

Safe Lock

Installation Guide

Introduction

Safe Locks are the physical mechanisms that lock and unlock when a correct Access User Combination is entered into the Keypad. There are 3 variations of blocking mechanisms that can be used in different applications: Swing Bolt, Dead Bolt and Spring Bolt. Each one possesses a unique opening method while still being able to connect to a LA GARD Keypad.

Note: For security, unauthorized persons should not have access to the lock or its cabling on the secure side of the storage unit when it is opened.

Mount a Safe Lock

Prior to connecting a safe lock to a Keypad, each safe lock must first be mounted to the interior of the safe door. Follow these steps to properly mount a safe lock(s) to a safe door:

1. If mounting a deadbolt or springbolt, do the following:
 - a. Drill and tap the holes on the inside of the safe door using the provided tap template.
Note: The spindle hole diameter can be a minimum of .406" (10.3mm) to a maximum of .438" (11.1mm). The .406" (10.3mm) diameter is recommended. Spindle hole must be deburred.
 - b. Install the Keypad on the front of the safe door using the Keypad Installation instructions (Document #7033.0320)
 - c. Install the safe lock (always with the bolt extended) onto the spindle, placing it flush to the mounting surface
 - d. Attach the safe lock using the three US ¼"-20 (Metric M6X1) screws provided
2. If mounting a swingbolt, do the following:
 - a. Drill and tap the holes on the inside of the safe door using the provided tap template.
Note: The cable hole diameter can be a minimum of .406" (10.3mm) to a maximum of .438" (11.1mm). The .406" (10.3mm) diameter is recommended. Cable hole must be deburred.
 - b. Install the Keypad on the front of the safe door using the Keypad Installation instructions (Document #7033.0320)
 - c. Attach the safe lock assembly to the safe door using the three US ¼"-20 (Metric M6X1) screws provided. Tighten the screws to a torque setting of 30 inch-pounds.

Additional Installation instructions

- Only mount the lock using the provided mounting screws
- Recommended mounting screw torque: 30 in-lbf (3.4 Nm)
- The mounting screws have a nylon patch that acts to lock the screw in place. Additional thread lock is not recommended.

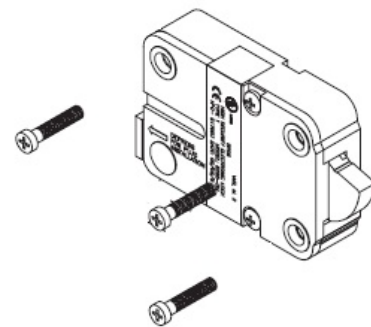


Figure 1

Protection from Magnetic Attack

In order for a safe to be protected from magnetic attack the container must be made from (or contain) a steel protective layer capable of diverting magnetic fields.

Boltworks Precautions – Swingbolt Locks

The blocking part "A" of the boltwork should exert force across the entire width of the lock bolt while opening. When in the locked position, the boltwork MUST NOT place pressure on the lock bolt. This could cause the lock to jam.

Note: In case of boltwork construction where two blocking parts are moving opposite one another, the one facing the round side of the lock bolt "B" should be cut off to avoid jamming of lock bolt.

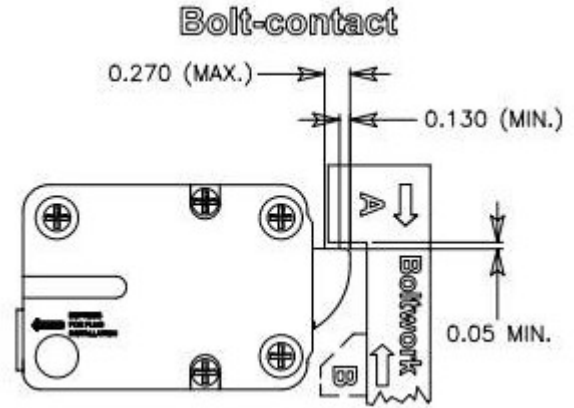


Figure 2

Lock Case Hole Layout Diagram

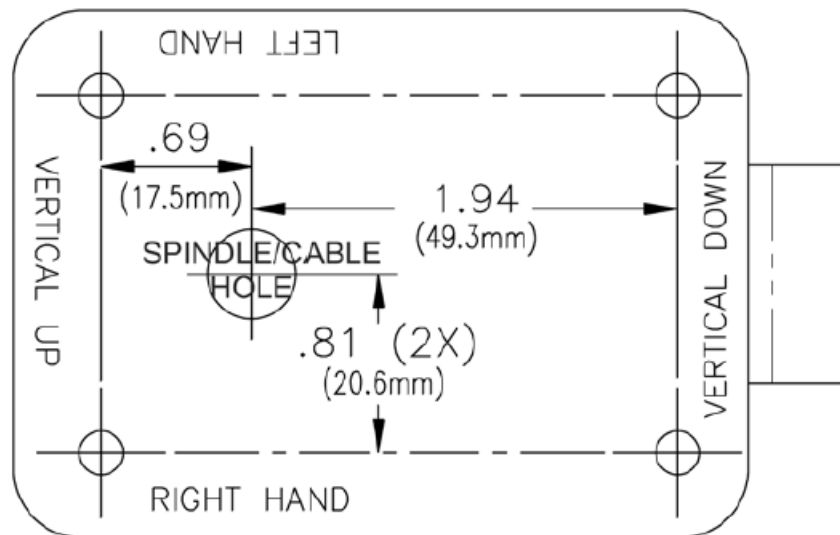


Figure 3

Maximum Bolt Load

Deadbolt & Springbolt:

- Maximum load movable by the bolt: 5 lbs. (22N)
Note: La Gard dead bolt locks may not open if more than 5 lbs. (22N) of force is applied to the end or side of the bolt.
- Maximum load against bolt when thrown (all directions): 224.8 lbs. (1kN)

Swingbolt:

- Maximum load movable by the bolt: None
Note: La Gard swing bolt locks may not open if force is applied to the end or side of the bolt.
- Maximum load against bolt when thrown (all directions): 224.8 lbs. (1kN)

Lock Dimensions - Deadbolt

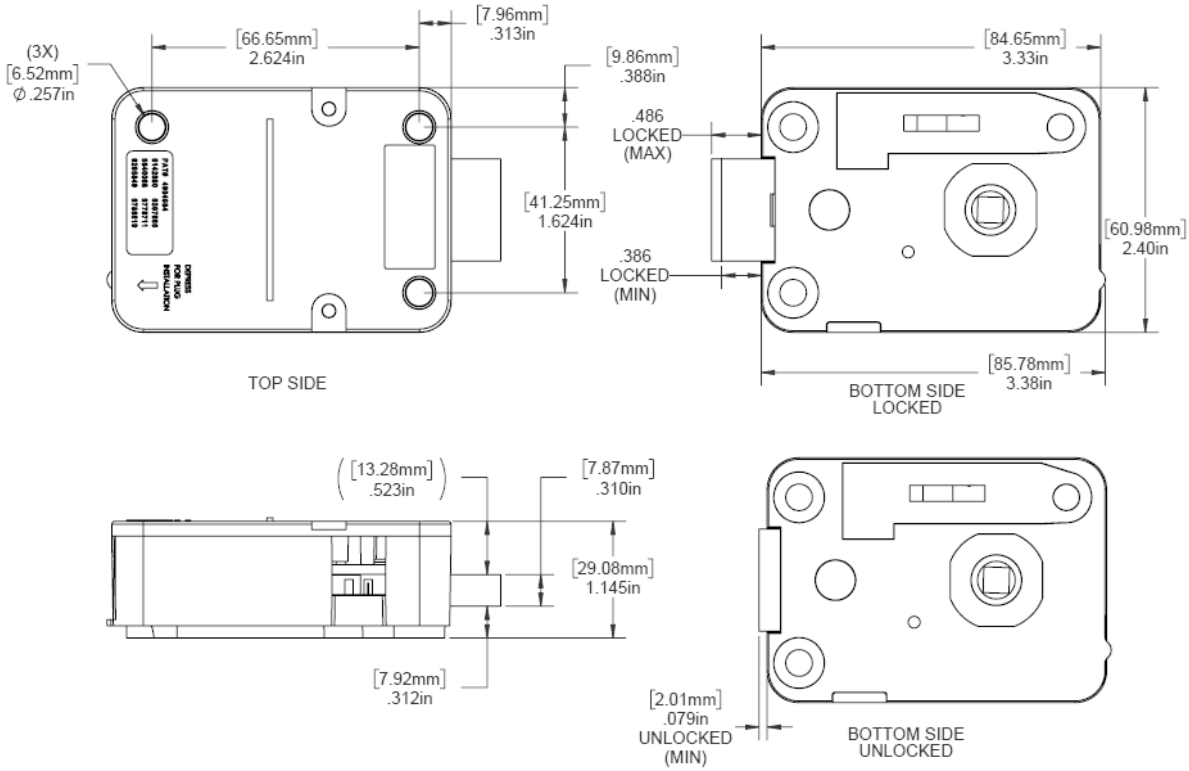


Figure 4

Lock Dimensions - Springbolt

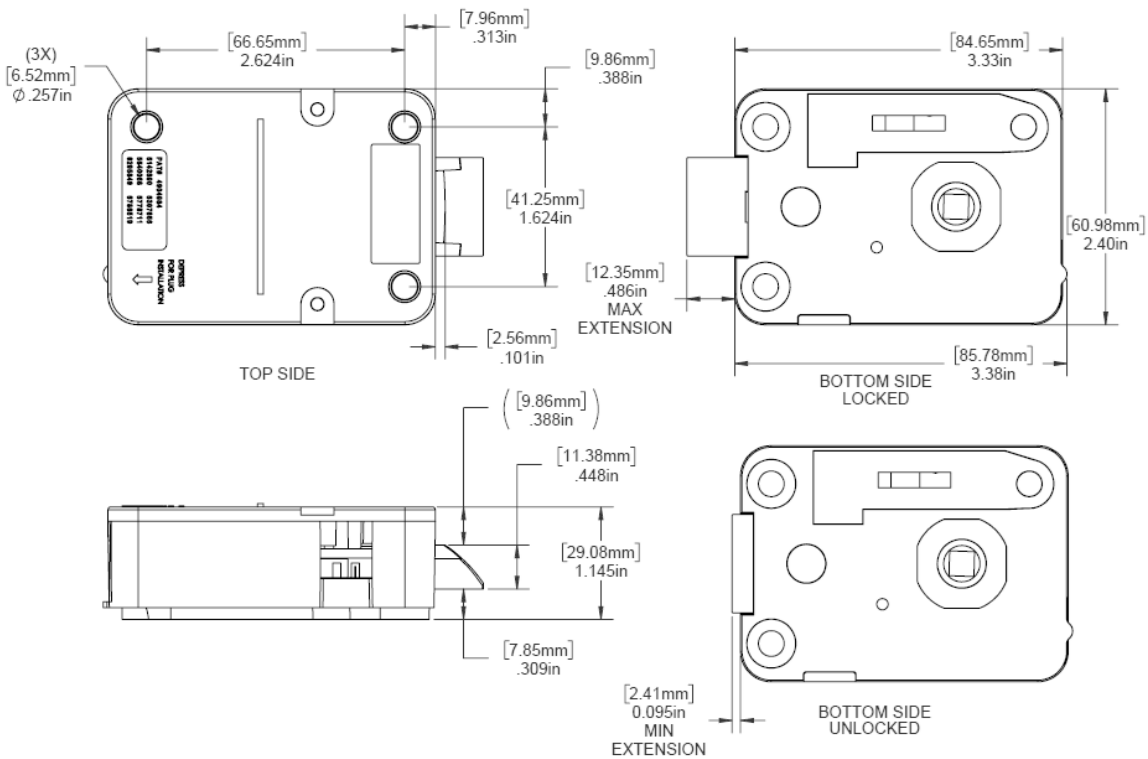


Figure 5

Lock Dimensions - Swingbolt

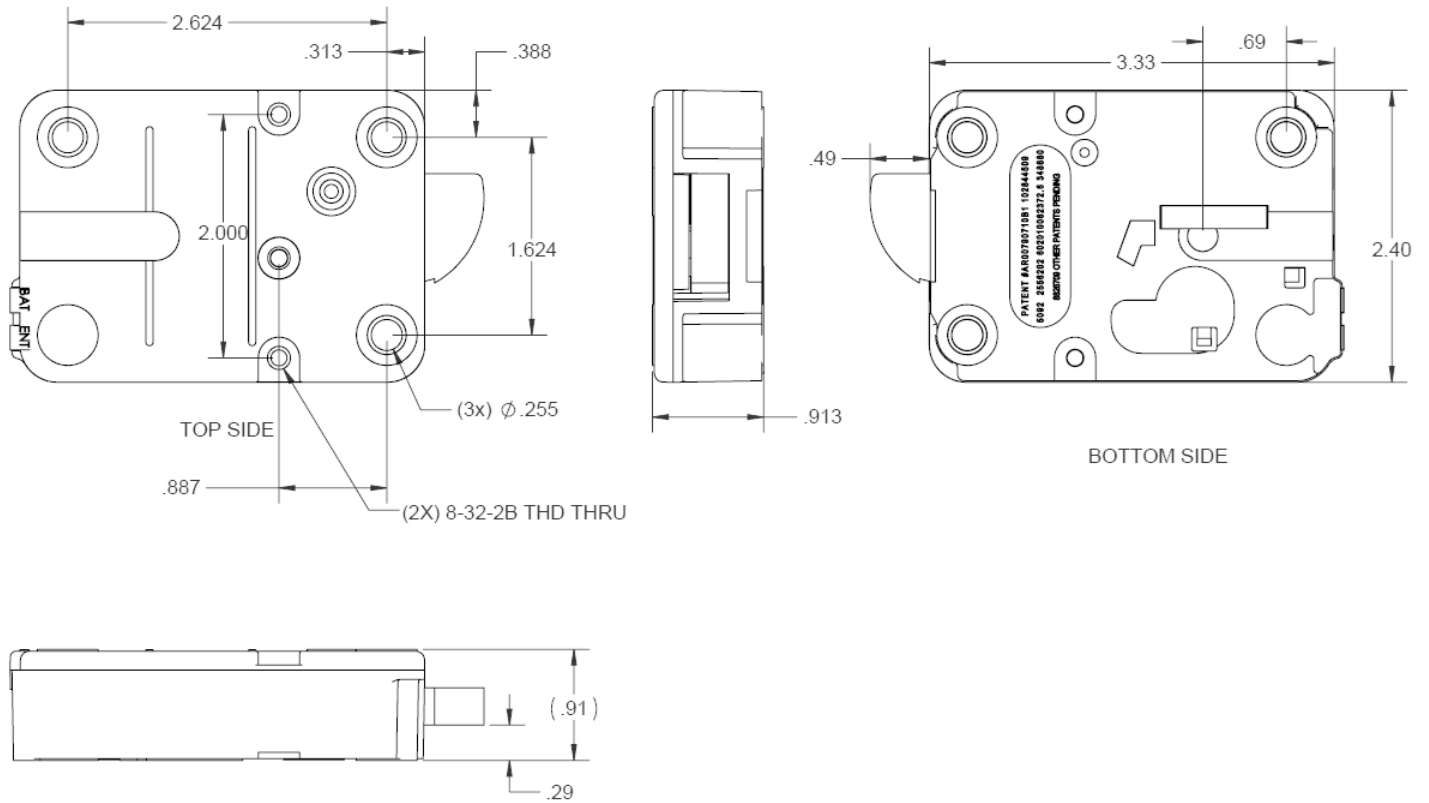


Figure 6

Bolt Switch Operating Instructions

The bolt switch is used to monitor the position of the bolt. Depending on the wiring harness color code, the connections are as follows:

COM: Blue
N/O: Red
N/C: Green

OR

COM: White with the letter designator C
N/O: Blue
N/C: White

With the bolt extended in the locked position, the closed circuit connection is between COM and N/C. With the bolt retracted in the unlocked position, the closed circuit connection is between COM and N/O.

Switch Specifications:

Rated Voltage: 125 VAC (3 Amps), 30 VDC (2 Amps)
Operating Speed: 1 to 500 mm/second (0.04 to 19.7 in./second)

CAUTION:

The bolt switch was not intended for high voltage applications
Never carry or support the weight of the lock with the wires.
This can damage the bolt switch

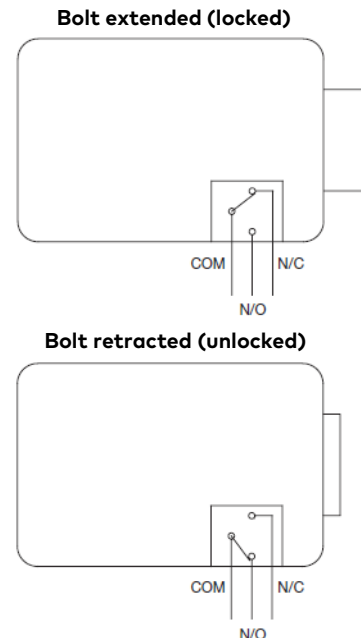


Figure 7

Redundant Mechanical Locks

In order to use a Redundant Mechanical lock, a method of retracting the bolt is required. An entire range of LA GARD dials is available for alternate dial options.

1. Locate, drill, and tap holes to mount the Lock Assembly to the inside of the safe door using the installation template provided.
2. Locate and drill the two holes for the dial ring to be mounted.
3. Attach the lock assembly to the door using the three US 1/4"-20 (Metric M6X1) mounting screws provided. Tighten the mounting screws to a torque setting of 30 in./lbs. (3.4 N•m).

Note: *Ensure the lock assembly spindle hole is properly aligned with the spindle through hole in the safe door.*

4. Measure total mounting thickness (door thickness + mounting plate). (Figure 8)
5. Cut the spindle to a length of 1.125" (28.6mm) plus the total mounting thickness.
6. Mount the dial ring centered on the through hole, and attach to the safe door using the two mounting screws supplied with the dial assembly. The opening index reference mark must be in the twelve o'clock position (Figure 9).
7. Place the dial bearing onto the dial ring.

WARNING: *The lock bolt MUST remain in the retracted position throughout the installation procedure. To ensure this keep one finger over the bolt while installing the dial spindle into the lock cam.*

WARNING: *Ensure that you are properly grounded to protect the system card from Electrostatic Discharge (ESD) damage before proceeding with the next steps.*

8. Remove the two cover screws from the back cover of the lock assembly, and remove the lock back cover (Figure 10).
9. Carefully unplug the solenoid connector from the system card. (If applicable, unplug the bolt switch connector from the system card.) (Figure 10)

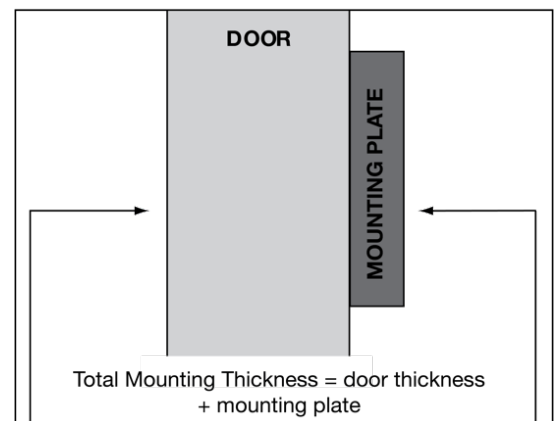


Figure 8

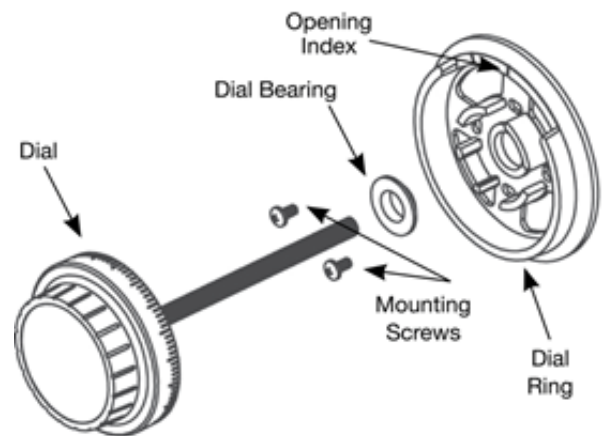


Figure 9

10. Remove the mounting screw from the system card, and gently lift the system card out of the case (Figure 10).
11. Insert the spindle through the spindle hole in the front of the door.
12. With the bolt retracted, carefully thread (clockwise) the spindle into the drive cam of the lock assembly until tight.
13. Next, rotate (counterclockwise) at least 1/2 turn until the groove in the spindle is aligned with the correct spline position. The correct spline position for the installation orientation showing in Figure 10 is RH (for a "Right Hand" door). Refer to the following **Spline Key Position Chart** (Figure 11) for all mounting positions.

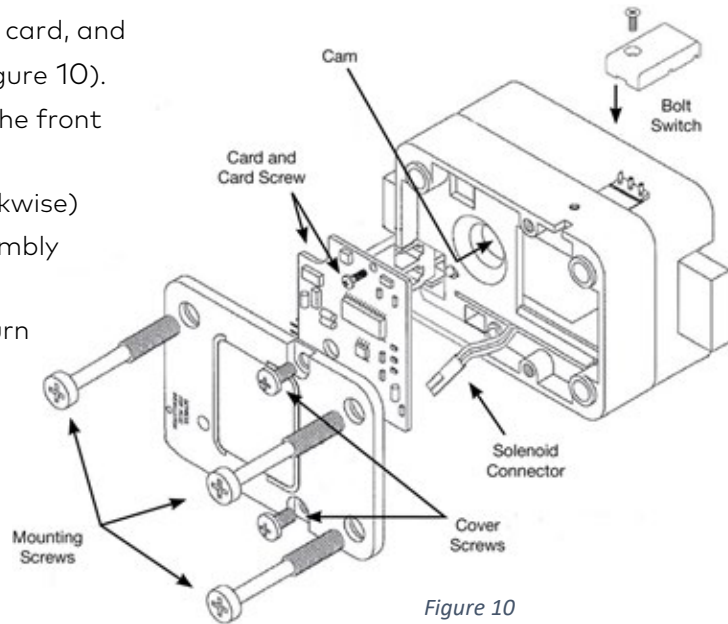


Figure 10

Spline Key Position Chart

The lock may be mounted in four positions - align the spindle groove with the corresponding cam position. The positions are:

- **RH** (right hand)
Lock bolt points right as you view the lock from the back side of the door.
- **LH** (left hand)
Lock bolt points left as you view the lock from the back side of the door.
- **VU** (vertical up)
Lock bolt points upward.
- **VD** (vertical down)
Lock bolt points downward.

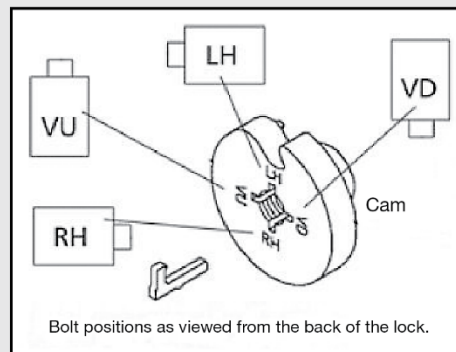


Figure 11

14. Insert the spline key fully into the cam from the back of the lock assembly by tapping it into place.

IMPORTANT NOTE: *Ensure the spline key is seated against the spindle.*

15. Reinstall the system card.
16. Reconnect the solenoid (and bolt switch if applicable.)
17. Reinstall the back cover.
18. Connect the cable coming from the Entry Device directly into the connector port marked ENT on the lock.

Note: *Ensure the cable is secure and away from any moving parts.*

Connect a Safe Lock to a Keypad

Once the keypad and lock are physically installed on the safe container, follow these steps to connect a safe lock to a Keypad:

1. For single lock systems, do the following:
 - a. Connect the cable from the keypad into the ENT port. With the lock connected, apply power to the system. If a Battery Box, Alarm Box or AC power adapter is being used, plug the cable from any of those accessories into the safe lock BAT port

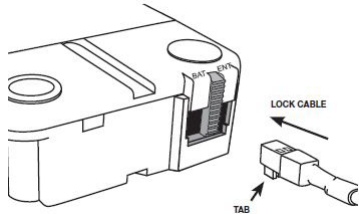


Figure 12

- b. Follow the on-screen prompts for Display Keypads or consult the System User Guide (Document #7040.1121) for non-Display Keypads to enter the lock settings and initialization
2. For multi-lock systems, do the following:
 - a. Connect the cable from the Keypad to the port on the side of the Multiplexer.
 - b. Connect the first safe lock (known as Lock #1 to the System) from the ENT port to the #1 input on the Multiplexer
 - c. From Lock #1, connect from the BAT port to a power supply (either the AC Adapter into a wall receptacle or to the BAT port of a Battery Box)
 - d. Repeat Step b for each additional safe lock, using inputs #2, #3, etc. on the Multiplexer.
 - e. Keypads with Display screens will display prompts to continue, while non-Display Keypads require pound (#) commands. Consult the System User Guide (Document #7041.0320) for more information

Specifications

Electrical Rating

9VDC powered via keypads OR Battery Box OR 9VDC, 1.33 Amps Power Supply

Environmental

Operating & Storage Temperature Range: For UL compliance, this product was verified for operation at 32 – 122 °F (0 – 50 °C)

Relative Humidity Range: 0 – 95% non-condensing

Safe Lock Models

Keypad Models 701, 702, 702D, 703, 703B, 704, 704B and 705 (Input Units Keypads) for use with High Security Lock Models 731 (Deadbolt), 732 (Springbolt) and 733 (Swingbolt).

Keypad Models 7BAS for use with High Security Lock Models 7B1 (Deadbolt) and 7B3 (Swingbolt).