



EC-Multi-Sensor-BLE



Overview

The EC-Multi-Sensor-BLE is a compact, "4-in-1" communicating device. With just one wire and one connection, this compact device effectively combines (1) a motion detector, (2) a light sensor, (3) a temperature sensor, and (4) a *Bluetooth*® low energy technology transceiver for the wireless control of comfort from a mobile phone.

The sensor can be directly connected to an ECLYPSE™ Series controller or to an expansion module with a digital RJ-45 link or daisy-chained using an ECx-Subnet-Adapter. It can be used alone, or together with a mobile application.

Applications

- Bluetooth low energy technology transceiver enables the use of a mobile application, which empowers a room occupant to easily adjust the comfort parameters in a room (lighting, sunblind, temperature, and fan speed)
- Achieve energy efficiency:
 - through occupancy-based control with motion sensor to readjust the space temperature setpoint, and to manage lighting and sunblind position,
 - and luminosity sensing to automatically adjust the light power to the required light level
- Discreet temperature sensor for ceiling temperature measurement in areas where a wall sensor cannot be used

Features & Benefits

Mobile App Compatibility

The EC-Multi-Sensor-BLE is able to establish a bi-directional communication between the Bluetooth low energy technology transceiver and a mobile app, where the transceiver receives signals and sends system state feedback. This direct connection allows for easy access through your smartphone to modify room comfort parameters from anywhere within range.

"4-in-1" Communicating Device

Multi-sensing capabilities (luminosity, motion sensing, and temperature) and Bluetooth low energy connectivity.

Compact Design

A compact style with clean lines and a slim profile easily blends in when installed in any setting.

Optimize Energy Use

Optimize energy use according to real-time conditions: control heating and cooling setback through motion sensing and temperature measurement and control lighting through occupancy detection.

Luminosity Sensor

The luminosity sensor features human-eye response for precise illuminance measurement under diverse lighting conditions, allowing you to manage efficiently additional artificial light to reduce energy wastage.

LED Indicator

An integrated LED indicator facilitates the localization and commissioning of the sensor on site. It also serves as a pairing indicator when occupants use the mobile application to interact with the transceiver.

Quick and Easy Installation

Both power and communications pass through a single Cat 5e cable for reduced installation costs and for easier installation. Furthermore, the EC-Multi-Sensor-BLE is directly addressable via a rotary switch to facilitate configuration.

Quick-link Connectors

This device features quick-link connectors, accelerating installation time by up to 75% and reducing potential wiring errors.

Daisy-chaining Capabilities

Daisy-chaining allows for flexible interconnection with other devices according to the actual room characteristics.

Daisy-chaining multi-sensors requires the use of an ECx-Subnet-Adapter (not provided).

Model Selection

EC-Multi-Sensor-BLE	
Corresponding Data Technology	Bluetooth low energy technology
Motion	■
Luminosity	■
Temperature	■
Connector	RJ-45

Accessories

Patch Cords



A large selection of patch cord lengths, pre-fitted with protective boot and dust cap – For use in conduit or plenum applications.

Cat 5e Cable



Spool of Cat 5e Cable – Without Connectors. For use in conduit or plenum applications.

Patch Connector Kit



100 Crimp RJ-45 Connectors

ECx-Subnet-Adapter



RJ-45 splitter for EC-Multi-Sensor-BLE daisy chaining

Product Specifications

Power

Voltage _____ 16 VDC maximum; Class 2

Consumption _____ < 0.3 W

Environmental

Operating Temperature _____ +5°C to 40°C (41°F to 104°F)

Storage Temperature _____ -20°C to 70°C (-4°F to 158°F)

Relative Humidity _____ 20% to 90% Non-condensing

Enclosure

Material _____ ABS

RoHS _____ All materials and manufacturing processes comply with the RoHS directive.

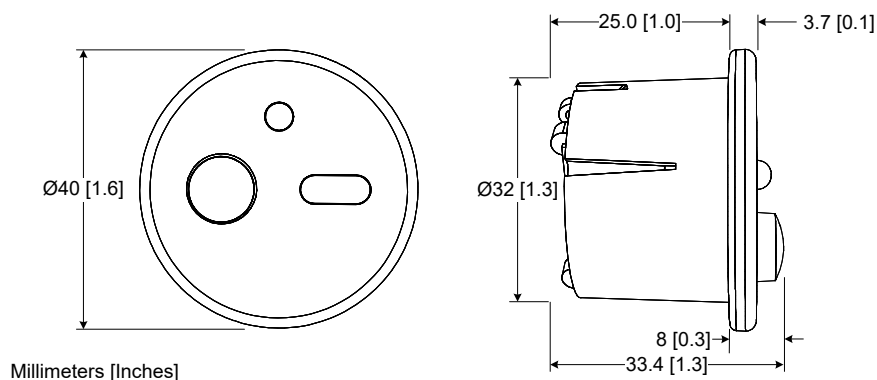
WEEE _____ All products are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive.

Color _____ White

Overall dimensions: _____ Ø 40 x 33.4 mm (1.6 x 1.3")

Visible part _____ Ø 40 x 8 mm (1.6 x 0.3")

Recessed part _____ Ø 32 x 25.7 mm (1.3 x 1.0")



Shipping box size _____ 118 x 100 x 48 mm (4.7 x 3.9 x 1.9")

Shipping weight _____ 0.14 kg (0.3 lbs)

Installation _____ In-ceiling mounting, fixed by a supplied fixing system

IP Rating _____ IP20 in accordance with IEC 60529

Enclosure material _____ ABS

Enclosure rating _____ Plastic housing, UL94V-1

Wireless Communication

Type _____ Bluetooth v4.2

Frequency _____ 2402-2480 MHz

Carrier Power _____ -9.18 dBm

Temperature Sensor¹

Type _____ 10 k Ω NTC Thermistor

Range _____ +5°C to +40°C (41°F to 104°F)

1. As the sensor is directly installed in ceilings, it is not recommended to use its temperature sensor as the input of a space temperature control loop. The temperature sensor should only be used as a backup sensor.

Luminosity Sensor

Type _____ Photodiode

Response type _____ Human eye response

Range _____ 0-4000 lux

Motion Sensor

Optic _____ 16-face Fresnel lens

Type _____ Quad type passive infrared element

Rated detection distance _____ 16ft (5m) maximum

Speed Range _____ 1.0m/s

Minimum temperature difference between target and surroundings _____ 4°C (7.2°F)

Detection range:

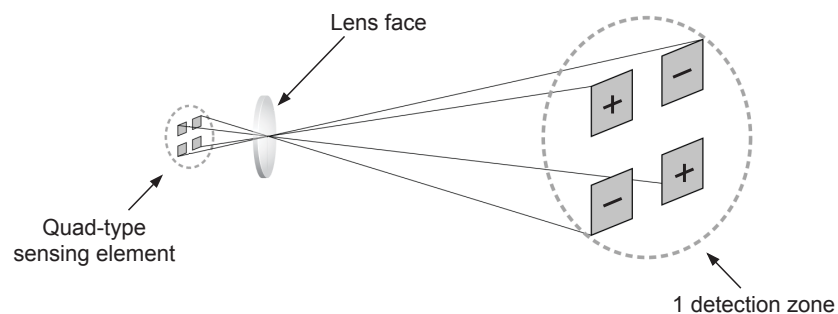
Length _____ 94°

Sensor height	Detection range
2.5 m (8.2 ft)	5.4 m (17.7 ft)
3.25 m (10.67 ft)	7.0 m (23.0 ft)
4 m (13.1 ft)	6.0 m (19.7 ft)

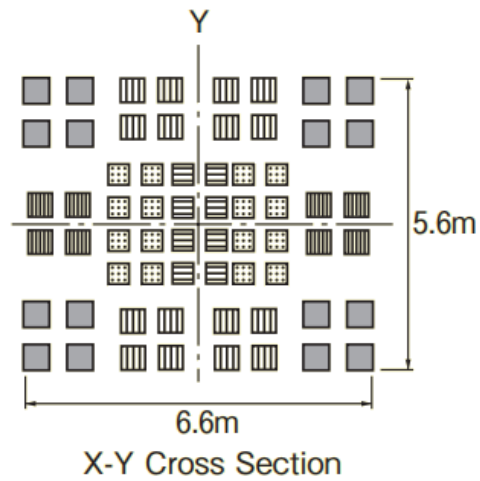
Width _____ 82°

Detection zones _____ 64 zones

Operating principle

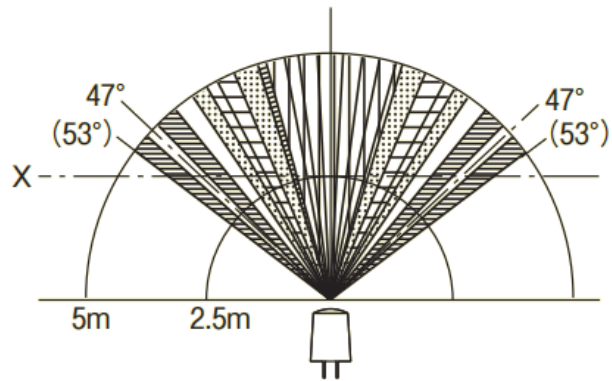


Detection area for a 3.25 m high sensor

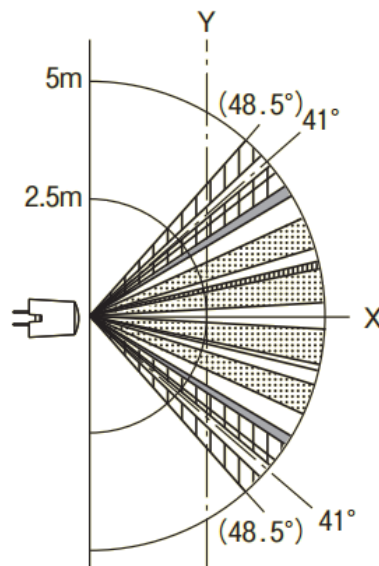


Projection ranges

- Top view



- Side view



Subnetwork

Compatible Controllers _____ ECY-PTU/TU, ECY-VAV, ECY-303, ECY-S1000
Topology _____ Daisy-chain using an ECx Subnet Adapter (not provided)
Maximum total subnetwork length _____ 100m (328ft)
EOL Termination _____ Jumper selectable
Addressing _____ Rotary switch (integrated)
Connection _____ RJ-45
Cable _____ T568B Cat 5e network cable, 4 twisted pairs



A mixed architecture with standard room devices and Bluetooth low energy enabled devices is not recommended.

Standards and Regulation

CE - Emission _____ EN 61000-6-3: 2007 + A1: ed.2011 - Generic standards for residential, commercial and light-industrial environments
CE - Immunity _____ EN 61000-6-1: 2007 - Generic standards for residential commercial and light-industrial environments
CE - Radio _____ EN 300 328 V2.1.1 November 2016 - Wideband transmission systems
Data transmission equipment operating in the 2.4GHz ISM and using wide band modulation
FCC _____ This device complies with FCC rules part 15, subpart B, class B
UL Listed (CDN & US) _____ UL916 Energy management equipment
Plenum Rated _____ UL Standard 2043



Specifications subject to change without notice.

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