



# User Guide

**TxWireless EDGE EC50**

**TxWireless Insights** device  
management and software platform”

# TxWireless EDGE EC55

Next-generation IoT device  
and software platform

## User Guide

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# 1. Introduction

The **TxWireless EDGE EC50** enables real time insights and intelligence to help your enterprise save costs, increase revenue, and enhance compliance. It is a next-generation IoT device with cellular, Bluetooth, and on-board sensor capabilities with a cloud-based connectivity and device management platform.

## 1.1 What's in the Box?

1. TxWireless EDGE EC50
2. Micro-USB Cable
3. USB Power Supply - US Version (Regional adapters supplied with other SKU's)
4. TxWireless Insights Activation Card



## 1.2 Support

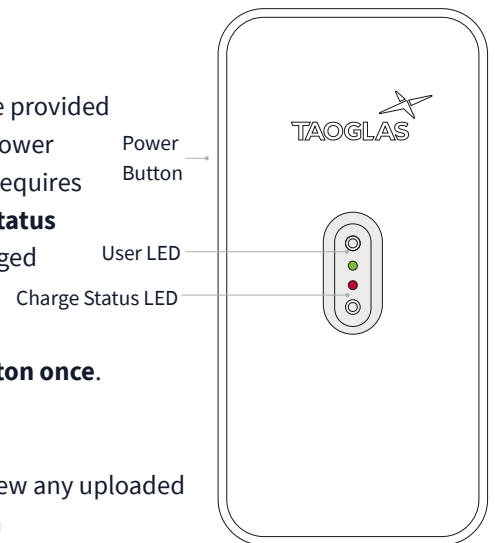
For technical support please contact [support@txwireless.com](mailto:support@txwireless.com)

1. Go to <https://www.txwireless.com/service/edge-connect> to access
  - a. Datasheet
  - b. User Guides

## 2. Set Up

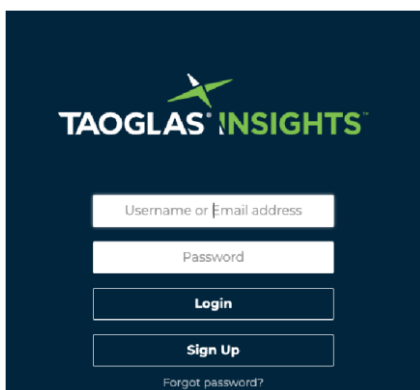
### 2.1 Device Startup:

1. To power on the TxWireless EDGE EC50 **press the Power Button** once.
2. The TxWireless EDGE EC50 should be **fully charged before use**, using the provided power supply. When you plug the EDGE Connect into the provided USB power supply, the **USB Power LED** will illuminate. If the TxWireless EDGE EC50 requires charging, the **Charge Status LED** will illuminate, otherwise the **Charge Status LED** will remain off. The TxWireless EDGE EC50 is not intended to be charged using a computer USB.
3. Once powered on and initialised, the **User LED** will flash white **3 times**.
4. At this stage you can **check the battery level** by pressing the **Power Button once**. The **User LED** will blink a number of times according to the battery level. Find more information on this in the **Device Overview section below**.
5. The device will start uploading to TxWireless Insights straight away. To view any uploaded samples, you will need to register an account and activate your device on [connect.taoglas.com](https://connect.taoglas.com).

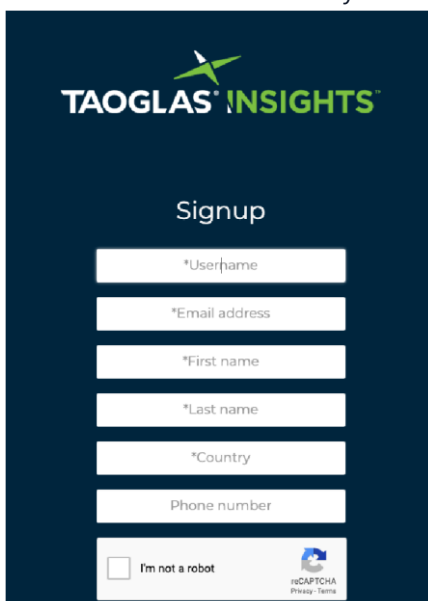


### 2.2 Account Setup

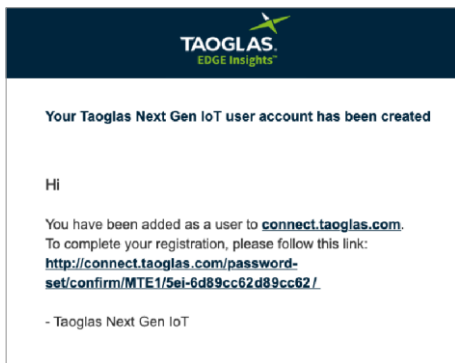
1. TxWireless will provide you with login credentials for your TxWireless Insights platform account.



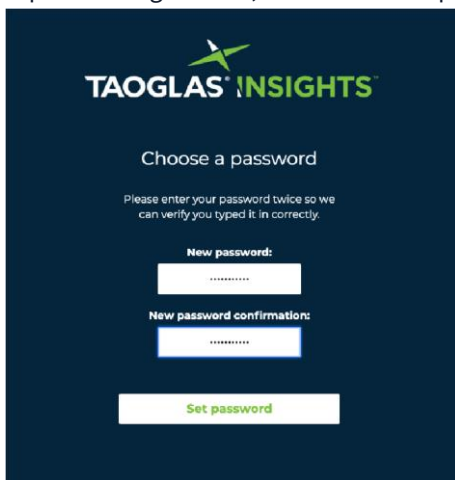
2. Create a **username** and enter your details.



- Once your information has been submitted, you will need to confirm your registration by clicking the link sent to the email address provided.



- Upon clicking the link, a browser will open, and you will be requested to create a password.

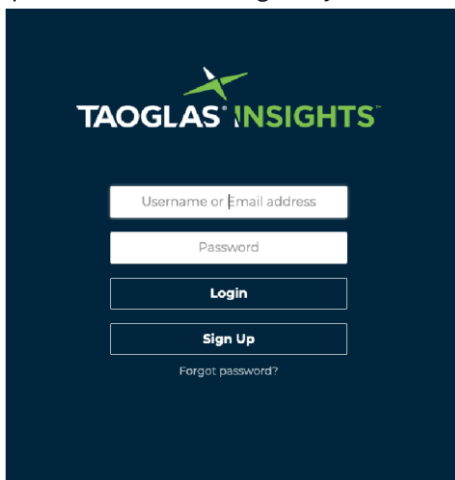


- After entering and confirming your password, registration is now complete, proceed to device activation.

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## 2.3 Activating your Device

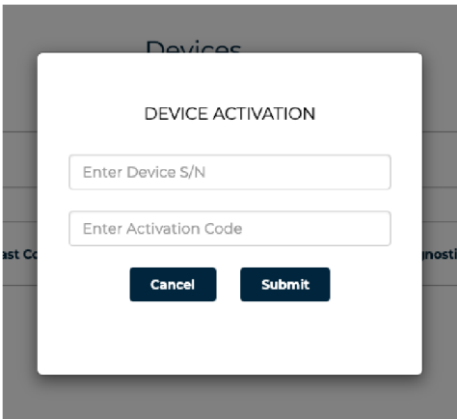
- Using the details registered in the sign-up process, you will be required to login to the TwWireless Insights platform in order to register your TxWireless EDGE EC50.



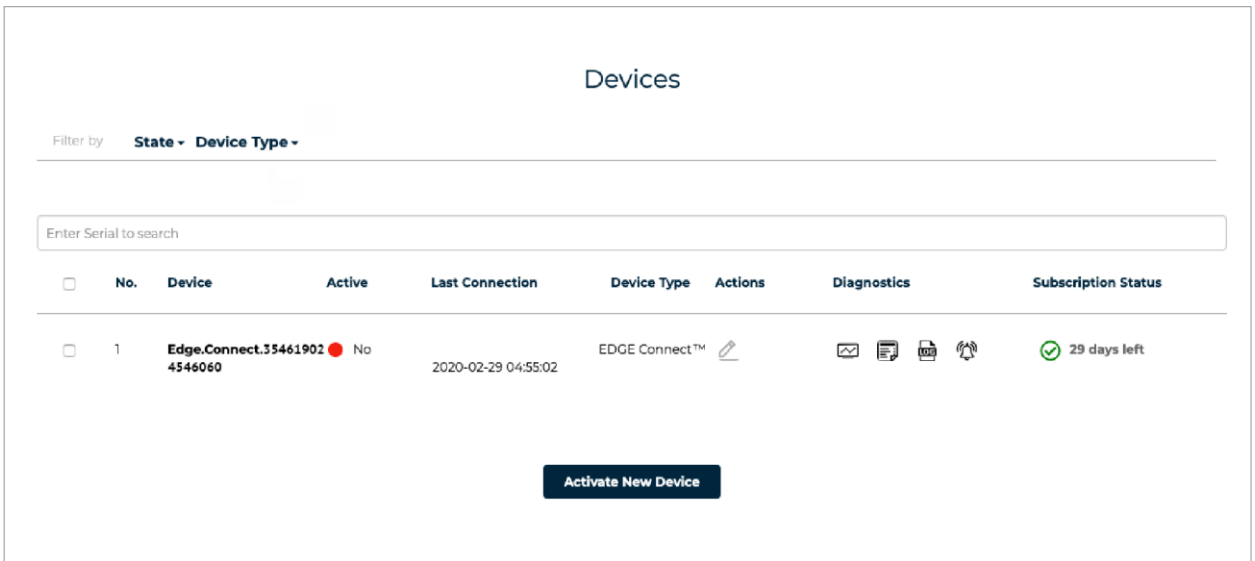
- The first time you log in, you will receive a popup message notifying you that you have not activated any devices. Click on the '**Devices Page**' button on the pop up, this will direct you to the device list page.



- To activate your TxWireless EDGE EC50, click **'Activate New Device'** at the bottom of the page, a popup window will request your TxWireless EDGE EC50 **S/N** and **Activation Code**. After entering these, click **'Submit'** to finish the activation process. The TxWireless EDGE EC50 **S/N** and **Activation Code** can be found on the card included in the box.



- After entering the EDGE Connect **S/N** and **Activation Code**, click **'Submit'** to activate your EDGE Connect.
- The TxWireless EDGE EC50 will now be listed on the devices page, see an example of this below.

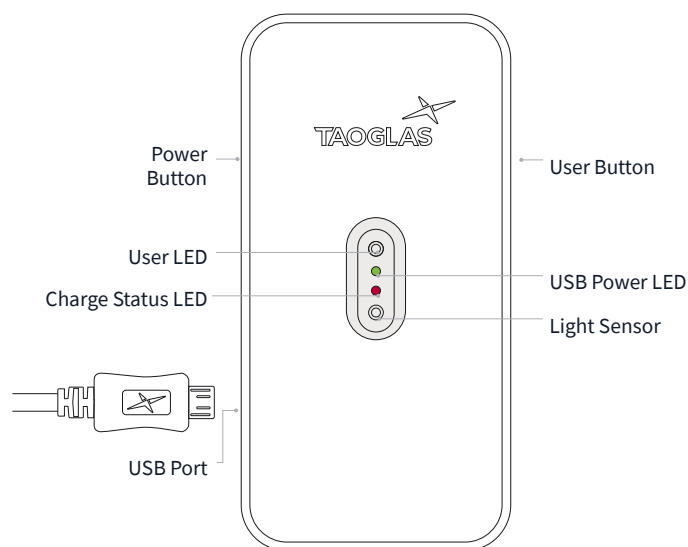


- If device activation fails, please contact TxWireless support at [support@txwireless.com](mailto:support@txwireless.com)

## 3. Using the TxWireless EDGE EC50

### 3.1 Device Overview

The TxWireless EDGE EC50 has 2x buttons and 3x LED's. See the diagram below for an overview of the LED's and buttons.



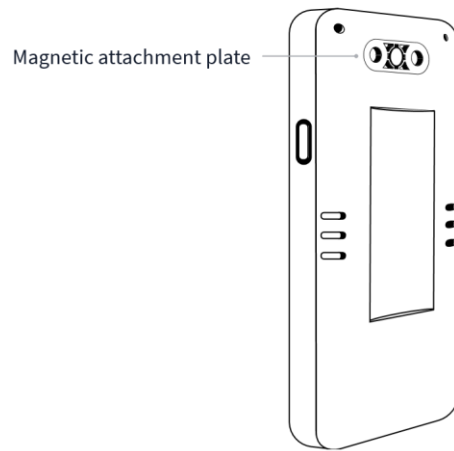
- To power on the TxWireless EDGE EC50, push the **Power Button** once. When the TxWireless EDGE EC50 is powered on and has successfully initialised, the **User LED** will flash white **3 times** in quick succession.
- To power off the TxWireless EDGE EC50, hold the **Power Button**, while the TxWireless EDGE EC50 is powering down the **User LED** will blink red continuously. The **User LED** will stop blinking when the TxWireless EDGE EC50 has completely powered off.
- When you plug the TxWireless EDGE EC50 into the provided USB Power supply, the **USB Power LED** will illuminate. If the TxWireless EDGE EC50 requires charging, the **Charge Status LED** will illuminate, otherwise the **Charge Status LED** will remain off.
- Once powered, the TxWireless EDGE EC50 will automatically connect to TxWireless Insights to gather configuration information. The TxWireless EDGE EC50 will continue to operate at the sampling and upload intervals set on TxWireless Insights, for more information on these intervals see **Device Management Section**.
- The TxWireless EDGE EC50 can be forced into making a connection with TxWireless Insights outside of the upload interval using either of the following methods:
  - A single press of the **Power Button**, followed by a single press of the **User Button** will trigger the TxWireless EDGE EC50 to connect to TxWireless Insights and gather new configuration information.
  - A single press of the **Power Button**, followed by a longer push of the **User Button** (more than 4 seconds) will trigger the TxWireless EDGE EC50 to sample all configured sensors and upload them to TxWireless Insights.
- The TxWireless EDGE EC50 uploads its battery level to TxWireless Insights, however, the battery status can also be checked by pushing the **Power Button** once. This will cause the **User LED** to flash red a number of times according to the battery level, as per the table below:

20%	1 Flash
40%	2 Flashes
60%	3 Flashes
80%	4 Flashes
100%	5 Flashes

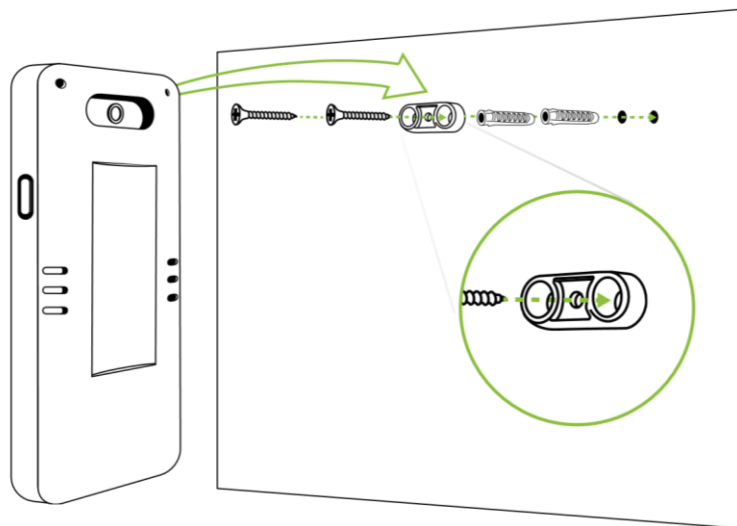
### 3.2 Wall Mounting the TxWireless EDGE EC50

The TxWireless EDGE EC50 can be mounted to a vertical surface using a magnetic attachment plate.

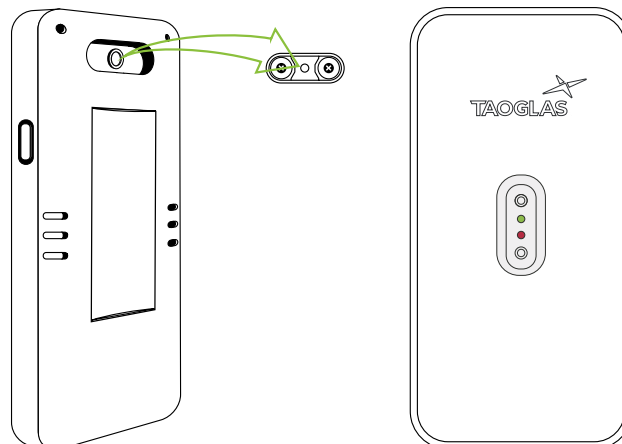
- The plate is supplied with the product, located in the upper rear of the enclosure.



- Two 4mm diameter screw holes allow for fixing the plate to the surface with screws (not included)



- The TxWireless EDGE EC50 then clicks in place and remains in place on the magnetic and can be removed for charging etc.





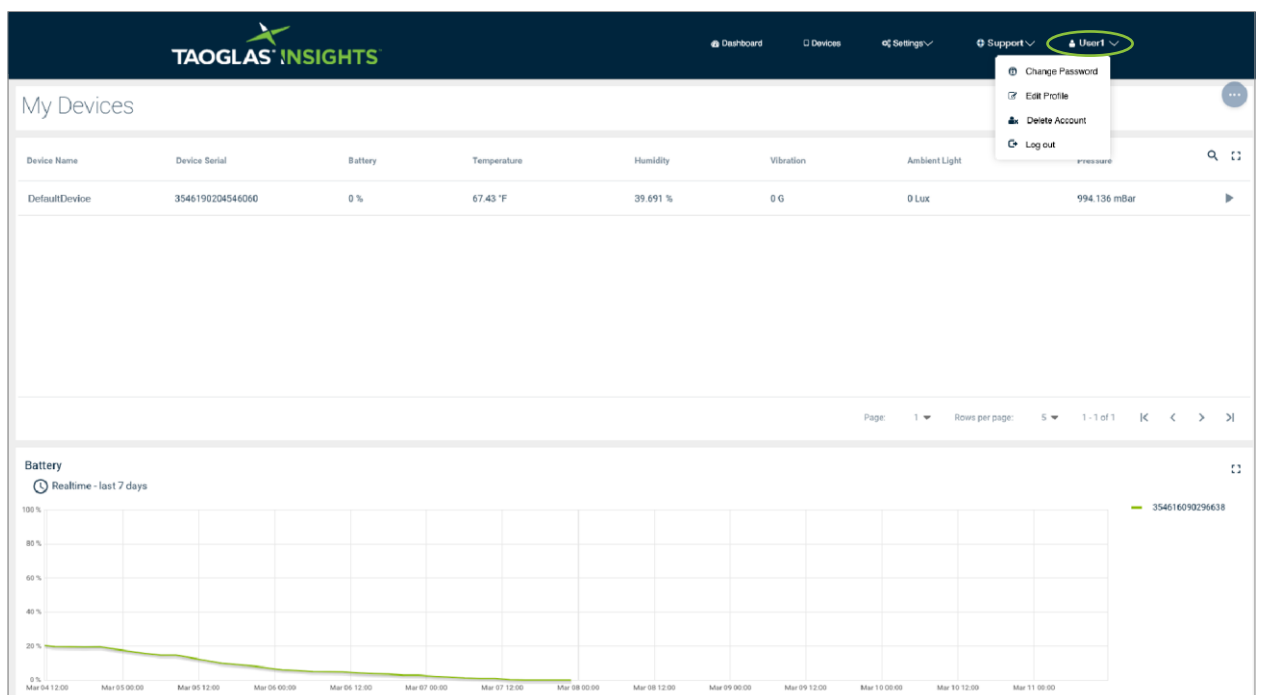
## 4. Using TxWireless Insights

### 4.1 Insights Navigation

1. When you login to your account, you will land on the **Dashboard** page. For instructions on activating an TxWireless EDGE EC50 on your account, please refer to the **Activating your Device** section.
2. You can use the links on the top of TxWireless Insights interface to navigate between your dashboard, device list page and account management pages.
  - a. **Dashboard** will bring you to your dashboard where you can see all the sensor data uploaded by your TxWireless EDGE EC50.
  - b. **Devices** will bring you to your device list page, from here you can manage each of the devices you have activated on your account.
  - c. Clicking on **'Settings'** will display a dropdown with various account management options, including:
    - i. Add/edit Users
    - ii. Edit Device Notification Rules
    - iii. Edit Device Notification Groups
    - iv. Edit Device Notification Contacts

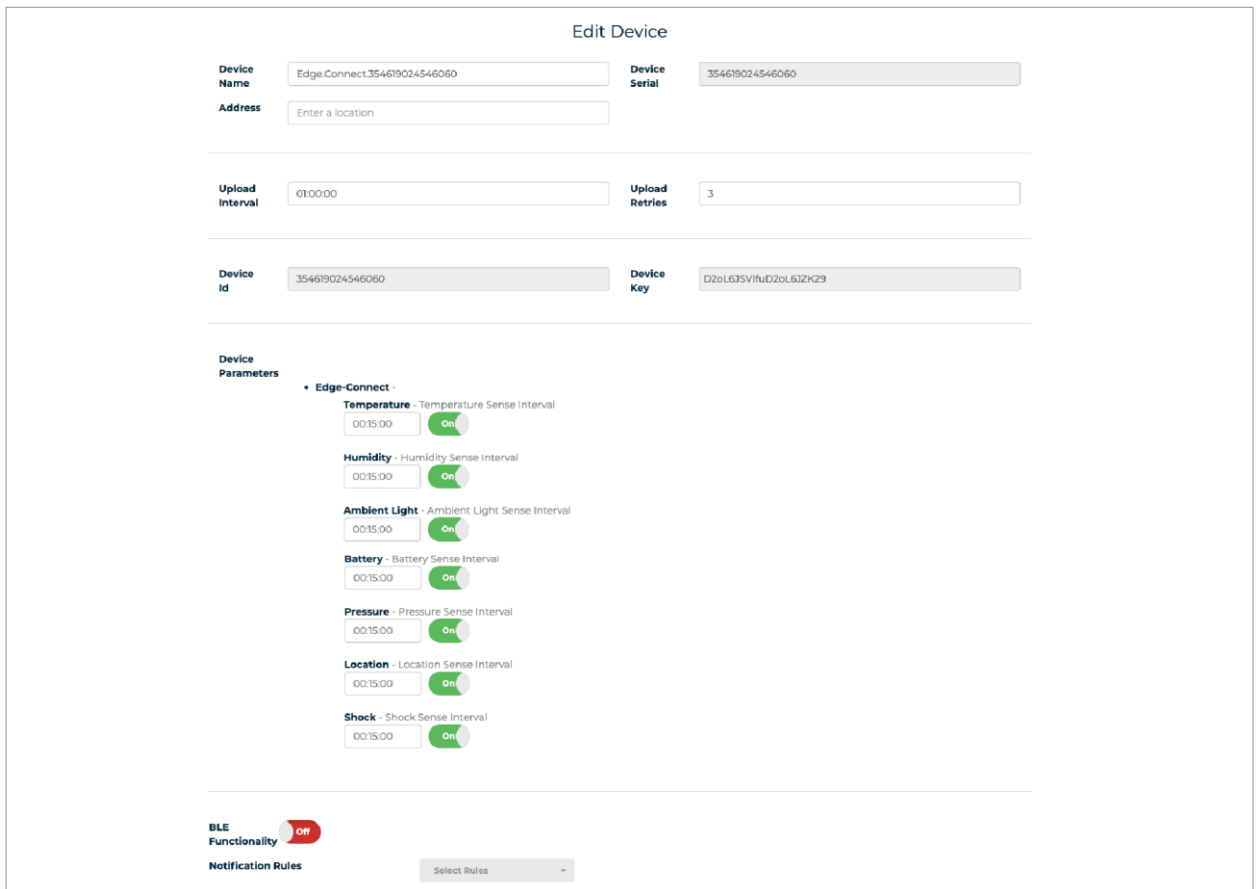
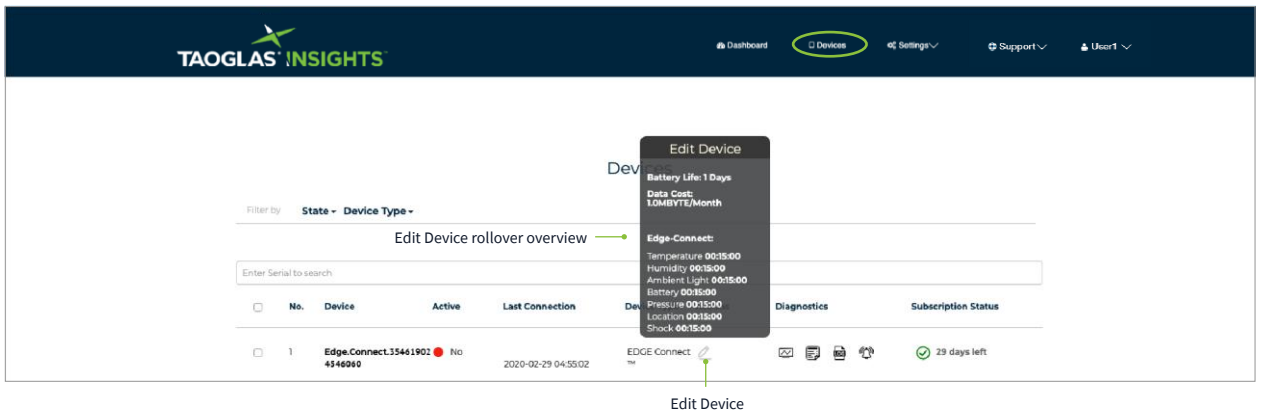


- d Clicking on **'Support'** will display a dropdown with support links.
- e Clicking on **'Username'** will display a dropdown with various account management options, including:
  - i. Changing your password
  - ii. Editing your account details
  - iii. Deleting your account
  - iv. Logging out of your account



## 4.2 Device Management


1. You can edit the details for an individual device by clicking the edit icon (🔗) on the **devices** page.
2. This will direct you to the **Edit Device** page, from here you can amend the following:
  - a. **Device Name**, here you can enter a customized name for your TxWireless EDGE EC50.
  - b. **Address**, here you can enter your address.
  - c. **Upload Interval**, this is the rate at which the TxWireless EDGE EC50 will upload recorded sensor samples to TxWireless Insights.
  - d. **Upload Retries**, in the event where the TxWireless EDGE EC50 fails to upload samples, this is the number of times it will attempt to upload before backing off.



3. Depending on your device type and the sensors associated with it you will be able to set the individual sensor sampling intervals in the Device Parameters section.
  - a. Simply enter the sampling interval in the format **HH:MM:SS** into the text box next to the sensor name.
  - b. For an example, see Humidity sensor which has a sampling interval of 15 minutes (00:15:00)



### 4.3 Dashboard

1. To view the samples uploaded for an individual device, select and click on the device row or use the  icon for that device. This will bring you to the Sensor Data view of the dashboard.

Sensor Data View Icon

Device Row

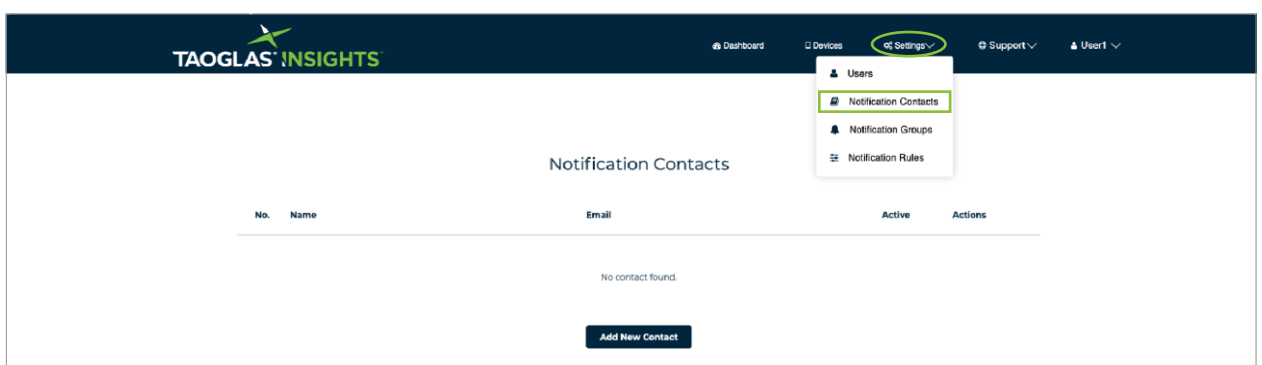
2. Realtime and historic sensor data for each of your devices can be viewed on the dashboard tab of TxWireless Insights.



3. The sensor data view of the dashboard allows you to:
  - a. View the latest sensor samples uploaded from your TxWireless EDGE EC50 (Green panels at the top).
  - b. View plots of sensor data over a period of time.
  - c. Download historical sensor data by clicking the download icon(↓) at the top right of each plot, this will download the data as comma-separated values.
  - d. By clicking on the (↻) icon on the Temperature data chart you can alternate between Farrenheit and Celsius.

#### 4.4 Sensor Notification Rules

1. TxWireless Insights allows you to notify a group of contacts based on an uploaded sensor value.
2. To do this you will first have to add a contact to TxWireless Insights, click **'Settings'** followed by **'Notification Contacts'** at the top of the screen.
3. A page listing all the contacts associated with your account will appear, this will be empty if no contacts have been added. Click the **'Add New Contact'** button.



4. On the next screen, enter the name and email address of the contact you want to notify, then click **'Submit'**.

The screenshot shows the 'Add New Contact' form in the TAOGLAS INSIGHTS dashboard. The form has a dark blue header with the logo and navigation links: Dashboard, Devices, Settings (with a dropdown arrow), Support (with a dropdown arrow), and User1 (with a dropdown arrow). The main content area is white and contains the following elements: a title 'Add New Contact', two input fields labeled 'Name' and 'Email', an 'Active' toggle switch currently set to 'On', and two buttons at the bottom right: 'Cancel' and 'Submit'.

5. Repeat steps 3 and 4 multiple times to add multiple contacts, regardless of whether or not they are TxWireless Insights users.

6. After adding all the contacts, you wish to notify, click **'Settings'** followed by **'Notification Groups'**. This will display a list of your notification groups, which will be empty initially.

The screenshot shows the 'Notification Groups' page in the TAOGLAS INSIGHTS dashboard. The header is the same as in the previous screenshot, but the 'Settings' link is circled in green, and a dropdown menu is open showing 'Users', 'Notification Contacts', 'Notification Groups' (highlighted with a green box), and 'Notification Rules'. The main content area is white and contains the following elements: a title 'Notification Groups', a table with columns 'No.', 'Name', and 'Actions', a message 'No Notification Group found.', and an 'Add New Group' button.

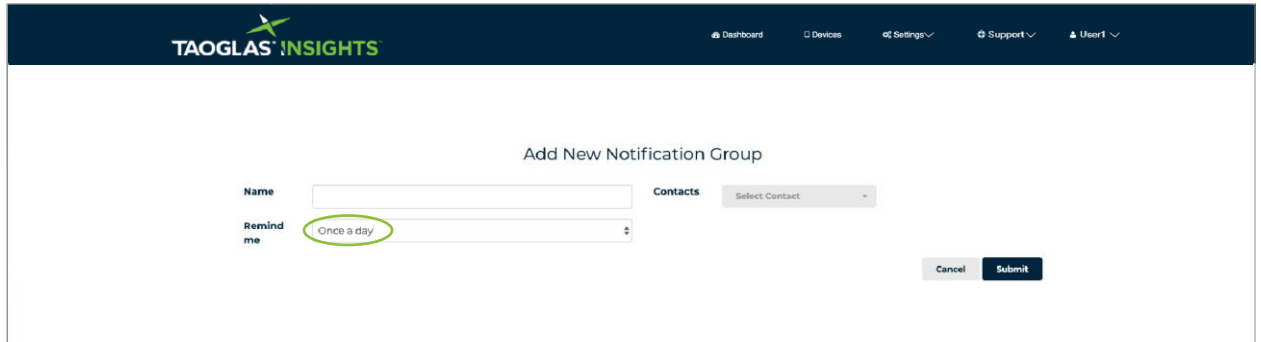
7. Click, **'Add New Group'**, on the screen that follows, please:

- a. Enter the name you wish to give the notification group
- b. Select the contacts you wish to add to the group.

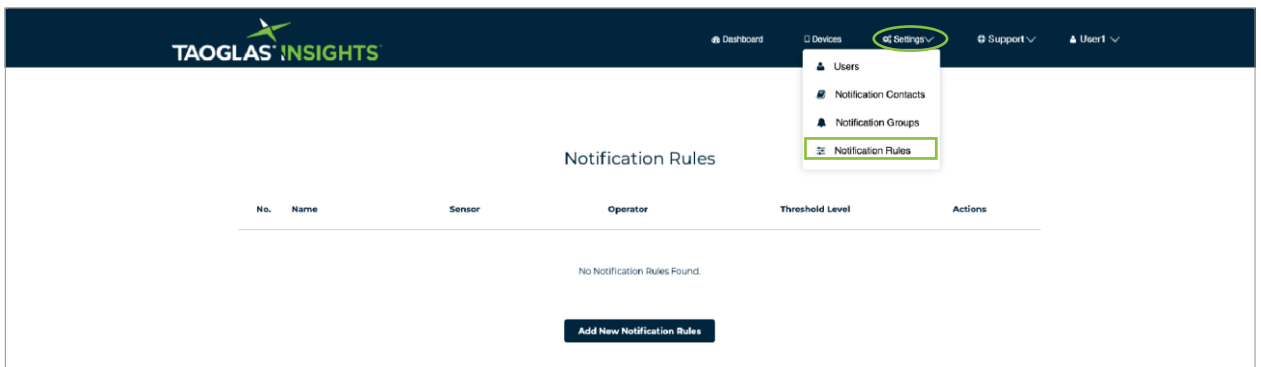
This screenshot is identical to the previous one, showing the 'Notification Groups' page. The 'Add New Group' button is highlighted with a green box, indicating the next step in the process.

- c. Select the max frequency you wish to notify the group, for example selecting **‘Once a day’**, will only notify the group once in a 24-hour period, regardless of the number of times the rule associated with the notification is triggered.

8. Once you have entered the above information, click **‘Submit’** to create the group.



9. Now that the group has been created, will be required to add a rule which will trigger the notification. Click, **‘Settings’** followed by **‘Notification Rules’**. This will bring you to your list of rules. To add a new rule, click **‘Add new Notification Rules’**.



- 10. On the window that appears:
  - a. Give the rule a name.
  - b. Select the sensor you wish to base the rule on.
  - c. Select the operator.
  - d. Enter a threshold. Select the notification group.

**Add Notification Rule**

<b>Name</b>	<input type="text" value="Sensor Temperature"/>	<b>Sensor</b>	<input type="text" value="Temperature"/>
<b>Operator</b>	<input type="text" value="Less-than (&lt;)"/>	<b>Threshold Level</b>	<input type="text" value="10"/>
<b>Notification Group</b>	<input type="text" value="temperature_group"/>		

The above screenshot will trigger the notification if a temperature sample with a value less than 10°C is uploaded to TxWireless Insights.

11. Once all the information has been completed, click **'Submit'**.
12. The rule is now available to apply to the devices associated with your account.
13. To do this, navigate to the devices list page by clicking **'Devices'**.
14. Click the edit icon (✎) on the device you want to add the rule to, this will bring up the device edit page.
15. Select the rule from the **'Notification Rules'** dropdown as in the screenshot below and click **'Submit'**.

**Edit Device**

<b>Device Name</b>	<input type="text" value="Edge.Connect.354619024546060"/>	<b>Device Serial</b>	<input type="text" value="354619024546060"/>
<b>Address</b>	<input type="text" value="Enter a location"/>		

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<b>Upload Interval</b>	<input type="text" value="01:00:00"/>	<b>Upload Retries</b>	<input type="text" value="3"/>
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<b>Device Id</b>	<input type="text" value="354619024546060"/>	<b>Device Key</b>	<input type="text" value="D2oL635VifuD2oL63ZK29"/>
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**Device Parameters**

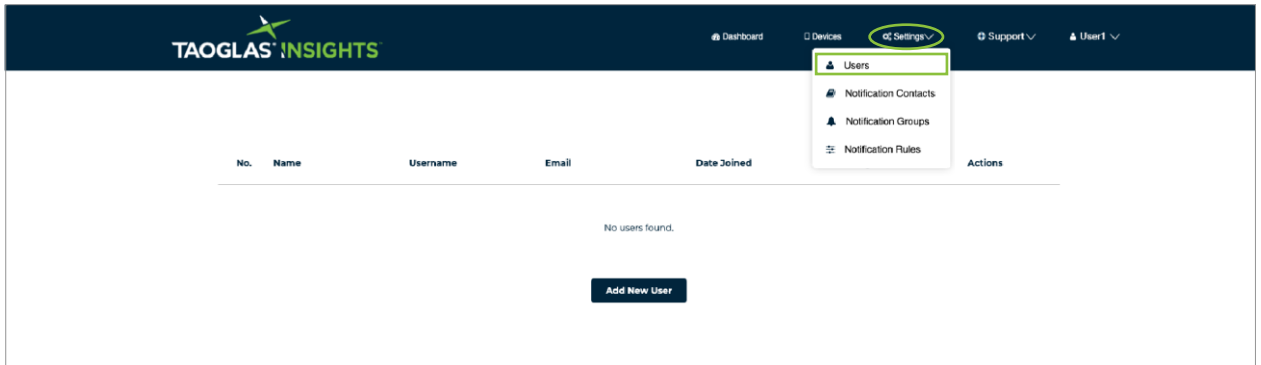
- **Edge-Connect**
  - Temperature** - Temperature Sense Interval  
00:15:00
  - Humidity** - Humidity Sense Interval  
00:15:00
  - Ambient Light** - Ambient Light Sense Interval  
00:15:00
  - Battery** - Battery Sense Interval  
00:15:00
  - Pressure** - Pressure Sense Interval  
00:15:00
  - Location** - Location Sense Interval  
00:15:00
  - Shock** - Shock Sense Interval  
00:15:00

**BLE Functionality**  **Off**

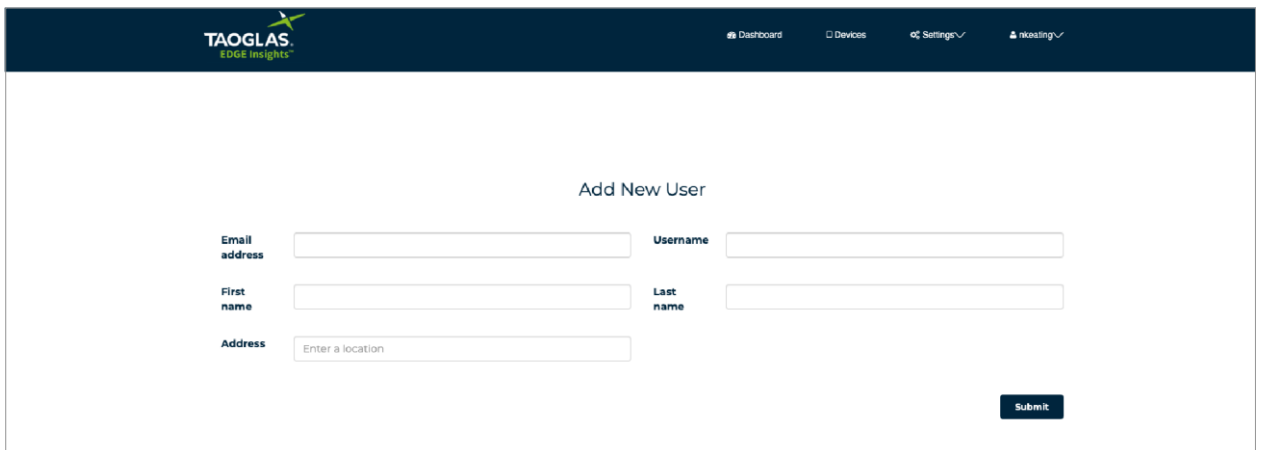
**Notification Rules**

## 4.5 Add New Users

1. To add a new user so that they can view the devices you have activated on your account, click **'Settings'** followed by **'Users'**.



2. The users list page will appear, click **'Add New User'**, which will bring you to a page which allows you to add a new user.

A screenshot of the "Add New User" form in the Taoglas Insights dashboard. The form is titled "Add New User" and contains five input fields: "Email address", "Username", "First name", "Last name", and "Address". The "Address" field has a placeholder text "Enter a location". A "Submit" button is located at the bottom right of the form.

3. On this page enter the users:
  - a. Email address
  - b. Username
  - c. First name
  - d. Last name
  - e. Address
4. Click **'Submit'** to add the user.
5. A new user will be emailed informing them of their new account.



## 4.6 Support

1. To access Product Support, click **'Support'** followed by **'Product Support'** which will bring you to an online Product support page.



2. To access the User Guide click **'User Guide'**, which will bring you to an online user guide.



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## 5. Appendix

### 5.1 FAQ

For FAQ's about the TxWireless EDGE EC50 Set Up please visit [txwireless.com](http://txwireless.com)

For technical support please contact [support@txwireless.com](mailto:support@txwireless.com)

### 5.2 Security

The TxWireless EDGE EC50 device security is provided by four mechanisms:

1. Connection to the Cloud-based components via HTTPS, with the servers public certificates held on the TxWireless EDGE EC50 device.
2. Authentication of the device by the TxWireless Insights Platform, with the unique and individual private key held securely in a cryptographic coprocessor.
3. Whitelisting of the domains to which the TxWireless EDGE EC50 APN can connect – TxWireless Insights and TxWireless Insights Platform and NTP servers only.
4. The device periodically reports its configuration hash (security), firmware versions, and certificate bundle version to the TxWireless Insights Platform. A report is sent each time a device is powered up, or when the configuration, certificate, or firmware has changed.

### 5.3 Safety and Regulatory Requirements

**Warning:** Failure to follow instructions could increase risk to safety and noncompliance with regional laws and regulations.

**Warning: DO NOT SHORT CIRCUIT, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE.**

**BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 100 °C (212 °F).**

**Warning: HAZARDOUS AREA WARNING:** This instrument has not been designed to be intrinsically safe for use in areas classified as hazardous locations. For your safety, DO NOT use it in hazardous (classified) locations.

**Caution:** In the case of an emergency, degraded performance will occur if wireless reception is inhibited.

**Note:** The device has an operating range between -20 and +60 degrees Celsius (-4 to 140 Fahrenheit).

The device can be safely charged in an ambient temperature range of between 0 – 40 degrees Celsius (32-104 degrees Fahrenheit).

The device can be charged with a 5 V/0.5 A power supply and Micro USB Cable.

**Note:**

- a) Do not disassemble or open crush, bend or deform, puncture or shred
- b) Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.
- c) Only use the battery for the system for which it is specified
- d) Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- e) Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.
- f) Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard. Only authorized service providers shall replace battery. (If the battery is non-user replaceable).
- g) Promptly dispose of used batteries in accordance with local regulations
- h) Battery usage by children should be supervised.
- i) Avoid dropping the device or battery. If the device or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- j) Improper battery use may result in a fire, explosion or other hazard.

**Caution:** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

## Federal Communication Commission Interference

### Statement

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device 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.

### FCC Caution:

- Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless device employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. \*Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

The highest SAR value for the model device as reported to the FCC when worn on the body, as described in this user guide, is 1.1 W/Kg (Bodyworn measurements differ among device models, depending upon available accessories and FCC requirements.)

While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model device is on file with the FCC and can be found under the Display Grant section of [www.fcc.gov/oet/ea/fccid](http://www.fcc.gov/oet/ea/fccid) after searching on FCC ID: WYPEU0312.

For body worn operation, this device has been tested and meets the FCC RF exposure guidelines for use with an accessory that contains no metal and be positioned a minimum of 1 cm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.



[txwireless.com](http://txwireless.com)