O3 Edge

O3-EDGE-02 Edge Controller

Description

Delta Controls' award-winning O3® Edge 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 fully programmable 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.

AHREXPO
INNOVATION AWARDS
WINNER
BUILDING AUTOMATION CATEGORY
2020

Application

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

It also comes 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

▶ Fully programmable using GCL+ or Node-RED flows

▶ 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

▶ Supports up to 32 EnOcean wireless devices*

▶ 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

Audio Output
1.0 W mono speaker for tones and audio output

LED Ring
Full color ring with 12 RGB LEDs

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

   0–5 VDC
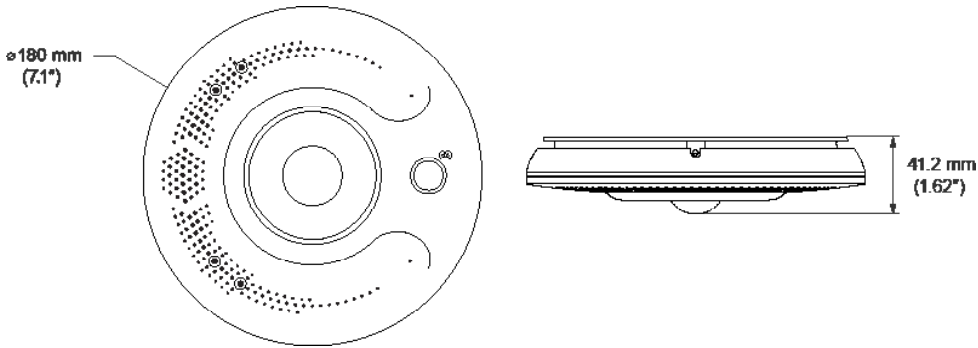   0–10 VDC
   10 kΩ thermistor
   Dry contact (using 10 kΩ thermistor software setting)
   4–20 mA (using external 250 Ω resistor on 0–5 V setting)
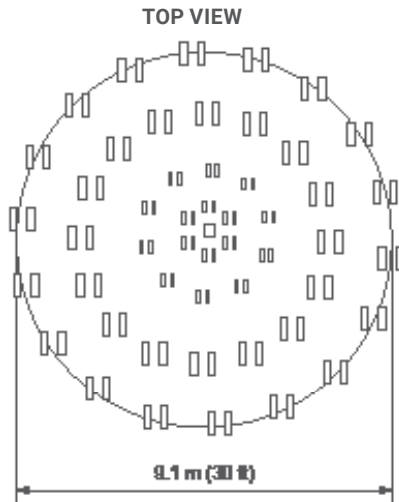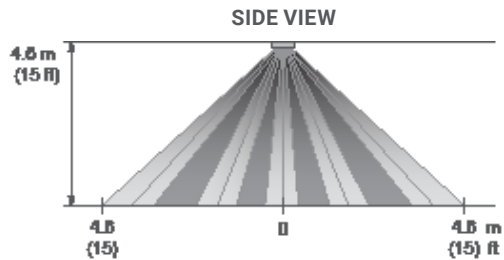
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O3 Edge

O3-EDGE-02 Edge Controller

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

9.1 m (30 ft)

SIDE VIEW

4.6 m (15 ft)

4.6 m (15) ft   0   4.6 m (15) ft

Specifications (Continued)

Universal Points (Continued)
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)

Connectors
Removable screw-type terminal connectors

Wiring Class
Class 2 / SELV

Power
24 VDC (20–28 VDC), 2 W typical, 10 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, BACnet/SC)
EnOcean (868 MHz or 902 MHz)
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)
EnOcean Level 2 Certification

Listings
cULus 916 Listed

Subject to change without notice.

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Ordering

Order the O3 Edge using the following product numbers:

331741	**O3-EDGE-02**	Multisensor (temperature, humidity, light, motion, occupancy), BLE, 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
331739	**O3-EDGE-02-E8**	Multisensor (temperature, humidity, light, motion, occupancy), BLE, EnOcean 868 MHz, 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
331740	**O3-EDGE-02-E9**	Multisensor (temperature, humidity, light, motion, occupancy), BLE, EnOcean 902 MHz, 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
331746	**O3-EDGE-02-S**	Multisensor (temperature, humidity, light, motion, occupancy), Ethernet Single Port, BLE, LED ring, microphone and speaker, 2 universal I/O, input (0-12 V, 0-5 V, 10 kΩ) or output (20 mA source, 10 mA sink), with mounting plate
331759	**O3-EDGE-02-E8-B**	Multisensor (temperature, humidity, light, motion, occupancy), black plastic, BLE, EnOcean 868 MHz, 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
331760	**O3-EDGE-02-E9-B**	Multisensor (temperature, humidity, light, motion, occupancy), black plastic, BLE, EnOcean 902 MHz, 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
331761	**O3-EDGE-02-B**	Multisensor (temperature, humidity, light, motion, occupancy), black plastic, BLE, LED ring, microphone and speaker, 2 universal I/O, input (0-12 V, 0-5 V, 10 kΩ) or output (20 mA source, 10 mA sink), with mounting plate
331766	**O3-EDGE-02-S-B**	Multisensor (temperature, humidity, light, motion, occupancy), black plastic, Ethernet Single Port, BLE, LED ring, microphone and speaker, 2 universal I/O, input (0-12 V, 0-5 V, 10 kΩ) or output (20 mA source, 10 mA sink), with mounting plate

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