



TEMPERATURE

ALTA Wireless Temperature Sensor

User Guide

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MEASURE | CONTROL | RECORD

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I. ABOUT THE WIRELESSS TEMPERATURE SENSOR

The ALTA Wireless Temperature Sensor outputs the ambient temperature in degrees Fahrenheit. It is programmed to sleep for a user-given time interval (heartbeat) and then wakeup, send power to the NTC Thermistor and wait for it to stabilize, and convert the analog data, mathematically compute the temperature and transmit the data to the gateway. To stay within the abilities of the processor, the temperature is computed off a data table provided by the manufacturer. To reduce error, a variable resistor configuration is implemented over specified temperature ranges.

ALTA WIRELESS TEMPERATURE SENSOR FEATURES

- Wireless range of 1,200+ feet through 12+ walls *
- Frequency-Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Improved power management for longer battery life ** (12+ years on AA batteries)
- Encrypt-RF® Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Onboard data memory stores up to 512 readings per sensor:
 - 10-minute heartbeats = 3.5 days
 - 2-hour heartbeats = 42 days
- Over-the-air updates (future proof)
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email

* Actual range may vary depending on environment.

** Battery life is determined by sensor reporting frequency and other variables. Other power options are also available.

EXAMPLE APPLICATIONS

- Ambient temperature monitoring
- Environmental monitoring
- Smart machines & smart structures
- HVAC operation & testing
- Data center monitoring
- Many additional applications

II. SENSOR SECURITY

The ALTA Wireless Temperature Sensor has been designed and built to securely manage data from sensors monitoring your environment and equipment. Hacking from botnets are in the headlines, Monnit Corporation has taken extreme measures to ensure your data security is handled with the utmost care and attention to detail. The same methods utilized by financial institutions to transmit data are also used in Monnit security infrastructure. Security features of the gateway include tamper proof network interfaces, data encryption, and bank-grade security.

Monnit's proprietary sensor protocol uses low transmit power and specialized radio equipment to transmit application data. Wireless devices listening on open communication protocols cannot eavesdrop on sensors. Packet level encryption and verification is key to ensuring traffic isn't altered between sensors and gateways. Paired with best-in-class range and power consumption protocol, all data is transmitted securely from your devices. Thereby ensuring a smooth, worry-free, experience.

SENSOR COMMUNICATION SECURITY

Monnit sensor to gateway secure wireless tunnel is generated using ECDH-256 (Elliptic Curve Diffie-Hellman) public key exchange to generate a unique symmetric key between each pair of devices. Sensors and gateways use this link specific key to process packet level data with hardware accelerated 128-bit AES encryption which minimizes power consumption to provide industry best battery life. Thanks to this combination, Monnit proudly offers robust bank-grade security at every level.

DATA SECURITY ON THE GATEWAY

The ALTA gateways are designed to prevent prying eyes from accessing the data that is stored on the sensors. Gateways do not run on an off the shelf multi-function OS (operating system). Instead they run a purpose specific real-time embedded state machine that cannot be hacked to run malicious processes. There are also no active interface listeners that can be used to gain access to the device over the network. The fortified gateway secures your data from attackers and secures the gateway from becoming a relay for malicious programs.

iMONNIT SECURITY

iMonnit is the online software and central hub for configuring your device settings. All data is secured on dedicated servers operating Microsoft SQL Server. Access is granted through the iMonnit user interface, or an Application Programming Interface (API) safeguarded by 256-bit Transport Layer Security (TLS 1.2) encryption. TLS is blanket of protection to encrypt all data exchanged between iMonnit and you. The same encryption is available to you whether you are a Basic user or Premiere user of iMonnit. You can rest assured that your data is safe with iMonnit.

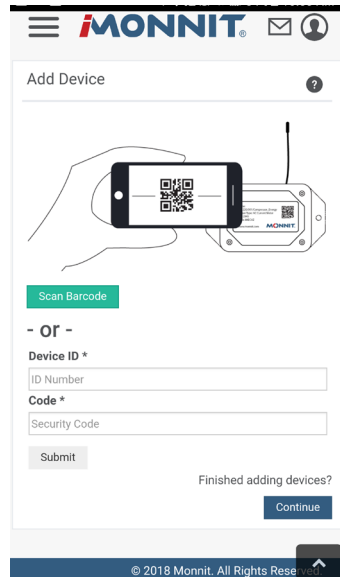
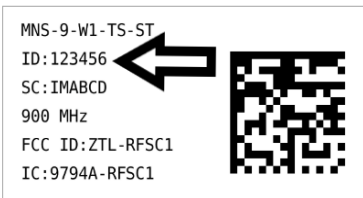
III. REGISTRATION

If this is your first time using the iMonnit online portal, you will need to create a new account. If you have already created an account, start by logging in. For instructions on how to register for an iMonnit account, please consult the iMonnit User Guide viewable at monnit.com/support/documentation.

REGISTERING THE TEMPERATURE SENSOR

You will need to enter the Device ID and the Security Code from your Temperature Sensor in the corresponding text boxes. Use the camera on your smartphone to scan the QR code on your sensor and gateway. If you do not have a camera on your phone, or the system is not accepting the QR code, you may enter the Device ID and Security Code manually.

- The Device ID is a unique number located on each device label.
- Next you'll be asked to enter the Security Code (SC) on your device. A security code will be all letters and must be entered in upper case, no numbers. It can also be found on the barcode label of your gateway.



When completed, select the “Submit” button.

IV. SETTING UP YOUR TEMPERATURE SENSOR

When you are finished adding the sensor to your account, the next step is to insert the battery. The type of battery you use will depend on the category of your sensor. ALTA Wireless Temperature Sensors will either be powered by commercial coin cell, AA, or an industrial battery.

INSTALLING BATTERIES

ALTA commercial sensors are powered by AA or CR2032 coin cell batteries. Industrial sensors need a TADIRAN TL-2100/S supplied from Monnit or another industrial battery supplier. Monnit encourages customers to recycle all old batteries.

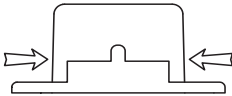
Coin Cell

The lifespan of a standard CR2032 coin cell battery in an ALTA Temperature Sensor is 3+ years.

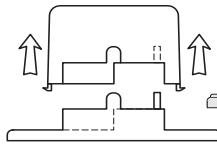


Install a coin cell battery by first taking the sensor and pinching the sides of the enclosure. Gently pull up the enclosure, separating the sensor from its base. Then slide a new CR2032 coin cell battery with the positive side facing toward the base. Press the the enclosure back to together; you'll hear a small click.

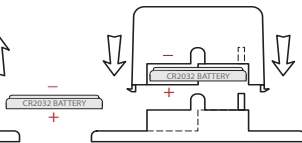
Lastly, open iMonnit select **Sensors** from the navigation menu. Verify that iMonnit is showing the sensor has a full battery level.



Pinch
(press in on the sides)



Pull
(sensor away from base)



Press
(sensor back into base)

AA Batteries



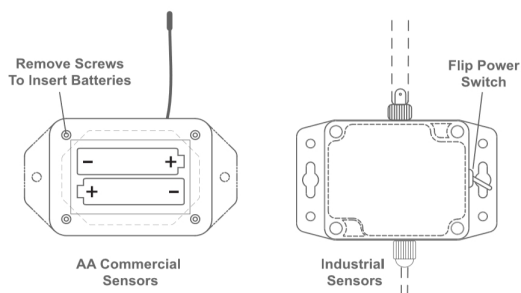
The standard version of this sensor is powered by two replaceable 1.5 V AA sized batteries (included with purchase). The typical battery life is 10 -12 years.

This sensor is also available with a line power option. The line powered version of this sensor has a barrel power connector allowing it to be powered by a standard 3.0–3.6 V power supply. The line powered version also uses two standard 1.5 V AA batteries as backup for uninterrupted operation in the event of line power outage.

Power options must be selected at time of purchase, as the internal hardware of the sensor must be changed to support the selected power requirements.

Place batteries in the device by first taking the sensor and sliding the battery door open. Insert fresh AA batteries in the carriage, then shut the battery door.

Complete the process by opening up iMonnit and selecting **Sensors** from the main navigation menu. Verify that iMonnit is showing the sensor has a full battery level.



Industrial Batteries



TADIRAN TL-2100/S batteries for the Industrial Wireless Temperature Sensor is supplied by Monnit. The ALTA battery life for the Industrial battery is 10 – 12 years.

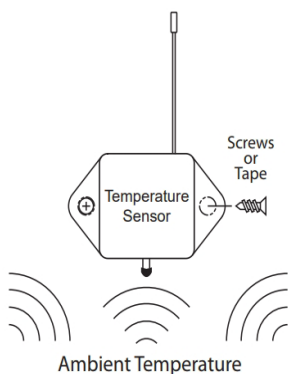
Install the battery by taking the sensor and unscrewing the four screws at the corners. Tuck-in a fresh battery in the carriage, then adjust clips to hold the battery in place.

Open iMonnit and select **Sensors** from the main navigation menu. Verify that iMonnit is showing the sensor has a full battery level. Replace the battery door by screwing in the four corners.

In order for the sensor to function properly, you will need to attach the included antenna. Simply screw the antenna onto the barrel connector on the top of the device. Make sure to snug the antenna connection, but do not over tighten. When placing the sensor, make sure to mount the sensor with the antenna oriented straight up (vertical) to ensure the best wireless radio signal.

Since the electronics are sealed within the sensor housing, we have added an "On/Off" switch to the unit for your convenience. If you are not using the sensor, simply leave the button in the off position to preserve battery life. If the sensor needs to be reset for any reason, you can simply cycle the power by turning the switch to the "Off" position and waiting 30 seconds before powering back on.

MOUNTING THE SENSOR



Monnit wireless temperature sensors monitor the ambient temperature around the sensor. Monnit wireless sensors feature mounting flanges and can be attached to most surfaces using the included mounting screws or double-sided tape.

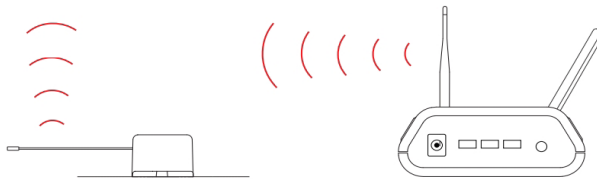
ANTENNA ORIENTATION

In order to get the best performance out of your ALTA Wireless Sensors, it is important to note proper antenna orientation and sensor positioning. Antennas should all be oriented in the same direction, pointing vertically from the sensor. If the sensor is mounted flat on its back on a horizontal surface, you should bend the antenna as close to the sensor housing as possible giving you the most amount of antenna pointing vertical. You should make the antenna wire as straight as possible, avoiding any kinks and curving of the wire. Sensors must be at least 3 ft. away from other sensors and the wireless gateway to function.

More Signal



Less Signal



V. iMONNIT

iMonnit is a cloud based mobile internet platform and central hub for managing Monnit and ALTA products. All data is secured on dedicated servers operating Microsoft SQL Server. This online user interface is where all your device settings can be arranged, supervised, and modified to reflect your unique environment. You can access iMonnit on any internet browser simply by typing www.imonnit.com into the address bar. In addition, you can also download the iMonnit App from to your smartphone or tablet. Start with the basic version or upgrade to iMonnit Premiere to enjoy the full features your Monnit experience can offer.

iMONNIT BASIC

iMonnit Basic is included for free with all wireless sensors, providing basic features for you to configure and monitor your sensors online. These basic features only support one network and one registered user on an account. More advanced settings, permissions, and actions are available with an upgrade to iMonnit Premiere.

iMONNIT PREMIERE

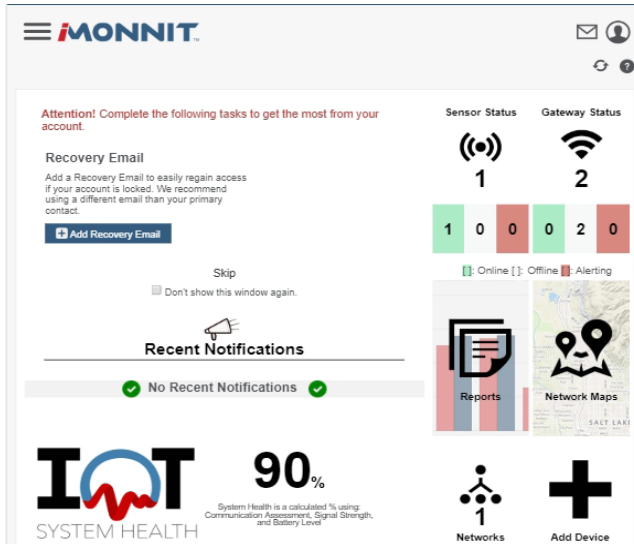
iMonnit Premiere allows for enhanced functionality of your wireless sensors and includes an advanced software feature set at a low annual cost. All of iMonnit's advanced features are available for configuration. You can have more sensors on your account, support multiple users, and view floorplans for all your sensors.

System Requirements

- Ethernet gateways require existing Internet connection
- Wireless Sensor Adapter or USB Pro Gateways require Windows PC or 3rd party IoT gateway

VI. iMONNIT OVERVIEW PAGE

The overview page is the homepage for iMonnit. From here, you can view important notifications and have a central dashboard from where you can drill down into more specific information.



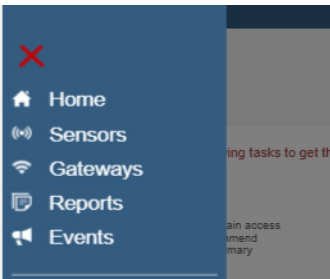
If there's anything left to do on your account you'll see an alert above your notifications. You have the option to skip the alert or check the box so the window does not display again.

If no notifications have triggered recently, or you haven't set up your notification settings, this portion of the dashboard will be blank. Below your recent notifications is a percentage denoting your overall system health.

Note: The System Health percentage is calculated using the average gathered from Communication Assessment, Signal Strength, and Battery Level.

This will be your iMonnit homepage. Check it regularly to make sure your sensor(s) and gateway(s) are functioning properly.

MAIN NAVIGATION MENU



The main navigation menu is the primary you will refer to for information regarding your devices and settings. It is different from the account menu which will be covered later in this user guide. The sections of the menu are:

- **Home** - This will take you back to the overview page.
- **Sensors** - Takes you to the sensor page.
- **Gateways** - Takes you to the gateway page.
- **Reports** - Takes you to the reports page.
- **Events** - Takes you to the events page.

Each of these options are covered in their own user guide sections. Read on for more information on these various pages.

VII. SENSOR OVERVIEW

Select **Sensors** from the main navigation menu to access the sensor overview page and begin making adjustments to your Temperature Sensors.

MENU SYSTEM

Details - Displays a graph of recent sensor data.

History - List of all past heartbeats and readings.




Events - List of all events attached to this sensor.

Settings - Editable levels for your sensor.

Calibrate - Reset readings for your sensor.

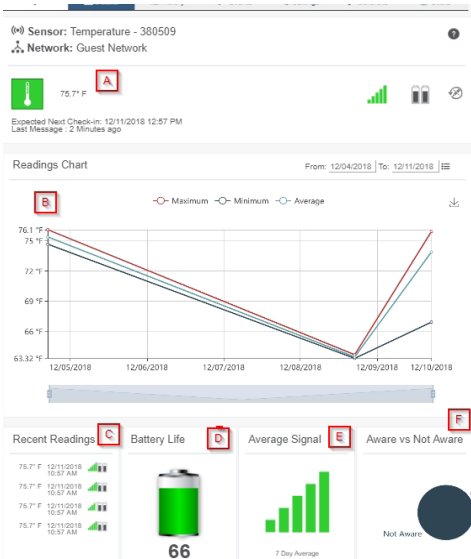
Scale - Change the scale of readings for your sensor.

Directly under the tab bar is an overview of your sensor. This allows you to see the signal strength and the battery level of the selected sensor.

-  indicates the sensor is checking in and within user defined safe parameters.
-  indicates the sensor has met or exceeded a user defined threshold or triggered event.
-  indicates that no sensor readings are being recorded, rendering the sensor inactive.

Details View

The Details View will be the first page you see upon selecting which sensor you would like to modify.



A. The sensor overview section will be above every page. This will consistently display the present reading, signal strength, battery level, and status.

B. This graph charts how the sensor fluctuates throughout a set date range. To change the date range displayed in the graph, navigate up to the top of the Readings Chart section on the right-hand corner to change the from and/or to date.

C. The Recent Readings section below the chart shows your most recent data received by the sensor.

D. Battery Life displays the current battery percentage remaining.

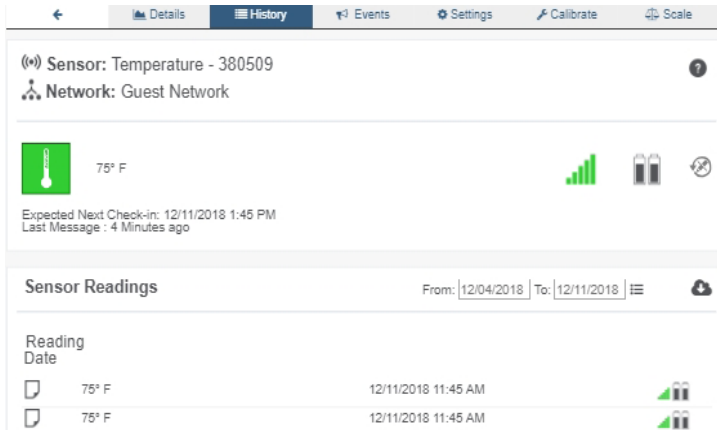
E. The Average Signal shows the most common signal strength of your sensor. Low signal strength could be


a sign the placement of your sensor should be adjusted.

F. The pie chart in the Aware or Not Aware Section displays the percentage of aware states your sensor has entered since activation.

History View

Selecting the “History” tab within the tab bar allows you to view the sensor’s data history as time stamped data.



- On the far right of the sensor history data is a cloud icon.  Selecting this icon will export an excel file for your sensor into your download folder.

Note: Make sure you have the date range for the data you need input in the “From” and “To” text boxes. This will be the most recent week by default. Only the first 2,500 entries in the selected date range will be exported.

The data file will have the following fields:

MessageID: Unique identifier of the message in our database.

SensorID: If multiple sensors are exported you can distinguish which reading was from which using this number even if the names for some reason are the same.

Sensor Name: The name you have given the sensor.

Date: The date the message was transmitted from the sensor.

Value: Data presented with transformations applied but without additional labels.

Formatted Value: Data transformed and presented as it is shown in the monitoring portal.

Battery: Estimated life remaining of the battery.

Raw Data: Raw data as it is stored from the sensor.

Sensor State: Binary field represented as an integer containing information about the state or the sensor when the message was transmitted. (See “Sensor State Explained” below).

Gateway ID: The Identifier of the gateway that relayed the data from the sensor.

Alert Sent: Boolean indicating if this reading triggered a notification to be sent from the system.

Signal Strength: Strength of communication signal between the sensor and the gateway, shown as percentage value.

Voltage: Actual voltage measured at the sensor battery used to calculate battery percentage, similar to Received Signal you can use one or the other or both if they help you.

State

The integer presented here is generated from a single byte of stored data. A byte consists of 8 bits of data that we read as Boolean (True (1)/False (0)) fields.

Field	Length	Description
Test Active	1 bit LSB	Test state is active (1) or inactive (0)
Aware State	1 bit	Aware state is active (1) or inactive (0)
Sensor Disable	1 bit	Sensor is disable (communication still happens)
RSVD	1 bit	Currently not used
Sensor Specific	1 bit	
Sensor Specific	1 bit	
Sensor Specific	1 bit	
Sensor Specific	1 bit MSB	

Using a temperature sensor as an example.

If the sensor is using factory calibrations the Calibrate Active field is set True (1) so the bit values are 00010000 and it is represented as 16.

If the sensor is outside the Min or Max threshold, the Aware State is set True (1) so the bit values are 00000010 and it is represented as 2.

If the customer has calibrated the sensor this field the Calibrate Active field is set False (0) AND the sensor is operating inside the Min and Max Thresholds, the bits look like 00000000 this is represented as 0.

If the sensor is using factory calibrations and it is outside the threshold the bit values are 00010010 and it is represented as 18 (16 + 2 because both the bit in the 16 value is set and the bit in the 2 value is set).

Note: These two are the only bits that typically observed outside of our testing procedures.

Settings View

To edit the operational settings for a sensor, choose the “**Sensor**” option in the main navigation menu then select the “**Settings**” tab to access the configuration page.

Temperature Settings

?

Sensor Name

Temperature - 380504

A

Heartbeat Interval

120

B

Aware State Heartbeat

10

C

Assessments per Heartbeat

1

D

Assessment frequency about 120 minutes.

Use Aware State

Below (°F)

-40

E

Above (°F)

257

F

Aware State Buffer (°F)

0

G

Synchronize

Off

H

Failed transmissions before link mode

3

I

Save

Default

A. Sensor Name is a unique name you give the sensor to easily identify it in a list and in any notifications.

B. The Heartbeat Interval is how often the sensor communicates with the gateway if no activity is recorded.

C. Aware State Heartbeat is how often the sensor communicates with the gateway while in an Aware State.

D. Assessments per Heartbeat is how many times between heartbeats a sensor will check its measurements against its thresholds to determine whether it will enter an Aware State.

E. Below is the minimum reading the sensor should record before entering an Aware State.

F. Above is the maximum reading the sensor should record before entering an Aware State.

G. The Aware State Buffer is a buffer to prevent the sensor from bouncing between Standard Operation and Aware State when the assessments are very close to a threshold. For example, if a Maximum Threshold is set to 90° and the buffer is 1°, then once the sensor takes an assessment of 90.1° it will remain in an Aware State until dropping to 89.0°.

Similarly at the Minimum Threshold the temperature will have to rise a degree above the threshold to return to Standard Operation.

H. In small sensor networks the sensors can be set to **synchronize** their communications. The default setting off allows the sensors to randomize their communications therefore maximizing communication robustness. Setting this will synchronize the communication of the sensors.

I. Failed transmissions before link mode is the number of transmissions the sensor sends without response from a gateway before it goes to battery saving link mode. In link mode, the sensor will scan for a new gateway and if not found will enter battery saving sleep mode for up to 60 minutes before trying to scan again. A lower number will allow sensors to find new gateways with fewer missed readings. Higher numbers will enable the sensor to remain with its current gateway in a noisy RF environment better. (Zero will cause the sensor to never join another gateway, to find a new gateway the battery will have to be cycled out of the sensor.)

The default heartbeat interval is 120 minutes or two hours. It is recommended that you do not lower your heartbeat level too much because it will drain the battery.

Finish by selecting the “Save” button.

Note: Be sure to select the “Save” button anytime you make a change to any of the sensor parameters. All changes made to the sensor settings will be downloaded to the sensor on the next sensor heartbeat (check-in). Once a change has been made and saved, you will not be able to edit that sensor’s configuration again until it has downloaded the new setting.

Calibrate View

If a sensor type has readings that need to be reset, the “Calibrate” tab will be available for selection in the sensor tab bar.

Calibrate Sensor

Certificate has expired for this sensor.

Actual reading is degrees Fahrenheit

Calibrate

Default

[Edit Calibration Certificate](#)

To calibrate a sensor, you will want to ensure that the environment of the sensor and other calibration device is stable. Note the “Expected Next Check-in” time for the sensor you are calibrating and take a reading from your calibration device a few minutes prior to the sensors next check-in.

Enter the actual (accurate) reading from the calibration device into the text field. If you need to change the unit of measurement you can do that here.

Press “Calibrate”.

To ensure that the calibration command is received prior to the sensors next check-in, press the control button on the back of the gateway, once, to force communication (Cellular and Ethernet gateways).

After pressing the “Calibrate” button and choosing the gateway button, the server will send the command to calibrate the specified sensor to the gateway. When the sensor checks-in, it will send the pre-calibration reading to the gateway, then receive the calibration command and update it’s configuration. When the process is completed, it will send a “Calibration Successful” message. The server will display the sensor’s last pre-calibrated reading for this check-in, then all future readings from the sensor will be based on the new calibration setting.

It is important to note that after calibrating the sensor, the sensor reading returned to the server is based on pre-calibration settings. The new calibration settings will take effect on the next sensor heartbeat.

Note: If you would like to send the changes to the sensor right away, please remove the battery(s) for a full 60 seconds, then re-insert the battery(s). This forces the communication from the sensor to the gateway and this message to make a change from the gateway back to the sensor. (If the sensors are industrial sensors, turn the sensor off for a full minute, rather than removing the battery).

Creating a Calibration Certificate

Creating a sensor calibration certificate will mask the calibration tab from those who should not have permissions to adjust these settings. Permissions for self-certifying a calibration must be enabled in user permissions.

Directly below the calibrate button is the selection to "Create Calibration Certificate."

A. The **Calibration Facility Field** will be filled. Select the dropdown menu to change your facility.

B. The date for "**Certificate Valid Until**" must be set one day in the future after the date contained in the "Date Certified" field.

C. "**Calibration Number**" and "Calibration Type" are unique values to your certificate.

D. Choose the "**Save**" button before moving on.

The screenshot shows a form titled "Calibrate Certification Form". It contains the following fields and controls:

- Calibration Facility:** A dropdown menu with a red box labeled 'A' next to it.
- Date Certified:** A text field containing "11/27/2018" with a red box labeled 'B' next to it.
- Certificate Valid Until:** A text field containing "11/30/2018".
- Calibration Number:** A text field with a red box labeled 'C' next to it.
- Certification Type:** A text field.
- Buttons:** At the bottom, there are "Save" and "Cancel" buttons. A red box labeled 'D' is next to the "Save" button.

When the new certificate is accepted, the Calibration tab will change to a Certificate tab.

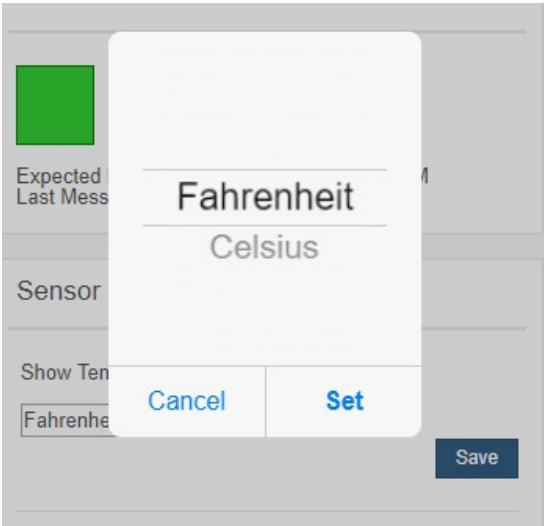


You will still be able to edit the certificate by choosing the Certificate Tab and navigating down to "Edit Calibration Certificate."

The tab will revert back to "Calibrate" after the period for the certificate ends.

Scale View

If the sensor settings are influenced by temperature, the scale option will be available in the tab bar. To change the temperature unit of measurement from Fahrenheit to Celsius or vice versa, select the Scale tab.



Choose the text box to trigger a pop-up window allowing you to change the scale. Select the scale you prefer and push "Set."

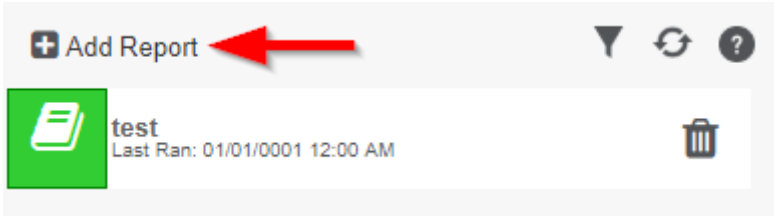
Press the "Save" button to complete your adjustment.

VIII. REPORTS OVERVIEW

Reports are delivered regularly via email, updating you on sensor activity. The interval of these reports is easy to set and can even be submitted as one-time non-recurring updates. Regular reports help you stay up to date on your sensor activity. This guide will walk you through setting up a battery health report. You can use the same steps to set up other reports as needed. Some parameters will differ slightly depending on the type of report you select.

ADDING A REPORT

- To create a new report, select "Add Report" in the upper left-hand corner.



- Next you will select the report type from the drop down menu. This guide uses a Battery Health Report as an example :

A screenshot of a form titled 'Create New Report'. Below the title is a section labeled 'Edit Report'. The form contains four fields: 'Report Name' with the value 'Battery Test' (labeled A), 'Report Schedule' with a dropdown menu showing 'Monthly' (labeled B), 'Send Report On' with a dropdown menu showing '1st of the month', and 'Time of day to run' with a dropdown menu showing 'Morning'. At the bottom of the form are three buttons: 'Cancel', 'Save', and a button with a circular arrow icon (labeled C).

A. The first step will be to add a title for your report.

B. When creating the report, you will be asked to input a title and when you want the report delivered. You have several options for selecting when you want the report generated. You can also customize what time of day you would like to receive the report; Morning, Mid-day, Evening, or Night:

Monthly = The 1st, 8th, 15th, or 22nd of every month.

Weekly = Once on the preferred day of the week.

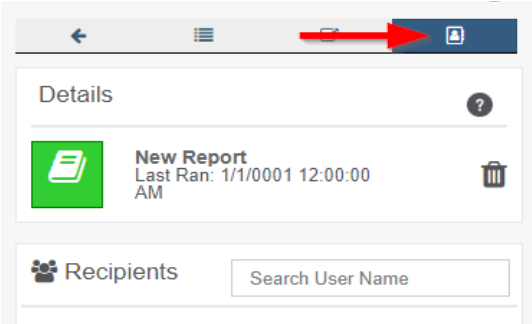
Daily = Every day at the time of your choosing.

Once = A one-time, non-recurring, report.

C. Selecting "SAVE" will immediately add your new test to the list where you can continue to edit, view report history, and customize recipients.

Your user will automatically be added as a recipient of the report. To add other users first, make sure they have been added to the account then click on the name of the report you want to manage.

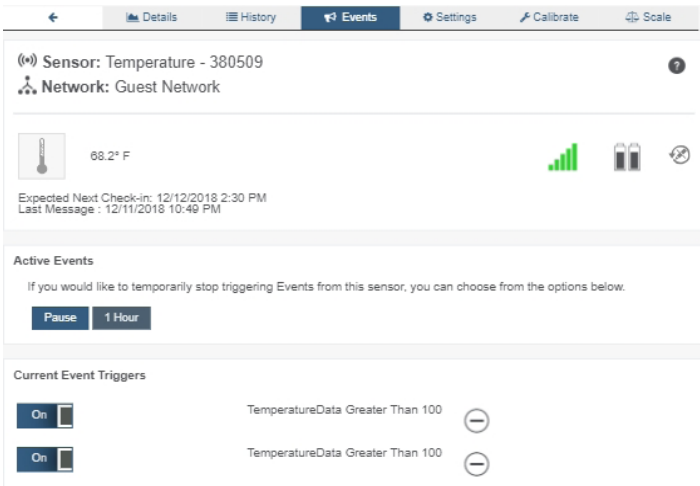
- Choose the Report Recipients tab.



- Select the other users you would like to also be notified when the report runs.

IX. EVENTS OVERVIEW

Notifications for a single sensor or gateway can be created, deleted, and edited by clicking the “Events” tab in the sensor tab bar.

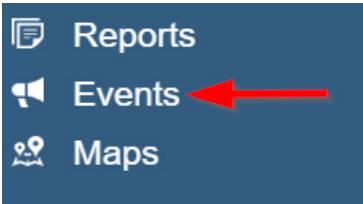


You can toggle the Event Trigger on or off by selecting the switch under Current Event Triggers.

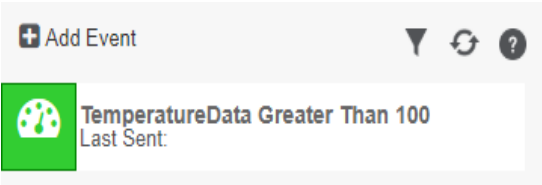
CREATING AN EVENT

Events are triggers or alarms set to let you know when a sensor reading identifies that immediate attention is needed. Types of events include sensor readings, battery level, device inactivity, and scheduled data. Any one of these can be set to send a notification or trigger an action in the system. This guide will walk you through creating two types of events. First a sensor reading notification for a temperature sensor, then an inactivity notification configured for all sensors.

1. Select Events in the main navigation menu.

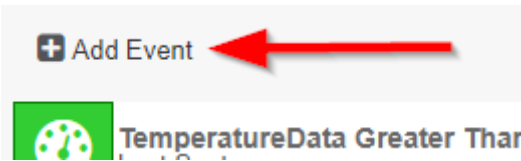


2. A list of previously created events will display on the screen. From here, you have the ability to filter, refresh, and add new events to the list.



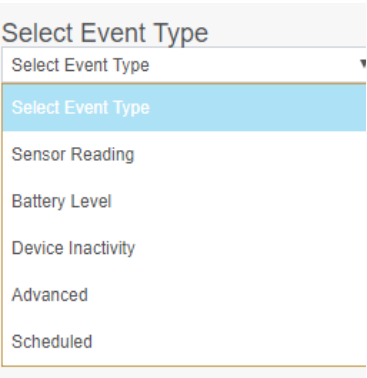
Note: If this is your first time adding an event, the screen will be blank.

3. From the Events page, tap “Add Event” in the left hand corner.



4. The dropdown menu will have the following options for Event Types:

- **Sensor Reading:** Set alerts based on sensor activity or reading.
- **Battery Level:** This is where you can set to be notified when the battery level drops below a percentage. 15% is the default setting.
- **Device Inactivity:** Alerts when the device doesn't communicate for an extended period of time.
- **Advanced:** Alerts based on advanced rules, such as comparing past data points with current ones.
- **Scheduled:** These are notifications that fire at a time set basis.



5. Select **Sensor Reading** from the dropdown menu.

6. A second dropdown menu will appear. From here, you will be able to see a list of the different type of sensors registered to your account. Choose **Temperature** in the dropdown menu.

Select Event Type
Sensor Reading ▼

Select Sensor Type
Temperature ▼

Trigger Settings

Trigger Conditions

Notify when temperature reading is
Less Than ▼
0 degrees
Fahrenheit ▼

Save

7. Next, you will be asked to input the trigger settings. You have the option of setting this trigger for greater than or less than a temperature reading

8. Press the "Save" button.

If you don't have a temperature sensor, the option in this example won't be available, select any variable output sensor and follow along.

Variable output sensors can have multiple event triggers created.

Example: A temperature sensor used in a freezer. You may want to be notified if the temperature goes below 0° or above 30° Fahrenheit. You would create two events.


- **Event 1** - Trigger Set for temperatures LESS THAN 0°F.

- **Event 2** - Trigger set for temperatures GREATER THAN 30° F.

9. The Event Information page has a series of tabs across the top.

← **A** History **B** Schedule **C** Trigger **D** Actions

Event Information

 TemperatureData Greater Than 100
Last Sent: 12:00 AM, 01/01/0001

A. History: A table of all past alert notifications for this specific event.

B. Schedule: Here you can schedule the event only to be active at certain times or certain days.

C. Trigger: This is where you can review your trigger settings.

D. Actions: Where you set the action you want to happen when an alert state is triggered.

10. Choose the **Trigger** tab.

11. The **Trigger Sensors** section sits below "Trigger Conditions." If you have multiple sensors for the same type (**Example:** five temperature sensors), this is where they will be listed. There should be at least one sensor in this section.

Trigger Sensors

Click Sensor to enable/disable

Temperature - 380509

12. By default, the sensor(s) will not be assigned to the event conditions you've just set. To assign a sensor, find the device(s) you want to designate for this event and select. Selected sensor boxes will turn green when activated. Choose the sensor box again to unassign the sensor from the event.

13. Continue toggling the sensor(s) corresponding to this new event until you are satisfied with your selection. These can be adjusted later by returning to this page.

14. Press the "Save" button.

15. Select the Actions tab.

16. Press the Add Action button under the Event Information header and available action types are presented in a select list.

- **Notification Action:** Specify account users to receive notifications when this event triggers.
- **System Action:** Assign actions for the system to process when this event triggers.

17. Choose **Notification Action** from the notification list.

Notification Settings

Subject **A** TemperatureData Greater Than 100

Message: **B**

Source | B | I | | | | | ?

TemperatureData Greater Than 100 **B**

Device: {Name} ({ID})

Reading: {Reading}

Advanced Settings

Save

Notify U... Q Name

C

D

A. Configure the subject for the notification.

B. Customize the message body for the notification

C. Save button commits any changes to message content fields.

D. Recipient list identifies who will receive the notification.

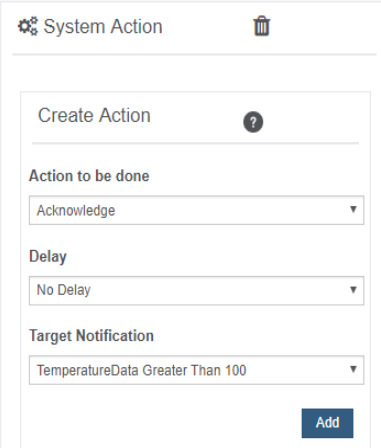
- Select the icon next to a user to configure how they will be notified
- Choose if you want notifications sent immediately when triggered or if you want a delay before it is sent and press **Set**.
- A **green** icon indicates the users that will not receive the notifications.
- If a delay has been selected, the delay time will display beside the icon.

18. Select System Action from the select list under the Event Information header.

19. Scroll down to the System Action section.

20. The Action to be Done select list has the following options.

- **Acknowledge:** Automatically signal that you have been notified of an event and take action. When an event has been triggered, actions will continue processing until the event returns to a value that no longer triggers an event.
- **Full Reset:** Reset your trigger so it is armed for the next reading.
- **Activate:** Enable an event trigger.
- **Deactivate:** Disable an event trigger.



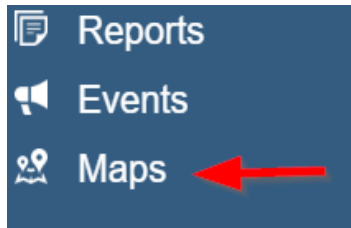
The screenshot shows a 'System Action' configuration interface. At the top, there's a header 'System Action' with a gear icon and a trash icon. Below this is a 'Create Action' section with a question mark icon. The main configuration area includes three dropdown menus: 'Action to be done' (set to 'Acknowledge'), 'Delay' (set to 'No Delay'), and 'Target Notification' (set to 'TemperatureData Greater Than 100'). An 'Add' button is located at the bottom right of the form.

X. SENSOR MAPS OVERVIEW

The Maps feature gives you the option of uploading your floorplan or other image to iMonnit® and allows you to virtually position sensors where you have physically placed sensors in the location. This is useful if you have multiple sensors and want to know see them in context of where they are placed. This guide will walk you through uploading a floorplan and positioning sensors.

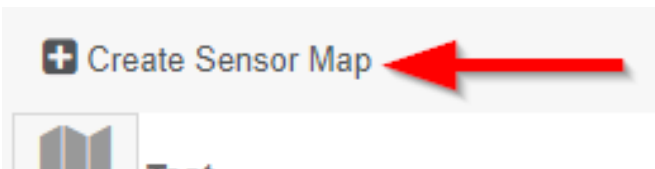
CREATING A SENSOR MAP

1. Find the main navigation menu and select "Maps."



2. All previously created sensor maps will display.

3. To create a new sensor map, locate "Create Sensor Map" in the top left-hand corner.



Test A



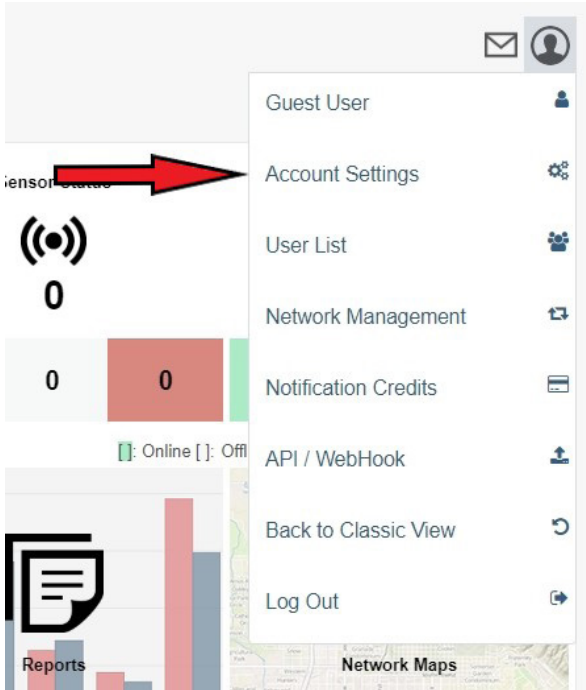
- The following page will ask you to enter a title for your new sensor map.
- Next you will upload a picture of your floorplan. Acceptable image formats are: bmp, gif, jpg, png, tiff.
- Selecting "Create Map" will guide you to the Edit Sensor Map screen.
- The following screen will be the Edit Map page. Choose the button for the sensor you want to add to the map. The button will turn green and the sensor icon will appear on the map. You can then drag it to the designated location on the map. Secondary selection of the icon will open a menu with additional options. Once your sensors are in the desired locations, proceed to view the map.
- Select the View Map tab to open a window showing your whole floorplan with the sensors.

- You cannot move sensors when you are on the View Map page. This can only be done on the Edit Map Page.
- Select the back button in the tab bar at the top of the page to be guided back to the Maps homepage.
- Selecting "Create Map" will guide you to the Edit Sensor Map screen.
- The following screen will be the Edit Map page. To place a sensor, choose the sensor you want to replace. The sensor will turn green and you will be allowed to place a yellow square representing the sensor where it is located on your floorplan.
- Select the View Map tab to open a window showing your whole floorplan with the sensors.
- You cannot move sensors when you are on the View Map page. This can only be done on the Edit Map Page.
- Select the back button in the tab bar at the top of the page to be guided back to the Maps homepage.

XI. ACCOUNT MENU

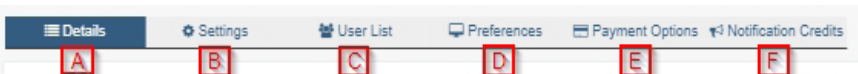
Account Settings is where you can edit any account information. From this easy to use page, you can configure account parameters, manage users, set account level preferences, and manage your notification credits.

The “Account Menu” is where you can access various administrative functions pertaining to your iMonnit account. Select the profile symbol in the top right to open the menu.



ACCOUNT SETTINGS

Access **Account Settings** by finding the section in the Account Menu. Across the top of the page, you will see the tab bar:



A. Account Details contains all your current user information, in addition to your active subscription expiration dates and the link to purchase iMonnit Premiere.

B. The Settings tab allows you to change your account information.

C. The User List tab will list all users who have access to the account.

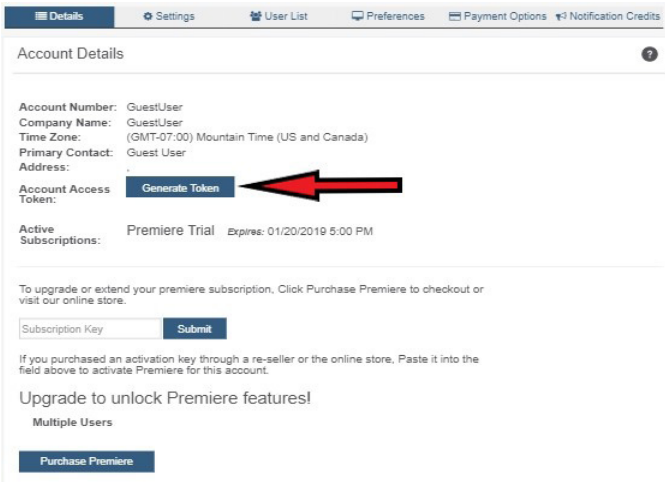
D. Account Preferences is a new feature and new preferences will be added so check back often.

E. Payment Options gives you the freedom to review sources of payment for your Monnit Store account.

F. The Notification Credits tab will display all the settings for credits needed to participate in Direct SMS, and Voice.

Account Details

The **Account Details** page will be the first page you see. This section will contain all the account information you entered when registering for your account. This is where you will manage your account when you need to upgrade or renew subscriptions.

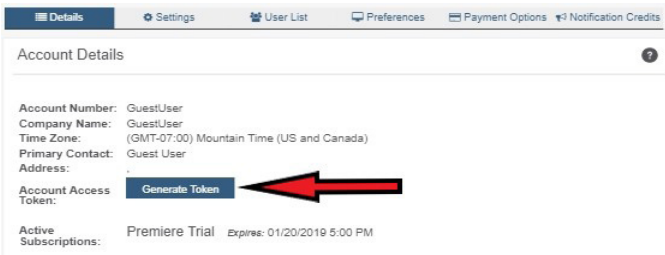


The screenshot shows the 'Account Details' page with a navigation bar at the top containing 'Details', 'Settings', 'User List', 'Preferences', 'Payment Options', and 'Notification Credits'. The main content area displays account information: Account Number: GuestUser, Company Name: GuestUser, Time Zone: (GMT-07:00) Mountain Time (US and Canada), Primary Contact: Guest User, and Address: . Below this is the 'Account Access Token' section, which includes a 'Generate Token' button highlighted by a red arrow. Further down, it shows 'Active Subscriptions: Premiere Trial' with an expiration date of '01/20/2019 5:00 PM'. At the bottom, there is a section for upgrading to 'Premiere' with a 'Purchase Premiere' button.

Generating a Token

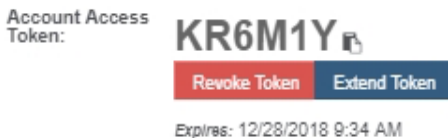
If you ever have to call into Monnit Technical Support, you may be asked to provide an Account Access Token. An Access Token is an alphanumeric code valid for 24 hours so Monnit support can assist with issues on the account. It can be extended or revoked if the problem is solved no longer wish to grant access.

- Select Account Settings and navigate down to the “Generate Token” button.



This is a duplicate of the screenshot above, showing the 'Account Details' page with the 'Generate Token' button highlighted by a red arrow.

- Choose the button to receive the unique access code.



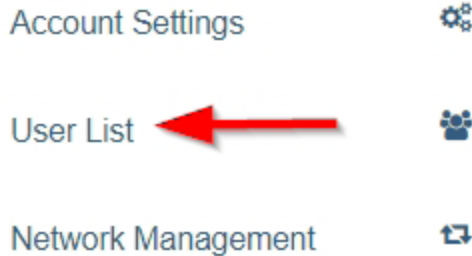
The screenshot shows the 'Account Access Token' section. It displays the token 'KR6M1Y' in large, bold letters. Below the token are two buttons: 'Revoke Token' (red) and 'Extend Token' (blue). At the bottom, it shows the expiration date and time: 'Expires: 12/28/2018 9:34 AM'.

The code will automatically expire in 24 hours. Selecting the Extend button will grant a one-time week-long extension period before mandatory expiration. Choose the Revoke Token button to end access prior to the expiration date.

Renewing an iMonnit Subscription

Monnit Premiere Subscriptions are given out on a yearly basis. When it is time to renew, an email notification will be sent to let you know the subscription is about to expire.

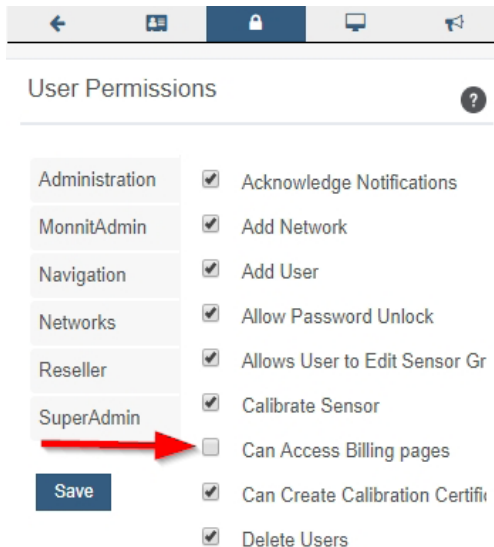
You will need to verify that you have permission to create a certification before launching into the process. Do this by navigating up to the account menu and selecting “**User List**.”



Locate your account in the list. If you have a basic account, your name as the primary account holder will be the only one on the list. The availability of multiple users registered to one account is a feature only available on iMonnit Premiere.

Once in your account page, choose the **User Permissions** tab.

Verify that the checkbox for “Can Access Billing Pages” is checked. If the box is empty, check it and be sure to select the “Save” button before moving on.



You must have a Monnit Store Account to renew your subscription. If you already have a login for the Monnit Store you may proceed on to the next section.

Return to the Account Settings' Details page. Find the "Purchase Premiere" button located beneath the Subscription Key text box.

To upgrade or extend your premiere subscription, Click Purchase Premiere to checkout or visit our online store.

If you purchased an activation key through a re-seller or the online store, Paste it into the field above to activate Premiere for this account.

The login page will load. Navigate over to the "Create New" button and select.

Password

.....

Login

Have access to a Monnit Store account ?
Use your login credentials to import your payment information.

-OR-

Click the Create New button to use your iMonnit customer information to create an account !

Create New

Store Account: A
Monnit_181204181533

User: dillonf_181204181533

Visit Online Store B

UnLink Account C

Saved Cards D

test cardholder Expires: May 2020

xxxx-xxxx-xxxx-1111 E Remove

New Payment M... F

Card Holder
John Doe

Postal Code

Card Number

Expiration Date January 2018

Submit

A. The new store name will be a combination between your iMonnit user name and the twelve-digit time stamp for when you created the account.

B. Select this link to visit the online store and see what sort of options are out there to buy.

C. Unlinking your account will take you back to the login page.

D. If you have used any credit cards in the past, they will appear in the **Saved Cards** section.

E. Remove previously saved cards in this section by selecting the **"Remove"** button.

F. If you would like to add a card, just enter your name, postal code, card number, and expiration date. Then select the **Submit** button.

After you enter your card holder information, you can now move on to purchase a subscription to your account.

In the products section, you will see a list of iMonnit Premiere software. You must purchase a premiere account greater than the number of sensors registered to your account. If you have seven sensors, you cannot purchase "iMonnit Premiere for Up to 6 Sensors." You need to select "iMonnit Premiere for Up to 12 Sensors" to support all your devices.

- Choose a radio button for the subscription you wish to purchase.
- Select the "Checkout" button.

You'll be brought to the purchase screen.

Products		
iMonnit Premiere Up to 6 Sensors	\$39.00 \$	<input type="radio"/> Select
iMonnit Premiere - Up To 12 Sensors Up to 12 Sensors	\$59.00 \$	<input type="radio"/> Select
iMonnit Premiere - Up To 25 Sensors Up to 25 Sensors	\$99.00 \$	<input type="radio"/> Select
iMonnit Premiere - Up To 50 Sensors Up to 50 Sensors	\$149.00 \$	<input type="radio"/> Select
iMonnit Premiere - Up	\$199.00 \$	<input type="radio"/>

The purchase screen will give you one last chance to review your shopping cart. Sales tax is automatically placed into the calculation of the price. This is software, so there is no added shipping cost. If everything meets your expectations, select the "**Purchase**" button.

Store Account: [REDACTED]

User: [REDACTED]

[Visit Online Store](#) [UnLink Account](#)

Purchase

card cardgrouper Product: iMonnit Premiere - Up To 500 Sensors
xxxx-xxxx-xxxx-1111 SKU: MNW-IP-500

Total: \$599.00 [Purchase](#)

The new subscription will be added to the list of Active Subscriptions on the Account Details tab.

Account Settings

Select the **Settings** tab to modify incorrect personal account information.

Details Settings User List Preferences Notification Credits

Account Settings

Account Number:

Company Name:

Primary Contact:

Time Zone:

Address:

Address 2:

City:

State:

Postal Code:

Country:

Recovery Email:

Max Failed Logins:

Tags:

Save

Account Number: This is a unique number for your account. If there is no account number, this entry will be the same as your name.

Company Name: This is an optional field for the Company Name. If there is no Company Name present this field will be the same as your name.

Primary Contact: This field displays your name along with your email. This a mandatory field as there must be a primary contact for the account to remain active so notifications can be sent.

Time Zone: There are a number of settings in iMonnit that are dependent on time. Set the time zone for your account here by first selecting a region and then a zone from the drop-down list.

Address, City, State, Postal Code, Country: These next few fields apply to your physical street address.

Recovery Email: An optional field for a secondary email address if your primary email cannot be reached.

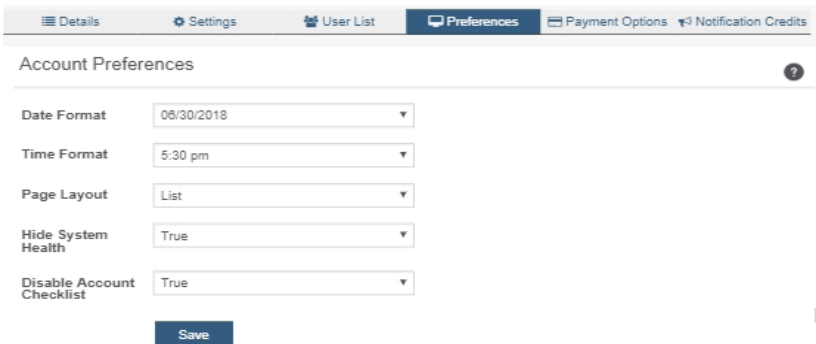
Reseller: Check this box if you are a verified reseller.

Max Failed Logins: The maximum number of failed login attempts you wish to allow in order to protect your account from being hacked.

Remember to press the **“Save”** button after making any changes.

Account Preferences

Select the **Preferences** tab to adjust selections to fit your unique taste.



The screenshot shows the 'Account Preferences' tab selected in a navigation bar. The navigation bar includes tabs for Details, Settings, User List, Preferences (active), Payment Options, and Notification Credits. Below the navigation bar, the 'Account Preferences' section contains five dropdown menus: Date Format (06/30/2018), Time Format (5:30 pm), Page Layout (List), Hide System Health (True), and Disable Account Checklist (True). A 'Save' button is located at the bottom of the form.

Date Format: Pick a preferred format to have the date displayed on exports and reports.

Time Format: Different from time zone, this option allows you to choose a preferred format to have the timestamp displayed on exports and reports.

Page Layout: Choose to display page as a list or grid.

Hide System Health: Choose whether or not to hide System Health. True / False.

Disable Account Checklist: Choose whether or not to have a disable account checklist.

Remember to press the **"Save"** button after making any changes.

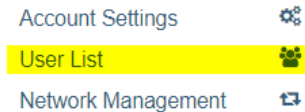
USER LIST

The user list page can be accessed either through the account menu or selecting the User List tab. The user list will display all users who have access to your account. Basic iMonnit subscriptions may only have one primary user for the account.

The ability to add users to an account is an exclusive feature of iMonnit Premiere. Having additional users on an account gives you the chance to act as an administrator and control what each person is allowed to see and do on the account. This can be extremely helpful if you have a large company and several people need access to Monnit sensors in the event of an emergency.

Follow the below steps to add a new user to your account:

1. Find "User List" in the Account Menu.



2. The user list will display all users who have access to the account.
3. Select "Add User" located in the top left corner.

4. The Add User page will appear. You must enter the new user's account information. If you click out of this page to another tab, it will not display again.

The User Name will auto populate with the email address. You will have to change this in the User Name text box if you prefer it to be different.

The password must be at least eight characters.

Checking the box for "Is Administrator" gives the new user the ability to add new users to the account. By default, the box is not checked. Leave this box unchecked if you do not want them to have this ability.

After you have entered all the account information, select the **"Submit"** button.

A screenshot of a web form titled 'New User'. The form is contained within a light gray box with a navigation bar at the top. The navigation bar includes a back arrow, a home icon, a lock icon, a monitor icon, and a share icon. The form fields are: 'First Name:' with a text input, 'Last Name:' with a text input, 'Email Address:' with a text input, 'User Name:' with a text input, 'Password:' with a text input, and 'Confirm Password:' with a text input. Below these is a checkbox labeled 'Is Administrator:'. At the bottom of the form are two buttons: 'Cancel' and 'Submit'.

After submitting the new user information, the following tabs will guide you through editing their settings.

A. User Details lists new user's account information. This is where the password can be changed and reset. This information can be downloaded to your computer by clicking the cloud icon in the upper right corner.

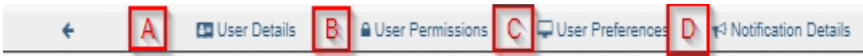
B. User Permissions gives the admin the option of blocking users from having full access to the site.

Options include: Acknowledge Notifications, Edit Gateway Configuration, Password Unlock, and more.

C. User Preferences is a new feature, check back in the future for more options.

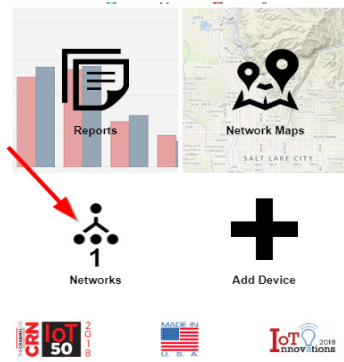
D. Notification Details is where you can adjust settings for how you want to be alerted about errors in sensors and gateways.

You can receive these alerts over email, text (SMS) messaging, or voicemail. By default, notifications will be off, if not adjusted. Activation can be accomplished by clicking the "Turn On Notifications" button.





NETWORK MANAGEMENT

To view or edit information about your wireless sensor network(s), select the Networks box in the account overview page or the Network Management option in the account menu.




The following network list page allows you to edit details, create new sensor works, and manage wireless gateways and sensors for your network(s). Find the network you wish to modify in the list and select it to be taken to the network edit page.

 **Network:** GuestUser Network 

Name


GuestUser Network


Notifications Enabled 


Install Tech Access Cut-off Date

12/06/2018 10:09 AM

Back **Save** **Delete**



 **Sensors**

 **Gateways**

The network edit page will give the option of changing the name of your network, enable notifications, enable holding, and review the Install Tech Access Cut-off Date. Remember, you must press the “Save” button after making any changes in this section.

Below this section is a list of sensors and gateways attached to the account. Choosing the icon of a trashcan beside each sensor will delete it from the network. Selecting the icon directly above the sensor section will allow new devices to be added to the network. Review the steps on registering a new device on page 3 of this user guide.

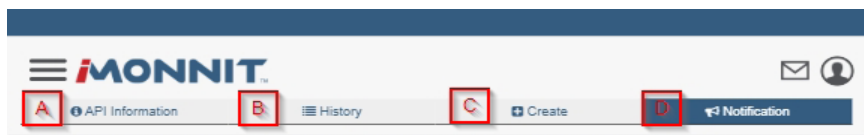
Note: A sensor or gateway cannot be recovered once it has been deleted from the network. It is recommended that you export a sensor's data history before clearing it from the list.

API/WEBHOOK

As a Premiere user, you can have Monnit push the sensor readings from iMonnit to your database with our external configuration tool. This tool allows you to pass data from your wireless sensor network devices to another service in real time. This is done by coding the data into a URL query, then sending the data via HTTP get request at the time data is received. There is an extensive list of parameters that can be passed, allowing you to send detailed information about both the data and the network.

- Navigate to the API/Webhook Page by opening up the account menu in the top right corner of the screen. Select API/Webhook.

The API Information page will open. The Tab Bar across the top will read as follows:



A. API Information will be the first page to appear. Here you can find information on Data Push, General Output Format, Gateway Parameters and Sensor Parameters.

B. The History tab displays the history of your data pushes. A Data Push sends data to your end point when data is received at the server. You can configure the destination and query parameters used to route the request. Data is compiled as a JSON body and sent via HTTP POST. There are four (4) endpoints available now. Webhook, Amazon AWS, Microsoft Azure IoT Hub, and IBM Watson. Only one (1) data push is allowed per account. If no data push has been configured, this page will be blank.

C. Depending on if you have an existing data push or not this next tab will either read "Create" or "Edit." If you have an existing data push, this tab will read "Edit" You must end the existing data push to see the "Create" tab and make a new data push.

D. The **Notification Tab** covers data push settings that allow you to customize when and to whom emails are sent when your External Data Push fails multiple times in a row. You will only be notified once every 24 hours, unless your data push failures exceed 100, in which case you will be notified of your data push being disabled.

Creating a Webhook

- Select the Create Tab.
- Open the dropdown menu on the Create Data Type page. Select "Webhook."
- A webhook sends data to your application when data is received at the server. You can configure the URL, Headers, Cookies, and query parameters used to route the request. Headers and cookies will be available to add after saving your connection string. Data is compiled as a JSON body and sent via HTTP POST.

Configure Webhook

How Webhooks Pass Data to Your Application

A webhook sends data to your application when data is received at the server. You can configure the URL, Headers, Cookies, and query parameters used to route the request. Headers and cookies will be available to add after saving your connection string. Data is compiled as a JSON body and sent via HTTP POST.

Base URL

Send gateway message

Always ▼

Authentication

None ▼

Save

- **Base URL:** This is the location you want to send the Data Push
- **Send gateway message:** This is where you decide if you want all messages sent to you or only messages that contain a message from your sensor
- **Authentication:** Choose "Basic" or "None" to add authentication to your web-hook. Selecting "Basic" will ask for the username and password combination to grant access to the webhook.
- **Save your configuration**

Note that the tab that used to read "Create" now reads "Edit." The new data push must be ended for the Create option to be displayed again.

SUPPORT

For technical support and troubleshooting tips please visit our support library online at monnit.com/support/. If you are unable to solve your issue using our online support, email Monnit support at support@monnit.com with your contact information and a description of the problem, and a support representative will call you within one business day.

For error reporting, please email a full description of the error to support@monnit.com.

WARRANTY INFORMATION

(a) Monnit warrants that Monnit-branded products (Products) will be free from defects in materials and workmanship for a period of one (1) year from the date of delivery with respect to hardware and will materially conform to their published specifications for a period of one (1) year with respect to software. Monnit may resell sensors manufactured by other entities and are subject to their individual warranties; Monnit will not enhance or extend those warranties. Monnit does not warrant that the software or any portion thereof is error free. Monnit will have no warranty obligation with respect to Products subjected to abuse, misuse, negligence or accident. If any software or firmware incorporated in any Product fails to conform to the warranty set forth in this Section, Monnit shall provide a bug fix or software patch correcting such non-conformance within a reasonable period after Monnit receives from Customer (i) notice of such non-conformance, and (ii) sufficient information regarding such non-conformance so as to permit Monnit to create such bug fix or software patch. If any hardware component of any Product fails to conform to the warranty in this Section, Monnit shall, at its option, refund the purchase price less any discounts, or repair or replace nonconforming Products with conforming Products or Products having substantially identical form, fit, and function and deliver the repaired or replacement Product to a carrier for land shipment to customer within a reasonable period after Monnit receives from Customer (i) notice of such non-conformance, and (ii) the non-conforming Product provided; however, if, in its opinion, Monnit cannot repair or replace on commercially reasonable terms it may choose to refund the purchase price. Repair parts and replacement Products may be reconditioned or new. All replacement Products and parts become the property of Monnit. Repaired or replacement Products shall be subject to the warranty, if any remains, originally applicable to the product repaired or replaced. Customer must obtain from Monnit a Return Material Authorization Number (RMA) prior to returning any Products to Monnit. Products returned under this Warranty must be unmodified.

Customer may return all Products for repair or replacement due to defects in original materials and workmanship if Monnit is notified within one year of customer's receipt of the product. Monnit reserves the right to repair or replace Products at its own and complete discretion. Customer must obtain from Monnit a Return Material Authorization Number (RMA) prior to returning any Products to Monnit. Products returned under this Warranty must be unmodified and in original packaging. Monnit reserves the right to refuse warranty repairs or replacements for any Products that are damaged or not in original form. For Products outside the one year warranty period repair services are available at Monnit at standard labor rates for a period of one year from the Customer's original date of receipt.

(b) As a condition to Monnit's obligations under the immediately preceding paragraphs, Customer shall return Products to be examined and replaced to Monnit's facilities, in shipping cartons which clearly display a valid RMA number provided by Monnit. Customer acknowledges that replacement Products may be repaired, refurbished or tested and found to be complying. Customer shall bear the risk of loss for such return shipment and shall bear all shipping costs. Monnit shall deliver replacements for Products determined by Monnit to be properly returned, shall bear the risk of loss and such costs of shipment of repaired Products or replacements, and shall credit Customer's reasonable costs of shipping such returned Products against future purchases.

(c) Monnit's sole obligation under the warranty described or set forth here shall be to repair or replace non-conforming products as set forth in the immediately preceding paragraph, or to refund the documented purchase price for non-conforming Products to Customer. Monnit's warranty obligations shall run solely to Customer, and Monnit shall have no obligation to customers of Customer or other users of the Products.

Limitation of Warranty and Remedies.

THE WARRANTY SET FORTH HEREIN IS THE ONLY WARRANTY APPLICABLE TO PRODUCTS PURCHASED BY CUSTOMER. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. MONNIT'S LIABILITY WHETHER IN CONTRACT, IN TORT, UNDER ANY WARRANTY, IN NEGLIGENCE OR OTHERWISE SHALL NOT EXCEED THE PURCHASE PRICE PAID BY CUSTOMER FOR THE PRODUCT. UNDER NO CIRCUMSTANCES SHALL MONNIT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES. THE PRICE STATED FOR THE PRODUCTS IS A CONSIDERATION IN LIMITING MONNIT'S LIABILITY. NO ACTION, REGARDLESS OF FORM, ARISING OUT OF THIS AGREEMENT MAY BE BROUGHT BY CUSTOMER MORE THAN ONE YEAR AFTER THE CAUSE OF ACTION HAS ACCRUED.

IN ADDITION TO THE WARRANTIES DISCLAIMED ABOVE, MONNIT SPECIFICALLY DISCLAIMS ANY AND ALL LIABILITY AND WARRANTIES, IMPLIED OR EXPRESSED, FOR USES REQUIRING FAIL-SAFE PERFORMANCE IN WHICH FAILURE OF A PRODUCT COULD LEAD TO DEATH, SERIOUS PERSONAL INJURY, OR SEVERE PHYSICAL OR ENVIRONMENTAL DAMAGE SUCH AS, BUT NOT LIMITED TO, LIFE SUPPORT OR MEDICAL DEVICES OR NUCLEAR APPLICATIONS. PRODUCTS ARE NOT DESIGNED FOR AND SHOULD NOT BE USED IN ANY OF THESE APPLICATIONS.

CERTIFICATIONS

United States FCC

This equipment has been tested and found to comply with the limits for a Class B digital devices, 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 instruction manual, 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 of 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.*

Warning: *Changes or modifications not expressly approved by Monnit could void the user's authority to operate the equipment.*

RF Exposure



WARNING: To satisfy FCC RF exposure requirements for mobile transmitting devices, the antenna used for this transmitter must not be co-located in conjunction with any antenna or transmitter.

Monnit and ALTA Wireless Sensors:

This equipment complies with the radiation exposure limits prescribed for an uncontrolled environment for fixed and mobile use conditions. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and the body of the user or nearby persons.

All ALTA Wireless Sensors Contain FCC ID: ZTL-G2SC1. Approved Antennas

ALTA devices have been designed to operate with an approved antenna listed below, and having a maximum gain of 14 dBi. Antennas having a gain greater than 14 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

- *Xianzi XQZ-900E (5 dBi Dipole Omnidirectional)*
- *HyperLink HG908U-PRO (8 dBi Fiberglass Omnidirectional)*
- *HyperLink HG8909P (9 dBd Flat Panel Antenna)*
- *HyperLink HG914YE-NF (14 dBd Yagi)*
- *Specialized Manufacturing MC-ANT-20/4.0C (1 dBi 4" whip)*

Canada (IC)

English

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the Equivalent Isotropically Radiated Power (E.I.R.P.) is not more than that necessary for successful communication.

The radio transmitters (IC: 9794A-RFSC1, IC: 9794A-G2SC1, IC: 4160a-CNN0301, IC: 5131A-CE910DUAL, IC: 5131A-HE910NA, IC: 5131A-GE910 and IC: 8595A2AGQN4NNN) have been approved by Industry Canada to operate with the antenna types listed on previous page with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

French

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la Puissance Isotrope Rayonnée Équivalente (P.I.R.É) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteurs radio (IC: 9794A-RFSC1, IC: 9794A-G2SC1, IC: 4160a-CNN0301, IC: 5131A-CE910DUAL, IC: 5131A-HE910NA, IC: 5131A-GE910 et IC: 8595A2AGQN-4NNN) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne figurant sur la page précédente et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

SAFETY RECOMMENDATIONS

READ CAREFULLY

Be sure the use of this product is allowed in the country and in the environment required. The use of this product may be dangerous and has to be avoided in the following areas:

- *Where it can interfere with other electronic devices in environments such as hospitals airports, aircrafts, etc.*
- *Where there is risk of explosion such as gasoline stations, oil refineries, etc.*

It is responsibility of the user to enforce the country regulation and the specific environment regulation.

Do not disassemble the product; any mark of tampering will compromise the warranty validity. We recommend following the instructions of this user guide for correct setup and use of the product.

Please handle the product with care, avoiding any dropping and contact with the internal circuit board as electrostatic discharges may damage the product itself. The same precautions should be taken if manually inserting a SIM card, checking carefully the instruction for its use. Do not insert or remove the SIM when the product is in power saving mode.

Every device has to be equipped with a proper antenna with specific characteristics. The antenna has to be installed with care in order to avoid any interference with other electronic devices and has to guarantee a minimum distance from the body (23 cm). In case this requirement cannot be satisfied, the system integrator has to assess the final product against the SAR regulation.

The European Community provides some Directives for the electronic equipments introduced on the market. All the relevant information's is available on the European Community website: <http://ec.europa.eu/enterprise/sectors/rtte/documents/>

Additional Information and Support

For additional information or more detailed instructions on how to use your Monnit Wireless Sensors or the iMonnit Online System, please visit us on the web at monnit.com/support.

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