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White Papers: Electrified Cylindrical Locksets



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This is a complimentary sampling. White papers are typically sent via SDC E-News. To receive all SDC White Papers, SDC Academy Schedule, product application info and announcements, go to:

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SECURITY DOOR CONTROLS

Electrified Cylindrical Locksets



May 27, 2008

Application

Electrified cylindrical locks may be used on non-fire rated and fire rated wood, mineral core and hollow metal doors. Additionally, the building code compliant 7200 Series electrified cylindrical locksets stay latched even when unlocked, maintaining fire door integrity. This basic ability complies with national code requirements for up to 3-hour fire rated doors, including elevator lobby and stairwell doors where electromagnetic locks and electric strikes are not permitted, (See Misapplication*, page 2).

Electrified cylindrical locks eliminate the need for exposed and vulnerable locking devices, such as electric strikes, magnetic locks and remote request-to-exit devices. What's more, they are ideal for high profile installations that require high security or superior appearance.

Facility applications include: Commercial High-Rise Buildings, Industrial and Technology Centers, Health Care, Transportation, Government and Military Facilities, Museums and Universities.

Failsafe - 7250

Locked when energized, the failsafe cylindrical lock function 7250 is ideal for interior door and exit door applications. Unlike a magnetic lock, the failsafe electrified cylindrical lock function 7250 is never locked from the inside and permits uninhibited egress at all times by turning the inside manual lever handle. This also eliminates the need for secondary egress switch devices, such as motion detectors, wall mounted exit switches and switch bars. When connected to the fire life safety command center, the lock releases immediately in an emergency, transforming a stairwell or elevator lobby door from a one-way exit into a two-way exit. This permits re-entry and eliminates the possibility of stairwell entrapment and potential exposure

to life threatening smoke inhalation. Additionally, fire fighters are permitted uninhibited access to all floors during an emergency, speeding life saving and fire extinguishing efforts. See Figure 1 for typical installation.

Access control applications include: Office and work center doors, mantraps and interlocks, communicating bathrooms, stairwell doors, elevator lobby doors, and exit doors.

Failsecure - 7252

Unlocked when energized, the failsecure electric cylindrical lock function 7252 is ideal for interior high security applications. The function 7252 is never locked from the inside and permits uninhibited egress at all times by turning the inside manual lever handle. This also eliminates the need for secondary egress switch devices, such as motion detectors, wall mounted exit switches and switch bars. Battery backup power supplies may be specified to provide power for operation during power outage. See Figure 2 for typical installation.

Access control applications include: Office and work center doors, mantraps and interlocks.

Code Compliance

IBC, IFC, NFPA 101, California Building Code, Chicago Building Code. ADA - Americans with Disabilities Act, 1991. California State Reference Code (formerly CSFM Title 19), Galaxy and Eclipse style lever handles return to within ½" of door face.

Listings

UL Listed: Electrically Controlled Single Point Locks & Latches
CSFM Listed: California State Fire Marshal

WHAT'S NEW

Electra™ PRO - SDC Brand

The **Z7200** series features an SDC manufactured ANSI Grade 1 Heavy Duty cylindrical lockset that retrofits other mechanical cylindrical lock brands. Standard features include: SPDT request-to-exit output for access controller alarm shunt; clutch for vandal and abuse resistance from forced lever handles; Dual 12/24VDC input.

Specify **Z7200** for new or retrofit applications that require a full-featured lockset with or without request-to-exit outputs, application versatility and vandal resistance.



Electra™ PRO - SDC Brand

Electra™ Mod - Schlage ND Lock Electrification

The **S7200** series is an SDC electrified Schlage ND ANSI Grade 1 Heavy Duty cylindrical lockset that retrofits Schlage or other mechanical cylindrical lock brands. Standard dual 12/24VDC input. Request-to-Exit output is optional and must be specified.

S7200: The Schlage ND cylindrical lock supplied by the distributor to the SDC factory for electrification.

Specify **S7200** series where Schlage electrified locks are preferred for the retrofit of Schlage or other brand mechanical locksets.



Electra™ Mod - SDC Electrified
Schlage ND Series Lock

*MISAPPLICATION: Magnetic Locks and Strikes

Magnetic Locks

The use of electromagnetic locks is not permitted on stairwell doors for several reasons. National codes have no provision for locking the interior side of stairwell doors at any time, but when a magnetic lock is energized the door is locked on the interior and exterior. Egress relies upon a secondary exit switch or request-to-exit device, while building codes do not permit the use of a secondary exit switch for stairwell door egress, as this requires both prior knowledge and two actions to achieve egress, as opposed to the single natural motion of lever rotation provided by electrified lockset. Motion detectors do not solve the problem either, since the codes have no provision for securing the door on the inside.

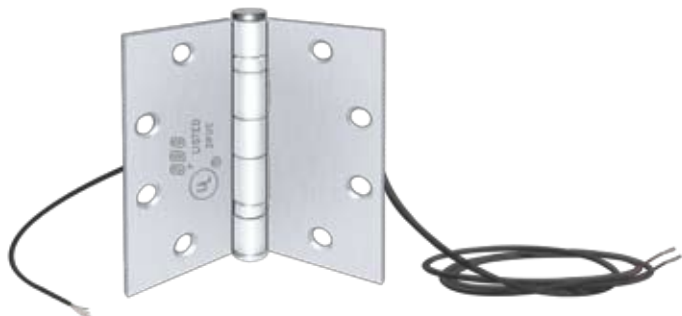
Electric Strikes

Electric strikes are not permissible on stairwell doors at any time. Failsafe electric strikes do not keep the door latched when unlocked, failing to maintain fire door integrity. Failsecure electric strikes are incapable of releasing during an emergency.

Approval of these products by local inspectors for stairwell door applications may not qualify as code compliant and may be indicative of code misinterpretation

White Papers: Electrified Cylindrical Locksets

Power Transfer Hinge



Installed in the center hinge position of the door, the PTH series electric hinge provides the concealed and vandal resistant wires required between the door and the frame for the purpose of powering and monitoring the access controlled locks. Choices include a 4-wire hinge for basic applications that may include a request-to-exit output and a 10-wire hinge to accommodate multiple remote lock status outputs, such as door status, latch status, locked status and request-to-exit.

IMPORTANT: It is important to note that when used on fire rated doors, the hinge must be UL 10B Listed, and carry the mark (F) located next to the UL symbol. The UL Listed (F), indicates that the hinge is UL Listed for use on up to 3 Hour 'A' label fire rated doors.

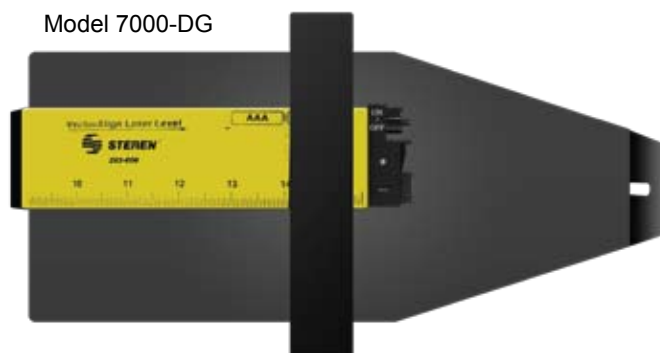
Hinge Configurations

A typical standard weight hinge, size: 4.5 x 4.5"

- PTH-4** Four wire hinge. This hinge is capable of power and a request-to-exit output.
- PTH-4DPS** Four wire hinge. A door position contact is also concealed inside the hinge.
- PTH-10** Ten wire hinge. This hinge is capable of lock power, request-to-exit output and up to three or four additional monitoring outputs.
- PTH-10DPS** Ten wire hinge. This hinge is capable of lock power, request-to-exit output and up to three or four additional monitoring outputs. A door position contact is also concealed inside the hinge.

Door Core Drill Guide

Typically fire rated hollow metal doors will require preparation for wire preps by the door supplier to maintain their fire rating. However, the SDC door core drill fixture provides the best method of field wire preparation for fire rated or non-fire rated particle filled and wood doors to accommodate the installation of electrified locksets, exit devices and hinges while maintaining the door integrity and rating. The installer may call for inspection of fire rated doors for re-certification when installation is complete.



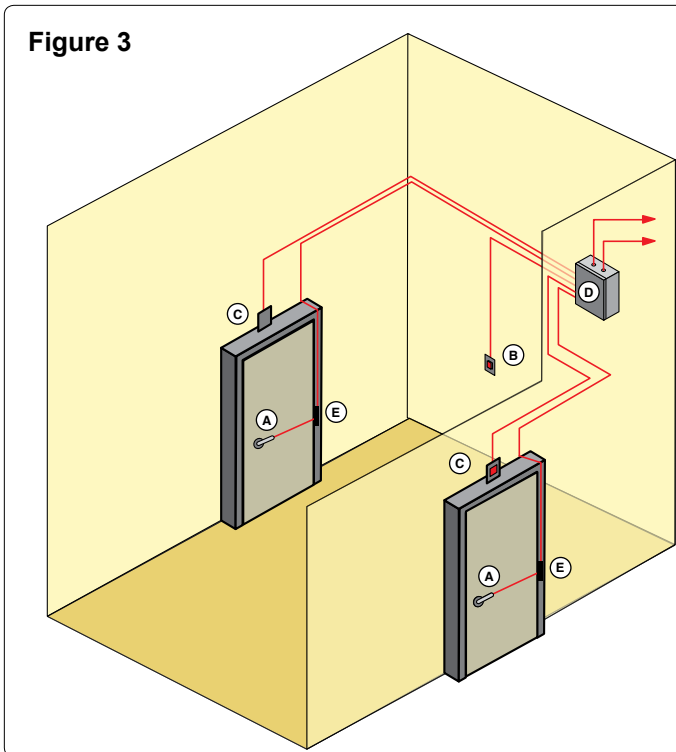
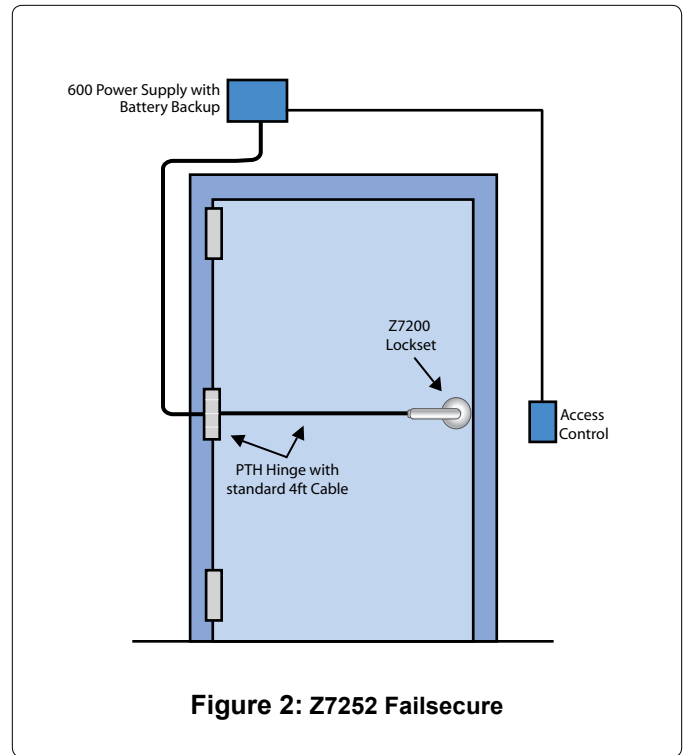
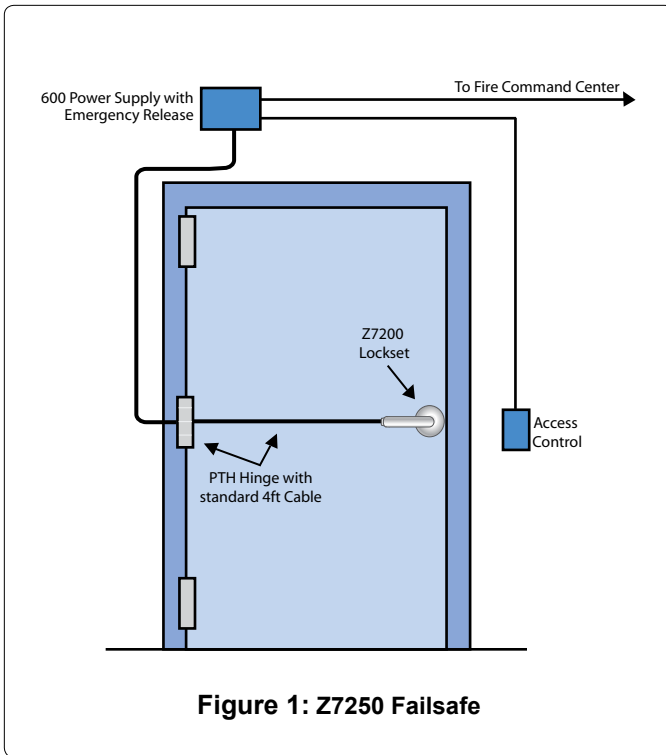
- The drill fixture allows for drilling from the hinge side without removing the door from the frame
- Will drill at up to 20 degrees from center, up or down.
- Drills in only 4 minutes
- Easy to use, no experience required.
- Evacuator drill bit standard

Note to Distributors and Installers

For a competitive edge, specify and promote the listing and performance attributes of the components you are providing with your installations. Include information on code compliance, city and state listings, quality (ISO 9001:2000), performance certification (ANSI/BHMA), specific laboratory listings (UL), service ease and warranty.

A Note to Building Owners

Know and understand the products being installed, or specify a preferred manufacturer yourself. Request that details about product and application code compliance are supplied with the installation bid, such as, city and state compliance, manufacturer quality management (ISO 9001:2000), performance certification (ANSI/BHMA), laboratory listings (UL), service ease and warranty. This information may be a deterrent to having an inspector reject an installation today, or even at a later date when NFPA 80 changes take effect. Additionally, non-compliance of components could lead to potential liability should a fire or life safety emergency occur in the facility.



SDC COMMUNICATING BATHROOM

1 Bathroom shared by 2 rooms

APPLICATION

Single hospital bathroom shared by two patient rooms.
 Single dormitory bathroom shared by two student rooms.

SYSTEM OPERATION

Both doors must be closed to lock.

Activating CB402A (B) locks both doors.

Exiting either door unlocks both doors.

When doors are locked, activating either CB402B (C) emergency release will unlock both doors.

Both doors will unlock automatically via signal from fire panel.

SYSTEM COMPONENTS

- (A) Z7250 failsafe lock with REX output
- (B) CB402A System activation push switch
- (C) CB402B Emergency release push switch to be mounted above each door. CB701B key switch optional.
- (D) 631RF-LR Power Supply with Fire Panel Tie-In, and System Control Logic.
- (E) PTH-4 Power Transfer Hinge