



# Monnit Wireless Sensors and USB Gateway User's Guide

## For Use With iMonnit Online Software

### Before You Plug In Your MonnitLink™ USB Gateway

- Unpack the contents of your kit(s) and become familiar with the types of sensors that were included and double check that all components are included.
- Before inserting the USB dongle, you will need to create a Monnit account, assign gateways and wireless sensors to your account, then install the USB driver and gateway software.

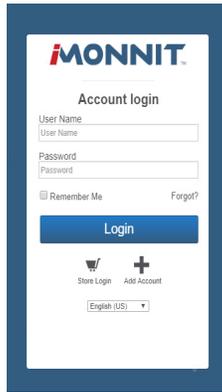
### System Requirements

- An available USB port
- Windows 8, 7 or Vista with 512 MB memory (1024 MB Rec.)  
*Windows XP or older not supported*
- 20 MB free disk space
- ASP.NET 3.5

## I. GATEWAY 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, you can skip to the “Logging into the Online System” section. The following instructions will guide you through creating the account.

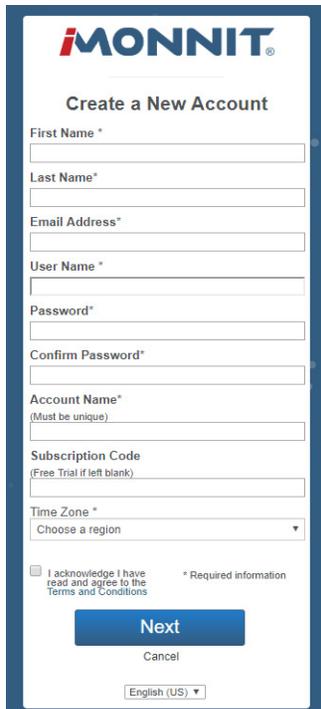
1. Open iMonnit in your mobile app or web browser.



The screenshot shows the 'Account login' page. It features the iMonnit logo at the top. Below the logo, there is a form with fields for 'User Name' and 'Password'. There are checkboxes for 'Remember Me' and a link for 'Forgot?'. A blue 'Login' button is positioned below the password field. At the bottom of the form, there are icons for 'Store Login' and 'Add Account', and a language dropdown menu set to 'English (US)'.

2. Navigate your cursor down to the bottom of the login box and select “Add Account”.
3. Next you will be asked to enter your account information in the following fields:

**Note:** If this is a Free Trial, you may not have received a subscription code yet. Leave the box blank and proceed.



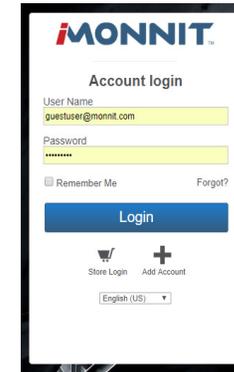
The screenshot shows the 'Create a New Account' page. It features the iMonnit logo at the top. Below the logo, there is a form with fields for 'First Name \*', 'Last Name \*', 'Email Address \*', 'User Name \*', 'Password \*', 'Confirm Password \*', 'Account Name \* (Must be unique)', 'Subscription Code (Free Trial if left blank)', and 'Time Zone \* (Choose a region)'. There is a checkbox for 'I acknowledge I have read and agree to the Terms and Conditions' and a note '\* Required information'. A blue 'Next' button is positioned below the form, with a 'Cancel' link underneath. At the bottom, there is a language dropdown menu set to 'English (US)'.

4. When completed, select the “Next” button.

5. This step will complete the user registration process and lead you into registering your device. You will be able to log out and log back in with your credentials to complete the setup at any time.

## LOGGING INTO THE ONLINE SYSTEM

1. Open iMonnit in your mobile app or web browser.
2. Enter your user name and password.



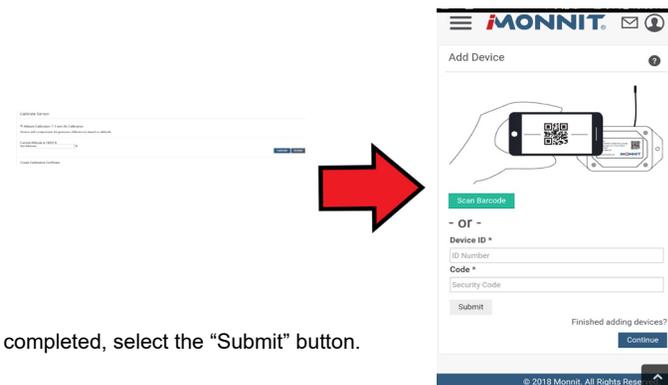
The screenshot shows the 'Account login' page with the 'User Name' field filled with 'guestuser@monnit.com' and the 'Password' field filled with '\*\*\*\*\*'. The 'Login' button is highlighted in blue. The 'Remember Me' checkbox is checked. At the bottom, there are icons for 'Store Login' and 'Add Account', and a language dropdown menu set to 'English (US)'.

3. Select the “Login” button.

## REGISTERING THE DEVICE

You will need to enter the Device ID and the Security Code from your device in the corresponding text boxes. Use the camera on your smartphone to scan the QR code on your 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.



The screenshot shows the 'Add Device' page. It features the iMonnit logo at the top. Below the logo, there is a 'Scan Barcode' button. A red arrow points from the 'Scan Barcode' button to a smartphone displaying a QR code. Below the QR code, there are fields for 'Device ID \* (ID Number)' and 'Code \* (Security Code)'. A 'Submit' button is positioned below the code field. At the bottom, there is a 'Continue' button and a note 'Finished adding devices?'. The footer contains the text '© 2018 Monnit. All Rights Reserved'.

When completed, select the “Submit” button.

## II. Install the Monnit USB Gateway Software

### 1. MonnitLink™ USB Driver Installation

When you are logged into your account, you can download the latest USB drivers by clicking on “Support” from the main navigation bar (<https://www.imonnit.com/support>).

From the downloads page, click on the Monnit *USB Gateway Driver* for the correct version of Windows that you are running (32 or 64 bit). The driver file should automatically start downloading. If prompted to save the file, select a location that is easily accessible and click “Save”.

When the file has completed downloading, browse to the folder where the file was saved. Double click the setup file and select “Run”. Select “Next” then follow the on-screen guide to install the drivers.

When the setup has finished, the program will automatically determine which drivers to install for your system and another guide will launch to walk you through the installation of the drivers. Click “Next” to install the drivers. When the drivers are done installing you will see a success screen. Click “Finish” to exit the installation program.

### 2. Monnit Gateway Application Installation

The Monnit Gateway Application uses your computers internet connection to pass wireless sensor data to the iMonnit online sensor monitoring and notification system. (The online system allows you to view all your sensor data, sensor status and configure all sensor parameters as well as setup notifications or alerts via SMS text and email.)

To install the software, click “Support” on the main navigation bar or go to <https://www.imonnit.com/support>. From the downloads page, click on “USB Gateway Installer” to launch the web installer download. If prompted to save the file, select a location that is easily accessible and click “Save”.

When the file has completed downloading, browse to the folder where the file was saved. Double click the “MonnitGatewaySetup.msi” file, select “Run” when prompted then follow the on-screen instructions to complete the installation.

When installation is complete the program will automatically launch. You can now begin using your wireless sensors online.

**Note:** The gateway application needs to be running on your computer in order for the sensor data to be transmitted to the online system. If the gateway is not running your sensor data is not

## III. USING YOUR MONNIT WIRELESS SENSORS

### 1. Start the Gateway Software:

Double click on the iMonnit Gateway program icon on your desktop or select the program from the Windows “Start Menu” under All Programs > Monnit.

**Note:** Sensor data will only be transmitted to the Online Sensor Monitoring System when the gateway software is running.

### 2. Insert Your USB Wireless Gateway

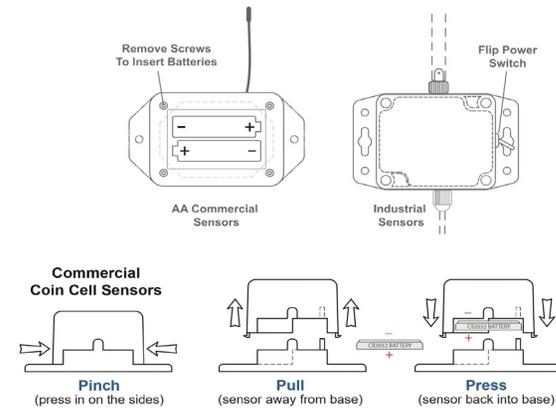
With the iMonnit Gateway application running, insert the USB Gateway into your computer. The network status in the software should change to “Network Active” when the USB gateway is plugged in.

**Note:** If the status does not change, try unplugging and re-inserting the USB gateway.

### 3. Insert Batteries Into Wireless Sensors

**Important:** Make sure your sensors are at least 3ft. away from the wireless sensor adapter.

Insert batteries into commercial type sensors or use switch on industrial type sensors to power them on.



**Note:** It will take 10 - 20 seconds for the sensor to power up. Configurations for your sensors can be changed in iMonnit. Your new modifications will take effect on the next heartbeat. More immediate results can be achieved by power cycling the sensor. Power cycling is accomplished by removing then re-inserting batteries or using the power switch to cycle the power.

## IV. USING THE IMONNIT ONLINE WIRELESS SENSOR SYSTEM UNDERSTANDING THE ONLINE INTERFACE

When you log into the online system, the default view shows all of your sensors last recorded data.



## Menu System

**Details** - Displays a graph of recent sensor data.

**History** - List of all past hearbeats and readings.

**Events** - List of all events attached to this sensor.

**Settings** - Editable levels for your sensor.

**Calibrate** - Reset readings for select sensors (Not available for all sensor types).

**Scale** - Change the scale of readings for your sensor (Not available for all sensor types).

## Sensor Overview

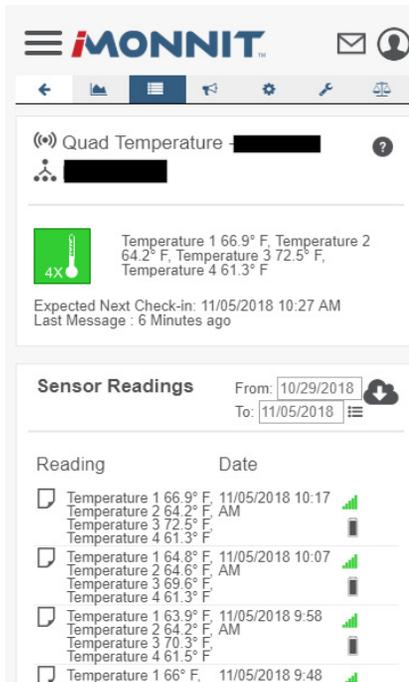
Directly under the tab bar is an overview of your sensor. This allows you to see the signal strength and the battery level of the selected sensor.

-  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.

**Note:** The data shown on the chart, event, history, and export file is based on the date range indicated on the upper right side of the sensor detail information. To change the date range, click the inside of the date box.

## HISTORY VIEW

Clicking on the "History" tab within the tab bar allows you to view the sensor's data history as time stamped data.

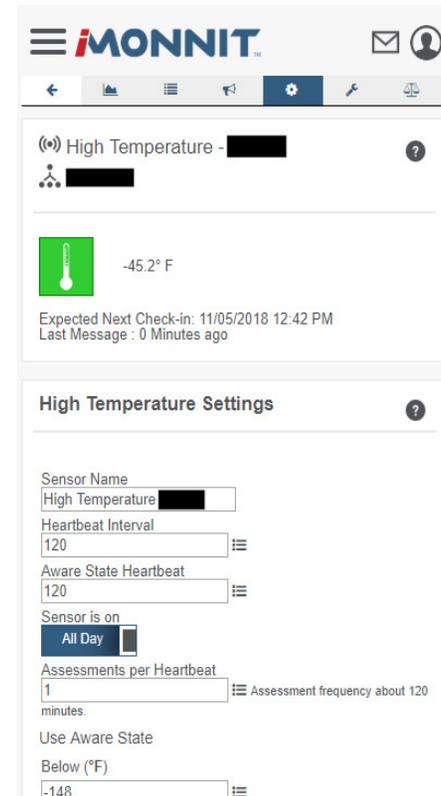


**Sensor Readings** From: 10/29/2018 To: 11/05/2018

Reading	Date
Temperature 1 66.9° F Temperature 2 64.2° F Temperature 3 72.5° F Temperature 4 61.3° F	11/05/2018 10:17 AM
Temperature 1 64.8° F Temperature 2 64.6° F Temperature 3 69.6° F Temperature 4 61.3° F	11/05/2018 10:07 AM
Temperature 1 63.9° F Temperature 2 64.2° F Temperature 3 70.3° F Temperature 4 61.5° F	11/05/2018 9:58 AM
Temperature 1 66° F	11/05/2018 9:48 AM

## CONFIGURING SENSOR SETTINGS

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.



**High Temperature Settings**

Sensor Name: High Temperature

Heartbeat Interval: 120

Aware State Heartbeat: 120

Sensor is on: All Day

Assessments per Heartbeat: 1 (Assessment frequency about 120 minutes)

Use Aware State: [ ]

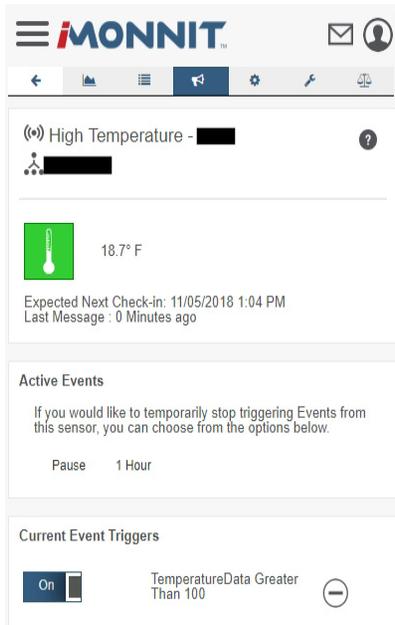
Below (°F): -148

The sensor edit panel allows you to set the primary configurations for the sensor. When you have finished making changes, press the "Save" button at the bottom of this section.

**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.

## SENSOR AND/OR GATEWAY NOTIFICATION(S)

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

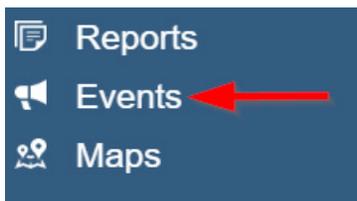


You can toggle the Event Trigger on or off by selecting the switch under Current Event Triggers.

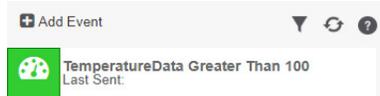
### Creating an Event

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.



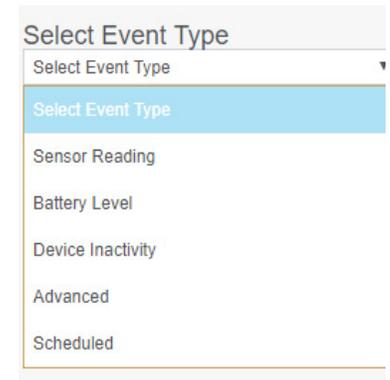
**Note:** If this is your first time adding an event, the screen will be blank.

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



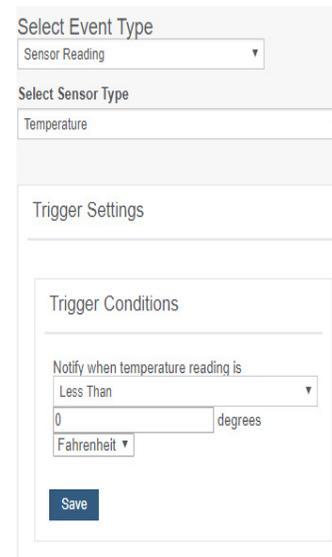
4. The dropdown menu will have the following options for Event Types:

- **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.



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.

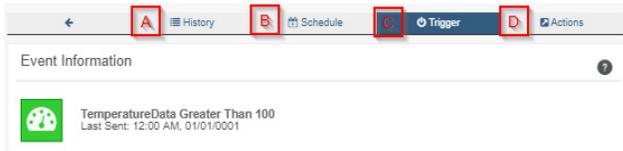
Variable output sensors can have multiple event triggers created.

**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:** 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.



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.

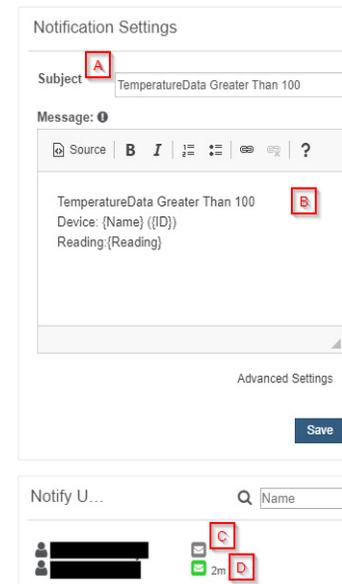
14. Press the “Save” button.

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.



**A.** Configure the subject for the notification.

**B.** Customize the message body.

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

**D.** Recipient list identifies who will receive the notification.

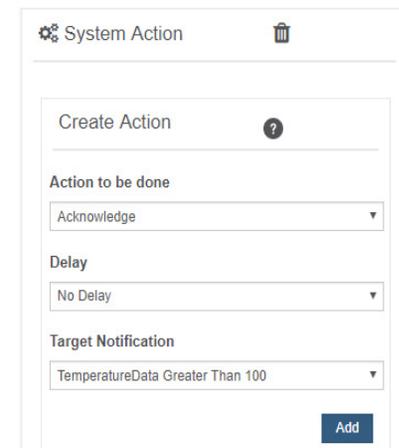
- Select the icon next to a user to configure how they will be notified
- Choose if you want notifications sent immediately when triggered or if you want a delay before it is sent and press **Set**.
- A **green** icon indicates the users that will not receive the notifications.
- If a delay has been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

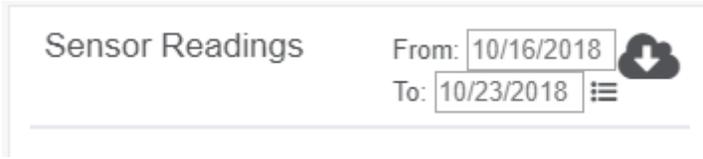


## EXPORTING SENSOR DATA

1. Select Sensors from the main navigation menu.



- Choose the sensor you need an export for in the list.
- Pick the **History** tab.
- 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.

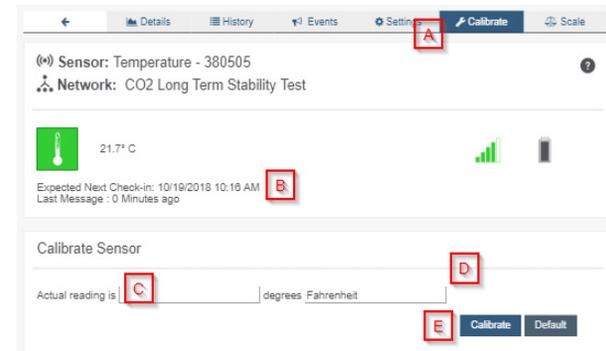
If the customer has calibrated the sensor this field the Calibrate Active field is set False (0) AND the sensor is operating inside the Min and Max Thresholds, the bits look like 00000000 this is represented as 0.

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.

## CALIBRATING SENSOR DATA

Certain wireless sensors can be calibrated for more accurate readings (**Example:** For Temperature sensors). If calibration is possible for a sensor, the “Calibrate” tab will be visible in the tab bar.



**A.** Go to the tab to open the sensor calibration settings window.

**B.** 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.

**C.** Enter the actual (accurate) reading from the calibration device into the text field.

**D.** If you need to change the unit of measurement you can do that here.

**E.** 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).

## MANAGE SENSOR NETWORKS

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



The following network list page allows you to edit details, create new sensor networks, 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.

A screenshot of the Monnit network edit page. The page has a header with the Monnit logo and navigation icons. Below the header, there is a 'Network:' label followed by a redacted name. The main content area contains several settings: 'Name' with a redacted input field, 'Notifications Enabled' with a checked checkbox, 'Holding Enabled' with an unchecked checkbox, and 'Install Tech Access Cut-off Date' with a redacted date input field. At the bottom of the settings section, there are 'Back' and 'Save' buttons. Below the settings, there is a 'Sensors' section with a plus icon and a signal strength icon.

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.

## Error Reporting, Troubleshooting and Support

For technical support and troubleshooting tips please visit our support library online at <http://www.monnit.com/support/>. If you are unable to solve your issue using our online support, email Monnit support at [support@monnit.com](mailto: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](mailto:support@monnit.com).

## Warranty Information

(a) Monnit warrants that Monnit-branded 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 non-conforming 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 ninety (90) days 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 ninety-day 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 other antenna or transmitter.

#### **Monnit Wireless Sensor Contains: FCC ID: ZTL-RFSC1**

*This device has been designed to operate with an approved antenna listed below, and having a maximum gain of 5.1 dBi. Antennas not included in this list or having a gain greater than 5.1 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.*

*To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.*

#### **Approved Antennas**

The following antennas are approved for use with Monnit devices.

- Hyperlink HG905RD-RSP (5.1 dBi Rubber Duck)
- Pulse W1063 (3.0 dBi Rubber Duck)
- ChangHong GSM-09 (2.0 dBi Rubber Duck)
- Specialized Manufacturing MC-ANT-20/4.0C (4" whip)

#### **Monnit Wireless USB Gateway Contains: FCC ID: ZTL-RFUSB1**

*This device has been designed to operate with the attached non-removable antenna.*

## 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 transmitter (IC: 9794A-RFSC1 and IC: 9794A-RFUSB1) has been approved by Industry Canada to operate with the antenna types listed below 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.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.*

*Le présent émetteur radio (IC: 9794A-RFSC1 et IC: 9794A-RFUSB1) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous 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.*



## 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 <http://www.monnit.com/support/>.

**MONNIT**<sup>®</sup>

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