SU2000

Barrier-Free Optical Turnstile

The SU2000 is the thinnest Alvarado optical turnstile. The absence of a physical barrier and superior optical technology ensures fast throughput while detecting and alarming unauthorized passages. Its compact design makes it ideal where floor space is limited.



COMMON APPLICATIONS

- Employee and Visitor Access Control
- Time and Attendance Integration

TYPICAL INSTALLATION SITES

- Government Facilities
- Corporate Lobbies
- Health/Recreation Centers

FUNCTION

The Supervisor 2000 is a barrier-free optical turnstile that provides bi-directional access control and other passage modes (described below). In controlled passage mode, upon receipt of a valid card signal from an access control system, the integrated sensors allow a single user to pass through the turnstile in the requested direction. If an unauthorized user attempts to tailgate on the entry, the unit will recognize the illegal passage, a violation alarm will sound and red notification lights will flash.

The SU2000 utilizes integrated optical sensors to control access. The optical sensors detect patrons, determine the direction of patron movement and (in conjunction with the facility access system) detect unauthorized users, in addition to detecting "piggybacking" or "tailgating" on allowed entries.

While access control throughput will depend on the access control system and readers used, the SU2000 supports extremely rapid throughput. It will "stack" valid scans and process patrons as fast as they can walk through the turnstile.

IP-based communication and configuration functionality is included in all SU2000 optical turnstiles, making it possible to adjust core turnstile settings via a TCP/IP network session using an included web application called LaneConfig. Using a PC, tablet or smart phone, this application allows adjustment of configurable features – such as alarm sounds, optical settings, detection settings, safety sensor settings, alarm timer settings, etc. – over a TCP/IP network. If the turnstiles are not networked, adjustable features are configured by loading LaneConfig on a laptop and plugging directly into an Ethernet port in the turnstile.

Alvarado also offers a web-based monitoring and scheduling application (optional) called GateKeeper. This application provides a virtual desktop of installed turnstiles, providing an attendant a convenient method to view and control day-to-day operational functions such as alarm notifications, implementing one-time passages, and changing turnstile operational modes.

GateKeeper also includes a scheduling function that allows a facility to automate changes in turnstile operational modes. This convenient functionality allows facilities to automatically implement desired turnstile operational changes at preset times such as at the beginning and end of shifts, lunch times, weekends, holidays, etc. GateKeeper provides a complete log of turnstile activity, for such items as activations, alarm conditions, and operational mode changes. Activities of attendants using GateKeeper are tracked as well.

More information about LaneConfig and GateKeeper is available in the Available Related Applications section of this document. Additional detailed information can also be obtained by contacting Alvarado technical support.

AVAILABLE CONFIGURATIONS

SU2000

The SU2000 consists of a pair of end cabinets that create a single lane with a 28″-36″ wide passageway. Center cabinets (that are the same dimensions as end cabinets) may be added to create multi-lane configurations; i.e. two end cabinets and two center cabinets create three lanes.



Multi-lane configuration with 36″passage width on left and 28″ passage width on right

AVAILABLE FINISHES

STAINLESS STEEL, POWDER COATED AND PLATED

External cabinet materials are fabricated from #304 stainless steel polished to a #4 satin finish. Powder coated and plated cabinets are available (see Options).

MATERIALS

CABINET

Cabinets are fabricated from formed and welded #304 stainless steel.

CABINET LIDS

Cabinet lids are fabricated from Livingstone solid surface acrylic (color: Starry Night Black). Lids can also be provided in any available solid surface color.

INTERNAL FRAME

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

OPERATIONAL MODES AND FUNCTIONALITY

PASSAGE MODES

The SU2000 offers the following user-configurable passage modes:

Controlled Passage	Upon receipt of an authorization signal from an access control system, a single passage in the authorized direction is allowed. Controlled Passage can be implemented either in a single direction or bi-directionally.
Free Passage	Authorization signal is not required for a user to pass through the lane. Free Passage can be implemented either in a single direction or bi-directionally.
No Passage (Direction Closed)	No passage is allowed. Valid electronic credentials are ignored. Any passage will set off violation alarms. No Passage can be implemented either in a single direction or bi-directionally.
Visitor	Allows visitors and groups without credentials access through the turnstile. When placed in visitor mode, the barriers open and remain open. Passages in either direction are monitored and an I/O output is provided for each passage.

USER STATUS DISPLAY

An illuminated status icon display, visible to users, is flush mounted within the cabinet lid and is configured to function in the following manner:

Yellow Card Icon	An illuminated yellow card means the turnstile is ready for card presentation.	
Green Arrow Icon	An illuminated green arrow indicates passage is allowed in the direction of the arrow and/or valid credentials have been presented. A flashing green arrow indicates the turnstile is in Free Passage mode in the direction of the arrow.	
Red Stop Icon	An illuminated red X indicates passage is prohibited in the direction of the arrow. A flashing red X indicates the turnstile has an alarm condition and/or invalid credentials have been presented.	

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES AND AVAILABLE TOOLS

In addition to the available passage and operating modes, the SU2000 has a number of additional user customizable features. These features allow turnstiles to be "tuned" to the operational requirements of an application and allow users to associate individual audio sounds with operational states and alarm conditions. SU2000 turnstiles also come with tools to assist service personnel with setup, diagnostics and troubleshooting.

Customizable features and custom sounds are downloaded to turnstiles over a TCP/IP network using the included LaneConfig application. The product ships with standard sounds. Users may create and install their own audio sounds in the form of .wav files.

Prior to shipping, turnstiles are configured with settings that are appropriate for most facilities and default sound files are loaded. A summary of configurable features, and setup and diagnostic tools, is listed below.

Operational Adjustments	Description
Access Timeout	Valid credential presented but user does not pass through turnstile; controls time before turnstile resets.
Object	Controls object detection size
Blocked Sensor	Controls time before alarm is generated if sensors are blocked

Operational Sounds / Alarms	Description	Configurable Sounds
Access Granted*	Good card	√
Access Denied*	Bad card	√
Tailgating/Unauthorized Passage*	Tailgating/unauthorized passage detected	√
Blocked Sensor	Sensors not cleared	√
Loitering	Loitering detected in the lane	√
Crawl Sensor	Object detected by a crawl sensor	√

*Configurable for both entry and exit direction

CARD READERS

INSTALLATION OF CARD READERS

Space is available on the end cabinets for mounting of slim style proximity card readers.

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There is a single interface available to allow an access control system to operate with the SU2000:

Dry Contact — Single passage activation, and other functionality, is achieved by supplying an isolated, voltage-free, momentary dry contact at the appropriate location on the I/O control board. Various outputs are also available to provide information on turnstile operational status and activity. A description of available input and output signals is provided below.

Input Signal	Entry / Exit
Direction Closed	√
Good Card (Activation)	√
Bad Card	√
Passage – Free Pass Mode	√
Single Entry Override	√
Life Safety Input	√

Output Signal	Entry / Exit
Authorized Passage	√
Unauthorized Passage	√
Sensor Blocked	√
Crawl Detection	√

AVAILABLE RELATED APPLICATIONS

There are two additional applications that are available with the SU2000.

LANECONFIG

LaneConfig is a web-based application that comes standard with all SU2000s. The application allows configurable features of the SU2000 and software updates to be installed over a network. Use of LaneConfig in a networked setting eliminates the need to physically plug into individual turnstiles to change turnstile configurations or update software. LaneConfig is accessible from a PC, tablet or smart phone that is networked to installed SU2000 units and communicates to turnstiles via TCP/IP.

In installations where SU2000 turnstiles are not networked, LaneConfig is loaded on a laptop which is temporarily plugged into the Ethernet port of individual turnstiles when turnstile configurations are changed or software is updated.

GATEKEEPER

GateKeeper is an optional web-based application that allows all Alvarado optical turnstiles installed at a site to be monitored and controlled from a single PC. GateKeeper allows control of virtually all day-to-day operating functions, including designating a turnstile as entry or exit, opening or closing a turnstile, and allowing single passage overrides for guests or personnel that have forgotten their access card. The application also includes various other functions. These include an emergency "open all turnstiles" capability that is in addition to the emergency override/fire alarm capabilities described earlier in this document. The application has tiered login levels with three levels of security (User, Supervisor and Administrator). The higher permission levels enable various additional features and settings.

GateKeeper has an intuitive graphic interface that gives desk attendants a current "status" of all installed turnstiles. In addition, when alarm conditions occur, the application provides both visual and audio notification of what happened. All actions (such as passage overrides) and turnstile alarms are logged. Logs may be printed or saved for record keeping or diagnostic purposes.

GateKeeper also includes a built in Event Scheduler. This extremely useful tool allows day-to-day operational changes that are often implemented at sites to be scheduled and automatically implemented without the need for a guard or attendant to "remember" to change settings. Event Scheduler allows operation templates to be saved and then automatically implemented at user defined times. Examples include changing the entry status of turnstiles (entry, exit, bi-directional control or free passage) at set times of the day. This flexibility allows turnstiles to be used more efficiently, can decrease the number of turnstiles that may be needed, and allows Alvarado's optical turnstiles to seamlessly integrate into a customer's operational requirements.

A single license of GateKeeper allows users to control all turnstiles installed at a single licensed site.

OPTIONS

ALTERNATE LID COLORS AND MATERIALS

Lids can be provided in any available solid surface color.

ALTERNATE POWER SUPPLY

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

BASEPLATE

A baseplate for either single turnstile or multi-turnstile configurations is available. The baseplate is powder coated black with a black non-slip coating in the passageway area. The baseplate includes enclosed cable runs and eliminates the need for trenching or stubbing up conduit from floor.

CUSTOM CABINETS

External cabinet materials may be powder coated in a variety of colors. Cabinet materials can also be plated in a variety of finishes.

LONGER INTERCONNECT CABLES

Longer interconnecting cables are available to accommodate installations where standard conduit runs are not available. The standard interconnect cable length is 13' (396 cm). Cables are also available in 20' (610 cm) or 40' (1220 cm) lengths.

MONITORING AND OPERATIONAL MODE SCHEDULING SOFTWARE

GateKeeper web-based communication and control software communicates with SU2000 turnstiles over a wired TCP/IP network. For more information see the description provided earlier in this document or contact Alvarado.

TURNSTILE KEY CONTROLS

There are two 3-position key switches installed on the turnstile to control passage modes for each direction of travel. Turning the key to one of three positions overrides current settings and places the turnstile in Controlled Passage, Free Passage or No Passage mode depending on orientation of the key.

CONDUIT REQUIREMENTS

PRIMARY POWER SOURCE CONDUIT

.75" (19 mm) power conduit for primary power must be run to each master controller cabinet.
Note: The product standard is 110-120 VAC (use of 220-240 VAC is an option).

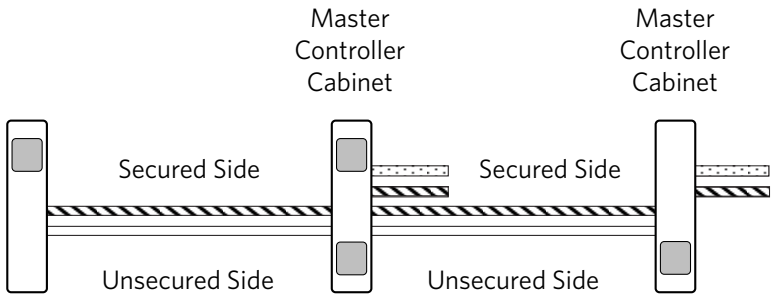
LOW-VOLTAGE AND INTERCABINET COMMUNICATION CONDUIT

1.5" (38 mm) conduit must be run to allow passage of the interconnect cable between cabinet sets. 13' (396 cm) interconnect cables are included. 20' (610 cm) and 40' (1220 cm) interconnect cables are available options.

ACCESS CONTROL SYSTEM, READER AND ETHERNET CONDUIT

The SU2000 has space for the acceptance of a .75" (19 mm) conduit for access control, reader, and Ethernet cabling. Alvarado does not provide cables for access control systems.

Use of TCP/IP communication with LaneConfig or GateKeeper requires the running of an Ethernet cable to each master controller cabinet. Do not run cable in the same conduit as AC Power.





.75" (19 mm) Primary Power Source Conduit



.75" (19 mm) Access Control System and Reader Conduit



1.5" (38 mm) Low-Voltage and Inter Cabinet Communication Conduit



Card Reader Location

SHIPPING AND SITE PREPARATION

SHIPPING

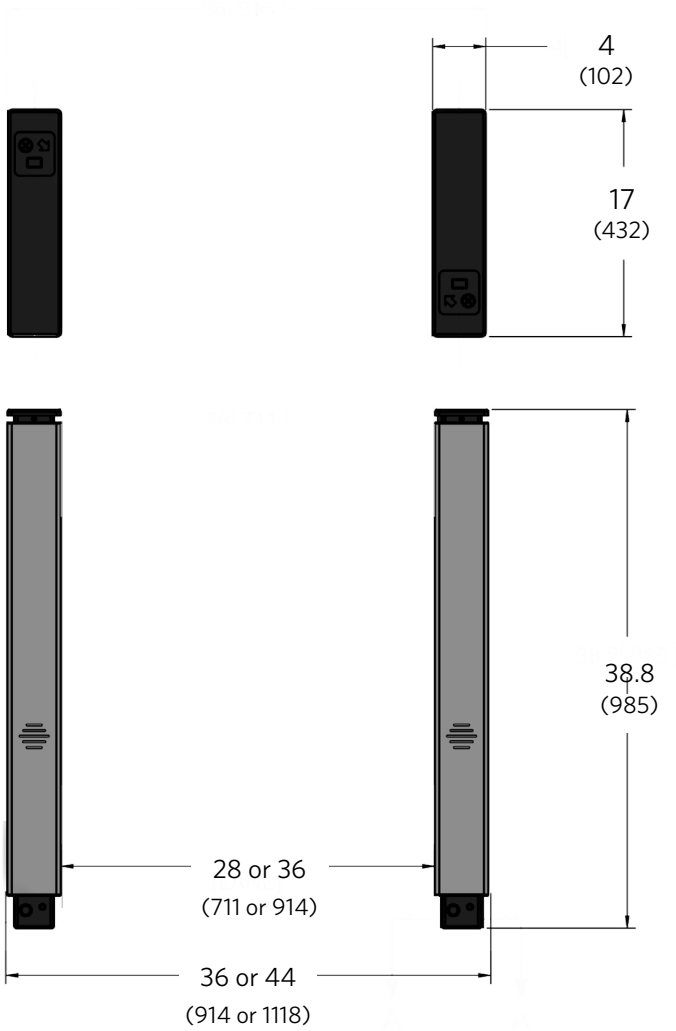
SU2000 cabinets are shipped fully assembled for easy installation. Each cabinet includes mounting hardware (anchors, bolts, washers, etc.) to mount the unit to a standard, level concrete floor.

SITE PREPARATION

Turnstiles must be installed on a firm foundation in a manner that allows the required power and access control cabling to be pulled into the turnstile cabinet. The slab platform should be a minimum of 4" (102 mm) deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS

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



Approximate Throughput Rates	
Card Reader Type*	**Users per minute**
Proximity	40

*Access control system response is assumed to be instantaneous

Electrical	Description
UL Rated Power Supply	110/220 VAC, 60 Hz
Power Requirements	Maximum power consumption is 60W per lane with all options installed.
Operational Voltage	Primary power is stepped down and rectified for low voltage 24 VDC, 12 VDC and 5 VDC operation.
On/Off Power Button	Recessed on/off power button is located in the base of each master cabinet.

Weights and Environmental		
Product Weight	50 lbs.	23 kg Per cabinet weight
Shipping Weight	100 lbs.	45 kg Includes weight of shipping crate(s)
Operating temperature	50° to 90° F	10 to 32° C
Storage Temperature	0° to 104° F	-4 to 40° C
Relative Humidity	15-85% (non-condensing)	--

WARRANTY

For a period of 18 months from the date of purchase, 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.