

# SmartLog Pro® with Motorized Turnstile Installation, Operation and Maintenance



Made in the  
United States of America



Figure 1. EMIT SmartLog Pro® with Motorized Turnstile

## Description

The EMIT [SmartLog Pro® with Alvarado EDM Waist High Turnstile](#) controls access to ESD Protected Area to operators that have passed their pre-defined ESD tests and have been granted access to the area. The Alvarado EDM is a motorized waist high turnstile that provides single or bi-directional access control. Upon loss-of-power or fire system input, the horizontal arm automatically drops to provide a clear exit passageway. Upon restoration of power or removal of the fire system input, the arms automatically re-engage to the normal operating position. The motorized arm rotation provides comfortable passage.

### Alvarado EDM Key Features:

- Motorized arm rotation
- Automatic arm self-centering
- Field configurable for single direction or bi-directional operation
- Hidden anchoring – no exposed bolts or fasteners
- Made in the United States of America

### Added Benefits:

- Designed for long term continuous use
- Single passage control
- Easy to install and maintain
- Hinged lid and interior panels provide easy service and installation access

The SmartLog Pro® with Motorized Turnstile is available as the following item numbers:

Item	Input Voltage
50721	100-120 VAC
50722	220-240 VAC

### ESD Association Information

“Compliance verification should be performed prior to each use (daily, shift change, etc.). The accumulation of insulative materials may increase the foot grounder system resistance. If foot grounders are worn outside the ESD protected area testing for functionality before reentry to the ESD protected area should be considered.” ESD SP9.2 APPENDIX B - Foot Grounder Usage Guidance

“Process monitoring (measurements) shall be conducted in accordance with a Compliance Verification Plan that identifies the technical requirements to be verified, the measurements limits and the frequency at which those verifications shall occur...Compliance verification records shall be established and maintained to provide evidence of conformity to the technical requirements.

The test equipment selected shall be capable of making the measurements defined in the Compliance Verification Plan.” (ANSI/ESD S20.20) section 7.3 ANSI/ESD S20.20 Table 1 Flooring-Footwear Systems Technical Requirements Recommended Range “less than  $3.5 \times 10^7$  ohms measured per ANSI/ESD STM 97.1.”

“Typical test programs recommend that wrist straps that are used daily should be tested daily. However, if the products that are being produced are of such value that knowledge of a continuous, reliable ground is needed, and then continuous monitoring should be considered or even required.” (ESD Handbook ESD TR 20.20 section 5.3.2.4.4)

Note: SmartLog Pro® provides wrist strap test per IEC 61340-5-1 Clause A.1 and footwear testing per IEC 61340-5-1 Clause A.2 with upper limits  $< 3.5 \times 10^7$  ohms.

US Patent 6,809,522

## Packaging

- 1 SmartLog Pro®
- 1 Turnstile
- 1 Wall Mounting Bracket
- 1 Dual Independent Foot Plate
- 2 Slanted Standoffs
- 1 Socket Head Cap Screw, 10-32 thread
- 1 Internal Tooth Lock Washer
- 1 Allen Wrench, 5/32"
- 1 Turnstile Anchor Kit
- 8 Turnstile Keys
- 1 Certificate of Calibration

## Installation

### Installing the Turnstile

100 VAC / 110 VAC / 220 VAC and Ethernet access are needed at the location of every SmartLog Pro® with Turnstile prior to installation.

[Click here](#) to download the Alvarado EDM Installation and Maintenance Manual and see instructions on anchoring and wiring the turnstile. Do not install the SmartLog Pro® and its mounting hardware to the turnstile until it is properly anchored and wired.

### Installing SmartLog Pro® to the Turnstile

See [TB-6594](#) to learn more about the features and components of the SmartLog Pro®.

1. Open the turnstile's lid using the included keys.
2. Install the SmartLog Pro® onto the turnstile's lid using the 2 slanted standoffs, 1 socket head cap screw and 1 internal tooth lock washer. See Figure 2.

NOTE: This mounting is also sold separately as EMIT item 50783. It may be used to mount the SmartLog Pro® onto other turnstile models. See page 7 for the fabrications that need to be made to the turnstile's lid in order to mount the SmartLog Pro®.

3. Connect the Ethernet cable, terminal block, foot plate cable, and power adapter to the back of the SmartLog Pro®.
4. Locate the power switch inside the turnstile cabinet, and set it to ON.
5. Locate the power switch on the back of the SmartLog Pro®, and set it to ON.
6. Locate the foot plate cable at the base of the turnstile and connect it to the Dual Independent Foot Plate, so operators can place their feet on it while performing tests at the turnstile's entrance.
7. Complete the installation by establishing communication to the SmartLog Pro® via the Ethernet cable. See the "Network Setup" procedure in [TB-6594](#) for more information.

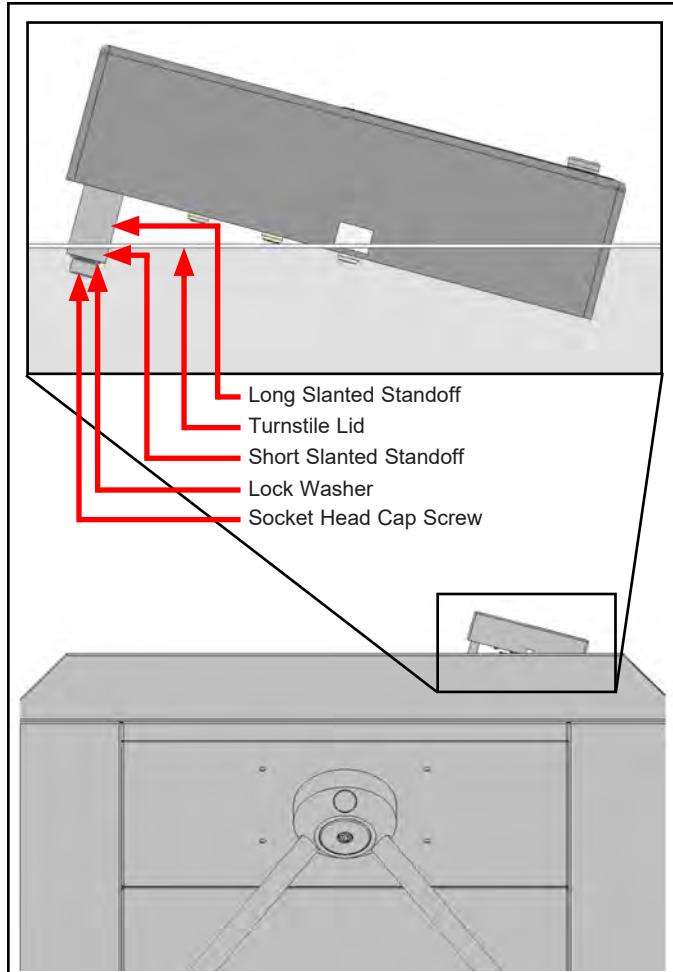


Figure 2. Installing the SmartLog Pro® to the turnstile's lid



Figure 3. Installing the Dual Independent Foot Plate

## Operation

NOTE: The SmartLog Pro® must first be programmed with the user ID table using the TEAM5 Software before being deployed for employee use, or the default test settings will be applied.

See the [TEAM5 User Manual](#) for more information.

If the SmartLog Pro® is located near a restroom, sink or other water source, operators will need to be instructed to thoroughly dry their hands before testing. Wet hands may cause inaccurate test results and damage to the tester.

1. A circling light around the test switch indicates when the SmartLog Pro® is on standby and ready to perform a test.
2. Initiate the test procedure by identifying yourself to the SmartLog Pro®. This may be done using the touchscreen keypad, barcode scanner or proximity reader.

NOTE: Hold the proximity badge in front of the RFID icon for a full second if using proximity badges. See Figure 5.

3. Follow the prompt on the SmartLog's display.
4. When performing a footwear test, be sure to place both feet on the dual foot plate (one foot per plate).

NOTE: Keep the foot plate clean with 99% isopropyl alcohol when using the 1 Gigohm high test limit. A dirty foot plate could yield a false pass.

When performing a wrist strap\* test, be sure to completely plug in the wrist cord into the tester's jack.

5. To begin the test, use your finger to bridge the test switch's inner and outer contacts. The blue standby LED will become solid to indicate that the test has been initiated. Hold your finger down until the test results are displayed on the touchscreen.

If your finger is removed too early, the tester's blue LEDs will blink three times to indicate that the test was not completed. DO NOT touch any metal other than the SmartLog Pro® or the turnstile while performing your test as this will affect your results.



Figure 4. Using the barcode scanner



Figure 5. Holding a proximity badge in front of the RFID icon on the SmartLog Pro®



Figure 6. Performing a footwear test

6. The relay terminal will activate and unlock the turnstile if the defined tests are passed.

NOTE: Failures may be caused by dry skin or minimal sweat layer. For wrist straps, try using an approved dissipative hand lotion such as [Menda ReztoRE™ ESD Hand Lotion](#) prior to use. Footwear test results can be improved by taking a short walk to build a sweat layer for better conductivity.



Figure 7. Performing a single-wire wrist strap test

7. Pass through the turnstile. The turnstile will re-lock after one rotation.

NOTE: By default, the turnstile will remain unlocked until either the operator passes through or 20 seconds expire. See the "EDM Utility" section in the [Alvarado EDM Installation and Maintenance Manual](#) for instructions on modifying the turnstile's time-out settings.

\*The SmartLog Pro® may also be used to test smocks or garments that feature a grounding mechanism for operators using a coiled cord connection.

## Loss-of-Power Turnstile Operation

Upon loss-of-power or fire system input, the horizontal arm on the Alvarado EDM Turnstile will drop to provide a clear exit passageway. Upon restoration-of-power or removal of the fire system input, the arms will automatically engage to the normal operating position.



Figure 8. Dropped horizontal arm during loss-of-power

## Calibration

Frequency of recalibration should be based on the critical nature of those ESD sensitive items handled and the risk of failure for the ESD protective equipment and materials. In general, EMIT recommends that calibration be performed annually.

Use the EMIT 50424 Limit Comparator and EMIT 50784 5-Pound Electrode to perform periodic verification (once every 6-12 months) of the SmartLog Pro®. The Limit Comparator can be used to check the test limits of the SmartLog Pro® without removing it from the turnstile or factory floor.

See [TB-6581](#) for more information.



Figure 9. EMIT 50424 Limit Comparator



Figure 10. EMIT 50784 5-Pound Electrode for Limit Comparator

## Specifications

### SmartLog Pro® with Turnstile

SmartLog Pro® Input Voltage and Frequency (External Adapter)	AC/DC Power Adapter Power Input: 100-240 VAC, 50/60 Hz Power Output: 5 VDC, 3.0A Cable Length: 5 ft. (1.5 m)
Turnstile Input Voltage and Frequency	100-120 VAC, 50/60 Hz (50781) 220-240 VAC, 50/60 Hz (50782)
Operating Temperature	70°F to 85°F (21°C to 30°C) for 1 gigohm test limit 41°F to 85°F (5°C to 30°C) for all other test limits
Environmental Requirements	Indoor use only at altitudes less than 6500 ft. (2 km) Maximum relative humidity of 80% up to 85°F (30°C) decreasing linearly to 50% @ 85°F (30°C) Maximum relative humidity of 50% at 1 gigohm setting

Dimensions (Crated) 44" x 50" x 60"  
(112 cm x 127 cm x 152 cm)

Dimensions (Uncrated) See Figure 11

Weight (Crated) 400 lbs (181 kg)

Weight (Uncrated) 285 lbs (129 kg)

Test Accuracy  $\pm 20\%$  for 1 gigohm footwear test limit  
 $\pm 10\%$  for all other test limits

Test Switch Voltage 5 VDC @ open circuit

Wrist Strap and Footwear Test Voltage 30 VDC @ open circuit  
Test current is limited by resistors and varies on the test range setting (100 kilohms - 1 gigohm)

### Dual Independent Foot Plate

Dimensions	14.0" x 16.0" x 0.9" (35.6 cm x 40.1 cm x 2.3 cm)
Weight	7.5 lbs (3.4 kg)

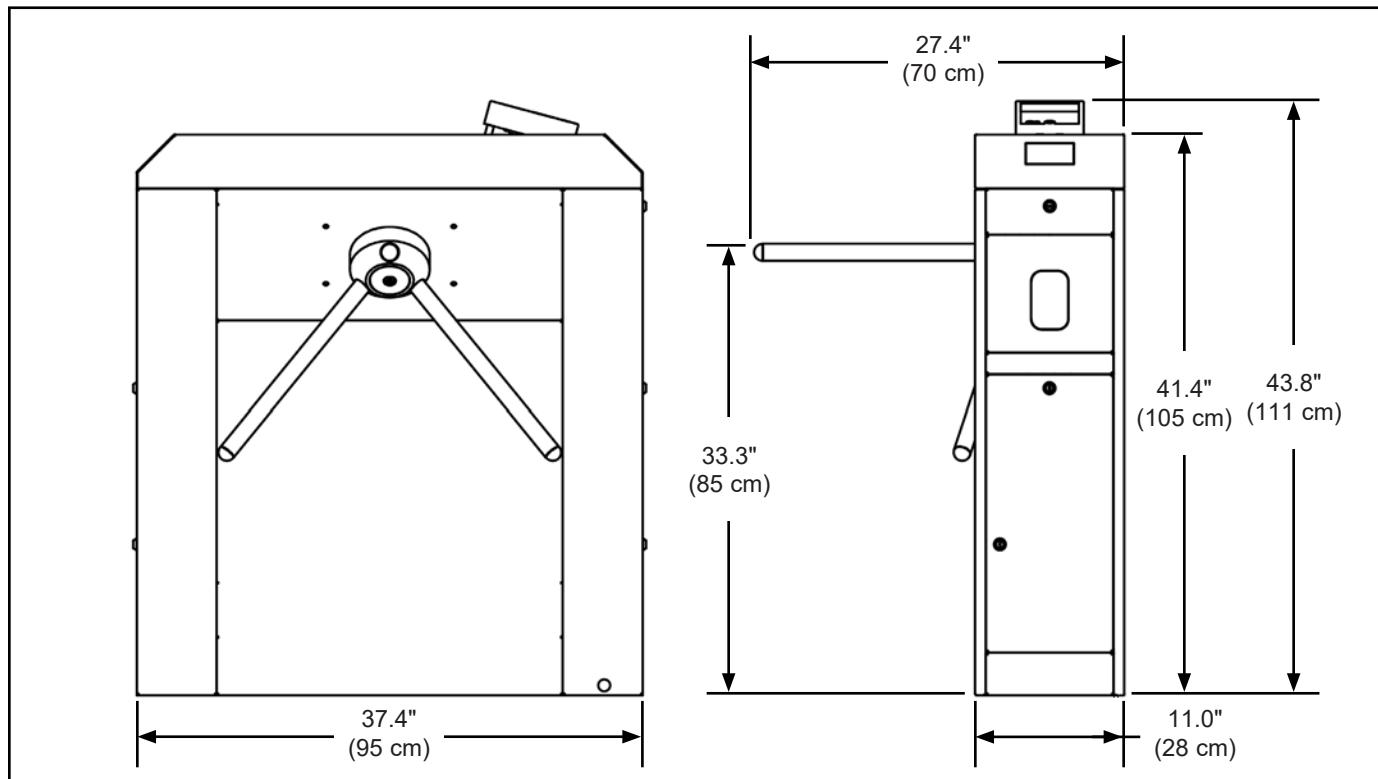


Figure 11. Dimensions of the EMIT SmartLog Pro® with Motorized Turnstile

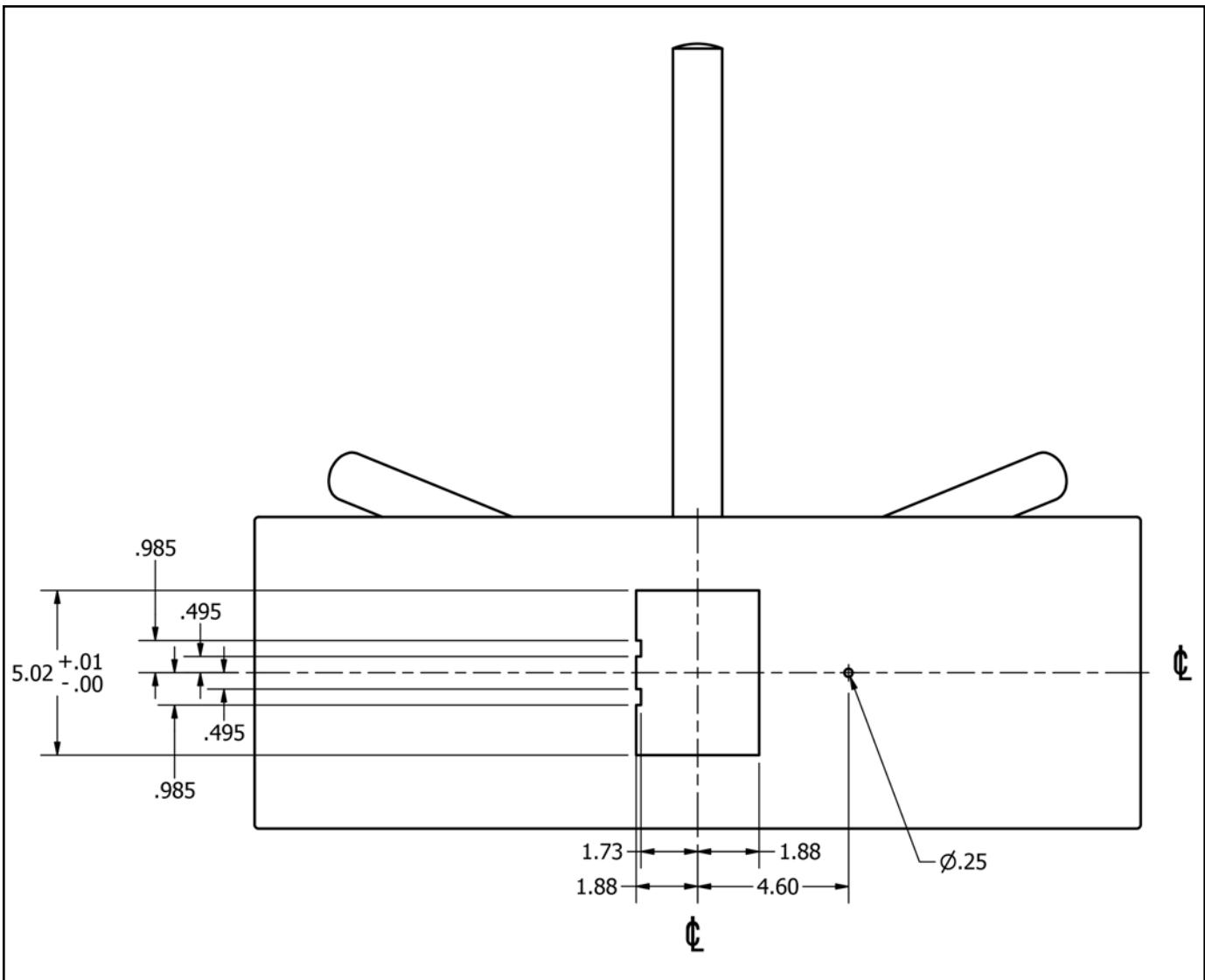


Figure 12. Turnstile lid cutout dimensions for mounting the SmartLog Pro® using the 50783 Turnstile Mounting Kit (all dimensions are in inches)

**Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions**

See the EMIT Warranty -