

Codringtons

Codringtons Guide to Key Security

mechanical


magnetic

electronic

Secure Keys Explained

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Secure Keys

A key enables the holder to operate a lock. Whoever has a key can open the lock. The security provided by the key-reading mechanism of a lock therefore depends on how many keys there are – and who has them.

In the middle of the Sahara desert, with no heel bar within a thousand miles, almost any key would be “secure”. If you had the only key for your lock in your pocket you could be confident that if you had locked the door it would stay locked. There would be little possibility of anyone having or getting a duplicate copy of your key.

With no heel bar within a thousand miles, almost any key would be “secure”

But for most of us this feeling of security is not so clearly reliable. The typical “front door” cylinder is manufactured with between 20,000 and 30,000 different key combinations.

If you have one of these locks, it is almost certain that 100 other people have the identical key in their pockets. If most of these people have made copies of their keys for other users, then there could easily be 1,000 or even 10,000 people with this identical key.

In addition, if you lent a key to a tradesman there would be nothing to prevent him from getting a copy. Clearly this key could not be

described as “secure”.



So what are the criteria for calling a key “secure” – or even “very secure”?

1. The larger the number of different **key combinations** made possible by the design of the lock, the less chance there is of anyone else owning the identical key.
2. The tighter the **control** on the availability of **key blanks**, the more difficult it is for anyone to get a copy of a key.
3. The more complex the **design** of the key and the tighter the **engineering** tolerance, the less possibility there is of a person manufacturing his own key blank.
4. The requirement for **complex dedicated machinery** to enable a key to be made means that the possibility of anyone other than an authorised dealer being equipped to produce a key, even if a blank were available, is very low.
5. **Technology** in the key coding that defies attempts to “decode” or “read” the key means that *in principle* even a well equipped engineer would not know how to go about making a key



6. An **electronic component** in the key/lock mechanism enables the owner to invalidate any key he suspects might have been compromised.
7. An **electronic memory** providing a history of key usage would discourage a legitimate key holder from misusing his key.

We may now apply these principles to different types of keys to rate their security.

Unique Key Profiles

The following list of secure keys are divided into three basic categories - mechanical, magnetic and electronic; however some keys use a combination of the three.

mechanical

- Anker 9300 Project Cylinder Series
- Bi Lock High Security Cylinder System

magnetic

- Anker Magnet System
- Anker ϵ Electronic/Magnetic Cylinder Series

electronic

- Anker Private Stand Alone Electronic Cylinder System
- Anker ϵ asy Electronic Cylinder Series
- Anker ϵ Electronic Cylinder Series



Anker 9300

The Anker 9300 series is a patented system that can provide a locksmith with a key profile that is kept exclusively for their use within an agreed territory.

1. More than 140,000 different keys can be made on each of these unique profiles. So the possibility of anyone legitimately owning an identical key are very low indeed.
2. The key blanks are very tightly controlled: only the contracted Anker locksmith may buy the key blanks reserved for them within that territory. No other key cutters can buy Anker 9300 key blanks at all.



3. The patented design of Anker 9300 profiles is very complex. A key must not only enter the keyway; it must position itself correctly within a tolerance of four thousandths of an inch to work properly. A well equipped engineer might have machinery that would enable him to copy a key profile – if it can be made, ultimately it can be copied; but this is not normally the case with locksmiths.

Bi-Lock

Bi-Lock is a revolutionary, patented system that works in an entirely different way from other locking systems.

1. A Bi-lock key has twelve cuts in two separate rows of six. This permits the production of over sixteen million different keys on a single key profile.
2. All the parts needed to make a Bi-Lock key are sold only to contracted B-Lock dealers. These Dealers are well established, highly competent locksmiths who have committed themselves to a comprehensive Agreement with Bi-Lock covering their operating procedures and ethics. Under these arrangements no Bi-Lock Dealer would even inadvertently make a duplicate of a key already produced by another Dealer.
3. The ability to make a Bi-Lock key does not depend only on the availability of a suitable key blank. Even the possession of a genuine Bi-Lock key blank would not enable a locksmith to make a key.
4. A Bi-Lock key is made in a very different way from most other keys. "Normal" key cutting machines cannot be used. A Bi-Lock key can only be made on dedicated Bi-Lock machines which are provided only to contracted Bi-Lock Dealers.



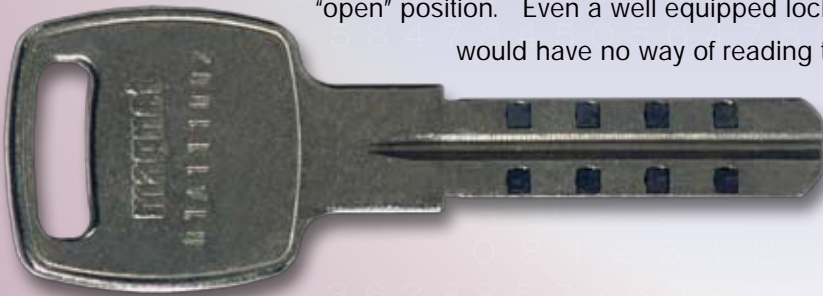
mechanical



Anker Magnet

The Anker Magnet with eight magnetic components and four mechanical pin tumblers provides the safest, smoothest key of all.

1. The combination of eight magnets acting as four pairs with four pin tumblers of variable shape enables the production of many millions of different keys
2. No uncoded keys or key blanks or other components are ever sold to the trade at all.
3. The Anker Magnet key blank is very unusual and the production of only the key blank itself (without the magnets) would be a very difficult engineering undertaking. The manufacture of the six-sided magnets without the design specifications would be virtually impossible.
4. The production of a fully coded Anker Magnet key requires specialized equipment, both mechanical and magnetic, without which it is not possible. This equipment is not sold to the trade at all.
5. The eight six-sided magnets act as four pairs. Their resultant magnetic field acts on the magnetic components in the lock cylinder to move them into the "open" position. Even a well equipped lock engineer would have no way of reading this magnetic code.



Anker Private

The Anker Private introduces first level electronic coding which puts the control in the hands of the end user.

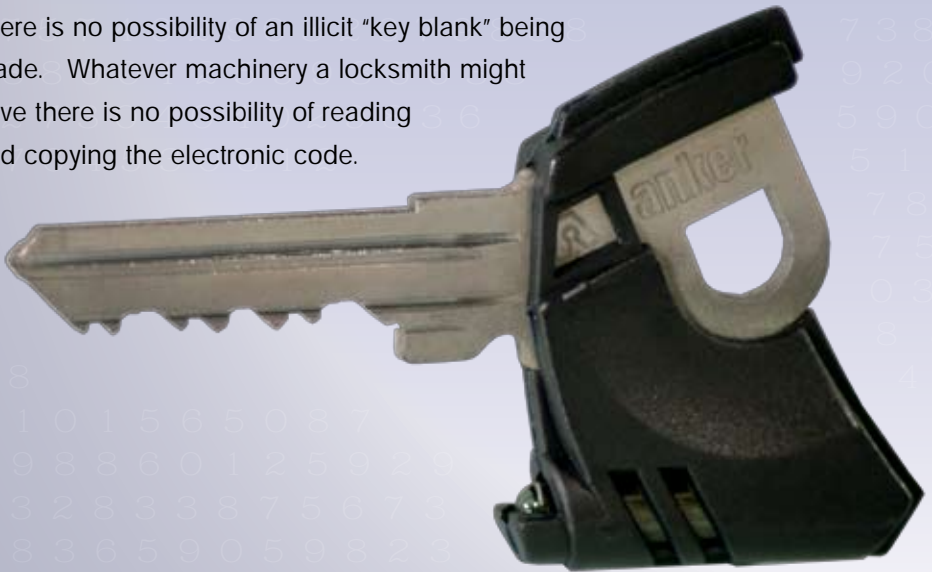
1. The combination of mechanical pin tumblers and an electronic code provides tens of millions of key combinations
2. Extra keys may be bought from the Anker stockist but are not valid until introduced to the lock using the correct procedure.
3. Keys are made only by the Anker factory.
4. While a physical copy of a key might be made
5. by a well equipped engineer, adding the electronic coding with knowledge of the specification would be virtually impossible.
6. If an Anker Private key has been lost or otherwise compromised it may be deleted from the lock and all the other valid keys (plus a replacement key) re-validated. Control is thus immediately regained.





Anker e provides the ultimate secure key. Full electronic memory and programming capability is combined with the 9300 series mechanical key or the 3800 Magnet key to give unparalleled security.

1. The combination of electronic coding with mechanical or magnetic tumblers makes vast numbers of different keys possible.
2. As with the other levels of Anker keys the 9300 series electronic key blanks are sold only to contracted Dealers while electronic Magnet key blanks are not sold to anyone.
3. There is no possibility of an illicit "key blank" being made. Whatever machinery a locksmith might have there is no possibility of reading and copying the electronic code.



electronic

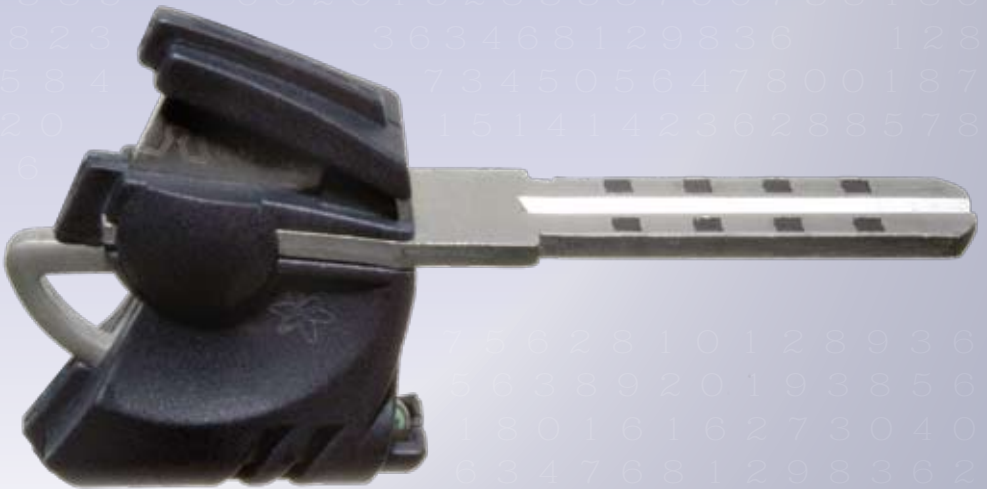


This is unique and the key will operate only if the lock has been electronically instructed to accept it.

4. An Anker e cylinder can be programmed to accept an Anker e key either at any time, or only at certain specific times and on certain days. Outside the programmed periods the e key simply does not function, but its mechanical or magnetic part will continue to operate in its non-electronic cylinders.
5. The Anker e cylinder retains a memory of every key that is presented to it. Even if a key is tried when its programming does not permit it to function, the cylinder records this event which is available for examination.



The electronic head of the the Anker e key may be used without its mechanical or magnetic part to operate in effect as a card or fob with a proximity reader.



Key Registration

A key registration service is possible on all these systems.

The unique key or master keyed suite maybe registered with the originating locksmith.

Extra keys will be made only on the written instructions of the registered signatories.

Key Security

mechanical

magnetic

electronic

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