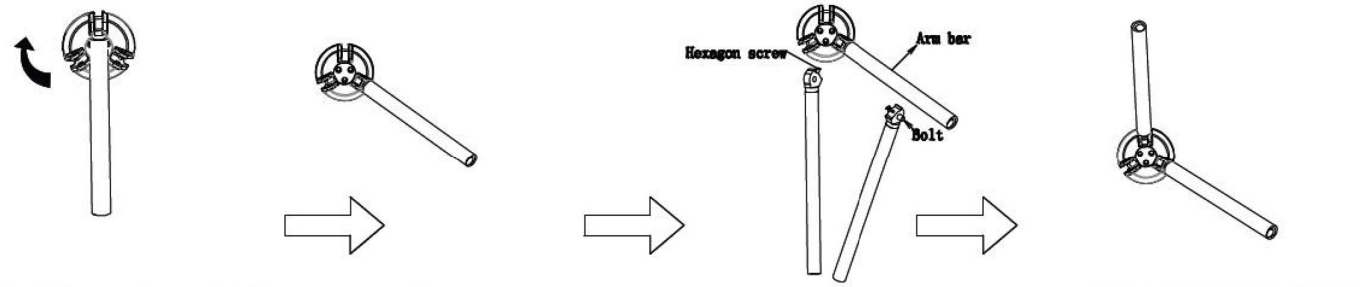


Fig 1. Please rotate turnplate 120°

Fig2.

Fig 3. Please loose hexagon socket cap screws

Fig 4. Please insert arm bar

5) Drill hole by impact drill, fix Expansion screws.

6)Fix arm :Before delivery, we will dismantle two arm bar, which can reduce

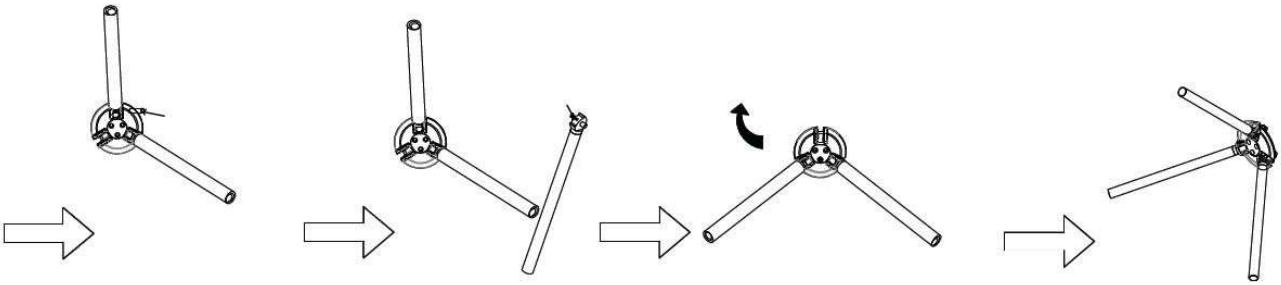
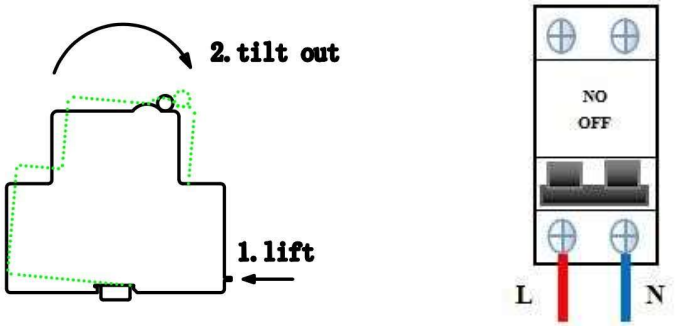


Fig 5. Please insert bolt Fig 6. Please tighten hexagon socket cap screws Fig 7. Please install third arm bar like second arm bar Fig8.

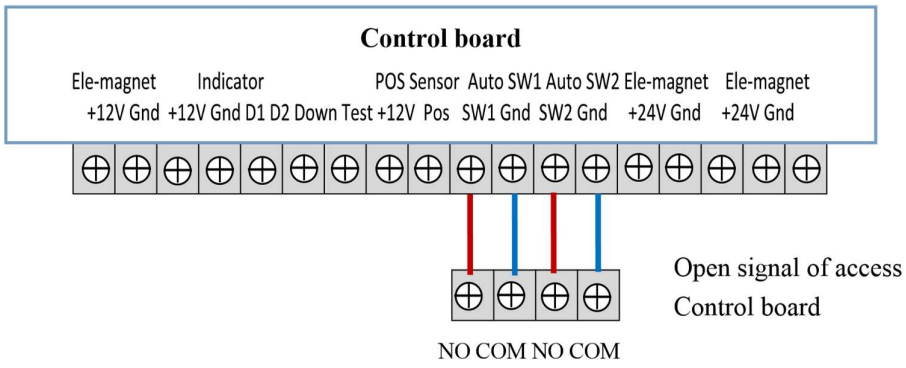
7) Tighten the expansion screw after the functional test is completed

2.3 Connection

1) Connecting AC110/220V power input



2)Connect wire of access control device



2.4 Debugging instruction

1） The test preparation

Such as the installation , we have completed connection of the circuit drive in the plate, and provide110/220 V for turnstile, control PCB board connected

to thecomputer (control PCB board is external equipment of turnstile , not turnstile inside parts).

2） Check the wiring

When connected power debugging, please check the wiring diagram according to each parts of the line is connected,

Note: Protective earth wire of equipment must reliable grounding, otherwise don't allow debugging.

3） Function test

Turn on power and lift arm manually.

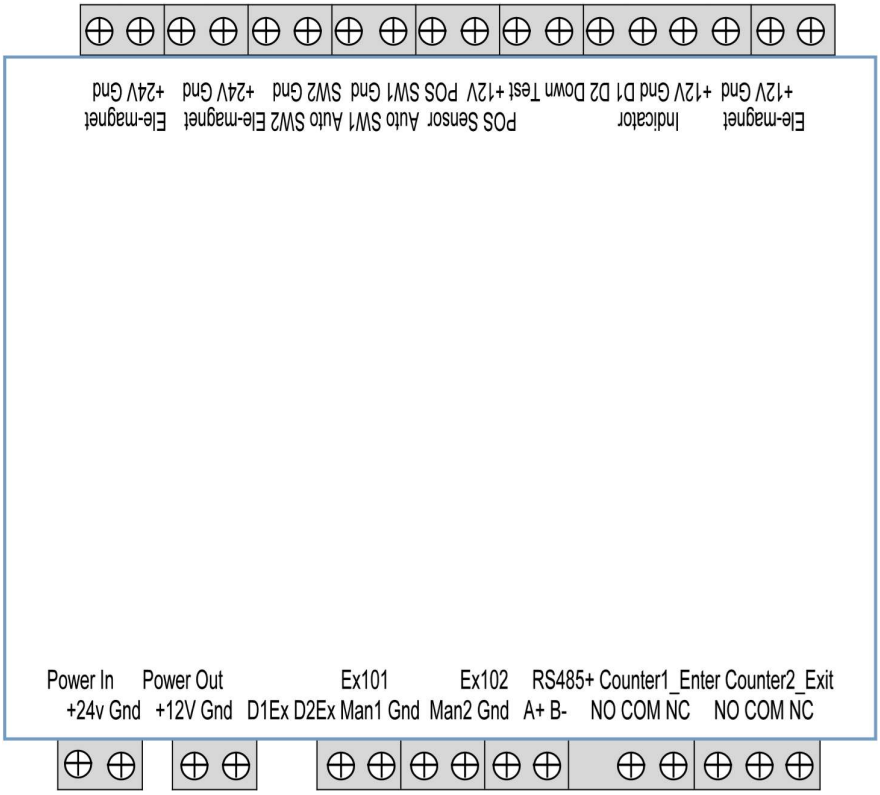
The LED indicator light on the surface, if the control PCB board receive open signal, turnstile will have green arrows in the direction.Push arm and go through,arm turn 120 degree.Turn off power the arm will fall down.

2.5 Notice of use

- 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 get rid of damage to the equipment.
- Do not permit children to play on or around a turnstile . If child want to go through the turnstile, the parents must look after them.
- Follow the order when swipe card

3 Board and wiring diagram

3.1 Board instruction

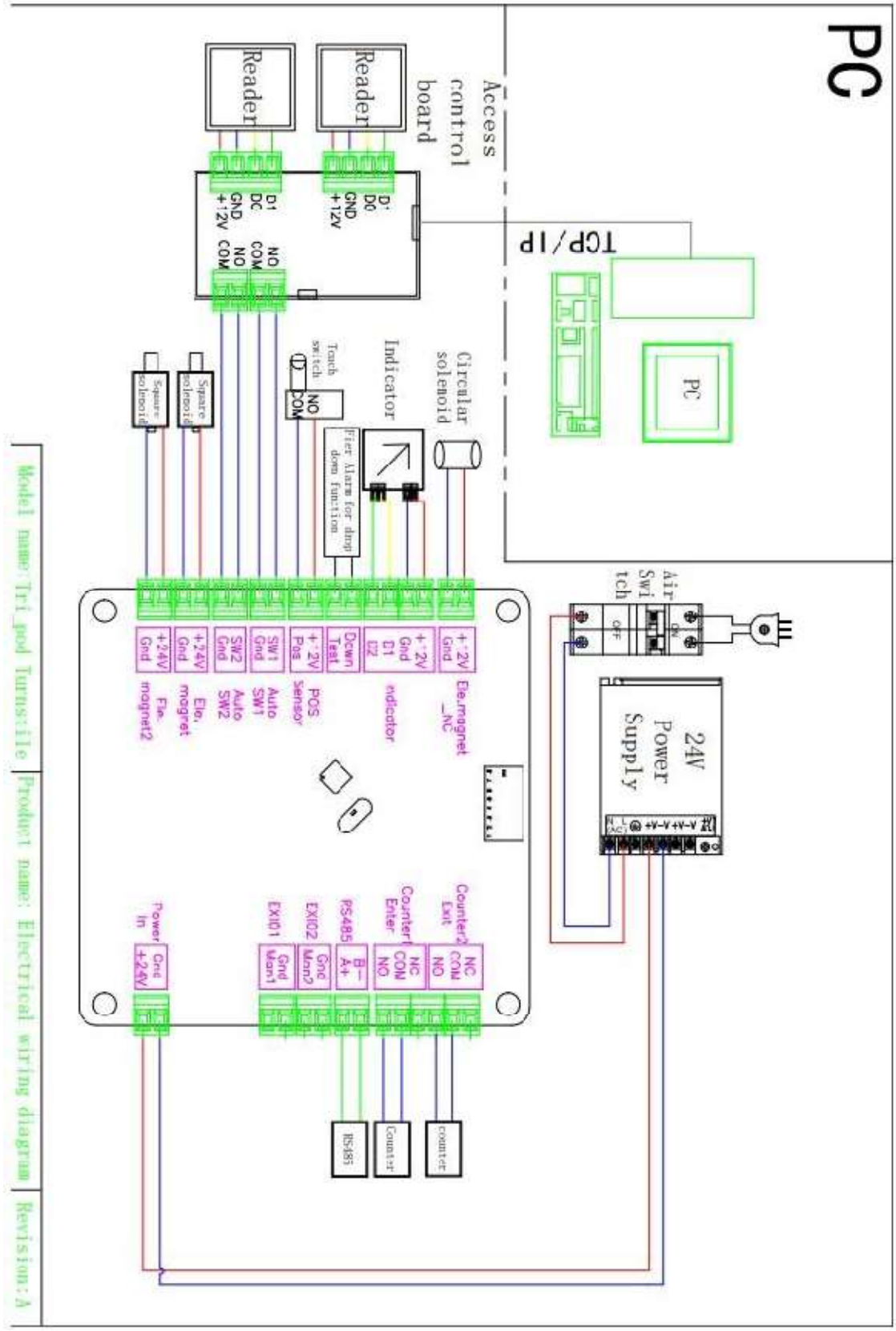


No	Port Sign	Instructions
1	+24V	24V input power supply to PCB board
2	GND	
3	+12V	12V power Output to Light bar, counter and so on.
4	GND	
5	D1Ex	NO USE
6	D2Ex	
7	Man1	Entry button for manual opening gate input
8	GND	
9	Man2	Exit button for manual opening gate input
10	GND	
11	A+	485 communication

12	B -	
13	NO	Entry relay normally open and normally close interface which also

14	COM	can connect entry counter
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	Testing for drop down function
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
30	GND	connect GND, and the relay time of access control board should be set “0” or “1”）
31	SW2	Exit opening signal input, Dry contact signal and Access control PCB board exit opening relay signal (NO connect SW2, COM
32	GND	connect GND, and the relay time of access control board should be set “0” or “1”)）
33	+24V	Output for entry square solenoid, normally 0v t, when board recieve open singal,This port will be 24v output
34	GND	
35	+24V	Output for exit square solenoid, normally 0v t, when board recieve open singal,This port will be 24v output
36	GND	

3.2 wiring diagram



3.3 DIP switch instructions

ON **DP**



Dial code 1-3: pass time;
Dial code 4-8: function mode setting.

Function mode setting					Dial code, dial to ON, means 1			Auto reset time
8	7	6	5	4	3	2	1	Dial code
4. Restore factory settings: Before power-on, dial 4 to ON, and dial 4 to OFF after power-on. **5. Flowing water light mode & light bar mode:** (Default dial code OFF is flowing water light mode) Set light bar mode: dial 4 and 5 to ON before power on, and dial 4 to OFF after power on. **6. Electromagnet operating mode:** (Default dial code OFF means electromagnet: Power off when closing the gate, Power on when opening the gate.) Set electromagne operating mode: Power on when closing the gate, Power off when opening the gate. Before power-on, dial code 6 to ON, and then power-on again. **7. Sensory switch operating mode:** (Default dial code OFF is travel switch) **Set limit switch:** Before powering on, dial 7 to ON, and then power on again. **8. Passing memory:** (Default dial code OFF is not enabled) **Set passing memory:** Before powering on, dial 8 to ON, and then power on again.					0	0	0	5S
					0	0	1	6S
					0	1	0	7S
					0	1	1	8S
					1	0	0	9S
					1	0	1	10S
					1	1	0	11S
					1	1	1	12S

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.

4 Daily maintenance and trouble shooting

4.1 Tips and trouble shooting

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

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

Q2: Indicator is not working?

Solution: 1.Check connect wire of indicator;

2.Repalce indicator or board.

Q3: One indicator is not in the correct direction ?

Solution: Interchange the control board D1 D2 wiring.

Q4: Arm can not push when swipe card and indicator show green ?

Solution: 1.Check if the wiring is loose; 2.After startup, measure whether there is voltage output at the solenoid port of the control board.

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

Solution: Open the upper cover of the cabinet body.Short-circuit the SW1 GND port,the square electromagnet will open automatically.Then short-circuit the POS 12V port.If the square solenoid is not turned off, the control board needs to be replaced.If it is closed immediately, you need to adjust the travel switch or limit switch close to the middle runner.

Q6: Abnormal noise during operation?

Solution: Check whether the turntable and the rotating rod are scratched.

4.2 Maintenance

1） General indications

The tripod turnstile should be inspected and cleaned at regular intervals in order to maintain the components in good working order and to check for signs of wear. The following indications refer to the installation where the average number of transits per year is equal to two million. When the tripod turnstile is used in a dusty area, the regular interval for inspection should be shortened. If used in the subway or the light rail station, the inspection interval is recommended to be 6 months. The users are also encouraged to determine the interval according to their own situation.

To avoid the risk of electric shock, always ensure that the electrical power is disconnected before inspecting the mechanism.

2） Component

Lock arms and solenoids (Operation to be carried out with the power supply disconnected.): —Grease the pins of the lock arms that slide on the solenoid shaft.—Grease the solenoid shaft and spring, and do not grease the core of the solenoid—check that the shaft/lock arm assembly moves freely.

3） Oil pressure of the damper

Operation should be carried out with the power supply disconnected： --check whether the damper oil spills; --check whether the force exerted by the spring is

enough； -- The force exerted by the spring should match that exerted by the damper. Generally speaking, the former need to be slightly more powerful.

4） Upper positioning cam

Operation should be carried out with the power supply disconnected.—Loosen the spring of the positioning lever.—Check the guide way in the cam is clean and not excessively worn. –check some metal powder or the like sticks to the solenoid—Check the guide pin of the positioning lever for excessive play.—Check the magnetic strip is perfectly attached to the edge of the cam——Refit the cam -- adjust the spring of the positioning lever.

5） Tripod

Operation should be carried out with the power supply disconnected. Check tightness of the three securing the base plate to the mechanism shaft.

6） Emergency Drop Arm Device

Clean all dust from the arm detents, the arm drop lever and the relative solenoid. Do not lubricate these parts.

7） Cable and Connectors

Operation should be carried out with the power supply disconnected：

--Check that the wire connectors are firmly attached.

--Check that the terminals are fully tightened.

--Check that the insulation of the wires is in good condition and that no conductors are exposed.

Date of delivery	Turnstile model

Maintain record

Service Dates	Trouble descriptions	Solution	Service People	Sign and stamp