



# ‘Smart’ Locks: A Work in Progress

## PLUS—HIGH-PERFORMANCE DEADBOLTS & SAFES

Six companies now make smart locks that allow you to lock and unlock your front door by using a fob, a smartphone or a tablet computer. However, we found that smart locks are tricky to operate and don’t provide any more security than a traditional keyed deadbolt lock or a keypad deadbolt lock does.



By Jerry Levine

**F**or years, vehicle manufacturers and aftermarket companies sold keyless entry systems, which allow you to lock or unlock an automobile by clicking a button on a fob. Now, keyless (and keypad-less) entry systems are available for your front door.

In the past year, three companies introduced motorized smart locks (starting at \$159) that allow you to lock or unlock a door by using a fob or, in some cases, a mobile application that’s on a smartphone or a tablet computer. At press time, three more smart locks were expected to be available by August 2014. So far, only

one of the smart locks, UniKey’s Kevo, was developed in conjunction with a major deadbolt lock manufacturer (in this case, Kwikset).

“Assisted-entry systems have become standard in the automotive industry since the mid-2000s,” says Phil Dumas, who is the founder of UniKey Technologies. “The question has been, ‘Why can’t I do this for my home?’”

You can now. Smart locks are possible because of the latest version of Bluetooth, which drains far less battery life than previous versions did. Consequently, Frank Gillett of Forrester Research, which is a technology research company, expects smart locks to be widely

available in 5 years. From talking with experts and manufacturers, we expect that at least 10 competing smart-lock manufacturers will exist in 2 years.

However, at press time, smart locks were compatible only with smartphones and tablets that use the Apple iOS operating system. We also found the interface that's on smart-lock apps to be confusing to navigate, and a complicated interface is the last thing that you want to open your front door. In other words, we believe that you should wait for smart-lock technology to mature before you run out and change your locks.

**OPEN UP.** Two of the six smart locks replace your front door's entire deadbolt lock, while the other four models are in-

stalled on the interior side of your door and operate your existing lock.

All six smart locks are locked and unlocked by encrypted digital keys that are stored on a fob or an app. When you're within 30 feet of your door, most of the smart locks automatically read the digital key that's on your device and unlock your deadbolt lock if you have an authorized code. The Kevo (\$219), however, activates and starts to look for the digital key when you touch any part of the touch-activated smart lock with your finger. Unfortunately, we found that the Kevo typically takes 3–5 seconds to unlock, which can feel like a long time if you're holding a bunch of grocery bags.

In the event of theft or misplacing

your mobile device or your fob, you still can open the door with a traditional key. If you lose your mobile device, you have to go into your smart-lock app and change your digital key, so a stranger can't get into your home. If you lose your fob, you have to reset your lock entirely. Unfortunately, it isn't possible to reprogram the digital key that's stored on a fob, manufacturers of the products tell us. That's because fobs are pre-programmed.

Like with other locks, you can "share" digital keys for smart locks with other people, such as a relative, a dog-walker or a service professional, who require access to your home, but only as long as they have a compatible mobile device. The smart-lock app keeps

## Best Buys in Safes

### Best Buy Categories

[P]=Premium selection  
[M]=Midrange selection  
[E]=Economy selection



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Best Buys in safes were selected based on performance and features.

All Best Buy safes are freestanding models. We didn't consider models that are installed in walls or floors. We capped prices at \$2,500.

Unless otherwise noted, Best Buys are for a line of safes. All Best Buy MSRPs and specs are for the lowest priced, or smallest, safe that's in a line. All Best Buy safes that have combination locks can be upgraded to a digital or key lock for an added cost.

*Data safes* are rated to protect digital media (hard drives, flash drives, CDs and DVDs) from fire or water damage. *Fire safes* are rated to protect documents and valuables from fire and also provide better theft protection than data safes do. *Security safes* are steel safes that protect valuables from burglars.

*Fire rating* reflects the maximum duration and temperature of a fire that a safe can withstand while protecting the contents inside. For data safes, the maximum interior temperature is 150 degrees Fahrenheit. For fire safes, that temperature is

350 degrees F. A typical house fire burns at 1,200 degrees F.

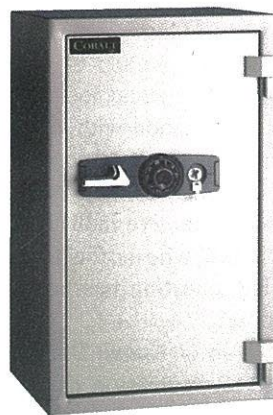
*Best Price* is a reflection of the lowest retail price that was available at press time and is subject to change.

### DATA

#### [P] Gardall EDS

MSRP: \$1,325; *Best Price*: \$894

>> The EDS line, which is a repeat Best Buy selection, protects data in a hotter fire than does any other line of data safes that we evaluated that costs less than \$2,500. This two-safe line comes with a digital keypad lock and a removable internal shelf, which is a bonus for the price. It also is the only premium line of data safes that we evaluated



Cobalt DS



Honeywell 1103

that has a lifetime warranty.

#### Features:

- \* Fire rating: 60 min., 1,832 degrees F
- \* Weight: 234.0 lbs.
- \* Dimensions: 21-1/2 in. (h) x 19-1/2 in. (w) x 18-1/2 in. (d)
- \* Capacity: 831 cu. in.
- \* Lock type: Digital
- \* Warranty: Lifetime

#### [M] Cobalt DS

MSRP: \$653; *Best Price*: \$500

>> The DS line is the only data-safe line that we evaluated in this price range that includes a door and walls that are 2-1/2 inches thick. That thickness makes these three data safes the most difficult data safes for a thief to pry open among models that we evaluated that cost less than \$1,200.

#### Features:

- \* Fire rating: 60 min., 1,800 degrees F
- \* Weight: 123.0 lbs.
- \* Dimensions: 14 in. (h) x 18-3/4 in. (w) x 15-3/8 in. (d)

- \* Capacity: 446 cu. in.
- \* Lock types: Combination, key
- \* Warranty: Lifetime fire; 1 yr. parts

#### [E] Honeywell 1103

MSRP: \$60; *Best Price*: \$41

>> The 1103 is the least expensive data safe that we evaluated that's certified waterproof for submersion. We also like this model's carry handle, which other models that are in this price range lack. The **1102** (\$40), which has 259 cubic inches of capacity, and the **1106** (\$80), which has 1,037 cubic inches of capacity, are also Best Buys.

#### Features:

- \* Fire rating: 30 min., 1,550 degrees F
- \* Weight: 27.5 lbs.
- \* Dimensions: 6-1/2 in. (h) x 16 in. (w) x 12-9/16 in. (d)
- \* Capacity: 432 cu. in.
- \* Lock type: Key
- \* Warranty: 7 yrs.

### FIRE

#### [P] Gardall 2-Hour

MSRP: \$920; *Best Price*: \$690

>> The seven models that are in the 2-Hour line are a repeat Best Buy selection, because they have doors that are 4-1/4 inches thick and walls that are 2-1/2 inches thick, which makes this line the most difficult line of fire safes for a thief to

a record of when those digital codes are used, so you can tell when someone enters and exits your home.

The Goji Smart Lock (\$299), which at press time was expected to be shipped in June 2014, even includes a built-in camera that can be programmed to capture an image automatically when the lock detects motion in front of your door. The smart lock automatically connects to your Wi-Fi network and sends the image to your mobile device, so you'll know that someone is at your door. We haven't heard of any other lock that has a built-in camera, but we like the idea of knowing whether the person who knocks on our door is a friend or, say, a door-to-door solicitor, so we can greet or ignore the visitor.

However, the person has to be within 6 feet of your door and in the focal range of the model's camera to be visible in the image. In other words, you won't be able to see a person if, for example, he/she stands to the side of the camera. Also, the camera lens that's in the smart lock is easy to see, so people could avoid having their picture taken.

At press time, all smart locks work only with Apple smartphones and tablets that are fully compatible with Bluetooth 4.0 (the iPhone 4s and newer, and the latest iPad tablets). Smartphones that run BlackBerry 10.1, Google Android 4.3 or Microsoft Windows Phone 8.1 aren't fully compatible with Bluetooth 4.0, but they will be after software updates are released for the operating

systems later in 2014, technology experts tell us. Until those updates are released, non-Apple users can unlock smart locks only by using their key fob.

Despite the convenience of today's smart-lock systems, four locksmiths tell us that they broke into smart locks easily and that a smart lock provides no more security than does a traditional keyed deadbolt lock or a keypad deadbolt lock. A number of magazine stories and YouTube videos show that smart locks can be broken into by using a locksmith tool and vise-grip pliers. (Experts and manufacturers tell us that almost all residential deadbolt locks can be pried open in the same way.)

At press time, all smart locks have an American National Standards Insti-



Mesa MF

pry open. Unlike other fire safes, this line includes a storage insert for keeping magnetic data cool during a fire.

**Features:**

- \* Fire rating: 120 min., 1,850 degrees F
- \* Weight: 298.0 lbs.
- \* Dimensions: 23-1/4 in. (h) x 17-1/4 in. (w) x 19-3/4 in. (d)
- \* Capacity: 2,256 cu. in.
- \* Lock type: Combination
- \* Warranty: Lifetime

**[M] Mesa MF**

MSRP: \$372; Best Price: \$171  
 >> The MF line is the only fire safe line that we evaluated in this price range that's built entirely out of steel. Other midrange fire safes include plastic parts and, thus, are easier for a thief to open. Unlike other models, the six safes that are in this line include an illuminated LCD screen. We found that it's easy to program the number of users who

may open the safe.

**Features:**

- \* Fire rating: 60 min., 1,825 degrees F
- \* Weight: 60.0 lbs.
- \* Dimensions: 11-3/4 in. (h) x 16-1/2 in. (w) x 14-1/4 in. (d)
- \* Capacity: 1,210 cu. in.
- \* Lock type: Digital
- \* Warranty: 1 yr.

**[E] First Alert 2087F**

MSRP: \$200; Best Price: \$144  
 >> The 2087F is the least expensive fire safe that we evaluated that has a waterproof rating and a waterproof seal to protect the contents in case of a flood. The **2087F-BD** (\$230), which can be bolted to the floor for extra security, and the **2087DF** (\$290), which adds a programmable digital lock, are also Best Buys.

**Features:**

- \* Fire rating: 60 min., 1,700 degrees F
- \* Weight: 83.0 lbs.
- \* Dimensions: 19-7/8 in. (h) x 15 in. (w) x 17-7/8 in. (d)
- \* Capacity: 1,624 cu. in.
- \* Lock type: Combination
- \* Warranty: 5 yrs.

**SECURITY**

**[P] Wilson C-Rated**

MSRP: \$2,040; Best Price: \$1,397  
 >> The two-model C-Rated line,

which is a repeat Best Buy selection, is the least expensive line of security safes that we evaluated that includes a 1-inch-thick solid steel door and a one-half-inch-thick solid steel body. You'd have to spend \$500 more to buy another model that provides that much protection.

**Features:**

- \* Weight: 417.0 lbs.
- \* Dimensions: 31 in. (h) x 19 in. (w) x 22-1/2 in. (d)
- \* Capacity: 8,640 cu. in.
- \* Lock type: Combination
- \* Warranty: 1 yr.

**[M] Gardall FB**

MSRP: \$1,095; Best Price: \$788  
 >> The FB line, which is a repeat Best Buy selection, delivers the best performance of any line of security safes that we evaluated in this price range. This three-model line is the least expensive line of security safes that has a 2-inch-thick steel-plated door and a 3-inch-thick steel-plated body and is rated to protect documents for 1 hour in a fire of up to 1,700 degrees F. This line also is the only midrange line of security safes that has a lifetime warranty.

**Features:**

- \* Weight: 205.0 lbs.
- \* Dimensions: 17-3/4 in. (h) x 17-3/4 in. (w) x 20-1/2 in. (d)
- \* Capacity: 1,836 cu. in.

- \* Lock type: Combination
- \* Warranty: Lifetime

**[E] Wilson B-Rated**

MSRP: \$320; Best Price: \$320  
 >> The 13-model B-Rated line, which is a repeat Best Buy selection, is the least expensive line of security safes that we evaluated that has a one-half-inch-thick solid steel door and a one-quarter-inch-thick solid steel body.

**Features:**

- \* Weight: 30.0 lbs.
- \* Dimensions: 9 in. (h) x 6 in. (w) x 11-1/2 in. (d)
- \* Capacity: 327 cu. in.
- \* Lock type: Combination
- \* Warranty: 1 yr.

For more information about the above Best Buys, contact the manufacturers directly. See page 71.



Gardall FB

tute (ANSI) Grade 2 rating for resisting wear and unauthorized entry. Most residential keyed deadbolt and keypad deadbolt locks have a Grade 2 rating, which is a step below a Grade 1 rating, which typically is found only in deadbolt locks that cost at least \$150.

**BIOMETRIC FAILINGS.** Outside of the introduction of smart locks, we haven't seen further innovation in deadbolt locks over the past 4 years. How-

ever, we saw one type of lock go away.

Outdoor keyless biometric deadbolt locks, which scan your fingerprint and open the door if the deadbolt lock finds a preprogrammed matching fingerprint, disappeared from the market in the past 2 years. At the Consumer Electronics Show in January 2014, three manufacturers told us that the systems were too unreliable and too prone to user error for residential use. Gillett tells us that biometric deadbolt locks failed to work

consistently and had interfaces that were difficult for consumers to operate.

For now, we wonder whether smart locks are just more of the same. ◀

*Jerry Levine is the technology editor for Locksmith Ledger. He has written about the lock industry for 30 years.*



Go to ConsumersDigest.com for details about a device that sends you an email or a text message if your safe is moved.

## Best Buys in Residential Deadbolt Locks

### Best Buy Categories

[P]=Premium selection  
[M]=Midrange selection  
[E]=Economy selection



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Best Buys in residential deadbolt locks were selected based on performance and features.

All Best Buys have a 1-inch *throw* (the distance the bolt sticks out from the door) and a 2-3/8-inch to 2-3/4-inch *backset* (the distance from the center of the lock to the edge of the door). Handing is reversible on all deadbolt Best Buys, which means that the lock can be installed on a left-hand or right-hand door.

All Best Buy electronic keypad deadbolt locks can be installed into residential doors that were prepared under American National Standards Institute (ANSI) A115.2 specifications. This will be 99.9 percent of all residential doors that are in the United States. All Best Buy electronic keypad deadbolt locks are battery-operated, have a 10-button keypad and a key



Schlage Touchscreen

override, and come in a brass, bronze or nickel finish. All Best Buy electronic keypad deadbolt locks are covered by a lifetime warranty on mechanical components and 1-year warranty on electronic components.

Unless otherwise noted, all Best Buy keyed deadbolt locks have a lifetime warranty and come in a selection of finishes. Prices are based on the lowest priced finish.

The ANSI grade (1 is the best, 3 is the worst) refers to a deadbolt's resistance to wear and unauthorized entry.

*Best Price* is a reflection of the lowest retail price that was available at press time and is subject to change.

### ELECTRONIC KEYPAD

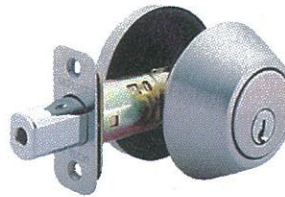
#### [M] Schlage Touchscreen

MSRP: \$199; Best Price: \$184

>> The Touchscreen is the least expensive electronic keypad deadbolt lock that we evaluated that has the top ANSI grade for security. This model accepts up to 30 access codes, which means that it has the most programming options of any keypad deadbolt that we evaluated if you want to give separate access codes to family members, housekeepers, pet walkers or other guests. Unlike other models, this model has a built-in alarm that can be programmed to let you know whenever someone enters, exits or tries to force open the lock.

#### Features:

- \* ANSI grade: 1
- \* Door thickness: 1-3/8 in. to 1-3/4 in.



Defiant Deadbolt

#### [E] Kwikset 913 SmartCode

MSRP: \$119; Best Price: \$119

>> The 913 SmartCode has the best combination of features of any electronic keypad deadbolt lock that we evaluated in this price range. This model accepts up to 16 four-digit user codes, while other economy models accept up to eight only. Unlike other brands, Kwikset keypad deadbolts can be programmed to lock if the door is closed for 30 seconds.

#### Features:

- \* ANSI grade: 2
- \* Door thickness: 1-3/8 in. to 2 in.

### KEYED

#### [P] Medeco Maxum

MSRP: \$171; Best Price: \$95

>> The Maxum, which is a repeat Best Buy selection, is the most secure keyed deadbolt lock that we evaluated. This model also has a solid steel shroud that covers its bolt, which we found to provide more protection from drill, ice-pick and wrench attacks than do other keyed deadbolt models that we evaluated. Unlike other brands, Medeco deadbolts include chisel-tipped pins inside of the lock, which we found makes this model more difficult to pick than are other locks that we evaluated. This model

has a 2-year warranty.

#### Features:

- \* ANSI grade: 1
- \* Finishes: 8

#### [M] Kwikset 980

MSRP: \$30; Best Price: \$28

>> The 980 is the least expensive keyed deadbolt lock that we evaluated that has a locking bar, which means that the lock is bump-resistant and pick-resistant. We found that this model also is the least expensive deadbolt lock that we evaluated that can be rekeyed easily by a consumer with an included tool. This saves you the trouble of calling a locksmith to change your lock.

#### Features:

- \* ANSI grade: 1
- \* Finishes: 7

#### [E] Defiant Deadbolt

MSRP: \$9.97; Best Price: \$9.97

>> The Defiant Deadbolt, which is a repeat Best Buy selection, has the most rugged construction of any keyed deadbolt lock that we evaluated in this price range. We took this model apart and found that it, unlike other economy models, has a sturdy lock cylinder and a strong bolt latch. This model is available only at The Home Depot.

#### Features:

- \* ANSI grade: 3
- \* Finishes: Antiqued brass, bronze, nickel, polished brass, stainless steel

For more information about the above Best Buys, contact the manufacturers directly. See page 71.