SW500
Pedestrian Gate

The SW500 is a stylish motorized pedestrian gate that provides entry or exit control. The gate includes a motion based camera that opens the gate as patrons approach. The SW500 can also be activated by using a remotely installed push button.



COMMON APPLICATIONS

- Front of Store Entry Points
- Interior Entry Points
- Wheelchair/Disabled Access

TYPICAL INSTALLATION SITES

- Grocery Stores
- Retail Stores
- Entertainment Venues
- Health Club/Recreation Centers

FUNCTION

The SW500 provides single direction entry or exit control. As objects or persons move toward the gate in the activation direction, a camera based motion detector detects the movement and opens the gate inward (away from the activation detection direction). Once the gate opens, it remains in the open position for a defined dwell time then closes unless additional motion is detected. If additional motion is detected, the gate remains open or, if in the closing cycle, reopens.

The rear of the gate contains a camera based presence sensor. This sensor detects the presence of an object in the gate opening path. If an object is detected, the gate will not open and an alarm will sound to notify personnel of the obstruction. Once the object or person is removed from the detection area, the gate will open normally.

There are many benefits to Alvarado's camera based motion and presence sensing technology. Our camera based technology allows both the motion detection and presence sensing areas to be precisely defined, and easily changed, if required. The technology results in well-defined detection patterns, precise detection and far less dead space and false triggers.

When traditional detection technologies such as microwave or PIR are used in conjunction with pedestrian gates, it is very difficult to precisely define or adjust the detection pattern. This results in missed activations caused by "dead" areas, and more often, in false openings as the microwaves or radiated infrared light detect objects outside the desired detection zone.

The SW500 also includes Alvarado's intelligent motor control technology. If the gate impacts an object during the opening or closing cycle, the gate will stop moving and an alarm will sound. After a defined period, the gate will reset for normal operation. The SW500 is microprocessor controlled. Programmable features are factory set at appropriate levels for most applications, but various features of the product are PC programmable (see Functionality – User Customizable Features, below). Push buttons or key to allow for activation by attendants or store personnel can be integrated to operate with the SW500.

An input is available for fire alarm systems. In the event that power to the unit is removed, the barrier can be manually moved to the open position with minimal force.

The SW500 is available as a tandem gate set – the SW500T.

AVAILABLE CONFIGURATIONS

SW500

The SW500 consists of a single gate that has a minimum opening width of 36".

SW500T

The SW500T consists of two gates that operate in tandem. Posts are on either end with gate arms facing inward. The SW500T provides double the passage opening as a single SW500 gate.

AVAILABLE FINISHES

BRIGHT FINISH AND POWDER COATED

Upper and lower tubes have a bright stainless steel finish. The gate arm has a bright chrome finish. The top cap is injection molded black plastic. Powder coating is available.

MATERIALS

POST

Upper and lower tubes are fabricated from #304 stainless steel. The top cap which houses the detection cameras is injection molded ABS.

INTERNAL FRAME

A powder coated internal steel frame houses electronics, sensors, motor and mechanical components.

GATE ARM

The gate arm is 1.5" OD (38mm) bright chrome plated steel tubing

CONTROL, OPERATIONAL MODES AND FUNCTIONALITY

CONTROL

The precise movement of the SW500's motorized barrier is controlled via a brushless DC motor working in conjunction with a position encoder and motor controller. Motor control software provides closed loop position control for precise movement and operational control.

When the gate barrier is manually broken away or an alarm condition is detected, a local audio alarm sounds. A secondary alarm output (in the form of a dry contact) is also available to provide a signal to a remote device notification such as a light or alarm.

PASSAGE MODES

Single Direction Motion Detection	As persons or objects move toward the gate in the activation direction, the gate opens automatically (away from the activation detection direction). Once the gate opens, it remains in the open position for a user definable dwell time, then closes. If additional motion is detected while the gate is open, the gate remains open for an additional dwell time cycle. If activated during the closing cycle, the gate stops when motion is detected and reopens.

Single Direction Push Button Activation	Single activation devices, such as a push button installed at a guard desk, can activate the gate for a single opening. The gate can be opened indefinitely by providing a sustained dry contact. The SW500 accepts a voltage-free dry contact activation signal. An I/O board for connection is located inside the gate.
Emergency Override/ Fire Alarm	Activation to open the gate arms in conjunction with a fire alarm or other life safety system is achieved by supplying a sustained dry contact to the SW500. During emergencies the SW500 gate arms will open in the exit direction and remain open.
Power Failure	In the event of loss of power, the gate arms can be freely moved in either direction. When pushed or pulled open in either direction, the gate arms will remain in place. As an available option, the gate arms can automatically open in the exit direction on power loss. See Automatic Opening of Gate Arms on Power Loss in the Options section.

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES

Prior to shipping, gates are configured with settings that are appropriate for most facilities. A summary of software configurable features are listed below:

BARRIER BREAKAWAY

The SW500 utilizes motor force to provide resistance against a user pushing or pulling the barrier open from the exit direction. Resistance is adjustable, but the barrier can be forced open. If the barrier is forced open, an alarm sounds, the barrier "breaks away" and can be moved manually. After a defined period, the gate will reset for normal operation.

BARRIER CYCLE AND DWELL TIME

These are adjustable features. The opening/closing speed and dwell time is factory set. Adjustments can be made within set limits appropriate for the installation application.

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.

MOTION AND PRESENCE CAMERAS

Adjustments can be made to the detection patterns to fit the detection patterns to application requirements.

EMERGENCY OVERRIDE / FIRE ALARM

Activation to open the barriers in conjunction with a fire alarm system is achieved by supplying a sustained dry contact to the appropriate input point on the I/O board.

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES (CONT.)

POWER FAILURE

When power is removed from the unit, the barrier of the SW500 can be freely moved in either direction. When pushed or pulled open in either direction, the barrier remains open. When power is restored, the gate resumes normal operation.

OPTIONS

ALTERNATE FINISHES

Powder coating in one of Alvarado's many colors is available.

ALTERNATE POWER SUPPLY

A 220-240VAC, 50 Hz power supply is utilized.

POWER SUPPLY – EXTERNAL ENCLOSURE

A portable enclosure houses the SW500 or SW500T UL listed power supply. Conduit entry / exit ports are provided for connecting primary power to the supply and running 24VDC to the gate(s). Follow Alvarado recommendations for low voltage power wire runs.

AUTOMATIC OPENING OF GATE ARMS ON POWER LOSS

A UL listed power buffer is added to the external enclosure. On loss of power, the power buffer retains sufficient power to automatically open the gate arms in the exit direction.

RAILING INTEGRATION

Alvarado post and railing can be integrated with the SW500. Contact Alvarado for layout assistance.

SOLID CLEAR ACRYLIC BARRIER

A solid acrylic panel replaces the metal barrier. The barrier is fabricated from 0.5" (13mm) thick acrylic with abrasion resistant coating. Panels are available in 39" and 46" heights.

Panels can be etched with corporate logos. Contact Alvarado for artwork requirements.

Panels are also available as an option on the SW500T.

USAGE CONSIDERATIONS

Please contact Alvarado with questions regarding SW500 usage considerations.

Straight on Entry	Gate opens when the camera senses an object in the detection area. The detection setting is adjustable, but it is desirable to funnel patrons so that they enter the gate head on, not parallel to the gate. Railing or merchandise can be used for this purpose.
Swing Area	Visual displays and merchandise should not be placed so that customers are drawn into the gate swing area.
Inspection	Gate operation should be inspected by store personnel daily. Inspection procedures are provided with the product operation manual.

CONDUIT REQUIREMENTS

SW500

Primary (AC)	.5" conduit for primary power is run up and into the Post. 110-120VAC is standard.

SW500T

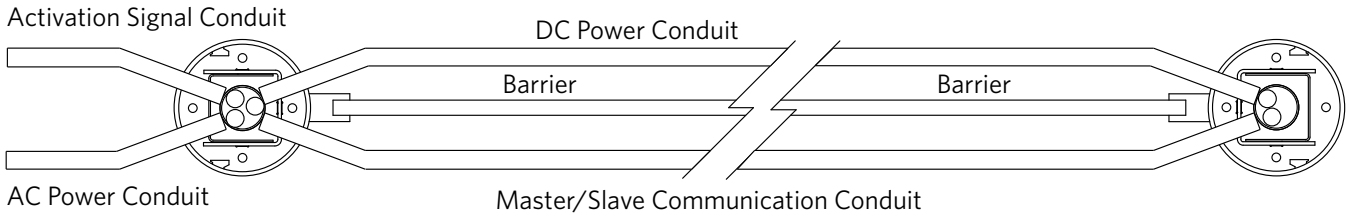
Primary (AC)	.5" conduit for primary power is run up and into the Primary Gate.
Low Voltage (DC)	.5" conduit for DC power is run from the Primary Gate to the Secondary Gate.
Master / Slave	.5" conduit that tees off the Activation Signal Conduit at the Primary Gate. This conduit is used to run communication signal wire between the Primary Gate and Secondary Gate. The communication signal wire synchronizes the barrier opening and closing between the two gates.

CONDUIT REQUIREMENTS (CONT.)

SW500 CONDUIT



SW500T CONDUIT



SHIPPING AND SITE PREPARATION

SHIPPING

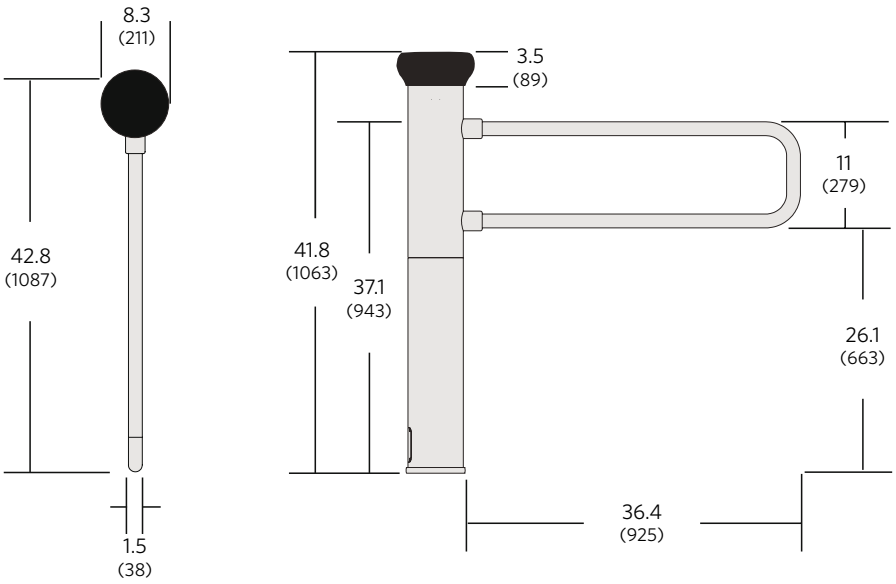
The SW500 is shipped with mounting hardware, assembly and operational instructions and configuration software.

SITE PREPARATION

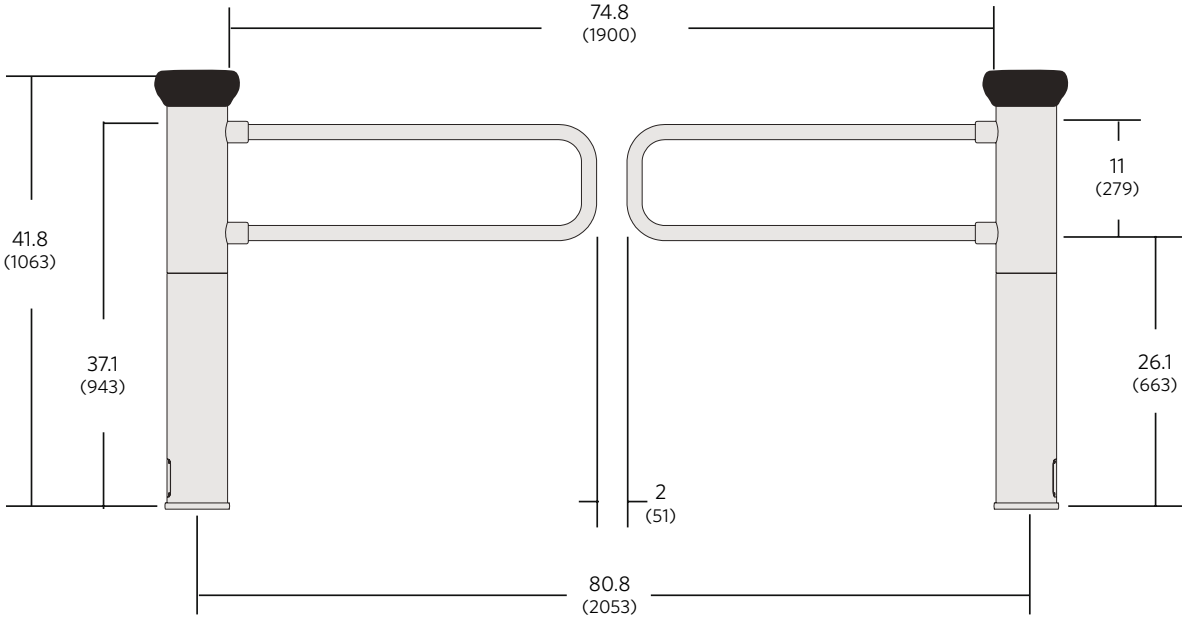
The SW500 must be installed on a firm foundation in a manner that allows the required power and signal cabling to be pulled into the cylindrical tower. The slab platform should be a minimum of 4" deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Drawings and installation manuals are available online.

TECHNICAL DIMENSIONS

Dimensions are shown in inches (mm). All measurements are approximate.



SW500



SW500T

Electrical	Description	
UL Rated Power Supply	110-120 VAC, 60 Hz or 220-240 VAC, 50 Hz (optional)	
Operational Voltage	Primary power is stepped down and rectified for low voltage 24VDC, 12VDC, and 5VDC operation.	
On/Off Pushbutton	An on/off recessed pushbutton is located on each gate.	
Fuse Protection	A 2.5 amp fuse (slo-blo) is installed in each gate.	
Surge Protection	Alvarado suggests use of surge protection equipment in connection with the installation to protect electronics.	
Drive Motor	24V BLDC	
Weights and Environmental		
	Standard	**Metric**
Product Weight	100 lbs.	45 kg Weight for a standard gate
Shipping Weight	185 lbs.	84 kg Includes weight of shipping crate(s)
Operating Temperature	14° to 90° F	-10° to 60° C
Storage Temperature	14° to 90° F	-10° to 60° C
Relative Humidity	20-90% (non-condensing)	--

WARRANTY

For a period of one year from the date of shipping, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In NO event shall Alvarado be liable for damages which exceed the purchase price of a covered product.