

Smart Building Kit: Frequently Asked Questions

Version 1.1; March 2020

1. How do I change the batteries in the sensors?

For information about how to remove or replace the battery in any of the devices, use the Chrome web browser and navigate [here](#).

Note: Regulations require that the battery must be removed from the device when shipping or traveling by air. Alternatively, you can re-insert the plastic tabs to disrupt the battery current.

2. Is it possible to connect the gateways to a different LoRaWAN® network server (LNS)?

The Kit is designed strictly for demonstration purposes. It is intended to be usable in a plug-and-play fashion, directly out of the box, for a non-expert user. That necessitates eliminating some of the many options that would normally be available with LoRa®-based devices, such as choosing to connect to a different LNS.

However, all the hardware is available on the open market from the respective suppliers, and these gateways and devices can be configured in any way you would like. For more information about contacting the appropriate supplier, contact us at <https://info.semtech.com/kit>.

3. Is it possible to export the data shown on the dashboard to another application?

The Kit is designed strictly for demonstration purposes. It is intended to be usable in a plug-and-play fashion out of the box for a non-expert user. That necessitates eliminating some of the many options which would normally be available with LoRaWAN, such as accessing the data for export to another application.

However, all the hardware is available on the open market from the respective suppliers, and these gateways and devices can be configured any way you would like. For more information about contacting the appropriate supplier, contact us at <https://info.semtech.com/kit>.

4. Can I connect the gateways to something other than the hotspot?

If you do not want to use the hotspot-provided Wi-Fi network, you can configure the mini-hub to use another network. To do so, follow these steps:

1. Leaving the mini-hub plugged-in, turn off the hotspot.
2. Using a computer, perform a network scan and select the open Wi-Fi network that starts with MiniHubxxxxx, where xxxxx are the last 6 digits of the mini-hub MAC address found on the label affixed to the mini-hub.
3. Once the computer is connected to the mini-hub, open a web browser and type **192.168.4.1** into the address bar.
4. Edit the Wi-Fi SSID and Wi-Fi password to reflect the Wi-Fi network you aim to join. Click **Apply** to save your changes.

Note: The following IP ports must be open on your local network: 53, 123, 443, 80, 7000, 7001, 8888 and 18777. These are usually open on home networks, but may be blocked on corporate networks. Seek your company's IT expert to open these ports if the device is not working.

5. I'm having problems with my door/window sensor.

- Make sure that the orientation of the sensor and magnet are correct, as explained in the user guide and illustrated there in Figure 8.
- Check that the battery is not depleted. With normal use the sensor should last for several years.

Updates should occur in the dashboard almost immediately, although opening and closing a door or window very rapidly (less than one second apart) can overload the system. Wait a few seconds and the system should resume working.

6. Why am I having problems with my room sensor?

The room occupancy sensor may take up to five minutes to appear on the dashboard when first activated.

You may not see a change in state (Occupied/Unoccupied) every time someone moves into or out of the room. The state does not change because no additional messages will be sent as long as motion is detected again within the next five minutes. Only after detecting no motion during a five-minute period will it send a message indicating that the room is unoccupied.

Room occupancy statistics are calculated only at midnight each day for the preceding 24-hour period. Therefore, you may not see your data displayed until the next day. Similarly, for the one-week and 30-day calculations, you must allow enough time to pass for data to be collected over that period.

Check to make sure that the battery is not depleted. With normal use, the sensor should last for several years.

7. Why am I having problems with my IR blaster?

The IR blaster is a prototype unit that has not had all of its functionality optimized. Its purpose is to illustrate how LoRa devices extend the control range of an IR-controlled device. Things you should know:

- There will be a latency of up to 30 seconds between sending the command and seeing any change.
- For now, the only codes supported are those to activate a temperature-controlled device, such as a space heater or in-wall A/C unit.
- This prototype has not yet been optimized for battery life. Depending on the connection rate of the sensor, the IR blaster's battery life will last between 30 days to six months for U.S. kits, and from 15 days to one year for EU kits.

8. Why am I having problems with my Desk Sensor?

The desk occupancy sensor may take up to five minutes to appear on the dashboard when it is first connected.

You will not see a change in state (Occupied/Unoccupied) every time someone moves into or out of the desk. The state does not change because no additional messages will be sent as long as motion is detected again within the next five minutes. Only after detecting no motion during a five-minute period will it send a message indicating that the room is unoccupied.

Desk occupancy statistics are calculated only at midnight each day for the preceding 24-hour period. Therefore, you may not see your data displayed until the next day. Similarly, for the one-week and 30-day calculations, you must allow enough time to pass for data to be collected over that period.

Check to make sure that the battery is not depleted. With normal use, the sensor should last for several years.

The accuracy and sensitivity of the sensor is based on many factors, such as how close to an occupant it is and the angle at which it has been placed under the desk. If you are experiencing a number of false positives or false negatives, try experimenting with the sensor placement.

9. Why am I having problems with the water sensor?

Check to make sure that the battery is not depleted. With normal use, the sensor should last for several years.

10. Why am I having problems with the Grid-EYE® sensor?

Check to make sure that the battery is not depleted. Because the sensor is a development prototype, battery life is not optimized. With normal use, the battery should last six months to one year.

The Grid-EYE sends a message when motion is detected. It will then send an update approximately every five minutes until no motion is detected during a subsequent five-minute period. It provides a single data point of the number of people in the room only at the moment when the motion is first detected and then on the subsequent 5 minute intervals. Changes in the number of people in the room in between the five-minute periods will not be captured.

The Grid-EYE will cover an area of approximately 100 square feet when mounted at a height of 8 feet. Mounting closer to the floor will reduce the coverage area, while mounting it higher will increase the coverage area. The Grid-EYE will not be able to detect motion or the presence of people if mounted on a ceiling higher than 20 feet.

11. Why am I having problems with the temp/humidity sensor?

Check to make sure that the battery is not depleted. With normal use, the sensor should last for several years.

12. How do I change the temperature scale from Fahrenheit to Celsius or vice versa?

The time and temperature are set automatically by the Kit region – Fahrenheit for US kits and Celsius for EU. The scale is not changeable by the user.

13. Why don't I see the latest desk/room occupancy data displayed on the dashboard?

You may not see a change in state (Occupied/Unoccupied) every time someone moves into or out of the desk or room. The state does not change because, although the sensor will first send a message when motion is detected, no additional messages will be sent as long as motion is detected again anytime within the next five minutes. Only after detecting no motion during a subsequent five-minute period will it send a message indicating that the room is unoccupied.

14. Why is the sensor showing the status as *Unknown*?

The device may still be updating its state information, which can take up to six hours in some cases. If this persists for more than 24 hours, contact us at <https://info.semtech.com/kit>.

15. Why is the sensor showing the status as *N/A*?

The device may still be updating its state information, which can take up to six hours in some cases. If this persists for more than 24 hours, contact us at <https://info.semtech.com/kit>.

16. Do I need more data capacity for the hotspot?

The hotspot includes 1GB of free data service. If you need additional data capacity, you will need to sign up for a cellular service plan. For plan options, see [GlocalMe](#). GlocalMe is a registered trademark of U-CLOUDLINK in Hong Kong. The GlocalMe logo and U-CLOUDLINK are trademarks of U-CLOUDLINK.

17. Why do my batteries seem to become depleted very quickly?

It is possible that the battery protection tabs were not inserted properly prior to shipping. In this case, the battery will need to be replaced.

If the battery tabs were removed prior to connecting the gateways to the hotspot, the devices will transmit constantly and deplete the batteries very quickly. In this case, the battery will need to be replaced and a gateway connected to the hotspot.

18. How can I tell if my mini-hub gateway(s) is connected?

If connected, the gateways appear under the **Settings** tab on the web interface at the bottom of the page under the **Type** column as *Mini Hub*.

19. How can I tell if my sensors are connected?

You can check under the **Settings** tab in the web interface to see if the device is connected. For sensor types with multiple units in the Kit, you can check any individual sensor for connection by matching the last four digits of the top number on the back of your sensor to the digits shown in the **Name** column with the format XX-XX.

If the sensor in question has any green bars next to it, your sensor is connected.

20. Where to buy and what kind of replacement batteries to get

The devices use batteries that are ½ AA size, of the type 14250, and are composed of LI-SOCl₂. These are sometimes available at a dedicated battery store or, otherwise, may be ordered from a variety of sources online.

21. Can I add my own sensors to the web display?

Sensors not shipped with the Kit may not be added to the web display. We suggest you contact the many members of the LoRa Alliance® ecosystem who can assist with more customized implementations such as this. For assistance, contact us at <https://info.semtech.com/kit>.

22. Can I connect the sensors to a different web display or mobile app?

The Kit is designed strictly for demonstration purposes. It is intended to be usable in a plug-and-play fashion out of the box for a non-expert user. That necessitates eliminating some of the many options that would normally be available with LoRa-based devices, such as connecting the sensors to a different web display or other type of application.

However, all the hardware is available on the open market from the respective suppliers, and these gateways and devices can be configured any way you would like. For more information about contacting the appropriate supplier, contact us at <https://info.semtech.com/kit>.

23. How do I add a floorplan to the User Interface website?

- a. Navigate to the **Map** tab. Click the **Edit Map** button in the upper-right portion of the screen.
- b. Click **Upload New Image** and select a .jpg or .png file to upload.
- c. Click **Save** to save the map. You may then drag and drop devices from the list on the right hand side of the page and place them on the map you have uploaded.

24. How do I get more help?

Please contact us at <https://info.semtech.com/kit> for additional support.

25. Who can I talk to about buying Kit devices for my development project?

Please contact us at <https://info.semtech.com/kit> for information about acquiring elements of the Kit.

26. Where do I get more information about Semtech products?

Please visit www.semtech.com.

27. Where can I get more information about LoRa products.

Please visit the [LoRa Developer Portal](#).

28. How can I get a sensor to update more or less often?

The Kit is designed strictly for demonstration purposes. It is intended to be usable in a plug-and-play fashion out of the box for a non-expert user. That necessitates eliminating some of the many options that would normally be available with LoRa-based devices, such as changing the update frequency.

29. Why have all of my sensors stopped reporting?

Check to make sure that the hotspot is still connected to the Internet and that the mini-hub gateways are showing that they are connected to the hotspot (this is indicated by a steady green light on the mini-hub gateways). If you believe these to all be in order, please contact us at <https://info.semtech.com/kit> for additional support.