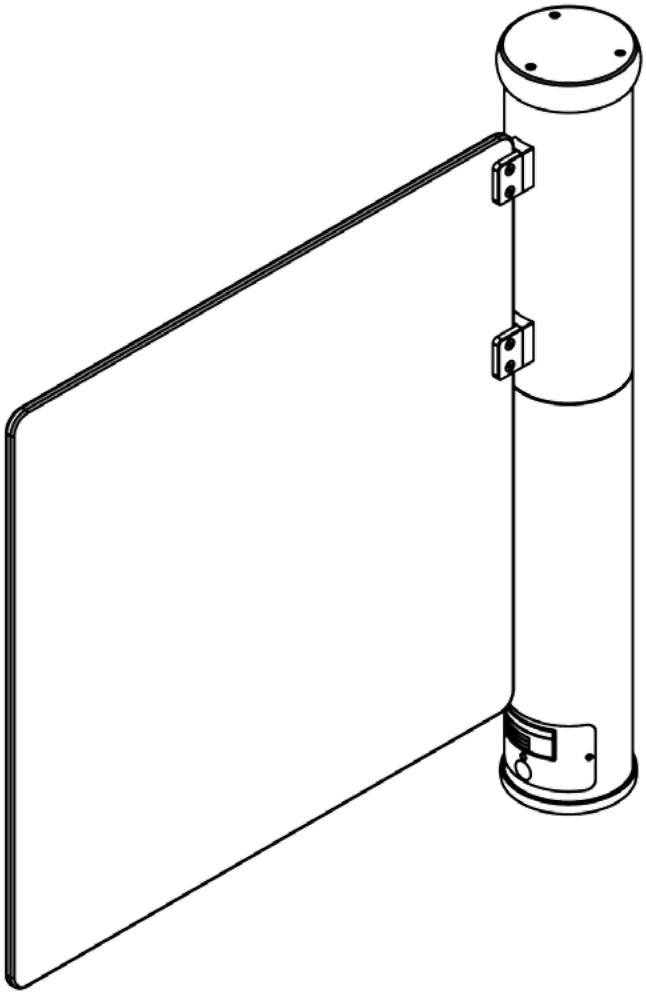
protecting assets and controlling the flow of people

# SW1000/SW1000T

## Motorized Pedestrian Security Gate



## Installation and Operation Instructions

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## Safety Precautions

**⚠ WARNING** The SW1000 may present a risk to persons and property if it is not installed and/or operated correctly. Therefore, this manual must be read in its entirety and all safety and operations information must be followed. Note the following precautions:

- For indoor use only.
- Use only skilled individuals to install and service the gate.
- DO NOT operate the gate if it has been damaged in any manner. If damaged, have the unit repaired or adjusted by a skilled service person before use.
- DO NOT modify or alter the gate.
- Have skilled individuals maintain the gate according to a proper maintenance schedule.
- In access control applications, train all personnel that will be using the gate in the proper method of operation. In addition, properly train new users as they are added to the system.
- DO NOT use non-Alvarado parts to repair a damaged gate.
- Power off the gate before connecting or disconnecting any communication or power wiring to the gate.
- The product has a motorized barrier that opens and closes. Pedestrian traffic patterns must be considered when determining installation location. Do not install this product in a location where cross traffic could bring pedestrians within 3 feet of the gate.

## Safety Icons

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

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

**⚠ CAUTION** 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.

**NOTE** 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 4:30pm PST. Please read this manual completely before installing or operating the purchased product.

# Introduction

## Purpose of this Manual

This manual covers physical installation, operation, configuration, and maintenance instructions for SW1000 Motorized Pedestrian Security Gates. Please read this manual in its entirety before beginning installation.

## Intended Users

This manual is intended for use by system integrators, facility operators, and owners responsible for installation of the product, the facility access system, and the employees, vendors, and invitees that will use the equipment on a day-to-day basis.

## User Responsibilities

As owner or caretaker of the equipment, it is essential that you maintain your SW1000s and ensure safe product use by the employees, vendors, and invitees that will be utilizing the product.

Refer to the Maintenance section of this manual for instructions on the proper maintenance of the product.

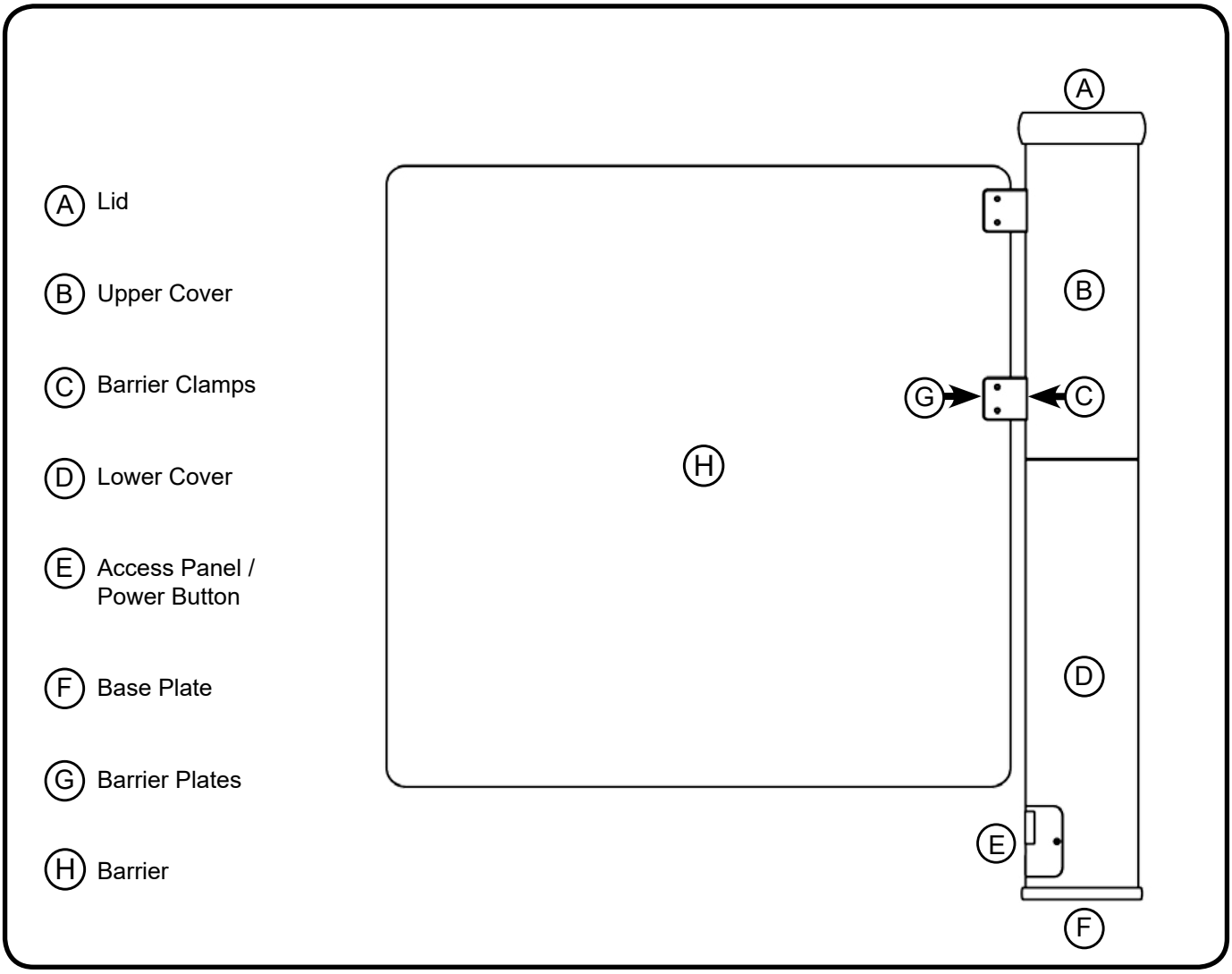
## SW1000 Overview

The SW1000 is a motorized pedestrian gate that provides single direction or bi-directional access control. In the closed or "home" position, the barrier is held in place by motor force. Upon receipt of a dry contact input from an access control system or input device such as a push button, the motorized barrier opens 90 degrees away from the signal direction.

The SW1000 is an ideal product to provide disabled or delivery access in conjunction with Alvarado's waist high or optical turnstiles.

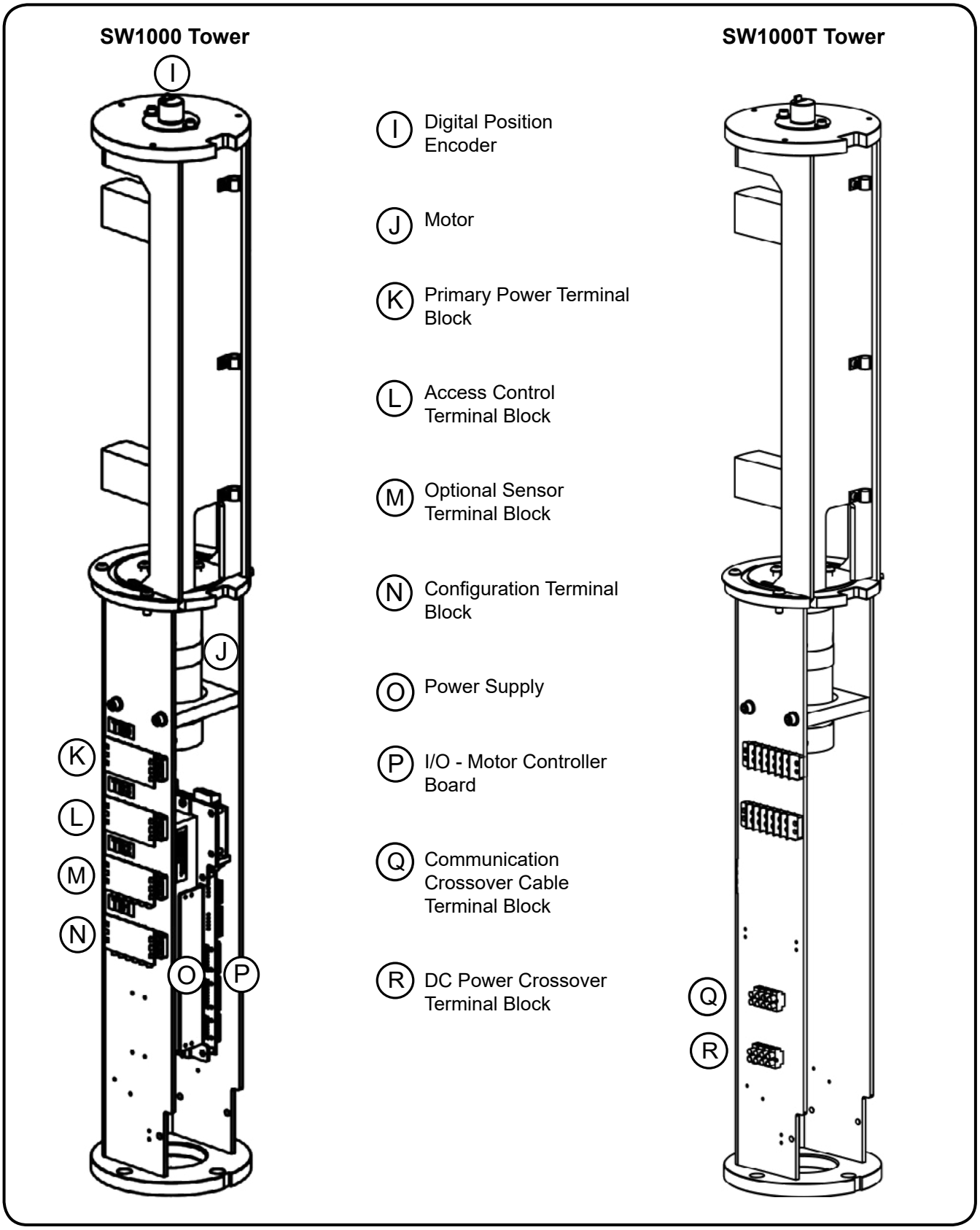
## External Components

**Figure 1** **SW1000 - Exterior View**



## Internal Components

**Figure 2** **SW1000 / SW1000T - Interior View**



## Internal Components (cont.)

### (I) Digital Position Encoder

The digital position encoder continually monitors the position of the barrier and works in conjunction with the motor and motor controller board to accomplish precise barrier movement.

### (J) Motor

The DC brushless motor operates the drive system moving the barrier.

### (K) Primary Power Terminal Block (TB9)

This terminal block is used to provide an output signal when the barrier is forced open. The output signal is a voltage-free, normally open, momentary dry contact.

### (L) Access Control Terminal Block (TB3)

This terminal block is used to connect access control wiring to the gate. Terminals are provided for Open Entry, Open Exit, and Emergency Override signals.

### (M) Optional Sensor Terminal Block (TB2)

This terminal block provides a connection point for the optional Exit Free Passage Sensor.

### (N) Configuration Terminal Block (TB1)

This terminal block is used for two purposes: 1) to configure the emergency override signal state as either normally open or normally closed, and 2) to provide a connection point for a button device capable of providing a sustained dry contact signal for keeping the gate open as long as the button is pressed.

### (O) Power Supply

The 24V power supply converts primary power to 24V low-voltage power for motor operation.

### (P) I/O - Motor Controller Board

This board serves as the interface point between the gate and the facility access control system, and works in conjunction with the digital position encoder and motor to control barrier movement.

### (Q) Communication Crossover Terminal Block (TB6)

Used to connect the communication crossover cable from the master gate to slave gate.

### (R) DC Power Crossover Terminal Block (TB6)

Used to connect the DC power crossover cable from the master gate to slave gate.

## SW1000 Functionality

A summary of SW1000 functionality is presented below.

### Barrier Breakaway

The SW1000 utilizes motor force to provide resistance against a user pushing or pulling the barrier open. When the barrier is forced, an alarm sounds and the barrier "breaks away" allowing the barrier to move freely. An output is generated from the TB9 terminal block for monitoring purposes. After a defined time (4 seconds is the default), the gate resets and resumes normal operation. The force it takes to push or pull the barrier open is configurable using *SwingGate Utility*.

### Barrier Impact

Should the barrier encounter an obstruction while opening or closing, the barrier will stop moving and an alarm will sound. After a defined period, the barrier resets and the gate resumes normal operation.

### Fire Alarm / Emergency Override

Activation to open the gate in conjunction with a fire alarm / emergency override signal is achieved by supplying a sustained dry contact signal to the appropriate input on the access control terminal block (TB3). When the input signal is received, the gate opens in the exit direction and remains open until the input signal is removed. When the input signal is removed, the gate resumes normal operation.

The SW1000 default configuration for fire alarm / emergency override input signals is normally open, but can be configured to interface with normally closed input signals using the configuration terminal block (TB2).

### Power Failure

When power is removed from the unit, the SW1000 barrier moves freely in either direction. When pushed or pulled to the open position, the barrier remains open. When power is restored, the gate resumes normal operation.

### Barrier Cycle

Barrier cycle refers to the period of time it takes for the barrier to open or close. Barrier open and close settings can be defined using the *SwingGate Utility*.

### Dwell Time

Dwell time refers to the period of time the barrier remains in the open position (allowing a user to pass through the gate) before returning to the closed position. Dwell time can be configured using *SwingGate Utility*.

### Barrier Hold Open

After an Open Entry or Open Exit activation, the gate is held open indefinitely using an integrated toggle switch (not supplied by Alvarado). When the toggle is released, the barrier returns to the home position. Typically, this is used to allow delivery personnel or a group of visitors entry/exit to the facility without credentials.

### Security Alarm

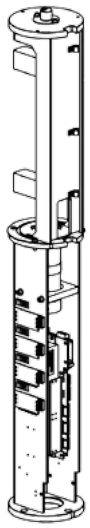
The Security Alarm sounds when the barrier is pushed or pulled beyond the user-defined position. The Security Alarm position can be configured using *SwingGate Utility*..

## Installation Tools

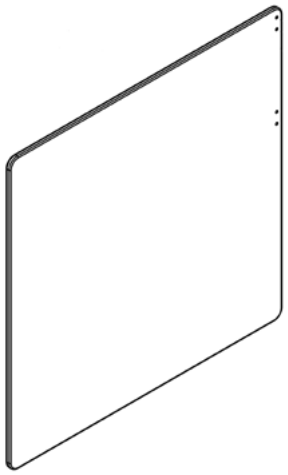
- Hammer Drill
- 5/8" Concrete Drill Bit
- Pencil
- Shop Vac
- Rubber Mallet
- Torque Wrench (in-lbs.)
- Torque Wrench (ft-lbs.)
- 9/16" Socket
- Straight Edge Level
- #2 Phillips Head Screwdriver
- Clear RTV Silicone
- Allen Wrenches: 3/32", 5/32", 5/64", 1/4"

## Parts List

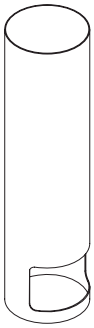
This product is shipped with all installation hardware and components. Make sure that none of these parts are missing and/or damaged before beginning installation. If parts are missing and/or damaged, please contact Alvarado Technical Support at (909) 591-8431.



Tower Assembly
(Qty 1)



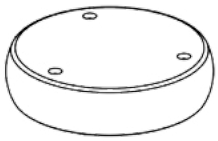
Barrier
(Qty 1)



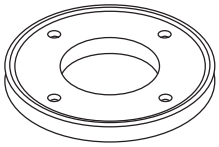
Lower Cover
(Qty 1)



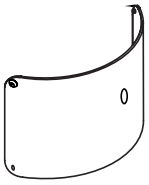
Upper Cover
(Qty 1)



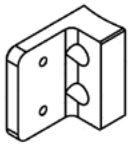
Lid
(Qty 1)



Base Plate
(Qty 1)



Access Panel
(Qty 1)



Barrier Clamp
(Qty 1)



Barrier Plate
(Qty 1)

### Also Included:

- (4) Concrete Anchor Package (Qty 1)
- Barrier Clamp Screws (Qty 4)
- Barrier Plate Screws (Qty 4)
- Top Cover Screws (Qty 3)
- Access Panel Screws (Qty 2)
- SW1000 Utility CD (Qty 1)

**NOTE**

**Refer to Appendix A for information and instructions specific to SW1000T tandem gate installations.**

## Pre-Installation

**NOTE**

**Refer to Appendix A for information and instructions specific to SW1000T tandem gate installations.**

## Slab Requirements

The following slab requirements must be taken into consideration when determining an installation location:

- The gate must be installed on a solid, level concrete pad with a minimum thickness of 4" (102mm).

## Space Requirements

The following space requirements must be taken into consideration when determining the installation location:

- Allocate 4" (102mm) of space between the back of the tower and adjacent wall or other surface.
- Allow a minimum of 2" (51mm) of clearance between the end of the barrier and adjacent surface to avoid pinch points.

**Figure 3** **Assembled Gate Dimensions**

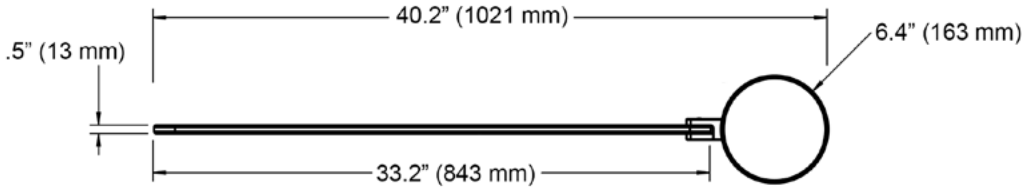
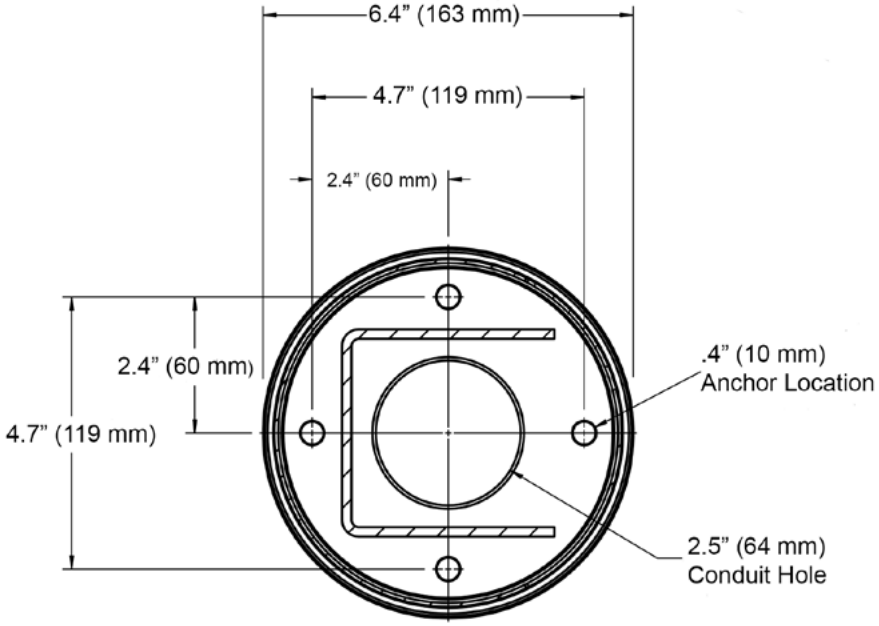


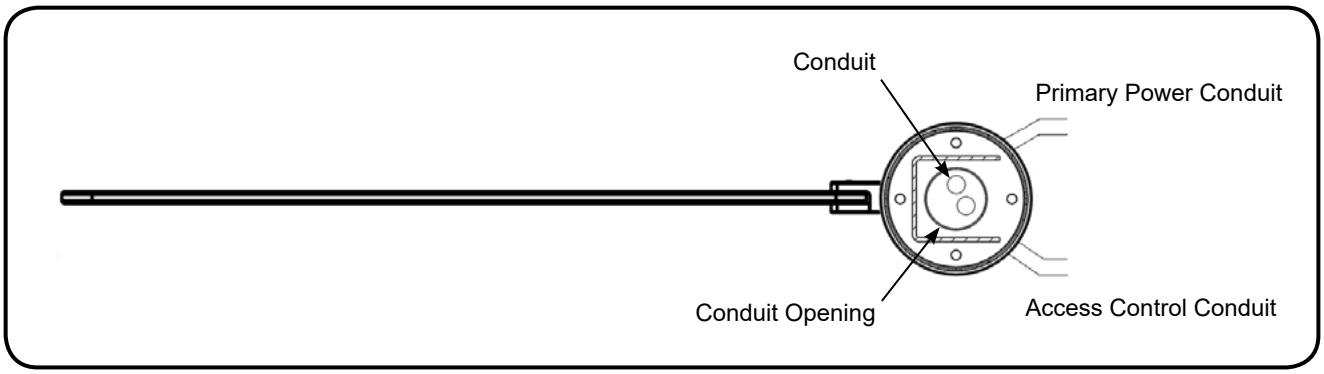

**Figure 4** **Base Dimensions**



## Conduit Requirements

- Use full-sweep electrical conduit underneath the floor.
- Use separate conduits for primary power, access control, and crossover cable (tandem installations only).
- The conduit opening must not exceed 2.5" (63mm) in diameter.
- The conduit must not extend above the baseplate or .25" (6mm) above the finished floor.

**Figure 5** **Conduit**




**NOTE**

Seal the floor area around the conduits running up and into the base plate. This will prevent condensation and debris build-up coming from whatever may be below the floor.

## Electrical Requirements

| | |
|---|---|
| **Power Supply** | 100 - 240 VAC. 6.0 A, 50/60 Hz |
| **Power Requirements** | Peak power consumption is 228 watts per gate with all options installed. |
| **Operational Voltage** | Primary power is stepped down and rectified for low-voltage 24 VDC, 12 VDC and 5 VDC operation. |
| **Fuse** | 3A (slo-blo) fuse is installed on each gate. |
| **Surge Protection** | Alvarado suggests the use of surge protection on the high-voltage power line to further protect electronics |
| **Drive Motor** | 24V BLDC |

## Environmental Requirements

- **DO NOT** install the product outdoors. This product is intended for indoor use only.

The following are suggested operating temperature and humidity ranges for the SW1000:

| | Operation | Non-Operation/Storage |
|---|---|---|
| **Temperature Range** | 10° - 32°C / 50° - 90°F | 0° - 40°C / 32° - 104°F |
| **Humidity Range (Non-Condensing)** | 15% - 85% RH | -- |

**⚠ CAUTION** Operating the SW1000 outside the suggested temperature and humidity ranges may negatively affect gate performance and could potentially cause damage to gate components.

## Communication Requirements

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

**Inputs** - Signal inputs from outside systems are wired into the TB1 and TB3 terminal blocks. 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, with the exception of the fire alarm input, which can be configured (via TB1-5 terminal) to accept either a normally open or normally closed sustained contact. MDCs must be at least 100ms in duration to register.

**Barrier Breakaway Output** – This output is found on the TB9 terminal block. Signal output is normally open, voltage-free, momentary dry contact. The output signal length is 500ms in duration.

## Gate Orientation

The default orientation for a single gate locates the tower on the right-hand side when viewed from the unsecured side [Figure 6].

**Figure 6** **Correct Gate Orientation**




## Pre-Installation Checklist

**It is the installer's responsibility to ensure the following steps are completed before beginning the installation.**

1. All components and hardware have been unpacked, correctly identified, and moved to the installation location.
2. The gate configuration and layout has been confirmed with the site manager.
3. All pre-Installation requirements have been met.

## Installation Instructions

**NOTE**

It is assumed that the Pre-Installation Checklist steps are complete.

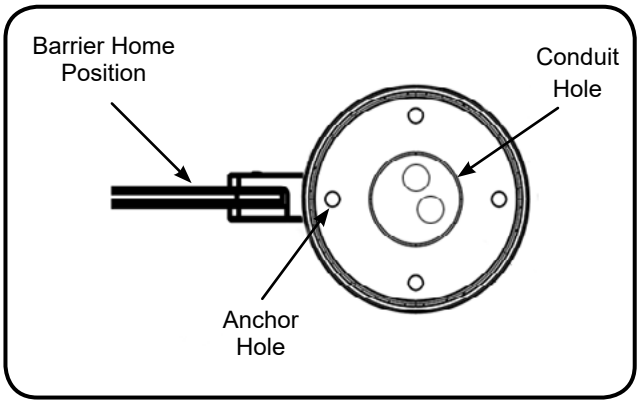
## Base Plate Installation

1. Align the base plate over the conduit opening and mark the location of each anchor hole. Remove the base plate when finished.

**NOTE**

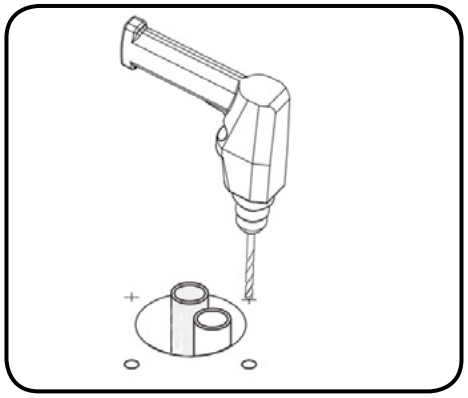
The barrier home position will align with an anchor hole [Figure 7].

**Figure 7** **Base Plate / Barrier Alignment**



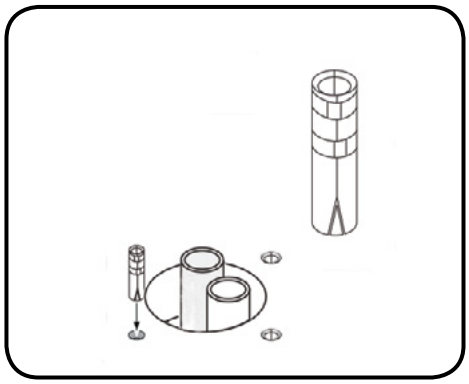

2. Using a hammer drill and 5/8" concrete drill bit, drill four (4) anchor holes to a depth of 3" (64mm) [Figure 8].
3. Using a shop vac, vacuum any debris from the anchor holes. Anchors will not tighten properly if debris is present.

**Figure 8** **Drill Anchor Holes**



4. Insert anchors threaded side down [Figure 9].
5. Ensure each anchor is flush with the surface of the concrete. If necessary, use a hammer to tap the anchors until they are flush.

**Figure 9** **Insert Anchors**



## Tower Assembly Installation

1. Route primary power and access control wiring through the base plate into the tower assembly [Figure 10].

**NOTE**

If installing an SW1000T tandem gate, refer to Appendix A for instructions on routing DC power and communication to the slave gate.

**Figure 10** Route Wiring

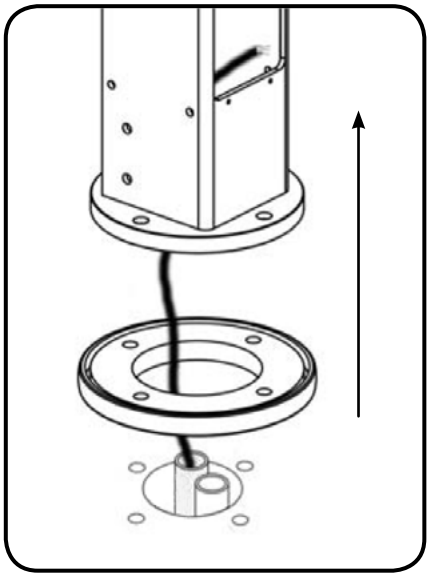
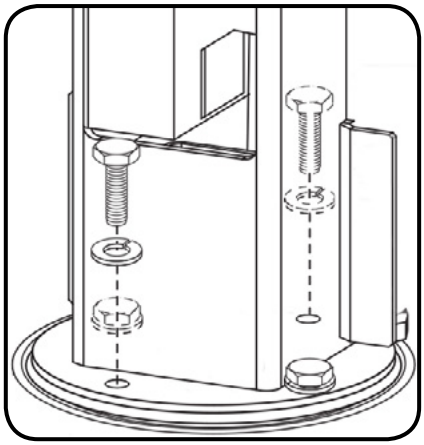


**Figure 11** Anchor the Tower Assembly



2. Align the tower assembly and base plate with the anchor holes. Insert four (4) anchor bolts and washers [Figure 11].
3. Using a torque wrench and 9/16" socket, torque the anchor bolts to 20 ft-lbs.
4. Using a level, verify the tower is plumb and level. If necessary, use shims to level the tower.
5. Apply a bead of clear RTV silicone around the base plate.

## Primary Power Wiring

**NOTE**

**REFER TO APPENDIX A FOR INSTRUCTIONS ON WIRING DC POWER TO THE SW1000T SLAVE GATE.**

**⚠ CAUTION**

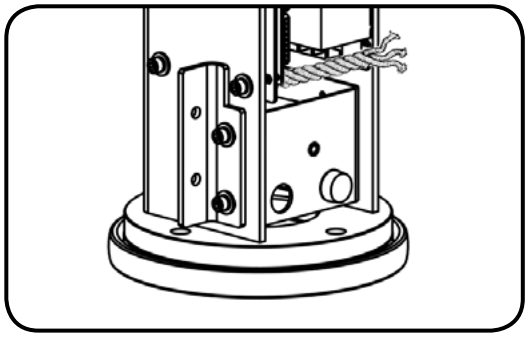
It is strongly recommended that a licensed electrician perform the following steps, maintaining strict adherence to all local electrical codes.

1. Locate the pre-installed three-wire pig tail tucked in the tower assembly base [Figure 12].
2. Use the table below to determine wire designations. Splice the primary power wires to the pig tail wires and insulate with wire nuts.

**⚠ CAUTION**

The ground wire must be connected. Serious injury may result if the ground wire is not properly connected.

**Figure 12** **Three-Wire Pig Tail**



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

## Access Control Wiring

Terminal blocks for wiring access control signals to the SW1000 are mounted to the pedestal frame [Figure 13]. Instructions for wiring access control signals are provided on the following pages.

**Figure 13** **Terminal Block Locations**

### TB9 - Breakaway Output

| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | Breakaway Output |
| 5 | N/A |
| 6 | N/A |

### TB3 - Access Control

| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | Open Entry |
| 5 | Emergency Override |
| 6 | Open Exit |

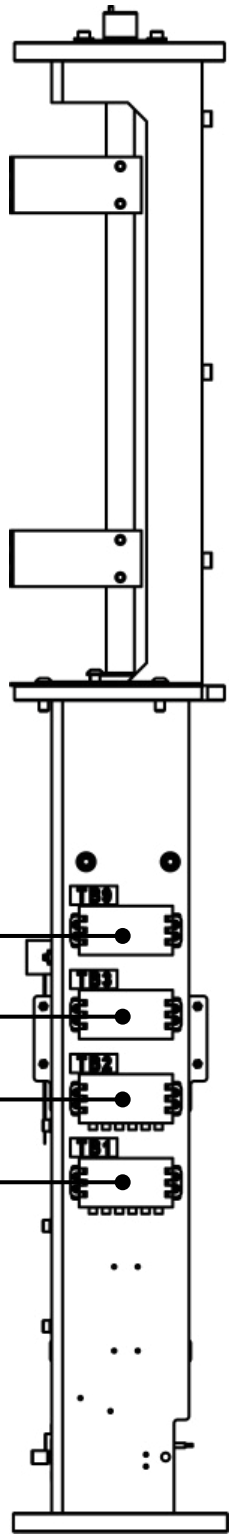
### TB2 - Optional Sensor

| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | N/A |
| 5 | N/A |
| 6 | Exit Presence Sensor* |

*Pre-configured when ordered as an option

### TB1 - Configuration

| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | N/A |
| 5 | Emergency Override State Select |
| 6 | Barrier Hold Open |



## Open Entry

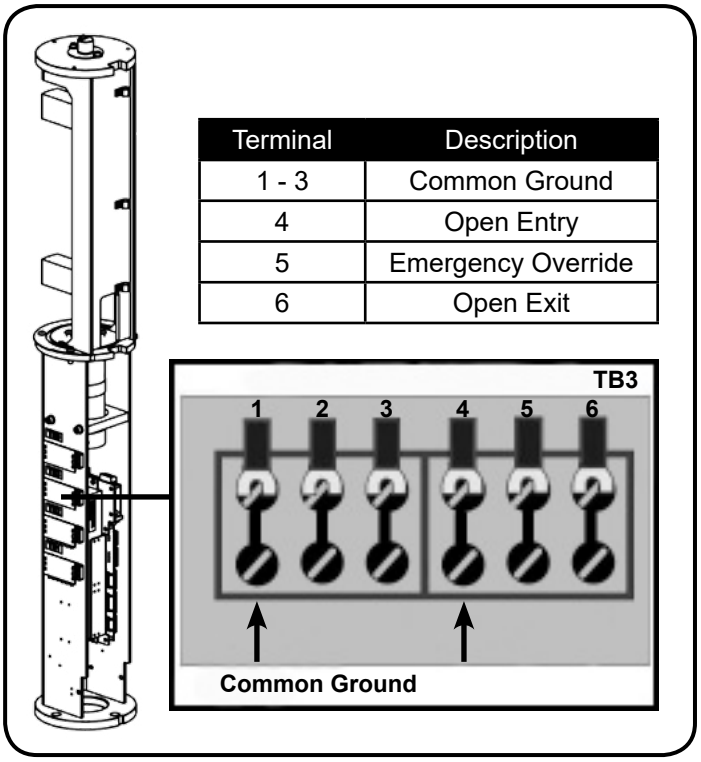
Receipt of an input contact opens the gate in the entry direction for the defined dwell time, then closes. Dwell time can be configured using *SwingGate Utility*. Typically, these signals are provided after the access control system determines the card presented at the gate is valid for entry, or a integrated push button device is activated.

1. Locate the TB3 terminal block [Figure 14].
2. Connect wires to TB3-4 and common ground (TB3-1 through TB3-3) [Figure 14].

**NOTE**

Input signal must be a voltage-free, normally open, momentary dry contact.

**Figure 14** **Entry Passage Terminals**




| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | Open Entry |
| 5 | Emergency Override |
| 6 | Open Exit |

## Open Exit

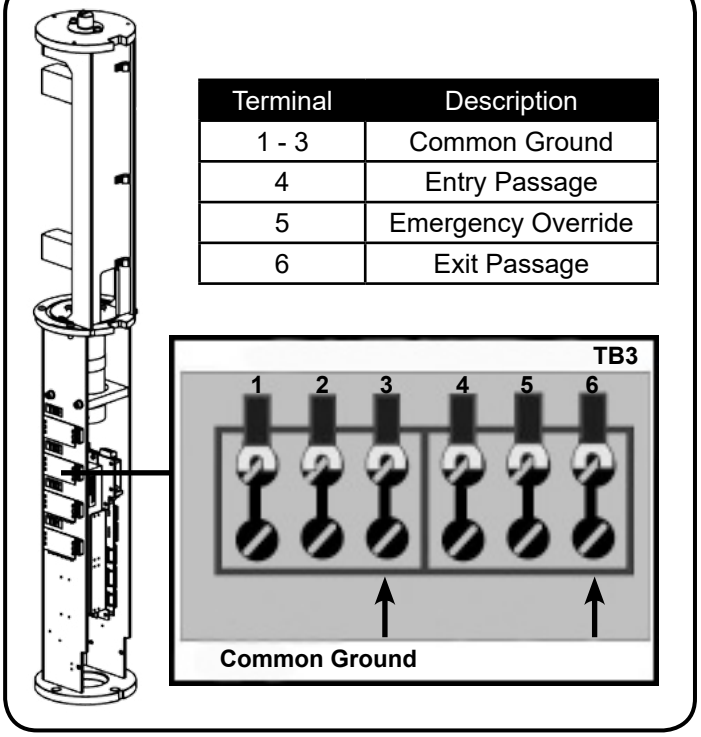
Receipt of an input contact opens the gate in the exit direction for the defined dwell time, then closes. Dwell time can be configured using *SwingGate Utility*. Typically, these signals are provided after the access control system determines the card presented at the gate is valid for entry, or a integrated push button device is activated.

1. Locate the TB3 terminal block [Figure 15].
2. Connect wires to TB3-6 and common ground (TB3-1 through TB3-3) [Figure 15].

**NOTE**

Input signal must be a voltage-free, normally open, momentary dry contact.

**Figure 15** **Exit Passage Terminals**




| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | Entry Passage |
| 5 | Emergency Override |
| 6 | Exit Passage |

## Barrier Hold Open

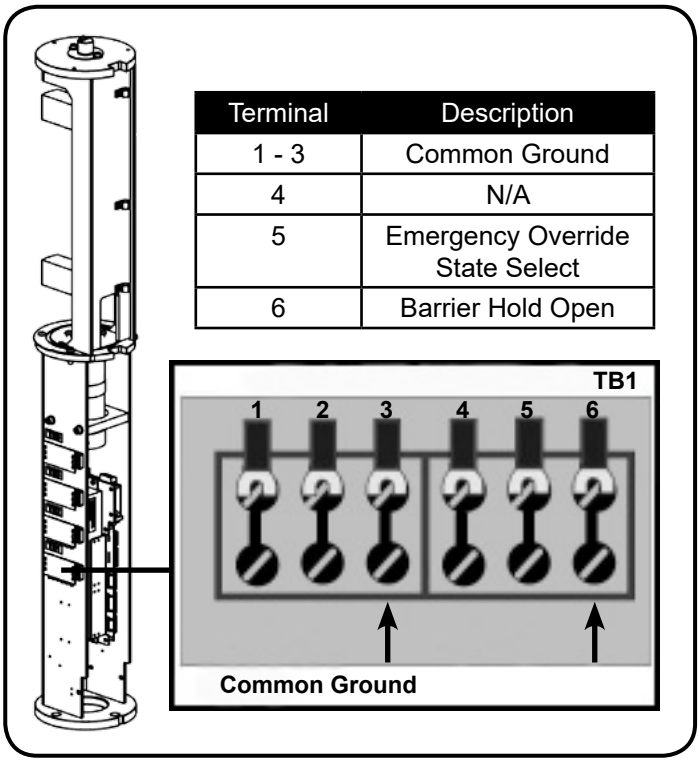
Receipt of an input signal keeps the gate open in the appropriate direction for as long as the contact signal is sustained. Typically, these signals are provided by an integrated toggle button used to keep the gate open for an indefinite period of time.

1. Locate the TB1 terminal block [Figure 16].
2. Connect wires to TB1-6 and common ground (TB1-1 through TB1-3) [Figure 16].

**NOTE**

Input signal must be a voltage-free, normally open, sustained dry contact..

**Figure 16** **Barrier Hold Open Terminals**




| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | N/A |
| 5 | Emergency Override State Select |
| 6 | Barrier Hold Open |

## Emergency Override

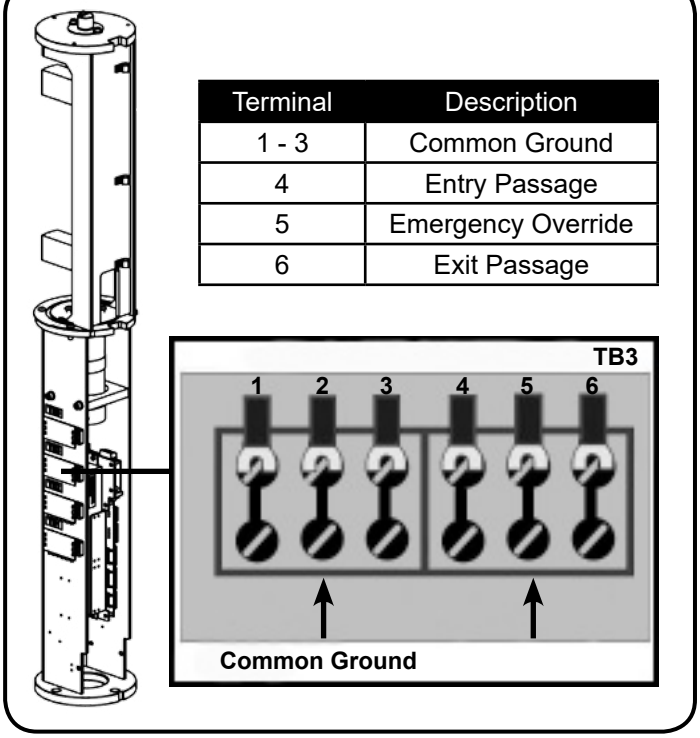
Receipt of an input contact (or removal of a contact) places the gate in Emergency Override mode in which the barrier remains open. The direction the barrier opens can be configured using *SwingGate Utility*. Typically, the building fire system is wired into this contact point. This input can be configured as either normally open (N.O.) or normally closed (N.C.) as required by the fire alarm system using the TB1 terminal block (see Emergency Override State Select on next page).

1. Locate the TB3 terminal block [Figure 17].
2. Connect wires to TB3-5 and common ground (TB3-1 through TB3-3) [Figure 17].

**NOTE**

Input signal must be a voltage-free, normally open, sustained dry contact.

**Figure 17** **Emergency Override Terminals**



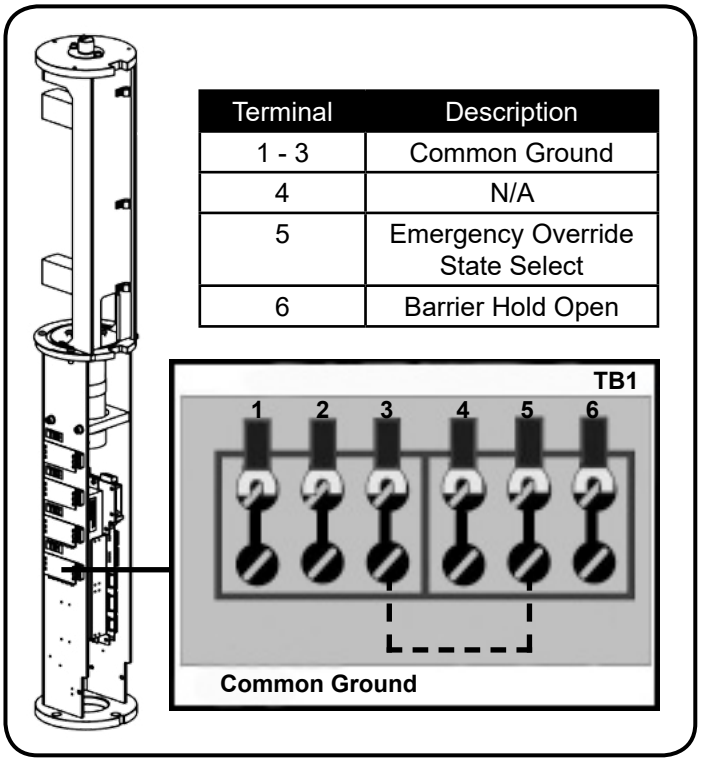

| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | Entry Passage |
| 5 | Emergency Override |
| 6 | Exit Passage |

## Emergency Override State Select

This terminal is used to configure the Emergency Override terminal (TB3-5) as either normally open or normally closed. The default configuration is normally open (no wire jumper installed). To configure normally closed, install a wire jumper between TB1-5 and common ground as shown in [Figure 18].

1. Locate the TB1 terminal block [Figure 18].
2. Using a wire jumper, jump TB1-5 and common ground (TB1-1 through TB1-3) [Figure 18].

**Figure 18** **Emergency Override State Select Terminals**



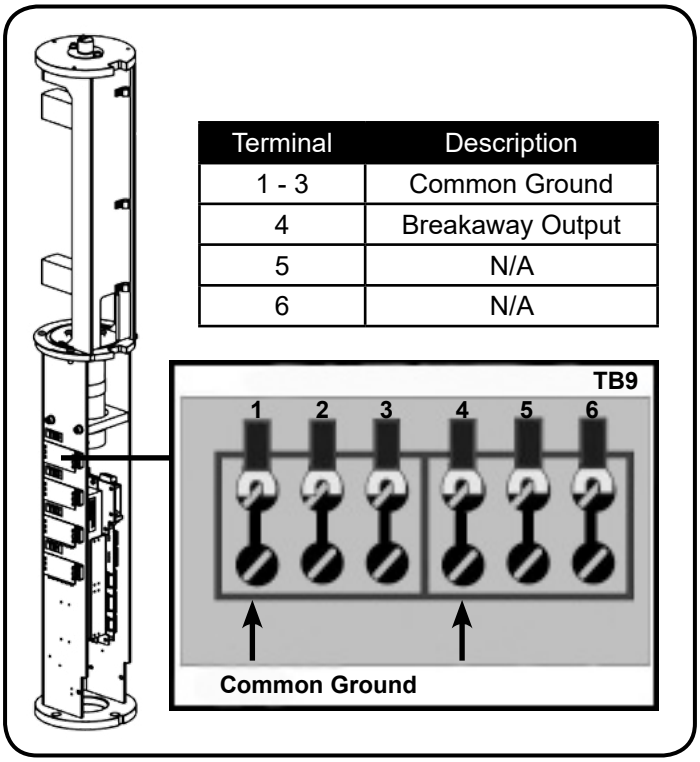

| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | N/A |
| 5 | Emergency Override State Select |
| 6 | Barrier Hold Open |

## Breakaway Alarm Output

This terminal is used to generate an output signal when the barrier is forced open (breakaway alarm). The output signal is a voltage-free, normally open, momentary dry contact.

1. Locate the TB9 terminal block [Figure 19].
2. Connect wires to TB9-4 and common ground (TB9-1 through TB9-3) [Figure 19].

**Figure 19** **Exit Passage Terminals**




| Terminal | Description |
|---|---|
| 1 - 3 | Common Ground |
| 4 | Breakaway Output |
| 5 | N/A |
| 6 | N/A |

## Complete Installation

## Covers & Lid Installation

1. Slide the lower cover over the tower assembly [Figure 20]. Ensure the lower cover is oriented such that the opening is aligned with the power button and fuse assembly, and is seated properly in the base plate groove.
2. Slide the upper cover over the tower assembly [Figure 20]. Rotate the upper cover until the barrier mounting holes are properly aligned.
3. Using a #2 Phillips-head screwdriver, fasten the access cover to the tower assembly [Figure 20].

**Figure 20** Upper & Lower Cover Installation

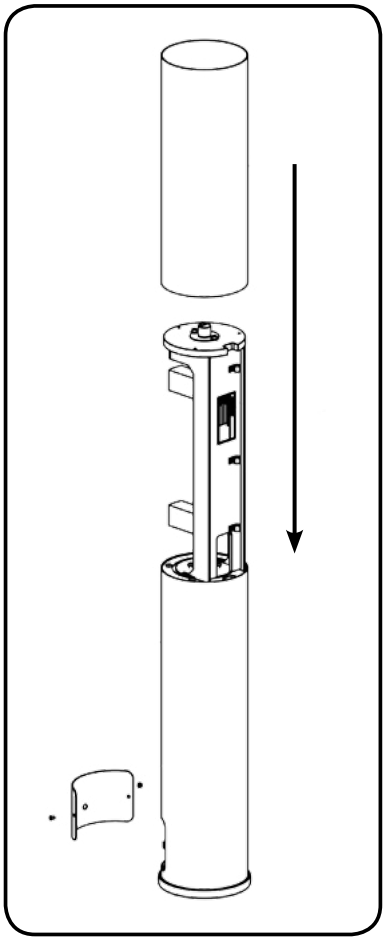
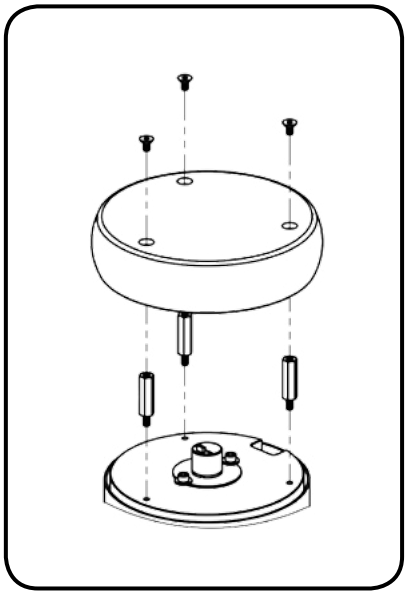


**Figure 21** Lid Installation

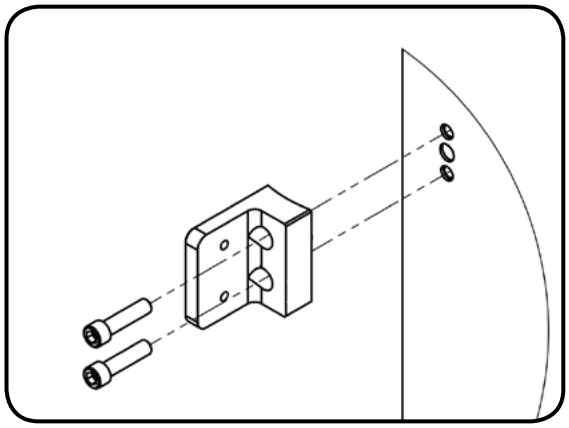
4. Using a 3/32" Allen wrench, fasten the lid to the tower assembly [Figure 21].



## Barrier Installation

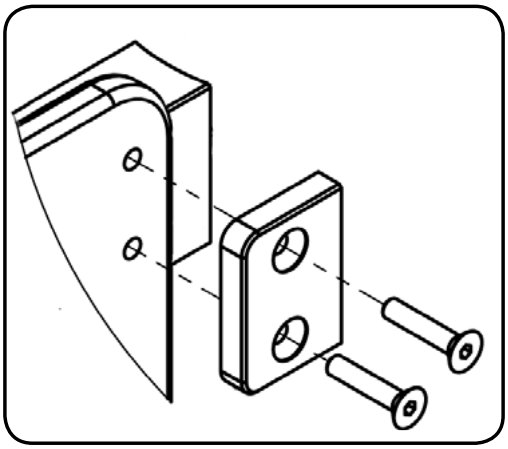
5. Install barrier clamps to the tower assembly using provided mounting screws [Figure 22]. Using a torque wrench and 1/4" Allen bit, torque to 39 ft-lbs.

**Figure 22** Barrier Clamps



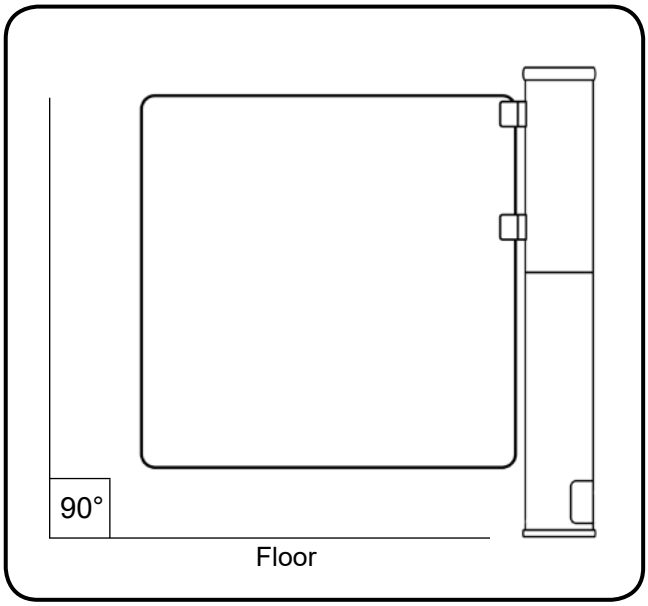
6. Align barrier with barrier clamps (it is recommended to have a second person assist holding by the barrier in place). Mount the barrier to the barrier clamps using the barrier plates and screws [Figure 23]. Using a torque wrench and 5/32" Allen bit, torque the barrier plate screws to 95 in-lbs.

**Figure 23** Barrier Plates



7. Using a level, verify the barrier is plumb and level to the ground [Figure 24].

**Figure 24** Plumb and Level



## Post-Installation Functions Check

### Powering On / Off

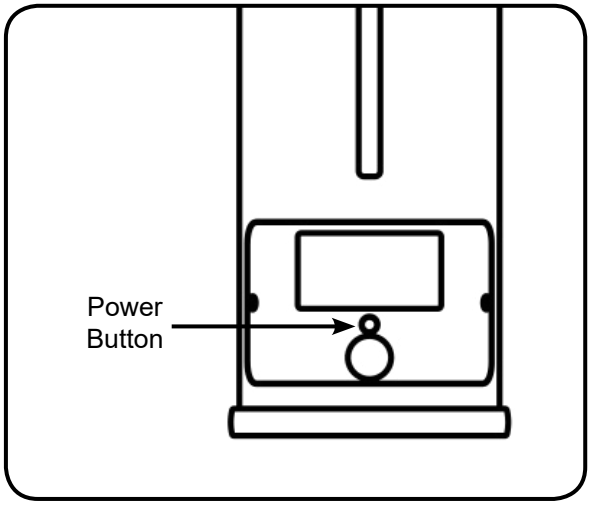
The power button is located at the base of the tower [Figure 25].

1. Using a slim object such as a pencil or pen, push the power button.
2. When the SW1000 bootup sequence is complete, the barrier will move to the home position and enter controlled passage mode.

**NOTE**

SW1000s manufactured before August 2015 will have a power key switch installed inside the access panel instead of a power button.

**Figure 25** **Power Button**




## Testing Lane Functionality

Perform the following gate functionality tests to validate basic gate operation. Tests are provided for Open Entry, Open Exit, Breakaway, and Emergency Override.

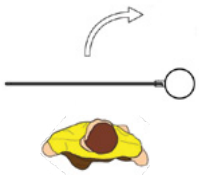
The following is assumed (Open Entry and Open Exit tests only):

- The access control system is operational and all access control wiring to the gate is connected.
- Valid access cards or activation buttons are on hand for activating the gate.

**NOTE**

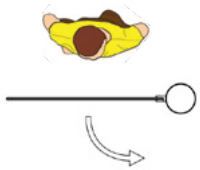
Verify the barrier is centered properly in the home position. If the barrier home position needs to be reset, refer to the SW1000 Configuration section beginning on Page 26.

**OPEN ENTRY**

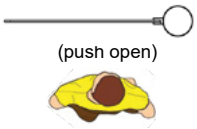
| TEST | PROCEDURE | GATE RESPONSE |
|---|---|---|
| Secured Side  Unsecured Side | Activate the lane in the entry direction. | • The barrier moves to the open position.<br>• The barrier returns to the home position after 6 seconds. |

## Testing Lane Functionality (cont.)

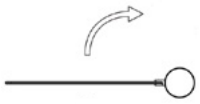
### OPEN EXIT

| TEST | PROCEDURE | GATE RESPONSE |
|---|---|---|
| Secured Side  Unsecured Side | Activate the lane in the exit direction. | • The barrier moves to the open position.<br>• The barrier returns to the home position after 6 seconds. |

### BREAKAWAY

| TEST | PROCEDURE | GATE RESPONSE |
|---|---|---|
| Secured Side  (push open) Unsecured Side | Push on the barrier until it breaks away. | • The breakaway alarm sounds.<br>• The barrier returns to the home position after 6 seconds.<br>• Breakaway output signal is generated. |

### EMERGENCY OVERRIDE

| TEST | PROCEDURE | GATE RESPONSE |
|---|---|---|
| Secured Side  Unsecured Side | Provide an emergency override signal to the gate. | • The barrier moves to the open position and remains open for the duration of the emergency override signal. After the signal is removed, the barrier returns to the closed position. |

## User Instructions

### Operational & Safety Considerations

- Users may move briskly, but should not run due to safety considerations.
- Users should not stop and linger in the gate swing path. Lingering slows throughput and may trigger an alarm condition. The barrier may also impact the user while closing.
- Users with large bags, hand trucks, boxes, etc, should verify their combined width does not exceed passage width prior to entering the gate.

## Controlled Passage Mode

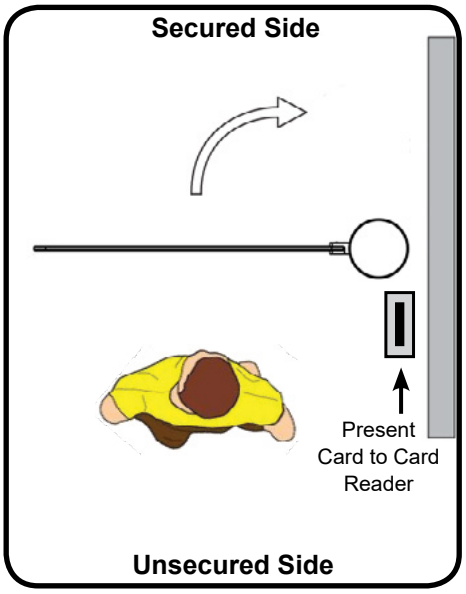
**NOTE**

The SW1000 gate may be controlled by an access control system or a security desk button. The following instructions assume the gate is controlled by an access control system with a card reader for validating credentials.

Alvarado follows what we call the “right-hand rule." Card readers are installed on the right-hand side as the user enters the gate from the unsecured side [Figure 26].

1. Present the card to the card reader. Card read range varies from reader to reader. A best practice is to physically touch the card to the card read area.
2. Upon card validation:
   - Barrier moves to the open position.
3. Promptly walk through the gate.
   - Barrier remains open for the defined dwell time (default is 6 seconds), after which it returns to the closed position.

**Figure 26** **Controlled Passage Mode**




**TIPS**

To improve throughput:

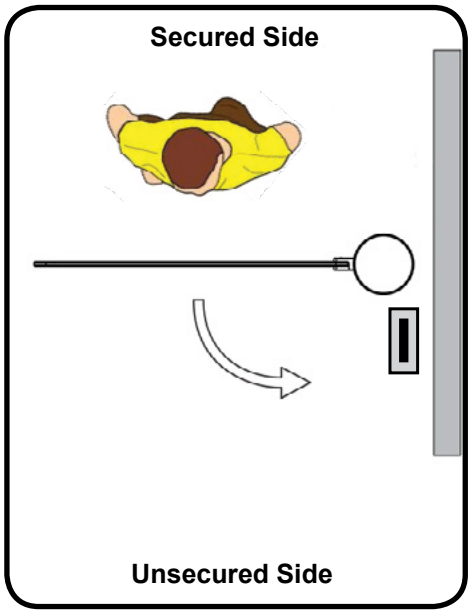
- Instruct users to have their credentials ready for presentation prior to arrival at the gate.
- Keep the gate entry and exit areas free of obstructions and dissuade users from talking or congregating in those areas.

## User Instructions (cont.)

### Free Passage Mode (Optional)

1. No credentials are required for Free Passage mode. Approach the gate:
    - When the exit free passage sensor detects your presence, the barrier moves to the open position.
2. Promptly walk through the gate.
    - Barrier remains open for the defined dwell time (default is 6 seconds), after which it returns to the closed position.

**Figure 27** Free Passage Mode



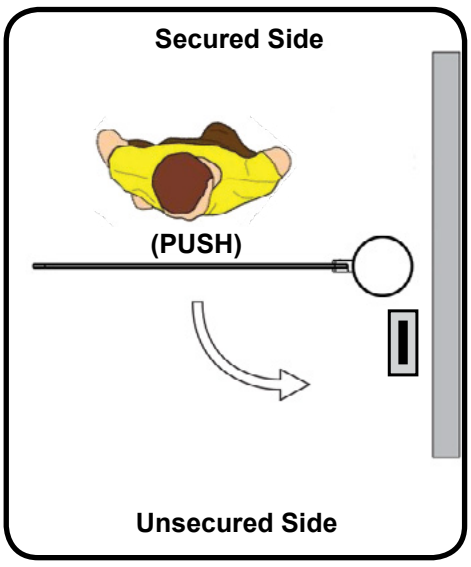

### Breakaway

**NOTE**

Breakaway places excessive stress on the motor drive system. Do not force the barrier if the breakaway parameter has been increased from the default setting.

1. Place hands securely on the barrier and push until the barrier gives way.
    - The barrier moves freely.
    - An alarm sounds.
    - An output is generated.
2. Promptly walk through the gate.
    - Barrier remains in breakaway state for 4 seconds, after which it resets and returns to the closed position.

**Figure 28** Breakaway



## SW1000 Configuration

SwingGate Utility is required to configure gate settings. This utility is located on the software CD that was included with the SW1000. No installation is required. Simply copy **SwingGateUtility.exe** over to the computer and double-click to run.

Minimum computer requirements:

- 1 GHz Processor
- 512 MB RAM
- 2 GB Hard Drive
- Windows XP / Vista / 7 / 8
- CD-ROM Drive
- .NET v4.0.3019 or later
- Serial Port (or Serial to USB adapter)

## Connecting to the SW1000

1. The RS232 programming cable is located at the base of the tower [Figure 29]. To access the cable, remove the access panel.
2. Connect the RS232 programming cable to a serial port on your computer. If you do not have a serial port on your computer, use a serial to USB adapter.

**Figure 29** **RS232 Programming Cable**




(Power key switch version shown)

**NOTE** If your SW1000 was manufactured before September 2014, the RS232 programming cable was shipped loose and requires installation. Refer to Appendix B for instructions on installing the cable.

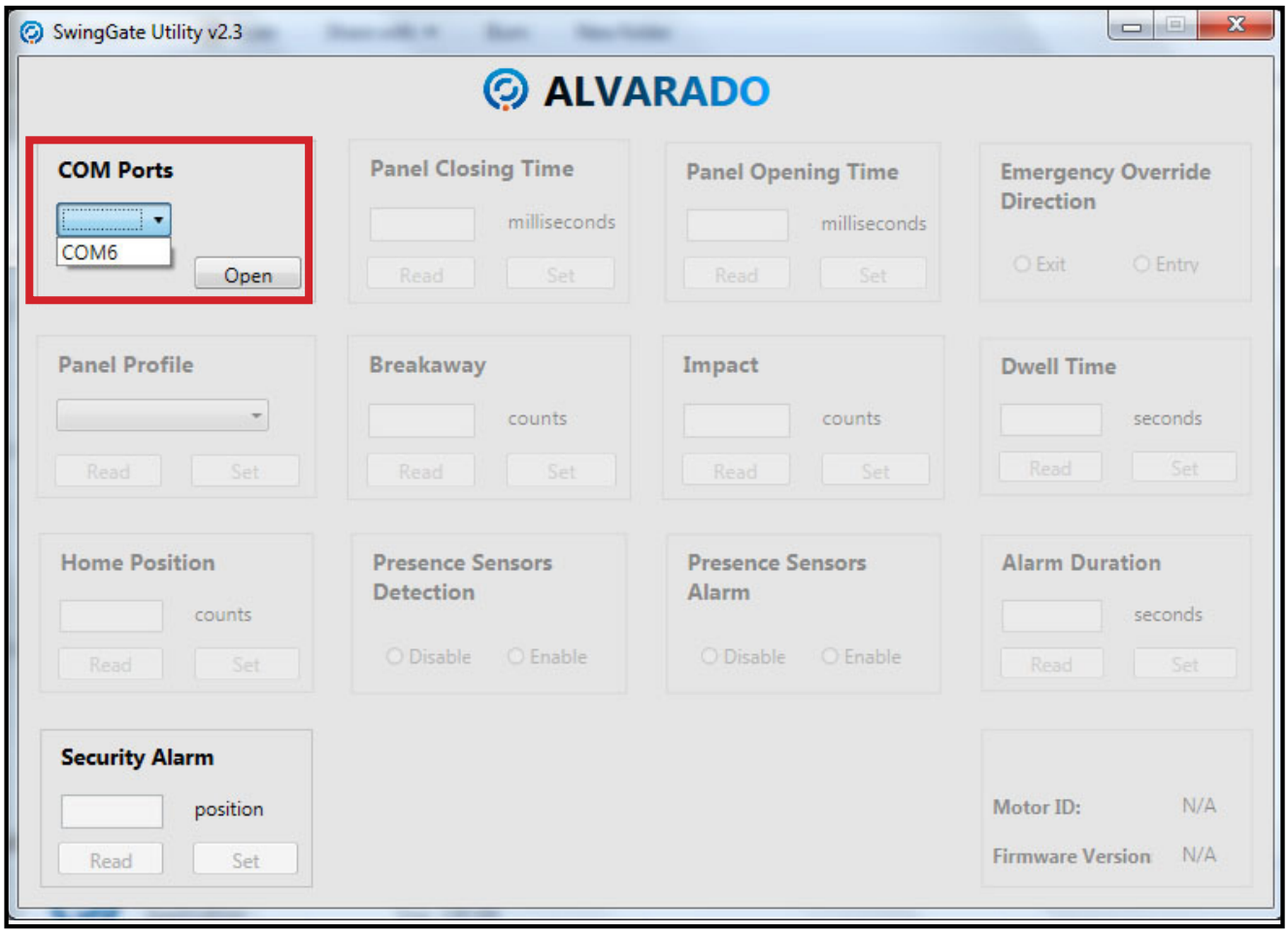
## Connecting to the SW1000 (cont.)

1. Double-click **SwingGateUtility.exe** to launch the utility. This will bring up the SwingGate Utility main screen.
2. Select **COM port** from the drop-down menu and click **Open** [Figure 30].

**NOTE**

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

**Figure 30** **Select COM Port**



## Using SwingGate Utility

- To check the current value of a gate parameter, click **Read**.
- To customize a gate parameter, enter a value in the text box and click **Set**.
- For SW1000T tandem units, settings must be configured on each side.
- If after reading this document, you are unclear regarding a particular setting, contact Alvarado **before** changing the setting.

**Figure 31** **SwingGate Utility Main Screen Parameters**




**Parameter descriptions on next page.**

## Using SwingGate Utility (cont.)

| ITEM | SETTING | DESCRIPTION |
|---|---|---|
| 1 | Panel Profile | Selects the panel profile:<br>• Low - 39" barrier height, manufactured before to August 2015<br>• Mid - 46" barrier height, manufactured before to August 2015<br>• Low V2 - 39" barrier height, manufactured after August 2015<br>• Mid V2 - 46" barrier height, manufactured after August 2015<br>**The panel profile setting is factory-set and only needs to be changed if 1) the barrier size has changed, or 2) the motor controller board has been replaced.** |
| 2 | Home Position | Sets the barrier home position (closed position). To set the home position:<br>1) Enter **2000** in the text box.<br>2) Manually align the barrier to the correct home position.<br>3) Click **Set**.<br>**The home position value must always be 2000. DO NOT change this value.** |
| 3 | Security Alarm | Defines how far the barrier can be pushed/pulled from the home position before an alarm sounds. When the barrier is manually moved beyond this position, in either direction, an alarm sounds. The default setting is 100. |
| 4 | Panel Closing Time | Sets the length of time (in milliseconds) the barrier takes to move from the open position to the closed position (home). The default setting is 4000ms.<br>**This value should range from 2000ms to 4000ms. Setting the value outside this range may result in injury to users or damage to the gate.** |
| 5 | Breakaway | Sets the maximum force the motor uses to keep the barrier closed during an attempt to force the barrier open. When the force applied to the barrier exceeds this setting, the barrier gives way and an alarm sounds. The default setting is 55.<br>**DO NOT set Breakaway to more than 100. Doing so may result in injury to users or damage to the gate.** |
| 6 | Presence Sensors Detection | SW500 model only. |
| 7 | Panel Opening Time | Sets the length of time (in milliseconds) the barrier takes to move from the closed position to the open position. The default setting is 4000ms.<br>**This value should range from 2000ms to 4000ms. Setting the value outside this range may result in injury to users and damage to the gate.** |
| 8 | Impact | Sets the maximum force the motor uses to close the barrier upon impact with an object. When the force required to close the barrier exceeds this setting, the barrier gives way and an alarm sounds. The default setting is 40.<br>**Setting the value too low/high may result in injury to users and damage to the gate.** |
| 9 | Presence Sensors Alarm | SW500 models only. |
| 10 | Emergency Override Direction | Sets the direction the barrier opens in emergency override mode. The default setting is exit. |
| 11 | Dwell Time | Sets the time (in seconds) the barrier remains in the open position (allowing a user to pass through the gate) before closing. The default setting is 6 seconds. |
| 12 | Alarm Duration | Sets the time (in seconds) the alarm sounds after the gate has been violated. The default setting is 4 seconds. |
| 13 | Gate Information | Motor ID: Identifies the gate motor ID as either master or slave. Only SW1000T tandem gates will have a slave motor ID.<br>Firmware Version: Displays installed firmware version. |

## Maintenance

Preventative maintenance should be performed periodically after installation to ensure the product maintains its visual exterior appeal and optimal performance. To maintain the SW1000, follow the instructions below as needed. Due to the various types of exterior finishes available, different types of care must be taken to keep the unit clean and undamaged.

### Exterior Finish

The best way to maintain the SW1000's exterior finish and prevent corrosion is to clean it regularly.

1. Satin Chrome Finishes - Use only a soft damp cloth for cleaning, as satin chrome scratches easily. To remove light dirt and grime, use a mild detergent diluted in some warm water. If a scratch mark is apparent, a metal blend and finish pad by 3M Company or equivalent may be used. ALWAYS POLISH IN THE DIRECTION OF THE GRAIN.

2. Powder-coated Finishes - Powder-coat finished surfaces may be cleaned using a soft damp cloth. Any deep scratched in this type of finish should be touched up to prevent rust or corrosion from forming. If left untreated, rust can spread under the powder-coat finish.

### Barrier

Use cleaning products that are specifically recommended for use on acrylic surfaces. We recommend two products:

- **Brillianize**
- **Novus #1**

The two recommended products will clean the material and leave a greaseless shine that will repel dust and resist fingerprints. DO NOT use scouring compounds or chemical cleaners like Windex that contain ammonia or alcohol.

1. Using a soft cloth, clean the acrylic barrier according to the instructions provided with the recommended cleaning product. DO NOT SCRUB THE ACRYLIC!

### Dust Removal

Dust removal should be performed every six (6) months.

1. Using canned air suitable for electronics, blow out the dust on the I/O - motor controller board and other internal electronics.

2. Use this opportunity to check wiring for loose connections and crimps.

### Attachment

Inspect the barrier clamps, access panel, lid, and anchor bolts once a year to make sure they are properly fastened.

## Options

The following options are available:

### Alternate Power Supply

A 220 - 240VAC, 50 Hz power supply and appropriately rated key switch are utilized.

### Barrier Height

The standard barrier height is 39" measured from the floor. An optional "mid" barrier height measuring 46" from the floor is also available.

### Barrier Width

The standard barrier width is 33". An optional 36" barrier is also available to widen the passage area.

### Alternate Finishes

The post can be plated with an alternate plated finish such as bright chrome or brass. Powder coating is also available.

### Signage

An "Enter" sign can be mounted to the entry side of the barrier.

### Barrier Etching

Customer's choice of logo / artwork may be etched on the barrier. Contact Alvarado for artwork requirements.

### Exit Free Passage Sensor

A motion sensor is used to detect oncoming traffic in the exit direction. When a user is detected, the gate automatically opens in the direction of travel. The barrier will close after the defined dwell time (6 second default) has expired. The range of the Exit Free Passage Sensor is approximately 3 feet.

# Appendix A - SW1000T Tandem Gate Instructions

SW1000T Tandem Gate installations require additional planning and installation steps. Use the information in this section to properly install the SW1000T Tandem Gate.

## Installation Tools

- All tools listed on Page 9
- Precision Flat-head Screwdriver

## Parts List

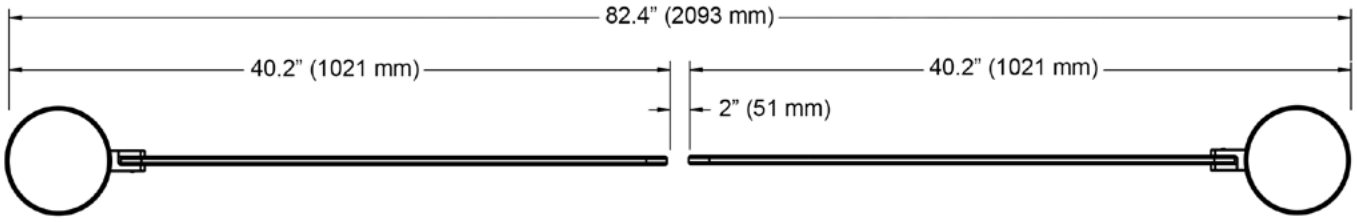
- Two (2) of all parts listed on Page 9
- DC Power Crossover Cable
- Communication Crossover Cable

## Space Requirements

The following space requirements must be taken into consideration when determining the installation location:

- Allocate 4" (102mm) of space between the back of the tower and adjacent wall or other surface.
- Allow a minimum of 2" (51mm) of clearance between the end of the barrier and adjacent wall or barrier other to avoid pinch points.

**Figure A1** **Assembled Gate Dimensions**

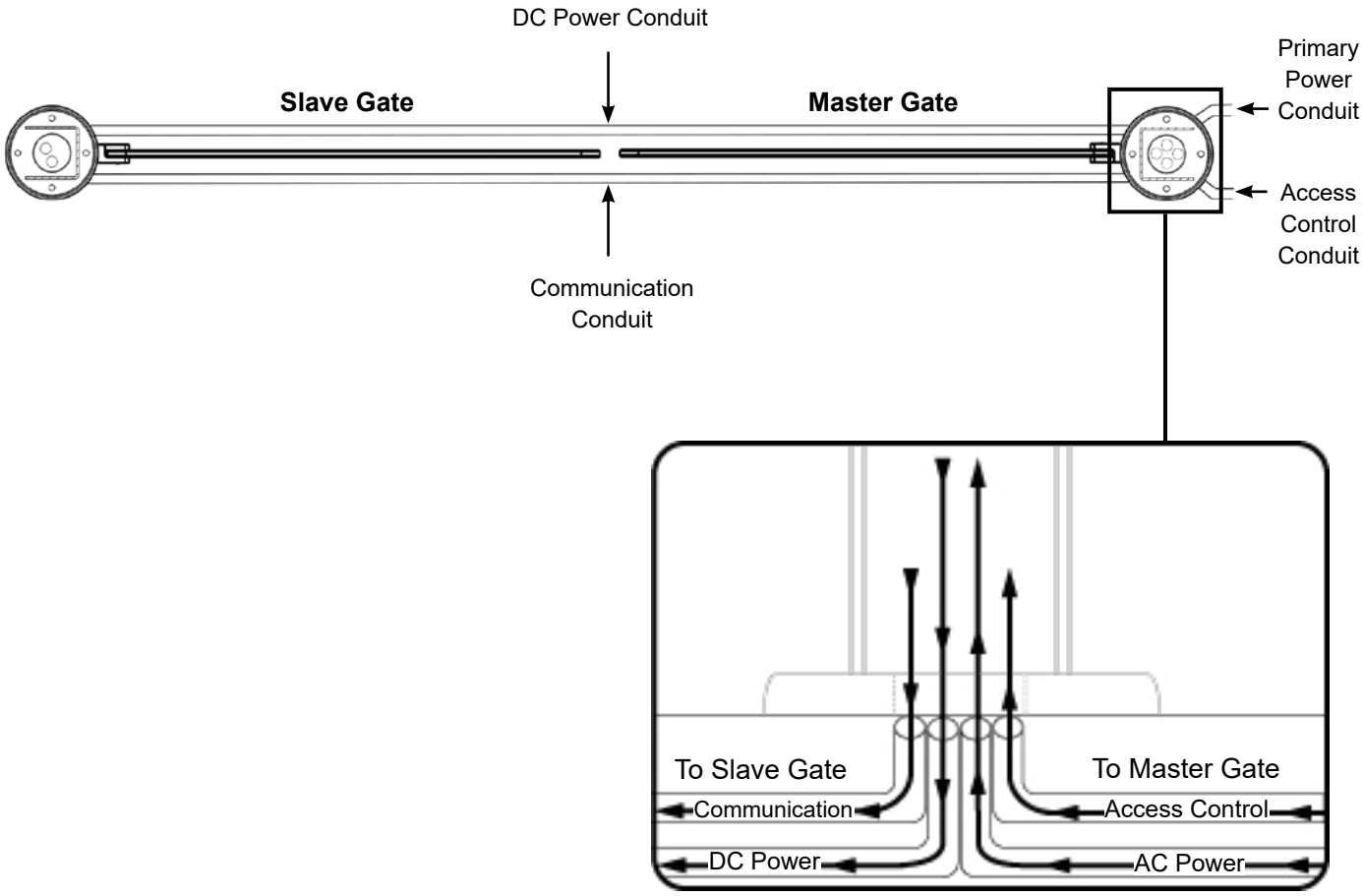



**Slave Gate** **Master Gate**

## Conduit Requirements

- Conduit opening is 2.5". Recommended conduit size is .5".
- Run primary power and access control conduit to the master gate.
- Run DC power and communication conduit from the master gate to the slave gate.

**Figure A2** **SW1000T Conduit**



## DC Power Crossover Cable

DC power is run from the master gate to the slave gate using the DC power crossover cable **(10-1353)**. Follow the instructions below to connect DC power to the slave gate.

1. Locate the DC power crossover cable shipped with the slave gate.
2. On the master gate, connect the spade connectors to TB2-3 (red) and TB2-4 (black) [Figure A3].

**Figure A3** **TB2-3, TB3-4 (Master Gate)**

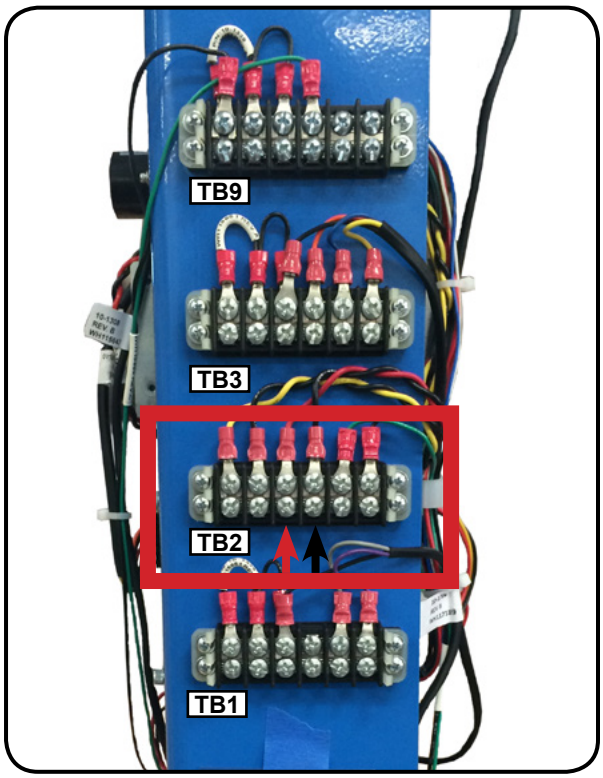
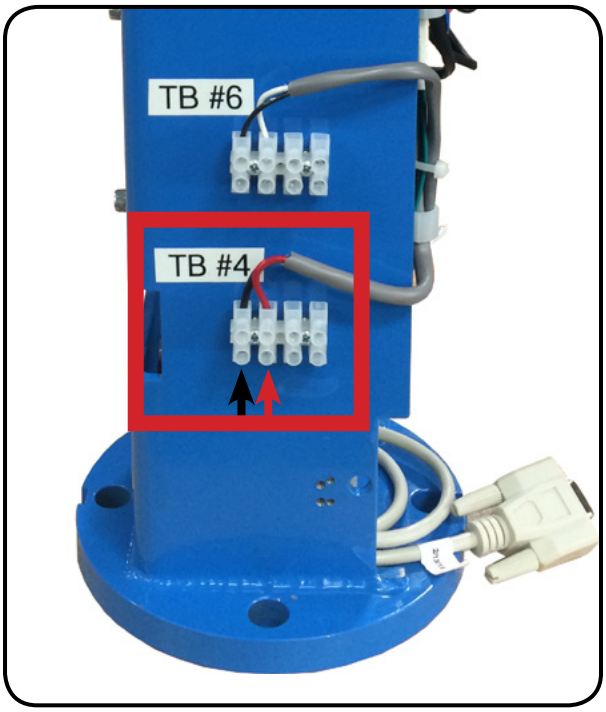



**Figure A4** **TB4-1, TB4-2 (Slave Gate)**

3. On the slave gate, connect the bare wires to TB4-1 (black) and TB4-2 (red) [Figure A4].

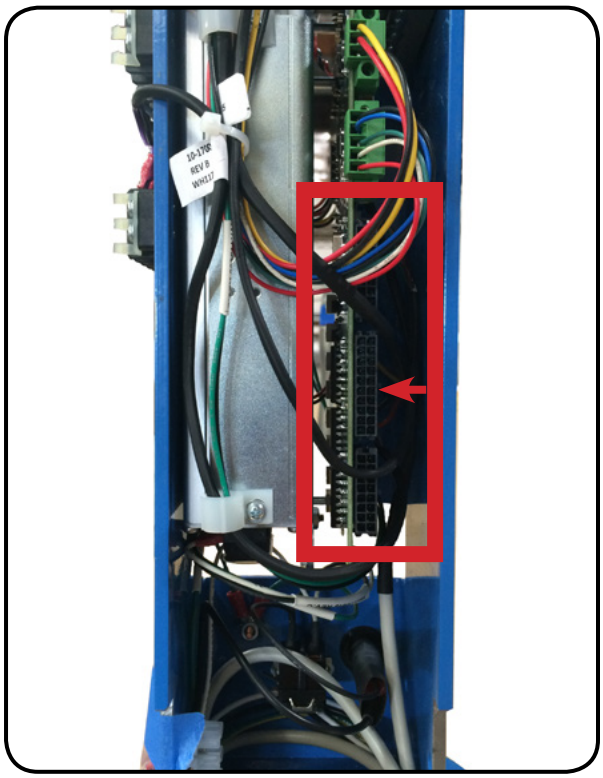


## Communication Crossover Cable

Communication is run from the master gate to the slave gate using the communication crossover cable **(10-1306)**. Follow the instructions below to connect communication to the slave gate.

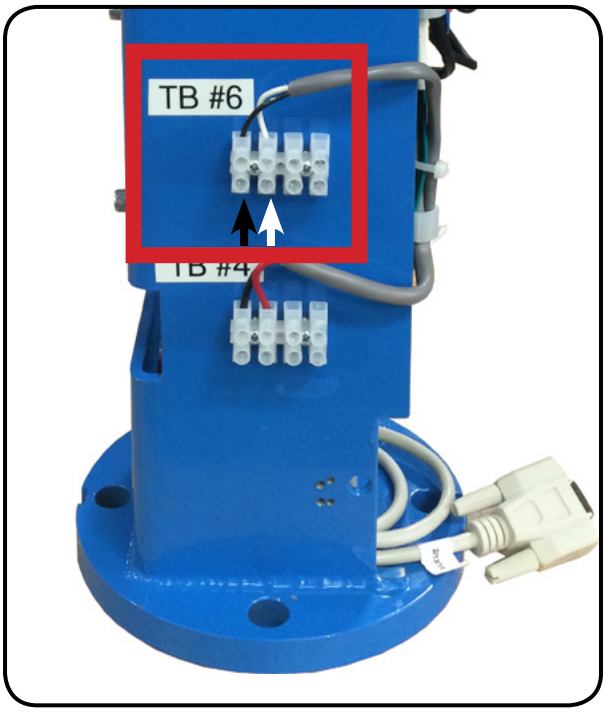
1. Locate the communication crossover cable shipped with the slave gate.
2. On the master gate, connect the wire harness to the motor controller board J15 connector labeled Master Connections [Figure A5].

**Figure A5** **J15 Connector (Master Gate)**



3. On the slave gate, connect the bare wires to TB6-1 (black) and TB6-2 (white) [Figure A6].

**Figure A6** **TB6-1, TB6-2 (Slave Gate)**



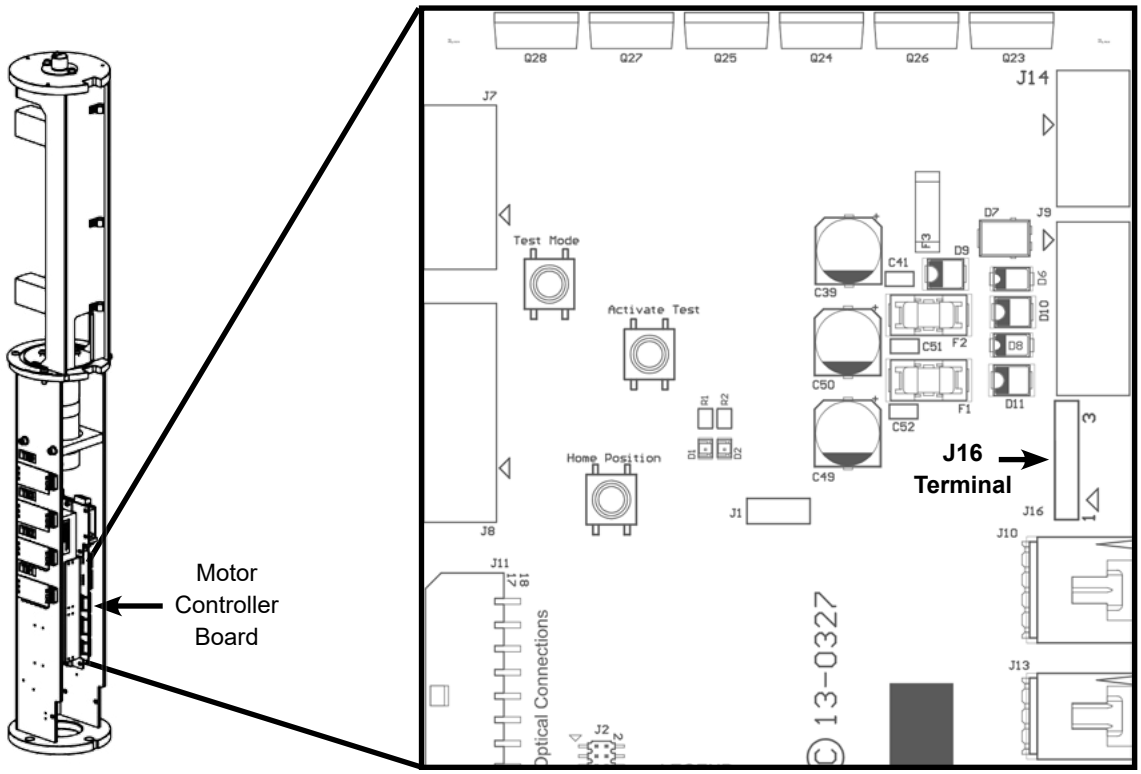
## Appendix B - Connecting the RS232 Programming Cable to the Motor Controller Board

**NOTES**

In order to gain access to the motor controller board, the barrier, clamps, and tower covers need to be removed. Refer to the installation section of this manual for more information.

1. Remove barrier, clamps, and tower covers to access the motor controller board.
2. Locate the motor controller board [Figure B1].
3. Connect the RS232 programming cable wire harness to the J16 terminal block [Figure B1].
4. Reinstall the covers, clamps, and barrier.
5. Repeat steps 1- 4 with the other barrier on SW1000T tandem units.

**Figure B1** **Motor Controller Board**



## Troubleshooting

This basic troubleshooting section is provided to aid installers with the most commonly encountered installation problems. If you require more troubleshooting assistance, contact Alvarado Technical Support.

| Symptom | Possible Cause | Solution |
|---|---|---|
| The barrier does not move when activated. | No power | Verify power to the gate indicated by a green LED on the I/O - motor controller board. |
| | Blown fuse | Check fuse. If necessary replace with a 3A (slo-blo) fuse. |
| | Access control wires not landed to correct I/O board terminals. | Check access control wires at both the I/O board and access control panel. |
| The barrier opens in the wrong direction (open entry and open exit). | The gate is installed backwards. | The default gate orientation situates the tower assembly on the right-hand side when viewed from the unsecured side. If the gate was installed backwards, the Open Entry and Open Exit access control wires will need to be reversed to correct the barrier opening directions |
| | Open Entry and Open Exit signals are wired incorrectly | Check access control wires, and reconnect as necessary. |
| The barrier opens and remains open after powering on. | The emergency override terminal is configured for a N.O. signal, but the incoming signal is N.C. (or vice versa). | Check the signal state of the fire/life safety system and verify the emergency override state select terminal is configured accordingly. |

## Revision History

| Revision | Date | Author | Description |
|---|---|---|---|
| 1-2 | 1/27/15 | A. Flores | Added Appendix - Setting the Home Position |
| 2-0 | 10/5/15 | A. Flores | Includes 2015 design changes. Added configuration, operation, and maintenance instructions. Updated document layout. |
| 2-1 | 1/25/17 | A. Flores | Added Security Alarm functionality. |

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