EC-Multi-Sensor Series

Overview

The combines a motion detector, a light sensor, a temperature sensor, and an infrared receiver in a single compact device.

This allows to receive input signals from remote controls and to acquire presence, light level and temperature information to control all comfort parameters in a room according to the occupancy status.

The sensor can be directly connected to a 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 remote control.

Applications

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

Features & Benefits

"4-in-1" Communicating Sensors

Multi-sensing capabilities (temperature, luminosity, and motion sensing) and infrared reception using one wire and one connection.

Optimize Energy Use

Optimize energy use according to the actual building's conditions: control heating and cooling setback through motion sensing and temperature measurement and control lighting through occupancy detection.

Improved Occupancy Detection

The multi-sensor compact style allows for discreet in-ceiling installation, leading to optimized motion sensing performances.

Moreover, the motion sensing sensitivity is adjustable to fine tune presence 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.

Quick and Easy Installation

Both power and communications pass through a single Cat 5e cable for reduced installation costs and for easier installation.

Two RJ-45 ports facilitate the daisy-chain connections of room devices.

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

			
Model	**EC-Multi-Sensor-M**	**EC-Multi-Sensor-ML**	**EC-Multi-Sensor-MLT**
Corresponding Remote Control Data Transmission Technology	Infrared	Infrared	Infrared
Motion	■	■	■
Luminosity		■	■
Temperature			■
Connector	RJ-45	RJ-45	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 daisy chaining

EC-Remote-I Series

Line of multi-function infrared remote controls for lighting, sunblind and HVAC management.

Product Specifications

Power

Voltage — 15 VDC maximum; Class 2

Consumption — < 0.25 W

Environmental

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

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

Relative Humidity — 20% to 90% Non-condensing

Enclosure

Material — ABS

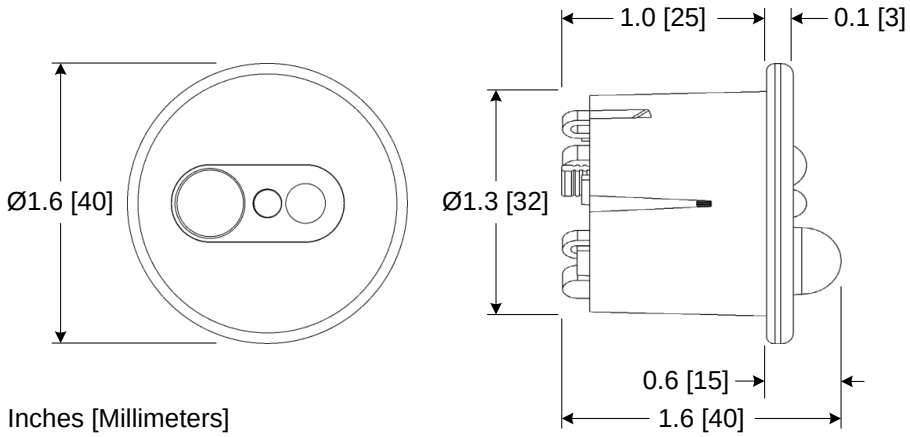
RoHS — All materials and manufacturing processes comply with the RoHS directive.

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

Color — White

Overall dimensions: — Ø1.6 × 1.6" (Ø40 × 40 mm)

- Visible part — Ø 1.6” x 0.6” (Ø 40 x 15 mm)
- Recessed part — Ø 1.3” x 1.0” (Ø 32 x 25 mm)



Inches [Millimeters]

Shipping box size — 4.7 × 3.9 × 1.9" (118 × 100 × 48 mm)

Shipping weight — 0.30lbs (0.14 kg)

Installation — In-ceiling mounting, fixed by a supplied rear spring

IP — 20

Temperature Sensor[1]

Type — 10 kΩ NTC Thermistor

Range — +5°C to +40°C

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.

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

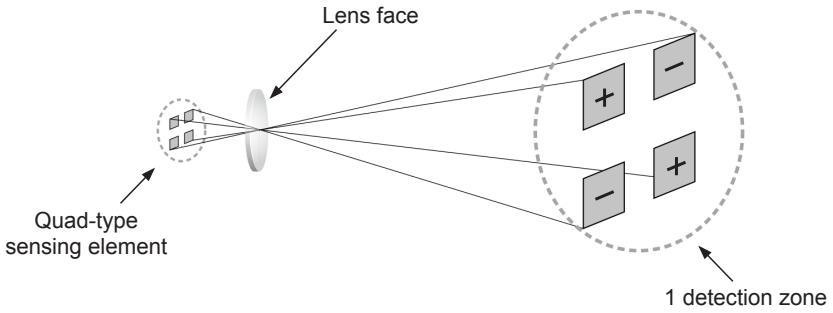
Speed Range — 100 to 300ft/m (0.5 to 1.5m/s)

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

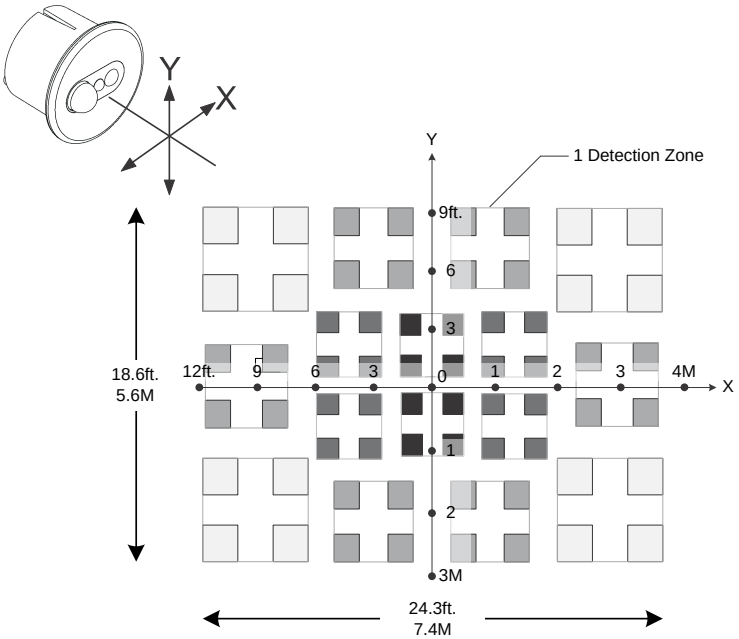
Detection range:

- Length — 100°
- Width — 82°
- Detection zones — 64 zones

Operating principle

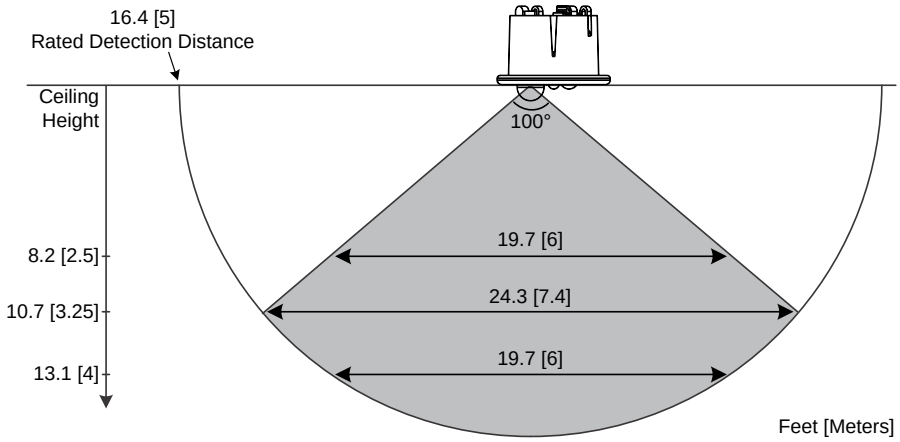


Detection area for a 3.25 m high sensor:

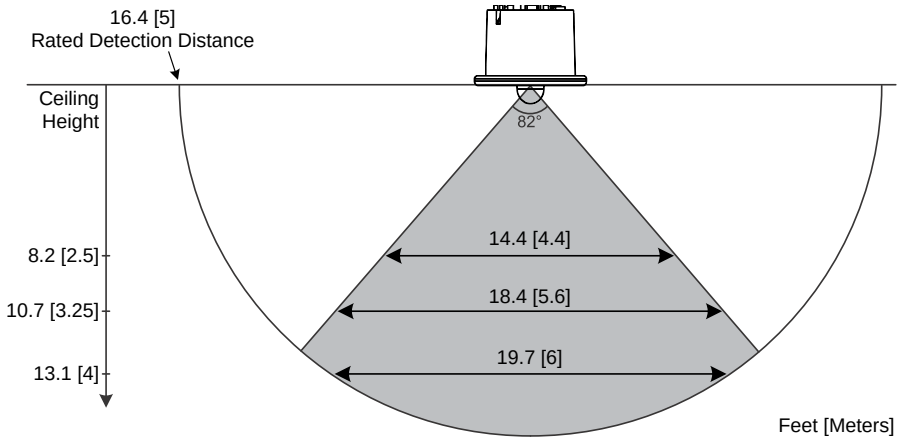


Projection ranges:

- Length:



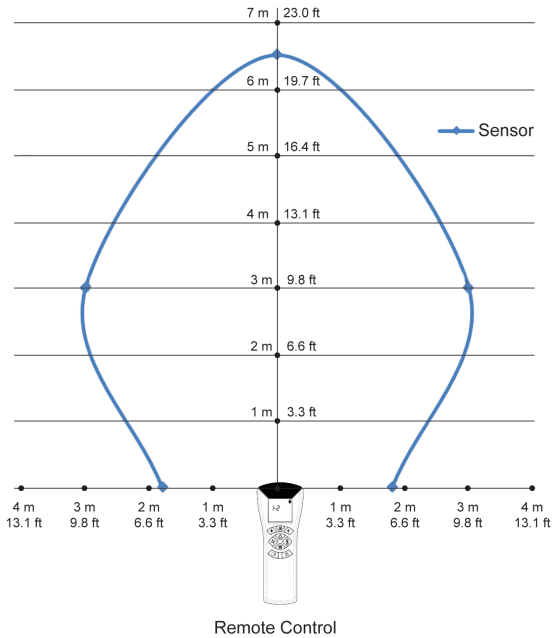
- Width:



Infrared Reception Range

Compatible devices

- Sight range:



Subnetwork

Compatible Controllers	ECY Series controllers ECB-PTU Series controllers ECL-PTU Series controllers ECB-VAV controller ECL-VAV controller
Topology	Daisy-chain using an ECx Subnet Adapter (not provided)
Maximum total subnetwork length	600ft (180m)
Maximum length between two consecutive devices	100ft (30m)
Number of expansion modules	Depending on the master HVAC controller
EOL Termination	Jumper selectable
Addressing	Rotary switch (integrated), or using a remote control (not provided)
Connection	RJ-45
Cable	T568B Cat 5e network cable, 4 twisted pairs

Standards and Regulation

Material	UL94V0
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
FCC	This device complies with FCC rules part 15, subpart B, class B
UL Listed (CDN & US)	UL 61010-1 Safety Requirements For Electrical Equipment For Measurement Control, And Laboratory Use - Part 1: General Requirements - Edition 2 - Revision Date 2008/10/28 CSA C22.2 NO. 61010-1 Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory Use - Part 1: General Requirements – Edition 2 - Revision Date 2008/10/01 File number: E352591