DESIGNED SECURITY, INC.

A Detex Company

ES8300

**ES8300 shown with waterfall ends and white powder coat*

Bi-Directional Optical Turnstile with Barrier Model ES8300

**Model ES8302*

The Designed Security, Inc. **ES8300 bi-directional optical turnstiles** with hands-free barrier enhance the security of access control systems. The ES8300 provides a visual as well as a psychological barrier while communicating to pedestrians that authorization is required to gain access to a facility or area. Can be furnished with acrylic doors, single aluminum arms or dual aluminum arms.

Where high-speed pedestrian throughput and aesthetics are priorities, ES8300 optical turnstiles with barrier can grant access for up to 30 people per minute per lane and are surfaced to match the interior of any lobby with standard or custom designs and finishes. Compatible with most reader and access control technology, they detect, deter, and report attempts to enter without a valid card or by "tailgating" behind authorized personnel.

This system can be field selected as a Card-in/Free-exit, or Card-in/Card-out system configuration.

Designed Security, Inc. Optical Turnstiles with Barrier meet the standard of the Americans with Disabilities Act of 1990.

Product Description/Technical Information

Configuration: Field selectable Card-in/Card-out, or Card-in/Free-exit pedestrian control.

Card Readers: Card readers to be supplied by others and may be mounted by DSI.

Local Annunciation: Visual and audible annunciation is provided at each passageway to provide status of passageway, indication of valid card read, invalid card or alarm condition.

Horizontal Graphic Arrays/HGAs LCD display.

Present Card *Lane Closed* *Proceed Flashing* *Alarm Flashing*

Audible: Distinctive tones for valid card and alarm condition. Short chime sounds to indicate access has been granted. Buzzer sounds upon alarm condition.

Remote Annunciation: Interfaced to access control and/or security monitoring systems. (Optional)

Control Inputs:
N/O - momentary "**Entry Card**" (max. 1 sec. pulsed closure)
N/O - momentary "**Exit Card**" (max. 1 sec. pulsed closure)
N/O - momentary "**Invalid Card**"
N/O - maintained "**Bypass/Reset**"
N/O - maintained "**Entry Closed**"
N/O - maintained "**Exit Closed**"
N/O - maintained "**Arm Disable**"
N/O - maintained "**Free Exit**"
N/O - maintained "**Emergency**" **(Situation)**
N/O - maintained "**Voice Enable**" **(Horn Disable) [optional]**

Status Outputs:
N/O - "**Alarm**" signal
N/O - "**Time Out"** signal
N/O - "**Valid Passage**" (after valid card read) signal
N/O - "**Bypass/Reset**"
N/O - "**Invalid Card**"
Aux. Output Power - "**+/- 12 VDC @ 2 amp (max)**"

Relays rated 1.0 amp @ 30 VDC/contacts provided for interface to building access control, fire/life safety, security, CCTV, and monitoring systems.

Components: All components and electronic sub-assemblies including the microprocessor controller of the Optical Turnstiles are mounted within the bollards; thus reducing the total cost of installation, labor hours, conduit, wire, and cable.

Pedestrian Throughput: Typical pedestrian throughput is 30 people per minute, 1800 per hour, per lane.

Product Description/Technical Information (contd.)

Interface: The DSI Optical Turnstiles will utilize the building access control system to grant or deny access.

Code Compliance: The Americans With Disabilities Act of 1990/ADA, nonrestrictive barrier-free design provides equal access. NFPA 101 Life Safety Code and most standard building codes.

Manufactured: The microprocessor, Horizontal Graphic Arrays/HGAs are solid state in design and all barrier arm components are designed for virtually maintenance free operation.

Operation: High-speed/nonrestrictive pedestrian passageways. Passageways are truly bi-directional at all times. Arm shall act as a “soft barrier” to control passage while allowing users to “push-to-clear” for emergency egress.

Barrier: Barrier travels in a 180° horizontal plane and shall be electro-mechanically driven. (No pneumatic components or compressed air supply will be used.)
The barrier will be extended at all times and will swing open when valid access credentials are presented. The barrier shall move 90° from the extended position to the retracted position in the direction the user is traveling.

Barrier Construction: The barrier arm shall be constructed of one of the following materials: aluminum or acrylic. Single and double barrier arms are constructed from aluminum. Barrier doors are constructed using acrylic. The barrier weight shall be minimized to reduce the inertia of the barrier in motion. The barrier shall have sufficient strength to withstand vertical forces expected in the workplace environment without permanent damage.

Barrier Length: 17” beyond the bollard provide coverage over a 36” wide space with a maximum of 2” between barrier tips or edges.

Clearance Sensors: Six (6) IR optical beams within the passageway shall sense direction, detect tailgaters and obstructions.

Emergency Egress: “Push-to-Emergency Exit” design is built into the barrier so the pedestrian passageway does not obstruct emergency evacuation of the facility. Alarm outputs activate if barriers are pushed away. Force required to push barrier away is consistent with ADA specifications.

Finish: **Top Surface**: DuPont Corian®, Nevamar Laminate or stainless steel.
Side Surface: Stainless steel, acrylic.

Bollard Dimensions: 53-54” long x 38” high x 8” wide.

Bollard Spacing: 36” recommended to meet ADA requirements.

Product Description/Technical Information (contd.)

Bollard Mounting: The bollards shall be secured to the floor through the use of four (4) anchor bolts at each end of the assembly. Concealed access panels shall be provided on the bollard's side to provide access for anchoring.

Conduit Size: Limited by all components including the microprocessor being located in the bollards. All required wiring is low-voltage and can be run in one conduit. Maximum size 1.5" if all I/O functions are utilized.

Power Requirements: 24VDC @ 4 amps. per passageway. Power supply supplied by others and can be mounted in equipment room. (Backup power source should be considered for many applications.)

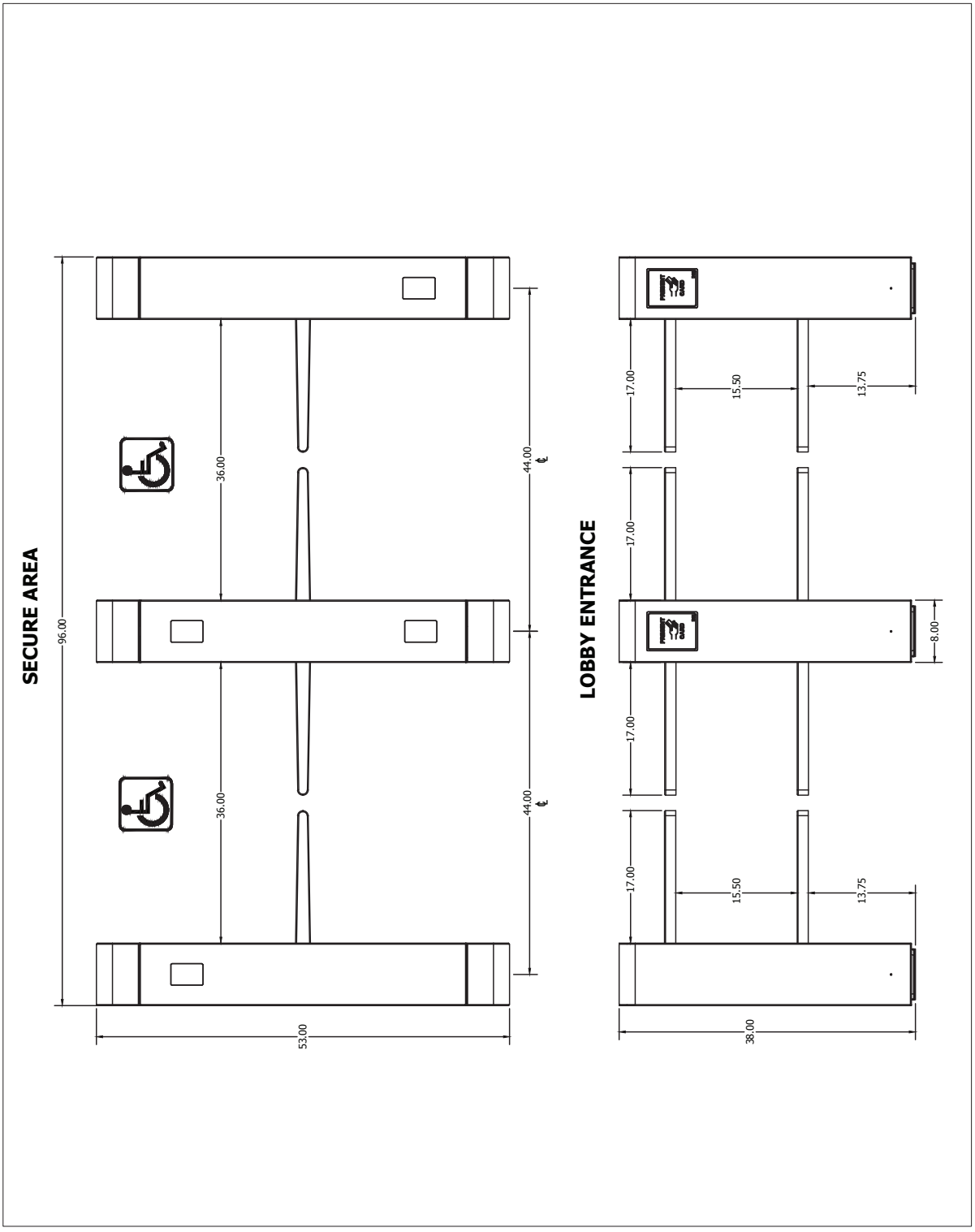
Wiring Requirements: **From access control systems to control bollard**:
(Some connections may be optional.)

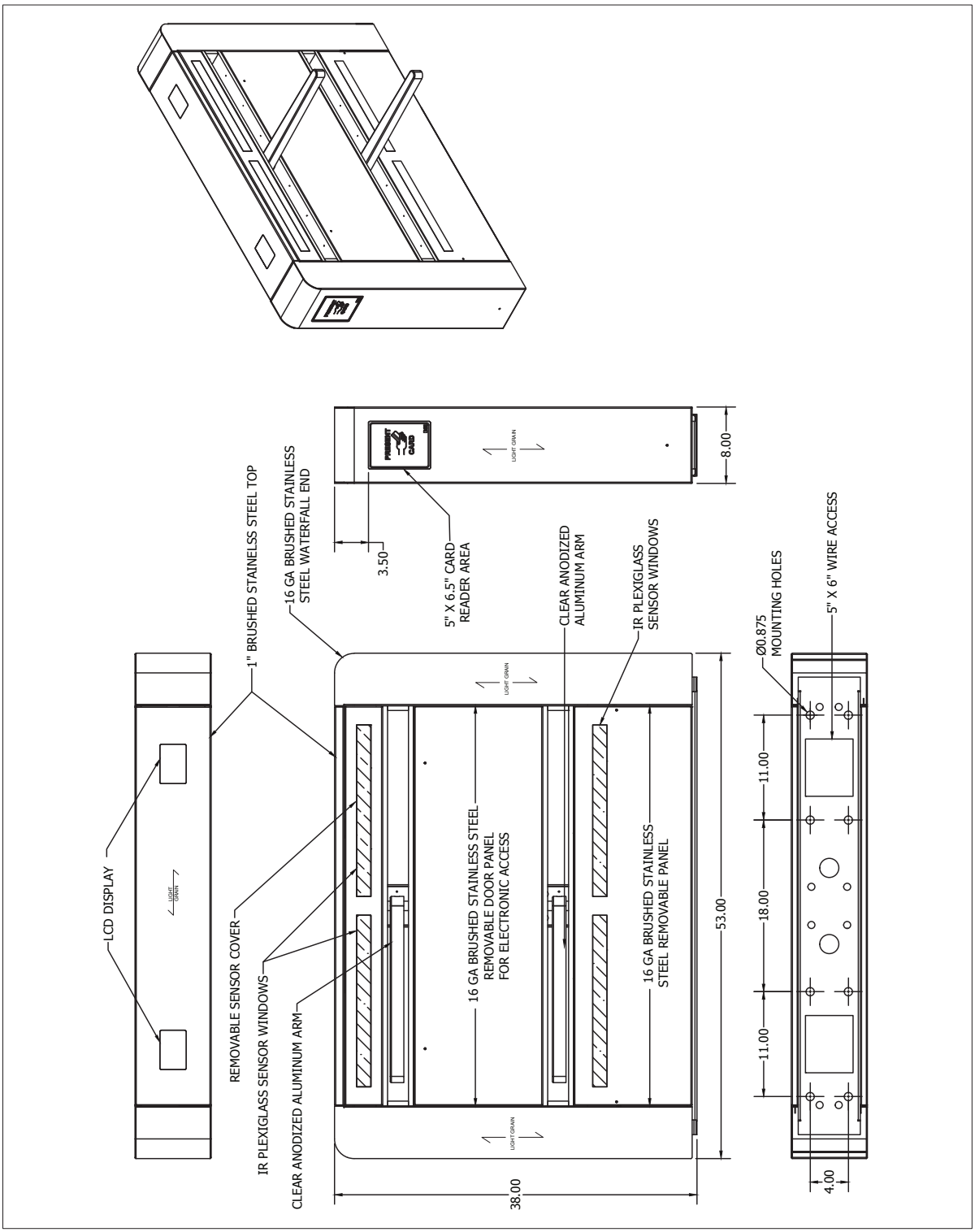
Card reader cable	as specified by manufacturer
"Entry Granted" (Input)	2 conductor/22 ga. (min.)
"Exit Granted" (Input)	2 conductor/22 ga. (min.)
"Invalid Card" (Input)	2 conductor/22 ga. (min.)
"Bypass lane" (Input)	2 conductor/22 ga. (min.)
"Emergency Situation" (Input)	2 conductor/22 ga. (min.)
"Arm Operation Disable" (Input)	2 conductor/22 ga. (min.)
"Free-Exit Enable" (Input)	2 conductor/22 ga. (min.)
"Entry Closed" (Input)	2 conductor/22 ga. (min.)
"Exit Closed" (Input)	2 conductor/22 ga. (min.)
"Alarm Condition" (Output)	2 conductor/22 ga. (min.)
"Passage Completed" (Output)	2 conductor/22 ga. (min.)
"Time Out" (Output)	2 conductor/22 ga. (min.)
"lane Bypassed" (Output)	2 conductor/22 ga. (min.)
24VDC Power	2 conductor/12 ga. (min.)

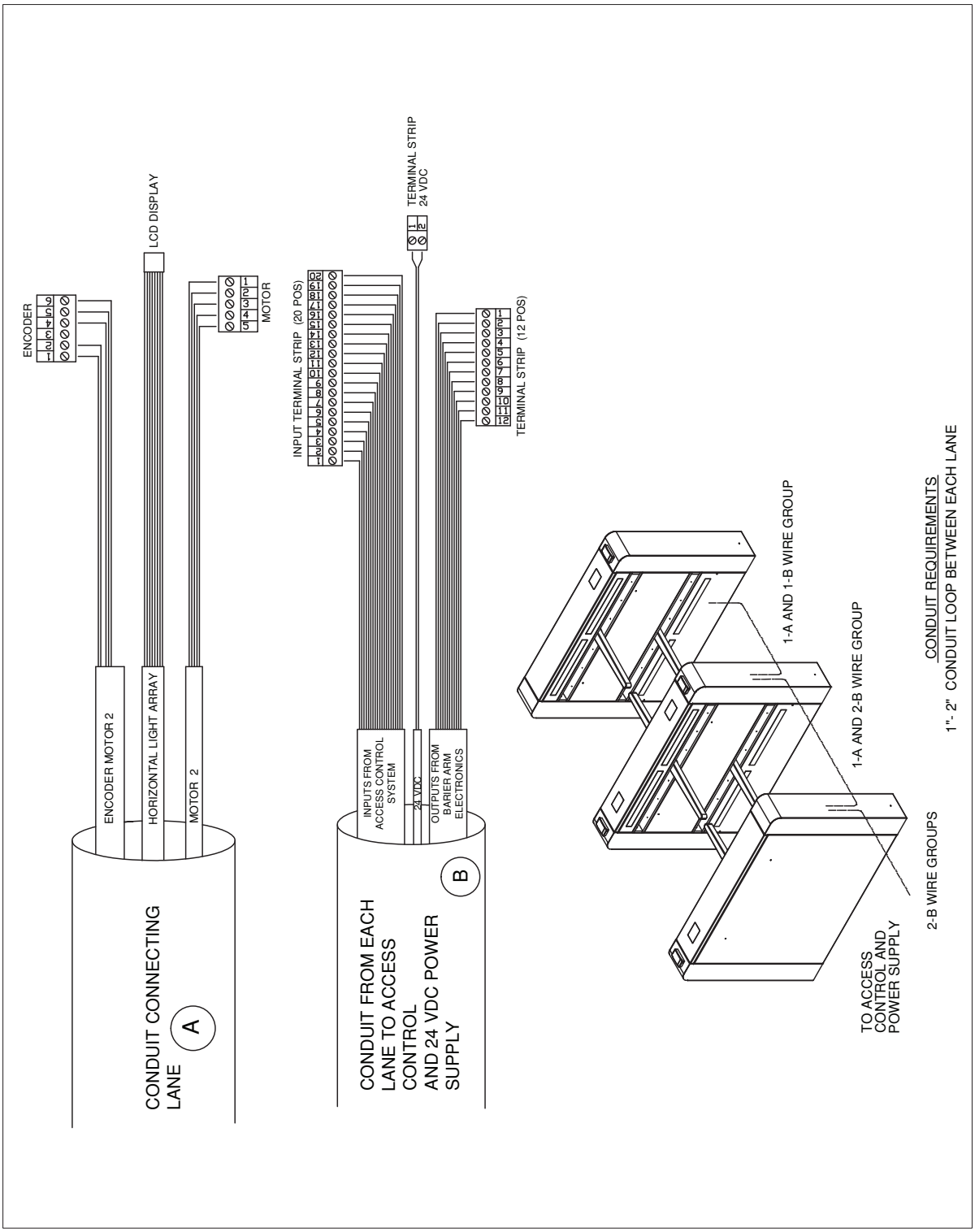
Wiring from control bollard to adjacent passageway bollard:

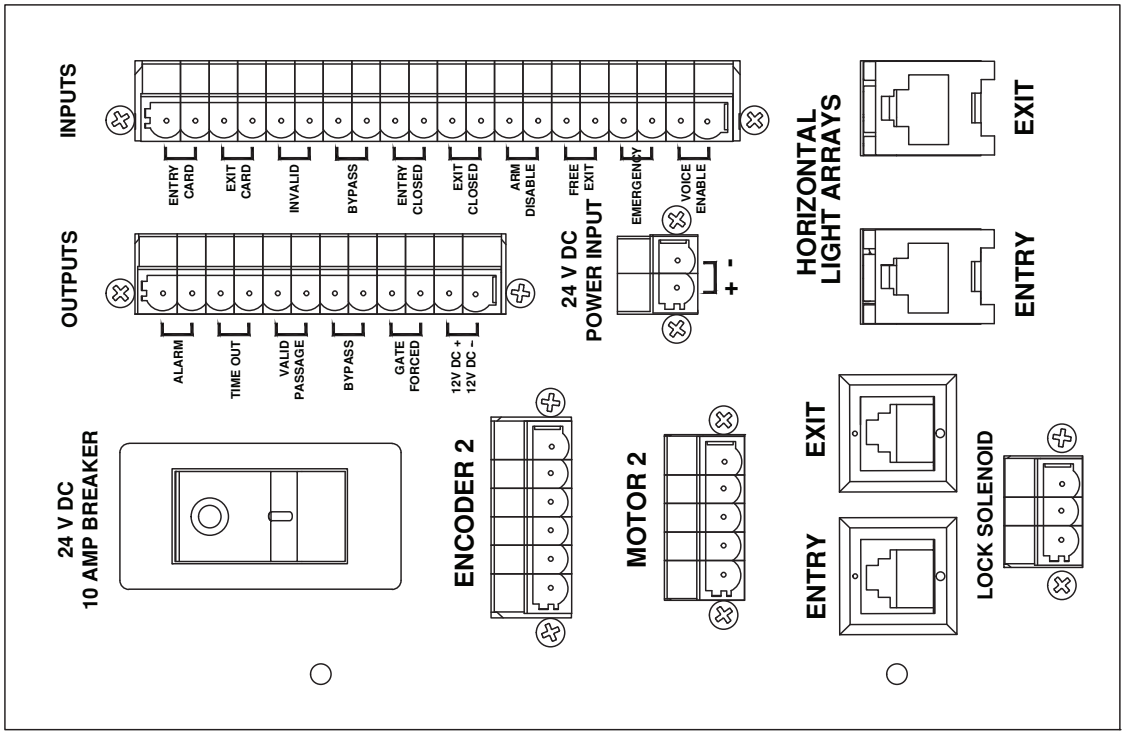
Card reader cable	as specified by manufacturer
Horiz. Graphic Display	8 conductor telephone cable/26 ga.
Motor Cable	4 conductor shielded cable/18 ga.
Encoder Cable	4 conductor shielded cable/22 ga.

Note: Wiring may vary depending on options and conduit runs.


SECURE AREA
96.00
36.00
36.00
44.00
44.00
53.00
LOBBY ENTRANCE
17.00
15.50
13.75
17.00
17.00
8.00
17.00
15.50
13.75
38.00


1" BRUSHED STAINELSS STEEL TOP
16 GA BRUSHED STAINLESS STEEL WATERFALL END
3.50
5" X 6.5" CARD READER AREA
8.00
CLEAR ANODIZED ALUMINUM ARM
IR PLEXIGLASS SENSOR WINDOWS
Ø0.875 MOUNTING HOLES
5" X 6" WIRE ACCESS
LCD DISPLAY
REMOVABLE SENSOR COVER
IR PLEXIGLASS SENSOR WINDOWS
CLEAR ANODIZED ALUMINUM ARM
16 GA BRUSHED STAINLESS STEEL REMOVABLE DOOR PANEL FOR ELECTRONIC ACCESS
16 GA BRUSHED STAINLESS STEEL REMOVABLE PANEL
53.00
11.00
18.00
11.00
38.00
4.00


ENCODER
LCD DISPLAY
MOTOR
INPUT TERMINAL STRIP (20 POS)
TERMINAL STRIP
24 VDC
TERMINAL STRIP (12 POS)
ENCODER MOTOR 2
HORIZONTAL LIGHT ARRAY
MOTOR 2
CONDUIT CONNECTING LANE
A
INPUTS FROM ACCESS CONTROL SYSTEM
24 VDC
OUTPUTS FROM BARIER ARM ELECTRONICS
CONDUIT FROM EACH LANE TO ACCESS CONTROL AND 24 VDC POWER SUPPLY
B
1-A AND 1-B WIRE GROUP
1-A AND 2-B WIRE GROUP
2-B WIRE GROUPS
TO ACCESS CONTROL AND POWER SUPPLY
CONDUIT REQUIREMENTS
1"- 2" CONDUIT LOOP BETWEEN EACH LANE


INPUTS
ENTRY CARD
EXIT CARD
INVALID
BYPASS
ENTRY CLOSED
EXIT CLOSED
ARM DISABLE
FREE EXIT
EMERGENCY
VOICE ENABLE
OUTPUTS
ALARM
TIME OUT
VALID PASSAGE
BYPASS
GATE FORCED
12V DC +
12V DC -
24 V DC POWER INPUT
+ -
HORIZONTAL LIGHT ARRAYS
EXIT
ENTRY
24 V DC 10 AMP BREAKER
ENCODER 2
MOTOR 2
EXIT
ENTRY
LOCK SOLENOID

ES8300 Accessories

Floor plates

Floor Plates are used where floors cannot be core drilled such as in landmark buildings. The Floor Plates provide a mounting surface for the turnstiles and provide a wire way to run all cables. The ES8300 floor plates meet the standard of the Americans with Disabilities Act of 1990.

Card reader decals

Provides an icon to help communicate to users where the card reader is located.

Power Supply

The PS/DC24 Power Supply is a regulated and filtered, multiple output power supply intended for use with access control and fire alarm systems. Power management applications include optical turnstiles, door management alarms, annunciator panels, lock power, reader and associated security device power. Battery standby is optional, based upon application.

ES8300 Options

Card reader mounting

DSI provides, free of charge, card reader mounting during the fabrication of the turnstiles, in some cases, were multiple readers and/or access control boards are used, there may be an extra charge.

Locking arm

The locking arm option is used in applications where a hard-barrier is required on the entrance side of the turnstiles. The ES8300 utilizes an automatic locking mechanism that engages only when someone enters the walkway without a valid card read, thus extending the life of the product. Once the arms are locked they will remain in the locked position until the walkway is cleared of pedestrians, it is now ready for the next user.