

ARCHITECTURAL SPECIFICATION
SPEEDLANE SLIDE
SECURITY OPTICAL TURNSTILE



YOUR
ENTRY
EXPERTS.



CONTENTS

SECURITY OPTICAL TURNSTILE SECTION 11-14-00 PEDESTRIAN CONTROL EQUIPMENT (GATES/TURNSTILES)	2
PART I GENERAL	2
1.01 SECTION INCLUDES	2
1.02 RELATED SECTIONS	2
1.03 REFERENCES	2
1.04 QUALITY ASSURANCE	2
1.05 SUBMITTALS	3
1.06 DELIVERY, STORAGE AND HANDLING.....	3
1.07 PROJECT/SITE CONDITIONS.....	3
1.08 WARRANTY.....	3
PART II – PRODUCTS.....	3
2.01 MANUFACTURER	3
2.02 PRODUCT	3
2.03 TURNSTILE CONSTRUCTION	3
2.04 EQUIPMENT.....	4
2.05 COMMUNICATION SYSTEM.....	4
2.06 SECURITY EQUIPMENT	4
2.07 SAFETY SYSTEM	5
2.08 ACCESS CONTROL AND FIRE ALARM INTEGRATION	5
2.09 PERFORMANCE/THROUGHPUT	5
2.10 HARDWARE/MATERIALS	5
2.11 FINISH	6
2.12 ADDITIONAL OPTIONS	6
PART III – EXECUTION.....	6
3.01 INSTALLATION	6



SECURITY OPTICAL TURNSTILE SECTION 11-14-00

PEDESTRIAN CONTROL EQUIPMENT

(GATES/TURNSTILES)

PART I GENERAL

1.01 SECTION INCLUDES

- A. This section covers the furnishing and installation of a complete Security Optical Turnstile. Provides complete system that has been fabricated, assembled, and tested for proper operation at the factory.
- B. It includes cabinet, removable panels, sliding glass panels, barrier glass (cabinet), drive system, hardware, cabling, self-diagnostics tool, safety system and infrared sensor system as required for installation.

1.02 RELATED SECTIONS

- A. Section 09600 - Flooring
- B. Section 16123 - Electrical Supply and Termination
- C. Section 11 14 – Pedestrian Control Equipment
- D. Section 11-14.13.19 – Turnstiles
- E. Section 11-14.53 – Pedestrian Security Equipment

1.03 REFERENCES

- A. ANSI Z97.1 - American National Standard for Safety Glazing Materials used in Buildings.
- B. AAMA 2604 - Voluntary specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
- D. ASTM A 480/A 480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip.
- E. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- F. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

1.04 QUALITY ASSURANCE

- A. Manufacturer shall be a company specializing in the supply of security optical turnstiles with a minimum of 10 years' experience.
- B. Manufacturer shall supply a factory-trained supervisor during installation of the security optical turnstile.
- C. Manufacturer must provide for a local, factory-trained, field service technician to competently service the security optical turnstile; and to provide for the local support of the customer's service technicians, in the event that the customer's trained technician is not available.

1.05 SUBMITTALS

- A. Submit project specific shop drawings, finish samples and Operating & Maintenance Manuals.
- B. Indicate pertinent dimensions, general construction, component connections and locations, anchorage methods and locations, hardware, and installation details.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to job site in manufacturer's packaging undamaged, complete with installation instructions.
- B. Store off ground, under covered area, protected from weather and construction activities.

1.07 PROJECT/SITE CONDITIONS

- A. The Speedlane Security Optical Turnstile installs on finished floor only.
- B. Floor must be level within 1/8" (2mm) at any point within the footprint of the Speedlane array.
- C. Floor must be complete with conduit supplied to meet manufacturer's specified drawings.

1.08 WARRANTY

Boon Edam warrants its products against defects in material and workmanship for a period of twelve (12) months from the date of shipment of the product. This warranty excludes glass breakage, normal wear on finishes or damage that occurs due to abuse, misuse or acts of God.

PART II – PRODUCTS

2.01 MANUFACTURER

Boon Edam, Inc., 402 McKinney Parkway, Lillington, NC 27546.
(910) 814-3800 Fax: (910) 814-3899 Homepage: www.boonedam.us

2.02 PRODUCT

Boon Edam Speedlane Swing Security Optical Turnstile.

Speedlane Slide Security Optical Turnstile includes stainless steel cabinets with swinging glass panels.
Tested and certified to confirm with UL Standard 325 and 2593 and CSA22.2 #247(Canada).

2.03 TURNSTILE CONSTRUCTION

- A. **Cabinet Panels**: Shall be manufactured from #4 brushed stainless steel.
- B. **Sliding Door Panel**: Door to be manufactured of 10mm flat, clear tempered safety glass. Glass height optional.
- C. **Top Plate**: The top plate is to be manufactured from Black Safety Glass or optional Powder Coated Aluminium RAL #059/80106 10% Gloss Finish.
- D. **Front Cover Plate**: Front plate is to be manufactured from Black Safety Glass or optional Powder Coated Aluminium RAL #059/80106 10% Gloss Finish.
- E. **Plinth**: Powdercoated Stainless Steel.
- F. **Control system**: Microprocessor controlled Closed Area.

2.04 EQUIPMENT

- A. **Drive System**: Electromechanical drive system specially designed for the Speedlane mounted inside the cabinet(s) together with all of the controls. The drive system may allow for bi-directional or one way traffic. (Requires 110-240 VAC, 1 Phase, 15A service from below)
- B. **Locking Device**: The locking device is an electromagnetic brake activated in the closed position and will withstand up to 120Nm pushing force.
- C. **Power Loss**: In the event of power loss, the sliding glass panels open by battery backup, or manually for egress.
- D. **Controls**: Factory installed, purpose built microcontroller platform with embedded custom software.
- E. **Power Saving Mode / Sleep mode**: The Speedlane Slide will go into sleep or power saving mode after pre-set time, wake-up detection by sensors in the leading face.

2.05 COMMUNICATION SYSTEM.

- 1. Authorized entry method, the Speedlane shall signal the user when the unit receives the authorized access signal from the access control system.
 - 2. The Speedlane shall both audibly, and visually, signal the authorized user to step into the lane.
 - 3. The visual signal will be an LED strip on both sides of the unit tracing the authorized direction through the lane. In addition, a violation LED signal and audible alarm can be activated within the unauthorized entry compartment.
-
- A. **Security Reporting**: The Speedlane must have the capability of providing security violation alerts to the access control system or an on-site remote panel (not supplied by Boon Edam).
 - B. **Inputs**: Seven configurable inputs are available.
 - C. **Outputs**: Six configurable outputs are available in a Normally Open, or optional Normally Closed state.

2.06 SECURITY EQUIPMENT

- A. **Actuation**: Barrier actuation by card reader mounted under the top glass. (Not supplied by Boon Edam)
- B. **Actuation Device**: Although tied into the turnstile, actuation devices are provided by the Access Control Integrator.
- C. **Sensor System**: A set of infrared sensors integrated inside the cabinet to perform the following function:
 - 1. **Entry sensors**: These sensors detect the initial presence of the user, once the person has passed the entry sensors, any following unauthorized users must also be granted access, otherwise a tailgate detection will occur resulting in an alarm.
 - 2. **Tailgate Sensors**: These sensors detect the presence of an individual who has passed through the entry sensors and is moving into the safety sensor area. In conjunction with the Entry sensors, the unit can detect directional movement and indicate potential unauthorized/tailgating or entry attempts.
 - 3. **Safety Sensors**: Six sensors cover the area near and around the sliding glass panel (barrier). If a user stops in the Safety Sensor area, the glass panels will not close on the user. For safety purposes, the glass panels will not close on users who tailgate. Rather, an alarm will generate indicating an unauthorized entry has been attempted.
 - 4. **Return Signal Booking Sensors**: These sensors tell whether an authorized user has passed through the unit. A signal is generated from the controller to the Access Control System to verify the user has successfully passed into the authorized direction of travel.
 - 5. **Passage Position Sensors**: These sensors determine the position of the user and start the closing sequence of the glass panels. Once a user has passed through the Safety Sensors and clears the Passage Position Sensors, the glass panels will start closing.
 - 6. **Trolley Detection Sensors**: These sensors indicate that a trolley/suitcase has entered with an authorized user. When activated, the lane will remain open an extended period to allow for proper passage of the trolley/suitcase.
 - 7. **Climb over Sensor System**: A sensor system is integrated into the top plate to detect persons attempting to climb over the cabinet while the lane is sitting in sleep or standby mode.

- D. **Configurable Inputs and Outputs:** The control module includes a series of field configurable inputs and outputs which can be selected for optimal use:
1. **Inputs:** Seven configurable inputs are available. Specific inputs will be configured as listed in Section 2.08 Access Control and Fire Alarm Integration
 2. **Outputs:** Six configurable outputs are available in either Normally Open, or Normally Closed state. Specific outputs will be configured as listed in Section 2.08 Access Control and Fire Alarm Integration.
 3. **Service Tool Software:** PC software connection to the control system allows the following:
 - a. Upload and download software and configuration capabilities.
 - b. Setting of times, and I/O configuration adjustments.
 - c. Monitoring and troubleshooting of sensor matrices.
 - d. Maintenance tracking
 - e. Comma Separated Values (CSV) event log file reporting system for service, maintenance and configuration tracking methods.

2.07 SAFETY SYSTEM

- A. **Safety Sensors:** Sensors cover the area near and around the sliding glass panel (barrier). If a user stops in the Safety Sensor area, the glass panels will not close on the user. For safety purposes, the glass panels will not close on users who tailgate. Rather, an alarm will generate indicating an unauthorized entry has been attempted.
- B. **Torque:** A preset parameter within the programming of the drive system provides force to be minimized, allowing the doorset to be stopped manually by applying pressure against it's movement.

2.08 ACCESS CONTROL AND FIRE ALARM INTEGRATION

- A. The turnstile must be capable of integrating with the Access Control System (ACS) and Fire Alarm System via a series of dry contact potential free input signals. Control wiring from the ACS system are to be connected (integrated) to the turnstile via an I/O board, or terminal strip, supplied within the turnstile control system (ACS cabling supplied by others).
- B. **Control Inputs and Outputs:** Signals from the ACS control the following functions of the Lifeline Optical Turnstile and are connected to the designated I/O board or terminal strips. A total of 7 pair of stranded 20 AWG Shielded Conductors are recommended for the inputs, 1 pair of 18 AWG Shielded Conductors for Fire Alarm Relay Input and 6 pair of stranded 20 AWG Shielded Conductors for the Alarm Outputs:
- C. **Fire Alarm:** Each master cabinet must have it's own dedicated fire alarm relay signal, normally closed contact (opens on active alarm), dry contact circuit. When activated, doors open, all LED's will illuminate green. Once alarm is reset lanes will resume normal operation. Fire alarm overrides all other functions.

2.09 PERFORMANCE/THROUGHPUT

The Speedlane can provide two-way traffic, one-way traffic, or a blocked barrier (closed entry/exit). Throughput is defined as the number of people per minute which can pass through an optical turnstile in *one direction only*. The average throughput of the Speedlane is approximately 25-30 people per minute.

2.10 HARDWARE/MATERIALS

- A. **Sheet Metal:** All sheet metal shall be 304 #4 brushed stainless steel or powdercoated steel.
- B. **Safety Glass:** All barrier glass shall be 10mm clear safety glass. Cabinet panel glass on Speedlane Swing Only shall be 8mm clear safety glass. All cabinet top and front glass shall be ¼" black coated safety glass.
- C. **Plate Aluminum:** All plate aluminum shall be 6mm 1050-H24 or equivalent plate.
- D. **Hardware:** All hardware to be metric thread to conform to ISO or DIN standard.
- E. **Plastics:** Dark Grey IR Polycarbonate

2.11 FINISH

The following finishes are available for the removable panels, bottom plinth covers, face and top cover.

A. Painted Coatings

1. AAMA 2605 Superior Performing Organic Coatings (e.g.: Duranar, Fluropon; 70% Kynar Fluoropolymers).
2. AAMA 2604 High Performance Organic Coatings (e.g.: Powder Coating).

B. Stainless Steel Clad Type 304

1. #4 Brushed Satin
2. #8 Highly Polished (mirror finish) – Slide bottom center plinths only.

C. Powdercoat

1. Top - Black: Tiger #059/80106 10% Gloss
2. Lower Front Plinth - RAL 9005 gloss 80%

2.12 ADDITIONAL OPTIONS

The following are additional features and options available with the Lifeline Slide.

1. Bar Code Reader – cutouts with lens in side panel to house bar code reader.
2. Lifeline Boost - pedestal for separate access control authorization device outside of cabinet.
3. Platform installation – units installed to above ground platforms/ramp.
4. BoonTouch remote control panel.

PART III – EXECUTION

3.01 INSTALLATION

- A. **Inspection:** Installer must examine the location and advise the Contractor of any site conditions unacceptable for proper installation of product. The minimum conditions necessary to initiate installation are:
 1. Floor must be dead level at any point within the footprint of the door.
 2. Finished floor must be installed.
 3. Floor must be complete with conduit supplied to meet manufacturer's specified drawings.
 4. Power supply (110-240VAC) must be installed. Power and communication come from the floor to the secure side of the cabinet as per approved specified drawings.
- B. **Erection:** Install turnstile in accordance with manufacturer's printed instructions. Set units level, plumb, and with uniform hairline joints. Anchor securely into place. Use only factory trained installers.
- C. **Adjustment:** Installer shall adjust turnstile, hardware and sensors for smooth operation and proper performance.
- D. **Instruction:** A factory-trained installer shall demonstrate to the owner's maintenance crew the proper operation of the Lifeline Security Optical Turnstile and the necessary service requirements such as lubrication, cleaning, and inspection of components upon completion of installation.
- E. **Cleaning:** Clean metal and glass surfaces carefully after installation to remove excess caulk, dirt and labels.

Boon Edam, Inc. reserves the right to change this specification at any time without notice.