Tempest Weather Station For Crestron Home

Revision: 1.00
Date: 13 October 2026

Supported Installation

This is a Crestron Home driver for Crestron Home processors.

Description

The Tempest Weather Station driver is designed to display weather data from a WeatherFlow Tempest weather station by utilising your **Station ID** and **Access Token** to read in data from the WeatherFlow service over the internet. When that service is unavailable, incorrect or no credentials have been entered, the driver reads directly from the station over your local network via its UDP broadcast, so weather data continues to be displayed.

The driver retrieves telemetry data from the Tempest station and presents it within the Crestron Home Client, allowing users to view a range of live environmental readings and station data reported by their weather station. This includes values such as temperature, humidity, pressure, rainfall, UV index, solar radiation, lightning activity and wind conditions.

The driver exposes its telemetry as properties, so you can build your own logic against any reading, temperature, wind, rainfall, lightning and the rest. Where the Ultamation Notice Tile is installed, that logic can send notifications with a title, message and priority you define, delivered to the Crestron Home client app or as mobile push notifications. The Notice Tile is a separate product, available from https://shop.ultamation.com/.

Separately, the driver can raise its own notifications for lightning strikes, the onset of rain, and sudden high wind. These are sent automatically once the Notice Tile details are entered in the driver's settings. Their wording and thresholds are set by the driver

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and are not adjustable; they are also rate-limited so that repeated events do not flood the client.

If the Ultamation Notice Tile is not installed, notification functionality will not be available.

Features include:

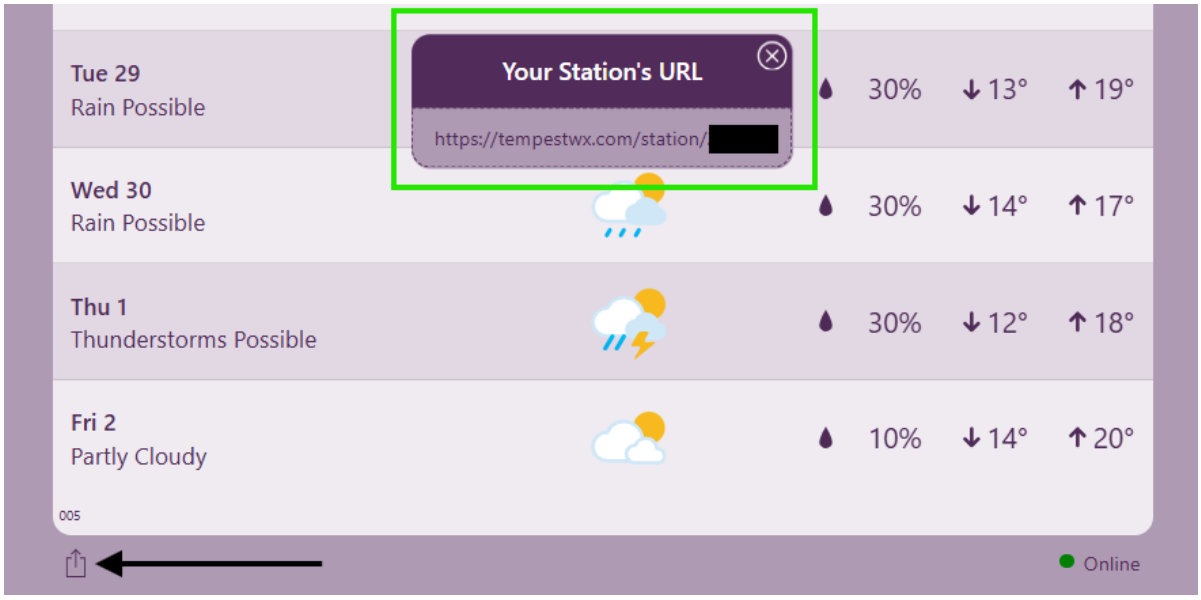
- Displaying weather data from a WeatherFlow Tempest weather station.
- Reading data from the Tempest service, with automatic fallback to the station's local network broadcast.
- Providing up-to-date readings such as temperature, humidity, pressure, rainfall, UV, solar radiation, and illuminance.
- Displaying wind information including the average, gust, lull, and direction.
- Reporting lightning activity, including strike count and distance.
- Showing the current weather condition on the tile, with matching icons, derived from solar radiation and light levels.
- Indicating when the station last reported, with an alert if the local broadcast stops.
- Selectable units for temperature, pressure, wind speed, wind direction, rainfall, distance, and illuminance.
- Exposed telemetry properties that allow for logic to be performed on them.
- Event-based notifications for lightning, rain, and rapid wind when used with the Ultamation Notice Tile.
- Offline Licensing for installations without an internet connection.

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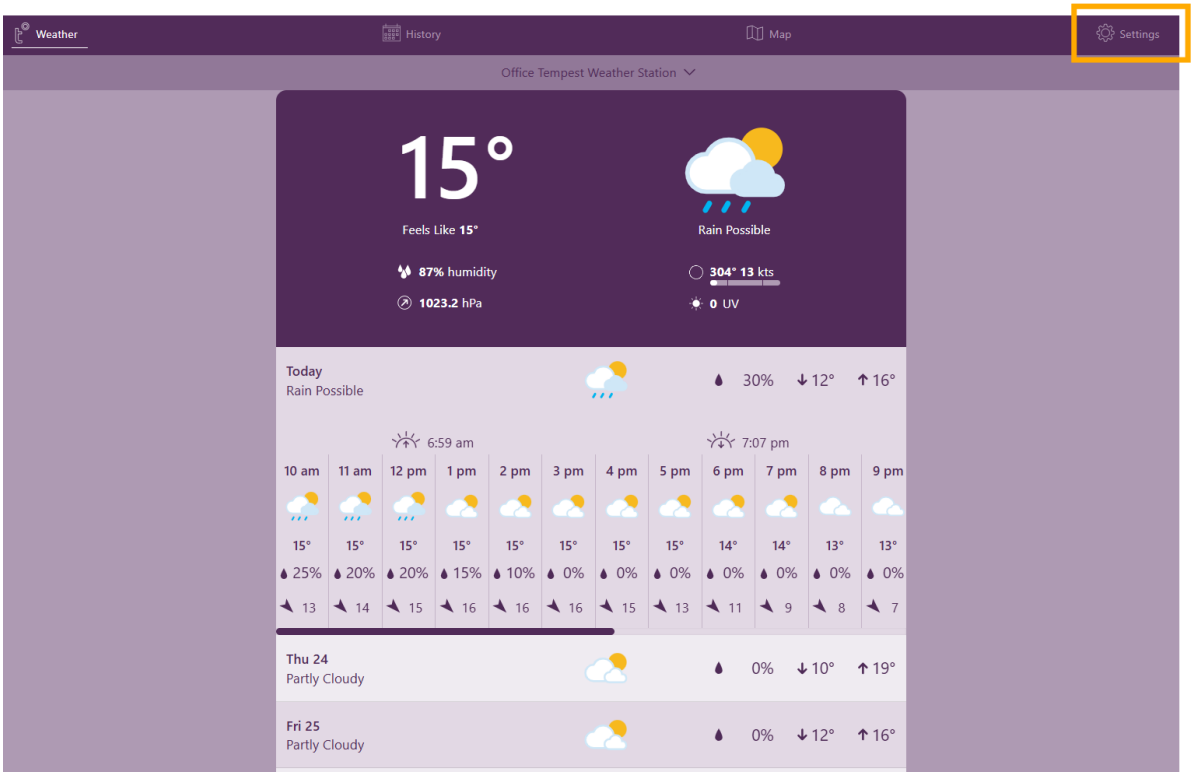
Weather Station Preparation

API Setup

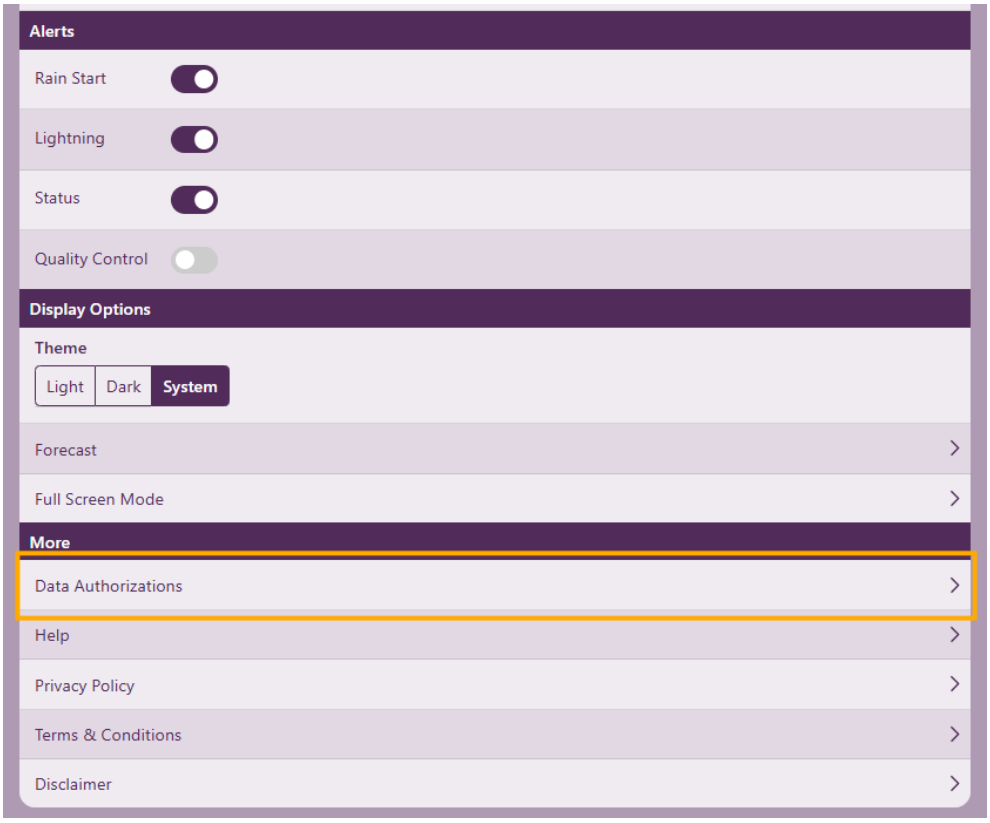
First, sign in to TempestOne and navigate to the settings, where you will find your Station ID. This can be done through either the mobile app or the web page.

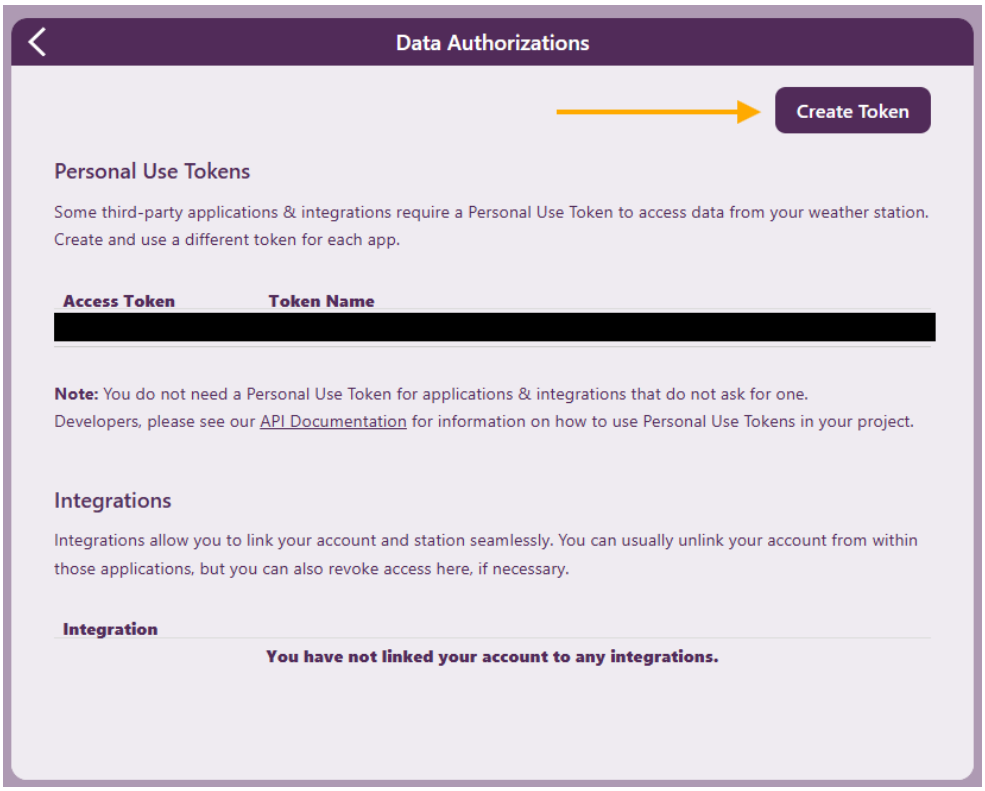


Scroll to the bottom of the Weather page and click the icon, which presents the URL containing your Station ID.



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To generate the Access Token, go to the Data Authorizations page within the settings and click Create Token in the top right. Enter a name for your token, and the Access Token will be created. Save this somewhere, as you will need to paste it in during the installation of the driver.

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Installation

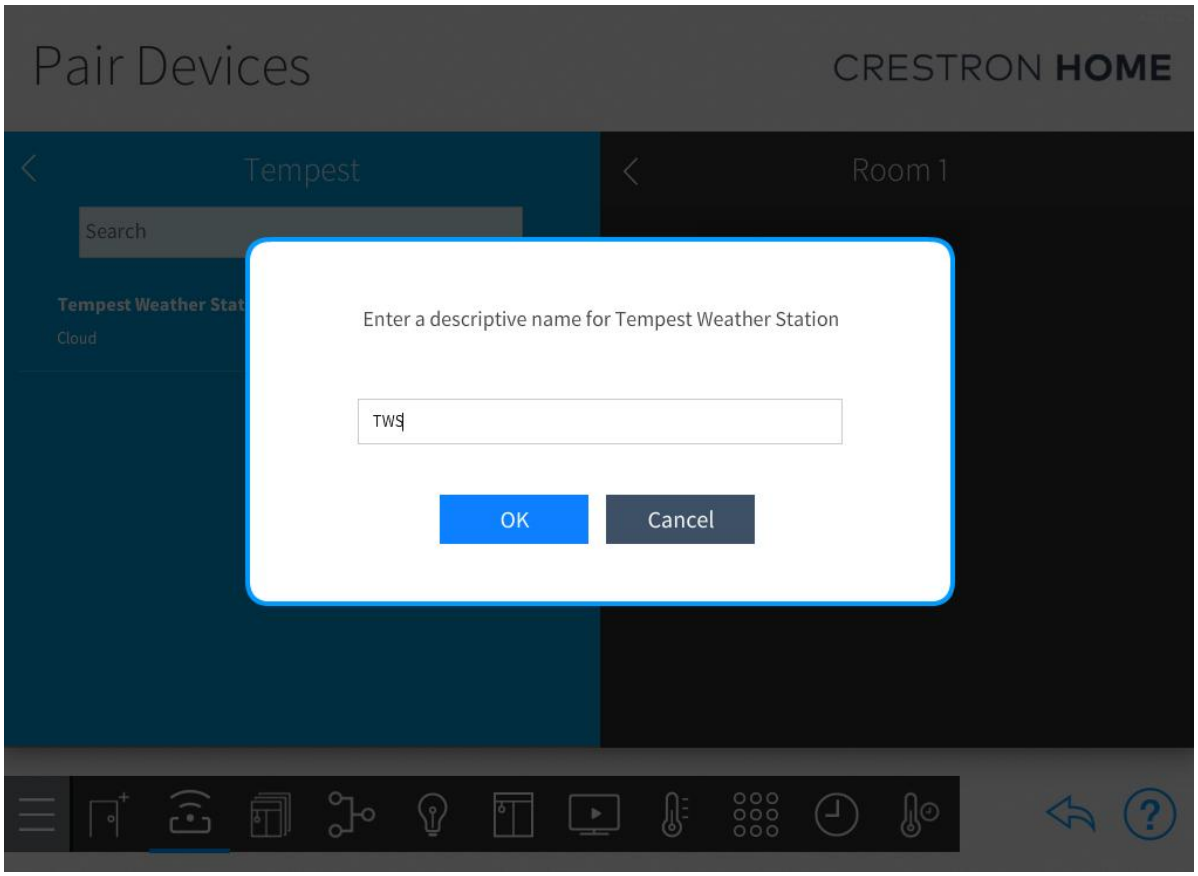
The driver can be found under:

Drivers > Weather Station > Tempest > **Tempest Weather Station**

Adding the Driver

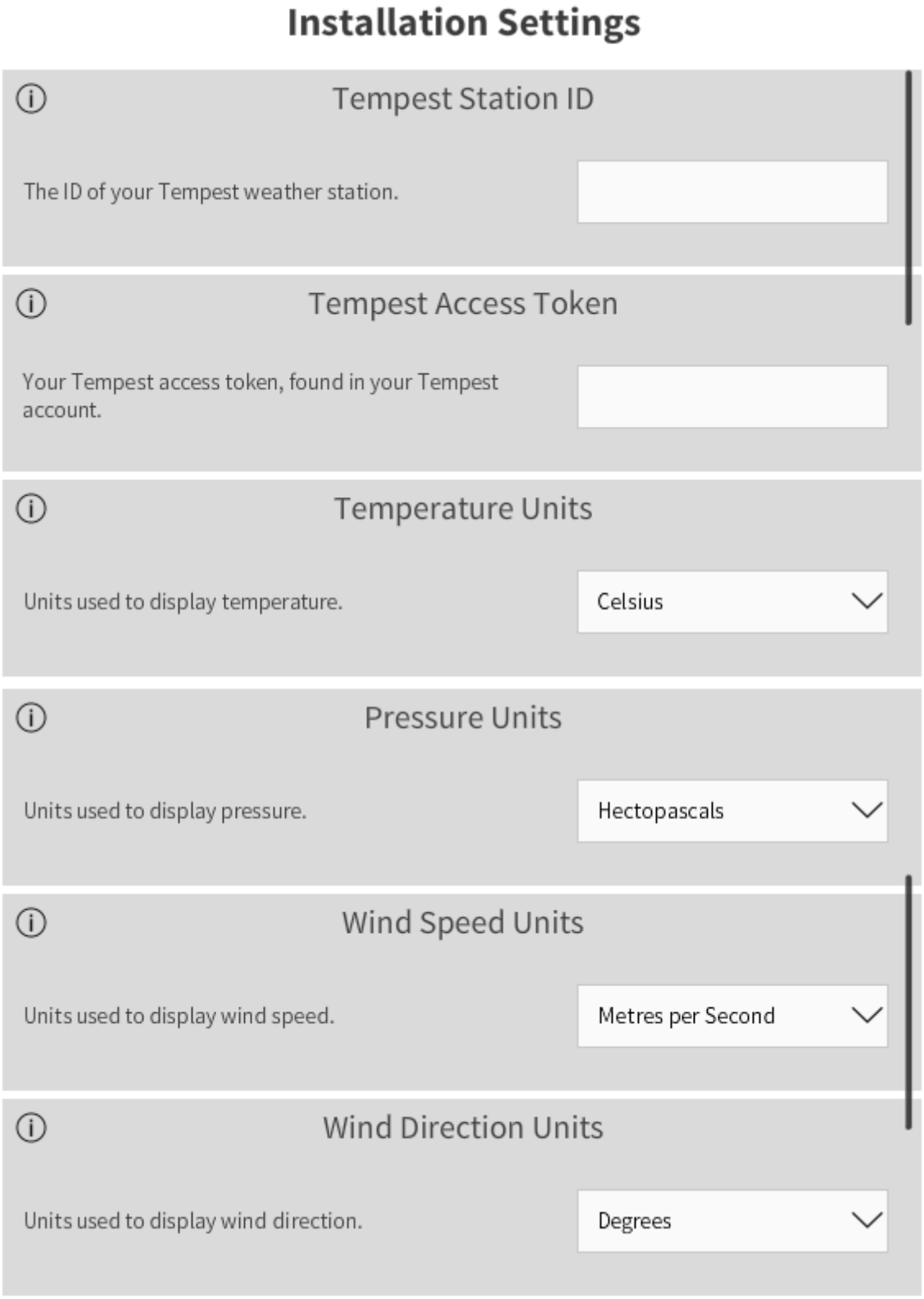
Ensure a room is selected, and then click on the '+' against the appropriate device.

You will be asked to provide a descriptive name – this can be anything you wish.

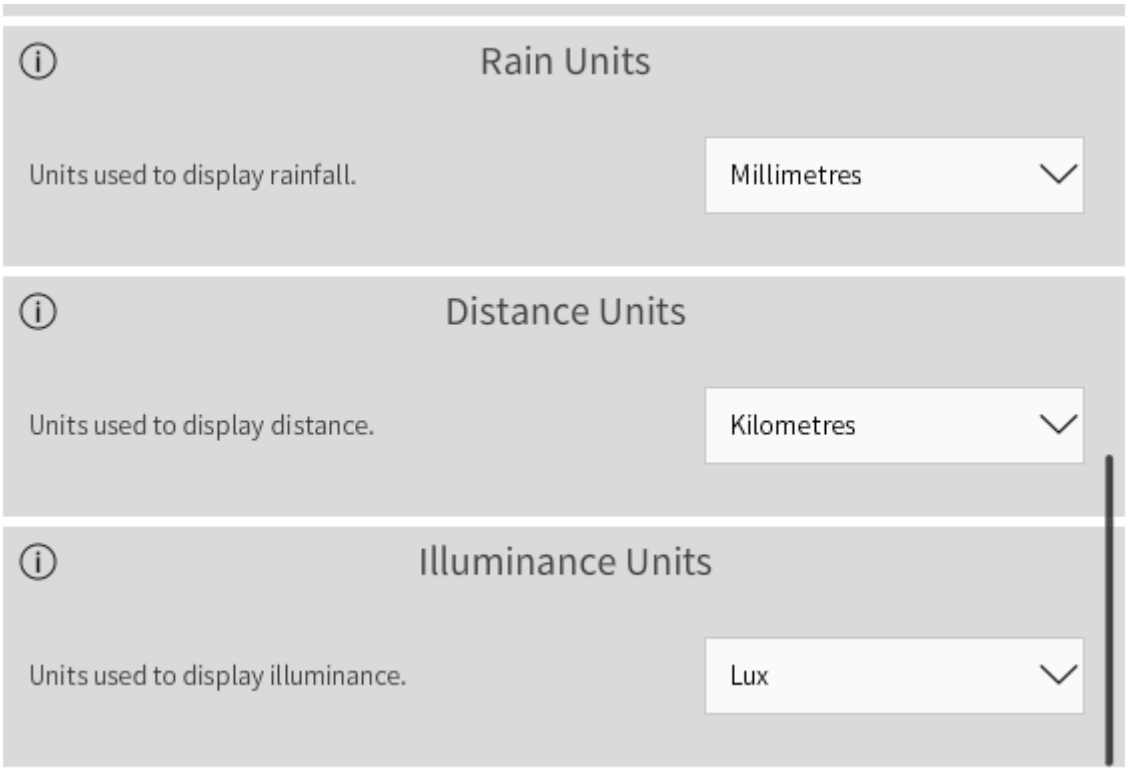


The driver is licensed via the cloud, please first refer to the "Licensing" section below. If you do not have a cloud licence the system will function for **one hour** and then control will be suspended.

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Each unit setting is chosen from a drop-down list, which sets how the tile displays that measurement. **On the PC4-R, and on v1 of the CP4-R and MC4-R, firmware updates have been discontinued, so the setting appears as a text box instead and the unit must be typed in.** Entries are case-sensitive and must match exactly, including spaces and hyphens, so we recommend copying them from the tables below. The values in bold are the default display units.

Display Units

Value	Shown as
Fahrenheit	˚F
Celsius	˚C

Value	Shown as
Inches of Mercury	inHg
Millibars	mb
Millimetres of Mercury	mmHg
Hectopascals	hPa
Kilopascals	kPa

Value	Shown as
Miles per Hour	mph
Kilometres per Hour	km/h
Knots	kts
Metres per Second	m/s
Beaufort	bft
Linear Feet per Minute	lfm

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Value	Shown as
Cardinal	Compass points, e.g. N, NE, E
Degrees	0–360˚

Value	Shown as
Inches	in
Millimetres	mm
Centimetres	cm

Value	Shown as
Miles	mi
Kilometres	km
Nautical Miles	nmi

Value	Shown as
Lux	lux
Kilolux	klux
Foot-candles	fc

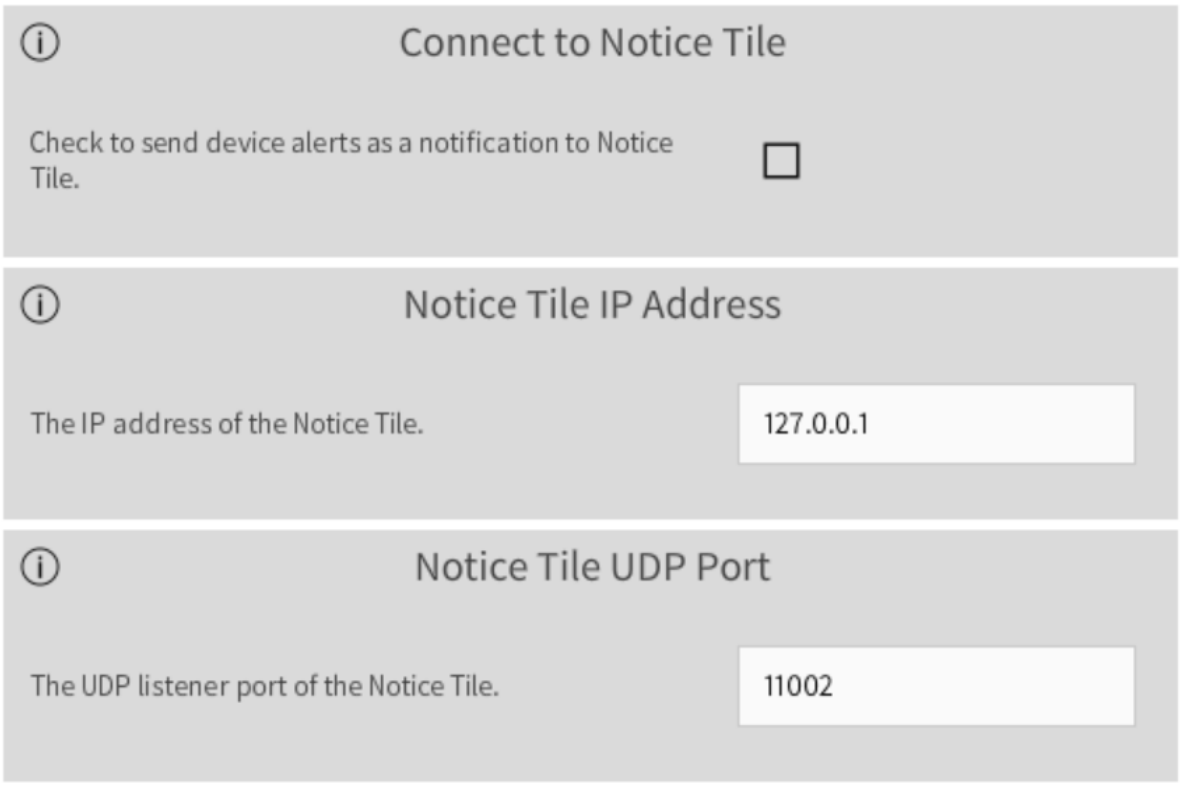
If you choose to change the units after creating logic on the exposed properties, you will need to adjust the logic accordingly for the new units.

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The next page gives you the preferences for how and where you want the tile to appear.
The last option enables additional logging, viewable in Toolbox's Text Console, that can help with debugging any potential problems with the driver. Leave it disabled during normal use, as the station broadcasts frequently and the log fills quickly.

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The final page reveals the Notice Tile integration, if you have not purchased the Ultamation Notice Tile, you can leave the first option unticked and skip this section.

The second option is the IP address which needs to match the address of the processor that the Notice Tile has been loaded on.

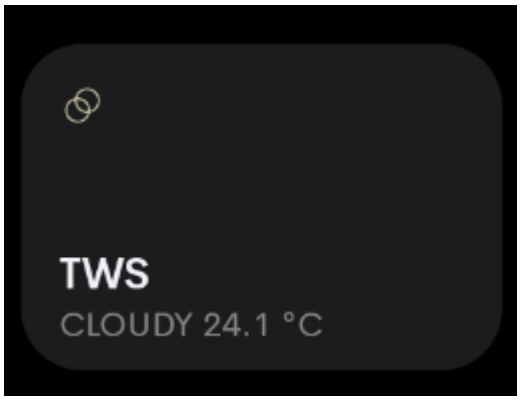
The last option needs to have the matching UDP port that the Notice Tile has been loaded with, to receive the messages coming from the Tempest weather station.

Congratulations, you have now loaded the driver.

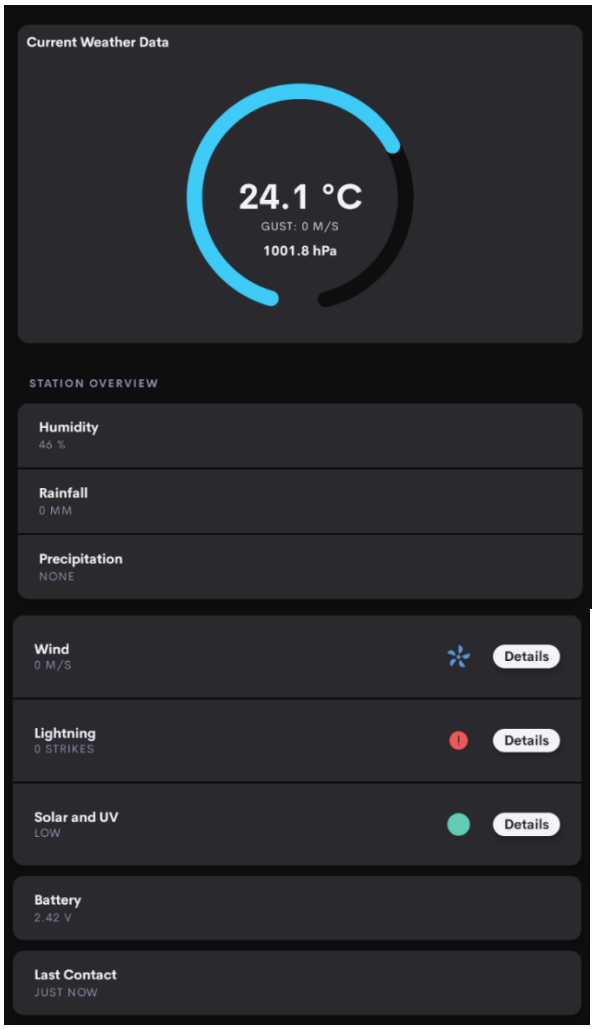
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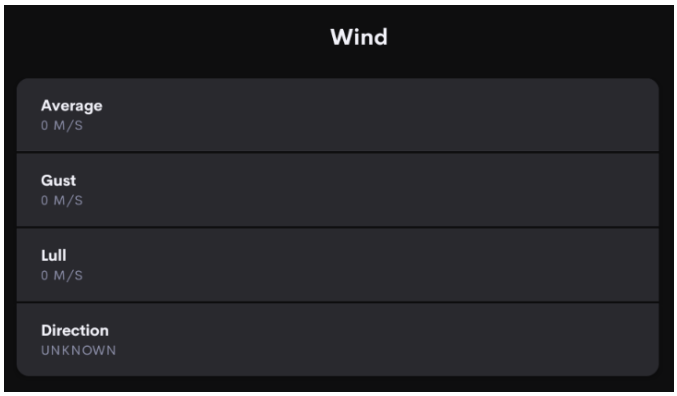
After Configuration

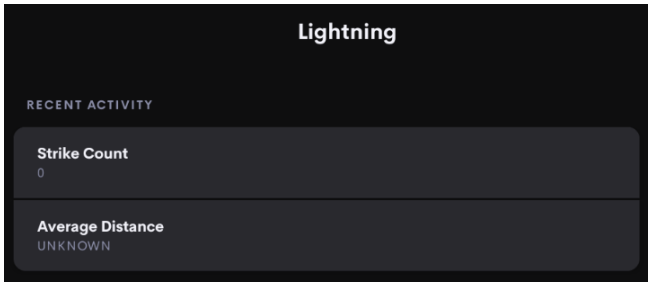
Once the Tempest Weather Station has been set up, current weather conditions are displayed. Below is an example of a loaded tile:

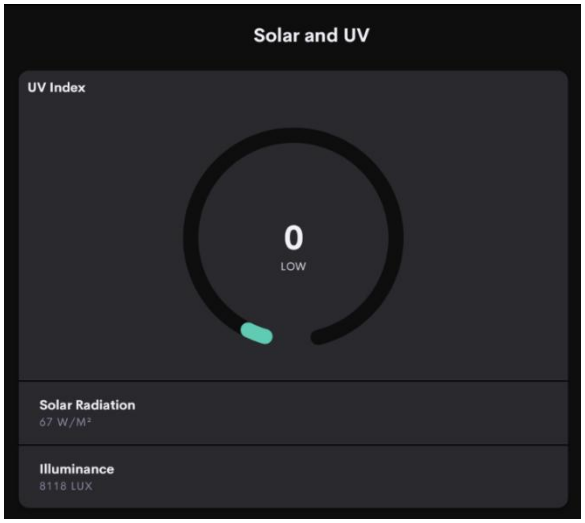


UDP View



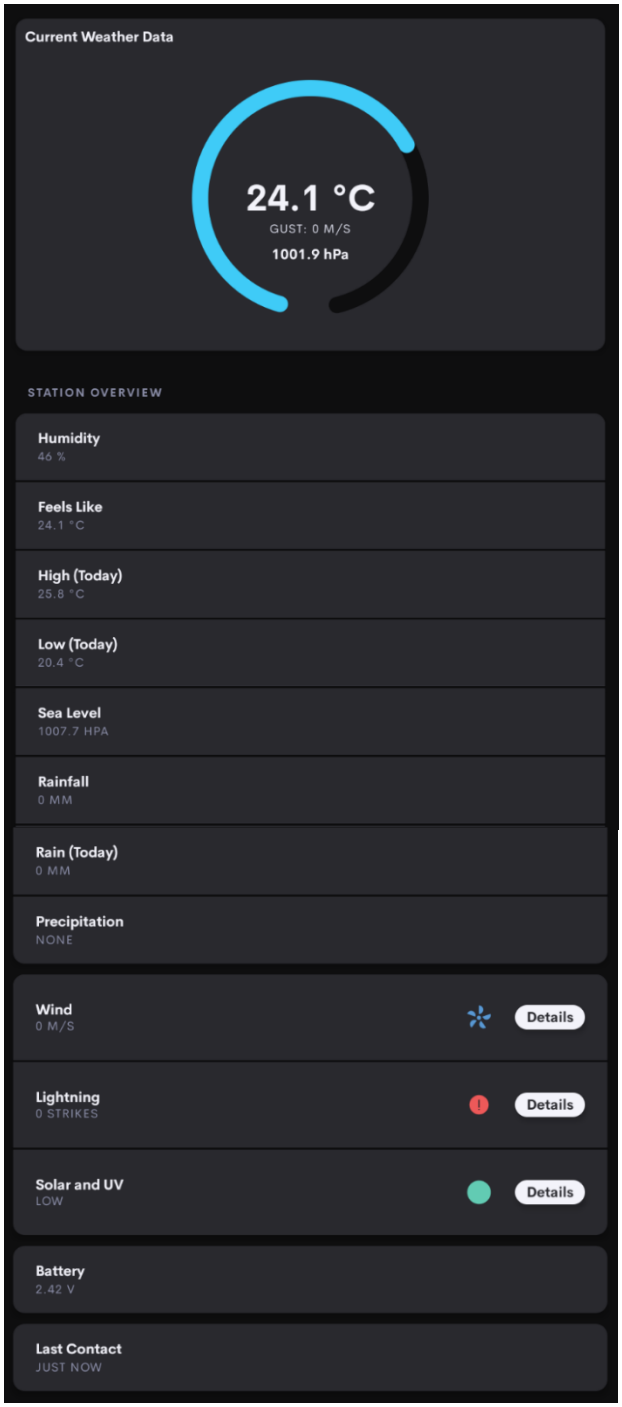




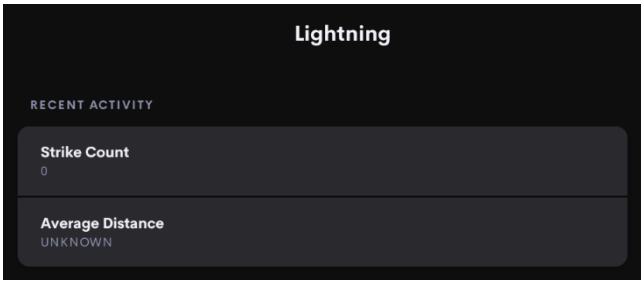


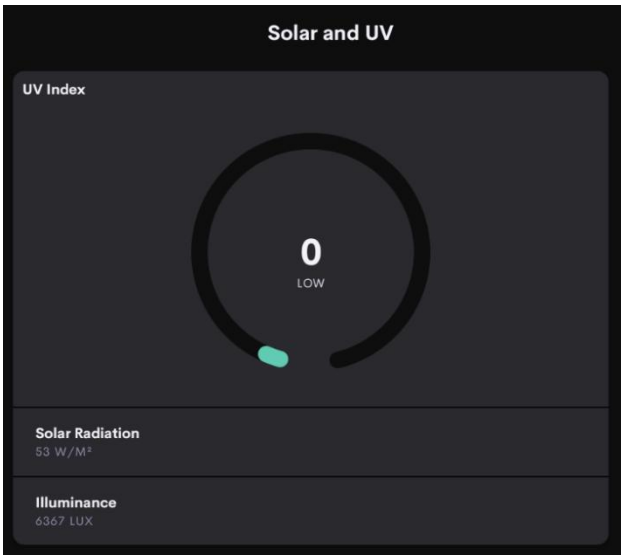
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API View









The two examples above show the same station with and without a Station ID and Access Token configured.

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Five readings are calculated by WeatherFlow and are only available from the service: **Feels Like, High (Today), Low (Today), Sea Level and Rain (Today).** Their rows are absent altogether from the local broadcast view rather than shown as empty, the panel only presents what the active source can actually provide.

Battery and Last Contact work the other way round. Both are read from the station's UDP broadcast, which is why they appear in both examples here, the station was reachable on the local network throughout. Where the processor cannot receive that broadcast, such as a station on a different subnet, both rows read "Unknown" while every other reading continues to work normally from the service.

This is the expected behaviour. Direction is only reported while the wind is actually moving, and Average Distance only once a lightning strike has been recorded.

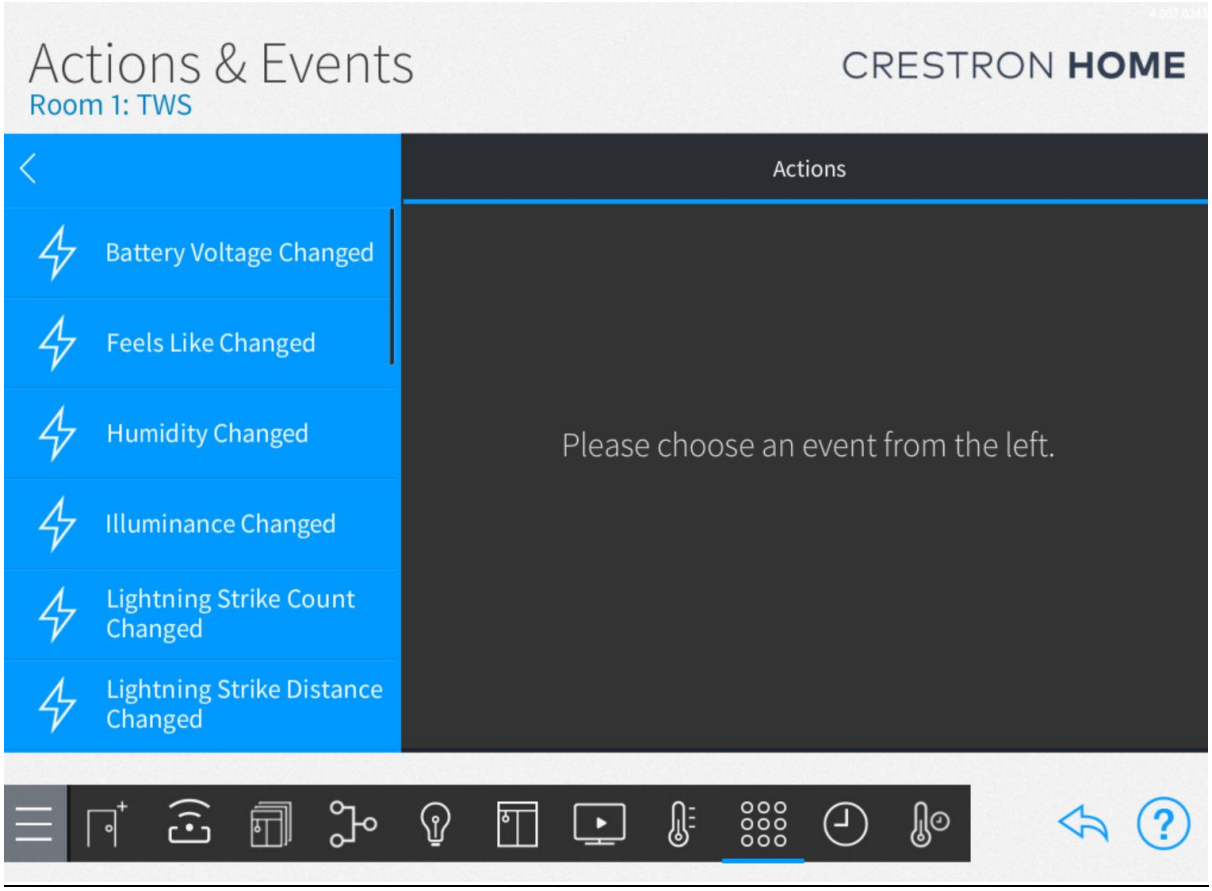
The Last Contact row shows how long ago the station last reported over the local network, and updates every minute. If nothing is received for five minutes, a “Not responding” message appears at the top of the panel and an entry is written to the error log. Both clear automatically once the station reports again. This relies on the local broadcast, so it will not appear on an installation running from the WeatherFlow service alone, where Last Contact reads “Unknown”.

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Exposed Properties

When the driver has been loaded, these properties become exposed and allow for logic to be applied on them.

You can find them by clicking into Actions & Events, clicking into the room with the driver and choosing the Tempest Weather Station folder.



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The properties that are exposed are:

- Battery Voltage — **available in V. UDP only.**
- Feels Like — **available in °C, °F. API only.**
- Humidity — available in %
- Illuminance — available in lux, klux, fc
- Lightning Strike Count — available as a number of strikes
- Lightning Strike Distance — available in mi, km, nmi
- Outdoor Temperature — available in °C, °F
- Precipitation Type — available as 0 none, 1 rain, 2 hail, 3 rain and hail
- Rain (Last Minute) — available in in, mm, cm
- Rain (Today) — **available in in, mm, cm. API only.**
- Sea Level Pressure — **available in inHg, mb, mmHg, hPa, kPa. API only.**
- Solar Radiation — available in W/m^2
- Station Pressure — available in inHg, mb, mmHg, hPa, kPa
- Today High Temperature — **available in °C, °F. API only.**
- Today Low Temperature — **available in °C, °F. API only.**
- UV Index — available as an index value
- Wind Average — available in mph, km/h, kts, m/s, bft, lfm
- Wind Direction — available in degrees
- Wind Gust — available in mph, km/h, kts, m/s, bft, lfm
- Wind Lull — available in mph, km/h, kts, m/s, bft, lfm

Five of these properties are available from the API only, and one from the local broadcast only. **Feels Like, Today High Temperature, Today Low Temperature, Sea Level Pressure and Rain (Today)** are calculated by WeatherFlow and are only available from the API.

Their rows are removed from the panel entirely when the driver is running on the local broadcast alone.

Battery Voltage works the other way round: it is read from the station's own broadcast, so where the processor cannot receive that broadcast the row stays on the panel but reads "Unknown". Last Contact behaves the same way, although it appears on the panel only and is not exposed to programming.

These properties update approximately once a minute, as that is how often both the WeatherFlow service and the station's own broadcast report new observations. Logic that depends on a faster response than this will not behave as expected.

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It's important to note that:

Changing a unit also changes the values reported to programming. Wind speed switched from miles per hour to kilometres per hour will report 48 where it previously reported 30 for the same wind, so any thresholds already set will need adjusting. Beaufort needs particular care, as it reports a force between 0 and 12 rather than a speed. A threshold set above 12 can never be met, and the action will not fire again.

Properties always return a value, even when the reading is not available from the source in use. In that case the property returns 0. This is worth allowing for in any logic you write: on a broadcast-only installation Feels Like returns 0 rather than being hidden, so an action set to trigger below 5 degrees would remain true permanently. The panel handles the same situation by removing the row instead.

If one of these properties is reporting 0 when you expect a value, check the source it depends on. For the five listed above, check the Station ID and Access Token and that the processor can reach the internet. For Battery Voltage, check that the station is on the same network as the processor and that its broadcast is not being blocked. The error log will also show "No data received from the weather station's local broadcast for 5 minutes".

Wind Direction is always reported in degrees. The Cardinal setting changes how the direction appears on the panel but does not affect the property.

An example of using exposed properties can be found under the installation section.

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Threshold Notifications with the Notice Tile

In this example, the driver is generating notifications based on changes in the weather station telemetry, with messages sent via the **Ultamation Notice Tile** (which can be found on the Ultamation Shop Front). If configured, notifications can also be delivered as mobile push notifications through **Pushover**. If you do not own or wish to use the Notice Tile integration, you can skip this section.

For example, a temperature threshold of 30°C may be configured. If the weather station reports a value above this threshold, your logic will send a Notice message via the Notice Tile. Readings update approximately once a minute, so a condition that stays true will repeat at that rate unless further logic is added to prevent it.

The general message schema for notice messages is as follows:

Field	Description	Requirement
Title	Title of the notice	1-30 characters
Message	Main body of the notice	1-60 characters
Priority	To determine importance	Low/Medium/High

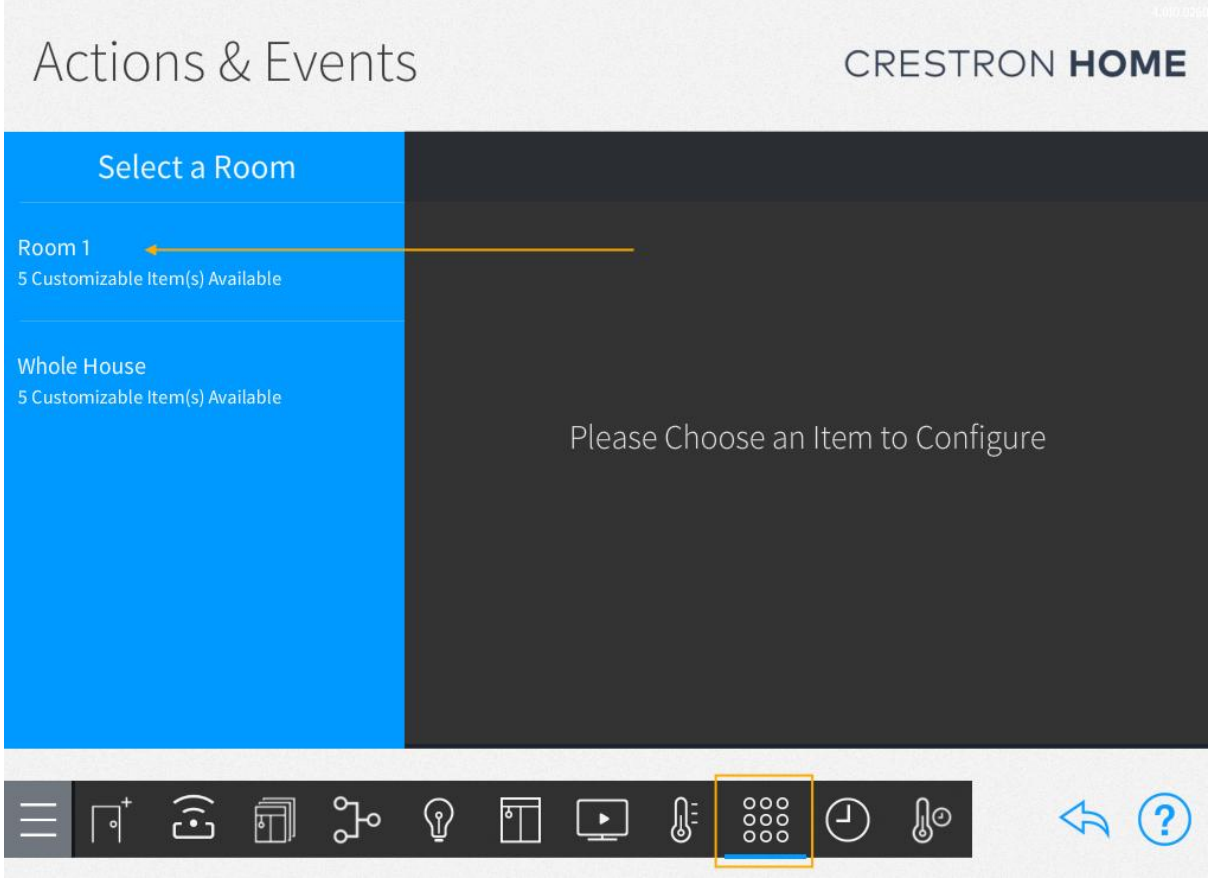
Refer to the Notice Tile help file for more information on how the Notice Tile is setup and its capabilities.

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Installation

Before proceeding, the Notice Tile must be installed on the same processor as this driver, so that it appears in Actions & Events.

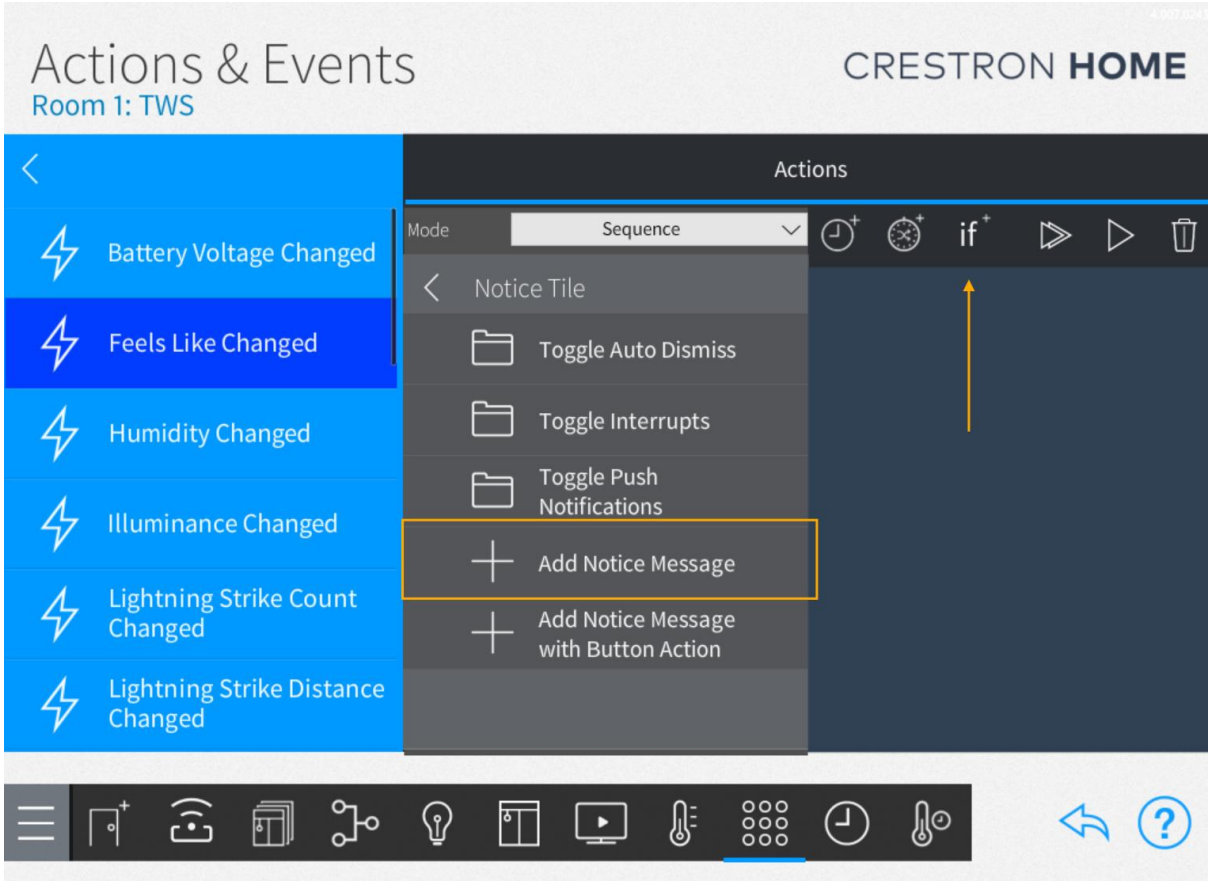
Once the driver and the Notice Tile are loaded, navigate to **Actions & Events** and select the room containing the driver.



Within the driver folder, the available telemetry values for threshold configuration will be displayed.

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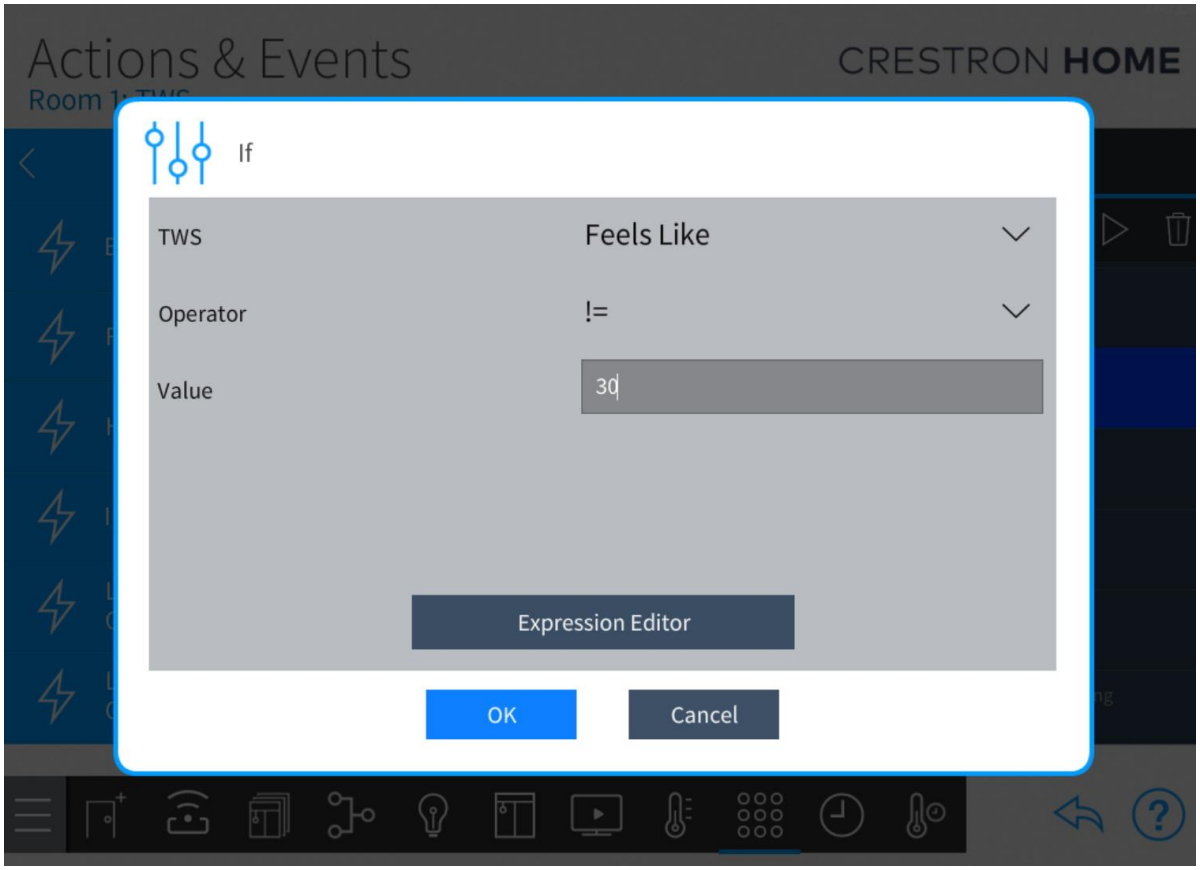
Selecting one of the property changes reveals the actions menu. From here click Mode > Sequence, then select the room and driver folder with the Notice Tile to access the Notice Message.



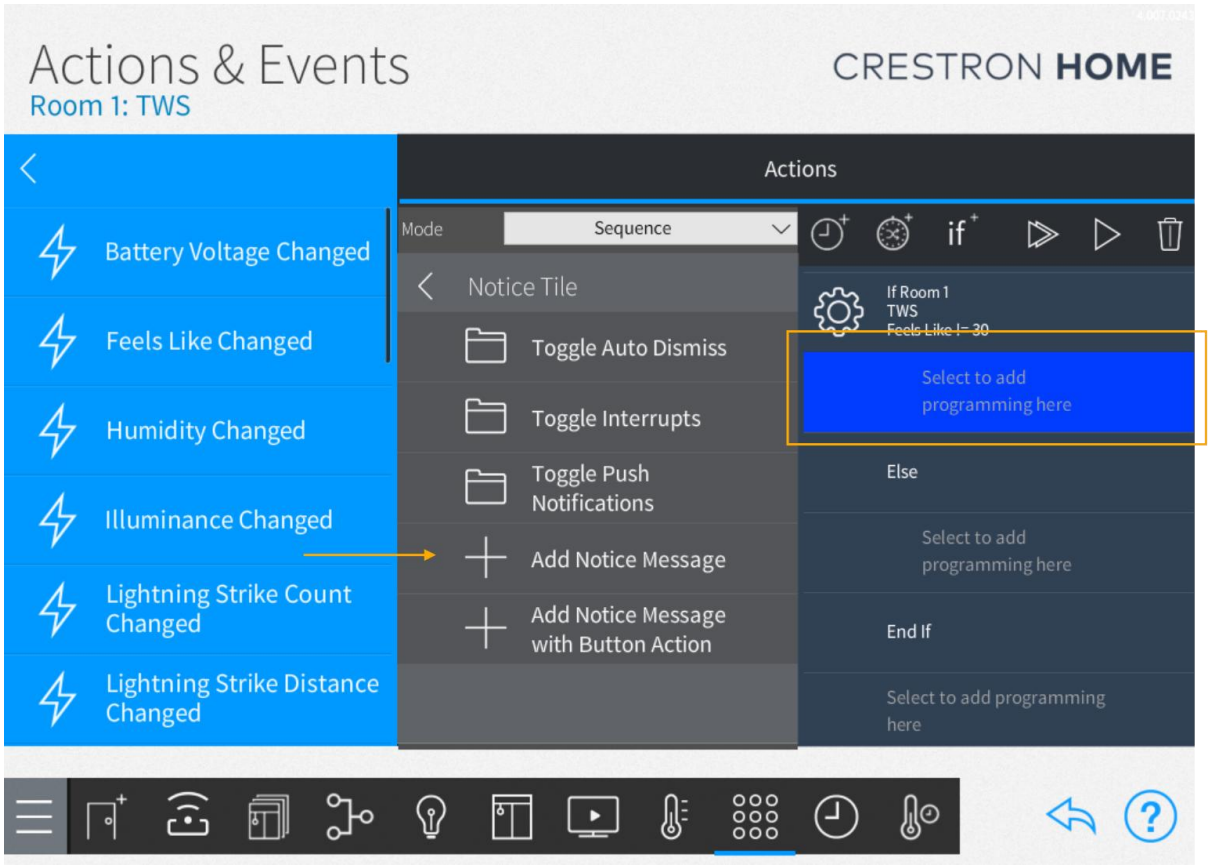
This is where notification logic can be configured.

Selecting the **if** condition provides access to the available telemetry properties for logic configuration. For example, selecting *Feels Like Changed* allows conditions to be defined based on that value.

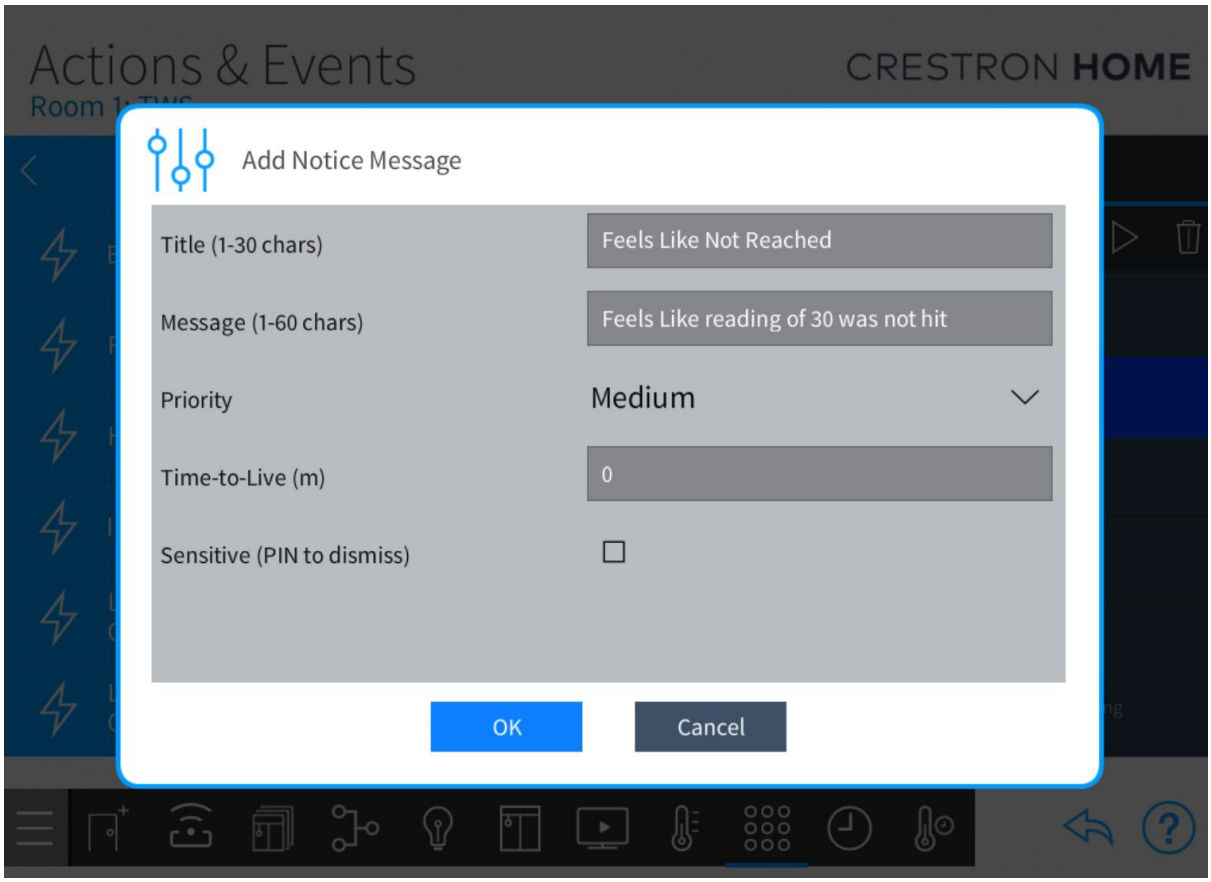
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After confirming the condition, add the “Notice Message” action to the if statement.

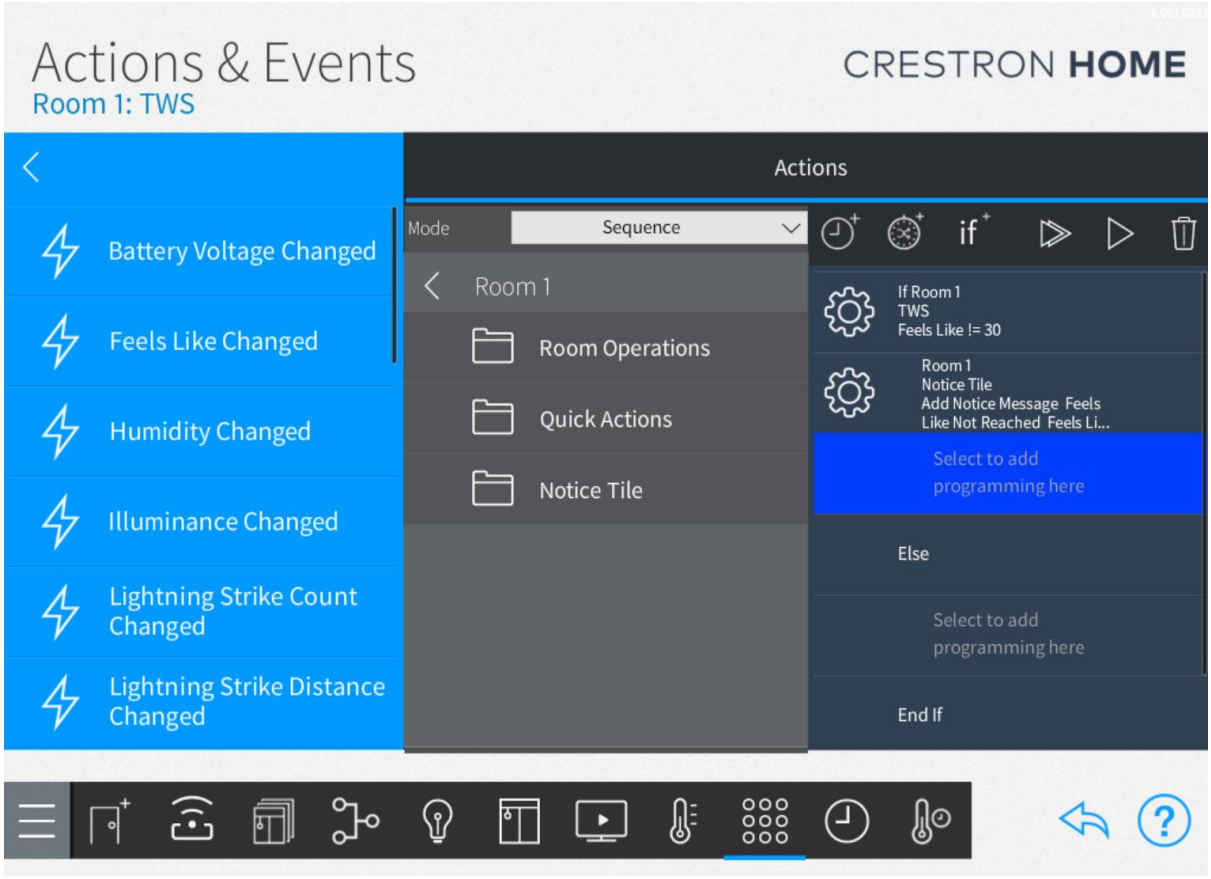


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The notification can then be configured with a Priority, Title, and Message.

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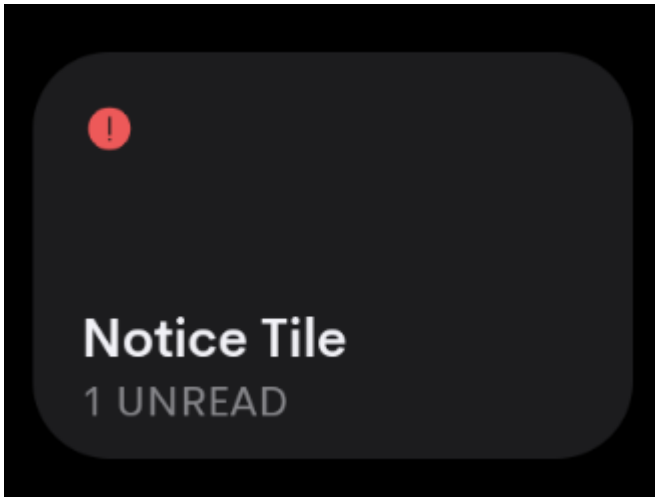


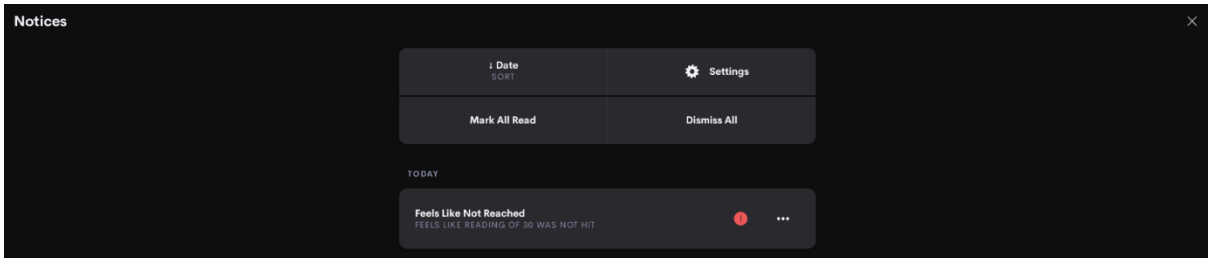
The polling rate for the notifications is **approximately one minute for the exposed properties found on page 15**. For example, a condition such as *Feels Like Changed != 30* will trigger a notification whenever the condition is met. Further logic can be added with custom variables created in Crestron Home.

More advanced alert logic can be implemented with the additional operators "=", "!=", "<", "<=", ">", ">=".

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This is how configured messages will appear within your Notice Tile.





Please note, the units (page 7 of this document) are defined during the driver installation. This means your defined thresholds for property change logic in your Notice tile messages must also be adjusted.

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Support

If you have any issues with an integration solution please let us know by contacting Ultamation support on support@ultamation.com and please include as much detail about your issue as possible, such as a recent processor error log.

Licence verification messages are posted to the error log, so please ensure you have checked this.

Licensing

This integration solution (including software, images and all other associated assets distributed as part of the purchased download package) is licensed on a PER PROCESSOR basis.

A purchase should not be completed without correct information as refunds cannot be issued for errors or changes made to details following purchase.

This is an electronic product and there is no physical delivery.

The integration solution is provided without any warranty with respect to the reliability of the controlled device or changes to device protocol. We will endeavour, through best efforts, to maintain the integration solution's functionality and any bug fixes will be provided free-of-charge. Additional functionality may be released as a variation of this integration solution and this will be a separate, purchasable, product.

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Cloud Licence

This integration solution contacts Ultamation's licensing server at startup. If the server finds a matching licence for the integration solution and processor then the integration solution will be licensed. Otherwise, the integration solution will check the offline licence key. If you purchase a licence **after** you have loaded the integration solution, please reboot the system to see changes take effect.

If you purchased a licence **before** it was migrated to the cloud service, i.e. you have a licence key already, you must enter this into the **Offline Key** user attribute. If you purchased the integration solution **after** it was migrated, and you don't have a licence key, no further action is required.

If no licence exists for the product/processor the integration solution will enter a short trial period (ONE HOUR) to allow for verification of correct control or evaluation.

To request an OFFLINE key, please contact support@ultamation.com with your order details and a brief explanation why you REQUIRE offline activation. Ultamation reserve the right to refuse offline activation.

NOTE: Once an offline key has been issued no further licence changes will be granted. Moving the integration solution to a new processor will require an additional licence purchase.

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