



BEWHERE WEB USERS GUIDE

Web App User Guide | Version 2.60

Table of Contents

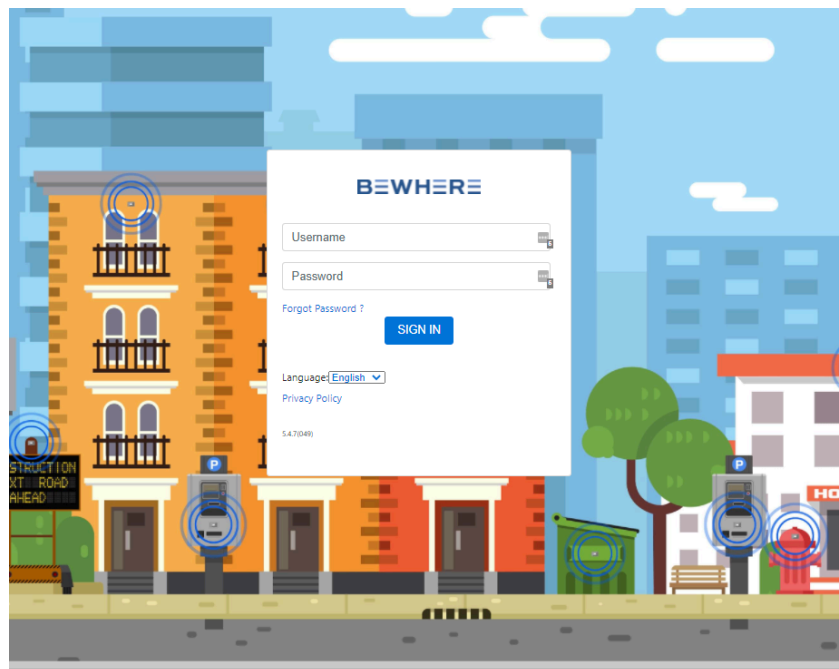
1. Logging In	2
2. Dealer View	3
3. Navigation Pane	3
4. Dashboard	4
5. Maps	29
6. Beacons	34
7. Administration	67
8. Alerts	93
9. NEW FEATURE RELEASE NOTES	98
10. BeGateWay	106
11. BeWired	108
12. BeMini	113
13. BeSolPlus	119
14. BeTenPlus	121

1. Logging In

The URL for the BeWhere Web App is:

<https://portal.bewhere.com>

The username is the user's email address. The initial user is created by BeWhere support staff. Upon creation of a new user, an automated email is sent from support@bewhere.com which has a link to the BeWhere Web Site and the user's password. Please note the username email address is **Case Sensitive**.



The first time logging in you will be prompted to only insert your new password. You will then need to log in, your username is your email address. BeWhere Web is available in English, French and Spanish.

Compatible Browsers:

- Google Chrome
- Internet Explorer
- Mozilla Firefox
- Safari

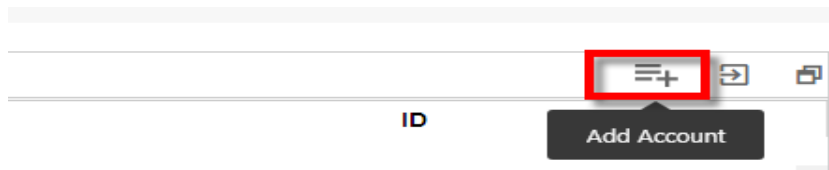
**Available on Desktops and Mobile Devices

2. Dealer View

Right Click on a customer account and then left-click on **Select Account** to access a specific account.

Name	ID
BeWhere -Margaux Demo Kit 1	dbINmlyHWE
BeWhere -Michael Test	TwA1PwWfIH
BeWhere -Suresh IOS test	N4O11sljae
BeWhere -TEST	qZgsGy73HU
BeWhere -TradeShow Chris	xPcAO36fqF
BeWhere Inv. Barry Richards Paradigm Capital	DMxvEhUE2

Users with Dealer rights have the ability to create new BeWhere Accounts using the Add Accounts Feature.



Add Account ✕

Account ID
hIRh4gmHlh

Account Name

Show All Senders

Is GeoTab Partner

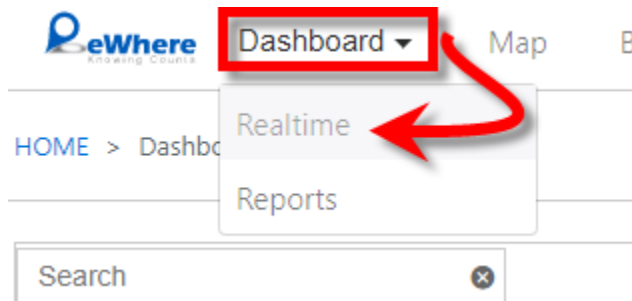
3. Navigation Pane

The Default view is the BeWhere Dashboard. The navigation pane is used to toggle between the Dashboard View, Live Map View, Beacon Administration, Administration for Groups, Sites, Transmitters, Sites and users and user profile.

4. Dashboard

The starting default page is the BeWhere Dashboard. The dashboard displays a list of the beacons, a map and an overview of the beacon status (Battery Percentage, Count of Impacts, Temperature and Light Reading). The historical data is retrieved in the Dashboard Tab.

Select **Realtime** to view a list of the beacons



The Beacons are listed and color-coded based on when they last reported.

The Dashboard Pane provides a quick pick date feature based on reporting times, a refresh/update data tool, including line graph, and also include a map.


Quick View Dashboard Beacon Status and features:

Green - Beacons Reported in the last 24 Hours

Orange - Beacons Reported in the last 48 Hours

Red - Beacons Reported more than 48 Hours

Blue - Total amount of Sending Devices

Auto Refresh  - Updates Beacon Status/ Refresh Data Button needs to be **White** for auto-refresh. DEFAULT IS OFF

Data  - Selected Beacon (**For History**), By Temperature, By Battery, By impact, By Light

Map  - Used to include/remove Map View

Save  Used to save the Desired Starting Map View.



BEWHERE Dashboard - Map Beacons

HOME > Dashboard > Realtime

14 0 75 32

Search

ID	Name	Timestamp	Sender	Battery	Impacts	Temp (c)	Max G-Force	Light (lm)
000780ECB1DF	BBB BGM Test B1DF	2018-04-02 9:39:19 am	BB Cold Room BLE 4889	93 %	88	30	0	1
000780EDD333	BBB IOS 05 1 MPurs	2018-04-02 9:39:11 am	BB Cold Room BLE 4889	79 %	0	20	0	0
000780C1F235	BBB5 Guad Dbrtm F235	2018-04-02 9:39:02 am	BB Cold Room BLE 4889	75 %	58	16	0	0
0007802F6882	BBB Cold Room BTB-03 6882	2018-04-02 9:38:53 am	BB Cold Room BLE 4889	79 %	0	5	0	51
000780ECCFB0	BBB Warden-Kingston TTC CFB0	2018-04-02 9:36:48 am	BB LexGo	81 %	55	4	0	0
000780C1E41E	BBB Warden-Kingston TTC E41E	2018-04-02 9:35:46 am	BB LexGo	81 %	94	18	0	0
000780C1F2EB	BBB05 Computer Bag F2Eb	2018-04-02 9:34:40 am	BB LexGo	75 %	86	19	0	0
000780C1F6C7	BBB Outside Wall F6C7	2018-04-02 9:33:45 am	BB Cold Room BLE 4889	73 %	28	1	0	154
000780ECB1F8	BBBarcelona MWC 2 B1F8	2018-04-02 9:32:58 am	BB Cold Room BLE 4889	87 %	117	20	0	0
000780EDE872	BBB IOS 05 2	2018-04-02 9:30:30 am	BB Cold Room BLE 4889	87 %	0	20	0	0
000780C1E2EE	BBB5 Guad Outside fence E2EE	2018-04-01 10:00:37 pm	BB Cold Room BLE 4889	76 %	215	-1	0	2
000780EDE1F1	VM Beacon - Small	2018-04-01 10:01:16 am	Vic Moschitto	85 %	0	19	0	0
000780ECC6AF	VM Beacon - Medium	2018-04-01 9:55:56 am	Vic Moschitto	80 %	29	0	0	46
0007802F67C0	VM Beacon - Large	2018-04-01 9:44:16 am	Vic Moschitto	61 %	68	-15	0	0
000780C1F128	BBB Freezer05 F128	2018-03-30 12:35:17 pm	BB Pixel XL 01-09-18	42 %	0	-14	0	0

The Historical Data can be viewed in a line graph for Temperature, Battery, Impact or Light. Historical Data can also be Mapped by clicking on the Map Feature Button

BEWHERE Dashboard - Map Beacons

HOME > Dashboard > Realtime

715 73 138 920

Search

Select Device	Name	Timestamp	Sender	Tags	Event Type	Rssi(dBm)	Battery	Impacts	Temp (c)	Light (Lux)	Slid Sender	GPS Fix
<input checked="" type="checkbox"/>	352753091009058	2019-11-29 9:35:27 am	1704		UPDATE	-88	3.61 v	0	-3	0	352753091009058	Invalid(3)
<input type="checkbox"/>	352753091009025	2019-11-29 6:47:59 am	1703		UPDATE	-97	3.6 v	0	-3.61	0	352753091009025	Invalid(3)
<input type="checkbox"/>	357591080450171	2019-11-29 6:24:36 am	1792		UPDATE	-79	3.51 v	0	-3.71	0	357591080450171	Valid(1)
<input type="checkbox"/>	352753095463228	2019-11-29 6:03:03 am	2193		UPDATE	-92	3.61 v	0	-3.75	0	352753095463228	Valid(1)
<input type="checkbox"/>	357591080498618	2019-11-29 4:52:33 am	1779		UPDATE	-113	3.53 v	0	-0.26	0	357591080498618	Valid(1)
<input type="checkbox"/>	352753095481659	2019-11-29 3:36:30 am	2178		UPDATE	-94	3.63 v	0	-2.37	0	352753095481659	Valid(1)

Select Date Range

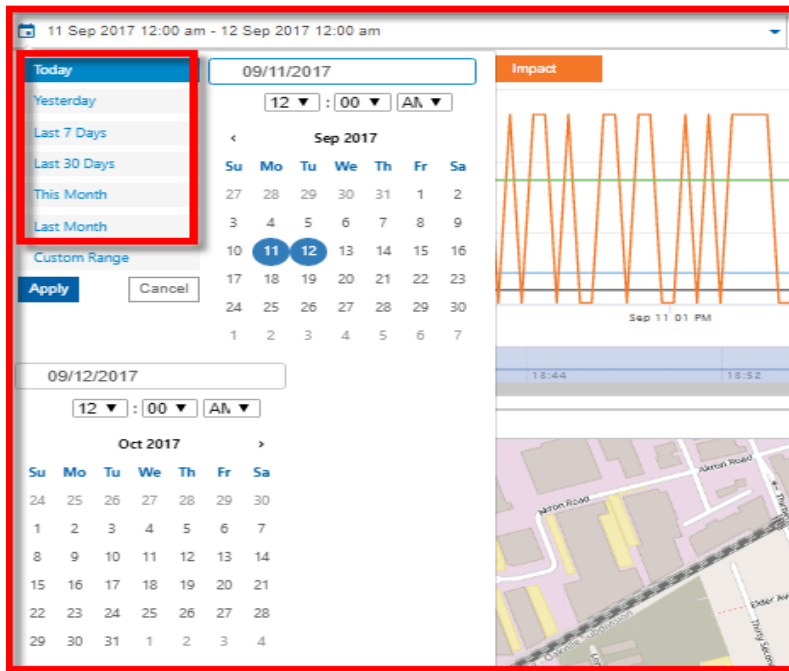
Select Line Graph Features

Select To View on Map, Raw Data or Export

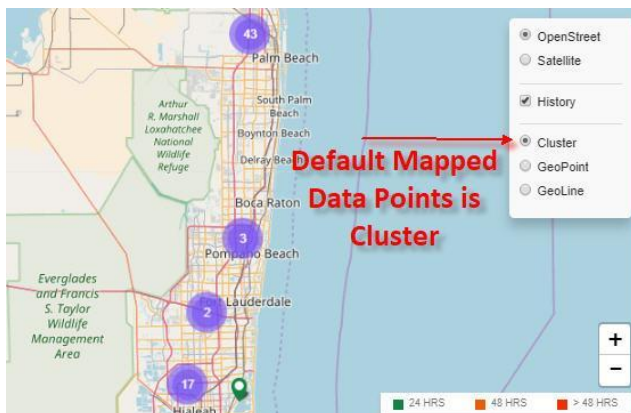
Click on Data

The Search tool has the following time selections: **Today, Yesterday, Last 7 Days, Last 30 Days, This Month, Last Month, Custom Range**. Clicking on any of these History Presets will display the locational data on a map and is also available in

tabular and Grid form. Simply select the Graph Type "Selected beacon", select the checkbox beside the Beacon ID and then the history time range.



The Historical Data Points are plotted by default as a cluster. If there is more than one point at a location, the data points are grouped together as a cluster.



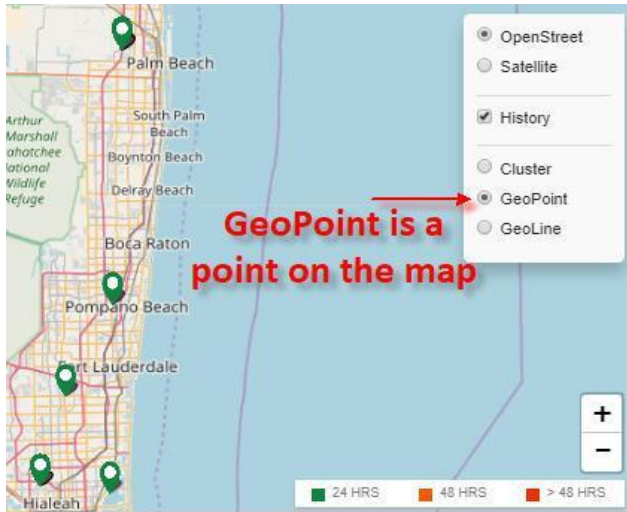
The Plot GeoPoint feature will display one point per location.

Motion START – Green

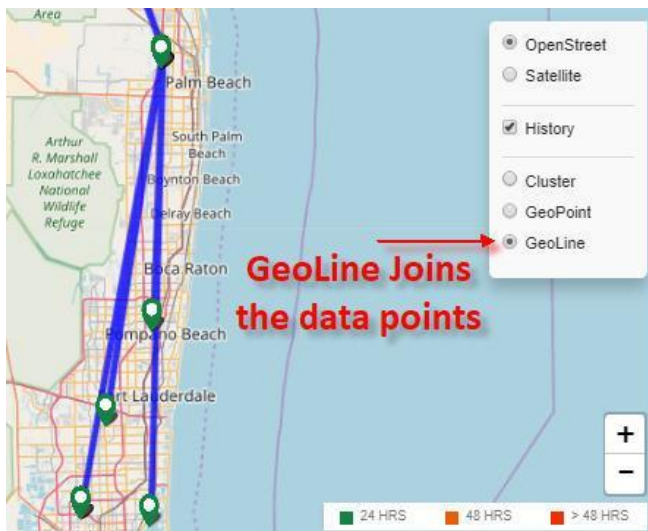
UPDATE or IMPACT- Blue when realtime

Update or Impact – Orange when Store/forward

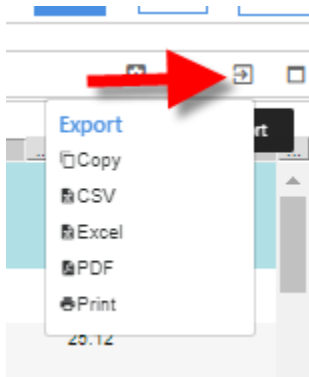
Motion STOP - RED



The Plot GeoLine feature will connect each Data Point with a Line.



- Each column can be sorted by clicking on the column header and columns can also be added or removed.
- The raw data can be copied to the Clipboard, Exported in CSV Format, exported to MS Excel, Exported to PDF and also sent to your printer.



Right Click on a device from the dashboard also has a quick data history feature:

ID	Name	Time
357591080074054	HoP-74	2019-10-04 9:30
352753091805257	COP 3	2019-10-04 9:30

Insert the start date

Download History Data

Input start date:(format:yyyy-mm-dd)

Cancel OK

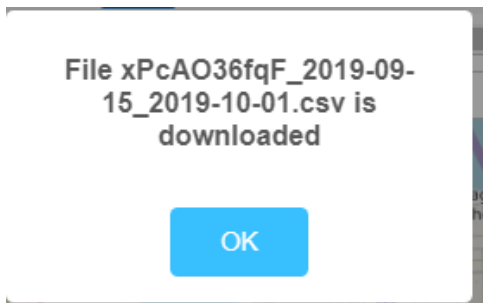
Insert the end date

Download History Data

Input end date:(format:yyyy-mm-dd)

Cancel OK

The CSV file with the raw historical data will be automatically downloaded to your computer



Dashboard Features:

- Add/Remove data columns
- Filter devices
- Interactive Line Graph results based on searchable date range
- Toggle between Line Graph and Raw data
- Toggle Mapped data on/off
- View Events
- Schedule Reports

Add/Remove Columns

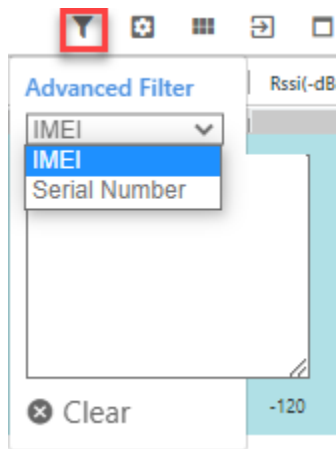
Map/Grid Toggle from Grid to Raw Data

Display Searched data on Map

ID	Name	Timestamp	Gender	Battery (%)	Impacts	Temp (s)	Light (m)	Distance (m)
000790848BC	Dumper 03-SC	2017-09-11 12:10:02 pm		85	3	21	0	19.55
000790292CF	Firefly 12 CF	2017-09-11 12:14:31 pm		87	133	21	11	7.94
0007902921A	Flarelight 621A	2017-09-11 12:14:30 pm		89	30	21	0	2.24
000790292DE	000790292DE - Hoopla 6MS HMA	2017-09-11 12:12:11 pm		87	0	21	0	25.12
0007902925B	Margauxa FireFly 12-DB	2017-09-05 9:22:07 am	Margauxa Nexus Sp PR	85	103	23	0	0
00079084837	Tad 03-07	2017-09-05 9:22:07 am	Margauxa Nexus Sp PR	79	101	23	0	0
0007902924R	Margauxa Nexus Sp PR	2017-09-05 9:22:07 am	Margauxa Nexus Sp PR	87	30	21	0	0

Filter Devices

The advanced Filter is used to search for multiple devices, Select IMEI or Serial Number and insert them into the box to view only the filtered devices in the dashboard.



Data Columns

Data fields can be added and removed using the Show Columns tool to check/uncheck data columns.

The default visible data columns are:

Beacon Name, Timestamp, MAC ID, Sender, Event Type, Battery, Impacts, Temp, Light and Distance

Additional columns can be displayed by clicking on the Show Columns tab and highlighting the additional fields

The additionally available data columns are:

Tags, Event Type (ID), RSSI, Sid Sender, latitude, Longitude, Barometric Pressure, Humidity, Impact Cycle, TID Event, TID Frame, TID HFrame, AUX 1, AUX 2, AUX 3, AUX 4, Temp OB, Light OB, Humidity OB, Barometric Pressure OB, Aux 1 OB, Aux 2 OB, Aux 3 OB, Altitude.

Definitions of Default Data Columns:

- **Beacon Name**
The assigned friendly name of a beacon. Default is the MAC ID.
- **Timestamp**
Date and time when the beacon last transmitted data. YYYY-MM-DD- HH:MM:SS am/pm

- **Received**
Date and time when the beacon data was received to BeWhere. YYYY-MM-DD-HH:MM:SS am/pm. If the data was stored then the received data would be different from the Timestamp
- **Sender**
The friendly name of the sender of beacon data (phone, tablet, gateway, modem).
- **Event Type**
Describes the nature of the reporting event.
- **UPDATE**
Beacon detects a value change of one of the following properties:
Battery Level
- **UPDATE REFRESH**
Beacon has NOT detected a value change.
Update record is generated ONLY if not UPDATE record has not been received in a 60 period.
EVERY Beacon packet is processed by BeWhere servers.
High-rate data forwarders such as BLE-Wi-Fi transmitters produce a large number of duplicate records.
OUT OF RANGE
Last data transmission of a beacon prior to it going out of range of a sending device.
- **IMPACT**
Beacon detects a value change of one of the following properties:
Impact value greater than beacon impact threshold setting.
- **TEMPERATURE IN BAND**
Beacon detects a value change of one of the following properties:
Temperature value that is ENTERING range of the beacon temperature threshold settings.
- **TEMPERATURE OUT OF BAND**
Beacon detects a value change of one of the following properties:
Temperature value that is EXITING range of the beacon temperature threshold settings.
- **LIGHT IN BAND**
Beacon detects a value change of one of the following properties:
Light level that is ENTERING range of the beacon light threshold settings.
- **LIGHT OUT OF BAND**
Beacon detects a value change of one of the following properties:
Light level that is EXITING range of the beacon light threshold settings.
- **Battery**
The battery level is represented as the approximate state of the battery in percent. It is read as a value between 0-100.
- **Battery Capacity**
The Percentage battery remaining

- **Impacts**

The live impact counter represents a counter of how many times the x, y, or z axes have experienced accelerations exceeding a threshold (default at 2g). The counter is stored as a value from 0-255, and then rolling over back to zero.

- **Temp**

The temperature data shows the current temperature. Bluetooth beacons are accurate to 1 degree and cellular Beacons are accurate to .00 degree

- **Light**

The Blue Tooth beacon takes light readings at approximately 1-minute intervals. The live light data shows the current light readings between 0 and 255 Lumens. The beacon's light sensor is pre-set with a full-scale range of 16000LUX. Measurement is in Lumens (the higher the Lumens count, the brighter the light).

NOTE: THE CELLULAR BEACON SHOWS THE CURRENT LIGHT READINGS BETWEEN 0 AND 999 LUX.

- **Distance**

FOR LTE - Approximate distance as the crow flies. Value is in Meters for metric and feet in imperial. Distance is a total from device activation

FOR BLUETOOTH - Approximate distance from sending device. Note: distance is not available for Geotab GO6/GO7 devices and is default at 0.

The distance is calculated when the Event Types are 'MOTION STARTED,' 'MOTION STOP,' 'IMPACT,' or 'GPIO1 OFF.' This calculation measures the distance between the current data point and the previous data point, which is then accumulated. The total distance traveled is accumulated from the device's activation.

Distance is updated when the event types are 'MOTION STARTED,' 'MOTION STOP,' or 'IMPACT,' and there is a difference in latitude and longitude compared to the previous record

ID	Timestamp	Event Type	Distance (m)	GPS Fix	Latitude	Longitude	Altitude	Location
866349043689987	2023-11-21 11:41:17 am	MOTION STOPPED	6788737	Valid(4)	38.73293	-90.358994	0	Aero Space Drive,Woodson T
866349043689987	2023-11-20 11:41:26 am	MOTION STOPPED	6788737	Valid(4)	38.73293	-90.358994	0	Aero Space Drive,Woodson T
866349043689987	2023-11-20 11:26:26 am	IMPACT	6788737	Valid(4)	38.73293	-90.358994	0	Aero Space Drive,Woodson T
866349043689987	2023-11-20 11:11:26 am	MOTION STARTED	6788634	Valid(4)	38.732054	-90.359396	0	Calvert Avenue,Woodson Ter
866349043689987	2023-11-20 10:07:57 am	MOTION STOPPED	6788634	Valid(4)	38.732059	-90.359392	0	Calvert Avenue,Woodson Ter
866349043689987	2023-11-20 9:52:59 am	IMPACT	6788634	Valid(4)	38.732054	-90.359396	0	Calvert Avenue,Woodson Ter
866349043689987	2023-11-20 9:37:57 am	IMPACT	6788614	Valid(4)	38.732099	-90.359169	0	Calvert Avenue,Woodson Ter
866349043689987	2023-11-20 9:23:02 am	MOTION STARTED	6788607	Valid(4)	38.732114	-90.359087	0	Calvert Avenue,Woodson Ter
866349043689987	2023-11-20 9:21:28 am	MOTION STOPPED	6788595	Valid(4)	38.732135	-90.359228	0	Calvert Avenue,Woodson Ter
866349043689987	2023-11-20 9:06:33 am	IMPACT	6766981	Invalid(3)	38.651786	-90.132441	0	,Madison,IL,62201,USA

Definitions of Additional Data Columns:

- **ID (MAC)**
Media Access Control Identifier of a beacon is a unique 12 Digit Identifier.
- **TAG**
TAG identifier used to group beacons.
- **Sender ID**
ID of the sending device. Gateway is the BLE ID, Modems is the IMEI, GO6/7 is the Serial, portable device is the Device ID.
- **Event Type (ID)**
Numerical ID of the Event type. i.e. 1= Update
For MIOT devices, we have following event Types:
 - **INITIAL** -- First time active on the network, hard rebooted, remotely requested to reset
 - **UPDATE** -- Time based configuration only (Interval) or when stationary (Stationary Interval)
 - **IMPACT** -- Device configured for Motion Continues mode and Impact counter has exceed Movement threshold configuration within the Movement Interval check, otherwise it will wait until the Stationary Interval expires when no movement detected.
 - **MOTION_STARTED** -- Device configured for Motion Start/Stop mode and Impact counter has exceed Movement threshold configuration while device was already Idle or Stopped.
 - **MOTION_STOPPED** -- Device configured for Motion Start/Stop mode and Impact counter hasn't exceed Movement threshold within the Idle Interval check. This means device was Idling hence STOPPED event generated.
 - **HEARTBEAT** -- Heartbeat event is only for BeWired Devices. Heartbeat is the event when the ignition is off and the device is stationary.
 - **GPIO ON** -- event is only for BeWired Devices. GPIO ON is the event when the ignition is on and the device is transmitting on the "ignition Interval"
 - **GPIO OFF** -- event is only for BeWired Devices. GPIO OFF is the last ignition event when the ignition was turned off.
- **Frame** - Frame Counter of a particular record
- **RSSI** (Received Signal Strength Indicator). A measurement of the power present in a received radio signal. With regards to the RSSI in the Bluetooth beacons, this is converted to distance from sending device:
Bluetooth Beacons 2ft from Sending Device - RSSI = -52 to -66 DISTANCE = 2.50 to .63 (8.2ft-2ft).
Bluetooth Beacon35ft from Sending Device - RSSI = -69 to -89 DISTANCE = 35.44 to 3.55 (116ft-18.2ft).

Bluetooth Beacon 75ft from Sending Device - RSSI = -81 to -92 DISTANCE = 50.12 to 14.13
(164.4ft-46.9ft)

Cellular Modem RSSI Signal Strength is measured in absolute dBm so that a lower number indicates a better signal.

up to -80 -- Excellent

-80 ... -100 -- Good

-100 ... -110 -- Fair

-110 ... -130 -- Poor (*not consistent, data will be stored and forwarded when back in better signal strength*)

> -130 No Signal (*data will be stored and forwarded when back in coverage*)

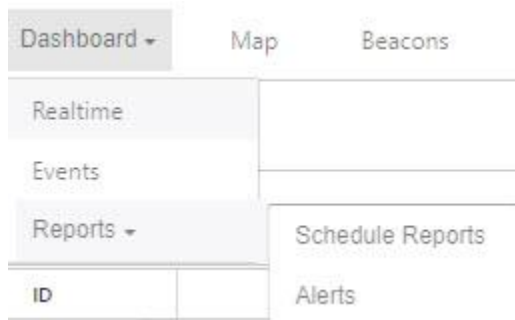
- **Speed** - Only available in the history. Speed is a property of GPS, record. We collect speed along with with Lat/Lon and It's sampled 10 times after first valid GPS fix is produced.
- **Temp OB**
TBD
- **Light OB**
TBD
- **Humidity**
Integrated Environmental Unit measures relative humidity (0% to 100%). Humidity measurement accuracy is $\pm 3\%$ with a hysteresis of 2% or better, and the temperature reading accuracy is within 0.5°C . Hysteresis: $\leq 2\%$ relative humidity.
- **Humidity OB**
TBD
- **Pressure**
Pressure range: 300 to 1100 hPa. BME280 pressure measurement is very stable over temperature: The low-temperature coefficient of 1.5 Pa/K, translates into an altitude stability over temperature measure of 12.6 cm/K (5.0 inches/K). Absolute temperature accuracy $\pm 0.5^{\circ}\text{C}$ at 25°C .
- **Pressure OB**
TBD

- **Aux 1**
Wired Device, Value of 1 is power detected resulting in the device being charged.
Mini Device, Value of 1 is power detected using Hard Wire Cable
Aux 1 OB
TBD
- **Aux 2**
Wired Device, Value of 1 is ignition detected resulting in the device reporting more frequently based on ignition interval.
Mini Device, Value of 1 is power detected using Hard Wire Cable **AUX2 on the mini is used to calculate Run Time.
- **Aux 2 OB**
TBD
- **Aux 3**
Wired Device, Value should be > 6500 millivolts (6.5V). Check power wiring as it not getting enough voltage.
- **Aux 3 OB**
TBD
- **Altitude**
Last current Altitude reading of the beacon from sea level.
Note: The Altitude will display a 0 because the device (Only BeMini, BeSol+ and Beten+) does not transmit GPS data; instead, it sends Wi-Fi information. The GPS fix is 4 indicating the device only send Wifi information.
- **Latitude**
A measure of relative position north or south on the Earth's surface, measured in degrees from the equator, which has a latitude of 0°.
- **Longitude**
A measure of relative position east or west on the Earth's surface, measured in degrees from the equator, which has a longitude of 0°.
- **Max G-Force**
The maximum G-Force a device has reached. This is a custom feature and only applicable to cellular beacons.
- **Address**
Displays the Address of the last record
- **Location Site**
Displays the name of the Geozone

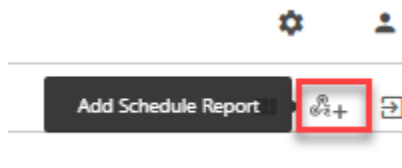
Scheduled Reports:

- Watchdog: non-reporting devices longer than x hours
- Snapshot: Last report schedule
- Outside Geozone: Devices outside Geozone longer than x hours

From Dashboard select Schedule Reports:



Select Add Scheduled Report:



- Name the Report
- Select the Report Type:
 - Snapshot
 - History
 - Watchdog
 - Outside Geozone

SNAPSHOT

Select Conditions:

Battery = Less than 3.56

Dormant Days = More Than xx
last Reported in Hours

Add Schedule Report ✕

Name
test

Report Type
Snapshot

Condition +

None
None
Battery
Dormant days
Last Reported Hours

less than 0

less than 0

Select fields

Timezone
America/Toronto (GMT - 05:00)

Recurring
DAILY

Start Time
: AM

Select Filter

Emails(Uses the semicolon as a separator between addresses)

Save

Select Fields to include in Scheduled Report

Add Schedule Report

Name
test

Report Type
Snapshot

Condition +

None less than 0

None less than 0

Select fields

Select fields

- ID
- Name
- Serial Number
- Timestamp
- Event Type Code
- Event Type
- Rssi(-dBm)
- Battery
- Impacts
- Temperature

HISTORY

Report to display historical data

The Recurring Selection defines how much historical data to be included in the report:

Daily is the previous 24 hours.

Weekly is the previous week,

Monthly is the previous Month.

WATCHDOG

Set the threshold in hours for a report of devices not transmitted

OUTSIDE GEOZONE

If Out of Geozone also select the Threshold in hours

- Select Timezone
- Select Daily, Weekly or Monthly
- Select the start time for the report to be sent
- Ability to Select Device Filter either by Tag or by Group
- Insert Email Address separated by comma

Add Schedule Report [X]

Name
test

Report Type
Watch Dog

Select fields
Select fields

Threshold(hours)
48

Timezone
America/Toronto (GMT - 05:00)

Recurring
DAILY

Start Time
: AM

Select Filter

Emails(Uses the semicolon as a separator between addresses)

Save

Add Schedule Report [X]

Name
Outside Geozone

Report Type
Outside Geozone

Threshold(hours)
48

Timezone
US/Central (GMT - 05:00)

Recurring
DAILY

Start Time
9 : AM

Select Filter

Emails

Save

Here's a couple of screenshots to show you some of the reporting:

This one shows the details on a trailer usage report that runs daily showing trailers that have been dormant for > 5 days:

The screenshot shows the BEWHERE dashboard with a table of reports and an 'Edit Schedule Report' modal for 'Trailer Usage Report'.

Name	Report Type	Recurring	Timezone	Emails	Created By	Creation Date -1
test-trail	Snapshot	DAILY At: 11:30AM	America/Toronto (GMT - 0400)	dzheng@bevhere.com	dzheng@bevhere.com	2020-11-25 10:12:29 am
Trailer Usage Report	Snapshot	DAILY At: 09:00AM	US/Pacific (GMT - 07:00)	cpanczuk@bevhere.com;ahoiha@bevhere.com	ahoiha@bevhere.com	2020-10-26 4:57:49 pm
Non Reporting Devices Longer than 72hrs	Watch Dog	DAILY At: 09:00AM	US/Pacific (GMT - 07:00)	cpanczuk@bevhere.com;ahoiha@bevhere.com	ahoiha@bevhere.com	2020-10-15 5:57:34 pm
Outside Of Geozone Longer than 48hrs	Outside Geo...	DAILY At: 09:00AM	US/Pacific (GMT - 07:00)	cpanczuk@bevhere.com;ahoiha@bevhere.com	ahoiha@bevhere.com	2020-10-15 5:54:56 pm

The 'Edit Schedule Report' modal for 'Trailer Usage Report' includes the following fields:

- Name: Trailer Usage Report
- Report Type: Snapshot
- Condition: Condition
- Dormant days: higher than 5
- Select fields: Name, Dormant Days, Geozone, Timestamp, Location, Event Type
- Timezone: US/Pacific (GMT - 07:00)
- Metric: Metric
- Recurring: DAILY
- Start Time: 9 : 0 AM
- Select Filter: (empty)
- Emails: cpanczuk@bevhere.com;ahoiha@bevhere.com;dzheng@bevhere.com;d179f
- Save button

Here's another designed to capture trailers outside of Geozones for more than 48 hours:

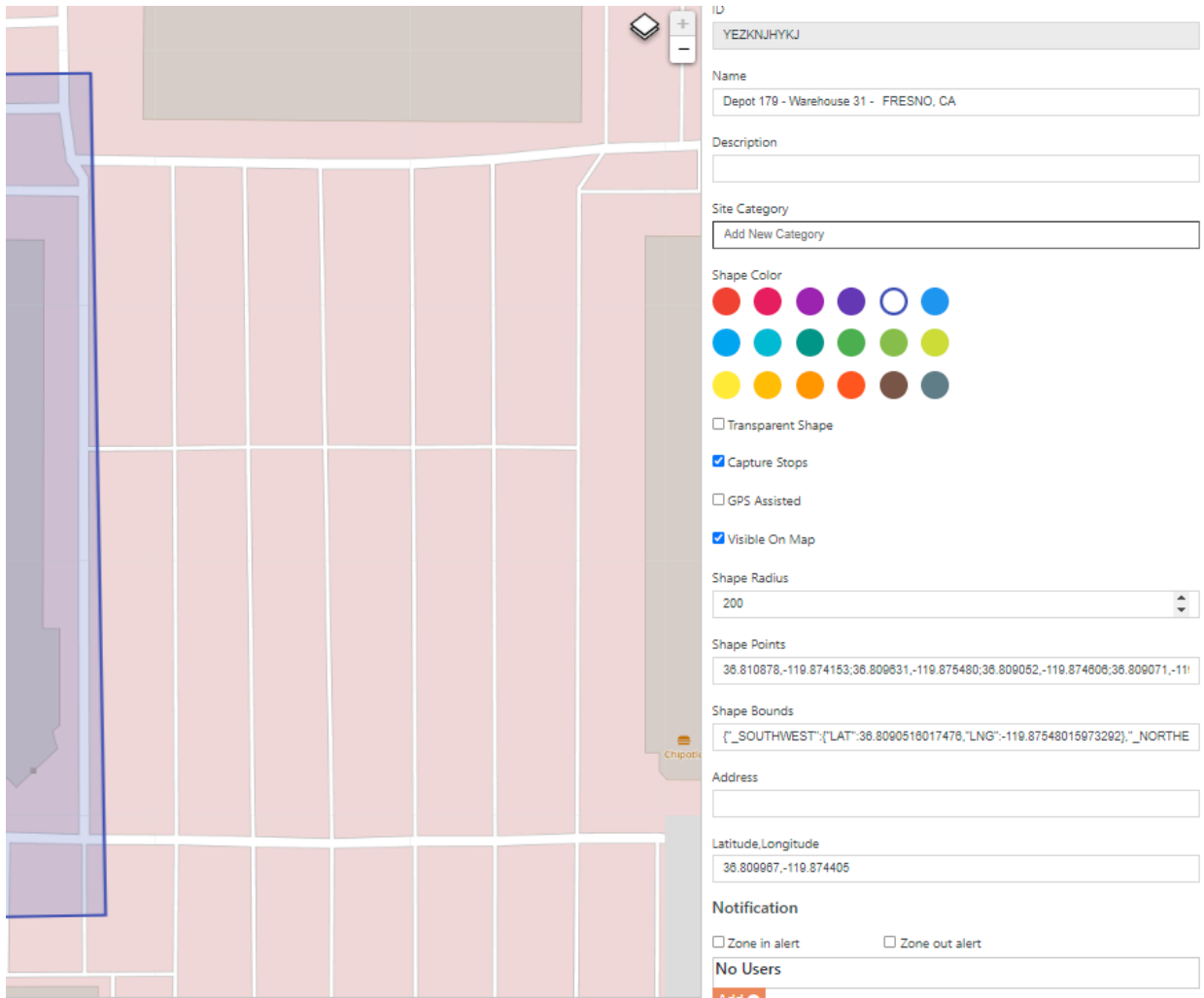
The screenshot shows the BEWHERE dashboard with a table of reports and an 'Edit Schedule Report' modal for 'Outside Of Geozone Longer than 48hrs'.

Name	Report Type	Recurring	Timezone	Emails	Created By	Creation Date -1
test-trail	Snapshot	DAILY At: 11:30AM	America/Toronto (GMT - 0400)	dzheng@bevhere.com	dzheng@bevhere.com	2020-11-25 10:12:29 am
Trailer Usage Report	Snapshot	DAILY At: 09:00AM	US/Pacific (GMT - 07:00)	cpanczuk@bevhere.com;ahoiha@bevhere.com	ahoiha@bevhere.com	2020-10-26 4:57:49 pm
Non Reporting Devices Longer than 72hrs	Watch Dog	DAILY At: 09:00AM	US/Pacific (GMT - 07:00)	cpanczuk@bevhere.com;ahoiha@bevhere.com	ahoiha@bevhere.com	2020-10-15 5:57:34 pm
Outside Of Geozone Longer than 48hrs	Outside Geo...	DAILY At: 09:00AM	US/Pacific (GMT - 07:00)	cpanczuk@bevhere.com;ahoiha@bevhere.com	ahoiha@bevhere.com	2020-10-15 5:54:56 pm

The 'Edit Schedule Report' modal for 'Outside Of Geozone Longer than 48hrs' includes the following fields:

- Name: Outside Of Geozone Longer than 48hrs
- Report Type: Outside Geozone
- Threshold(hours): 48
- Timezone: US/Pacific (GMT - 07:00)
- Metric: Metric
- Recurring: DAILY
- Start Time: 9 : 0 AM
- Select Filter: (empty)
- Emails: cpanczuk@bevhere.com;ahoiha@bevhere.com;dzheng@bevhere.com;d179f
- Save button

Here's what it looks like when you're setting up the Geozone – note you can setup 'Zone IN/OUT' alerts by email if that's desired:



The screenshot displays a map interface with a blue geozone boundary overlaid on a grid of pinkish-red parcels. A configuration panel is visible on the right side of the map, containing the following fields and options:

- ID: YEZKNJHYKJ
- Name: Depot 179 - Warehouse 31 - FRESNO, CA
- Description: (empty field)
- Site Category: Add New Category
- Shape Color: A grid of 18 colored circles (red, pink, purple, blue, cyan, green, yellow, orange, brown, grey).
- Transparent Shape
- Capture Stops
- GPS Assisted
- Visible On Map
- Shape Radius: 200
- Shape Points: 38.810878,-119.874153;36.809831,-119.875480;36.809052,-119.874808;36.809071,-119.874808
- Shape Bounds: [{"_SOUTHWEST":{"LAT":36.8090518017478,"LNG":-119.87548015973292},"_NORTHEAST":{"LAT":38.81087819825217522,"LNG":-119.87415319825217522}}]
- Address: (empty field)
- Latitude,Longitude: 38.809987,-119.874405
- Notification:
 - Zone in alert
 - Zone out alert
- No Users
- Add (+)
- Transmitters

With Geozone(s) setup and you select 'Capture Stops' (in above screen grab), you can get reporting like this. You can drill down on a specific asset/trailer by typing the 'Name' (eg 179241) in the Search bar

BEWHERE Dashboard - Map Beacons ⚙️ 👤

20 Apr 2022 12:00 am - 28 Apr 2022 12:00 am

Search 🔍 📄 All

ID	Name	Timestamp ±1	Event	Object Name	Address	Latitude	Longitude
356726102589959	179341	2022-04-27 4:37:42 pm	ZONE IN	Costco Logistics	Station Drive Stockton, CA, 95211...	37.940121	-121.228504
356726102612017	179474	2022-04-27 4:35:17 pm	ZONE IN	Tracy Depot	Corporate Court, San Joaquin C...	37.718612	-121.522693
356726102858719	179728	2022-04-27 4:34:27 pm	ZONE IN	Tracy Depot	William Elton Brownie Brown Fr...	37.714748	-121.523415
01591000435050	179491	2022-04-27 4:23:59 pm	ZONE IN	Depot 179 - Warehouse 423 - SUNNYVALE...	Lawrence Station Road, Sunnyva...	37.371487	-121.993759
356726102612561	179157	2022-04-27 4:18:45 pm	ZONE IN	Tracy Depot	Corporate Court, San Joaquin C...	37.717394	-121.524384
864475041815522	179079	2022-04-27 4:12:58 pm	ZONE IN	Tracy Depot	Corporate Court, San Joaquin C...	37.717476	-121.524624
356726102685781	179283	2022-04-27 4:08:09 pm	ZONE IN	Tracy Depot	Corporate Court, San Joaquin C...	37.715966	-121.523177
356726102589975	179465	2022-04-27 4:06:37 pm	ZONE OUT	Tracy Depot	Vernalis Freeway, San Joaquin C...	37.637602	-121.340314
356726102592433	172123	2022-04-27 4:04:17 pm	ZONE OUT	Tracy Depot	Robert T. Monagan Freeway, Sa...	37.765684	-121.34714
356726102858719	179728	2022-04-27 4:01:09 pm	ZONE OUT	Costco Logistics	Manteca, CA, 95339, USA	37.78346	-121.241016
864475041789990	179407	2022-04-27 4:01:00 pm	ZONE OUT	Tracy Depot	Robert T. Monagan Freeway, Tra...	37.749875	-121.473026
015910000377807	179574	2022-04-27 3:59:09 pm	ZONE IN	Depot 179 - Warehouse 470 - ALMADEN, ...	5301 Almaden Expressway, San ...	37.252887	-121.880835
356726102589546	179544	2022-04-27 3:58:56 pm	ZONE OUT	Tracy Depot	West Schulte Road, Tracy, CA, 95...	37.720184	-121.506485
356726102488194	179806	2022-04-27 3:55:26 pm	ZONE IN	Tracy Depot	Corporate Court, San Joaquin C...	37.715768	-121.523288
359215101600659	179685	2022-04-27 3:55:24 pm	ZONE IN	Tracy Depot	Corporate Court, San Joaquin C...	37.717957	-121.522729
356726102915147	179819	2022-04-27 3:53:30 pm	ZONE IN	Tracy Depot	Schulte Court, San Joaquin Cou...	37.719978	-121.52623
359215101600725	179045	2022-04-27 3:48:22 pm	ZONE OUT	Tracy Depot	West Schulte Road, San Joaquin...	37.722303	-121.531419

Below, the first grab shows the 'Report Types' available in Scheduled Reports :

1. Snapshot (with conditions, like battery lvl, dormant days, last reported hours....)
2. History
3. Watch Dog
4. Outside Geozone

- Reports can be scheduled daily, weekly, monthly for a specific time.
- You can filter the report by devices with certain Tags (defined by users) or by Groups if Groups are setup.
- You can have reports generated for specific conditions (eg battery, dormant days, last reported hours)
- Persons (emails) receiving the report don't necessarily have to be users of the system.

Add Schedule Report ✕

Name

Report Type

- Snapshot**
- History
- Watch Dog
- Outside Geozone

Select fields

Timezone

Metric

Recurring

Start Time
 :

Emails(Uses the semicolon as a separator between addresses)

Add Schedule Report ✕

Name

Report Type
Snapshot

Condition +

None less than 0

None
Battery
Dormant days
Last Reported Hours

Timezone
America/Toronto (GMT - 04:00)

Metric

Recurring
DAILY

Start Time
: AM

Select Filter

Emails(Uses the semicolon as a separator between addresses)

Save

Add Schedule Report ✕

Name

Report Type

Condition

Select fields

Timezone

Metric

Recurring

DAILY
WEEKLY
MONTHLY

: AM

Emails(Uses the semicolon as a separator between addresses)

Add Schedule Report ×

Name

Report Type
Snapshot

Condition +

None less than 0

Select fields

Timezone
America/Toronto (GMT - 04:00)

Metric

Recurring
DAILY

Start Time
: AM

Select Filter
Select Filter
Tags
Groups

Save

****NOTE:**

If you require the Dormant Days Condition and Dormant Days data field, You will need to activate the Dormant Days Rule under “Rules” in order to begin processing the dormant days events. Heres an example of the scheduled report:

Edit Schedule Report ✕

Name
Dormant Days

Report Type
Snapshot

Condition +

Dormant days higher than 2

Select fields
ID × Timestamp × Dormant Days × select fields

Timezone
America/Toronto (GMT - 04:00)

Metric

Recurring
DAILY

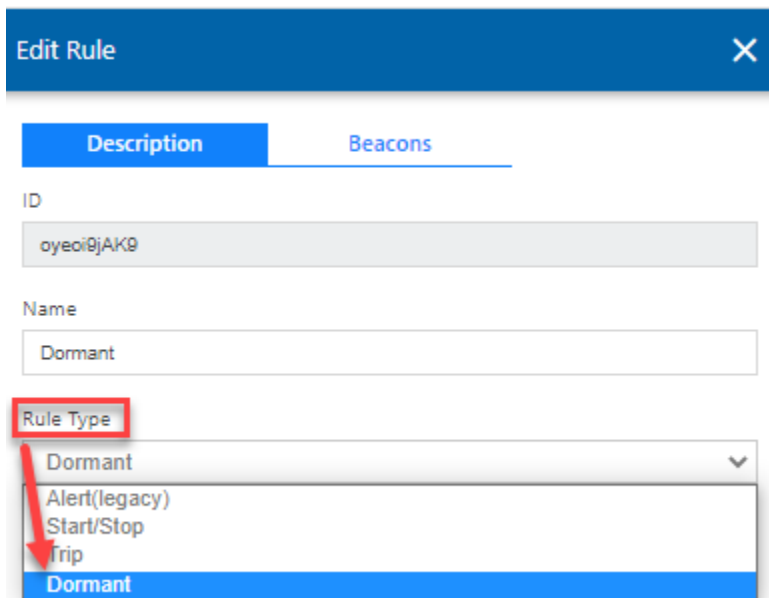
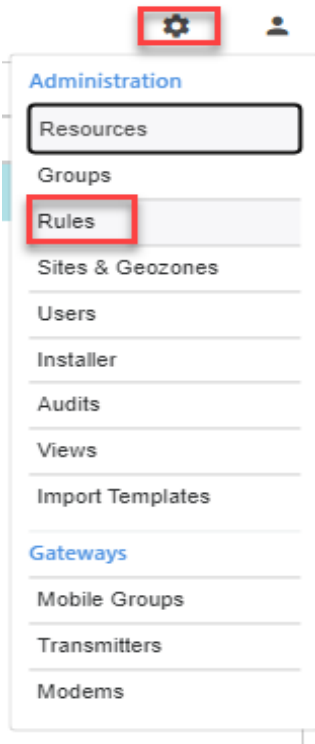
Start Time
1 : 0 AM

Select Filter

Emails(Uses the semicolon as a separator between addresses)
Test@Bewhere.com

Save

Create the Dormant Days Rule:



5. Maps

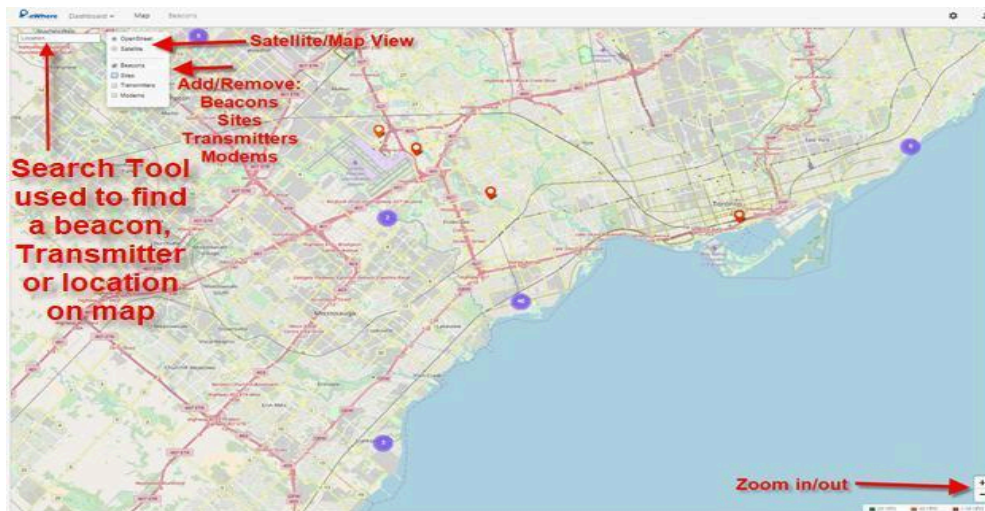
By default, the map is centered on all beacons. Clicking on a beacon will zoom in and center onto a beacon. Map view can be zoomed in or out using the + or – located in the bottom right corner of the map.

Once the desired Map View is reached, the view can be saved by clicking on the Disk Icon



Map features located in the top left corner include:

- Open Street/Satellite view
- View Beacons
- View Sites
- View Transmitters
- View Modems
- Search Box for Beacon or Transmitter



Maps -View Beacons

Clicking on a beacon icon will display the snapshot data and includes:

ID, Beacon Name, sending device, Date and Time of last transmission, Battery Level, Distance from sending device, Impact Reading, Temperature, Light reading, Humidity and Pressure if applicable.

The beacon name can be modified by editing the beacon in the device info tab. Beacons will ship with the MAC address representing the name. Beacon names can be changed at any time to a more friendlier identification name of the asset.

Icon Colors

The outer edges of the icons will match the last transmit status in the dashboard:

Green = Reported within 24 hours **Orange** = 24-48 hours **Red** - More than 48 hours

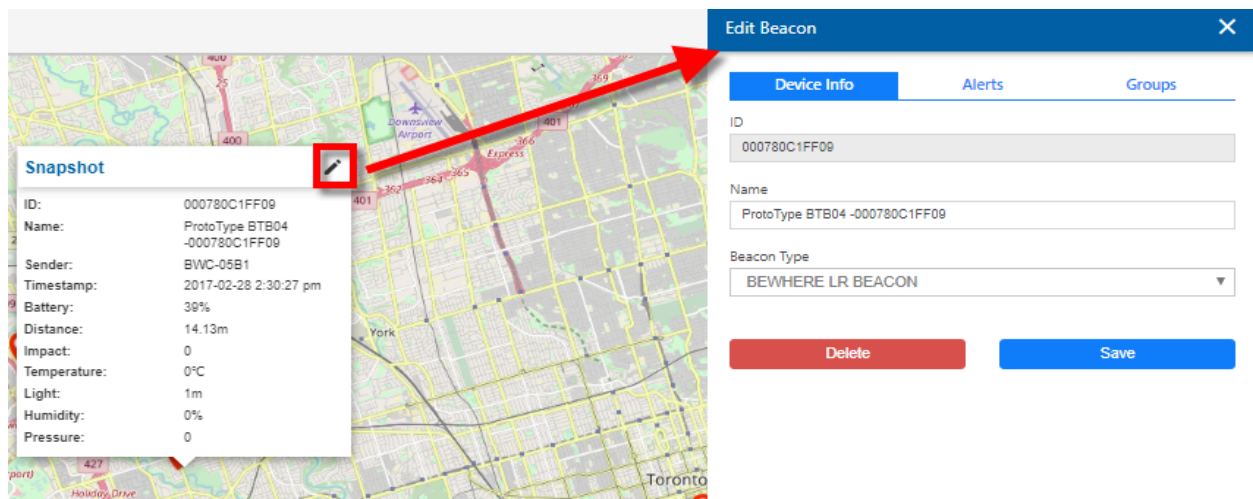
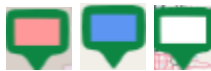


The color inside the icon:

Red - Last fix device had an Invalid GPS Fix


White - Last fix device had a valid GPS Fix

Blue - Location is GPS Assist (Closest Cell Tower device last transmitted from)



Cellular beacons include the Location Latitude and Longitude Coordinates as well as the Address when a device is clicked on the map through the Pop-Up.

The Tower Feature  will display the closest tower. Clicking on the Tower

Distance Feature  will display the distance between the closest Tower and the device.

Clicking on the Latitude and longitude coordinates will open a new tab window in google maps.

Snapshot 📶 📡 📈

ID: 357591080085753

Name: 357591080085753

Sender: 357591080085753

Timestamp: 2018-06-06 10:32:32 am

Battery: 3.61 v

Distance: 0m

Impact: 0

Temperature: 21.49°C


Light: 0m

Humidity: 38%

Pressure: 100.492

Location: [43.597145, -79.5231](https://www.google.com/maps?q=43.597145,-79.5231)

Address: 3264 Lake Shore Boulevard West, Toronto



The Map Tab can also run device history.

1. Select Live History
2. Open the vehicle pane
3. Select a device
4. Select Map or Grid (Map by Default)

Note: This feature is interactive which allows you to select additional devices to display the historical data visually

Edit Group ✕

Basic Info Beacons Alerts

In - Out Range

In ON Out OFF

Battery Level

Lower Limit % Threshold % Reset

Impact Count

Upper Limit Threshold Reset

Temperature

Lower Limit °C Upper Limit °C Threshold °C Reset

Light Level

Lower Limit lm Upper Limit lm Threshold lm Reset

Humidity

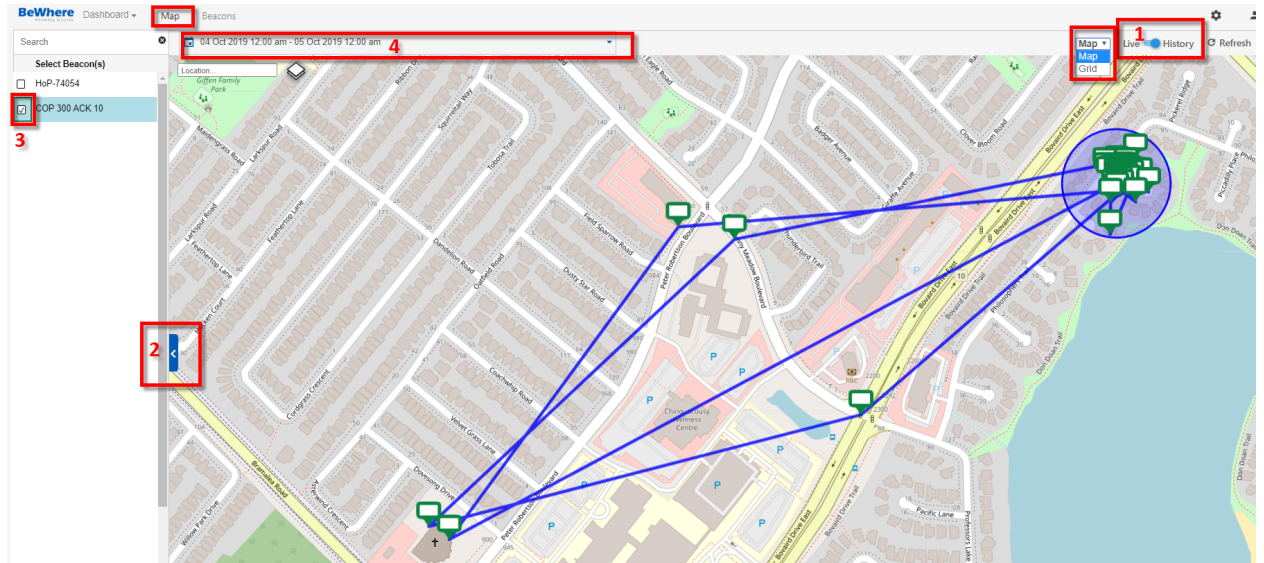
Lower Limit % Upper Limit % Threshold % Reset

Barometric Pressure

Lower Limit kPa Upper Limit kPa Threshold kPa Reset

Notifications OFF Turn On Alert Notification

on the map.



Alerts

The Alerts can be configured per beacon Please note: the email recipient is the username of who is logged into BeWhere Web.

In Range and/or Out of Range – An Email Alert will be activated whenever a beacon goes in or out of range of a transmitter. This feature is only available if a beacon data is being transmitted through a Geotab GO6/7 or Android Device. IOS Device and BLE/WIFI Gateways are not compatible.

Battery Level – An Email Alert will be activated by checking the LO indicator and inserting a percentage. The +/- indicator is available to configure an Email Alert for a change in battery level percentage. *Reset to default* is 25%.

Temperature – An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a temperature in Celsius. The +/- indicator is available to configure an Email Alert for a change in temperature. *Reset to default* is LO 5 and HI 28.

Humidity – Only if Applicable - An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a Humidity percentage. The +/- indicator is available to configure an Email Alert for a change in humidity. *Reset to default* is LO 0 and HI 90.

Impact Count – An Email Alert will be activated by checking the HI indicator and inserting an actual impact count. The +/- indicator is available to configure an Email Alert for an increment change. *Reset to default* is HI 255 (Highest impact count before being reset to 0).

Light Level - An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a Lumen count. The +/- indicator is available to configure an Email Alert for a change in Lumen. *Reset to default* is LO 5 and HI 8.

Barometric Pressure – Only if Applicable - An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a Kilopascal Pressure Unit (kPa). The +/- indicator is available to configure an Email Alert for a change in kPa. *Reset to default* is LO 10 and HI 101.5.

Groups

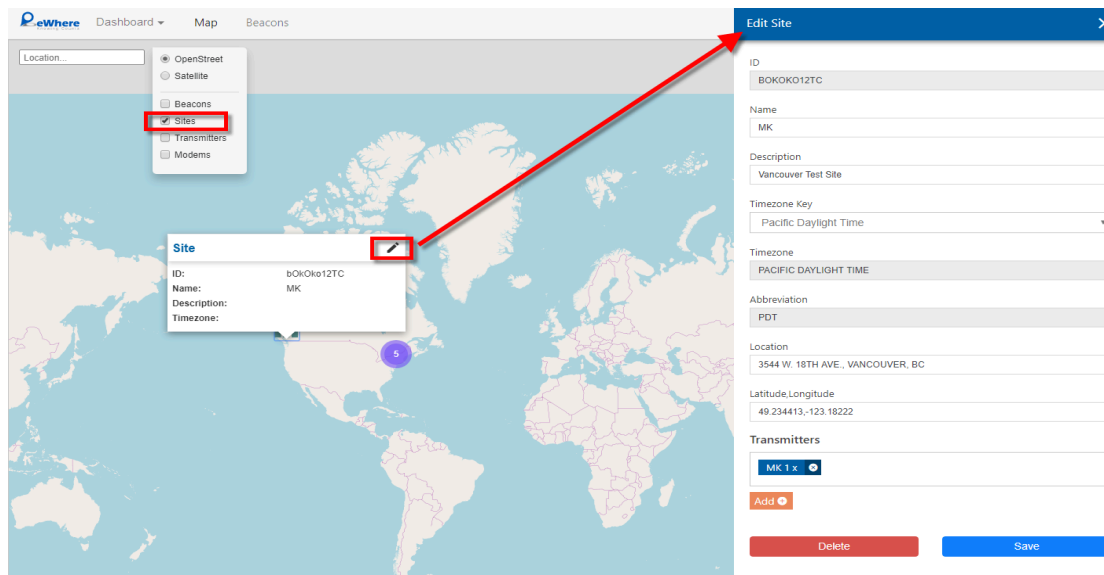
The Groups Tab displays which groups a beacon is assigned to and also has the

The screenshot shows a modal window titled "Edit Beacon" with a close button (X) in the top right corner. Below the title bar are three tabs: "Device Info", "Alerts", and "Groups". The "Groups" tab is active. Under the "Groups" heading, there is a box containing the text "No Groups". Below this is a search input field with the placeholder text "Select Group Name". A list of group names is displayed below the search field: "MK VAN", "BOBs BB Light", "MK Van Nexus5" (which is highlighted), "Suresh IOS test 4", "Test Group VAN 1", and "ABC". At the bottom of the modal is a blue "Save" button.

ability to add a beacon to a group

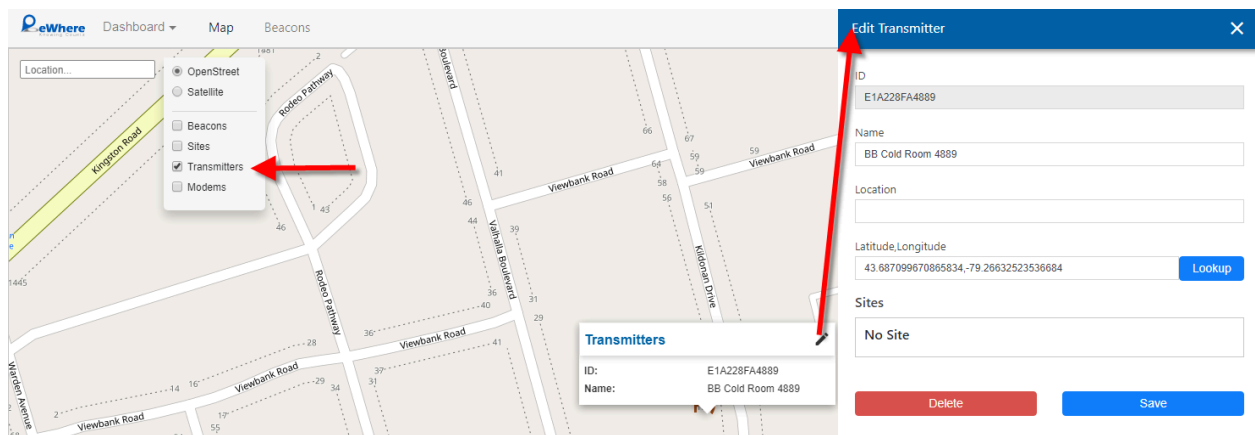
Maps – View Sites

Sites can be selected and viewed on the map. They also may be edited by clicking on the edit feature.



Maps – View Transmitters

Transmitters can be selected and viewed on the map. They also may be edited by clicking on the edit feature. The location of the transmitter can also be modified by left mouse clicking on the transmitter and moving the position. You can also use the search bar to find a specific transmitter. Simply type in the transmitter name in the Location Search Box in the top left corner of the map.



6. Beacons

The beacons Tab displays a list of all beacons. The beacons are searchable and can also be exported. Right click to edit the beacon which also includes Alert configuration.

ID	Name	Beacon Type
000780C1FBB6	Alban Toyota4-FBB6	BEWHERE LR BEACON
000780C1F8FB	BB Meghan Big Bag F8FB	BEWHERE LR BEACON
0007802F6620	G_G_2F6620_0_2g	BEWHERE LR BEACON
0007802F6583	Chassis	BEWHERE LR BEACON
000780C1FF13	Humidity - FF13	BEWHERE LR BEACON
000780C1F29F	MK C1F29F	BEWHERE LR BEACON

Edit Beacon
✕

Device Info
Alerts
Groups

ID

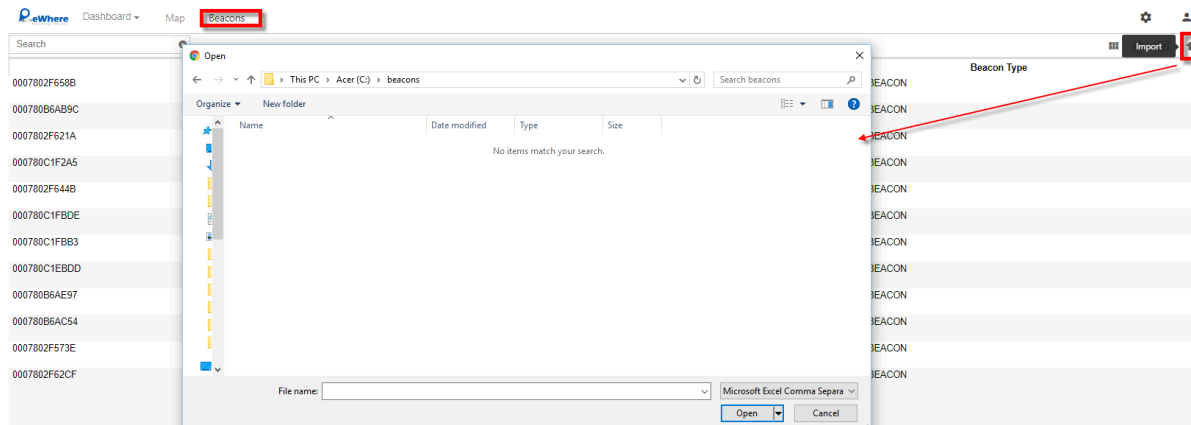
Name

Beacon Type

Tags

Delete
Save

The beacon list can also be exported to CSV, Excel or PDF.



Multiple beacons can be imported by using the Import feature. The import beacons feature allows bulk imports using a CSV File. Below is the import format for Blue Tooth Beacons: **The import templates are found in the Administration menu**

	A	B	C
1	ID	Name	Beacon Type
2	000780EDFBD8	000780EDFBD8	BEWHERE LR BEACON
3	000780EDE8F2	000780EDE8F2	BEWHERE LR BEACON
4	000780EDDEFF	000780EDDEFF	BEWHERE LR BEACON
5	000780EDDEF9	000780EDDEF9	BEWHERE LR BEACON
6	000780EDE8E9	000780EDE8E9	BEWHERE LR BEACON

Beacons can also be grouped by “Tagging” beacons. Edit a beacon, add a tag name and hit Enter.

Edit Beacon ×

Device Info Alerts Groups

ID

Name

Beacon Type

Tags

Delete Save

The Edit Beacon Feature for Cellular Beacons will display a different Edit Feature which contains the Device Information with Tags and also a Cellular

Configuration Feature

Edit Beacon
✕

Device Info

Configuration

ID
357591080081877

Name
CW280191

Beacon Type
LTE-M

Carrier
AT&T

Tags
Florida ✕

⌘ Add a new tag and press <Enter> when done

Delete
Save

The Cellular Configuration Feature allows for a configuration change of type and Timed interval.

NOTE: Devices are shipped with a default configuration setting of Timed Report Interval once every 24 hours. When a configuration setting is changed, the device will accept the configuration change upon the next timed interval report (i.e., if its set to report every 24 hours and its changed to 5 minutes, the device will accept the change at the next 24-hour timed report).

- **BATTERY LIFE IS DEPENDENT ON THE CONFIGURATION FREQUENCY - TYPICAL BATTERY LIFE FOR AA 3.6V BATTERIES IS 3000 TO 4000 RECORDS. THE BATTERY COLUMN DATA FIELD WILL DISPLAY THE BATTERY VOLTAGE, BELOW 3.55V IS EXTREMELY LOW.**

The available configuration options are:

SKUs Configuration

BeTen

Time schedule

Motion (Movement)

BeSol

-Time based

-Motion (Trip)

Note: Device will stop charging at battery temperatures above 45C and below 0c

BeWired

-Time based with Ignition

-Motion Trip with Ignition

-Sensor Integration temp probe

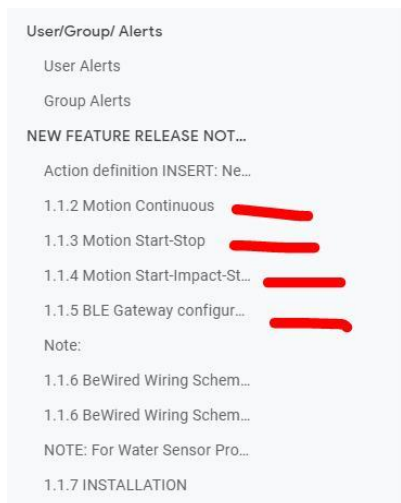
BeMini

-Time based

-Motion (Trip)

-Leash Mode

-Exception based (Temperature)



BeTen

Time schedule

Motion (Movement)

Timer Based:

Edit Beacon ×

Device Info Configuration

Basic Configuraiton

Configuration Type:

Interval:

Save

Interval Type:

- 5 Minutes
- 10 Minutes
- 15 Minutes
- 30 Minutes
- 1 Minutes
- 2 Minutes
- 6 Minutes
- 12 Minutes
- 24 Minutes

Motion Movement (Continuous:)

Motion based configuration is combined with a Timer based while the device is

Basic Configuration

Configuration Type:

Motion(Movement)

Movement Interval:

15 minutes

GPS Timeout

Default

GPS Fix Extension

10 seconds

Movement threshold:

10

Stationary Interval:

12 hours

stationary.

Device Info

Configuration

Basic Configuration

Configuration Type:

Motion Based

Interval:

5 minutes

Movement Counter:

2

Stationary Interval:

Select Stationary Interval

BeSol

-Time based

-Motion (Trip) - Which includes a Trip Start and Trip Stop Record

Motion Trip (Start/Stop):

NOTE: Devices with Firmware Version 1.4.2 + as of December 1st 2018 have an additional Motion Based Configuration feature: For Motion Based Configuration, there are 2 types of settings: **Motion Start-Stop and Motion**

Continuous:

For **Motion Start-Stop**, the device will only send a report when the device starts and then when it stops. For example, the idle interval setting set to 15 minutes means the device will report 15 minutes once it stops moving. The movement threshold is the motion sensitivity of the device. A setting of 10 means it will need to detect or not detect a minor motion 10 times within 15 minutes. The stationary interval set to 12 hours would mean the device will send a record every 12 hours when not moving.

Configuration Type:
Motion(Trip)

Update when Starts or Stops
 Update while in continuous motion

Idle interval:
15 minutes

GPS Timeout
Default

GPS Fix Extension
10 seconds

Movement threshold:
3

Stationary Interval:
12 hours

17 2 74

Device Info Configuration FOTA

Sensor Groups

Basic Configuration

Configuration Type:
Motion

Motion Start/Stop
 Enable continuous motion

Idle interval:
5 minutes

GPS Timeout
3 minutes

GPS Fix Extension
10 seconds

Movement threshold:

	Timestamp 1	Sender
	yyyy-mm-dd	
	2019-10-29 11:11:51 am	Owen - New Solar man
	2019-10-29 11:01:57 am	TempSoil Station-4456
2	2019-10-29 10:57:29 am	Ivan-Solar-NewGPS-9772
75	2019-10-29 10:52:24 am	Devin-Solar-NewGPS-9775
5	2019-10-29 10:52:06 am	ZoeTest-HE5200mA-0995

Edit Beacon [X]

Device Info | **Configuration** | FOTA

Basic Configuration

Configuration Type:
Motion Start/Stop

Idle interval:
15 minutes

Movement threshold:
10

Stationary Interval:
12 hours

Additional Configuration

Active Threshold:
300

Active Timer:
32

Inactive Threshold:
256

Inactive Timer:
64

Configuration change made by undefined at 2018-11-15 12:59:56 pm is updated.

Save

For **Motion Continuous**, the device will send data every 15 minutes when in motion.

NOTE 1: Existing firmware version must be 1.6.15 and above to be able to set Motion Configuration.

NOTE 2: Motion Configuration should only be sent if the device battery level is 3.8 volts or higher to prevent the battery from draining during the configuration.

Edit Beacon ✕

Device Info **Configuration** FOTA

Basic Configuration

Configuration Type:

Movement Interval:

Movement threshold:

Stationary Interval:

Additional Configuration

Active Threshold:

Active Timer:

Inactive Threshold:

Inactive Timer:

Configuration change made by undefined at 2018-11-15 1:07:25 pm is updated.

Save

- The device has an accelerometer on board that it uses to measure g forces. A movement threshold is defined by us as a certain measured g force over time. For the device to break the movement threshold you set (x) it would have to go over the defined g force/time setting x times
- Each x min interval the device will go into a listening state - if it senses the motion threshold has been exceeded, it will increment a counter. If the counter is greater than x by end of x min it will wake up and send a report. If it does not sense motion counter > x it will continue to listen for another x minutes (keeping the value of the counter).
- This listening will continue every x minutes. There is a secondary timer that is the stationary timer. If there is no motion (Movement threshold > x) in x min it will expire and it will force the device to wake up and send a report. This secondary timer will reset every time you send a motion report.

Motion with Sensor Configuration

Motion Configuration

BEWHERE

Motion Sensor Configuration

G-Force Impact (0.1 G for more than 20ms)

G-Force Full Scale:

±2g(default)

Sensitivity: (1-64)

4

Wakeup Duration:

20 ms (1/ODR)

Configuration helper indicates the result for all selected parameters below.

Full scale G-Force expected from the application. It scales up to 16G max. It's recommended to choose the scale that captures the use cases.

For the selected G-Force full scale; Sensitivity will determine G-Force Impact value i.e. in this example 0.1G

Will determine the duration for which G-Force Impact value triggers a motion Event. The smaller the value the more sensitive will be.

Motion Sensor Configuration

G-Force Impact (0.1 G for more than 60ms)

G-Force Full Scale:

±2g(default)

Sensitivity: (1-64)

3

Wakeup Duration:

60 ms (3/ODR)

Configuration by ahoxha@bewhere.com
made at 2020-07-29 9:30:45 am Status: Confirmed.

Add start time for timer configuration:

For timer configuration, the user can set a start time, please see the picture below. Please note: In order to set start time, the interval should be equal and greater than 1 hour and can be divided by 24 hours

Name	Timestamp 1	Sender
Owen - New Solar man	2019-10-29 11:06:05 am	Owen - New Solar man
TempSoil Station-4456	2019-10-29 11:01:57 am	TempSoil Station-4456
Ivan-Solar-NewGPS-9772	2019-10-29 10:57:29 am	Ivan-Solar-NewGPS-9772
Devin-Solar-NewGPS-9775	2019-10-29 10:52:24 am	Devin-Solar-NewGPS-9775
ZoeTest-HE5200mA-0995	2019-10-29 10:52:06 am	ZoeTest-HE5200mA-0995

Basic Configuration

Configuration Type:

Interval:

Start from(hour:minute)
 :

Initial Interval(for version 1.5.76 and above)

Initial Frequency(for version 1.5.76 and above)

Configuration change made by imedunic@bewhere.com at 2019-05-01 1:40:56 pm is updated.

For firmware 1.6.14 above, motion start/stop has been changed to 'Motion', by default enabling "continuous motion".

BeWired

- Time based with Ignition
- Motion Trip with Ignition
- Sensor Integration temp probe

The Wired devices have a configurable Initial interval feature. This feature is to set how frequent the device will transmit when the ignition is detected.

Initial Interval(for version 1.5.76/77 and 1.7.18/19)

Initial Frequency(for version 1.5.76/77 and 1.7.18/19)

Basic Configuration

Configuration Type:


Motion(Trip) 

Update when Starts or Stops

Update while in continuous motion

Enable optimization

Moving or Idle interval:

5 minutes 

GPS waiting for fix (Max wait time)

Default 


After GPS-Fix Improvement (Max wait time)

10 seconds 

Movement threshold:

3 

Stationary Interval:

12 hours 

Ignition Interval(0,30-3600 seconds)

300 

Disable GPS Feature

When devices are going into storage and not being used, recommended configuration is Timer Based with 24 hour interval and Disable GPS selected.

Basic Configuration

Configuration Type:

Timer Based

Interval:

24 hours

Start from(hour:minute)

9



:

0



AM



Disable GPS

GPS waiting for fix (Max wait time)

Default

After GPS-Fix Improvement (Max wait time)

10 seconds

The Temperature Sensor will need to be selected if the BeWhere temperature probe is used:

Motion Sensor Configuration

G-Force Impact (0.4 G instantly)

Mode Selector:

Normal mode

Output Data Rate:

50(default)

G-Force Full Scale:

±2g(default)

Sensitivity: (1-64)

12

Wakeup Duration:

Instantly (0)

Sleep During: (0-15)

0

Specify external sensor

None

None

Temp(ds18b20)

BeMini

- Time based
- Motion (Trip)
- Leash Mode
- Exception (Temperature)

The BeMini has a Leashed Based Feature. By adding the WiFi BSSIDs, the mini will not use GPS allowing the device to preserve battery Life. GPS Location will be used from the Wifi Location. This will determine the Wifi Geofence. When the device detects that it is within the Wifi Geofence, the onleash interval will activate and the device will transmit only every 24 hours as per the on Leash interval. Please note to ensure the BSSID/MAC ID is added as follows:

##:##:##:##:##:##

Device Info **Configuration** Firmware

Forms Groups

Basic Configuration

Configuration Type:
Leash Based

Disable GPS
GPS waiting for fix (Max wait time)
60 seconds

After GPS-Fix Improvement (Max wait time)
2 seconds

OnLeash interval
24 hours

OffLeash interval(sec)
300

Scan interval stationary(sec)
3600

Motion thresh
0

Wifi APs [Add Wifi AP](#)

Rssi limit: 0 Bssid: [Delete](#)

Use LED Indication

Use PSM when available

Leash Based Configuration Definitions:

GPS waiting for fix (Max wait time) - The maximum amount of time a device will wait for valid gps.

After GPS-Fix Improvement (Max wait time) - Once device finds a fix, maximum waiting time device will stay on to increase GPS accuracy.

OnLeash interval - Reporting time when in WiFi range.

OffLeash interval(sec) - Reporting time when out of WiFi range. Time Based feature. (note: device will continue to transmit regardless if movement/no movement until device enters back into WiFi).

Scan interval stationary(sec) - Amount of time the device scans within WiFi range when not in motion to confirm the device is still in a WiFi range. (Internal Feature)

Motion thresh - Movement threshold when device is in motion.

WiFi Geofence - BSSID needs to be added for each device. Format is:
##:##:##:##:##:##

Exception Based Configuration

In this configuration, besides Interval time schedule updates, device will update based

on exceptions configured for Temperature. This configuration is designed to optimize

battery consumption and send real-time events only when criteria is met

Parameter	Description	Value
Interval	How often device will update real-time	6 hrs
GPS Timeout	How long device should search for GPS. If not required can be Skipped . In this configuration device will last much longer battery wise.	1 min
GPS Fix Extension	How long device should wait after Valid GPS fix	
Polling Interval	How often device should poll temperature sensor.	5min
Continuous Exception	Indicates if exception should be reported continuously based on Poll Interval otherwise only first time it happens.	
Exception Conditions		
	Outside Low-High thresholds: Report TEMPERATURE Event when device readings are outside Low-High range.	
	Higher than High threshold: Report TEMPERATURE Event when device readings are higher than High range.	
	Less than Low threshold: Report TEMPERATURE Event when device readings are lower than Low range.	
	Between Low-High thresholds: Report TEMPERATURE Event when device readings are inside Low-High range.	

An example of Exception Based configuration:

Device Info	Configuration	Firmware
Gateway	Groups	

Basic Configuration

Configuration Type:
Exception Based

Interval:
6 hours

Skip GPS

GPS Timeout
1 minutes

GPS Fix Extension
10 seconds

Polling Interval(Interval must be multiple of polling interval):
15 minutes

Continuous Exception

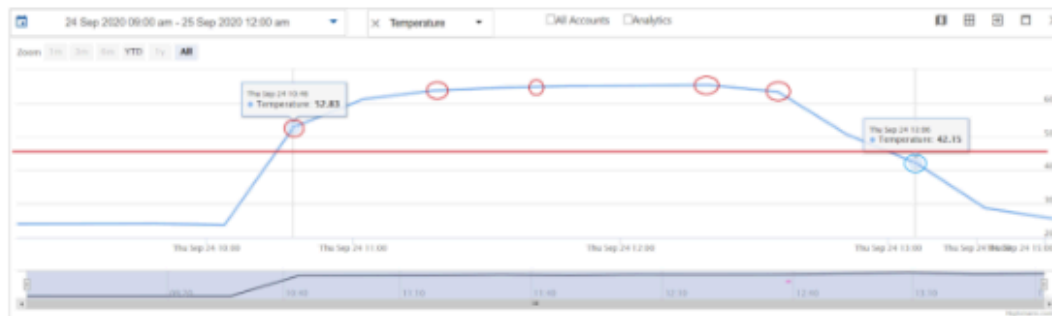
Temperature (-200°C~550°C)

Update Exception when:
Less than Low threshold

Low: High:

Use case: Exception when higher than High threshold

Device will trigger exception events every 15 min, per device configuration, when Ambient Temperature goes above 45°C



Device Info | **Configuration** | Firmware

Gateway | Groups

Basic Configuration

Configuration Type:

Skip GPS

Interval:

GPS Timeout:

GPS Fix Extension:

Exception/Poling interval(interval must be multiple of outbound interval):

Temperature [-40°C-85°C]

Exception Triggerpoint:

Low: High:

1. Device Configuration Profile

2. Temperature

Graph

Raw data representation

ID	Name	Threshold 1 (°F)	Received 1 (°F)	Event Type	Rec'd dBm	Battery	Temp (°C)	Light (Lux)
<input type="checkbox"/>	BT4621201810116351	2020-09-24 2:06:54 pm	2020-09-24 2:09:10 pm	UPDATE	-113	3.66	26.72	105
<input checked="" type="checkbox"/>	BT4621201810116351	2020-09-24 3:06:11 pm	2020-09-24 3:08:22 pm	UPDATE	-111	3.60	42.15	Normal again, falling back to Stationary reporting interval
<input type="checkbox"/>	BT4621201810116351	2020-09-24 3:30:41 pm	2020-09-24 3:32:52 pm	EXCEPTION	-111	3.60	36.63	108
<input type="checkbox"/>	BT4621201810116351	2020-09-24 3:35:11 pm	2020-09-24 3:37:22 pm	EXCEPTION	-112	3.60	43.38	102
<input type="checkbox"/>	BT4621201810116351	2020-09-24 3:19:41 pm	2020-09-24 3:21:52 pm	EXCEPTION	-112	3.62	45.29	101
<input type="checkbox"/>	BT4621201810116351	2020-09-24 3:04:11 pm	2020-09-24 3:06:22 pm	EXCEPTION	-113	3.60	46.11	102
<input type="checkbox"/>	BT4621201810116351	2020-09-24 11:48:41 am	2020-09-24 11:50:52 am	EXCEPTION	-112	3.62	45.01	119
<input type="checkbox"/>	BT4621201810116351	2020-09-24 11:33:11 am	2020-09-24 11:35:22 am	EXCEPTION	-112	3.62	44.25	101
<input type="checkbox"/>	BT4621201810116351	2020-09-24 11:17:41 am	2020-09-24 11:19:52 am	EXCEPTION	-114	3.62	43.87	119
<input type="checkbox"/>	BT4621201810116351	2020-09-24 11:02:11 am	2020-09-24 11:04:21 am	EXCEPTION	-111	3.62	41.08	First exception record after detecting Temp higher than High Threshold
<input checked="" type="checkbox"/>	BT4621201810116351	2020-09-24 10:46:41 am	2020-09-24 10:48:51 am	EXCEPTION	-112	3.62	34.83	
<input type="checkbox"/>	BT4621201810116351	2020-09-24 10:16:25 am	2020-09-24 10:18:35 am	UPDATE	-112	3.60	23.73	54

3. Historical data

Use case: Exception when outside Low-High thresholds

Device Info
Configuration
Firmware

Gateway
Groups

Basic Configuration

Configuration Type:

Exception Based

skip GPS

Interval:

1 hour

GPS Timeout:

1 minutes

GPS Fix Extension:

10 seconds

Exception/Poling Interval(interval must be multiple of outbound interval):

5 minutes

Temperature [-40°C-85°C]

Exception Triggerpoint:

Exception when outside Low-High thresholds

Bottom: o b Top:

DeviceID	Name	Timestamp	Event Type	Rssi[-dBm]	Battery Temp [c]	Light [lux]	Pressure	Humidity
864475040069204	8TBKX21205818116351	2020-09-27 4:58:39 am	UPDATE	-122	3.62	0.6	0	99.403
864475040069204	8TBKX21205818116351	2020-09-27 5:57:00 am	UPDATE	-122	3.62	2.29	0	99.408
864475040069204	8TBKX21205818116351	2020-09-27 4:55:19 am	UPDATE	-122	3.61	1.84	0	99.408
864475040069204	8TBKX21205818116351	2020-09-27 3:51:21 am	UPDATE	-122	3.62	0.3	0	99.425
864475040069204	8TBKX21205818116351	2020-09-27 2:51:45 am	UPDATE	-122	3.62	1.6	0	99.459
864475040069204	8TBKX21205818116351	2020-09-27 1:50:07 am	UPDATE	-122	3.64	7.24	0	99.503
864475040069204	8TBKX21205818116351	2020-09-27 12:48:19 am	UPDATE	-123	3.62	1.29	0	99.555
864475040069204	8TBKX21205818116351	2020-09-26 11:46:41 pm	UPDATE	-121	3.62	1.72	0	99.584
864475040069204	8TBKX21205818116351	2020-09-26 10:45:05 pm	UPDATE	-121	3.62	2.6	0	99.613
864475040069204	8TBKX21205818116351	2020-09-26 9:43:28 pm	UPDATE	-122	3.61	4.67	0	99.694
864475040069204	8TBKX21205818116351	2020-09-26 8:41:45 pm	TEMPERATURE	-121	3.58	7.88	0	99.692
864475040069204	8TBKX21205818116351	2020-09-26 8:34:50 pm	TEMPERATURE	-121	3.59	8.4	0	99.672
864475040069204	8TBKX21205818116351	2020-09-26 8:27:56 pm	TEMPERATURE	-121	3.59	8.39	0	99.628
864475040069204	8TBKX21205818116351	2020-09-26 8:21:01 pm	TEMPERATURE	-121	3.59	8.44	944	99.653
864475040069204	8TBKX21205818116351	2020-09-26 8:14:07 pm	TEMPERATURE	-121	3.59	8.85	0	99.646
864475040069204	8TBKX21205818116351	2020-09-26 8:07:13 pm	TEMPERATURE	-121	3.58	9.54	0	99.651
864475040069204	8TBKX21205818116351	2020-09-26 8:00:19 pm	TEMPERATURE	-121	3.58	9.82	0	99.642
864475040069204	8TBKX21205818116351	2020-09-26 7:53:42 pm	TEMPERATURE	-116	3.59	9.24	0	99.646
864475040069204	8TBKX21205818116351	2020-09-26 7:46:48 pm	TEMPERATURE	-116	3.58	9.47	0	99.629
864475040069204	8TBKX21205818116351	2020-09-26 7:39:54 pm	TEMPERATURE	-116	3.58	9.78	0	99.611
864475040069204	8TBKX21205818116351	2020-09-26 7:33:00 pm	TEMPERATURE	-116	3.58	10.04	0	99.634
864475040069204	8TBKX21205818116351	2020-09-26 7:26:06 pm	TEMPERATURE	-116	3.58	10.62	0	99.635
864475040069204	8TBKX21205818116351	2020-09-26 7:20:21 pm	TEMPERATURE	-127	3.59	11.13	0	99.637
864475040069204	8TBKX21205818116351	2020-09-26 7:14:42 pm	TEMPERATURE	-126	3.58	11.36	0	99.675
864475040069204	8TBKX21205818116351	2020-09-26 7:07:48 pm	TEMPERATURE	-255	3.58	10.6	0	99.669
864475040069204	8TBKX21205818116351	2020-09-26 7:02:00 pm	TEMPERATURE	-126	3.58	9.74	0	99.695
864475040069204	8TBKX21205818116351	2020-09-26 6:55:06 pm	TEMPERATURE	-255	3.55	8.79	0	99.66
864475040069204	8TBKX21205818116351	2020-09-26 5:56:46 pm	UPDATE	-126	3.62	5.33	0	99.639
864475040069204	8TBKX21205818116351	2020-09-26 4:54:52 pm	UPDATE	-126	3.62	6.21	0	99.696
864475040069204	8TBKX21205818116351	2020-09-26 3:53:14 pm	TEMPERATURE	-127	3.58	7.88	0	99.692
864475040069204	8TBKX21205818116351	2020-09-26 3:47:42 pm	TEMPERATURE	-128	3.58	8.34	0	99.691
864475040069204	8TBKX21205818116351	2020-09-26 3:42:09 pm	TEMPERATURE	-127	3.58	8.92	0	99.682
864475040069204	8TBKX21205818116351	2020-09-26 3:36:00 pm	TEMPERATURE	-125	3.58	9.68	0	99.698
864475040069204	8TBKX21205818116351	2020-09-26 3:30:13 pm	TEMPERATURE	-125	3.57	10.56	0	99.68
864475040069204	8TBKX21205818116351	2020-09-26 3:23:19 pm	TEMPERATURE	-255	3.59	10.63	0	99.705
864475040069204	8TBKX21205818116351	2020-09-26 3:17:44 pm	TEMPERATURE	-120	3.62	8.38	944	99.719
864475040069204	8TBKX21205818116351	2020-09-26 2:14:44 pm	UPDATE	-255	3.61	5.86	0	99.803
864475040069204	8TBKX21205818116351	2020-09-26 1:13:05 pm	UPDATE	-125	3.62	2.63	0	99.841



temperature

This use case will monitor



Use case: Exception when less than Low threshold

Device Info | **Configuration** | Firmware

Gateway | Groups

Basic Configuration

Configuration Type:

skip GPS

Interval:

GPS Timeout:

GPS Fix Extension:

Exception/Poling interval(Interval must be multiple of outbound interval):

Temperature (-40°C-85°C)

Exception Triggerpoint:

Low: High:



Use case: Exception when between Low-High threshold

Device Info
Configuration
Firmware

Gateway
Groups

Basic Configuration

Configuration Type:

Exception Based

Skip GPS

Interval:

1 hour

GPS Timeout:

Default

GPS Fix Extension:

10 seconds

Exception/Polling Interval(Interval must be multiple of outbound interval):

15 minutes

Temperature (-40°C~85°C)

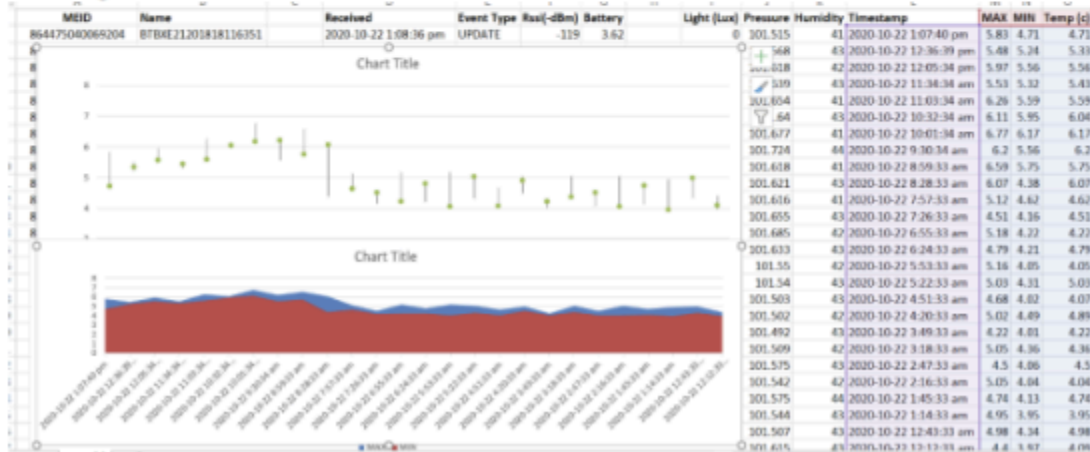
Exception Triggerpoint:

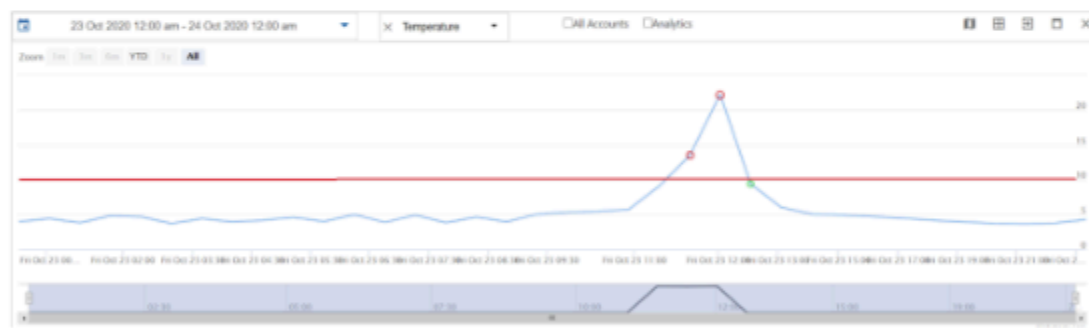
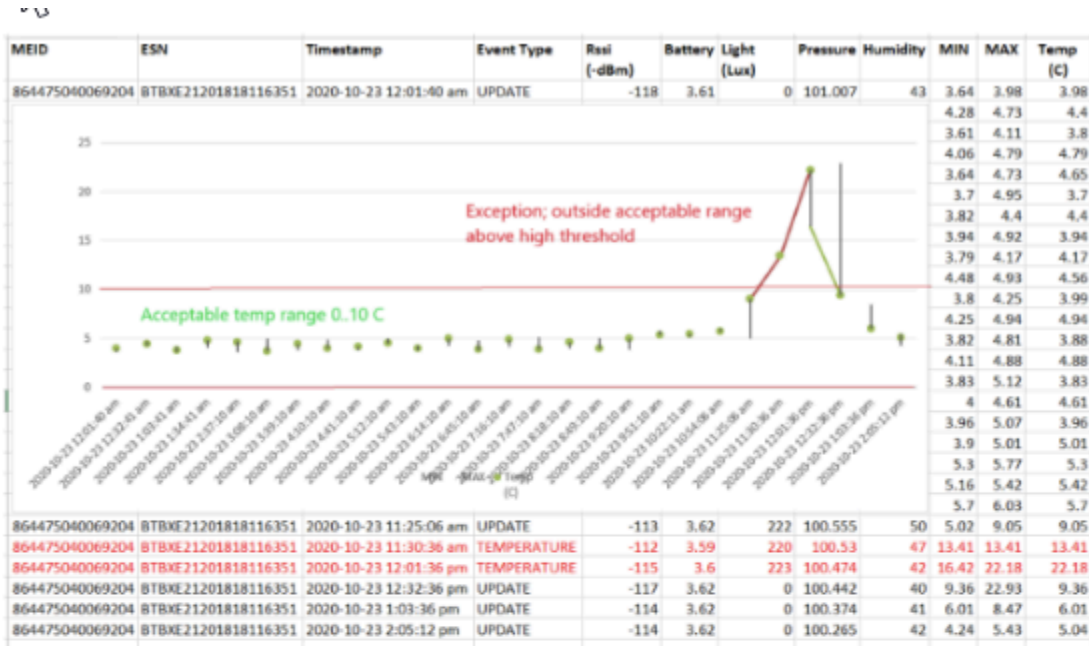
Exception when between Low-High threshold

Low: 30 High: 45

Sample Temp Monitoring data

In Exception based configuration, for this example Use case: Exception when outside Low-High thresholds



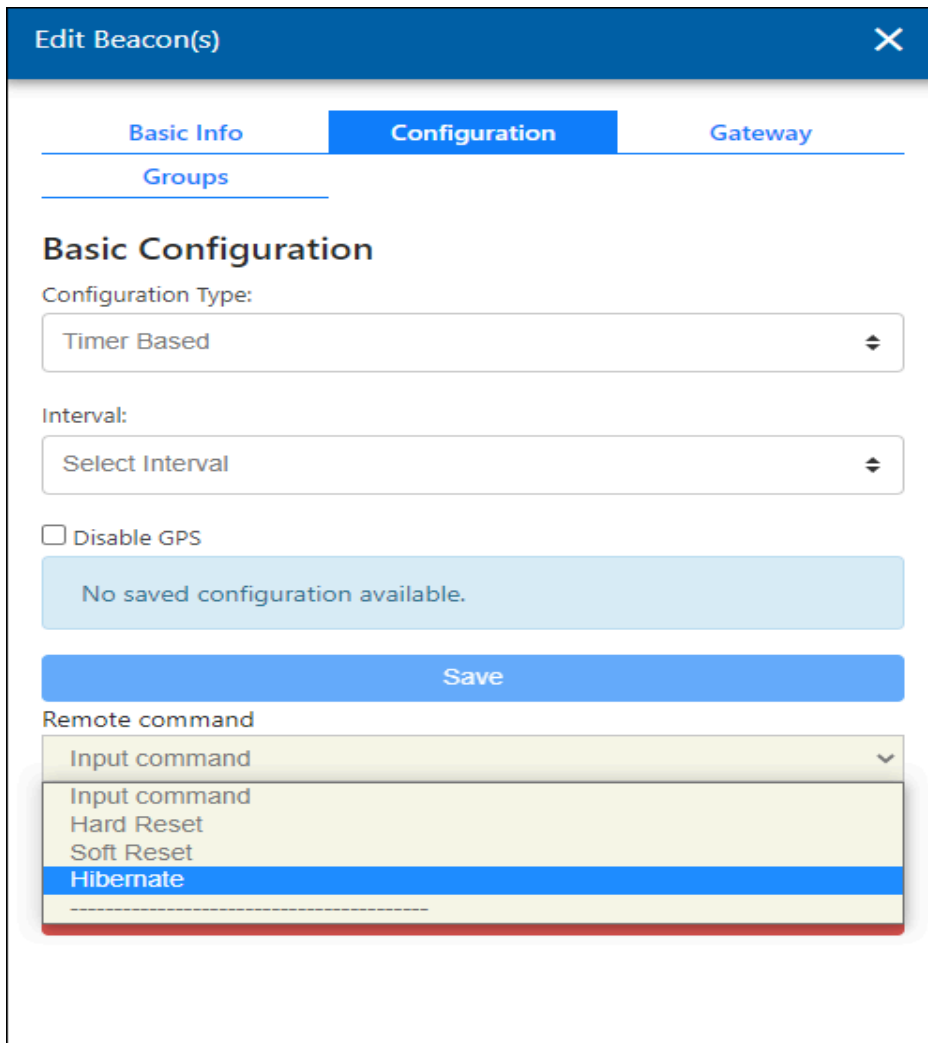


Notes*: In terms of Alarm/Notification rules in the back end, it be can determined based of these two events depending on what is considered Exception based on the use cases.

- UPDATE
- TEMPERATURE

Remote Commands:

- Hard reset: manufacture reset, all settings..
- Soft reset: normal soft reset and internal registers.
- Hibernate: Used to put the device to deep-sleep mode to preserve battery life with no reporting updates. **The device will wake up and start transmitting again once the device detects light.**



Edit Beacon(s) [X]

Basic Info | **Configuration** | Gateway

Groups

Basic Configuration

Configuration Type:
Timer Based

Interval:
Select Interval

Disable GPS

No saved configuration available.

Save

Remote command
Input command
Input command
Hard Reset
Soft Reset
Hibernate

Data Usage:

1 Transmission = 150 Bytes

4 Pings x 150 Bytes = 600 Bytes x 30 days = 18000 Bytes -> 17 KBytes ~ **0.2MB**

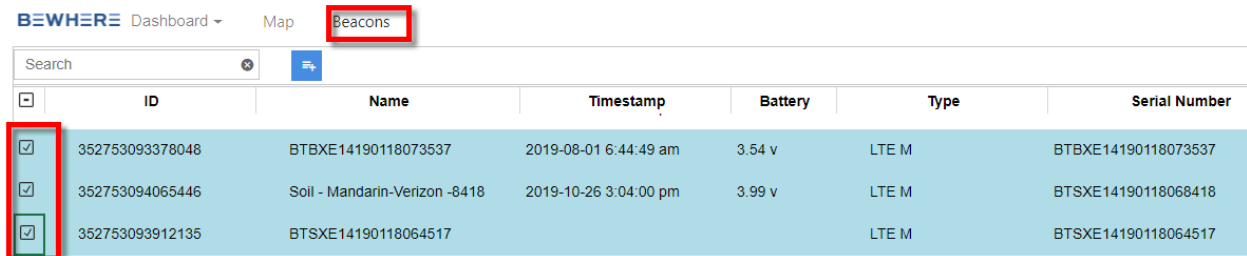
8 Pings x 150 Bytes = 1200 Bytes x 30 days = 36000 Bytes -> 35 KBytes ~ **0.35MB**

12 Pings x 150 Bytes = 1800 Bytes x 30 days = 54000 Bytes -> 52 KBytes ~ **0.6MB**

24 Pings x 150 Bytes = 3600 Bytes x 30 days = 108000 Bytes -> 108 KBytes ~ **1.08MB**

Configuring Multiple Beacons

Select multiple devices from the Beacons Tab



BEWHERE Dashboard ▾ Map Beacons

Search

<input type="checkbox"/>	ID	Name	Timestamp	Battery	Type	Serial Number
<input checked="" type="checkbox"/>	352753093378048	BTBXE14190118073537	2019-08-01 6:44:49 am	3.54 v	LTE M	BTBXE14190118073537
<input checked="" type="checkbox"/>	352753094065446	Soil - Mandarin-Verizon -8418	2019-10-26 3:04:00 pm	3.99 v	LTE M	BTSXE14190118068418
<input checked="" type="checkbox"/>	352753093912135	BTSXE14190118064517			LTE M	BTSXE14190118064517

Right click and select Edit. The selected devices will now be visible. Tags can be created for the multiple devices selected and also the configuration can be configured for the selected devices.

Edit Beacon(s) ×

Basic Info Configuration

Selected Beacon(s)

- BTBXE14190118073537 (Ver.1.5.70)
- Soil - Mandarin-Verizon -8418 (Ver.1.4.245)
- BTSXE14190118064517

Select Status

Select Status

Tags

Add a new tag and press <Enter> when done

Comments

Tags ?

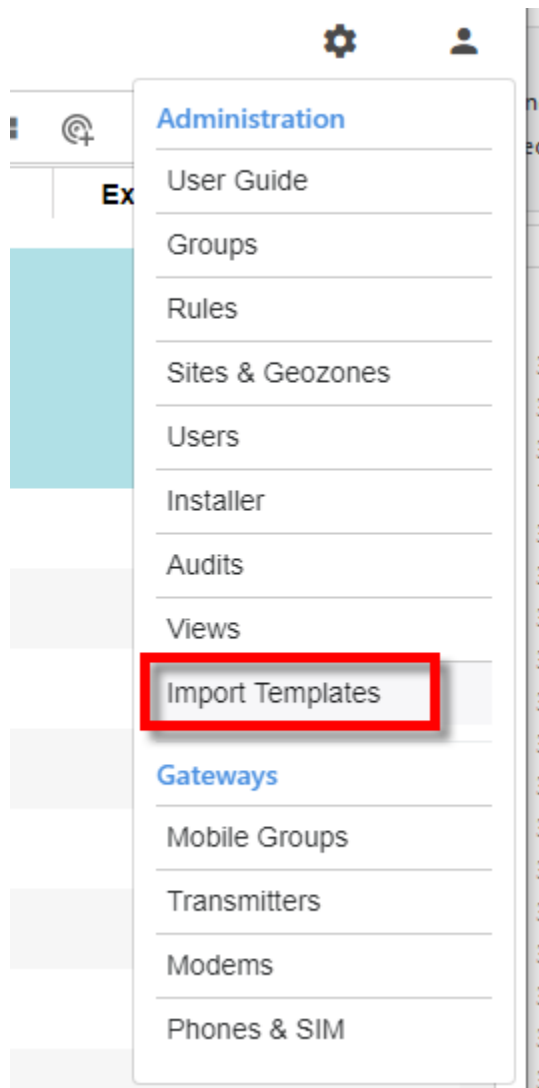
APPEND

OVERWRITE

Save

Import Templates are available from the Administration menu.

Multiple devices can be configured at the same time using the Import tool. Select Add and then select the csv file to import from. Use template Beacon_Import_Template_Config.csv in order to update batch configuration.



The Data Column **GPS FIX** will indicate the GPS Record Type:

Valid 1 - The device transmitted with a valid GPS record

Valid 2 - The device did not attempt to get a GPS fix as the motion of device indicated the device did not move – its assuming the previous valid GPS position.

Invalid 3 – The device attempted to get a GPS record but could not – The location will display the last position that was valid or the Cell tower location using the GPS Assist Feature. This is because the device could be blocked from the sky or the device could be indoors.

Valid 4 – The device is using the closest WiFi Location (Note: Only BeMini) **Wi-Fi 40 meters is the standard consumer grade router for accuracy. we have seen other routers we pickup that go a farther range like 80 or 120 meters but those are exemptions and rare.

SKIP GPS FEATURE ADDED JANUARY 2020

Normally the device will fetch GPS info every time after the device wakes up. If user selects "Skip GPS" option, then the device won't fetch GPS info after wakes up. The purpose to do so is to save power and time(Firmware fetch GPS will consumer more power and takes up to 3 minutes). This is a good option for the devices in door or do not move.

Edit Beacon

Device Info **Configuration** Sensor

Groups

Basic Configuration

Configuration Type:
Timer Based

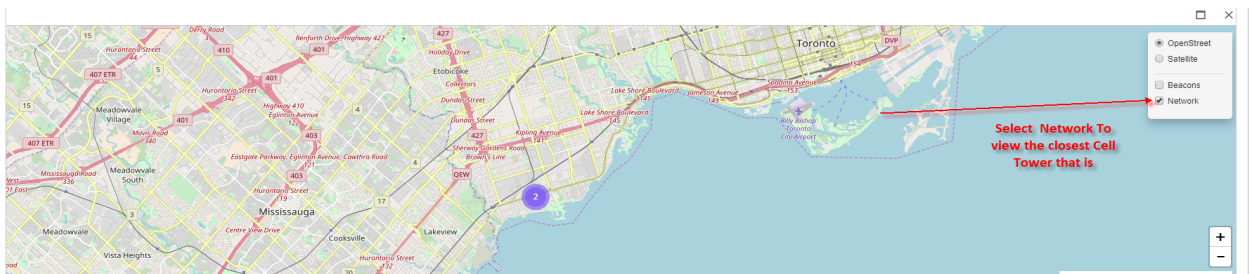
Skip GPS

Interval:
6 hours

Start from(hour:minute)
12 : 0 AM

Save

Note: Cellular device must have valid GPS and a clear view of the sky for accurate location reporting. If a device does not have a valid GPS, click on the Map Option located in the top right corner of the map and select Network to view the closest Cell Tower that is communicating with the device.



Cellular beacons will also display the Firmware Version from the beacon page. Please note that this feature is not applicable to the Blue Tooth Beacon.

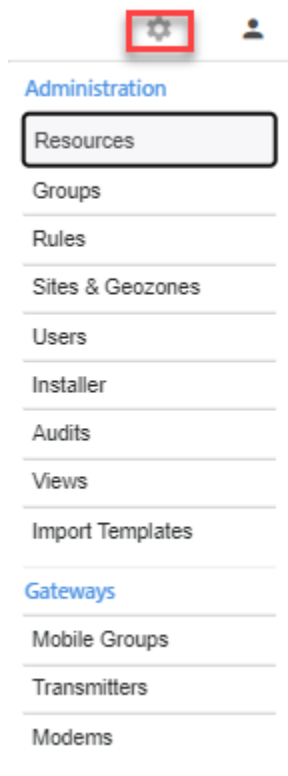
ID	Name	Beacon Type	Firmware Version
357591080081877	CW280191	LTE M	1.2.0
357591080074880	CW179344	LTE M	1.2.0
357591080080820	CW179400	LTE M	1.2.0
357591080078188	CW174350	LTE M	1.2.0
357591080070763	CW174348	LTE M	1.2.0
357591080075853	CW179332	LTE M	1.2.0
357591080077818	CW174353	LTE M	1.2.0
357591080075739	CW179334	LTE M	1.2.0

From the Dashboard, Show Column “Tags” and then sort the Tags column to see the tagged beacons grouped together.

ID	Name	Timestamp	Sender	IF Tags
000780B6AE6F	Test 000780B6AE6F	2018-02-01 12:10:57 pm	BLE HQ 6491 Test GATEWAY	test tag
000780C1E8ED	Carm 000780C1E8ED_BT04	2018-02-01 12:10:55 pm	BLE HQ 6491 Test GATEWAY	
000780C1FBB6	Alban Toyota4-FBB6	2018-02-01 12:10:34 pm	BLE HQ 6491 Test GATEWAY	
000780ECD9C1	IOS Spur Tree 000780ECD9C1	2018-01-12 5:11:31 am	naveen-sputreetest-5.1-Android-On...	
000780C1E2EE	BBB5 Guad Outside fence E2EE	2018-01-31 6:18:13 pm	BB Cold Room BLE 4889	
000780C1EB8B	000780C1EB8B Owen	2017-11-10 11:01:44 am	Alban GO7	

7. Administration

Groups, Rules, Sites & Geozones, Users, Installer feature, and Audits are primarily used for MIOT Devices. Gateway Administrative Features for Mobile Groups, Transmitters, and Modems are used for Bluetooth-only beacons.



RESOURCES

User Guide

On-Boarding

FAQ

API Reference

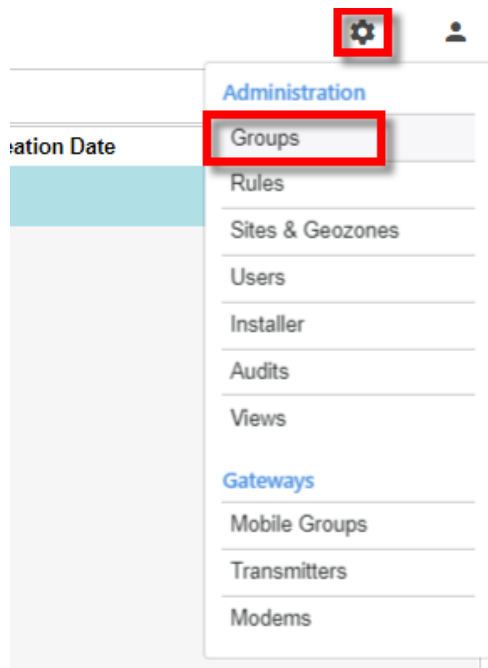
API Sample Project

The resources link is where you will find a copy of this User Guide, the Onboarding Guide, FAQ and API Reference. The Onboarding Guide must be consulted prior to installation in order to achieve the optimal location for the best performance from the BeWhere Devices.

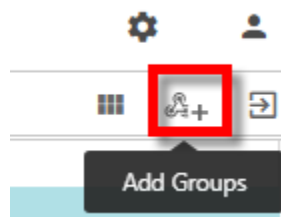
Groups – MIOT

The Groups feature allows you to Group devices together by asset type and then assign users to the specific Groups so that when the users log in, they only see the devices assigned to their Group.

Create a New Group. Select Group from Administration.



Add a new Group.



Name the Group appropriately then click on Save.

Add New Group ✕

- Basic Info**
- Beacons
- Users

ID
DHZMIFMUMZ

Name
Generator

Choose Parent Group
Choose Parent Groups ▼

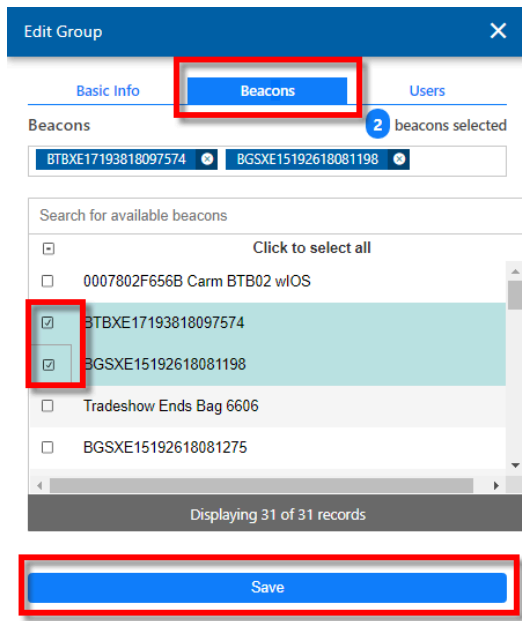
Right click on the new group and select **Edit**.

BeWhere Knowing Counts Dashboard ▾ Map Beacons

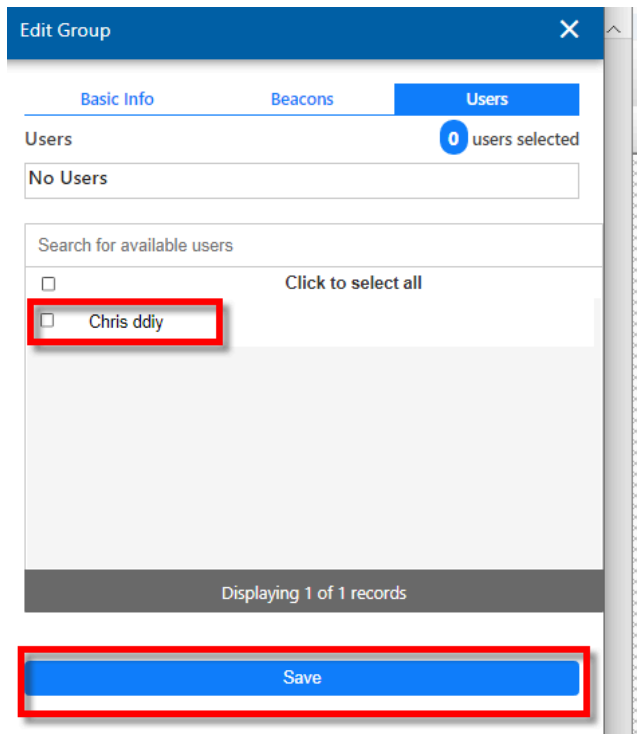
Search

Name	
Generator	dhZmlfMUMz

From the Beacons Tab add devices to the Group and Save.



From the Users Tab Select the users that will have access to the devices and assigned to the group and select Save.



Optional, from the **Basic Info** Tab, Select the Choose parent Group if there's a group created that has all the devices assigned to it.

The screenshot shows a web interface for editing a group. At the top is a blue header bar with the text "Edit Group" and a close icon. Below this are three tabs: "Basic Info" (selected), "Beacons", and "Users". Under the "Basic Info" tab, there are three input fields: "ID" with the value "dhZmfMUMz", "Name" with the value "Generator", and "Choose Parent Group" which is a dropdown menu currently showing "Choose Parent Groups". At the bottom of the form are two buttons: a red "Delete" button and a blue "Save" button.

Rules – MIOT

Create a Rule and then edit the rule to select the conditions of the sensors. Notifications can be activated and users selected to receive the email alerts.

The Legacy Alert Rule is used to send email alerts based on selected thresholds. Note: Selecting **All beacons** will include any additional devices that are added to the account on future orders

Add New Rule

Description

Beacons

Users

Conditions

ID

Name

Rule Type

All beacons

Beacon Tags(use a comma to separate tags)

Edit Rule ✕

Description	Conditions	Beacons
-------------	------------	---------

Battery Level(Miot Device)
Lower Limit V Threshold V

Battery Level(Bluetooth Beacon)
Lower Limit 0 % Threshold %
%

Impact Count
Upper Limit 0 Threshold

Temperature
Lower Limit -5 °C Upper Limit °C Threshold °C

Light Level
Lower Limit lm Upper Limit lm Threshold lm

Humidity
Lower Limit % Upper Limit % Threshold %

Pressure(The unit may be PSI or KPA based on device configuration)
Lower Limit Upper Limit Threshold

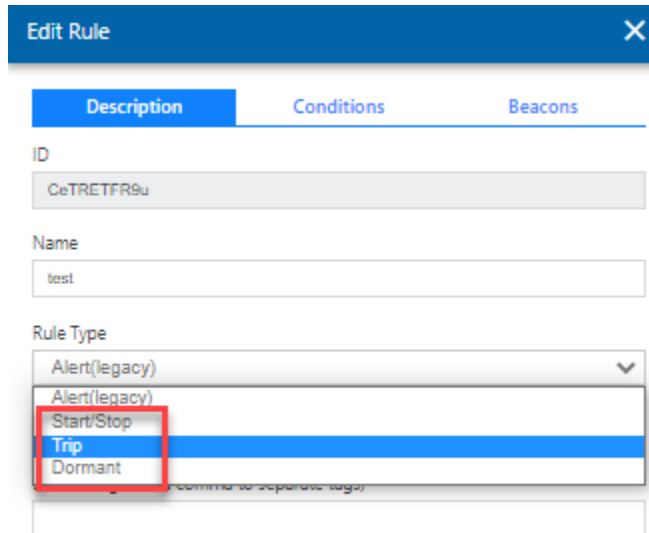
Aux1
Lower Limit Upper Limit Threshold

Aux2
Lower Limit Upper Limit Threshold

Notifications ON

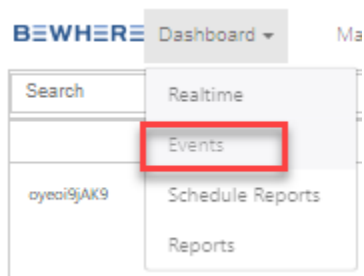
Users

Additional rule types such as Start/Stop and Trip are used to activate Start and stop and/or Trip Events.



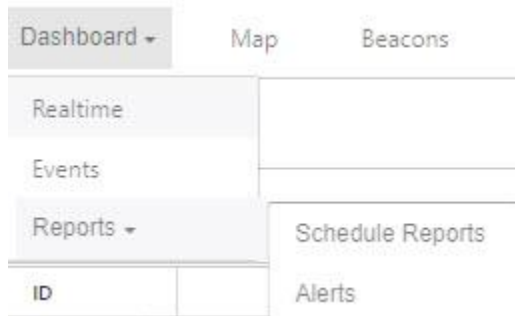
The screenshot shows the 'Edit Rule' dialog box with the 'Description' tab selected. The 'Rule Type' dropdown menu is open, and the 'Start/Stop' and 'Trip' options are highlighted with a red box.

The results of activating these Rule Events are found under Dashboard/Events



The Dormant Rule is used to activate the Dormant feature in the Schedule Reports.

The Alert Rules can be viewed as events which is found under the Dashboard Reports feature:



Selecting the Date Range will display the history of the Alerts that were generated:

A screenshot of the BEWHERE web application showing the 'Alerts' table. The table displays a list of alert events with columns for ID, Timestamp, Sensor Type, Analysis Type, Threshold, and Current Value. The 'Alerts' option in the navigation menu is highlighted with a red box.

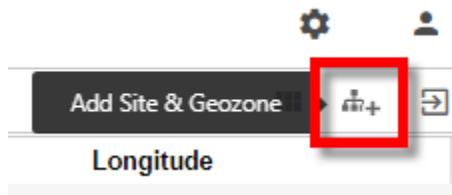
ID	Timestamp	Sensor Type	Analysis Type	Threshold	Current Value
866349041886593	2023-11-10 3:17:41 pm	IMPACT	DELTA	4	8
866349041886593	2023-11-10 3:17:41 pm	IMPACT	HI	4	8
866349041854732	2023-11-10 12:58:14 pm	IMPACT	DELTA	4	0
866349041854732	2023-11-10 12:43:14 pm	IMPACT	HI	4	5
866349041854732	2023-11-10 8:50:55 am	IMPACT	DELTA	4	2
866349041854732	2023-11-10 8:35:55 am	IMPACT	DELTA	4	199
866349041854732	2023-11-10 8:20:55 am	IMPACT	DELTA	4	207
866349041854732	2023-11-10 8:05:55 am	IMPACT	DELTA	4	5
866349041854732	2023-11-10 8:05:55 am	IMPACT	HI	4	5

Sites and Geozones

The Geozone feature is only functional for MIOT Devices and Not Bluetooth beacons.

Here are the steps to create a Geozone:

Step 1. Add a new site



Step 2. Name the Geofence

Step 3.

-Select **Capture Stops** (Optional if you would like to see the In/Out notifications in the Dashboard Location Column and Dashboard Events Report).

-Select **GPS Assisted** (Optional if you would like to include the Cell Tower location as a stop).

-Select **Visible on Map** (Optional if you would like to have the Geozone visible on the map).

Step 4. Insert address or Latitude and Longitude coordinates in the Address Search Tool located top left or navigate to the location by dragging the map using the left mouse click and using the + (Zoom in) and – (Zoom Out) Feature.

Step 5. Draw the geofence using the Polygon, square or circle drawing feature.

Step 6. Click Save.

Add Site & Geozone

Insert Lat and Long or Address

To Draw the Geofence first point needs to meet the last point

Polygon
Circle
Square

ID: 1767c8b6e2

Name: [Redacted]

Description: [Empty]

Site Category: [Add New Category]

Shape Color: [Color Selection Grid]

Capture Stops

GPS Assisted

Visible On Map

Shape Radius: 75

Shape Points: [Empty]

Shape Bounds: [Empty]

Address: [Empty]

Latitude, Longitude: 43.653228, -79.383184

Notification: Zone in alert Zone out alert

No Users

Add

Cancel Save

Email notifications can be created for Zone In and/or Zone out events from the Edit Sites and Geozone page. Email notifications can also be configured for Bluetooth Beacon transmitter zones.

Address

Latitude,Longitude

43.653226,-79.383184

Notification

Zone in alert Zone out alert

No Users

Add

Cancel Save

The next scheduled report will now display the name of the Geozone in the Geozone Column (GeoZone Location) and indicate if the device was in or out of the Geozone

Rssi(-dBm)	Battery	Impacts	Temp (c)	Light (Lux)	Distance (m)	Geozone	Location
104	3.68 v	0	21.89	0	0		67 Laburnham Avenue, Toronto, ON, ...
102	3.98 v	0	25.2	1	0	bewhere_office_rectangle IN 2019-07-12 11:25:57 am	Wingtip Drive,, TX, 77061, USA
101	4.24 v	0	25.33	4	0		

The Dashboard Events Report will also display the devices, timestamp, In/Out events and address:

ID	Name	Timestamp	Event	Object Name	Address
352753091805257	COP 300 ACK 10	2019-10-03 4:20:33 pm	ZONE OUT	Office	67 Laburnham Avenue, Toronto, ON, ...
352753091826345		2019-10-03 4:20:12 pm	ZONE OUT	Office	34 Twenty Sixth Street, Toronto, ON, ...

There are several types of Events Report

Dwell and GeoZone – Displays both In/Out and all Stop Begin Stop End Events.

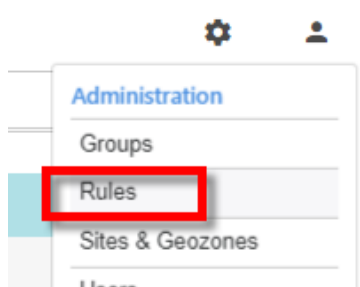
Dwell – Displays only Stop Begin and Stop End Events.

Geozone – Displays only In/Out of Geozone Events

Trips – Displays the Trip Start and Trip End Events

ID	Name	Timestamp	Event	Object Name	Address	Latitude	Longitude
356726108528696	BBB Max7 GPS Test	2020-07-09 9:43:21 am	STOP BEGIN	Start Stop Rule		43.687122	
356726108528696	BBB Max7 GPS Test	2020-07-09 9:21:21 am	STOP END	Start Stop Rule		43.701851	
356726102569994	BBB BeGATE	2020-07-09 9:06:03 am	TRIP END			43.68697	-79.266659
356726102569994	BBB BeGATE	2020-07-09 8:48:28 am	TRIP START			43.687074	-79.26664
357591080360719	BBB 606555 MP	2020-07-08 8:15:10 pm	STOP BEGIN	Start Stop Rule		43.687026	-79.266615
357591080360719	BBB 606555 MP	2020-07-08 6:06:44 pm	STOP END	Start Stop Rule		43.687586	-79.270786
357591080360719	BBB 606555 MP	2020-07-08 3:12:07 pm	STOP BEGIN	Start Stop Rule		43.687144	-79.266277
356726108528696	BBB Max7 GPS Test	2020-07-07 11:04:54 pm	STOP BEGIN	Start Stop Rule		43.686975	-79.266143
356726102458684	BGSXE15192818081275	2020-07-07 9:44:46 pm	STOP BEGIN	Start Stop Rule		43.59693	-79.52252
352753091538569	Margaux BeTen Globe Trotter MX	2020-07-07 9:41:56 pm	STOP BEGIN	Start Stop Rule		43.693055	-79.438752
356726108522087	Margaux MAZDA Max7 GPS	2020-07-07 9:07:56 pm	STOP BEGIN	Start Stop Rule		43.699441	-79.461403

Note: To Activate the Start Stop or Trip Event Report, the Start Stop or Trip Rule needs to be created:



Add a new Rule and select the Start Stop Rule.

Add New Rule ✕

Description Beacons Users

Conditions

ID
KHFZIG7DYE

Name

Rule Type
Alert(legacy) ▼
Alert(legacy)
Start/Stop

Default Condition is 200 Meters

Edit Rule ✕

Description **Conditions** Beacons

Stop Condition(meter)
200 ▼

Ignore zones(separated by commas)

Save

Note: Requirement for Trips Event / Report Feature

- Recommended for BeSol devices with firmware version 1.6.15+
- Configuration: Motion (Start-Continuous-Stop) Idle: 15min Interval:12/24hrs

Edit Beacon
✕

Device Info
Configuration
FOTA

Sensor
Groups

Basic Configuration

Configuration Type:

Motion
▾

Update when Starts or Stops

Update while in continuous motion

Idle interval:

15 minutes
▾

GPS Timeout

Default
▾

GPS Fix Extension

10 seconds
▾

Movement threshold:

5
▾

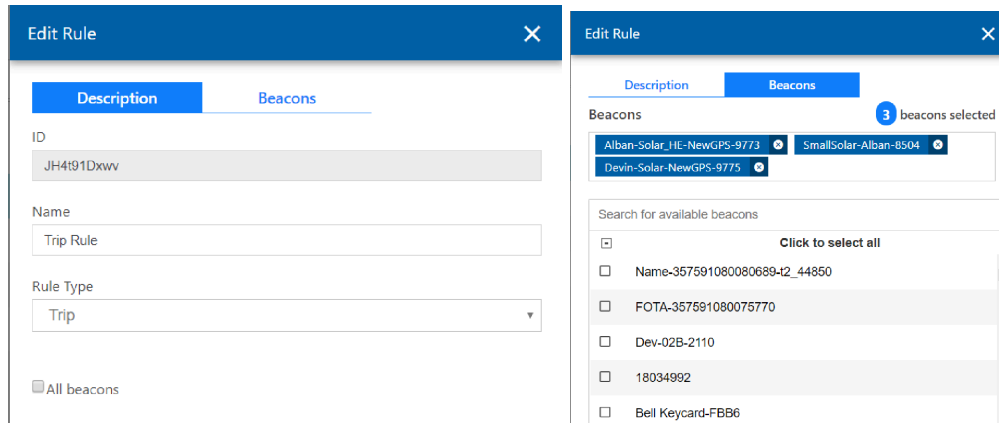
Stationary Interval:

12 hours
▾

- In order to enable Trip Event, feature a Trip Rule needs to be enabled (at least one for each account)

ID	Name	Creation Date
mLAFKKoClx	Temperature Rule#2	2019-03-29 15:00:46
JH4t91Dxwv	Trip Rule	2019-12-19 19:12:59
wSpJ64Gu5u	80689-START_STOP	2019-06-20 19:09:08
tg4mNvpKW3	devin-test	2019-03-12 16:03:28
iHZlwt48PV	Temperature Rule#1	2018-10-12 13:02:08

Trip Rule can be configured for “All beacons” assigned to the account or for specific Beacons if not all beacons are applicable. More features will be added to this feature to simplify management in the upcoming sprints.



- Trip feature consists of two events: Trip Start linked to device Motion Start message and Trip End linked to device Motion Stop message, however there is a slight difference in terms of how location of the event is calculated.

BEWHERE Dashboard ▾ Map Beacons

13 Dec 2019 12:00 am - 21 Dec 2019 12:00 am ▾

Trip

ID	Name	Timestamp	Event	Address	Latitude	Longitude
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 6:08:03 pm	TRIP END	1175 Kipling Avenue...	43.656189	-79.541365
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 5:26:05 pm	TRIP START	1175 Kipling Avenue...	43.656021	-79.541372
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 5:07:16 pm	TRIP END	1175 Kipling Avenue...	43.656021	-79.541372
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 4:56:48 pm	TRIP START	830 The East Mall, Tor...	43.656754	-79.567446
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 4:37:16 pm	TRIP END	830 The East Mall, Tor...	43.656754	-79.567446
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 4:19:56 pm	TRIP START	3264 Lake Shore Bou...	43.597053	-79.523089
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 8:37:38 am	TRIP END	3264 Lake Shore Bou...	43.597031	-79.52316
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-20 8:14:06 am	TRIP START	1175 Kipling Avenue...	43.6562	-79.541353
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-19 10:27:10 pm	TRIP END	1175 Kipling Avenue...	43.656159	-79.541332
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-19 10:15:35 pm	TRIP START	1007 The Queensway...	43.622794	-79.515732
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-19 7:30:54 pm	TRIP END	1007 The Queensway...	43.62231	-79.515767
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-19 7:13:48 pm	TRIP START	1175 Kipling Avenue...	43.656174	-79.541336
359726102458544	Alban-Solar_HE-NewGPS-9773	2019-12-19 6:36:13 pm	TRIP END	1175 Kipling Avenue...	43.656202	-79.54134

filtercolumns

Once the Trip Event data has been filtered out, it can be downloaded in the Trip Report view as per format below

Trip Report

BeWhere -MloT (2J8mLuc84N)

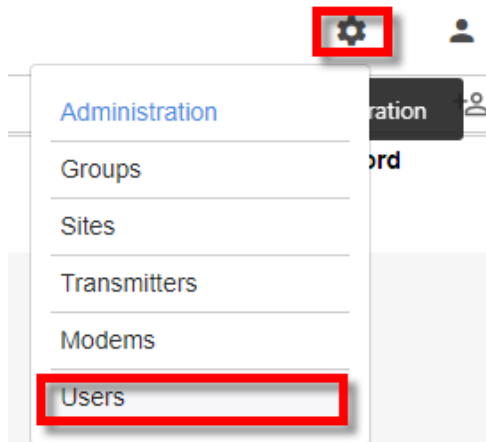
Generated On: 12/20/2019 19:03:15 -05:00

Device Alban-Solar_HE-NewGPS-9773 (356726102458544)

Object Name	Start Time	Start Location	Start Odometer(km)	End Time	End Location	End Odometer(km)	Distance(km)	Trip Time
Alban-Solar_HE-NewGPS-9773	12/19/2019 17:18:13 -05:00	351 Kipling Avenue,Toronto,ON,M9V 3L1,Canada	1278.8	12/19/2019 17:36:13 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1285.3	6.5	0:18:00
Alban-Solar_HE-NewGPS-9773	12/19/2019 19:13:48 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1285.3	12/19/2019 19:20:54 -05:00	1007 The Queensway, Toronto, ON,M6Z 6C7,Canada	1289.7	4.4	0:17:06
Alban-Solar_HE-NewGPS-9773	12/19/2019 22:15:35 -05:00	1007 The Queensway, Toronto, ON,M6Z 6C7,Canada	1289.7	12/19/2019 22:27:10 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1294.4	4.7	0:11:35
Alban-Solar_HE-NewGPS-9773	12/20/2019 08:14:06 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1294.5	12/20/2019 08:37:38 -05:00	3264 Lake Shore Boulevard West, Toronto, ON,M8W1N2,Canada	1303.1	8.6	0:23:32
Alban-Solar_HE-NewGPS-9773	12/20/2019 16:19:56 -05:00	3264 Lake Shore Boulevard West, Toronto, ON,M8W1N2,Canada	1303.2	12/20/2019 16:37:16 -05:00	630 The East Mall, Toronto, ON,M9B 2R5,Canada	1311.3	8.1	0:17:20
Alban-Solar_HE-NewGPS-9773	12/20/2019 16:55:48 -05:00	630 The East Mall, Toronto, ON,M9B 2R5,Canada	1311.3	12/20/2019 17:07:18 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1313.5	2.2	0:11:28
Alban-Solar_HE-NewGPS-9773	12/20/2019 17:26:05 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1313.5	12/20/2019 18:06:03 -05:00	1175 Kipling Avenue, Toronto, ON,M9A 1N4,Canada	1320.4	6.9	0:39:58

Users

The new users feature allows you to add additional users. **Username** is the users email address. Please use lower case. For the role please select administrator. The appropriate Time Zone needs to be selected or the default of Eastern Daylight Time will be used. We also recommend to select **Reset Password to On** so that upon the first login the user will be prompted to change the password. You also have the ability to select metric or imperial when creating a new user. Once **Save** is clicked, an automated email is generated from Support@Bewhere.com to the new user. The automated email has a URL link to the BeWhere Web App and also has the password for the new user.



Add User
✕

Email-Id

Name

Role

Timezone Key

Timezone

Abbreviation

Metric

Reset Password

Users tab

- Please ensure **Reset Password** is checked. This will allow the user to create their own user-friendly password upon login.
- The default user setting is Metric Off (Imperial). For beacon data to be in Metric, please check **Metric**.

Change Role

- The default user role is **USER** which has limited rights. Users with Administrative rights have the ability to change the user privileges.
 - After a new user is created, return to edit user and click on **CHANGE ROLE**.
 - Select a new user Role: **NO ACCESS, USER, MANAGER, SUPERVISOR, INTEGRATOR, ADMINISTRATOR**.

Definitions of Roles:

- **NO ACCESS:**

Not able to log in - Temporary suspended

- **USER:**

Beacons - View Only

Groups - View Only

GeoZones - View Only

Sites - View Only

Transmitters - View Only

Modems - View Only

History – Unlimited access

- **MANAGER:**

Beacons - View Only

Groups - Limited Access -Can add/remove beacons from groups but not create/delete groups

Sites - Limited Access -Can add/remove Transmitters to sites but not create/delete sites

GeoZones - Edit and Delete but not create new zones

Transmitters - View Only

Modems - View Only

Users - Change Time zone, Reset Password, change Metric/Imperial

History – Unlimited access

- **SUPERVISOR:**

Beacons - View Only

Groups - Can add/remove beacons from groups but not create/delete groups

Sites - Full Access

Geozones - Create, edit and delete Zones

Transmitters - Full Access

Modems - Full Access

Users - Full Access

History – Unlimited access

- **INTEGRATOR:**

Full Access to every feature except to users – create/change

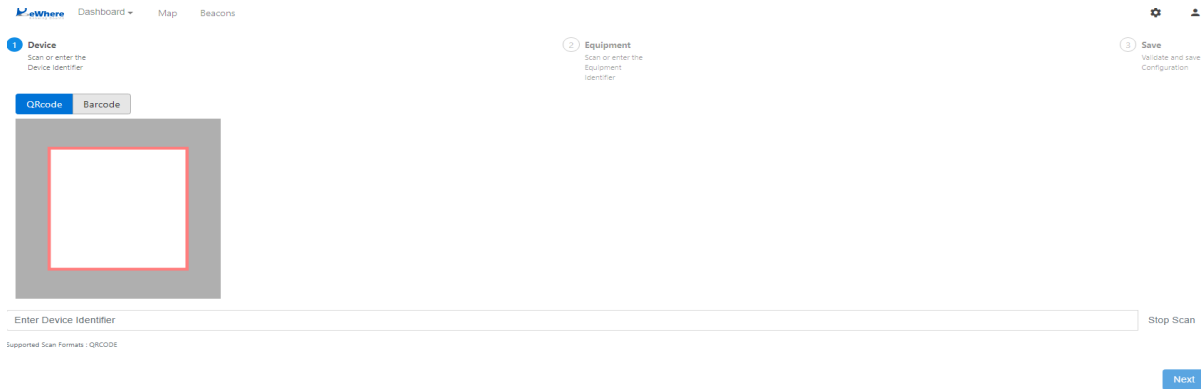
Access to the API Integration

- **ADMINISTRATOR:**

Full Access to every feature

INSTALLER

The Installer Feature is used to add devices into an account when they are installed. Devices can be added manually or by scanning the QR or Bar Code.



AUDIT

The Audit Feature is a report displaying the MIOT Device configuration status and history.

12 Nov 2018 12:00 am - 20 Nov 2018 12:00 am

ALL

Search

ID	Action Type	Object Type	object ID	Executed By	Executed On
11236	UPDATE	DEVICE_CONFIG	357591080363697	asharma@bewhere.com	2018-11-19 11:30:42 am
11235	UPDATE	DEVICE_CONFIG	357591080363697	asharma@bewhere.com	2018-11-19 11:30:19 am
10165	UPDATE	DEVICE_CONFIG	357591080410340	asharma@bewhere.com	2018-11-19 10:49:56 am
10141	UPDATE	DEVICE_CONFIG	357591080363697	asharma@bewhere.com	2018-11-19 10:10:38 am

Mobile Groups - Bluetooth

This section relates to the Mobile devices (Android and IOS). The field required is the name of the person or individual assigned to the phone.

- Select Groups from the Administration Tab.
- Right Click to edit existing groups
- Click on Add Groups to create a new group

ID	Name	Group Type	Install Key	Alias
88FX6CWhXG	Andrew IPAD	IPHONE		
mb2nVL2CZ	Alban Windows Laptop	SHELL		
FSAcn4ZBPR	Gateway-GPS3	SHELL		

- Create a unique Group **Name**
- Select **INSTALL** for the Group Type
- Click **Save**.

Add New Group
✕

Basic Info

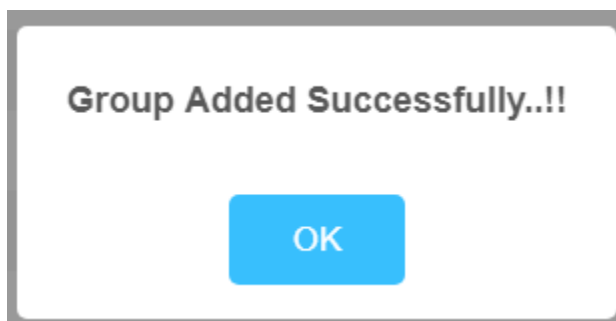
Beacons

Alerts

ID

Name

Group Type



Once the new Group is created, beacons will need to be added to the group. Simply edit the new group and select the beacon tab.

ID	Name	Group Type
88FX6CWnXG	Andrew IPAD	IPHONE
mb2nvLD2CZ	Alban Windows Laptop	SHELL
FSAcn4ZBPR	Gateway-GPS3	SHELL
f66766a2-d3f6-422e-a02c-307253d1999b	Suresh	IPHONE
tznmN3x4FH	Ansel 2	IPHONE
j1yZlyJq9	Gateway-GPS1	SHELL
zJR6J0ColM	Owen Android v511	ANDROID SMARTPHONE
3gloZSpQIC	test group 1	ANDROID SMARTPHONE
Rpl01XeoV	SpurTree iOS	IPHONE
wxNHmcF9Ko	SpurTree_1	IPHONE
bq3lb9sr44	naveen-spurtreetest1	ANDROID SMARTPHONE

Edit Group
✕

Basic Info

Beacons

Alerts

Beacons

No Beacons

Select Beacon Name

- MARGAUX_PARIS
- G_G_2F6218_0 6g
- BB Big Freezer E41E
- BB Outside Wall F6C7
- master12
- NewFirefly - D93D

The BeWhere System will create a unique Install Key for the user to be able to install the BeWhere Mobile App. The Install key is found on the group list or editing the new group.

The screenshot shows the BeWhere web interface. On the left, there is a table of beacon groups. The 'test group' is highlighted in green, and its 'Install Key' 'fa05' is also highlighted with a red box. On the right, the 'Edit Group' modal is open, showing the 'Basic Info' tab. The 'Install Key' field is highlighted with a red box, and the 'Save' button is visible.

ID	Name	Group Type	
mBw7dwS6L	VAN TAB	ANDROID SMARTPHONE	
QhI8HwwI9k	VAN Test 0204p	ANDROID SMARTPHONE	
QVrXABJOlo	VAN Test 3a	ANDROID SMARTPHONE	
RGm1gNGleU	VAN test 2	ANDROID SMARTPHONE	
PAg53apdUn	cp ios test 1	IPHONE	
2JFa8UmoKC	kitkat	INSTALL	149d
DmV5HMB4XT	naveen-spurtreetest	ANDROID SMARTPHONE	
bq3Ib9sr44	naveen-spurtreetest1	ANDROID SMARTPHONE	
TimPnYkCr	naveen-spurtreetest2	ANDROID SMARTPHONE	
hUY7cR29Ye	test	INSTALL	3ae6
QjKXRp3Ien	test android 1	ANDROID SMARTPHONE	dbd0
vzeZVG8BFN	test app 2	ANDROID SMARTPHONE	
eMuiK22uT	test group	INSTALL	fa05
3gIoZSpQIC	test group 1	ANDROID SMARTPHONE	
kkBSq75JNR	test protect	BEWHERE PROTECT	4615

Group Types:

Install – To Generate an Install Code for a mobile device.

Shell – Random group/fleet of beacons required for group email alerts (Not applicable to any device).

Site – Location based group of beacons assigned to particular geographic location.

Once the APK has been downloaded the Install Key will disappear from the group’s page. This allows the administrator to figure out who still has to download the APK.

TRANSMITTERS

Transmitters and Sites are used for setting up Bluetooth/Wi-Fi Gateways. Please refer to the **BeWhere BLE WIFI User Guide** for additional details.

The screenshot shows a table of transmitters in the BeWhere web interface. The table has columns for ID, Name, Latitude, Longitude, and Location. There is an 'Add Transmitter' button on the right side of the table.

ID	Name	Latitude	Longitude	Location
E1A228FA4889	BB Cold Room 4889	43.6871	-79.2663	
516080019452	MioT-NB1-357516080019452	43.64557	-79.61148	
FYFFGGCBHGHB	Test67	12	56	
B827EB8843CE	BeWhere Alex HuB	43.597275	-79.5232	
C946A6500A33	MK 1 x	49.2562	-123.184	

1. Enter the BLE MAC ID (Note: The Device has two MAC IDs, please ensure you enter the BLE MAC ID and **Not** the WIFI MAC ID.
2. Add Location Name
3. Add **Latitude** *See Instructions below for finding Latitude
4. Add **Longitude** *See Instructions below for finding Longitude
5. Click on **Save**

NOTE: There are several ways to find the Latitude and Longitude of a location:

- <http://www.latlong.net/> Simply type in your address and city to get the Latitude and Longitude.
- If you have a Beacon reporting to the BeWhere Web Site, click on **Maps, Show Columns**, and display the latitude and longitude columns.
- There are several Apps available that will provide you with a latitude and longitude of your location such as the GPS Black Box App.

*You may wish to record this info as it may be required again for multiple Transmitters.

6. Click on the **Sites** Tab to add your transmitter Site (Note: this is required when you have multiple Transmitters).
7. Click on **New**
8. Add Site **Name**
9. Add a **Description** for the new site
10. Select the **Time Zone**
11. Add notes for the location of the site
12. Add the **Latitude** *Copy from Transmitter Setup
13. Add the **Longitude** *Copy from Transmitter Setup
14. Click on **Save**

15. Click on the **Sites** Tab again
16. Click on **Edit**
17. Click on **Add** Transmitter

NOTE: The location of the beacon on the map is dependent on the location of the sending device (Location of Android/IOS device or Latitude and Longitude of Transmitter).

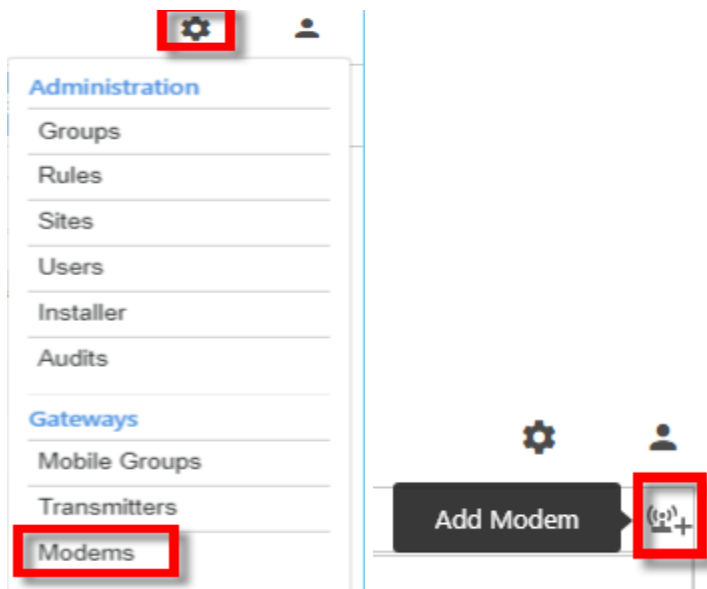
18. Click on the **Transmitter** at this site

Once completed, your new Transmitter Site is now created and is visible as a new transmitter.

****Repeat all the previous steps to add additional Transmitters and Site Locations.**

MODEMS

You can add Modems by inputting the IMEI number as an ID under the modem tab. The maps tab has a Sender column which is the modem that's sending the data.



Add Modem
✕

ID

✕

Please Enter The ID

Name

Modem Type

GO7
▼

Cancel

Add

Multiple Modems can be imported using the Import Modems Feature

The file must be in CSV Format.

Below are the rules for each modem type:

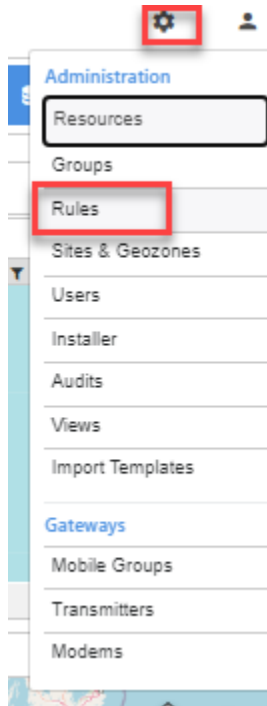
- GO6 must start with G6 followed by 10 alphanumeric characters
- GO7 must start with G7 followed by 10 alphanumeric characters
- GO8 must start with G8 followed by 10 alphanumeric characters
- Cypress is 14 or 15 numbers

Below is an example of the template:

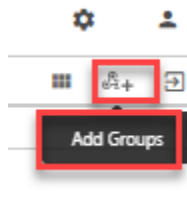
ID	Name	Modem Type
G81234567891	Test 1	GO8
G81234567892	Test 2	GO8
G71234567891	Test 3	GO7
G71234567892	Test 4	GO7
G61234567891	Test 5	GO6
G61234567892	Test 6	GO6
12345678912346	Test 7	CYPRESS
G12345678912	Test 8	GO8
G12345678913	Test 9	GO7
G12345678914	Test 10	GO6
G12345678915	Test 11	CYPRESS
111111111111111	Test 12	CYPRESS

8. Alerts

Alerts are configurable individually, per user. To access the Alerts feature, click on **Administration** and then **Rules**.



Select Add Groups to create a new rule:



Add a name for the Rule, Select Legacy Rule Type and save the rule:

Add New Rule ✕

Description Beacons Users

Conditions

ID
NFDI0S6NU9

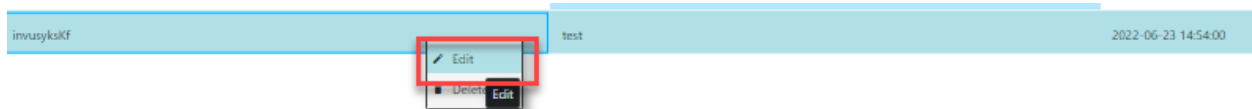
Name

Rule Type
Alert(legacy) ▼

All beacons
Beacon Tags(use a comma to separate tags)

Cancel Save

Right Click on the new Rule and select Edit:



Edit the rule by selecting a condition, turn notifications on and add user to receive the email alert. The user must be an active user in the BeWhere Account.

Edit Rule

Description **Conditions** Beacons

Battery Level(Miot Device)
Lower Limit: [] [] V Threshold: [] [] V **Reset**

Battery Level(Bluetooth Beacon)
Lower Limit: [] [] % Threshold: [] [] % **Reset**

Impact Count
Upper Limit: [] [] Threshold: [] [] **Reset**

Temperature
Lower Limit: -10 °C Upper Limit: [] [] °C Threshold: [] [] °C **Reset**

Light Level
Lower Limit: [] [] lm Upper Limit: [] [] lm Threshold: [] [] lm **Reset**

Humidity
Lower Limit: [] [] % Upper Limit: [] [] % Threshold: [] [] % **Reset**

Pressure(The unit may be PSI or KPA based on device configuration)
Lower Limit: [] [] Upper Limit: [] [] Threshold: [] [] **Reset**

Aux1
Lower Limit: [] [] Upper Limit: [] [] Threshold: [] [] **Reset**

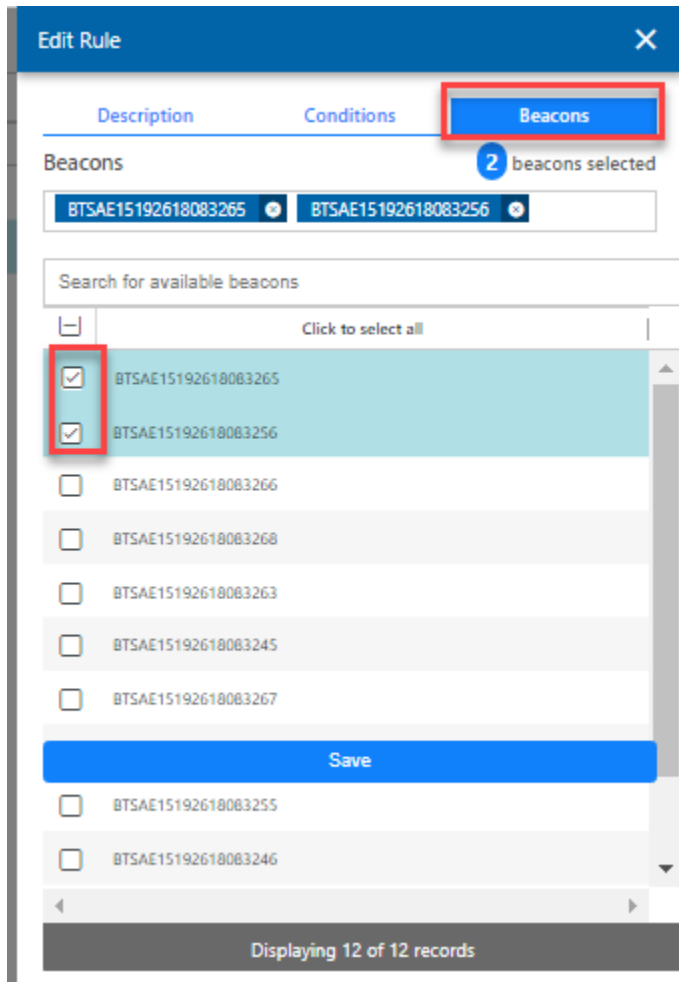
Aux2
Lower Limit: [] [] Upper Limit: [] [] Threshold: [] [] **Reset**

Notifications ON

Users
No Users
Add

Save

From the Beacons tab, select the beacons to be added to the rule:



From the Beacons tab you can select all beacons to be added. As more devices are added to your account, the new devices will automatically be

added to the Alert. Beacons can also be added to the alert using the existing Tag Names

Edit Rule ✕

Description Conditions Beacons

ID
invusyksKf

Name
test

Rule Type
Alert(legacy) ▼

All beacons
Beacon Tags(use a comma to separate tags)

Delete Save

Alert Definitions:

In Range and/or Out of Range – An Email Alert will be activated whenever a beacon goes in or out of range of a transmitter. This feature is only available if a beacon data is being transmitted through a Geotab GO6/7 or an Android device.

Battery Level – An Email Alert will be activated by checking the LO indicator and inserting a percentage. The +/- indicator is available to configure an Email Alert for a change in battery level percentage. *Reset to default is 25%.*

Temperature – An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a temperature in Celsius. The +/- indicator is available to configure an Email Alert for a change in temperature. *Reset to default is LO 5 and HI 28.*

Humidity – Only if Applicable - An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a Humidity percentage. The +/- indicator is available to configure an Email Alert for a change in humidity. *Reset to default is LO 0 and HI 90.*

Impact Count – An Email Alert will be activated by checking the HI indicator and inserting an actual impact count. The +/- indicator is available to configure an Email Alert for an increment change. *Reset to default is HI 255 (Highest impact count before being reset to 0).*

Light Level - An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a Lumen count. The +/- indicator is available to configure an Email Alert for a change in Lumen. *Reset to default is LO 5 and HI 8.*

Barometric Pressure – Only if Applicable - An Email Alert will be activated by checking either the Lo indicator and/or HI and inserting a Kilopascal Pressure Unit (kPa). The +/- indicator is available to configure an Email Alert for a change in kPa. *Reset to default is LO 10 and HI 101.5.*

Group Alerts

Group Alerts are similar to **user alerts** although the beacons within a group are all configured simultaneously and email addresses within an account can be assigned to the group alerts. The group alerts are accessible through

Administration/Groups and then **edit** Group. Click on **Administration**, select **Groups** and then right-click on a **Group** to edit the group. The Alert can now be configured for a group.

9. NEW FEATURE RELEASE NOTES

1.1 Beacons

The **Beacons** view displays devices in your database and allows you to add new devices or to modify the settings of existing ones.

1. What is the end-of-life voltage level when devices stop working?
 - o **BeTen** (2AA non-rechargeable battery)
Voltage level is affected by temperature, however, in room temperature it works in this range of 3.65 to 3.5. If the temperature is low and below 0 the voltage range will be lower. This is how lithium batteries operate.
 - o **BeSol** (3000 mAh rechargeable LiPo)
Voltage range 4.2v - 3.5V which is the cutoff for the device to be active.
 - o **BeMini** - Battery is drained at 3.35v

2. What happens when a device can't find a network? How often does it retry?
 - o If a device fails to connect it will save data in the buffer and go to sleep and will try again the next schedule (depending on configuration)

1.1.1 Adding a device

1.1.1.1 Importing Beacons

Multiple devices can be imported at the same time using the Import tool. Select Add and then select the CSV file to import from.

Note: *ID, Name, Beacon Type* are mandatory fields

1.1.1.2 Importing TAGs

Multiple devices can be tagged at the same time using the Import tool. Select Add and then select the CSV file to import from. Use template **Beacon_Import_Template_Tags.csv** in order to update tags, see example format below

Action, ID, Name, Beacon Type, Tag Action, Tags

INSERTORUPDATE, 3575910800802341, HoP-3575910800802341, LTE-M, APPEND, Station

1.1.1.3 Importing Configuration

Multiple devices can be configured at the same time using the Import tool. Select Add and then select the CSV file to import from. Use template **Beacon_Import_Template_Config.csv** in order to update configuration, see example format below

Action, ID, Name, Beacon Type, Configuration Type, Interval, Movement Counter, Stationary Interval

INSERTORUPDATE, 1000000000000000, HoP-1000000000000000, LTE-M, MOTION_START_STOP, 900, 3, 86400

INSERTORUPDATE, 1000000000000001, HoP-1000000000000001, LTE-M, TIMER, 7200,,

INSERTORUPDATE, 1000000000000002, HoP-1000000000000002, LTE-M, MOTION, 900, 3, 86400

Action definition

INSERT: *New record to be inserted in the database if device doesn't exist*

INSERTORUPDATE: *When the device exists but the record needs to be updated i.e. change configuration or other attributes*

APPEND: *Will append the content, in addition, it existing one i.e. add additional tags*

OVERWRITE: *Will remove all previous data and overwrite with new content i.e. remove comments, tags and replace with new values*

1.1.2 Device Configuration

1.1.2 Time

Recommend configuration

- Battery devices when once or a few times updates a day are required. Typically for equipment that are stationary most of the time and occasionally move.

1.1.2 Motion Continuous

Recommend configuration

- Solar devices when high-resolution data points are required while equipment is constantly in motion

Example configuration

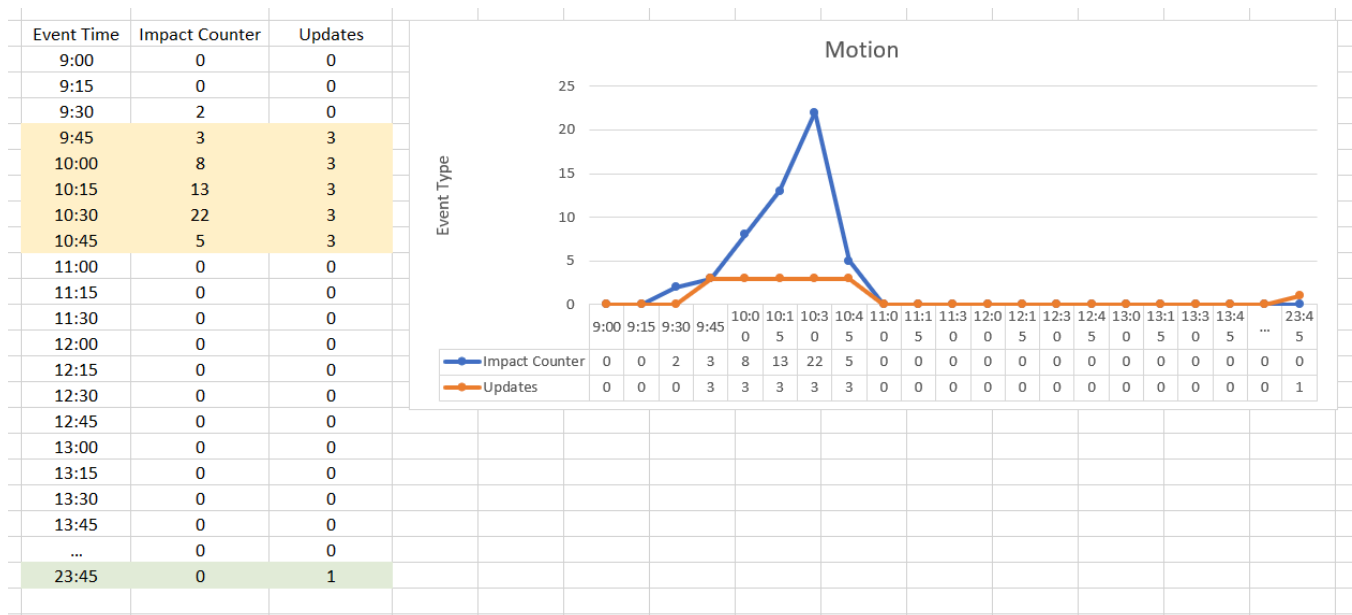
Configuration Type:

Movement Interval:

Movement threshold:

Stationary Interval:

As the equipment is moving while the device is sleeping, per active/inactive thresholds, device will detect movement and increment impact counter without connecting to the network. Per Motion Interval device will wake up and check if the **impact counter** is \geq **movement threshold**. If that's the case device will record an Impact event will try to update GPS, connect to the network, and sends **Impact** event. Otherwise the device will wake per **Stationary Interval** and record and send **Update** event.



Updates: 0 value means no event generated hence no update to server, 3 represent **Impact**, 1 represent stationary **Update**.

1.1.3 Motion Start-Stop

Recommend configuration

- Battery and/or Solar devices when initial start and last stop is required for equipment that are constantly in motion, but their trip is not important, recommended

Configuration Type:

Motion Start/Stop

Idle interval:

15 minutes

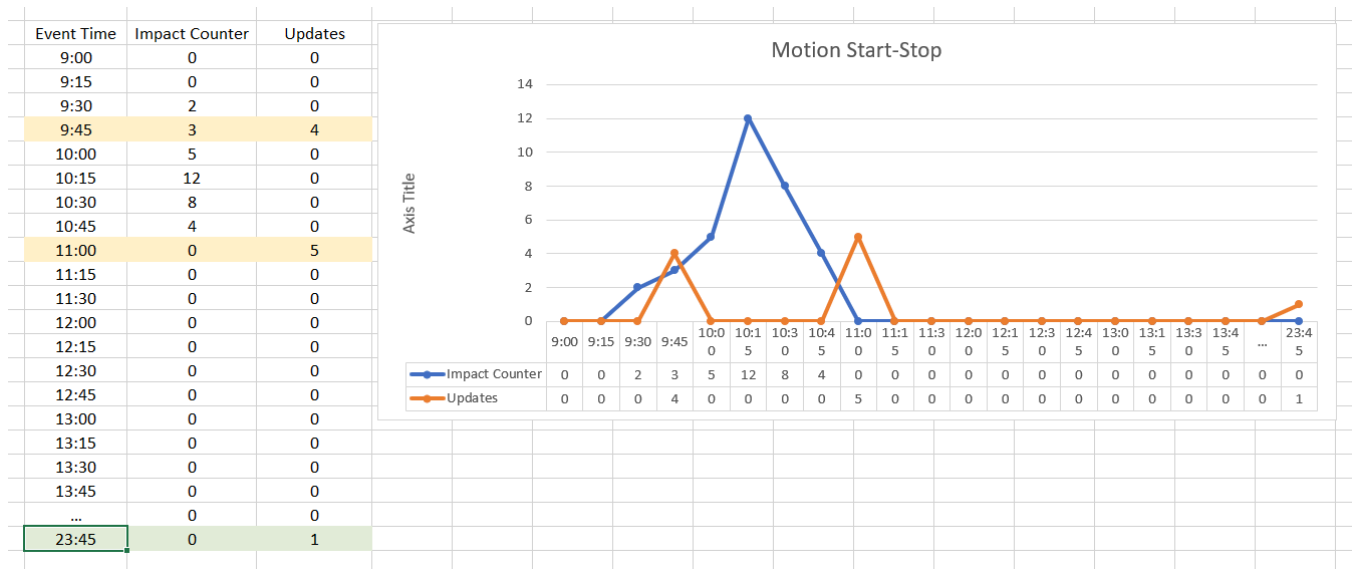
Movement threshold:

3

Stationary Interval:

12 hours

A Motion Start is recorded when the device starts moving, **impact counter** is \geq **movement threshold**. A stop is recorded when the device hasn't recorded any impact for **Idle Interval**.



Updates: 0 value means no updates, 4/5 represent **Motion Start / Motion Stop**, 1 represent stationary **Update**.

1.1.4 Motion Start-Impact-Stop

Recommend configuration starting with new firmware 1.6.15

- Battery and/or Solar devices when initial start and last stop is required for equipment that is constantly in motion, but their trip is not important, recommended

A Motion Start (start) is recorded when the device starts moving, **impact counter** is \geq **movement threshold**. A Motion Stop (stop) is recorded when the device hasn't recorded any impact during **Idle Interval**. An **Impact** (motion) is recorded when any impact is recorded during **Idle Interval**.

Configuration Type:
 Motion Start/Stop

Enable continuous motion

Idle interval:
 5 minutes

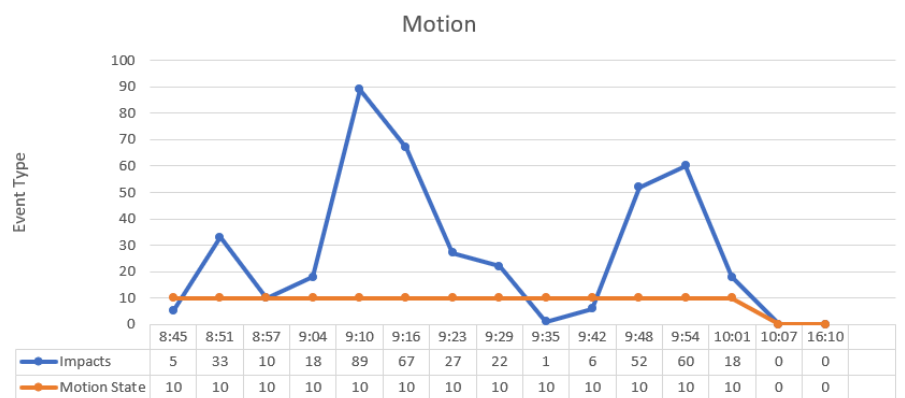
GPS Timeout
 5 minutes

GPS Fix Extension
 10 seconds

Movement threshold:
 5

Stationary Interval:
 6 hours

Event Time	Event Type	Impacts	Motion State
8:00	UPDATE	0	0
8:45	MOTION STARTED	5	10
8:51	IMPACT	33	10
8:57	IMPACT	10	10
9:04	IMPACT	18	10
9:10	IMPACT	89	10
9:16	IMPACT	67	10
9:23	IMPACT	27	10
9:29	IMPACT	22	10
9:35	IMPACT	1	10
9:42	IMPACT	6	10
9:48	IMPACT	52	10
9:54	IMPACT	60	10
10:01	IMPACT	18	10
10:07	MOTION STOPPED	0	0
16:10	UPDATE	0	0



Interval: The timed reporting configuration for while the device is in motion (i.e. One report every 5 minutes while the device is in motion).

Movement Counter: The movement sensitivity of the device while in motion.

THE MOVEMENT COUNTER IS A MOTION SETTING TO DETERMINE A MOVEMENT COUNT OF 1 IS .3 G IMPACT WITHIN 32 MILLISECONDS. **IE. IF INTERVAL IS SET TO 5 MINUTES AND MOVEMENT COUNTER IS SET TO 2, THE DEVICE WILL NEED TO DETECT 2 .3G IMPACTS WITHIN 5 MINUTES FOR THE DEVICE TO TRANSMIT DATA ON MOTION.

Stationary Interval: Timed report while the device is not in motion.

1.1.4 Geotab Data Fields - Engine Measurements

#DataIntake

SerialNo;
 DateTime;
 isGpsValid;
 latitude;
 longitude;
 speed;

RSSI (46)
 Battery (5)
 Direction (238)
 Altitude (41)
 Satellites (48)
 HDOP (47)
 Temperature (6)
 Humidity (293)
 Pressure (292)
 Motion (14)
 Light (318)

Ignition_Status (149) -- BeSol (Motion Start/Stop)/BeWired-BeMini(Ign On/Off)
 --BeWhere Data Field = Aux2

Engine_Run_Time (210) --BeWired - BeMini (Ign On-Off)

Odometer (53) --BeSol / BeWired / BeMini

External Battery (78) --BeWired / Battery voltage from 12 V (78) --BeWhere
 Data Field = AUX3

Reefer Temp Z1 (214) --BeWired with Temperature Probe

Reefer Temp Z2 (215) --BeWired with Temperature Probe

Reefer Temp Z3 (216) --BeWired with Temperature Probe

Reefer Temp Z4 (217) --BeWired with Temperature Probe

10. BeGateWay

BLE Gateway configuration

BLE gateway operates independently of solar devices. It has its own configuration in terms of wakeup, scan and storing discovered BLE data.

Wakeup Interval: It determines the interval (in seconds) how often the device will wake up for scanning BLE Tag/Sensors in proximity. Recommended to be set to multiple of 30 seconds i.e. 60, 90 or 120 etc

Scan Duration: Duration for which device will scan for BLE device in proximity. Recommended 15s and higher but not too high as it has implications with battery consumption. In the example below

Scan Window: Not applicable, for admins only if required.

Scan Method: Depending on use cases, the configuration can be set as follows:

- **Store/Forward: 0** -Every time BLE wakes up it will store scanned BLE records, from assigned Beacons, in memory to send when a cellular update happens. Scan duration may depend on how many beacons are assigned to ensure the duration is enough to scan all beacons in proximity.
- **Last Scan: 1** – It stores the last scan data, from assigned Beacons, and sends with other cellular updates. Its recommended if beacons are used for proximity or onboard presence only and sensor data is not required.
- **All beacons: 2** – Similar to Last Scan but does not require BLE Tag assignment. In this configuration, Scan duration might need to be set long enough to scan for a large number of beacons if necessary. This configuration consumes lots of data and power/battery consumption hence needs to be used with caution.

Note:

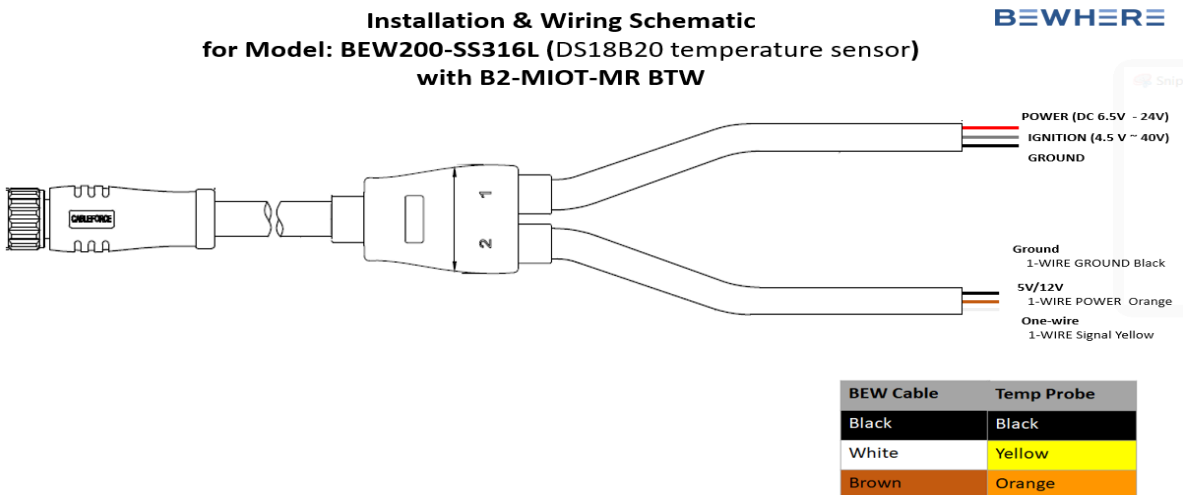
- 1) It's important to know that BLE data will be transmitted only when the device has an event to transmit i.e. *in this example BLE data will update only when devices moves every 15 mins or every 24 hrs. when stationary.*

- 2) BeSol and Beten Device has the capacity to store 24 records on board (store and forward) when the device is out of coverage and then the records will be sent when in coverage
- 3) Bemini has the capacity to store 30 records with the next version (Q4 2022) increased to 100.

11. BeWired

BeWired Wiring Schematic with Temperature Probe

Wiring for Temperature Sensor:



Note: Event Type for reporting on Ignition:

GPIO ON - First Event record for device transmitting on Ignition

GPIO OFF - Last Event record for device transmitting on Ignition

Aux 1 Input:

1 is power detected from cable

0 is no power from cable

Aux 2 Input:

1 is on ignition reporting (ignition power detected)

0 is standard reporting - no ignition

Aux1 json:

The temperature data is found in the BeWhere data field *Aux1 json*. A value of 999 indicates the sensor is not connected to the device.

NOTE: A value of 1830.2 F is normal when the probe is not connected. The value of 185 F is the value when the device receives an abnormal temperature value from the 1-wire sensor.

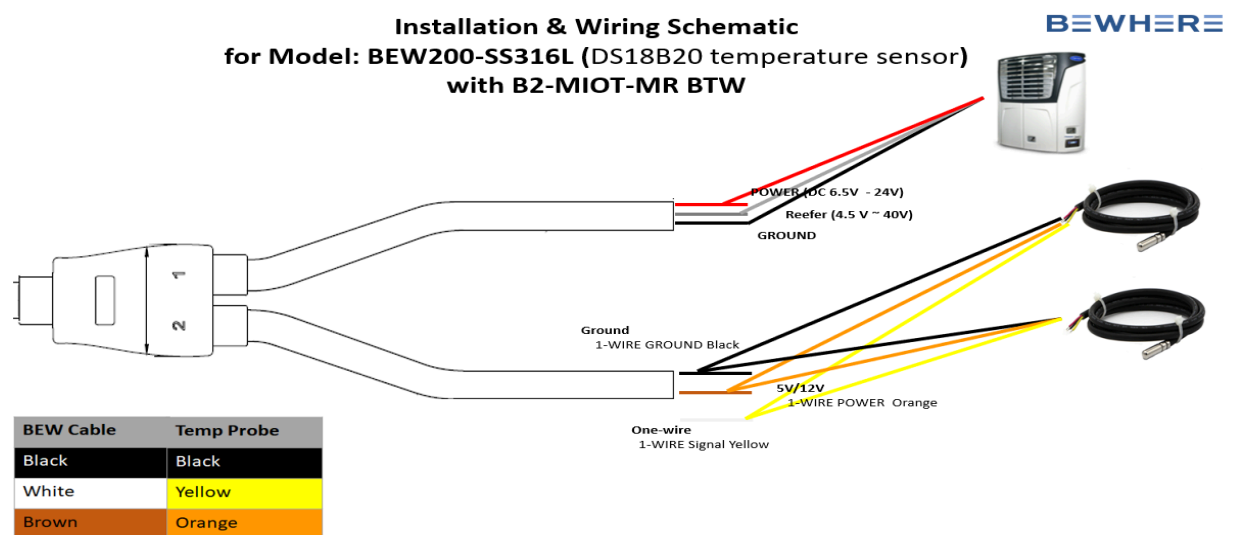


The Bewhere supplied Temperature sensor will need to be specified in the Configuration setting. Ensure Temp(ds18b20) is selected.

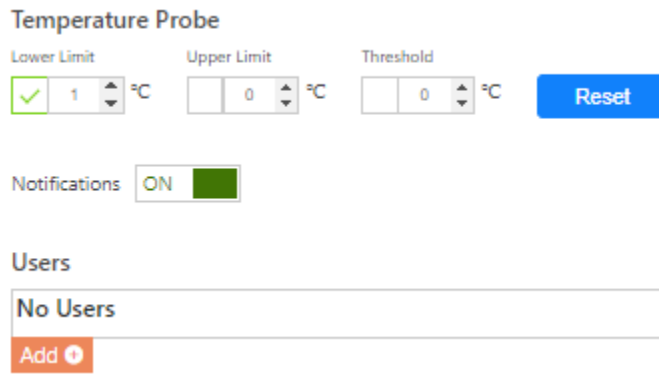
Specify external sensor [Reset sensor order](#)

1.1.6 BeWired Wiring Schematic with Multiple Temperature Probes

Wiring for Refer:



Email Alert can be created using RULES Feature:



Temperature Probe

Lower Limit: °C

Upper Limit: °C

Threshold: °C

Reset

Notifications: ON

Users

No Users

Add

NOTE: For Water Sensor Probe

Data Field: Aux1

1 if water is present

0 is no water

Sensor IO will trigger on change depending on water presence.

Tag must be fn_WaterDetector

1.1.7 BeWired Temperature data in Geotab

Temperature data is available in Geotab Engine Measurements found under Refer temperature zone 1-4 in chronological order for a total of 4 probes.

Date Period	Display Options
Today	Include archived (historical) data <input type="button" value="Yes"/> <input checked="" type="button" value="No"/>
Yesterday	Vehicles <input type="text" value="Search vehicles"/> <input type="button" value="Reset selection"/>
This week	Selected: All
Last week	Diagnostics <input type="text" value="reefer"/>
This month	<input type="button" value="Remove all"/> <ul style="list-style-type: none"> Reefer temperature zone 1 Reefer temperature zone 2 Reefer temperature zone 3 Reefer temperature zone 4
Last month	Selected: All
Custom	

1.1.8 INSTALLATION

BeWhere devices are shipped with a default configuration of 1 report every 24 hours to preserve battery life. Once the devices are ready to be installed you can change the configuration or email support@bewhere.com and we will change it for you.

Please ensure you install the devices with a clear view of the sky for best results. Solar powered devices need to be installed on the asset so it can get direct sunlight.

The GPS Sensor is located at the top of the device near the light sensor. The cellular antenna is also located on the side of the device with the serial number label. Do not mount this side of the device against metal. Mounting the device with the GPS directed towards the sky will give the best results.

Battery powered devices do not require to be installed with a view of the sky but they should also not be mounted against or below metal. Mount the device with the GPS directed toward the sky and please try to leave several inches of the device clear from metal above and beside the device.

The device is water resistant but please do not pressure wash the device.

The Voltage of the power source can be found in AUX3. In Geotab, this is mapped to Engine and Device Measurements to **Battery voltage from 12 V**

12. BeMini

Device default configuration is blank. BeMini in this state will not update but stay in "Ready State" In order to make BeMini update

1. set the configuration and,
2. press the button and hold for 10 seconds.

This is how the BeMini works:

1. Mini is away from WIFI = will see GPS (valid 1) or not and use tower location (invalid 3)
2. Mini is in range of WIFI = device will try GPS if it is invalid it will use Wifi (valid 4)
 1. When GPS fails and no WIFI around, then it will be invalid(3) at which point you only have cell id as location data
3. Mini is not moving and within WIFI still - Mini will attempt GPS on every report **besides initial message.**
 1. Then goes back to option 1 or 2.
 2. You will never see Valid 2 with the BeMini.
4. **Battery is drained at 3.35v. Suggested Notification Rule to be set to 3.60v for Low Battery Alerts**

5. Currently the options reported through 'GPS Fix' are as follows:

- 1. Valid(1) – valid GPS fix achieved;
- 2. Valid(2) – in motion-based tracking, indicates the device has not moved since last update uses the last valid GPS fix (ie to preserve battery that would be required to reacquire the same GPS); You will never see Valid 2 with the BeMini.
- 3. Invalid(3) - GPS not available, reverting to tower (Cell ID) location. ****Will not update in Geotab**
- 4. Valid(4) – GPS not available, using closest Wi-Fi AP's to resolve location.

****W.r.t Wi-Fi 40 meters is the standard consumer grade router for accuracy, we have seen other routers we pickup that go farther range like 80 or 120 meters but those are exemptions and rare.**

Similar to iPhones and Android phones, the BeMini detects the MAC addresses of the closest Wi-Fi access points, and sends the closest in the 'Network' field below (in addition with information about the tower it is reporting through):

When Wi-Fi is used for location, within the 'Network' field, everything in the string beyond the text "assisted:" applies.

BSSID means Broadcast SSID which is the MAC address of the Wi-Fi AP equipment. When you open your phone and look at Wi-Fi networks around you, those names are the SSID's. To be clear, we do not connect to the Wi-Fi – the device simply recognizes the presence of nearby Wi-Fi access points to use for location purposes.

Total Run Time/Engine hours is available from the BeMini. The device will need to be hardwired and the power cable will need to be wired to ignition on/off in order to capture the total run time. Run time data is also available in Geotab Engine measurements.

When wiring the BeMini with the power adapter, extra data will populate in your dashboard.

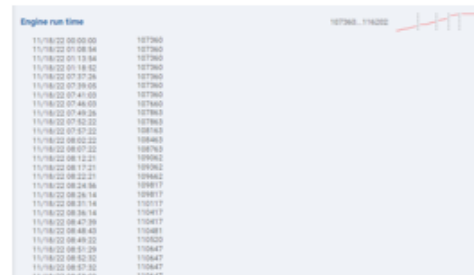
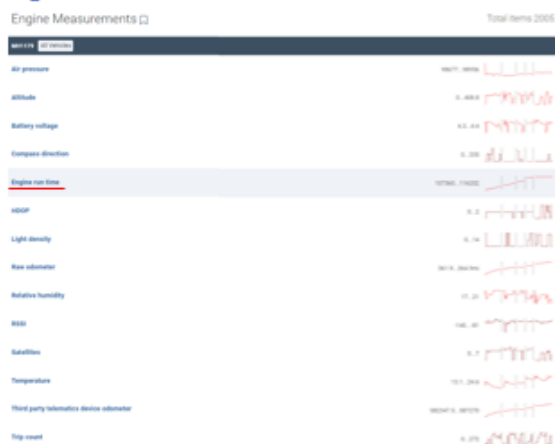
- 1.Ignition on/off (similar to BeWired)
- 2.Engine Run Time

****BeMini devices are always powered but in Low Power Mode or Sleep Mode most of the time. Its recommended 24hr Interval update frequency. When active and Ign Interval is set to 2 min it will update with that interval as long as there is power to BeMini. When power is removed, it will switch to Sleep Mode.**

Search <input type="text" value=""/>			
<input type="checkbox"/>	Name	Timestamp 1 ±1	Total Run-time
		▼ yyyy-mm-dd	▼
<input type="checkbox"/>	MH1179	2022-11-18 12:38:39 pm	32.36
<input checked="" type="checkbox"/>	MH2015	2022-11-18 12:36:04 pm	39.66
<input type="checkbox"/>	RTL0098	2022-11-18 11:51:32 am	
<input type="checkbox"/>	RTL08Forklift	2022-11-18 6:35:10 am	4.31
<input type="checkbox"/>	BMRAE22222019071049	2022-10-03 2:37:55 am	

Geotab – Feature for Wired BeMini

Engine Run Time in seconds



See Below each sensor data and how it is mapped to Geotab for each device.

```
#DataIntake

SerialNo;
DateTime;
isGpsValid;
latitude;
longitude;
speed;

RSSI                (46)
Battery             (5)
Direction           (238)
Altitude            (41)
Satellites           (48)
HDOP                (47)
Temperature         (6)
Humidity            (293)
Pressure            (292)
Motion              (14)
Light               (318)
Ignition_Status    (149)  --BeSol (Motion Start/Stop) / BeWired-BeMini (Ign On/Off)
Engine_Run_Time     (210)  --BeWired - BeMini (Ign On-Off)
Odometer            (53)   --BeSol / BeWired / BeMini

Reefer Temp Z1      (214)  --BeWired with Temp Probes
Reefer Temp Z2      (215)  --BeWired with Temp Probes
Reefer Temp Z3      (216)  --BeWired with Temp Probes
Reefer Temp Z4      (217)  --BeWired with Temp Probes
```

LED Light – BeMini

This light is used mainly for *Charging & Updating* purposes:

Charging:

1. The light will blink as soon as it is connected to the charger.
2. It will show a solid light when it's fully charged.
3. As soon as the device is unplugged from the charger it won't show the light anymore.

Updating:

1. The light will make a short blink at the time the update is being sent.
2. If the button is pushed it will blink advising an update.

**** Lights are a newer feature on the recent Firmware (3.3.4.3)****

TOTAL RUN TIME

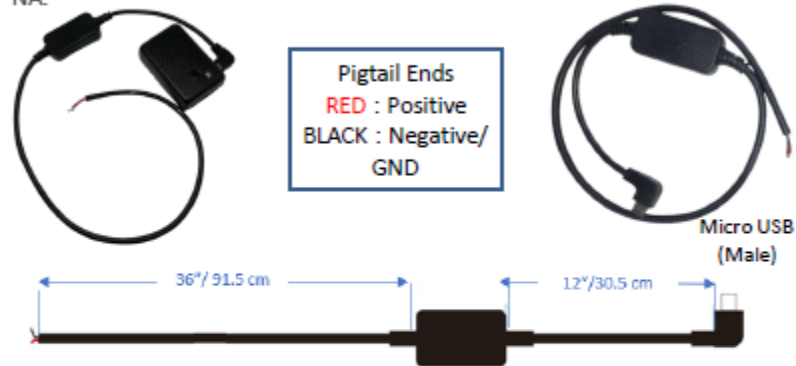
Total Run Time (Engine Hours) can be captured using the Hardwire Cable. When power is detected, Total Tun Time Hours will be collected.

NOTE: BeMini and Ignition feature for Runtime or Chargetime, this feature works correctly only for Time or Schedule-based configuration. If Motion (Trip) is required than this feature will not work properly. This feature was developed to address one use case of the Fork-lifts when it was on/off for Runtime calculations. It has not been developed for other-configuration.

The BeMini Charging Cable.

1. BeWhere B3 BeMini Power Adapter is a rechargeable cable with two wires.

The standard cable is compatible with the BeMini device, SKU: B3-MIOT-NA.



Electrical Specifications: 6VDC – 55VDC
180mA @12VDC

Cable size:

- Length 48 inches = ~122 cm
- 12 inches/ ~30.5 cm from USD to Box
- 36 inches/ ~91.5 cm from Box to Leads

Warning: A reverse connection at the pigtail ends may damage the cable

13. BeSolPlus

Note: Besol Discontinued April 2024

Item	Spec	Remark
Nominal Capacity	7000mAh@ 0.2 C5A Discharge	Nominal capacity refers to the capacity of 0.2C5A discharge with 3.0V cut-off voltage, application cut-off voltage at 3.5V
Cycle Life	~500 Times	One cycle refer to one charge period and then one discharge period.
Standard Charge	0.2C5A	0.2C5A CC (constant current) charge to Max Charge voltage 4.2V,then CV(constant voltage 4.2V) charge current decline to $\leq 0.01C$.
Standard Discharge	0.2C5A	0.2C5A CC (constant current discharge to discharge cut-off)
Operating Temperature	Charge*: 0 °C~ +45°C Discharge**: -20°C~ +60°C	
Over Charge/Discharge Protection		The battery pack has a protective circuit module to prevent over-charge/discharge for safety.

Notes:

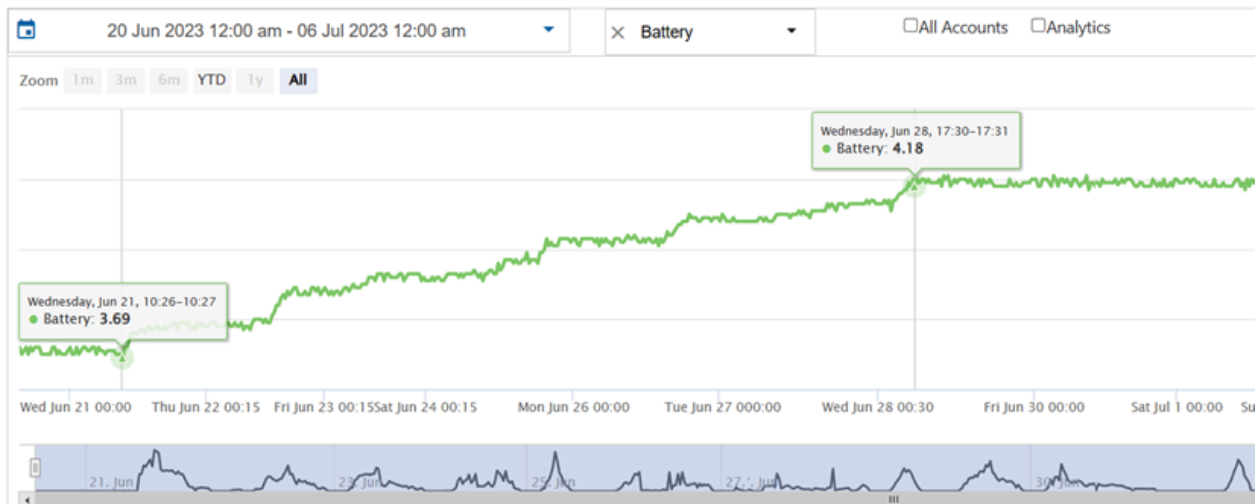
* Recharging circuit has charge-protection above 45°C for safety compliance and recharge current declines when below freezing point.

** Based on bench test /field test data and device has performed outside specifications up to -35 °C without reducing operating performance

Rechargeable battery performance

Item	Spec	Remark
Number of messages	3500*	From Max charge 4.2V to 3.5V app cut-off voltage *within 12 months including self-discharge
Charge time	~8hrs x 8 days	In ideal exposure, uninterrupted sunlight from fully drained to fully charged 4.2V.

Field results



Key Metrics for Successful Implementation

1. Once the solar device is installed, it should be left in direct sunlight and the default configuration (timer-based, once a day) of reporting once a day should not be adjusted until the battery reaches a threshold of 3.80V.

2. BeSol+ battery maintenance and reporting configuration during low battery levels as the same as BeSol

3. Good reporting data points:

- Battery > 3.8V
- Light = 944
- GPS = Valid (1) or Valid (4)
- RSSI = -60 to -100 dBm, no to little store and forward

4. Additional features:

- Odometer, GPS-based; at 15 minutes Motion(trip) reporting, accuracy is approximately 10%. The more frequent the better, as long as battery does not go below 3.8V.
- Hubo-odometer: (additional service cost) requires 5-mins updates (~2% accuracy)
- Can be attached to up to 16 BSSID to conserve less battery when attached to one of those BSSID and therefore report Wi-Fi location only, and trigger GPS location only when leash is broken
- GPS can be deactivated to conserve battery and report on Wi-Fi location only.

14. BeTenPlus

Note: Beten Discontinued April 2024

Key Metrics for Successful Implementation

1. Battery will last approximately up to 4,100 updates/pings based on the recommended Timer configuration (with optimal conditions). In the poorest conditions, this may decrease by 8-fold down to 500 pings.

2. Good reporting data points:

- Battery > 3.6V
- Light = 944
- GPS = Valid (1) or Valid (4)
- RSSI= -60 to -100 dBm, no to little store and forward

3. Additional features:

- Can be attached to up to 16 BSSID to conserve less battery when attached to one of those BSSID and therefore report Wi-Fi location only, and trigger GPS location only when leash is broken
- GPS can be deactivated to conserve battery and report on Wi-Fi location only

BeTen +: Serial number starts with BTP

- During shipping: Timer based, once a day.
- Once installed: Timer based, maximum 4 times a day.