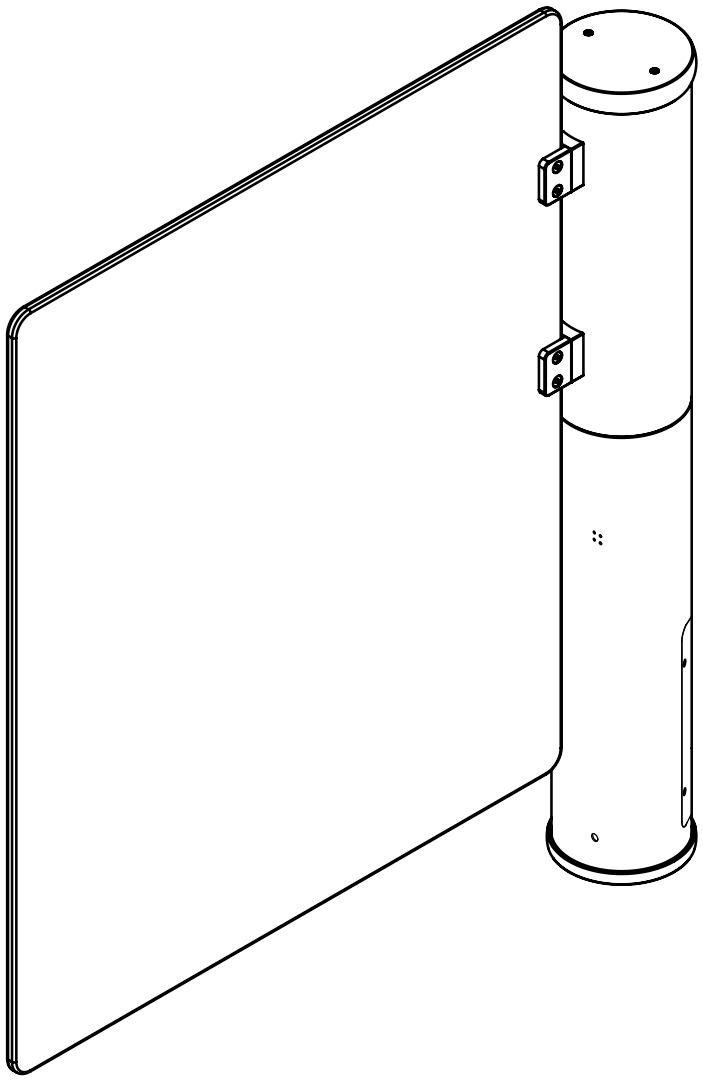
ALVARADO

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 4:00pm 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.

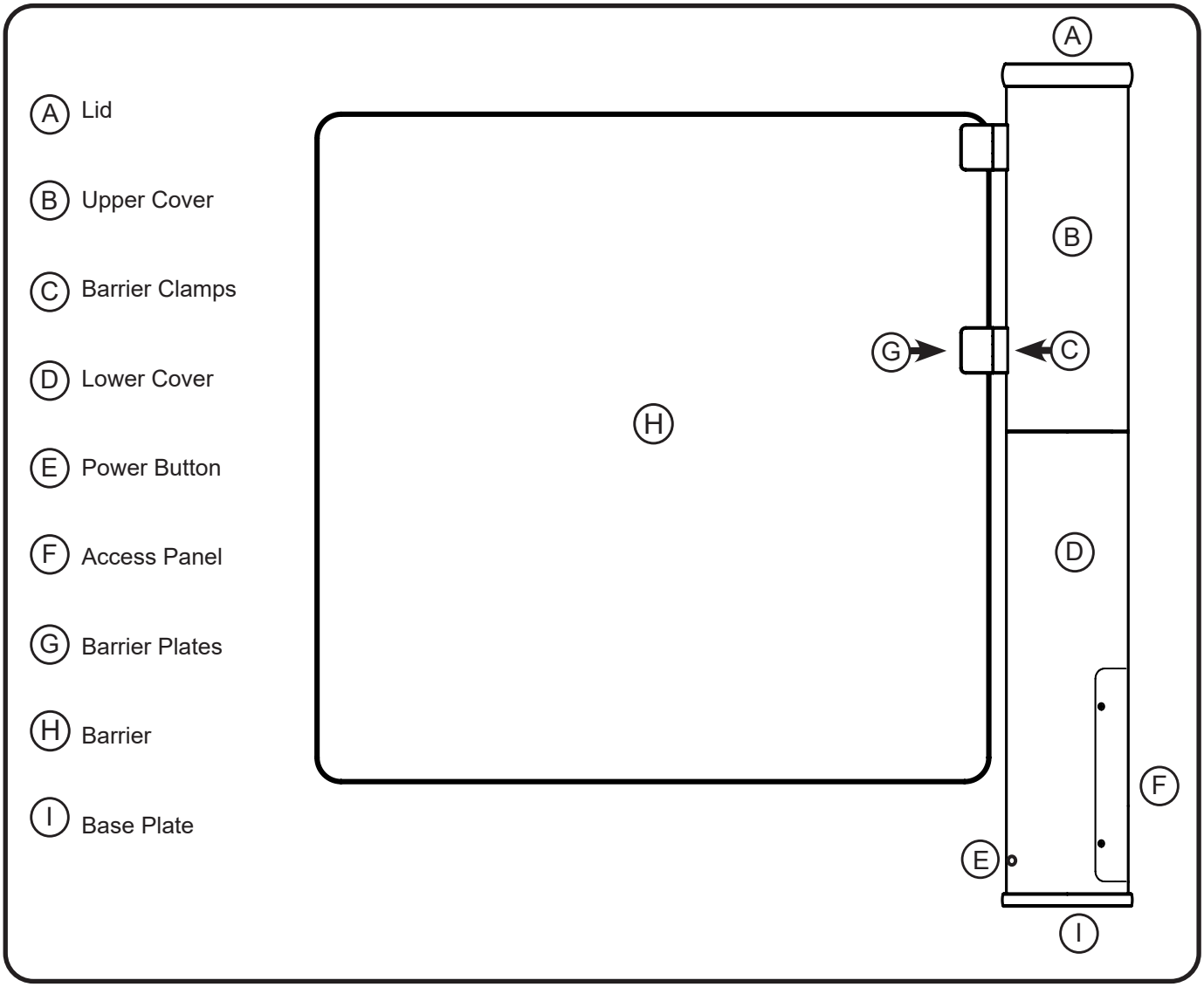
SW1000 Overview

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.

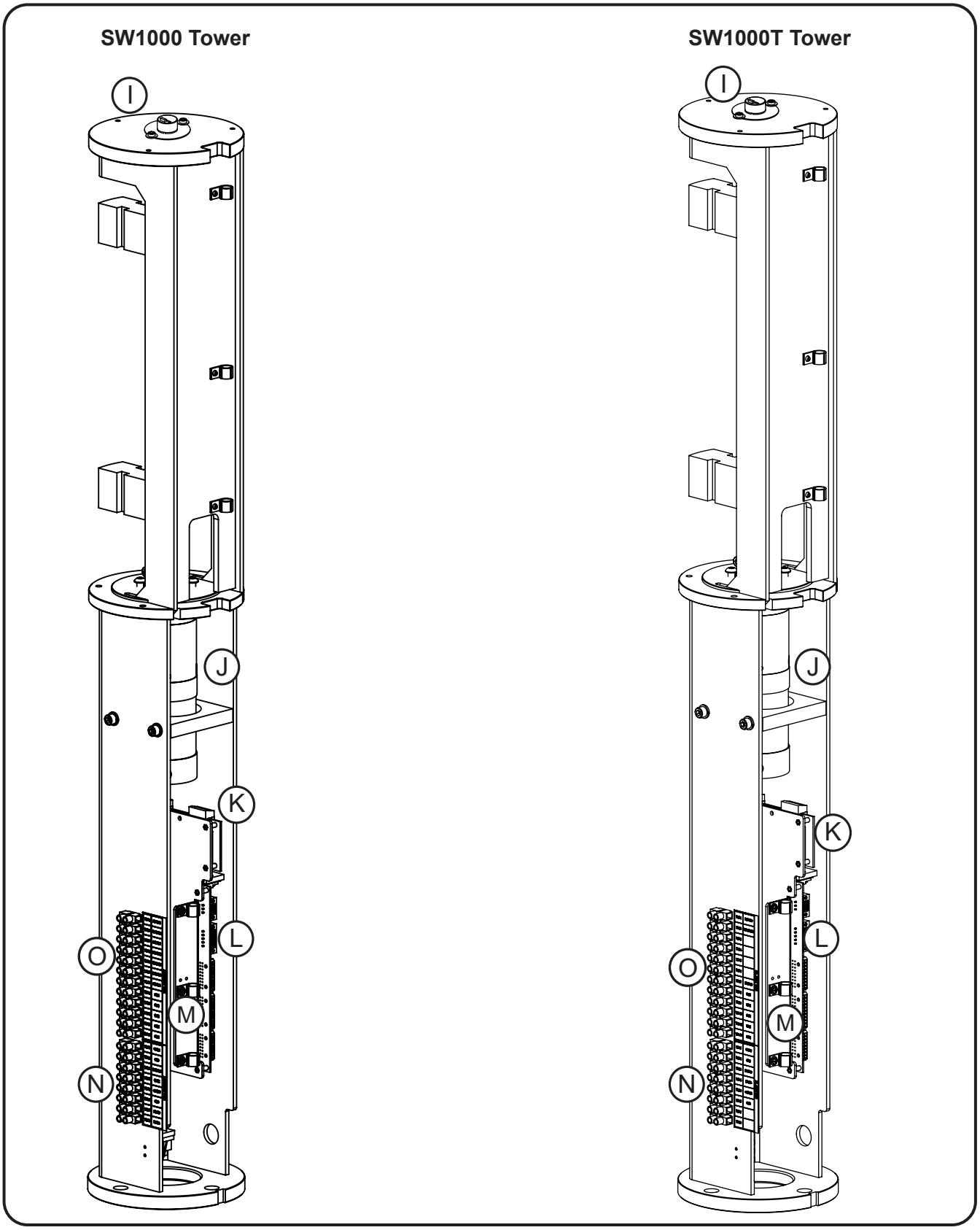
External Components

Figure 1 **SW1000 - Exterior View**



Internal Components

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



Internal Components (cont.)

Ⓘ **Digital Position Encoder** -

The digital position encoder continually monitors the position of the barrier and works in conjunction with the Motor and I/O - Motor Control Board to control barrier movement.

Ⓙ **Motor** -

The 24VDC brushless motor / planetary gearbox assembly moves the barrier.

Ⓚ **Power Rectifier Board** -

This board receives 24VDC from the power supply and steps it down to 5VDC and 12VDC for additional low-voltage requirements.

Ⓛ **I/O - Motor Control Board** -

This board serves as the interface point for the gate I/O signals and serves as the controller for the motor operation and barrier movement.

Ⓜ **Power Supply** -

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

Ⓝ **Communication Terminal Block (TB2)** -

When wired as a tandem gate, the Secondary gate uses this terminal block to connect power and communications crossover cables.

Ⓞ **Configuration Terminal Block (TB1)** -

This terminal block contans all available input & output connections.

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 Communication Terminal block - TB2 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 Configuration Terminal block - TB1. 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 - TB1.

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

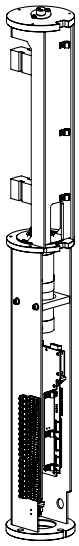
The Security Alarm sounds when the barrier is pushed or pulled beyond the user-defined position. The Security Alarm position can be configured using *SwingGate Utility*.

Installation Tools

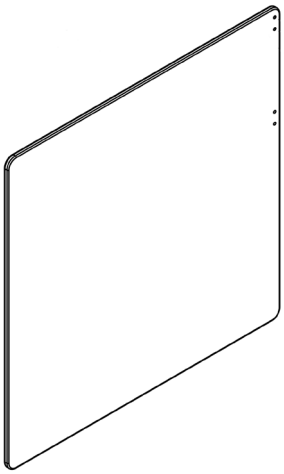
- Hammer Drill
- 5/8" Concrete Drill Bit
- Pencil
- Shop Vac
- Straight Edge Level
- Rubber Mallet
- Torque Wrench (in-lbs.)
- Torque Wrench (ft-lbs.)
- 9/16" Socket
- Fish Tape
- #2 Phillips Head Screwdriver
- Clear RTV Silicone
- Hex Wrenches: 3/32", 5/32", 5/64", 1/4"

Parts List

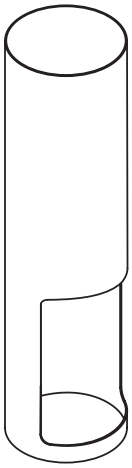
This tower is shipped partially assembled. Only the barrier needs to be installed once the tower is anchored in the desired location. Make sure that none of these parts are missing and/or damaged before beginning installation. If parts are missing and/or damaged, please contact Alvarado Technical Support at (909) 591-8431.



Tower Assembly
(Qty 1)



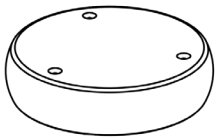
Barrier
(Qty 1)



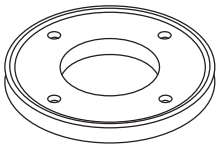
Lower Cover
(Qty 1)



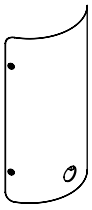
Upper Cover
(Qty 1)



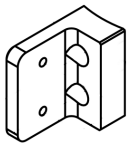
Lid
(Qty 1)



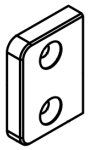
Base Plate
(Qty 1)



Access Panel
(Qty 1)



Barrier Clamp
(Qty 2)



Barrier Plate
(Qty 2)

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 4)
- SW1000 Utility USB (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**

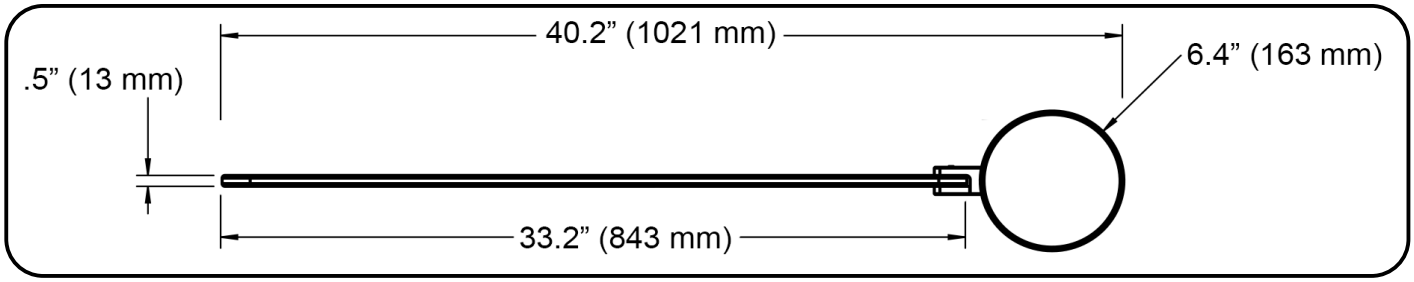
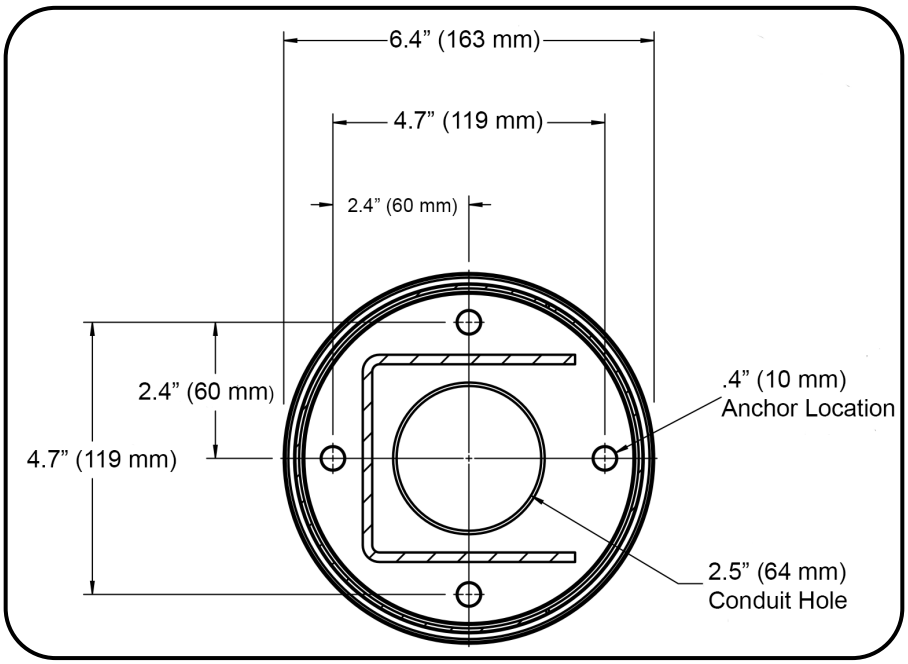


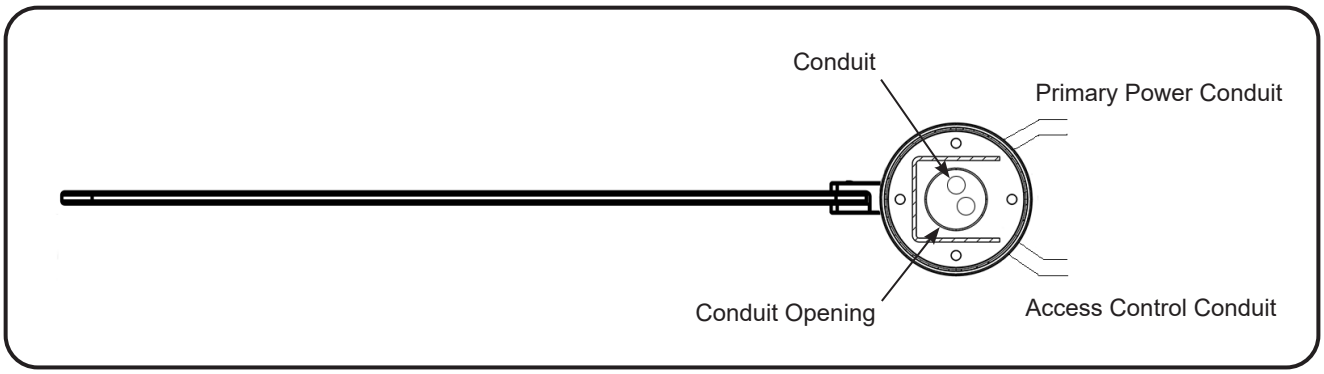
Figure 4 **Base Dimensions**



Conduit Requirements

- Use full-sweep electrical conduit underneath the floor.
- Use separate conduits for primary power, access control, and crossover cables (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 Configuration Terminal block - TB1. 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 Communication Terminal block - TB2. 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**



NOTE

- Gate shown in the closed, "Home", position.

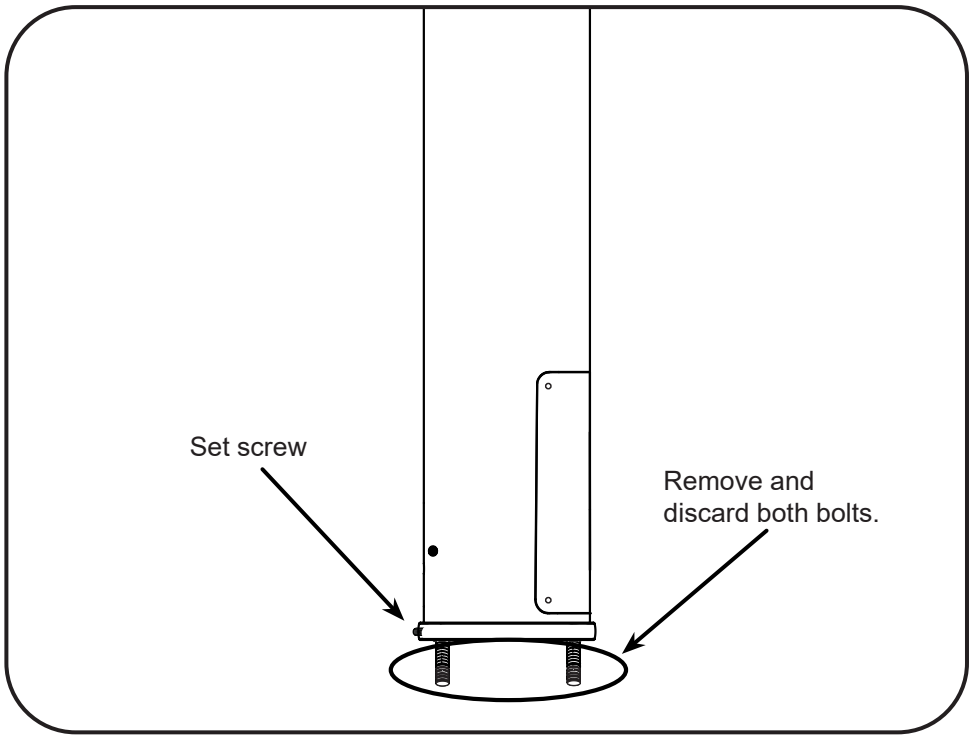
Opening the Boxes

A single SW1000 is shipped in two boxes - one each for the tower and barrier.

A tandem SW1000T is shipped in three boxes - one each for the towers and one for the pair of barriers.

1. Using a 3/32" Hex key, loosen the base plate set screw.
2. Unscrew the two nuts securing the base plate to the tower assembly. [Figure 7]
3. Remove the bottom base plate from the bottom of the tower assembly and keep for use in installation.
4. Discard the bolts and nuts securing the base plate to the tower during shipping.

Figure 7 **Bolt Removal After Uncrating**



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.

Refer to Appendix C for portable baseplate installation instructions.

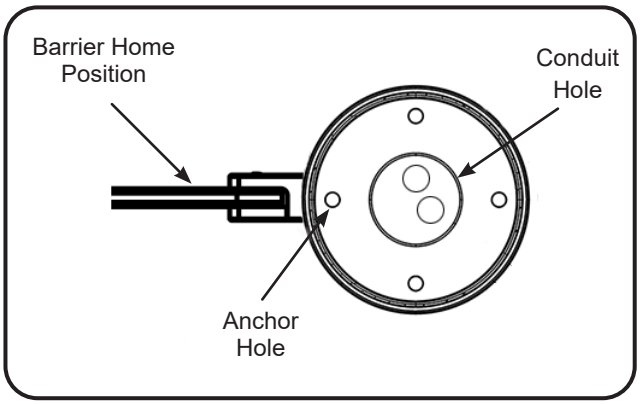
Base Installation

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

   NOTE

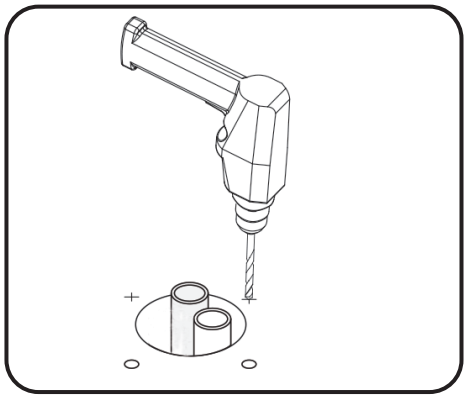
   The barrier home position will align with an anchor hole [Figure 8].

Figure 8 Base Plate / Barrier Alignment



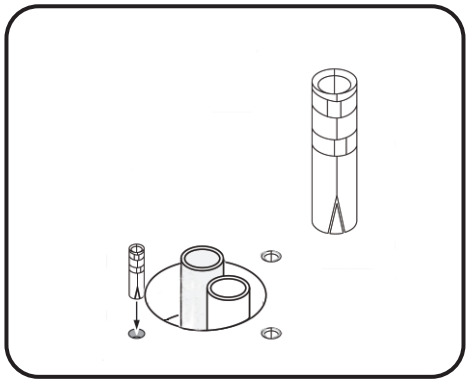
2. Using a hammer drill and 5/8" concrete drill bit, drill four (4) anchor holes to a depth of 2.5" (64mm) [Figure 9].
3. Using a shop vac, vacuum any debris from the anchor holes. Anchors will not tighten properly if debris is present.

Figure 9 Drill Anchor Holes



4. Insert anchors threaded side down [Figure 10].
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 10 Insert Anchors



Tower Assembly Installation

NOTE

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

1. Route primary power and access control wiring through the base plate into the tower assembly. [Figure 11]

2. Using a Phillips screwdriver, remove the 4 screws securing the Access Panel. [Figure 12]

Figure 11 Route Conduit through Base Plate

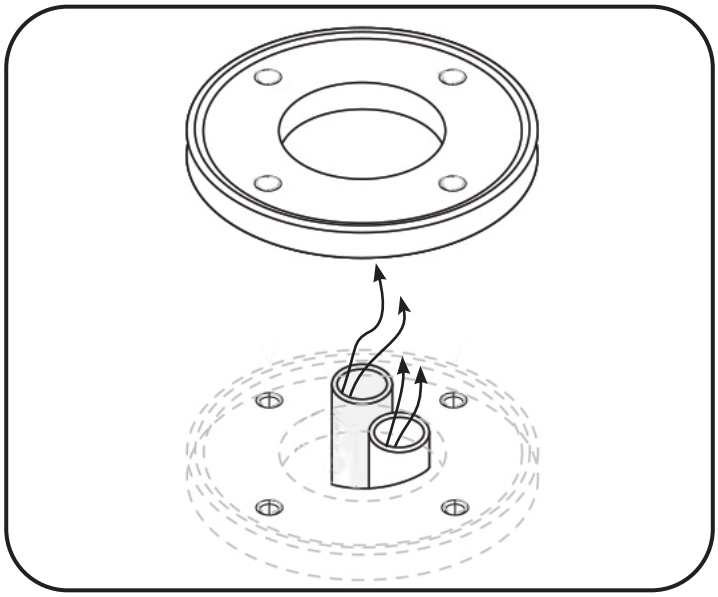
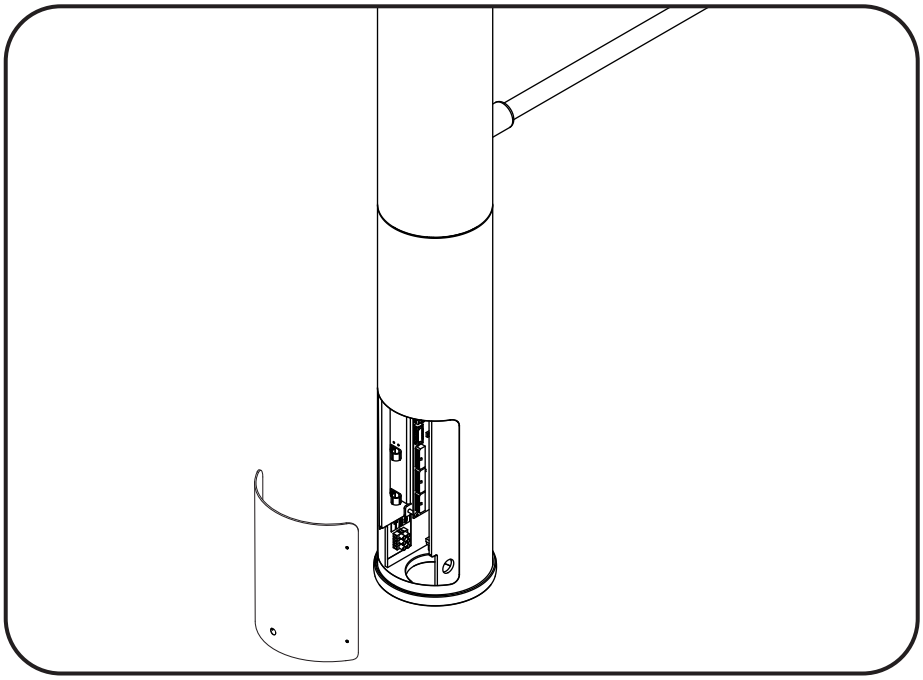
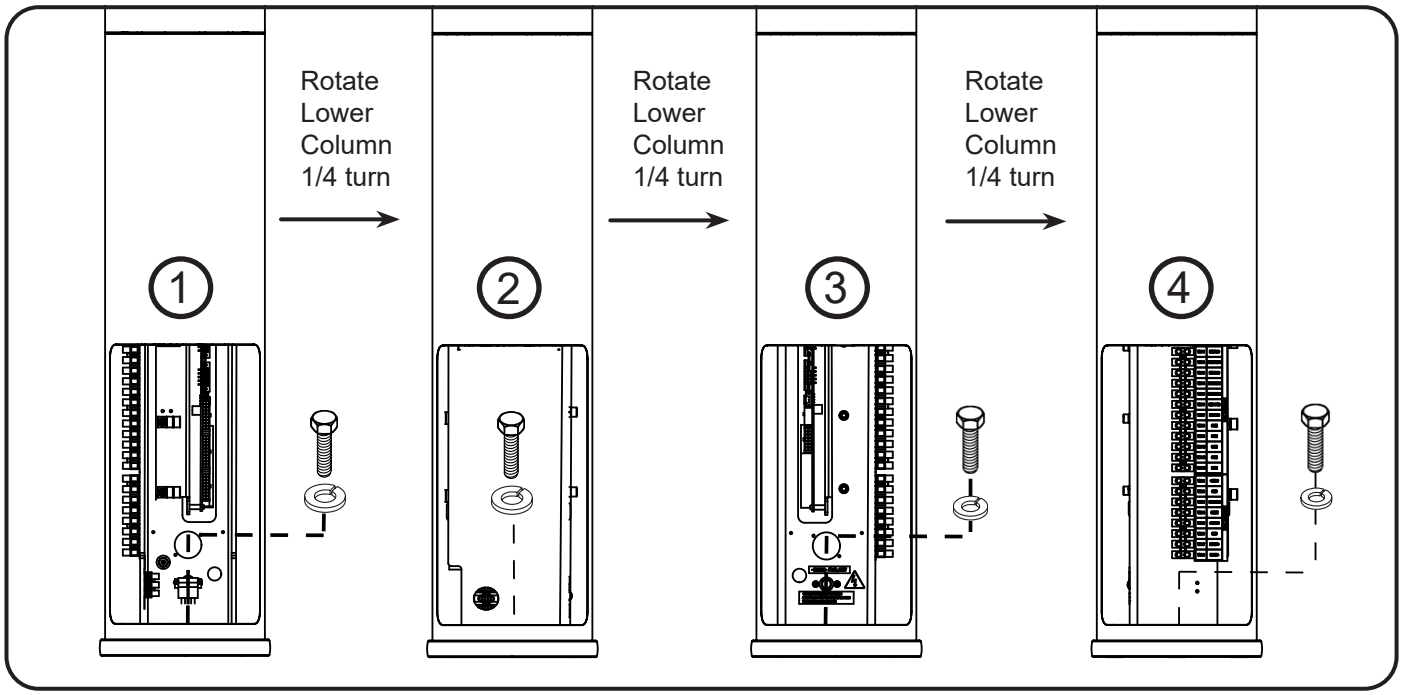


Figure 12 Open Access Panel



Tower Assembly Installation (Cont.)

Figure 13 **Anchoring the Tower - Rotate Lower Column 1/4 Turn to Locate Anchor Holes**



NOTE With the set screw loosened, the Lower Column can rotate freely.

3. Align the tower assembly and base plate with the anchor holes. Insert four (4) anchor bolts and washers. [Figure 13]
4. Using a wrench and a 9/16" socket, tighten the anchors until snug.
5. Using a straight edge level, verify the tower is plumb and level. If necessary, use shims to level the tower.
6. Using a torque wrench and a 9/16" socket, torque the anchor bolts to 20 ft-lbs.
7. Apply a bead of clear RTV silicone around the base plate.
8. Rotate Lower Column to original position by aligning the power button with the power button hole.
9. Use the 7/8" plastic cap to plug the Access Panel hole.

Primary Power Wiring

Figure 14A TB0 Terminal Block Location

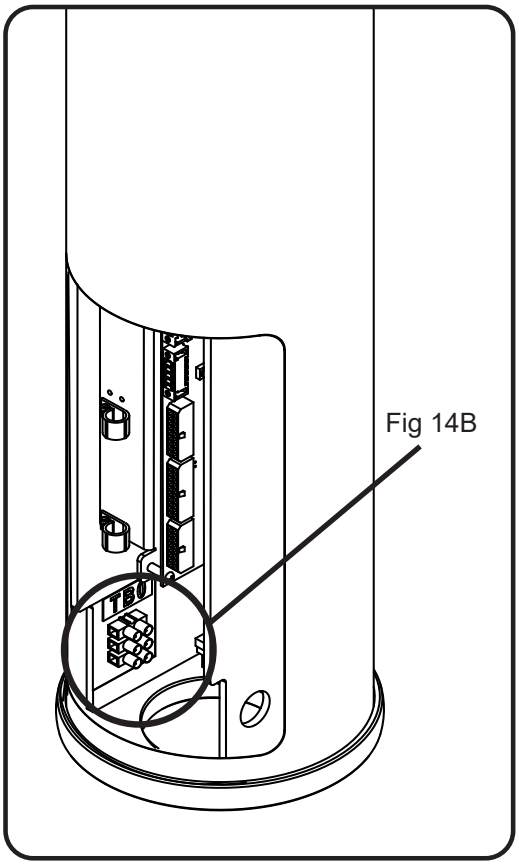


Figure 14B TB0 Terminal Block

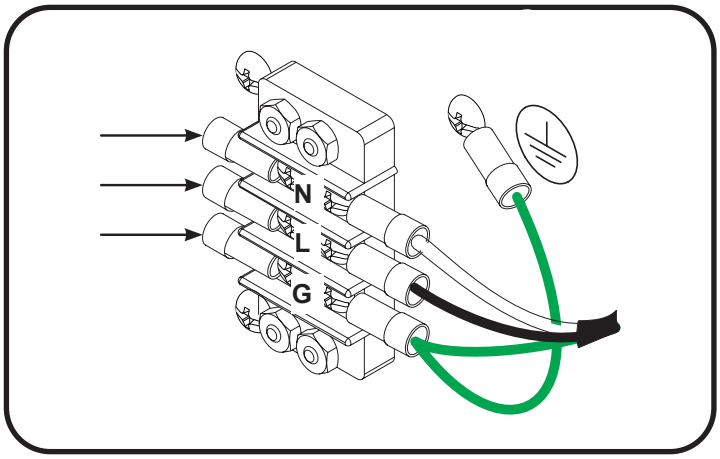


Table 1

Terminal	110V	220V
Neutral (N)	White	Blue
Ground (G)	Green or Green/Yellow	Green/Yellow
Line (L)	Black	Brown

⚠ CAUTION

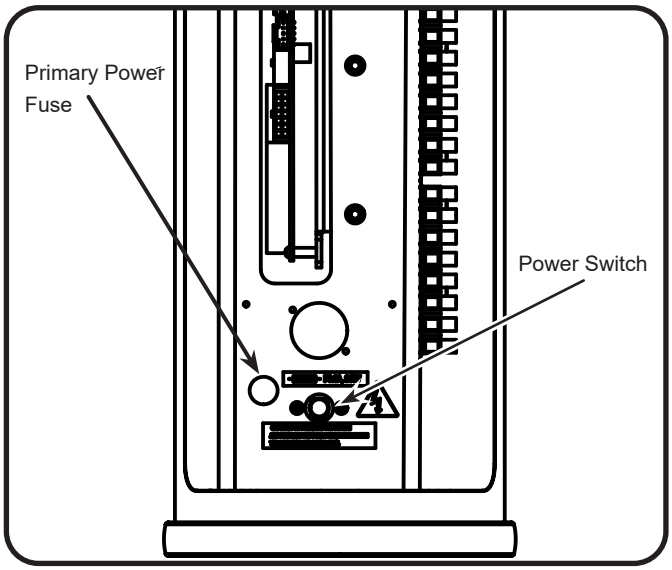
- It is strongly recommended that a licensed electrician perform the following steps, maintaining adherence to local electrical codes.
- The ground wire must be connected. Serious injury may result if the ground wire is not properly secured. [Figure 14B]

1. Locate the terminal block TB0 at the bottom of the Main tower assembly. [Figure 14A]
2. Use Table 1 [Figure 14B] to determine wire designations. Connect the wires to the appropriate terminal.

NOTE

- **Refer to Appendix A for instructions on wiring DC power to the SW500T Secondary gate.**

Figure 15 Primary Power Fuse Location



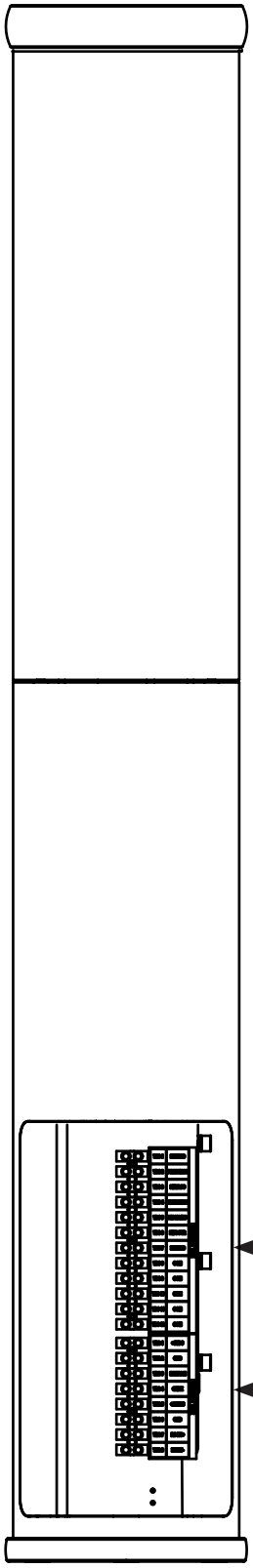
NOTE

- Lower Column rotated to show power switch.

Access Control Wiring

Terminal blocks for wiring access control signals to the SW1000 are mounted to the pedestal frame [Figure 16]. Instructions for wiring access control signals are provided on the following pages.

Figure 16 **Terminal Block Locations**



TB1 - Configuration Terminal

Terminal	Description
1	Entry Pass
2	Presence Sensor
3	Single Entry Override
4	Barrier Held Open
5	Emergency Override State Select - NO / NC
6	Emergency Override
7	Exit Pass
8-12	COM

TB2 - Communication Terminal

Terminal	Description
1	+5VDC
2	GND
3	Breakaway Alarm Output
4	GNDX
5	+24VDC
6	GND
7	RS485 +
8	RS485 -

NOTE

- Refer to Appendix A for Secondary terminal block configuration layout.
- Lower Column is rotated to view terminal blocks.

Open Entry

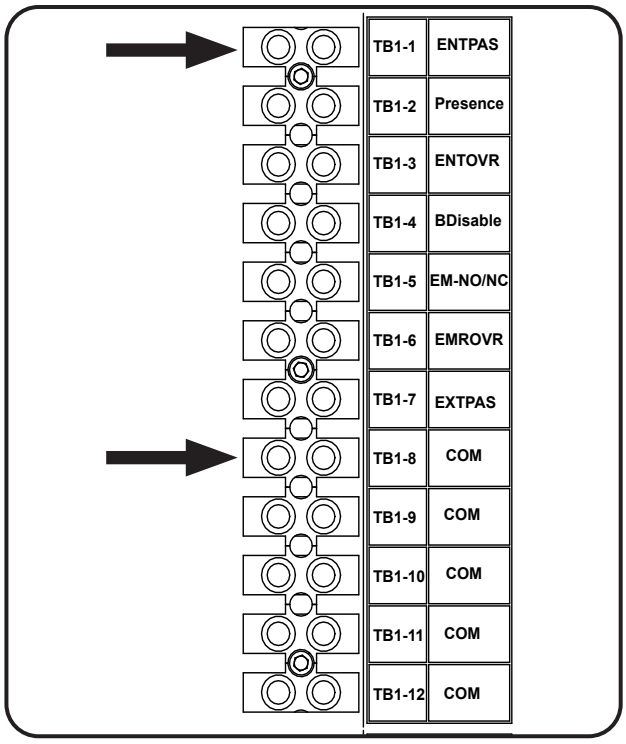
Receipt of an input contact opens the gate in the entry direction for the defined dwell time, then closes. Dwell time can be configured using *SwingGate Utility*.

Typically, these signals are provided after the access control system determines the card presented at the gate is valid, or a integrated push button device is activated.

1. Locate the TB1 terminal block on the Main.

2. Connect wires to TB1-1 and common (TB1-8 through TB1-12). [Figure 17]

Figure 17 Entry Passage Terminals



Open Exit

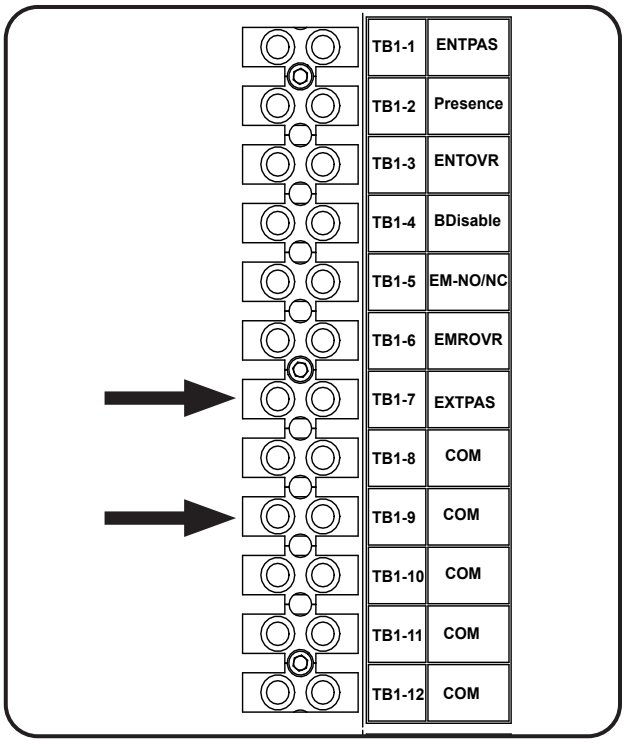
Receipt of an input contact opens the gate in the exit direction for the defined dwell time, then closes. Dwell time can be configured using *SwingGate Utility*.

Typically, these signals are provided after the access control system determines the card presented at the gate is valid, or a integrated push button device is activated.

1. Locate the TB1 terminal block on the Main.

2. Connect wires to TB1-7 and common (TB1-8 through TB1-12). [Figure 18]

Figure 18 Exit Passage Terminals



Barrier Hold Open

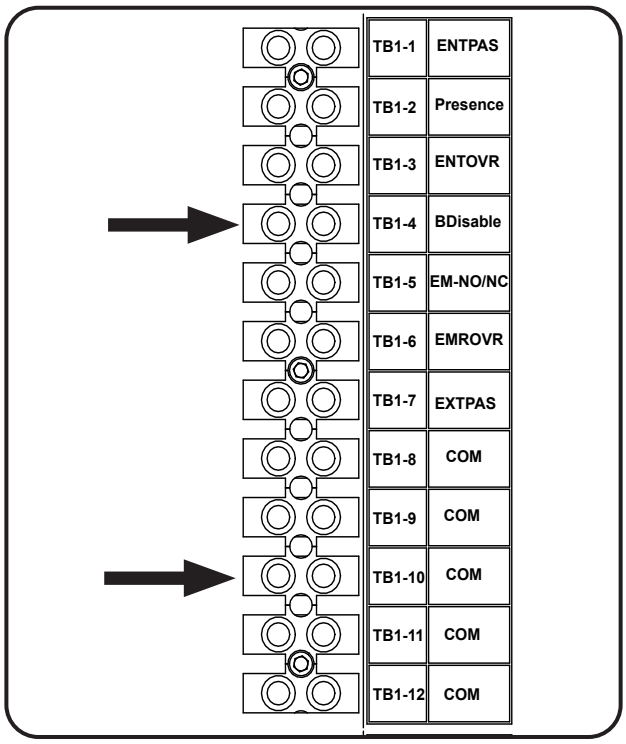
Receipt of an input signal keeps the gate open in the appropriate direction for as long as the contact signal is sustained.

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 on the Main.

2. Connect wires to TB1-4 and common (TB1-8 through TB1-12). [Figure 19]

Figure 19 **Barrier Hold Open Terminals**



Emergency Override

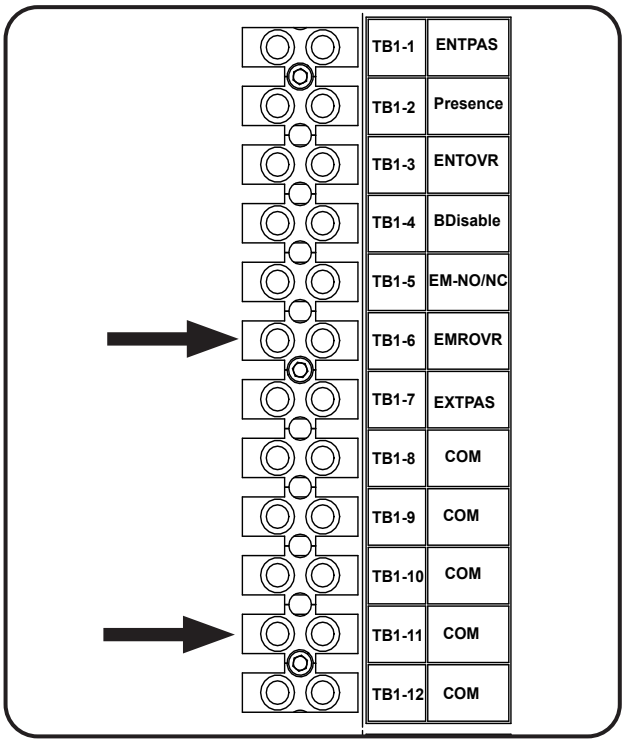
Receipt of an input contact (or removal of a contact) places the gate in Emergency Override mode in which the barrier remains open. The direction the barrier opens can be configured using *SwingGate Utility*.

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).

1. Locate the TB1 terminal block on the Main.

2. Connect wires to TB1-6 and common (TB1-8 through TB1-12). [Figure 20]

Figure 20 **Emergency Override Terminals**



Emergency Override State Select

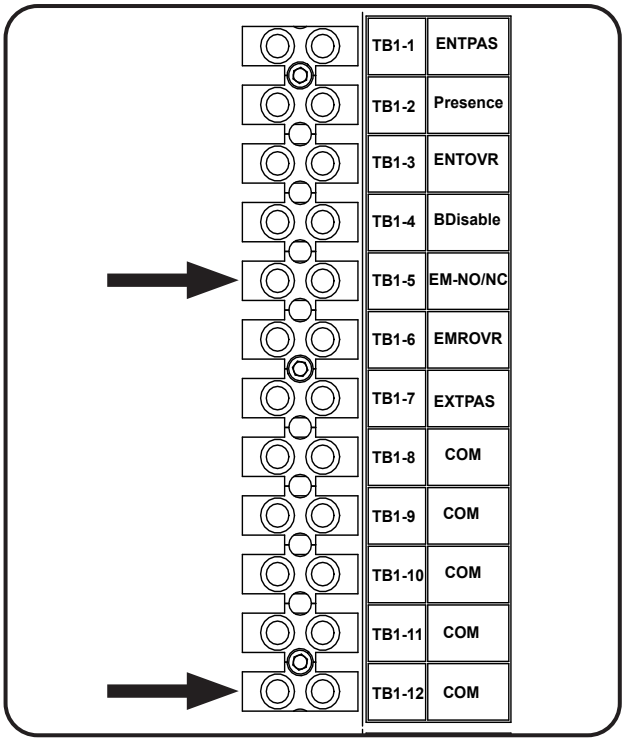
This terminal is used to configure the Emergency Override terminal (TB1-6) as either normally open or normally closed. The default configuration is normally open (no wire jumper installed).

To configure as normally closed:

1. Locate the TB1 terminal block on the Main.

2. Using a wire jumper, jump TB1-5 and common (TB1-8 through TB1-12). [Figure 21]

Figure 21 **Emergency Override State Select Terminals**



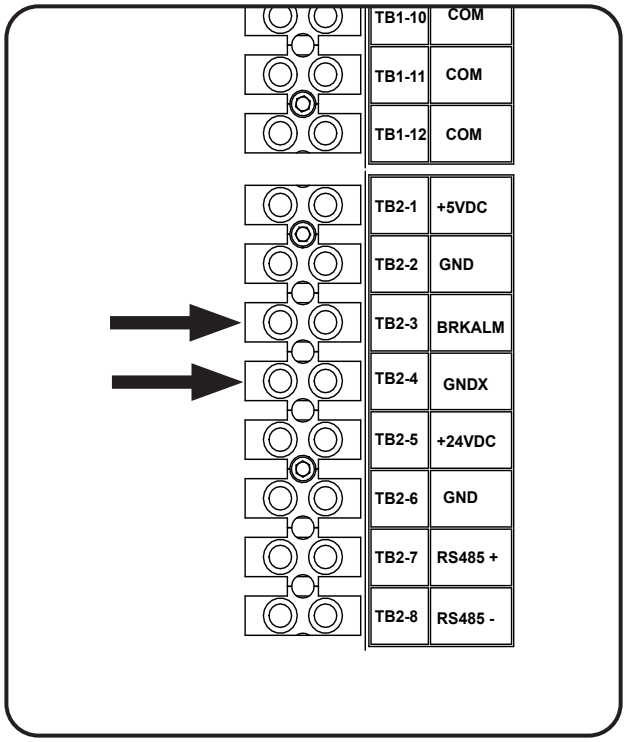
Breakaway Alarm Output

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 TB2 terminal block on the Main.

2. Connect wires to TB2-3 and TB2-4. [Figure 22]

Figure 22 **Exit Passage Terminals**

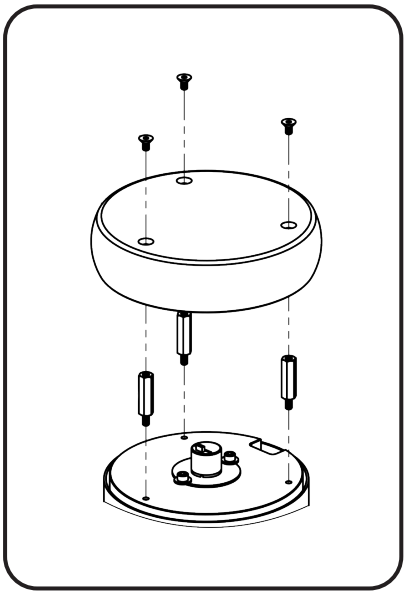


Complete Installation

Lid Installation

1. Rotate the Lower Column to the original position by aligning the power hole with the power switch.
2. Using a #2 Phillips screwdriver, fasten the access cover to the tower assembly.
3. Using a 3/32" Hex key, fasten the lid to the tower assembly [Figure 23].
4. Using a 3/32" Hex key, secure the base plate set screw.

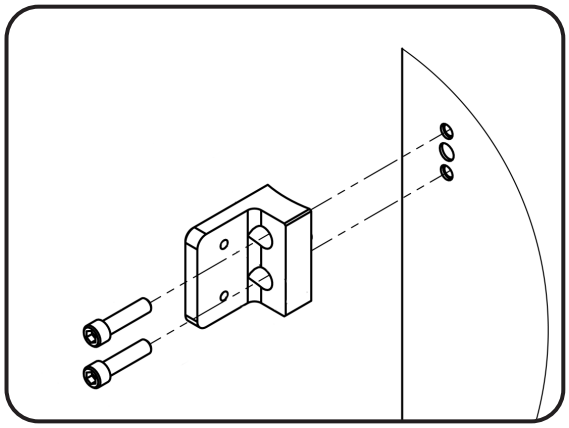
Figure 23 Lid Installation



Barrier Installation

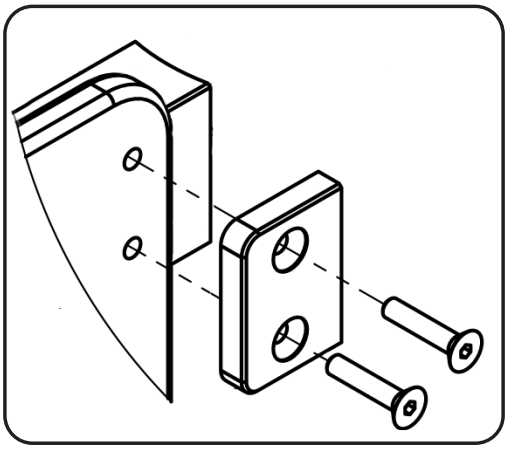
5. Install barrier clamps to the tower assembly using provided mounting screws [Figure 24]. Using a torque wrench and 1/4" Hex bit, torque to 39 ft-lbs.

Figure 24 Barrier Clamps



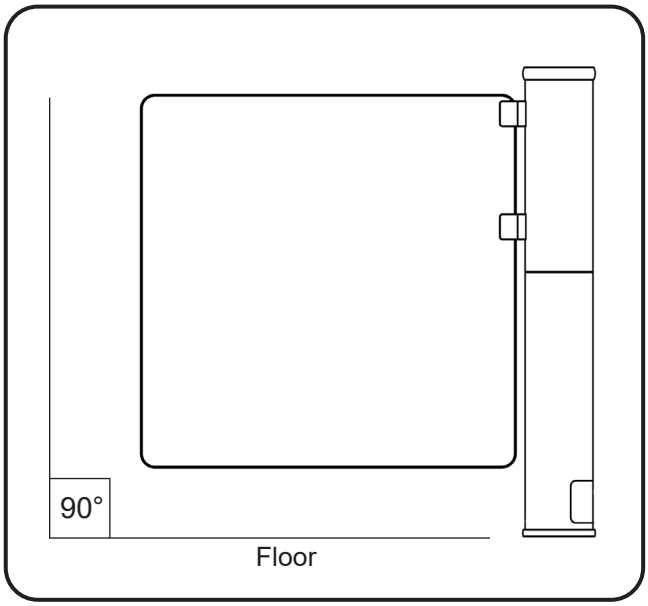
6. Align barrier with barrier clamps (it is recommended to have a second person assist by holding the barrier in place). Mount the barrier to the barrier clamps using the barrier plates and screws [Figure 25]. Using a torque wrench and 5/32" Hex bit, torque the barrier plate screws to 95 in-lbs.

Figure 25 Barrier Plates



7. Using a level, verify the barrier is plumb and level to the ground [Figure 26].

Figure 26 Plumb and Level



Post-Installation Functions Check

Powering On / Off

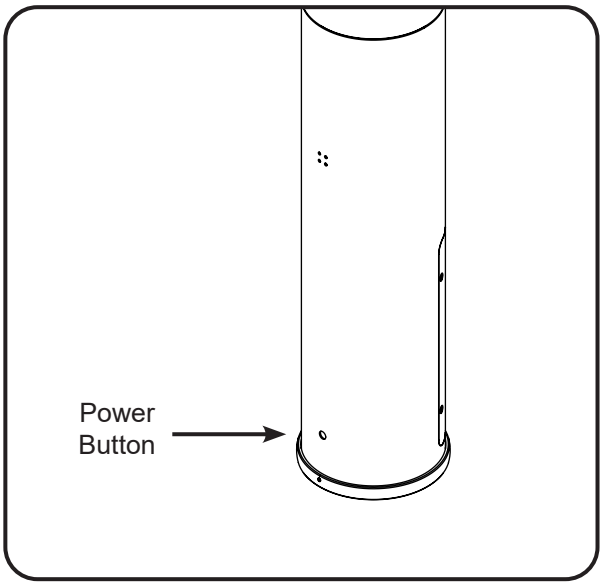
The power button is located at the base of the tower [Figure 27].

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 then 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 27 **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.

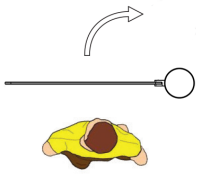
The following is assumed (Open Entry and Open Exit tests only):

- 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

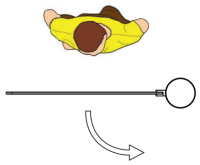
Verify the barrier is centered properly in the home position. If the barrier home position needs to be reset, refer to *Setting the Gate Closed "Home" Position Using the Utility.*

OPEN ENTRY

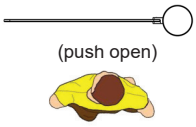
TEST	PROCEDURE	GATE RESPONSE
Secured Side  Unsecured Side	Activate the lane in the entry direction.	• The barrier moves to the open position. • The barrier returns to the home position after 6 seconds.

Testing Lane Functionality (cont.)

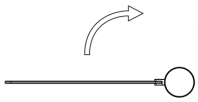
OPEN EXIT

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

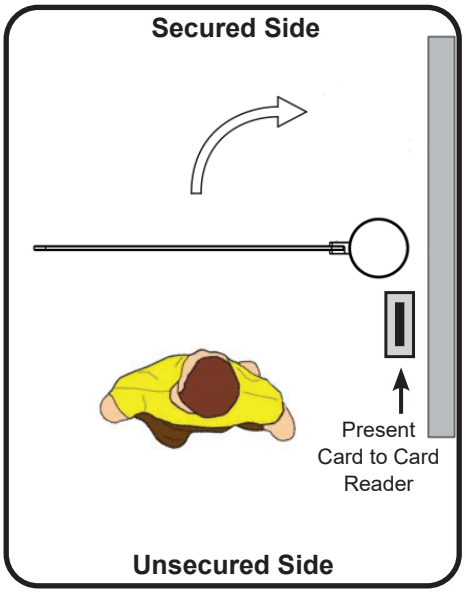
Controlled Passage Mode

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 28].

Figure 28 **Controlled Passage Mode**



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.

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.)

Breakaway

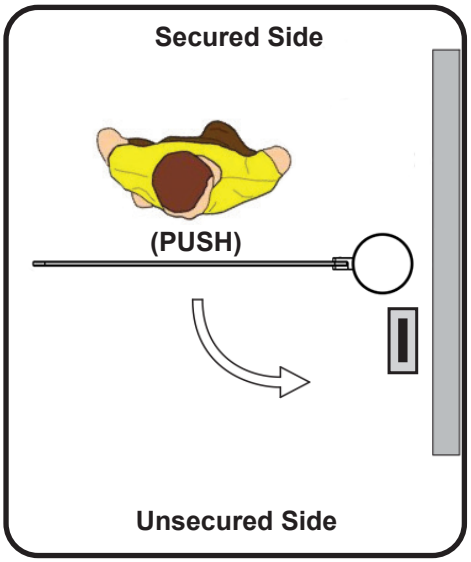
NOTE

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 29 Breakaway

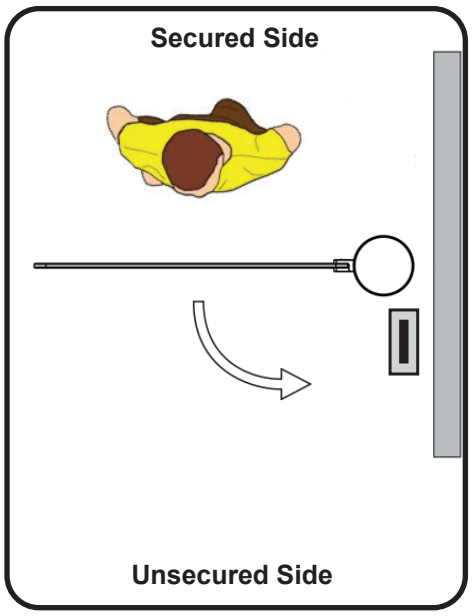


Free Passage Mode (Optional)

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 30 Free Passage Mode



SW1000 Configuration

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

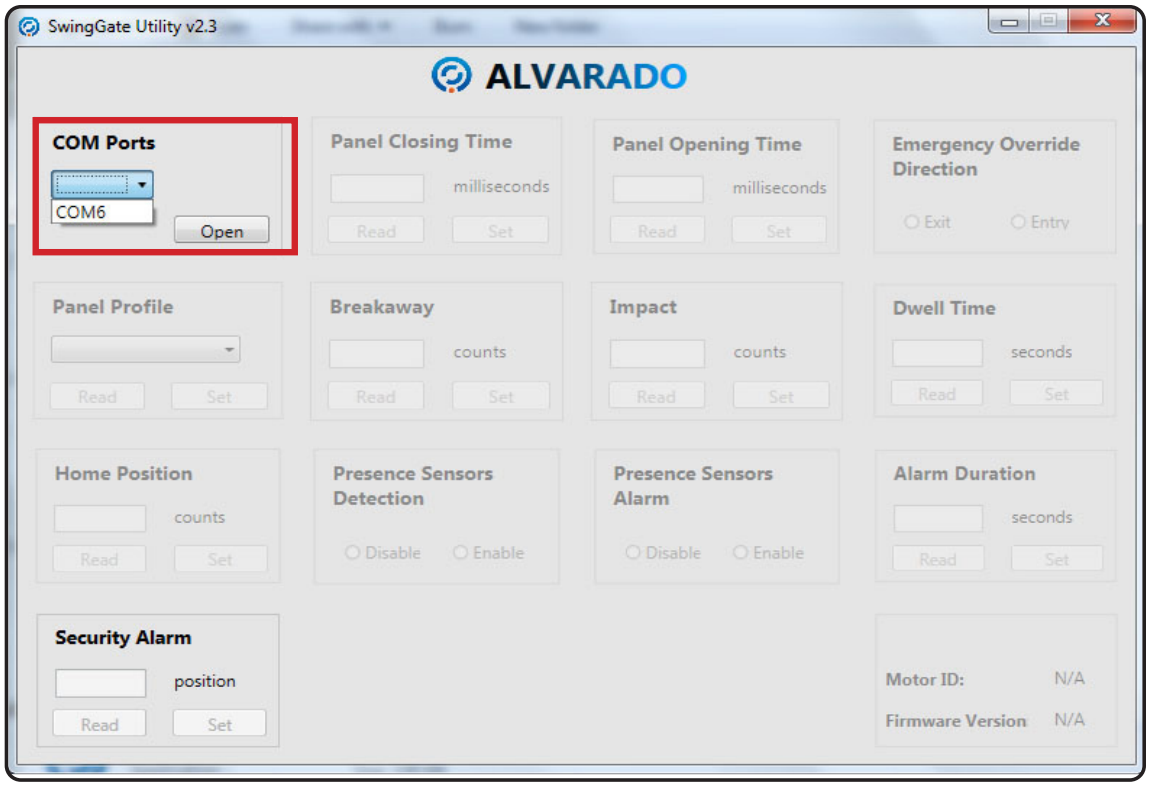
Minimum computer requirements:

- 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. To access the cable, remove the access panel by removing the four screws securing it.
2. Using a 3/32" Hex key, loosen the base plate set screw. Rotate the Lower Column 180 degrees to access the connector.
3. 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.
4. Doubleclick **SwingGateUtility.exe** icon to launch the utility. This will bring up the SwingGate Utility main screen.
5. Select **COM** port from the drop down menu and click **Open**. This will populate the boxes with current values. The Com Port may vary. [Figure 31]

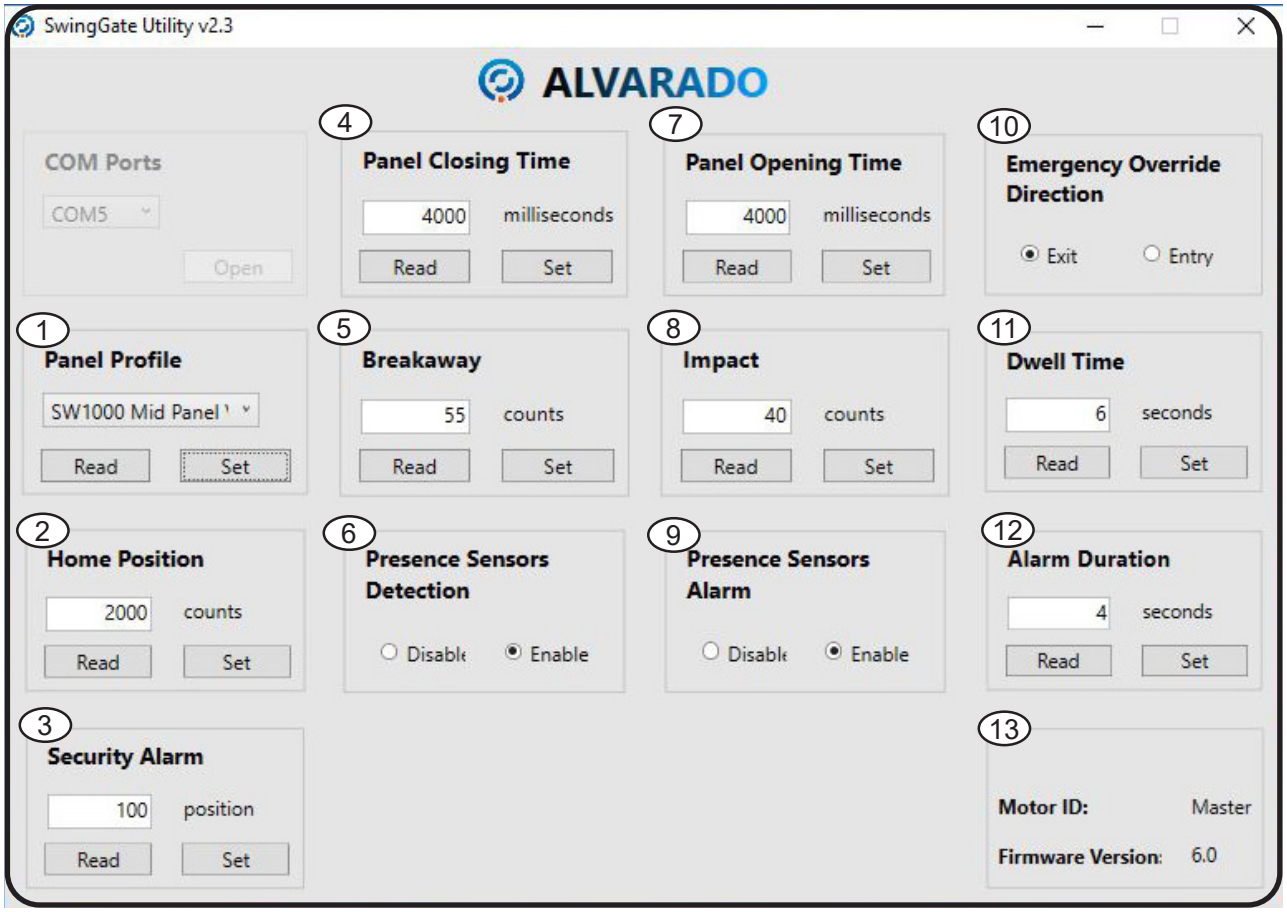
Figure 31 **Select COM Port**



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 32 **SwingGate Utility Main Screen Parameters**



Parameter descriptions on next page.

Using SwingGate Utility (cont.)

ITEM	SETTING	DESCRIPTION
1	Panel Profile	Selects the panel profile: • Low - 39" barrier height, manufactured before to August 2015 • Mid - 46" barrier height, manufactured before to August 2015 • Low V2 - 39" barrier height, manufactured after August 2015 • Mid V2 - 46" barrier height, manufactured after August 2015 **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: 1) Enter **2000** in the text box. 2) Manually align the barrier to the correct home position. 3) Click **Set**. **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. **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. **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. **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. **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 Main or Secondary. Only SW1000T tandem gates will have a Secondary motor ID. Firmware Version: Displays installed firmware version.

Setting the Gate Closed Position (Home Position) Using the Utility

The gate closed position is called the Home Position. The final installation steps require setting the Home Position.

1. Using a Phillips screwdriver, remove the 4 screws securing the Access Panel.
2. Using a 3/32" Hex key, loosen base plate set screw.
3. Rotate Lower Column to align the Access Panel with the power button. The RS232 Programming cable will be visible.
4. Connect your latop using the RS232 programming cable.

   NOTE If you do not have a serial port on your laptop, use a serial-to-USB adapter.

5. Doubleclick SwingGateUtility.exe icon to launch the utility. This will bring up the SwingGate Utility main screen.
6. Select the **COM port** from the drop-down menu and click **Open.** This will populate the boxes with current values.
7. Confirm Home Position value is set to "**2000**".

   NOTE Do not change this value. Value MUST read 2000.

8. Manually move the barrier to the closed (Home) position.
9. Once barrier is in the correct position, click on the SET button underneath the Home Position value.
10. Disconnect the RS232 Programming cable.
11. Rotate Lower Column to original position, aligning the power button with the power button hole.
12. Using a 3/32" Hex key, tighten the base plate set screw.
13. Using a Phillips screwdriver, insert and tighten four (4) screws to secure the Access Panel to the tower.

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 Camera

A camera 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 default range of the Exit Free Passage Camera is approximately 4 ft.

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

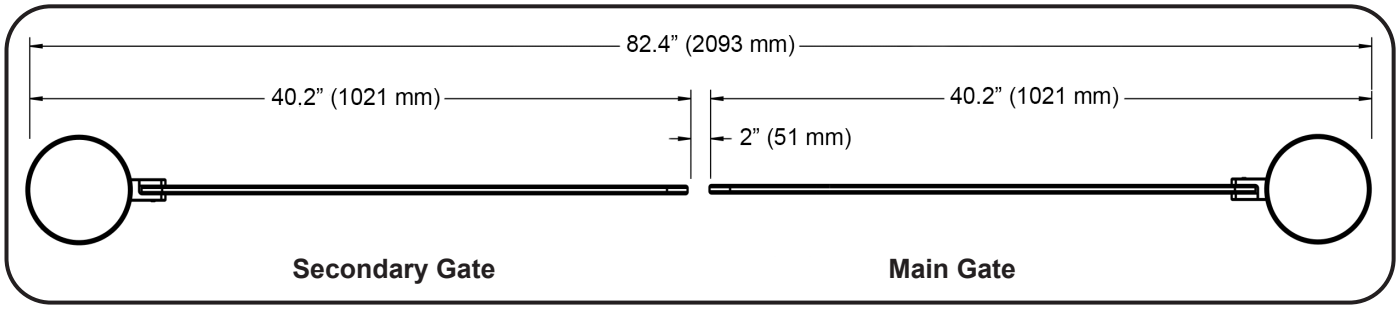
- Two (2) of all parts listed on Page 9
- DC Power Crossover Cable
- Communication Crossover Cable

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.

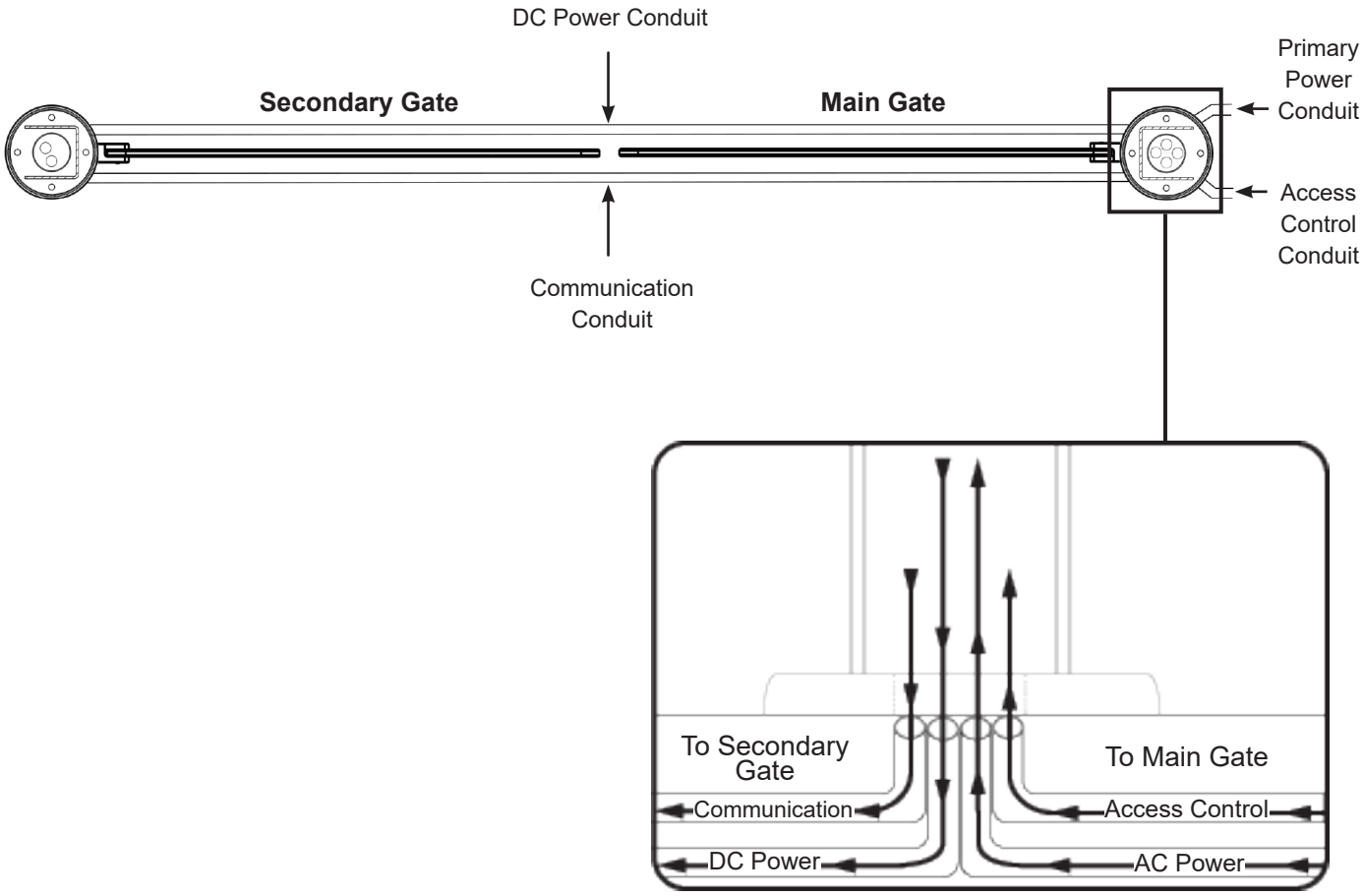
Figure A1 **Assembled Gate Dimensions**



Conduit Requirements

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

Figure A2 **SW1000T Conduit**

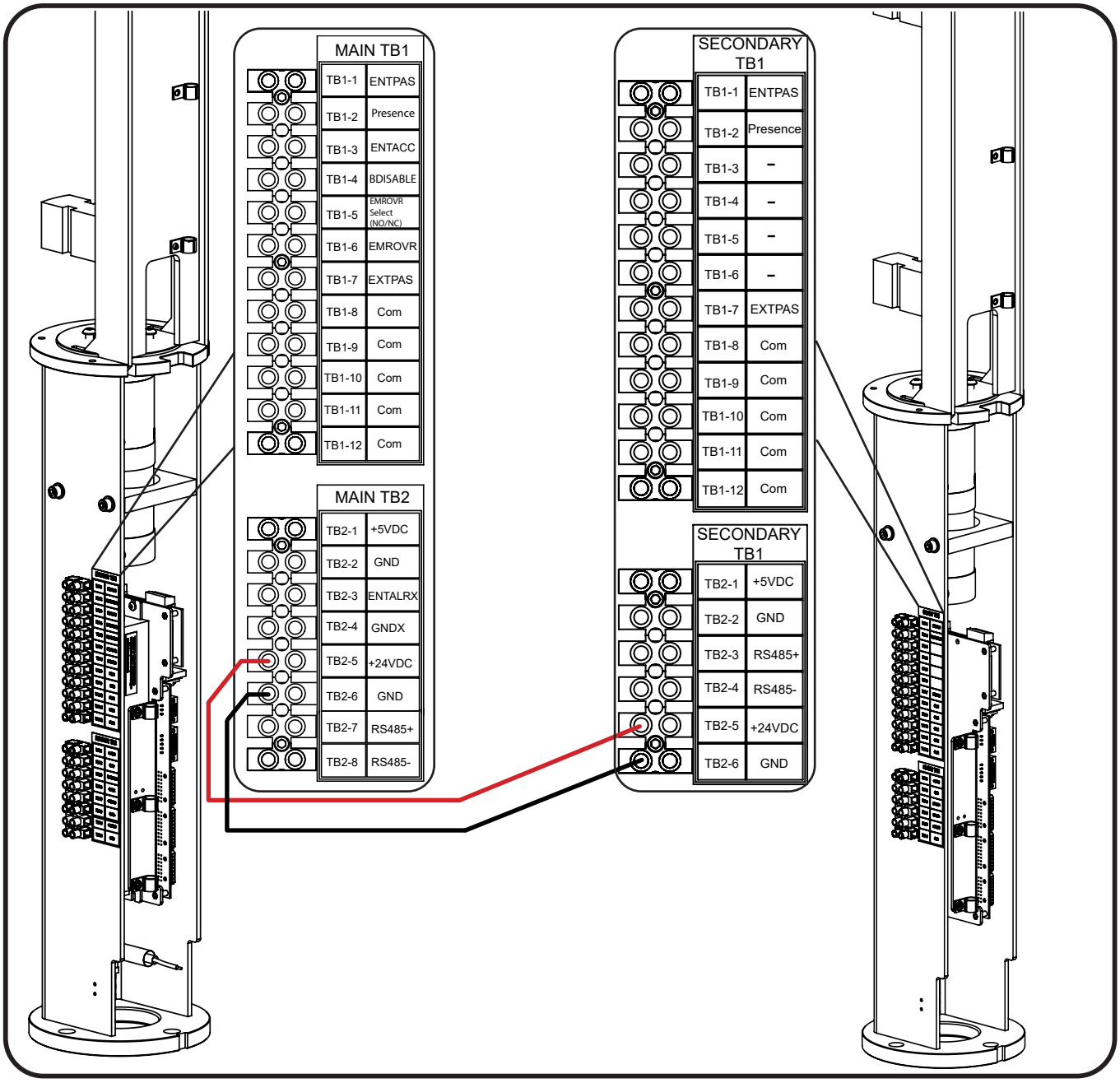


DC Power Crossover Cable

DC power is run from the Main gate to the Secondary gate using the DC-Crossover cable **(Alvarado PN# 10-1353)**. Follow the instructions below to connect DC power to the Secondary gate.

1. Locate the DC-Crossover cable shipped with the Secondary gate.
2. On the Main tower assembly, connect the crossover cable wires to TB2-5 (red) and TB2-6 (black). [Figure A3]
3. On the Secondary tower assembly, connect the crossover cable wires to TB2-5 (red) and TB2-6 (black). [Figure A3]

Figure A3 **DC-Crossover Connection**

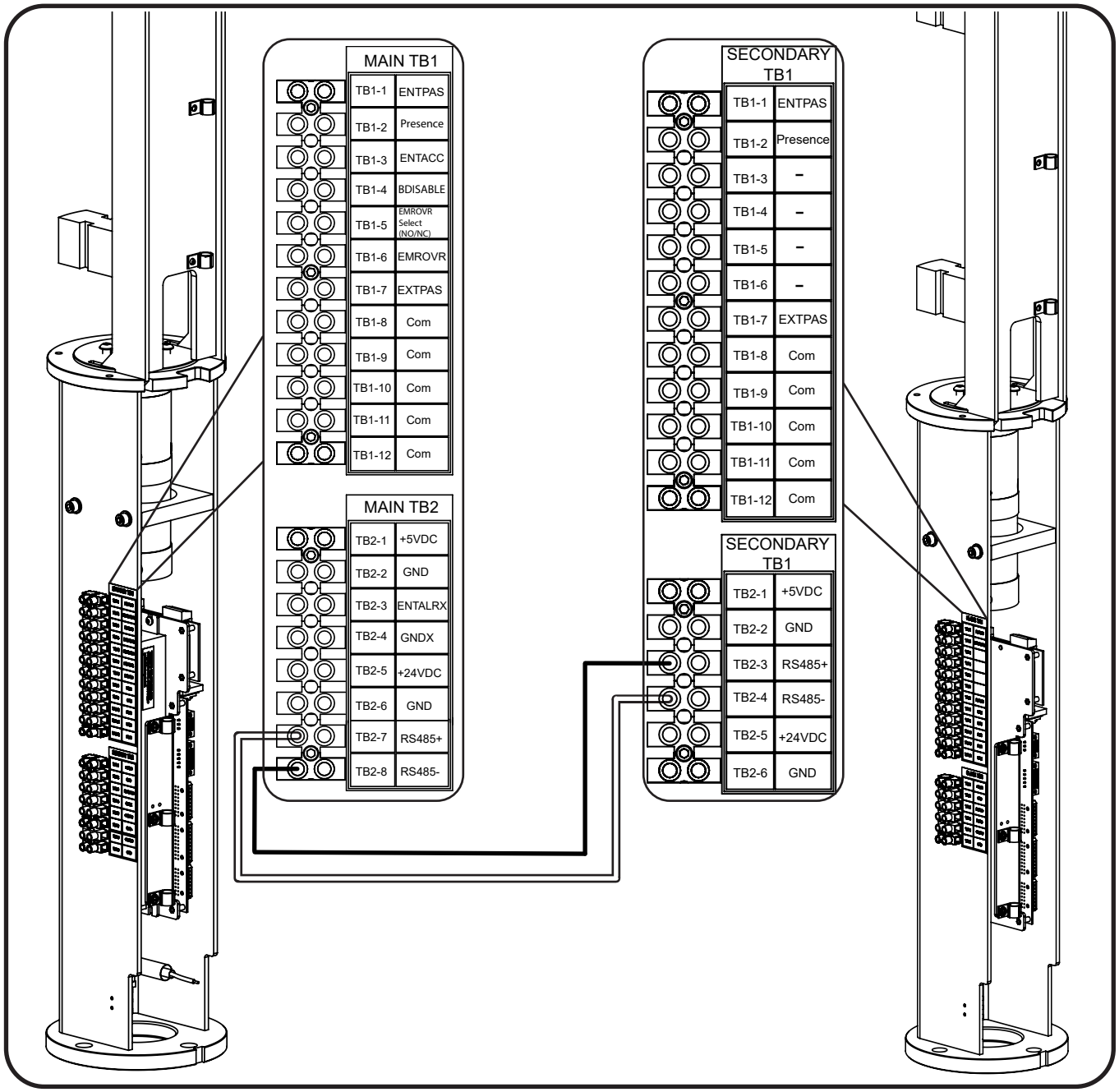


Communication Crossover Cable

Communication is run from the Main gate to the Secondary gate using the communication crossover cable **(Alvarado PN# 10-1306)**. Follow the instructions below to connect communication to the Secondary gate.

1. Locate the communication crossover cable shipped with the Secondary gate.
2. On the Main gate, connect the bare wires to TB2-7 (white) and TB2-8 (black). [Figure A4]
3. On the Secondary gate, connect the bare wires to TB2-3 (white) and TB2-4 (black). [Figure A4]

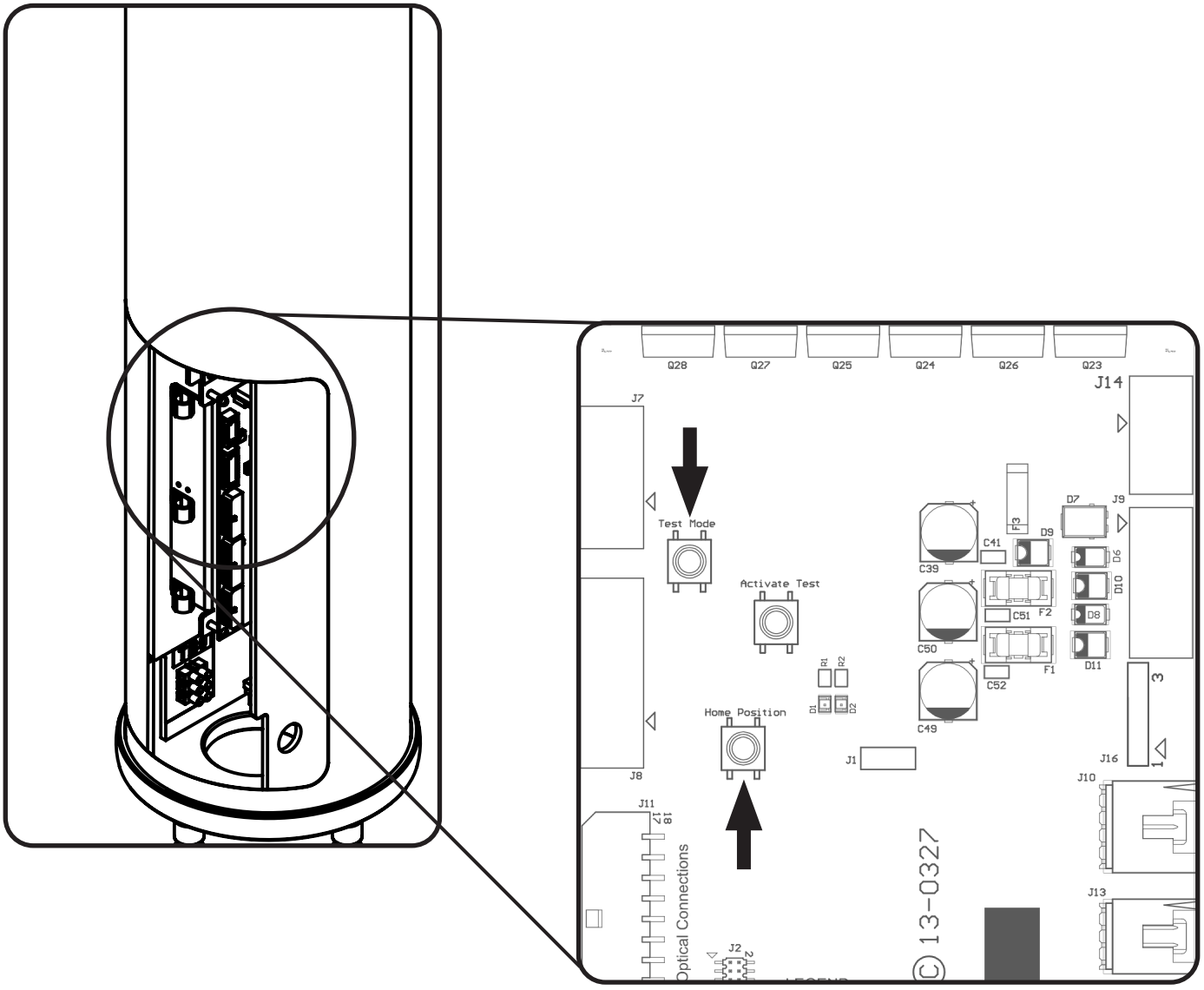
Figure A4 **Communication Crossover Connection**



Appendix B - Setting the Home Position Manually

1. Using a Phillips screwdriver, remove the 4 screws securing the access panel.
2. Using a 3/32" hex key, loosen the set baseplate setscrew and rotate the lower cover 180 degrees.
3. Slide three fingers into the space in front of the control board near the two green terminals. You will feel 3 buttons.
4. Press and hold the top button, "Test Mode", for three seconds to enter Test Mode. The D2 green LED will change from flashing to solid signifying the board is in Test Mode.
5. Swing the barrier through its entire range of motion and then place it in the "Home" position.
6. Press the lowest button, "Home Position", once.
7. Press and hold the "Test Mode" button for three seconds to exit Test Mode. The D2 green LED will change from solid to flashing signifying the board has exited Test Mode.
8. Using a Phillips screwdriver, reattach the four screws to secure the access panel.

Figure B1 **Motor Controller Board Button Locations**

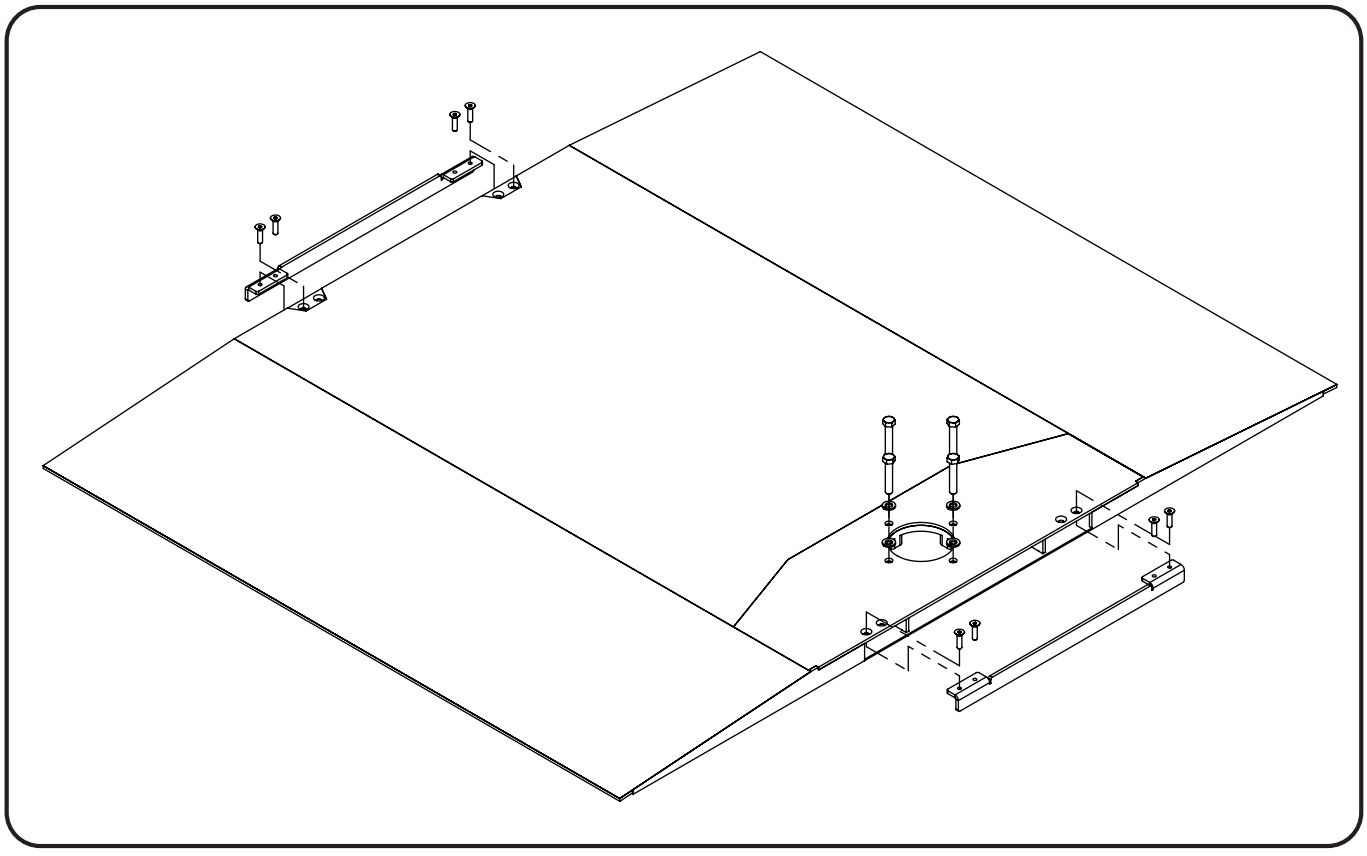


Appendix C - Portable Baseplate Installation

The baseplate enables installation of the SW1000 on a solid foundation without the need to drill hoes into the concrete. The baseplates also provides concealed conduit channels for wiring primary power, crossover communication, and access control. Baseplates may be bridged together for multi-lane configurations. The following information will guide the installer in baseplate installation:

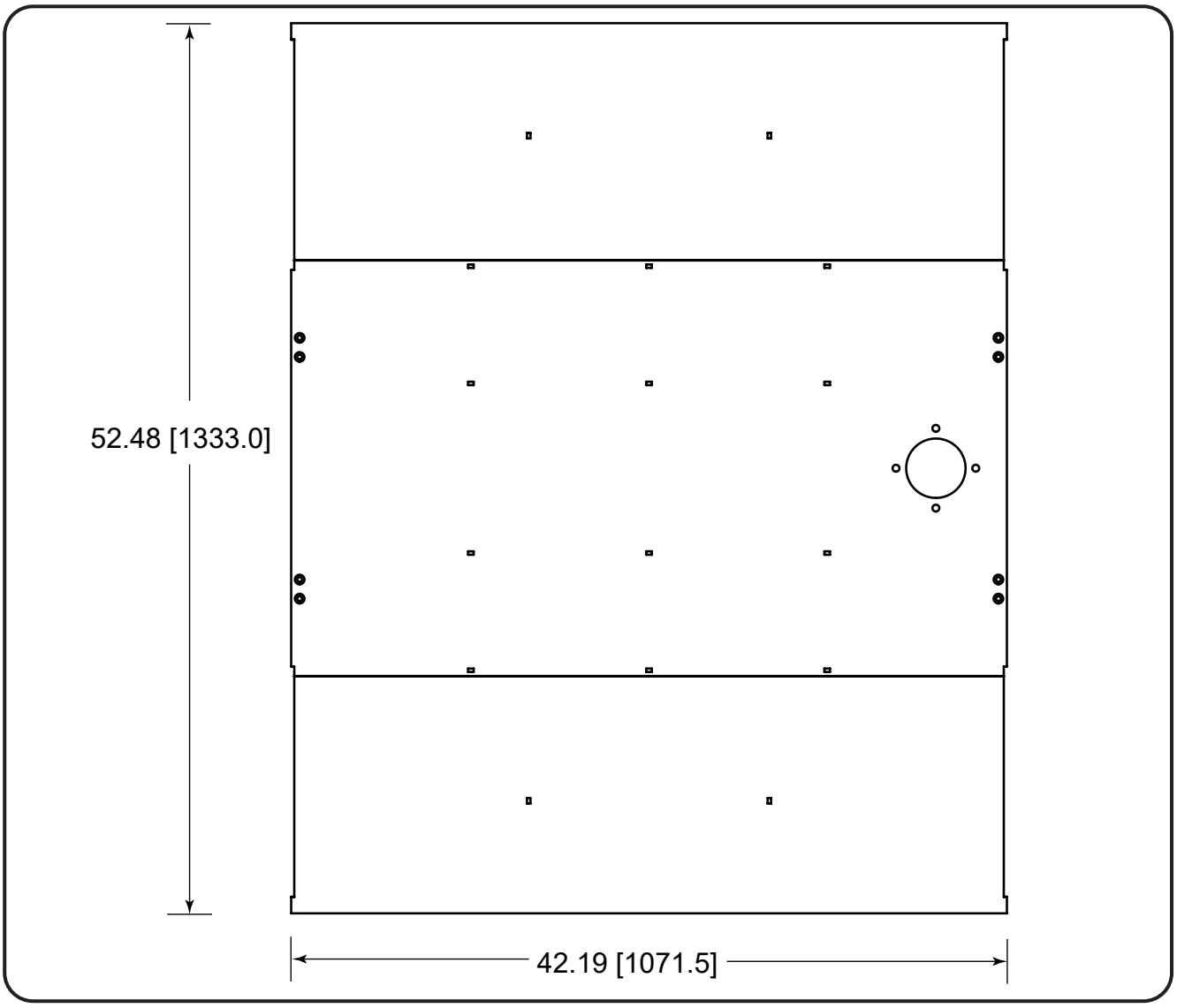
1. Determine and mark the installation location.
2. Place the baseplate in the marked location.
3. Determine how the primary power and access control wiring will be routed to the Main and/or center cabinet. Most commonly, the wiring is run into the baseplate through one of the side plates and routed to the Main. To remove the side plate, remove the four (4) screws as shown in [Figure C1].
4. Use the center cable channel to route the primary power, crossover cable, and access control wires.
5. Mount the SW1000 tower to the baseplate at the anchor location using the supplied mounting bolts.
6. For multi-lane applications, bridge the baseplates using the supplied bridge support(s) and screws.
7. Reinstall side plate(s).

Figure C1



Appendix C - Portable Baseplate Dimension

Figure C2



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.
2-2	12/12/17	C. Maynez	Added optional Baseplate installation instructions and dimensions.
2-3	9/17/19	C. Maynez	Updated product images and procedures
2-4	6/26/20	C. Maynez	Terminology update.

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