

Tripod BO-DS112

User Manual



Please read and follow the installation instructions before operating the equipment, and keep the instructions for future reference or use after debugging.

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1. Product Instruction

1.1 Note

- 1) Before installation, operation or maintenance, turn off power.
- 2) Do not change the inside wiring, take a photo before any disconnection.
- 3) Do not use the turnstile inside power supply to connect other third-party device.
- 4) Do not operate when thundering and lightning, in case damage the turnstile electrical parts.

1.2 Functional features

- ◆ DS112 Tripod turnstiles are compact and cost-effective entrance/exit security solutions.
- ◆ The body is made of brushed stainless steel which is robust, rigid, anti-rust, waterproof and durable.
- ◆ Turnstile gate with standard open/close relay signal, it can be integrated with any type of the third-party access control parts. (e.g.: RFID, Fingerprint and Biometric reader device).
- ◆ Unified external electrical interface, which can be linked to a variety of card readers, and can be remotely controlled and managed by the management computer;
- ◆ In case of emergency, turnstile gate will open automatically to allow free passage when power off.
- ◆ Anti-tailing function: only one person passes at one time.
- ◆ It has zero self-check function, which is convenient for users to maintain and use.
- ◆ Anti-impact function: when the opening signal is not received, the rotating rod will lock automatically.
- ◆ Automatic reset function: turnstile arm will lock automatically within 5s (can be setting) if passengers delay to entry.
- ◆ Working way: Single directional or Bi-directional.
- ◆ LED indicator (red × means no entry; green → means entry).
- ◆ The whole system works smoothly, little noise.
- ◆ Easy to install and maintain.

1.3 Structures and dimensions

DS112 Tripod turnstile have 304 brushed stainless steel which is robust, rigid, anti-rust, waterproof and durable, it is ideal for both indoor and outdoor settings.

Appearance and dimensions are as shown in figure 1:

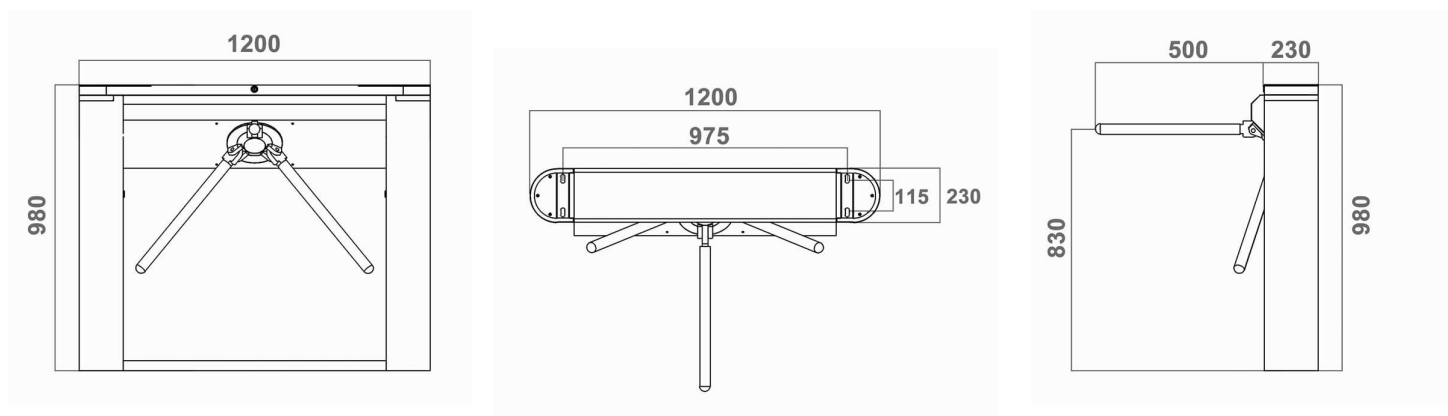


Figure 1

1.4 Technical parameter

Item	Description
Cabinet	304 stainless steel
Dimension	L1200*W230*H980(mm)
Weight	50Kg
Pass Width	1 lane, 550mm (Arm length: 500mm)
Power supply	AC220V/110V, 50/60Hz
Working voltage	24V DC
Emergency	Automatic arm open when power off
Power consumption	20W
Working environment	Indoors or outdoors
Working temperature	-15 °C - 60 °C
Humidity	0 ~ 95% (no freeze)
Control interface	Dry contact/Relay signal
Opening time	0.2 seconds
Passing speed	35~40 persons/min

2. Product Structure and Working Principle

2.1. Tripod turnstile mechanical system

Turnstile mechanical system is divided into frame and movement two parts. As a carrier, the frame is equipped with direction indicator, read-write device, infrared sensor, etc. The main components of movements are motor, motor frame, drive shaft, swing gate.

Movement structure

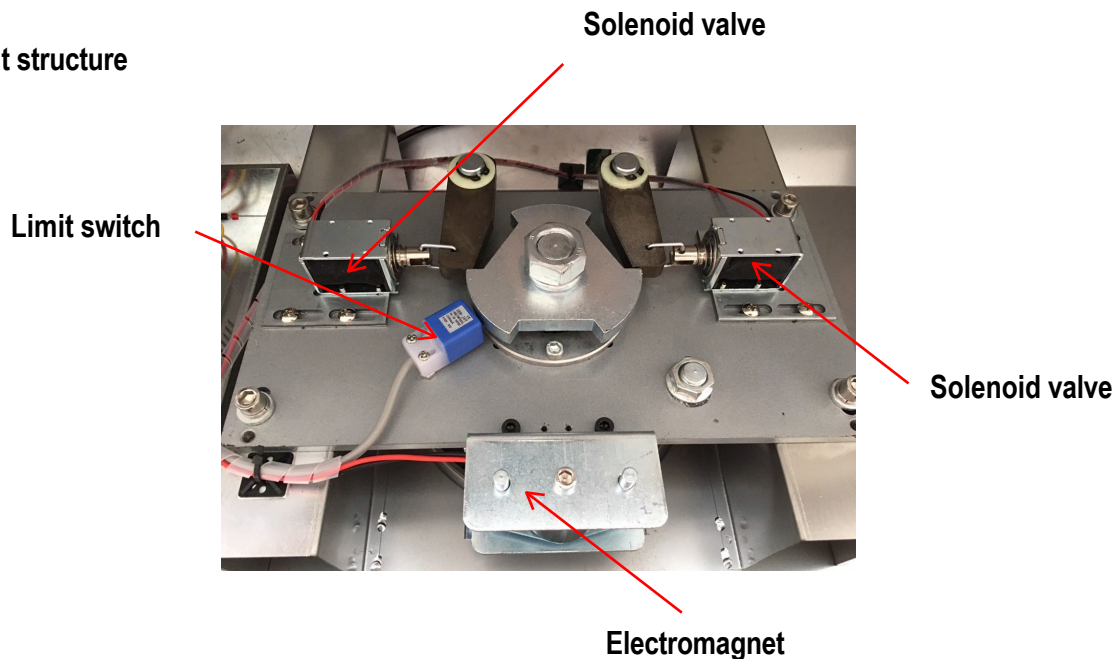


Figure 2

2.2. Tripod turnstile electric control system

The electronic control system is composed of card reader, main control board, infrared sensor, direction indicator board, alarm, and transformer and so on...

- **Card reader (self-provided):** after reading the information on the card and judging and processing, it will send an application pass signal (switch signal) to the main control board.
- **Main control board:** the control center of the system, which receives the signals from the card reader, and makes logical judgment and processing of these signals, and then issues execution commands to the direction indicator light, motor, counter and alarm.
- **Direction indicator light:** display the current status of the passage signs and guide pedestrians to pass through the passage in a safe and orderly manner.
-

Item NO.	NAME	FUNCTION
1	Entrance access system	IC/ID card access control, fingerprint machine, face recognition, two-dimensional code device, gate opening signal on the control board of gate machine, remote control, button to open the gate(optional)
2	Control board	The control center of the system, which receives signals from the card reader and infrared sensor, and makes logical judgment and processing of these signals, and then sends out execution commands to the direction indicator, motor, counter and alarm.
3	Direction indicator	The directional indicator light shows the current status of the passage sign and guides pedestrians through the passage
4	Limit switch	Check opening and closing position
5	Switch	Supply power to control board

2.3. Operating principle of the system

- a) Turn on the power and the system will enter into working state after 3 seconds.
- b) When the card reader reads the valid card, the peak-mincer will make a pleasant sound, indicating to pedestrians that the card has been read successfully. At the same time, it will judge and process the information read from the card, and send an application for approval signal to the main control board.
- c) The main control board receives the signals from the card reader and infrared sensor, and after comprehensive processing, sends effective control signals to the direction indicator and motor, so that the direction indicator sign turns into the green arrow pass sign. At the same time, the turnstile sends the setting voice, the main control board controls the motor operation, and the gate is opened to allow pedestrians to pass.
- d) After the pedestrian passes through the channel according to the direction indicator, the infrared sensor senses the whole process of the pedestrian passing through the channel and continuously sends signals to the main control panel until the pedestrian has passed through the channel completely;
- e) If a pedestrian forgets to read his card or reads an invalid card and enters the channel, the system will forbid the pedestrian to pass through and issue a voice alarm. The alarm will not be lifted until the pedestrian exits the channel. Rereading a valid chi square allows passage.

3. Install Instruction

3.1 Installation note & suggestion

Note: During installation and construction, relevant circuits should be disconnected to ensure that all circuits are correct before energizing.

►► **Installation Suggestion:**

- 1) For cables, suggest laid 60mm deep, over 50mm, and connector area be bending to avoid water.
- 2) If the turnstiles install in the outside, suggest installed in concrete deep 100-200mm to avoid natural damaged.
- 3) All the operation should be done when power off.
- 4) Wear the strong electric cable and the weak electric cable are respectively with 3/4 "PVC pipe and buried to the corresponding position with cement.
- 5) After adjusting the foundation surface, arrange the equipment in good order.
- 6) After the hole location is determined, drill the hole and embed the anchor bolt or expansion bolt of M12.
- 7) Open the case, select one of the equipment as the reference (preferably choose the middle one as the reference), align the base bolt hole with the corresponding anchor bolt, and pre-tighten the nut.
- 8) Connect the power line and control line according to the wiring diagram, and connect the system protection ground wire.
- 9) Check the mains wiring according to the wiring diagram, check the power wiring and other wiring of the whole equipment are correct, and the power can be adjusted after confirmation.
- 10) After completion of the installation, check the connection condition of earth wire, connector assembly for connecting line and all moving parts with the device. Make sure the connection is firm in order to prevent failure caused by long time operation. If any screw or part is not tightened, please tighten.
- 11) After the equipment status check is normal, the following functions can be debugged.

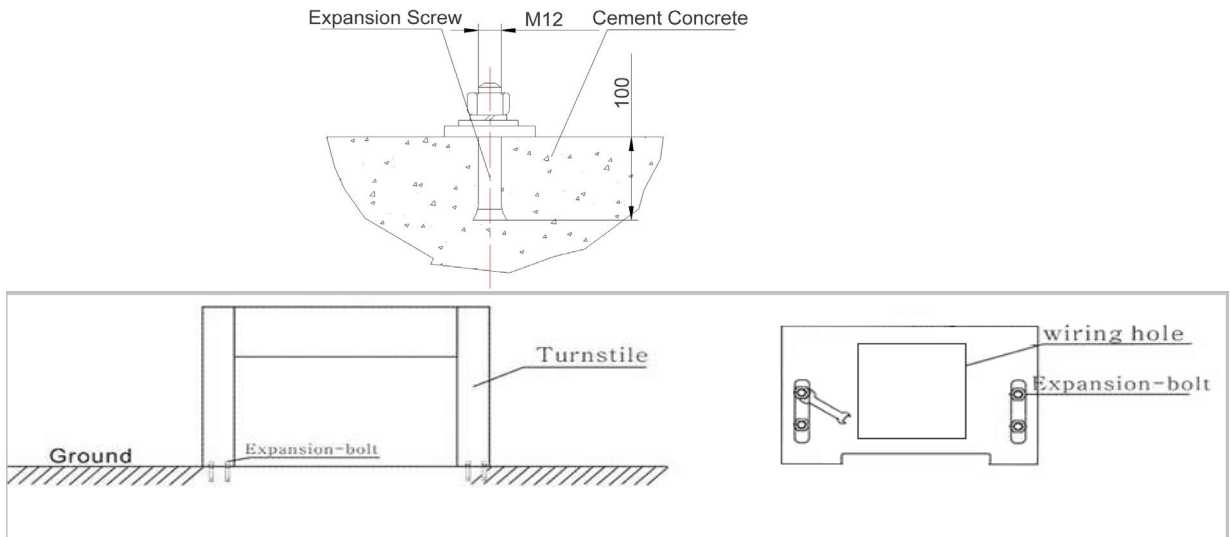


Figure 3

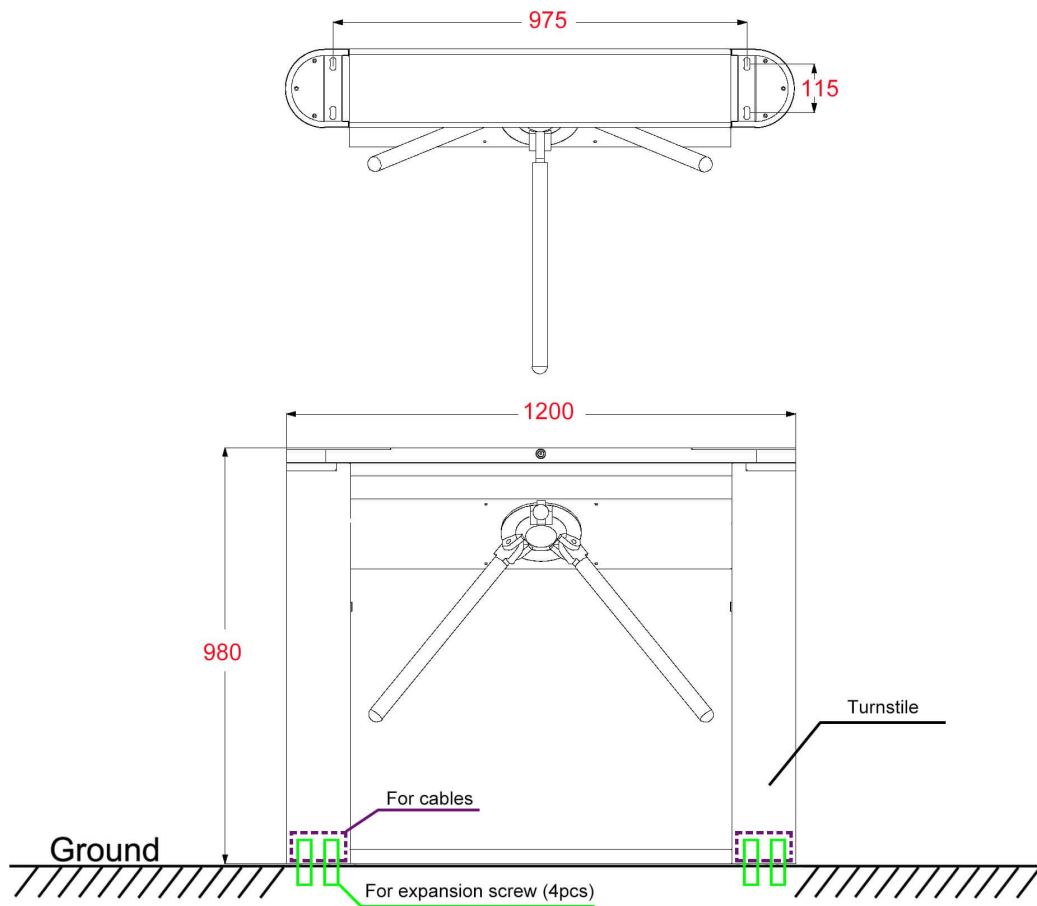




Figure 4

Remark: this picture only provide guide for power supply to the gate and master-slave synchronization line connection, not include access control system

-  1 pvc tube, 1 synchronization line
-  1 pvc tube, 1 power cable(RW 3*1.0)

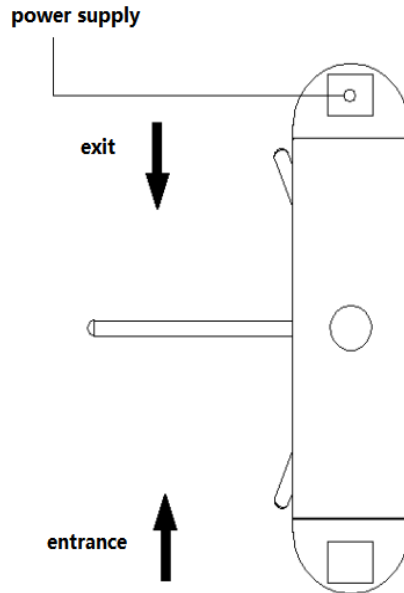


Figure 5

3.2 Turnstile cable drawing

-  Network Cable
-  Power Cable
-  Previous Connected Cable

Tripod Turnstile Cable Wiring Diagram

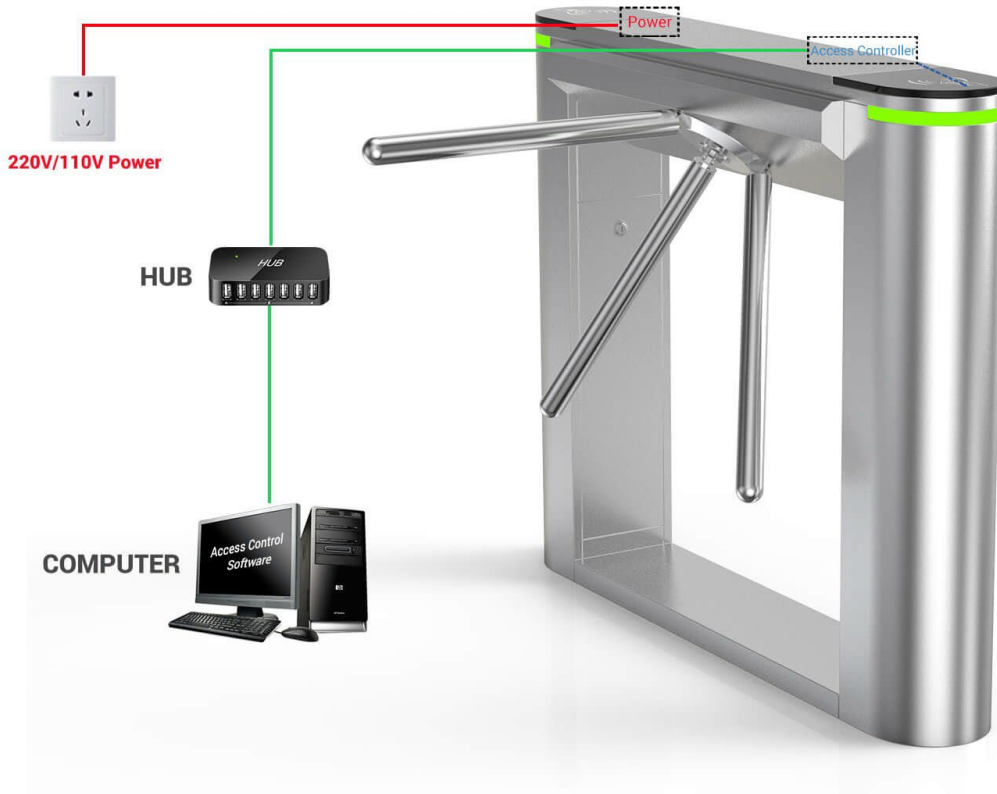


Figure 6

3.3 Turnstile circuit board wiring diagram

*Turnstile electrical parts area with power supply port, please connect to 110V/220V electrical power supply.

*Turnstile circuit board with port “OP-L,” COM, “OP-R,” it can be connected to any type of the third-party access controller device.

Tripod Turnstile Wiring Diagram

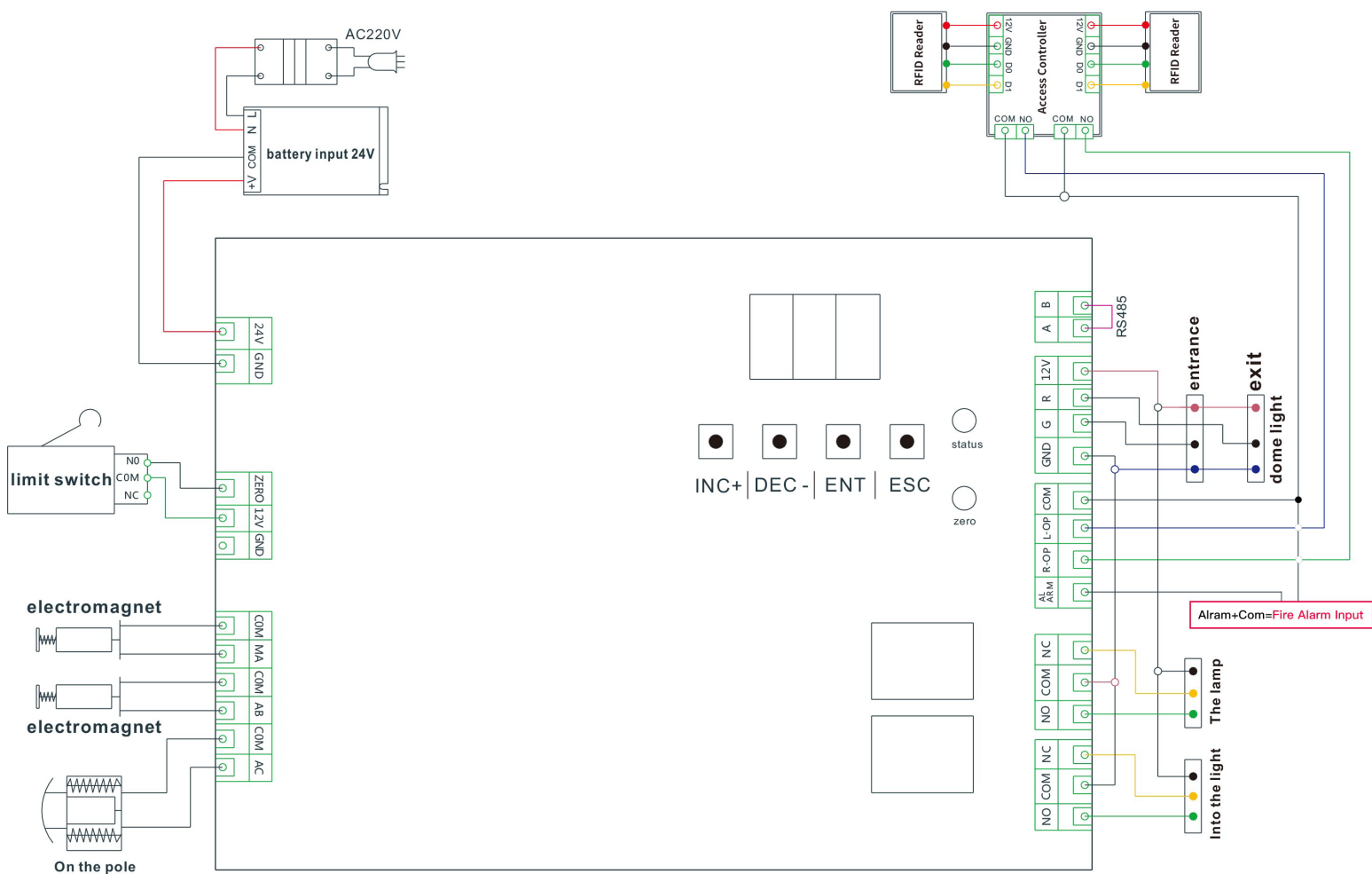


Figure 7

4. Menu Parameter Setting

4.1 Button introduction

Control board: “ENT”, “INC”, “ESC”, and “DEC”

ENT: Enter ENT setting or to determine the current modified value

ESC: Back to previous menu

4.2. Menu setting

Step1: Press “ENT” for 3s to enter, press “INC”, “DEC” to choose F01 menu list

Step 2: Press “ENT” to enter the time setting

Step 3: Press “INC”, “DEC” to set the numbers

Step4: After finish setting, press “ENT” to save

Step 5: Press “ENT”, it will asthmatically quit from main menu

4.3. Parameter setting instruction

Control board connected to power, LED display shows <Run>

[F 0 1] Set the passage time:

Within this time, pedestrian can pass the gate.

If no pedestrian pass, the gate will close asthmatically after times up(default time is 5 seconds)

[F 0 2] Access is permitted and prohibited:

0: R&L all prohibited

1: All permitted

2: Left prohibited, right permitted

3: Right prohibited, left permitted. (default is 0)

[F 0 3] Turnstile working mode:

0: Free passage

1: Arm down when power off (default 1)

[F 0 4] Memory function:

When open or close the entrance gate, if there is memory function, normally sued when one pedestrian swipe the card but without permitted pass, the gate can save other pedestrians’ cards information.

Prohibited: 00 - when the first pedestrian swipe care and pass the second pedestrian need to swipe card too.

Permitted: 01- means the number of people allowed to swipe is the number of people allowed to pass in succession.

Permitted “means whoever swipes a valid card then they are allowed to pass (default is prohibited: 00)

[F 0 5] Repeatedly open and close the switch testing:

It is mainly used for testing the stability and aging of brake control panel.

Note: in test mode, press the ESC key to exit the test

[F 0 6] Zero signal setting:

0: close the gate/ channel immediately if the zero signal is detected (tripod turnstile standard mode, the main board is set to 0 by default)

1: zero signals are detected, and then the gate is closed after waiting for the zero signals to disappear (commonly used at full height turnstile).

[F 0 7] Normally open setting of turnstile:

This parameter is used to detect the continuous opening signal. When the continuous opening signal exceeds the set parameter, the system enters the normally open state.

If it is a continuous signal, the gate will always be open. After the continuous signal is disconnected, the gate will resume the standard mode.

(The default parameter is 6 seconds, that is, press the "left open" or "right open" for more than 6 seconds, the gate is normally open, release the "open" button, and the gate is restored.)

[F 0 8] Opening time delay:

This parameter can only be effective when the memory function is turned on. After the memory function is turned on, the time delay of opening the gate for more than one person can be prevented from opening the gate again when the previous person has not passed the channel.

[F 0 9] Back to factory settings:

All main board parameters are restored to factory settings.

5. Product Maintenance

5.1 Daily maintenance

- To avoid the risk of electric shock, always ensure the power off before inspecting.
- Suggest inspected at regular time, to ensure all parts in good working.
- The material made by stainless steel, do not use hard material to clean it.
- Fingerprints or stubborn stains cleaning way: scrub by soap water or alcohol, sponge rinse with clean water, wipe dry as necessary.

5.2 Tips and troubleshooting

A. Tripod turnstile stay closed after swipe card

- a) check if the main board receive the open signal
- b) check if the opening signal wire loose or not, also Solenoid valve
- c) Use a multi meter to measure whether there is 24V voltage output at the solenoid valve terminal of the main board, and judge whether the solenoid valve is damaged

B. Tripod turnstile arms won't fall down when power off

- a) check if the electromagnet pole drop support is loose, readjust and fix it

C. When connected to power supply, lift the arm manually, the arm cannot lift

- a) Check if the pole drops support of the electromagnet is loose, test whether the electromagnet is magnetic with a metal object;
- b) Use a multimeter to measure whether there is 24V voltage output at the electromagnet terminal of the main board, and judge whether the main board has normal voltage output;

D. The main board is not energized after power on

- a) Use a multimeter to check whether there is 24V voltage input at the input port;
- b) Check whether the fuse is burnt out;
- c) Check whether there is 24V voltage output at the output end and judge whether the power supply is damaged;

6. Customer Service

We are very happy to help you in the future when you encounter problems or product defects, if the use or operation is not clear, please timely contact the after-sales service staff.