Understanding elevator integration in the ATRIUM software

Introduction

Integrating elevator control into ATRIUM allows you to manage up to **256 floors** per account. To do this, convert your main A22K to an A22K-EC, or add an A22K as a sub-controller (see **this article**), then convert it into an A22K-EC (see **Converting an A22K** section in this article).

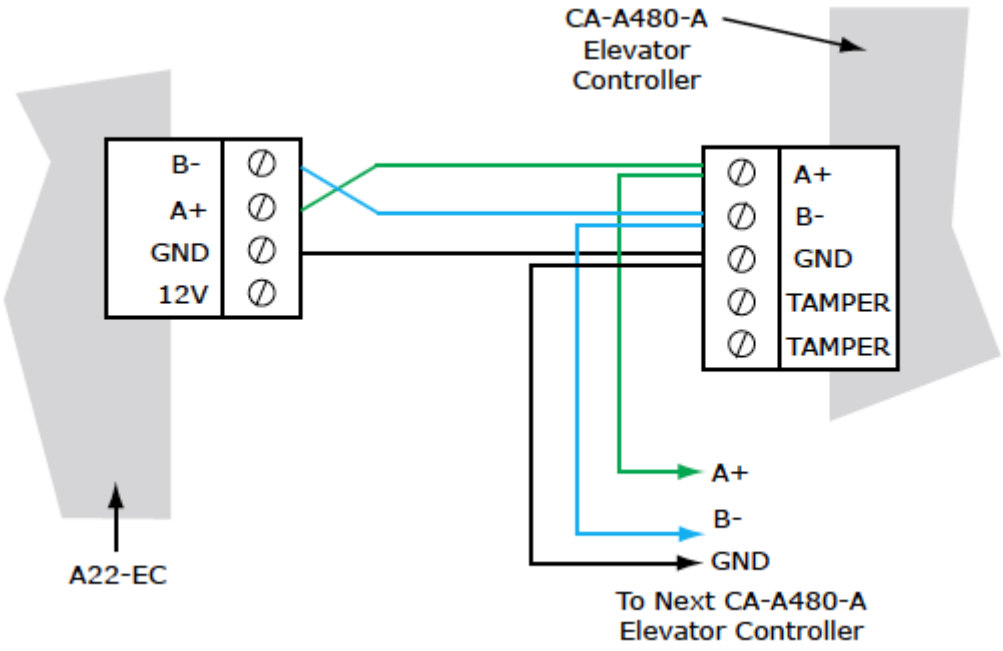
Each A22K-EC adds **two cabs** and can manage up to **128 floors** (**64 floors per cab**). Up to **49 A22K-ECs** can be added if more cabs are needed, but the total floors they manage cannot exceed **256**.

Each A22K-EC can have up to **eight CAA-480As** connected to it in a daisy-chain formation through the RS485 Local Bus. An A22K-EC with eight CA-A480-As controls **128 floors**.

Elevator integration requires version 4 or above of the ATRIUM software and firmware.

Wiring Overview

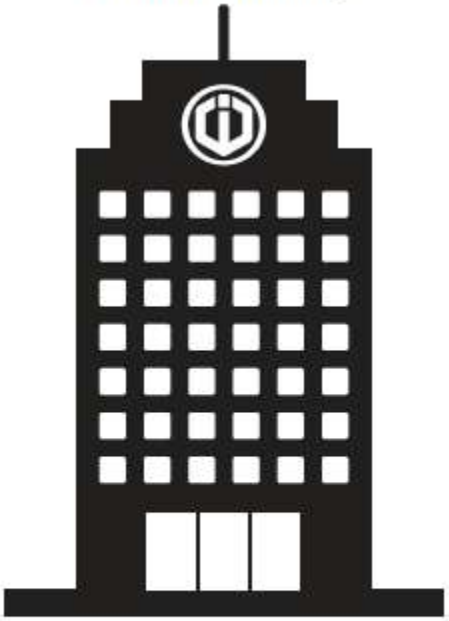
The daisy-chain wiring from an A22K-EC to a CAA-480A, to the next CAA-480A (if used) is shown below.



The diagram below shows the connection of the A22K-EC to a CAA-480A and the cab readers and floors that they manage. It also shows the jumper settings that can be used across all CAA-480As.

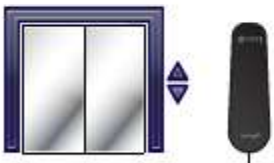
The dipswitch settings for floor addressing and the DRM connection diagram are also shown below. For more information on specific settings, consult the **CAA-480A manual**.

8-Floor Building

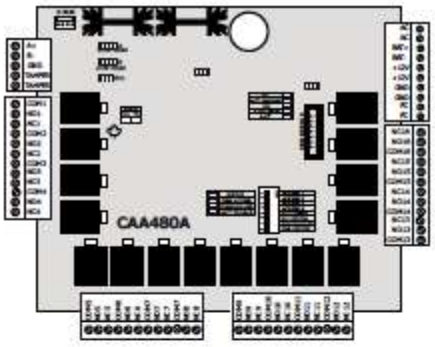


READER CAB 1
(Relays on CA-A480-A)
Relay 1 = Floor 1
Relay 2 = Floor 2
Relay 3 = Floor 3
Relay 4 = Floor 4
Relay 5 = Floor 5
Relay 6 = Floor 6
Relay 7 = Floor 7
Relay 8 = Floor 8

READER CAB 2
(Relays on CA-A480-A)
Relay 9 = Floor 1
Relay 10 = Floor 2
Relay 11 = Floor 3
Relay 12 = Floor 4
Relay 13 = Floor 5
Relay 14 = Floor 6
Relay 15 = Floor 7
Relay 16 = Floor 8



CA-A480-A
Relay Module (16)



JUMPER SETTINGS
EOL= OFF
BIAS A+ = High
BIAS B- = High

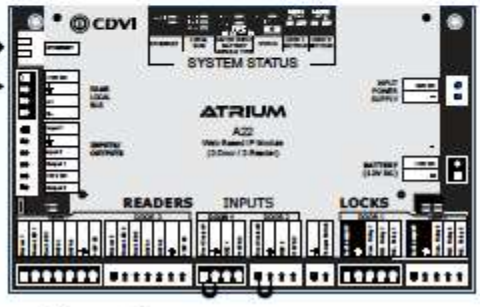
The above jumper settings can be used on all CA-A480-As.

RS-485

To LAN/WAN

IP Port

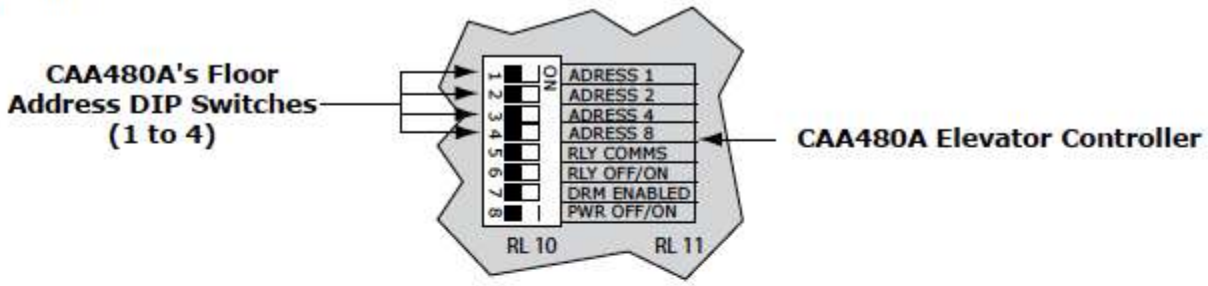
A22 EC
Elevator Controller

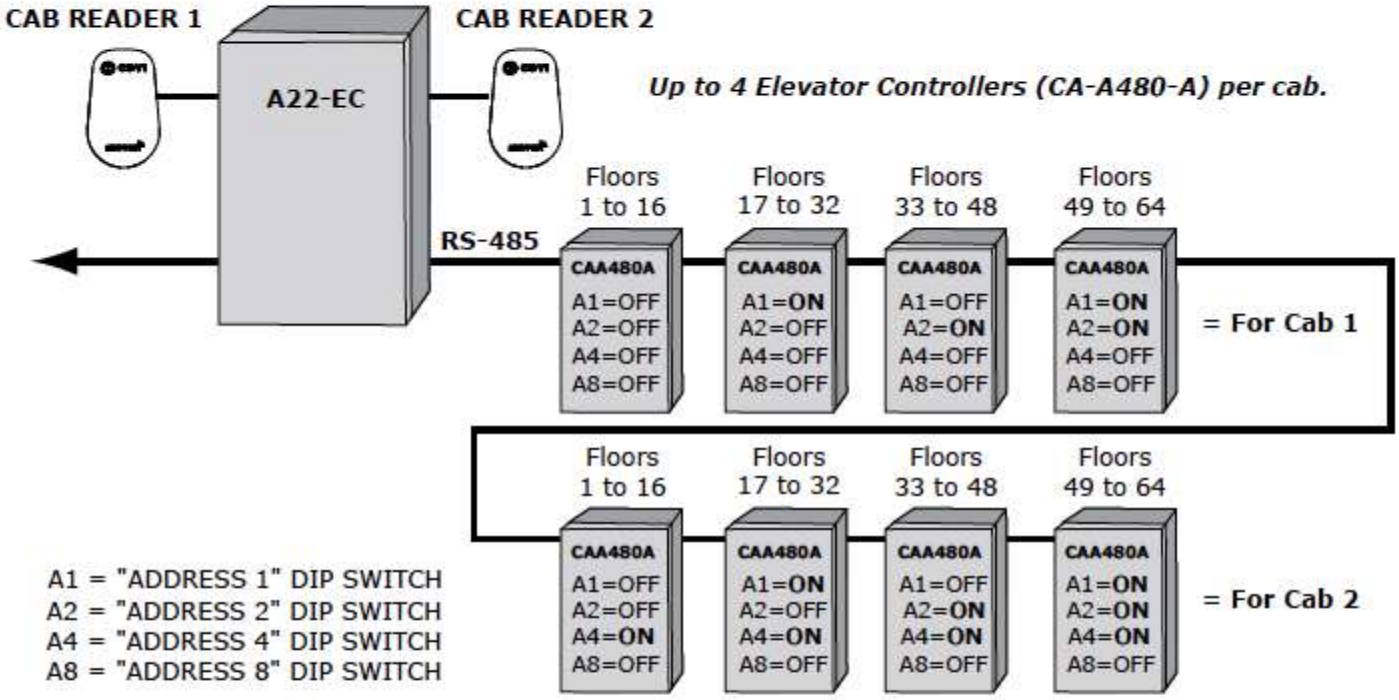


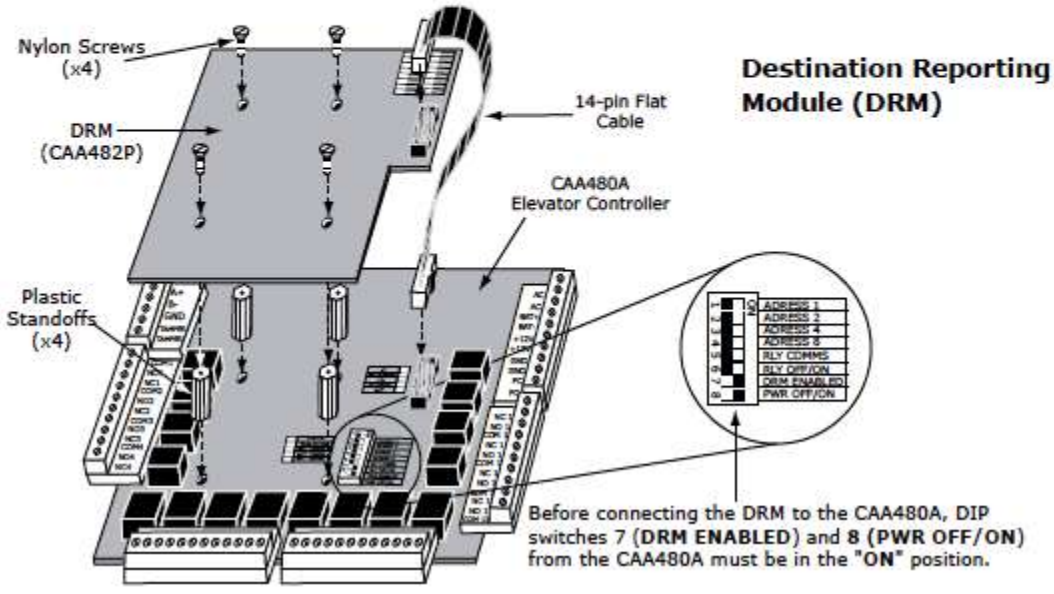
Reader Port Cab 1

Reader Port Cab 2

Floor Addressing





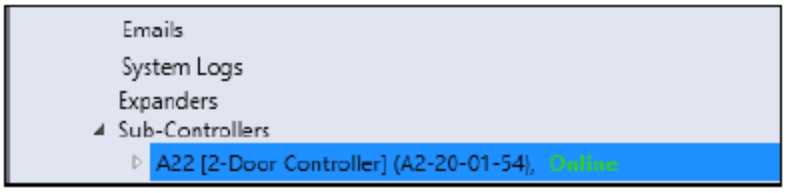


Converting an A22K into an A22K-EC

First, download the A22K-EC firmware files either by **visiting the CDVI website** or by getting in touch with our **Tech Support team**.

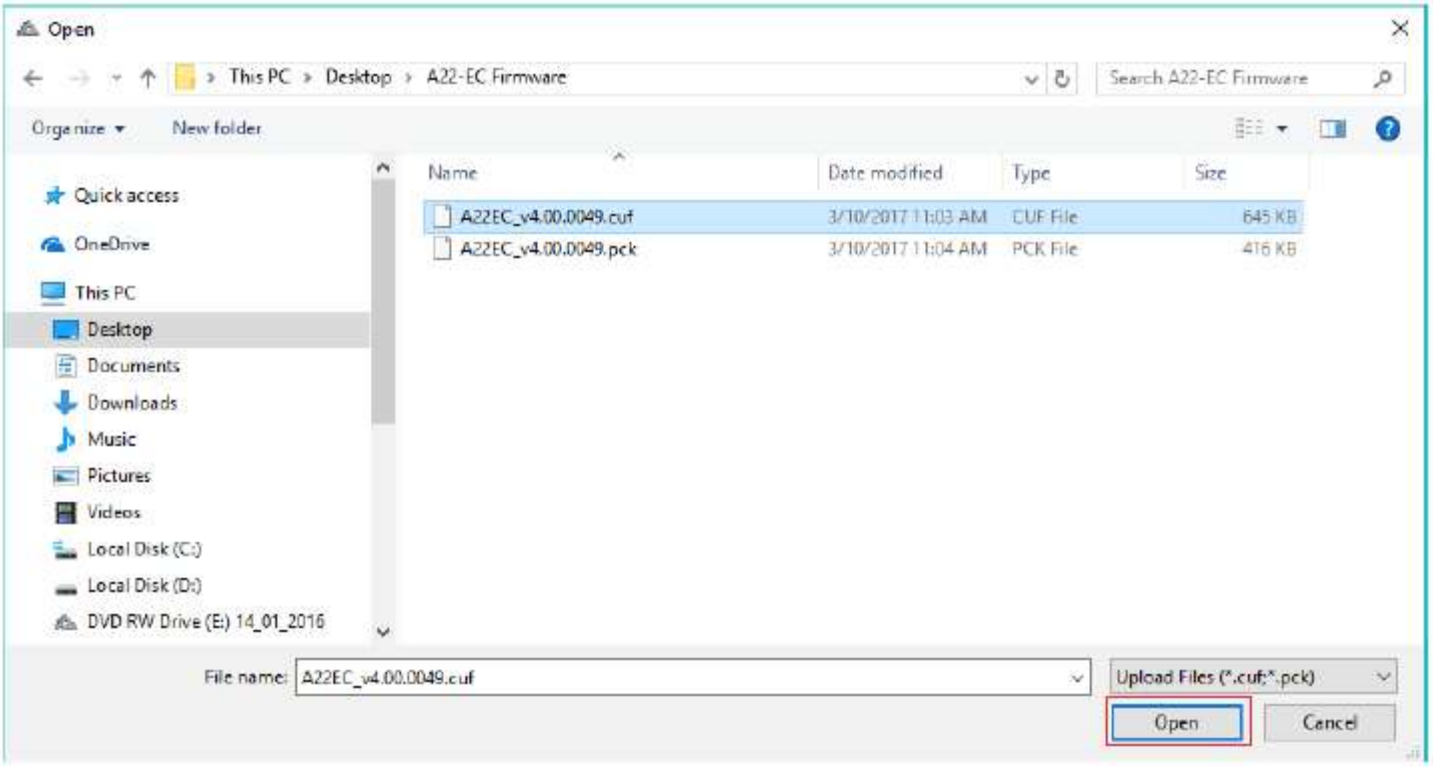
The steps below show conversion of an A22K subcontroller. To convert a main controller, select it and continue with the steps below.

In the ATRIUM software, select the A22K from the **Sub-Controllers** menu and click on **Upload Firmware**.

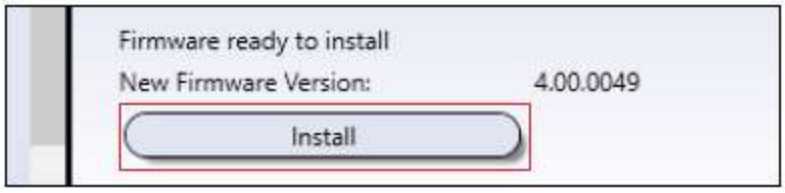


Locate and ppen the **A22K-EC.cuf** firmware file.

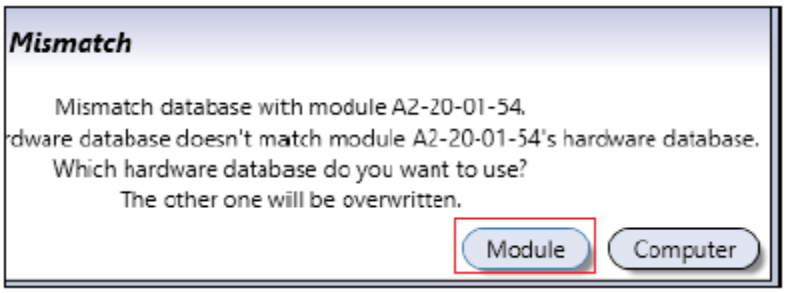
The **A22K-EC.cuf** file must be loaded before the **.pck** file.



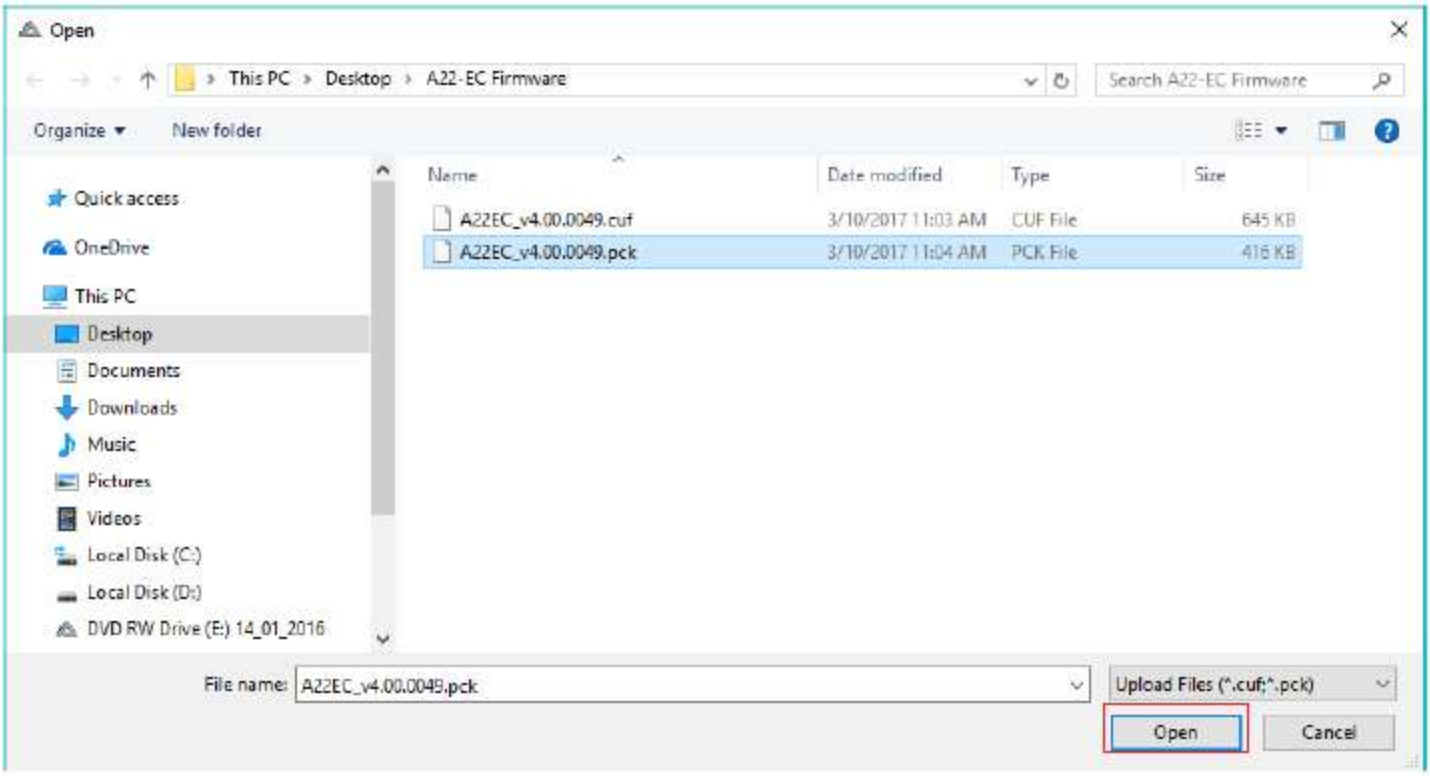
When the firmware has finished loading, click **Install**.



The A22K will go offline and **reboot**. When it synchronises, select **Module** on the **Database Mismatch** window.



Open and install the **A22K-EC.pck** firmware file using the same previous steps.



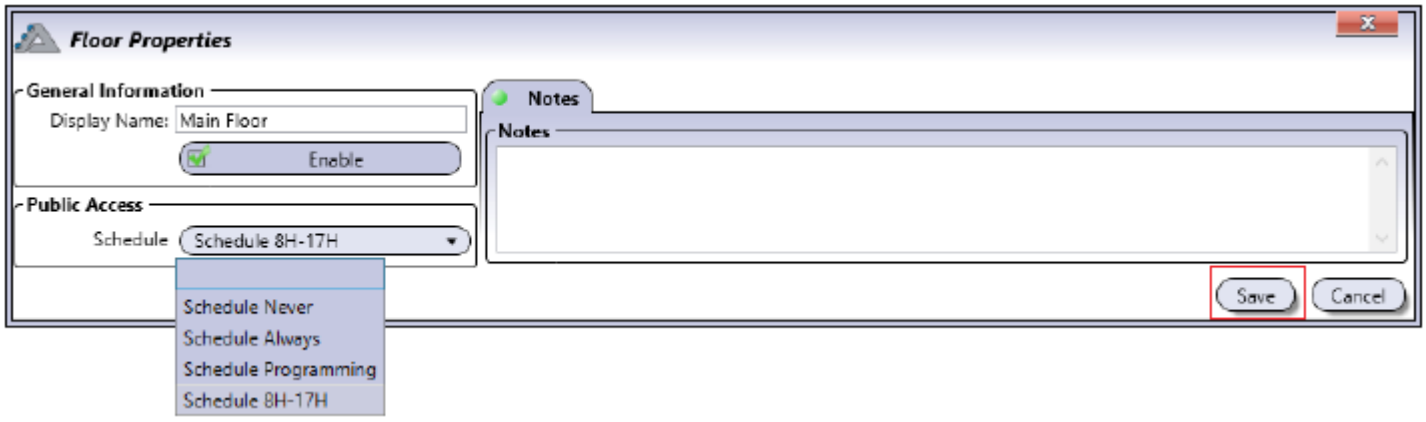
This **Sub-Controller** will now be listed as an **A22K-EC**.

Floors

Floors can be located within the same building or distributed between different buildings. The total number of Floors in the account will be listed from **1** to a maximum of **256**. If any Floors are located in other buildings, you can rename the Floors to make finding them clearer (ex. Building B - Floor 1). Once floors are added you can also find a floor by typing its name into the **Find** box.

From the **Dashboard** tab, click on **Floors**, then **Add** to open the **Floor Properties** menu and add a new floor.

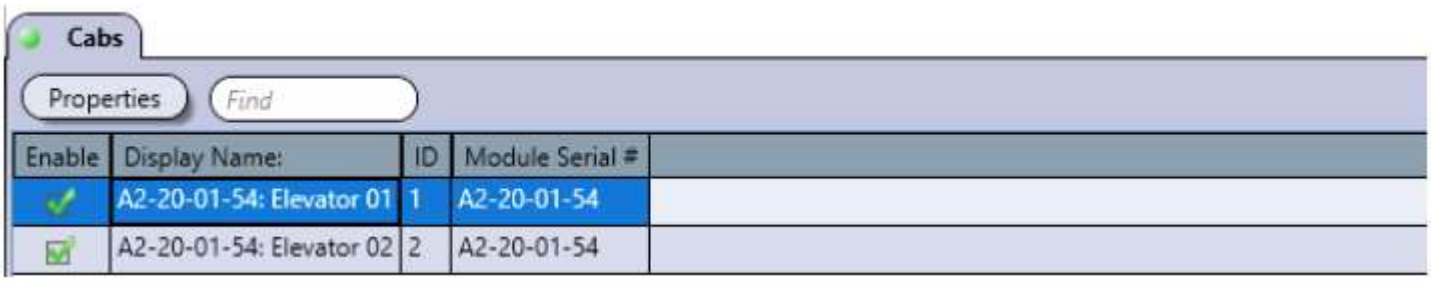
Floor Properties: **General Information**, **Public Access**, and **Notes** can be modified here. Click **Save** to keep any changes.



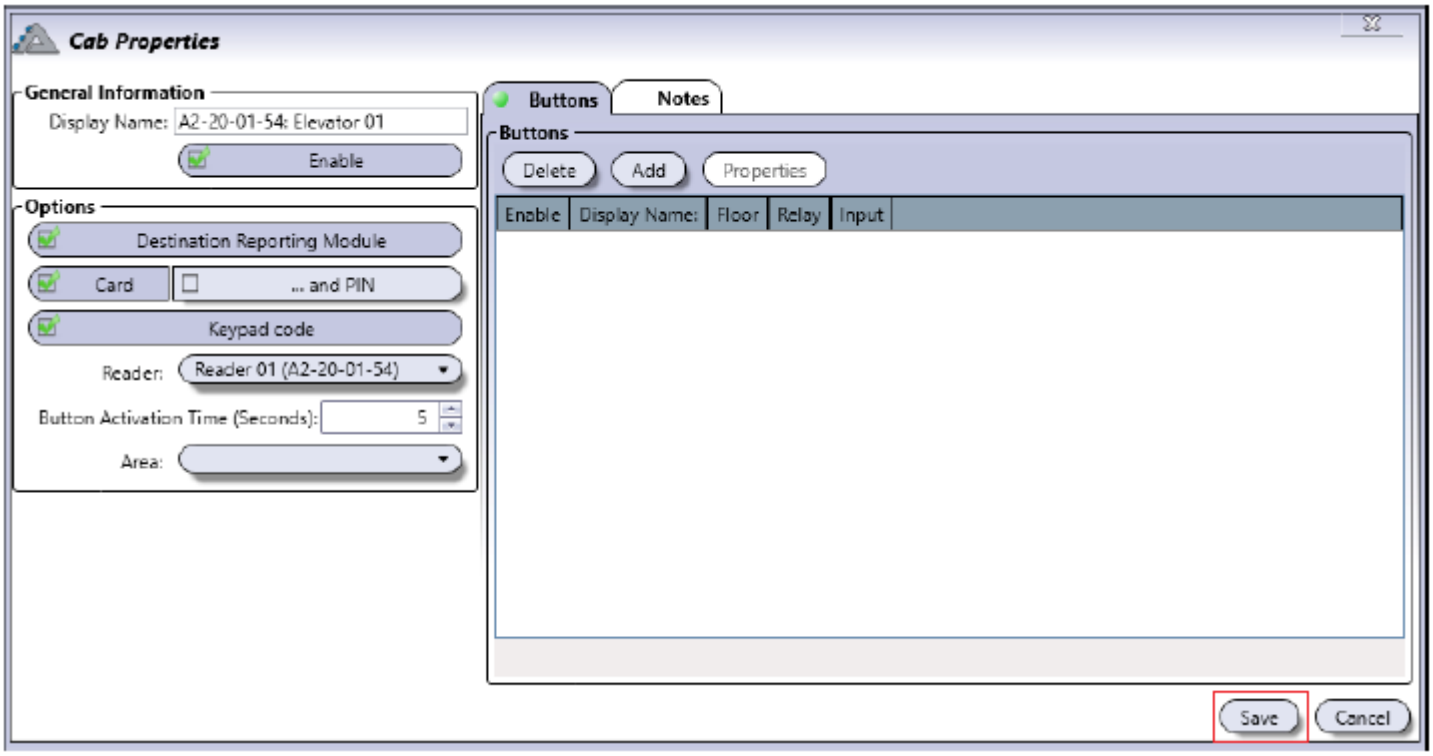
- **Display Name**: Create a display name for the floor.
- **Enabled**: Enable (checked) or Disable (unchecked) the floor.
- **Public Access**: Select a **schedule** for the floor to specify when users have free access to the floor without requiring a Floor Level assigned to them. For more information on specific schedules, see **this article**.
- **Notes** (tab): Click anywhere inside the box to add notes.

Cabs

From the **Dashboard** tab, click on **Cabs**, then select a cab and click on **Properties** to open the **Cab Properties** menu. Each A22K-EC adds **two elevator cabs**.



Cab Properties: **General Information**, **Options**, **Notes** and **Buttons** can be modified here. Click **Save** to keep any changes.



- **Display Name**: Rename the floor cab.
- **Enable**: Enable (checked) or Disable (unchecked) the cab.
- **Destination Reporting Module**: Enable (checked) or Disable (unchecked) an optional CAA-482P Destination Reporting Module, also known as a DRM.

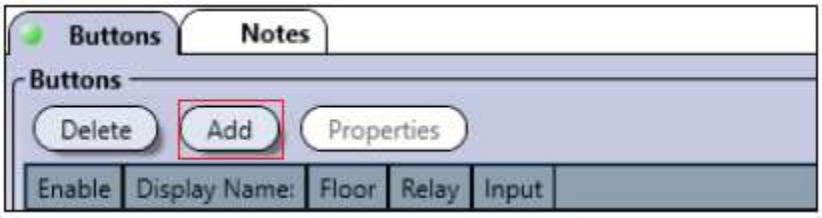
Without a DRM, when a **User** presents their card at the cab reader for access, every floor the user has access to is enabled for the default activation time of **5 seconds**. The controller will register the **Access Granted** event but will not know which floor(s) the User accessed.

With a DRM, the controller registers which User accessed the elevator and which floor was accessed. Destination Reporting only allows **one floor selection** to be made per presentation of the card.

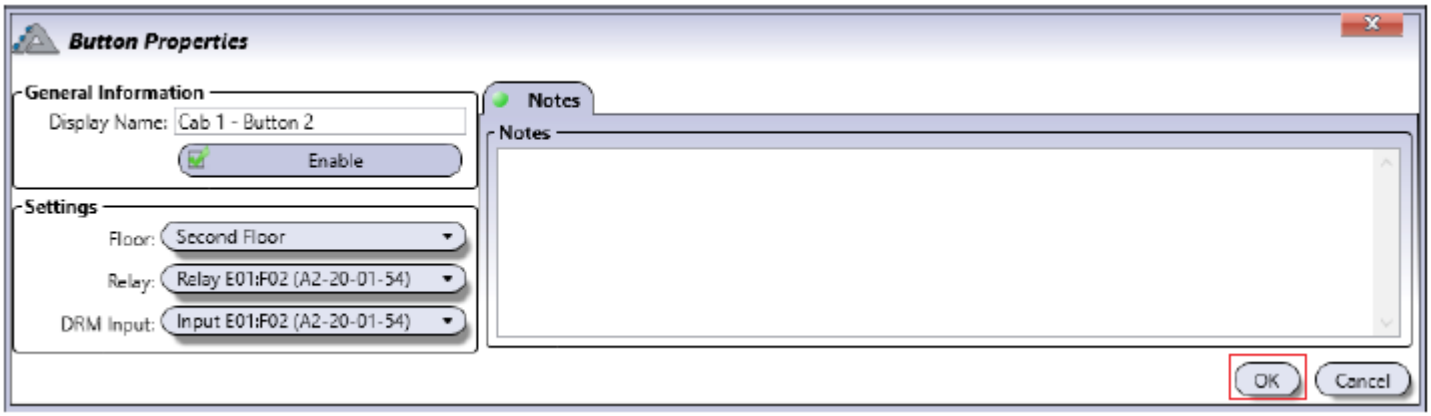
- **Card, PIN and Keypad Code**: If **Card** or **Keypad Code** are checked off, the User can have access granted using either option. If **...and PIN** is selected, the User will need to present a card and put in a PIN (also known as a keypad code).
- **Reader**: Select a different cab reader here if needed.
- **Button Activation Time**: Modify the elevator button activation time from **1 to 254 seconds**.
- **Area**: Set the **Area** associated to the cab reader.
- **Notes** (tab): Click anywhere inside the box to add notes.

Buttons

Click on the **Buttons** tab then **Add** to enter the **Button Properties** menu.



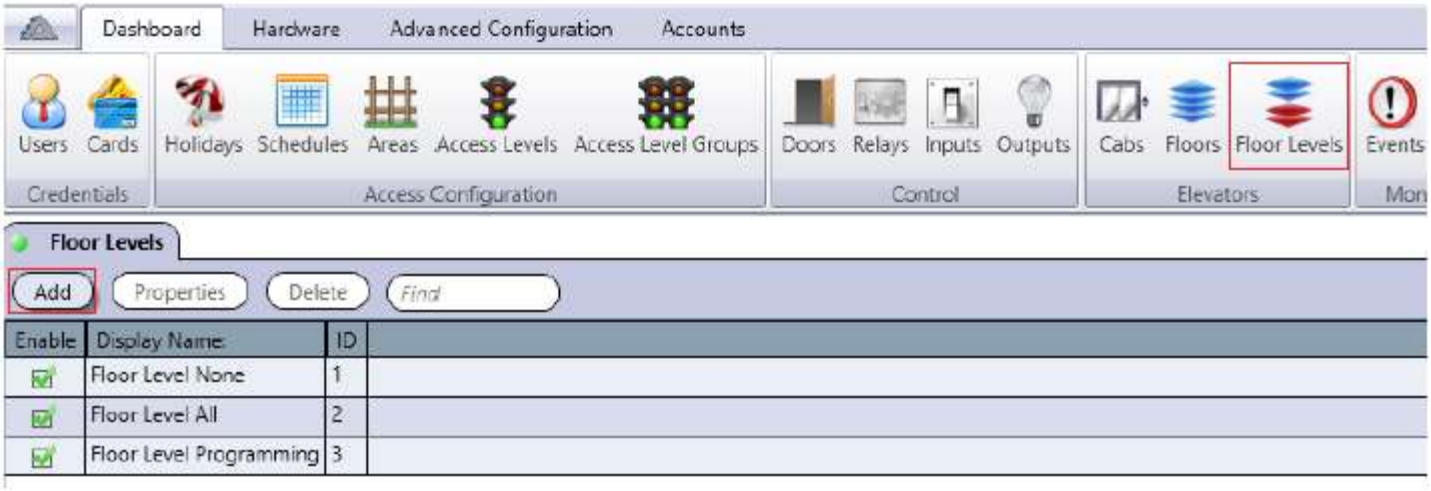
Create a name then select the **Floor**, **Relay**, and (optional) **DRM Input** for this elevator button. Click anywhere inside the **Notes** box to add a note. Click **OK** to save.



The **Relay** and **DRM Input** names will match up if they are wired in order. (Ex. Relay E01:F01 will correspond with DRM Input E01:F01.)

Floor Levels

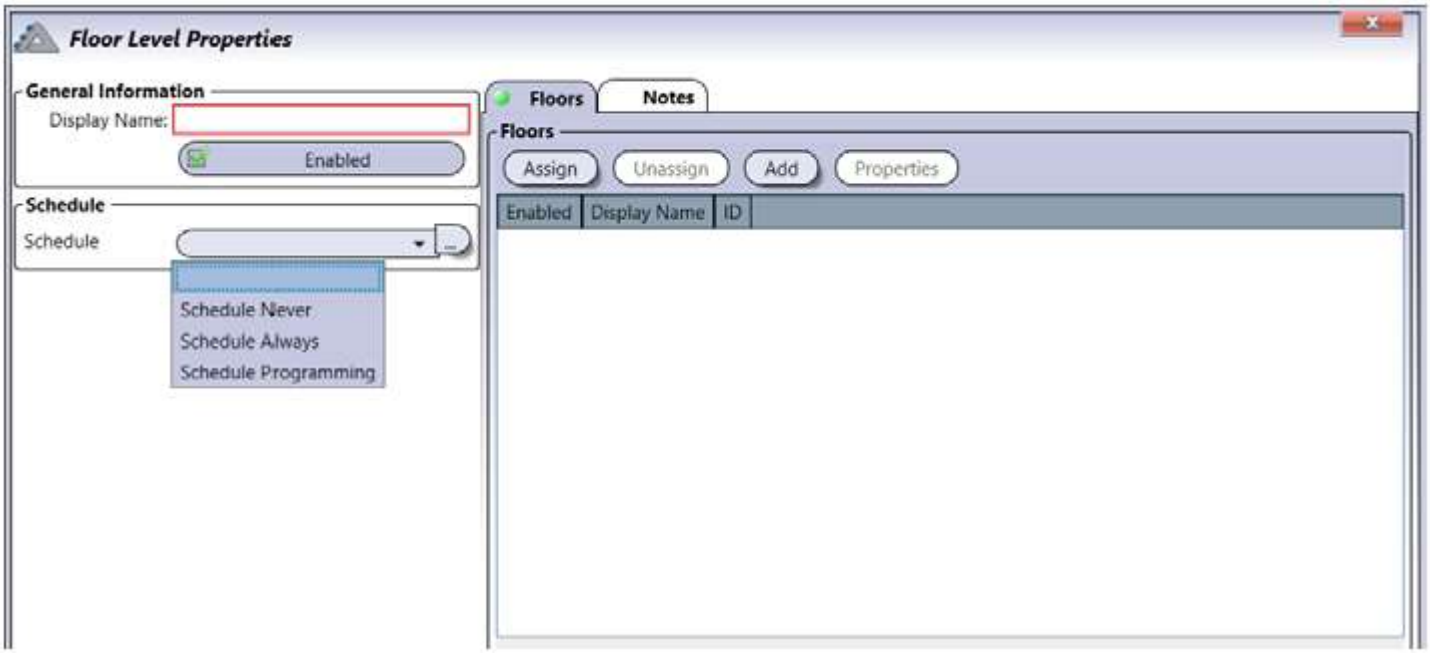
Floor Levels function like **Access Levels** (see **this article** for more information) except that they apply to an entire floor instead of applying to an **Area**. From the **Dashboard** tab, click on **Floor Levels** to view them.



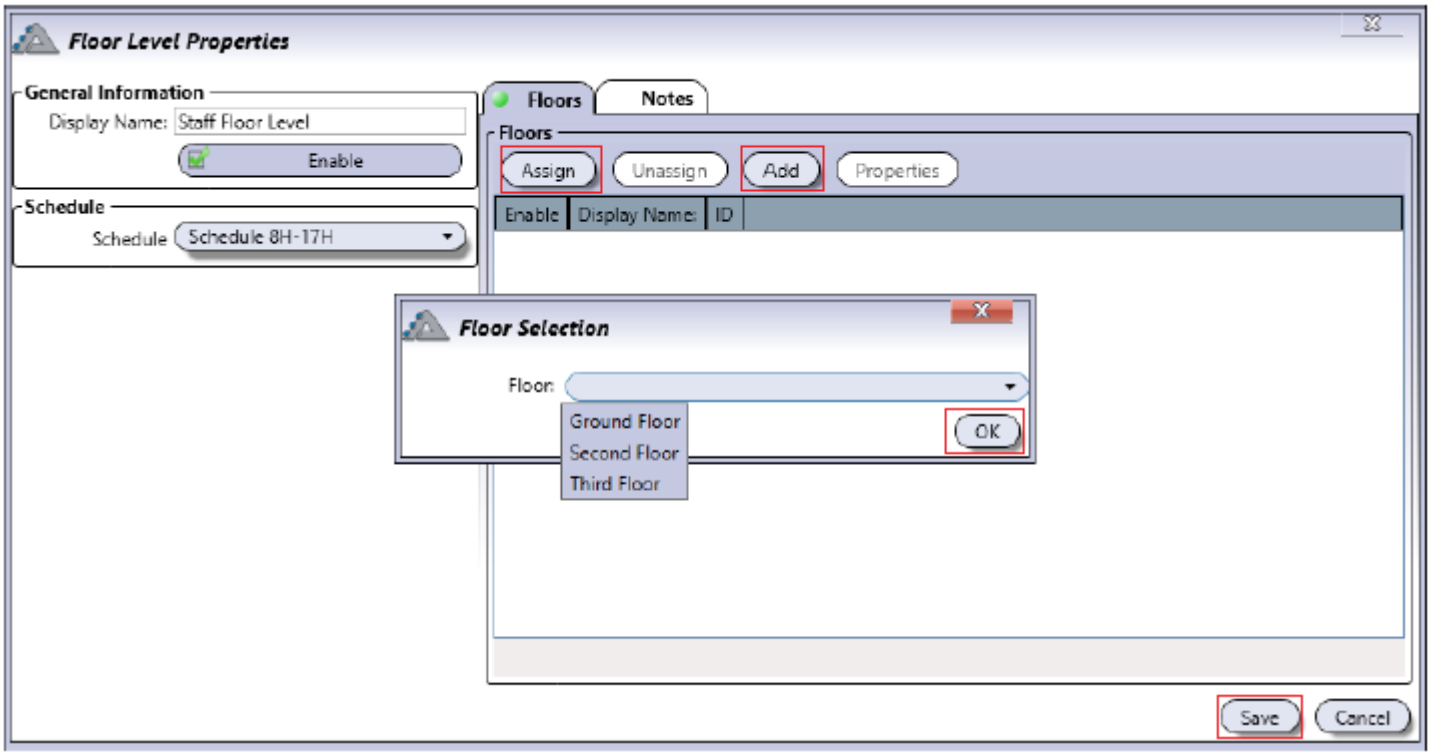
There are three default Floor Levels:

- **Floor Level None**: This floor level has **Schedule Never**, so there is no access to any floors assigned to it. This can be modified.
- **Floor Level All**: This floor level has **Schedule Always**, so there is access to every floor assigned to it 24 hours a day, 365 days per year including any programmed **Holidays**. This can be modified.
- **Access Level Programming**: This floor level has the **Learning Mode** schedule, so there is access to every floor assigned to it 24 hours a day, 365 days per year including any programmed **Holidays**. This can be modified.

Click on **Add** to enter the **Floor Level Properties** menu.



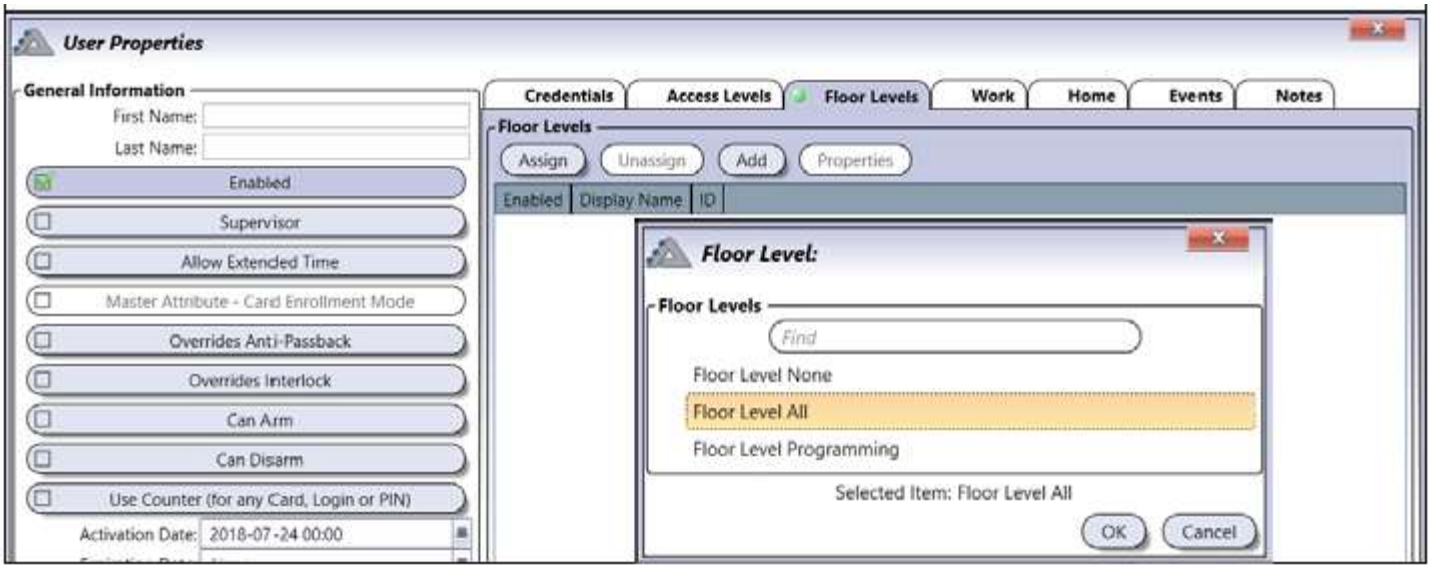
- **Display Name**: Create a display name for the floor level.
- **Enabled**: Enable (checked) or disable (unchecked) the floor level.
- **Schedule**: Select a schedule for the floor level to specify when users have access to floors.
- **Floors**: Assign or add floors to specify which floors this floor level has access to. Click **OK** after each selection.



- **Notes** (tab): Click anywhere inside the box to add notes.

Click **Save** to keep your changes.

You can now **Assign** or **Add** Floor Levels to a **User** from the **User Properties** menu (see **this article** for more information).



Next, understand the **lockdown function in ATRIUM** and how to use it.

This article applies to the following products:

A22K
A22KPOE
CAA-480A