

ACCELERATOR KIT MANUAL



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1. INTRODUCTION

The RedLore Accelerator Kit contains one gateway as well as a number of RL3 wireless sensor devices. The number of devices as well as the variant, i.e. the sensors available on the device, varies. All of the devices are capable of participating in a wireless mesh network.

In addition, the Accelerator Kit gives access to RedBoard, RedLore's dashboard platform. RedBoard displays the sensor data. It is preconfigured with a number of pre-built dashboards. These can be changed in many ways and new dashboards can be added.

Upon delivery the devices will be in Inventory mode. Inventory mode is similar to being OFF except that the NFC interface will still work. The NFC interface is used to bring the device into Run mode by using a Smartphone app. The app also allows you to configure its parameters.

This manual explains how to get the gateway, the mesh network of sensor devices as well as RedBoard up and running. For more detailed information, refer to the following documents:

- RL3 user manual: Describes the features of the wireless sensor device and how to enable/disable sensors and change their parameters.
- RedLore positioning manual: Explains how the indoor positioning (asset tracking) functionality works and how to set it up.

These documents as well as other files will be available in a shared folder.

2. INSTALLING THE GATEWAY AND THE SENSOR DEVICES

Follow these steps to get started with the accelerator kit:

2.1. INSTALLING THE GATEWAY

The accelerator kit can come with different gateways. Please follow the instructions corresponding to the gateway that was delivered with your accelerator kit.

GATEWAY TYPE 'CASCADE'



- The colors may vary from those in the picture.
- Power the gateway and connect it to the internet using an ethernet cable. Alternatively WIFI can be used. For WIFI please communicate the SSID and passcode to RedLore.
- During power-up and establishing a connection, the gateway LED will show a dim yellow light. Once the gateway has a stable connection to the cloud platform, the LED should turn bright green.

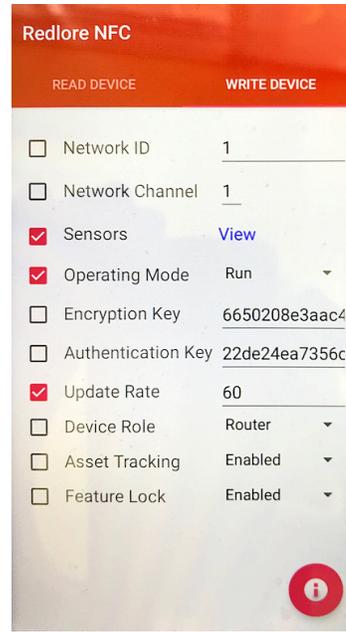
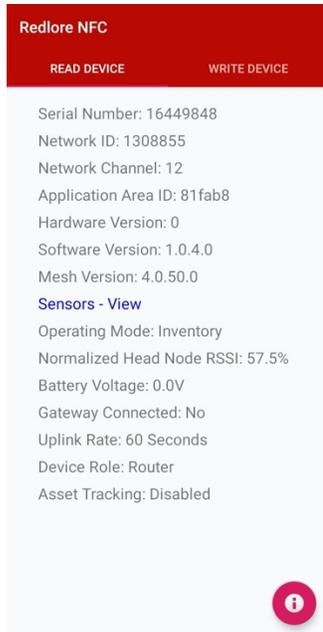
GATEWAY TYPE 'CLOUDGATE'



- Please contact RedLore

2.2. TURNING ON THE SENSOR DEVICES

- Install the NFC application onto an Android smartphone that has an NFC interface.
- Launch the App and make sure the READ DEVICE tab is selected.
- Tap the device with the smartphone. The label on the device enclosure shows where the NFC antenna is located. The first time you may need to slide the smartphone around to find the position of the smartphone's antenna.
- After a successful NFC transaction the screen will show the device's parameters. The *RL3 User Manual* describes these parameters.



- Click the WRITE DEVICE tab and click the drop-down box of the parameter *Operating Mode* and change the mode to *Run*. Then check the check box of the *Operating mode* (don't check any other box). Then tap the device again until you see the message that the *Write* was successful. **It is important to hold the smartphone in place for 1 second after receiving the *Write successful* message in order for the NFC transaction to complete.**
- The device will restart in Run mode and will blink its LED red, green, blue and then finally green to indicate that it successfully completed its power-on self-test and switched to run mode. If the final LED indication is a double green blink, then the device is in Inventory mode rather than Run mode.
- The device will now search for a network to join. If this is the only device in Run mode and there is a gateway running nearby, then it should connect to the gateway within roughly 30 seconds and blink its blue LED. From that point on the device will be sending sensor data to the gateway, which the gateway will forward to RedBoard.
- Another way to check whether the device is connected to the network, is to switch the app back to READ DEVICE and tap the device until the parameter *Gateway connected* shows Yes.
- Perform the same procedure with the other devices. They will connect to the network automatically, either directly to the gateway or through other devices.

3. USING REDBOARD

RedBoard is the dashboard platform to which all the sensor data is routed. RedBoard is preconfigured with a number of example dashboards. The dashboards can be extended in many ways and new dashboards can be created.

You access RedBoard through <http://dashboard.redlore.com>.

RedBoard is built on top of *Thingsboard*, a commercial off-the-shelf IoT dashboarding platform. RedBoard extends Thingsboard with data ingestion capabilities and adds custom functionalities, such as displaying tracked assets on a floorplan.

In what follows below, we shall explain how to navigate and operate the example dashboards. In order to acquire a deeper understanding of how RedBoard works, we advise to consult the following documents:

- <https://thingsboard.io/docs/>
The starting page of all ThingsBoard documentation.
- <https://thingsboard.io/docs/guides/>
A collection of guides on specific ThingsBoard topics. Scroll down to the section *Data visualization* for information directly relevant to customize the dashboards.

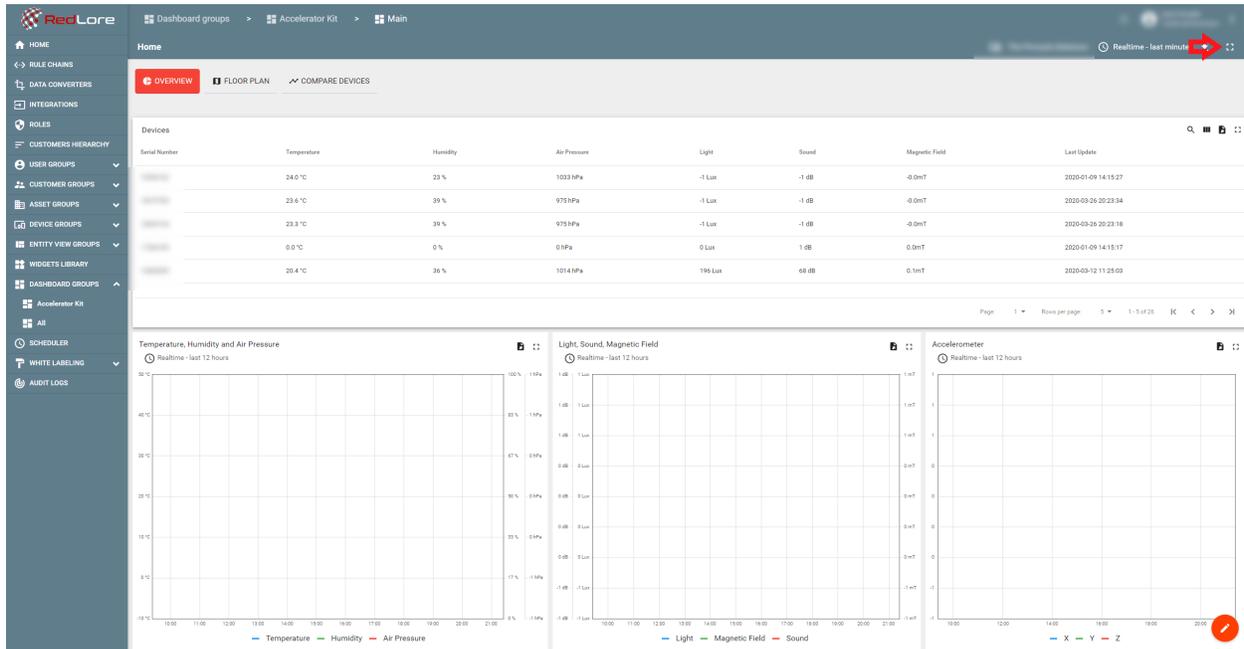
Note: You have *Customer Administration* rights in Thingsboard/RedBoard. Some functionalities will not be available because they are only accessible to RedLore as the *Tenant Administrator*.

Follow these steps to walk through the example dashboards:

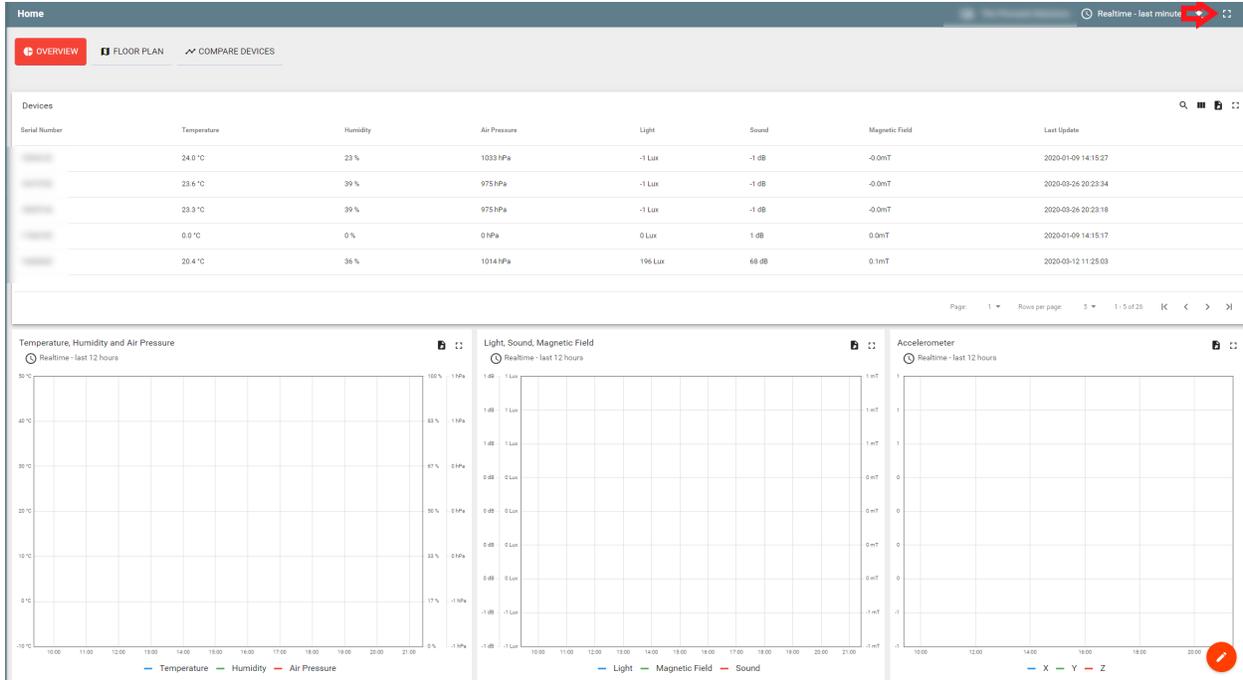
3.1. LOG IN

Visit <https://dashboard.redlore.com> to RedBoard using the credentials provided to you. In case you were sent an activation link, please visit the activation link and create your password.

The first screen will look similar to the screenshot below. If you do not intend to use the back-end we suggest you click on the full screen icon marked with the red arrow below for a better UI experience.



However if the administrator has disabled access to the backend for you (typical case if you are a regular user), then you will get the dashboard only as shown below:



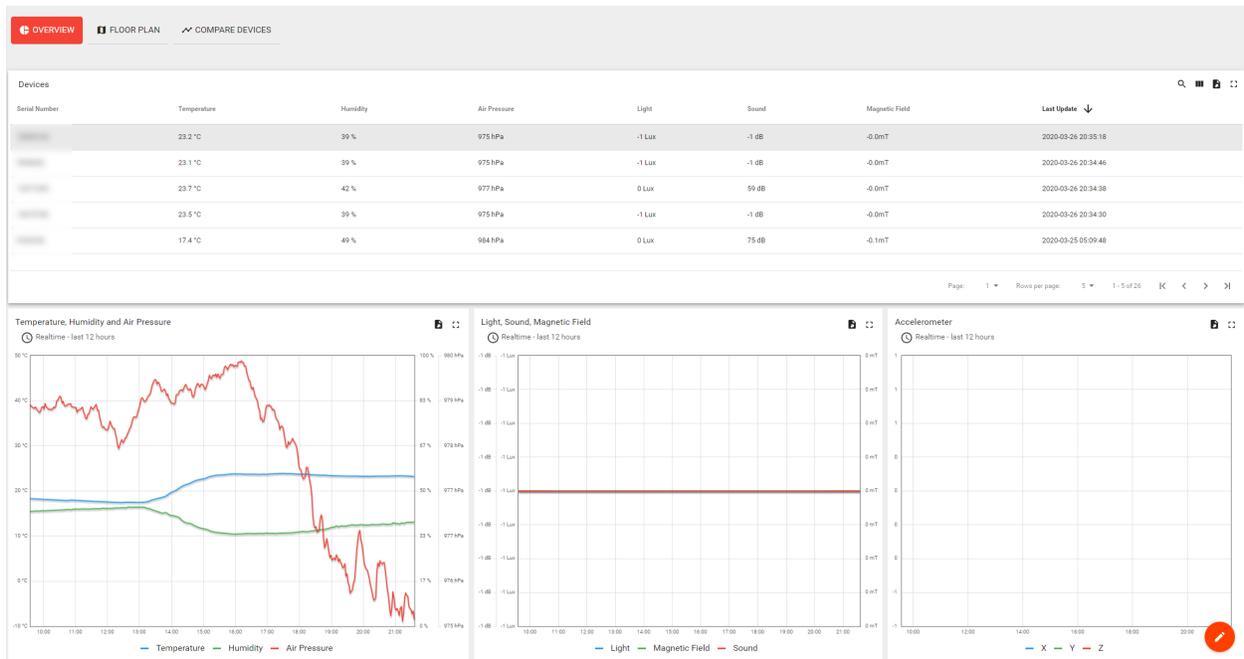
3.2. DASHBOARD PAGES

The dashboard is split into 3 pages: Overview, Floorplan and Compare Devices. Each page can be accessed from the top menu.

OVERVIEW

The overview provides you with a table showing all the devices within your kit. You can search for devices in the table and subsequently select a device to get its history in the bottom charts. Note that each chart has a time period which you can adjust based on your needs.

Note that the dashboard is fully response and you do not need to refresh to get new data. You can simply take a sensor and breath into the device a few times. You should see the temperature and relative humidity rise. If the sensor is a "Full" sensor, then you should also see an impact on the accelerometer data when moving the device.

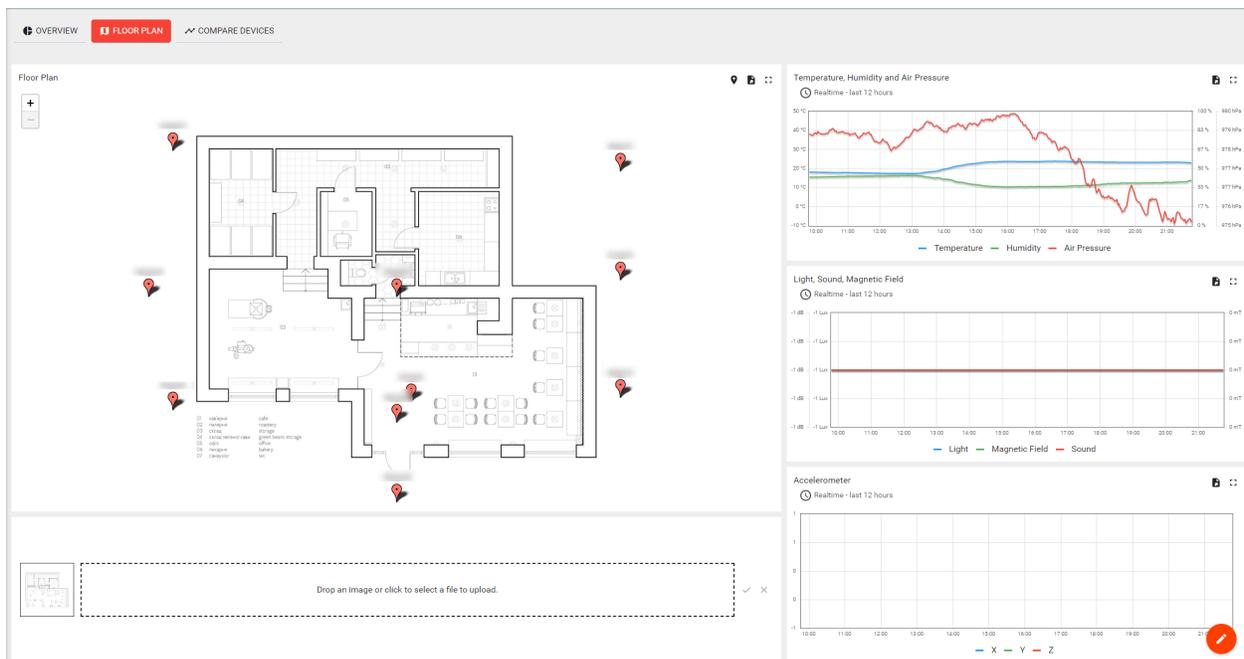


FLOOR PLAN

The floor plan allows you to see the position of a device within a floor plan. For devices that have asset tracking enabled, the floor plan also allows you to see their estimated position. For further information please read the RedLore Positioning Manual.

Note that you can still use the floor plan even if none of the devices have asset tracking enabled.

To use the floor plan first upload a floor plan image by dragging and dropping the image in the field marked 'A' below. Next click on the drop pin marked 'B' and select the device/s that you want to place on the floor plan. Next the device will appear in the middle of the plan. Drag and drop the device to the desired location on the floor plan.



COMPARE DEVICES

The compare devices page has 6 charts that show a comparison of the same variable from all the devices in the kit.

The legend for each chart shows the color of each device. You can click on the device's serial number to disable/enable that device's data being shown in the chart.

