



Tripod turnstile Operating Manual

CPW-312BM

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1. General Descriptions

The vertical type tripod turnstile CPW-312BM is with bevel design, which is light and beautiful, simple and elegant. The housing made of high-quality stainless steel is durable. The mechanism modules are pure mechanical structures, with low-power consumption, energy conservation and environment protection.

Excluding the electrical structure, passengers need to manually push the arms to pass through. With mechanical anti-tailgating design, the turnstile effectively achieve single-user throughput for each time. Its safety and reliability are high. With the strong waterproof, dust-proof ability and environmental adaptability, it is suitable for business building, airport, subway, exhibition hall, factory, tourist attraction, residential community, etc.

The product has been strictly tested before leaving the factory. But to ensure the safe and reliable operating of the product, users are recommended to read the manual carefully before operating so as to avoid improper operation and damage to the interests of users.

2. Definitions

The tripod turnstile consists of housing cabinet and three turnstile arms. By rotating at $\pm 120^\circ$ each time, it can achieve the purpose of stopping or releasing. According to different ways of mechanism control, the tripod turnstile can be divided to be mechanical tripod turnstile, semi-automatic tripod turnstile, and fully automatic tripod turnstiles.

- Mechanical tripod turnstile: not including motor, control boards or any other electric parts; no need of power supply; users need push poles to pass through.
- Semi-automatic tripod turnstile: not including motor, but it is equipped with control boards and other electric parts; need to put up the pole when power on; users have to push the poles to pass through after providing valid open signals.
- Fully automatic tripod turnstile: including motor, control board and other electric parts. After a valid open signal is given, the poles will rotate towards the opening direction for a certain angle, indicating user to pass through. After user pushes the pole, it will rotate towards the opening direction automatically.

3. Safety Precautions

Although a series of testing has been carried out before the turnstile leaves the factory and the turnstile can run safely and stably, users should perform proper installation and commissioning strictly in accordance with the operating manual before the turnstile can be put into use. Manufacturers may refuse to take any responsibility for any consequences caused by improper operation or human damage. Before installation, please pay attention to the following safety precautions:

- It is prohibited to install the turnstile without proper mounting foundation.
- Before the turnstile can be put into use, make sure the turnstile functions are tested OK.
- During maintenance work, the fixing bolt must be checked and tighten.
- It is forbidden to apply heavy force on the turnstile; otherwise, unnecessary damage may be caused.
- The equipment is not equipped with explosion-proof design, and it is not allowed to apply the equipment to an environment with danger of inflammable or explosion. However, it is optional for user to purchase other type for the purpose.
- When the electrical accessories are customized, please pay attention to the followings:
 - (1) Only certified and trained electrical technicians may perform the strong electric 220VAC electrical connections.
 - (2) The electrical wiring of turnstile must comply with the attached wiring diagrams.
 - (3) Current carrying components like switch power supply, resistors, lamps shall not be touched while in operating as the high temperature might cause skin burns.
 - (4) It is recommended to separate the turnstile with other equipment power supply interface; otherwise the turnstile might be damaged due to the mutual interference between the equipment.
 - (5) Disconnect the power supply of all external systems (such as access control, visitor management system, ticketing system, etc.) during maintenance work.
 - (6) A leakage switch or residual current operated device is compulsory.

4. Product Structure

The outline dimensions for CPW-312BM are shown as Figure 4-1 below.

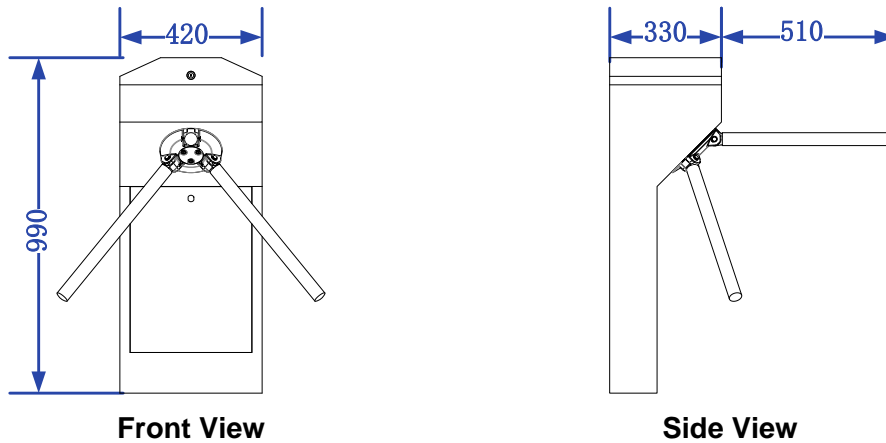


Figure 4-1

The mechanical system of turnstile consists of housing cabinet and mechanism. The housing cabinet is shown as Figure 4-2. The mechanism consists of springs, turntable and turnstile arms.

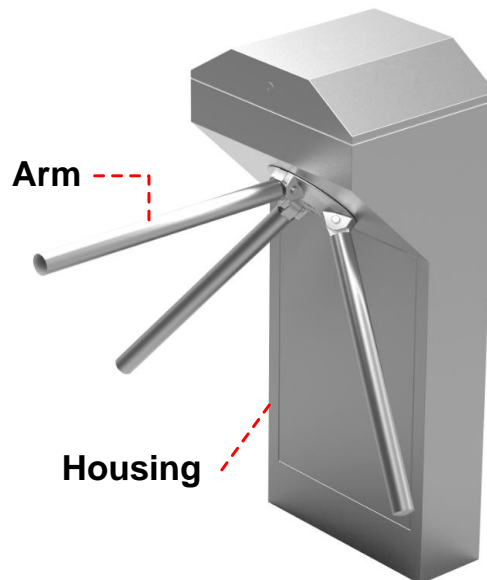


Figure 4-2

5. The working principle of the turnstile system

Excluding the electrical structure and without power supply, passengers need to manually push the arms to pass through. When pedestrians have finished passing through the turnstile, the arms will return to the hindered zero position automatically.

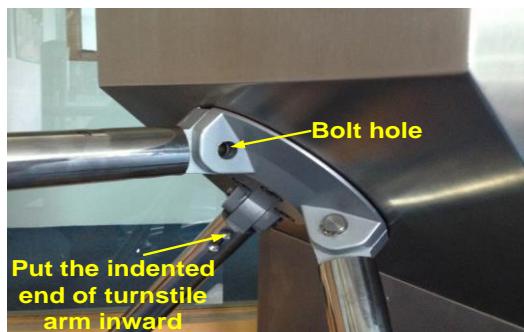
6. Product installation, inspection and tests

6.1 Product installation

6.1.1 Turnstile poles installation

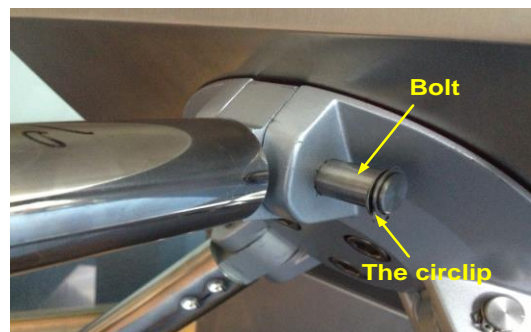
For the convenience of transportation, the turnstile arms will be removed before leaving the factory, and users are required to re-install the arms. The installation instructions of turnstile arms are shown as Figure 6.1.1.

6.1.1.



(1) Put the arm into the corresponding turntable according to the numbers attached on turnstile arms; Pay attention to the installation direction of arms and the connection between the arms and the top pin; put the indented end of arm inward .

(2) Adjust the arms so that bolt holes of arms and turntable are concentric;



(3) Fix two circlips on one end of the bolt first, then pin the bolt into the bolt hole on turntable.

(4) Put down the arms, then fix two circlips on the other end of bolt.

Figure 6.1.1 Turnstile arms installation

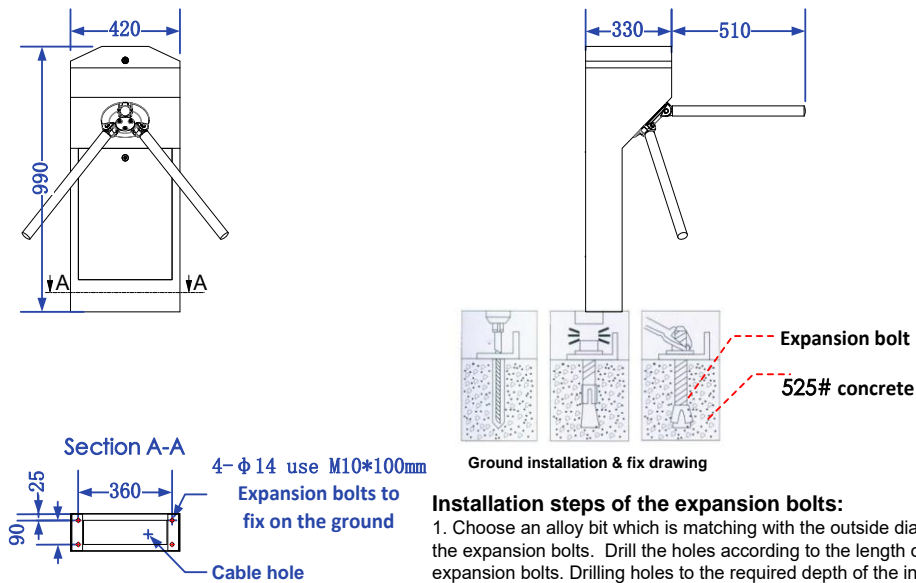
6.1.2 Housing Cabinet Installation

(1) Prepare necessary tools for installing turnstile and pick out the auxiliary parts according to the packing list.

(2) Confirm the system constitution and operating mode. Get ready for installation after finishing system planning.

(3) Drill holes after confirming the positions. Pre-bury N*4 M10 expansion bolts as shown in Figure 6.1.2.

Note: N means the lane quantity.



Installation steps of the expansion bolts:

1. Choose an alloy bit which is matching with the outside diameter of the expansion bolts. Drill the holes according to the length of the expansion bolts. Drilling holes to the required depth of the installation will be ok. Then please clean up the holes.
2. Install flat washers, spring washers and nuts. Screw nuts to the end of the bolts so as to protect the screw thread, and then insert the expansion bolts to the holes.
3. Turn the spanner until the washers are flush with the fixed Objects. If there're no special requirements, user can tighten up by hand and then screw for 3 to 5 turns by spanner.

Figure 6.1.2

- (4) When the electrical accessories are customized, put the both strong power and weak power cables into the 3/4"PVC tube, and bury them to the suitable positions.
- (5) Move the housing cabinets respectively to the installing positions, making them align with the anchor bolts.
- (6) Check the system structure and operating modes.
- (7) Open the housing cabinet door and choose one turnstile as a reference (It is recommended to choose the middle unit as a reference). Respectively align the drill holes of the bolts on the chassis with the anchor bolts and then tighten the nuts tentatively.
- (8) Open the adjacent housing cabinet door. Respectively align the drilling holes of the bolts on the chassis with the anchor bolts according to the above referenced proper arrangement of turnstile online, and then tighten the nuts tentatively.
- (9) When the electrical accessories are customized, Connect the power wires, control wires as well as the ground wires properly according to the wiring diagrams.
- (10) After checking the turnstile status and performing function commissioning are OK, tighten the anchor bolts and nuts.

★ **Note:**

- (1) The depth of the PVC tubes buried shall be more than 60mm. The height above the ground shall be more than 50mm. And the PVC tube shall be bent return so as to avoid water falling in.
- (2) All the above operations should be carried out when power off and please make sure the ground wires of the system is connected correctly, properly and firmly.

Please refer to the CPW-312BM foundation fixing chart attached to the case.

6.2 Product status inspection

It is required to check the turnstile status after it is properly installed. When standby, passengers should push the arms smoothly and the arms return back normally. If the running status of arms are abnormal, please contact the manufacturer.

★ Note: Before leaving the factory, a series of tests have been carried out on the turnstile. But to ensure the stable running of the system, it is necessary to perform inspection on the turnstile status after properly installed at site. The inspection should be confirmed by the professionals before carried out. The turnstile parameters should not be modified at will without the approval of the manufacturer.

6.3 Product function tests

After checking the turnstile status, it is also required to test the turnstile functions. Detailed tests including: passing mode switching function, automatic reset function & manually dropping-arms function.

6.3.1 Passing mode switching function test

The passing mode should be switched by adjusting the spring of the mechanism module.

6.3.2 Automatic reset function test

Pedestrians need to manually push the arms to pass through. When pedestrians have finished passing through the turnstile, one of the arms will return to the hindered zero position automatically.

6.3.3 Manually dropping-arms function test

Open the turnstile maintenance door and press the snap, one of the arms will drop down automatically so as to evacuate pedestrians conveniently, which meets the firefighting requirement.

7. Product usage

When using the tripod turnstile, users should obey the passing rules of "passing in turn".

Note: "Passing in turn" means user should stand outside of the yellow and wait for passing in turn.

8. Product cleaning and maintenance

The cleaning and maintenance of turnstiles will directly affect its service life. Therefore, it requires periodic maintenance.

8.1 Daily cleaning

The daily cleaning includes surface cleaning and internal cleaning. The cleaning frequency is once a week. Please refer to Table 8.1 for details.

Table 8.1 Daily surface & internal cleaning

Area	Tools	Cleaning Methods	Notes
Stainless steel surface of housing cabinet	① Clean and soft cloth ② Stainless steel cleaner polish, watered alkaline detergent (Proportion 7:1)	① Disconnect to power, and use clean soft cloth to clean the dust on surface. Spray the stainless steel cleaner polish on the clean cloth, and then wipe along the lines of the brushed stainless steel surface until it's clean and bright again. ② Use the cloth to clean the bottom and the surrounding ground; Make sure the bottom is dry, and without any water.	Please do not use water, strong alkaline solvent or acidic solvent to clean.
Organic glass	① Clean and soft cloth ② Clean solvent (special organic glass clean solvent, 1% of soapy water, glass cleaning liquid "glassy water", 30% concentration medical alcohol, diesel and other alkaline or acidulous solvent)	① Clean ordinary floating dust: Wipe the surface of organic glass gently with a clean cloth moistened with solvent, or spray organic glass with a sprayer, then wipe with a clean cloth gently, and finally wipe with a dry cloth. ② Clean glue dust: coat little diesel oil on cotton cloth and gently wipe. If you don't have the diesel oil, you can handle it with the method of cleaning ordinary floating dust, watered 30% concentration medical alcohol. ③ Small scratches treatment of organic glass' surface: Wipe the scratches gently for about 5 minutes by cotton with little toothpaste.	Please do not use Acetone-containing solvents, Industrial alcohol, and strong alkaline solvent or acidic solvent to clean.

Tempered glass	<p>① Clean and soft cloth</p> <p>② Clean solvent (weak alkaline and weak acid solvent, like glass cleaning liquid "glassy water", 1% concentration soapy water, 30% concentration medical alcohol, vinegar, strong brine etc.)</p>	<p>① Clean the ordinary floating dust: Wipe the surface of tempered glass gently with a clean cloth moistened with solvent, or spray tempered glass with a sprayer, then wipe with a clean cloth gently, and finally wipe with a dry cloth.</p> <p>② Clean stubborn stains: Wipe with a clean cloth moistened with 30% concentration medical alcohol or warm vinegar; Or use glass cleaning solvent to clean.</p> <p>③ Clean surface frost: wipe with a clean cloth moistened with 30% of medical alcohol or brine.</p>	Please do not use strong alkaline or acidic solvent to clean.
Internal cleaning	<p>① Clean soft cloth</p> <p>② Air blow gun</p> <p>③ Stainless steel cleaner polish</p>	<p>① Disconnect to power and then open the maintenance door. Use the blow gun to remove the internal dust and fines. The mechanical core, boards, switching power, gaps and bottom need to be cleaned specially, so as to ensure it's clean and dry.</p> <p>② Use cloth to wipe the dust inside the cabinet and that on the mechanical parts.</p> <p>③ Dip another clean cloth with suitable amount of stainless steel cleaner polish to wipe along the lines of the brushed stainless steel surface of the maintenance door until it's clean and bright again.</p>	Don't use the dust catcher or air-heater

8.2 Product regular maintenance

Please pay attention to the following:

- (1) Non-professionals are not allowed to open the turnstile housing cabinet to perform tests, maintenance or product services;
- (2) It is forbidden to use hard objects to clean the turnstile surface, or it will be easily scratched.
- (3) It is required to check the connections of each interface on the mechanism periodically, so as to avoid the looseness of parts.
- (4) It is required to use lubricants to lubricate the mechanism parts periodically.
- (5) When the electrical accessories are customized, please pay attention to the followings:
 - a. It is forbidden to use water to clean, or it will cause short circuits of the electric components and affect

the normal usage of turnstile.

- b. It is required to check the sockets and wiring connections periodically so as to ensure the stability of wiring connections.
- c. It is required to check the ground connections of the electric system periodically so as to avoid electric leakage.
- d. After finishing the maintenance, please connect the turnstile system to power and close the maintenance door.

9. Product common troubles and trouble shootings

9.1 Indicator lights failure

Normally, the arms will return to the hindered zero position automatically when pedestrians have finished passing through.

The automatic reset function of arms failures: When pedestrians have finished passing through, the arms cannot return to the hindered zero position automatically.

Cause Analysis: The springs of the mechanism are broken or the bearing is damaged.

Troubleshooting: Check whether the springs of the mechanism are broken or not. If yes, please contact the manufacturer to change the springs. If not, the bearing may be damaged. Check whether the arms rotate smoothly or not. If yes, the bearing may be not damaged and please contact the manufacturer. If the arms is tight in the rotation process, it is possible that the bearing is damaged and please contact the manufacturer to change the bearing.

★ **Note: The above shows the common failures of the products. For troubleshooting methods of more failures, please refer to the special maintenance manual of the product.**

★ **The product design and specifications are subject to change or upgrade without prior notice.**

