

**DIVISION 28 – ELECTRONIC SAFETY AND SECURITY****SECTION 000000 – CENTRALLY MANAGED ELECTRONIC ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTRUSION ALARM SYSTEMS****General**

1. All questions on equipment approvals in this section shall be forwarded to the Security Program Manager 505 Washington Ave SE, TSB Building, 612-625-8897.
2. Requirements and standards in this section apply to all security systems to be installed, retrofitted, repaired, or otherwise modified by any project, entity, or department.
3. The Security Program Manager will conduct a security assessment during the Design Development phase of all new construction or retrofits.
  - 3.1. The purpose of the security assessment shall be to apply University of Minnesota security design criteria and how electronic access control, video surveillance, alarm systems, systems intelligence, and the environmental factors will be incorporated into the scope of the project.
    - A. Determine how electronic access control, surveillance, alarms, and environmental factors shall be incorporated into the scope of the project
    - B. Assess the design for crime prevention and public safety system utilization in real time
    - C. Assess the design for criminology and public safety system utilization of archived data and forensics
    - D. Incorporate Department of Public Safety systems for wide area digital presents for emergency, security, and safety management

**Electronic Access Control Systems**

4. Incorporate a minimum of two exterior doors with hard-wired card access, door monitoring switches for all other exterior doors and a controller for all new buildings.
  - 4.1. All exterior card reader doors shall have door position switches, request to exit sensors, ADA door opener coordinator board (where applicable), and card readers.
  - 4.2. Electronically controlled exterior entries that do not have an occupied reception area shall include surveillance.
  - 4.3. All non-reader exterior doors are **exit only** - unless electronically controlled to

unlock and should have a Door Position Switch.

- 4.4. All exterior electronically controlled doors will have the following components:
  - 4.4.1. Exit Sensor
  - 4.4.2. Door Position Switch
  - 4.4.3. Refer to Hardware section for specific hardware
5. All card reader control panels shall have a battery backup, and battery standby power supplies to maintain database programming and card reader operation. Electric locking devices on perimeter doors shall have a battery standby power supply to electric strikes operated by card readers. Refer to the Hardware section.
6. All card readers, perimeter door access control systems, and door monitoring systems shall interface with the University of Minnesota's primary access control system. The aforementioned security assessment will determine if other card readers or door access control systems such as biometric devices shall be required.
7. Use conduit, raceways, ladder racks, and J Hooks on system installation. They shall comply with conduit, raceways, ladder racks, and J Hooks standards specified in construction standards [Division 27 05 28 Pathways for Communications Systems](#) and the manufacturer's requirements of the access control systems.
8. System installation shall use wire and cable that complies with wire and cable standards specified in the manufacturer's requirements.
9. Refer to [Division 8, Section 08700](#) - Finish Hardware for system hardware requirements.
10. Interior access control systems shall have the following components/capabilities:
  - 11.1 Card reader
  - 11.2 Exit Sensor
  - 11.3 Door Position Switch
  - 11.4 ADA operation and integration with card reader
    1. during unlock times ADA paddles are enabled
    2. during lock times ADA paddles will only operate following a valid card read
  - 11.5 Refer to the hardware section in this document for specifics
11. Nominal Card Reader Mounting Height is dictated by the applicable building code. Refer to the Building Code Department current codes on their website: <https://bcd.umn.edu/regulatory-and-pre-permitting-services/current-codes-rules-and-regulations>
12. Card Reader Control Panels: Card reader controllers shall be compatible with the University's primary access control system, and will be specified per the hardware section

in this document. No substitutions are permitted. Controllers shall support a minimum of eight card reader interface options unless a substitution is allowed, in the security assessment, which cannot handle 8 reader interfaces. Card reader controllers shall have the following components/capabilities:

12.1. Controllers:

13.1.1. The Controller will be connected with the University Access Control Management System via ethernet connection to the approved security network. The Office of Information Technology is responsible for the connection to the network. Network jacks shall be located inside the access control panel.

13.1.2. For up to date hardware specs refer to Hardware section

13. Elevator Control: Elevators with access control capabilities shall be managed from the University Card Access Management System with cable and wire that connects the card reader to the iStar and the iStar to the elevator controller, if an elevator controller is required. Refer to Division 14, Section 14200 – Elevators

14. Key Safes: Security assessments may dictate that a key safe is required for a given building, depending on building design or usage. If a key safe is determined to be required, it will comply with standards specified in the Hardware section.

15. Rekeying of all exterior doors and/or mullions is required upon completion of installation and testing. Two emergency bypass keys shall be created and distributed as follows to

15.1. Fire Department Lock Box and

15.2. Public Safety key box.

### Video Surveillance Systems

19. Video Surveillance shall be incorporated into the design of all projects, and will meet the specifications as determined by the aforementioned security assessment.

19.1. Refer to Hardware section for up to date specs on video surveillance and intelligence

20. Security/Intrusion Alarms - Refer to Hardware section

**Security Design Levels:**

Safe - not secure and are vulnerable (any building using a schedule off of the standard are considered safe only)

- Entries Have Card Access
- Perimeter doors Monitored & Electronically controlled for unlocking
- Lobbies Surveyed
- Grounds Surveyed
- Clear line of sight in Lobbies and on the Grounds
- Adequate lighting in all public areas, sidewalks, loading docks, and drives

Secure - minimal level of security, building can be remotely locked down, schedules adhere to standard

- Entries Have Card Access and are secured on one of the standard schedules
- Perimeter doors designated as emergency exit only accept the primary entrances and docks
- Bay doors monitored
- Lobbies Surveyed
- Grounds Surveyed
- Clear line of sight in Lobbies and on the Grounds
- Adequate lighting in all public areas, sidewalks, loading docks, and drives

Comprehensive - secured to the suite level, suites can be isolated and locked down remotely

- Entries Secured with Card Access 24/7 and surveyed
- Bay doors and perimeter doors monitored or secured with card access & surveyed
- Lobbies Surveyed
- Grounds Surveyed
- Suites have card access
- Clear line of sight in Lobbies and on the Grounds
- Adequate lighting in all public areas, sidewalks, loading docks, and drives
- Building has non-occupancy intrusion detection (if

applicable) Protected - secured and actionable remotely down to the suite level

- Entries Secured with Card Access 24/7
- Entry Points Surveyed on grounds
- Entry Points Surveyed internally
- Bay doors and perimeter doors monitored or secured with card access & surveyed
- Main Entry and Main Dock have video intercom for non-card access
- Suites Secured with Card access, entries surveyed, & panic buttons available
- Clear line of sight in Lobbies, at suite entries, and on the Grounds
- Visible security fixtures on the grounds (code blue phones, cameras, stations)
- Adequate lighting in all public areas, sidewalks, loading docks, and drives
- Building has non-occupancy intrusion detection (applicable)

Defended - crime prevention intelligence used, actionable and remote response capable

- Entries Secured with Card Access 24/7
- Elevators secured with card access and surveyed
- Grounds surveyed with analytics and night vision (IR)
- Entries surveyed internally
- Bay doors secured with card access, perimeter doors exit only, & all surveyed
- Main Entry and Main Dock have video intercom
- Suites Secured with Card access, entries surveyed, panic buttons installed
- Clear line of sight in Lobbies, at suite entries, and on the Grounds
- Visible security fixtures on the grounds (code blue phones, cameras, stations)

- Adequate lighting in all public areas, sidewalks, loading docks, and drives
- Building has non-occupancy intrusion detection (applicable)
- Dedicated Security/Reception Person at desk

## Hardware

### Confirm models with Dept. of Public Safety

#### 1. Access Control System

##### 1.1. Electronic Locking Systems

- 1.1.1. Mortise Lockset Indoor Strike: HES 4500
- 1.1.2. Mortise with Deadbolt Interior Door Lockset: HES 1006
- 1.1.3. Schlage AD-300 (Exception required – DPS)
- 1.1.4. Schlage AD-400 Wireless (Exception required – DPS)
- 1.1.5. Exterior Mortise: HES 1006
- 1.1.6. Electrified Touchbar
  - 1.1.6.1. Von Duprin 99 Series, Electrified
  - 1.1.6.2. HES 9600 Strike
  - 1.1.6.3. Hardware Power Supply Module as required for operation
  - 1.1.6.4. Fire Module 900-FA
  - 1.1.6.5. Auto Open Coordinator 900-4RL
  - 1.1.6.6. Double Door 900-2RS
  - 1.1.6.7. Battery Backup 900-BBK
- 1.1.7. Delayed Egress - to be determined by the University's Building Code Division
- 1.1.8. Wire Transfer Hinges
  - 1.1.8.1. IVES EPT
  - 1.1.8.2. Von Duprin EPT10
  - 1.1.8.3. Von Duprin EPT10C
- 1.1.9. Wire Transfer Cables
  - 1.1.9.1. SDC PT series
- 1.1.10. Centralized Lock Power Supply
  - 1.1.10.1. AlarmSaf PS5-BFS-24-UL
  - 1.1.10.2. Altronix AL600ULPD4CB OR Maximal (physical partitions) for up to 8 electronic locks

##### 1.2. Controllers

- 1.2.1. iStar for CCure
  - 1.2.1.1. Panel/Cabinet
    - 1.2.1.1.1. iStar Ultra (including G2 models) - used for new installation
    - 1.2.1.1.2. iStar Ultra SE (including G2 models) - used when replacing existing iStar Pro
    - 1.2.1.1.3. iStar Edge G2 4 Channel model - (Exception required – DPS)

- 1.3. Sealed Lead-Acid Battery per manufacturer's specifications
  - 1.3.1. GCM/DB Unit iStar Ultra GCM with 128mb
  - 1.3.2. DCU/Door Controller iStar Ultra, or Ultra SE ACM
  - 1.3.3. Power Supply
    - 1.3.3.1. AlarmSaf AS/PS5-BFS-12-UL
    - 1.3.3.2. Altronix AL600ULPD4CB
  - 1.3.4. Add on Controllers
    - 1.3.4.1. AS0073-000 I8 input module
    - 1.3.4.2. AS0073-CSI I8-CSI input module
    - 1.3.4.3. AS0074-000 R8 output module
- 1.4. Software Compatibility
  - 1.4.1.1. Current CCure version and compatibility must be confirmed by Public Safety. .
  - 1.4.1.2.
- 1.5. Reader
  - 1.5.1. Card Reader
    - 1.5.1.1. Standard: HID SE RP40
    - 1.5.1.2. Standard on exception by the Department of Public Safety: SoftwareHouse RM1-SE
    - 1.5.1.3. Mullion: HID SE RP15
    - 1.5.1.4. Mini-Mullion: HID SE RP10
- 1.6. Request to Exit
  - 1.6.1. Bosch 150
  - 1.6.2. RTE integrated hardware (mortise or crash bar)
  - 1.6.3.
- 1.7. Door Position
  - 1.7.1. GE Security 1076C SPDT
  - 1.7.2. GRI 8080-T
  - 1.7.3. GRI 180-12
    - 1.7.3.1.
- 1.8. Key Management System
  - 1.8.1. Deister proxSafe
  - 1.8.2.
- 1.9. Intercom
  - 1.9.1. Analog Intercom Unit on exception by the Department of Public Safety
  - 1.9.2. IP Video: AiPhone IX
  - 1.9.3. Standard Video: AiPhone AX
  - 1.9.4. VOIP Phone with Video: Code Blue 6-Series and Axis F41 camera

## 2. Surveillance

- 2.1. Cameras: All IP cameras need to be installed (in all available slots) with Max Endurance microSD card(s) p/n: SDSQQVR-256G-AN6IA
  - 2.1.1. Indoor

- 2.1.1.1. Dome:
  - 2.1.1.1.1. Standard: AXIS P3265-LVE
  - 2.1.1.1.2. Building Entrance: AXIS Q3538-LVE
- 2.1.1.2. Multi-Sensor
  - 2.1.1.2.1. 2 Lens (Corridors): AXIS P4705-PLVE
  - 2.1.1.2.2. 4 Lens (Intersections and Atriums): AXIS P3727-PLE
- 2.1.1.3. Corner Mount/Elevator Mount
  - 2.1.1.3.1. AXIS Q9216-SLV
- 2.1.2. Outdoor
  - 2.1.2.1. Dome
    - 2.1.2.1.1. Standard: AXIS P3265-LVE
    - 2.1.2.1.2. Building Entrance: AXIS Q3538-LVE
  - 2.1.2.2. Multi-Sensor
    - 2.1.2.2.1. 2 Lens: spec is changing, check with your project manager or the Security Program Manager
    - 2.1.2.2.2. 4 Lens (Corner Mount): AXIS P3727-PLE
    - 2.1.2.2.3. 180° Panoramic (Wall Mount): AXIS P3818-PVE
  - 2.1.2.3. Bullet
    - 2.1.2.3.1. For Street Views Only: AXIS Q1700-LE
  - 2.1.2.4. Pan-Tilt-Zoom:
    - 2.1.2.4.1. PTZ: AXIS Q6315-LE
    - 2.1.2.4.2. Optional 4 Lens Surround: AXIS Q6100-E
- 2.1.3. Decoder
  - 2.1.3.1. 48 Channel - Hanwha SPD-151
- 2.1.4. Modular Camera
  - 2.1.4.1. Camera Processor: AXIS F41
    - 2.1.4.1.1. Standard Lens: AXIS F1005-E
    - 2.1.4.1.2. Wide Angle: AXIS F1035-E
- 2.2. Recorder
  - 2.2.1. All recordings will utilize the University's American Dynamics system.
  - 2.2.2. Verify camera, software, storage, and viewing capabilities with Public Safety.
- 2.3. Power and Communication
  - 2.3.1. Power
    - 2.3.1.1. All PTZs must be powered by an AXIS T8134 or T8154 60W Midspan located at the camera.
  - 2.3.2. Fiber
    - 2.3.2.1. All runs over 100 meters must use fiber connected to an AXIS T98A18-VE Media Converter Cabinet A.

## Applications: Surveillance System – Camera Models

### Standard Dome: AXIS P3265-LVE

#### DESCRIPTION

The Axis P3265-LVE is the University’s default indoor single lens camera. It is also available in an outdoor version, the Axis P3265-LVE, as well as a version with greater zoom, the P3265-LVE 22 mm. This camera model should have a planned replacement of 7-8 years after installation.

higher resistance to vandalism and tampering, and an ability to mount in almost any location.



This camera is generally the lowest cost approved option available and can be used almost anywhere a single surveillance camera is needed. The advantages of a dome camera over a traditional box security camera include a much lower profile, a

#### APPLICATIONS

The P3265-LVE is the latest generation of the most commonly installed camera on campus and can be used almost anywhere, but it's most often installed in locations such as: stairwells, hallways, exit-only doors, and computer labs.

#### AUTHORIZATION

No authorization is necessary to install this specific camera beyond the requirement that all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

#### FEATURES

<b>Number of Lenses</b>	1	<b>Resolution</b>	2 Megapixel
<b>Max Field of View</b>	100° x 53°	<b>Zoom</b>	2.6x
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	POE

### Building Entrance Dome: AXIS Q3538-LVE



**DESCRIPTION**

The Axis Q3538-LVE is an upgraded version of the standard Axis P3265-LVE dome. It has a higher resolution and larger imager allowing for much clearer images. It still has the standard features of a dome camera including a low profile, resistance to tampering, and the ability to mount and aim in almost any direction.

This camera is rated for both interior and exterior use and should have a planned replacement date of 7-9 years after installation.

**APPLICATIONS**

The Q3538-LVE is the preferred camera to be used at main entrances with high traffic flow. This allows Public Safety the ability to have clear, high resolution images of those entering and exiting the building to help identify individuals who commit crimes inside. In this use case, it should be mounted at a location where the camera will have a full body front-facing shot of people entering the building.

This is also the preferred camera in extreme temperature or moisture conditions such as utility rooms or specialized labs. It has the widest temperature range (-58°F - 140°F) and highest water resistance rating (IP69K) of any camera approved for use by the University.

**AUTHORIZATION**

No authorization is necessary to install this specific camera beyond the requirement that all surveillance cameras must be added to the University's centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

**FEATURES**

<b>Number of Lenses</b>	1	<b>Resolution</b>	8 Megapixel
<b>Max Field of View</b>	103° x 56°	<b>Zoom</b>	2x
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	POE

## 2 Lens Multi-Sensor: AXIS P4705-PLVE

### DESCRIPTION

The Axis P4705-PLVE is similar to the standard dome camera, but it houses 2 camera lenses in the same device with only one data connection. The camera streams 2 separate surveillance images that can be pointed in completely different directions. This provides significant cost savings over traditional setups which require 2 different cameras with 2 different data connections, and the installation costs associated with each.

This camera is rated for both interior and exterior use and should have a planned replacement date of 7-8 years after installation.



### APPLICATIONS

The P3715-PLVE is the preferred camera for 3 way intersections or at hallways where the intention is to have a camera pointed in both directions. In general, it can be used anywhere 2 views more than 90 degrees apart are desired.

### AUTHORIZATION

No authorization is necessary to install this specific camera beyond the requirement that all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

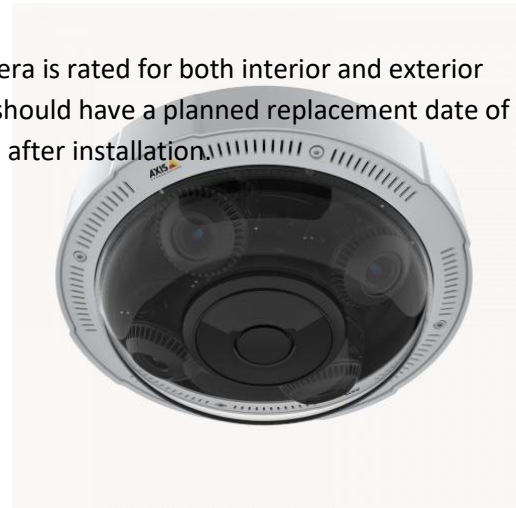
### FEATURES

<b>Number of Lenses</b>	2	<b>Resolution</b>	2 Megapixel
<b>Max Field of View</b>	95° x 52°	<b>Zoom</b>	2x
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	POE

## 4 Lens Multi-Sensor: AXIS P3727-PLE

### DESCRIPTION

The Axis P3727-PLE is similar to the P3715-PLVE 2 lens dome camera, but it houses 4 camera lenses in use and should have a planned replacement date of the same device with only one data connection. 7-8 years after installation. These 4 lenses can all be aimed in separate directions, allowing up to a 360° view. This provides significant cost savings over traditional setups which require multiple cameras with different data connections, and the installation costs associated with each.



### APPLICATIONS

The P3727-PLE is the best choice to be used indoors at 4 way hallway intersections, open atriums, or other places where the dual lens camera does not provide sufficient coverage.

This is also the preferred camera for covering the corners of buildings if a PTZ is not present, giving a full 270° view. The camera must be corner mounted in this case.

### AUTHORIZATION

No authorization is necessary to install this specific camera beyond the requirement that all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	4	<b>Resolution</b>	2 Megapixel
<b>Max Field of View</b>	96° x 53°	<b>Zoom</b>	2x
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	POE

## Corner Mount/Elevator Mount: AXIS Q9216-SLV

### DESCRIPTION

The Q9216-SLV is a specialized camera designed to be mounted into the corner of a room. This allows the camera to have a full Field of View with no blind spots. It is also available in stainless steel if needed to match the surrounding conditions.

This camera is rated for interior use only and should have a planned replacement date of 7-8 years after installation



### APPLICATIONS

The Q9216-SLV is best used inside a closed area where a corner mount is a necessary location of the camera, such as elevators. With its ligature-resistant and no blind spot design, it is also the preferred camera in high security areas such as jail cells.

This camera has several limitations that make it not recommended for installation outside of these specific use cases. It uses significantly more data than other cameras with similar features, thereby increasing server costs alongside its increased purchase cost. It also has no ability to focus or zoom, and no way to adjust its aim or mounting.

### AUTHORIZATION

Please consult with the Department of Public Safety before purchasing this camera model to ensure it meets the needs of the specific situation. In addition, all surveillance cameras must be added to the University's centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	1	<b>Resolution</b>	4 Megapixel
<b>Max Field of View</b>	125° x 95°	<b>Zoom</b>	No
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	POE

## 180° Panoramic Dome: AXIS P3818-PVE

### DESCRIPTION

The Axis P3818-PVE is a unique dome camera that stitches together the images from 3 separate lenses into 1 video stream output. The result is a nearly seamless 180° panoramic view with extremely high resolution and no blind spots.

This camera is rated for both interior and exterior use and should have a planned replacement date of 7-9 years after installation.



### APPLICATIONS

The P3818-PVE is the preferred camera anywhere a 180 degree panoramic view is desired. Specific use cases include the overview of the side of a building, an open atrium, or a wide corridor. This camera is not well suited for areas where specific forensic details are critical such as main entrances to buildings, or where the viewing area is very close to the camera.

### AUTHORIZATION

No authorization is necessary to install this specific camera beyond the requirement that all surveillance cameras must be added to the University's centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	3	<b>Resolution</b>	13 Megapixel
<b>Max Field of View</b>	180° x 90°	<b>Zoom</b>	None
<b>IR (Night Vision)</b>	No	<b>Power</b>	POE

## Bullet: AXIS Q1700-LE

### DESCRIPTION

The Axis Q1700-LE is a bullet camera model, which are generally designed for long range, highly zoomed in views. With its high frame rate and high shutter speed, along with built-in IR illuminators, it is optimized to capture details of high speed objects, day or night. It can capture forensic details of objects up to 328 ft away from the camera, and traveling at up to 81 mph.

This camera is rated for both interior and exterior use and should have a planned replacement date of 6-8 years after installation.



### APPLICATIONS

The Q1700-LE has a single very specific use case. It should only be used in places where the main objective of a camera is to view the details of vehicles traveling through an area. In this case, it has rigid installation requirements that must be met in order to ensure it has the necessary viewing angles to complete its objective. This camera’s features generally make it only appropriate for use by Public Safety entities, rather than by individual departments.

### AUTHORIZATION

This camera should not be installed without approval from the Department of Public Safety to ensure it meets the needs of the specific situation, and is installed in a proper location. In addition, all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	1	<b>Resolution</b>	2 Megapixel
<b>Max Field of View</b>	16° x 10°	<b>Zoom</b>	8x
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	POE

## Pan-Tilt-Zoom (PTZ): AXIS Q6315-LE

### DESCRIPTION

The Axis Q6315-LE is the only PTZ or remotely controlled camera currently approved for use. PTZs are useful in cases where a user will be actively manipulating the camera to view events in real-time. It has a 31x zoom, can pan 360°, and can tilt all 90° down and up to 45° above the horizon.

This camera is rated for both interior and exterior use and should have a planned replacement date of 7-9 years after installation.



### APPLICATIONS

The Q6315-LE is usually installed outdoors in areas where the ability to change views in active incidents is desired. It can be mounted on the roof of a building (requires fall protection) or a freestanding pole. Its included IR lights can illuminate objects up to 984 ft away from the camera. This along with its 31x zoom make it ideal for viewing large, wide open areas such as streets, plazas, or rivers, day or night.

This camera is the most expensive camera currently approved for use, both in terms of the purchasing price as well as the installation costs. Its cost and features generally make it only appropriate for use by Public Safety entities, rather than by individual departments.

### AUTHORIZATION

Please consult with the Department of Public Safety before purchasing this camera model to ensure it meets the needs of the specific situation. In addition, all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	1	<b>Resolution</b>	2 Megapixel
<b>Max Field of View</b>	61° x 37°	<b>Zoom</b>	31x
<b>IR (Night Vision)</b>	Yes	<b>Power</b>	Hi-POE 60 watt

## Optional 4 Lens Surround: AXIS Q6100-E

### DESCRIPTION

The Axis Q6100-E is an optional addition to the Q6315-LE. It contains 4 interchangeable fixed lenses, similar to the P3727-PLE, but is designed to be attached to a PTZ. This allows 2 cameras with a combined 5 lenses to be installed in the same location with only 1 mount and 1 data connection.

This camera is rated for both interior and exterior use and should have a planned replacement date of 7-8 years after installation.



### APPLICATIONS

The Q6100-E comes with 4 standard lenses that have 110° x 84° Field of View. This configuration is excellent at providing a constant 360° view of a surrounding area, as an addition to the ability of a PTZ to zoom in and focus on specific situations. If a more zoomed-in view is desired, these lenses can also be individually swapped out for the following optional lenses (purchased separately):

- 56° x 42° FoV
- 31° x 23° FoV
- 20° x 15° FoV
- 14° x 10° FoV

### AUTHORIZATION

Please consult with the Department of Public Safety before purchasing this camera model to ensure it meets the needs of the specific situation. In addition, all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	4	<b>Resolution</b>	5 Megapixel
<b>Max Field of View</b>	110° x 84°	<b>Zoom</b>	None
<b>IR (Night Vision)</b>	No	<b>Power</b>	120v plug in power supply or 90 watt POE



## Decoder: HANWHA SPD-151

### DESCRIPTION

The Hanwha SPD-151 is a device that decodes video streams and outputs a live view of cameras. It does not allow the viewing of past, recorded video data.

This decoder has 1 HDMI connection that allows for viewing 32 cameras at up to 4K output. In addition, it has 1 VGA connection allowing for viewing an additional 16 cameras at up to a 1080p output.

This device should have a planned replacement date of 6-10 years after installation.



### APPLICATIONS

This device is necessary when a department has surveillance cameras and they would like to view the live streams. Use cases include giving front desk or security staff better situational awareness, or monitoring shipping docks for incoming and outgoing traffic. It is prohibited for use for unauthorized purposes such as: monitoring political and religious activities, employee and/or student evaluations, and unauthorized investigations.

### AUTHORIZATION

This device cannot be used without written approval from the Department of Public Safety. Any monitoring of surveillance cameras must be for public safety purposes only in accordance with University policies. In addition, all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	Up to 48	<b>Resolution</b>	Up to 8 Megapixel
<b>Max Field of View</b>	N/A	<b>Zoom</b>	N/A
<b>IR (Night Vision)</b>	N/A	<b>Power</b>	120v plug in power supply

## Workstation: Victor Workstation

### DESCRIPTION

The Victor Workstation is a Dell desktop that has the upgraded hardware needed to handle the viewing of many video streams simultaneously.

Unlike a video decoder, the Victor Workstation can view a nearly unlimited number of cameras, and can be used to control PTZ cameras. It is also a necessary piece of equipment for any department that needs to view past video footage.

This device should have a planned replacement date of 4-6 years after installation.



### APPLICATIONS

This device is necessary when a department has surveillance cameras and they would like to view the live or recorded video streams. Its main use case is for departments that will have employees actively monitoring more than 48 cameras. It is prohibited for use for unauthorized purposes such as: monitoring political and religious activities, employee and/or student evaluations, and unauthorized investigations.

### AUTHORIZATION

This device cannot be used without written approval from the Department of Public Safety. Any monitoring of surveillance cameras must be for public safety purposes only in accordance with University policies. In addition, all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	Unlimited	<b>Resolution</b>	Up to 8 Megapixel
<b>Max Field of View</b>	N/A	<b>Zoom</b>	N/A
<b>IR (Night Vision)</b>	N/A	<b>Power</b>	120v plug in

## Modular Camera: AXIS F41

### DESCRIPTION

The Axis F41 is a modular camera system which gives the ability to install cameras in areas where traditional surveillance cameras will not fit. The F41 itself is the processor that is roughly the size of a standard dome camera. It can be connected to a number of different lenses up to 39 feet away. The currently approved lenses are the F1005-E, a small, outdoor rated standard angle lens, and the F1035-E, a small, outdoor rated wide angle lens.

These cameras are rated for both interior and exterior use and should have a planned replacement date of 6-8 years after installation.



### APPLICATIONS

The Axis F41 should only be used in approved locations where a full size camera will not fit. They currently are only used on Code Blue phones. These cameras have limitations such as lower image quality and fewer features which make them less useful than other models.

### AUTHORIZATION

Please consult with the Department of Public Safety before purchasing this camera model to ensure it meets the needs of the specific situation. In addition, all surveillance cameras must be added to the University’s centralized surveillance camera system operated by the Public Safety Emergency Communications Center. Exceptions to this requirement must be approved in writing by the Department of Public Safety.

### FEATURES

<b>Number of Lenses</b>	1	<b>Resolution</b>	2 Megapixel
<b>Max Field of View</b>	113° x 62° or 194° x 113°	<b>Zoom</b>	None
<b>IR (Night Vision)</b>	No	<b>Power</b>	POE or 120v plug in power supply

## Applications: Access Control – Electrified Doors

## Controllers

### iStar

#### 1. Ultra (Standard, G2, G2 SE, and SE)

##### DESCRIPTION

Ultra is the current standard for new installations and replacements. Different versions are available for different applications. The standard Ultra has lock power management embedded, eliminating the need for external lock power (1.2.1.5).

- G2 - Cyber-hardened
- G2 SE - Cyber-hardened without lock power management (requires 1.2.1.5 for door operation)
- SE - Used when converting from Pro to Ultra without eliminating external lock power management (1.2.1.5).

##### APPLICATIONS

The standard Ultra is acceptable for all applications. All others should be selected depending on existing equipment and need.

##### AUTHORIZATIONS

No authorization is necessary to install any Ultra that is specified for the particular application beyond the requirement that all new additions are added to the centralized system operated by Public Safety. Exceptions to this requirement must be approved in writing.

#### 2. Edge (Standard and G2)

##### DESCRIPTION

The Edge is an acceptable alternative to the Ultra for smaller installations. Various models can accommodate between 1 and 4 doors.

- G2 - Cyber-hardened

##### APPLICATIONS

The standard EDGE is acceptable for all applications where an Ultra would be considered excessive or unreasonable.

##### AUTHORIZATIONS

All Edge controllers require approval from the SDA group. Edge controllers will not be authorized as a substitute for an Ultra.

### 3. IP-ACM

#### DESCRIPTION

IP-ACMs allows for access control with controlling hardware installed near the door communicating over ethernet with a controller.

## All-in-one Card Reader Electrified Locksets

### 1. Schlage AD-300 (Wired)

#### DESCRIPTION

This is a completely integrated lockset, with the lock, credential reader, REX, door position switch, and tamper switch all built into the device. Power and communications are accomplished via hard-wired connections cored through the door. Authentication occurs via a panel interface board (PIB).

#### APPLICATION

This lockset is an acceptable alternative when adverse circumstances exist to make a standard reader/strike/REX setup too difficult or costly (solid frames, substrate, etc). Per policy, this lockset may not be used to secure an exterior door, or any door that is intended to secure a space designated as Critical/High Risk. Acceptable spaces include:

- Closets
- Offices
- Classrooms
- Conference Rooms

#### AUTHORIZATION

Installation of this device requires approvals from the Security Program Manager and the Public Safety Security Data and Access group, regardless of location or application. This device will not be approved to replace a standard card reader, except in special circumstances.



## 2. Schlage AD-400 (Wireless)

### DESCRIPTION

This is the wireless version of the Schlage AD-300 and has many of the same features. The lock, credential reader, REX, door position switch, and tamper switch are all integrated into the lockset.

This lockset has no physical connection to a power source, or any components of the card access system. Power is supplied to the lockset by a small bank of internal replaceable batteries. The lockset communicates with the card access system through a panel interface module (PIM) located within proximity of the lockset, that is hard-wired to the controller. Communications between the lockset and the PIM are encrypted using protocols that should not interfere with other wireless networks.



### APPLICATIONS

While this product presents as a significantly less-expensive solution when compared to standard hardwired door setups, due diligence must be completed prior to installation. Per policy, this lockset may not be used to secure an exterior door, or any door that is intended to secure a space designated as Critical/High Risk. Acceptable spaces same as AD-300 (closets, office, conference rooms, or classrooms).

### AUTHORIZATION

Installation of this device requires approvals from the Security Program Manager and the Public Safety Security Data and Access group, regardless of location or application. This device will not be approved to replace a standard card reader, except in special circumstances.

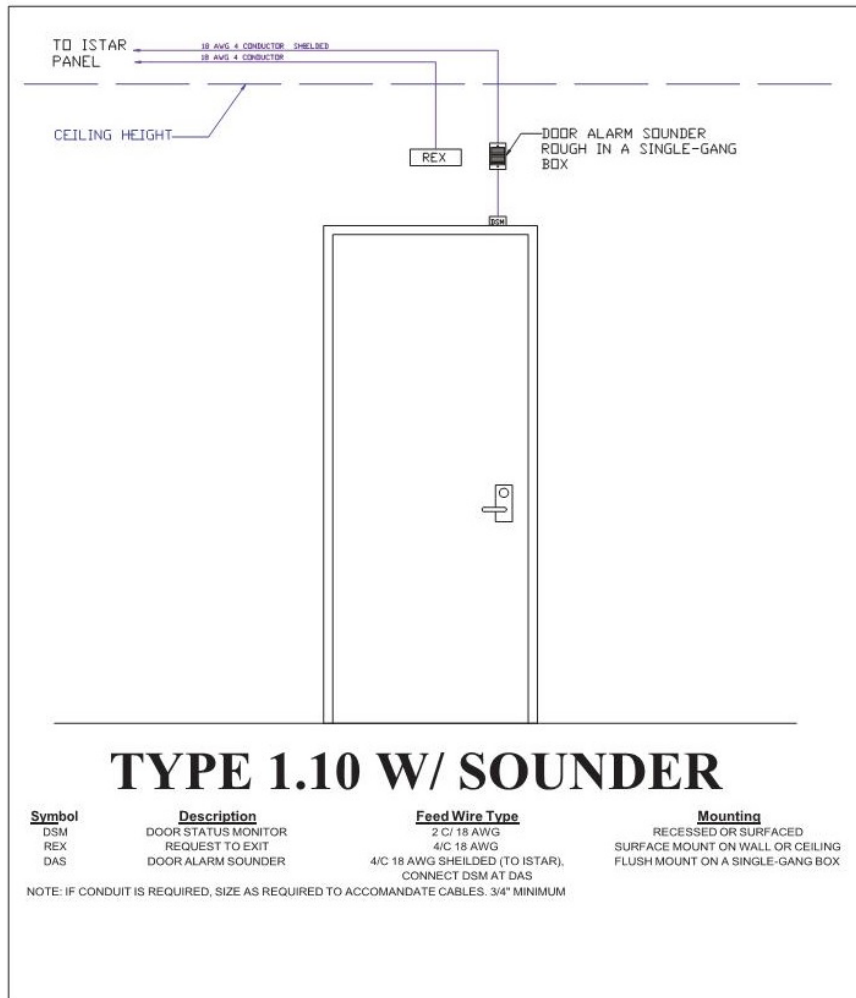
### TESTING DATA

This lockset does not maintain continuous communications with the card access system, instead, operating in a sleep mode to preserve battery. Sleep mode duration is programmable and directly impacts battery life. Lockset is advertised as able to “wake up” via radio signal and lockdown in less than 10 seconds; however, this was not observed to be reasonably effective during testing. As such, this lockset is not recommended to operate on a schedule.

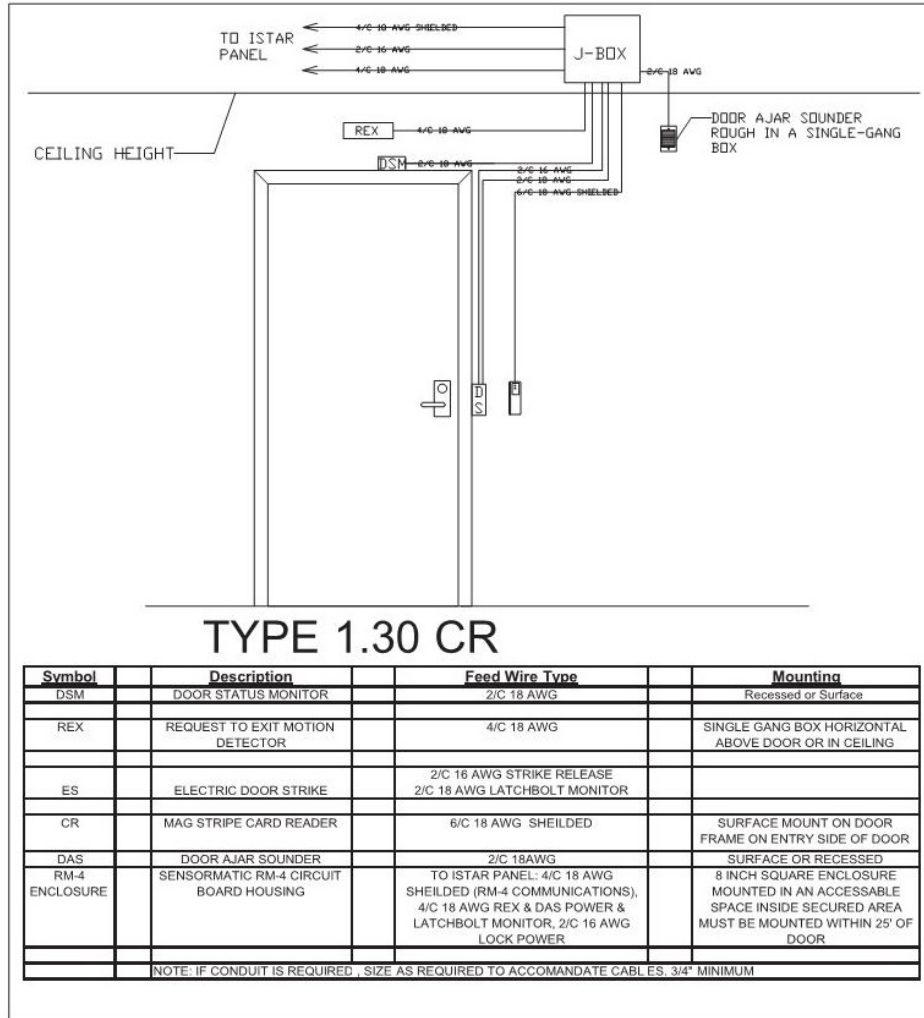
Battery life was not as long as advertised during extended testing of these devices. Locksets also routinely failed to indicate low battery statuses resulting in lock failure and lockouts. Another anomaly noted was occasional failures of the reader to respond to card swipes unrelated to battery failure, also resulting in lockout.

**NOTE: Use of lithium batteries in these devices may result in catastrophic failure or fire.**

**1. Door Library**

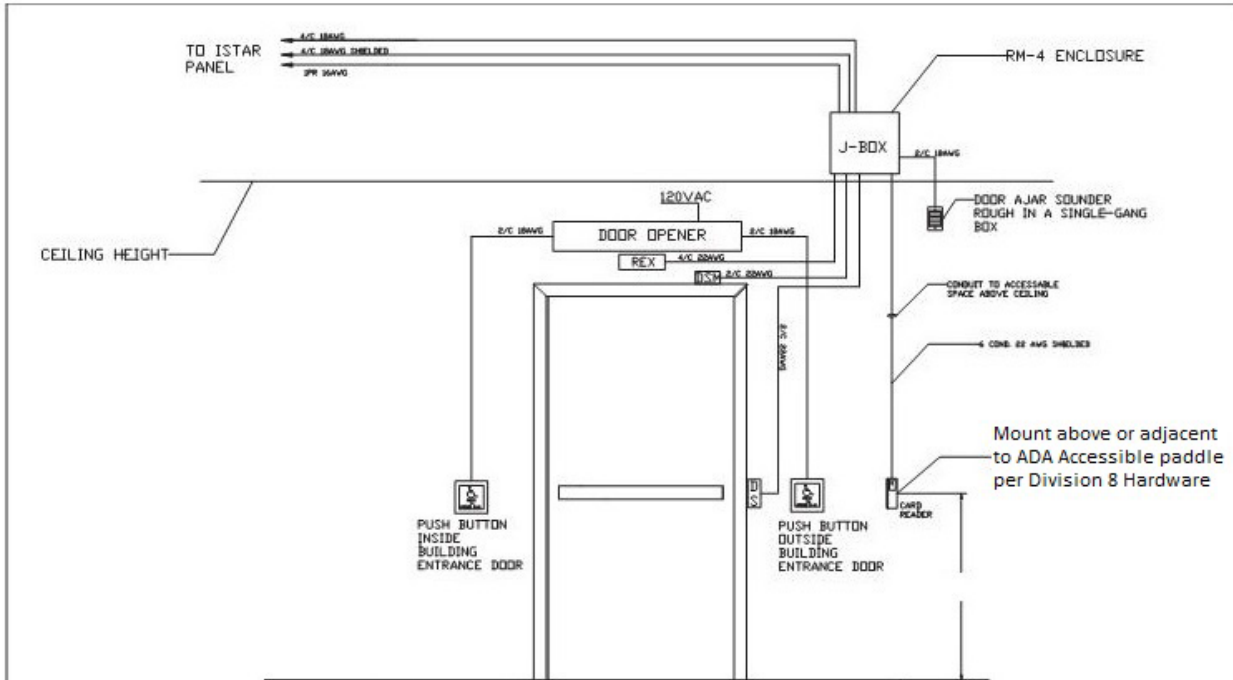


**Type 1.10**



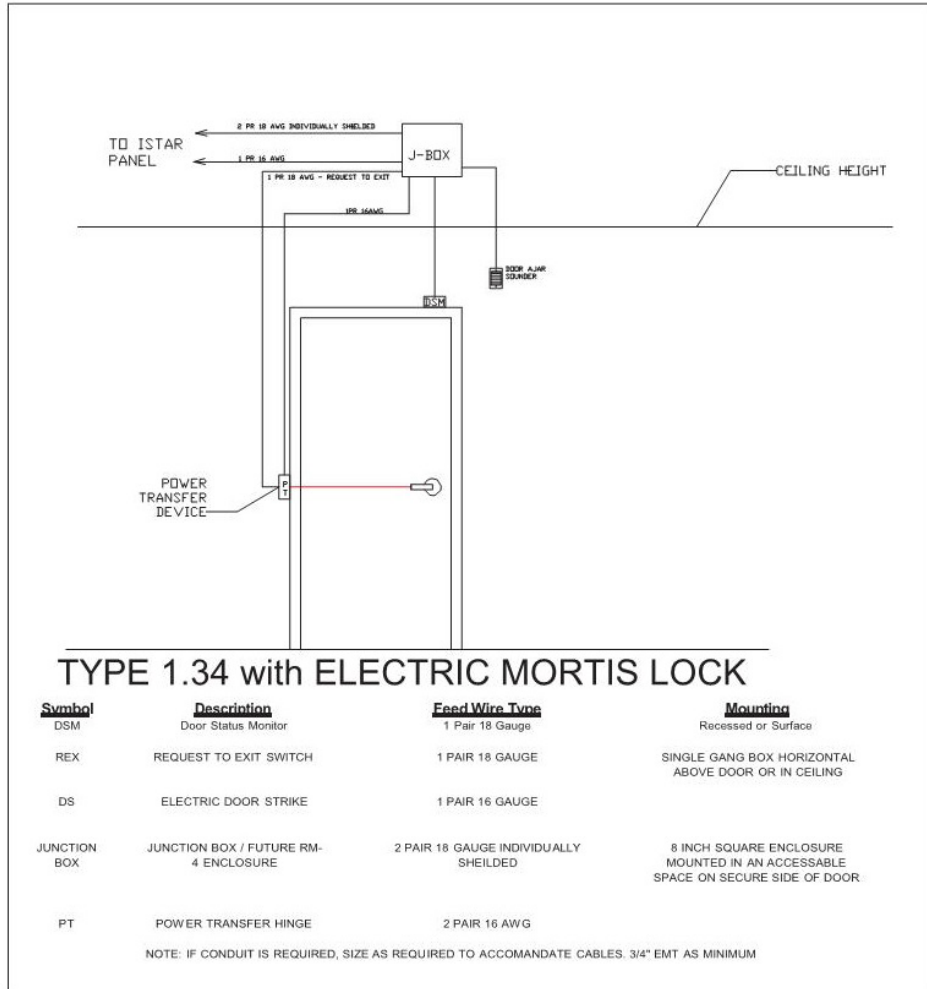
**TYPE 1.30 CR**



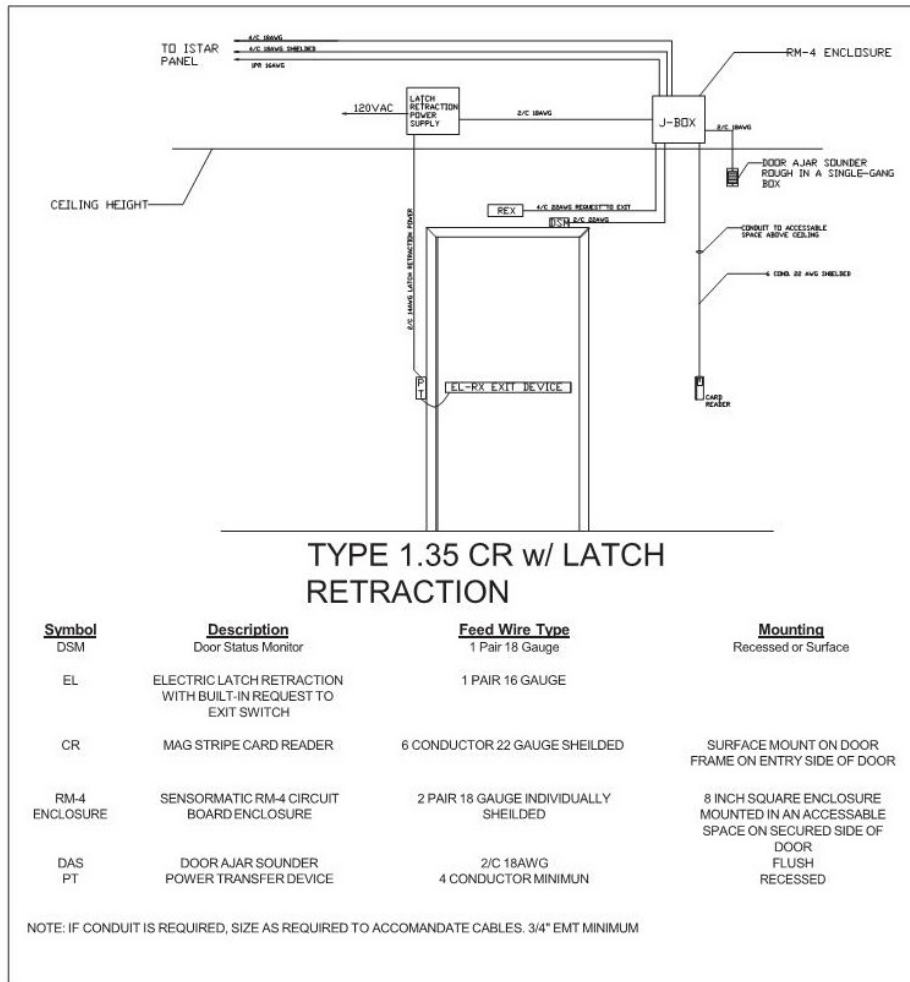


**TYPE 1.30 CR  
ADA w/ STRIKE**

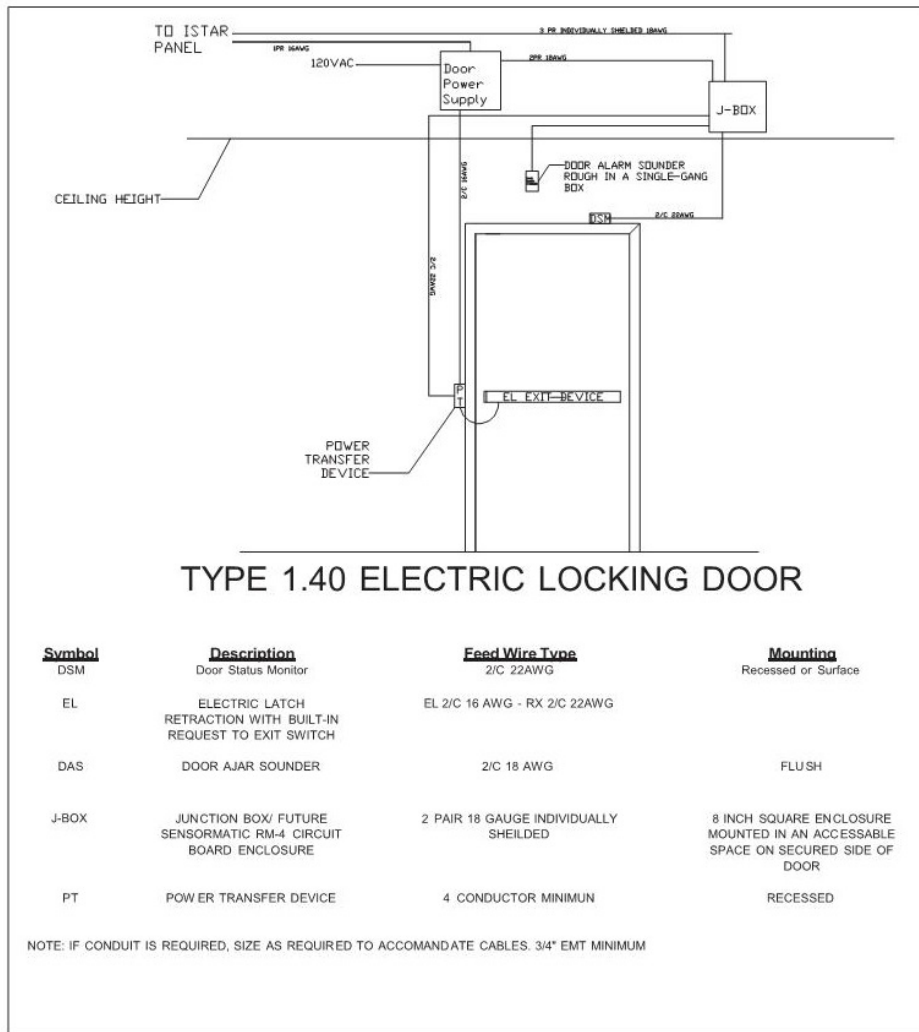
EL	ELECTRIC LATCH RETRACTION	1 PAIR 16 GAUGE	
CR	MAG STRIPE CARD READER	6 CONDUCTOR 22 GAUGE SHEILDDED	SURFACE MOUNT ON DOOR FRAME ON ENTRY SIDE OF DOOR
RM-4 ENCLOSURE	SENSORMATIC RM-4 CIRCUIT BOARD ENCLOSURE	2 PAIR 18 GAUGE INDIVIDUALLY SHEILDDED	8 INCH SQUARE ENCLOSURE MOUNTED IN AN ACCESSIBLE SPACE ON SECURED SIDE OF DOOR
DSM	DOOR STATUS MONITOR	1 PAIR 18 GAUGE	RECESSED OR SURFACE MOUNT
TH	POWER TRANSFER HINGE		RECESSED
EXOB	HANDICAPPED EXIT BUTTON		
ENOB	HANDICAPPED ENTRY BUTTON		
DO	DOOR OPENER		
NOTE: IF CONDUIT IS REQUIRED, SIZE AS REQUIRED TO ACCOMANDATE CABLES. 3/4" EMT MINIMUM			



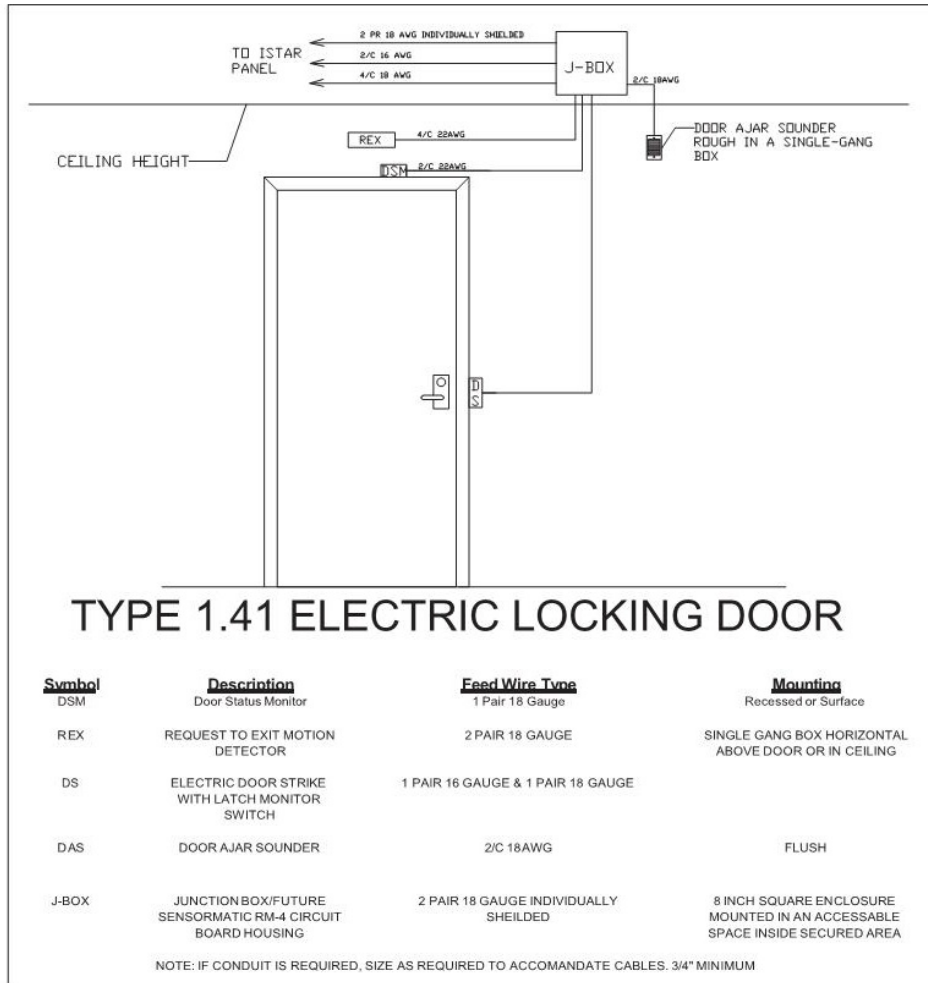
**Type 1.34 EL**



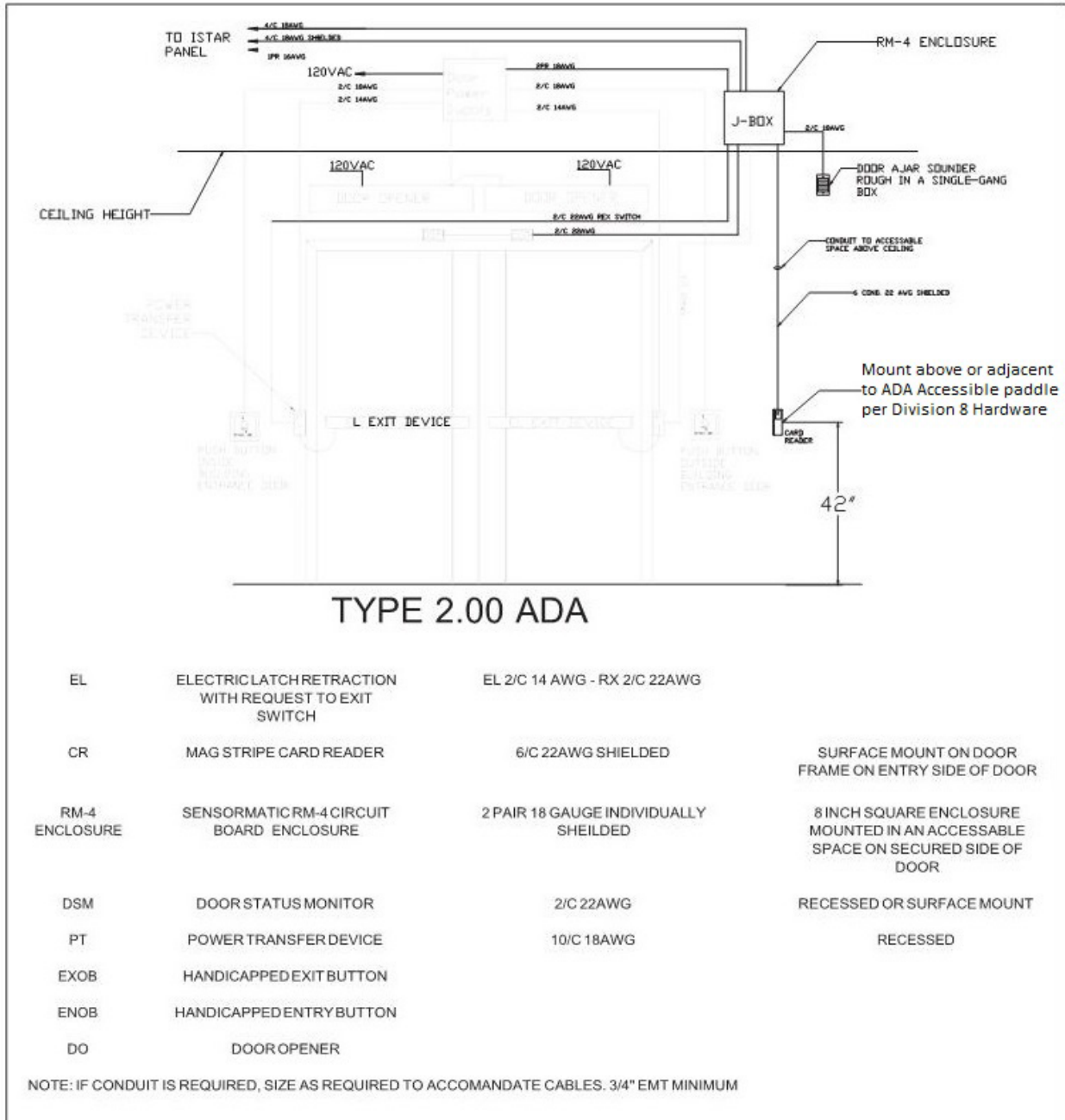
**TYPE 1.35 CR w/ Latch Retraction**



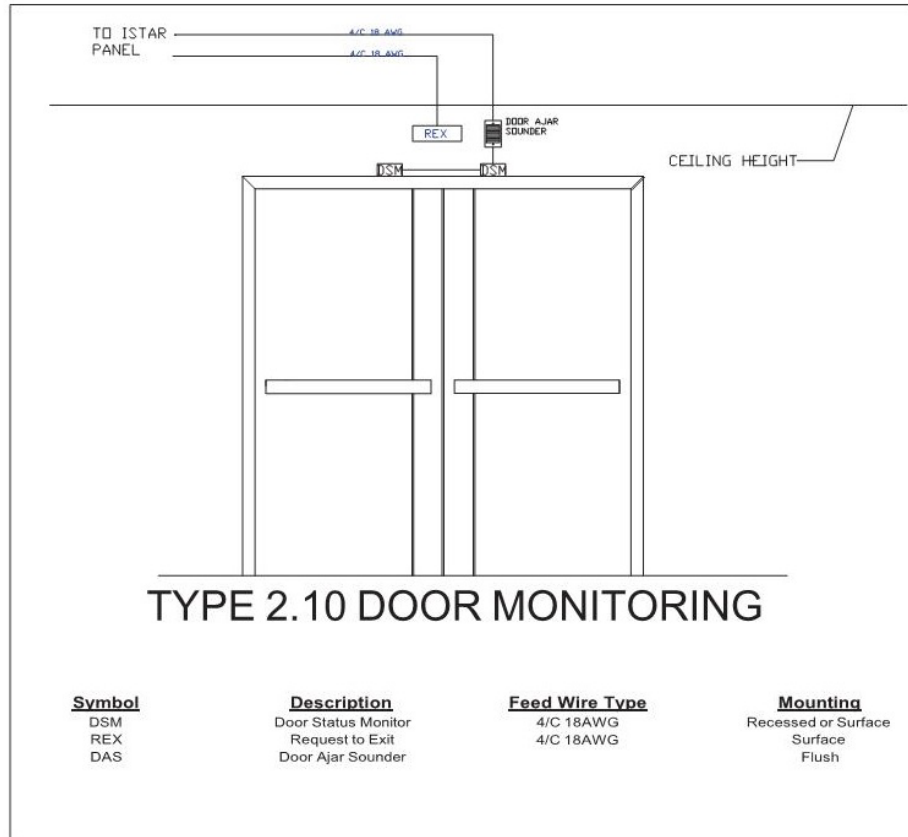
**Type 1.40 EL**



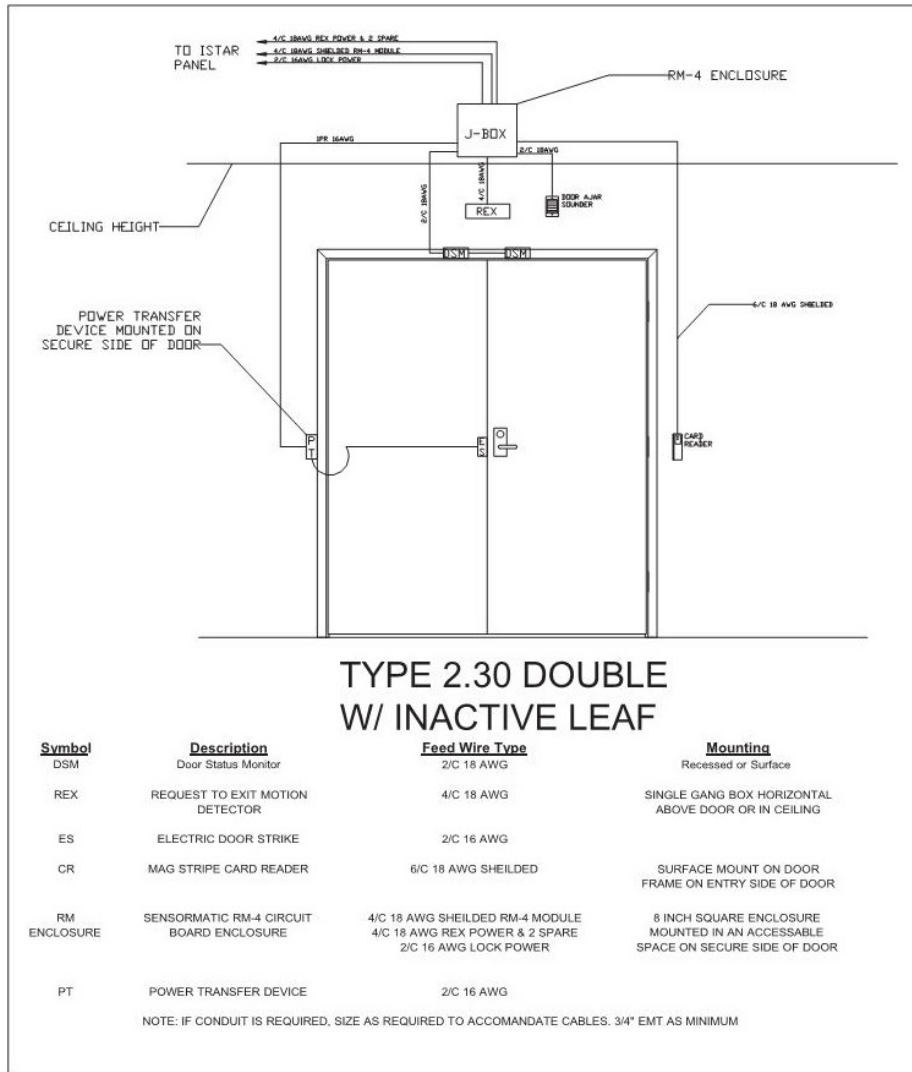
**Type 1.41 EL**



**2. Double Door Library**

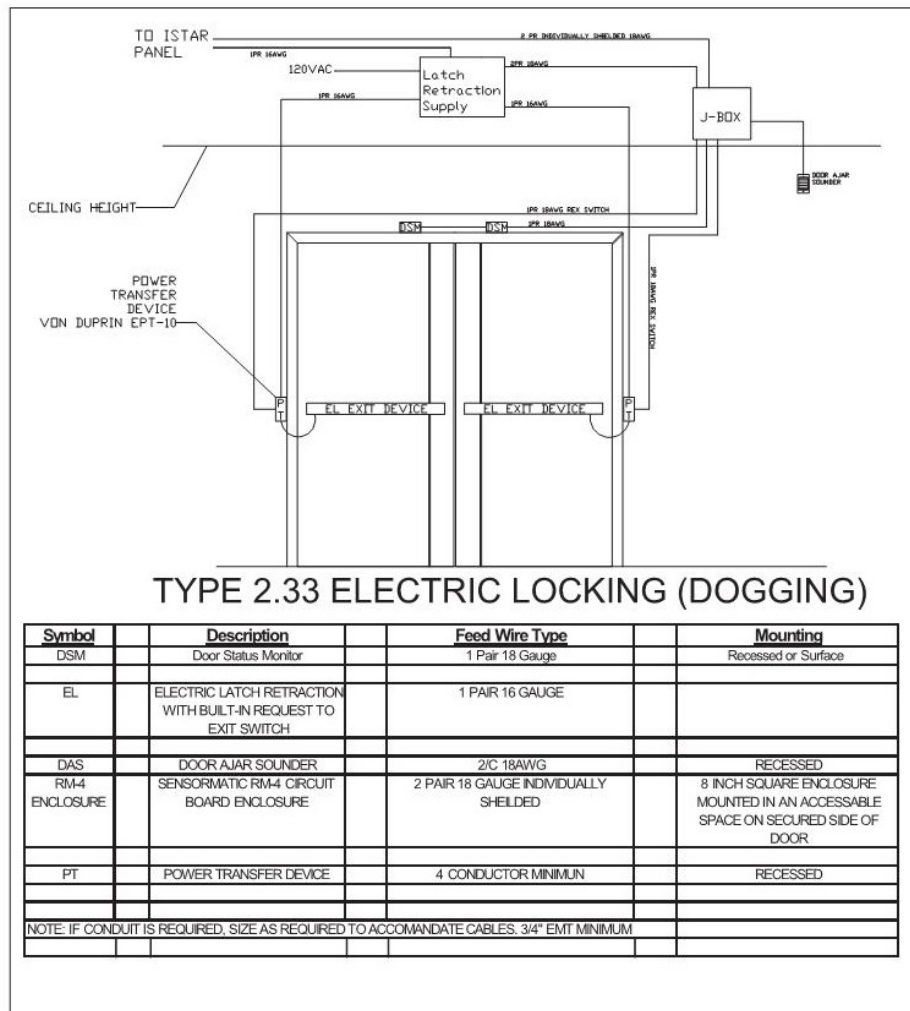


**TYPE 2.10 DSM**

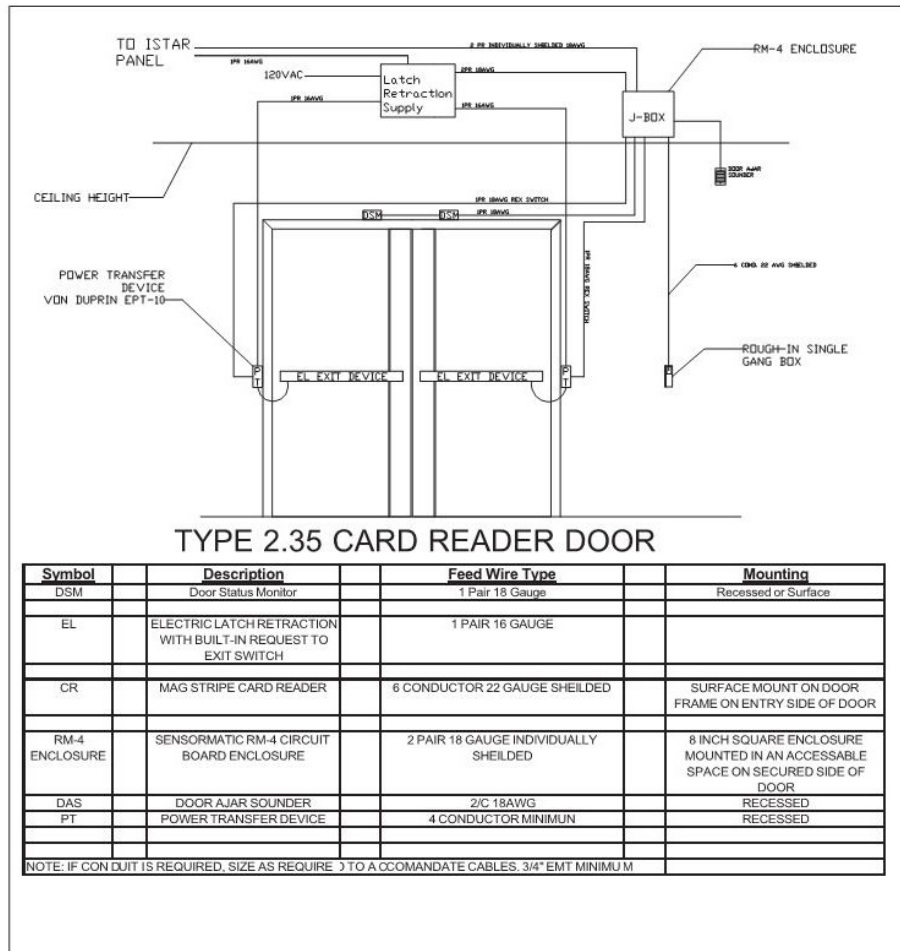


**Type 2.30**



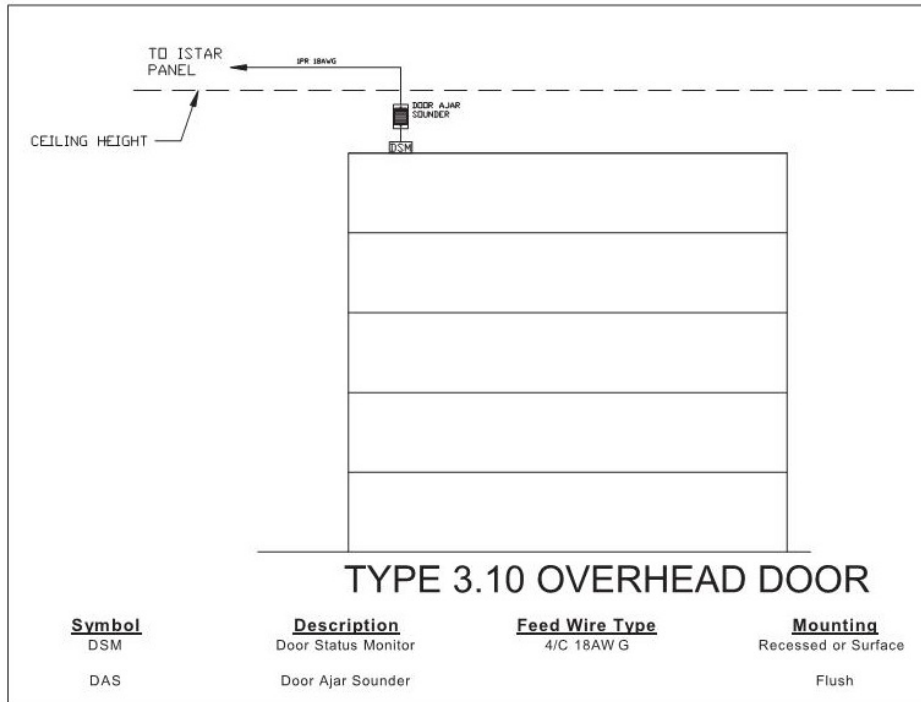


**Type 2.33 EL**



**Type 2.35 CR**

**3. Overhead Door Library**



**TYPE 3.10 DS**