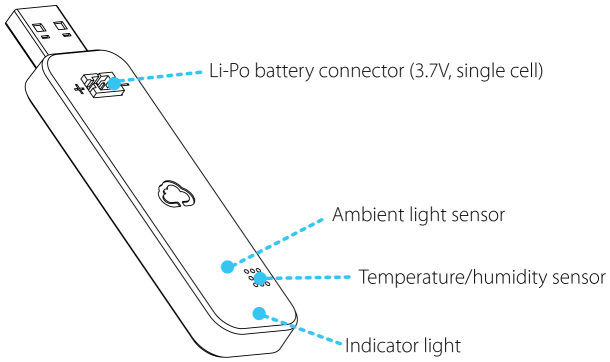
Introducing: External Power Wireless Tag

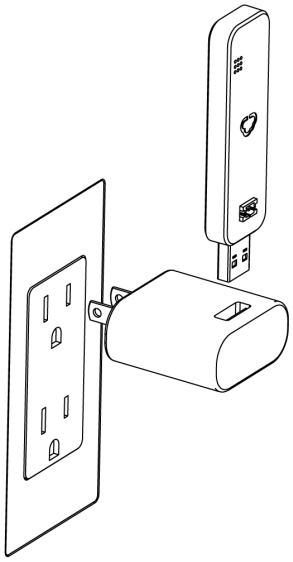
Model:ZGW15
FCC ID:ZGW15



Indicator Lights

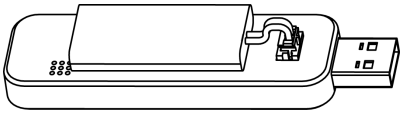
Blue flash ✳	Indicates successful upload of temperature/humidity/light data-point or storage to internal non-volatile memory in offline mode.
Red or orange flash ✳	Indicates failed transmission of data-point, or that internal non-volatile memory is full and data point cannot be stored in offline mode.
Alternating blue/red flash ✳/✳	The sensor tag is not associated with any Tag Manager, and is ready to respond to search / associate command from any nearby Tag Manager.

Modes of Operation

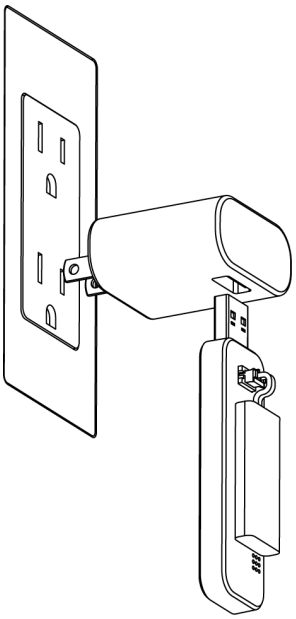


Plugged in.
Plug in to USB wall charger, or any USB connector such as computer or USB hub for maintenance free operation.

Because tag configuration are stored in non-volatile memory, tags will resume normal operation immediately after power is restored following temporary disruption.



Battery.
Connect a 3.7V lithium poly (Li-Po) rechargeable battery or battery holders (such as 3x AAA) with compatible JST PHR connector. Because there are a wide variety of Li-Po battery with different capacity and exterior dimensions to choose from, you can find the best trade-off between battery life and physical size for each individual mission.



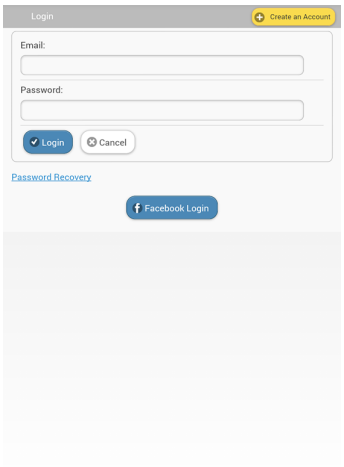
Recharge.
When connected battery is low, simply plug in the USB. The built in battery charger IC will quicly charge attached single-cell Li-Po battery pack in just a few hours (for typical battery pack). No need to pull out / exchange battery.

Operation Environment	-40°C (-40°F) to 85°C (185°F) non-condensing (0-95% RH), indoor use only.

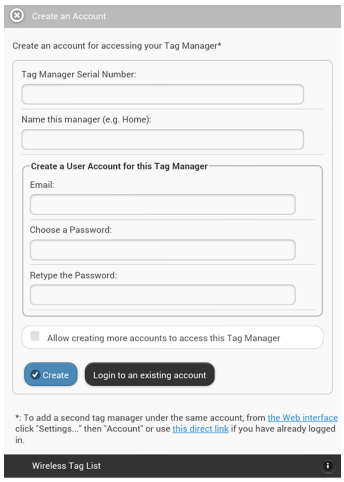
Step 1: Activate Your Ethernet Tag Manager

For Android devices, install our Android app from Google Play by searching "WirelessTag", follow this direct link. For web access on PC/Mac, go to Web App Login.

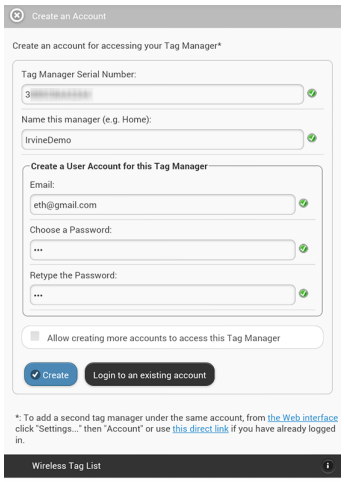
Use the 12 digit serial numbers on your Ethernet Tag Manager to create a login. Keep the serial number in a safe place.



In the login screen, click "Create an Account" button.



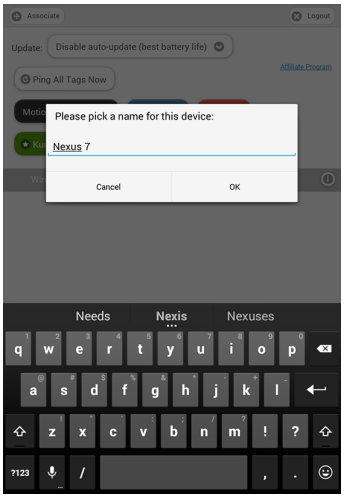
Fill in the serial number (case insensitive), login email (used to recover password), and choose a password.



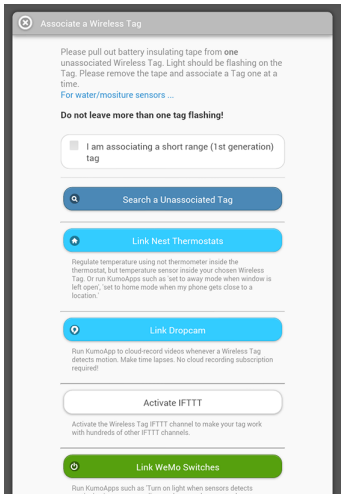
Click "Create" button to create an account. Uncheck "Allow creating more accounts..." unless you plan to create multiple logins to access the same Tag Manager.

Step 2: Associate New Wireless Tags

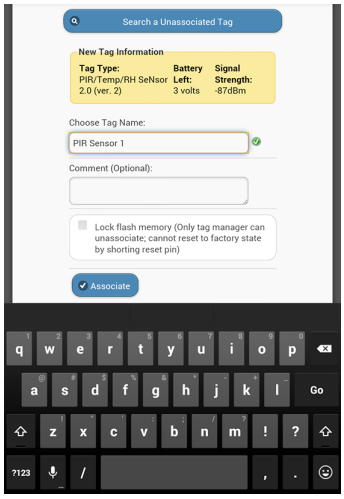
Follow this step to associate each new Tags with the Tag Manager. Connect battery or insert the USB plug into any powered USB socket, such as USB wall plug, charger, or a USB hub. Blue/red light should start alternately flashing on the sensor, indicating it is ready to be associated.



First time when the app is launched, it may ask for the name to use to identify current device to enable/disable push notification later. Click "OK" and click the "+ Associate" button at the upper left corner.



An new tag periodically broadcasts information about itself when powered on. Click the "Search" button to receive this information.

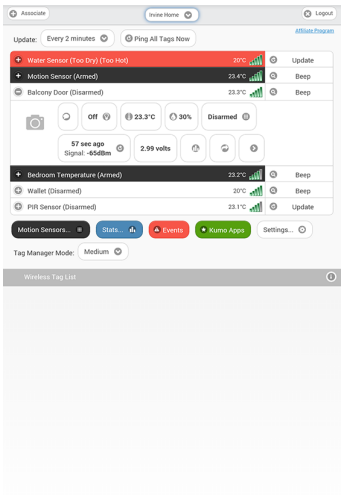


When a new tag is found, its information is displayed. Assign a name and comment (optional) to the tag, then click "Associate".

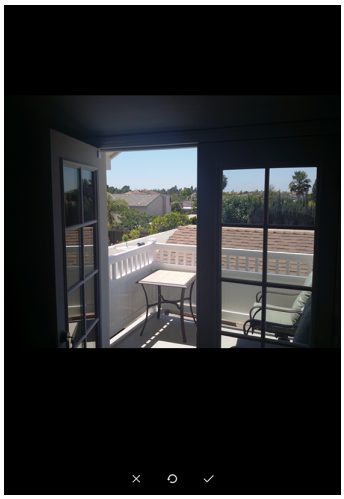
Step 3: Assign Tag Names and Pictures as Needed

You can edit tag names and comments of each Wireless Sensor Tag. Pictures can be associated by using Android or iPhone/iPad app.

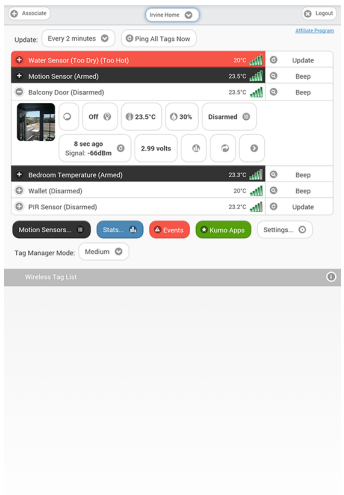
Assign Picture



In the tag list screen, click on the tag you want to edit to open the detail pane and tap on the camera icon.

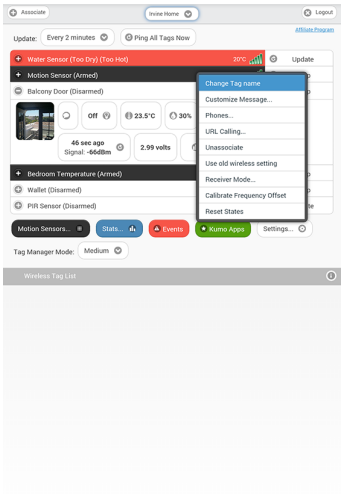


Take the picture and use finger to move or scale.

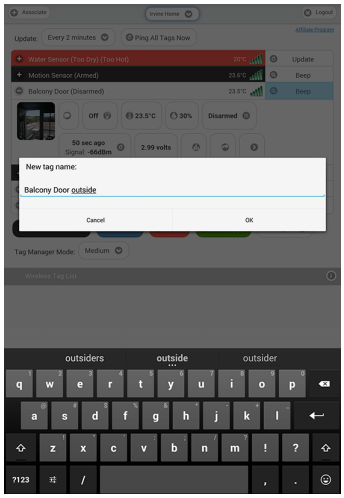


The picture is now assigned to the tag, and will be automatically visible on other devices accessing the same tag list in a few seconds.

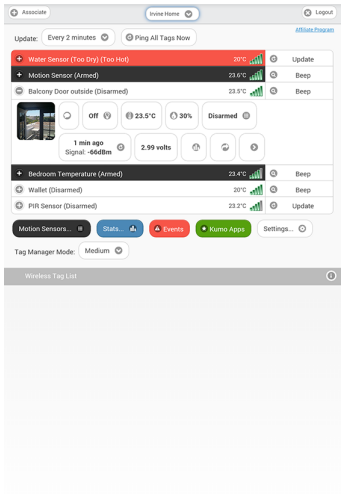
Edit Name



In the tag list screen, click on the tag you want to edit to open the detail pane.



Click "More>" and click "Change Tag name". Enter new tag name and click "OK".

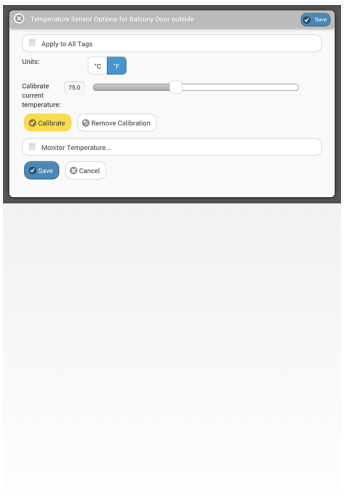


The new name is now assigned to the tag, and is automatically propagated to all other devices accessing the same tag list.

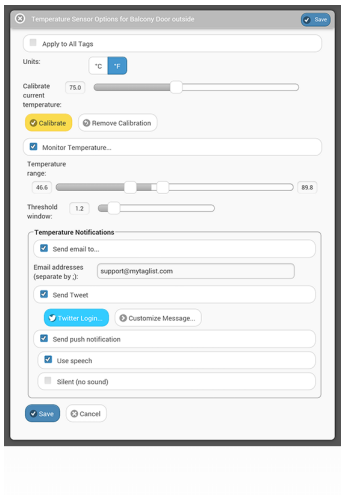
Step 4: Temperature Monitoring and Logging Interval

Temperature monitoring is turned off until they are needed to conserve battery. Follow the steps below to turn them on/off as needed. Temperature (+humidity, ambient light) logging happens independently of monitoring. The logging interval is set to 10 minutes by default, which can be changed as necessary.

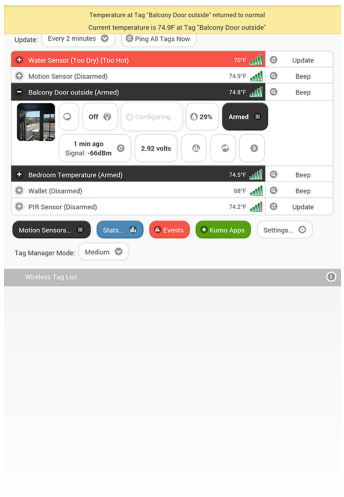
Temperature Monitoring



Click on the temperature button to open the Temperature Sensor Options screen. Choose the unit (°C vs. °F) here to update temperature display across the app.

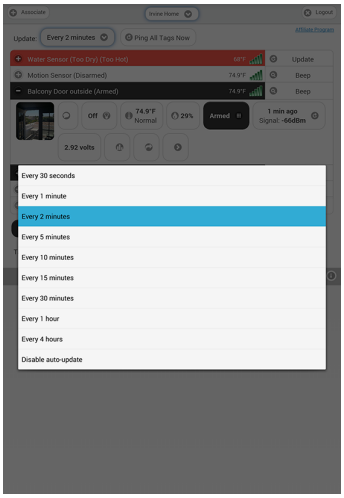


Turn on "Monitor Temperature", define normal temperature range, choose notification settings you want, and click "Save".

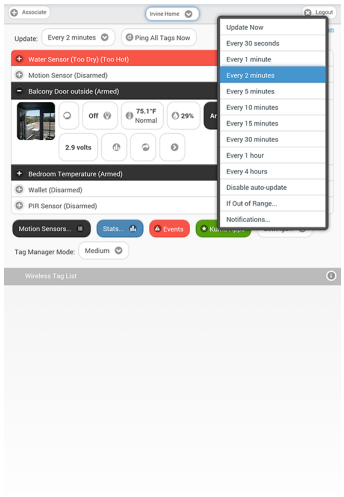


The tag will notify you when the temperature exceeds upper or lower limits, or returned within normal range.

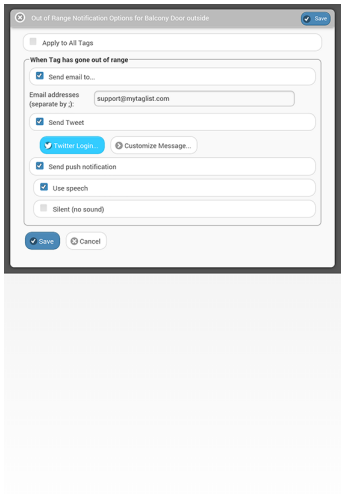
Logging Interval



At the top of tag list screen, choose any of the Record: "Every ..." options. This is the data logging interval. The default is every 10 minute to balance battery life vs. amount of data logged and out-of-range notification delay.



Click on the refresh button under each individual tag allows you to set different record interval for each tag. The interval can be set between 30 seconds and 4 hours.

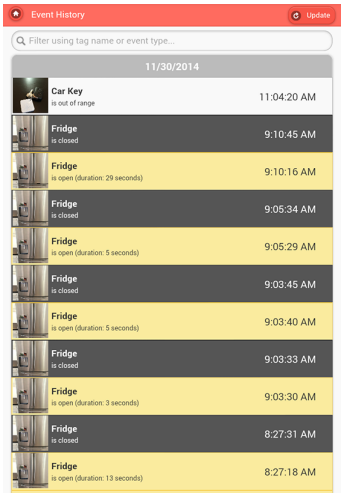


Choose "Notifications..." to enable/disable out-of-range/back-in-range notification. A tag becomes out-of-range when it misses a scheduled periodic update (which by default happens at record interval, or 13x the record interval with "transmit multiple data point" option)

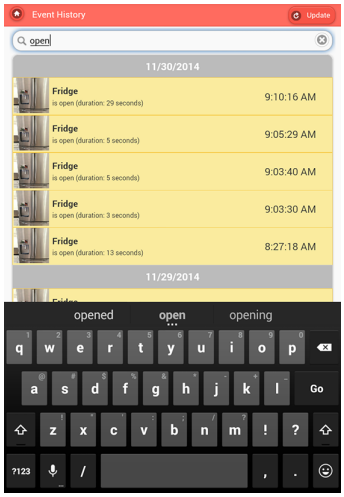
Event History:

All past events, or only specific kind, or only from specific tag

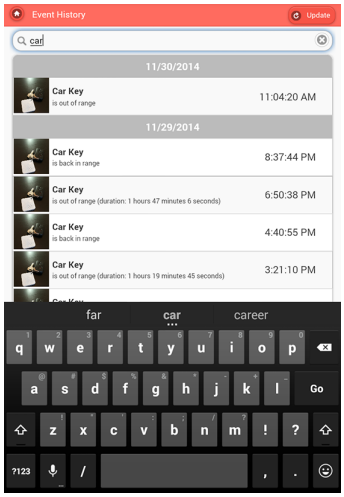
The red "Events" button on the bottom of the screen opens "Event History". All types of events (such as open/close/moved, too hot/cold, too wet/dry, out of range/back in range, water detected) from all tags associated with selected tag manager will be shown in chronological order. The newest events are displayed on top, while older and older events are dynamically downloaded from the cloud as you scroll down.
Events are collected 24/7 as long as the Tag Manager is connected to the Internet, so you can always review what happened while you were away.



Tap on the red "Events" button to open the "Event History" screen. Tap on the home button on the top left corner to go back to the tag list screen.



If you want to view only a specific kind of events, start typing the event name in the search box, such as "opened".

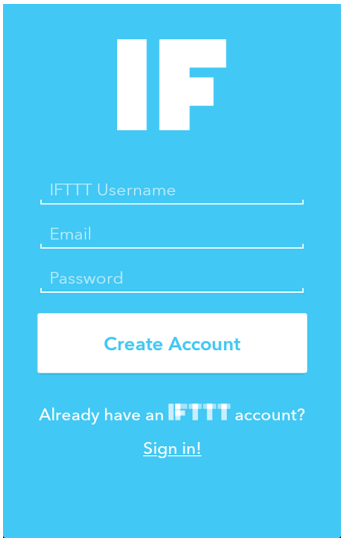


If you want to view all events from a specific tag, start typing the name of tag in the search box, such as "Car Key".

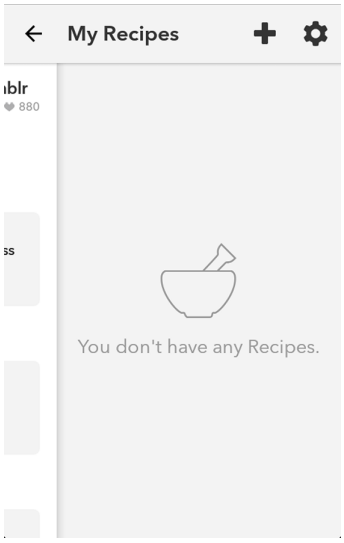
IFTTT: If This Then That.
The easiest way to link tags with other things on the Internet.

IFTTT is a free Web/iOS/Android app that connects all kinds of Internet-enabled products (such as sprinklers, lights and thermostats) and services (such as Gmail, iOS/Android device location, and more) referred to as "Channels". Wireless Sensor Tags is an officially supported IFTTT Channel.

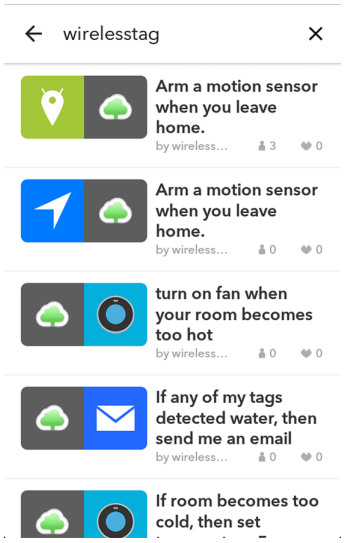
The IF app



Install and run the IF by IFTTT app from Google Play and create an IFTTT account.

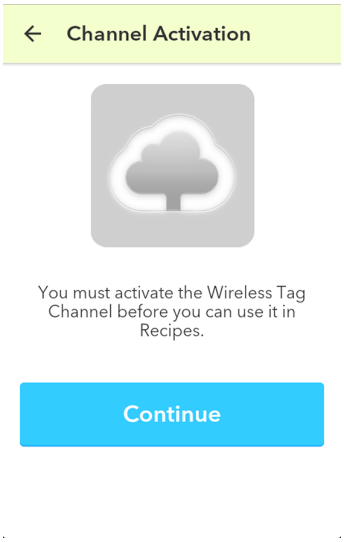


After you login, click the "bowl" icon to open "My Recipes", and click "+" to install a recipe.

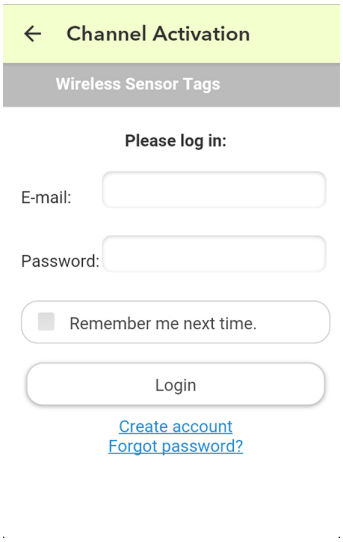


Click the search icon on the upper right corner and type "wirelesstag" to view a list of ready-to-use recipes made for Wireless Sensor Tags.

The WirelessTag channel



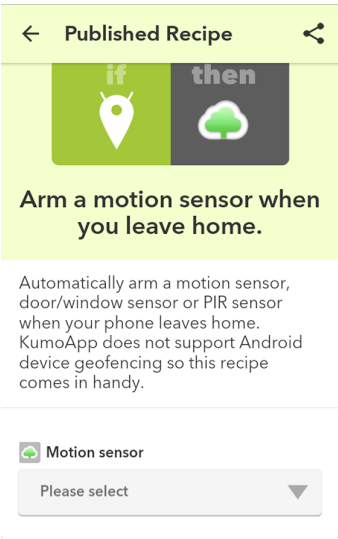
When you try to install one of these recipes for the first time, you will need to activate the Wireless Tag IFTTT Channel.



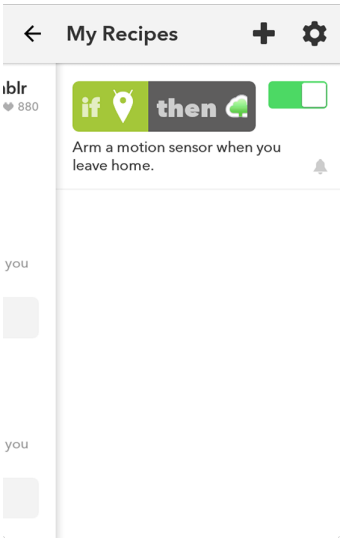
The app will redirect you to our website, where you need to login with your Wireless Sensor Tag account you created in Step 1.

Our website will ask if you want to grant API access to IFTTT. By doing so you allow IFTTT to read your tag events and perform actions on your tags without giving IFTTT your password, so that you can revoke this access anytime from Settings->Account.

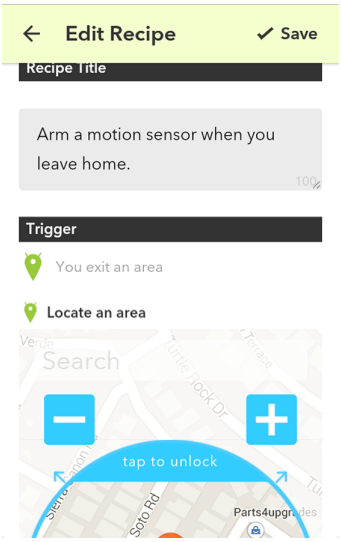
Using a Recipe



If the Wireless Tag IFTTT Channel is activated (you only have to do this once) you can configure and install published recipes, or create your own using any of our 10+ triggers and actions.



The list of your installed recipes will be shown under "My Recipes" where you can enable and disable each one, or tap on it to edit.

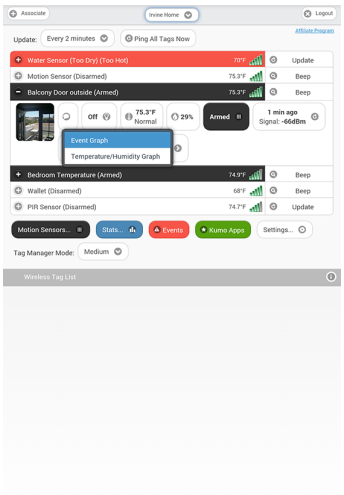


For this recipe "Arm a motion sensor when you leave home", editing screen allows you to pick the region on Google Maps. When your Android device leaves this region, the specified motion sensor will be armed.

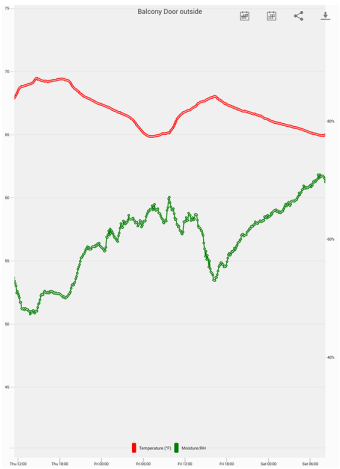
Temperature/Humidity Graphs

Each tag automatically logs temperature and each time it is moved, opened or closed, so you can always check what happened while you were away.

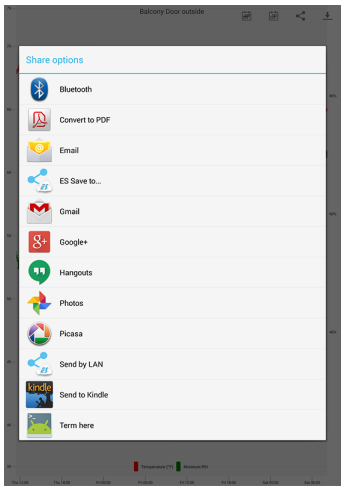
Temperature Graph



Temperature is logged periodically for each tag at the interval specified at Step4, "Out-of-range Notification." To view logged data, click the graph button and choose "Temperature Graph".

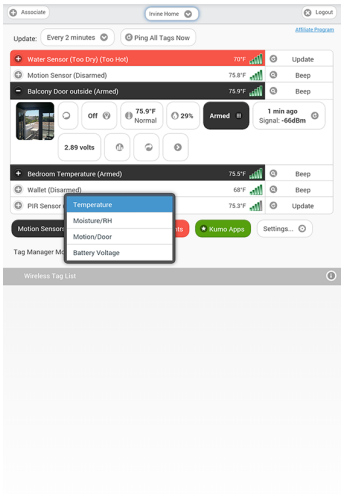


Initially, hourly (or if captured data range is long enough, daily high/low) graph will be displayed. Zoom in by pinch gesture to view raw data points.

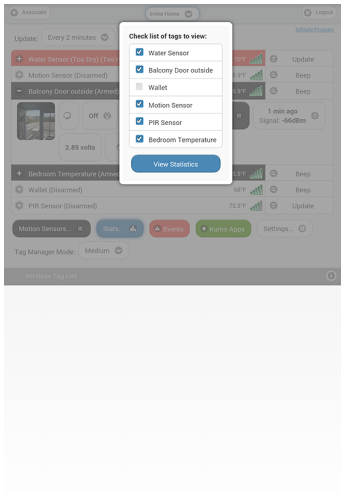


Click the buttons at upper right corner to download all available raw data in one CSV file or send the current graph as an attachment.

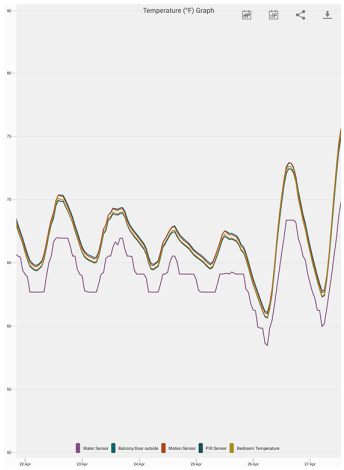
Multiple Tag Temperature Graph



After there is enough data captured, click the blue "Stats" button at the bottom of the screen and choose the type of data you want to view.



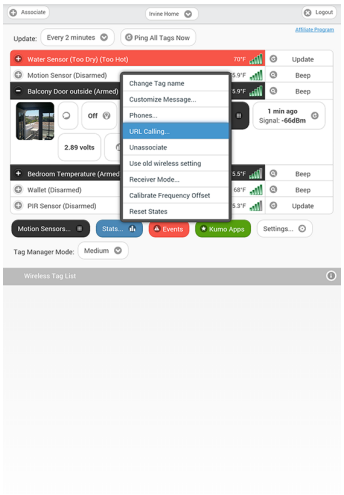
Choose which Tags / KumoSensors / Nest whose data you wish to view side by side.



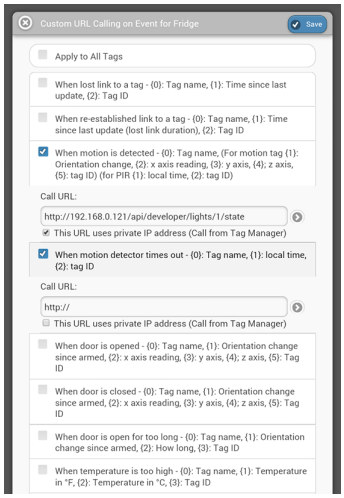
Initially, hourly (or if captured data range is long enough, daily high/low) graph will be displayed side by side for all selected tags/sensors. Zoom in by pinch gesture to view raw data points.

Custom URL Calling on Event

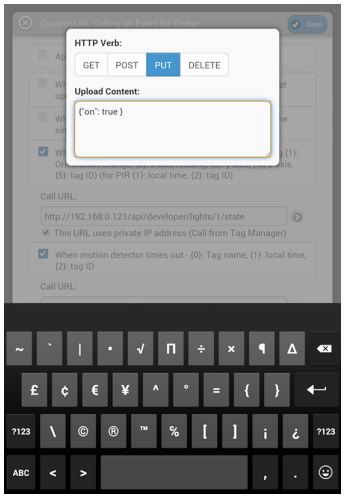
You can define a custom URL (such as REST endpoint of home automation systems) to be called on each type of event for each tag individually or all tags. Each URL may include placeholders such as "{0}" or "{1}" to be replaced with specific information from each event. With home automation systems such as Universal Devices Insteon/ISY or Phillips Hue Lamps that supports HTTP based API, you can turn on light when door is opened, or motion is detected, for example.



Click the ">" button then choose "URL Calling...".



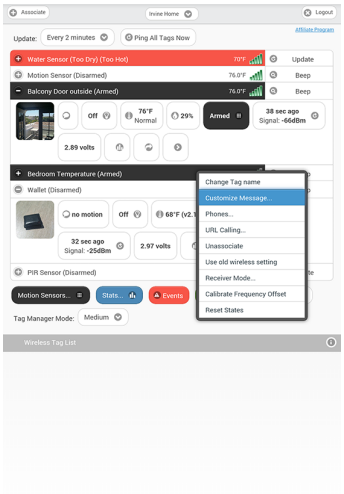
Click on the event(s) you want to enable URL calling, and enter the URL of your REST Web service.



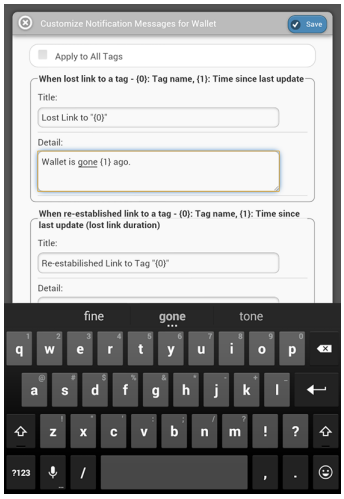
If the HTTP REST API you are calling requires HTTP Verb other than "GET" or requires argument to be sent in HTTP body, click on the ">" button at the right to specify these.

Customize Notification Messages

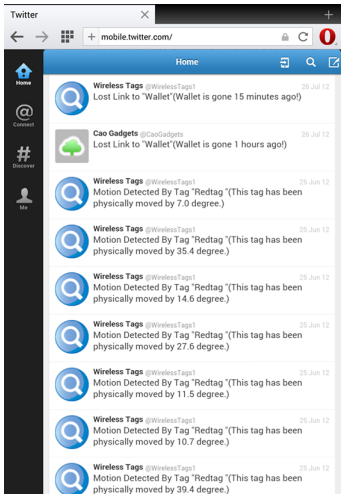
You can customize each type of notification messages for each tag individually or all tags by defining a custom template. Each template may include placeholders such as "{0}" or "{1}" which will be replaced with different information for each type of message. See a full list of customizable notification messages.



Click the ">" button then choose "Customize Messages...".



For example, let's change the message sent when this Tag (Wallet) is out of range to a simpler one.

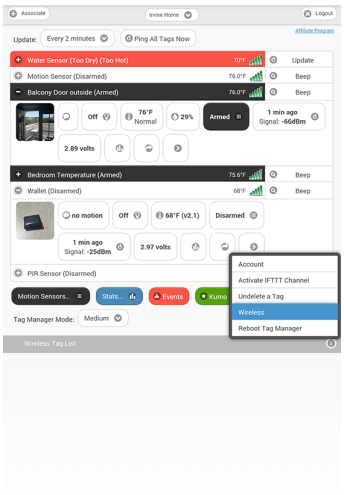


The Tweet sent when the tag "Wallet" is out-of-range now uses specified custom message. Notification message for other tags are not affected unless "Apply to All Tags" is checked.

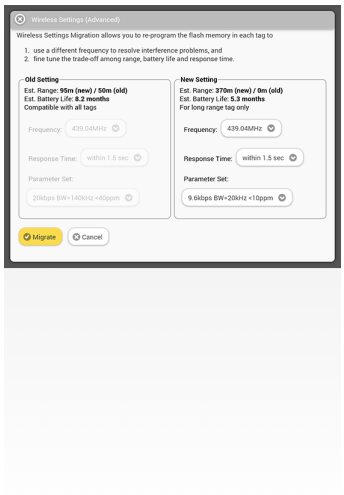
Wireless Settings

Wireless Settings allows you to re-program the flash memory in each tag to use a different frequency to resolve interference problems, and to achieve a desired balance between range, battery life and response time.

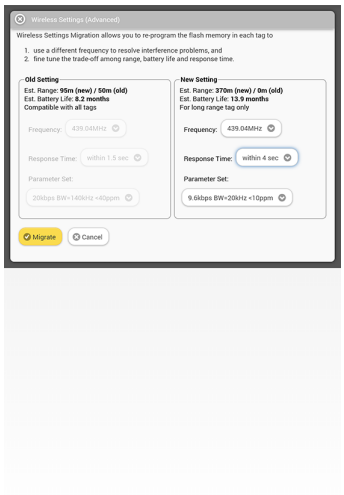
Wireless Settings



Click the "Settings..." button at the very bottom and choose "Wireless."

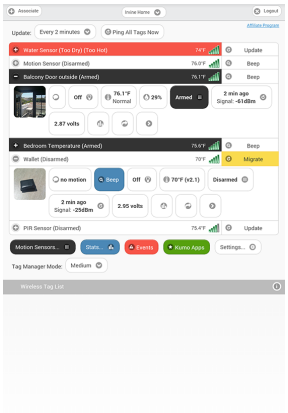


The system remembers the previous (Old) settings and use it for tags whose flash memory failed to update. When you modify any of the "New Setting", estimated range and battery life will be calculated.

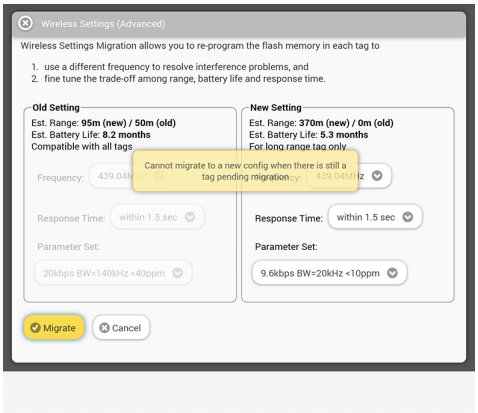


The longer the response time, or the faster the data rate, the longer the battery life. But faster data rate reduces range. Click the "Migrate" button and Tag Manager will attempt to update the flash memory of all tags to use the new settings.

Incomplete Migration



When a tag failed to be updated, its "Beep" button becomes a "Migrate Setting" button. Click on it to retry updating its flash memory. Before update succeeds, Tag Manager communicates with that Tag using the old wireless setting. Alternatively, click the ">" button and then "Use new wireless setting" if in fact the tag has migrated successfully but did not get recognized that way.

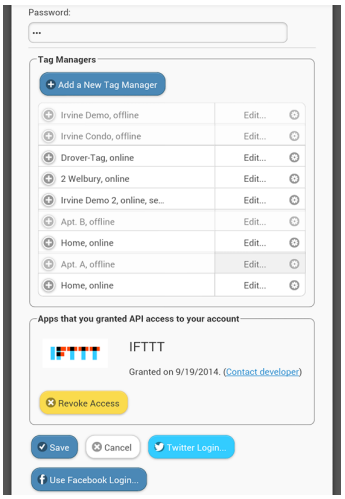


Since the Tag Manager has to remember the old wireless setting when there is still tag using it, you cannot introduce a third wireless setting until all tags on your tag list finishes migration to the new setting.

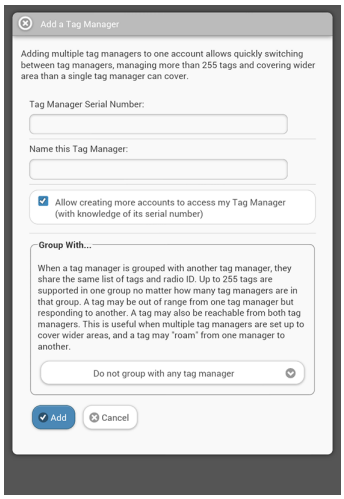
Using More Than One Tag Manager

Use multiple tag managers to cover a wider area, enable tags to "roam" from one area to another, or manage more than 255 tags at one time.

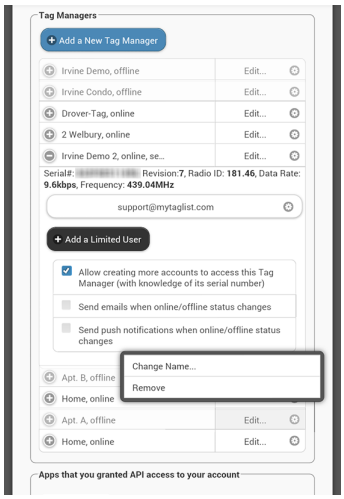
Adding Tag Managers



Click the "Settings..." button at the bottom of screen and choose "Account" to open account settings, where you can add tag managers to your account.

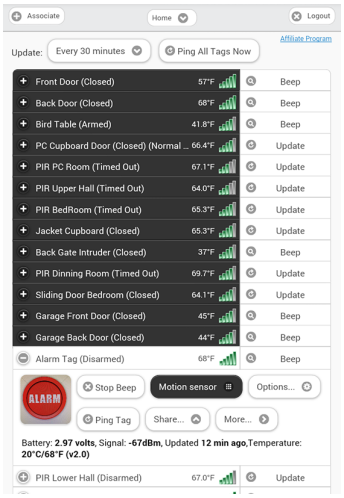


Click "Add a New Tag Manager" button to open this screen. When a tag manager is grouped with another, they manage the same list of tags. Otherwise, it has its own list of (up to 255) tags.

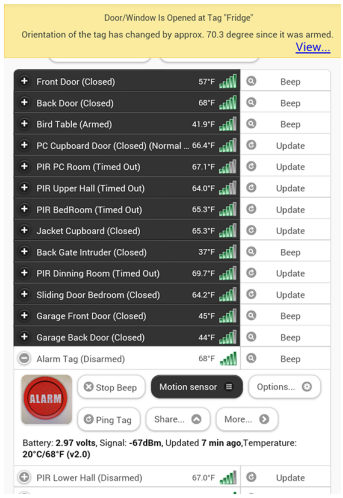


You can see the list of tag managers added to your account, if they are online or offline, and change their name, or remove them. Changes made to the list is not applied until you click "Save" button.

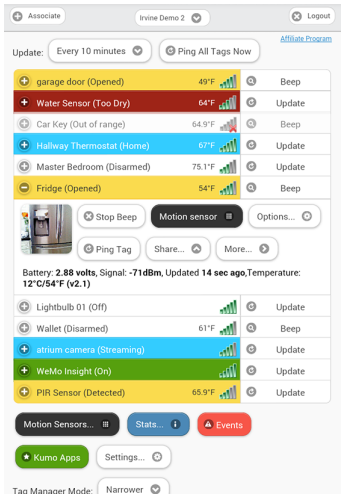
Navigation & Events



When a tag manager is not grouped with another tag manager, each has its own list of tags. Use the drop down at the top bar to quickly switch between tag lists.



While an event is received from one of your tags not on the tag list you are currently switched to, the popup will contain a link "View.." to allow you to click/tap...



... to switch to the right tag manager, to view details of the event.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Modifications: Any modifications made to this device that are not approved by Cao Gadgets LLC may void the authority granted to the user by the FCC to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: - Reorient or relocate the receiving antenna. - Increase the separation between the equipment and receiver. - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. - Consult the dealer or an experienced radio/TV technician for help.

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