

O3™ Sensor Hub 2.0

Delta Controls' award-winning O3 Sensor Hub 2.0 uses industry-leading sensor fusion technology to deliver the most accurate view of an interior space available on the market.

Integrating temperature, humidity, motion, sound, and light sensing in a single device, the sensor hub uses machine learning to provide fast, accurate feedback on the monitored space.

The sensor hub is easy to install and can be configured out of the box with just a smartphone.



Application

With support for BACnet, MQTT, and BLE protocols, the O3 Sensor Hub 2.0 is an open platform IoT device that can integrate with almost any system.

Select models also come with two universal I/O points capable of controlling or accepting inputs from nearby devices—ideal for controlling light ballasts or chilled-beam ceiling valves.

Features

- Composite temperature, humidity, PIR motion, sound, and light sensors combined in a single device
- User feedback via speaker and full-color LED ring with customizable audio tones and colors
- Dual Ethernet connection for daisy-chaining in large spaces; provides pass-through communication even during power outages
- Configuration via mobile app
- BLE API for developing custom apps

Specifications

Temperature Sensors

Composite temperature value
± 0.5°C (± 1.0°F) typical with calibration

- Digital temperature sensor
± 0.5°C (± 1.0°F)
- Infrared temperature sensor
± 1.0°C (± 1.8°F) typical

Humidity Sensor

Accuracy ± 3% for 20% to 80% RH
@ 15°C to 30°C (59°F to 86°F)

Motion Sensor

Passive infrared (PIR) motion sensor

Motion sensing range:

- 9.1 m (30 ft) diameter @ 4.6 m (15 ft) mounting height
- 5.5 m (18 ft) diameter @ 2.4 m (8 ft) mounting height

Light Sensor

± (6+5% reading) lx

Audio Input

2 microphones for acoustic occupancy detection

LED Ring

Full color ring with 12 RGB LEDs

Universal Points (2xP models only)

Up to 2 inputs (16-bit), software configurable for the following types:

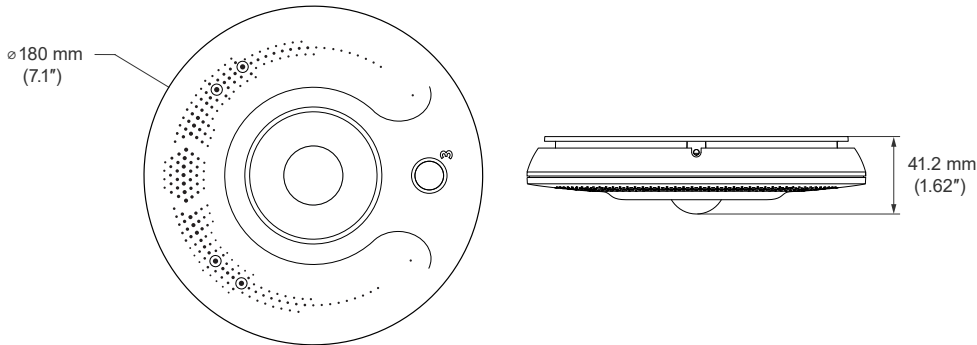
- 0–5 VDC
- 0–10 VDC
- 10 kΩ thermistor
- Dry contact (using 10 kΩ thermistor software setting)
- 4–20 mA (using external 250 Ω resistor on 0–5 V setting)

Up to 2 outputs (12-bit), software configurable for the following types:

- 0–10 V @ 20 mA max (sourcing)
- 1–10 V @ 10 mA max (sinking)

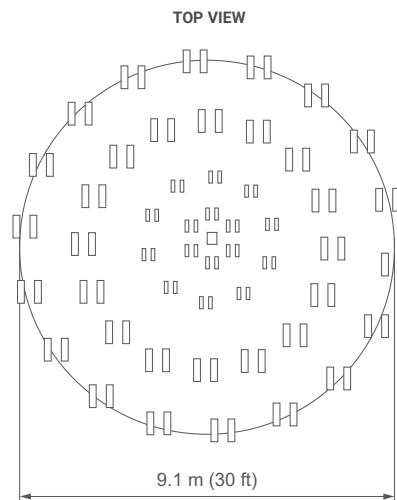
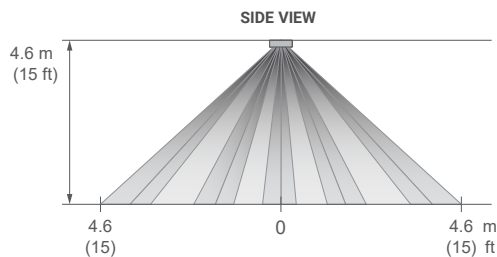
03 Sensor Hub 2.0

Dimensions



Passive Infrared Motion Coverage

Mounting Height	PIR Sensing Range
4.6 m (15 ft)	9.1 m (30 ft)
2.4 m (8 ft)	5.5 m (18 ft)



Ordering

03-HUB2	Sensor hub (temperature, humidity, light, motion), Bluetooth, LED ring, microphone and speaker, with mounting plate
03-HUB2-2xP	Sensor hub (temperature, humidity, light, motion), Bluetooth, LED ring, microphone and speaker, 2 universal I/O, input (0–10 V, 0–5 V, 10 kΩ) or output (20 mA source, 10 mA sink), with mounting plate

Specifications (Continued)

Audio Output

1.0 W mono speaker for tones and audio output

Connectors

Removable screw-type terminal connectors

Wiring Class

Class 2 / SELV

Power

24 VDC (20–28 VDC), 2 W typical, 9 W max (non-2xP) or 10 W max (2xP), Class 2

Technology

Arm® Cortex®-A7 MPU + Cortex-M4 MCU
256 DDR3L RAM
4 GB eMMC flash memory
Real-time clock (RTC)
Supercapacitor power backup for RTC

Communication Ports

Dual Ethernet (10/100Base-T)

Interfaces and Protocols

BACnet (BACnet/IP, BACnet/Ethernet)
MQTT
BLE 5.0

Ambient Rating

0°C to 45°C (32°F to 113°F)
10% to 95% RH (non-condensing)

Dimensions

180 × 41.5 mm (7.1 × 1.6 in.)

Weight

350 g (0.77 lb)

Compliance

CE
FCC/IC
NCC (in progress)

Listings

C-UL Listed
UL 916 Listed

Updated February 2021

Subject to change without notice.