

# ALVARADO

## **Supervisor 2000-MED** **Barrier Free Optical Turnstile for Indoor Installation**

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### Technical Specifications

|                            |  |  |
|----------------------------|--|--|
| <b>Dimensions</b>          | <u>Cabinet Length:</u>   | 37.25" (946 mm)  |
|                            | <u>Cabinet Height:</u>   | 38.5" (978 mm)   |
|                            | <u>Cabinet Width:</u>  | 8" (203 mm)  |
|                            | <u>Clear Passage Width:</u>  | 28" (711 mm) or 36" (915 mm)   |
| <b>Materials</b>           | <u>Base:</u>   | Formed and welded carbon steel. Powder coated RAL 9017, <i>Solar Black (matte)</i> .   |
|                            | <u>Internal Frame:</u>   | Welded steel. The frames provide the mounting for the controller boards, and optical sensor components and are configurable for use as center cabinet frames in multi turnstile installations. |
|                            | <u>End Panels:</u>   | Formed and welded 304 stainless steel. All exterior welds are ground smooth and polished. Available in #4 satin or powder coated finish.   |
|                            | <u>Side Panels:</u>  | Formed and welded 304 stainless steel. All exterior welds are ground smooth and polished. Available in #4 satin or powder coated finish.   |
|                            | <u>Lid:</u>  | Samsung Staron® acrylic resin, <i>Sanded Onyx</i> .  |
|                            | <u>Lid Ends:</u>   | Anodized aluminum. Available in black or clear anodized over a #4 satin finish.  |
| <b>Function</b>            | The SU2000-MED provides barrier free bi-directional (card in / card out) electronically controlled access.   |  |
| <b>Method of Operation</b> | Upon receipt of an authorization signal from the access control system, GateKeeper turnstile control software, or push button device, a single passage will be allowed in the authorized direction. The turnstile will reset after the user has passed through the turnstile or the time frame allowed for an entry to occur has expired. If an unauthorized user attempts to tailgate or enter from the opposite direction, the unit will recognize the illegal passage and the built in violation alarm will be activated. |  |
|                            | 8 infrared sensors mounted inside the turnstile cabinets are used to monitor traffic through the turnstile and determine user position within the passageway.  |  |
| <b>Status Icons</b>        | An illuminated status icon display is flush mounted within the cabinet lid and is configured to function in the following manner:  |  |
|                            | <u>Yellow Card Icon:</u>   | Turnstile is ready for card presentation.  |
|                            | <u>Green Arrow Icon:</u>   | Passage is allowed in the direction indicated.   |
|                            | <u>Red Stop Icon:</u>  | Passage is prohibited in the direction indicated.  |

|                                 |   |
|---------------------------------|---|
| <b>Violation Alarm</b>          | A built in violation alarm will be activated when an unauthorized user enters the turnstile. Alarm duration is user configurable and can be set to sound continuously until manually reset or for a user defined time from 2 to 8 seconds. Alarm settings can be made via dip switches or with GateKeeper turnstile control software.   |
| <b>Fire Alarm</b>               | Activation to disable the turnstile in conjunction with the fire alarm or other life safety system is achieved by supplying a sustained dry contact to the SU2000. Terminal strip connections are provided for this purpose.  |
| <b>Interface</b>                | <p><u>Dry Contact:</u> Single passage activation for either direction of operation is achieved by supplying an isolated, voltage free, momentary dry contact of any duration. Separate terminal strip connections are provided for each controlled direction for passage allowed and passage denied input signals.</p> <p><u>RS-485:</u> Many turnstile settings, including passage activation, can be controlled and monitored using RS-485 serial interface and/or GateKeeper turnstile control software. Refer to the GateKeeper specification for additional information.</p>   |
| <b>Aborted Entry (Time Out)</b> | Unit has an adjustable aborted entry (time out) timer. If the user does not pass through the turnstile within the set time, the turnstile will reset and wait for the next activation. If the user attempts to pass through the turnstile after the set time has expired the violation alarm will sound. Timer duration is user adjustable ranging from 5 to 20 seconds. Timer settings can be changed or disabled via dip switches or with GateKeeper turnstile control software.  |
| <b>“Open/Close” Inputs</b>      | Activation to “open” or “close” either direction of passage is achieved by supplying a sustained dry contact to the SU2000. Separate terminal strip connections are provided for each controlled direction for both “open” turnstile and “close” turnstile input signals.   |
| <b>Blocked Sensor Alarm</b>     | The built in alarm will emit a chirping sound if one or more of the infrared sensors remains blocked or obstructed.   |
| <b>Tailgate Sensitivity</b>     | Tailgate sensitivity settings can be changed via dipswitches or with the GateKeeper turnstile control software.   |
| <b>Outputs</b>                  | Terminal strip connections are provided for the following output signals: <p><u>Authorized Passage Feedback:</u> An isolated, voltage free, momentary dry contact output signal is provided for each direction of passage for each authorized user that passes through the turnstile.</p> <p><u>Unauthorized Passage Feedback:</u> An isolated, voltage free, momentary dry contact output signal is provided for each direction of passage for each unauthorized user that passes through the turnstile.</p> <p><u>Violation Alarm:</u> An isolated, voltage free, momentary dry contact output signal is provided each time the violation alarm is activated. This output allows the turnstile to be integrated with an external auxiliary security device such as a facility alarm, CCTV system, or an electric lock controlled door when the turnstile is violated.</p> <p><u>Aborted Entry (Time Out):</u> An isolated, voltage free, momentary dry contact output signal is provided for each direction of passage every time passage is aborted.</p> |
| <b>Power Supply</b>             | 120 VAC, 60 Hz  |
| <b>Power Rating</b>             | Maximum power consumption is 60 W per turnstile.  |

**Operational Voltage**

Primary power is stepped down and rectified for low voltage 12 VDC and 5 VDC operation.

**Installation Details**

SU2000-MED turnstile cabinets are shipped fully assembled. Fork lift & pallet jack equipment is required for off loading.

**Approximate Weight**

Approximately 150 lb. (68 Kg) per cabinet

**Cabinet Types Available**



*Left Cabinet*



*Right Cabinet*



*Center Cabinet*

## Options

### Alternative Cabinet Materials and Finishes

- Fine wood cabinets constructed from hardwood (end panels) and wood veneer (side panels):
  - Red Oak    - Pecan            - Beech        - Teak        - Red / Pink Birch
  - Maple       - Walnut           - Alder        - Cherry      - Knotty Pine
  - Mahogany   - White Oak       - White Birch   - Standard Birch   - Wegue

Hardwood finishes:

- Clear Natural        - Oil Stained        - Air Brushed & Glazed

- Any commonly available laminate

### Alternative Lid Colors and Materials

- Samsung Staron® alternate colors - (see available colors at [www.staron.com](http://www.staron.com))
- Dupont™ Zodiaq® quartz - (see available colors at [www.zodiaq.com](http://www.zodiaq.com))
- Natural marble - (contact Alvarado for available colors)

### Status Chime

A chime tone indicates that an activation signal has been provided to the turnstile and the user is allowed passage.

### Card Rejection Beeper

A beeper indicates that a rejection signal has been provided to the turnstile and the user is denied passage.

### “Open” / “Close” Turnstile Overrides

A built in key override switch overrides the access control system to “open” or “close” one or both directions of the turnstile. Separate overrides are required for each direction of passage.

### “Open” / “Closed” Status Lights

An illuminated status icon display is flush mounted within the cabinet end panel and is configured to function in the following manner:

Green Arrow Icon: The turnstile is “open” for use.

Red Stop Icon: The turnstile is “closed” for use.

### Crawl Detection

2 additional infrared sensors mounted inside the turnstile cabinet are used to prevent individuals from obtaining unauthorized passage by crawling through the passageway.

### GateKeeper Turnstile Control Software

Password protected PC based program allows all installed SU2000 turnstiles to be configured, monitored and administered, allowing control of virtually all turnstile functionality, from a single standard PC. Communication with the SU2000 units is via RS-485 serial protocol. The program runs on Windows 2000 or XP operating system.

### Alternate Power Supply

100/240 VAC, 50/60 Hz

## SU2000-MED General Configuration



*Single Lane Configuration*

*Multi Lane Configuration*



### Status Icon User Instructions



#### **Yellow Card**

- Turnstile is ready for card presentation
- Present access control card to the reader for authorization
- Wait for the Green Arrow to illuminate before proceeding



#### **Green Arrow**

- Passage is allowed in the direction indicated
- Proceed through the turnstile



#### **Red Stop**

- Passage is prohibited in the direction indicated
- Wait for the Yellow Card to illuminate before presenting the next access control card to the card reader



#### **Flashing Green Arrow**

- Free passage is allowed in the direction indicated
- An access control card is not required in the direction indicated
- Proceed through the turnstile

## “Open” / “Closed” Status Light User Instructions (Option)



### Green Arrow

- Turnstile is “open” for use
- Present access control card to the reader for authorization



### Red Stop

- Turnstile is “closed for use”



### Flashing Green Arrow

- Turnstile is “open” for use
- Free passage is allowed in the direction indicated
- An access control card is not required in the direction indicated
- Proceed through the turnstile

## Alarm Conditions

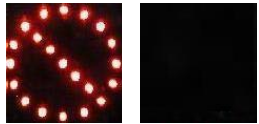
The alarm will be activated in each of the following scenarios:

- Unauthorized Passage
- Premature Entry
- Tailgating
- Delayed Entry
- Loitering
- Crawl Violation (if applicable)

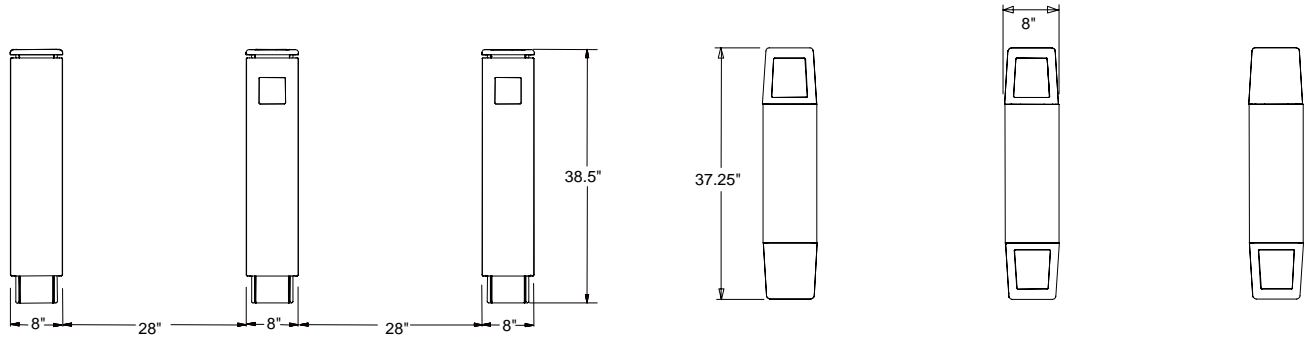
## Flashing Red Stop Status Icon and Audible Alarm



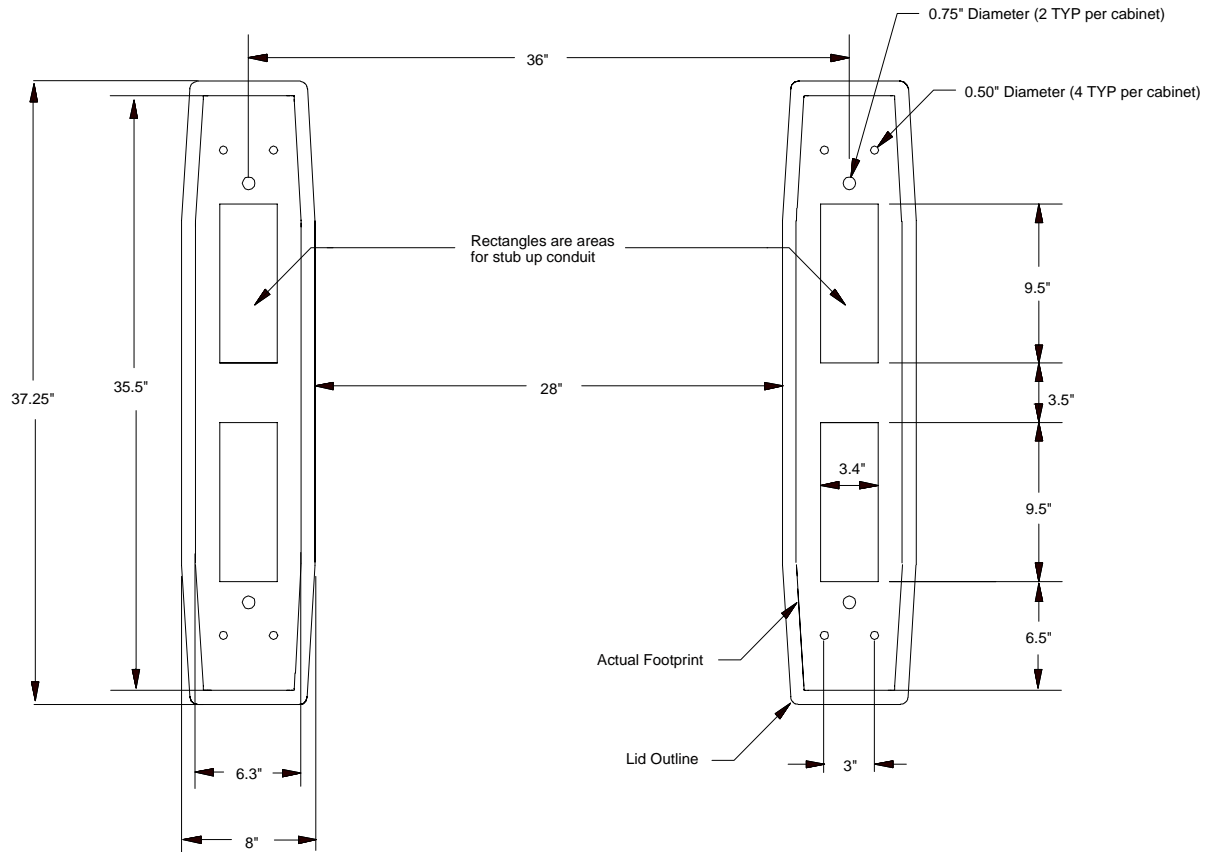
## Flashing Red “Closed” Status Stop End Light and Audible Alarm (Option)



## SU2000-MED Site Preparation



## SU2000-MED Footprint Drawing



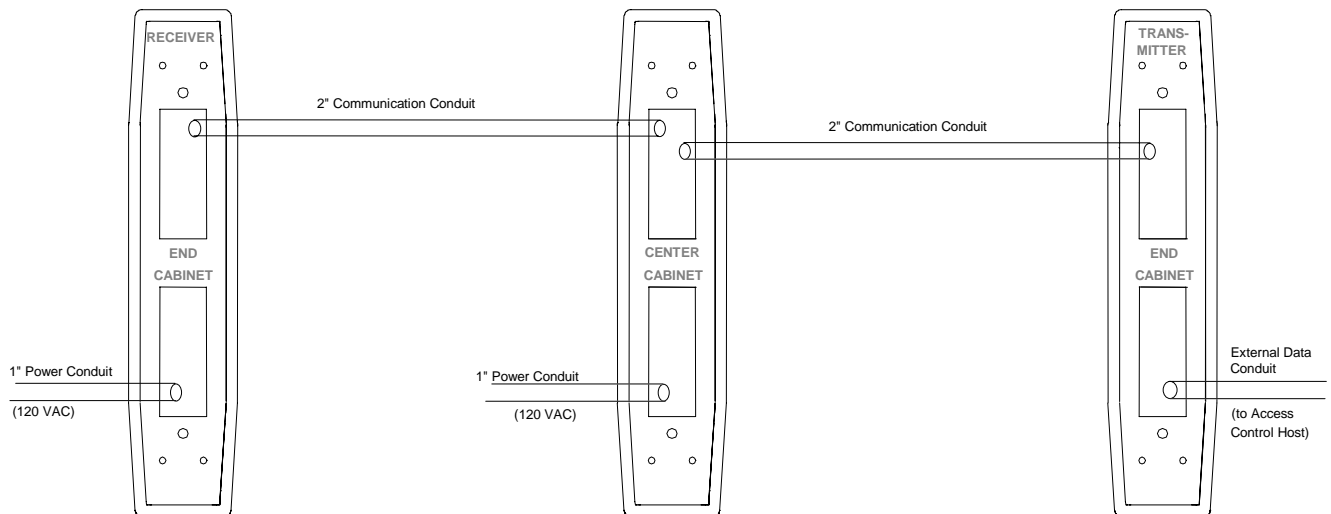
### Notes:

- The cabinet centerline to centerline dimension for a 28" passage width is 36".
- The cabinet centerline to centerline dimension for a 36" passage width is 44".

### Slab Requirements

- Minimum thickness 4" (102 mm) level solid concrete pad
- Horizontal conduit runs must be at least 5.5" (140 mm) below the SU2000-MED turnstile

## Conduit Requirements



### High Voltage Power Conduit

- 1" power conduit for 120 VAC primary power must be run to the Receiver End Cabinet and each Center Cabinet.

### Communication Conduit

- 2" conduit must be run to interconnect the cabinet sets that form each passage lane.
- The cables required to interconnect the cabinet sets that form each passage lane are provided with the turnstiles.
- Conduits that interconnect a cabinet set can not exceed 10' in length.

### Access Control System Conduit

- Diagram provided does not specify the conduit requirements for integrating the turnstile with an access control system.
- Consult access control system provider for power and communication conduit specifications for integrating card readers or other access control system devices with turnstiles.

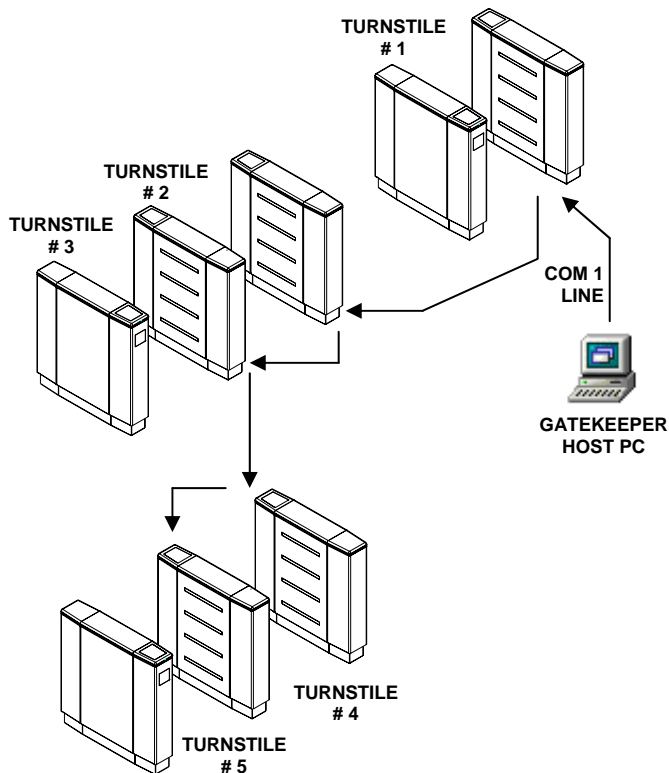


### GateKeeper Turnstile Control Software RS-485 Serial Interface Conduit Requirements

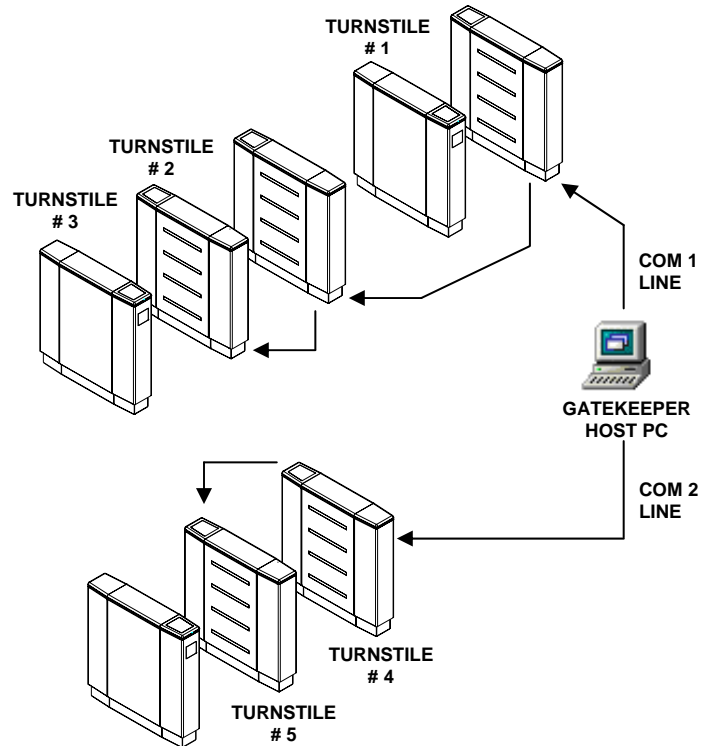
Turnstile settings, including passage activation, can be controlled and monitored using RS-485 serial interface and/or GateKeeper turnstile control software. Four wire communication cable must be daisy-chained from the COM port on the host computer to each turnstile to provide RS-485 communication.

- No more than 16 turnstiles may be daisy-chained to each COM port
- Total cable length from the COM port to the last turnstile in the daisy-chain may not exceed 3000 feet (914 m)
- RS-485 communication cable must not be run in the same conduit as AC Power.

### Single COM Port RS-485 Daisy-Chain Cabling Diagram



### Multiple COM Port RS-485 Daisy-Chain Cabling Diagram



### Throughput Rates

| <u>Card Reader Device</u>          | <u>Users per minute</u> |
|------------------------------------|-------------------------|
| Proximity                          | 40                      |
| Magnetic Swipe                     | 25                      |
| Magnetic Swipe with Numeric Keypad | 20                      |
| Omni-directional Barcode Scanner   | 40                      |

- Figures are approximations
- Flow rates may increase with enhanced user familiarity
- Access control / card reader system response time is assumed to be instantaneous

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