

Security Considerations for Secure Workplaces

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Overview

- Security Risk Assessment The Process
- Security Design Process
- Technology Updates & Design Considerations
- Security Hardware







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- Security Survey
 - Access current provisions
 - Meet with local law enforcement authorities
 - Identify current response capabilities
 - Identify operational procedures
 - Current operational personnel



- Threat scenarios
- History of Loss Events
- History of nearby Loss Events
- Available intelligence
- Current trends

Probability

 Weighted factor of probability is assigned to each Loss Event



Criticality

- Direct financial loss
- Indirect financial loss

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Criticality vs. Probability Matrix

– Which loss events are worthy of our attention?

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- Develop Countermeasures
 - Typical solutions
 - Evaluations of options developed

Architectural Countermeasures

- Stand off distances
- Limit vehicular access in close proximity to facility
- Keep landscaping "under control"
 - Density
 - Plant selection
 - Trees need to be tall
 - Scrubs need to be low
 - Landscape lighting is part of security!

Architectural Countermeasures

- Pedestrian flow from parking to facility
- Ease of staff entry and check-in
- Stacking of like services
- Stacking of like security requirements

Risk Assessment Implementation Process



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Risk Assessment Completion of the Process

- Revisit the Security Vulnerability and Risk Profiles
 - Did the risk probabilities reduce?
 - Did the risk criticalities reduce?



Design Process

Security Design Master Plan Considerations

- Open vs. closed facility ability to "ratchet up security" as needed
- Identification of real threats for the facility
- Visitor policies
- Service access
- Departmental interaction
- Technologies needed

Basic Security Design

Based on concentric "circles of protection".

- Site Perimeter.
- Building Perimeter.
- Individual Floor Space Perimeter.
- Special Areas.



Design Perimeter Security Measures

- Architectural design concepts (CPTED concepts, etc.).
- Physical Security Barriers:
 - Fences, landscaping, walls, etc.
 - Parking controls, vehicle emergency barriers, parking controls, etc.
 - Blue light intercom stations, parker assist stations, etc.
 - Lighting.
 - CCTV.
 - Access Control.

Security Measures: A Comprehensive Approach

- Target hardening.
- Access control.
- Deflecting offenders.
- ID cards.
- Entry/exit screening.
- Formal surveillance CCTV and security force.
- Employee participation.
- Natural surveillance.

- Target removal.
- Identifying property vehicle ID permits, asset tags, etc.
- Reduce temptation.
- Deny benefits from criminal acts.
- Codes, standards and protocols.
- Signage.

Design Electronic Security Measures

- Access control and intrusion detection.
- Closed circuit television CCTV surveillance and recording.
- Voice Communication Systems VCS.
- Audio Alarm Monitoring Systems.
- Optical Turnstiles.
- Elevator Controls.
- Photo identification and badging systems.
- Visitor identification and tracking.
- Vehicle Controls.

Design Individual Floor Space Measures

- Access control and monitoring.
- CCTV.
- ID Badging.
- Intrusion detection.
- Specialized security measures and equipment.
 - Network authentication.
 - Covert CCTV.
 - Biometrics.
 - Intrusion detection.



Technology Updates & Design Considerations

Technology CCTV Surveillance Systems

- Why we don't want to hide camera?
- An enclosure is a must!
- How small can a camera get?
- Cabling and structured cabling systems
- IP based cameras
- Digital Video Recording

Technology Access Control Systems

- Biometrics
- Optical and barrier type turnstiles
- Smart Chip access cards
- Guidelines for making cardreaders "disappear"
- Cardreaders Size really does matter



Electro-Mechanical Hardware

Presented by HMA Consulting, Inc. WMA, Inc.

Hardware Overview

- Basic Electrical Circuit
- Electro-Mechanical Components
- Applications



The first step to confidence



- The Basic Circuit
 - Power Supply
 - Conductor
 - Switch
 - Load

- Conductors
 - Wires Connecting All Other Components of the Circuit
 - May Be Solid or Stranded
 - Must Be Sized According to Load and Power Supply Manufacturer's Recommendations

Switches

- Momentary
 - Functions similarly to a buzzer push button
- Maintained
 - Functions similarly to a light switch

- Components That Act As Switches
 - Push Buttons Usually Momentary
 - Key Switches Momentary or Maintained
 - Key Pads Momentary or Maintained
 - Card Readers Momentary or Maintained

- Other Switch Terminology
 - Normally Open
 - Requires action to close the circuit
 - Normally Closed
 - Requires action to break the circuit

Loads

- Components that perform actions
- Types of loads and their applications will be discussed in the next section



Building Blocks for Integrated Systems!

Power Supplies

- Non-intelligent
 - Transformer
 - Line Voltage
- Intelligent
 - Regulated Power Supply
 - Fire Alarm Circuit
 - Seismic Sensor Circuit
 - Water Flow Sensor Circuit

Power Transfers

- Purpose
 - Transfer power from frame to door
- Examples
 - Electric Through-Wire Hinge
 - Electric Power Transfers
 - Door Loop s



Electric Through-Wire Hinge



Stanley CE

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Precision EPT

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Electric Latch Retraction Exit Devices

- Purposes
 - Provide electric dogging in fire-labeled and non-labeled applications
 - Provide momentary latch retraction for card reader or keypad access control systems
 - Provide momentary latch retraction for automatic door operators

Electric Latch Retraction Exit Devices

- "Bewares"
 - Fire labeled devices with electric latch retraction require a fire alarm contact connected to the power supply
 - Some electric latch retraction devices require time delay to allow for slowly retracting latch bolts
 - Some electric latch retraction devices require dedicated power supplies

Electric Latch Retraction Exit Device

) <u>a</u>	ELR Conversion Kit A danket Serie content fills the Dediti Latin Retactor optim by ordering the Mit Tate Fellow. A ELR Conversion Nit REQUERD's ELR 150 Series Power Supply (see page 23).
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	Narrow Sile Devices 3-4" NOLRK-3, NELRKF-3
allable for all Series Devices	4-C NELEX-4 NELEXF-4
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ces. Continuous duty scienceds retract the Latchoolicy onesestary anilation or continuously for degrap. The feature can beliefstated with automatic foor operation, readers, puch buttors, loggieflay sectories, and the in system.	Solenoid Specifications: 475Amp. Carmer Pulles (2 teachds max.)
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ar Widtha: 3' Device - 27' to 3'0' Door 4' Device - 3'7' to 4'0' Door	
 Power Supply model number is determined based on the object of devices requiring electrical power. 	
150 - Power Supply, no control modules 151 - Power Supply including (1) control module to control (1) with device 153 - Power Supply including (3) control modules to	
control (2) exit devices	
control (2) with devices control (2) with devices R154 - Power Suppriving and devices	
control (+G exit devices	
order power supply with Battery Backup specify suffic BT (g. BLR1518T)	
To order: specify prefix "ELR" (e.g. ELR2100)	

Precision ELR Exit Devices

Electric Locks and Exit Devices

- Purpose
 - To electrically lock or unlock secure side trim
- Types
 - Fail-safe Apply electricity to lock
 - Fail-secure Apply electricity to unlock
- Uses
 - Stairwell doors where access is required under fire alarm conditions - Fail-safe

Electric Locks and Exit Devices

- Uses Continued
 - Key pad or card reader access
 - Timed unlocking of doors that you wish to remain latched
 - Fire rescue entries Fail-safe

30HW ELECTRIFIED SPECIFICATIONS

Best electromechanical locks provide a way to lock or unlock a door from a remote location for safety, convenience, or security. Best offers the 8KW/9KW cylindrical and 34HW/35HW mortise locks in fail-safe or fail-secure operation. These locksets can be controlled by an individual switch, switch lock, relay, access control or other automatic control system. As expected, the 8KW/9KW and 34HW/35HW electromechanical locks exhibit the same features and meet the same specifications as our standard 8K/9K cylindrical and 34H/35H mortise locksets.

TNOTE: 8KW/9KW Electromechanical locksets are intended for use on 1 3/4" minimum thick doors. Consult your local BEST office when installing 8KW/9KW electromechanical locksets on doors less than 1 ⁵/4" thick.

Types:

- 24 volts AC or DC 0.75 amps
 EU: Electrically Unlocked (Fail Secure)
- EL: Electrically Locked (Fail Safe)

- Approval Listings: UL listed for GYQS Electrically-controlled singlepoint locks or latches.
- This product has been approved by the California State Fire Marshal (CSFM)
 pursuant to section 13144.1 of the California Health and Safety Code.
- · Approved by the city of New York Board of Standards and Appeals under calendar number 49-88-SA. See CSFM listing No. 4136-1175:101 for allowable values and/ or conditions fo use concerning material presented in this document. It is subject to re-examination, revisions and possible cancellation.

NOTE: A Temperature Control Module (TCM) may be needed when a lockset is energized for long periods of time. The TCM must be ordered separately for EU functions, but is automatically included with 34HW/35HW EL functions.



30HW Mortise Electrically-Operated Lockset

Electric Lock

Best W Series

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ELECTRIC DEVICES

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E2103 Electric Rim Device

The Electric Rim Device controls entry by remote locking or unlocking of the outside trim. In addition to a 24 VDC solenoid, the exit device is size equipped with a SPDT - single pole double throw awith. The switch monitors the outside trim (locked or unlocked).

The device is furnished standard as Fail Secure (FSE). When power is off the time is locked. Power is applied to unkok the trim. May be field converted to the Fail Safe (FS) mode. (FS) power is applied to lock the time. Specify (FS) or (FSE) mode when ordering. Specify outside Trim with '08' function. The outside key oylinder retracts the latahbalt for mechanical override. If outside cylinder (mechanical override) is not required, specify outside tim with '14' function.

E2103K Kit

1000

To convert 2103, FL2103 devices to E2103, FLE2103 devices in the field. The Kit includes Trim locking assembly and Electric "E" locking assembly.

Electrical Ratings:

- Switch rated to 2 Amps at 24VDC SPDT Solenoid current draw: 0.3 Amps.
- To Order:

Device: specify prefix "E" (e.g. E2103 x FSE x 3908A) Kit: specify Kit No. (e.g. E2103K x FSE)



E2303 Electric Mortise Device

The Electric Mortise Device controls entry by remote locking or unlocking of the outside tim. In addition to a 24 VDC sciencid, the motise look is also equipped with a SFDT - single pole double throw switch. The switch monitors the outside trim (locked or unlocked).

The device is furnished attended as Fail Secure (FSE). When power is off the time is locked. Fower is applied to unlock the time. May be field convented to the Fail Secure (FS) - power is applied to lock the time. Specify (FS) or (FSE) mode when ordering. Specify outside Time with '00' function. The outside key cylinder retracts the latchtoch for mechanical override is not required, specify outside Time with '14' function.

Field Conversion

To convert 2303, FL2303 devices to E2303, FLE2303 devices in the field a Electric Martise Look is required. Specify EM303, EM303F, LSEM303 or LSEM303F (see below for Electric Martine Looks).

Electrical Ratings:

Switch rated to 2 Amps at 24VDC SPDT Solenoid current draw: 0.2 Amps.

To Order:

Device: apecity prefix "E" (e.g. E2303 x FSE x 3908A) Note: The exit device can be used as a conduit for wining to the hinge side of the door.

Electric Exit Device

Precision E Device

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Magnetic Locks

- Purpose
 - Prevent door from being opened when energized
- Types
 - Direct Hold magnetic field directly holds strike to magnet
 - Shear magnetic field moves strike over protrusion in lock

Magnetic Locks

- Uses
 - High frequency access control situations
 - Never as the only lock on a fire door
 - Never on a means of egress without special provisions



Surface Mounted Magnetic Lock



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Shear Lock



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- Electromagnetic Door Holder/Release
 - Purpose
 - To hold open a door with a closer usually a fire door
 - Types
 - Wall mounted
 - Surface
 - Recessed
 - Floor mounted

- Electromagnetic Door Holder/Release
 - "Bewares"
 - Do not use wall type when door opening degree is between 110° and 179°
 - Power should be provided by fire alarm circuit when used on a fire door
 - Holder acts as a door stop be certain that door is under control

Electromagnetic Door Holder/Release



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Electric Strikes

- Purpose
 - To allow a door to be pulled open without retracting the latch bolt
- Types
 - Fail Secure Only type that may be used on a fire door
 - Fail Safe Uses are rare Double cylinder locks, etc.

Electric Strikes

- Uses

- Card reader and keypad access control systems
- Desk console access control systems

"Bewares"

- Fail-safe may <u>not</u> be used on fire doors.
- Match strike with lock type
- Strike may have to be moved vertically to maintain standard lock height

Electric Strike



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- Signaling and Monitoring Devices
 - Uses
 - Security monitoring
 - Automation of other electro-mechanical functions
 - Authorized request to exit inhibits alarm
 - Tamper monitoring
 - Types
 - Door position switch concealed in hinge
 - Magnetic

Signaling and Monitoring Devices

- Push switch
 - Excellent aesthetics, poor security door may be left ajar without tripping switch
- Lock and Exit Device Monitor Switches
 - Request to exit switch
 - Monitors exit device push pad
 - Latch bolt monitor switch
 - Monitors exit device latch position
- Monitor Strikes
 - Used as door position switch
 - May be incorporated into electric strike

Signaling and Monitoring Devices

- Electromagnetic Door Position Switch
 - Concealed
 - Surface Mounted
- Key Switches
 - Allows authorized user to inhibit or reset alarms, turn system off or on

Automatic Operators

- Purpose
 - To open door automatically providing accessibility to facility
- Uses
 - Accessible building entrances
 - Accessible interior doors
 - Specialty applications

Automatic Operators

- Types
 - Low Energy
 - ANSI A156.19
 - High Energy
 - ANSI A156.10
 - Swing Door
 - Slide Door
 - Revolve Door



Security & Safety Systems TTX2000



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Specialty Devices

- Delayed Egress Exit Devices
 - Prevent unauthorized egress pilferage or escape
 - 15 Second delay actuate push pad for 15 seconds while alarm sounds before latch bolt will retract
 - Other delay times available with letter from Authority Having Jurisdiction
 - Most are UL listed for panic and may be listed for fire exit hardware
 - Many electrical options on board card reader interface, etc.

Delayed Egress Exit Devices

- "Bewares"
 - Building <u>must</u> have sprinkler system and/or fire alarm system
 - All Authorities Having Jurisdiction <u>must</u> recognize NFPA 101 - Life Safety Code Section 5-2.1.6 "Special Locking Arrangements"
 - <u>Must</u> have dedicated power supply with fire alarm contact
 - Some delayed egress systems may not be UL listed for panic or fire exit hardware



Applications



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Questions?

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