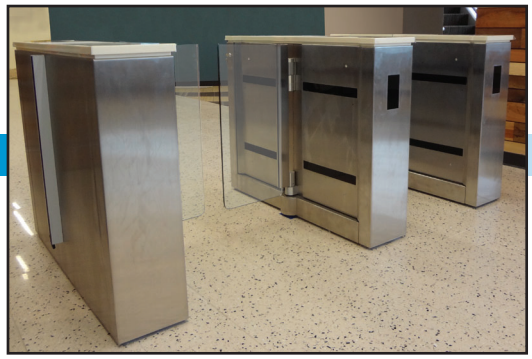
DESIGNED SECURITY, INC.

A Detex Company

ES880
Invisigate®



Glass Barrier Optical Turnstile

Model ES880

The Designed Security, Inc. **ES880 Glass Barrier Optical Turnstile** with hands-free glass barriers enhances the security of access control systems. The ES880 provides a visual as well as a physical barrier while communicating to pedestrians that authorization is required to gain access to a facility or area.

Where high-speed pedestrian throughput and aesthetics are priorities, ES880 Glass Barrier Optical Turnstiles can grant access for up to 60 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. Glass Barrier Optical Turnstiles 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.
Vertical Graphic Arrays/VGAs are solid state.
Nomenclature: OPEN/CLOSED/WAIT (flashes on alarm condition).
Horizontal Graphic Arrays/HGAs are solid state.
Nomenclature: PRESENT CARD/PROCEED (with arrow sequence) and Flashing Red Bar (for alarm condition).

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

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

Control Inputs:
N/O - Momentary “Access Granted”
(max. 1 sec. Pulse Closure)
N/O - Momentary “Exit Granted”
(max. 1 sec. Pulse Closure)
N/O - Momentary “Invalid Card”
N/O - Maintained “Lane Bypass”
N/O - Momentary “Emergency Situation”
N/O - Maintained “Arm Operation Disable”
N/O - Maintained “Card-In/Free-Exit”
N/O - Maintained “Entry Closed”
N/O - Maintained “Exit Closed”

Status Outputs:
N/O - “Alarm Condition”
N/O - “Passage Completed”
N/O - “Passage Aborted” (after valid card read)
N/O - “Barrier Forced”
N/O - “Bypass”
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 60 people per minute, 3600 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, Vertical Graphic Arrays/VGAs and Horizontal Graphic Arrays/HGAs are solid state in design and all Glass Barrier components are designed for virtually maintenance free operation.

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

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

Glass Panel Construction: The glass panel shall be constructed of ½" thick tempered glass and can be configured for panels as high as 6'0" which provide a full height lockable barrier.

Glass Barrier Length: 16.00" beyond the bollard provide coverage over a 36" wide space with a maximum of 4" between barrier tips, measured at the top of the bollard.

Clearance Sensors: Twelve (12) IR optical beams within the passageway shall sense direction, detect tailgaters and obstructions.

Emergency Egress: "Push-to-Emergency Exit" design is built into the glass 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 the glass barrier away is consistent with ADA specifications.

Finish: **Top Surface**: Avonite Black Lava, Nevamar Laminate or Glass.
Side Surface: Stainless Steel, Formica, Powder Coat Paint.

Bollard Dimensions: 64" long x 38" high x 10" wide with rounded ends.
48" long x 38" high x 10" wide with square ends.

Bollard Spacing: 36" recommended to meet ADA requirements, measured at the top of the bollard.

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. Minimum size 1.5" if all I/O functions are utilized.

Power Requirements: 24VDC @ 10 amps. per passageway. Power supply supplied by others and can be mounted in equipment room. (Backup power source should be considered for many applications and must be used for fail-safe mode.)

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.)
"Glass Barrier 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.)
"Glass Barrier Forced" (Output)	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.)

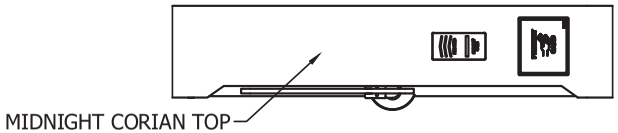
Wiring from control bollard to adjacent passageway bollard:

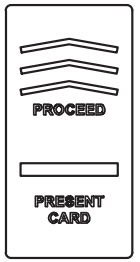
Card reader cable	as specified by manufacturer
Horiz. Graphic Display	8 conductor telephone cable/26 ga.
Verti. Graphic Display	4 conductor telephone cable/26 ga.
Motor Cable	4 conductor shielded cable/18 ga.
Encoder Cable	4 conductor shielded cable/22 ga.

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

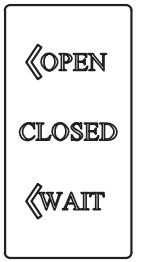
64" W/ROUND ENDS
MIDNIGHT CORIAN TOP
1/2" CLEAR TEMPERED GLASS
WITH POLISHED EDGES
BRUSHED STAINLESS STEEL
GLASS MOUNT
SENSORS LOCATED BEHIND
I.R. PLEXIGLAS
REMOVABLE PANEL FOR
ELECTRONIC ACCESS
REMOVABLE PANEL
FOR MOTOR ACCESS
ADJUSTABLE EMERGENCY
GLASS BREAKOVER
FACTORY SET TO
50 LBS OF FORCE (MAX)
BYPASS KEYSWITCH
ON SECURED SIDE
72.000
MAXIMUM
HEIGHT
38.000
64.000
VERTICAL
GRAPHIC
ARRAY
14 GA STAINLESS STEEL CABINET
4.500
11.500
10.000
SILKSCREENED CARD
READER PLEXI
PRESENT
CARD
HORIZONTAL
GRAPHIC ARRAY
PROCEED
PRESENT
CARD
VERTICAL
GRAPHIC ARRAY
OPEN
CLOSED
WAIT
END BOLLARD SHOWN
Ø0.875
MOUNTING HOLES
6" X 8" WIRE
PULL ACCESS
11.000
18.000
11.000
4.000

48" W/SQUARE ENDS



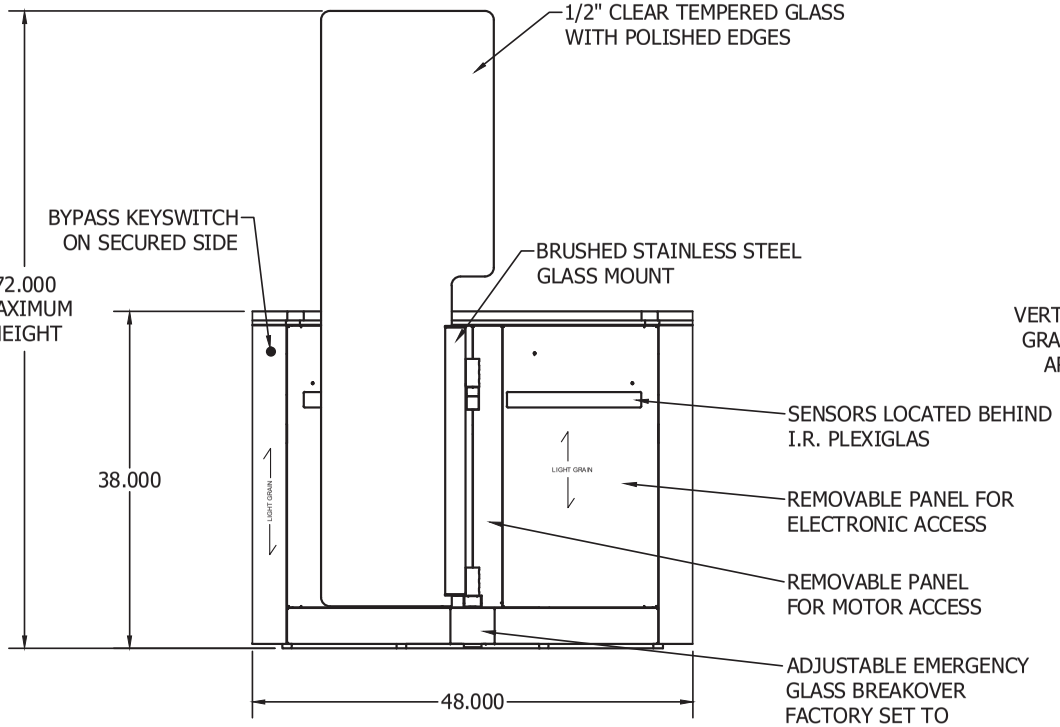


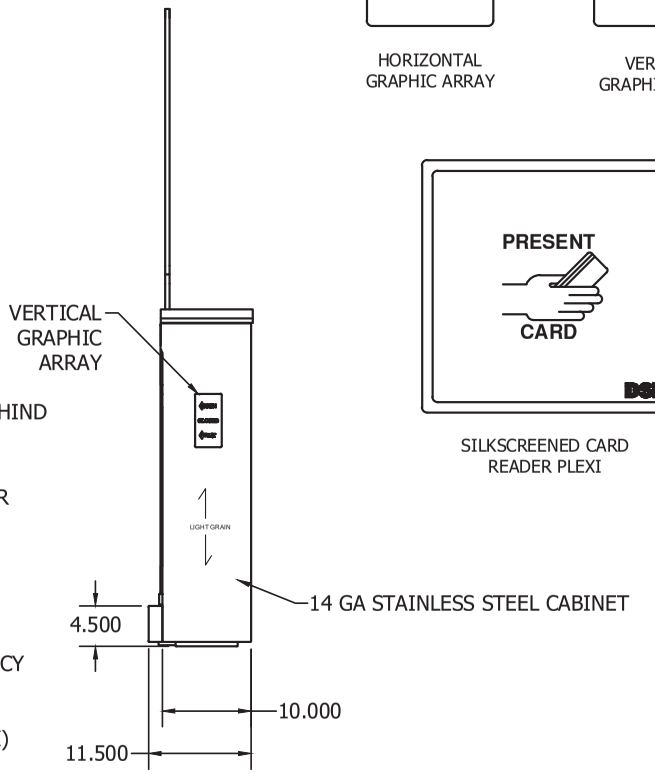
HORIZONTAL GRAPHIC ARRAY



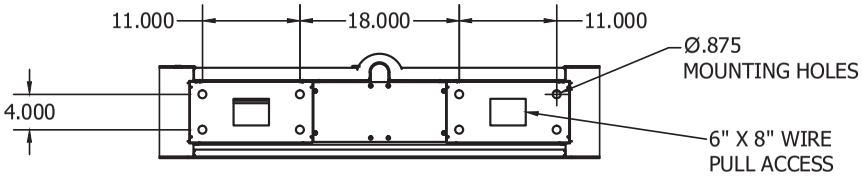
VERTICAL GRAPHIC ARRAY

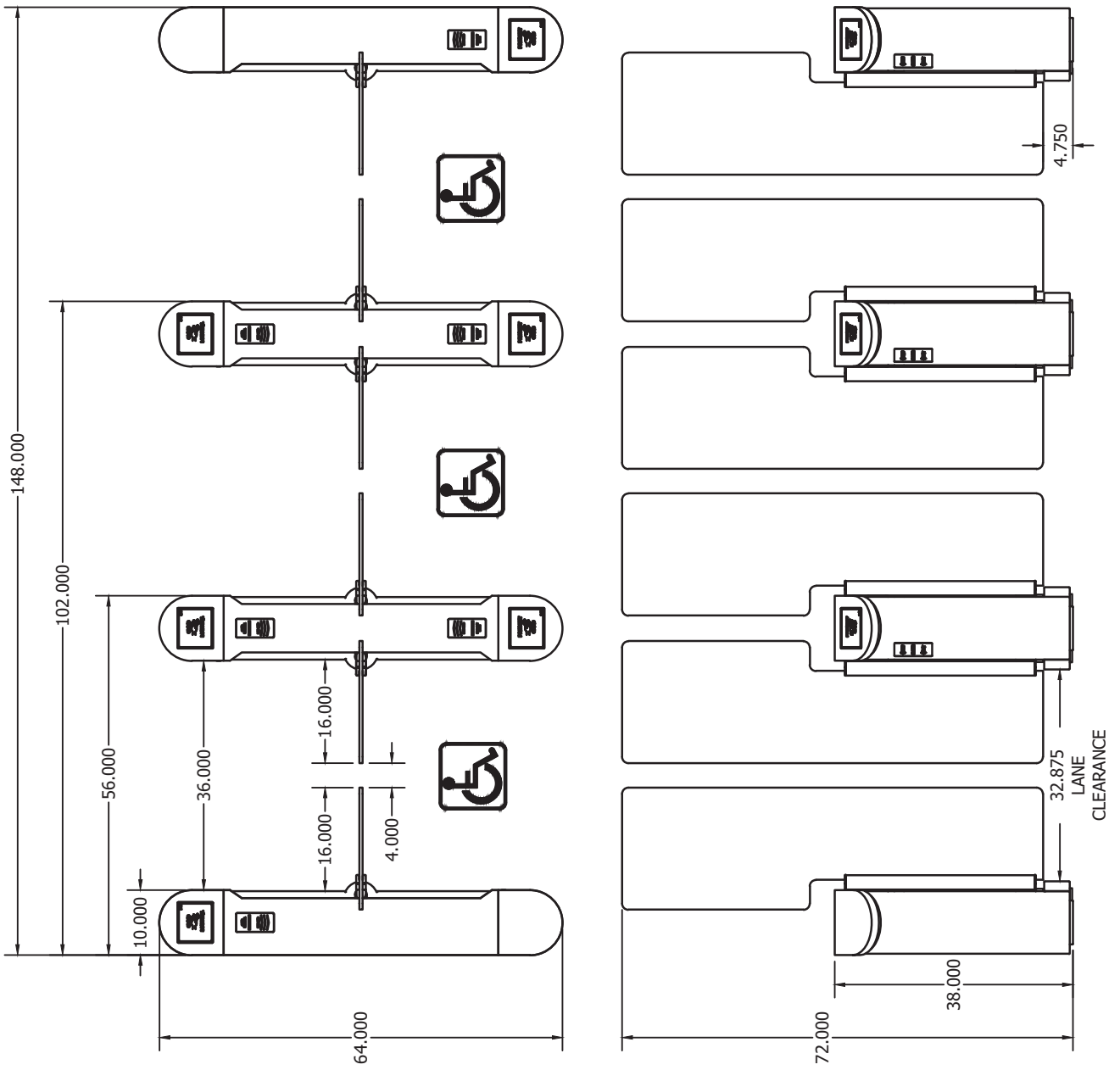
SILKSCREENED CARD READER PLEXI

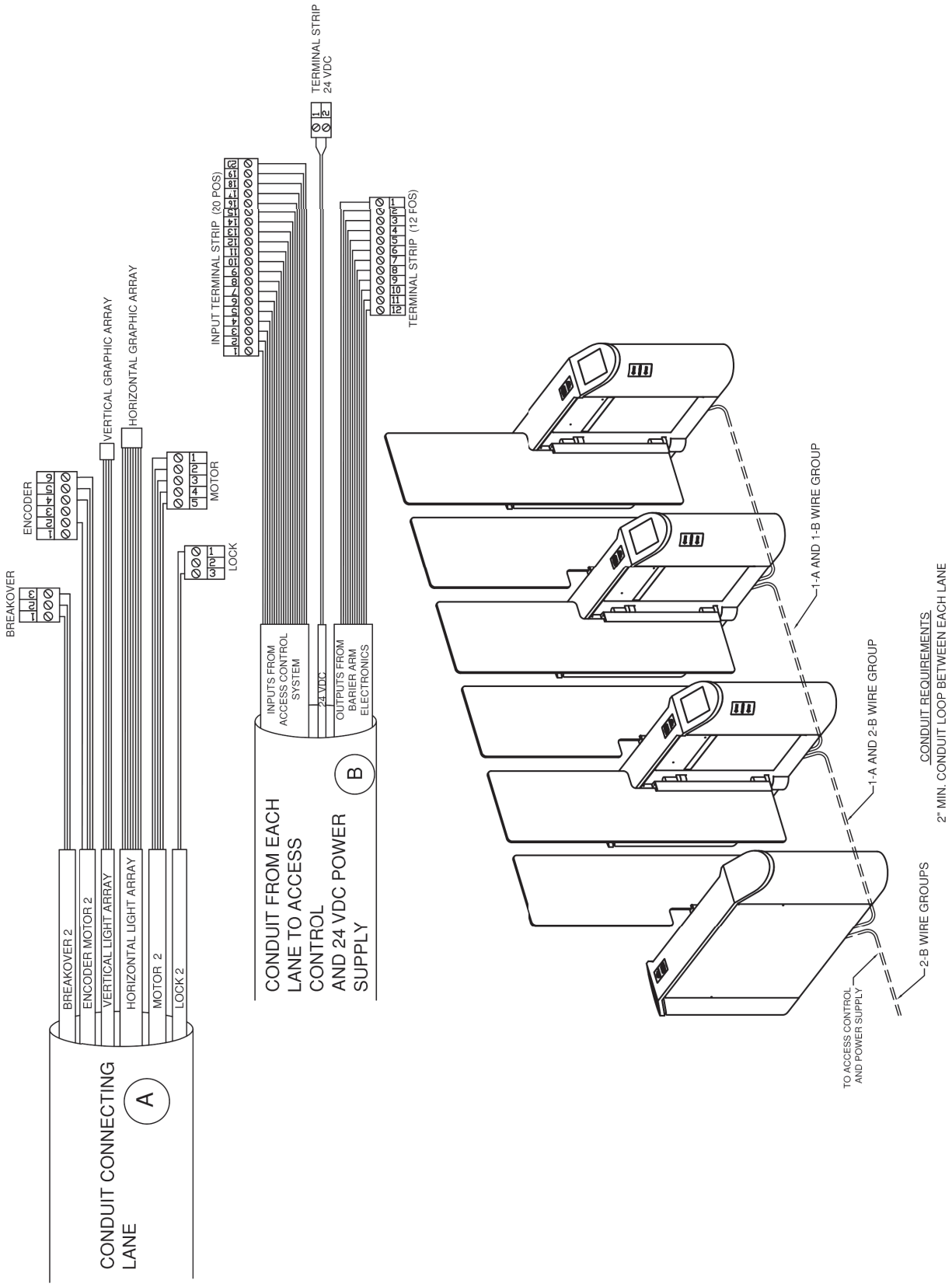




END BOLLARD SHOWN




148.000
102.000
56.000
36.000
16.000
16.000
4.000
10.000
64.000
4.750
32.875
LANE
CLEARANCE
38.000
72.000


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

ES880 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 ES880 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/24-10, a 24 VDC, 10 Amp 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 backup is optional, based upon application.

Battery Backup

Backup for PS/24-10 power supply with wiring harness.

ES880 Options

Visitor/Bar Code Reader

DSI can provide a bar code reader in each turnstile to process a temporary visitor badge. Please call to confirm the configuration of your specific application.

Card Reader Mounting

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

Card Collector

This option is used in buildings with a large amount of visitors, where expensive access cards are issued to visitors. The system will collect the visitors' card prior to allowing them to exit the turnstile. The card can then be reused after being removed from the collection drawer.

Voice Module

The Voice module uses a digital recording to help convey commands to the users of the turnstile. Standard messages include "Proceed" and "Present Card". The voice module is also used with the card collector to prompt visitors leaving the turnstile to return their badge.

Random Selector

Optional ES880 firmware provides both internal and external random selection of users as per customer specification.