

Smart locks: How to smartly select and install them

Locks are indispensable items in residential properties. Increasingly, mechanical locks have given way to electronic, smart locks that bring various benefits to residents. This note discusses the latest trends and what to look for in smart locks.



Smart locks are BLE- or Wi-Fi-enabled devices that allow residents to leave mechanical keys behind, locking and unlocking doors with the touch of a finger or tap of a smartphone. Growth is also seen in this sector. According to Grand View Research, the global smart lock market was valued at US\$1.38 billion in 2020 and is expected to grow at a compound annual growth rate of 21.4 percent from 2021 to 2028.

Indeed, smart locks are seeing stronger acceptance and demand due to their various benefits.

“Smart locks (including electronic door handles) are becoming more reliable, more energy-efficient and, most importantly, more secure. They are very convenient for isolated access points in cabinets or specific locations, as well as conventional office doors requiring an intermediate or low level of security. Smart locks can be, depending on the use case, really competitive when looking at the cost per door. The lack of need for cabling really drives down the installation costs,” said Jean Davoust, Head of Product and Marketing at STid. “Nowadays, customers also expect a seamless and comprehensive integration of the smart locks with their access control system. Thankfully, the latest generation of smart locks is much easier to install and configure.”

Meanwhile, the pandemic has also partially accelerated smart locks’ growth. “We do see a slight increase of demand for smart locks in the market due to the pandemic and related measures. Customers are requesting touchless interfaces more often, and the ability to support a longer read range is definitely a real benefit of mobile credentials,” Davoust said.

“In Korea, because most houses are using smart locks (probably over 90 percent), I don’t know if the COVID pandemic has had any effect on the smart lock market of Korea. But, in my opinion, the global market may need to require smart locks

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more as an alternative to mechanical keys. It is because people do not want to touch anything (keys, handles, etc.),” said Alfred Oh, Executive VP of ANDOPEN.

A range of credentials supported

Technology-wise, smart locks have become more advanced and mature, capable of supporting a variety of authentication factors, from passcodes to biometrics. “The passcode must be basic, and most of the smart locks support key fobs, including RF cards – users can even register their credit card as a key. The higher grade of smart locks includes fingerprints,” Oh said.

More and more, locking/unlocking by way of smartphones has become common. “The mobile credential feature is increasing, and I can predict the mobile credential will replace RFID. Currently, NFC is the major mobile access protocol but BLE is increasing,” Oh said.

“Most people will acknowledge that on occasion you may forget your physical credential, but you most likely will never forget your smartphone,” Davoust said. “This is clearly something that is requested by clients more often. End users expect to use the same mobile credential that grants them access to the building to also open the doors of their office and the doors of their cabinets or lockers. Communication protocols that are supported are BLE, NFC, or both, depending on the capabilities of the smart lock. Often, Wi-fi cannot be used since it is considered a less secure option. It can be accessed remotely from more than 10 meters by any hacker.”

What to look for

The smart lock channel is typically split between DIY and professional installation. The proportion varies from country to country. “In Northeast Asia, including China, because most people are living in apartment buildings, three-quarters are sold to construction companies and one-quarter are sold directly to customers at electronic stores and supermarkets such as Walmart and Target. But globally, DIY is normal, and I heard that mostly smart locks are being sold to customers directly,” Oh said.

When choosing smart locks, how should one go about it? “There are various ranges of smart locks with a wide variety of features and designs. From low-cost to high-end products, from smart door handles to sophisticated locks,” Davoust said. “One basic recommendation to keep in mind is that a door handle is mostly used when you only want to provide access to one side from the door, usually the outside. When access needs to be provided from both sides of the door, a smart lock is usually more appropriate. Another relevant recommendation is to consider future requirements and to look for a smart lock that is likely to be able to support those future needs. An example: Some smart locks can be used in offline, online topologies and they support both BLE and NFC connectivity, in addition to conventional RFID. Devices like these are able to adapt to future needs in

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changing environments.”

Oh, meanwhile, mentioned the following factors to consider when selecting a smart lock:

1. Design
2. Locking mechanism (electric mortise or rim lock);
3. Safety (fire protection, anti-e-shock, etc.);
4. What credentials can be supported;
5. Remotely controlled (for the special customers)

Installation

Installation of smart locks has become easier thanks to the physical designs of smart locks by major manufacturers. However, caution should still be exercised when installing these locks.

“For replacing the tubular lock, if users can pick one for example August or Kwikset, then it’s easy and normal for customers to do the replacement. However, for the mortise lock replacement, the support of an expert such as a locksmith should be required,” Oh said.

“A security system is as strong as its weakest link. It is important to follow the guidelines of manufacturers and have the installation done by certified companies with skilled employees. STid solutions can be used with many different products from various manufacturers. Make sure to check requirements and compatibility with these requirements thoroughly before selecting a product and plan the physical installation,” Davoust said

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