

WatchM User Guide



Cellocator
by PowerFleet®

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Version 1.1

Revised and Updated: July 20, 2020



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1 Introduction

1.1 Purpose and Scope

The purpose of this document is to provide a complete operational guide to the WatchM application for regular users.

This document does not deal with the protocols and interfaces between the WatchM and the backend. These instructions are described in separate documentation, as listed in the *References* section.

1.2 Glossary

This section describes some of the common terms and expressions used throughout this Guide.

Term	Description

1.3 References

No.	Document Name
1	
2	

1.4 Revision History

Version	Date	Description
1.0	June 6, 2019	Initial Draft
1.1	July 20, 2020	Updated company name and logo

2 Introduction

2.1 Overview

The WatchM application is a comprehensive add-on to the Pointer Fleet solution, which tracks vehicles/fleets, pinpoints vehicles on maps, and manages alerts, routes and drivers.

Using Pointer's powerful SaaS platform, WatchM enables companies in the logistics, retail, food and services industries to achieve logistical excellence across critical aspects of their complex delivery ecosystems.

Simultaneously, various enterprise needs can be balanced - from tracking the location of goods at the logistics site, through monitoring cargo conditions during transit all the way to the customers who are at the heart of the operation.

WatchM ensures customers gain strategic value by assuring transportation safety and creating a transparent delivery experience. Most notably, WatchM assures the condition of the goods in real-time.

The WatchM app is an integral part of the Pointer platform, providing everything logistics managers and last mile drivers need to efficiently track their deliveries, completely hands-free, by:

- ◆ Sharing locations with managers, dispatchers, controllers and customers.
- ◆ Receiving detailed package condition information, easily monitoring it all the way to delivery destinations.
- ◆ Maintaining proof of delivery quality and chain of custody for full control of the supply chain.

Note that the WatchM app is available for both iOS and Android (although the app for both platforms is almost identical, small differences may be noticed in speed and response time).



2.2 MultiSense compatibility

The WatchM app connects with the Cellocator MultiSense device, Cellocator's wireless sensor unit that provides all the relevant logistics data. The following table lists the currently compatible MultiSense versions.



	MS FW version = 4v62 or lower (Old HW)	MS FW version = 4v63 (New HW)	MS FW version = 4v67 or higher (New HW)
iOS in foreground	✗	✓	✓ *
iOS in background	✗	✗	✓ *
Android in foreground	✓	✓	✓ *
Android in background	✓	✓	✓ *

* Internal data logging of up to 3000 samples by the MultiSense is available.

3 Getting Started with the WatchM Application

This section describes how to get up and running with the WatchM application, and includes the following sections:

- ◆ **Prerequisites**, see below
- ◆ **Installing the WatchM application**, page 8
- ◆ **Launching and Signing in to the WatchM application**, page 9
- ◆ **Applying for a Pointer MultiSense account**, page 11
- ◆ **Accessing the WatchM website**, page 12

3.1 Prerequisites

3.1.1 *Software requirements*

The WatchM app is compatible with versions 5.0 and above of the Android platform, and iOS 11 and above.

3.1.2 *Connectivity*

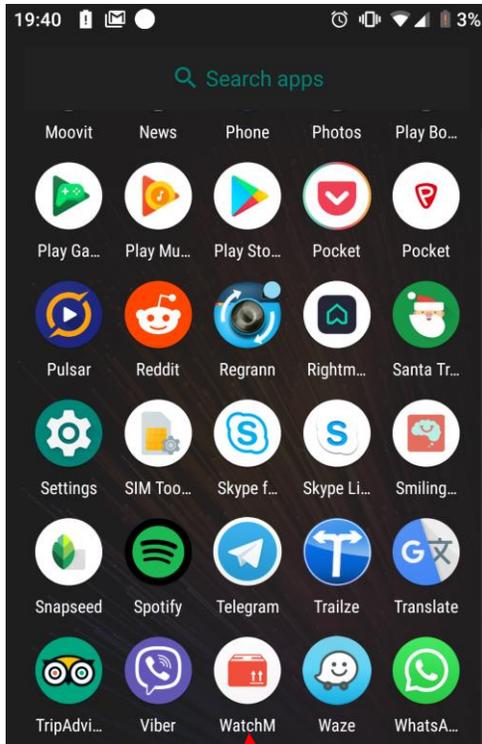
Bluetooth and location services must be always enabled for the WatchM app to operate correctly.

3.2 Installing the WatchM application

In order to install the WatchM application, access either Google Play or Apple's App Store on your phone.

Search for WatchM by Pointer Telocation, and then tap the Install button. When the installation process is complete, tap Open to launch the application.

Once the application is installed on the device, the WatchM icon is displayed on the device screen, as shown below.



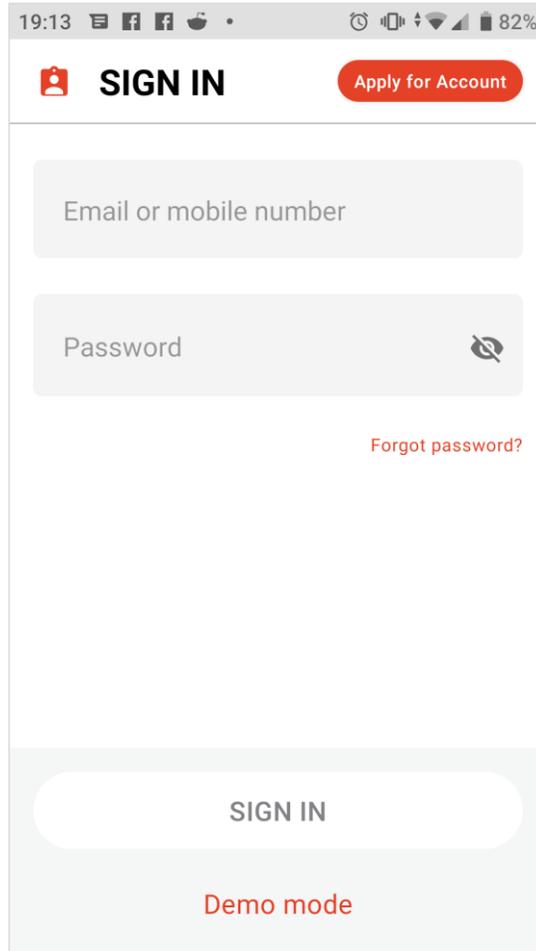
After first time installation, each operating system will request you to grant access to local storage (files) and location; these must be granted. When you want to take a profile picture, the app will also ask for permission to access the camera.

3.3 Launching and Signing-in to the WatchM application

➤ **To launch the WatchM app:**

1. Tap on the WatchM icon on your device, as shown on page 8.

The WatchM app opens with a splash-screen and then displays a SIGN IN screen.



2. If you have already signed up with a Pointer account, enter your email or mobile number and password, and tap **SIGN IN**. Information is synced with the Pointer server, using the pre-registered account and secured credentials. This operational mode is known as **Server mode**; for more information about creating a Pointer account, see *Applying for a Pointer MultiSense account*.

Or,

Tap **Demo mode** if you want to sync the application and MultiSense units locally; this mode is available without the need to login or set up a Pointer account (see the **Server mode** above). Note that up to 10 MultiSense units are supported.

3. After signing in to **Server mode** or **Demo mode**, the Watch List screen is displayed. This screen lists connected MultiSense devices. For more information, see *Adding MultiSenses to the WatchM Application*.

3.3.1 Demo Mode vs Server Mode

As described in the previous section, the main difference between Demo mode and Server mode is that in Server mode the MultiSense information is synced with the Pointer server, using the pre-registered account and secured credentials; in Demo mode, there is no need to sign-up for a Pointer account but you are limited to only ten MultiSense units.

When logging into Server mode, two additional icons are visible at the top of the Watch List screen that are not shown in Demo mode, as described in the following table.

Icon	Description
	 is displayed if one of the two WatchM servers which manage WatchM operations (or both of them) are not operational; if both of them are operational then the icon will be green.
	This icon enables you to access the WatchM app portal, a lite, cellular-friendly version of the Web portal (see <i>Accessing the WatchM Website</i>).

NOTE: To switch from Demo to Server mode (or vice versa), tap the cogwheel icon (in the Watch List screen) and then Log Out.

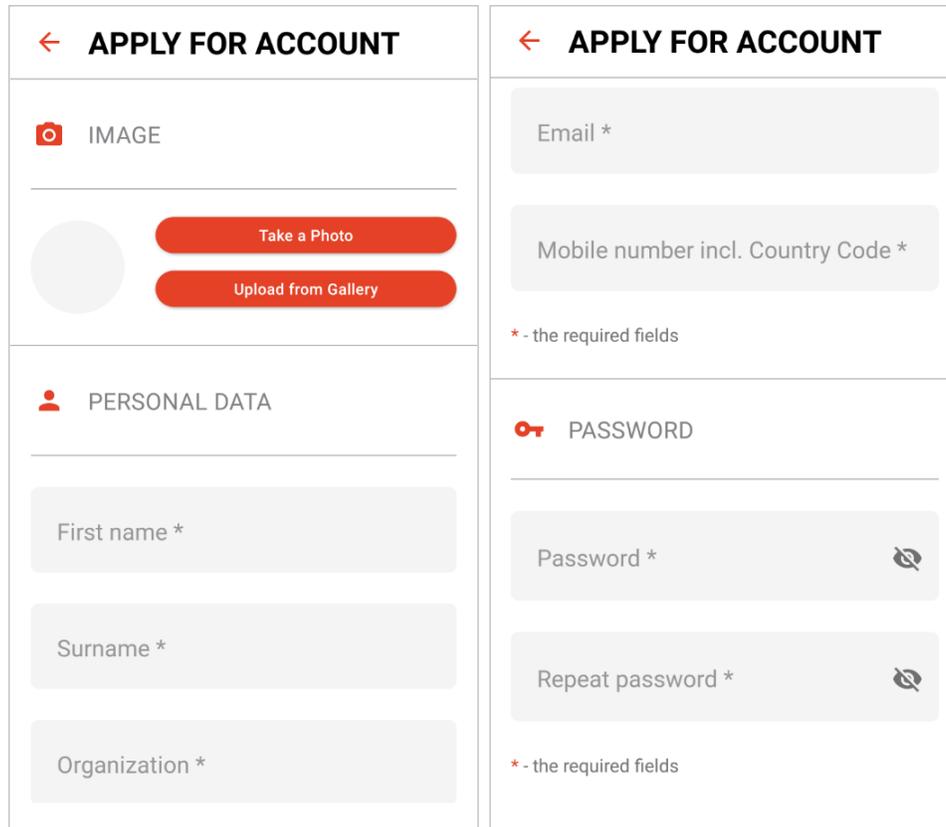
3.4 Applying for a Pointer MultiSense account

You can apply for a Pointer MultiSense account to safely store all of your MultiSense devices information on Pointer's secured servers, as described in the following procedure.

➤ **To apply for a Pointer MultiSense account:**

1. Tap on the **Apply for Account** button at the top of the SIGN IN screen.

The registration fields for a Pointer MultiSense account are displayed, as shown below.



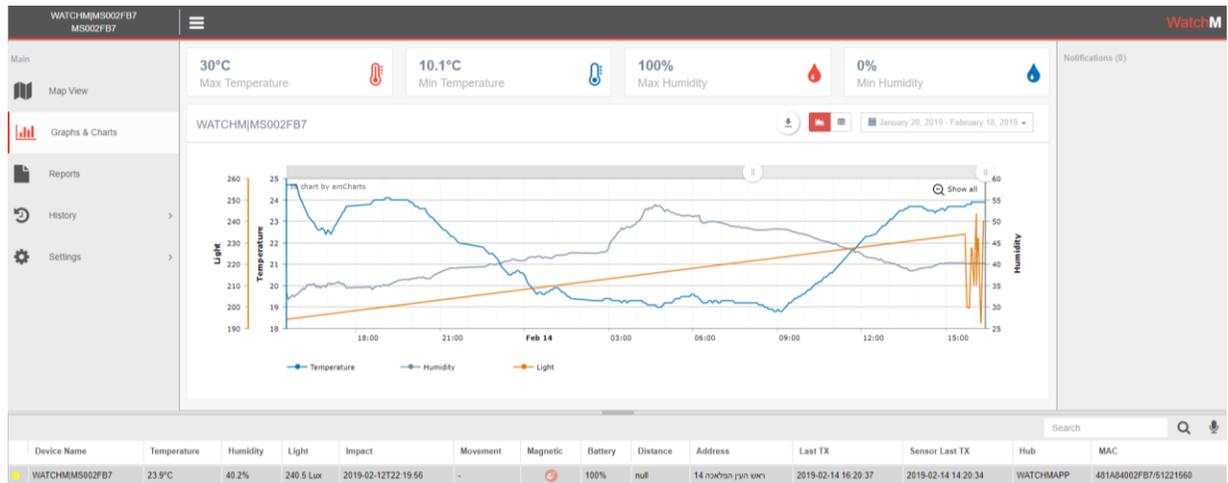
2. (Optional) Tap **Take a Photo** to use your phone's camera to take a profile image, or tap **Upload from Gallery** to use an existing image on your phone.
3. Define the following mandatory fields:
 - **First name**
 - **Surname**
 - **Organization**
 - **Email**
 - **Mobile number**
 - **Password** (and **Repeat Password**)
4. Tap the **SIGN ME UP** button at the bottom of the screen to complete your application.

3.5 Accessing the WatchM Website

To access the WatchM website, click on the [link](#).

The IoT portal provides the following WatchM functions:

- ◆ A location map of your devices
- ◆ Graphs and charts of measurements
- ◆ Reports
- ◆ History logs



4 Using the WatchM Application

This section describes how to use the WatchM app, and includes the following:

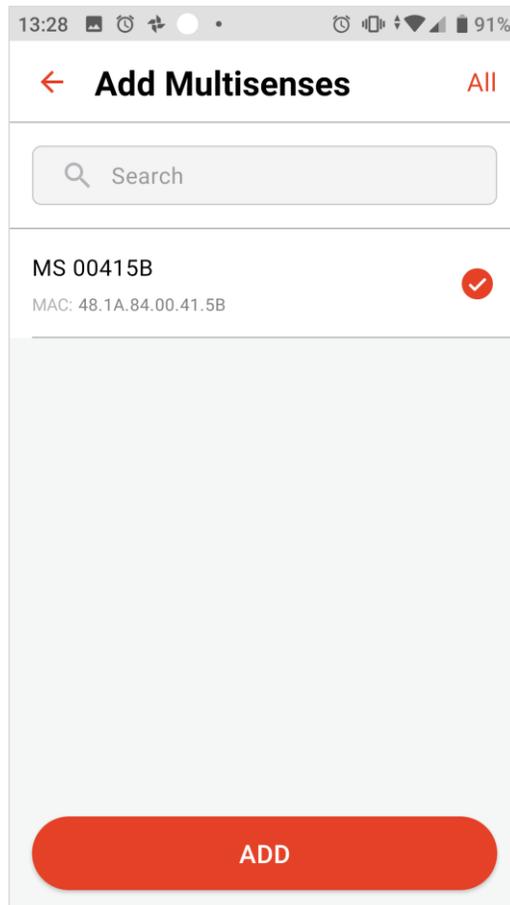
- ◆ **Adding MultiSenses to the WatchM application**, see below
- ◆ **Working with the Watch List**, page 14
- ◆ **Defining the Main (Global) Settings**
- ◆ **Defining Settings for Individual MultiSense Units**

4.1 Adding MultiSenses to the WatchM Application

Note that in order to add a MultiSense unit, Bluetooth communication must be enabled on your phone.

➤ **To add a MultiSense to the WatchM app:**

1. Press the MultiSense button briefly; the blue LED will blink. By default, the MultiSense units you press are selected automatically and displayed in the Add MultiSenses screen.
2. Tap **ADD** to add the MultiSense to the WatchM app.



- You can now view the added MultiSense in the Watch List screen. The Watch List screen is displayed by default when you access the WatchM app.

To add additional MultiSense units to the WatchM app, open the app and tap  in the displayed Watch List screen.

4.2 Working with the Watch List

The Watch List screen is the main dashboard screen of the WatchM app, with a variety of options available. It is also the default screen displayed when accessing the WatchM app.

► To access the Watch List:

Access the WatchM app, as described on page 9.

If you have previously added MultiSense units to the app, the Watch List screen is displayed by default.

If you have not previously added any MultiSense units to the app, first add a MultiSense unit, as described on page 13. After a MultiSense unit is added, the Watch List screen is displayed.

The following image shows the different options available in the Watch List screen; for further information, see the *Watch List Screen Options* section.



4.2.1 Watch List Screen Options

The following table describes each of the Watch List screen options.

Option	Description
	Clears listed MultiSense units from the app, including previous logs. When tapped, then tap Yes to confirm their removal.
	Opens the Event Log screen, as described in <i>Working with the Event Log</i> .
	Opens the Main Settings screen (Global settings), as described in <i>Defining the Main (Global) Settings</i> .
	Enables you to search for a specific MAC address or the MultiSense alias text.
	<p>If the green or red dot is displayed, the MultiSense unit has the functionality of an internal logger.</p> <p>If it is , the logger is activated; if it is  the logger is disabled (it can be enabled/disabled from the MS individual settings, see here).</p> <p>Indication of the last logger download status is displayed only when the logger is supported and enabled:</p> <ul style="list-style-type: none">  A black circle with percentage progress numbers indicates downloading in progress.  A green checkmark (=100%) indicates the download was successful.  A red circle with percentage numbers indicates the process failed at a certain percentage.
	The MultiSense alias text can be changed in the Settings screen for the individual MultiSense unit. The text is displayed in red if there is a violation; the text is displayed in black if there are no violations.
	The MultiSense MAC address.

Option	Description
	<p>The various MultiSense sensor icons indicate one of the following statuses:</p> <ul style="list-style-type: none">  A green icon indicates that the sensor is within the defined limits (set for each MultiSense). For example, the battery is full with a 100% charge.  A red icon indicates that the sensor has breached the defined limits (set for each MultiSense). For example, the temperature is 24.7 C° and is beyond the defined range.  A grey icon indicates the sensor is inactive or unusable. For example, the Humidity sensor does not exist (it is only available in the TH model).  An orange icon indicates intermediate reception signal strength. This is only applicable for the BLE signal strength or estimated distance. <p>See also the following <i>MultiSense Sensor Icons</i> section for further details on each of the various MultiSense sensors.</p>
	<p>Opens the Add MultiSense screen, as described in <i>Adding MultiSenses to the WatchM Application</i>.</p>

NOTE: By default, the WatchM app will prevent the screen from locking while the app is in the Watch List, Monitoring or Settings screens.

4.2.2 MultiSense Sensor Icons

There are a number of MultiSense sensors represented in the WatchM app by various icons. The following table describes each of the sensor icons.

Icon	Description
	<p>Distance Sensor: Distance indication between the MultiSense and the phone, determined according to the dBm value (it can be displayed in meter units or dBm units).</p>
	<p>Magnetic Sensor: An ON-OFF sensor triggered by its proximity to an external magnet; OFF when a magnet is not detected by the sensor, and ON when a magnet is detected.</p>
	<p>Battery Level: An indication of the battery status (translated from voltage to percentage).</p>

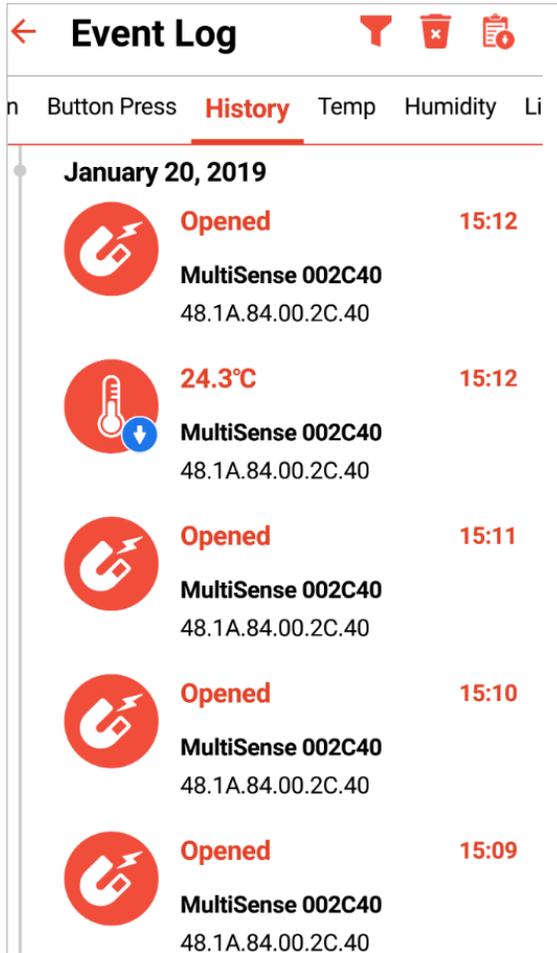
Icon	Description
	<p>Temperature Sensor: A sensor which indicates the status of the temperature in C° or F ° units. When there is a violation of the temperature range it will show a red icon accompanied with the current temperature reading; otherwise the current temperature is displayed with a green icon.</p>
	<p>Humidity Sensor: A sensor which indicates the status of the humidity in % units. When there is a violation of the humidity range it will show a red icon accompanied with the current humidity reading; otherwise the current humidity is displayed with a green icon.</p>
	<p>Button Status: Indicates when the MultiSense push button is briefly pressed.</p>
	<p>Orientation Sensor: Indicates the current Pitch and Roll angles of the MultiSense in (degrees)° units.</p>
	<p>Light Sensor: A sensor which distinguishes between two statuses, "Dark" and "Bright", according to the predefined lux threshold.</p>
	<p>Impact Sensor: Indicates if there was impact with a magnitude of more than the predefined g threshold.</p>
	<p>Movement Sensor: Indicates if there was movement according to the predefined g threshold.</p>

4.2.3 Working with the Event Log

The Event Log provides easy access to the events logged by all MultiSense sensors.

➤ **To access the Event Log:**

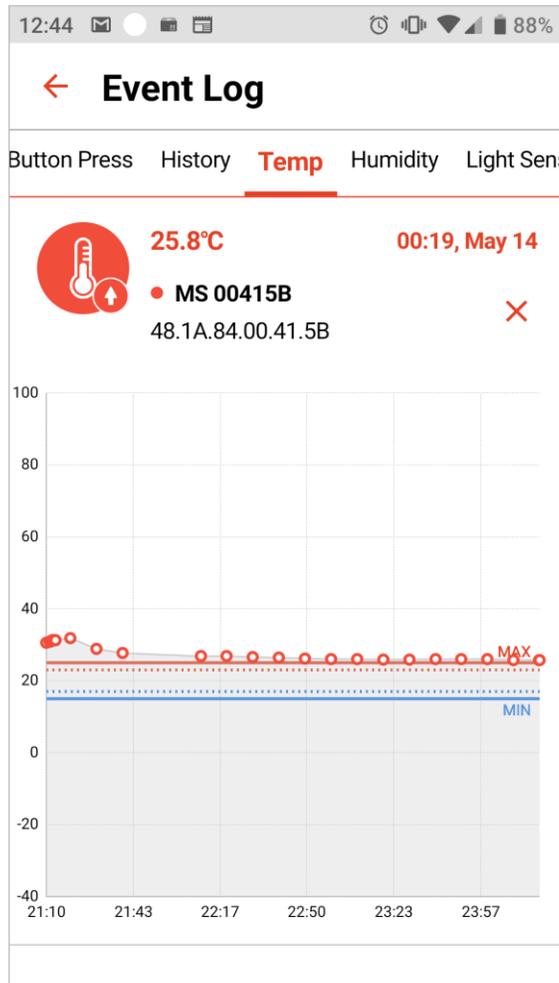
1. Access the WatchM app, as described on page 9. If you have previously added MultiSense units to the app, the Watch List screen is displayed by default.
2. Tap on . The Event Log screen is displayed, as shown below.



Each line in the log provides a full description of a sensor reading, according to:

- MAC address
 - Sensor type
 - Date and time
3. To view additional information about specific events, tap the arrow icon on an event. As shown in the example below, clicking on the arrow in a Temp event displays additional information about the history of temperature events recorded; you can also

zoom in/out in both X and Y axis, and tap onscreen for additional information about a specific sample.



4. Tap on the relevant tab at the top of the Event Log (for example: **Button Press**, **History**, **Temp** or **Humidity**) to display the specific sensor reading/status on all the MultiSenses in the system.

➤ **To filter the Event Log:**

Tap on  to filter the log according to MultiSense, Sensor, Date and Time parameters.

➤ **To clear the Event Log:**

Tap on  to clear the current log.

Note that individual log entries can be removed by dragging on a row to the left and then tapping the trash icon on the same line.

4.2.4 *Disabling the Background Scanning Agent*

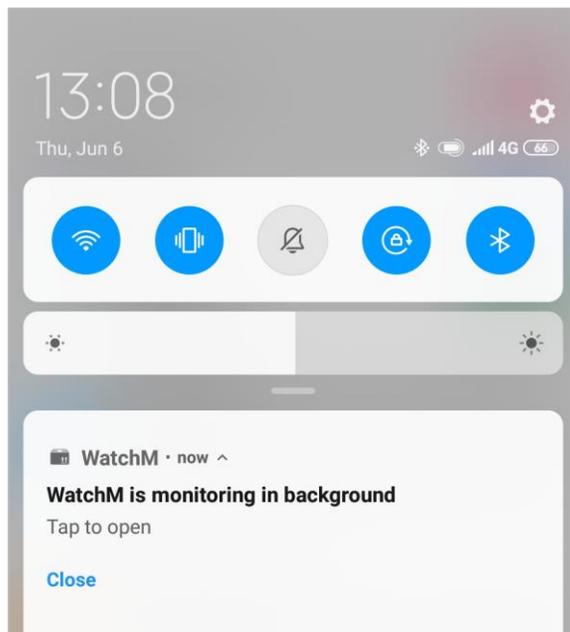
When the WatchM application is not being used, or the screen is turned off, a background scanning agent is automatically activated. In Android systems it will also appear in the notification area.

This means the agent continues scanning and the app will process the received data at all times, utilizing a small portion of the battery charge (typically a few % per day).

In order to prevent this, you can turn off the application by performing one of the following steps:

- ◆ Killing the app from the OS of the phone:
 - In iOS, double tap on the button, then slide the app image upwards.
 - In Android, tap the ≡ button and then slide the app image up or to the side (or tap the X).
- ◆ When in the app in Android (in the foreground), you can tap “back” and click “**Yes**” in the “**Are you sure that you want to exit?**” prompt.
- ◆ Using the “Close” option on the notification area scanner agent (as seen below).
- ◆ Logging out from the app, by tapping the cogwheel (Settings) icon in the Watch List screen, and then tapping **Log Out**.

The disabling of battery optimization is needed in some Android devices for long-term background scanning (including when the screen is off). For example, Xiaomi phones running MIUI 10.

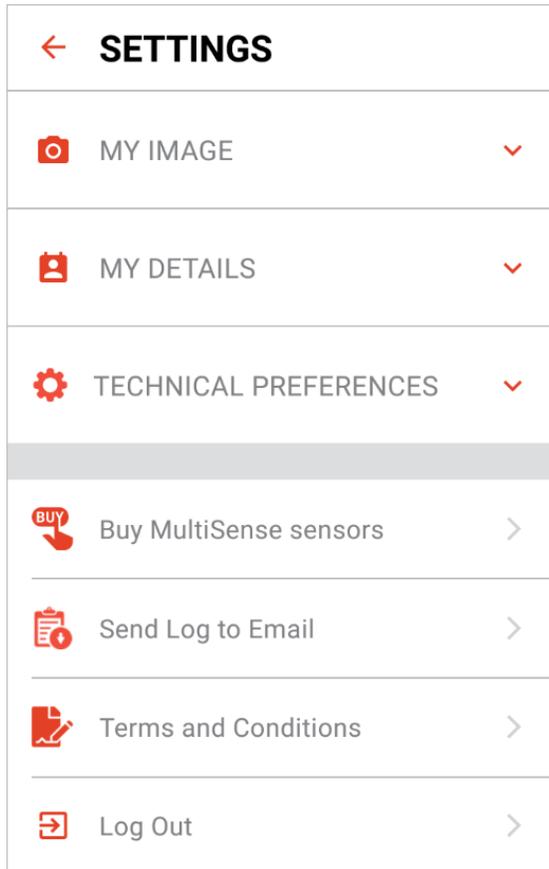


4.3 Defining the Main (Global) Settings

You can define a number of global settings that are applicable to the WatchM app and all the MultiSense units added to the app.

➤ **To define global settings:**

1. In the Watch List screen, tap the Settings icon. The Settings screen is displayed, as shown below:



2. Tap the relevant option, as described in the following table:

Option	Description
	MY IMAGE: Enables you to add a profile photo to the WatchM app.
	MY DETAILS: Enables you to add personal details to your WatchM account.

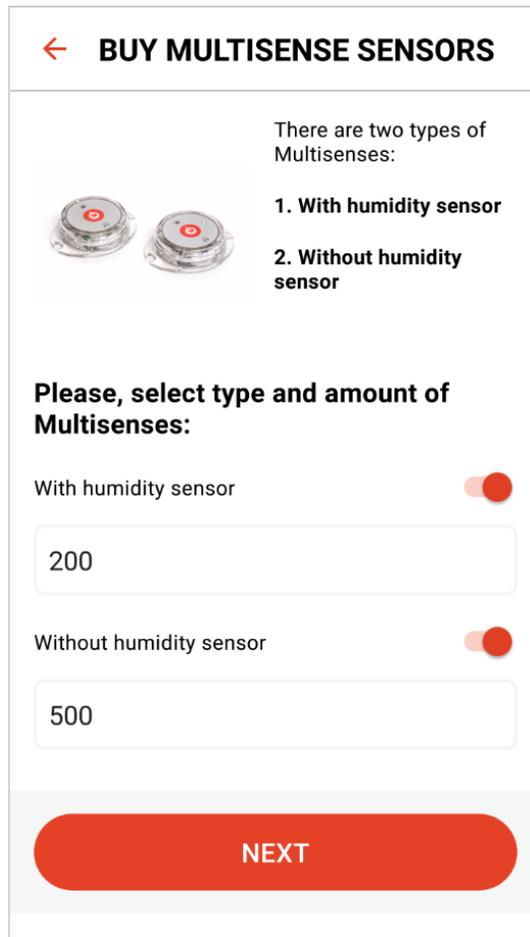
Option	Description
	<p>TECHNICAL PREFERENCES: Enables you to set technical preferences (global for all MultiSense units), including:</p> <ul style="list-style-type: none"> • Length Units: Metric / Feet • Temperature Units: C° / F° • Monitoring Mode: Location / Sensors/Location / Sensors • Signal Strength: Tap to activate dBm. Note that this setting will be displayed in the Watch List screen. • Distance Limit: Transmissions with a Signal Strength which are more than this defined distance (you can select from 1 – 100m) will be filtered out and not processed by the app. • Lost Alert Timer: Sends an alert if an individual MultiSense did not transmit information for more than the defined time (global setting). • Prevent Screen Auto Lock: Prevents the screen from locking when the app is in the Watch List, Monitoring or Settings screens.
	<p>Buy MultiSense sensors: Enables you to contact Pointer about purchasing MultiSense units. For more information, see <i>How to purchase MultiSense units</i>.</p>
	<p>Send Log to Email: To Be Implemented.</p>
	<p>Terms and Conditions: Opens the WatchM terms and conditions page on the Cellocator website.</p>
	<p>Log Out: Enables you to log out of the WatchM app.</p>

4.3.1 How to purchase MultiSense units

You can notify Pointer by automated email if you want to purchase MultiSense units, as described in the following procedure.

➤ **To purchase MultiSense units:**

1. In the Watch List screen, tap the Settings icon. In the displayed Settings screen, tap **Buy MultiSense sensors**.
2. In the displayed screen, select the type(s) of MultiSense units, and the required numbers, and then tap **Next**.



← **BUY MULTISENSE SENSORS**

There are two types of Multisenses:

1. With humidity sensor
2. Without humidity sensor

Please, select type and amount of Multisenses:

With humidity sensor

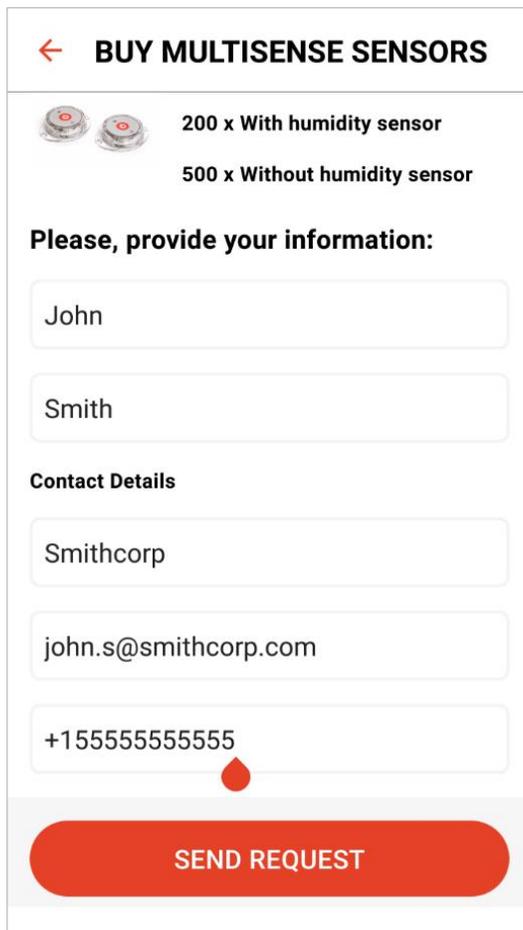
200

Without humidity sensor

500

NEXT

3. In the displayed screen add your contact information, including your country's area code, and tap **SEND REQUEST**.



← BUY MULTISENSE SENSORS

  **200 x With humidity sensor**

500 x Without humidity sensor

Please, provide your information:

John

Smith

Contact Details

Smithcorp

john.s@smithcorp.com

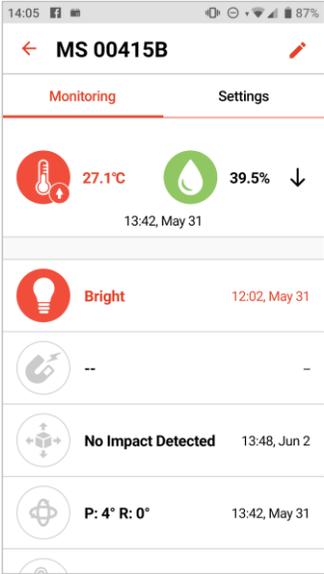
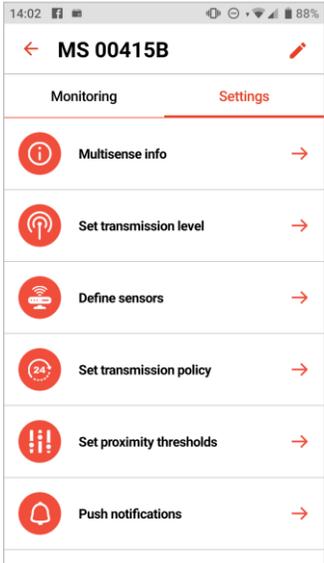
+15555555555

SEND REQUEST

4.4 Defining Settings for Individual MultiSense Units

Upon accessing an individual MultiSense unit (by tapping on any of the MultiSense units listed in the Watch List screen), you can view and define a number of options for that MultiSense unit.

The options are accessed via two main tabs, **Monitoring** and **Settings**:

Tab	Description
	<p>Monitoring: This tab displays the last received readings of all the MultiSense unit's sensors. Tapping on the black arrow, or anywhere in its block/row expands a graph reading of the Temperature and Humidity readings; tap again to close it.</p>
	<p>Settings: This tab enables you to configure and define settings for the specific MultiSense unit, including:</p> <ul style="list-style-type: none"> • MultiSense info (Tap to view details about the MultiSense, including the MAC address, firmware and hardware versions, and current battery level) • Set transmission level, see page 25 • Define sensors, see page 26 • Set transmission policy, see page 30 • Set proximity thresholds, see page 33 • Push notifications, see page 34

Note that after each change to any of the above settings, a confirmation popup message is displayed; if the change was not successful, a popup message is displayed every minute until the change is successfully applied.

4.4.1 Setting the Transmission Level

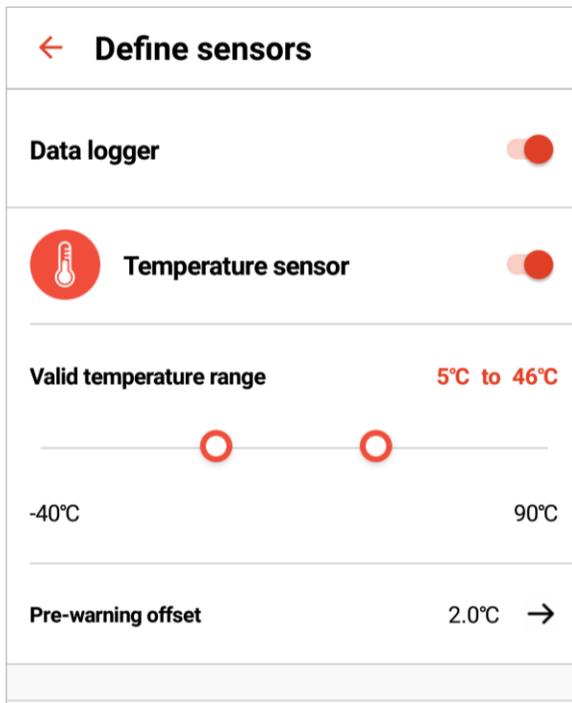
This setting enables you to set the transmission level from the MultiSense to a smartphone. To adjust the level, tap and drag to the level required.



4.4.2 Defining Sensors

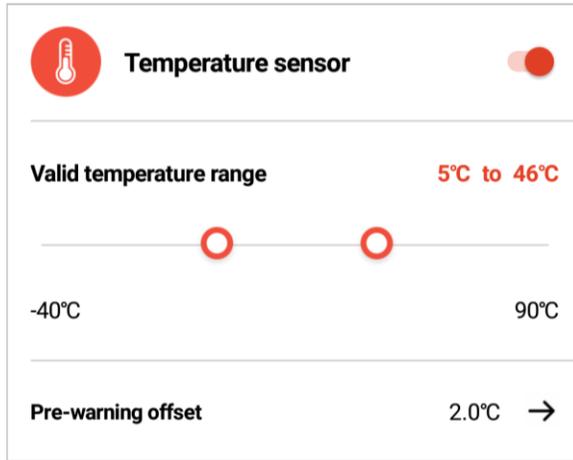
You can enable and set specific threshold values that provide the triggering conditions for different alerts; these values are set for each individual MultiSense unit, under **Settings> Define sensors**.

If the selected MultiSense has the data logger capability (from FW version 4v67 and above), the **Data logger** option switch is displayed at the top of the screen, which can be enabled/disabled as required. Note that there are a number of different transmission options available based on the data logger, as described in the *Setting Transmission Policy* section.



➤ **To define Temperature sensor settings:**

1. Tap to enable the **Temperature sensor** option switch.
2. Define a **Valid temperature range** by setting maximum and minimum threshold values.



Temperature sensor

Valid temperature range 5°C to 46°C

-40°C 90°C

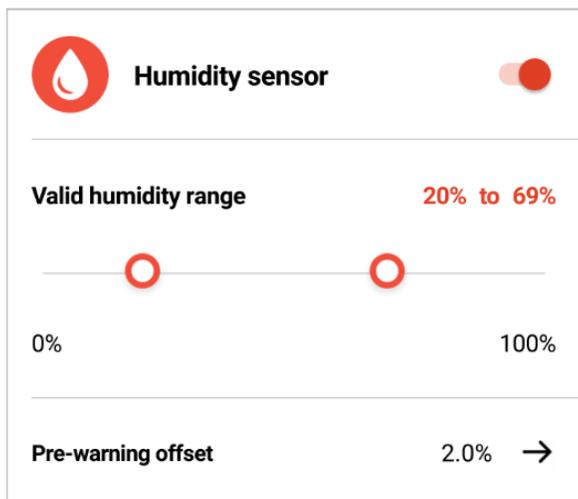
Pre-warning offset 2.0°C →

Note that the values should be set according to the specific use-case; for example, normal refrigerators would be 2-8°C, freezers are typically -25°C to -10°C.

3. Set a **Pre-warning offset** value which sends a warning by push notification when close (as per the value you define; in the example above, within 2°C of the defined temperature range thresholds) to one of the thresholds.

➤ **To define Humidity sensor settings:**

1. Tap to enable the **Humidity sensor** option switch. Note that if the MultiSense is not the MS-TH version (with a Humidity sensor), the **Humidity sensor** switch will be grayed out.
2. Define a **Valid humidity range** by setting maximum and minimum threshold values.



Humidity sensor

Valid humidity range 20% to 69%

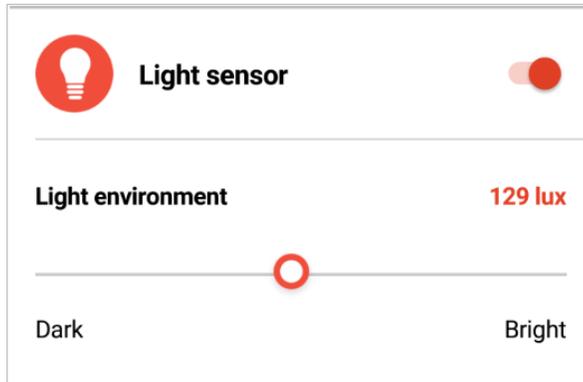
0% 100%

Pre-warning offset 2.0% →

3. Set a **Pre-warning offset** value which sends a warning by push notification when close (as per the value you define; in the example above, within 2% of the defined humidity range thresholds) to one of the thresholds.

➤ **To define Light sensor settings:**

1. Tap to enable the **Light sensor** option switch.
2. Define a **Light environment** value by setting the relevant value between Dark and Bright. The recommended value is 12 Lux (which is also the minimum).



➤ **To define Magnetic sensor settings:**

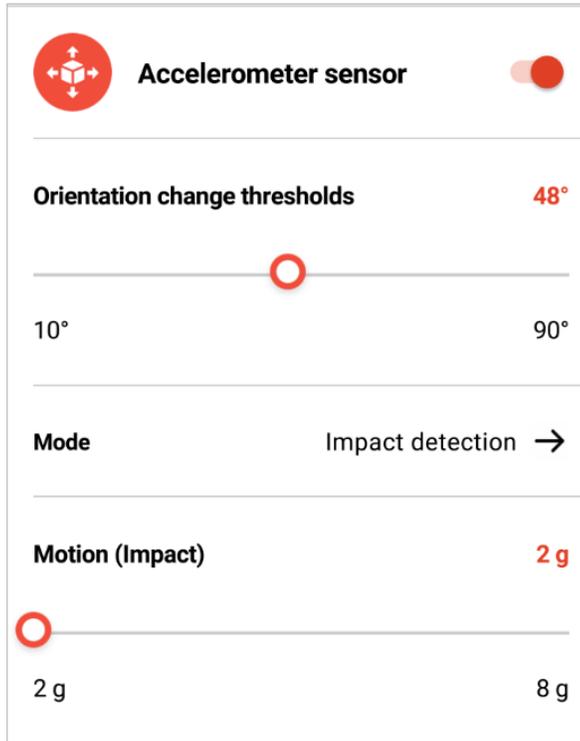
Tap to enable the **Magnetic sensor** option switch. The magnetic sensor indicates if a magnet is present or not, which is usually used for detecting if a window/door is opened or closed.



For optimal detection, it is recommended to place the magnet within a range of 1–3cm from the sensor in the MultiSense, which is marked by the magnet icon, and where the triangle indicating north is pointed towards the MultiSense.

➤ **To define Accelerometer sensor settings:**

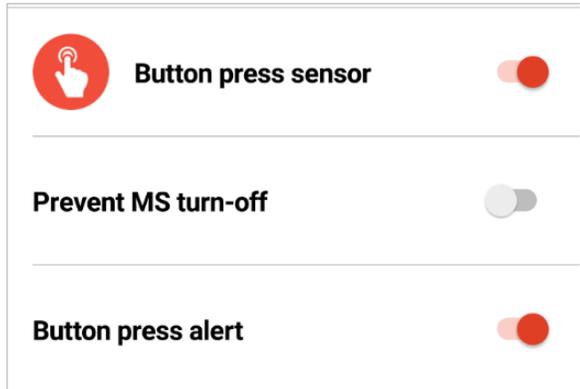
1. Tap to enable the **Accelerometer sensor** option switch.
2. Define the **Orientation Change thresholds** using degrees as units to trigger an alert.



3. Define the **Mode** as **Impact Detection** or **Movement Detection**.
4. Set the **Motion** sensitivity threshold of the Accelerometer sensor, in g units. We recommend the following settings:
 - For Impact mode: 2-4 g
 - For Movement mode: 0.7-0.9 g

➤ **To define Button press sensor settings:**

1. Tap to enable the **Button press sensor** option switch.
2. Tap to enable or disable the **Prevent MS turn-off** mode.



3. Tap to enable or disable the **Button press alert** capability in event logs and push notifications.

4.4.3 *Setting Transmission Policy*

You can enable and set specific transmission settings, as described in the following procedure.

➤ **To define Transmission Policy settings:**

1. Tap to enable the **Transmission upon violation** option switch. Once enabled, every violation of any sensor will create a single and immediate transmission attempt.
2. Define the **Periodic sensor(s) recording** value; this defines the interval time of sample recordings from the MultiSense when both temperature and humidity are within their defined limits.

- Define the **Periodic sensor(s) recording during violation** value; this defines the interval time of sample recordings from the MultiSense while either the temperature or humidity are out of their defined limits (in violation).

←

Set transmission policy

Transmission upon violation

Periodic sensor(s) recording 5 m

6 s

24 h

○

Periodic sensor(s) recording during violation 5 m

6 s

24 h

○

Periodic log transmission attempt 1 h

6 s

24 h

○

- Define the **Periodic log transmission attempt** value (only available when the **Transmission upon violation** option switch is enabled); this defines the interval time of transmissions from the MultiSense.

Note that if there is no data logger available or it is disabled (see page 26), and the **Transmission upon violation** option switch is enabled, the **Keep-alive message interval** option is displayed. This value defines a protective transmission rate for keep-alive messages when there are no violations.

For further information on the transmission modes available and when and where they are applicable, see the following transmission mode table.

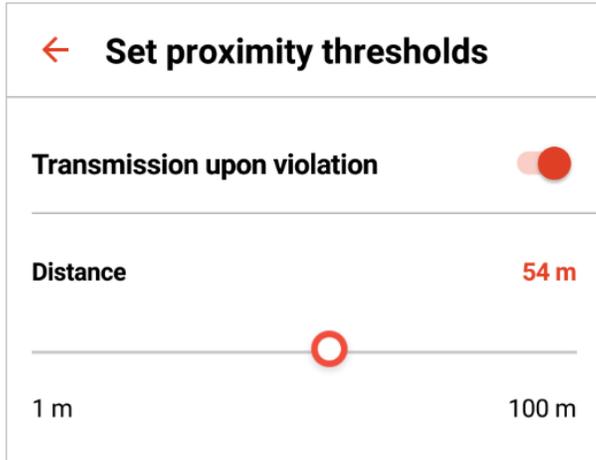
Transmission Mode Table

Data Logger option	Transmission on Violation option	Transmission mode	Timer-R (Relaxed)	Timer-V (Violation)	Timer-P (Proximity/ Keep-alive)
Disabled	Disabled	Real-time mode: Events are transmitted asynchronously, samples are transmitted periodically.	Sampling and transmission rate when there is no violation.	Sampling and transmission rate when there is a violation.	If $P > R$ and $P > V$, transmissions according to P will never happen (otherwise it will sample and transmit according to the P rate).
Disabled	Enabled	Transmission on Violation mode: Events are transmitted asynchronously.	Internal sampling rate when there is no violation.	Transmission rate when there is a violation.	Transmission rate when there is no violation.
Enabled	Disabled	Data Logger mode: Events and samples are only logged internally.	Internal sampling (and logging) rate when there is no violation.	Internal sampling (and logging) rate when there is a violation.	Transmission rate of advertisements.
Enabled	Enabled	Data Logger mode with Transmission on Violation enabled: Events are first logged and then transmitted immediately.	Internal sampling (and logging) rate when there is no violation.	Sampling, logging and transmission rate when there is a violation. Samples will be logged anyway.	Transmission rate of advertisements. (If there is a violation and $V < P$ it will not be transmitted)

4.4.4 *Setting Proximity Thresholds*

You can define the distance threshold (between the MultiSense and the smartphone) which will trigger a distance violation alert.

Tap the **Transmission upon violation** option switch to enable the option; then adjust the **Distance** threshold by tapping and dragging to the distance required.



Note that the defined Distance threshold is set globally for the entire app and represents an area where the application will process transmissions that will come from one or more paired MultiSense devices. Beyond that area the application will ignore the signals (the maximum value by default is 100m). If an individual MultiSense moves beyond the defined Distance threshold, an alert is generated.

4.4.5 Defining Push Notifications

You can manage the push notifications sent from the WatchM app to the phone. There are three types of notifications:

- ◆ **Push alerts from server:** To Be Implemented
- ◆ **App local notifications:** Enables or disables notifications from the smartphone OS.
- ◆ **Battery alerts:** Defines a threshold for low battery. Once breached, the app then creates a violation and sends a push notification, if enabled.

