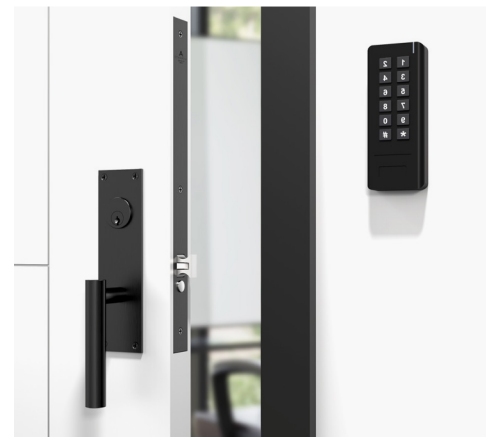
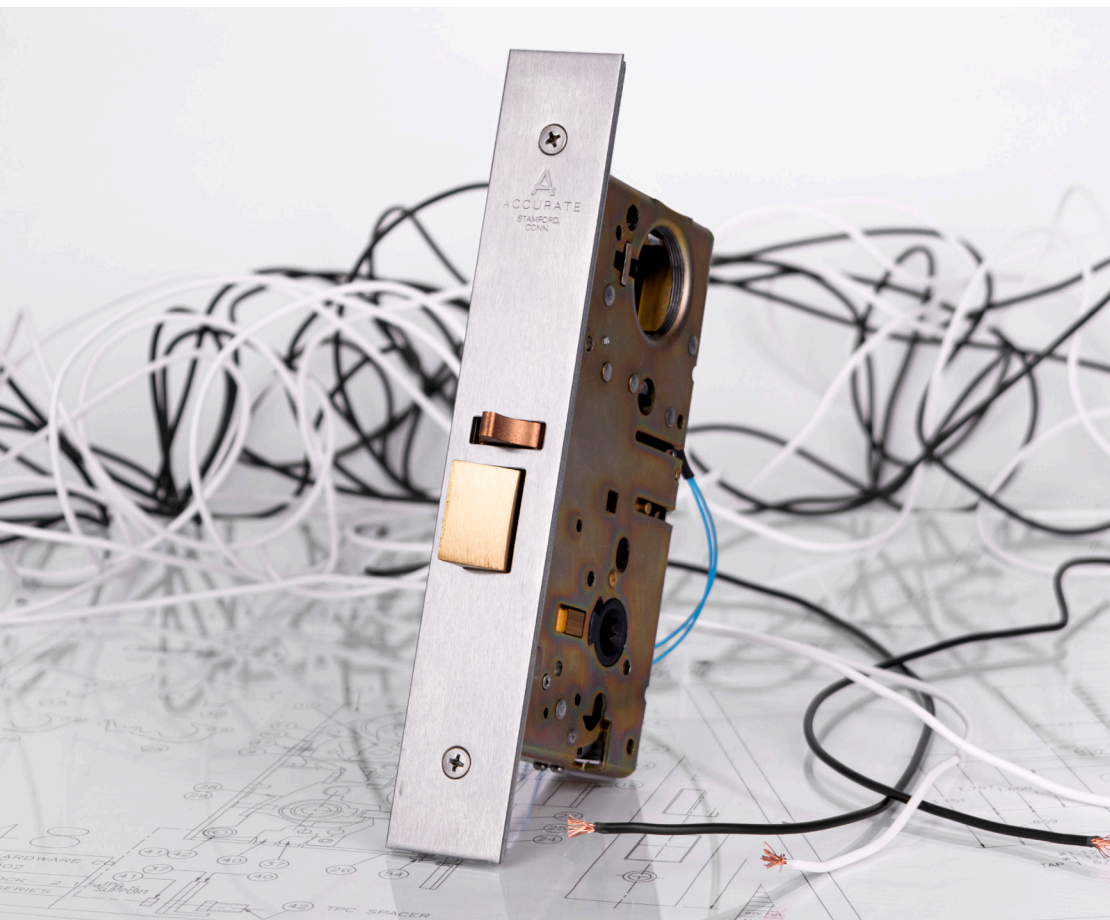




ACCURATE  
LOCK & HARDWARE

# THE EVOLUTION OF ACCESS CONTROL

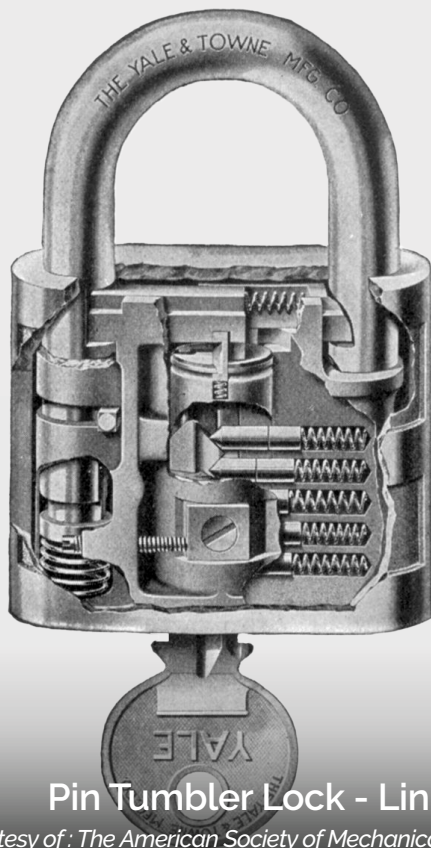
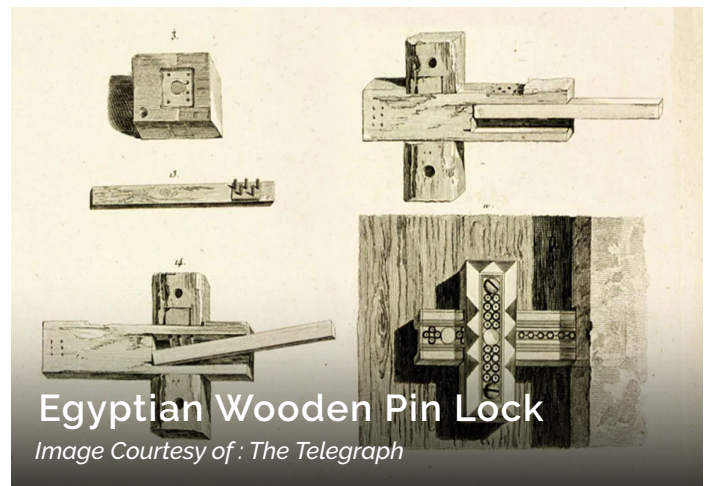
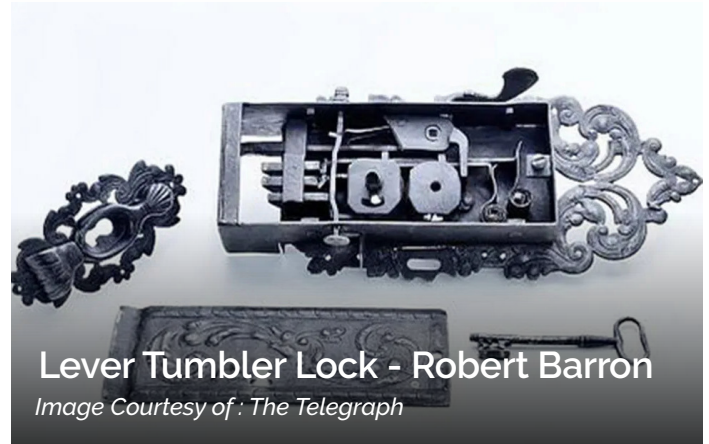


IMPROVED TECHNOLOGY AND MORE APPLICATIONS FOR  
FLEXIBLE ACCESS CONTROL SYSTEM DESIGN

## HISTORY

The basic tenement of Access Control is the restriction of access to a given area. Humans have been doing this for thousands of years going back to the days of Egyptian wooden pin locks. It wasn't until the late 1700's that locking systems evolved with the invention of the lever tumbler lock (1778) by Robert Barron and later the pin-tumbler lock by Linus Yale (1848). This basic lock and key concept has not changed much to the present day, though there have been significant advancements with high security keying systems.

Yet, the mechanical lock and key systems have real limitations particularly for larger facilities where it's important to segregate access to specific areas among regular and temporary occupants. Misplacing keys, keys being copied without consent, keys locked inside, forgetting to lock your doors - the list goes on and on.



As a result of these limitations, electronic access control systems were popularized in the 1970's and continue to grow as a percentage of openings every year. Simply put, these systems rely on verified credentials (e.g. card, fob, biometric, pin code, phone etc.) to grant access while monitoring and controlling the who, where and when as it relates to the passage of people from area to area. These systems have become very sophisticated with buzzwords such as *multi-factor authentication*, *Intelligent Lock*, *near field communication*, *Wiegand protocol*, *POE or Power over Ethernet*, *RFID Radio Frequency Identification* and *BLE Bluetooth low energy* to name a few. The idea is that there are more options than ever before to have a system that does exactly what you want and fits into your budget.

## TECHNOLOGY NOW

For a successful access control system, you need a reliable electromechanical locking system on the mechanical side. Widely used products include Mag locks, electric strikes, exit devices and mortise locks. At Accurate Lock, we specialize in manufacturing mortise locks, mechanical and electromechanical, in a wide variety of sizes and functions to be flexible for an array of usage in the commercial, residential, behavioral healthcare and detention facility markets.

In recent years, there has been many significant upgrades in electromechanical technology that have facilitated more opportunities to deliver unique solutions into openings where it was not previously possible or feasible.

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*For a successful access control system, you need a reliable electromechanical locking system.*

One major advancement was the migration from *Solenoid* driven locking to low voltage *Motor Drive* locking. In these locks, the motor, just as the solenoid did previously, moves a stop bar in the lock to lock or unlock the outside handle. Motors offer more flexibility (universal output voltage vs. solenoid version that is 12v, 24v, ac and dc specific), are field adjustable from fail secure to fail safe, save power (annual cost to run a motor \$0.25 vs. solenoid \$8.33), produce lower current draw that eliminates “hot” levers, allow for continuous duty and integrate more smoothly with additional monitoring functions (e.g. AM auxiliary latch monitor, LPF lock-out privacy, AE Authorized egress etc.)

The stepper motor, a motor “stepped” up in power, was introduced for ELR (Electronic Latch Retraction) locks. Rather than lock or unlock the outside handle, these locks retract the latch bolt when power is applied.

Most recently, a battery powered smart lock system (**SmartEntry**) was integrated within our standard motor driven electromechanical lockset to allow for wireless phone operation via BLE and Secureremote technology.



**SL-SM9159E**

*SmartEntry Self-Latching Smartphone Mortise Lock for Sliding Doors*

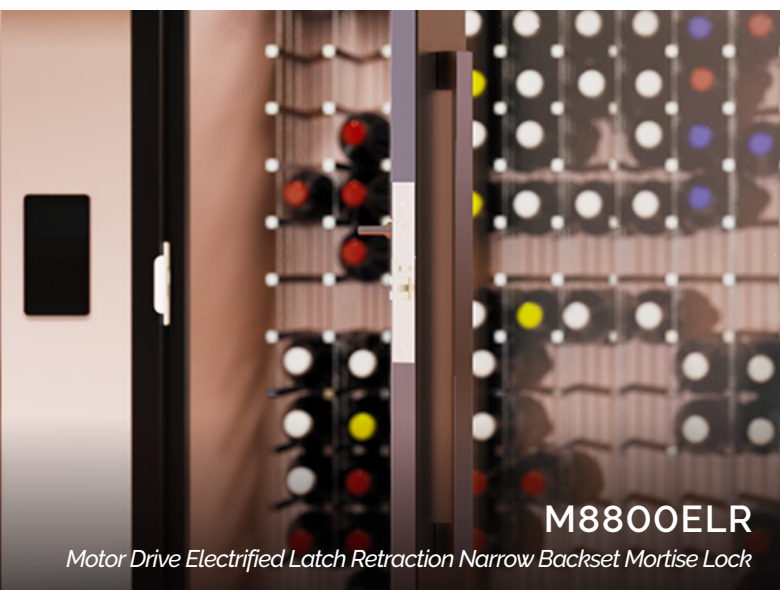


## MORE OPTIONS

**Electric Latch Retraction**, or ELR for short, allows for an electromechanical lock to be used where there is either no operating trim or dummy trim on the outside. This has been of particularly high interest during the pandemic since it helps facilitate hands free operation. The ELR option is available in a full size mortise (**M9100ELR**) or narrow backset mortise lock (**M8800ELR**).



Historically, Accurate's electromechanical mortise locks were only available in the **M9100E Series** (2 ½" Backset and up). Now, we offer this option within our **M885XE Series** for narrow backsets (1 ½", 1 ¾", 2" and 2 ¼").



Additionally, we offer an ultra-narrow backset option with the introduction of our **M1700E 1"** and **1 1/8"** backset electromechanical locks.

Electromechanical locks with manual deadbolts are also available now (**M9134E**, **M9167E**). This offers all the benefits of conventional electromechanical locking with the additional security that comes from throwing a deadbolt.



The **LPF** switch is a recently developed feature that allows the user to turn a thumb turn inside to block electronic access from the secure side.

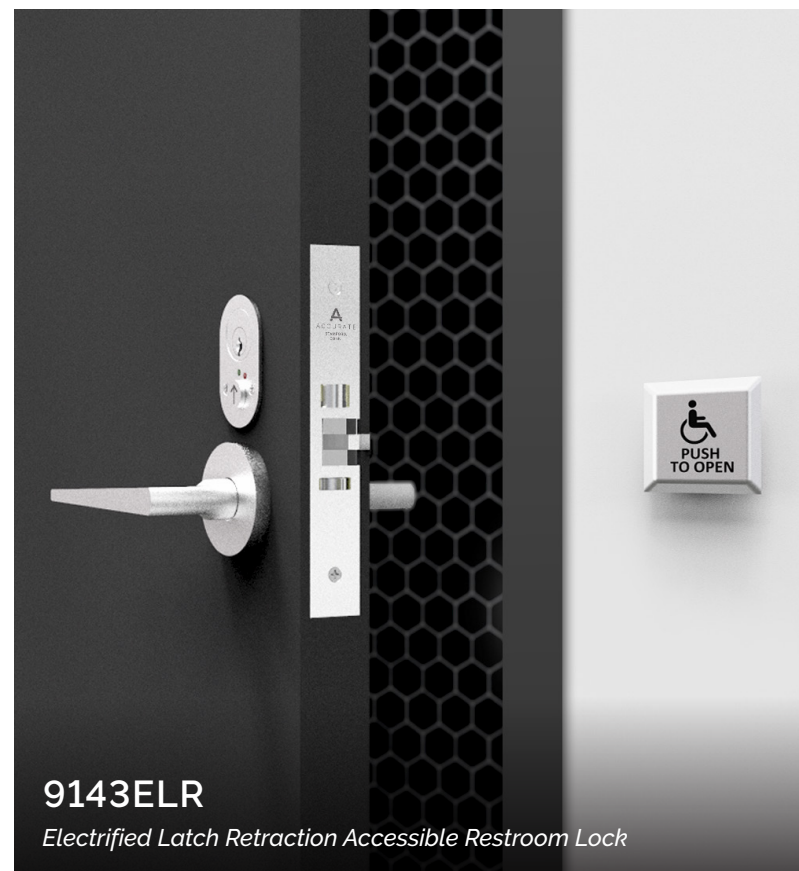
## APPLICATIONS

More options translate to more applications. Electric latch retraction allows for electronic locking where some combination of aesthetics, hands free use, handicap accessibility and ease of use are paramount. Often, no outside (or inside) trim is preferred or a beautiful rigid handle is favored.

Narrow and ultra-narrow backset electromechanical locks present the opportunity for electric locking on narrow and medium stile doors while using decorative architectural hardware.



The continuous duty feature of the motor in any of the electromechanical locks allow for more flexible access throughout the day. The access control system can be programmed to keep the door unlocked for prolonged periods of time without any impact on the longevity and reliability of the system. Additionally, electromechanical locks are now offered with a "party" toggle function (namely the **M9167E** and **M9156E**). This is a convenient feature that allows the user to manually toggle the lock into the passage mode when they are expecting high traffic and do not wish to keep the door continuously locked.



The **9143ELR Handicap Accessible Lock** is designed to be integrated with push paddles (by others) for hands free use. It also promotes patient/user dignity by including a thumbturn inside to temporarily disable electronic access outside with a privacy reset feature as the user exits the room. An occupancy indicator provides occupancy status.

Electromechanical locking is also integrated into **Accurate's High Security 9100SEC** detention grade lock to combine electronics with detention grade strength. This is particularly ideal for behavioral health facilities where durability is important as well as access restrictions and auditing of door operations.



**CH M9100E**

*Motor Drive Electrified Crescent Mortise Set*

The **SmartEntry Lock** can be used with or retrofitted on doors with almost any commercially available decorative architectural trim. Wireless access control solutions are quickly becoming popular, particularly for existing environments where there is limited or no access control infrastructure or it is not feasible to run wires. This battery powered, phone operated system communicates with your phone using BLE technology in proximity as well as a cloud based, military grade encryption protocol for remote operation from virtually anywhere in the world. Then system features multi-mode functionality with auto-relock, unlock stay unlocked and electronic disabling all controlled in real time through the settings.

System flexibility allows the user to add up to 25 users to regularly access the lock device, put those users on an access schedule, grant or revoke access in real time and see an audit of who is operating the device. A proprietary wireless keypad can be added for convenience, with 49 unique codes available to be dispensed.



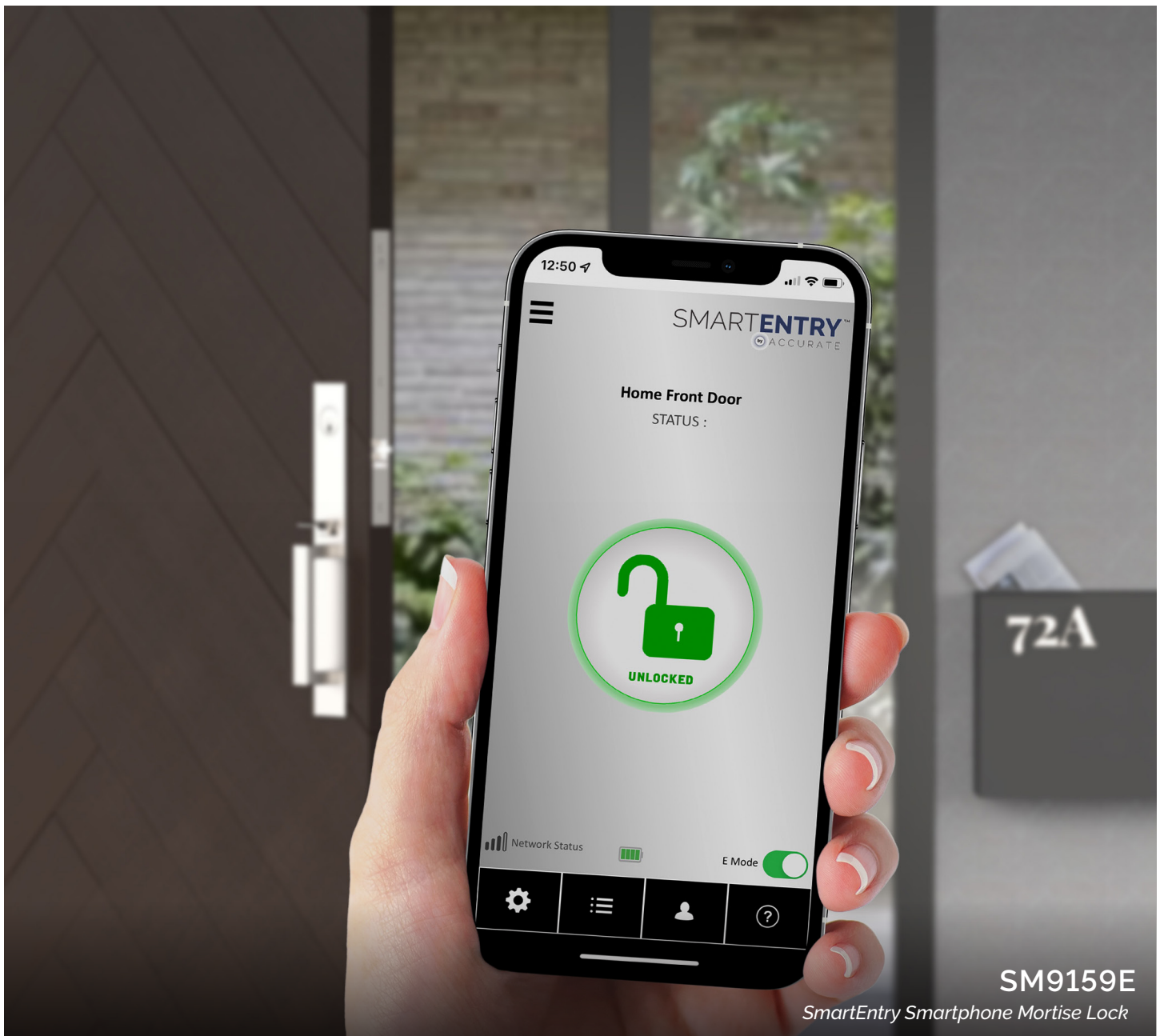
**SL-SM9159E**

*SmartEntry Self-Latching Smartphone Mortise Lock for Sliding Doors*



## FORM & FUNCTION

In short, every year demand for access control continues to increase. With Accurate Lock's growing electromechanical offering, there are more options than ever to achieve access control for more applications in a way that maintains the design aesthetic. Doors can be beautifully adorned with hardware while functioning in a way that optimizes security, transparency, convenience and control. That certainly seems like a win for the industry!

**SM9159E***SmartEntry Smartphone Mortise Lock*