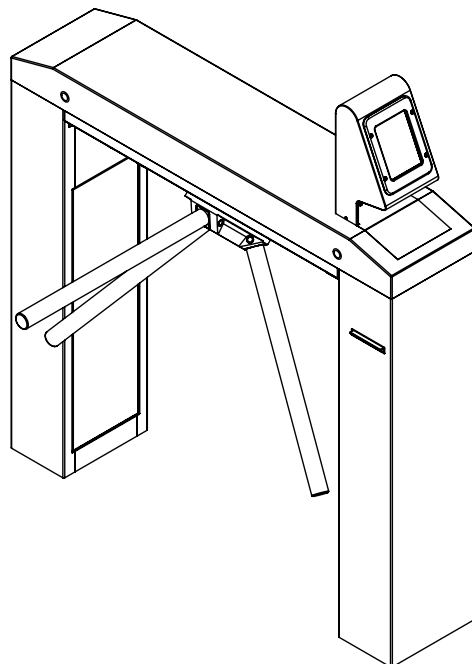


**TAS12-EDM**



**TAS12P-EDM**

## **Installation and Operation Instructions**

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**Please read this entire manual before installing or operating the product.**



## Safety Icons

The following symbols are used throughout the manual to highlight important information and potential risks when installing, servicing or using the turnstiles covered in this manual.



This symbol is used in this manual to warn installers and operators of potential harm. Please read these instructions very carefully.



This symbol is used in this manual to designate potential conditions that may pose a risk to pedestrians, personnel, property and equipment. Please read these instructions very carefully.



This symbol is used in this manual to designate useful information for the installer and operator. Please read these instructions.



For questions, please contact Alvarado at (909) 591-8431, Monday – Friday 7:00am to 4:00pm PST. Please read this manual completely before installing or operating the purchased product.

## Safety Precautions



- Use only skilled individuals to install and service the turnstile.
- The turnstile is not a toy. Do not allow children to play on or near the turnstile.
- Follow a proper maintenance schedule using skilled individuals.
- Do not operate the turnstile if it has been damaged, or is functioning incorrectly, in any manner. Have the turnstile repaired by a skilled service person before placing back in use.
- Do not modify or alter the turnstile.
- Use only Alvarado parts when repairing or maintaining the turnstile.
- Ensure that patrons are supervised when using the turnstiles.
- Test the turnstile(s) daily, or prior to each event, to ensure proper functionality.

## SAVE THESE INSTRUCTIONS

Upon completion of the installation process, it is the installer's responsibility to provide the project or site manager with these Installation Instructions and the Operation and Maintenance Instructions.



**Tools Required (Fixed Turnstile Installation)**

- Socket Wrench
- Hammer Drill
- 5/8" Concrete Drill Bit
- Shop Vac
- 5/32" Allen Wrench
- 5/16" Open Wrench (Wireless antenna only)
- #2 Phillips Head Screwdriver
- Precision Flat Head Screwdriver
- Torque Wrench (ft-lbs)
- 9/16" Socket
- Hammer
- Tape Measure
- Chalk
- 5/8" ID Washer Shims
- Clear RTV Silicone

**NOTE**

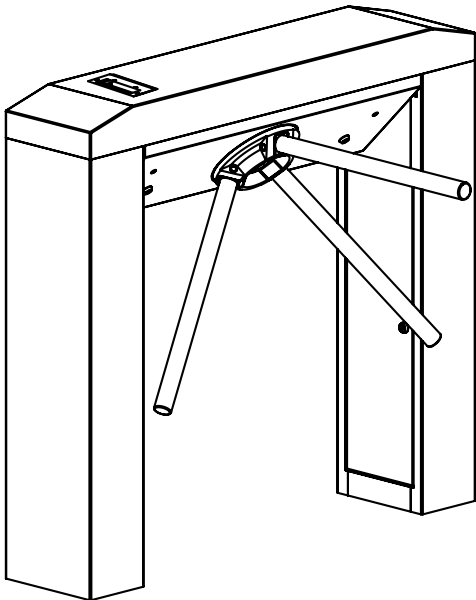
Tools required for Portable Base Turnstile installations are located in Appendix A - Portable Base Turnstile on page 24.



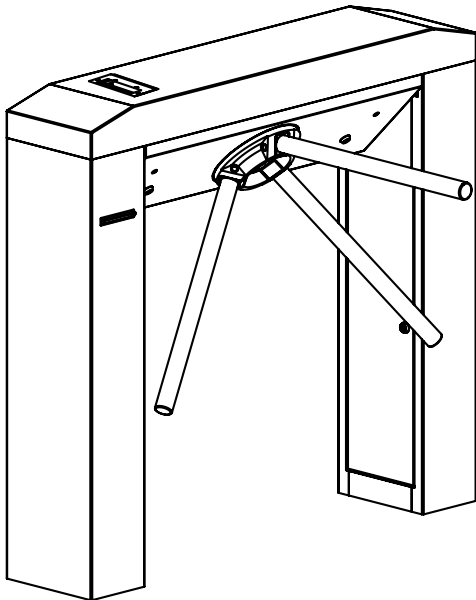
Parts List

This product is shipped with installation hardware. Make sure that no parts are missing or damaged before beginning installation. If parts are missing or damaged, please stop the installation and contact Alvarado. Additional copies of this installation manual can be found at [www.alvaradomfg.com](http://www.alvaradomfg.com).

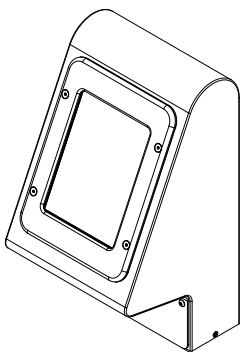
TAS12-EDM



TAS12P-EDM

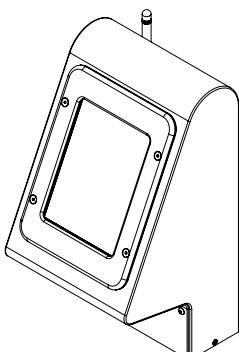


Turnstile  
(Qty 1)



Hardwired TAS12  
(Qty 1)

OR



Wireless TAS12  
(Qty 1)

**Also included:**

Anchoring Hardware

- Concrete Anchor Kit (Qty 1)

Keys (per turnstile)

- Turnstile Lid Keys (Qty 2)

Cabling

- RS232 Programming Cable (Qty 1)

**NOTE**

Turnstile lid keys are taped to the turnstile arm. Make sure to locate these keys prior to discarding product packaging



## Overview

This manual covers the physical installation process for TAS12-EDM, TAS12P-EDM, & DTAS12-EDM Motorized Intelligent Admission Turnstiles. At the end of this process, you will be able to power up the turnstile and perform a basic functions check to validate certain aspects of operation. Operation instructions are outside the scope of this manual, and can be found in the *Operation and Maintenance Instructions* manual.

## Power

The turnstile is powered in one of three ways:

- Primary power - Primary power is run to the turnstile location via conduit and connected to terminal block located inside the turnstile cabinet. Applicable to fixed installations only.
- AC outlet - The turnstile is connected to an AC outlet using an exterior mounted AC inlet and extension cord. Applicable to portable installations only.
- Rechargeable battery - The battery is charged by connecting to an AC outlet using an exterior mounted AC inlet and extension cord. Applicable to portable installations only.

Before you begin, understand how your turnstiles will be powered. This manual focuses on primary power connection for the basis of instruction. Instructions on AC outlet and battery connections can be found in Appendix A on page 24.

## Communication

Alvarado's Motorized Intelligent Admission Turnstiles are networked devices that communicate with the validation server using wired or wireless TCP/IP. How a turnstile communicates with the network (wired or wireless) is dependent on the options specified during the ordering process and the type of network used at the host facility. The turnstile will ship pre-configured with the network settings provided to Alvarado during the ordering process.

When powered up, the turnstile should automatically connect to the server (provided the server is online). Network configuration and troubleshooting is outside the scope of this manual. If you require additional information or instruction, seek direction from your network administrator or project manager.



## Installation Steps

### Fixed Installation

1. Anchor the turnstile to the concrete slab.
2. Connect primary power.
3. Mount the TAS12 unit to the turnstile lid.
4. Attach the TAS12 wireless antenna (if applicable).
5. Connect cables that interconnect the turnstile and TAS12 unit.
6. Connect the Ethernet cable for network communication (if applicable).
7. Inspect installation.
8. Perform a post-installation functions check.
9. Hand off instruction manuals to the project or site manager.

### Portable Installation

1. Install the guide rail to the portable base plate.
2. Mount the TAS12 unit to the turnstile lid.
3. Attach the TAS12 wireless antenna (if applicable).
4. Connect cables that interconnect the turnstile and TAS12 unit.
5. Connect the Ethernet cable for network communication (if applicable).
6. Inspect installation.
7. Wire Neutrik connector to AC power cord (AC power cord not supplied by Alvarado).
8. Connect to an AC power source.
9. Perform a post-installation functions check.
10. Hand off instruction manuals to the project or site manager.

## Before you Begin

Depending on whether you are installing fixed or portable turnstiles, certain sections of this manual may not be applicable to your installation.

- For fixed turnstile installations, proceed to the Installation Instructions beginning on page 8.
- For portable turnstile installations, proceed to Appendix A - Portable Base Turnstile on page 24.



Use only skilled technicians for site preparation and installation of the turnstile using Alvarado's instructions. Refer to the footprint and plan drawings [Fig. 1] & [Fig. 2] to determine the installation location and conduit requirements. See Appendix A - Portable Base Turnstile section on page 29 for footprint and plan drawings for the Portable Base Turnstile.

- Use a level, solid concrete pad with minimum size of 4' x 4' and a minimum thickness of 4" (101.5mm).
- Do not install the turnstile on asphalt.

- There must be 2" (50.8mm) of clearance between the turnstile arm and the adjacent turnstile or barrier [Fig. 1].
- Stub up conduit in accordance with local electrical codes.
- Always verify the layout of the turnstile(s) before installation.

Diagram illustrating a turnstile with a 2" [50.8] clearance from an adjacent barrier or turnstile.

Technical drawing of a rectangular plate with two rectangular openings. The plate dimensions are 2X 34 [864] inches. The openings are 2X 5 [127] inches. The plate has a thickness of 0.5 inches. The left opening is 9.5 [241] inches high and 2.3 [57] inches wide. The right opening is 39.2 [997] inches high and 2.3 [57] inches wide. The distance between the centers of the openings is 34 [864] inches. The plate is labeled "2X 34 [864]" and "2X 5 [127]". The openings are labeled "Conduit Opening".





Space & Conduit Requirements (cont.)

Fig. 3

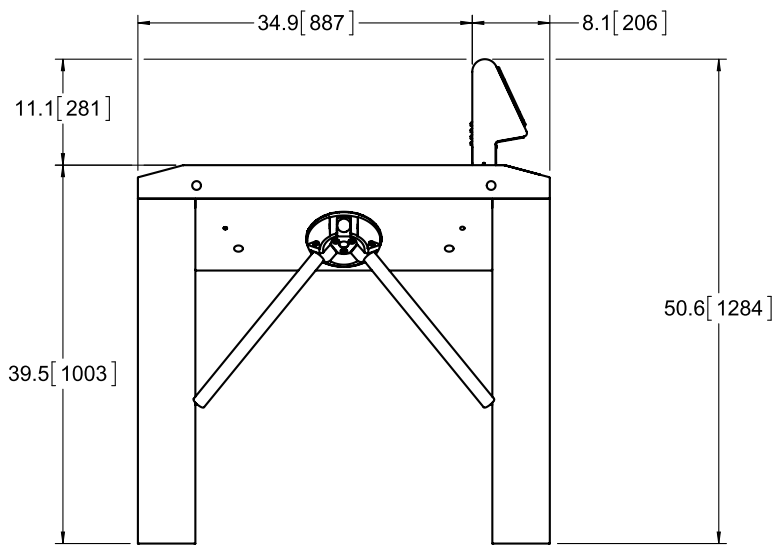


Fig. 4

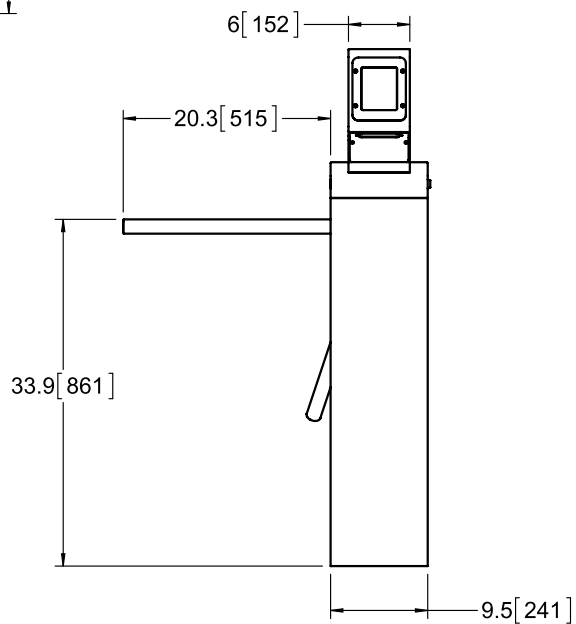
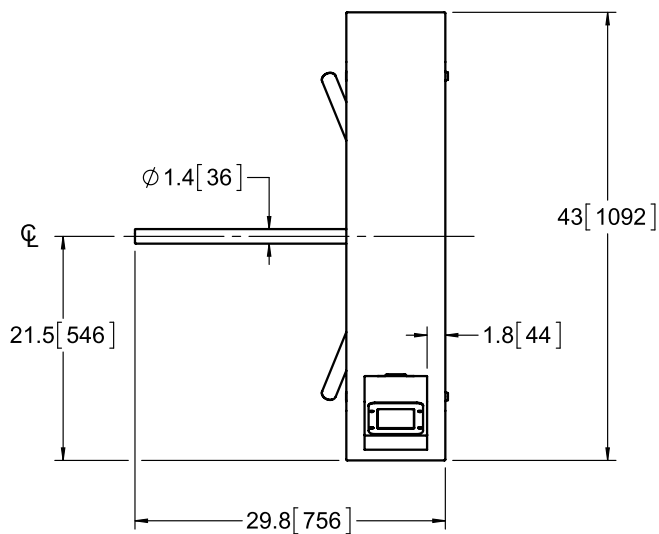


Fig. 5





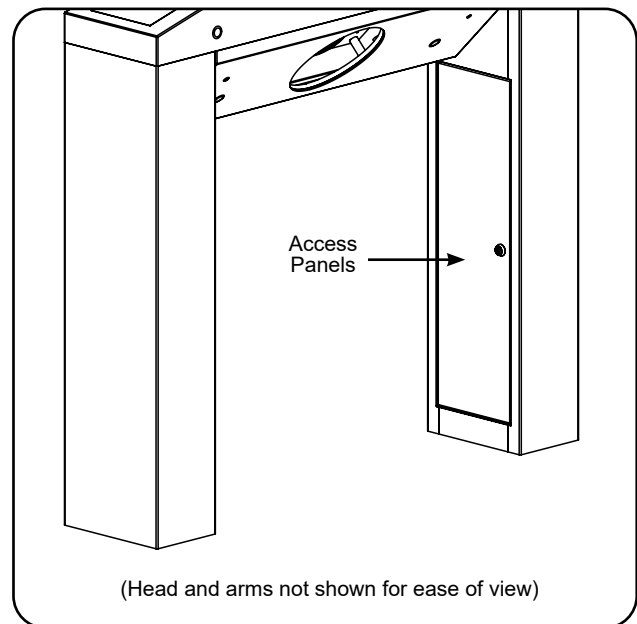
## Anchoring the Turnstile

1. Using a turnstile lid key, open the turnstile leg access panels [Fig. 6].
2. Using a 9/16" socket wrench, remove the four (4) bolts that secure the temporary wood plate to the turnstile. Discard the wood plate.
3. Place the turnstile in the desired location. Check that the turnstile is level and does not rock. If the turnstile is not level, shimming will be required before anchoring.

### NOTE

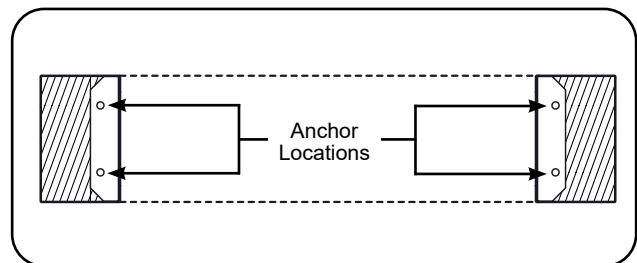
Primary power terminal block and power button are always located on the secured or internal side of the facility. Keep this in mind when placing the turnstiles according to project layout.

Fig. 6



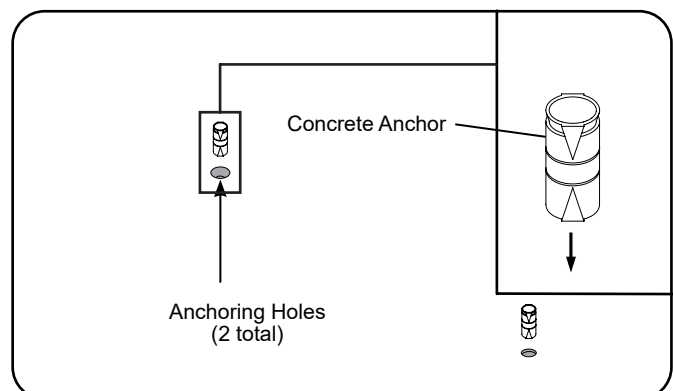
4. Transfer four (4) anchor locations to the floor [Fig. 7].
5. Move the turnstile to the side.
6. Using a hammer drill fitted with a 5/8" concrete bit, drill each anchor hole to a depth of 3" (76.2mm).
7. Using a shop vac, vacuum debris from the anchor holes before installing the anchors. If the holes are not clear of debris, the anchors may not tighten properly.

Fig. 7



8. Insert anchors into the drilled holes with the threaded ends down. If needed, use a hammer to tap the anchors into place. Ensure that the anchors are flush with the concrete floor [Fig. 8].
9. Return the turnstile to the install location, ensuring the anchor holes are aligned.
10. Route primary power wiring and network cable (if using) through the appropriate conduit opening into the turnstile. Primary power wiring will be connected in later steps.
11. Insert anchor bolts.
12. Using a torque wrench (ft.-lbs.) and 9/16" socket, torque the threaded rods to 20 ft.-lbs.

Fig. 8



### NOTE

Use included Shim Kit as necessary to level turnstile and prevent rocking.

13. For outdoors installations, apply a thick bead of clear RTV silicone around the base of turnstile legs to seal.



Primary Power Wiring Instructions

NOTE

The following instructions are for fixed turnstile installations only. If you are installing a portable AC-powered or battery-powered unit, please refer to Appendix A - Portable Base Turnstile section on page 29.

WARNING

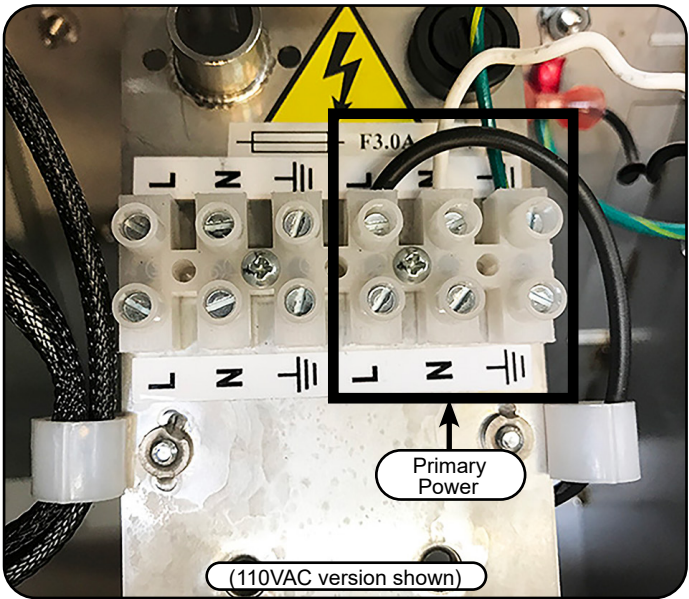
- Use a licensed electrician for the following steps and adhere to all applicable local codes.
- MAKE SURE PRIMARY POWER IS TURNED OFF AT THE BREAKER.

1. Using a turnstile lid key, open the cabinet lid.
2. Locate the six-pole primary power terminal block [Fig. 9].
3. Using a precision flat-head screwdriver, connect primary power wires according to [Table 1].

Table 1

Terminal	110V	220V
Line	Black	Brown
Neutral	White	Blue
Ground	Green	Green/Yellow

Fig. 9





## Control Board Description

### Signal Inputs and Outputs To / From Access Control System

#### Inputs - J4 Terminal Block

Signal inputs are wired into the EDM's I/O input terminal block. There are two types of input signals, momentary dry contacts (MDC) and sustained dry contacts (SDC). All input signals must be normally open, voltage-free, dry contacts.

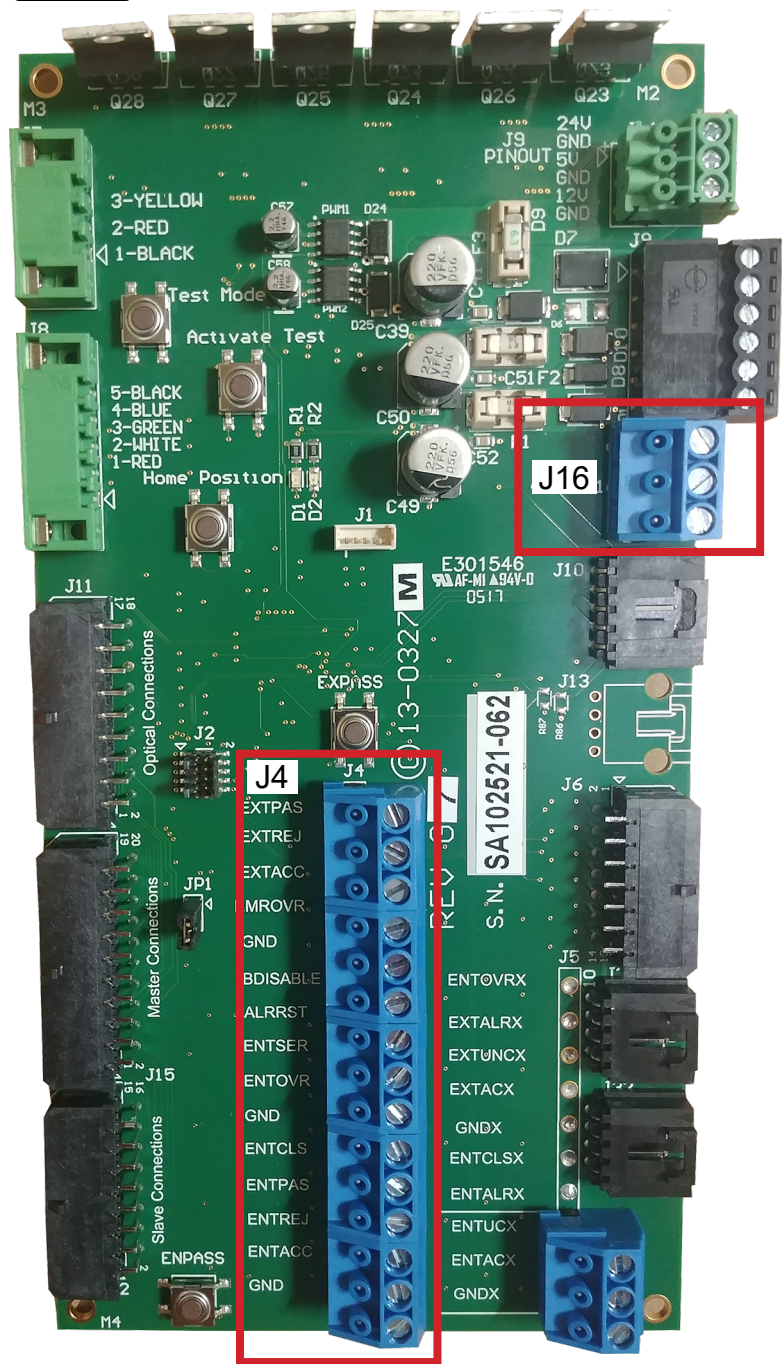
#### NOTE

NEVER connect signal lines containing voltage directly to the I/O terminal strips. This will damage the circuit board.

#### J16 Connector

The J16 connector is used to connect your computer to the EDM using the provided serial cable. This connection allows it to connect with the EDM Utility. See the EDM Utility section on page 25.

Fig. 10





## Control Board Description (Cont.)

Refer to [Table 2] for pin locations on the terminal block related to the emergency override system.

Table 2

Pin #	Pin Name	Function Description	Contact Time	Function & Behavior Description
4	EMROVR	Emergency Override	SDC	Drops the arms for free egress. Arms remain down and turnstile is inactive until SDC is removed, or contact is reestablished if normally closed setting is enabled. (Typically used for fire alarm or life safety systems.)
5	GND	Ground	SDC	Common input ground signal.
7	ALRRST	Emergency Override State	SDC	Changes the EMROVR contact from normally open to normally closed.
10	GND	Ground	SDC	Common input ground signal.
15	GND	Ground	SDC	Common input ground signal.

## Identifying Rotation Direction

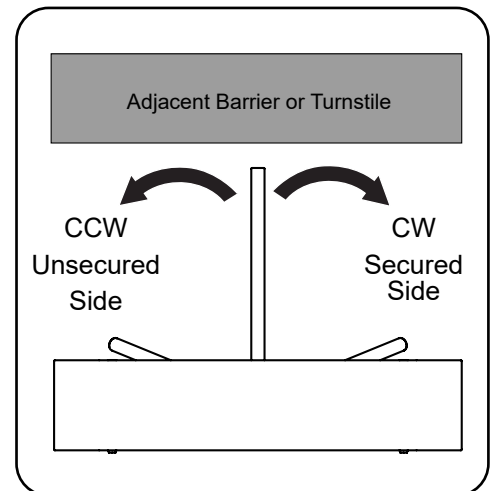
### Clockwise (CW):

Turnstile arms rotate in a clockwise direction when viewed looking down from behind the cabinet.

### Counter-Clockwise (CCW):

Turnstile arms rotate in a counter-clockwise direction when viewed looking down from behind the cabinet.

Fig. 11



Orientation shown for a right-handed cabinet.



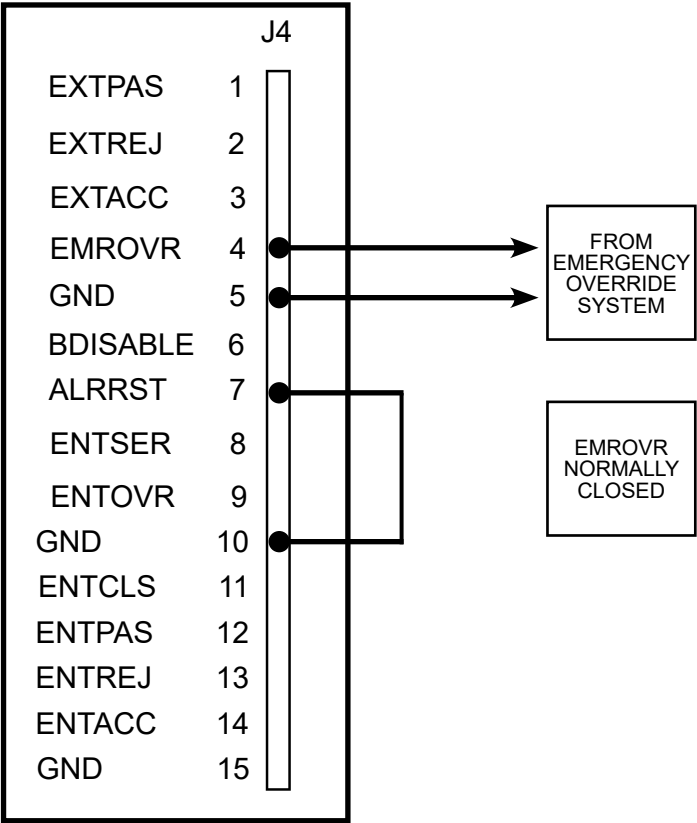
Wiring the Control Board for Emergency Override

Emergency alarm systems, such as fire alarms or life safety systems, can be connected to the EDM's control board. If the alarm is triggered and provides a sustained dry contact to the correct port on the controller board, the EDM will drop its arms to create a free passage to allow guests to exit the facility rapidly.

The dry contact signal to the emergency override pin can be normally open or normally closed. The EMROVR pin is normally open by default.

**NOTE** Ensure power to the turnstile is OFF when wiring the I/O Terminal Blocks.

Fig. 12



Wiring for Normally Open

1. Locate the EMROVR and one of the GND terminals on the I/O J4 terminal block.
2. Connect the leads from the emergency override system to the EMROVR and GND terminals.

Wiring for Normally Closed

1. Locate the ALRRST and one of the GND terminals on the I/O J4 terminal block.
2. Connect the ALRRST terminal directly to one of the GND terminals.



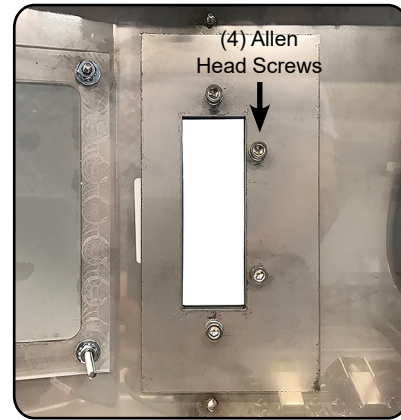


## TAS12 Installation

**NOTE**

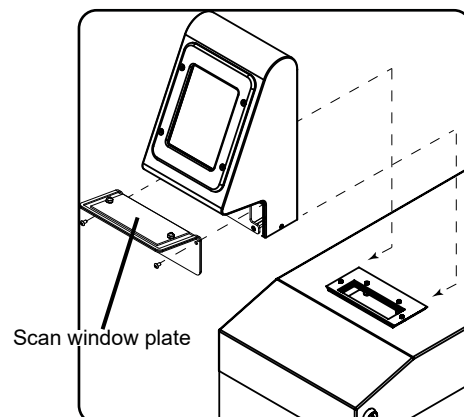
If you are installing a Dual TAS12 turnstile, the TAS12 units will be labeled ENTRY and EXIT. It is the responsibility of the installers to ensure the entry and exit TAS12 units are installed in accordance to your project layout.

1. Locate the (4) Allen head screws on the underside of the turnstile lid [Fig. 13].
2. Using a 5/32" Allen wrench, **loosen** the (4) Allen head screws.

**Fig. 13**

3. In case not already done, remove all packaging from the TAS12 unit.

4. Use a 2 mm hex key to remove the scan window plate from the TAS12 Fig. 14 section on page 15.
5. Place the TAS12 onto the lid and slide the unit forward [Fig. 14]. The base plate will act as a guide; the dove tail plates will slide under the base plate until they are flush with the front edge of the base plate.
6. Use a 2 mm hex key to attach the scan window plate to the TAS12.
7. From the underside of the lid, use a 5/32" Allen wrench and tighten the four (4) Allen head screws.

**Fig. 14**



## TAS12 Connection Instructions

**NOTE** Ensure turnstile power is OFF before connecting TAS12 cabling.

### TAS12 Inputs

TAS12 cables are routed to the TAS12 mounting location. Depending on the turnstile options ordered, not all wiring instructions may be applicable.

Fig. 15

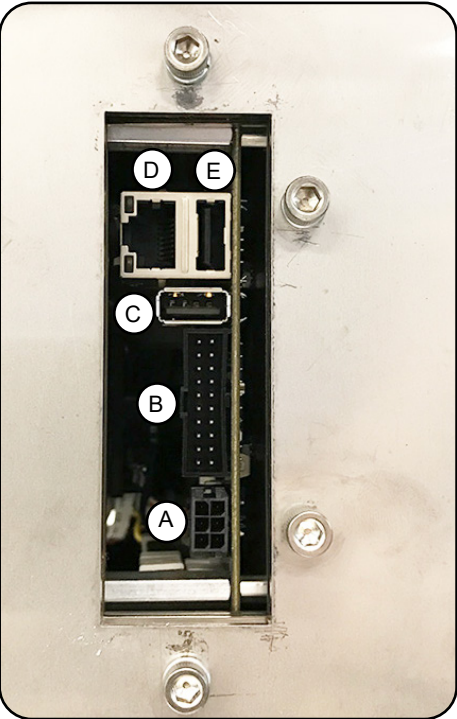
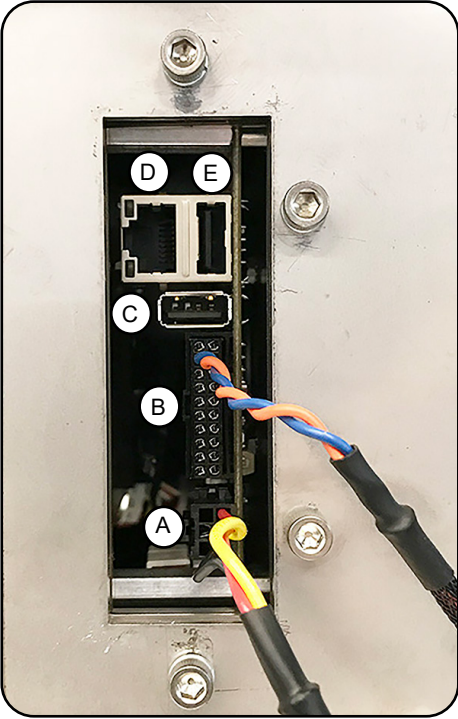

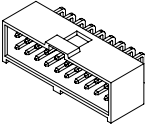
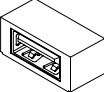
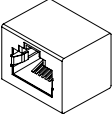
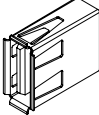


Fig. 16



	<b>1. Power Input</b> - Used to supply power to the TAS12. Plug the 6-pin power connector into the power input (A).
	<b>2. Interface Input</b> - TAS12 RS485 communication. Plug the 20-pin connector into the interface input (B).
	<b>3. Printer Input (TAS12P-EDM Only)</b> Plug the USB printer cable into a USB port (C or E).
	<b>4. Ethernet (Wired communication only)</b> Used for communication with local area network. Plug the Ethernet cable into the Ethernet port (D).
	<b>5. Mag Stripe/RFID Reader Input (Optional for TAS12P-EDM models only)</b> Plug the mag stripe or RFID reader's USB cable into a USB port (C or E).





## Post-Installation Inspection

**Perform this post-installation inspection BEFORE powering on the turnstile for the first time.**

1. Anchoring (fixed installations only): Verify the anchor bolts are tensioned to 20 ft-lbs. Tighten if necessary.
2. TAS12: Verify the TAS12 mounting screws are tightened. Tighten if necessary.
3. Dust, Dirt, & Debris: While the unit is powered down, open the lid to reveal the interior electronics. Blow any dirt, dust, and small debris out of the turnstile with low-pressure compressed air such as Dust-Off.
4. Wiring: Inspect all wires and contacts for exposure to any metal parts that may lead to a short.

## Post-Installation Functions Check

Perform the following checks to verify the turnstile is performing properly. Function checks are included for optional peripherals (i.e. RFID, mag stripe reader, printer) and may not be applicable to your installation. If any problems are encountered, please refer to the Troubleshooting section on page 23.

### NOTE

The following is assumed:

- The validation server is online and configured for use.
- The network is up and running.
- Thermal printer is loaded with paper (TAS12P-EDM models only).
- Sample credentials (i.e. barcode tickets, magnetic stripe cards, etc.) are available and have been configured as valid credentials in the validation application.
- The turnstile passed the Post-Installation Inspection.

### CAUTION

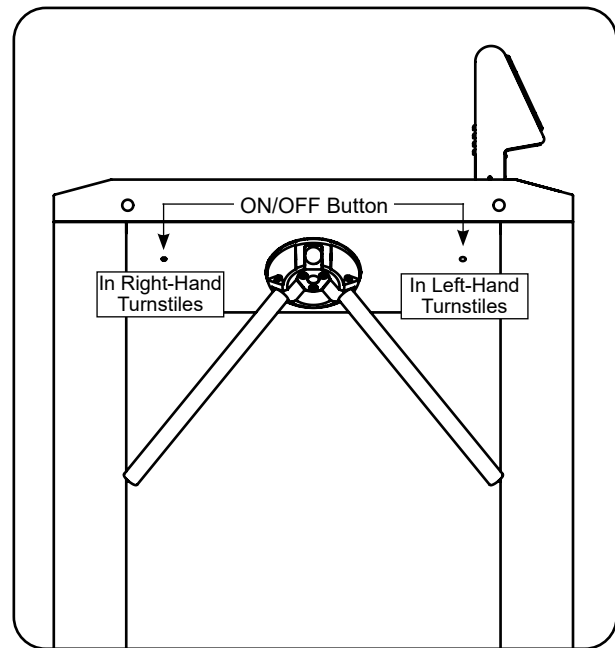
WHEN THE TURNSTILE IS POWERED ON, THE ARMS ROTATE FOR THE DURATION OF THE BOOT UP PROCESS. BEFORE POWERING ON, PLEASE MAKE SURE THE AREA IS CLEAR OF PERSONS OR PROPERTY.



## Power On

1. Power on the turnstile by pushing the recessed power button on the arm side of the turnstile cabinet using the eraser end of a pencil (or similar shaped object). The location of the power button will differ depending on if the turnstile is a right-hand or left-hand unit [Fig. 17].

Fig. 17



2. Depending on how the turnstile is configured for network communication, the turnstile boot up routine will take approximately 15 seconds to 1 minute.

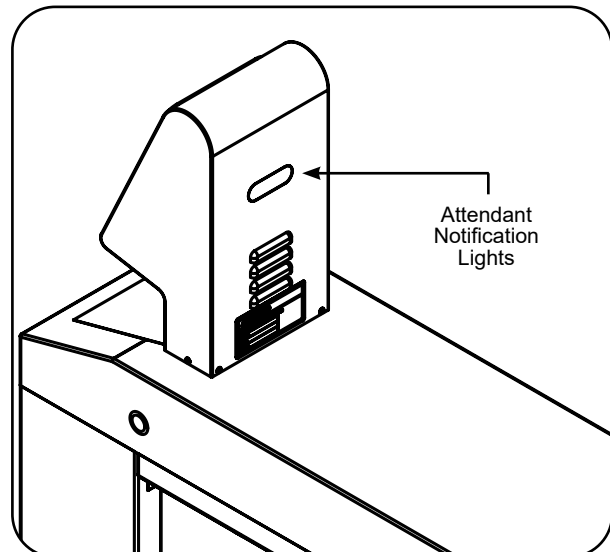
During boot up:

- The attendant notification lights will flash red while establishing communication with the GateLink 10 server [Fig. 18].
- The arms will undergo test rotations.
- At the end of the boot up routine, the arms will rest in the home position, and the TAS12 screen will display a message instructing the guest to scan a ticket.

### NOTE

If the red attendant notification light continues to flash after boot up, communication has not been established with the GateLink 10 server. Refer to the Troubleshooting section on page 28 and notify your network administrator.

Fig. 18





## Perform TAS12 Device Tests

### NOTE

The use of a stylus is recommended for all touch screen operations.

1. Make sure the turnstile is online and communicating with the GateLink10 server.
2. Tap the TAS12 screen three times to bring up the *Operator Login Screen* [Fig. 19].
3. Using the on-screen number pad, enter the default numeric Login ID **123**, and press the **ENTER** key.

### NOTE

If the default Login ID is invalid, obtain a valid Login ID from the system administrator,

Fig. 19

The Operator Login Screen displays a title bar with the text "Enter Login Id" and a green status icon. Below the title bar is a text input field. Underneath the input field is a numeric keypad with buttons for digits 1 through 9, 0, and a "Del" button. To the right of the numeric keypad are three buttons: "Reconnect", "Close", and "Enter".

## Perform TAS12 Device Tests (cont.)

1. From the *Operator Functions Menu*, press the **Device Tests** button [Fig. 20].

Fig. 20

The Operator Functions Menu displays a title bar with the date and time "9/12/2016 10:25:46 AM" and a green status icon. Below the title bar is a list of seven buttons: "Ticket Validation", "Delivery ID Validation", "Offline Validation Masks", "Device Configuration", "Device Tests", "About", and "Close". The "Device Tests" button is highlighted with a thick black border.



Perform TAS12 Device Tests (cont.)

2. Press the button for the device test to be performed:
- **Print Ticket** - Press this button to print a test ticket from the integrated thermal printer (TAS12P-EDM only).
  - **Activate Relay** - Press this button to test the turnstile unlocking / locking functionality. After the turnstile unlocks, rotate the arms. The turnstile arms will re-lock after the rotation. If the arms are not rotated, the turnstile will re-lock after 20 seconds.
- If the rotation occurs in the entry direction, a count will appear in *Forward Rotation Count*.
- If the rotation occurs in the exit direction, a count will appear in *Back Rotation Count*.
- **Set Green LED On** - Press this button to test the green attendant notification LED. Press the button a second time to turn the LED off.
  - **Set Yellow LED On** - Press this button to test the yellow attendant notification LED. Press the button a second time to turn the LED off.
  - **Set Red LED On** - Press this button to test the red attendant notification LED. Press the button a second time to turn the LED off.
3. Press the **Close** button to exit the *Device Tests* submenu and return to the *Operator Functions Menu*.
4. Press the **Device Configuration** button.
5. Tap the **Emergency Mode** button three times. Verify the turnstile arm drops.
6. Tap the **Emergency Mode** button three times. Verify the turnstile arm returns to the home position.

Fig. 21

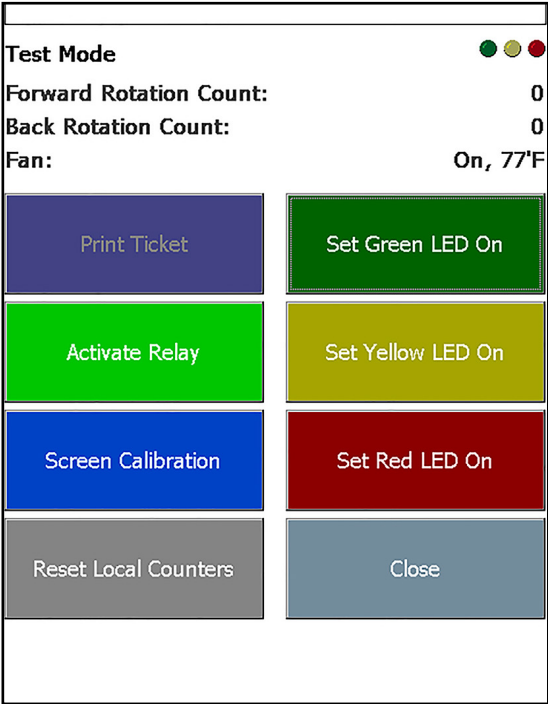
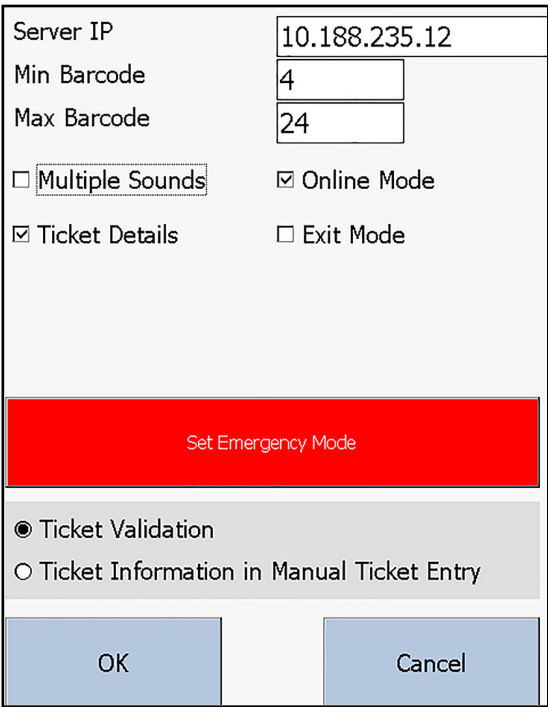


Fig. 22



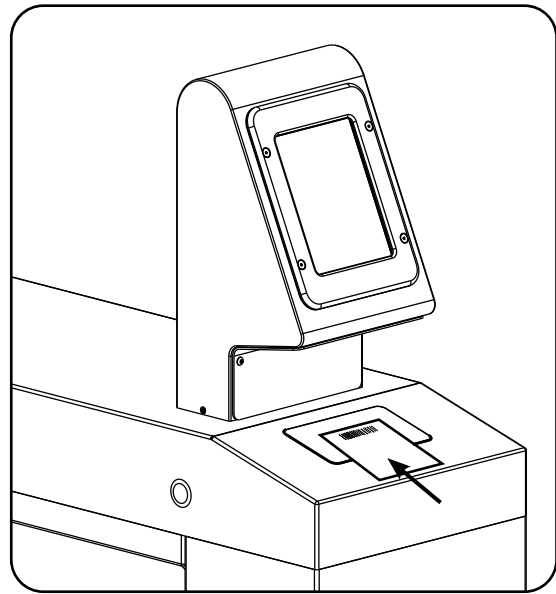


## Scan a Sample Barcode Ticket

Scan a sample barcode to activate the turnstile. Each sample barcode is good for one passage only.

1. To scan, place the barcode on the blackout pad facing up towards the imager [Fig. 23]. The imager will beep when the ticket has been scanned. After scanning, the barcode is sent to the GateLink10 server for validation.
  - When validated, a chime will sound, "PLEASE ENTER" will display on the TAS12 screen, and the attendant notification lights will show GREEN, prompting entry through the turnstile.
  - When validation fails, an alert will sound, "INVALID SCAN" will display on the TAS12 screen, and the attendant notification lights will show solid RED.

Fig. 23



## Validate RFID Media (Optional on TAS12P-EDM only)

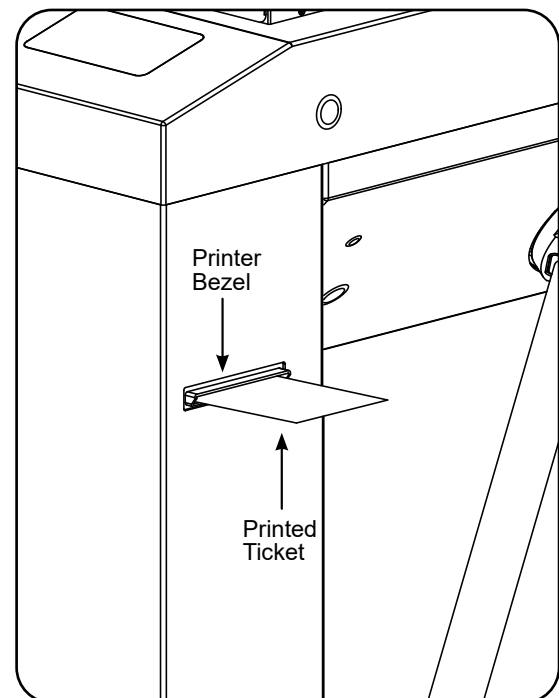
### NOTE

This function check is applicable to TAS12P-EDM models equipped with an RFID reader only. Ensure paper is loaded in the thermal printer before beginning.

The RFID reader is located under the blackout pad.

1. To scan an RFID card or wristband, position the media in the center of the blackout pad [Fig. 23]. The read range of RFID media varies from .5" – 2", so the best practice is to touch the RFID media in the center of the pad. The reader will beep when the RFID media has been read. After reading, the RFID data is sent to the GateLink10 server for validation.
  - When validated, a chime will sound, the "PRINTING" graphic will display on the TAS12 screen, and the ticket(s) will print and deposit at the printer bezel [Fig. 24].
  - When validation fails, an "INVALID SCAN" graphic will display on the TAS12 screen and an alert will sound.
2. Scan the printed ticket by placing the barcode on the blackout pad facing up and towards the turnstile [Fig. 23]. When validated, a chime will sound, a "PLEASE ENTER" graphic will display on the TAS12 screen, and the attendant notification lights will show GREEN, prompting entry through the turnstile.

Fig. 24





## Test Drop Arm Operation

The turnstile is designed for the horizontal arm to drop upon loss of power.

To test drop-arm functionality:

1. Power OFF the turnstile
2. Verify the horizontal arm drops allowing free egress [Fig. 25].
3. Power ON the turnstile and verify the arms reset and lock in the home position.

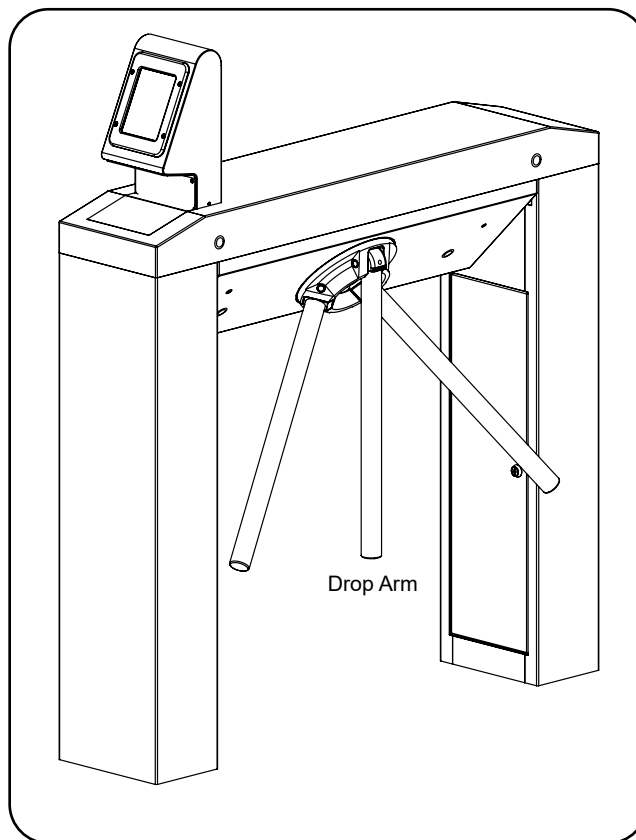
### CAUTION

When the turnstile is powered on, the arms rotate for the duration of the boot up process. Before powering on, please make sure the area is clear of persons or property.

### NOTE

You can also test drop arm operation by manually activating emergency mode from the TAS12. See the Perform TAS12 Device Tests (cont.) section on page 20.

Fig. 25



## Using the Test Buttons

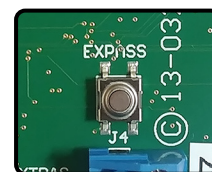
The test buttons on the control board, ENPASS and EXPAS, are used to simulate a valid credential activation [Fig. 26] & [Fig. 27]. You can use these buttons to test the turnstile even if the TAS12 head is disconnected.

- ENPASS is used to simulate an activation in the CW direction. It is located in the bottom left corner.
- EXPASS is used to simulate an activation in the CCW direction. It is located above the J4 terminal block.

Fig. 26



Fig. 27

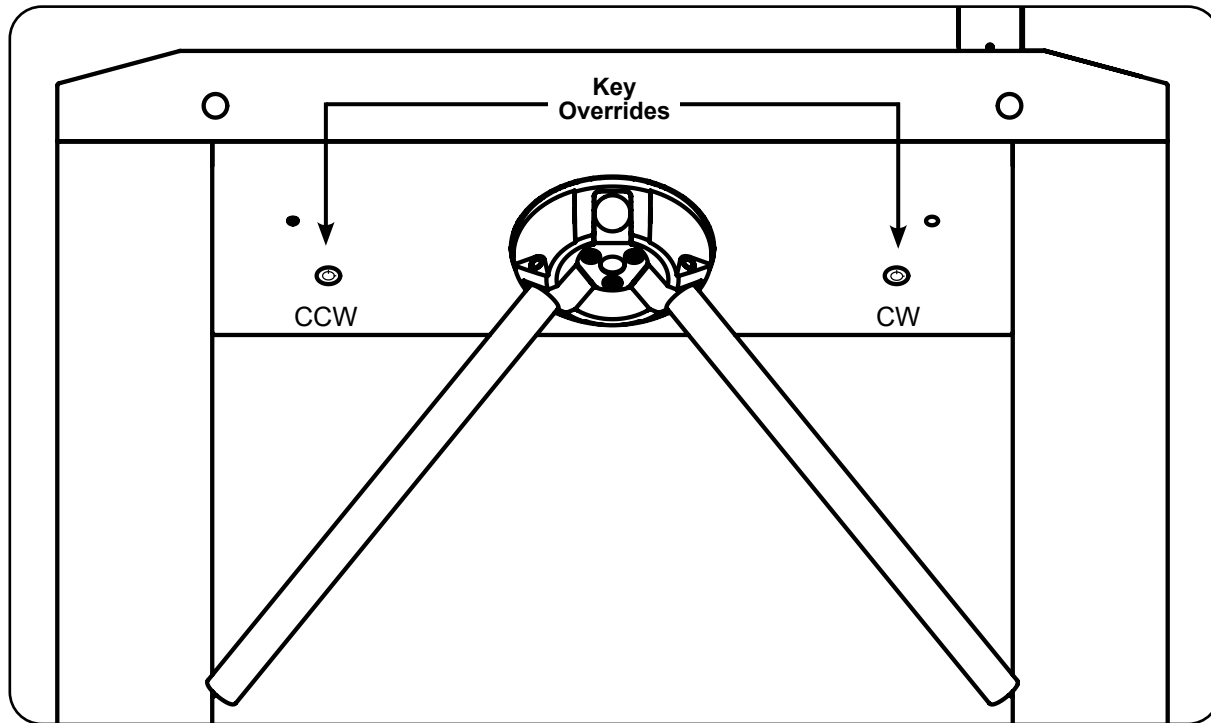




## Test Key Override Operation

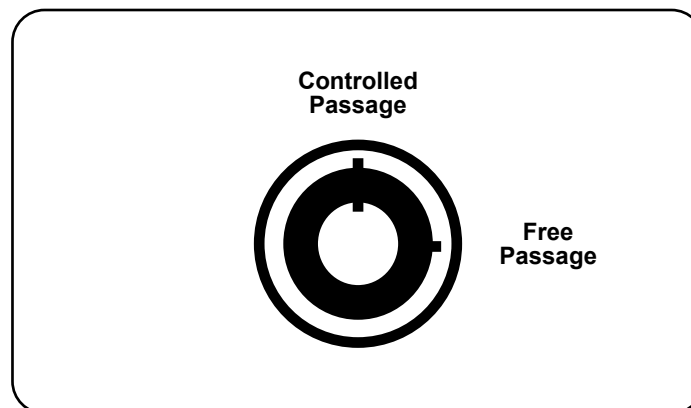
Key Override switches are provided to manually place the turnstile in one of two passage modes: Free Passage and Controlled Passage. There is one key override switch per rotation direction. The key switches are located on the underside of the turnstile adjacent to the head and arms [Fig. 28].

**Fig. 28**



1. Turn key to the CENTER position for Controlled Passage mode [Fig. 29]: Verify the arms are locked in the appropriate direction and unlock with valid credentials. If you have User Notification Lights installed, verify the YELLOW light is illuminated until activation occurs, in which it turns GREEN.
2. Turn key to the RIGHT position for Free Passage mode [Fig. 29]: Verify the arms rotate freely in the appropriate direction. If you have User Notification Lights installed, verify the GREEN light is illuminated.

**Fig. 29**





## Test the Local Counter (Optional)

The battery-powered LCD counter is used to count turnstile rotations. Each rotation of the turnstile arm generates a count. One counter is required per direction of rotation.

1. Place the turnstile in Free Passage Mode using the Key Override.
2. Rotate the turnstile arms several times. Verify that the counter is registering each rotation.
3. To reset the counter, use the counter reset key and turn 90°. The counter reset lock is located next to the counter display on the turnstile lid.

Fig. 30

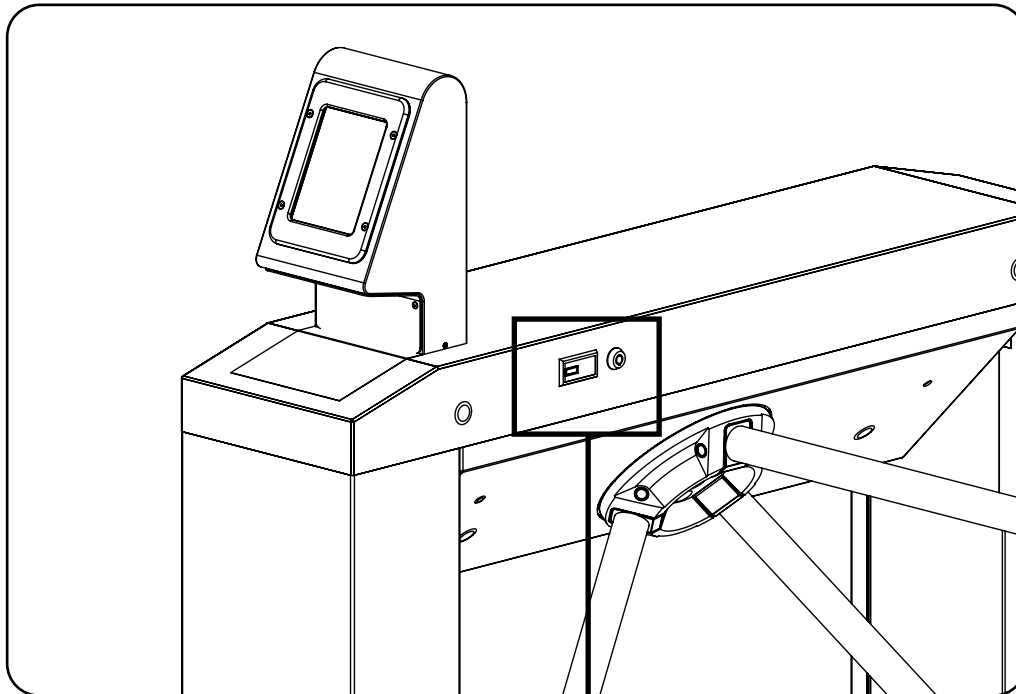
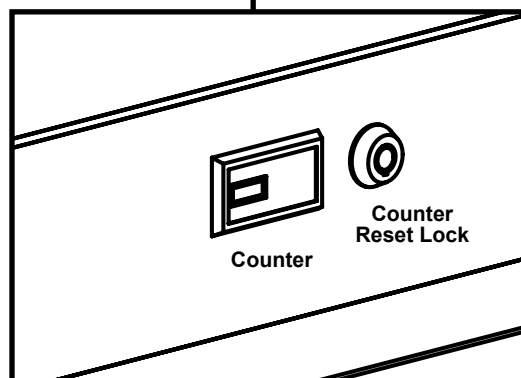


Fig. 31







## EDM Utility

The EDM ships with the EDM Utility which allows adjustment of settings and tests turnstile functionality. The EDM Utility is on a USB drive included with the turnstile. Copy the file from the USB drive to your laptop. There is no installation required.

The tools required to use the EDM Utility are:

- Laptop computer
- RS-232 programming cable
- USB-to-Serial converter cable

- 1) Open the cabinet and identify the control board.
- 2) Connect the RS-232 programming cable to the J16 terminal on the control board. Refer to page 11 for location.
  - A) Use a USB-to-Serial converter cable if the laptop does not have a serial port.
- 3) Double-click the utility icon to launch the utility. This will bring up the EDM Utility main screen.
- 4) Select COM Port from the drop-down menu and click Open. [Fig. 32]
- 5) All fields are populated with current settings.

### NOTE

Depending on the computer, the COM port number may differ.

**Fig. 32**

EDM Utility v1.2

COM Port: COM4 [Open]

PANEL PROFILE: REGULAR ARM [Read] [Set]

MOTOR CONTROL: [Access CW] [Access CCW] [Return Arm] [Halt Arm] [Drop Arm] [Reset Arm] [Set Home]

STATUS:

Get Status	Arm Status	Closed
	Forced Open	No
	Impact	No
	Failure	None
	Motor Status	Stationary
	Current Position	256
	Firmware Version	1.5

MOTOR CONTROLLER SETTING:

Motor ID: Master [Read] [Set]

Breakaway: 30 [Read] [Set]

Impact: 150 [Read] [Set]

Motion Profile: SMOOTH\_STOP [Read] [Set]

Return Arm Time: 2000 ms [Read] [Set]

Rotate Arm Time: 800 ms [Read] [Set]

PID SETTING:

Kp: 6 [Read] [Set]

Ki: 2 [Read] [Set]

Kd: 0 [Read] [Set]

U: 200 integer [Read] [Set]

a1: 0.2 [Read] [Set]

b1: 0.8 [Read] [Set]

EDM SETTINGS:

Access Timeout: 20000 ms [Read] [Set]

Clutch Duration: 1000 ms [Read] [Set]

Prompt Angle: 2 degrees [Read] [Set]

Impact Duration: 500 ms [Read] [Set]

Rotate Angle: 120 degrees [Read] [Set]

[23] ☐ Customize Panel Movement

### NOTE

Contact Alvarado technical support **BEFORE** changing settings.

- Select the check box "Customize Panel Movement" to enable modification of settings. [Fig. 32], Item 23]
- To check the current value of a parameter, click READ.
- To customize a parameter, enter a value in the text box and click SET.

See next page for descriptions of settings.



Item #	Settings	Description
1	Com Port	Sets the communication port necessary for the EDM Utility to interface with the turnstile.
2	Access CW	Activates the turnstile in the Clockwise direction.
3	Access CCW	Activates the turnstile in the Counter-Clockwise direction.
4	Return Arm	Rotates the arms back to the home position.
5	Halt Arm	Stops the arm motor movement.
6	Drop Arm	Tests the drop arm functionality.
7	Reset Arm	Performs start up sequence and re-locks drop-arm.
8	Set Home	Sets the current arm position as the home position.
9	Panel Profile	Sets arm rotation profile: 1) Entertainment arm 2) Regular arm - Default profile.
10	Get Status	Queries turnstile for arm and motor status/position. Displays active impacts or failures.
11	Motor ID	Not applicable.
12	Breakaway	Sets current threshold before arms release when pushed. <b>Do Not Change.</b>
13	Impact	Sets the current threshold to identify obstructions. Default: 115.
14	Motion Profile	This is the algorithm used to control the arm movement speed. <b>Do Not Change.</b>
15	Return Arm Time	Sets the length of time required to return arms to home position if motor is halted or activation time-out. Default: 2000 ms.
16	Rotate Arm Time	Sets the length of time required to complete one rotation. Units are milliseconds. Default: 800 ms.
17	PID Setting	Sets motor movement characteristics. <b>Do Not Change.</b>
18	Access Time-out	Sets the length of time a user has to enter the turnstile after an activation before the turnstile resets. Default: 20,000 ms.
19	Clutch Duration	Designates the amount of time the clutch stays engaged when arms are pushed without an activation. Default: 1000 ms.
20	Prompt Angle	Sets the amount the arms will rotate during an activation to prompt the direction of passage. Default: 2 degrees.
21	Impact Duration	Sets the length of time turnstile will wait for obstruction to clear before arms will move again. Default: 2000 ms.
22	Rotate Angle	Sets the range of motion arms must be moved before motor engages to complete passage and generate an output count. Default: 120 degrees.
23	Customize Panel Movement	Allows modification of arm movement settings.



## Post-Installation Checklist

1. Power On
  - ☐ Verify the TAS12 boots up successfully.
2. Perform TAS12 Device Tests
  - ☐ Print a test ticket (TAS12P-EDM Only)
  - ☐ Activate the relay
  - ☐ Test the green/yellow/red attendant notification lights
3. Credential Validation
  - ☐ Scan a sample barcode ticket
  - ☐ Validate a magnetic stripe card (TAS12P-EDM only)
  - ☐ Validate an RFID media (Optional on TAS12P-EDM only)
4. Turnstile Operation
  - ☐ Test Drop-Arm functionality
  - ☐ Test Key Override operation (Optional)
  - ☐ Test counter operation (Optional)
5. Battery Operation
  - ☐ Verify battery is charging properly after being plugged into an AC power source. (Portable Battery-Powered Option only)
6. Attachment
  - ☐ Check that the mounting bolts and screws are secure and tightened per the requirements in this manual.
7. Finish
  - ☐ Stainless Steel – Wipe down the entire turnstile with a damp cloth or used the Alvarado recommended commercial products (see Operation and Maintenance Instructions).
  - ☐ Powder Coated - Wipe down entire turnstile with a damp cloth.
8. Manuals Handoff
  - ☐ Provide both these Installation Instructions, and the Operation and Maintenance Instructions to the project or site manager.



## Troubleshooting

This basic troubleshooting section is provided to aid installers with the most commonly encountered installation problems. If you require more troubleshooting assistance, see the Operations and Maintenance Instructions.

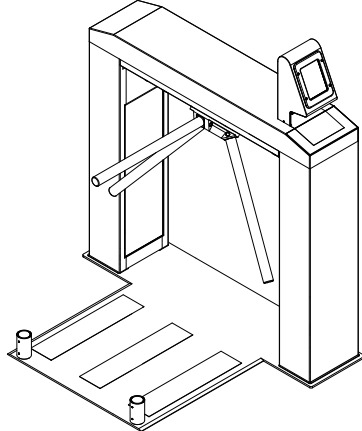
Problem	Possible Cause	Solution
After powering ON the turnstile, the TAS12 display screen does not light up.	No primary power to the turnstile.	Verify power is ON at the circuit breaker.
	The AC electrical cord is unplugged (portable models only)	Ensure the AC electrical cord is firmly connected at both ends.
	The battery charge is depleted. (Portable battery-powered models only)	Check the battery status meter on the battery located in the turnstile leg. Recharge the battery if under 50% charge.
	Primary power wiring is connected improperly.	Refer to Primary Power Wiring Instructions on page 11. Ensure wiring is connected accordingly.
	TAS12 power connector is disconnected.	Check 6-pin power connector and reconnect if necessary.
The red LED on the back of the TAS12 unit is flashing, indicating it is offline.	Unplugged Ethernet cable (wired configuration only).	Reconnect the Ethernet cable to the TAS12 and the switch/access point.
	Wireless antenna is not connected properly or damaged (wireless configuration only).	Verify the wireless antenna is connected properly and not broken.
	Incorrect TAS12 device IP	Verify the TAS12 device IP is correct with your network administrator.
	Incorrect server IP.	Verify the server IP is correct: <ol style="list-style-type: none"><li>1) Touch the TAS12 LCD screen to enter your Login ID. <b>NOTE: Obtain Login ID from your network administrator or site manager.</b></li><li>2) Select the Device Configuration menu.</li><li>3) Verify the server IP is correct with your network administrator.</li></ol>



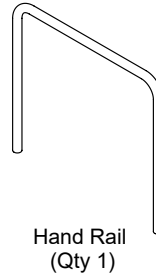
## Appendix A - Portable Base Turnstile

These supplemental instructions cover installation steps specific to portable base models only. When the installation is complete, proceed to the Post-Installation Functions Check located on page 14.

### Portable Base Plate Illustrated Parts List



Portable Turnstile w/ Base Plate  
(Qty 1)



Hand Rail  
(Qty 1)

#### Also included:

##### Hardware

- Hand Rail Set Screws (Qty 4)

##### Electrical

- Neutrik Connector Kit (Qty 1)

#### Tools Required

- 1/8" Allen Wrench
- 5/32" Allen Wrench
- 5/16" Open Wrench
- POZIDRIVE #1 Bit
- 7/8" Open Wrench

1. Remove the turnstile from container packaging.
2. Slide the guide rail into the support posts and tighten the four (4) set screws using a 1/8" Allen wrench [Fig. 33 & 34].
3. Place the turnstile in the desired location.
4. Connect the Neutrik power connector according to the instructions in *Installing Neutrik Connector to AC Cord* section.

Fig. 33

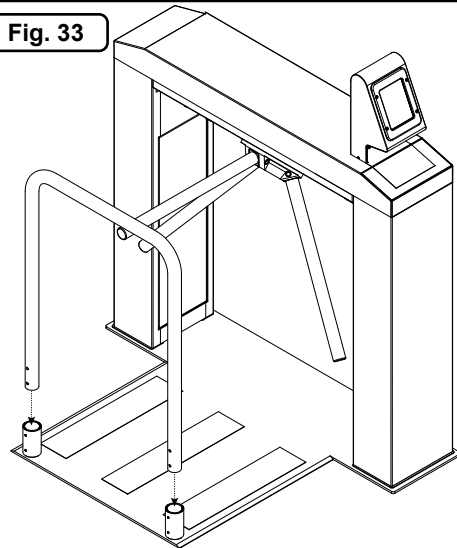
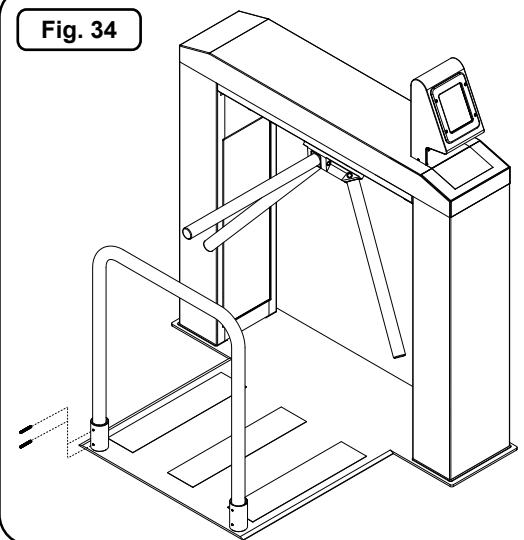


Fig. 34



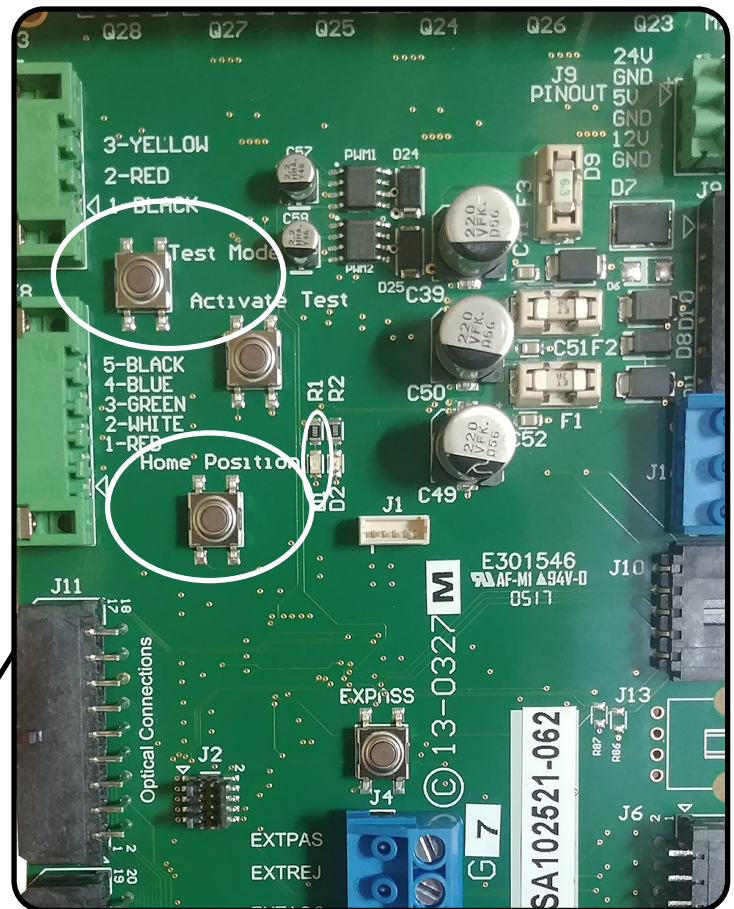


## Appendix B - Setting the Home Position

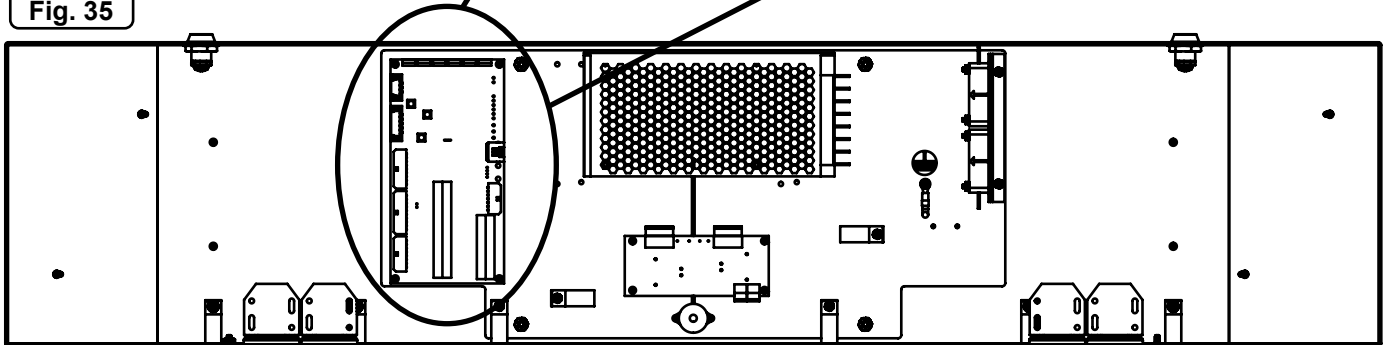
**NOTE** Power must be on.

1. Identify the control board attached to the inside surface of the lid [Fig. 35]. The (D2) LED will be blinking indicating normal operation mode.
2. Press and hold the 'Test Mode' button for 2 seconds. The (D2) LED will be lit solid. This indicates the turnstile is in Test Mode [Fig. 36].
3. Hold arm and rotate 3 times in either direction.
4. Return arm to center position.
5. Press the 'Home' button to set.
6. Press and hold the 'Test Mode' button for 2 seconds. The (D2) LED will return to blinking status indicating normal operation mode.

**Fig. 36**



**Fig. 35**

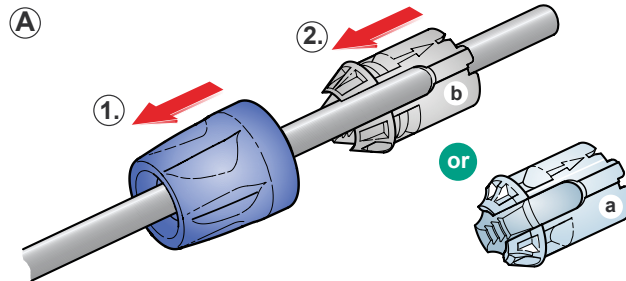




## Installing Neutrik Connector to AC Cord

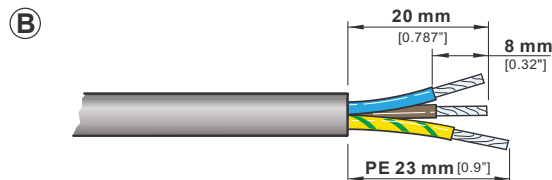
### NOTE

Portable Base Turnstile units do not ship with power cables. Instead, each turnstile ships from the factory with a disassembled Neutrik connector. Use the connector to create power cables per your facility's requirements and specifications.



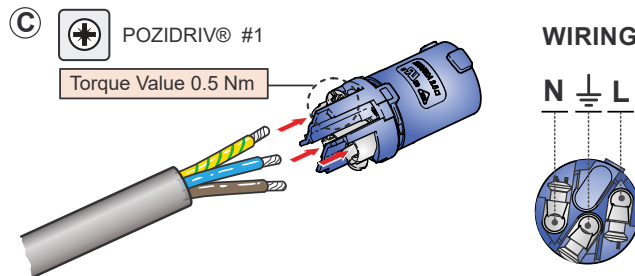
- A** Place the bushing (1) and the chuck (2) over the cable.

White chuck (a): 6.0 - 11.0 mm [0.236 - 0.433"]  
Black chuck (b): 9.5 - 15.0 mm [0.374 - 0.59"]  
VDE: 9.5 - 14.0 mm [0.374 - 0.551"]

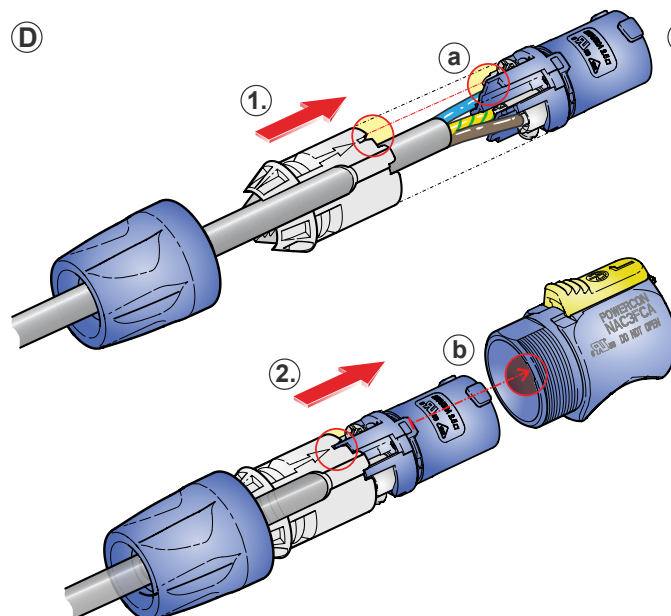


- B** Prepare the cable as shown.

Cable O.D.: 6.0 - 15.0 mm [0.236 - 0.59"]  
Wire size: 2.5 mm<sup>2</sup> (AWG 14)



- C** Insert the wire into the terminals and fasten the clamping device with a POZIDRIV® #1, max. Torque 0.5 Nm (0.37 lb-ft).



- D** Slide the insert and the chuck (1) into the housing (2).

### Important:

- (a) Align the chuck by positioning the nose into the recess.  
(b) Pay attention to the guiding keyway!





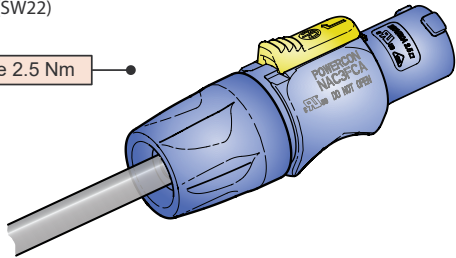
## Installing Neutrik Connector to AC Cord (cont.)

E



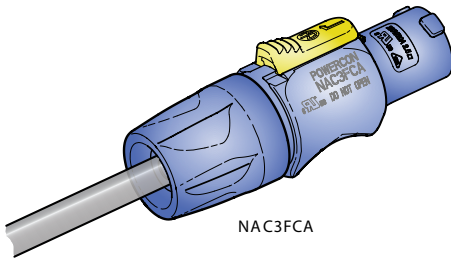
Wrench size  
7/8" (SW22)

Torque Value 2.5 Nm



E

Fasten bushing by means of a fork wrench 7/8" (SW 22), min. Torque 2.5 Nm (1.8 lb-ft).



Finished power connector.

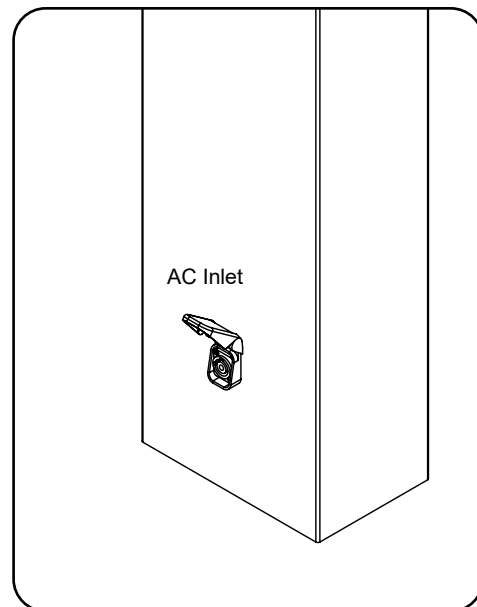
## Connecting AC Power to the Portable Turnstile (AC-Powered Option Only)

To connect AC power to the turnstile [Fig. 37]:

1. Lift AC power receptacle cover.
2. Plug the extension cord into the turnstile AC inlet and twist to lock.
3. Plug other end of the extension cord into an AC power source.

**This completes the installation process for Portable AC-Powered turnstiles. Proceed to the Post-Installation Functions Check on page 14.**

Fig. 37







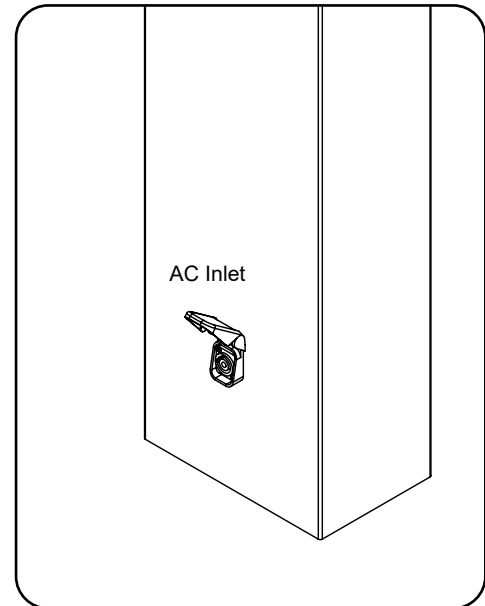
## Charging the Portable Turnstile (Battery-Powered Option Only)

**Power OFF** the turnstile prior to charging the batteries.

To charge the turnstile [Fig. 38]:

1. Lift charge receptacle cover.
2. Plug the extension cord into the turnstile AC inlet.
3. Plug other end of the extension cord into an AC power source.

**Fig. 38**



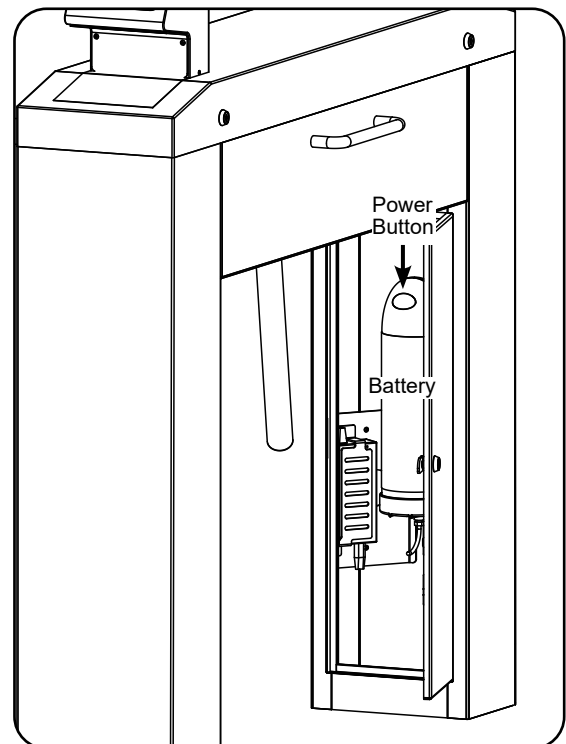
**Fig. 39**

4. To access the battery, open the access panel on the leg located on the secured or internal side of the facility [Fig. 39].
5. Press the POWER button on the battery to display charge level. When all 5 red LEDs are lit, the battery is fully charged.

### NOTE

Typically, it takes approximately 3 hours to fully charge a battery.

Refer to *Operation and Maintenance Instructions* for more information on charging the batteries.



**This completes the installation process for  
Portable Battery-Powered turnstiles. Proceed to the  
Post-Installation Functions Check on page 14.**



Portable Base Turnstile - Plan, Elevation and Footprint Drawing

Fig. 40

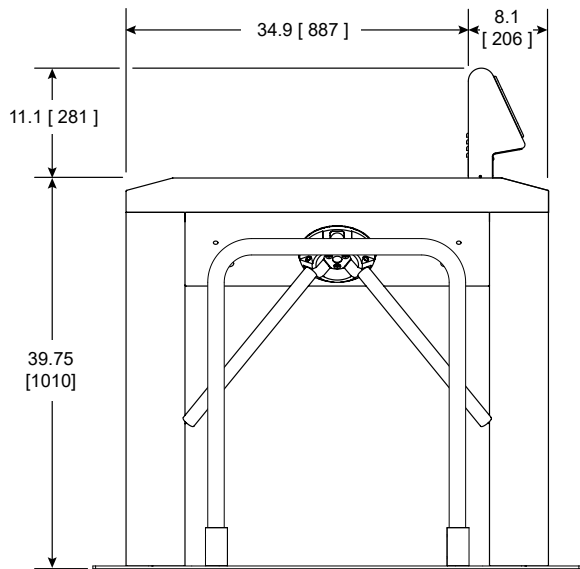


Fig. 41

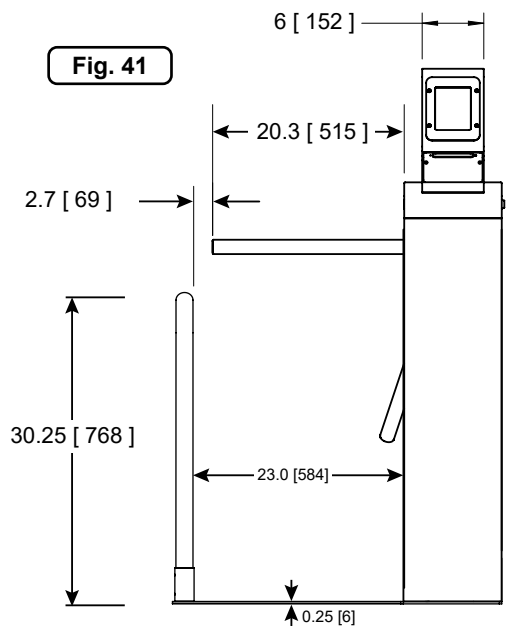
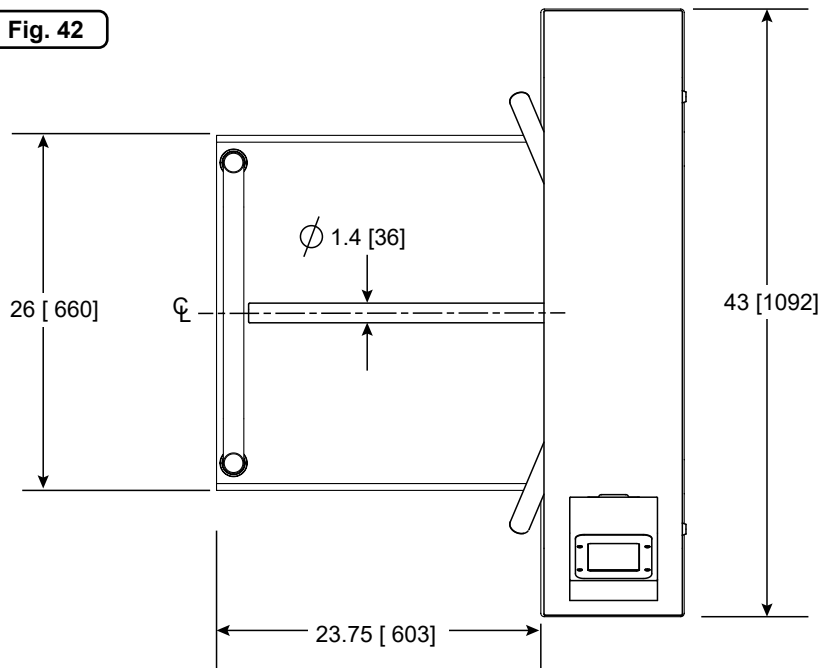


Fig. 42





Revision History

Revision	Date	Author	Description
1-0	2/24/2017	A. Flores	Original document.
1-1	12/12/2018	D. Bohannon	Updated "Test Key Override" section.
1-2	4/1/2020	D. Bohannon	Updated images with current model.
2-0	6/1/2020	D. Bohannon	Updated with current information. Formatting adjustments.
3-0	4/17/2023	--	Rebranding.
3-1	10/10/2023	C. Maynez	Updated portable platform images.



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