



# White Paper

## Effective and Energy Efficient Access Control in Commercial Buildings

**ASSA ABLOY**

## Introduction

Security expert Abloy UK is promoting a green security message, championing the use of electric locks over door magnets to save energy and reduce emissions.

Raising awareness of the benefits of electric locks is a key message for Abloy UK as it looks to provide solutions that can help businesses and specifiers not only secure property, but also conform to any green agenda in a compliant way.

In this paper we explore the differences between electric locking solutions and door magnets, in order to discover the best solution when it comes to energy efficient access control.

## ESOS

Since the launch of the government's Energy Savings Opportunity Scheme (ESOS), companies are now finding that greater emphasis is being placed upon how much energy is wasted in commercial buildings.

ESOS is a new mandatory energy assessment scheme for organisations in the UK, which audits the energy used by their buildings, industrial processes and transport to identify cost-effective energy saving measures.

It applies to medium/large UK undertakings and their corporate groups. It mainly affects businesses but can also apply to not-for-profit bodies and some public sector organisations that are large enough to meet the qualification criteria.

The introduction of the scheme means specifiers and building owners are now assessing the areas in which their premises can be more energy efficient, for example in lifts, heating, ventilation, and lighting to name just a few.

In addition to this, access control is a vital area in which significant energy and cost reductions can be gained. This means the assessment of access control systems is crucial, and solutions are being created for easy access and egress that are more energy efficient than some of the provisions currently in place.

## Energy Efficiency

In many cases, overhead door magnets have traditionally been the 'go-to' device for access control points in commercial buildings, as their upfront cost is lower than alternative products.

However, in instances where a carbon footprint and energy costs need to be reduced, electric locks are rapidly becoming the preferred solution for many companies.

By selecting electric locks, specifiers can ensure that they are choosing a system that not only allows for swift and easy access and egress alongside an enhanced security provision, but also reduces the energy consumption and carbon footprint of a building too.

Door magnets are less energy efficient because they require a continuous electric current to lock the door. This current then breaks with the use of a request to exit button, cutting the lock's magnetic hold and allowing the door to be opened.

In contrast, a motorised or solenoid electric lock only uses power to open or activate the door, so energy can be saved because doors are closed for the majority of the time.

As a general rule, 13 door magnets use the equivalent energy of a kettle being run all day long while electric locks use 10-20 per cent of the energy in the same period.

So although door magnets may have a smaller initial cost, in the long run electric locks could be substantially more energy efficient, reducing costs.





## Access Control Safety

Aside from the environmental energy efficiency benefits, some electric locks – such as those from Abloy – also offer a superior level of safety, which can be essential in certain applications.

In the event of an emergency such as a fire, there needs to be a reliable exit route that allows a quick and easy escape. There can be risks associated with installing a magnet on a door that is used as an escape route.

Door magnets require special arrangements to be made to guarantee they are fail-safe at all times in the event of an emergency. It may be that an alarm or 'request to exit' mechanism is required for electromagnetic locks to allow someone to exit, as there is no mechanical override.

This is a great concern as it could hinder the safety of the occupants by not allowing for swift and easy access and egress.

In contrast, motorised and solenoid electric solutions satisfy the needs of both fire doors and emergency and panic situations where a mechanical means of escape is required.

Motorised electric locks are also ideal for more secure access control, as they do not feature a handle on the external side – which can be the most vulnerable part of a door – making them a hands free solution.

This can improve the flow of people through the door, which is especially useful when a swift and smooth exit is needed for a large number of people. Therefore electric locks are the superior device, not only in terms of energy efficiency but also public and staff safety.

EN179 - Emergency Escape  
EN1125 - Panic Escape  
EN1634 - Fire Escape



## Compliance

To comply with the mandatory standards EN179 Emergency Escape for when the building occupants are aware of the building environment, and EN1125 Panic Escape for environments used by the general public, electric locks are the ideal choice because they satisfy the needs of both fire doors and emergency/panic situations where a mechanical means of escape is required.

## Quality and CE Marking

Quality will also be a major concern when it comes to effective access control, so having a symbol of quality assurance is desirable. From 1st July 2013 it became a legal requirement for UK manufacturers of construction products to apply CE marking to any of their products, which are covered by harmonised European Norms (hEN).

This includes products that are intended for use on fire, smoke and escape route doors, such as locks. Legal documents known as a Declaration of Performance (DoP) must also be made available for products that are CE marked, and Abloy UK provides DoP's for all its products on its website.

However, it is important to not solely rely on symbols such as CE marks to offer a guarantee of a quality product. For access control in commercial buildings, consideration should also be given to the level of security a product can provide, and the effectiveness of the solution when it comes to safety too.

## Conclusion

Although there will always be the temptation to cut costs in order to have the cheapest solution possible, the growing importance of energy efficiency and EN standards in helping buildings make the grade has to be front of mind. It is also about ensuring that public and staff safety is a number one priority.

With schemes such as ESOS high on the agenda, it's likely that access control will be one of the areas that will be under heavy scrutiny.

So the security industry needs to provide more energy efficient solutions in the form of electric locks, and this will be greatly beneficial for all parties involved, and help to create a greener environment across the UK.

From the points raised in this paper, it is clear to see that electric locks offer the most energy efficient solution, that is also both compliant and secure.

That is why Abloy UK recommends specifiers and building owners select electric locking systems every time for effective and energy efficient access control.





## Abloy's Solution

With energy efficiency in mind, Abloy has developed a range of new low energy electric locks, which have been designed to use significantly less energy than door magnets.

These new devices boast an annual energy consumption of 0.6kWh in comparison to a door magnet that uses 32.5kWh per year\*. The locking solutions are fast and easy to install, and are also compatible with traditional devices.

They boast an ultra low current consumption due to energy only being used when the lock status is changed. In addition to the energy and cost reductions, the new Abloy Low Energy Electric Locks have a very wide voltage range and a number of usage possibilities.

The market-leading Abloy range of electric locks includes motor and solenoid locks, which are the most effective forms of electric locking, and also ensure compliance.

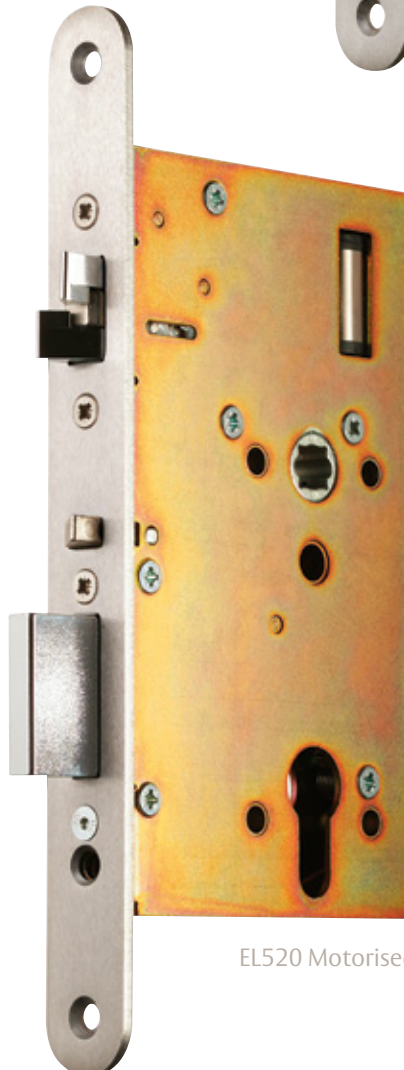
Solenoid locks, like the Abloy EL560, work by controlling the handle, and are suitable for internal doors of public buildings, offices, schools or hospitals, and external doors of apartments and detached houses.

Motorised locks, like the Abloy EL520, work by drawing the bolt back once a proximity card or device is presented. Both locks automatically secure a deadbolt upon closing, and can be used with escape mechanisms as appropriate to the environment and application.

Both of these locks are available in the new low energy variants, which can be identified by the use of the letter 'L' within the name of the product, for example the EL560L.



EL560 Solenoid Lock



EL520 Motorised Lock

\*Example given refers to low energy solenoid lock EL560L

## Further Information

If you would like further information about products and services available from Abloy UK, please call 01902 364 500 or email [marketing@abloy.co.uk](mailto:marketing@abloy.co.uk), visit [www.abloy.co.uk](http://www.abloy.co.uk), or visit the Abloy London Showroom at The Building Centre in London.

## About

Abloy UK is the UK's leading expert on high quality door locking and functionality.

Its product range includes electric locking, cylinder, padlocks, door operators and more. Together, the solutions offer secure, compliant and lasting solutions trusted by organisations throughout the UK, Ireland and worldwide, across a variety of industries – wherever compromise is not an option.

Abloy has the capability to offer you a complete security solution; from initial surveys and fact finding, to assessments, problem solving and planning through to specification.

All Abloy staff are friendly, fully engaged and willing to put in that extra commitment to find the correct solution to suit your needs.



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