

INSTALLATION GUIDE



TTS257 LINE TRIPOD TURNSTILE



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Description

Introducing the innovative TTS257, an essential tripod turnstile designed for pedestrian access control. Rotor arms stay locked to barricade off unauthorized personnel and unlock when authorization signal is received. Each rotor arm is spaced at 120° to effectively block off most tail-gating attempt.

Through focusing on core functionality and streamlined build, TTS257 is designed to provide a cost-effective and robust solution for managing pedestrian traffic.

Features

✓ **Reliable**

Semi-automatic drive mechanism with springs ensure each rotation is automatically completed and rotor arm return to locked state. Shock absorber mitigates excessive impact, reducing wear-and tear to prolong service lifespan.

✓ **Robust**

Controller board is housed within a weatherproof casing at waist height for easier servicing by operators. This design also ensure the tripod turnstile can withstand most non-extreme weather without failure.

✓ **Anti-tailgating**

TTS257 Machine core is designed with Single Level Anti-Reverse (SLAR), which physically disallow any tailgating attempt by reversing an incomplete rotation.

✓ **Emergency Evacuation**

TTS257 will automatically drop its arm in case of power-loss, or when a fire alarm signal is received, to allow for unobstructed evacuation.

✓ **User Friendly**

RGB user guidance light is available on both sides to indicate lane availability. Clear buzzer sound cue intuitively guide users when the passage is allowed.

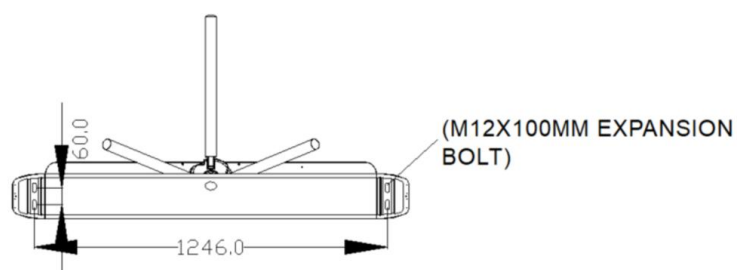
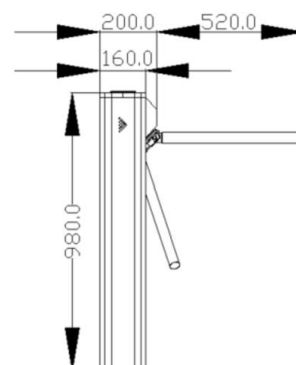
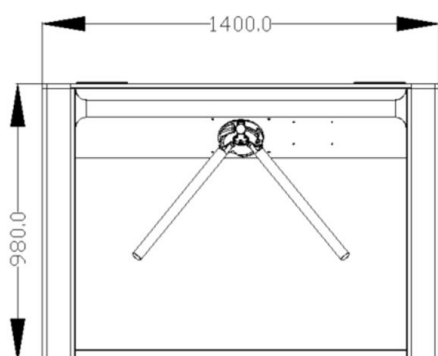
✓ **Easy Integration**

TTS257 can be integrated with any access control terminal through dry contact.

Technical Parameter

Description	Parameters
Body Material	Stainless Steel SUS304
Passage Width	550mm (recommended min. 30mm gap)
Optimal Flow Rate	Up to 35 person per minute
Power Supply	AC220/110V±10%, 50/60Hz
Power Consumption	35W
Mechanism	Semi-automatic tripod turnstile
Input Connection	Dry contact pulse
Working Environment	Indoor and sheltered outdoor
Working Temperature	-20°C - 70°C
Relative Humidity	≤ 90%, non-condensing
Arm Material	SUS201
IP Rating	IP 4X
MCBF	2.5 million cycles

Dimension



Precaution

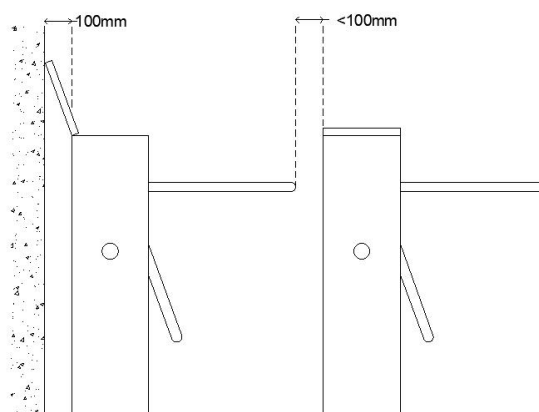
- In case of emergency, isolate the power from the power supply.
- Improper installation can cause danger (such as electric shock or fire). Please engage specialist for the proper installation work.
- DO NOT install the product in a potentially explosive atmosphere.
- DO NOT operate with wet hands.
- If abnormal condition (burnt smell. etc) occurs, switch off the power supply.
- DO NOT operate product when exposed to direct sunlight when cover is opened.
- Strictly indoor or well shaded application.

Installation

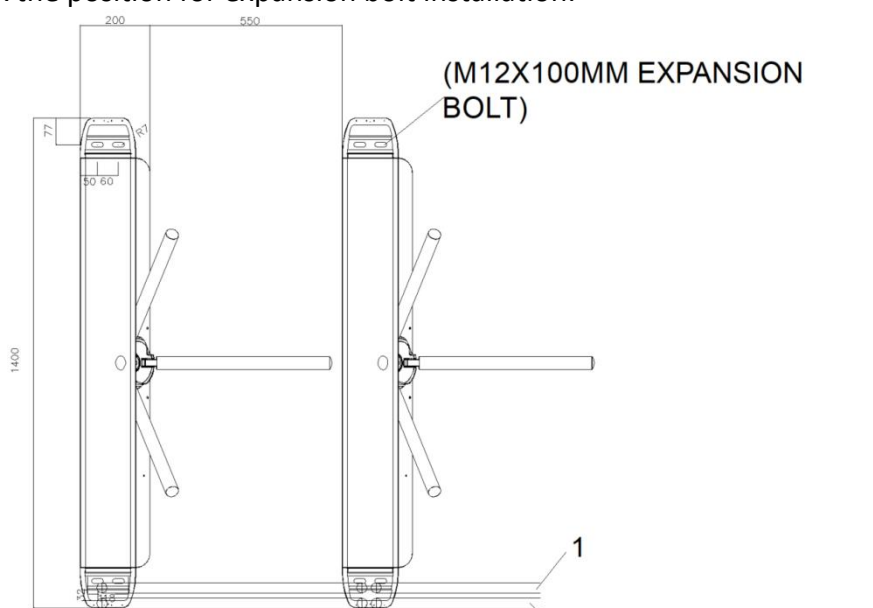
****Position guidance label is affixed to the product wrapping, please take note before removing for installation.****

1. Required wiring:
 - AC 240V power line.
 - Access control / fire alarm wiring .
2. Recommendation:
 - Underground cable duct is recommended to be at least 60mm deep; outlet should be 50 mm higher from ground level.
3. Installation must be done on level and secured base.
4. Proper earthing must be done.

Step 1: Arrange and align the TTS257. When installing the tripod turnstile near a wall or other equipment, please ensure there is a minimum clearance of 100mm.

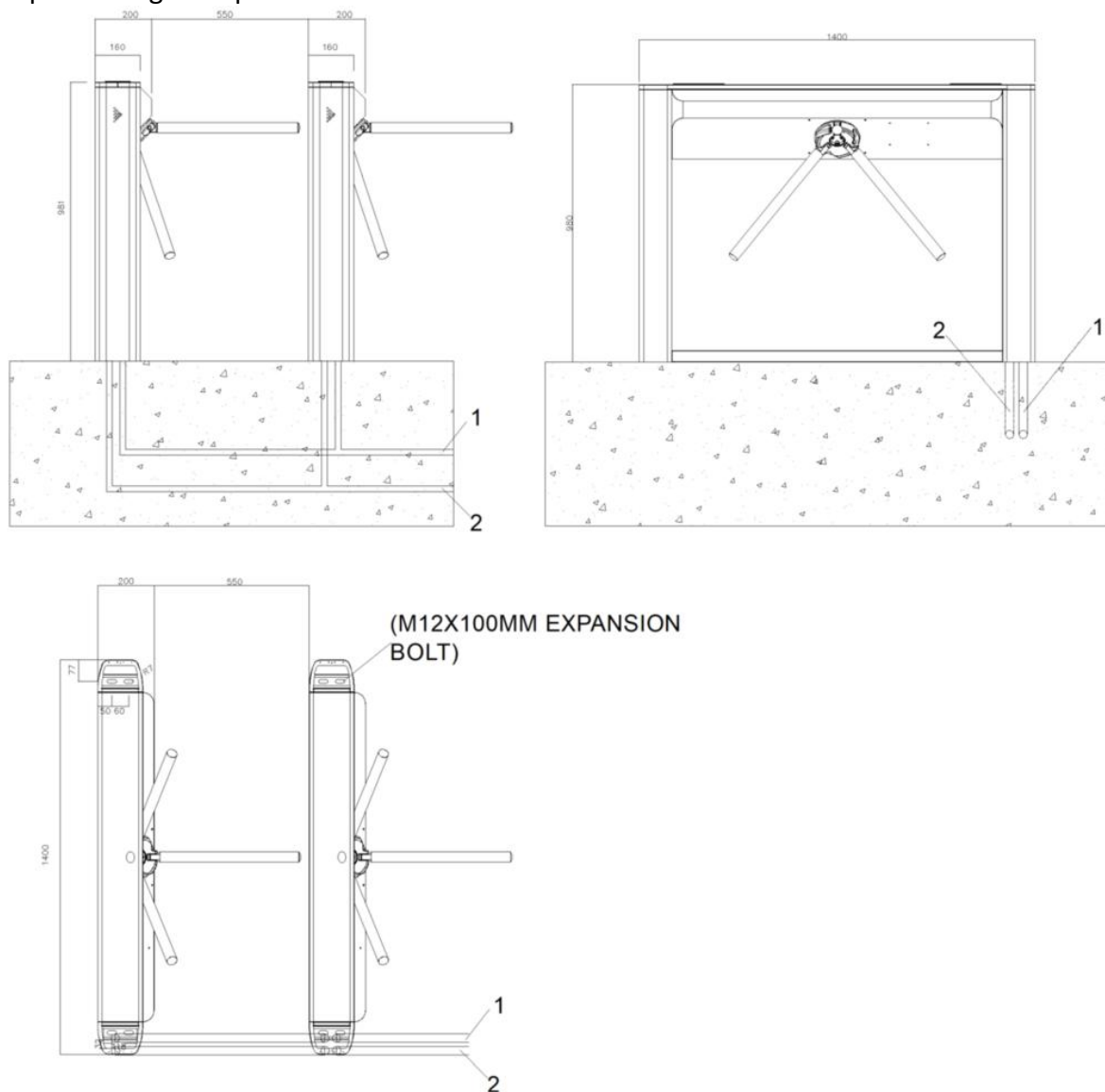


Step 2: Mark the position for expansion bolt installation.



Step 3: Move the tripod turnstile aside to install M12*100 expansion bolt according to the marked position.

Step 4: Wiring Set-up



1	Ø 20mm PVC tube for AC240W power (3-core, Ø 2.0mm)
2	Access controller connection to PC / Server / Controller

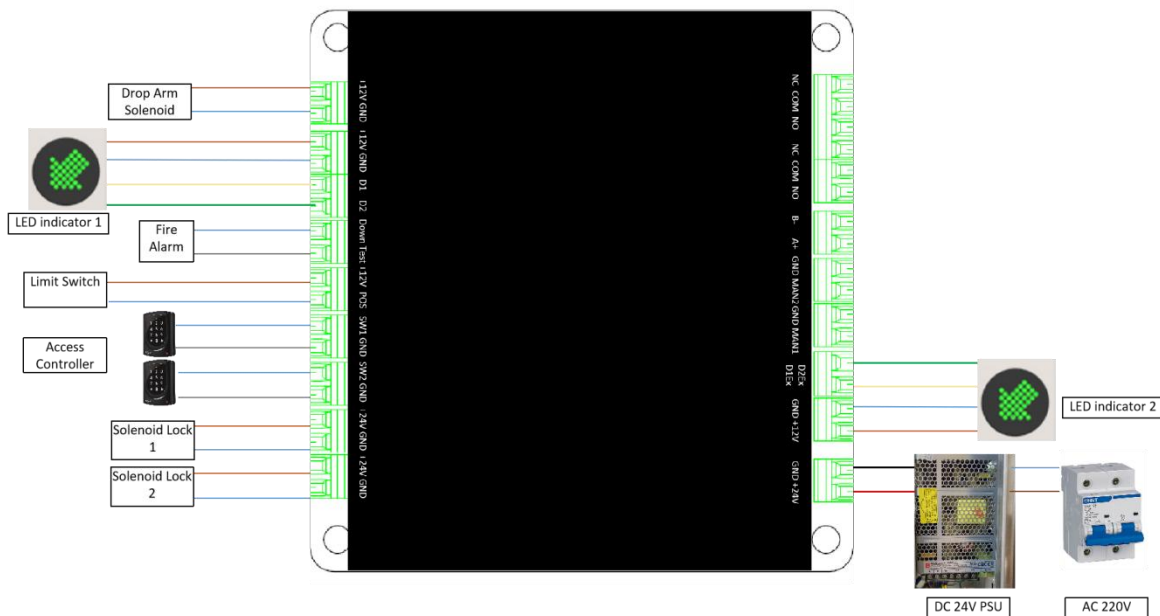
Step 5: Testing

1. Verify the wiring connections and ensure all connections are secured before turning on the power.

2. After turning on the power, manually lift up one of the turnstile arm and ensure it is secured.
3. Connect the access controller to the master side main board of each lane. Ensure the access control signal output is set to 1s.
4. Test and ensure the basic features are functional:
 - a) Normal passage: After access is granted from the controller, there should be an audible sound to signal the turnstile is unlocked. If a complete passage is made within 5s, the turnstile should automatically re-lock after the arm is rotated 120°. Otherwise, the time-out protection will also re-lock the turnstile after 5s.
 - b) Indicators: The LED indicator at the front and back of the turnstile is lighted blue when idle. When access is granted, the LED on the passage side will turn green, while the opposite side will turn red.
 - c) Safety: The tripod arm should drop immediately when the fire alarm signal is received, or when AC power is turned off.
 - d) Calibration: Calibrate the damping force of the hydraulic absorber by rotating the knob behind. Ensure there is no excessive impact and noise when after each rotation.

Wiring Connection

Main Board



Typical Connection for Access Control



Note: Access control output signal should be set to 1s.

Optional Fire Alarm Connection



Alternatively, TTS257 can be unlocked by switching off the power supply.

Parameters Settings

Dipswitch can be access by opening the main board plastic cover.

DIP Switch 1 - 3: Auto-Relock Timer*

Default auto-relock timer (how long arm will stay unlock without user passing through) is 5s.

1	2	3	Auto -Relock Duration
OFF	OFF	OFF	5s
OFF	OFF	ON	6s
OFF	ON	OFF	7s
OFF	ON	ON	8s
ON	OFF	OFF	9s
ON	OFF	ON	10s
ON	ON	OFF	11s
ON	ON	ON	12s

DIP Switch 4, 5: N/A, do not change

DIP Switch 6: Solenoid Mode

Only used when changing to solenoid to different version for full height turnstile.

DIP Switch 7: Sensor Type, do not change

DIP Switch 8: Multiple Access Memory

Default: OFF

Turn ON to enable multiple access memory:

When valid card is flashed five time (i.e. five signal given to main board), turnstile can be turn for 5 rotations for 5 people to pass before re-locking.

Frequently Asked Questions (FAQ)

Problem	Troubleshooting Steps
1. Tripod arm can be turned multiple times before auto-relock.	Ensure the access control signal is set to 1s. Otherwise troubleshoot the limit switch to ensure it is working.
2. Tripod arm does not lift up automatically after power-on.	TTS257 tripod arm needs to be manually lifted up after power-on.
3. Tripod arm cannot be turned after access granted from controller.	Ensure access control signal is a dry contact. Otherwise, measure and check whether the solenoid interface on main controller board will output 24V after receiving signal from access control interface.
4. Tripod arm will not drop automatically after receiving fire alarm signal / power loss. 5. Tripod arm is unable to stay level and keep dropping.	Loosen the drop arm solenoid screws and adjust the position of the drop arm solenoid.
6. Loud banging noise after each complete rotation.	Adjust the absorber knob to ensure there is adequate resistance to minimize the impact.
7. Solenoid lock is always retracting (unlocked).	Check dip-switch 6 position.
8. How to allow free passage for one direction (e.g. free rotation for exit).	Remove one of the solenoid lock.

Stainless Steel Maintenance

Stainless Steel 304 (SS304) and Corrosion Factors

SS304 is renowned for its excellent corrosion resistance as part of the austenitic stainless steel family. However, under certain conditions, even SS304 can succumb to corrosion. Here are the primary factors to consider:

- **Halogen Ions (Chloride Ions, Cl^-)**
Chloride ions, commonly found in salt, sweat, salty water, soil, and sea breeze, are particularly aggressive. They can disrupt the passive chromium oxide layer on SS304, leading to localized pitting and rusting.
- **High Temperature**
Elevated temperatures can accelerate corrosion processes by increasing chemical reactivity and potentially degrading the protective oxide layer.
- **Iron Contamination**
The presence of iron particles can create localized corrosion sites. When iron contaminates the surface of SS304, it can initiate rust formation. Sources of iron contamination includes but not exclusive to: brake dust from road traffic and iron dust from construction or fabrication.
- **Poor Maintenance and Cleaning**
Without proper cleaning and maintenance, contaminants can accumulate on SS304 surfaces, increasing the risk of corrosion.

Practical Recommendations:

- **Environment Assessment**
Always evaluate the application environment. If the material is exposed to aggressive conditions—such as high chloride levels or elevated temperatures—extra precautions are necessary.
- **Regular Maintenance**
Keep SS304 surfaces clean and dry to minimize the risk of corrosion. For cleaning the surface, routine wiping and rinsing with soft cloth dampened in fresh water, using mild detergent and rinse thoroughly to ensure no soap residue remains and consider applying a protective coating or passivation treatment. These coatings add an extra barrier between the stainless steel and environmental factors that can lead to corrosion.
- **Material Selection**
For harsh environments, consider using SS316, which contains molybdenum and offers improved resistance to chloride-induced corrosion.

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Type	Solution	Period	Picture
Dust/ Chemical/ Stain/ Acid or Alkaline elements.	Use damp cloth to clean the SS304 surface first, then use a dry cloth to wipe again immediately Clean tough stain with alcohol if required. Finally, clean and polish lightly with WD-40.	Weekly	
Moving parts, motor, shaft, arms, etc	If noise is exceeding acceptable level, apply some lubrication or grease to the moving part and motor.	Quarterly	
Fastener, screw, bolts and controller board	Use a screw driver, wrench, hammers or other tools to fasten screws. Check the controller board and wiring to prevent any risk. CAUTION: Circuit check shall be done by professional technician	Annually	



***Product performance is based on testing in a controlled environment. Your results may vary due to several external and environment factors.**

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