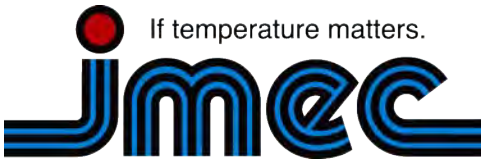

Findum User Guide

Manual

1 — Last update: 2014/12/12

If temperature matters.
imec

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Table of Contents

What's New?

New Findum Changes for September, 29, 2014:

1. Locate Now will time out in 120 seconds (previously this was 60 seconds)
2. "Locate Now" spinning circle will stop when the application receives a location response from the device. It will then display the acknowledgement "The device successfully responded to the Locate Now command." in green background.
3. When a device that has been previously tagged is deleted, when it is re-added to the same account, the device tag is the Device Identifier. Previously, it would keep the old tag prior to deletion.
4. Icons on map no longer obscure the list of filters.
5. Reports date/time indication updated.
6. All time displays are in 24 hour clock format.
7. A black location marker now indicates the centre of the geo-fence both when it is created and when geo-fences are shown for individual devices.

More information on Findum's release history.

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Introduction to Findum —>

Introduction to Findum

Findum is an online application for configuring, tracking and monitoring all of your Sendum tracking devices – from any web browser, computer, or mobile device.

With Findum, you can access near real-time data, historical readings, and graphs. You can also set up text and email alerts, create reports, and set up virtual geographic boundaries (called Geo-Fences).

To start using Findum with your Sendum tracking device(s), you'll first need to register for an online account. From there, you can start registering the devices that you want to monitor.

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Introducing Findum (Video) —>
— What's New?

Introducing Findum (Video)

Here is a short two minute video providing a brief overview of the Findum system.

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Prerequisites —>
— Introduction to Findum

Prerequisites

You can access Findum through any standard web browser at http://findum.sendum.com.

The following web browsers are currently supported:

Windows:

- Chrome Version
- Firefox version 12 and up
- IE version 11 and up

Mac:

- Safari Version 6 and up
- Chrome Version 22 and up
- Firefox Version 14 and up

Browser Support

Findum is designed to work with web browsers for PCs (Windows) and Macs. We recommend you always use the current version of browsers to make sure our web pages display quickly, and that you have the latest browser security updates.

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About this Guide —>
— Introducing Findum (Video)

About this Guide

This online user guide was created to provide an up-to-date interactive resource for users of Findum. Here are some tips on using it most effectively.

- **Left Menu**: You can use the expanding hierarchical menu tree on the left to navigate through topics. To expand any topic heading, click on the right arrows. To contract a heading, click on the down arrow.
- **Search box**: To get straight to a topic of interest, try the Search box in the upper right corner of the screen.
- **Images**: Many of the images can be expanded into larger views just by clicking on them.
- **Comments form**: Freely use the comments section to point out your comments or suggestions on any article topic. The comments will go back to Sendum's documentation team. Note that the comments are moderated so they won't show up in public right away. Try not to use the comments section for specific support related issues, instead use the Sendum Support form.
- **Article ratings**: To help us improve our documentation, let us know if the articles we have posted are helpful. If you found an article particularly useful, let us know by clicking the green thumbs up sign. If you found an article to be not helpful, misleading, or confusing, also let us know. We can use this information to add more useful content and improve the less useful materials.
- **Printable Version**: If you prefer to read a printed copy of the guide, use the Download as PDF link at the bottom left corner to access the guide in Adobe Acrobat PDF format.
- **Mobile Devices**: This guide has been formatted to work well on mobile devices.

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Getting Started —>
— Prerequisites

Getting Started

Before you can get going and start tracking data with your devices and Findum software, you'll need to:

1. Have an airtime account all set up with your Wireless Service Provider
2. Make sure your device is properly provisioned and, if applicable, has a full battery charge
3. Create a Findum account
4. Add devices to your Findum account

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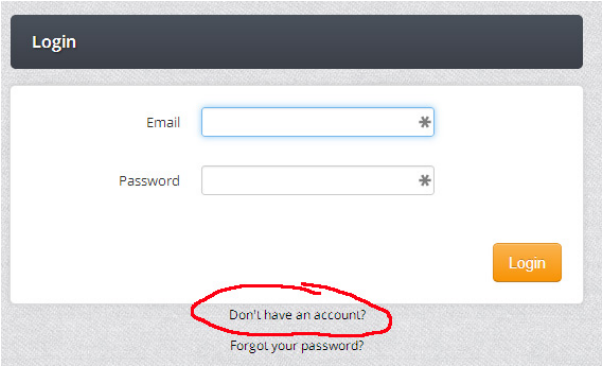
Create a Findum Account —>
— About this Guide

Create a Findum Account

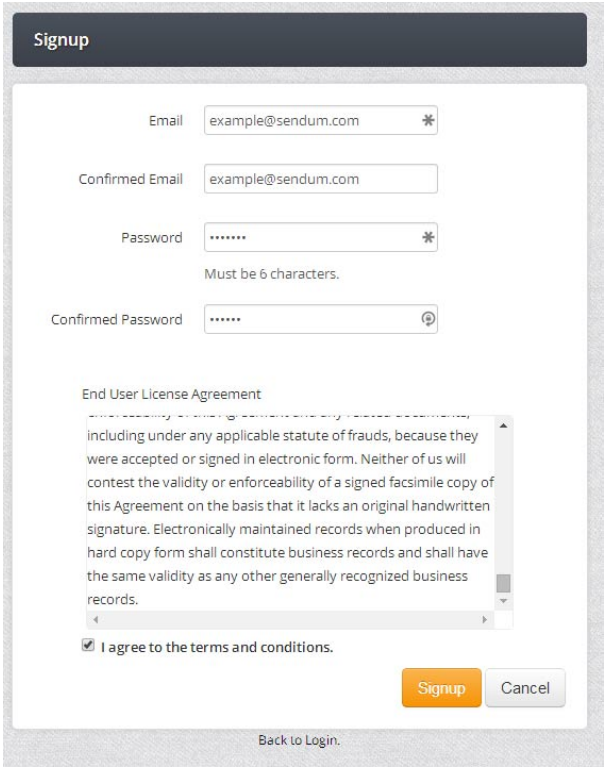
Creating a Findum account is one of the first key steps in being able to monitor and track your Sendum devices.

To register a new account:

1. Open a web browser and navigate to findum.sendum.com. Alternatively, you can navigate to Sendum's website (www.sendum.com) and then click the Findum Login link in the upper right corner of the web page.
2. The first screen you will encounter when you navigate to Findum is the login screen. Since you want to register a new account, click the "Don't have an account?" link just below the Login window.

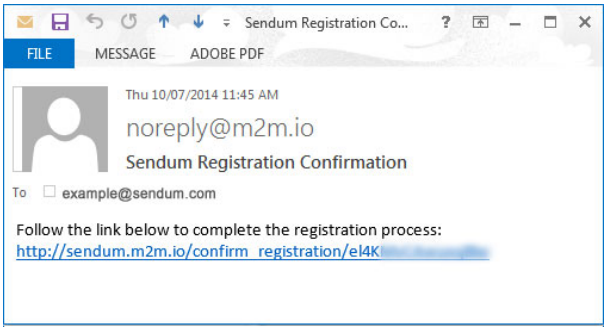


3. The Signup form will be displayed.



4. Enter the required information in each text field. Note that the password you choose has to be at least six characters. Although it's always good to note this password down so you don't forget it, you can always reset the password later.
5. Once the appropriate information has been entered, and the terms and conditions read and agreed to, click the "Signup" button.
6. The following message will populate above the "Signup" button.

7. Check your email inbox to retrieve the email sent from Sendum. Although the email is sent right away, it might take a few minutes to get through the email networks.



8. Open the email sent from the Sendum application and click the link provided. Findum will then open up in your browser to the Register New Device screen where you can get started adding your devices to your new account.

Note that if you can’t locate the email that was sent from Sendum, please check your Junk or Spam folder. If you do find the email in there, you can prevent this from happening again by labeling the email as “not spam” or by white-listing the email address.

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Create a Findum Account (Video) —>

— Getting Started

Create a Findum Account (Video)

The following video demonstrates how to create a Findum Account

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Logging into Findum —>
— Create a Findum Account

Logging into Findum

Once you have your Findum account created, you can log in at any time and in any location with just your email address and account password.

When you log in, you will arrive at one of three different pages:

1. If you do not currently have any devices registered in your account, you will arrive at the Register New Device page.
2. If you have just one device registered in your account, you will arrive at the Device Details Live View page that displays information on your device. Whether the information is current or not depends on whether your device is turned on.
3. If you have two or more devices registered in your account, you will arrive at the Dashboard – View by Cards page which provides a summary of all the devices in your account.

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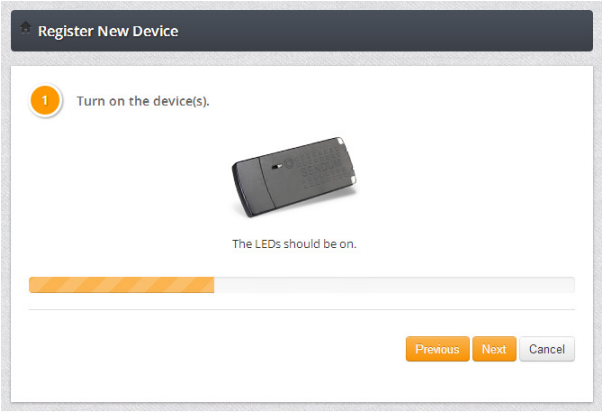
Add Devices to your Findum Account —>
— Create a Findum Account (Video)

Add Devices to your Findum Account

The Add a Device function allows you to link your device with Findum so you can view and track data as well as make configuration changes.



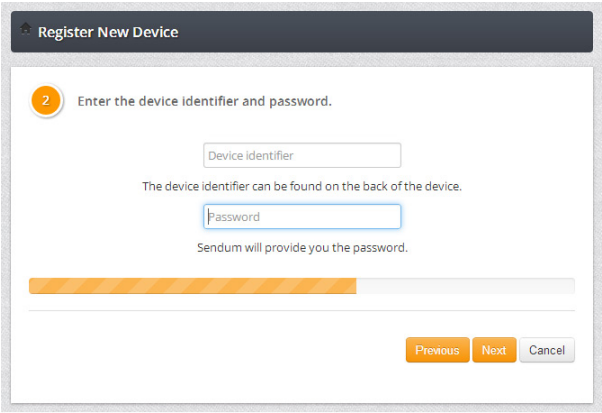
Adding a device to your Findum account is simple. All you need is the device's Device Identifier and the device password.

You can add as many devices as you want to your Findum account and your devices don't even have to be powered on. However, in order to see and view live data and confirm that the device is indeed accessible by your account, the devices will need to be turned on at some point (and certainly before you start a tracking session!)

Before adding your devices to your Findum account, you should check to see whether your devices have already been added. This is because, in the majority of sales, this is done automatically as a part of the sales process. You can check which devices are already in your account by going to to the Dashboard see a listing of what devices are currently in the account.

1. When you click "Add a Device" you will be presented with the "Register New Device" screen. Here it prompts you to turn on the device, and notifies you that the device is visibly activated when the LED is on. For those who are using devices without LED's (such as the Sendum GT300) this could be bit misleading. The key message here is that, if you can, turn on or power up your device. If you don't have access to your device to do this, don't worry. You can still add your device to your account regardless.

2. Click the “Next” button in the lower right hand corner to continue.
3. Findum will now ask for the product’s Device Identifier and password.
4. Once the Device Identifier and Password have been entered for the device, click the Next button. Findum will attempt to recognize and register the device.
5. If successful, the Device Details page loads, displaying the current location of the device on the left and the temperature graph on the right.



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Adding devices to more than one account —>
— Logging into Findum

Adding devices to more than one account

You can add devices to as many Findum accounts as you want, allowing multiple people to keep track of a device's data, from multiple locations.

For example, a company may include a device in a time-sensitive shipment across the country to a customer who is anxiously waiting for it. Both the company and the customer can monitor this device in their own Findum accounts, allowing them to keep up-to-date without need for constant communication between the two.

> The more accounts a device is added to makes that device more susceptible to changes that may not be intended or agreed to by all account holders. Consequently, it is good practice to limit the number of users to people who have a strong need to access that information – and that who are familiar with the device and Findum.

To add a device to more than one account:

1. Make note of the Device ID for the device you want to share with others.
2. Obtain the password for the device using the Get Password function
3. Log into each Findum account that you want to have access your device. Or, if you don't have access to those accounts, pass on the Device ID's and passwords for each device to that user so they can add the device(s) themselves.
4. Follow the same steps that are required to add a device to a Findum account.

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Adding a Device to your Findum Account (Video) —>

— Add Devices to your Findum Account

Adding a Device to your Findum Account (Video)

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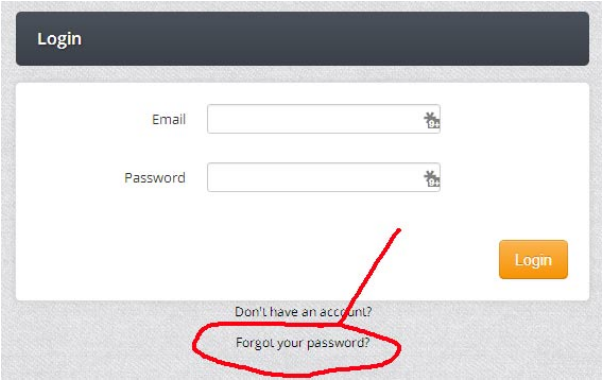
Forgot your Password? —>
— Adding devices to more than one account

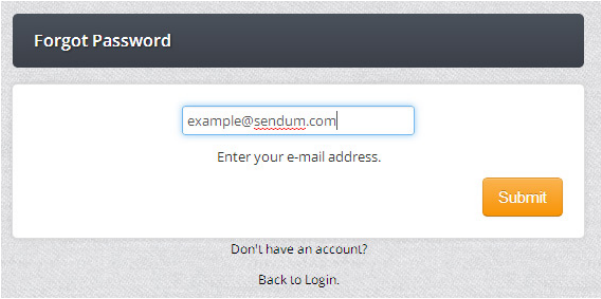
Forgot your Password?

The Forgot your Password link allows you to gain access to your Findum account even if you forgot your password. All you need to know is the email address with which your account was originally registered.

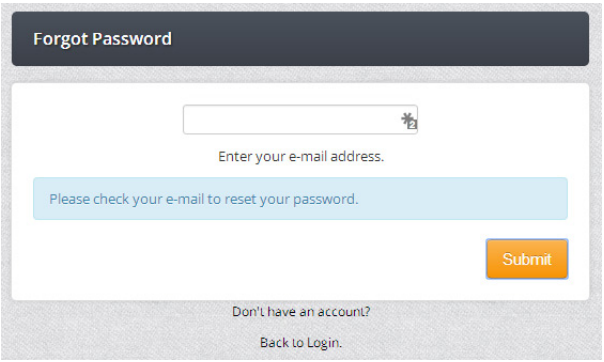


If you forgot your password, from the Login screen:

1. Click Forgot your Password?
2. Enter the email address that your account was signed up under, then click Submit.

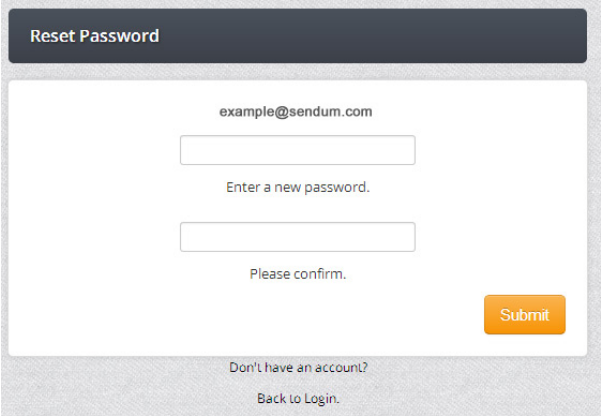


3. A message will be displayed telling you to check your email inbox for an email that was just sent.



4. Look for an email from noreply@m2m.io or with the subject line of “Sendum Password Reset Confirmation”.

5. Click the link in the email. Your browser will open to the Reset Password page.



6. Enter your new password in both fields then click Submit to complete the process. The Findum login screen will then appear.
7. Note that it takes 30 seconds for the new password to be updated in the system. Please wait at least this time before logging in with your email address and new password.

> Note that if you can't locate the email that was sent from Sendum, please check your Junk or Spam folder. If you do find the email in there, you can prevent this from happening again by labeling the email as "not spam" or by white-listing the email address.

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Forgot your Password (video) —>
— Adding a Device to your Findum Account (Video)

Forgot your Password (video)

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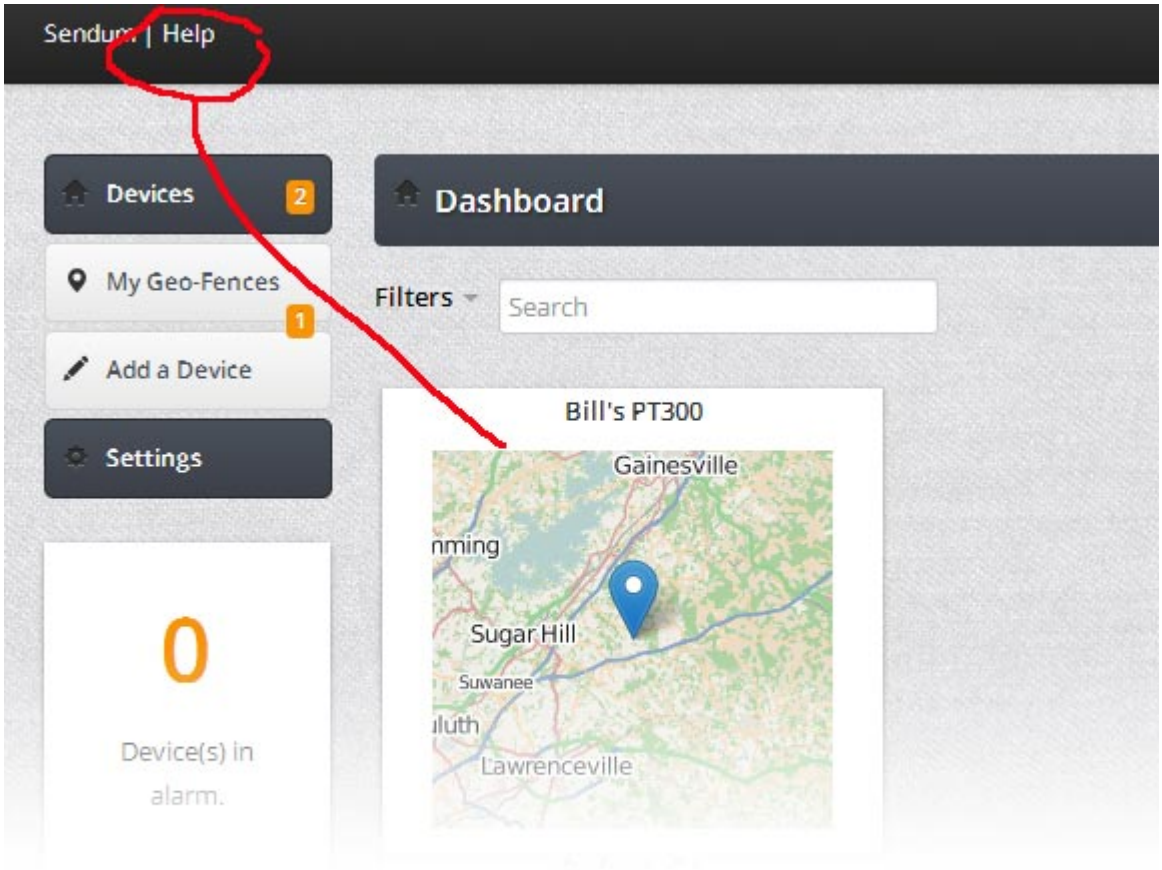
Getting Help —>
— Forgot your Password?

Getting Help

When you are working in Findum, Help documentation is always just a click away.



The Findum Help link in the upper left corner of every page

Just look for the Help link in the upper left corner of any Findum screen. The link will take you to the online Findum Help system.

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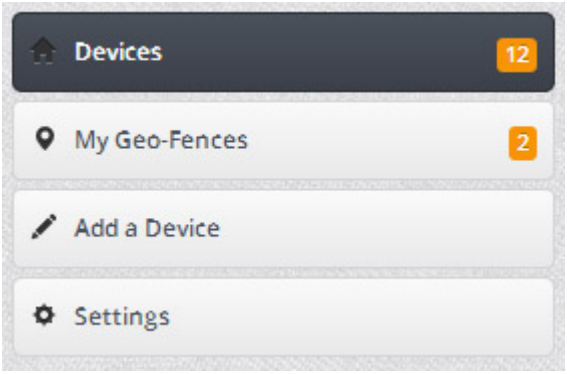
Main Menu —>
— Forgot your Password (video)

Main Menu



The main menu in Findum, which shows up on every screen, is where you can navigate to key areas of the program.

Follow the links below for a description of each link:

* Devices
* My Geo-Fences
* Add a Device
* Settings

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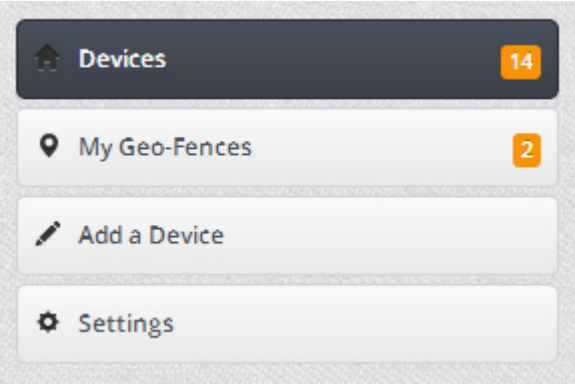
Devices —>

— Getting Help

Devices

When you click Devices from the main Findum menu, you will arrive in one of two places:



1. Dashboard page arranged in the “View by Cards” format. This is the default format when you have more than one device in your Findum account.
2. Device Details page. This is the default landing page when you have just a single device in your Findum account.

Note that in the Devices link (see image above) there is an orange box with a number in it. This number indicates the number of devices currently in the account.

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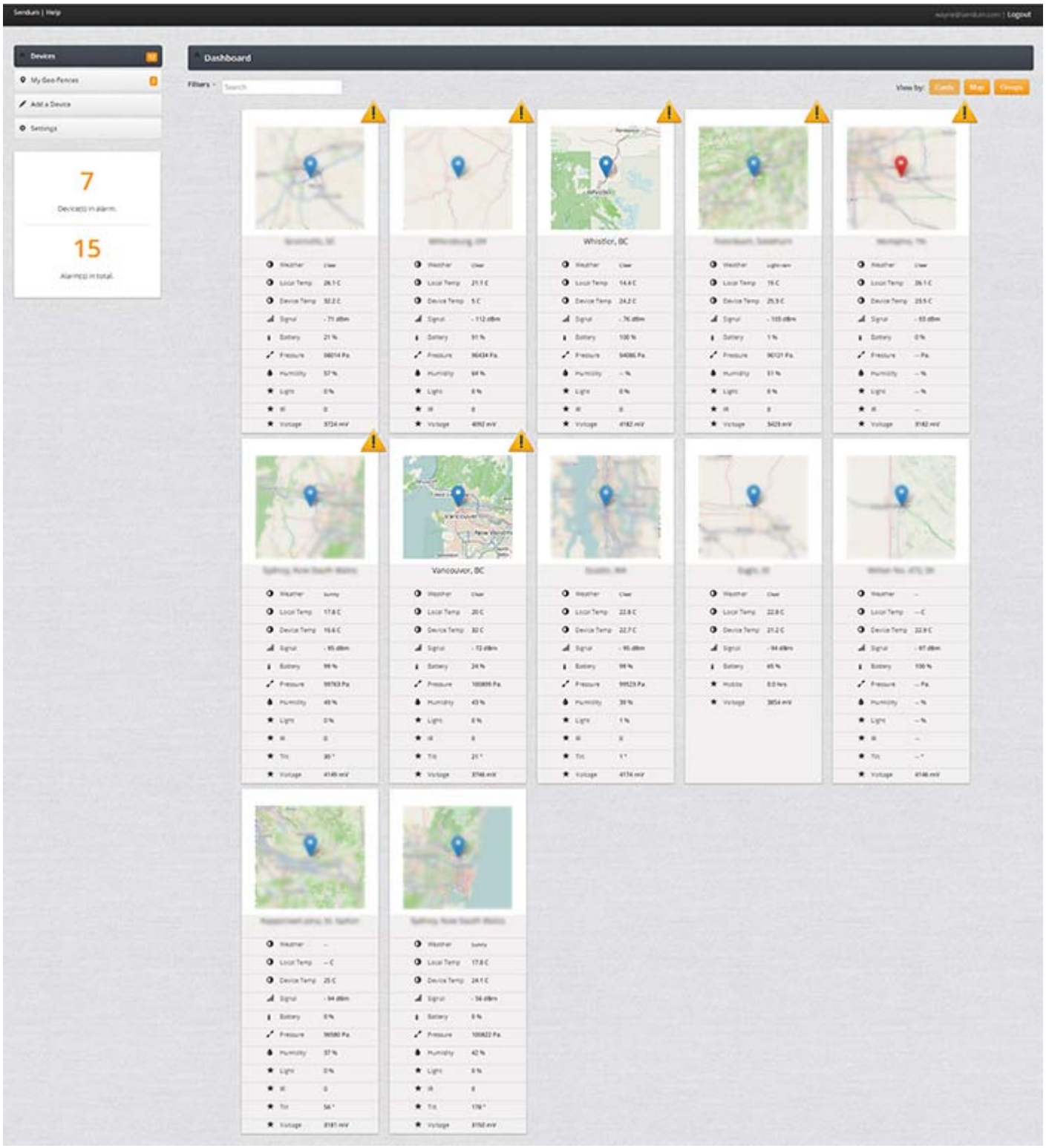
Dashboard —>
— Main Menu

Dashboard

The Dashboard page provides an overview of all the devices registered with your account. For this page, you can filter the view of your devices by groups (or categories) that you can create. You can also view your devices on a map.


Dashboard
7
15
Whistler, BC
Vancouver, BC

If you have only one device in your account, the Dashboard view defaults to the Device Details page which provides detailed information on a single device, including a location map, alarm notifications, and data graphs.

If you have multiple devices, Findum displays a smaller card for each device showing a quick view of that device's current statistics, as well as a map for the device location.

- Card View
- Maps View

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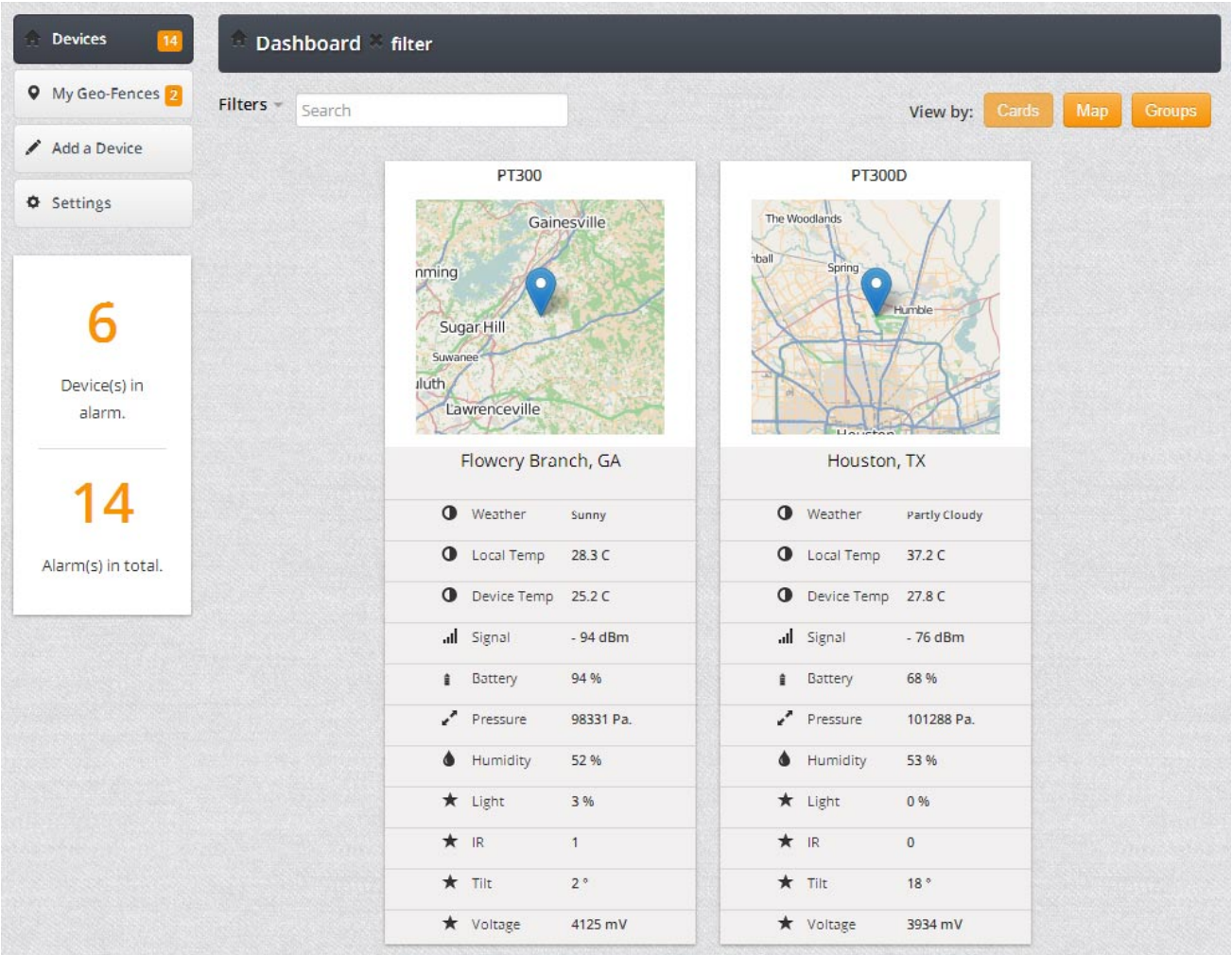
View by Cards —>

— Devices

View by Cards

This is the default view of the Dashboard when there are multiple devices in your account.



Example Dashboard View by Cards Screen with Two Devices in Account

In this view, each device is represented by cards which, when clicked, lead to a Device Details page for that device. Each Card provides an overview of the last obtained data from the Device. Full information on the device is obtained by clicking the card.

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What is a Card? —>
— Dashboard

What is a Card?

A Card is a short summary of data on a single device that is shown on the Dashboard View by Cards page.

When you click on the card, the Device Details page opens that provides greater detail on the device.

Each card includes the Device Identifier or Name Tag, a small map showing the location of the device, and a short description of the current weather and temperature at that location (pulled from an information server). In addition, the card lists the last recorded sensor data applicable to the device. This will typically include parameters like device temperature, signal strength, battery level, pressure, humidity, etc.

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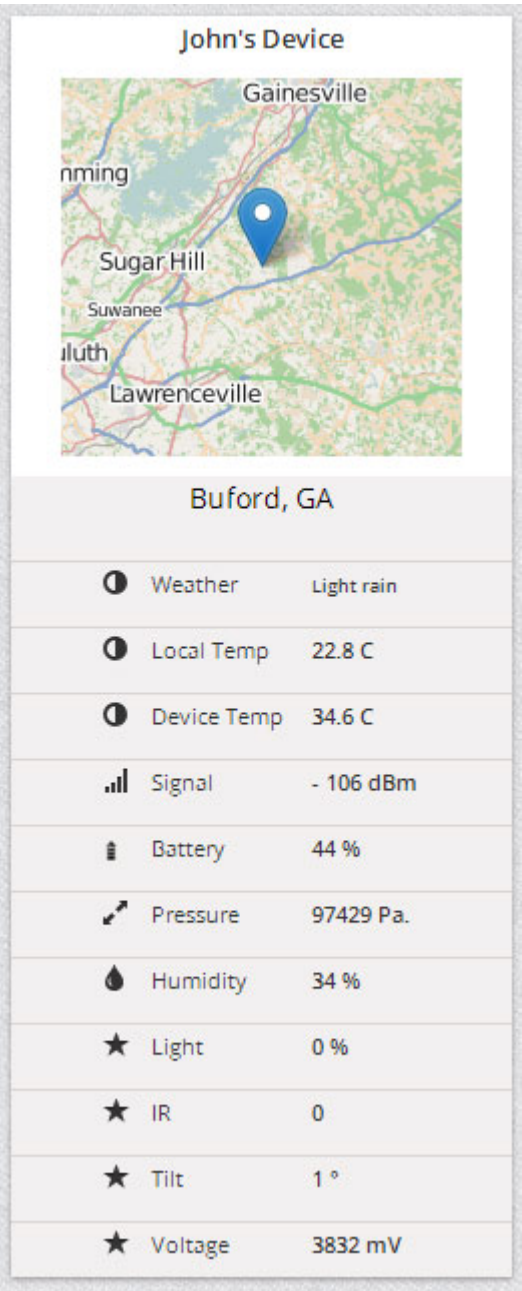
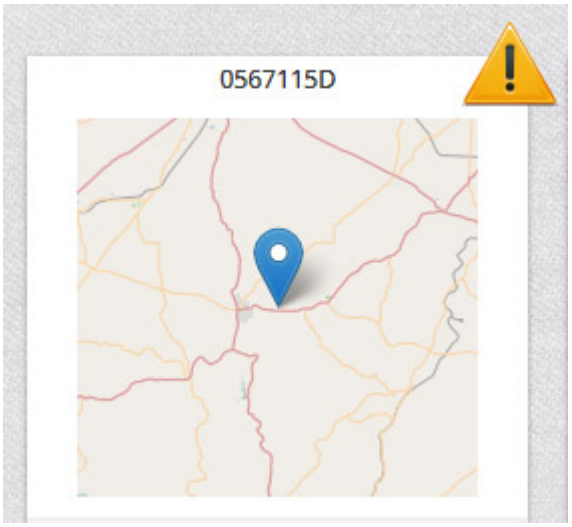
Yellow Alarm Triangle —>

— View by Cards



A Typical Device Card

Yellow Alarm Triangle



If a device has one or more uncleared alarms associated with it, this will be indicated on both the Dashboard View by Cards screen and the Dashboard View by Map screen with a yellow alarm triangle.

For the View by Cards screen, the yellow triangle will be in the upper right corner of the Card. Clicking the Card will display the Device Details screen with the alarm notifications shown below the map and graph.

For the View by Map screen, the yellow triangle will be displayed at the last known location of the device. Clicking the yellow triangle will open the Device Details screen with the alarm notifications shown below the map and graph.

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Location Pins —>
— What is a Card?

Location Pins

The location markers used on the View by Cards screen and the View by Map screen can be of a different color depending on their status. Here is an explanation:

Blue Pin
The device reported its last location successfully and has no alarms. The pin represents its last-reported location.

Yellow Pin
The device reported its last location successfully and has alarms. The pin represents its last-reported location.

Red Pin
The device did not report its last location successfully and has no alarms. The pin represents the last-known location.

Orange Pin
The device did not report its last location successfully and has alarms. The pin represents the last-known location.

Black Pin Indicates the centre of a geo-fence both when it is created and when geo-fences are shown for individual devices.

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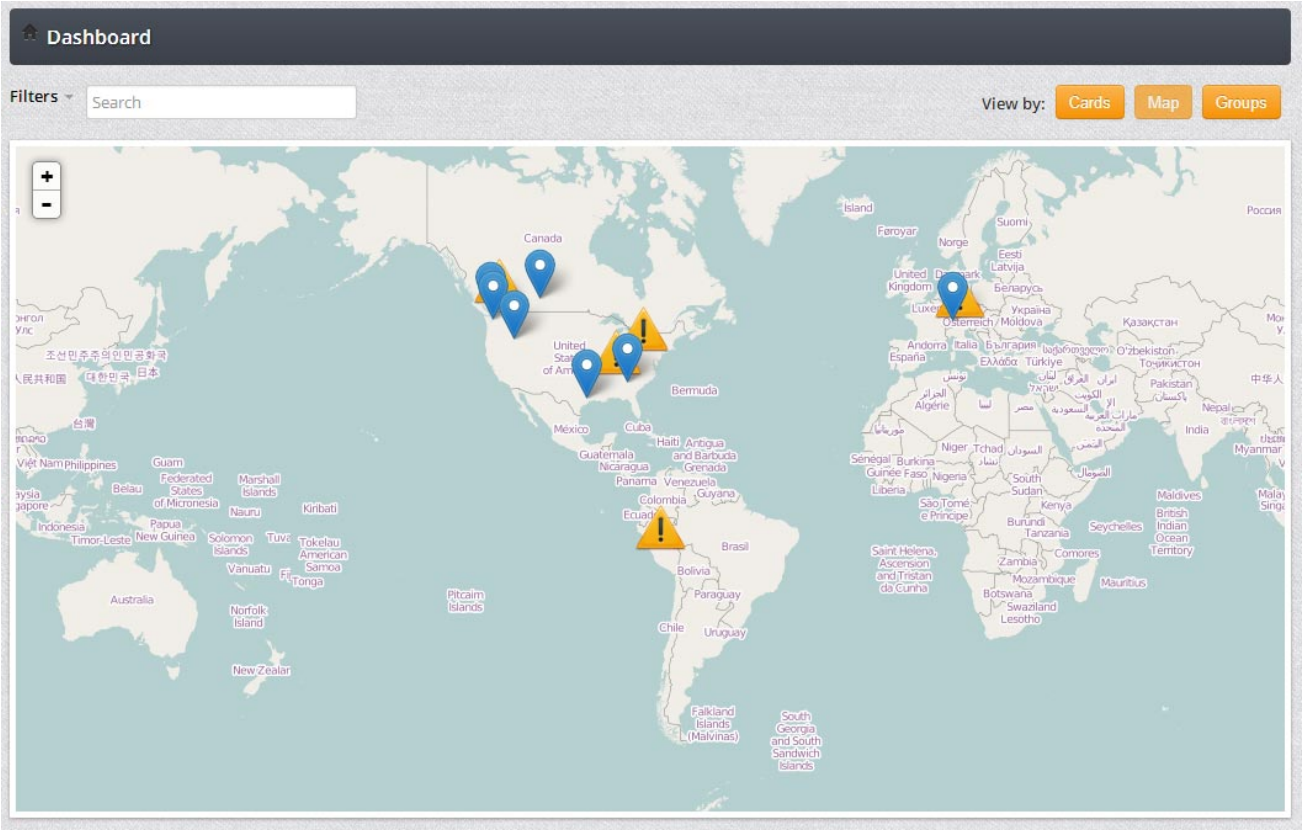
View by Map —>
— Yellow Alarm Triangle

View by Map

The Map view on the Dashboard provides a quick way to find devices of interest by locating them geographically. As with the View by Cards screen, the devices shown can be filtered using groups that you can set up yourself.



The Dashboard View by Map Screen

Devices are shown on the map where the last location fix was recorded. If any device has alarm conditions that have not been cleared, it will be shown with a yellow alarm icon.

If a device has no alarm conditions, it's location will be shown with a blue location marker.

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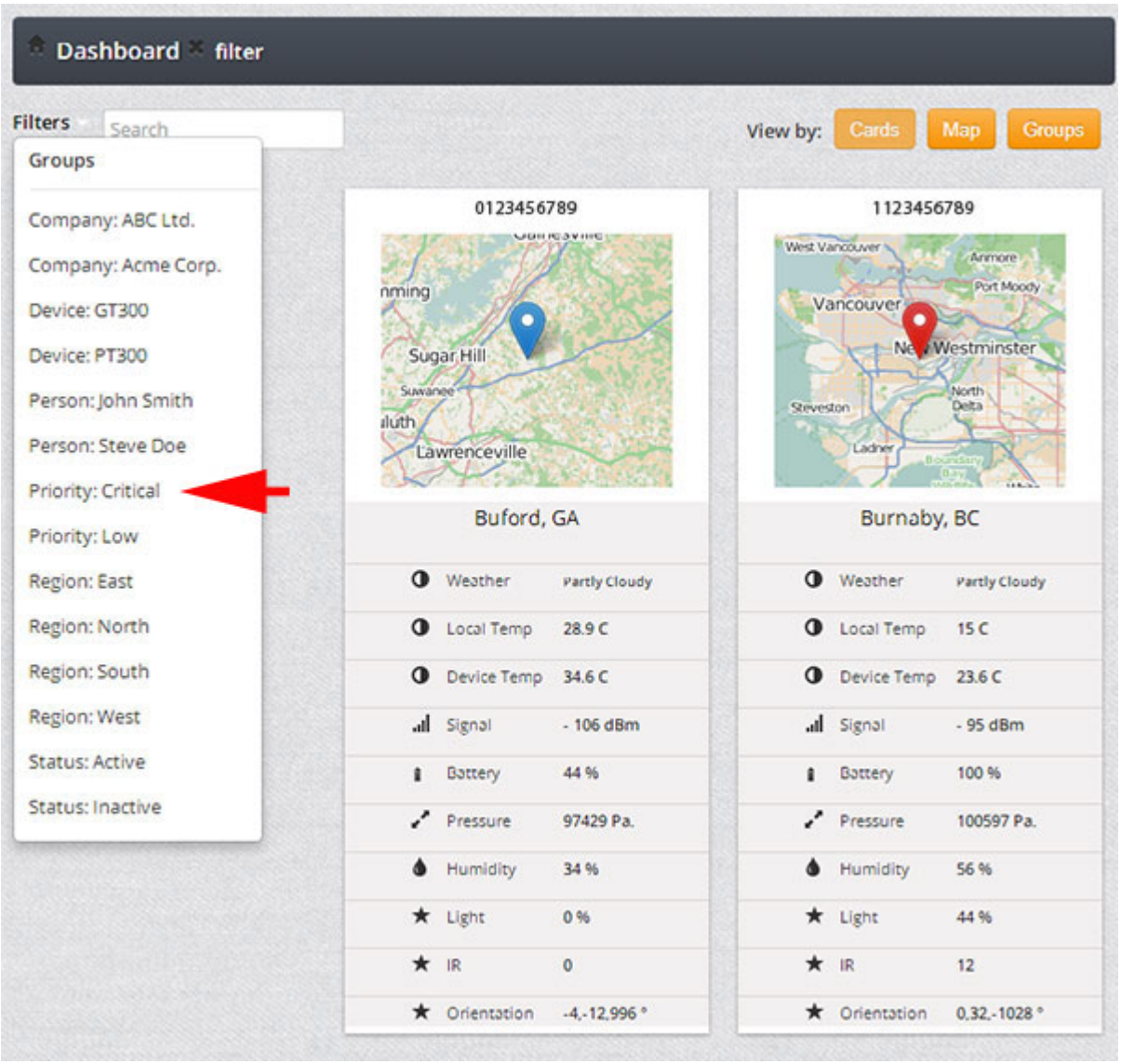
View by Groups —>
— Location Pins

View by Groups

The Groups function allows you to organize the display of your Device "cards" (in the Dashboard view) or location markers (in the Map view) according to meaningful group names (or "tags") that you define. Using this function allows you to more easily navigate through listings of multiple devices to quickly find just the ones of interest.



Dashboard Card View with Groups

Note that the Groups function is only available when you have more than one device in your account.

Example Groupings

- Owner, or person responsible
- Company or department name
- Function or purpose
- Type of device
- Region
- Priority or importance
- Or anything else that make will make your devices views easier to organize

Note that you can set up as many groups as you need.

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Creating Groups —>
— View by Map

Creating Groups

To set up one or more groups:

1. From the Devices > Dashboard view, click “Groups” on the top right.
2. Enter a group name in the “New Group” field, and click “Add”.
3. Click on the newly created group, and add one or more devices.

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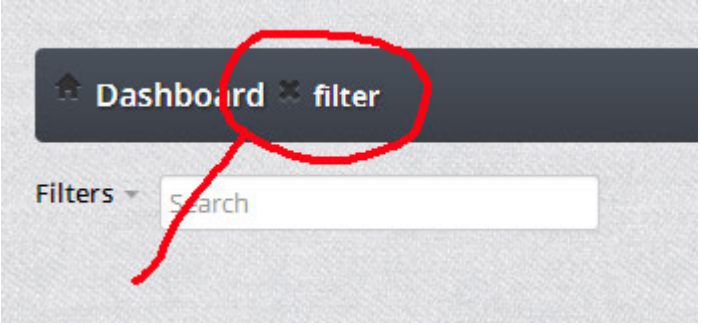
Using Groups to Filter Views —>
— View by Groups

Using Groups to Filter Views

Once you have a number of groups that you have set up, you can use these to filter your Card or Map views.

To filter your device views:

1. Go to either the “Devices” View by Cards view or the View by Map view, and in the top left corner, click on “Filter” and a drop down will appear with all the names of your groups.
2. To view all devices again, clear the filter by clicking on the X next to the filter name in the Dashboard bar.



Clearing a Groups Filter

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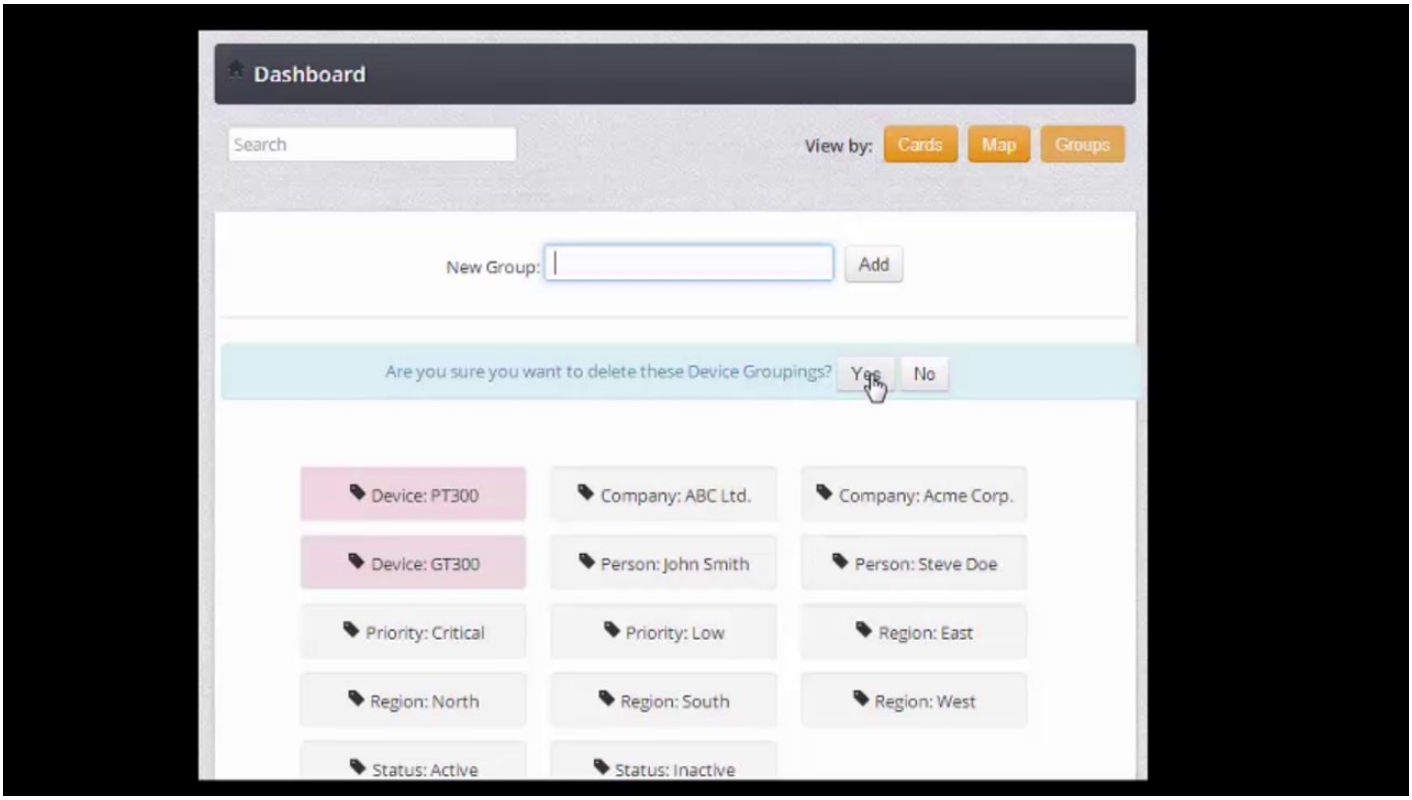
Deleting Groups (Video) —>
— Creating Groups

Deleting Groups (Video)

To delete one or more groups that you have created:

1. From the Dashboard View by Groups screen, click and hold in the white area outside of the group label, and draw a rectangle to select the group(s) you wish to delete.
2. A dialog box will appear asking, “Are you sure you want to delete these Device Groupings?”
3. Click Yes to delete the group(s).

The following video demonstrates how to delete groups.



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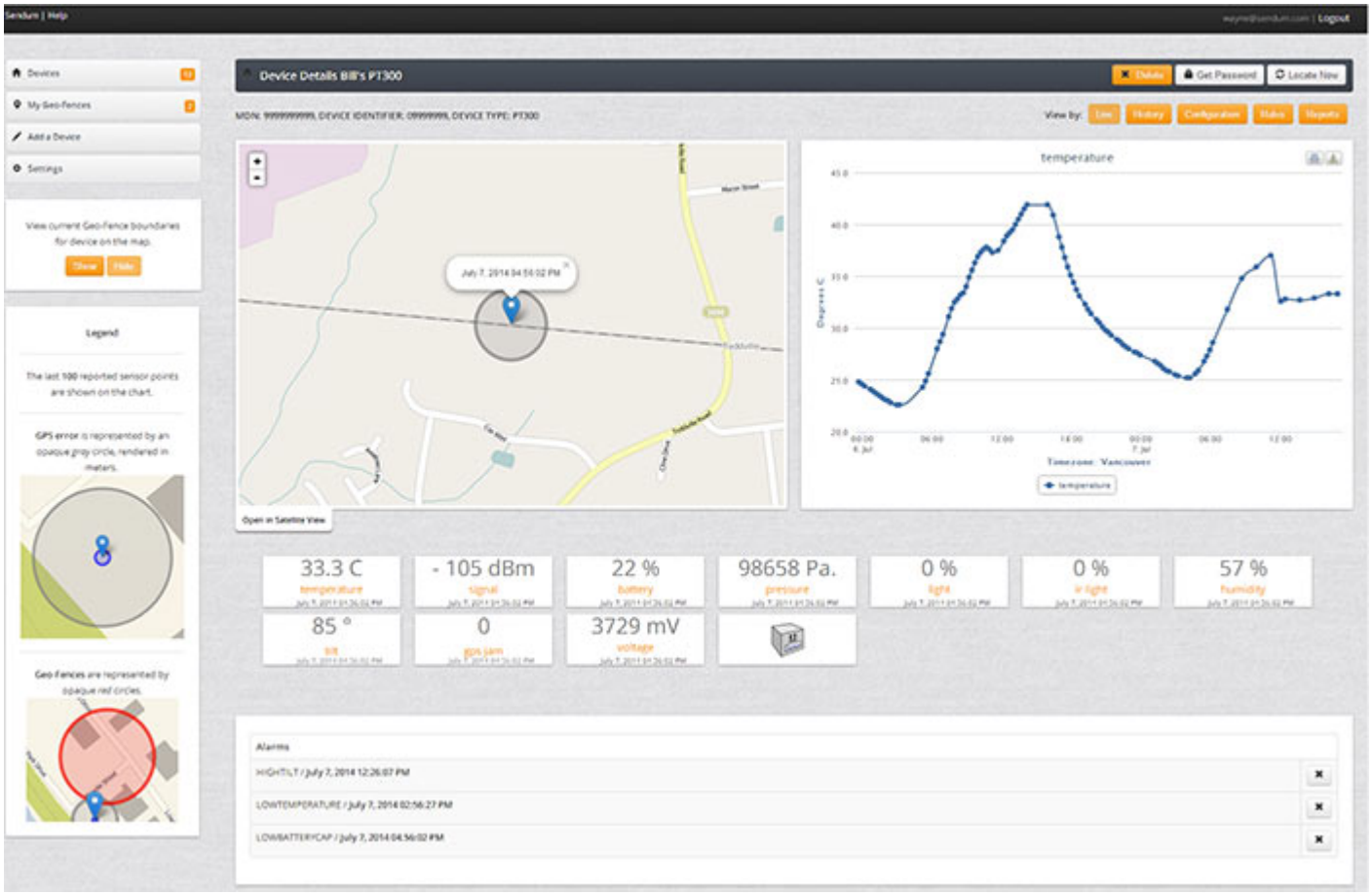
Device Details (Live View) —>
— Using Groups to Filter Views

Device Details (Live View)

The Device Details page displays detailed information on a single device.

By default, this page displays the “View by Live” option, showing the current location of the device on the left and the temperature graph on the right. If any sensor on the device is in an alarm condition, the alarm details (and the ability to clear each alarm) will be displayed at the bottom of the page.



- History
- Configuration
- Rules
- Reports
- Top Header Menu
- Alarm Notifications
- Geo-Fence Boundaries
- Legend

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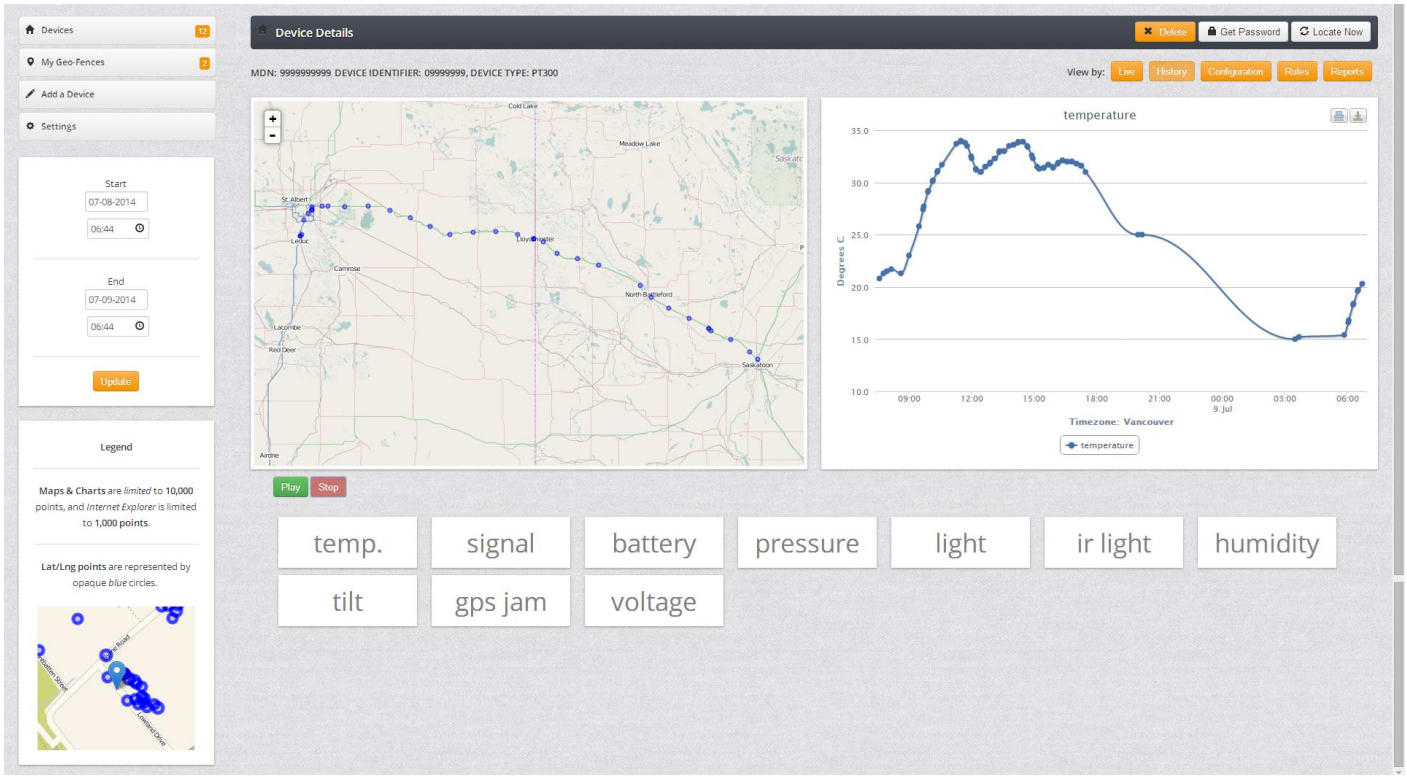
History —>
— Deleting Groups (Video)

History

The History page allows you to review previously collected data for the currently selected device. In doing so, you can learn more about the movements and the conditions of your assets related to a specific time frame of interest.

You can get to this page by first accessing the "Device Details" page for the device you are interested in, then clicking the History button in the upper right-hand corner of the screen.

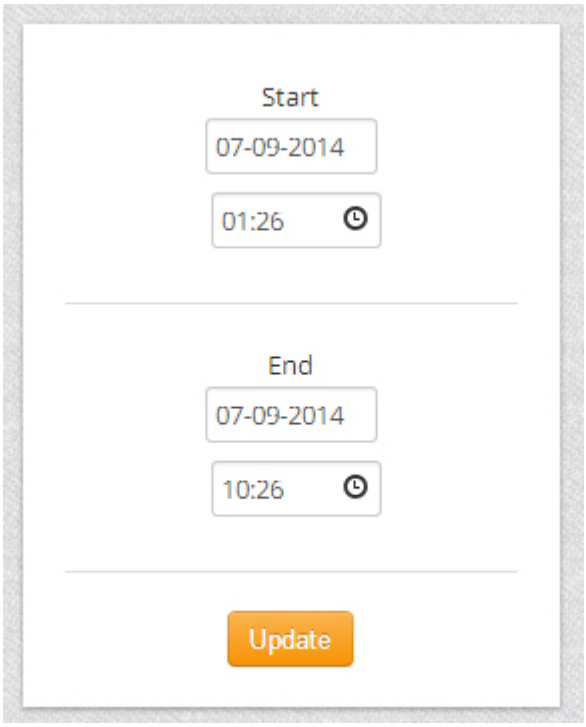


A Typical Device History Screen (Click to Enlarge)

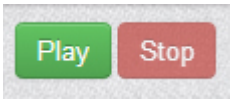
On the left side of the screen there is a different legend displayed for the map interface, explaining that the Maps & Charts are limited to 10,000 points, and Internet Explorer is limited to 1,000 points. The opaque blue circles now seen on the map are representations of the last Lat/Lng (Latititude / Longitude) points for the device.

Directly above the Legend are some fields for you to set date and time parameters for the displayed history. When you set these parameters and click Update, the blue circles plotted on the map will be updated to correspond to the new time frame. In addition, the data graph on the right will be adjusted as well to fit the changed time frame.

To better understand the movement of your device during the chosen time frame, below the map there are two buttons, respectively labelled Play and Stop.

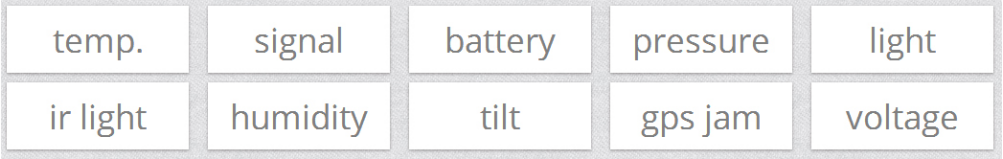


History Time Frame Form



By the clicking the “Play” button, the application plays an animation showing the plotted latitude and longitude points for the device as they appeared chronologically within the search parameters. Clicking“Stop” will stop the animation and show all the points at once.

Once again, the user has the capability of choosing which metric is displayed in the graph on the right by selecting from the panels at the bottom of the screen. In each case, the time frame of the data will match the Start and End dates and times that you entered previously.



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Using the History Page (Video) —>
— Device Details (Live View)

Using the History Page (Video)

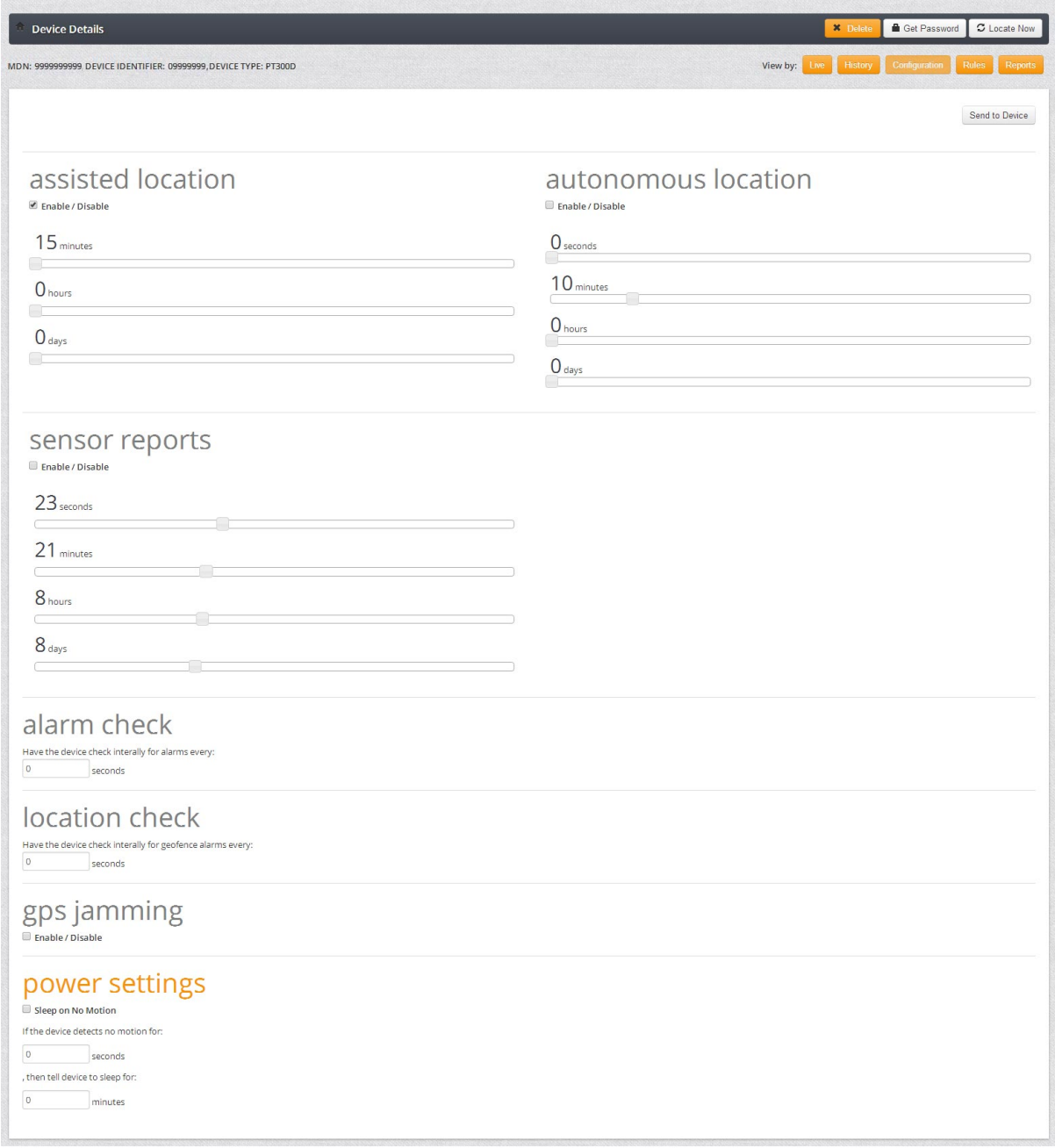
The following video provides a demonstration of how to use the History page that can be accessed from any Device Details screen.

. . . . . .

Configuration —>
— History

Configuration

The Device Configuration page is where you can set a number of options that control how the current device obtains location fixes, reports sensor data, checks for alarms, detects GPS jamming, and conserves power.



Device Configuration Screen

To get to the Device Configuration page, click Devices > [choose device] > Configuration

Refer to the following links for specific information on each of the Configuration settings.

- Assisted Location
- Autonomous Location
- Sensor Reports
- Alarm Check
- Location Check
- GPS Jamming
- Power Settings

> To save any changes that you make on the Configuration screen, you must click the “Send to Device” button in the upper right-hand corner.

. . . . . .

Assisted Location —>

— Using the History Page (Video)

Assisted Location

When enabled, the "Assisted Location" function in Findum:

1. Configures the device to use a multi-step location process designed to work reliably in GPS impaired environments.
2. Provides you with the ability to set the frequency of how often location fixes using the above method are performed, and
3. Transmits a Sensor Report at the same interval as above.

The Assisted Location method in Findum is the most reliable one to provide location fixes (compared to the Autonomous Location option). For most applications, this is the location setting that Sendum recommends. However, there is a cost in regards to power consumption and data usage.

> Note that when you enable Assisted Location, the device first performs an Autonomous Locate AND automatically transmits a Sensor Report at the same interval as the location fix. This makes it unnecessary to enable either of the Autonomous Location or Sensor Reports functions. In fact, if you do enable these other functions when the Assisted Location function is also enabled, you will consume battery power unnecessarily.

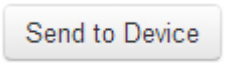
If you enable the Assisted Location setting in Findum (with the Autonomous Location and Sensor Reports functions disabled) and set an interval, here's what will happen:

1. A Sensor Report will be performed at the interval you specified.
2. An Autonomous Locate will first be performed at the same interval as above.
3. If no fix is obtained, the device will connect to the network and perform an Assisted GPS locate.
4. Depending on the device you are using, if still no fix is obtained, an additional Network/Wi-Fi locate may be performed.

To enable and set the frequency of the Assisted Location function:

1. Click the Enable/Disable checkbox so that the checkmark appears.
2. Click and drag the Minutes, Hours, and Days sliders to set the frequency that you want. The resultant frequency is the sum of all the slider settings.

3. Disable the Autonomous Location and Sensor Reports checkboxes
4. Click the Send to Device button at the top right of your screen to transmit the new setting over the air to your device. This may take a minute or two to complete.



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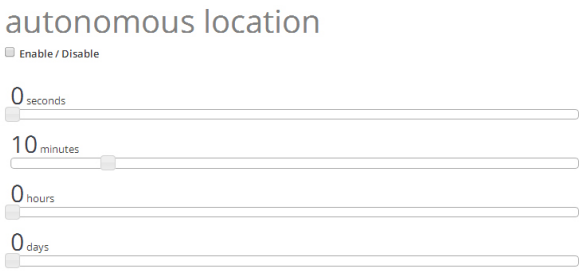
Autonomous Location —>
— Configuration

Autonomous Location

When enabled, the “Autonomous Location” function in Findum:



1. Configures the device to strictly use a conventional GPS location method (Unassisted GPS)
2. Provides you with the ability to set the frequency of how often location fixes using the above method are performed, and
3. Transmits a Sensor Report at the same interval as above.

The Autonomous Location method in Findum provides location fixes and Sensor Reports with the least amount of power and data communication. However, it does have it’s limitations as conventional GPS can be impaired in the absence of a clear line of sight to satellites – or when GPS signals are otherwise disrupted such as with GPS jamming. For these situations, Findum also offers the Assisted Location method that uses a process to overcome these obstacles.

> Note that when you enable Autonomous Location, the device automatically transmits a Sensor Report at the same interval as the location fix thus making it unnecessary to enable the Sensor Reports function. In fact, if you do enable the Sensor Reports function when the Autonomous Location function is also enabled, you will consume battery power unnecessarily.

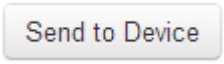
If you enable the Autonomous Location setting in Findum (with the Assisted Location and Sensor Reports functions disabled) and set an interval, here’s what will happen:

1. An Autonomous Locate will be performed at the interval you specified.
2. A Sensor Report will be performed at the same interval as the Autonomous Locate above.
3. An Assisted Location process will NOT be performed.

> The Autonomous Location method is best used when a clear path to GPS satellites is expected throughout a tracking period or where the GPS signals are otherwise unimpaired. If you are not sure how good the GPS signals will be, Sendum recommends using the Assisted Location option.

To enable and set the frequency of the Autonomous Location function:

1. Click the Enable/Disable checkbox so that the checkmark appears.
2. Click and drag the Seconds, Minutes, Hours, and Days sliders to set the frequency that you want. The resultant frequency is the sum of all the slider settings.
3. Disable the Assisted Location and Sensor Reports checkboxes.
4. Click the Send to Device button at the top right of your screen to transmit the new setting over the air to your device. This may take a minute or two to complete.



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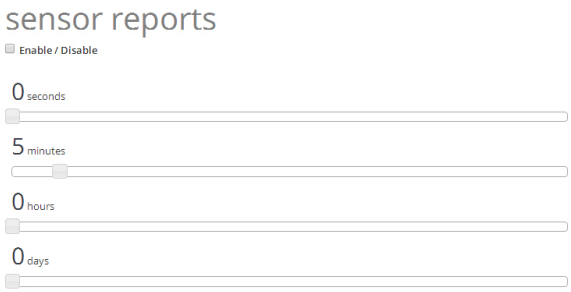
Sensor Reports —>
— Assisted Location

Sensor Reports

The Sensor Reports function is an option that sets how frequently your device will connect to Findum to report it's sensor readings. This setting is typically used ONLY when you have disabled the other location tracking functions (i.e. Assisted Location and Autonomous Location).

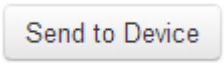
The Sensor Reports setting is intended for use with customers who are ONLY interested in monitoring sensors and NOT tracking location. If you are tracking location using the Autonomous or Assisted Location functions, then Sensor Reports are performed automatically as a part of those processes and thus do not need to be enabled through the Sensor Reports setting.



> Enabling the Sensor Reports function AND one or both of the Location functions (Autonomous or Assisted) may result in excessive battery drain on your device.

To enable and set the frequency of Sensor Reports:

1. Click the Enable/Disable checkbox so that the checkmark appears.
2. Click and drag the Seconds, Minutes, Hours, and Days sliders to set the frequency that you want. The resultant frequency is the sum of all the slider settings.
3. Disable the Autonomous Location and Assisted Location checkboxes.
4. Click the Send to Device button at the top right of your screen to transmit the new setting over the air to your device. This may take a minute or two to complete.



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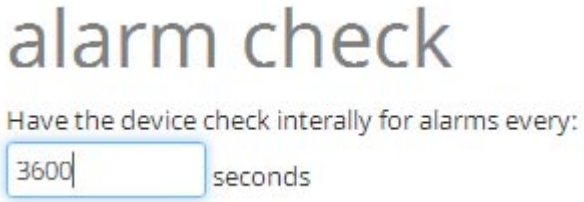
Alarm Check —>
— Autonomous Location

Alarm Check

The Alarm Check setting allows you to set how frequently your device checks for sensor alarms *internally* (without connecting to an external network).



The alarm check function is useful as a lower power way to scan sensor alarms without connecting or reporting to the network. Only when there are alarm conditions will a network connection be made and the data alarm reported (i.e. on an exception basis).

The setting (Devices > Device Details > Configuration > Alarm Check) is entered in a measurement of seconds. It is important to keep in mind that the more frequently alarms are checked, the greater the drain on the battery. For example, if every 120 seconds will work for you, that is far preferable than once every ten seconds.

Typical alarm check intervals range from once every five minutes (300 seconds) to once every hour (3600 seconds). The requirements for your application, of course, may vary.

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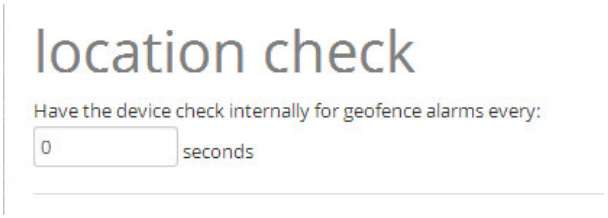
Location Check —>
— Sensor Reports

Location Check



The Location Check setting allows you to set how frequently your device internally checks it's location for geo-fence alarms. It is intended for Autonomous Location applications that use geo-fences.

The purpose of an internal location check is to perform a higher frequency check to determine whether a device has crossed any geo-fence boundaries. An internal check uses less battery resources and network traffic than a scheduled network-connected locate (such as performed with the Autonomous Location or Assisted Location settings). Therefore, you can check more often (and keep more in the loop with your device) without running the battery dry or incurring extra data charges. Note that an internal location check is performed independent of an Autonomous or Assisted Location check.

When a geo-fence alarm is detected by the internal location check, the device will connect to Findum and initiate an alarm notification. Otherwise, no network connections will occur as a result of the internal checks.

Location Check is a great feature to use when your application involves a device that will have a consistently clear line of sight to GPS satellites, such as device strapped to the outside of a truck (allowing for the Autonomous Location setting to be used). Location Check is NOT a recommended feature to use when your device will be in a GPS-impaired environment (e.g. in a package in a refrigerated truck) where location fixes are only possible through the cellular network (requiring the Assisted Location setting).

The default value of the Location Check field is zero seconds which means that NO internal location check will be performed.

> Note that the internal location check is ONLY useful if you have one or more geo-fences set up that you want to monitor AND you have Notifications addresses entered. If you don't have any geo-fences set up, or there is no interest in monitoring for geo-fence activity with your device, then leave the Location Check interval at "0".

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GPS Jamming —>
— Alarm Check

GPS Jamming

The GPS Jamming metric is a simple toggle feature that enables the detection of GPS jamming.

If the box is checked, then GPS jamming detection is currently enabled.

If the checkbox is unmarked, then GPS jamming detection is currently disabled.

> If you are using a battery powered device, note that turning the GPS jamming detection capability ON does consume slightly more battery power than with it off. Thus, if you are not interested in jamming detection, the area you are monitoring has excessive spurious jamming signals (causing false alarms), or you just want to get as much battery performance as possible, we suggest leaving it off.

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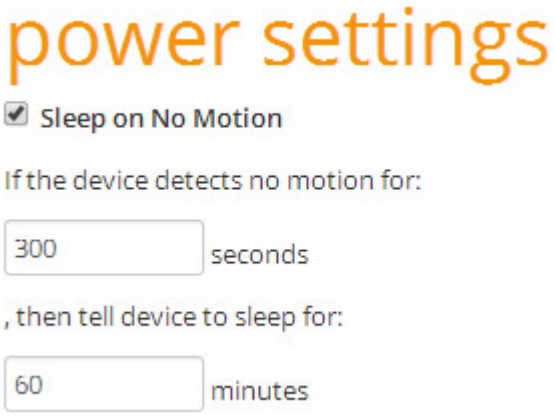
Power Settings —>
— Location Check

Power Settings

The power settings function provides you with a method to conserve battery power by toggling the device between full functionality when no motion is detected, or to put it to sleep.



Beneath this toggle feature, you can set intervals in which to put the device to sleep. This includes how long of a period of time (measured in seconds) that the device remains motionless before it is put to sleep, and how long that sleep period is (measured in minutes).

- When in sleep mode, the device operates in a very low power state without any reporting or alarm/ location checking
- The device will wake up immediately and start reporting if it is moved during the sleep period.

There are other methods to consider as well when trying to conserve battery power.

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Configuring your Device (Video) —>
— GPS Jamming

Configuring your Device (Video)

. . . . . .

Rules —>
— Power Settings

Rules

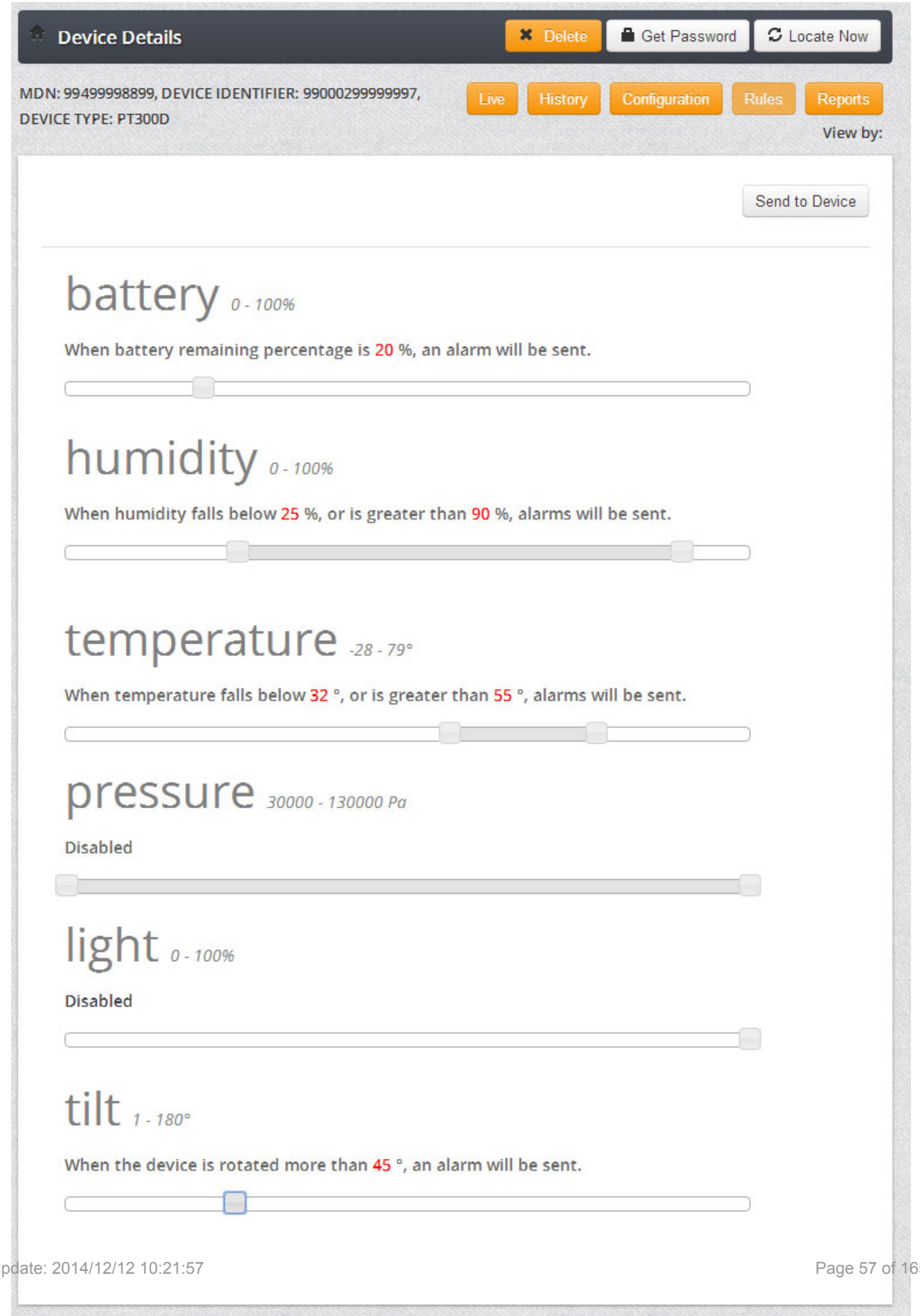
If you want to be notified the instant any measured parameter on your device (such as temperature or battery level) goes outside of acceptable limits, the Rules function is where you start.

Rules are configurable thresholds that apply to a set of measured variables for a specific device. These variables include temperature, relative humidity, battery level, and orientation and are dependent on what type of device you are using (i.e. not all devices measure the same parameters). Once the thresholds are set, they determine under what conditions automatic email or text alerts are sent.

> Note that simply setting Rules does not ensure that you will receive Automatic notifications. You also have to configure your email and text alerts (refer to Settings>Notifications), and you also have to configure how often you want your device to poll data (see Configuration and Alarm Check).

To set up Rules for your device:

1. From the Device Details screen, click on the “Rules” button in the upper right-hand corner of the screen. The Rules page will load.
2. From the Rules page, you can set the rules for when alarms are sent about the device functionality. Battery, humidity, temperature, pressure, light, and tilt are some of the metrics available for which rules can be set. Each of these metrics is set to alert the user when the data received falls below the set threshold. Each threshold is set by utilizing a slide-bar located directly beneath the metric name.


Device Details
Delete
Get Password
Locate Now
MDN: 99499998899, DEVICE IDENTIFIER: 99000299999997,
DEVICE TYPE: PT300D
Live
History
Configuration
Rules
Reports
View by:
Send to Device
battery 0 - 100%
When battery remaining percentage is 20 %, an alarm will be sent.
humidity 0 - 100%
When humidity falls below 25 %, or is greater than 90 %, alarms will be sent.
temperature -28 - 79°
When temperature falls below 32 °, or is greater than 55 °, alarms will be sent.
pressure 30000 - 130000 Pa
Disabled
light 0 - 100%
Disabled
tilt 1 - 180°
When the device is rotated more than 45 °, an alarm will be sent.

3. To save any changes, scroll back up to the top of the screen and click the “Send to Device” button in the upper right-hand corner.

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Setting Rules Demo (Video) —>
— Configuring your Device (Video)

Setting Rules Demo (Video)

The following demo video shows an example of how to set up alarm notifications using Rules.

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Reports —>
— Rules

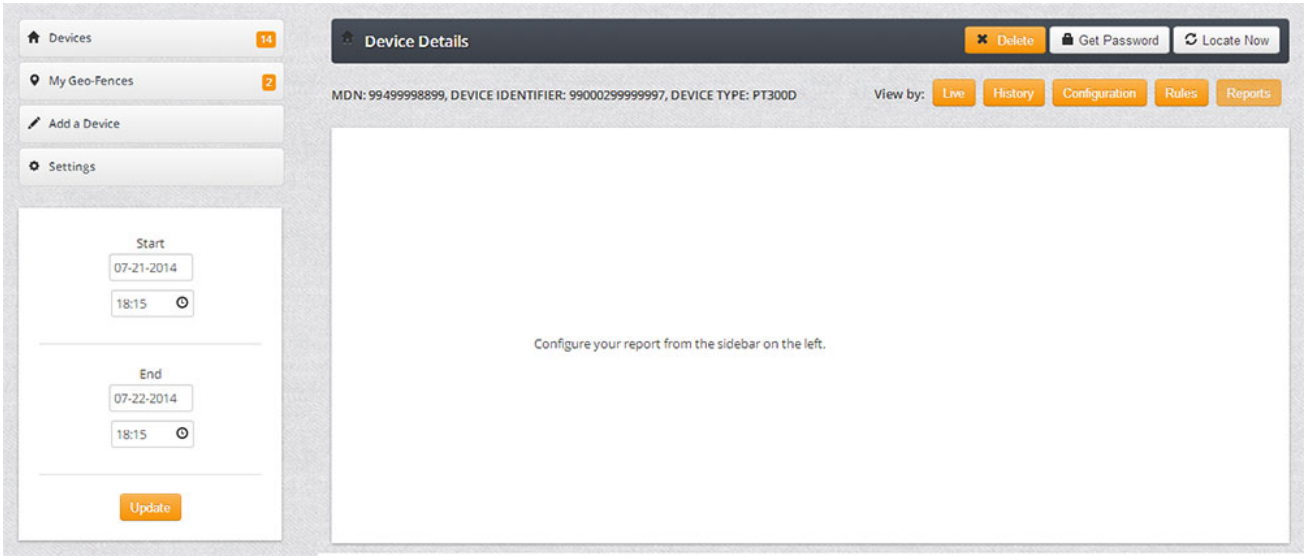
Reports

Reports

You can create, view, and export (in comma separated .CSV format) a tabular time-based report of historical device data for use with any spreadsheet or database program.

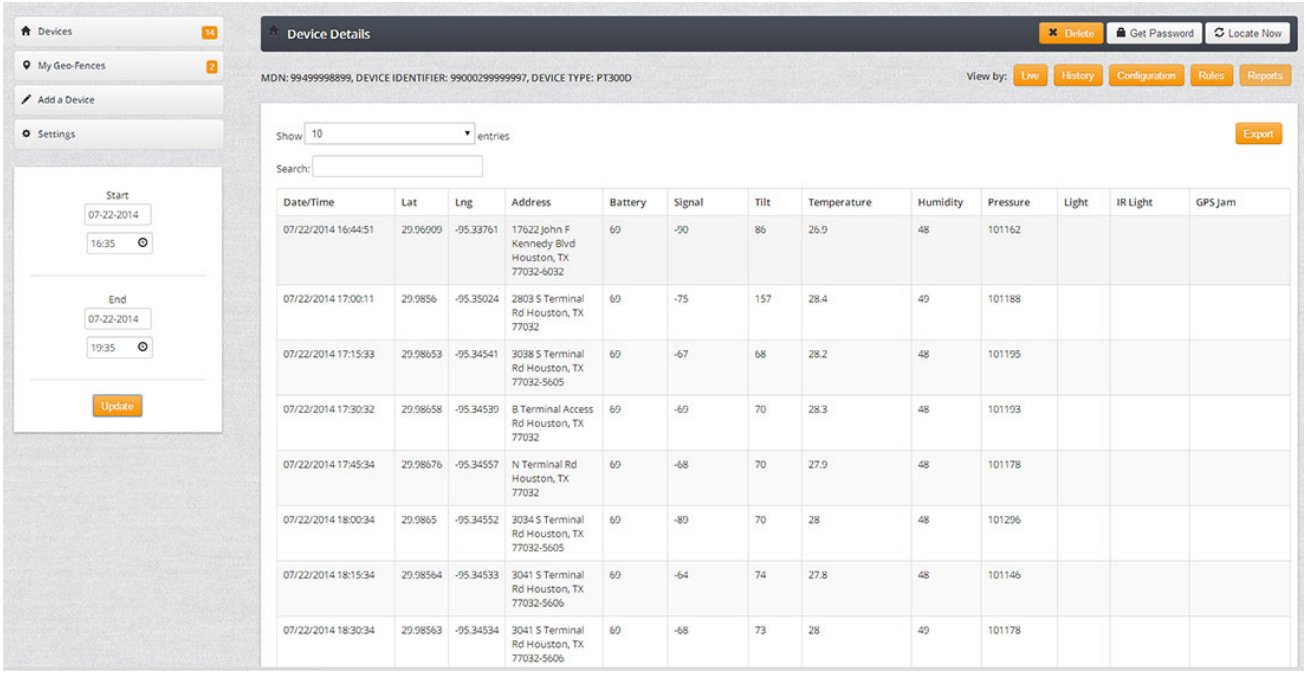
For each data point, the report includes time and date, latitude and longitude (Lat/Lng) points, nearest known address to the Lat/Lng points (obtained from a 3rd party server), and entries for the sensor data associated with your device (e.g. temperature, relative humidity, pressure, battery level, etc.)

1. To load the Reports page, go to Device> [Choose Device] > Reports. The following page will load:



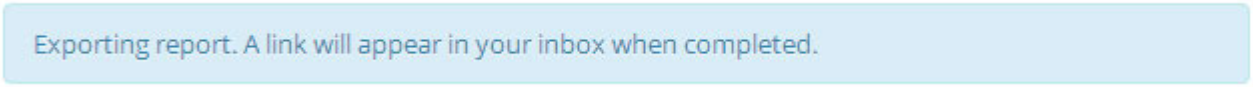
2. As prompted on the screen, use the sidebar on the left of the screen to set the start and end time and date parameters for the report. Click the “Update” button when the parameters are set.

3. This will generate a report based on the information gathered within the parameters set in the sidebar.



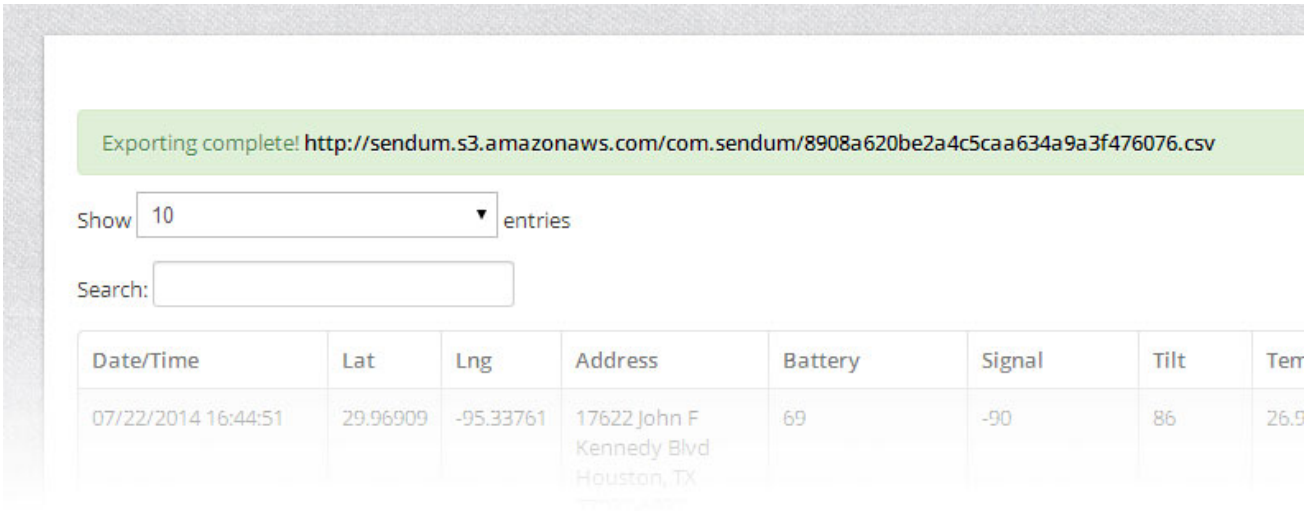
Sample Device Report

4. At the top of the report you are given an option to show between 10 and 100 result entries per screen. As soon as you select the number of entries, the report will be updated.
5. There is also a direct search function for the user to narrow the list using keywords, such as for location, or for events like GPS jamming alerts.
6. To export the report, click on the “Export” button in the upper right-hand corner of the screen.
7. The following message will display, prompting the user to check the inbox for the email registered with the Sendum account for a link to view the report.



8. Once the report has been exported, the following confirmation message will be displayed on-screen. This message also contains a link to view the report. The user is able to print the report from either

the email link or the direct link in Findum.



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[Creating Device Reports (Video) —>]

[— Setting Rules Demo (Video)]

Creating Device Reports (Video)

Here is a short demo on how to create a report of your device's data over a time frame you specify.

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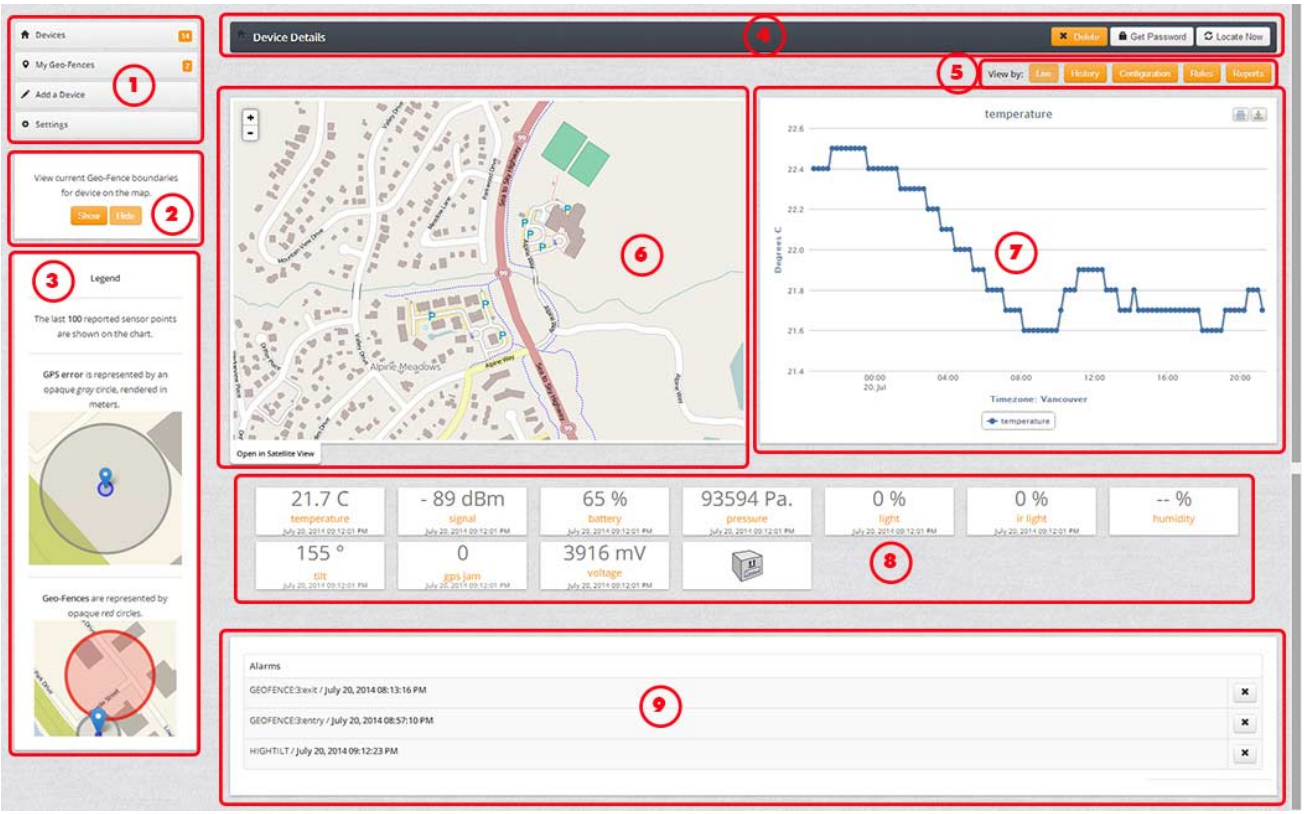
Exploring the Device Details Page —>
— Reports

Exploring the Device Details Page

Here are the main sections of the Device Details page. Click on the numbered links below for more information.



The different parts of the Device Details screen

Section	Description
1	Main Menu
2	Geo-Fence Show/Hide
3	Legend, Device Details Live View
4	Top Header Menu
5	View By Menu
6	Map Window
7	Sensor Window
8	Sensor Buttons

9	Alarm Notifications

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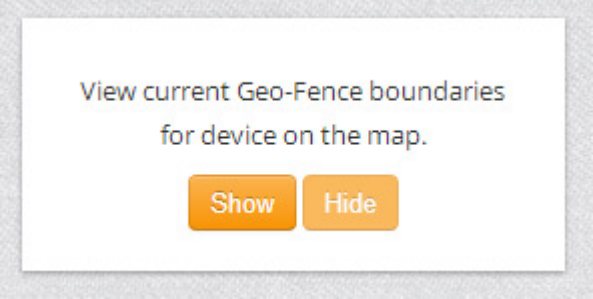
Main Menu —>
— Creating Device Reports (Video)

Main Menu

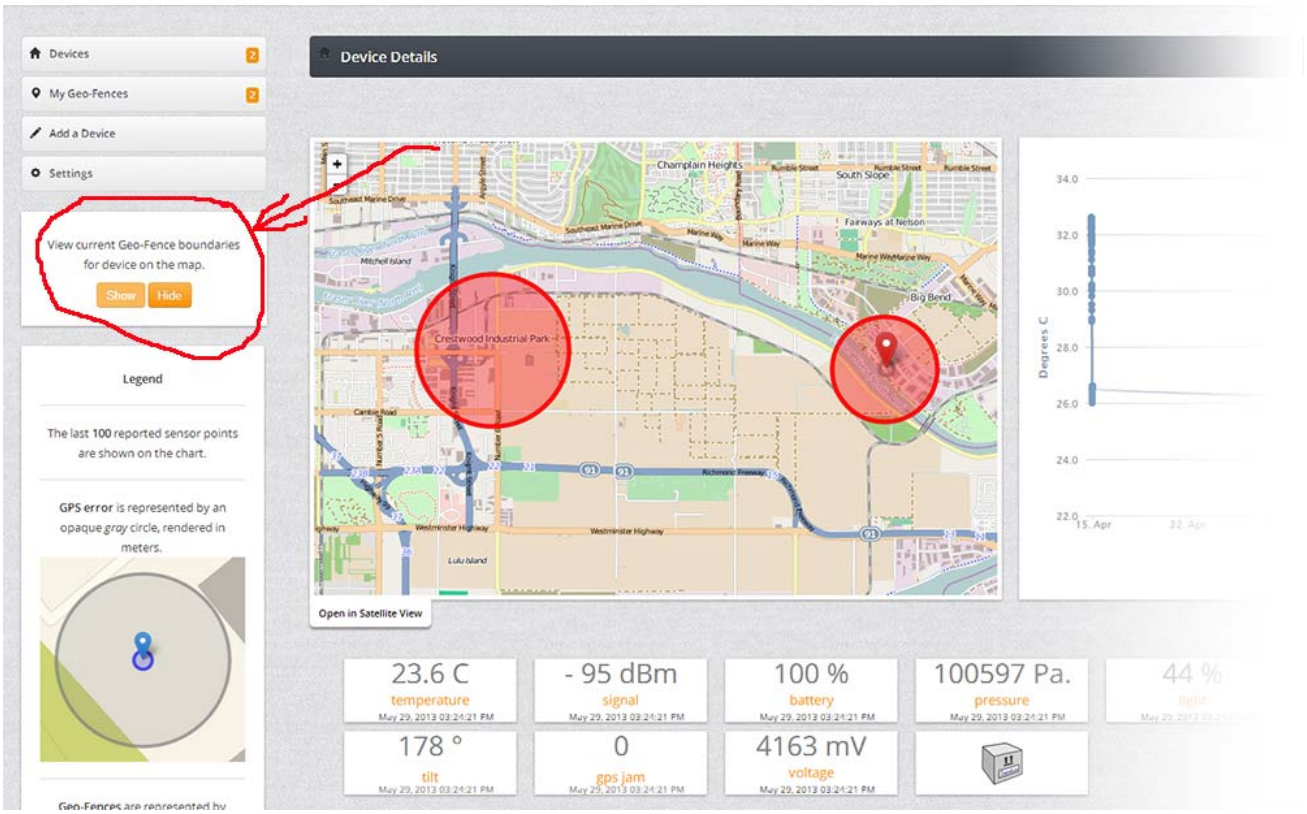
Please refer to the description of the main menu here.

Geo-Fence Show/Hide



On the left side of the Device Details Live View is a toggle switch for displaying your Geo-Fences (if you have any) on the map.

If you have already set up one or more geo-fences, you can use the Show or Hide control to display these on the map. If you don't have any geo-fences saved, this control will not affect anything.



Device Details screen showing Geo-fences on map

If you don't see any geo-fences when you click Show:

1. First, ensure you do indeed have geo-fences, and know where they are, by going to My Geo-Fences
2. Make sure the Show button is indeed clicked (it will be a lighter color than the Hide button)
3. Your geo-fences may not be in the default zoom level of the map. Zoom out on the map until you see your geo-fences.

See Also: Geo-Fence Circles

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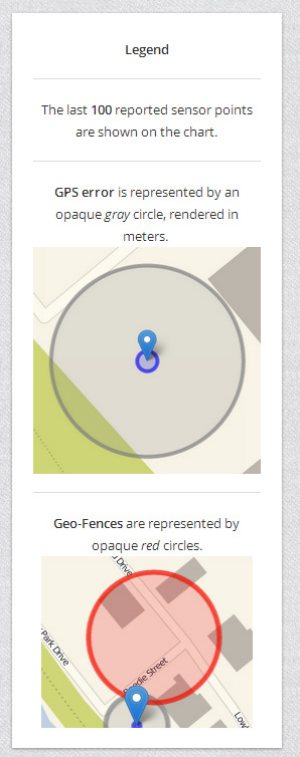
Legend, Device Details Live View —>
— Main Menu

Legend, Device Details Live View



On the left side of the Device Details Live view screen is a legend that provides information on the graph and the map sections. For information on these, please click the links below:

- Sensor Points
- GPS Error
- Geo-Fence Circles

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Sensor Points —>

— Geo-Fence Show/Hide

Sensor Points

. . . . . .

GPS Error —>

— Legend, Device Details Live View

GPS Error

GPS technology is subject to error and the magnitude of this error is dynamic depending on the environment, the location, and the position of satellites.

Findum calculates the degree of error at any given point and shows this graphically with an opaque grey circle. If you don't see a grey circle on your map, try refreshing your browser page.

For more information, see Location Accuracy.

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Geo-Fence Circles —>
— Sensor Points

Geo-Fence Circles

As the legend states, geo-fences are represented on the map with opaque red circles.

To see your geo-fences on your device map:

1. First, ensure you do indeed have geo-fences, and know where they are, by going to My Geo-Fences
2. Make sure the Geo-Fence Boundaries Show button is clicked (it will be a lighter color than the Hide button)
3. Zoom out on the map until you see your geo-fences

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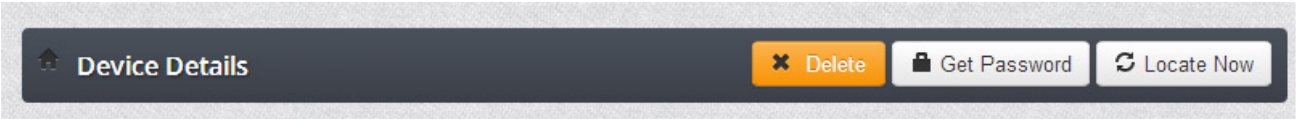
Top Header Menu —>
— GPS Error

Top Header Menu



Refer to the following links for information on the top header menu choices:

- Delete Button
- Get Password
- Locate Now
- Device Name Tag

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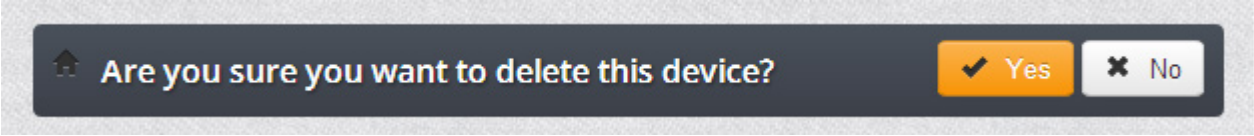
Delete Button —>

— Geo-Fence Circles

Delete Button

The Delete button in the Device Details screen allows you to remove a device from your Findum account.

Once you click Delete, you will be asked to confirm the deletion. Click Yes, to remove the currently active device from your Findum account. Otherwise, click No to return to the Device Details screen.



If you plan to use the device in another Findum account, it's a good idea to note down the Device password of the device you are deleting. Once you remove it from your Findum account, you won't be able to retrieve the password from within your account.

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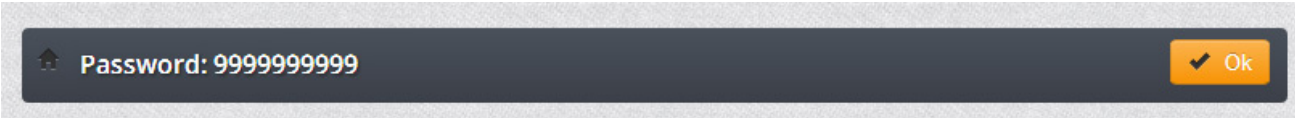
Get Password —>
— Top Header Menu

Get Password

The Get Password function allows you to display the device password associated with your currently viewed device in Findum.

When you click Get Password, your device password will be displayed in the Header bar.



Click OK to hide the device password and return to the regular Device Details screen.

> Knowing your device's password is essential if you have any plans to add this device to another account.

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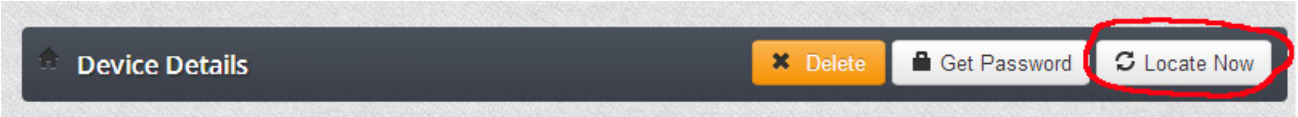
Locate Now —>
— Delete Button

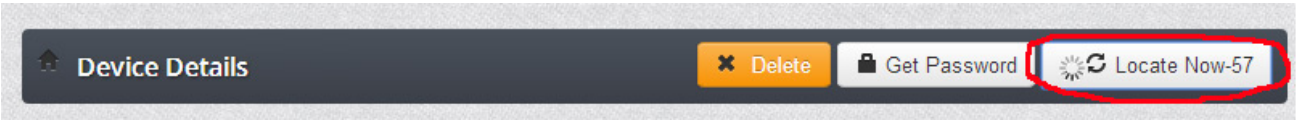
Locate Now



The Locate Now button acts as an instantaneous query option, commanding the device to report to Findum whatever data it currently has within each metric (i.e. location data and sensor report data).

You can use Locate Now button when you want to get updated data (e.g. location, temperature, battery level, etc.) without having to wait for the next scheduled query.

Note the Locate Now function will adhere to the Location settings you have configured on the Device > Configuration page. Depending on these settings and the environment that the device is in, it may take up to a minute to update this data. While it is waiting for a response, Findum will display a countdown timer.



Once Findum connects with the device, all of the updated data will be displayed or otherwise made available.

If, after one minute, no response is received from the device, a warning notification will be displayed informing you that the device has not acknowledged the Locate Now command. If this happens, it's possible that the device may be out of cell coverage or that the device battery may have drained down too low.

Note also that every time you use the Locate Now function, it draws extra power from the device battery. So you want to use it judiciously and with purpose.

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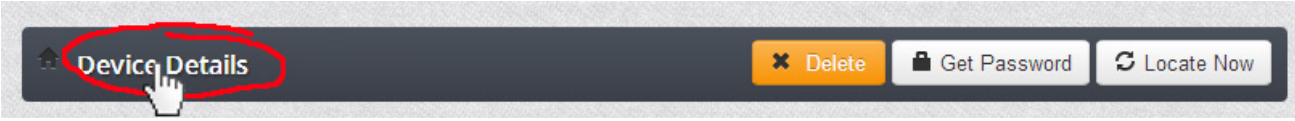
Device Name Tag —>
— Get Password

Device Name Tag

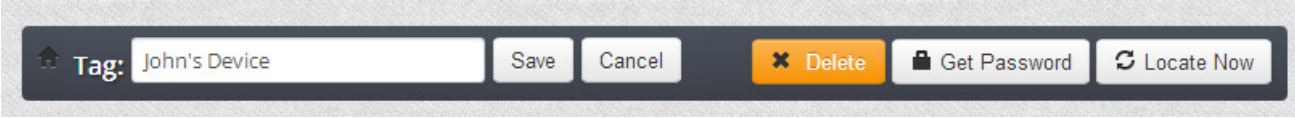
The Device Name Tag provides you with a way to meaningfully name and identify your devices in Findum.

To use this function:

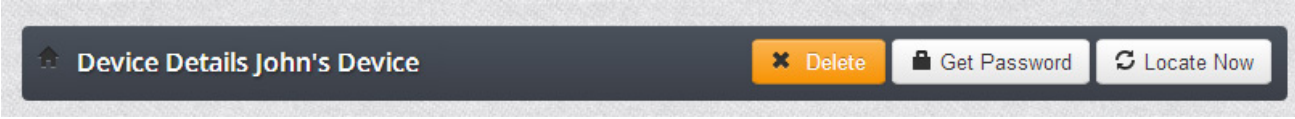
Click on the header over top of the text “Device Details”. The tag field displays where you can enter a device name.



Enter the name you want for your device and click Save.



The Header will now display the new Device name in the Device Details pages as well as the Dashboard View by Cards page.



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View By Menu —>

— Locate Now

View By Menu

Map Window

The Map Window is a section of the Device Details screen that shows a map that pinpoints the last reported location of the device.

You can zoom in or out on the map by using the “+” or “-” buttons in the top left corner. You can also display a satellite image of the map by clicking the Open in Satellite View link.

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Open in Satellite View —>

— View By Menu

Open in Satellite View

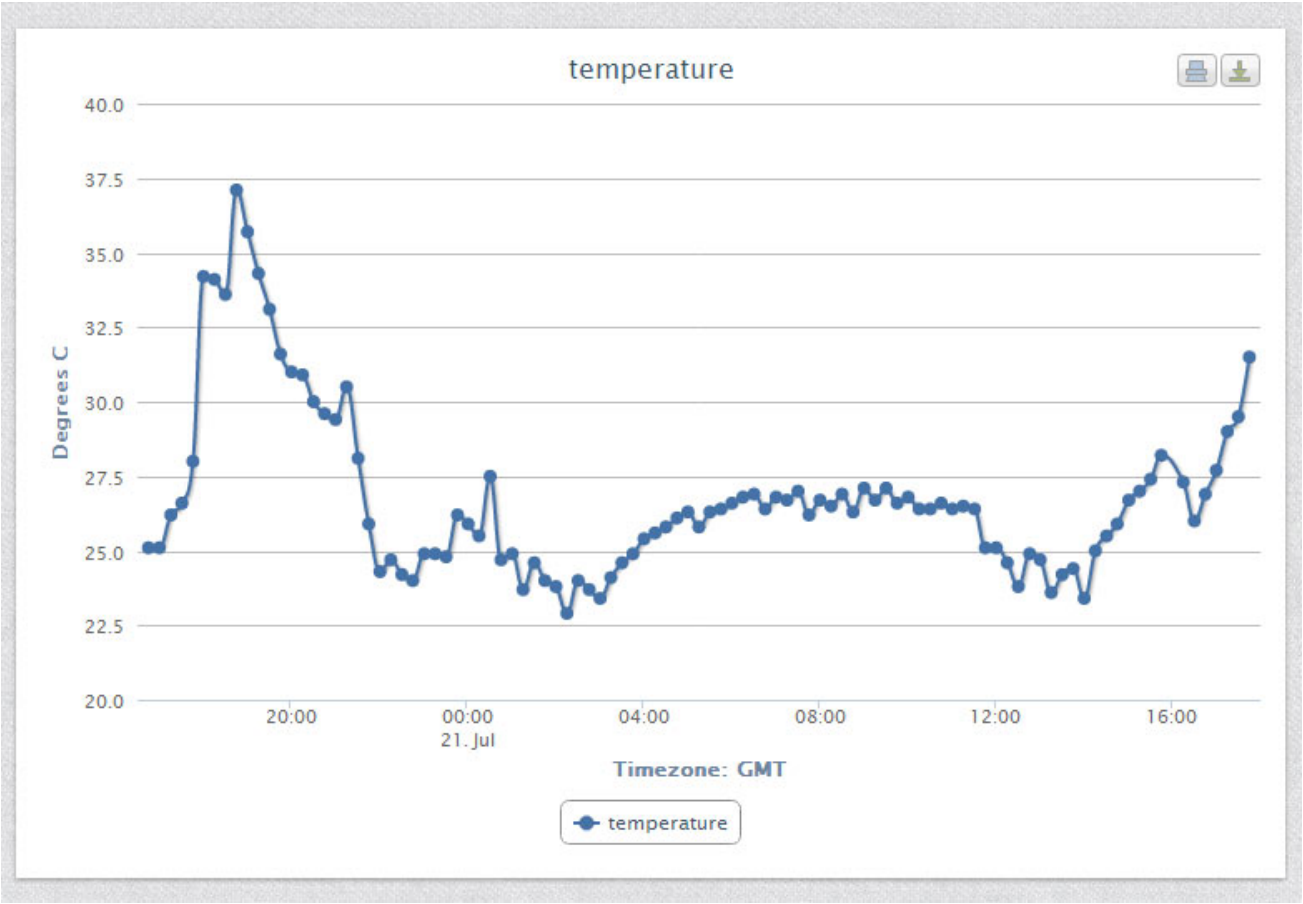
You can view your maps in an aerial photograph format by clicking the Open in Satellite View link below your map.

When you click this link, a new Google Maps window will open that matches the area shown on the standard map.

Google Maps satellite view in new window

Sensor Window (Graph) —>
— Map Window

Sensor Window (Graph)



A Typical Sensor Window (Temperature Graph)

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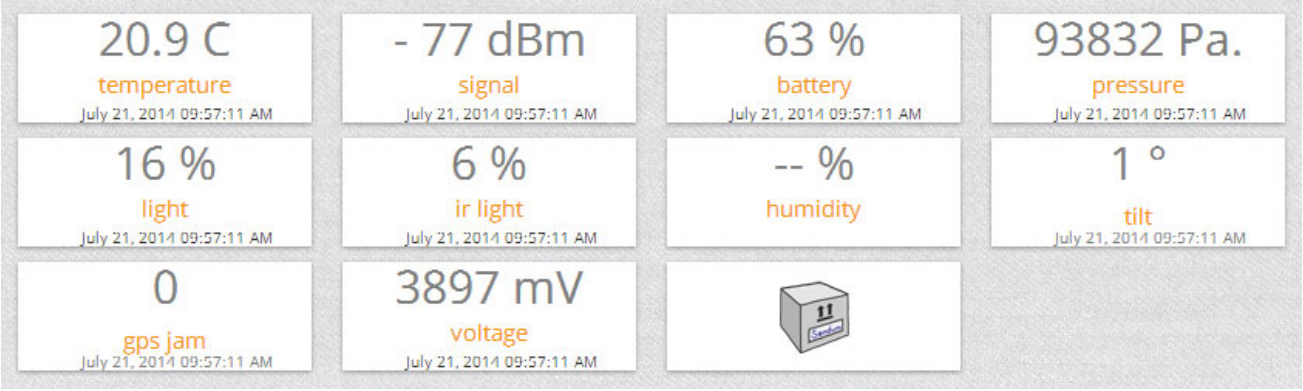
[Sensor Buttons —>]

[— Open in Satellite View]

Sensor Buttons

The Sensor Buttons section on the Device Details screen allows you to choose what data you want graphed in the Sensor Window.



Example set of Sensor Buttons

To use the Sensor buttons, just click on the desired one and the graph in the Sensor Window will be automatically changed and updated.

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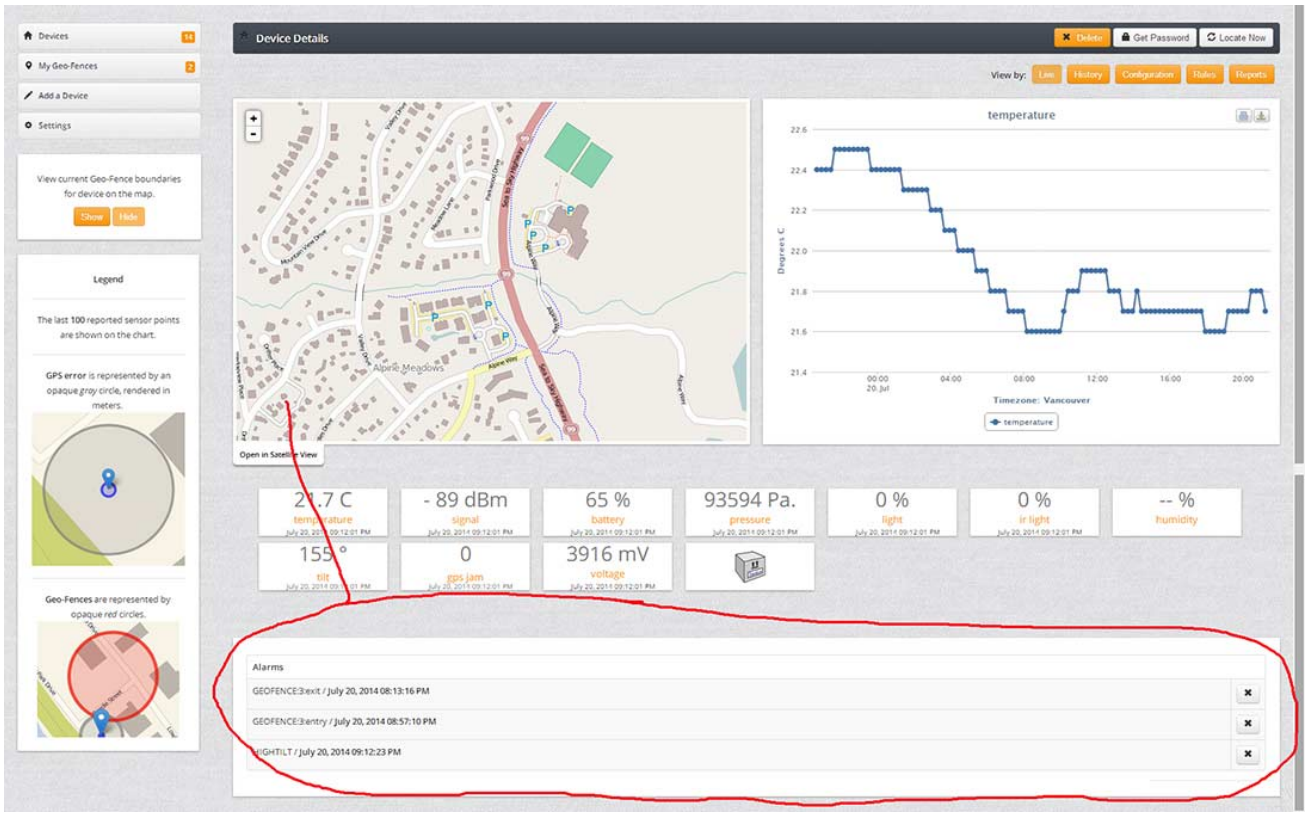
Alarm Notifications —>
— Sensor Window (Graph)

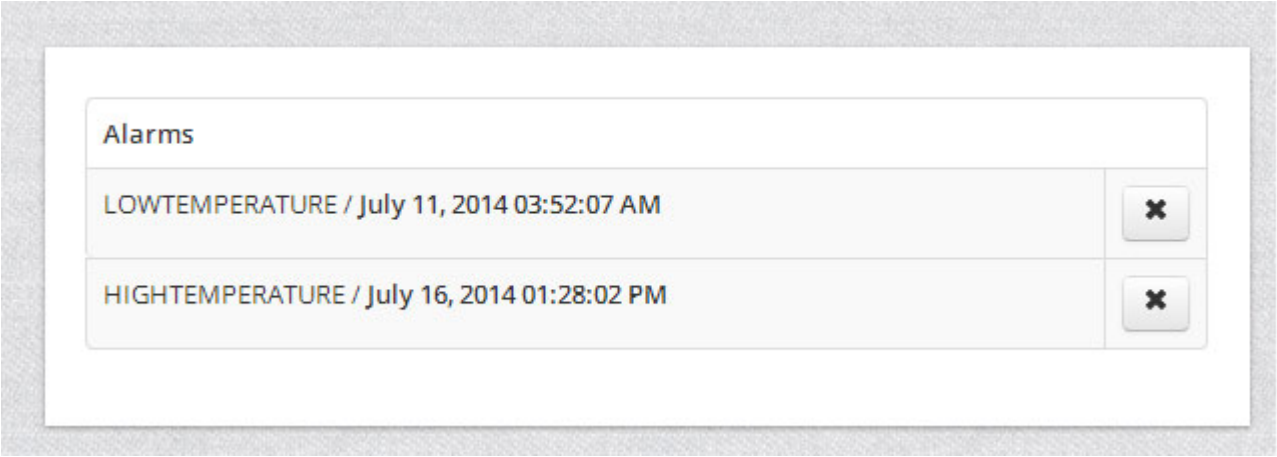
Alarm Notifications

Alarm Notifications applicable to a device are shown below the Map and Sensor Windows on the Device Details screen.



Device Details Screen with Alarm Notifications Displayed

To acknowledge and clear an alarm notification, click the X to the right of the alarm data. Note that ANY user with access to the device can clear an alarm. This alarm will then be cleared for ALL users with access to that device.



Example Alarm Notifications

For important information on alarms and how to use them, please refer to Alarms.

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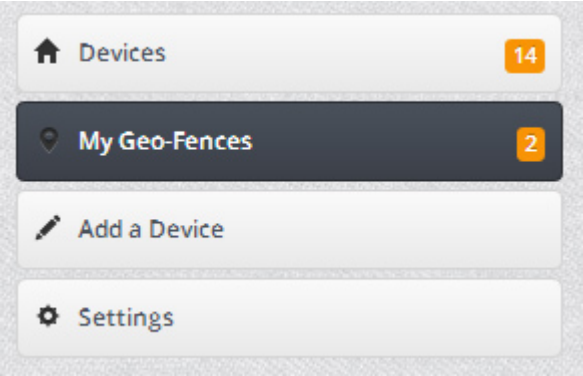
My Geo-Fences —>
— Sensor Buttons

My Geo-Fences



This function allows you to create or adjust geo-fences that can be used with one or more devices.

Note that in the My Geo-Fences link (see image above) there is an orange box with a number in it. This number indicates the number of geo-fences currently set up in the account.

- Your first Geo-Fence
- Creating a New Geo-Fence

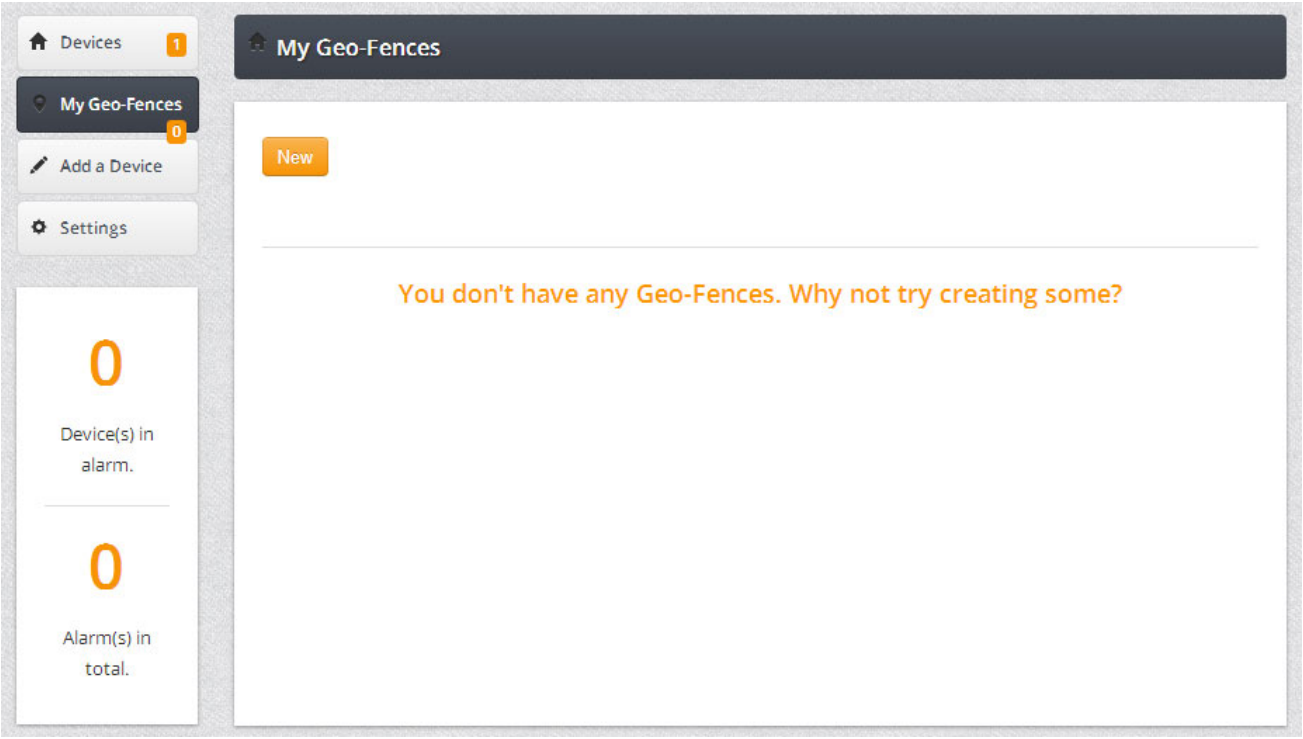
. . . . . .

Your first Geo-Fence —>

— Alarm Notifications

Your first Geo-Fence

If you have don't have any geo-fences set when you click My Geo-Fences, Findum will prompt you to create some with the following on-screen message:



To create a new geo-fence, follow these instructions.

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Creating a New Geo-Fence —>

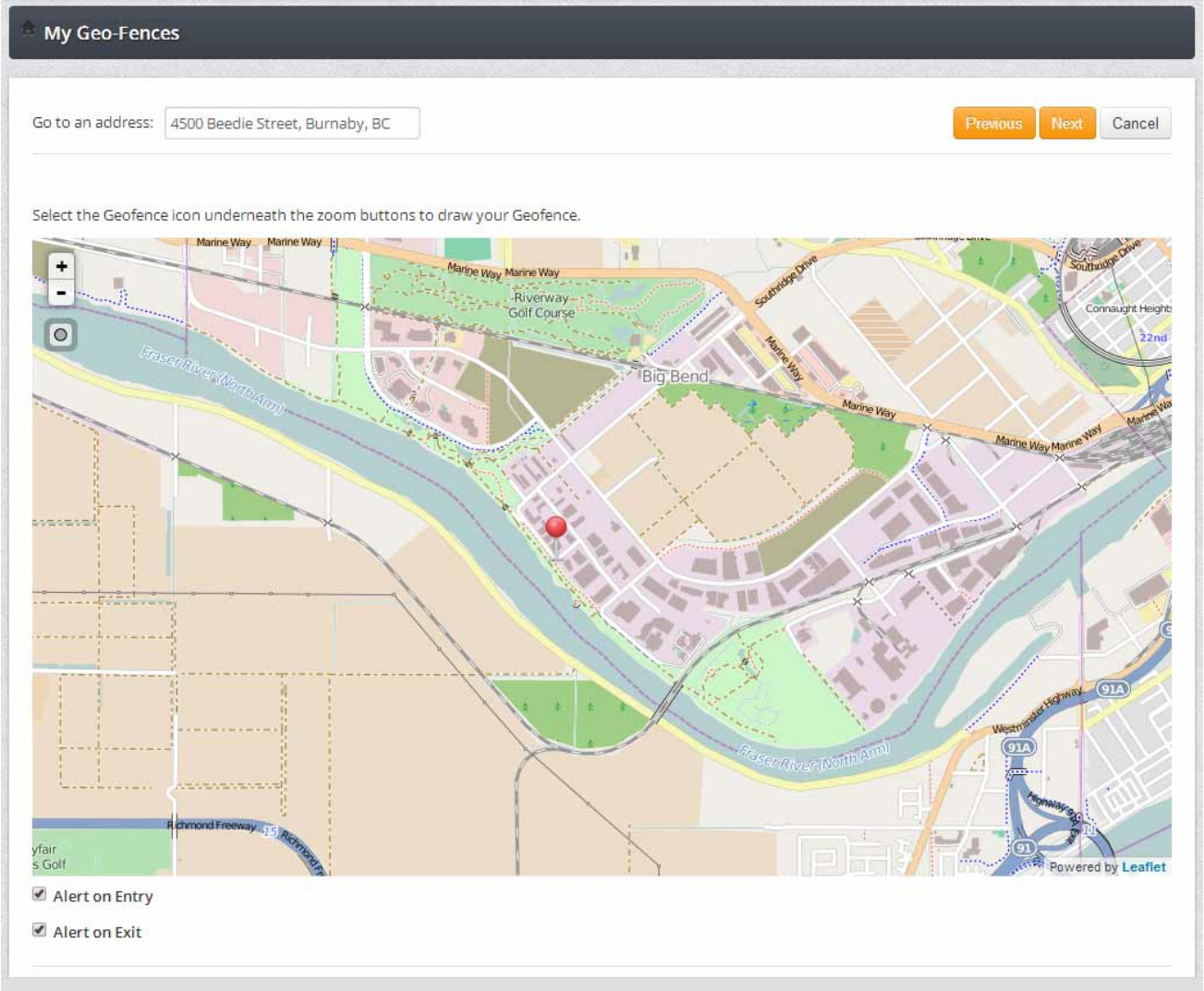
— My Geo-Fences

Creating a New Geo-Fence

You can create a new geo-fence by going to My Geo-Fences, then clicking the New button in the upper left hand corner of the screen.

1. A map screen will be displayed that should default to the area where you currently are (see below).
2. With the hand cursor displayed, click and drag the map using your mouse to navigate to any location on the map. You can also use the + or – zoom buttons in the upper left of the map to zoom in or out.
3. To save time, you can also just enter a specific address in the field above the map, which will then automatically

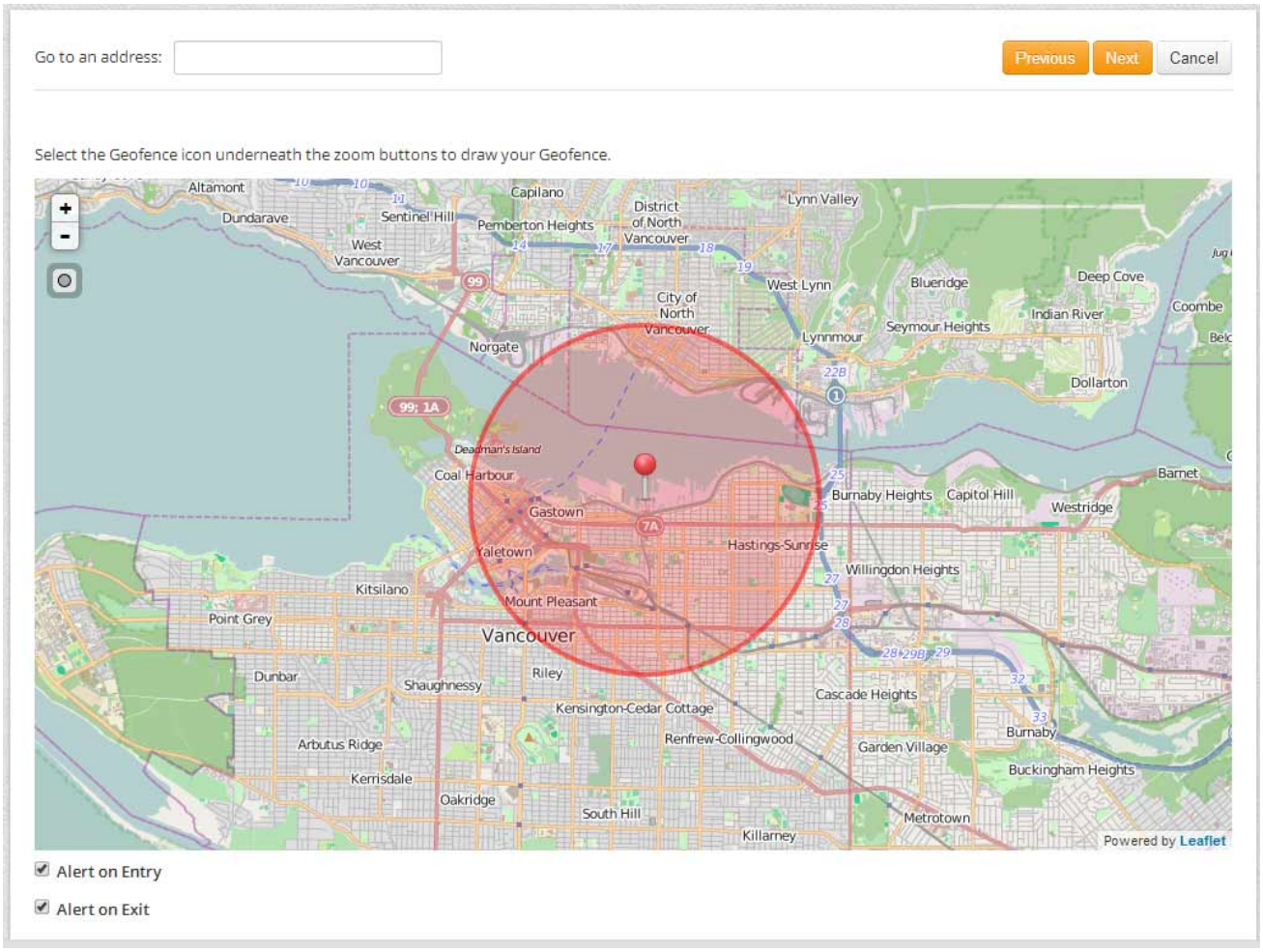
navigate to that area.



The Geo-Fence map screen

4. Once you know where you want your geo-fence, click the geo-fence icon beneath the zoom buttons.This activates the geo-fence location function and makes the cursor become a cross-hair.
5. Move your mouse to the center of where you want your geo-fence to be, then click.

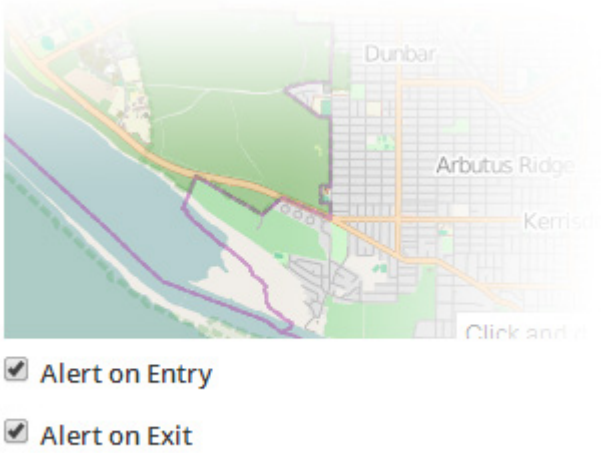
6. Move your mouse again to adjust the size of your geo-fence circle. When you are happy with it, click again to set it.



Setting the size of a Geo-Fence

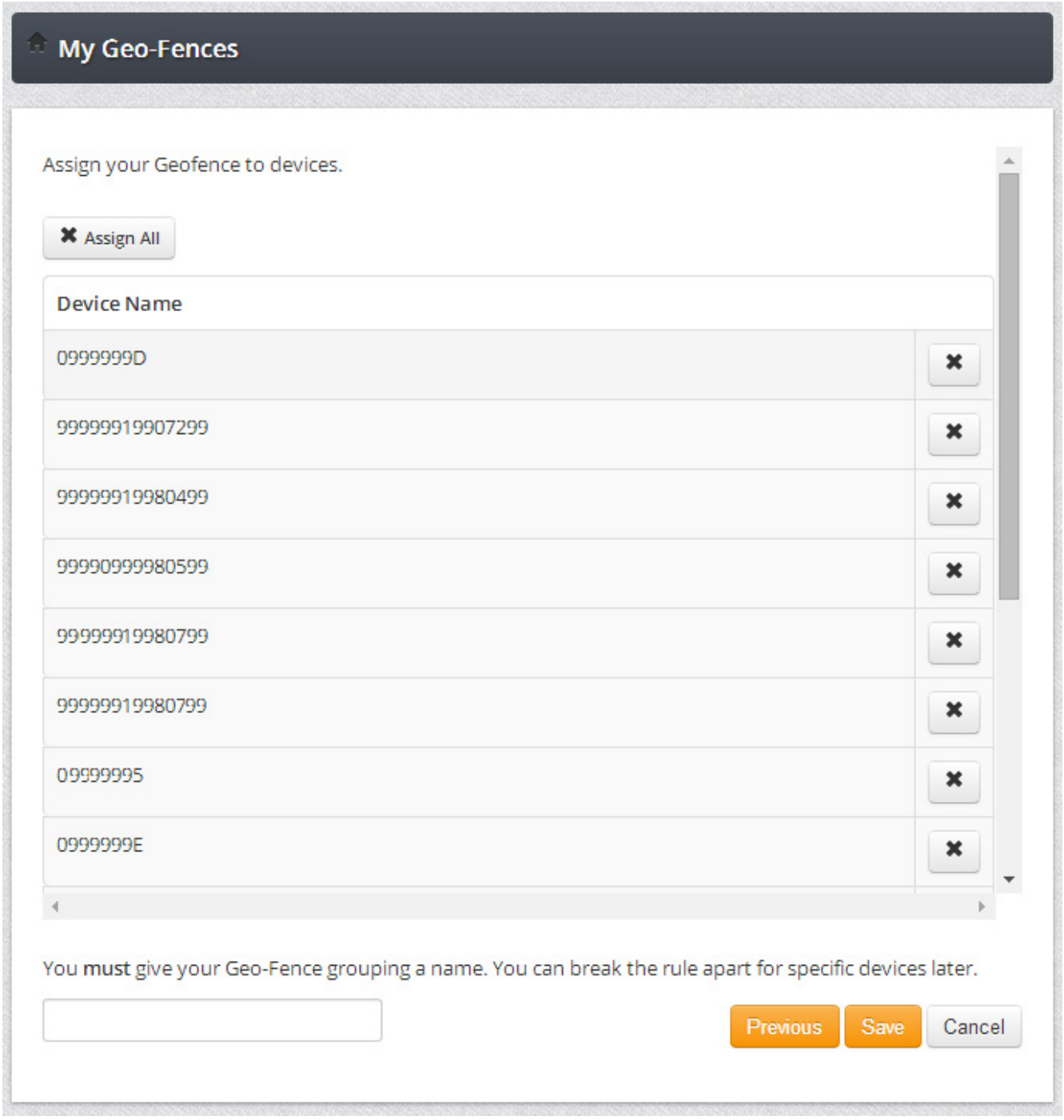
7. Review and/or set the Alert conditions boxes in the lower left of your screen. There are two possible alert conditions to be set, Alert on Entry and Alert on Exit. At least one of these need to be checked

before continuing.



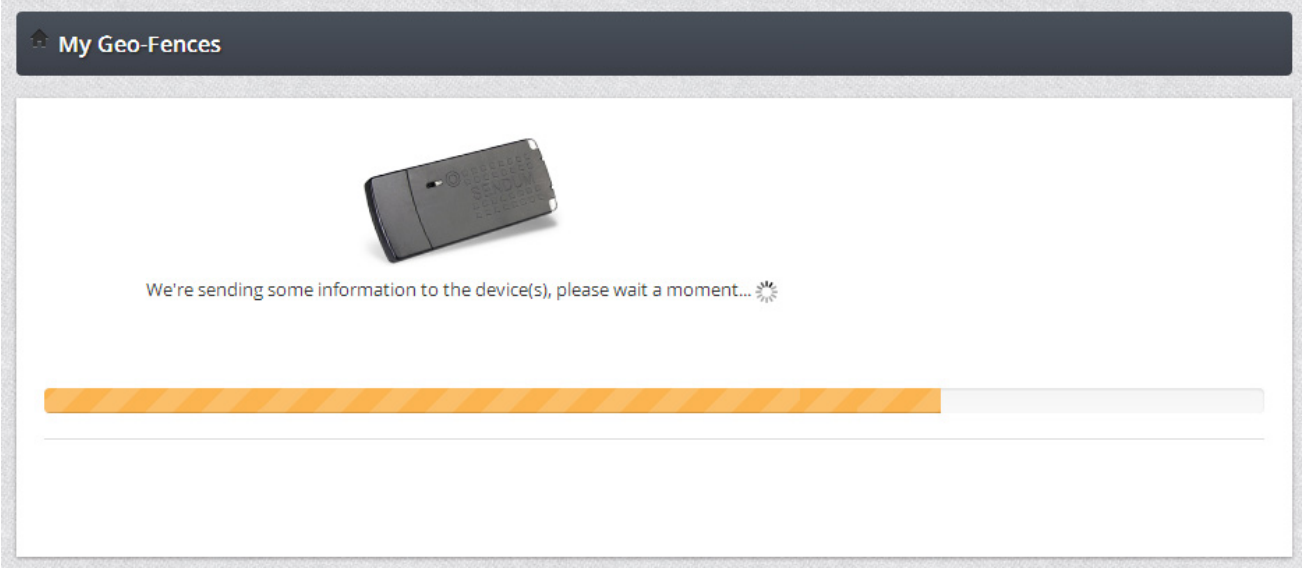
8. Click the Next button in the upper right corner of the screen to proceed.

9. A listing of all of your devices will be displayed. From here, you will be able to assign registered devices on the account to the newly created geo-fence.

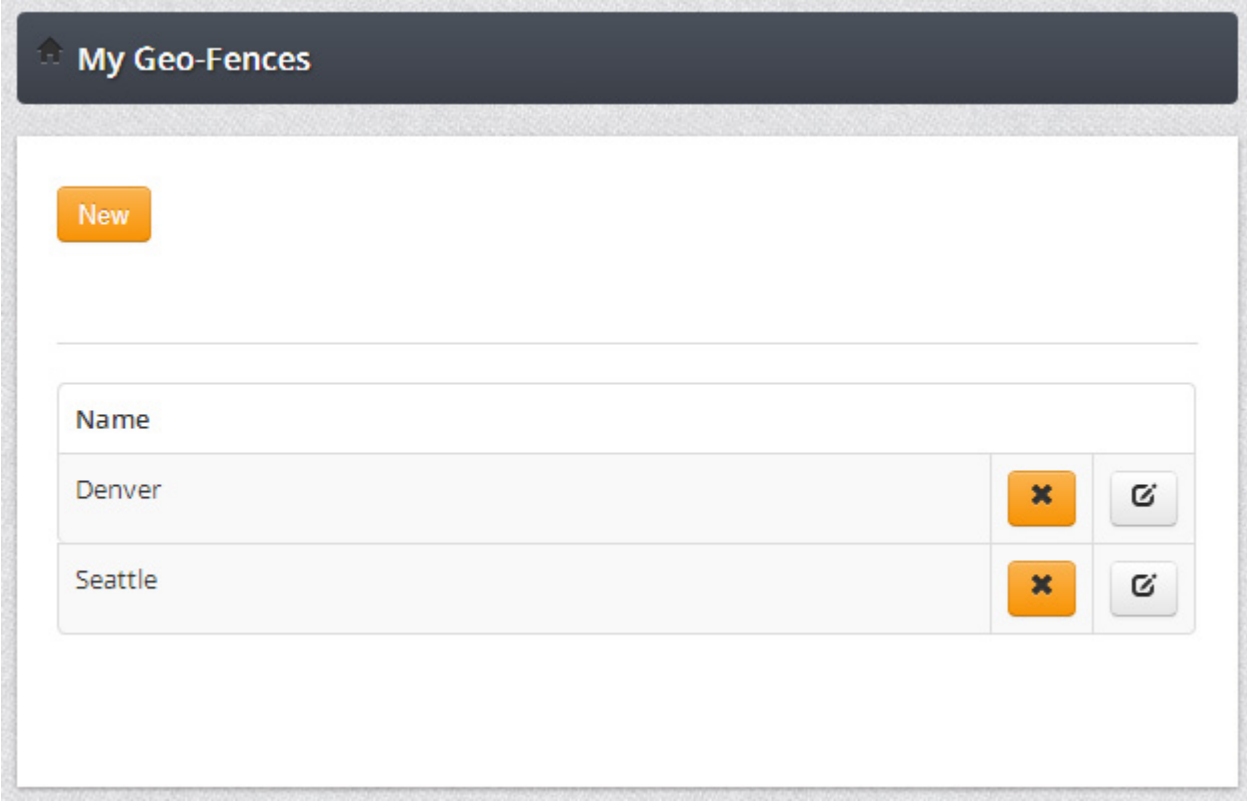


10. At the top of the screen you are given the option to assign all your devices to the new geo-fence by clicking on the “Assign all” button. Clicking the button again will deselect all devices.

11. In the middle of the screen the individual device(s) in your account are displayed, listed by their device identifiers. You can manually select which devices to assign to the geo-fence by clicking on the black “X” on the device line. Once selected, the “X” will become a checkmark, signifying that the device is currently selected to be included within the geo-fence. Note that it is best to only choose the devices that will actually use the geo-fence to prevent unneeded network connections.
12. To remove a device from the geo-fence list, simply click on the checkmark, and a black “X’ will reappear on the line.
13. Once you have selected the devices to assign to your geo-fence, you must give your geo-fence a name. For this, use the field at the bottom left of your screen. A descriptive name is best so that if you want to edit it later, you can easily find it.
14. After you have chosen a name for your geo-fence, click on the Save button on the right side of your screen.
15. Findum will now send the information for the new geo-fence to the associated device(s), and the following screen will be displayed until the information has been received.



16. Once the information has been received by the device(s), Findum will display the geo-fence listings.



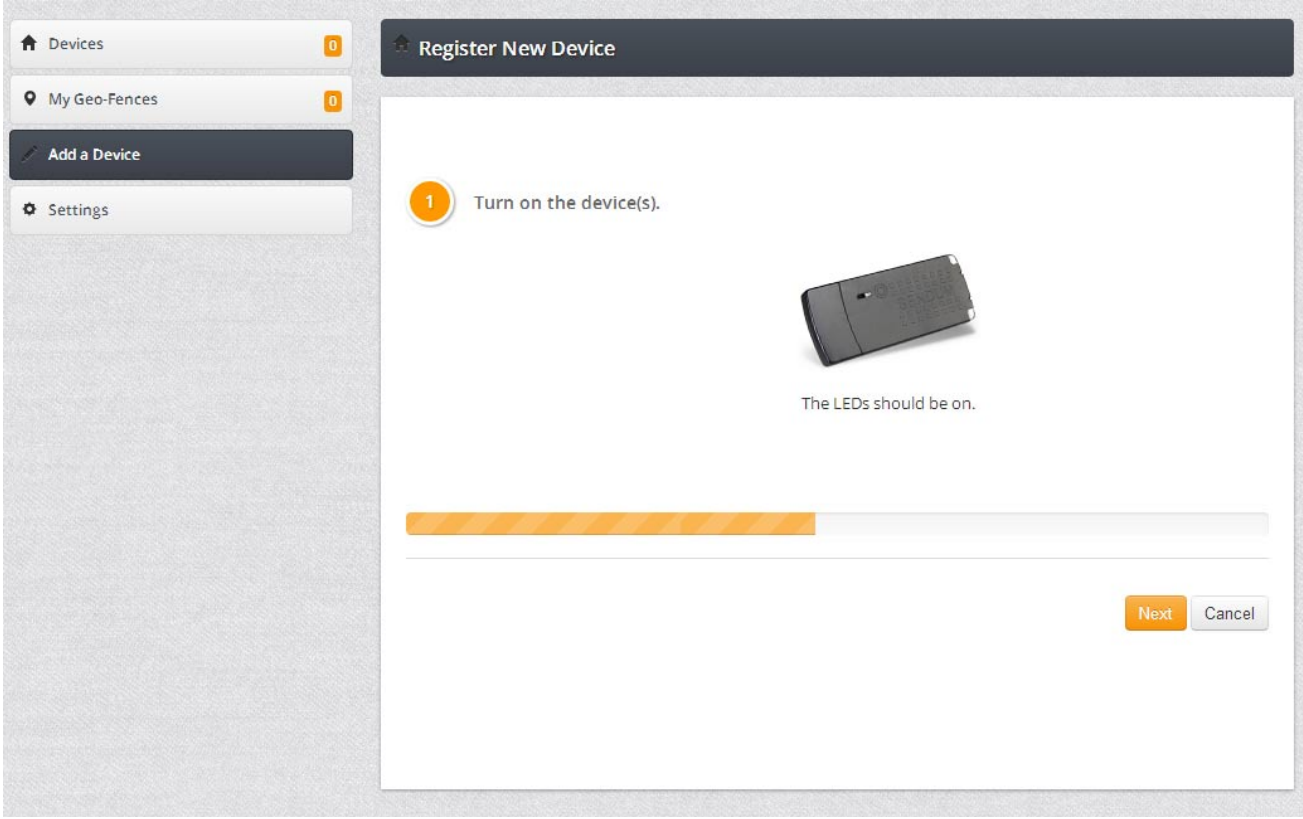
17. Each geo-fence is displayed on its own line with an option to delete the geo-fence by clicking on the black “X” inside the orange box on the right side of the screen, as well as an edit option (the pen and paper icon to the right of the X) to re-calibrate the settings of the geo-fence.

Creating a Geo-fence

. . . . . .
Add a Device —>
— Your first Geo-Fence

Add a Device

When you click the Add a Device link (or log into a new account for the first time), you will arrive at the Register New Device page where you will be able to enter information that adds a device to your Findum account.



Please refer to the article entitled Adding Devices to your Findum Account in the Getting Started section.

> Note the Register New Device page is the default landing page when you log into a Findum account that has no devices registered in it.

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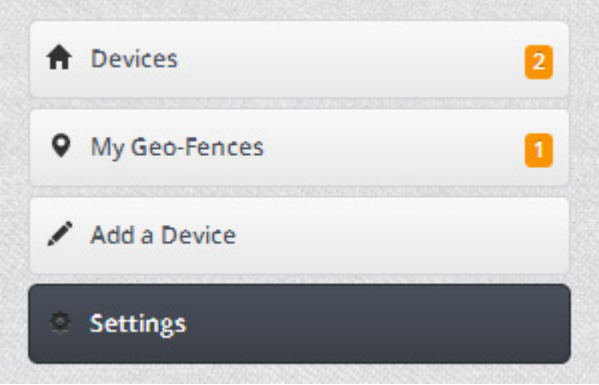
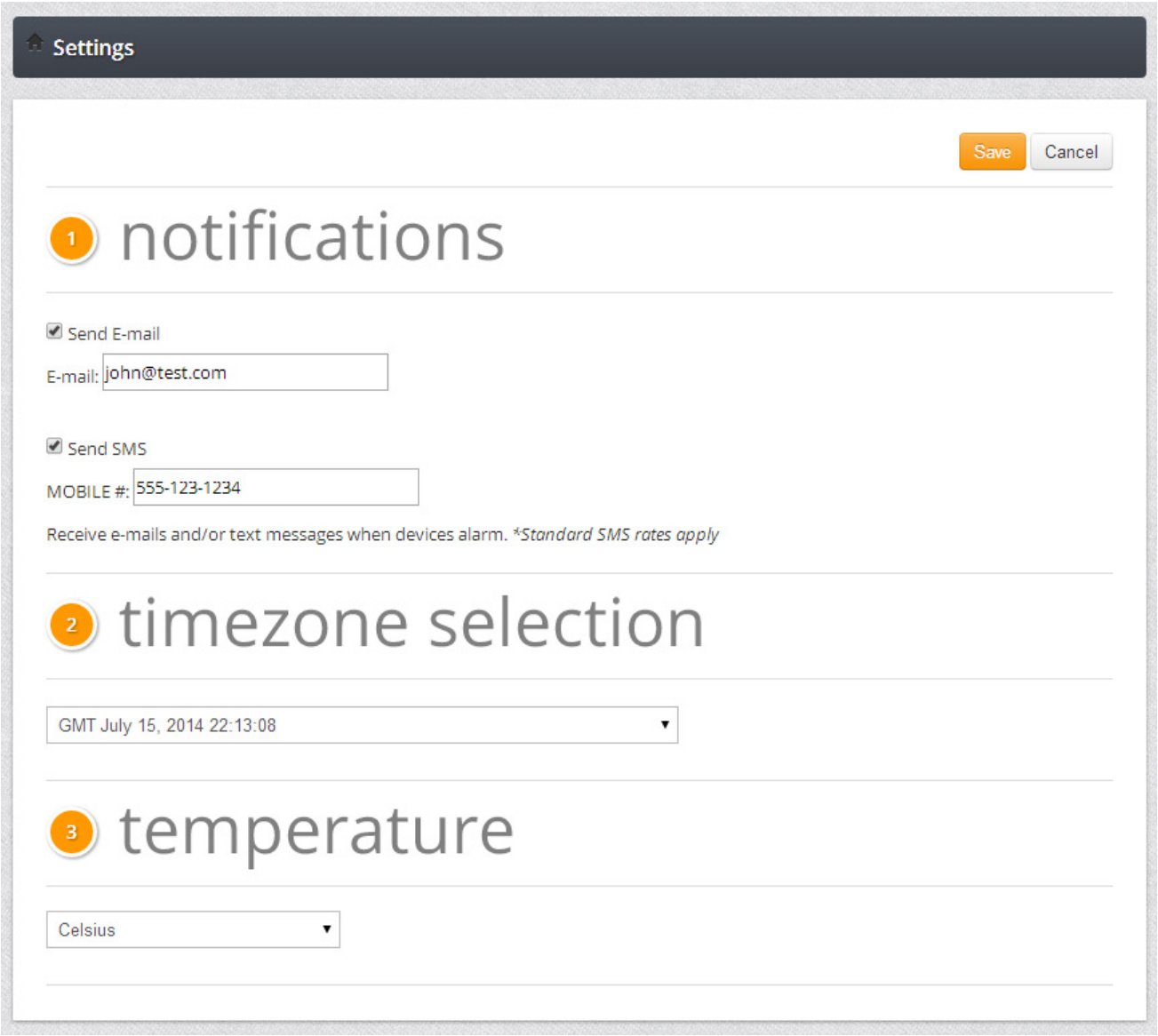
Settings —>
— Creating a New Geo-Fence

Settings

The Settings page is a section where you can configure global changes to your Findum account, including setting up SMS Text and Email notifications, setting the Timezone for notifications and graphs, and setting the scale used on Temperature graphs.



To navigate to the Settings page, select “Settings” from Findum’s main menu in the upper left-hand corner.



The Settings Page

For information on each of the options for this page, refer to the links below:

Related Links

- Notifications
- Timezone Selection
- Temperature Scale

. . . . . .

Notifications —>
— Add a Device

Notifications

You can enter an email address and telephone number as a destination for alarm notifications by using the Settings > Notifications function.

After completing making changes to the Settings page, remember to click the Save button to save your changes and send them to your device.

Alarm notifications are generated when sensors exceed the thresholds set using the Rules function – or when geo-fence boundaries are crossed. These will then get sent to the locations you specify here. Note that you may incur extra charges for SMS text messages.

> Note that at this time only a single email address can be entered for notifications. If you require multiple people to be alerted, this is possible by asking your email administrator to set up an email alias that distributes to your email address and as many others as you want. That way, when an alarm is generated, the notification will simultaneously get delivered to all the parties that are required.

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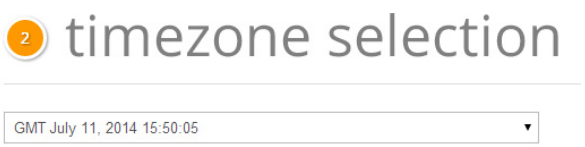
Timezone Selection —>
— Settings

Timezone Selection



You can set your desired timezone selection by using the Settings > Timezone selection drop down box.

The timezone you choose here will be reflected on all time displays associated with your Findum account, including graphs, time-and-date stamps, and alarm notifications.

To select a time zone using the list, choose the name of the city nearest to your location or that you know shares the same time zone.

After completing making changes to the Settings page, remember to click the Save button to save your changes and send them to your device.

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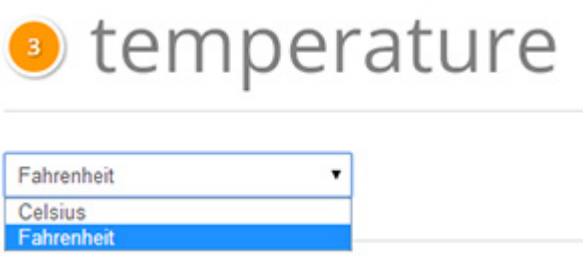
Temperature Scale —>
— Notifications

Temperature Scale

You can set the scaling of displayed temperature readings and graph data by clicking the drop-down box and selecting either Celsius or Fahrenheit (degrees).



The chosen scale will apply to all devices in your account as well as all views including the Dashboard (View by Card) and Device Details (Live View, Rules, and Reports).

After completing making changes to the Settings page, remember to click the Save button to save your changes and send them to your device.

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Language —>
— Timezone Selection

Language

You can change the language for the Findum interface using the Languages drop-down box.

To change the language of your interface, including the language used on text and email alerts, select the language from the drop-down box, then click the Save button at the upper right.

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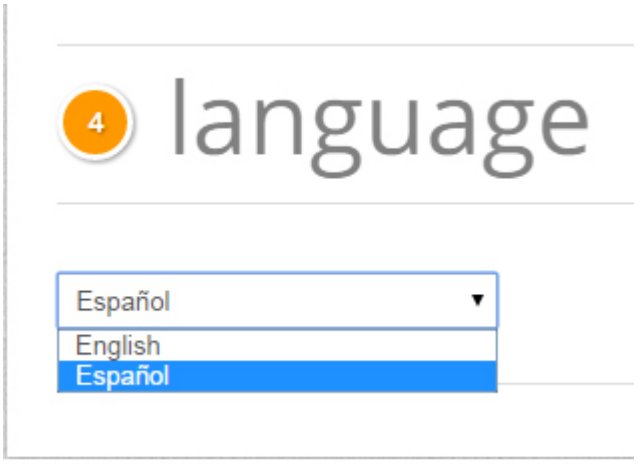
Entering Account Settings (Video) —>
— Temperature Scale



Entering Account Settings (Video)

Topical References

This section covers various topics important to the operation of your tracking and monitoring devices.

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Account (Airtime / Data Plans)

Before you can start using your tracking device, you'll need to have an M2M (Machine-to-Machine) airtime account set up with your Wireless Service Provider. If you have multiple devices, you'll need to have an airtime account for each device.

In order to do this, you'll need to:

- provide them with each device's Device Indentifier
- request an SMS package (SMS is the method the device uses to communicate data to the server; it stands for "Short Message Service")
- request a data plan and specify the type of data account plan you need. The most commonly requested plans are 1MB, 5MB and 10MB.

As a rough guide, a 5 MB data plan (the most popular choice to start out) could handle approximately 5,000 messages per month. A message could include a location request, a sensor report, or an alarm notification. A 1 MB data plan would cover roughly 1,000 messages and a 10 MB plan about 10,000 messages.

So how many messages per month apply to a particular application? That depends on how frequently you want your devices to communicate. If you are only interested in communicating with a device a couple of times a day, choose the 1 MB data plan. If your needs are more intensive, say getting location fixes and sensor reports every 15 minutes, shoot for a larger data plan. You can always adjust your plan later based on your actual usage.

Choosing a data plan that's smaller than what your needs actually are can be costly, as you may incur overages. Consequently, choosing a plan on the high side is a good idea when you are starting out.

Related Links:

Understanding Data Usage
Minimizing Data Connection Charges

. . . . . .

Understanding Data Usage —>
— Topical References

Understanding Data Usage

Here are some considerations regarding data usage that are important to know in order to minimize costs:

- A typical status report with GPS location message sent from a device to Findum is roughly 1KB (note that on some carriers the minimum billing charge is 10KB).
- The amount of data you consume through text messages depends on a number of factors. How tightly you set alarm conditions (i.e. Rules and Geo-Fences). How quickly you clear alarms. How many devices you are tracking and monitoring.
- The amount of data consumed through Locate events and Sensor Reports depends greatly on the intervals that you set up in the Device Configuration. The more frequent the interval, the greater the data usage.
- Some wireless service providers gauge data usage based on the actual size of messages sent. For example, if a message is 782 Bytes, that's what applies to your account. Other carriers round up the data usage to the next 1K increment. Still others round up to the next 10K increment. Knowing the policy of your provider will help you gauge what size of data account you will need.
- A Sensor Report typically uses about 10KB
- An Autonomous Locate uses zero data for the GPS fix but since a Sensor Report always accompanies an Autonomous Locate, each Locate then uses 10KB
- The data usage for an Assisted Locate is quite variable. The first step in an Assisted Locate is to do a "zero data" Autonomous Locate. If that is successful, then the only data usage is with the Sensor Report which always accompanies an Assisted Locate. However, if the Autonomous Locate step is not successful, then Findum tries an Assisted Locate which will involve connecting to one or more networks. This can vary from 1KB to 10KB of data.

Related Information

- Setting up an Airtime Account
- SMS Texts
- Sensor Reports Data
- Assisted Locates Data
- How Carriers Charge for Data

. . . . . .

SMS Texts —>
— Account (Airtime / Data Plans)

SMS Texts

The primary source of data usage (in regards to your Carrier account) in the Findum system is with the SMS text communications that Findum uses to send sensor reports, locations fixes, and sensor and geo-fence alarms. Here are some considerations to keep in mind.

The amount of data you consume through text messages depends on a number of factors:

- The size of each text. A typical SMS text message sent from Findum is roughly 1KB (1,000 Bytes).
- How tightly you set alarm conditions (i.e. Rules and Geo-Fences) and how quickly you clear or otherwise resolve those alarms.
- How your Carrier calculates SMS text data usage.

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Sensor Reports Data —>
— Understanding Data Usage

Sensor Reports Data

Each time a device sends a Sensor Report, there is data that is consumed.

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Assisted Locates Data —>

— SMS Texts

Assisted Locates Data

The amount of data consumed for Assisted Locates depends on the environment that a device may be in.

- If the device is in a GPS impaired environment, it may take longer for your device to get a location fix and this can involve data usage with one or more networks.
- If the device is in a good GPS environment, data usage will be minimized as location fixes are then possible without network connections.

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How Carriers Charge for Data —>
— Sensor Reports Data

How Carriers Charge for Data

Knowing how much data capacity you will need for your account with your Wireless Service Provider depends on a number of factors, not the least of which is how the Carriers actually charge for data and SMS text messages.

Some providers gauge data usage based on the actual size of messages sent. For example, if a message is 782 Bytes, that's what applies to your account.

Other carriers round up the data usage to the next 1K increment. Still others round up to the next 10K increment.

Every time you configure (or reconfigure) your device or request a locate now, a SMS message is sent to the device. Also, every time your device reports its location and/or sensors, it reports using a data plan.

Understanding the billing policy of your wireless service provider in how they bill for data usage and SMS text messages will help you determine what size of data and SMS plan you will need to prevent overage charges.

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Minimizing Data Connection Charges —>
— Assisted Locates Data

Minimizing Data Connection Charges

The amount you pay for data connection charges with your wireless service provider can vary depending on how you set up Findum to work with your devices.

Every time your device communicates with the wireless network, it consumes data. Consequently, if you can minimize the number of times communication is required, you can reduce your data connection charges. This can allow you to use a smaller data plan as well as to avoid or minimize overage charges.

Here are some data-saving strategies:

- Minimize the frequency of Location Fixes or Sensor Reports. Each of these can consume around 10KB of data. If getting a Location or Sensor Report twice a day is sufficient, then that will use considerably less data than if you set it for once an hour.

- A key data saving strategy is to use the Sendum system's alarm reporting features so that reports don't have to be sent on a set schedule (say, every 15 minutes). Instead a report would be sent only when there is an exception – which may be very rarely (e.g. when something goes out of temperature range or the device goes outside geo-fence parameters). Note that for location tracking, avoiding network transmissions may not always be possible because if the signal is impaired it has to go back to the server which requires a transmission. But for unimpaired location signals, there is no need to transmit to the server.

- For location tracking, if the device is not moving, then the Sendum system can be set to stop sending reports or doing any transmission (i.e. Sleep Mode). This is a "no motion, do nothing" mode that saves data and is ideally suited for location-only tracking. As an example, if a truck driver is driving down the highway and pulls to a truck stop, the device will be powered off and stop reporting location. So the client will know the last known location where the truck stopped. When the truck starts moving again, then the radio will start up again and start reporting.

- On an airplane, Sendum PT300's will always attempt to power off and put the radio into airplane mode. Although the primary purpose of this is to save power, it, of course, also saves data. The battery will continue to be used to periodically check sensors and, in addition, to power up the system regularly to check if there is a network available. If there is no network available, the system will remain in power-saving airplane mode.

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[Accounts (Findum) —>]

[— How Carriers Charge for Data]

Accounts (Findum)

- Setting up an online account in Findum is necessary in order to access the data provided by Sendum devices.
- An account is specific to a single email address.
- One account can access an unlimited number of Sendum devices.
- Sendum devices can be accessed by multiple Findum accounts.
- If you forgot your Findum account password, you can still log in if you know the email address with which the original account was set up (see Forgot your Password?)
- If you forgot the email address that your original account was created under, you will have to revisit your original order information. Or failing that, contact Sendum Support.

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Alarms —>
— Minimizing Data Connection Charges

Alarms

One of the key features with the Sendum system (and Findum software) is the ability to create alarms that alert you instantly (through email or SMS text) when certain conditions or thresholds are met.

For example, you can set up temperature alarms that indicate problems with refrigeration or heating systems, humidity alarms that indicate moisture problems, battery alarms that let you know how long your battery-operated device will last, or Geo-Fence alarms that alert you to shipments that have gone off track (or arrived at their destination). Alarms are available for all measured parameters on Sendum devices and can be a very useful way to keep current on all aspects of your monitored asset. And to save you time from having to login and check conditions manually.

There are two main functions that generate alarms.

1. **Sensors**: The measured parameters for your devices (e.g. temperature, relative humidity, battery level, etc.) The thresholds for these alarms are set through Rules. When device measurement exceeds or falls below set rules, alarms will be generated.
2. **Location**: When you create Geo-Fences (or virtual geographic boundaries), alarms can be created when a device crosses these boundaries.

The key to creating alarms is to be careful. You want to make sure the alarm notification is useful and not frivolous. If you set the alarm parameters too tightly, you risk getting alarms too frequently which might lead to ignoring important ones later on. In contrast, setting alarms too loosely can lead you to miss important events.

Key Considerations

The following are important notes and considerations about how Alarms in Findum work:

- Alarms are managed at the DEVICE level (Device Details > Rules, and Device Details > Configuration)
- ANY user with access to the device can clear an alarm. This alarm will then be cleared for ALL users with access to that device. Consequently, it is important to restrict device access to users who understand the significance of clearing alarms.

- A TRIANGLE icon on a Dashboard card indicates the device has an uncleared alarm.
- If a device has an uncleared alarm condition, and another alarm of that type (e.g. HIGHTEMPERATURE) is triggered, NO notifications will be sent to the users having access to that device via text and/or email.
- If a NEW alarm condition is triggered (e.g. LOWBATTERY), then notifications will be sent to ALL users with access to that device via text and/or email.

Setting up Alarms

1. **Rules**. Set your sensor thresholds using the Rules function.
2. **Geo-Fences**. Set geo-fences that trigger alarms when a device crosses the defined boundaries.
3. **Notifications** When alarms are triggered, it is essential to define a location to send the alarm notifications. You can do this through the Settings > Notifications function. The data you enter here will apply to all notifications in your account, and for all alarms and devices. If no entries are made here, you won't receive any alarm notifications!
4. **Alarm Check**. You can set how frequently your device checks internally for alarm conditions by going to Device Details > [Device] > Configuration > Alarm Check. The setting you make here will apply only to the device you are entering it for.

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Conserving Battery Power —>
— Accounts (Findum)

Conserving Battery Power

As some Sendum devices rely entirely on battery power, it is important to be aware of different settings in Findum that affect battery life.

These include:

1. How frequently you have configured Findum to perform location fixes. This represents the greatest draw on battery power.
2. Whether your device uses the Autonomous Location or Assisted Location settings. The Autonomous setting does not use the cellular network and thus is a lower power option if it is suitable for your application.
3. How you have configured the Power Settings function.
4. How frequently the device checks for internal alarms.
5. How frequently alarm conditions occur (a function of how tightly you have set Rules or Geo-Fences as well as the environment the device is in).
6. How often you use the Locate Now button.

Battery Saving Tips

1. Keep the location fix interval to the minimum level that your application demands. As an analogy, performing a location fix is akin to talking on a mobile phone. A fully charged mobile phone on standby will last a long time. But, talk on the phone and the battery drains quickly. The more you talk, the shorter the battery life. The more you do locates, the shorter the battery life.
2. Consider relying on internal Alarm and Location Checks as a way of decreasing the frequency of your Autonomous Location, Assisted Location, or Sensor Reports frequencies. This will provide you a way of monitoring on an exception basis rather than simply taking frequent regular readings.
3. If your application involves a device that consistently will have a clear line of sight to GPS satellites, set the device to use the low power Autonomous Location setting instead of Assisted.

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Power Management Strategies —>
— Alarms

Power Management Strategies

Battery consumption is largely a factor of how often communication to and from the device is set to happen, which is all configurable. The battery is consumed any time the device transmits. Consequently, any time a message transmission can be avoided, battery power is saved.

- On an airplane, Sendum PT300's will always attempt to power off and put the radio into airplane mode. The primary purpose of this is to save power. The battery will continue to be used to periodically check sensors and, in addition, to power up the system regularly to check if there is a network available. If there is no network available, the system will remain in power-saving airplane mode.

- For location tracking, if the device is not moving, then the Sendum system can be set to stop sending reports or doing any transmission. This is a "no motion, do nothing" mode that saves battery and is ideally suited for location-only tracking. As an example, if a truck driver is driving down the highway and pulls to a truck stop, the device will be powered off and stop reporting location. So the client will know the last known location where the truck stopped. When the truck starts moving again, then the radio will start up again and start reporting.

- A key battery saving strategy is to use the Sendum system's alarm reporting features so that reports don't have to be sent on a set schedule (say, every 15 minutes). Instead a report would be sent only when there is an exception – which may be very rarely (e.g. when something goes out of temperature range or the device goes outside geo-fence parameters). Note that for location tracking, avoiding network transmissions may not always be possible because if the signal is impaired it has to go back to the server which requires a transmission. But for unimpaired location signals, there is no need to transmit to the server.

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Typical Battery Life —>
— Conserving Battery Power

Typical Battery Life

So how long will my device's battery last? It depends on a number of variables but here is an example:

For a PT300 (with a 3,760 mAh battery), you can expect 21 day battery life based on:

- The device is in average-to-good cellular coverage. (Poor cellular coverage causes the device to have to work harder to get a transmit data or get a location fix).
- The device is on 24 hours per day.
- Sensors (temperature, humidity, etc.) are polled internally every 30 seconds (but not transmitted).
- Location and status messages are transmitted every two hours.
- The device is operated in non-freezing temperature conditions. Batteries typically function best at room temperature, and any deviation towards hot and cold changes the performance and/or longevity.

If you are using a PT300 with an Accessory Pack that allows the use of the 10,000 mAh external battery, your expected battery life with the same conditions as the above, will be over 60 days.

If you are primarily interested in location tracking only, you can set your device in Deep Sleep Mode which allows for much longer battery life.

Assuming one location fix every (days):	100%	75%	50%
1	7.7 months	5 months	3.8 months
2	1.2 years	11.2 months	7.6 months
3	1.8 years	1.4 years	11.5 months
4	2.5 years	1.8 years	1.2 years
5	3.1 years	2.3 years	1.5 years
7	4.4 years	3.3 years	2.2 years

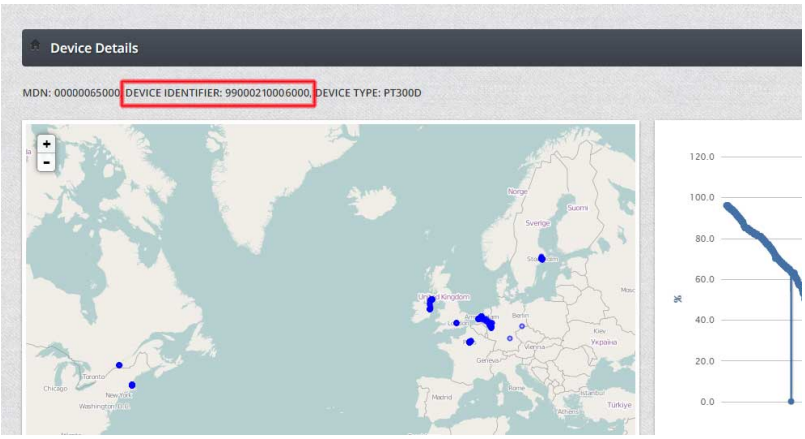
Device Identifier

The Device Identifier (“Device ID”) is a device-specific serial number found on the back of your Sendum-purchased device. It is also displayed in Findum when viewing a device’s Device Details page.

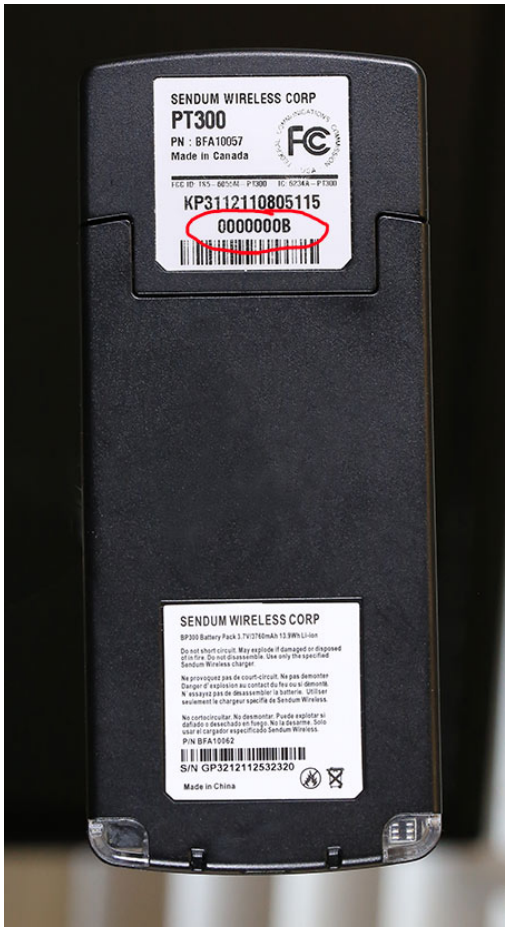
The Device ID is an essential piece of information that is required in order to set up an airtime account with your Wireless Service Provider. It is also used automatically when you provision your device and for adding your device(s) to your Findum account.

> Note that “Device Identifier” is a generic term – other terms that mean the same thing include ESN (Electronic Serial Number), IMEI (International Mobile Station Equipment Identity), and MEID (Mobile Equipment Identifier).

Finding your Device Identifier



Viewing the Device Identifier from the device's Device Details screen



Location of Device Identifier on Sendum PT300 Device

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Geo-Fences —>
— Typical Battery Life

Geo-Fences

A geo-fence is a virtual perimeter for a real-world geographic area.

For detailed information on geo-fences, follow the links below.

- A Primer on Geo-Fences
- How to Create a Geo-Fence

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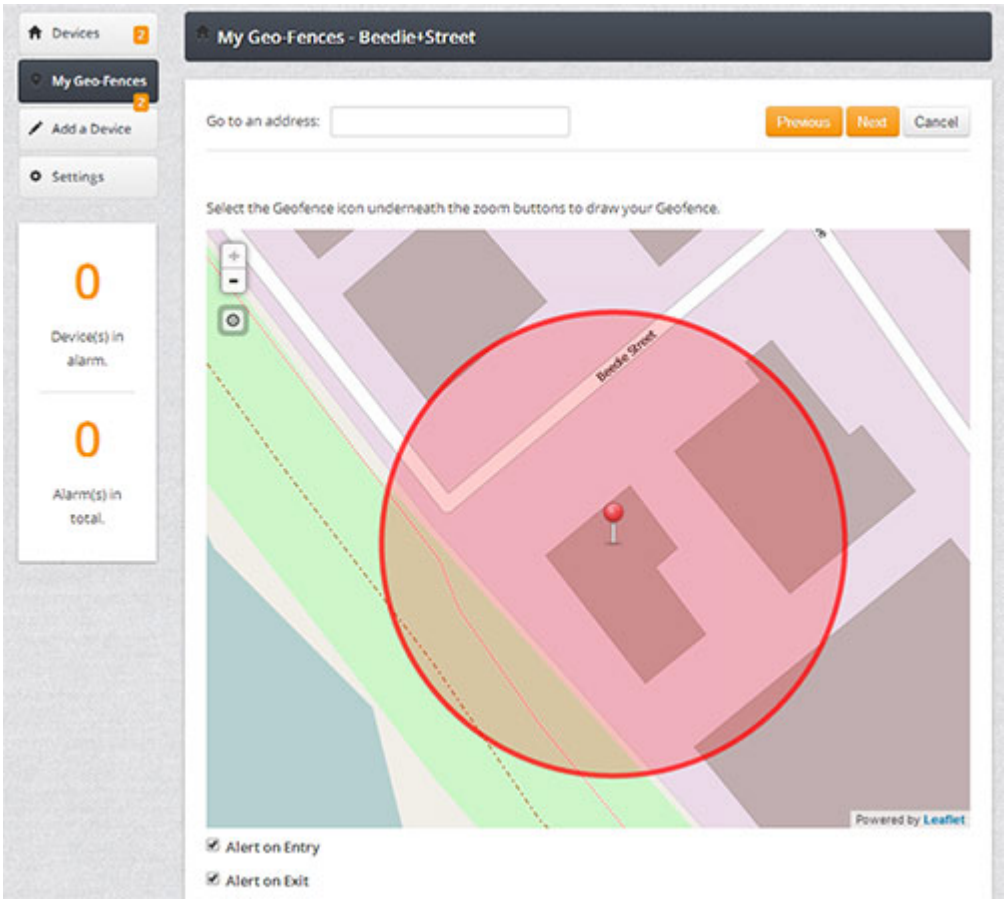
A Primer on Geo-Fences —>
— Device Identifier

A Primer on Geo-Fences

A geo-fence is a virtual perimeter for a real-world geographic area that you can easily set up in Findum. When you create a geo-fence, an area of interest is established that triggers the device to send an alert (via SMS text and/or email) when it is moved out of, and back into, set boundaries on the map. You can create unlimited geo-fences in Findum.

Why Geo-Fences?



Geo-fences save time and can significantly improve your monitoring capabilities. By utilizing geo-fences, users can be far more “in the know” about where their assets are at any time – without having to log in and regularly check using the Findum application.

How they Work

Geo-fencing allows users of the system to easily draw boundaries around such areas as device routes and shipping destinations, landmarks, red/safe zones, and secure regions. Once set up, when these geo-fences are crossed by the Sendum device, a warning to the user or operator (via SMS or Email) can be sent.

Applications

Geo-fencing has many practical uses. For example, shippers can set up alerts so that when a shipment enters different waypoints or destinations, they, or their customers, can be instantly kept up-to-date. Or, when monitoring a piece of valuable equipment, a geo-fence can provide an instant alert when the equipment has been moved out the area it should be in (such as might happen in the event of a theft).

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How to Create a Geo-Fence (Video) —>

— Geo-Fences

How to Create a Geo-Fence (Video)

The following video provides a short tutorial on how to create a geo-fence in Findum.

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GPS Jamming Detection —>
— A Primer on Geo-Fences

GPS Jamming Detection

GPS Jamming is considered a serious event and is often a strong precursor to a crime being committed. Because of this, each Sendum device has the capability to detect the presence of GPS Jamming and to provide users with instant email and text notifications.

Sendum devices are designed to detect jamming signals from most commercially available GPS jammers. It will also detect unintentional jammers that generate spurrious emissions (i.e. any radio frequency not deliberately created or transmitted, especially from a device designed to create other frequencies) that bleeds into the GPS frequencies. An example of a spurrious emission that Sendum has encountered in the past has been a particular brand of door opener found in grocery stores. When a Sendum device is in close proximity to such a device, this could trigger a GPS Jamming notification.

To use GPS Jamming detection for a specific device

1. Go to your Device Details page
2. Click Configuration at the upper right of the screen
3. Make sure the GPS Jamming checkbox is checked (enabled)
4. Click the Settings button in the upper left of your screen.
5. Under Notifications, make sure the Email and SMS text alert settings checkboxes are checked and configured with the proper email and text values.

The problem of GPS Jamming

Jamming devices are radio frequency transmitters that overpower, block, jam, or otherwise interfere with lawful authorized communications, such as cell phone calls, text messages, GPS systems, and Wi-Fi networks. Because of their ability to disrupt critical communications, jammers are illegal to market, sell, or use in most countries around the world. A single violation of the jamming prohibition can result in large fines, seizure of the illegal device, and imprisonment.

Jammers work by emitting energy at the frequency it is trying to block in order to raise the noise floor above the signal that is intended to be received. The signal is thus rendered unintelligible.

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GPS Jamming Alert —>

— How to Create a Geo-Fence (Video)

GPS Jamming Alert

Here is a typical GPS jamming alert message:

GPSJAMMING triggered at 2014-01-28T11:21:17.000-05:00

The above alert indicates that the device has detected that something in the environment is interfering with the GPS signal. In such an environment, most Autonomous Location fixes will fail. However, Assisted Location fixes will still work.

Location Accuracy

The following factors determine how accurate a location fix is using Sendum devices:

- In an “Open Sky” environment, the location fix will be done via Autonomous fix and will be accurate within ~25 meters 99% of the time.
- In a semi-impaired GPS environment, the location fix will done via an Autonomous fix using GPSXtra data and will be accurate within 100-200m 75% of the time.
- In an impaired GPS environment, the location fix will be a Network Assisted fix (Assisted Location) and will be accurate within 300m 99% of the time.

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Location, Assisted —>
— GPS Jamming Alert

Location, Assisted

Assisted Location enhances the performance of standard GPS (or "Autonomous Location") in devices connected to the cellular network.

You can set whether your device uses Assisted Location methods in Findum by going to Devices > [device] > Configuration and then enabling the Assisted Location checkbox. For most applications, this is the preferred setting that Sendum recommends.

Assisted Location improves the location performance of your device by helping make a fix when GPS signals are weak or not available. GPS satellite signals may be impeded by tall buildings, and do not penetrate building interiors well. Assisted Location uses proximity to cellular towers and networks to calculate position when GPS signals are not available.

For those using battery powered devices, please keep in mind that Assisted Location fixes use more battery power than the Autonomous method. In addition there may be a wireless data charge for this and potentially server charges as well. That said, at the time of this writing, some wireless service providers (e.g. Verizon) do not charge anything additional for assisted fixes.

When you choose the Assisted Location setting, here is the process the device will go through in performing a Locate:

1. First, perform an Autonomous Locate
2. If unable to get a fix using Autonomous Locate, attempt an Assisted Locate
3. Depending on the device you are using, if unable to get a fix using Assisted Locate, the device may finally attempt a Network / Wi-Fi locate

In contrast, if you choose the Autonomous Location setting, all that will be performed will be the Autonomous Locate. In addition, when you choose the Assisted Location method, a Sensor Report will also be transmitted at the same interval as Assisted Locate interval.

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GPS, Unassisted —>
— Location Accuracy

GPS, Unassisted

“Unassisted GPS” is a location method that receives signals via the GPS satellite network only. It is the location method in Findum that is used when the Autonomous Location setting is enabled. The Autonomous Location method is the simplest and which consumes the least amount of power and data usage.

This is in contrast to “Assisted Location” which involves cellular base stations and networks in order to provide fixes in the absence of a clear line of sight between the device and the satellites – or where GPS is otherwise impaired.

If you enable the Autonomous Location setting in Findum (with the Assisted Location and Sensor Reports functions disabled) and set an interval, here’s what will happen:

1. An Autonomous Locate will be performed at the interval you specified.
2. A Sensor Report will be performed at the same interval as the Autonomous Locate above.
3. An Assisted Location process will NOT be performed.

> The Autonomous Location method is best used when a clear path to GPS satellites is expected throughout a tracking period or where the GPS signals are otherwise unimpaired.

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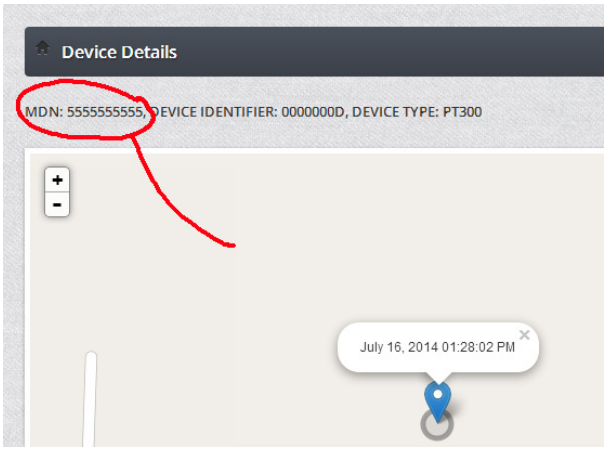
MDN (Mobile Directory Number) —>

— Location, Assisted

MDN (Mobile Directory Number)

The actual phone number one would dial to reach a specific mobile device.

It is the phone number associated with your airtime account with your wireless service provider.



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Passwords —>
— GPS, Unassisted

Passwords

There are two different types of passwords associated with the Findum system.

Please click on the links below to learn more:

- Findum Account Password
- Device Password

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Findum Account Password —>
— MDN (Mobile Directory Number)

Findum Account Password

This is the password that allows you to log in to your Findum account.

If you forget it, you can always reset it to something else by using the Forgot your Password? link on the Findum login screen.

The Findum account password needs to be at least six alphanumeric characters long.

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Device Password —>

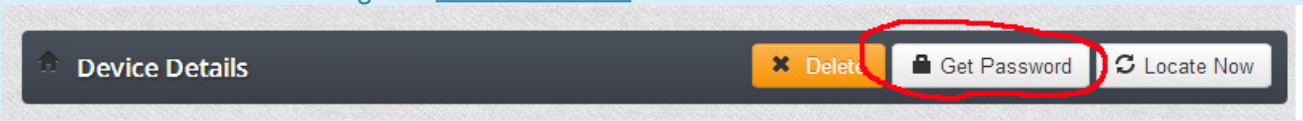
— Passwords

Device Password

Each Sendum device has a password associated with it. This password is provided by Sendum at the time of purchase and is required in order to add devices to a Findum account.

The purpose of the password is to protect the information for a device and prevents others from accessing that information from their own Findum account. Unless you don't care about the confidentiality of your device's data, you should always make sure to protect your password and keep it private. For example, if you write the password on the device itself, you are vulnerable to others viewing the data in their own accounts.

If you previously added a device to your Findum account, but have then forgotten the device password (as might be required to add the device to another account), you can always retrieve it from within Findum using the Get Password function.



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Provisioning your Device(s) —>
— Findum Account Password

Provisioning your Device(s)

Please refer to the documentation provided with your device that provides instructions for provisioning.

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Sensor Data —>

— Device Password

Sensor Data

- Battery Level
- GPS Jamming Detector
- Hobbs
- IR Light
- Light
- Relative Humidity
- Pressure
- Temperature
- Tilt
- Voltage

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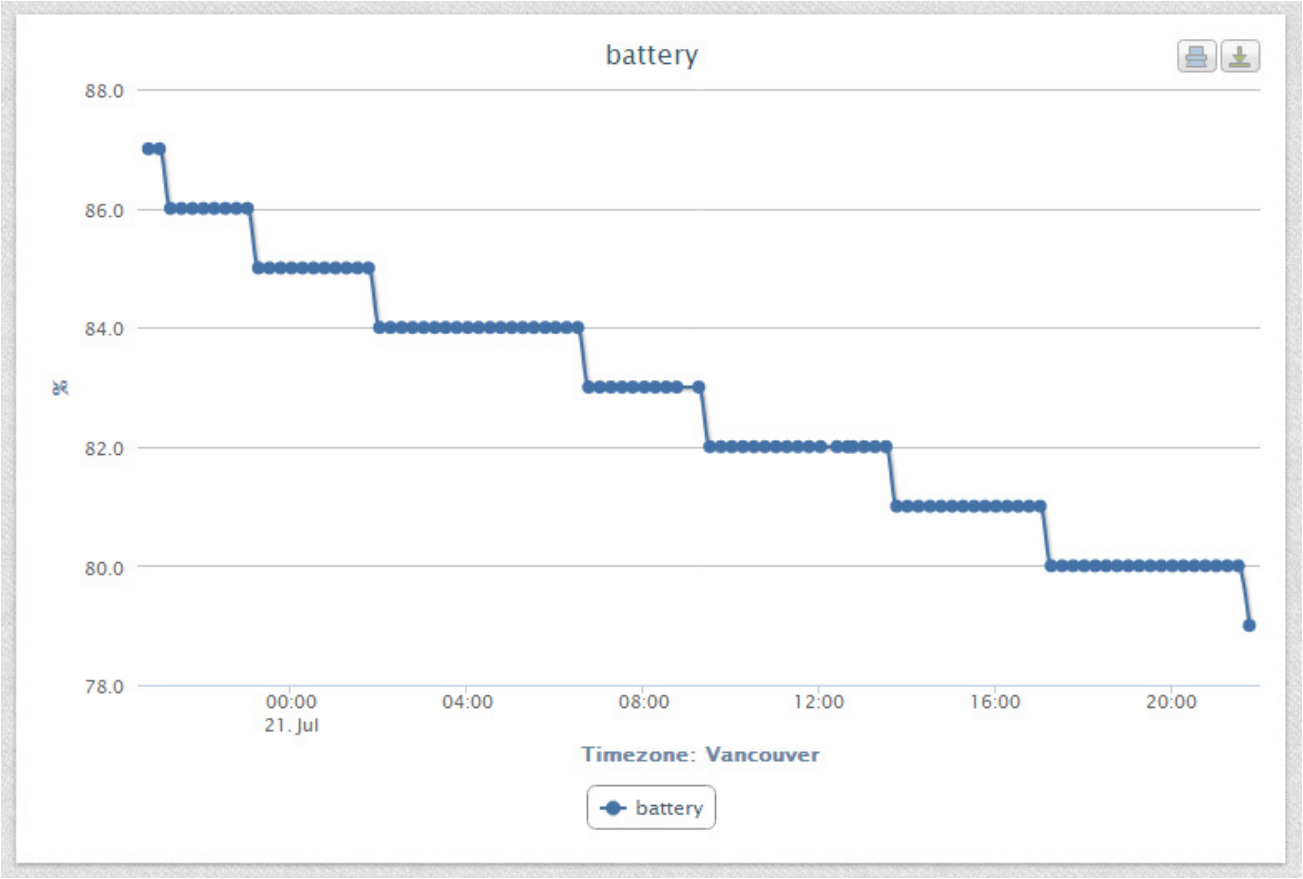
Battery Level —>
— Provisioning your Device(s)

Battery Level

Most of the devices used with Findum have a battery on them, either as a primary power source or as a backup. Each device is capable of gauging the battery level and providing Findum with an estimation of the Battery level.

The noted exception to this is the Accessory Pack which can only tell voltage.



Example Battery Level Graph for a Device

The battery level is shown as a percentage of full charge.

If your battery is allowed to run out, your device will either stop working or not provide the backup it should. Consequently, we recommend setting up an alarm notification so you know as early as possible when your battery is at risk of running out.

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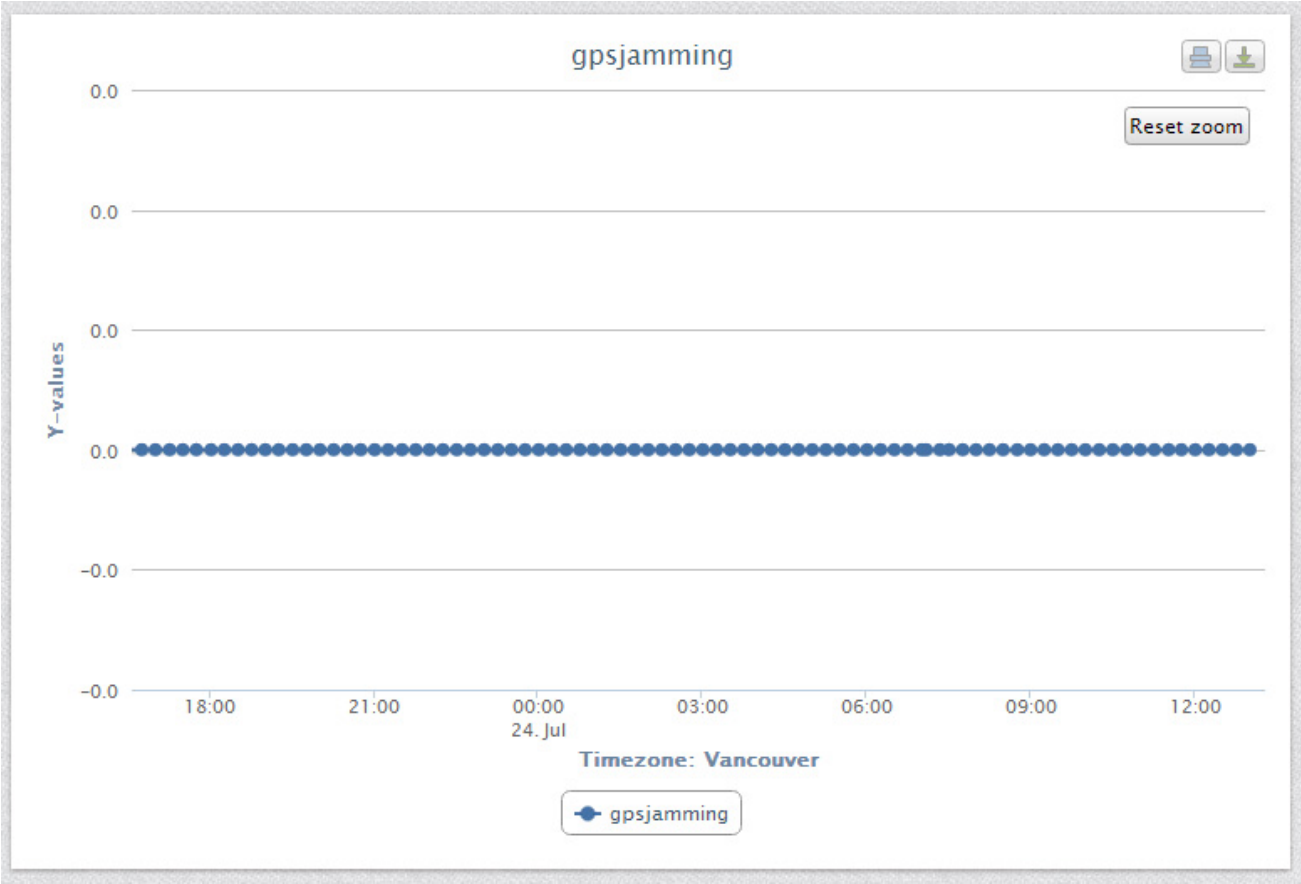
GPS Jamming Detector —>

— Sensor Data

GPS Jamming Detector

Sendum devices have the capability to detect and measure GPS Jamming Signals.

To measure and record GPS Jamming detection you will need to turn it on for your device (see GPS Jamming detection.)



An example GPS Jamming Signal Graph (with no GPS Jamming detected)

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Hobbs —>

— Battery Level

Hobbs

Hobbs is an accumulative measure of how long a piece of equipment is being used. It is a parameter that is measured and recorded with the Sendum GT300 device. Another term for it is “Engine Hour Meter”.

Hobbs is often a measurement of how long the electrical power (or battery master switch) is “on”.

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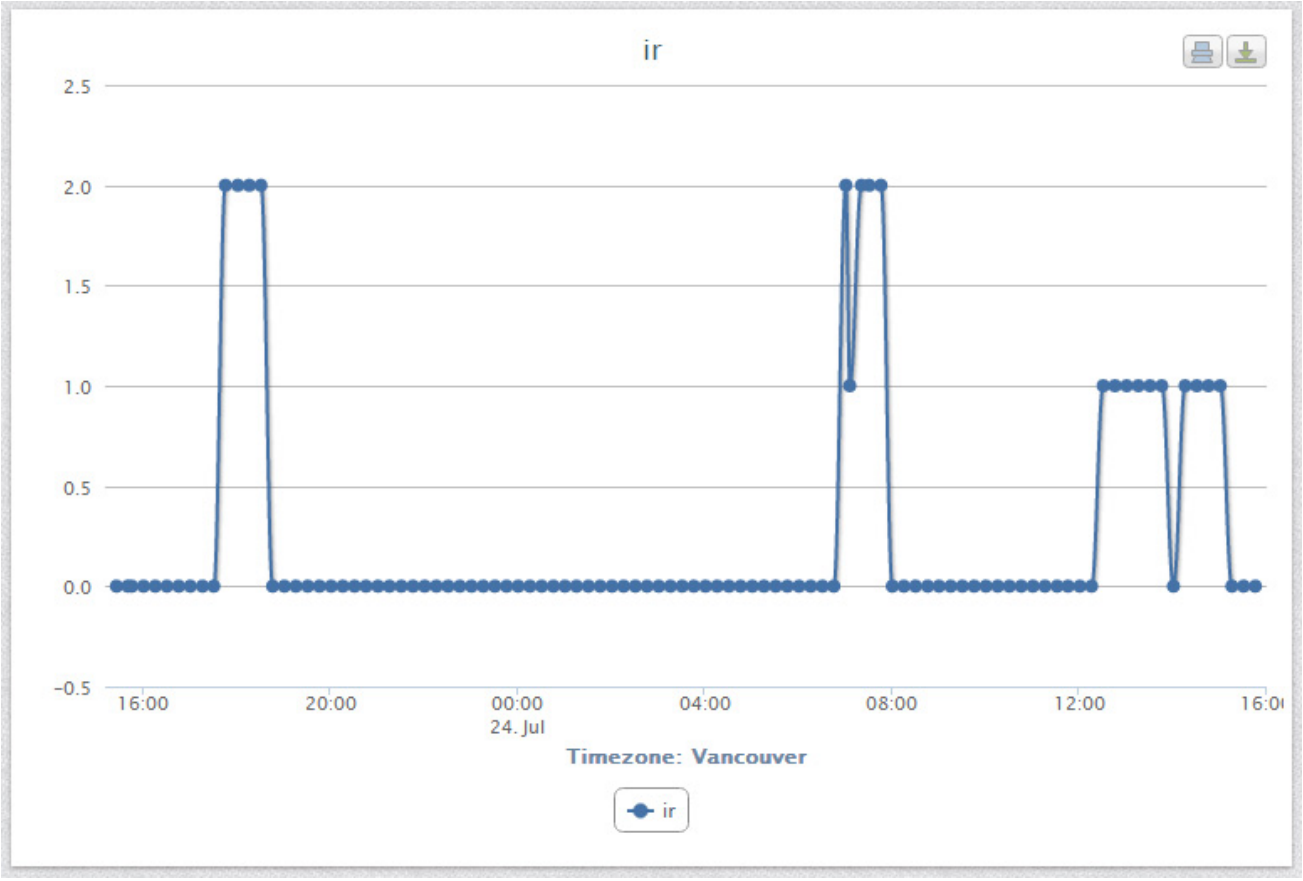
IR Light —>

— GPS Jamming Detector

IR Light

Some devices are equipped with an Infrared Light Sensor that can measure light radiating from objects in its field of view.



Example Graph of Infrared Light

Infrared light sensing can be used, for example, to detect when packages are opened in the dark.

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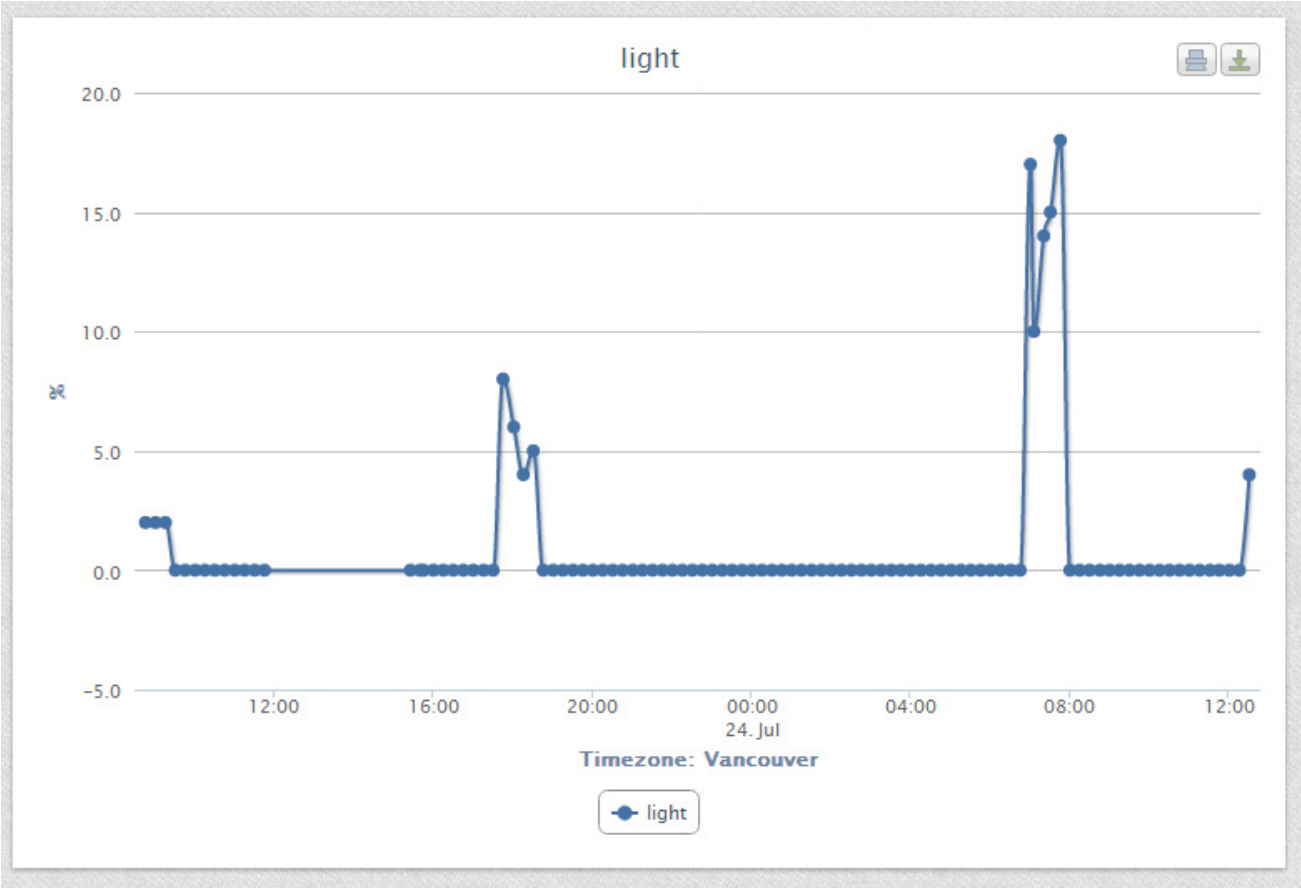
Light —>

— Hobbs

Light

Some devices have a light sensor that can sense changes in the light levels visible to a device.

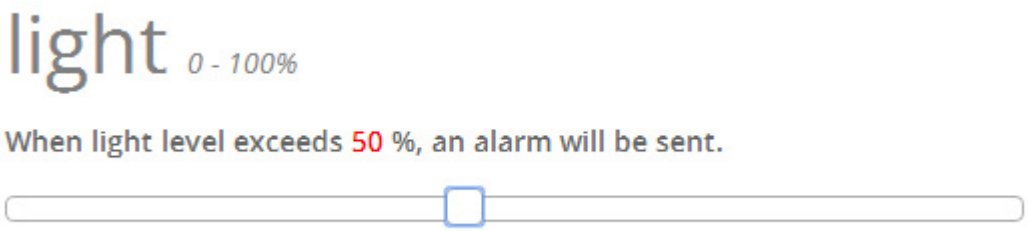
Light is measured in a percentage value where 0% represents total darkness and 100% represents a bright sunny day.



An Example Graph of Light

Measuring light can be useful to determine such events as the opening of packages, crates, and containers. Thus it can signify when a shipment has arrived, or possibly when a package has been compromised. You may have to experiment with setting light values for your own applications however a common value for a box partially open is 10%.

You can set a rule which will provide notification if the amount of light exceeds a certain percentage.



Setting a Light Alarm using a Rule

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Motion —>

— IR Light

Motion

All Sendum devices contain a motion detector that can tell when an asset is moving or stationary.

Motion detection is used as part of the devices' power settings. This is particularly useful for location tracking applications when you don't want to use battery power to obtain location information when a device is stationary for a lengthy period of time (such as at a truck stop).

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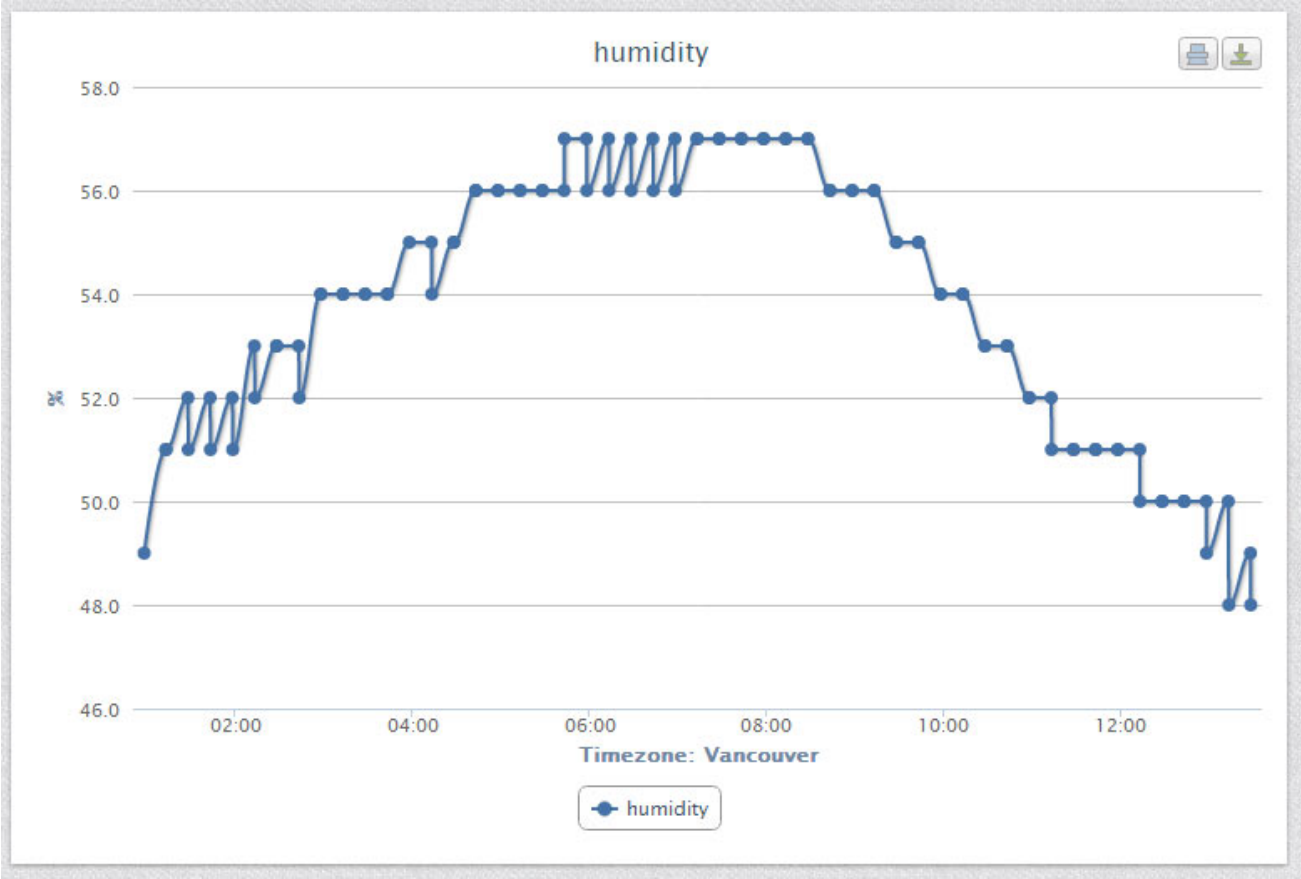
Relative Humidity —>
— Light

Relative Humidity

Some devices have an on-board relative humidity sensor.

Relative humidity is expressed as a ratio from 0 to 100%. It refers, in very simple terms, to how much moisture is in the air compared to how much it could possibly hold at that temperature.



Typical Relative Humidity Graph from a Device

Why Relative Humidity?

Relative humidity is an important parameter to measure for a broad range of applications. In particular, it affects many properties of materials in contact with air. A great many transportation, manufacturing, storage, and testing processes are humidity-critical. Humidity measurements are used wherever there is a need to prevent condensation, corrosion, mold, warping, excessive drying, clumping of powders, or other spoilage of products. This applies to such goods as foods, pharmaceuticals, chemicals, fuels, wood, paper, and many others.

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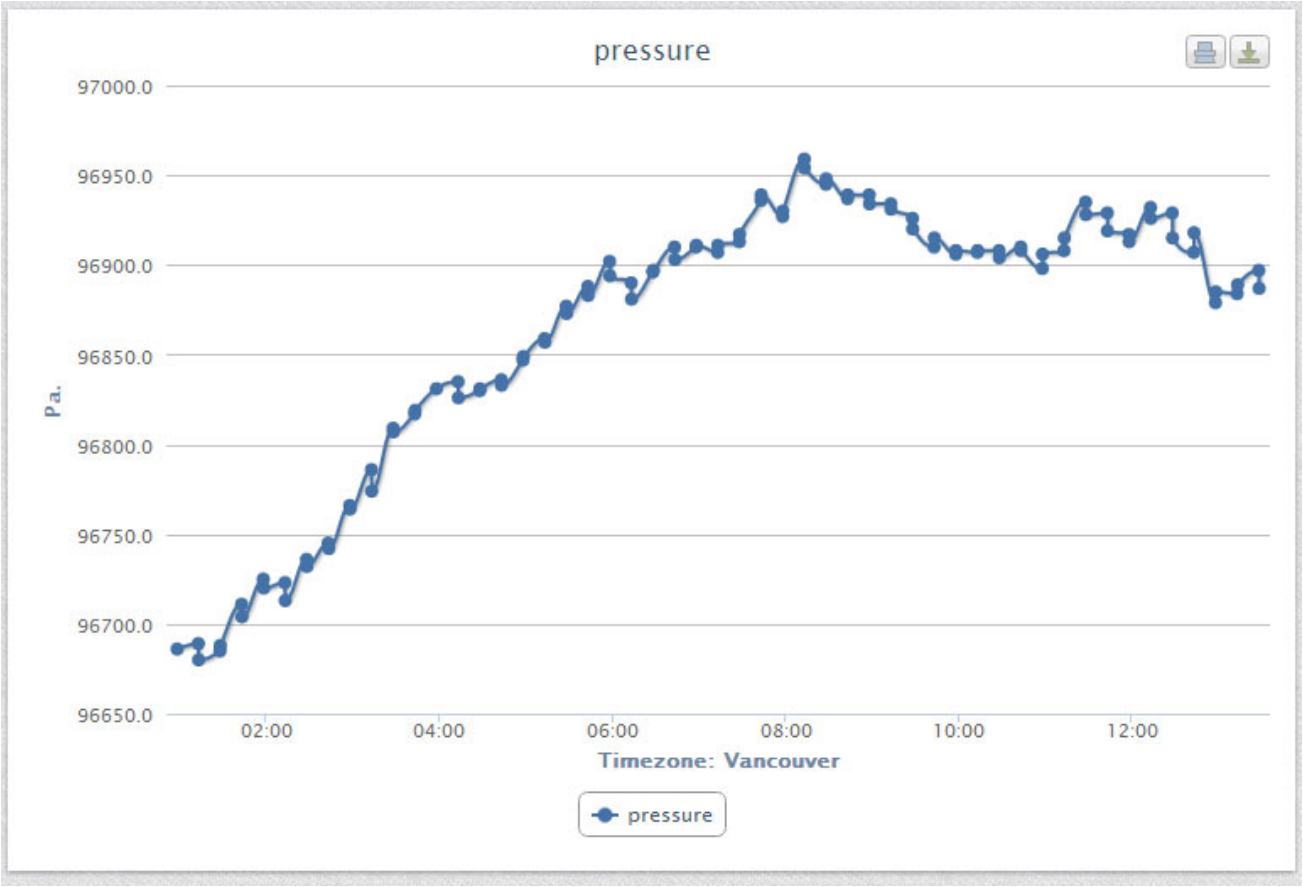
Pressure (Barometric) —>

— Motion

Pressure (Barometric)

Some devices contain an absolute pressure sensor that measures barometric (or atmospheric) pressure in units of Pascals (Pa).

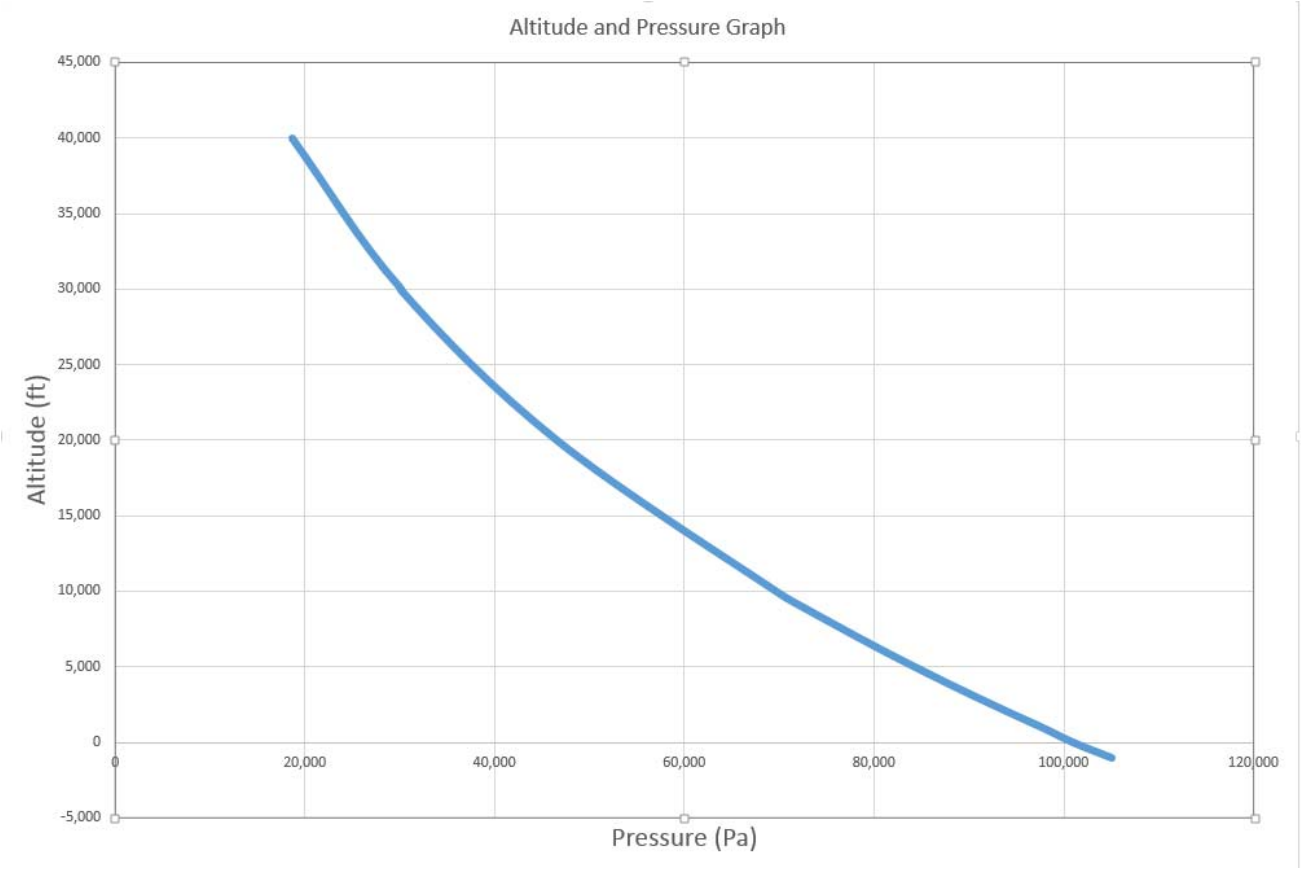


Typical Pressure Sensor Graph from a Device

- For most tracking applications, barometric pressure is useful as an indication of altitude.
- Device readings are typically derived from a temperature-compensated absolute piezoresistive pressure sensor.
- Temperature and humidity can affect barometric readings because they affect the density of the air. Air density affects the weight of a given volume of air and thus the air pressure.

Barometric Pressure and Altitude

The following graph and chart provides a general guide to converting barometric pressure measurements to altitude measurements (relative to sea level).



Altitude (ft)	Altitude (m)	Pressure (Pa)
-1000	-305	105000
0	0	101000
1000	305	97700
2000	610	94200
3000	914	90800
4000	1219	87500
5000	1524	84300
6000	1829	81200
7000	2134	78200
8000	2438	75300
9000	2743	72400
10000	3048	69700
20000	6096	46600

30000	9144	30100
40000	12192	18700

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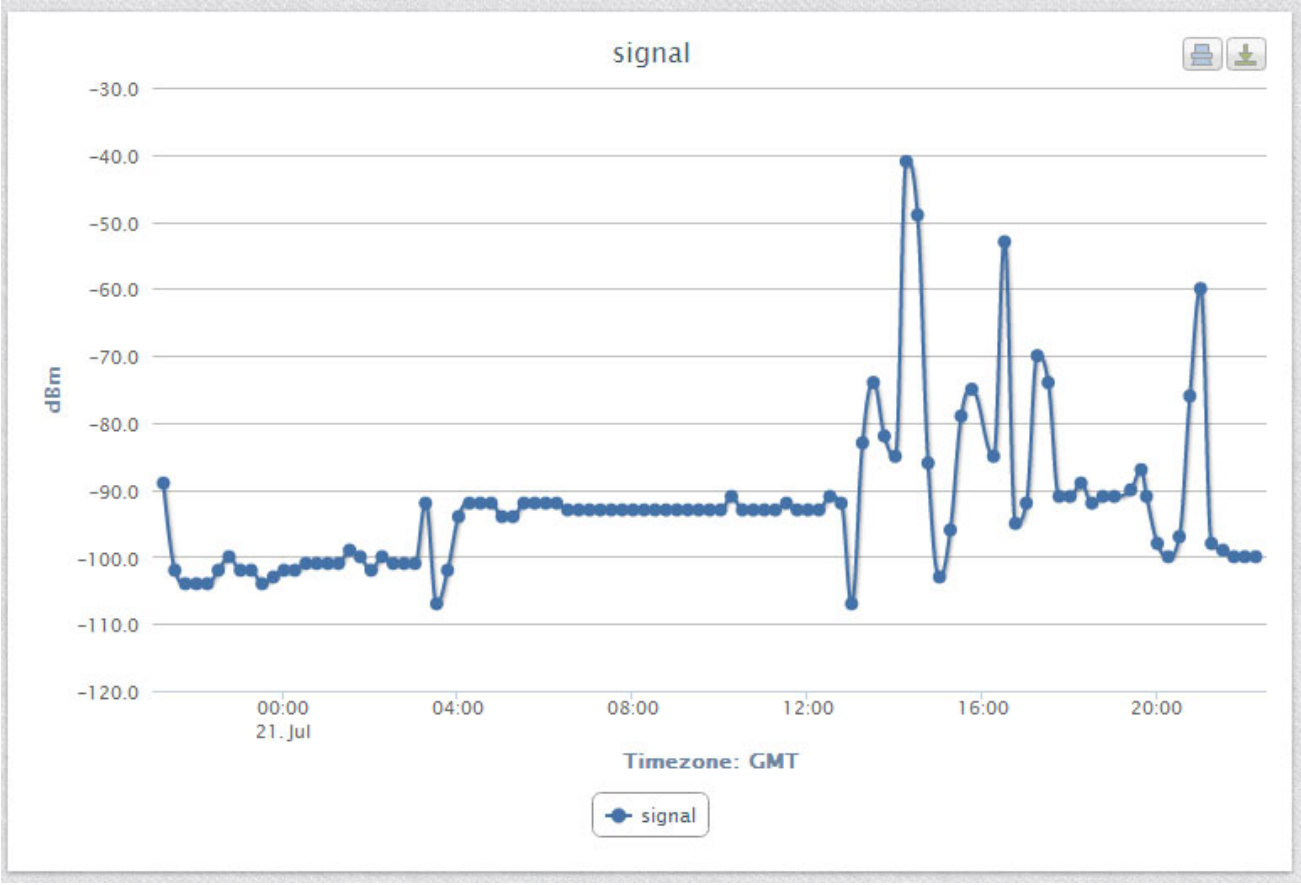
Signal Strength Indicator —>
— Relative Humidity

Signal Strength Indicator

The Signal parameter refers to the mobile phone signal received by the device from the cellular network, measured in dBm (decibels per milliwatt). This is also referred to as RSSI or “Received Signal Strength Indication”.

The signal varies in strength as a result of a number of factors such as proximity to a tower, weather, and obstructions such as hills, buildings, doors, and trees. In addition, you will likely encounter “dead zones” where no reception can be obtained.



Typical Signal Graph from a Device

Signal strengths for mobile networks are always negative dBm values, because the transmitted network is not strong enough to give positive dBm values. Typical numbers and their meaning vary from network to network but here are some common values and what they might mean in terms of device communications:

Signal Strength (dBm)	Description
-120	Very poor coverage, almost non-existent. At this level, the battery drains quickly as the device continually searches for a cell tower (more intensively at first, then tapering off).
-105 to -100	Poor but usable
-99 to -90	Not great, mostly OK
-89 to -80	OK, shouldn’t have any problems
-79 to -65	Good
Over -65	Very strong signal, excellent communications

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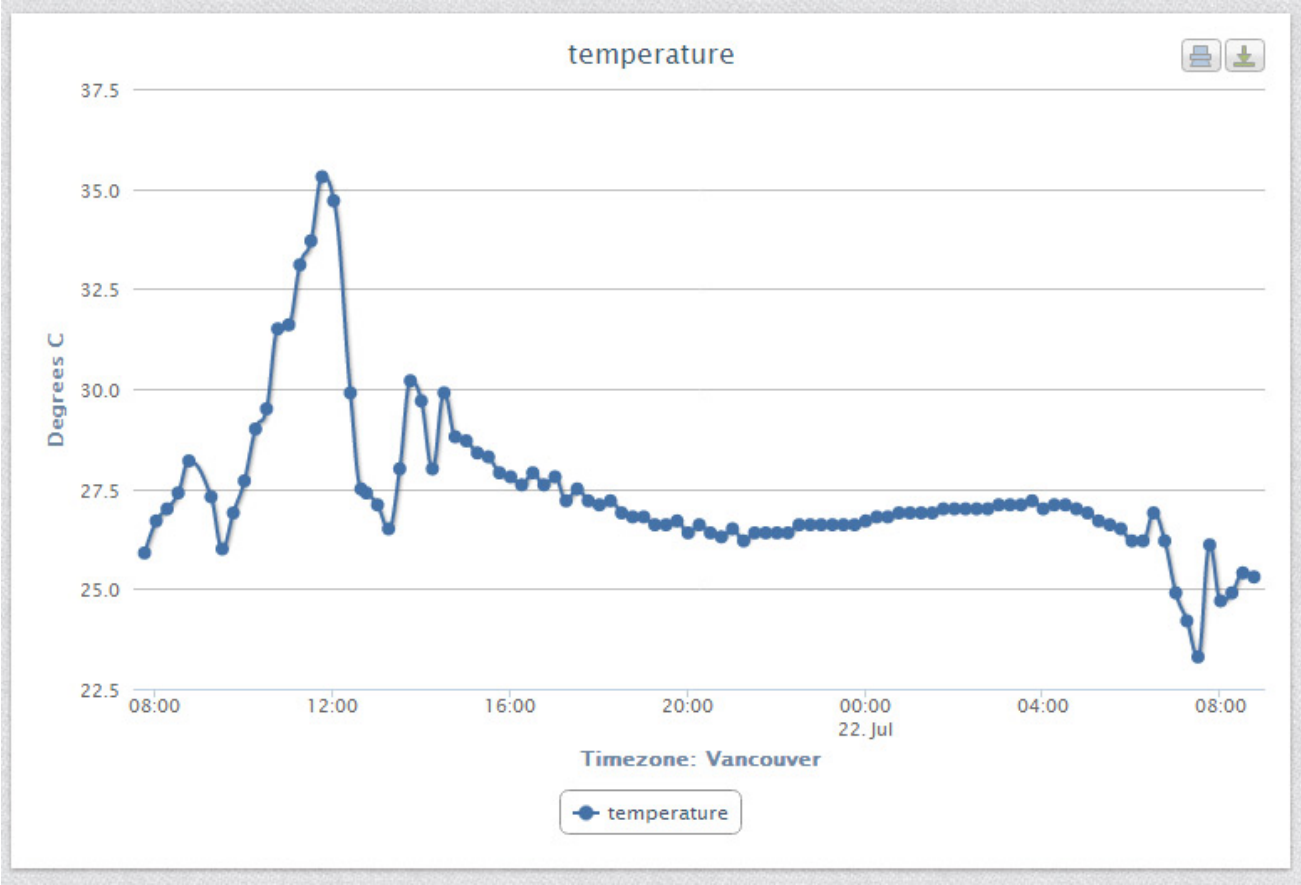
Temperature (Device) —>
— Pressure (Barometric)

Temperature (Device)

Most devices compatible with Findum have a temperature sensor on-board. The device measures and reports ambient temperature with this sensor.



Example Temperature Graph from a Device Temperature Sensor

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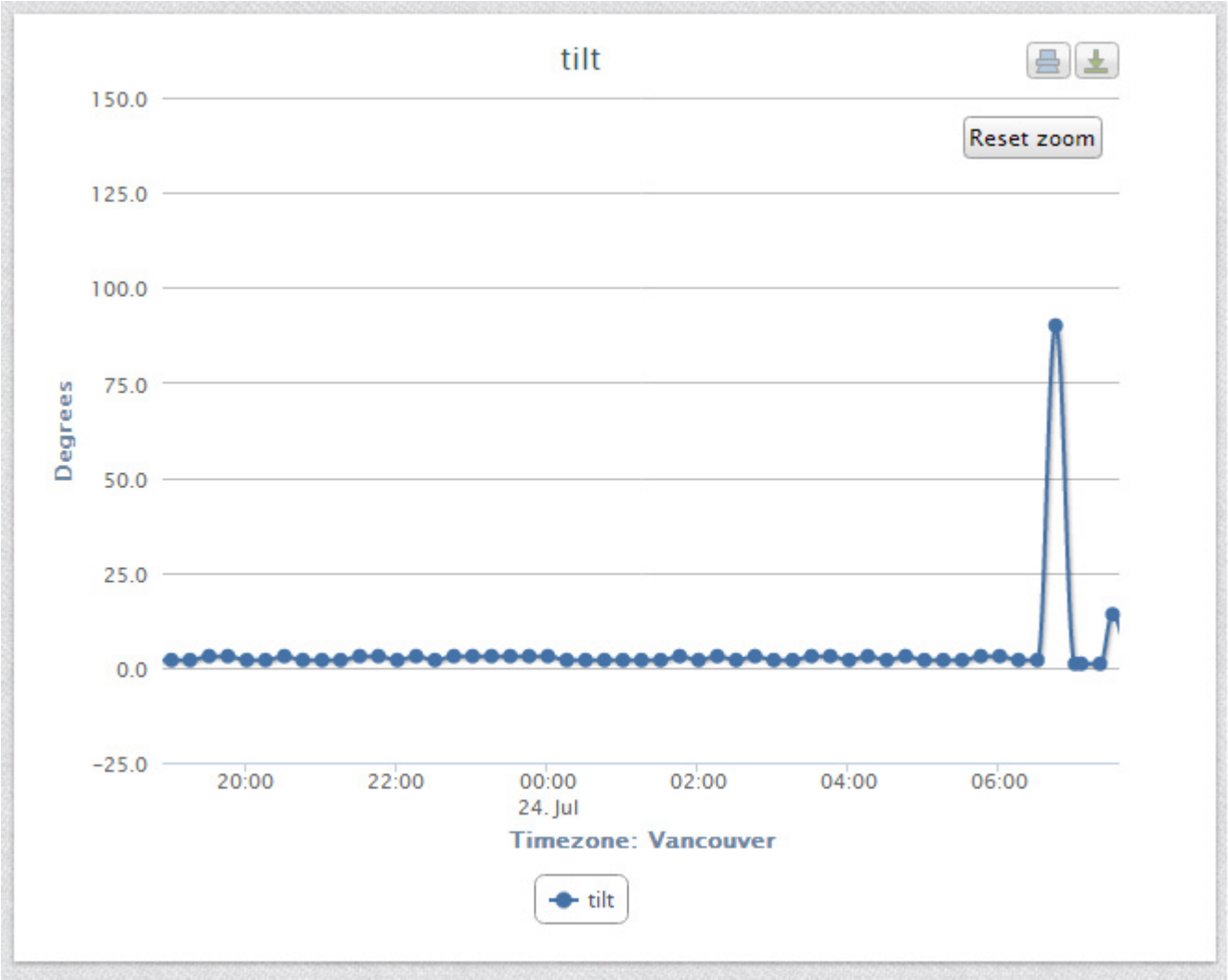
Tilt —>

— Signal Strength Indicator

Tilt

Some devices have a tilt sensor that can help measure how an object or a piece of equipment is oriented and handled.



An Example Graph of Tilt Conditions

Ensuring a product remains upright during transport is a typical application for the tilt sensor. For example, some televisions can be damaged if shipped flat instead of upright. Using the tilt sensor can monitor this process and provide immediate feedback when there are problems.

When monitoring tilt, you can set a rule which will provide notification if the amount of tilt exceeds what you deem acceptable.

Creating a Title Alert using Rules

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Voltage —>

— Temperature (Device)

Voltage

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Appendix —>
— Tilt

Appendix

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Videos, Training —>

— Voltage

Videos, Training

- Introducing Findum
- Create a Findum Account
- Adding a Device to your Findum Account
- How to create a Geo-fence
- Configuring your Device
- Setting Rules and Alarms Demo
- Forgot your Password? How to log into your Findum account
- Entering your Account Settings
- Using the History Page
- Creating Device Reports
- How to delete Groups

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Findum Update Notices —>
— Appendix

Findum Update Notices

This section documents the recent history of upgrades to the Findum system.

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2014-September-29 —>

— Videos, Training

2014-September-29

This update to Findum contains the following changes:

1. Locate Now will time out in 120 seconds (previously this was 60 seconds)
2. “Locate Now” spinning circle will stop when the application receives a location response from the device. It will then display the acknowledgement “The device successfully responded to the Locate Now command.” in green background.
3. When a device that has been previously tagged is deleted, when it is re-added to the same account, the device tag is the Device Identifier. Previously, it would keep the old tag prior to deletion.
4. Icons on map no longer obscure the list of filters.
5. Reports date/time indication updated.
6. All time displays are in 24 hour clock format.
7. A black location marker now indicates the centre of the geo-fence both when it is created and when geo-fences are shown for individual devices.

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2014-September-11 —>
— Findum Update Notices

2014-September-11

This update to Findum contains the following changes:

1. When you now add a device to a Findum account, the existing configuration of the device will be retained and not cleared.
2. When customer clicks the “Locate Now”, there is no longer a countdown but, instead, the following confirmation message will be displayed: “Locate Now command sent to the device.” There is still the spinning circle indicating that Locate Now has been clicked and this disappears after the timeout. Note that further “Locate Now” clicks do nothing until the spinning circle has timed out.

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2014-September-03 —>
— 2014-September-29

2014-September-03

This update to Findum contains the following changes:

1. Under Settings, there is now a language setting. English and Spanish are currently the only two options. Once saved, Findum will be all in the language of choice. This applies to SMS and Email notifications as well.
2. Under Settings, timezone selection, the timezones now cover all timezones based on the Time zone Database (http://www.iana.org/time-zones)
3. PT300D devices will now have a temperature probe box in the live and history view (temperature probe column in reports to be added in an upcoming Findum release). Note that to enable the temperature probe, you need to contact Sendum to enable the temperature probe readings. In an upcoming Findum release, a checkbox is planned that will allow enabling and disabling of temperature probe readings.
4. Improvements to Report view for GT300 related to “Battery” and “Hobbs” values.
5. Users will not get any more geo-fence alerts from a unit that it has removed from a geo-fence grouping. However, if they delete the geo-fence, users will still get alerts from the device that was part of that geo-fence. This issue is to be addressed in an upcoming Findum release.
6. Battery level reporting: Previously when a device could not read the battery level (remaining and full capacity), the device would return a value of ‘-999’ which would result in a 100% reading. This has been corrected, thus eliminating spontaneous or continuous 100% Battery level indications.
7. There was an issue with the enabling and disabling of the GPS Jamming feature. This has been corrected.
8. Group names must now be unique.
9. User can now delete the groups they have selected to delete. Previously, in some cases, more groups were being deleted than were being selected. There remains an issue with cursor placement when creating the selection rectangle and this will be addressed in an upcoming Findum release.
10. A new Group created with the same name as a previously deleted group will no longer contain devices from the previously deleted group
11. When Light and IR Light report a real value of ‘65535’ (fully exposed to light), this value will be reported instead of ‘—‘
12. Improvements to the “Locate Now” function.
13. Small box containing Package representation (orientation and light) in live view now showing exactly what it shows in the big box
14. Data graph in History view is now aligned when the browser window size is changed. Previously, the right side of the data graph would get skewed.
15. Improved display when there are more than eight geo-fences.

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2014-July-29 —>

— 2014-September-11

2014-July-29

New Findum HELP Documentation

We have revamped and improved our Help documentation for Findum. The new documentation adds the following features:

- **More detail**. We've added a lot of new content to provide better guidance and more depth.
- **Improved navigation system**. To the left of the screen is a new hierarchical navigation system designed to help you find what you are looking for fast.
- **More hyperlinks**. To make things easier to read and to allow greater detail, we've added plenty of hyperlinks throughout the new guide.
- **Bigger Images**: Many of the images can be expanded into larger views just by clicking on them.
- **Added Search function**. A new search box in the upper right will make it simpler to get answers if you can't find what you are looking for.
- **New Feedback mechanisms**. Now you can rate each Help article as well as make your comments. If our explanations need some improvement, now there is an opportunity to communicate directly with our documentation team.
- **More Video Demos**. We've added and will continue to add new video demos to explain and improve learning.
- **Printable PDF version**. If you prefer to study our Help materials offline, the PDF version makes it easy to print off the whole user guide.
- **Mobile Devices**. If you prefer reading documentation on your smartphone or mobile device, the new user guide makes this easier. It's been set to automatically reformat to suit the size of various small devices.

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2014-July-07 —>
— 2014-September-03

2014-July-07

This update to Findum contains the following changes:

- Alarm notifications now reference the user's local time (as configured under Settings>Timezone Selection)
- Device alarms are now shown on the Device Details Live mode page. Previously, under very specific conditions, some alarms would not display. This is now corrected.
- Alarm semantics clarified.
- The automatic switchover to and from Day light savings time was not working properly. This is now corrected.
- Displays of sensor data on Dashboard and Device Details screens are now device specific.
- A new "Get Password" button has been added to Device Details screen.
- Hobbs data added to GT300 card. ("Hobbs" refers to equipment run-time and is specific to GT300 models).
- When a GT300 card has no data to report, a picture of a GT300 device will be shown (instead of a PT300).

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2014-June-19 —>
— 2014-July-29

2014-June-19

This update to Findum contains the following changes:

- SMS Alarm text messages are now supported in Australia.
- Geofence creation has been enhanced to place a push pin at the center of the geofence. Also, the default zoom level has been changed to focus on the geofence location.
- Users can now set separate alerts for Entry and Exit for geofences (none, either, or both). Previously, if either one of these alerts were selected, notifications for both were provided.
- The display of maps and graphs within Findum has been enlarged slightly (about 5%).
- Under some very specific conditions, battery readings would erroneousy read 100%. This has been corrected.
- A voltage sensor has been added to the Device Card display and to the graph units selector on the Device Details page. This was added in support of the new Accessory Pack product.
- [GT300 Devices only]: A correction was made to the setting of a rule for the Hobbs meter. This function now works correctly.
- Device type indication (e.g. “PT300”, “GT300”) is now provided on the Device Details screen.
- The labeling of the Temperature axis on temperature graphs now indicates temperature units (Degrees F. or C.) as opposed to just “Y-Axis”.
- The term “Tilt” is now used on Device Cards as opposed to “Orientation”. In addition, the tilt angle is displayed in place of the orientation vector.

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2014-April-30 —>
— 2014-July-07

2014-April-30

This update to Findum contains the following changes:

- Support for degrees Celsius © and Fahrenheit (F) in configuration page.
- Support for Australian Time Zones.
- Terminology change: The generic term “Device Identifier” is now used in place of other Carrier or region-specific terms (including ESN, MEID, and IMEI).
- HELP information link restored.

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— 2014-June-19

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