

O3 Sensor Hub 2.0

Quick Start Guide

This guide describes how to install and set up the O3 Sensor Hub 2.0. To set up the hub, you will need an Android or iOS device with the O3 Setup app installed. You can get the app from Google Play or the App Store.

Installation

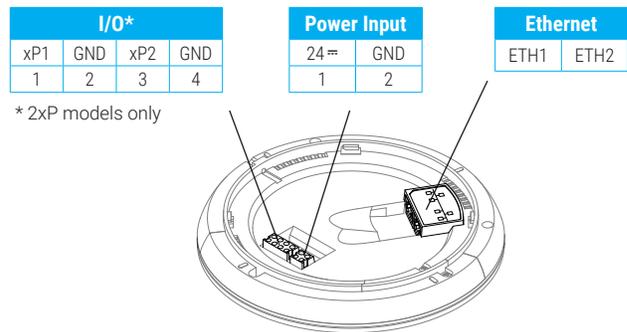
Installation shall be in accordance with all applicable electrical codes and regulations. Connect to a Class 2 power source only.

Wiring guidelines

The sensor hub requires a 24 VDC power supply.

- For power and I/O wiring, use 22–14 AWG 2-conductor copper wire.
- For network cabling, use Cat5e or Cat6 cables.

Earth ground all devices in the same circuit at the power supply. Up to 30 hubs can be daisy chained using the ETH2 port as long as the distance between hubs does not exceed 100 m (330 ft).



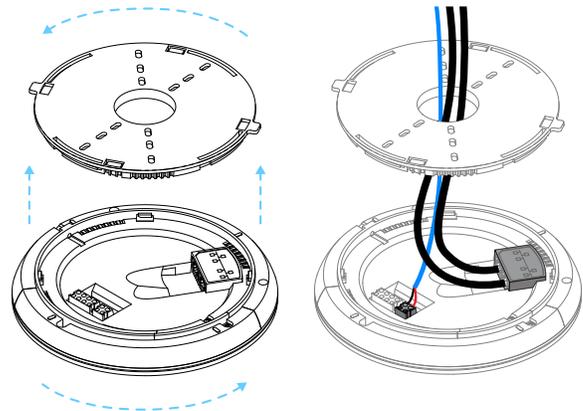
Placement guidelines

You can mount the sensor hub to a ceiling tile, finished ceiling, or junction box.

- The hub should be mounted 2.4 to 4.6 m (8 to 15 ft) off the floor.
- For best performance, place the hub in center of the room. Try to keep it at least 2.1 m (7 ft) away from windows or exterior walls.
- Choose a location where the motion sensor view is not obstructed by light fixtures, shelves, etc.
- Do not mount the hub next to hot or cold sources.
- Keep the hub at least 1.3 m (4 ft) away from ceiling diffusers and other sources of airflow.

Mounting the hub

1. If you are mounting the hub directly to the ceiling, cut a hole 32 mm (1¼ in.) in diameter and pull the wires through the hole.
2. Remove the backplate from the hub by twisting it counter-clockwise.
3. Pull the wires through the hole in the backplate.
4. Mount the backplate to the mounting surface using M4 (#8) screws.
5. Connect the power wires, I/O wiring (if present), and Ethernet cables to the sensor hub.
6. Re-attach the hub to the backplate. Line up the tabs on the hub with the notches on the backplate, hold the hub firmly against the backplate, then twist clockwise.
7. Turn on power to the hub. The light ring changes color during the boot sequence. When the light ring turns off, the hub is ready to use.



Setup

To set up the hub using the O3 Setup app, you must have Bluetooth® and location services enabled on your mobile device. For best performance, your device should support Bluetooth Low Energy (BLE) version 5.0 or later.

Configuring the hub

1. Open the O3 Setup app and select **Continue** to enter Lite Mode.
2. Select **Connect**. A list of nearby sensor hubs is displayed.
3. Select the hub you want to configure, then select **Verify**. The selected hub plays an audio/visual verification.
4. If this is the hub you want, select **Yes, connect to this hub**. The hub status changes to **Connected**.
5. Go to **Settings > BACnet**, select , select the BACnet protocol you want to use (**Ethernet** or **IP**), enter the corresponding BACnet settings for the hub, then select **Save**.
6. Go to **Settings > Security**, select , enter a 6-digit PIN to secure future Bluetooth connections to the hub, then select **Save**.
7. If you want to configure a self-hosted MQTT broker, go to **Settings > MQTT broker**, select , enable the broker, enter its address and port number, then select **Save**.
8. Select **Apply settings to hub**.

Calibrating the hub

1. After you have connected to the hub, in the O3 Setup app, go to **Settings > Calibration**, then select .
2. Measure the temperature directly below the hub at occupant height, enter the measured temperature in the **Actual temperature** field, then select **Save**.
3. If you plan to use the hub for lighting control, adjust the lighting in the space until it is at the desired brightness, then record the current hub reading in the **Desired light level** field and select **Save**. This setpoint can be retrieved later by the control system to set the feedback loop, etc.
4. Select **Apply settings to hub**.

Upgrading the hub's firmware (requires internet connection)

1. After you have connected to the hub, in the O3 Setup app, select  in the upper right corner of the screen, then select **Upgrade firmware**.
2. Under **Firmware upgrade method**, select **Select version from list**. A list of firmware versions is displayed.
3. Select the firmware version you want to upgrade to, then select **Apply firmware upgrade**.
4. Click **OK** to continue. The light ring is orange while the upgrade is in progress. When the light ring turns off, the hub is ready to use. Do not power off or reboot the hub while the light ring is orange.

Rebooting the hub

To reboot the hub, in the O3 Setup app, select  in the upper right corner of the screen, then select **Reboot hub**.