Secret Safe

Overview

You probably have things that need to be kept in a safe place. A heavy, steel safe would provide a good solution for protecting small, high-value items from professional burglars. However, if you have less valuable items (large or small) that just need to be protected from the prying eyes and hands of your neighbors and kids (and your neighbor's kids), the Secret Safe might be right for you.

The Secret Safe is created by turning ordinary furniture into a Safe. This can be any type of furniture with an enclosure, such as a drawer or cabinet. An electronic latch mounted in the enclosure keeps the drawer (or door) from being opened by an intruder. However, *you* can easily open it with a small remote controller, which can be attached to your key chain or hidden in a secret place.

Any one or more of the cabinets or drawers in the pictures below could be a Secret Safe, but only you know which one holds your coin collection and which one is just a drawer or door that doesn't open.

The purpose of this project is to provide instructions for building your own Secret Safe.

Secret Safe

Components

The Secret Safe has 5 key components:

- Loops
- eLock
- Enclosure
- Remote Controller
- Magnet, Battery Pack & Power Cable
  or Power Supply

Remote Controller

eLock

Loop Examples

Magnet

Battery Pack

Power Cable

Power Supply

Enclosure Examples

Drawer

Cabinet

Secret Safe

Operation

The eLock is mounted on the enclosure Frame or in a Drawer next to a set of Loops. The eLock is positioned so its Actuator Arm runs through the Loops when to lock the Safe, and withdraws from the Loops to unlock the Safe.

The Loops are custom made to fit the type of installation. In the case of a Frame Installation (Fig 1), the Loops can be made from steel brackets which are mounted on the Frame and Door. In the case of a Drawer Installation (Fig 2), the Loops can be made by drilling a hole in the Drawer, Frame and Slides.

The CPU listens for "Lock" or "Unlock" commands from the Remote Controller. If a Lock command is received, the CPU tells the Actuator to extend the Actuator Arm. If an Unlock command is received, the CPU tells the Actuator to retract the Actuator Arm. The Actuator always remains in the same position until a new command is issued.

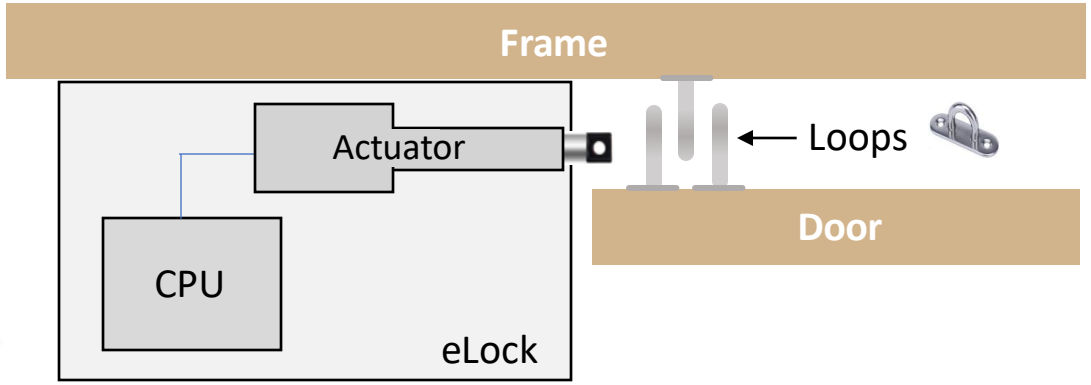

Fig 1 - Example of Frame Installation in Unlocked Position

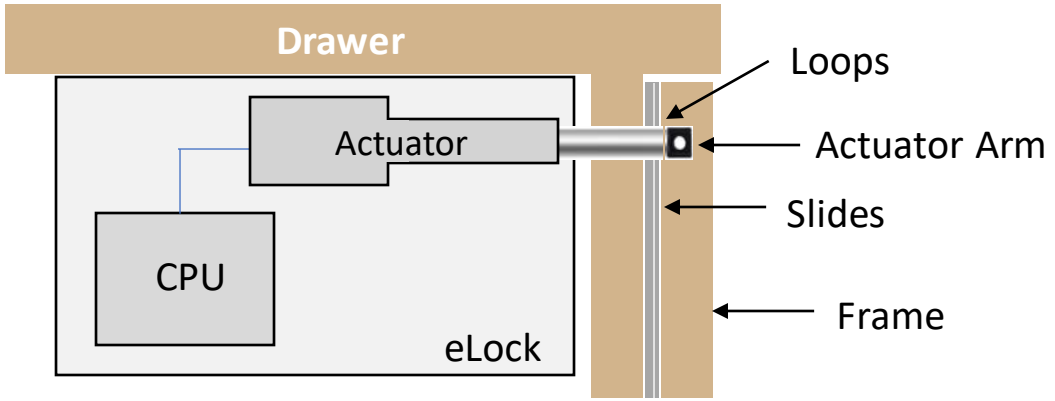

Fig 2 - Example of Drawer Installation in Locked Position

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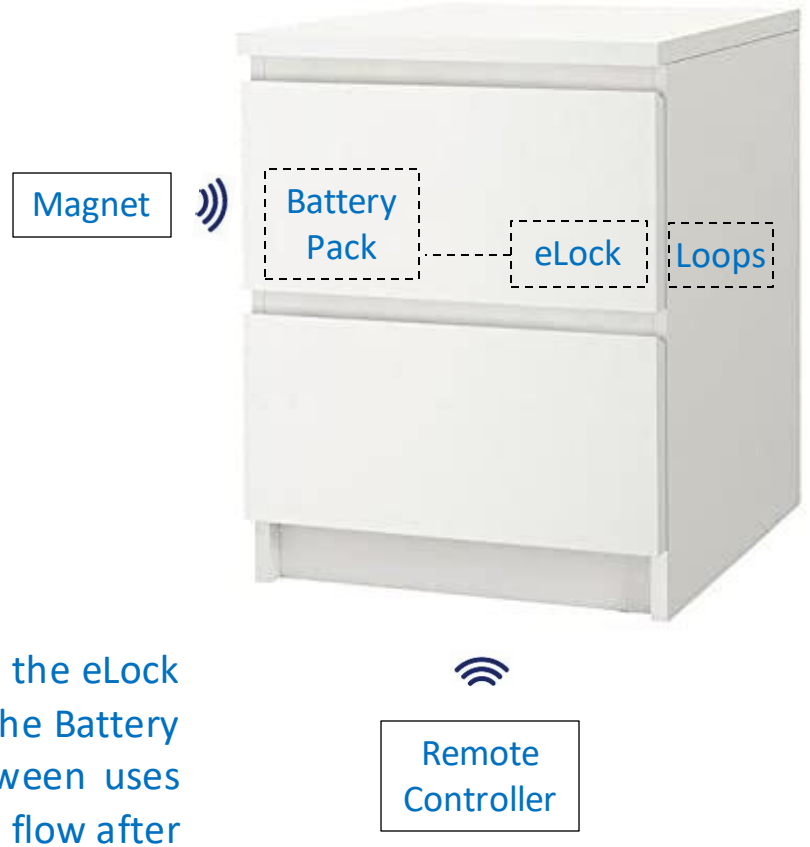
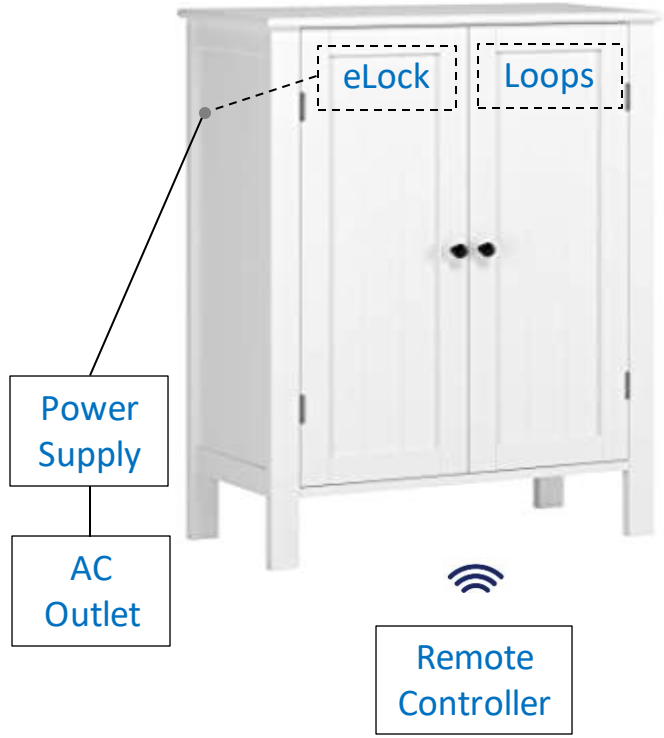
Installation Guidelines

These pictures show locations where the eLock, Battery Pack and Loops can be mounted inside the Enclosure. The Remote Controller, Magnet and Power Supply remain outside of the Enclosure.

The Battery Pack can be used in a sealed/moving Enclosure like a Drawer. The Magnet is placed near the Drawer to activate the Battery Pack from outside the Drawer.



The Battery Pack is fully disconnected from the eLock until activated by the Magnet. This allows the Battery Pack to last for long periods of time between uses (e.g. battery shelf life), since no current can flow after the Magnet is taken away.



The Power Supply can be used with Frame based installations that have access to an outside power source.

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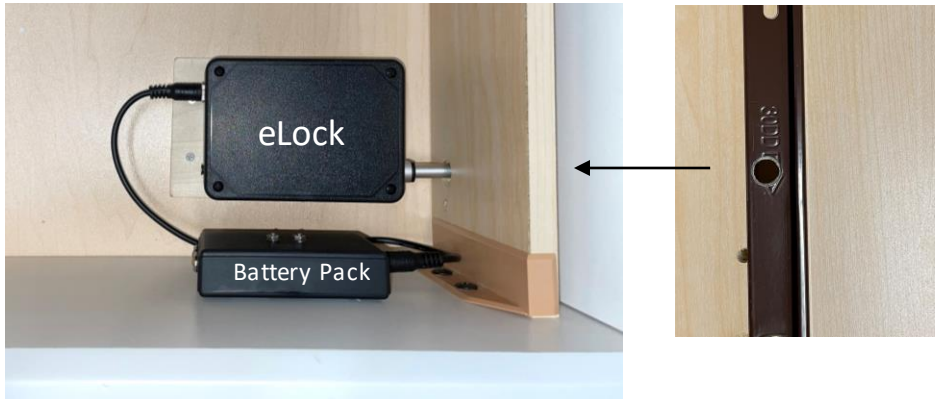
Installation Example 1

The eLock can be installed in a variety of different manners and used to lock many types and sizes of enclosures. Some examples include; cabinet door, closet door, toy chest, foot locker, kitchen drawer and cabinet drawer.

We used the top drawer in a small nightstand to show 2 different ways to mount the eLock. The top and back panel were removed to provide easy access for installation and viewing.

In this example, the eLock and Battery Pack were mounted in the front right corner of the top drawer.



A hole was drilled into the side panel and adjoining slides and frame to act as the Loops for this installation.

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Installation Example 2

In this example, the eLock was mounted on the back side of the cabinet. We used 3 steel eye bolts for the Loops.

Unlocked Position

Since the eLock was mounted on the outside of the enclosure, we did not need the Battery Pack. Instead we used a standard 12vdc converter to supply power for the eLock.

Locked Position

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Summary

Drawer Installation

Frame Installation

In both cases, the eLock provided an excellent way to keep the Drawer from opening when locked, while allowing the drawer to freely slide in or out when unlocked.

Refer to Slidedeck 2B for instructions on building your own eLock. If you're planning on a Drawer Installation, refer to Slidedeck 2C for instructions on building a Battery Pack.