O3 Sense

O3-SENSE-00 Edge Sensor

Description

Delta Controls' award-winning O3® Sense standalone multisensor 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, light, and occupant sensing in a single device, the O3 uses machine learning to provide fast, accurate feedback on the monitored space.

The O3 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 Sense is an open platform IoT device that can integrate with almost any system.

Features

▶ Composite temperature, humidity, PIR motion, sound, light, and occupant 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

Occupant Sensor
PIROE (passive infrared occupancy estimation) motion sensor

Audio Input
2 microphones for acoustic occupancy detection

LED Ring
Full color ring with 12 RGB LEDs

Audio Output
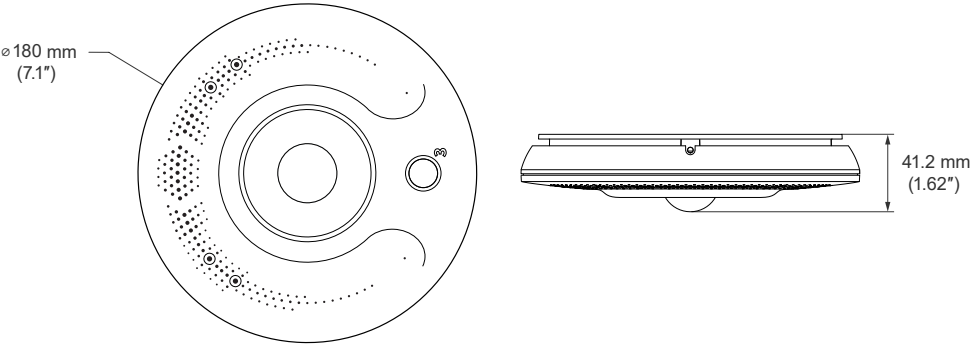1.0 W mono speaker for tones and audio output
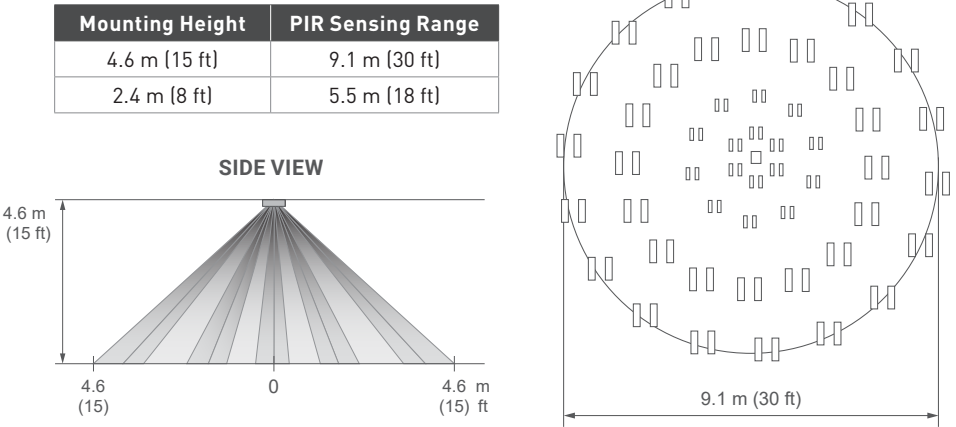
Connectors
Removable screw-type terminal connectors

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Dimensions

ø180 mm (7.1")

41.2 mm (1.62")

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)

TOP VIEW

SIDE VIEW

4.6 m (15 ft)

4.6 (15)   0   4.6 m (15) ft

9.1 m (30 ft)

Ordering

Order the O3 Sense using the following product number:

331738	O3-SENSE-00	Multisensor (temperature, humidity, light, motion, occupancy), Bluetooth, LED ring, microphone and speaker, with mounting plate
331758	O3-SENSE-00-B	Multisensor (temperature, humidity, light, motion, occupancy), black plastic, Bluetooth, LED ring, microphone and speaker, with mounting plate

Specifications (Continued)

Wiring Class
Class 2 / SELV

Power
24 VDC (20–28 VDC), 2 W typical,
9 W max, 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 × 41.2 mm (7.1 × 1.6 in.)

Weight
350 g (0.77 lb)

Compliance
CE
FCC/IC
NCC (in progress)

Listings
cULus 916 Listed

Updated January 2025

Subject to change without notice.

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