



# Electric and electronic strikes





## What is an electric strike?

Electric strikes are electromechanical mechanisms used as an integral part of an access control system.

They are installed in the door frame and their main function is to allow access to a building remotely with a single electrical pulse.

Our strikes don't offer polarity between the connection terminals, and the wires can be connected indistinctly to the terminal strip.

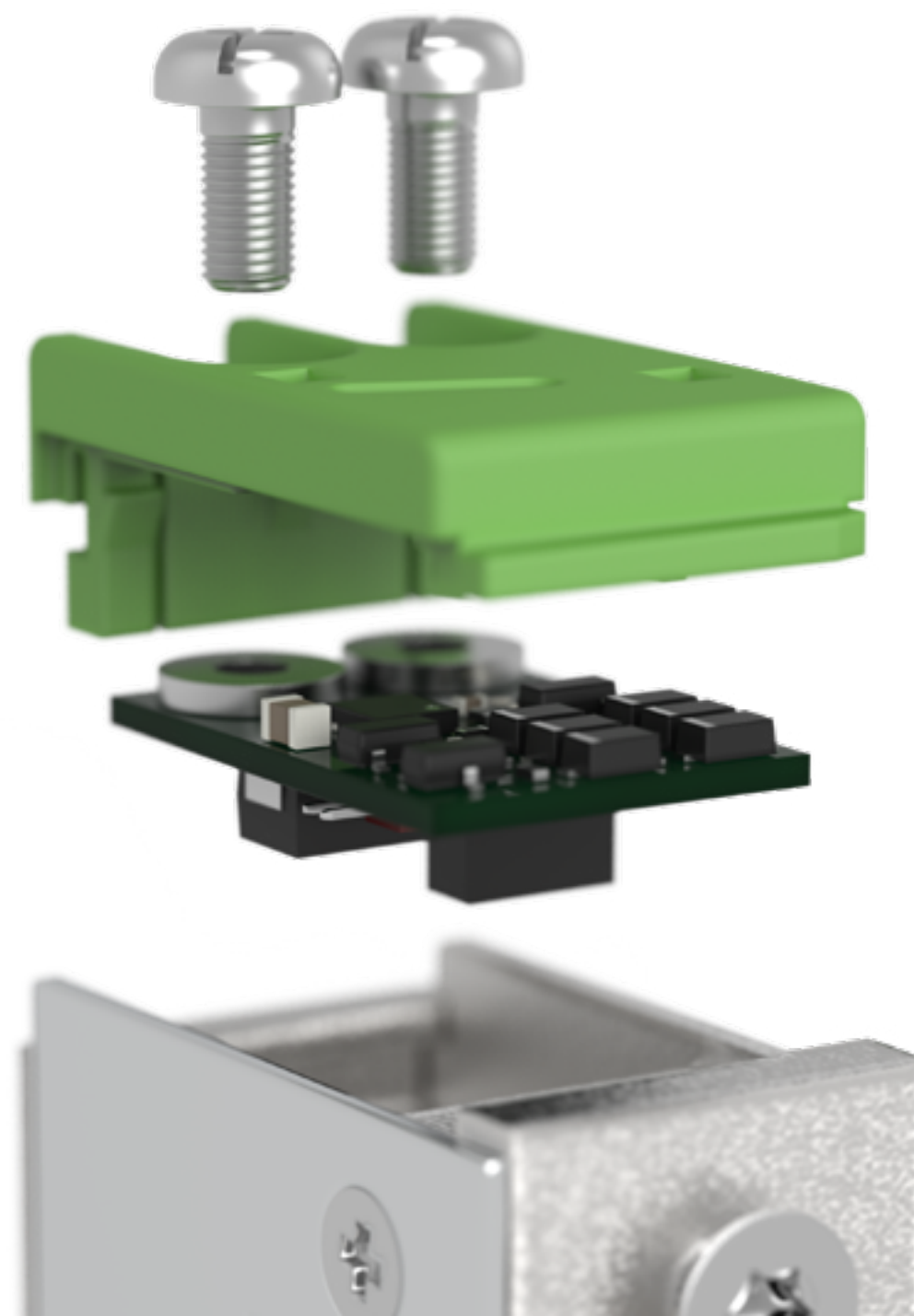
In order to offer high operation reliability, all mechanisms are subjected to climatic, ageing and pressure tests.

## What is an electronic strike?

Electronic strikes are the new generation of electric strikes.

For more than four years, the OPENERS & CLOSERS team have set themselves the challenge of making a disruptive innovation in the sector and thanks to constant technological innovation, we were able to create a design that would allow the assembly of all the microcomponents inside an electronic strike without affecting its symmetry.

All electronic strikes incorporate a microprocessor in order to improve functionalities, simplify model selection, facilitate installation and/or reduce stock in your warehouse.





## Evolution in symmetry

Asymmetric strikes are those that require to take into account the type of door in which they will be installed. DIN 107 is used as a standard to choose the correct hand of the door and avoid confusion.

Over the years, the evolution of electric strikes has been aimed to offer 100% reversible solutions without having to check the direction of the door or the position of the hinges.



### DIN 107 Standard

To check the direction of the door, look at the visible side where the hinges are located.

#### Left hinge - DIN L

When the hinges are visible on the left side, it will be a DIN Left door and a DIN L or Reversible strike must be ordered.



#### Right hinge - DIN R

When the hinges are visible on the right side, it will be a DIN Right door and a DIN R or Reversible strike must be ordered.

# Components of an electric or electronic strike

Each and every one of the elements that make up our electric and electronic strikes are part of the OPENERS & CLOSERS' DNA. We create complex and carefully designed mechanisms for long-lasting and reliable operation.

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ELECTRIC AND ELECTRONIC STRIKES

### Fixed or adjustable latch

Its function is to adapt to different fits between the door and the strike.

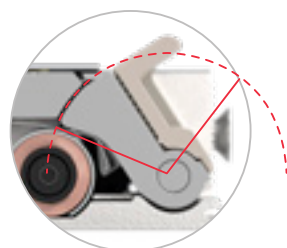
It's the strike element that has to withstand the greatest physical impact while opening and closing doors constantly. It offers a wide variety of adjustability depths and degrees of rotation.

We differentiate between internal and external radian latches:

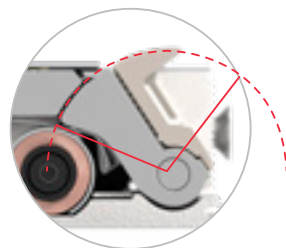
The internal radian latch has a shallower depth, but keeps the tip of the latch inside the arc whose length is that of the radius.

The external radian latch has a greater depth and does not keep the tip of the latch within the arc whose length is that of the radius.

External radian



Internal radian



### Coil

The heart of every electric or electronic strike is in the electric coil. Its function is to activate the core at a specific speed that allows the release of the short lever. To assure the best performance of the strike, the coil is designed to avoid overheating allowing operation without interruptions.

### Springs

To assure a perfect performance of an electric or electronic strike, internal turns, diameter and compression must be precisely calculated.

### Short and long levers

Levers are essential pieces for the strike's correct operation. They must be perfectly aligned to withstand strong impacts while still moving smoothly to allow an efficient unlocking process. The key is to find the perfect balance.

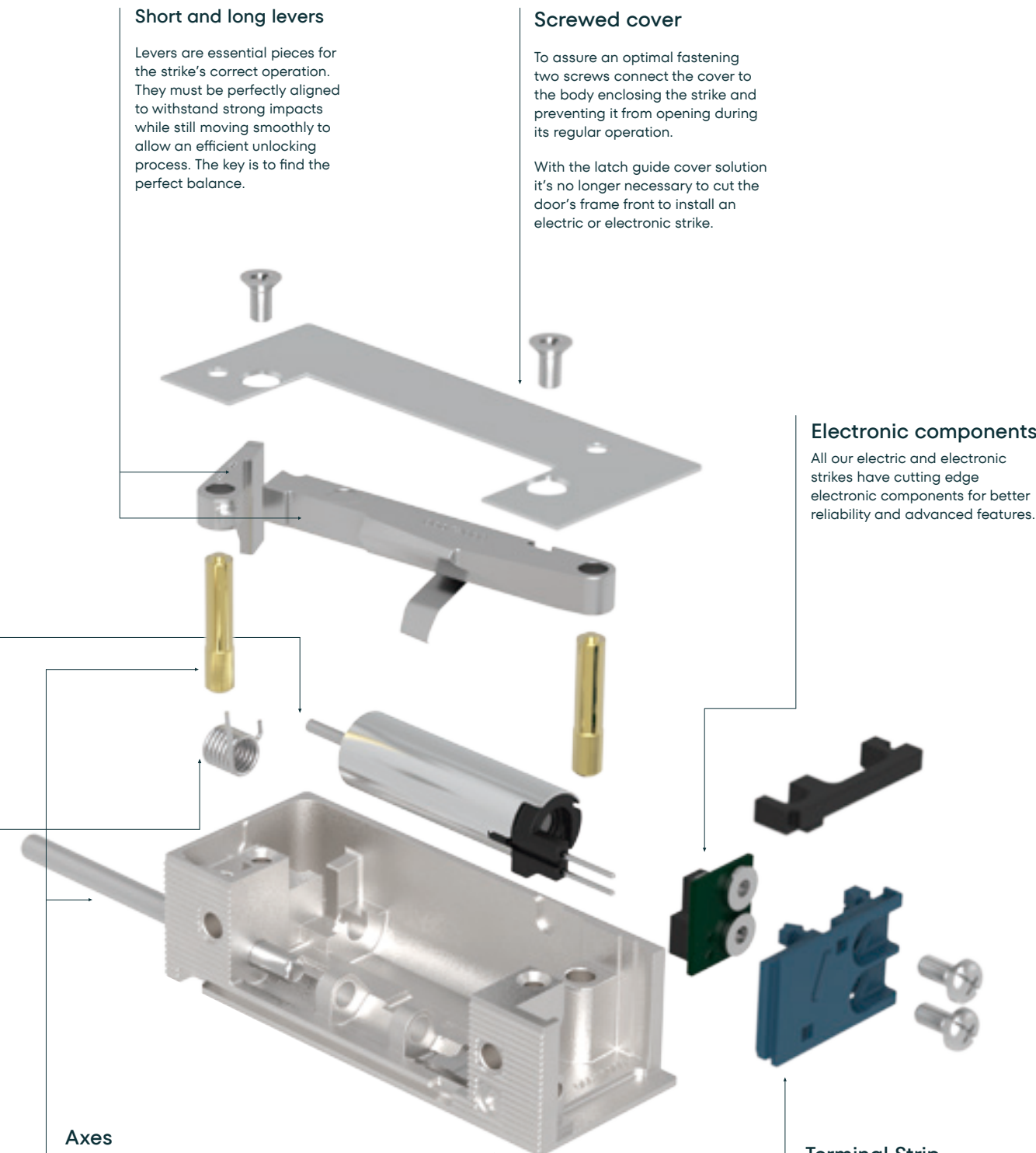
### Screwed cover

To assure an optimal fastening two screws connect the cover to the body enclosing the strike and preventing it from opening during its regular operation.

With the latch guide cover solution it's no longer necessary to cut the door's frame front to install an electric or electronic strike.

### Electronic components

All our electric and electronic strikes have cutting edge electronic components for better reliability and advanced features.



### Axes

The axes allow rotation of the short and long levers as well as the latch and absorb physical stress and impacts. Their resistance will vary according to the diameter and manufacturing material, thus it's important to use resistant materials to assure durability of the strike.

### Body

The key of every electric or electronic strike. It protects the internal mechanism from impacts and unwanted vibrations.

### Terminal Strip

The simplest terminal strip yet the most ingenious. All of our electric and electronic strikes have a Transient Voltage Suppressor to shield its circuits from any momentary or sudden overvoltage. Its wiring can also be connected to either of the pins (+/-) both in AC and DC current as it offers no polarity.

Ribbed body



Smooth body



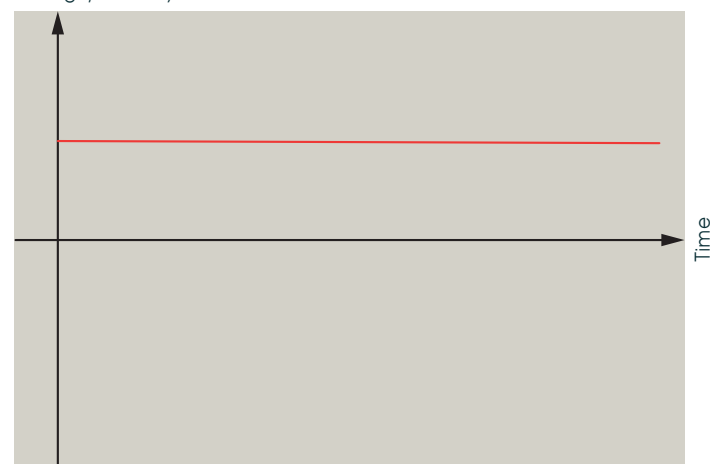


## Strikes functionalities

We offer the widest range of features in the market for each of our series. We can adapt our strikes to any solution and we manage to create any function that our clients might ask for.

First of all, it is very important to make a difference between Alternating current (AC) and direct current (DC).

Voltage/intensity



### Direct current

It was invented by Alessandro Volta and had Tomas Alva Edison as its main proponent.

It is known for maintaining a constant and unidirectional flow. Its main advantages are that it doesn't need as much insulation, it can be stored in batteries and works with lower voltages.

Electric strikes must be installed with a power supply and do not make a buzzing sound during its operation. They're ideal for permanently connected systems, however, only electronic strikes can be used in doors that have higher side loads.

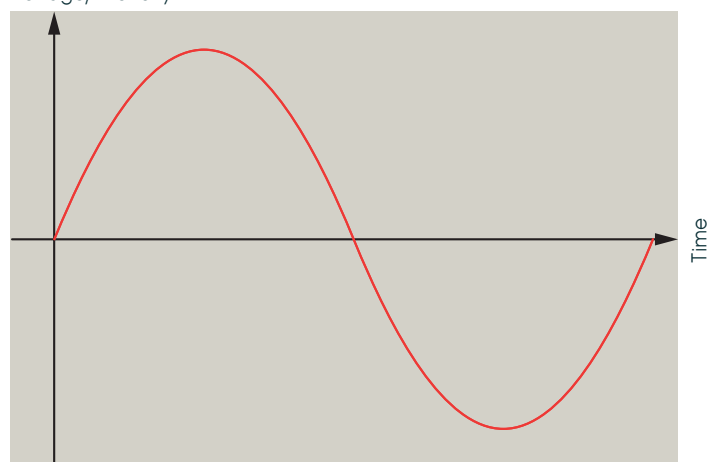
### Alternating current

Invented by Nikola Tesla, it's the most commonly used type of current in power lines.

It is known for maintaining a cyclic flow and its magnitude and direction fluctuates in regular intervals. Its main advantage is that it loses a lower amount of energy when carried through long distances. It can easily be transformed to direct current.

Electric strikes must be connected using a transformer and they make a characteristic buzzing sound.

Voltage/intensity



We've managed to make **electronic strikes** work with both types of current to allow more flexibility, reduce product stock and, most importantly, to open doors with high side loads even with ED 100% direct current.



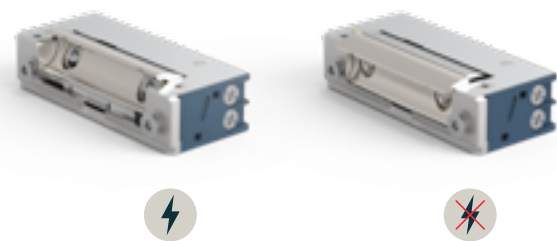
# Electric and **electronic** strikes functions

These are the two main functionalities we can find in the market.

## Fail-secure

Fail-secure functionality refers to the models whose base state without electric connection is locked.

The strike is only unlocked when the coil is activated. This means that in case of an electric outage the strike will remain locked.

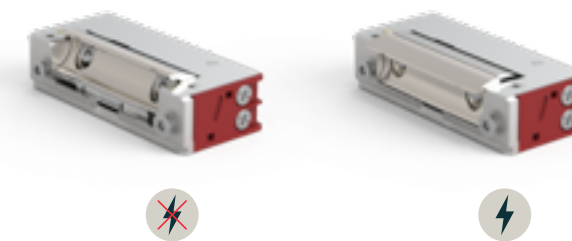


NC (Normally Closed)

## Fail-safe

Fail-safe functionality refers to the models whose base state without electric connection is unlocked.

The strike is only unlocked when the coil is deactivated. This means that in case of an electric outage the strike will remain unlocked.



NA (Normally Opened)



Fail-secure



Fail-secure with mechanical unlocking



Fail-secure hold-open



Fail-safe



Fail-secure hold-open with mechanical unlocking



Fail-secure with monitoring



Fail-secure with double monitoring



Fail-safe with monitoring



Fail-secure with internal hold-open



Fail-secure with internal hold-open and mechanical unlocking



Fail-safe with double monitoring



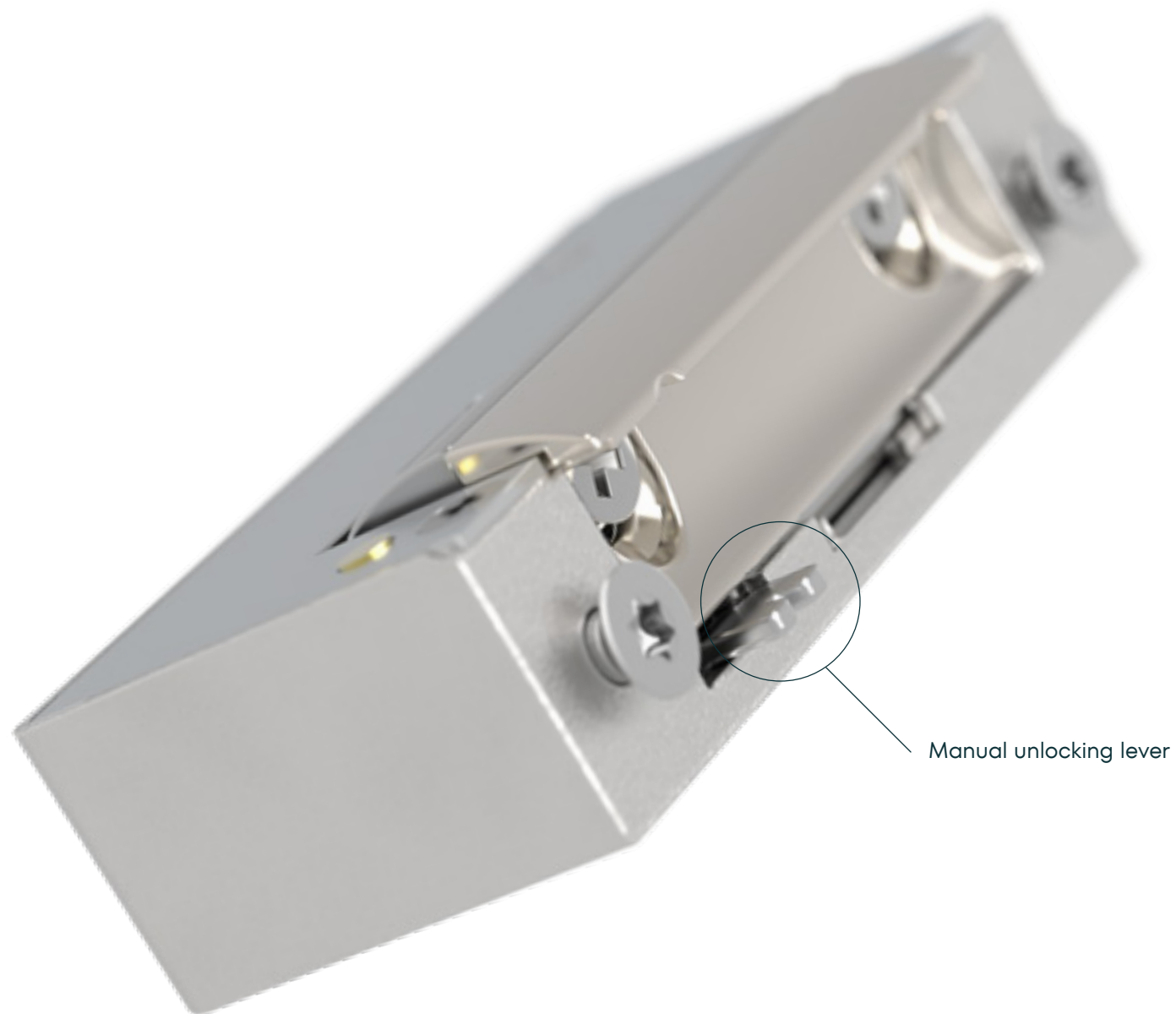
# The 3 most relevant characteristics

## Mechanical unlocking

It's a mechanical lever that allows the user to unlock the strike.

If the door must remain unlocked, just moving the lever leaves the strike unlocked without the need of an electric pulse.

To reactivate the strike's regular operation the lever must be put back in its original position.



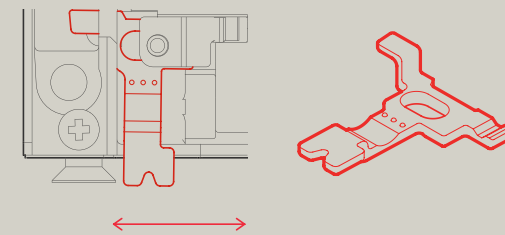
Manual unlocking lever

## OPENERS & CLOSERS mechanism

Our unlocking levers are a groundbreaking system.

Using lateral movement we maintain the blocking resistance and durability of the strike.

Our lab has managed to reach more than 500.000 cycles of locking and unlocking.



## Hold-open system

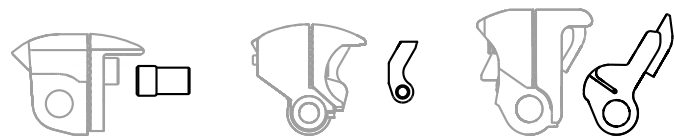
There're two types of hold-open systems, mechanical and electronic. Both allow you to unlock the strike and maintain it open with just an electric pulse.

### Mechanical hold-open system

Their activation unlocks them for an indefinite amount of time.

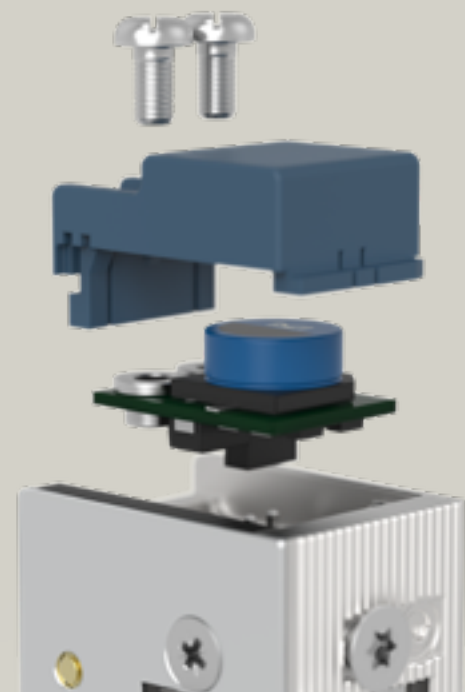
Only when the door has been opened the hold-open mechanism will lock the strike.

There are three types of systems, the bushing system, the external lever on the latch front system and the newest system on the latch's shaft.

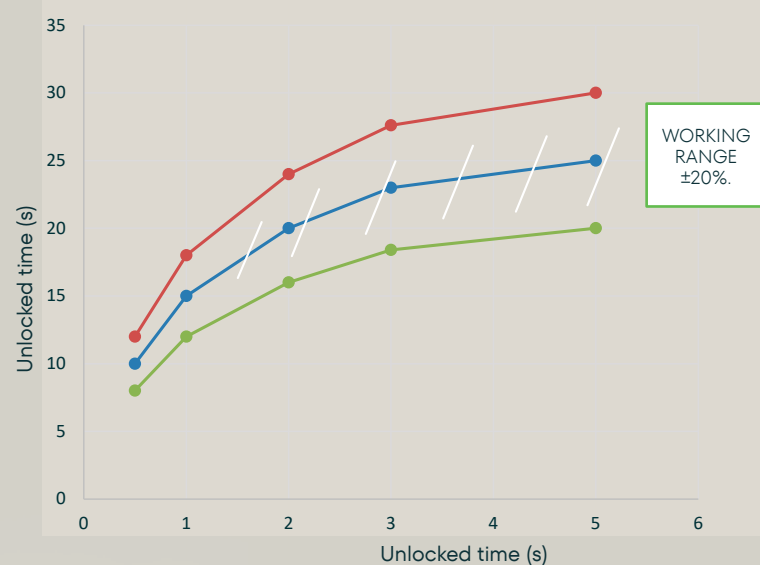


### Electronic hold-open system

The door stays unlocked for a provided amount of time then the strike locks it automatically. This is the most secure option.



ELECTRIC PULSE-UNLOCK



—●— AVERAGE VALUE —●— MAXIMUM VALUE —●— MINIMUM VALUE

## Monitoring system

Depending on the desired protection degree we can choose to have one or two microswitches for the door's signalling.

### Simple microswitch

The microswitch detects the door's state (opened, closed).

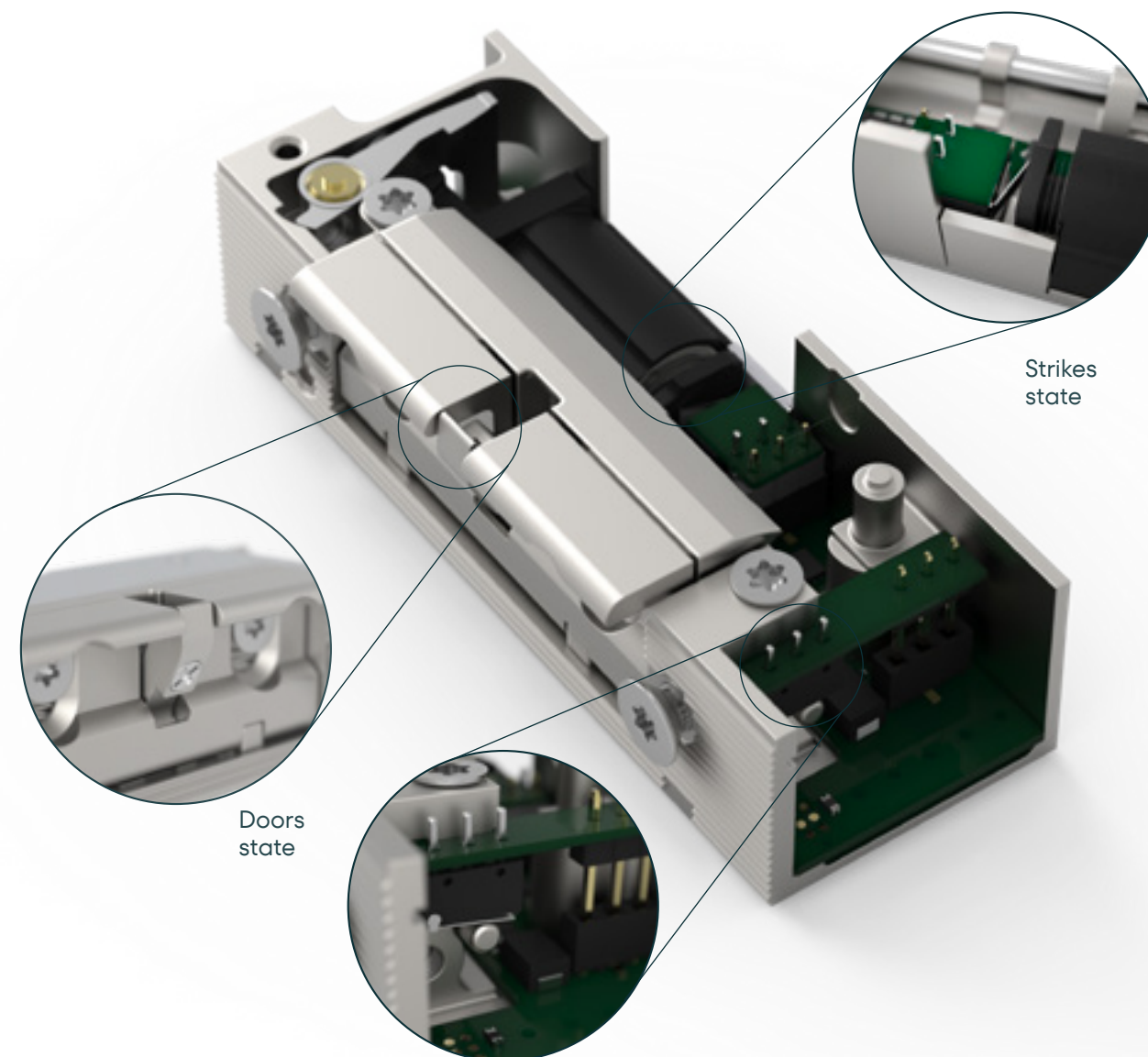
The new models have the possibility to incorporate the microswitch in the strike's interior to avoid changing the strike's symmetry.

### Double microswitch

To increase the security of access systems a double microswitch can be chosen.

When two microswitches are added we can know both the door's state (opened closed) and strikes state (locked or unlocked).

We mount all the components inside the strike to avoid interfering with its symmetry.





## Available models

### BASIC

Versatile and functional.

Basic models have been the starting point of electric strikes. They're models with fixed voltages and not a wide range.

We can offer a wide array of personalized coils with optimum operation for specific and detailed applications.

### DUAL



Double functionality.

The Dual models creation was the first evolution made by OPENERS & CLOSERS to unify the amount of models and simplify the selection process for our clients.

The demand for a two in one model and to reduce the available voltages made us create two coils in the same spool and therefore offering a voltage of 12/24V AC <1min and 12/24V DC 100% ED.

Unlike the basic models, the Dual model incorporates a voltage selector or switch that allows easy exchange of voltage according to the installation.

### UNIVERSAL



High tech and compact.

The Universal model followed the Dual model with the advantage of offering a wider range of voltages without the need to select a specific one.

The improvement in its internal pieces and powerful coil allows for a balance between mechanisms to allow a multi voltage of 9-24V AC/DC or 22-28V AC/DC.

#### SIDE LOAD

Universal models allow you to open doors with side loads

Up to 200N with AC current

Up to 50N with DC current



## ELECTRONIC

Innovation.

Electronic strikes are the next generation, our commitment to the future leading a sustainable change. They are the all in one strikes.

Some years ago we presented the first electronic strike in the world and had a great market approval. Thanks to that, we have put our efforts into getting an improved second version.

Our flagship product offers cutting edge technology. We offer a wide range of models and offer some of the market's most requested solutions with a voltage of de 6-28 AC/DC 100% ED.



#### SIDE LOAD

Electronic models allow you to open doors with side loads

Up to 500N with AC current

Up to 500N with DC current



## Most relevant characteristics of electronic or electric strikes

OPENERS & CLOSERS electronic or electric strikes are the only ones that offer real universal operation.

### 100% universal operation guaranteed

The key was redesigning the coil.

They offer a voltage operation between 6-28V AC/DC 100%ED with precise unlocking performance. This voltage range is the widest in the market so an electronic strike can be installed no matter the voltage without worrying about its operation.

### Smart management

The M2 microchip is OPENERS & CLOSERS' second generation of microprocessors that allows for more data storage and a better and faster unlocking.

The program controls the temperature of the strike to prevent it from exceeding 40°C. This ensures a better performance and greater number of operations with a high flow while avoiding possible burns with the front plate.

### Lower power consumption

We are aware of the importance of energy efficiency in construction. In all our electronic strikes, energy consumption is remarkably low.

Depending if it's AC or DC current, the minimums vary from 0,03 A to a maximum of 0,14 A as maintenance consumption.

### Quieter

Our electronic strikes are now much quieter thanks to the M2 microprocessor. Only 65-69 decibels during 0,4 seconds.

Allows you to unlock the door in microseconds with little perception of noise, just enough to show it is working.

For use cases where even this little noise is an inconvenience, we can customize an electronic strike for our clients, reducing the noise or even removing it.

### Higher side load

With our electronic strikes we are able to open doors with higher side loads without affecting the unlocking operation.

The microprocessor manages the unlocking process smartly and can open heavy and airtight doors without a challenge.

Our technical department can adjust the strikes side load on request to adapt to the needs of our clients and the market.

#### Electric strikes

10N in DC  
Between 10N and 250N in AC

#### Electronic strikes

Up to 500N both in AC and DC





## Featured solutions

### FIRE AND SMOKE

#### Resistance at reach.

Fire door certified strikes require complex solutions to make sure people are protected and fire does not spread through the building.

Each strike is associated with a door typology and a fire resistance which can vary from 15 to 120 minutes. Their tests are performed in a specialized approved certifying facility.

To correctly determine that an electric or electronic strike complies with the fireproof norm, it is important to have the certificate of conformity, the CPR code and to perform yearly updates.



### WEATHERPROOF IP68

#### Solution for exterior installations.

If our strikes have to be exposed to the elements, we offer an IP68 degree protection for the electronic components. The highest in our industry.

Our strikes are protected from any particles as they are able to withstand full liquid submersion without any filtration.

Our strikes undergo corrosion and cloud chamber tests to verify that they conform with the weatherproof requirements.

