

## Basics of electromagnetic locks

### What it is

Electromagnetic locks consist of an armature and a coil assembly, which become magnetized when an electric current passes through them. This magnetic field secures the door and electronically controls when doors are locked and unlocked. Electromagnetic locks are fail-safe by design. (Fail-safe means that if the power goes off the door will be unlocked).

### How it works

Magnetic locks use electromagnetism to control the entire locking mechanism. When the magnet is energized, it bonds to the armature and locks the door. To allow access or egress, a switch must be provided to de-energize the magnet. As the electric power activates the magnet, the bolt locks the door. To unlock the door, simply remove power.

### Ideal applications

Electromagnetic locks are used to secure the door in conjunction with push bars, request-to-exit devices or credential readers for fail-safe applications when code compliance permits.

These locks are often the ideal solutions for:

- Glass doors that need to electronically control access
- Emergency exits, fire doors or openings where the exit must be controlled
- Single standalone doors
- Doors that require a basic and/or inexpensive level of access control

### Installation

Because electromagnetic door locks are much simpler to install, they are often chosen over electric strikes, particularly in retrofit situations. Use of a strike often requires an integrator or installer to cut openings in the frame or make modifications to the opening. With an electromagnetic lock, the construction is generally limited to drilling holes in the frame, which is both less intrusive and less labor-intensive.

### Special features/functionality

- Delayed egress of 15-30 seconds
- Capability with smart cards, proximity readers and keypads
- Interlock capabilities to set conditions that control two doors

### Schlage® electromagnetic lock portfolio

#### M400 Series

A robust line of electromagnetic locks with unique new design elements that make them easy to install and secure.

- Bayonet mounting feature that allows installers to have their hands free during the mounting process
- Innovative design that allows for RH/LH configuration in the field
- Strong hold force for heavy duty doors
- Armature mount that pivots to compensate for slight opening imperfections
- Non-handed and symmetrical for optimal placement of the magnet
- Optional mounting kits: Top Jamb Mount, Double and Glass Door
- Plus Package with magnetic bond sensor, relocking time delay, door status monitor





**ALLEGION™**

### Electromagnetic specialty locks

#### M490DE – Delayed Egress

- Delays egress with 15-second timer (includes integrated alarm)
- Designed to meet NFPA 101 and BOCA, UL 10C 3 hr fire rating, UL 294 and BHMA 1500 lb. hold force

#### M490G – Exterior Gates

- Weather resistant for exterior swinging and sliding gates
- BHMA 1500 lb. hold force rated

#### GF3000 – Shear Lock

- Available in mortise and surface mounts
- Concealed locking mechanism enhances security and appearance
- UL 10C 3 hr fire rating, BHMA 1500 lb. hold force

#### 320M – MiniLine Mortise

- Designed for interior sliding doors
- UL 10C 3 hr fire rating, UL 1034 listed



### [Schlage electromagnetic locks](#)

### [Code requirements for electromagnetic locks](#)

Learn more about Schlage electromagnetic locks by calling 877-929-4350 or [contacting an Allegion spec writer](#).

## About Allegion

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