

# **Signal Live v1 User Manual**

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v1.0



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## 1. Introduction and Statements of Compliance

The Signal Live Hub v1 is a Bluetooth Low Energy (BLE) to cellular gateway that transmits data from the Converge BLE sensors, or other BLE beacons, to our servers via cellular connectivity.

This device complies with the part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

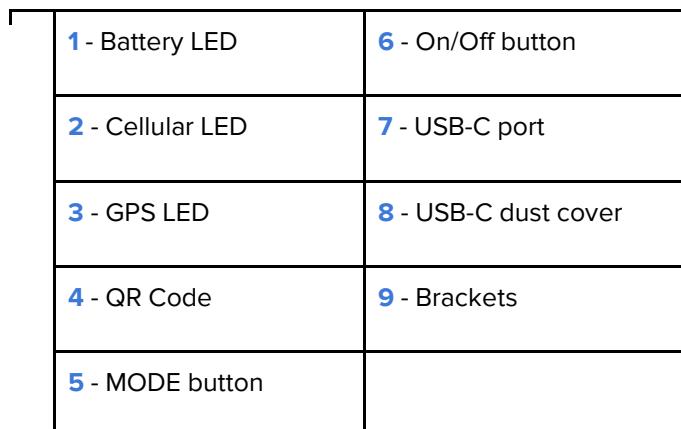
This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment and must be installed with a separation distance of at least 20cm from all persons.

**CAUTION:** The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

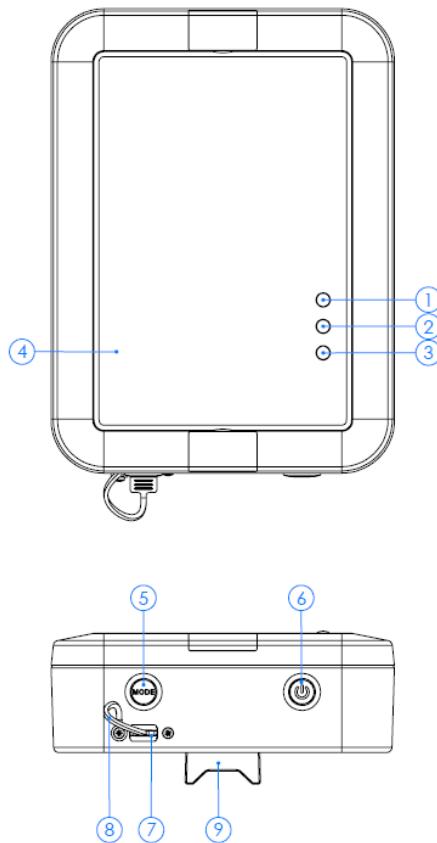
## 2. Product Features

- Wireless and real-time data from Converge Signal sensors
- Automated data collection from Converge Signal sensors
- Data collection range of up to 10m when Signal sensors are submerged in 100mm in concrete
- BLE connectivity to scan for compatible devices
- Configurable with over the air firmware updates for the Signal Live Hub v1
- Powered by an internal rechargeable battery
- Battery life of 6 weeks for ConcreteDNA
- Waterproof and robust design suitable for outdoor construction environments

### 2.1 Identifying parts



<b>1</b> - Battery LED	<b>6</b> - On/Off button
<b>2</b> - Cellular LED	<b>7</b> - USB-C port
<b>3</b> - GPS LED	<b>8</b> - USB-C dust cover
<b>4</b> - QR Code	<b>9</b> - Brackets
<b>5</b> - MODE button	



### 3. Safety instructions

The following safety instructions include crucial information and guidelines to prioritise safety when interacting with the Signal Live v1 hub. Whether it is a user, visitor, or operator, these guidelines are designed to ensure a secure and worry-free experience. Converge strongly recommends that individuals carefully review and adhere to the provided instructions to guarantee a safe and reliable interaction with the hub.

#### 3.1. General Safety

- Inspect the device upon arrival to ensure it hasn't suffered damage during transit.
- Follow the instructions and guidelines provided by Converge with the product.
- Keep the devices in a well-ventilated area. Avoid covering it or placing heavy objects on top of the device.
- Do not attempt to disassemble or modify the device. Doing so will result in invalidating the warranty.

#### 3.2. Battery Safety

- Do not attempt to extract or replace the battery included in the device.
- Use only the power cable provided by Converge to charge the unit. Using an incompatible charger can be dangerous.
- Do not leave the devices charging for extended periods, as overcharging can lead to overheating and potential safety risks.
- Once the battery is fully charged, unplug it from the charger to prevent overcharging;

- If you are experiencing low energy performance, please contact customer support.

## 4. Getting started

### 4.1. What is in the box



The product package should contain the following items:

- The Signal Live v1 hub
- An AC power cable
- A Quick Start Guide

### 4.2. LED indicators

State	Colour	Description
Off	None	 <b>All 3 LEDs</b> are OFF
Setup	White	 <b>All 3 LEDs</b> turn white for 2 seconds then OFF
Searching for network	Blue	 <b>Cellular LED</b> flashes blue
Low battery (<20%)	Red	<b>Battery LED</b> is solid red. Charge the hub until the battery LED turns green.
Charging (if ON or OFF)	Amber	<b>Battery LED</b> is solid amber and turns green at 100%.

Good battery (>20%)	Green		<b>Battery LED</b> is solid green.
Poor cellular connectivity	Red		<b>Cellular LED</b> is solid red. Move the hub to find better cellular connectivity.
Good cellular connectivity	Green		<b>Cellular LED</b> is solid green.
Firmware update / serial recovery mode	Purple		<b>Cellular LED</b> is flashing purple. Wait for device to reboot.

## 5. How to set up and use the Signal Live Hub v1

### 5.1. Charging

To charge the Signal Live hub, the hub must be turned ON using the Power button and connected to a power supply using the USB-C charging port. Whilst charging, the battery LED will appear solid amber. Once the battery reaches 100%, it will appear solid green. The battery level will also be indicated on the Signal Live page, accessed by scanning the QR code on the Signal Live hub.

### 5.2. Booting up and finding network

When the Signal Live hub is turned ON, the hub will start booting up. The 3 LED indicators will turn ON for 2 seconds and then OFF. After booting up, the hub will start to search for a cellular network, with a flashing blue internet LED. Once it gains connection, the internet LED will display green.

### 5.3. Site assignment

Before using the Signal Live hub, it will need to be assigned to your jobsite in order for it to start

#### 5.3.1. Auto assignment

If there are already Signal devices registered on your jobsite, and the Signal Live hub detects these devices nearby when it is online, the Signal Live hub will automatically assign to the same site that the Signal devices are registered on. The Signal Live hub will appear in the Site Inventory on the Mobile App and platform.

#### 5.3.2. Manual assignment

If there are no Signal devices registered on your jobsite yet, the Signal Live hub can be manually assigned to the jobsite by scanning the QR code on the hub. Sign into your Converge account to view the Signal Live page, and select the jobsite on which you would like to use the Signal Live Hub on. If you do not see your jobsite available to you, please contact your Site Admin user to invite you to the relevant jobsite.

## 5.4. Firmware updates

From time to time, Converge may update the firmware on the Signal Live hub to have the latest system updates and improvements. Following the firmware update, the hub will automatically reboot and reconnect.

## 5.5. Connecting Signal devices to the Signal Live Hub v1

When connecting to Signal devices, the Signal Live Hub will connect to a maximum of 20 of the closest devices. These are displayed in the Site Inventory and the Signal Live page.

## 6. Troubleshooting problems

### 6.1. Why is the Signal Live hub not connecting to the network?

The Signal Live hub may be positioned in an area with no or poor internet connectivity. Relocate the hub to an area with a clear view of the sky and switch the device on again to scan for connectivity.

### 6.2. Why is the Signal Live hub not visible on the jobsite?

The Signal Live hub needs to be assigned to a jobsite for it to be visible in Site Inventory. This can be performed in two ways.

1. Auto assignment: the Signal Live hub will automatically assign to the same jobsite that the nearby Signal devices have been registered on.
2. Manual assignment: the Signal Live hub can be manually assigned through the Signal Live page by scanning the QR code on the hub.

### 6.3. Why is the Signal Live hub not detecting any Signal devices?

The Signal Live hub needs to be positioned closer to the Signal devices that it is intended to collect data from. Ensure that the hub is positioned 30ft or 10m from nearby devices. To check that it is in range of nearby registered devices, the list of connected devices can be viewed on the Signal Live page by scanning the QR code on the hub, or by viewing the Site Inventory on the platform.

## 7. Disposal of the Signal Live Hub v1

Converge Signal Live Hubs are not recyclable, and should not be disposed of in general household or commercial waste or in landfill. Please speak to the manufacturer for repairs or returns for potential refurbishment or part reuse.