

WVU DESIGN GUIDELINES & CONSTRUCTION STANDARDS
DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

SECTION 282500 - ELECTRONIC CARD ACCESS CONTROL SYSTEM/SPECIFICATIONS

PART 1 - GENERAL

1.1 This document is the General Design Guidelines and Specifications for the WVU Electronic Card Access Control System. It is intended to address issues that relate directly to access control installations.

A. Introduction

The WVU card access system for electronic locks is a one card system by CBord called CS Gold that is on track 2 of the University ID card. These are Magnetic stripe cards. WVU also utilizes a stand-alone card system by Onity that operates on the same card on track 3. These systems are under the administration of Mountaineer Card Office.

B. Qualifications

1. All General Contractors and their subcontractors working on campus shall meet the following qualifications at a local level and must submit evidence accordingly. The General Contractor shall have:

- A. Licensed Electricians to install all the CBord equipment, conduit, power supplies, and work boxes with terminal strips. Photocopy of license shall be submitted with response package.
- B. Certified/Licensed Low Voltage Electricians working with low voltage to pull wires and make all final connections. Photocopies shall be submitted with response package as proof of Certification/Licensing. The following are accepted by WVU as proof:
 - Copy of Company certificate stating Low Voltage Electrician being certified,
 - Copy of West Virginia State license in Low Voltage, or
 - Documentation of training course completion

C. General Requirements and Notes

1. WVU has obtained and installed the CBord server software, database and licensing exclusively. The University has completed installation of door access hardware components at existing campus locations. The CBord system has been established in a decentralized manner where the departments administrate and monitor assets that they own and the database/server/software configuration are administrated centrally in the Mountaineer Card Office. The WVU Mountaineer Card Office and WVU Facilities Management Lock Shop will have final approval of door hardware, wiring, and electronic devices/controllers used in construction where work has been subcontracted to 3rd parties. Mountaineer Card Office will specify what CBord equipment is used. It is the intent of WVU to empower General Contractors or Subcontractors to have primary responsibility of access control installations in accordance with these specifications and guidelines.
2. It is the responsibility of the bidder/General Contractor to generate an equivalent equipment list prior to bidding or installation that denotes exceptions taken with door hardware schedules, components or designs being used which may hamper their ability to provide a secure and compliant access control product.
3. WVU Mountaineer Card Office, Facilities Planning, Design & Construction Services, General Contractor, and the Architect will review designs for access control on new construction and existing structures.

4. A final door walkthrough will take place with the general contractor, Mountaineer Card Office and Lock Shop representative, project managers and customer prior to acceptance of any access control work. All doors must be functioning properly in the field as well as within the access control software.
5. Coordination and hardware review meetings will be setup by the design firm, between the WVU Mountaineer Card Office, Lock Shop representative, the door hardware consultant and the access control designer prior to bidding of projects.
6. WVU Facilities Management Lock Shop and WVU Mountaineer Card Office shall review all submittals related to electronic card access system in conjunction with the architect.
7. Electronic card access control system shall be utilized on all exterior doors, data closets, main janitorial support area, mechanical rooms (rooms that contain Air Handling Units, Pumps, Boilers, etc.), and mechanical penthouse for new construction and major renovation projects.
8. WVU requires at a minimum that all exterior doors be prepped with card access or electronic door position monitoring.
9. All locks must be keyed into the University existing Great, Great Grand Master key system and WVU Lock Shop will provide this information.
10. Consider prepping for Video Surveillance System by running conduit and placing junction boxes for future camera installation. The Department of Public Safety (DPS) is responsible for assessing and approving the locations of all access control devices. DPS determines the feasibility of the location of equipment and advises on the needs related to equipment. DPS is responsible for monitoring and responding to all University access control and security issues. DPS reviews all phases of the access control documentation for compliance with device locations and standard equipment.
11. Project Manager will make a request for temporary consultant contractor ID card from WVU Mountaineer Card Office. Contractor will go to Mountaineer Card Office to take his/her picture and obtain temporary ID card.

D. Base Specifications

1. The system shall fully and completely integrate with the WVU's door access system purchased from CBord.
2. Allow proper egress in emergency situations such that no special knowledge or card is required to exit a space.
3. Must comply with WVU ADA standards.
4. All hardware mounted in exterior locations shall be weather resistant and designed to maintain the aesthetic beauty of the campus. The finish of the access control hardware should match the finish of the other door hardware.
5. Hardware must be durable enough to withstand high traffic locations without frequent failure.
6. All 24V wiring runs for CBord and locking equipment shall be no more than 200 feet.
7. All data wiring runs from CBord to the door shall be no more than 2000 feet.
8. All aluminum door stiles shall be 5" wide.
9. Run data lines and electrical wires in separate conduit.
10. Upon finishing the job, the General Contractor should properly label panel boards marking what power supply and locks it controls.
11. Upon finishing the job, the General Contractor should properly label the power supply for locks marking which room it controls.
12. Follow manufacturer's installation guidelines.

1.2 Reference Standard

- Finish Hardware- Division 08, Section 087100

PART 2 – PRODUCTS

- A. WVU Online and Offline Locks
 - 1. WVU uses the following online locks for securing outside and inside doors
 - a. Exit devices (panic bars) Rim type devices
 - b. Mortise locks
 - c. Cylindrical locks
 - d. Magnetic Locks (retrofitting only)
 - e. Electric Strikes (retrofitting only)
 - 2. WVU uses the following locks for stand-alone offline locks
 - a. Onity mortise lock
 - b. Onity cylindrical lock
 - c. Onity door unit that is used in conjunction with electrified locks (this must include an Onity power supply with all options).
 - d. Magnetic Locks (retrofitting only)
 - e. Electric Strike (retrofitting only)
- B. Door Locks & CBord Standardized Hardware
 - 1. The following hardware is the required hardware for access control integrations. These are commonly used and stocked by the University Warehouse for the campus maintenance contract. Door and locking hardware substitutions for CBord will be brought to the attention of the Mountaineer Card Office and Lock Shop for approval.
 - A. Controllers: CBord Components
 - V-1000
 - V-100
 - V-200
 - V-300
 - RS485 PIM
 - RS485 Hub
 - B. Readers: CBord
 - BR-20
 - A-2005
 - MR-5/MR-20
 - AD300/AD400
- C. Lock Manufacturers
 - A. Panic Bars
 - a. Von Duprin 98/99 Series
 - b. Sargent 8800/8888 Series
 - B. Mortise Locks
 - a. Sargent 80 Series
 - b. Schlage L Series
 - C. Cylindrical Locks
 - a. Sargent 10 Line
 - b. Schlage D Series
- D. Locks: The following are WVU standard locks used in online card swipe locks. All locks are 24 V, US26D is the standard finish. All locks and cylinders must accept

- Best 7 pin cores TB keyway. All locks must meet all codes for the opening. All locks must have RX & LX options.
- A. Panic bars & trims
 - a. Sargent 8800/8888 series with ETJ trim
 - b. Von Duprin 99 with #03 lever
 - B. Mortise locks
 - a. Sargent 8200 series with LNJ trim
 - b. Schlage L series with #03 trim
 - C. Cylindrical locks
 - a. Sargent 10 line with LNJ lever
 - b. Schlage D series with TRL lever
 - E. All locks and locking devices must have request to Exit (REX). REX switches will be built-in to locking devices and door locking hardware on all new construction and when possible on existing structures. If REX switches are not built into lock, surface mount Bosch #DS 150i REX.
 - F. Electric Strikes: This option is used only in retrofitting situations and not in new construction.
 - A. Sargent HES 9500 LBSM Series for Panic Bars
 - B. Strikes for Mortise (1006 LBSM Series) and Cylindrical Locks (7000 or 7500 LBSM Series).
 - C. Magnetic Locks: all Magnetic Locks should be Schlage and must have Magnetic Bond Sensor (MBS), Door Position Sensor (DPS), and Relock Time Delay (RTD).
 - G. Electric Power Transfer
 - A. Securitron (Sargent) #cept-10
 - B. Von Duprin #EPT-2 or -10
 - C. Electrical Hinges must be 8 Wire hinge and used only in retrofitting situations
 - H. Power Supplies and Batteries must be 7 Amperes
 - A. Power supply for locks only: perform calculations based on how many doors should be connected to a single power supply. It cannot max 60% of the power supply.
 - 1. Altronix # AL1012ULACMCB
 - 2. 7 hour battery backup
 - B. Altronix Batteries
 - 1. Altronix BT12/6 12VDC/7AH
 - 2. Altronix BT12/12 12VDC/12AH

www.altronix.com
 - I. Power supply for locks only: perform calculations based on how many doors should be connected to a single power supply. It cannot max 60% of the power supply.
 - 3. Altronix # AL1024ULACMCB
 - 4. 7 hour battery backup
 - J. Relays
 - A. Altronix Relay
 - 1. Altronix RB1224
 - 2. Altronix RBR 1224

www.altronix.com
 - K. Closing Devices
 - A. LCN Closers
 - 1. LCN Series surface mount closers 4040 Series

<http://www.lcnclosers.com>

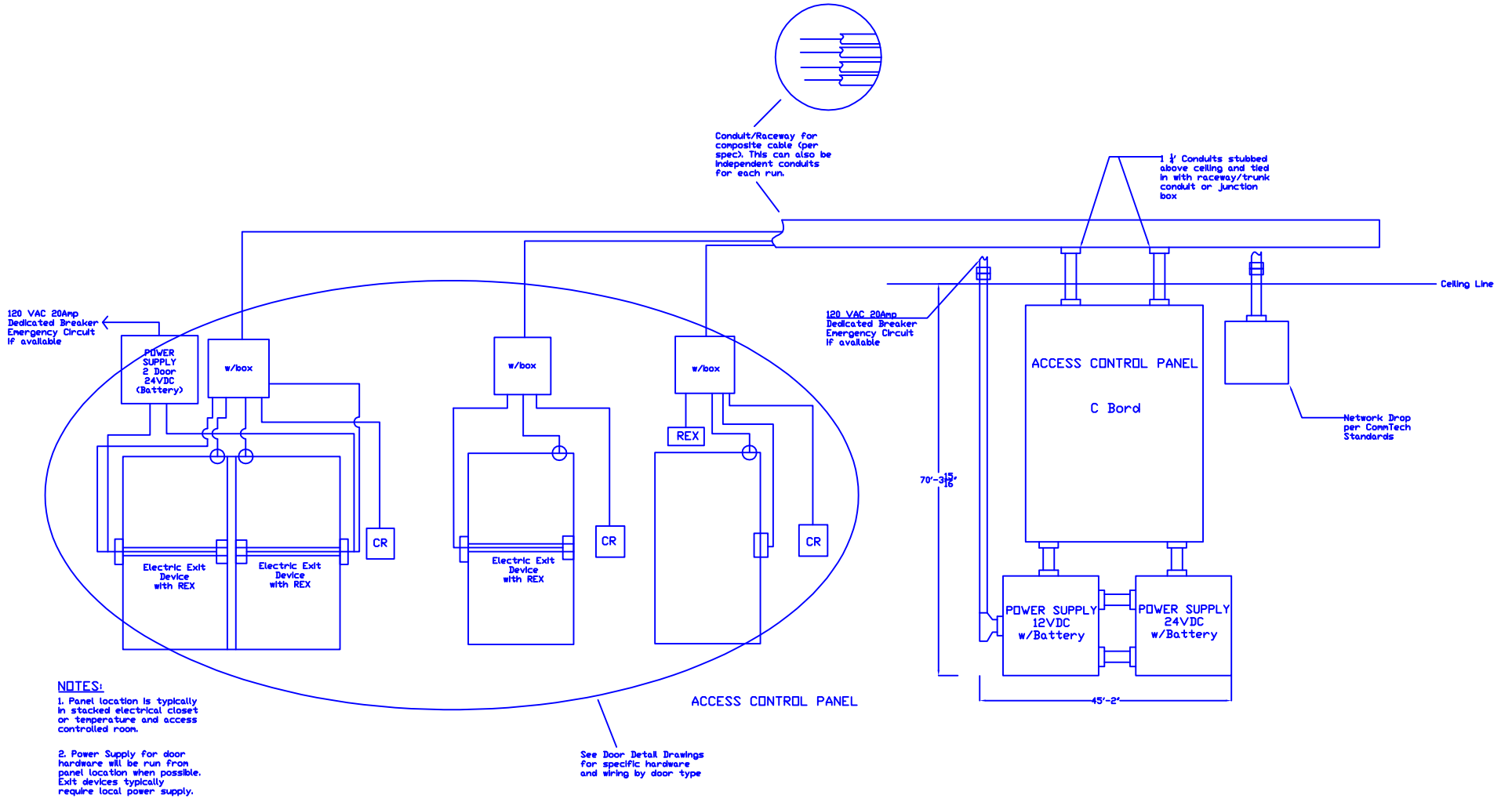
- 2. ADA closer low energy LCN 4600 series unless otherwise required by application
- B. Sargent 281 or 351 Series
- L. Cabling
 - A. Belden 6120 UL, 14 AWG
 - B. Belden 6504 FE, 6 Conductors
 - C. Belden 6400 FE, 2 Conductors
 - D. Electrolynx QC-C300(All connections need to be company, plug-in, or tab connections)
 - E. Electrolynx QC-C1500 (All connections need to be company, plug-in, or tab connections)
- M. Emergency Push Button Covers w/Horn (must have timer)
 - A. Safety Technology Incorporated (STI)
- N. Network Topography
 - 1. WVU uses a star configuration with each access/alarm point being a 'home run' back to the access control panel from the junction box located above the door. The cabling between the junction box and the access control panel will be the cabling outlined in the section 4.10. All communication and power to the individual doors will come from the access control panel location. An exception to this will be made when specific hardware requires a localized power supply. When possible a trunk conduit/raceway should be established in common hallways to accommodate multiple 'home run' composite cables.

PART 3 – EXECUTION

- A. Installation Requirements
 - 1. Controllers
 - A. Panel and any network device server will be wired through power supply with battery backup.
 - B. Power is to be hardwired to access control panels.
 - C. Access control panel and power supplies will be on isolated circuit (s).
 - D. Circuit from Fire Alarm panel to each access control panel.
 - E. Access control panels are to be installed in network or electrical closets that are between 42° and 120° F.
 - F. Each panel will be named according to the WVU Mountaineer Card posted outside the panel door.
 - G. Each panel will have a list of readers (university door numbers) connected to it located inside the panel.
 - H. Installation of network connection drop is to be coordinated through MCS Card Services. Drop termination is to be inside of access control panel to prevent tampering.
 - I. The MAC address and IP address for each panel/device will be posted on the outside panel door (Provided by MCS).
 - J. IP addressing information can be obtained by contacting the WVU Mountaineer Card Office.
 - K. All panel boxes are to have functioning locking hardware with keys. Keys will be submitted to the WVU Mountaineer Card Office upon completion of install.
 - L. Necessary devices will be password protected.

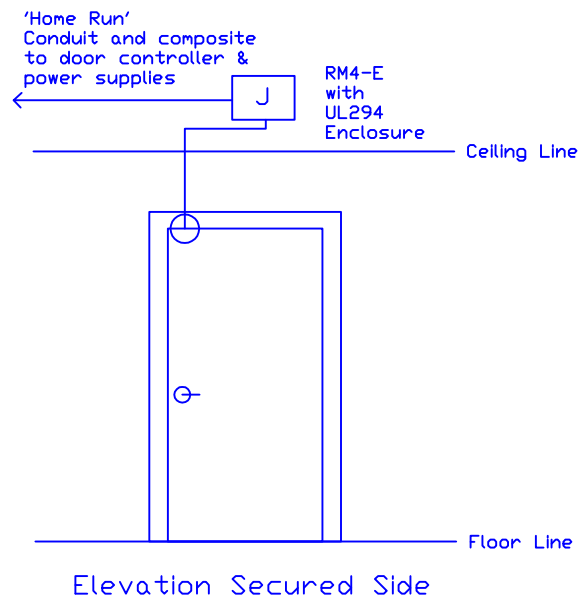
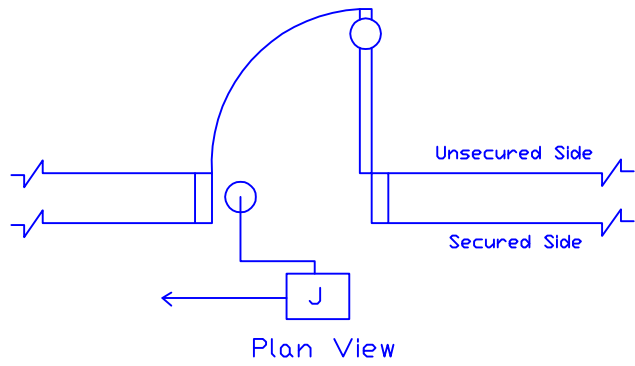
- M. All access control panels and unused conduit are to be removed prior to installation of new access control panel (s) (retrofitting only).
2. Wiring & Conduit
 - A. All communication and power to the individual doors will come from the access control panel location. An exception to this will be made when specific hardware requires a localized power supply. When possible a trunk conduit/raceway should be established in common hallways to accommodate multiple 'home run' composite cables.
 - B. All wiring run will 'home run' from door junction box to control panel location.
 - C. Devices must be hardwired, with all wiring installed in conduit in accordance with National Electrical Code and written University standards for conduit and system installation for class 2 fire protection, signaling control devices.
 - D. Wire connections to the access control panel are to be clearly labeled.
 - E. Wiring which contacts metal edges will be buffered with bushings or rubber grommets to prevent damaged wires and shorts. Examples include wiring meeting conduit ends, panel and junction box holes.
 - F. Conduit must be strapped within 24" of junction boxes.
 - G. All junction boxes must be covered and contents labeled when appropriate (ex. Junction box with relay for handicap button).
 - H. Junction boxes must match device being mounted.
 - I. Both Setscrew conduit fitting and Compression fitting are allowed.
 - J. Minimum conduit size is ¾ inch.
 - K. Conduit can be 40% full of square inch capacity.
 - L. The conduit system and cabling installed must be distinct and separate from the wire way/conduit system housing voice/data cables in campus buildings.
 - M. Connections to devices must be secured, so that no cords may be easily disconnected from the devices and no cords are left exposed to unauthorized tampering.
 - N. All low voltage wiring cable to be plenum rated, stranded, and color coded.
 - O. Wire nuts are not permissible. WVU prefers Crimp connectors.
 - P. Crimp connectors should be installed with appropriate crimping tools.
 - Q. All wiring shall be installed in a protective housing such as conduit or wiremold.
 - R. When necessary use cable ties to bundle cables.
 - S. Use the attached wiring chart for ElectroLynx systems.
 3. Door & Frame:
 - A. Prepped door frames shall have continuous conduit from junction box above door frame to termination box in frame.
 4. Header Mounted Door Position Switch:
 - A. Door switches will be flush mounted on the door header from the strike side of the doorframe approximately 4" from Jam.
 - B. Surface mount switches will have armored cable between the switch and the cable entrance hole in the door.
 - C. The holes for flush mounted door switches must be drilled the exact size for the switch being used. A tight friction fit must be achieved.
 5. Door Hardware
 - A. Door hardware will be fail-secure with mechanical manual egress from the secured side unless fire spec says it needs to be fail-safe.
 - B. Door switching and power will reside in the access control panel location. In the case of an electrified exit device (such as a Von Duprin EL crashbar) power supply is to be located no more than 50 feet from door.

- C. Power supply will be connected to building emergency circuits when possible.
 - D. Power supplies will have a 7amp hour battery backup or higher.
 - E. Facilities Lock Shop and Mountaineer Card Office will be notified of location of power supplies when located away from access control panel via As-Built drawings.
 - F. No more than 65% Amps in power supply with exit devices per independent 24v power supply.
 - G. Request to exit switches will be built-in to exit devices and door locking hardware on all new construction and when possible on existing structures.
 - H. Door hardware is to be set so that 'dogging' functionality is not possible.
 - I. Door hardware will have key override and capable of accepting small Best format interchangeable core.
 - J. Door hardware power supplies will have locking junction box.
6. Readers
- A. Door access readers must read an identifying number from the University ID card.
 - B. The Mountaineer Card Office should be consulted during design to identify the appropriate type of readers used for the location. Readers will never hang or have overlapping edges from the device that they are mounted on.
 - C. Handicap operators will be wired so that a valid card read enables push button. Multiple relays including a timer relay are required for this configuration (see diagram).
 - D. If the card reader uses a RJ 11 termination, the cable run should be striped and terminated in RJ 11 connector per manufacturing instruction instead of using the enclosed pig-tail.
7. Plans
- A. Drawings and Specifications
 - 1. The Access Control System shall have dedicated detail drawings in Section E of the construction plans. The detail drawings shall include:
 - a. Control panel location
 - b. Security door matrix which includes door number, door size, hardware set/schedule, location, and drawing number.
 - c. Door detail and elevation for each security door (Examples are located in sections 7.3 & 7.4).
8. Process
- A. WVU Mountaineer Card Office will be responsible for software programming. Programming work shall be coordinated with WVU Mountaineer Card Office in advance of project completion.
9. Building Requirements
- A. Campus network is used for connectivity. WVU Mountaineer Card Office makes a request to Office of Information Technology (OIT) for several ports. OIT provides the right port and Contractor runs a patch cable from the port.



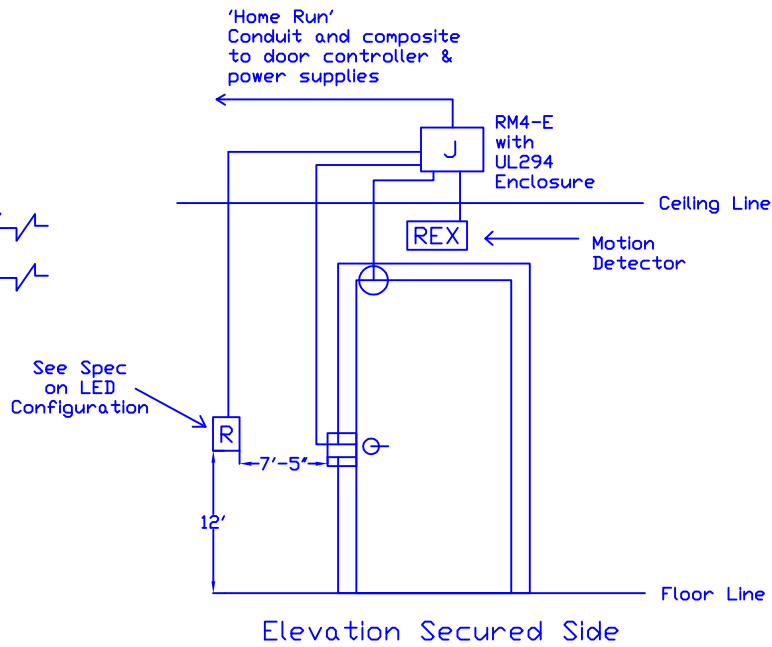
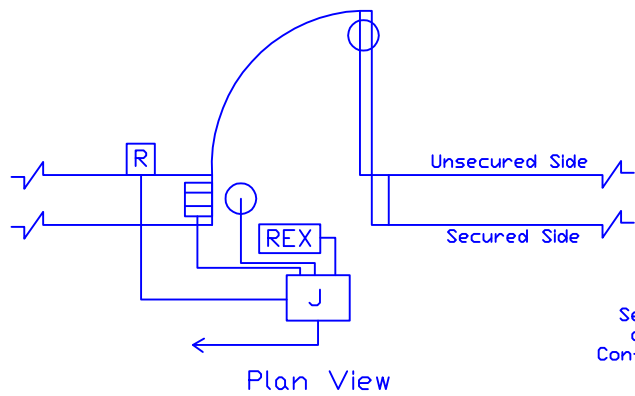
Typical WVU Access Control Panel Layout

DRAWING TITLE: ARCHITECTURAL	DRAWING NO.	SCALE: NTS
PROJECT NAME: ADA BUTTON INT.	DRAWN BY: LIZA RIGUCCI	DATE: 11/18/2011
PROJECT NUMBER:	BUILDING NAME:	REVISION NO. 1
PROJECT MANAGER: ZENABA QUADEER	BUILDING NUMBER:	SHEET NO. 1 OF 5



NOTES:
 1. This design is used when monitoring doors only. No electronic opening functionality

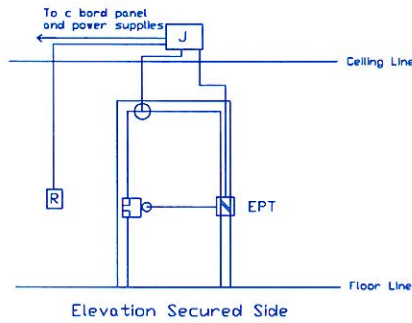
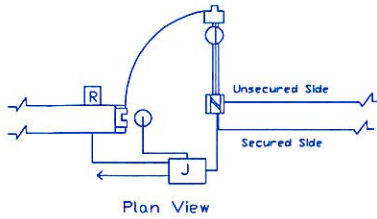
Single Door, Position Switch Only



NOTES:
 1. This internal door design can be used on exiting construction when card access, remote unlocking or time schedules are needed. Door hardware is set so for manual mechanical egress from the secured side with locked handle on the unsecured side (lock will need modification to eliminate 'dogging' capability with key). Motion sensor generates request to exit. Areas with significant wind/building pressure and high traffic areas are not good candidates for PIR request to exits.

Single Door, Position Switch, Card In, Electrified Strike with PIR Request to Exit

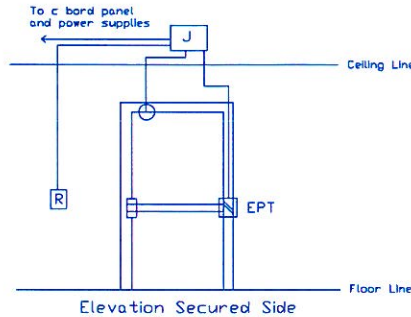
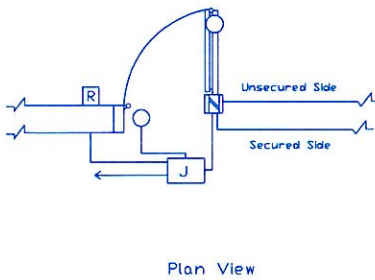
DRAWING TITLE: ARCHITECTURAL PROJECT NAME: ADA BUTTON INT.	DRAWING NO. DRAWN BY: LIZA RIGUCCI	SCALE: NTS DATE: 11/18/2011
PROJECT NUMBER: PROJECT MANAGER: ZENABA QUADEER	BUILDING NAME: BUILDING NUMBER:	REVISION NO. 1 SHEET NO. 2 OF 5



NOTES:

1. This internal single door design should be used on new or existing construction. Door hardware is set for manual mechanical egress from the secured side. Valid card read will enable locked handle turn on the unsecured side. Lock will not have 'dogging' capability with key. Request to exit is built-in to the locking hardware. The door will be cored between mortise lock and electric hinge/transfer.

Single Door, Position Switch, Card In, Electrified Mortise Lockset with Built-In Request to Exit

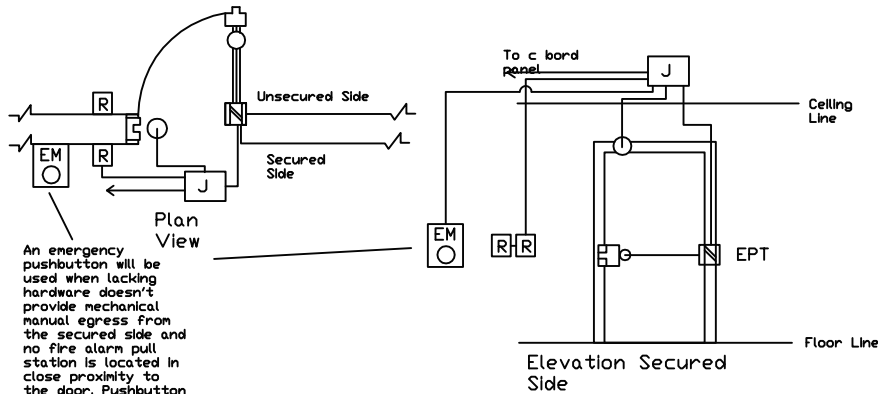


NOTES:

1. This door design can be used in new or existing construction on egress doors. Door hardware is a crashbar exit device which allows manual mechanical egress from the secured side. Crashbar will have an electric latch retraction kit as well as request to exit switch built-in (Crashbar will have 'dogging' functionality disabled). Wire Transfer or electric hinge will be needed. Exit devices will typically need local power supply. Local power supply will be on generator circuit or have battery backup.

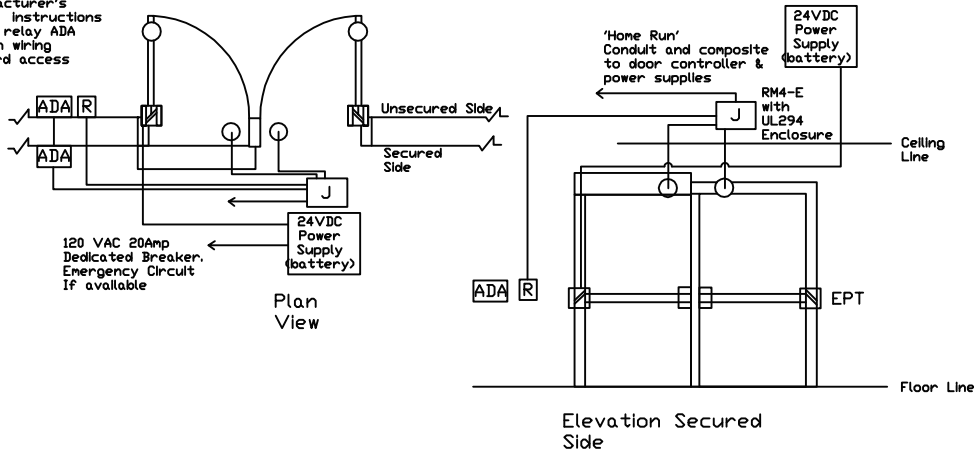
Single Door, Position Switch, Card In, Electrified CrashBar Exit Device with Built-In Request to Exit

DRAWING TITLE: ARCHITECTURAL	DRAWING NO.:	SCALE: NTS
PROJECT NAME: ADA BUTTON INT.	DRAWN BY: LIZA RIGUCCI	DATE: 11/18/2011
PROJECT NUMBER:	BUILDING NAME:	REVISION NO. 1
PROJECT MANAGER: ZENABA QUADEER	BUILDING NUMBER:	SHEET NO. 3 OF 5



Single Door, Position Switch, Electrified Mortise Lockset, Card In, Card Out

Use manufacturer's installation instructions for the 4 relay ADA pushbutton wiring include card access

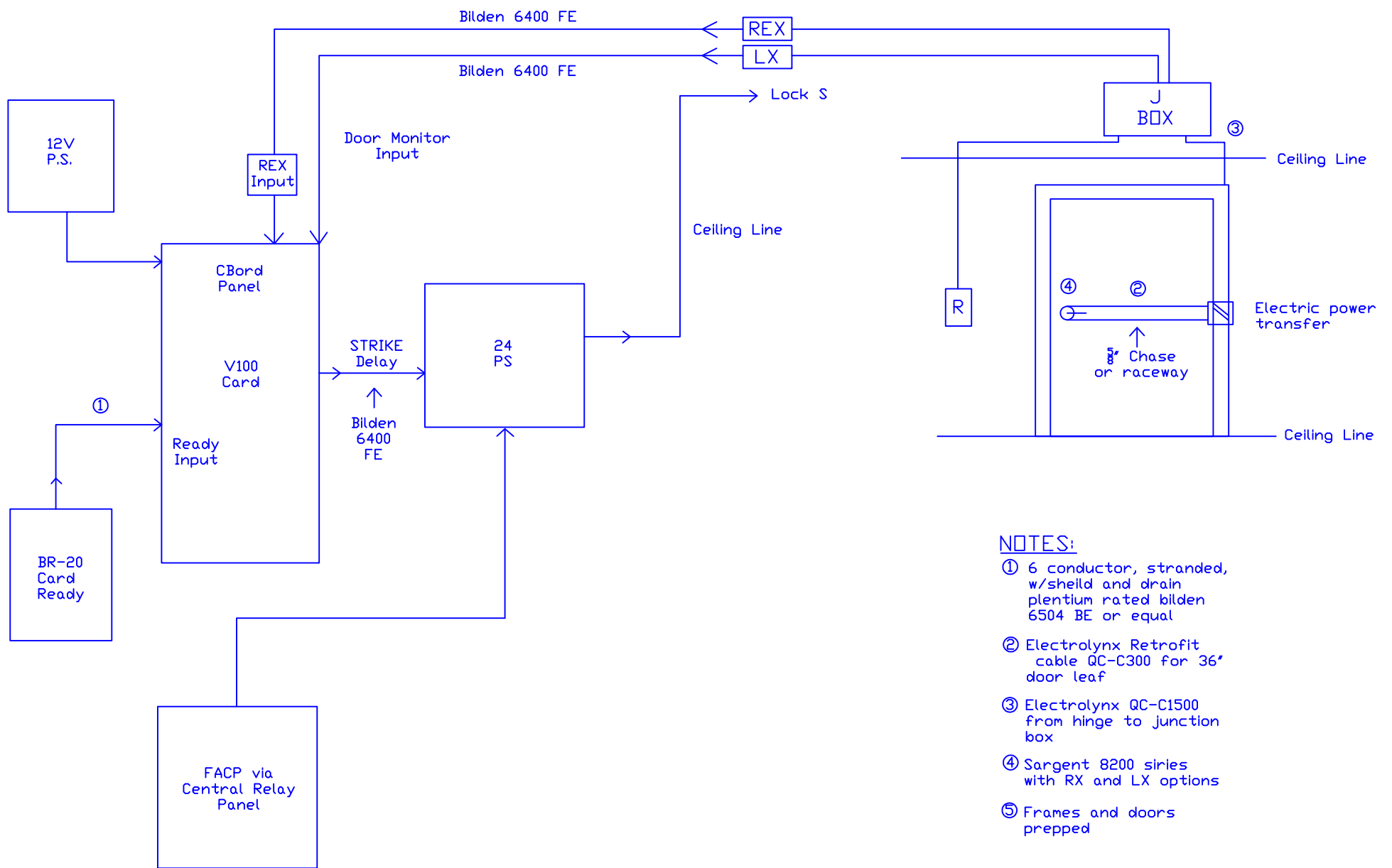


NOTES:

1. This internal single door design should be used on new or existing construction. Door hardware is set for manual mechanical egress from the secured side. Valid card read will enable locked handle trim on the unsecured side (lock will not have 'dogging' capability with key). Request to exit is built-in to the locking hardware. The door will be cored between mortise lock and electric hinge/transfer.

Double Door, Mullion, Two Electrified Crash Bar, Built-In REX's ADA Door Operator

DRAWING TITLE: ARCHITECTURAL	DRAWING NO.: _	SCALE: NTS
PROJECT NAME: ADA_BUTTON_INT.	DRAWN BY: LIZA_RIGUCCI	DATE: 05/09/2012
PROJECT NUMBER: _	BUILDING NAME: _	REVISION NO.: 1
PROJECT MANAGER: ZENABA_QADEER	BUILDING NUMBER: _	SHEET NO.: 4 OF 5



NOTES:

- ① 6 conductor, stranded, w/shield and drain plentium rated bilden 6504 BE or equal
- ② Electrolynx Retrofit cable QC-C300 for 36" door leaf
- ③ Electrolynx QC-C1500 from hinge to junction box
- ④ Sargent 8200 series with RX and LX options
- ⑤ Frames and doors prepped

DRAWING TITLE: ARCHITECTURAL
PROJECT NAME: ADA BUTTON INT.

DRAWING NO.
DRAWN BY: LIZA RIGUCCI

SCALE: NTS
DATE: 11/18/2011

PROJECT NUMBER:
PROJECT MANAGER: ZENABA QUADEER

BUILDING NAME:
BUILDING NUMBER:

REVISION NO. 1
SHEET NO. 5 OF 5

Wiring Chart

ELECTROLYNX SYSTEM

Use this chart to determine wiring assignment for each product (by wire color).

See legend on next page

PRODUCT	8 PIN CONNECTOR								4 PIN CONNECTOR				FLYING LEADS			
	1-Black	2-Red	3-White	4-Green	5-Orange	6-Blue	7-Brown	8-Yellow	9-Violet	10-Gray	11-Pink	12-Tan	13-Red/Green	14-Red/Yellow	15-Red/Black	
CYLINDRICAL LOCKS	POWER		SWITCH			SWITCH			OPEN	SWITCH			SWITCH			
CORBIN RUSSWIN	12 or 24 V DC or AC															
SARGENT	NEG	POS														
YALE	12 or 24 V DC or AC		REX - OPTION													
	NEG	POS	C	NO	NC											
MORTISE LOCKS																
CORBIN RUSSWIN	12 or 24 V DC or AC		M92 - OPTION			M91 / M105 - OPTION										
SARGENT	NEG	POS	C	NO	NC	C	NO	NC		LN/DX - PREFIX						
YALE - 8800 Series	NEG	POS	C	NO	NC	C	NO	NC		C	NO	NC				
	12 or 24 V DC or AC		REX - OPTION (CASE)			RX - PREFIX (CAP)				LBM/DBM - OPTION						
	NEG	POS	C	NO	NC	C	NO	NC		C	NO	NC				
ELECTRIFIED EXIT TRIM																
CORBIN RUSSWIN	12 or 24 V DC or AC		M98 - OPTION													
SARGENT	NEG	POS	C	NO	NC											
YALE	12 or 24 V DC or AC		54 - PREFIX													
	NEG	POS	C	NO	NC											
	12 or 24 V DC or AC		SM - OPTION													
	NEG	POS	C	NO	NC											
EXIT DEVICES																
CORBIN RUSSWIN	12 or 24 V DC or AC		M91 - OPTION			M92 - OPTION				M93 - OPTION						
SARGENT	NEG	POS	C	NO	NC	C	NO	NC		C	NO	NC				
	24 V DC		53 - PREFIX			55 - PREFIX				24 V DC OR AC						
	56-58 - OPTION									TL - PREFIX						
	NEG	POS	C	NO	NC	C	NO	NC	NEG	POS						
YALE	12 or 24 V DC or AC		5 - OPTION			B - OPTION				0 - OPTION						
	NEG	POS	C	NO	NC	C	NO	NC		C	NO	NC				
ALARMED EXIT DEVICES																
CORBIN RUSSWIN M61 Alarm	9 V DC or AC		REX	EG	REX	RM			TAMPER		RESET					
SARGENT -AL-80 Series	9 V DC		REX	EG	REX	RM			DS		RR					
SARGENT -5100.5800	9 V DC		MS													
	NEG	POS														
SARGENT -540.550	9 V DC		REMOTE MONITOR, DOOR STATUS, REMOTE RESET - FIELD SELECTED													
	NEG	POS														
YALE	9 V DC or AC		REX	EG	REX	RM			TAMPER		RESET					
	NEG	POS	POS	EG	NEG	C	NO	NC	POS	NEG	POS	NEG				
DELAYED EGRESS EXIT DEVICES																
CORBIN RUSSWIN	12 or 24 V DC or AC		SECURE OUTPUT		ALARM OUTPUT		RESET	BYPASS								
	NEG	POS	NO	NC	NO	NC	*	*								
SARGENT -57-80 Series	24 V DC		FA	EG	EI	DS	EXTERNAL MAGNET									
	NEG	POS	*	EG	*	*	*	*								
SARGENT -59-80 Series	24 V DC		FA	EG	EI	DS	RAR		LBM - OPTION			VOICE/GANG				
	NEG	POS	*	EG	*	*	NO	NC	NC	C	NO	NC	C	NO	NC	
YALE	12 or 24 V DC or AC		SECURE OUTPUT		ALARM OUTPUT		RESET	BYPASS								
	NEG	POS	NC	NO	NO	NC	*	*								
ACCESS CONTROL DEVICES																
CORBIN RUSSWIN - Access 800	9 V DC		REX	EG	REX	DATS IN	DATA OUT	RTS								
	NEG	POS	POS	EG	NEG	*	*	*								
SARGENT - G1 Profile Series	9 V DC		REX	EG	REX				DM		DM					
	NEG	POS	POS	EG	NEG				A		B					
SARGENT- N1 Profile Series	12 or 24 V DC		LC	EG	DPS INPUT	8545 DATA A	8545 DATA B									
	NEG	POS	C	EG	*	A	B									
YALE - eBOSS Cylindrical Lock	9 V DC or AC		REX - OPTION			REMOTE ENTRY										
	NEG	POS	C	NO	NC	C	NO									
YALE - eBOSS Mortise Lock	9 V DC or AC					REMOTE ENTRY										
	NEG	POS				C	NO									
FOLGER ADAM EDC Products	12 or 24 V DC		SWITCH #1			SWITCH #2			SWITCH #3							
	NEG	POS	C	NC	NO	NO	C	NC	NO	C	NC					
HES Products	12 or 24 V DC		SWITCH #1			SWITCH #2			SWITCH #3							
	NEG	POS	C	NC/EG	NO	NO	C	NC	NO	C	NC					
SECURITRDN Products (Except those listed below)	12 or 24 V DC		SWITCH #1			SWITCH #2			24 V DC OR AC		SWITCH #3		24 V DC			
	NEG	POS	C	NC/EG	NO	NO	C	NC	POS	NO	C	NC	NEG			
SECURITRON .SMC HANDLE EL-EMH Series	12 V DC		SWITCH #1													
	NEG	POS	C	NC	NO											
SECURITRON -Touch Sense, EL-TSB-3 Series, EL-TSH Series	12 V DC		(NC PAIR)		(NO PAIR)											
	NEG	POS	NC	NC	NO	NO										
SECURITRON -Power Transfer, EL-EPT, EL-EPTL																
	Wire colors will coordinate with the ASSA ABLOY product it's connected to															

Contact WVU Mountaineer Card Office/WVU Lock Shop for addition assistance

Electrolynx™ Ordering Information



Door Security Solutions™

Wiring Chart

LEGEND		
C	COMMON CONTACT	
NO	NORMALLY OPEN CONTACT	
NC	NORMALLY CLOSED CONTACT	
*	SINGLE INPUT CONTACT	
CORBIN RUSSWIN		
D	DELAYED EGRESS	
EG	EARTH GROUND	
M35	HARDWIRED	
M61	ALARM EXIT	
M91	LATCHBOLT MONITOR	
M92	TOUCH BAR MONITOR/REQUEST TO EXIT	
M93	OUTSIDE TRIM MONITOR	
M94	ELECTRIC LATCH PULLBACK	
M97	ELECTRIC DOGGING	
M98	SECURITY MONITOR (EXIT TRIM)	
M105	SECURITY MONITOR (MORTISE LOCK)	
REX	REQUEST TO EXIT	
RM	REMOTE MONITOR	
SARGENT		
53	LATCHBOLT MONITOR	
54	LEVER MONITOR	
55	REQUEST TO EXIT	
56	MOTORIZED LATCH RETRACTION	
57	DELAYED EGRESS - EXTERNAL MAGNET	
58	ELECTRIC DOGGING	
59	DELAYED EGRESS - ELECTROGUARD	
A	SINGLE INPUT CONTACT	
B	SINGLE INPUT CONTACT	
OPS	DOOR POSITION CONTACT	
OS	DOOR STATUS	
OM	DOOR MONITOR	
OX	DEADBOLT MONITOR	
EG	EARTH GROUND	
EI	EXTERNAL INHIBIT CONTACT	
FA	FIRE ALARM CONTACT	
LC	LOOP COMMON	
LX or LBM	LATCHBOLT MONITOR	
MS	MONITOR SIGNAL	
RX or REX	REQUEST TO EXIT	
RM	REMOTE MONITOR	
RAR	REMOTE ALARM RELAY	
RR	REMOTE RESET	
YALE		
A	HARDWIRED - POWER	
B	TOUCH BAR MONITOR	
OMB	DEADBOLT MONITOR	
HW	HARDWIRED	
LBM	LATCHBOLT MONITOR	
O	OUTSIDE TRIM MONITOR	
REX	REQUEST TO EXIT	
RM	REMOTE MONITOR	
SM	SECURITY MONITOR	
S	BOLT POSITION MONITOR	

This information is current as of printing (May 2006). Please contact your local Door Security Solutions representative or the manufacturer for specific technical questions.

Door Security Solutions™

110 Sargent Drive
 New Haven, CT 06511
 800.DSS.EZ4U (377.3948) | 203.624.5225
www.assaabloydss.com