



## Unifi Protect Webhook v1.0.0 Crestron Home Application Guide

### Description

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This Crestron Home Driver provides events from the Unifi Protect Application (Protect Version 4.1 or greater) Alarm Manager running on a local controller (CloudKey, UDM, etc). The Driver responds up to 100 events that are configured in the Alarm Manager.

This Driver requires a license that can be obtained by [following the steps in later in this document](#). Each Driver requires a license. e.g., if you have 2 Drivers in the Crestron Home System, 2 licenses are required. Licenses are tied to the Crestron processor.

### Supported Processors

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This Driver is supported in a Crestron Home processor running Crestron Home OS version 4.000.0125 or later. This driver is not supported in SIMPL Windows. For the SIMPL Windows version of this driver, please visit <https://store.controlworks.com/products/Unifi-Protect-SIMPL-Windows>.

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## Configuring Unifi Protect Events

This Driver provides Events in Crestron Home to be triggered from a Unifi Protect Application Alarm Manager. The Alarm Manager can be configured to trigger events on a variety of Unifi Protect events including but not limited to doorbell rings, motion detection, person detection, vehicle detection on a per device basis or global basis. The full list of events is located in the Unifi Alarm Manager.

Events in the Unifi Protect Alarm Manager must be manually configured to send a notification to the Crestron Home Driver using a specific URL.

The below description details how to setup a single event.

- Ensure the Driver has been added and is online. Details on how to add the driver can be found here.
- In the driver settings, take note of the Driver Listener Port. Note: if running multiple Drivers, this port must be unique. You may change the port number to any port not being used on the system.
- Navigate to Unifi Protect, and select the Alarm Manager

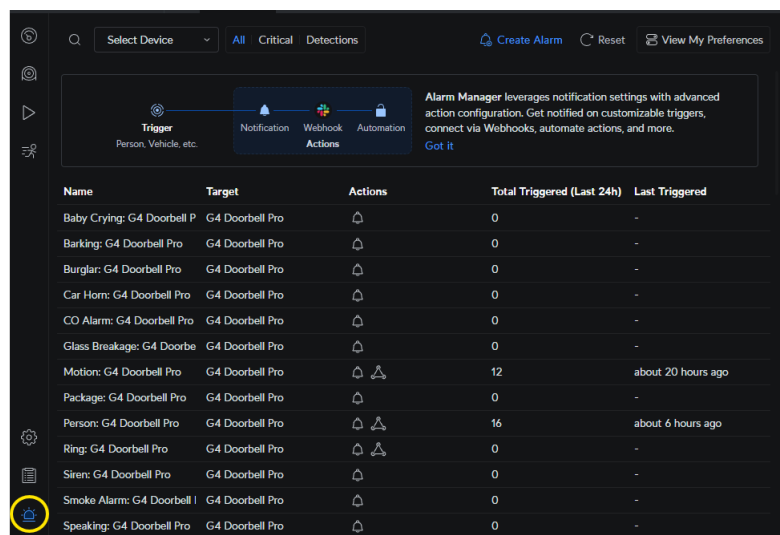


Figure 1 - Alarm Manager

- Select an event, then select "Add Actions". In this example, we will setup a doorbell event on a specific G4 Doorbell. Once the action is added we will setup the Webhook.

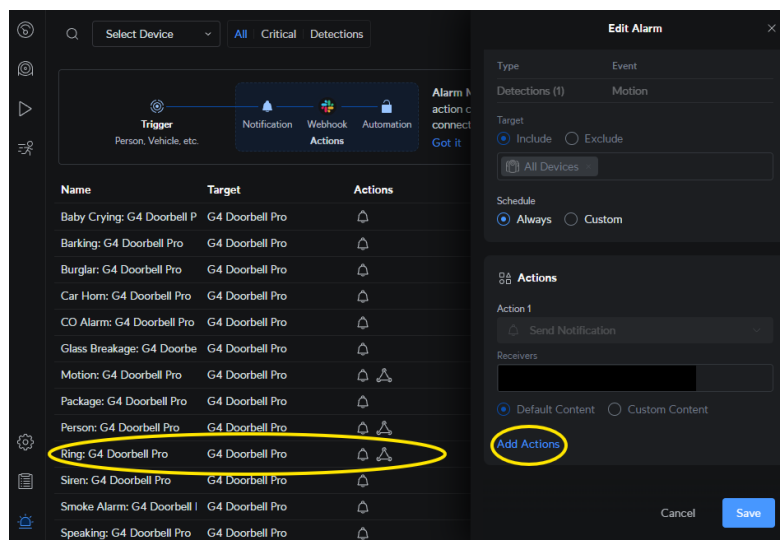
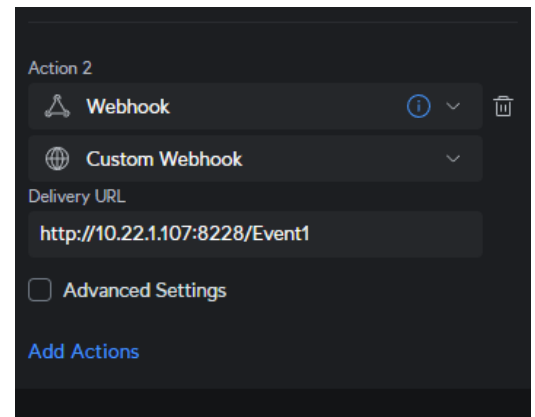


Figure 2 - Select Event, Add Actions

- Setup the Action:
  - Select the action drop down and select Webhook.
  - Select Custom Webhook.
  - Setup the Delivery URL.  
The Delivery URL is a combination of Processor IP Address, Server Port number, and the event path, in the format of



**Figure 3 - Setup Action**

`http://[processor_ip]:[Server_Port]/Event[Event_Number]`

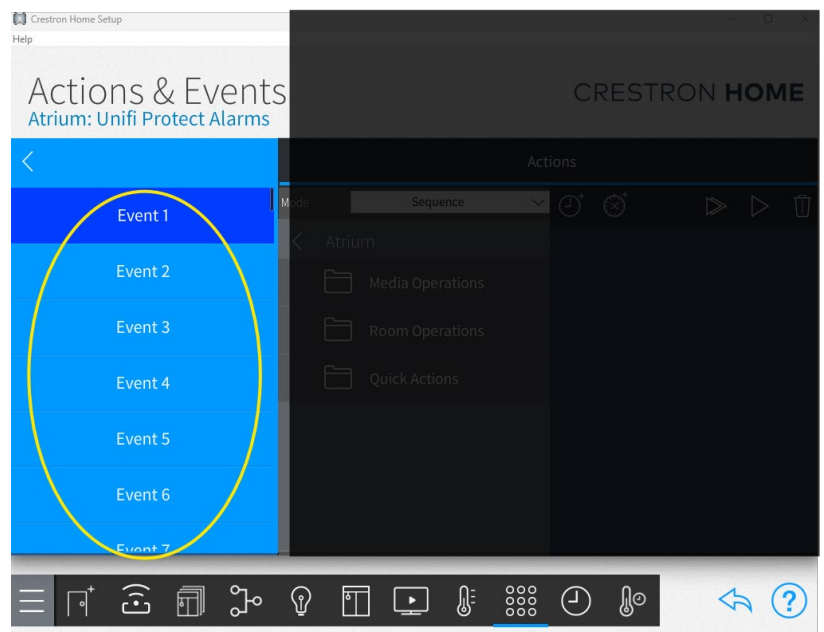
i.e. <http://10.22.1.107:8228/Event1>

- Press Save.

The webhook has now been created. For additional events, the process is the same; however, the Event URL Path changes per event. The Driver supports up to 100 events, which are defined by paths /Event1 - /Event100.

## Receiving Events from Unifi Protect in Crestron Home

Events are programmed in Crestron Home in the Actions and Events portion of Crestron Home Setup tool. Simply select an event, and then program the desired action.



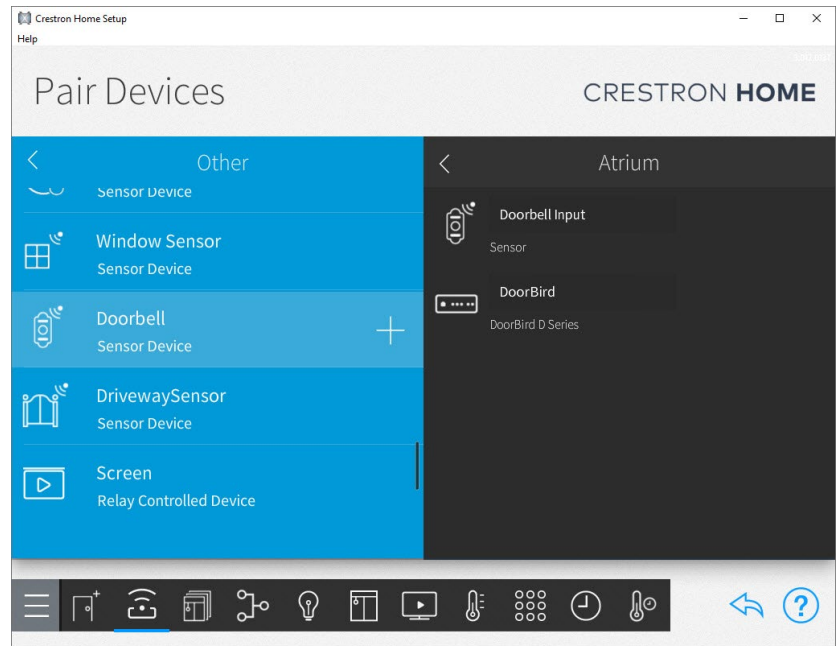
**Figure 4 - Actions and Events**

## Touch Screen/NAX Notifications when a doorbell event occurs

This section describes how an integrator might want to play a doorbell sound through touch panels and NAX when the a G4 Doorbell is pressed.

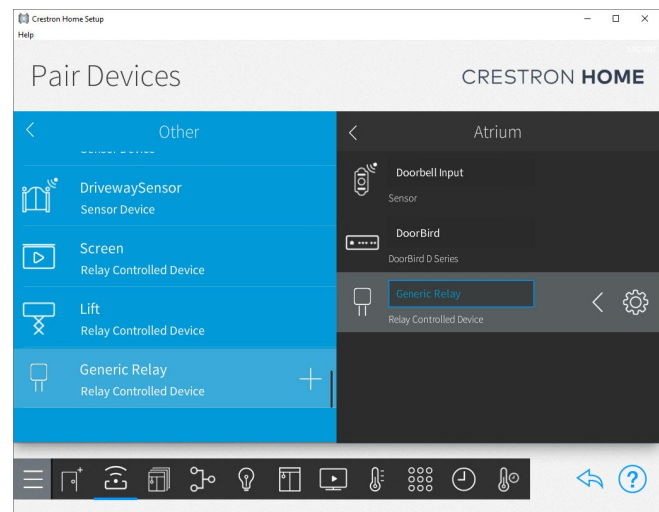
At the time this document was written, there is not a way to link an extension driver event to directly invoke a doorbell notification in Crestron Home. There is a workaround for this is, which requires an unused relay and digital input or Versaport on your Crestron processor:

1. Ensure the Driver has been added in Crestron Home.
2. Configure a "ring" event (either directly from a device or a global ring) as described in [Configuring Unifi Protect Events](#), and remember the event number. i.e. /Event1
3. Using the Crestron Home Setup App, add a Doorbell device by touching Pair Devices -> Other -> Doorbell in the Crestron Home setup app. Then select a Digital Input on the Crestron processor that the doorbell will monitor.



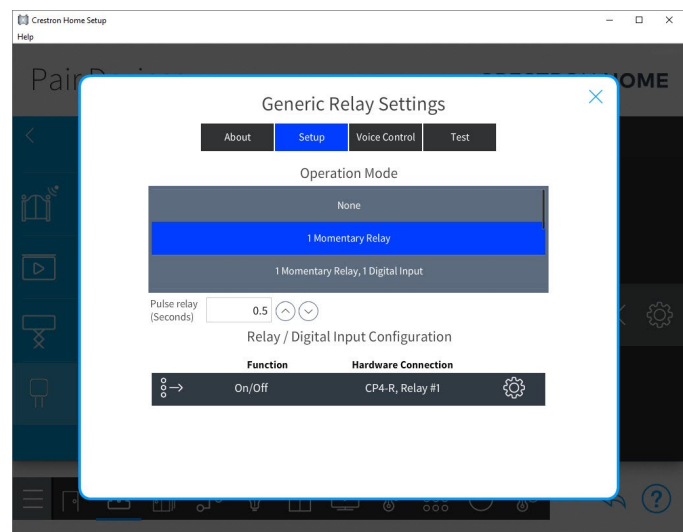
**Figure 5 - Add Doorbell**

4. Add a Generic Relay: Using the Crestron Home setup app -> Pair Devices -> Other -> Generic Relay.



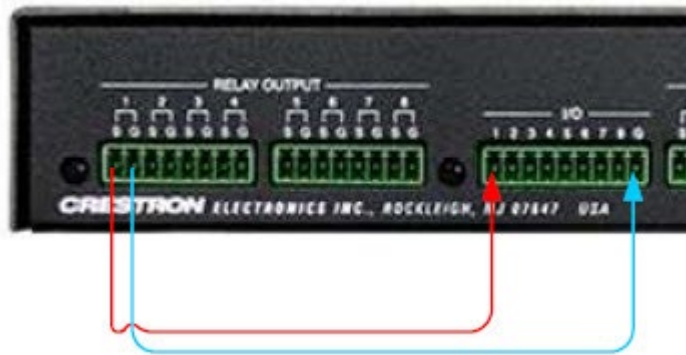
**Figure 6 - Adding Relay**

Setup the Relay as a Momentary Relay, and select an available Relay port.



**Figure 7 - Relay Setup**

5. Connect a physical wire between one terminal on the Relay output on your processor, the Input as defined in step 2. Connect the other terminal on the Relay output, and any Ground (G) port on the Crestron Home Processor.

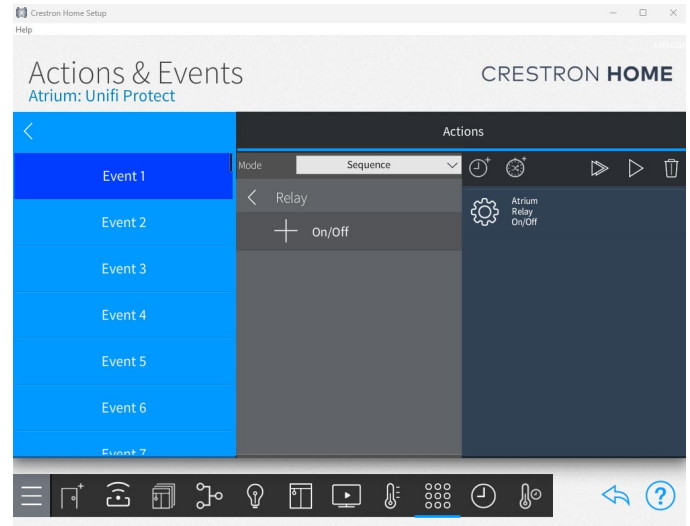


**Figure 8 - CP4-R Relay Wiring**

6. Next, using the Crestron Home setup app, navigate to "Customize and Schedule" -> "Customize Actions & Events" and Select the room the Unifi Protect Driver is in.

7. In the "Select an Item" view, select the Unifi Protect Driver -> Event x, where x corresponds to the Event paired in the Alarm Manger.

8. In the Actions pane, under mode, select Sequence -> select the Room the previously added Relay is in -> select the Relay -> select the "+" next to On/Off.



**Figure 9 - Connecting Event to Relay**

After completing these steps, when the doorbell rings the Crestron Home Processor will momentarily close the generic relay, the doorbell input will see the relay closure, and the Touch Screens and NAX will play the notification sound.

## Driver Settings

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**Driver Listener Port:** The Driver Listener Port distinguishes between instances of the Driver. Each Driver must have a port number defined between 1 and 65535, and it must not be in use elsewhere on the processor. By default, the Driver uses port 8228, but you may change it. If changed and you have webhooks previously set up, be sure to update the webhook URLs to match the new port number.

**Duplicate Request Timeout:** This setting prevents multiple events from firing if the same webhook path is repeatedly called within a short period. The default timeout is 30 seconds. When a request is received on a specific path, the event will fire only if it hasn't been triggered by a request to the same path within the last 30 seconds. If another request is received on that path within this timeout window, the event will not fire again.

**Show On Room Page/Show On Home Page:** This setting enables or disables the display of the Driver on the Room page or the Home page. Since this Driver has no UI component except for licensing, these options should be disabled after licensing is complete.

**Trial License Status:** Indicates if the Driver is licensed in Trial Mode. See [Module Instance License](#) for a detailed overview of licensing.

**Perpetual License Status:** Indicates if the Driver is licensed in Perpetual Mode. See [Module Instance License](#) for a detailed overview of licensing.

**License Status:** A string indicating the current license information. See [Module Instance License](#) for a detailed overview of licensing.

**Activation Key for Driver:** Used when purchasing a license. See [Module Instance License](#) for a detailed overview of licensing.

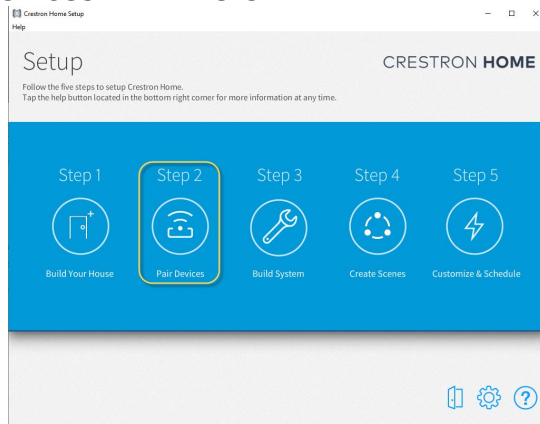
**Activation URL for Driver:** Provides a link to the store and inserts the key into the website for purchase. See [Module Instance License](#) for a detailed overview of licensing.



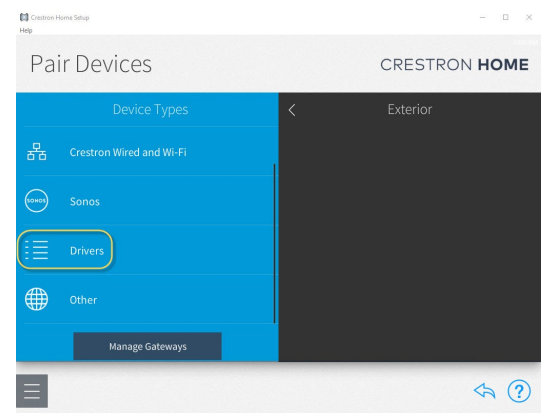
## Adding the Driver to a Crestron Home System

Note: These instructions and screenshots have been prepared with CP4-R Crestron Home version v4.000.0125. Future updates to Crestron Home may result in changes to the appearance or the steps required to implement the Driver.

1. Ensure the Crestron processor is connected to the network, and is able to reach the internet. Internet access is required for [Driver licensing](#).
2. Add the Driver to Crestron Home - Open the Crestron Home Setup Xpanel or Mobile App, navigate to the drivers by pressing Menu > Settings > Configure System > Pair Devices > Drivers.

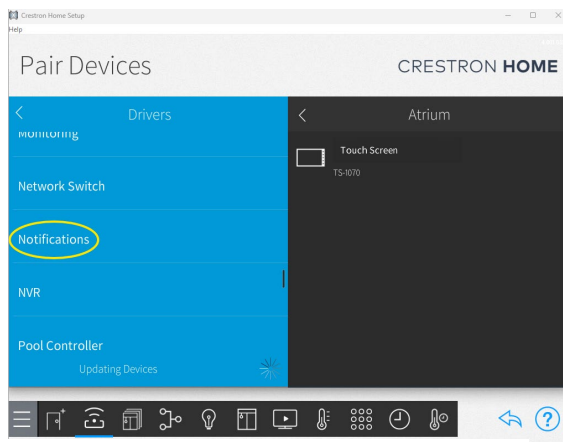


**Figure 10 - Pair Devices**

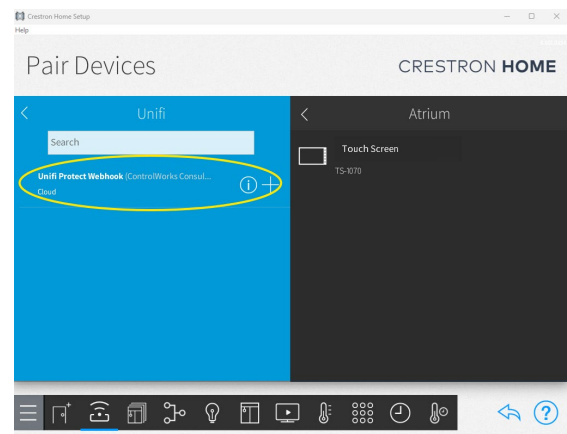


**Figure 11 - Drivers**

3. After Crestron Home refreshes the Driver list, scroll the list of Drivers to locate and select the Notifications category, then select Unifi -> Unifi Protect Webhook.



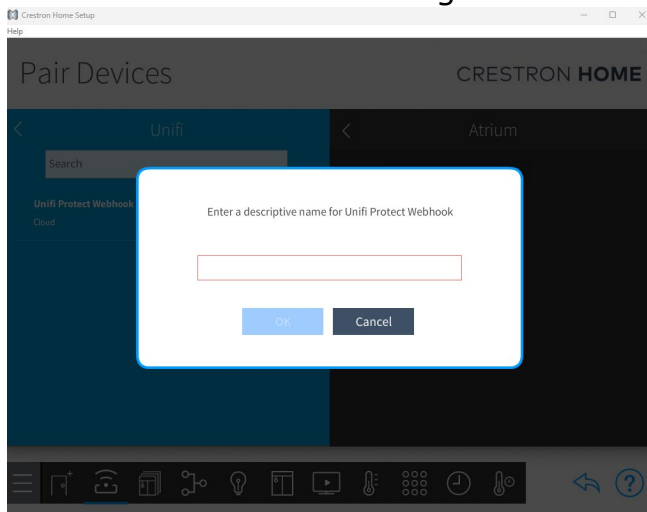
**Figure 12 Notifications**



**Figure 13 – Unifi**

4. You must add a Driver to a Room. To add the Driver to a Room, choose a Room from the "Select a Room" list that the Driver is to be added to, then select the + button next to the Driver to add the Driver to the Room.

5. Enter a name of your choosing for the Driver. The name you entered will be displayed on the Room and Home Page tile.



**Figure 14 - Name Device**

6. Press OK, and the Driver will be added to the System.

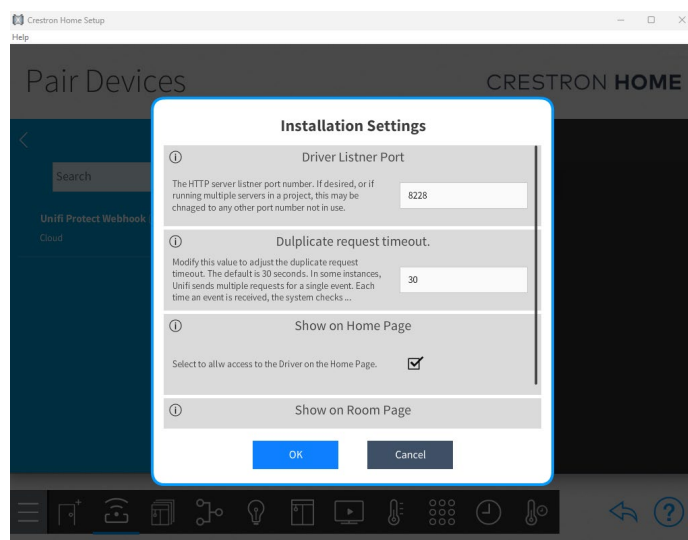
7. Review and update any installation settings you choose to. Options include:

- Server Listener port number
- Duplicate Request Timeout
- Showing/hiding the driver on the home page
- Showing/hiding the driver on the room page

A detailed description of each setting can be found [here](#).

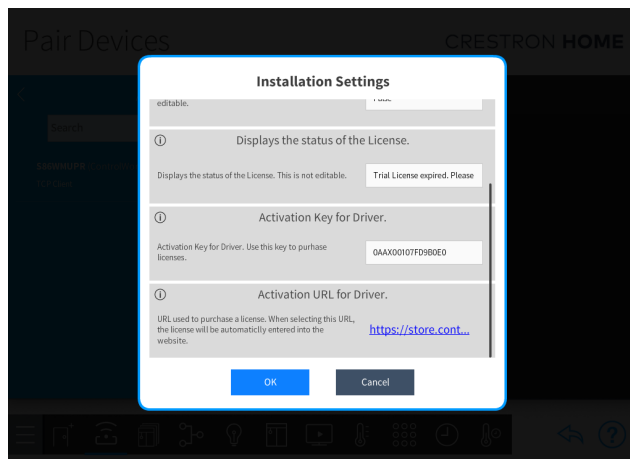
Once all options have been set, press OK.

Refer to Module Application for detailed explanation of the settings.



**Figure 16 - Installation Settings**

8. After entering the installation settings, the Driver will attempt to retrieve the license for the processor. The state of the license, activation key, and activation URL will be provided below. This information will be available at a later time, it is not important to copy it down. Press OK to continue and the Driver will be fully added.



**Figure 17 - License**

9. At this time, if no license has been purchased, the Driver will be operating in a fully featured 7-day [trial mode](#). The trial mode starts once the first driver has been added to the system. You may purchase licenses for the Processor at this time if desired. Click the License URL or navigate to <https://store.controlworks.com/products/Unifi-Protect-Webhook-License> and purchase the necessary number of licenses for this processor. Each Driver you have running requires a license. For more information about licenses, please review [Module Instance License](#).

## User Interface Overview

This section describes the general operation of the customer facing user interface; however, there are no user controls available for this Driver.

### Home Tile

Crestron Home displays the Driver on the Home page and Room page as a Tile which is created automatically when the Driver is added to a System. The name of the Driver specified while [Adding the Driver to a Crestron Home System](#), will be displayed in the Tile. To access the Driver's controls, select the Tile.

The Tile can be shown on the Home page, Room page or both. To modify where the Tile is displayed, using the Crestron Home setup tool, navigate to Pair Devices ->

Choose the room the Driver is located -> Select the Gear Icon to enter the setup for the Driver, select "Installer Settings" and choose the page to display the tile.

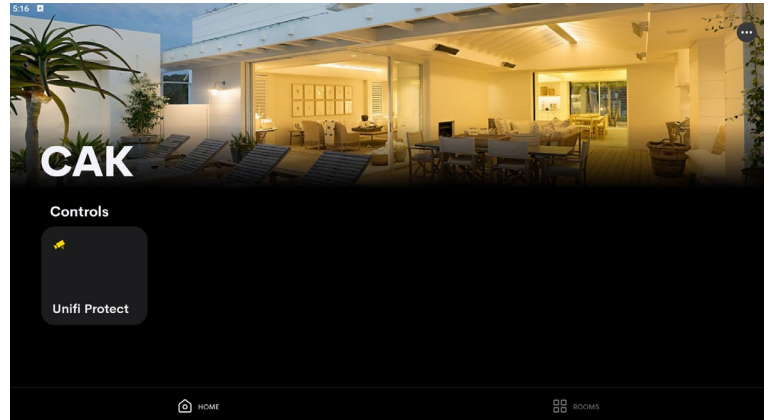


Figure 18 - Home Page

### Main Page

The main page of the Driver houses Licensing Information controls.

### Licensing Controls

The image below shows the Activation Key, the details of the license, and the "Update License Information" button.

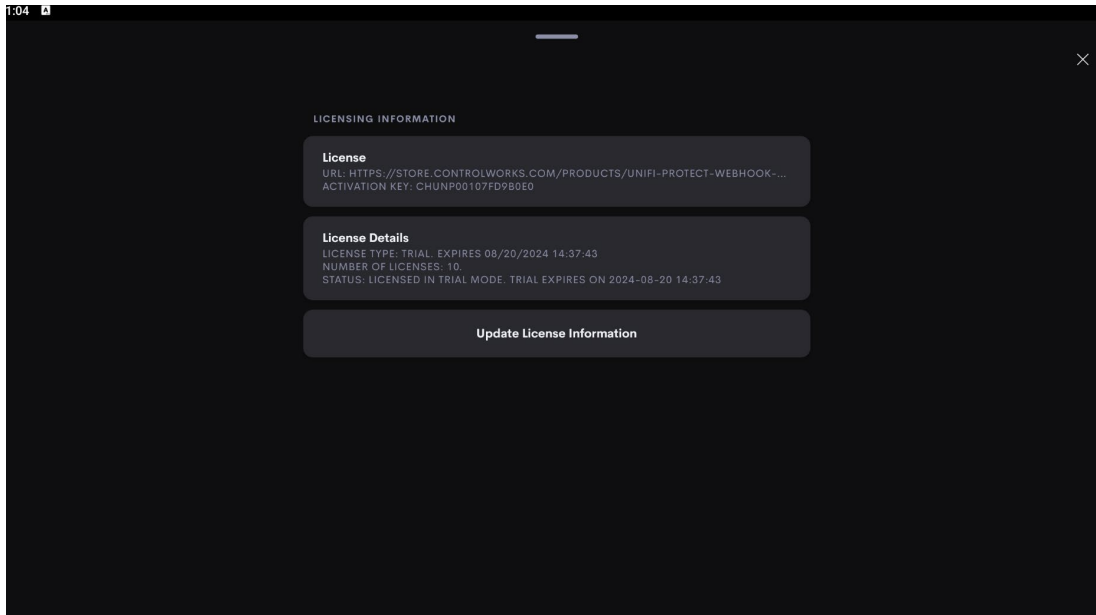


Figure 19 - Licensing Information

## Sequences and Quick Actions

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### Quick Actions

This Driver does not support any Quick Actions.

### Events

This Driver supports 100 events for up to 100 Unifi Protect Webhooks. Additional Webhooks can be achieved by adding additional Drivers.

## Module Instance License

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Each instance of a Driver in a system requires an associated license.

Licenses are purchased using an Activation Key unique to each Crestron Home Processor.

Licenses may be added at any time using the same Activation Key. If you have purchased one or more licenses for the processor previously, you may return and add additional licenses at any time [following the steps below](#).

### License Changes and Transfers

If a processor fails and is replaced the license will need to be updated. We offer one complimentary reassignment of the license. A processing fee is required for subsequent reassignment of the licenses. Before purchasing a license, we encourage the use of our Trial Period to allow for development and testing before purchasing licenses.

All licenses associated with an Activation Key must be transferred together. Unused licenses, or a quantity of used or unused licenses cannot be transferred.

### Trial Period


To aid testing, the Module includes a complimentary 7-day Trial Period, during which time the Driver is fully functional. This Trial Period functionality requires that the system has active Internet connection and are able to reach ControlWorks' activation servers. For offline activation, please contact us.

Trial mode is only available when no licenses have been purchased for this Driver. If a license(s) has been purchased and applied, any additional Drivers that are not licensed will not enter trial mode and will not function.

### Steps for Purchasing a License

Licenses are tied to the Crestron Processor. The steps below outline how to purchase a license(s) and how to apply them to the processor.

1. Ensure the Driver has been added to your program.
2. Using the Crestron Home setup app, navigate to one of the drivers installed.

3. Press the gear icon  for the driver. Select Installer Settings. Scroll to the bottom, and note the Activation Key, and Activation URL. Either:

- a. Select the Activation URL, a web browser will open, the license page will be displayed, and the activation key will automatically be entered into the web site.
- b. Copy the Activation Key and navigate to

<https://store.controlworks.com/products/Unifi-Protect-Webhook-License>.

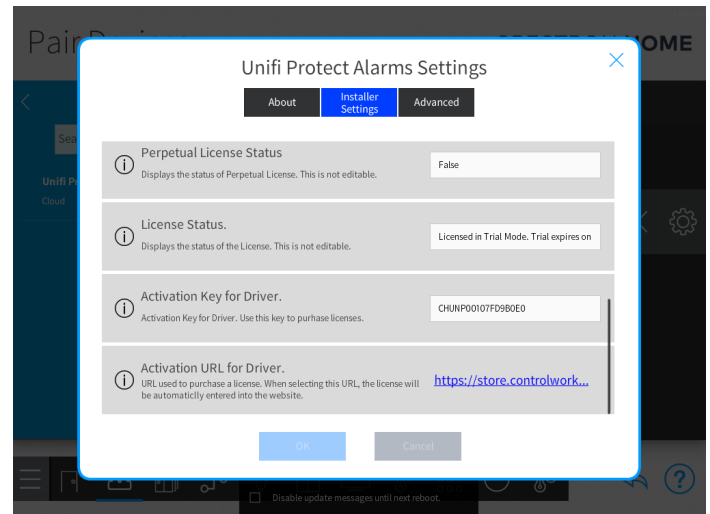
- i. Place the Activation Key into the Activation Key field on the web page.

4. Enter a Site Reference Name. This is used to help you identify your purchased licenses and may speed support in some cases.
5. Enter the quantity you wish to purchase. Note that unused licenses cannot be transferred at a later time.
6. Press Order Online for Instant License Activation and complete the payment process. Once the purchase is complete, the licenses are immediately available for the processor to retrieve. Follow [Steps to Apply Licenses](#) below for the processor to retrieve the purchased licenses.

### Steps to Apply Licenses

Once the license(s) have been purchased, you will need to apply them to the processor. There are a few ways to accomplish this:

- [Applying licenses when the driver is in trial mode](#)
- [Applying licenses when the trial mode has expired](#)
- [Applying additional licenses to a previously licensed processor](#)
- [Using a console command to apply licenses](#)



### **Applying licenses when the driver is in trial mode:**

- Display the License information on the user facing touchscreen if not already visible.
  - To display the licensing controls, using the Crestron Home setup app, navigate to one of the drivers installed. Press the gear icon for the thermostat. Select Installer Settings then check the Show License Information. The licensing information will then be displayed on the drivers control page.
- On a user touchscreen, navigate to the Driver that you displayed the licensing controls.
- At the top of the touchscreen the licensing information block will be visible. Press the Update License Information button. The Driver will reach out to the licensing server and retrieve the licenses for this processor. The status will update to show the retrieved licensing information. All Thermostat drivers will receive updated licensing information.
- If the driver is still in trial mode, each time the processor starts up, the Drivers will automatically check for licensing information. Simply restarting the Crestron Home Processor will also force a check for updated licenses.
- Alternatively, you may send a [console command](#) to initiate a license refresh.


### **Applying licenses when the trial mode has expired:**

When the trial expires, the Driver is disconnected from the Thermostat. When Crestron Home detects that a device is not online, the controls on the user-facing touchscreen are disabled.

To apply licenses in this state, there are two options:

- Simply restarting the Crestron Home Processor will force a check for updated licenses.
- Alternatively, you may send a [console command](#) to initiate a license refresh.

### **Applying additional licenses to a previously licensed processor:**

- Display the License information on the user facing touchscreens if not already visible.
  - To display the licensing controls, using the Crestron Home Setup App, navigate to one of the drivers installed. Press the gear icon  for the Thermostat. Select Installer Settings -> check the Show License Information. Now the licensing information will be displayed on the drivers control page.
- On a user touchscreen, navigate to the Driver that you displayed the licensing controls.
- At the top of the touchscreen the licensing information block will be visible. Press the Update License Information button. The Driver will reach out to the licensing server and retrieve the license for this processor. The status will reflect the updated licensing information. All Thermostat drivers will receive updated licensing information automatically.
- Alternatively, you may send a [console command](#) to initiate a license refresh.

### **Using a console command to apply licenses:**

- This method works at all times, regardless of trial status or licensed status.
  - Connect to the Crestron Processor using console (i.e. Crestron Toolbox Text Console, or putty).

- Send the command "CWCOMMAND RETRYAUTHSERVER" without including the quotation marks.
  - The Drivers will check the ControlWorks servers for updated licensing information and will apply the license.
  - Text will be displayed on the touchscreen showing the current license information.



## Support

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This Driver is supported by ControlWorks Consulting, LLC. Should you need support for this Driver you may email us at [support@controlworks.com](mailto:support@controlworks.com) or call us at:

- (+1) 440 449 1100 (Cleveland, Ohio)
- (+1) 508 695 0188 (Boston, Massachusetts)
- (+1) 202 381 9070 (Washington, DC)
- (+44) (0)20 4520 4600 (London, England)

ControlWorks normal office hours are 9 AM to 5 PM US Eastern time, Monday through Friday, excluding holidays.

## Updates

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Updates, when available, are free of charge, and are automatically distributed via our webstore and through the Crestron Home setup app. If you have purchased a license, you will receive an email notification to the address entered when the license was purchased. In addition, updates may be obtained using your username and password at <https://store.controlworks.com/account/login.aspx>.

## Distribution Package Contents

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The distribution package for this Driver should include:

ControlWorks_Notifications_Unifi_Protect_TCP-IP.pkg	Crestron Home Driver
ControlWorks_Notifications_Unifi_Protect_TCP-IP-help.pdf	This Help File

## Revision History

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V1.0 caleb@controlworks.com 2024.08.15

-Initial Version

## Development Environment

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This Driver version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

Crestron Hardware	Firmware Version
CP4-R Processor	4.001.0334
SDK Version	V21.0100.0042
TS-1070	V2.004.1029
TSW-1060	v3.002.0028

# ControlWorks Consulting, LLC Type 5 Module/Driver License Agreement

## Definitions:

"ControlWorks", "We", and "Us" refers to ControlWorks Consulting, LLC, with headquarters located at 8228 Mayfield Road Suite 6B Rear, Chesterland, Ohio 44026.

"You" refer to the entity installing, integrating, or otherwise deploying the Module.

"End User" refer to the person or entity for whom the Crestron hardware is being installed, utilize, and/or will utilize the installed system.

"Module", "Driver", and "Licensed Software" each include all components provided by ControlWorks pursuant to this license agreement required for or useful in implementing the functionality described herein. The Licensed Software includes but is not limited to files with extensions such as UMC, USP, CLZ, SMW, VTP, and PKG.

"Type 5 Module/Driver License" refers to a module license that is granted to a specific Crestron processor and a single controlled device; a separate license must be purchased for each combination of Crestron processor and controlled device.

"System" refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein.

"Demo Program" refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module.

"Software" refers to the Module and the Demo Program and any files provided by ControlWorks as part of the distribution package including the Module, Demo Program, and associated documentation.

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## Indemnification/Hold Harmless

ControlWorks, in its sole and absolute discretion may refuse to provide support for the application of the Module in such a manner that We feel has the potential for property damage, or physical injury to any person. Dealer shall fully and unconditionally indemnify and hold harmless ControlWorks Consulting LLC, its employees, agents, licensors, and owners from any and all liability, including direct, indirect, and consequential damages, including but not limited to personal injury, property damage, or lost profits which may result in any way from the operation (or failure to operate) of a program or System containing Licensed Software or any component thereof.

## Provision of Support

We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous versions of the Module, modifications to the module not made by Us, or to persons who have not purchased the Module from Us. In addition, we may decline to provide support if the demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should We discontinue support for a Module.

## Modification of Software

You may not decrypt (if encrypted), reverse engineer, modify, translate, disassemble, or de-compile the Licensed Software in whole or part. Any modifications to the Licensed Software shall immediately terminate any licenses purchased with respect thereto. You may, however, modify the Demo Program.

## License Grant

You may use the Licensed Software on the specific Crestron Processor identified when the license was purchased or otherwise granted by ControlWorks. You may integrate with only as many devices using the Licensed Software as you have been granted licenses for (for example, if you purchase 3 licenses associated with a processor, you may control up to 3 devices using the Licensed Software from that processor).

Licenses are generally non-transferrable, however in ControlWorks sole discretion, ControlWorks may grant a transfer of an existing license to a new Crestron Processor. If granted, transfer may be subject to an administrative fee as determined by ControlWorks from time to time, and the prior license may be disabled remotely.

You may permit End Users to utilize the functionality provided by the Licensed Software as part of a Crestron Home configuration or Crestron Program, as applicable.

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