

EC-Multi-Sensor



Overview

The EC-Multi-Sensor Series 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.

Features & Benefits

- Multi-sensing capabilities (motion, luminosity, and temperature) and infrared reception using one wire and one connection
- Compact style and discreet in-ceiling installation
- Control heating and cooling setback through motion sensing and temperature measurement
- Control lighting through occupancy detection and luminosity sensing
- Both power and communications pass through a single Cat 5e cable for reduced installation costs and for easier installation
- Daisy-chaining capabilities for maximum adjustment to the actual room characteristics (requires an ECx-Subnet-Adapter – not provided)
- Compatible with the EC-Remote Series for management of all the room comfort parameters
- Directly addressable via a rotary switch to facilitate configuration

Model Selection

Example: EC-Multi-Sensor-ML

Series	Options
EC-Multi-Sensor-	M: Motion only ML: Motion, Luminosity MLT: Motion, Luminosity, Temperature (to be used as a backup sensor)

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	Required for daisy-chaining the ECx-Display and the EC-Multi Sensor with other subnet devices
EC-Remote-I Series	Line of multi-function infrared remote controls for lighting, sunblind and HVAC management.

Product Specifications

Power Supply Input

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 (See Figure 1)	Ø1.6 × 1.6" (Ø40 × 40 mm) Visible part: Ø 1.6" × 0.6" (Ø 40 × 15 mm) Recessed part: Ø 1.3" × 1.0" (Ø 32 × 25 mm)
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

Type	10 kΩ NTC Thermistor
Range	+5°C to +40°C



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	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°
Detection range width	82°
Detection range zones	64 zones
Operating principle	See Figure 2
Detection area	See Figure 3
Projection ranges	See Figures 4 and 5

Infrared Reception Range

Compatible devices	EC-Remote-I Series
Sight range	See Figure 6

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 regulations

Material	UL94V0
CE Emission	EN 61000-6-3: 2007 + A1: ed.2011
CE Immunity	EN 61000-6-1: 2007
FCC	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



Dimensions

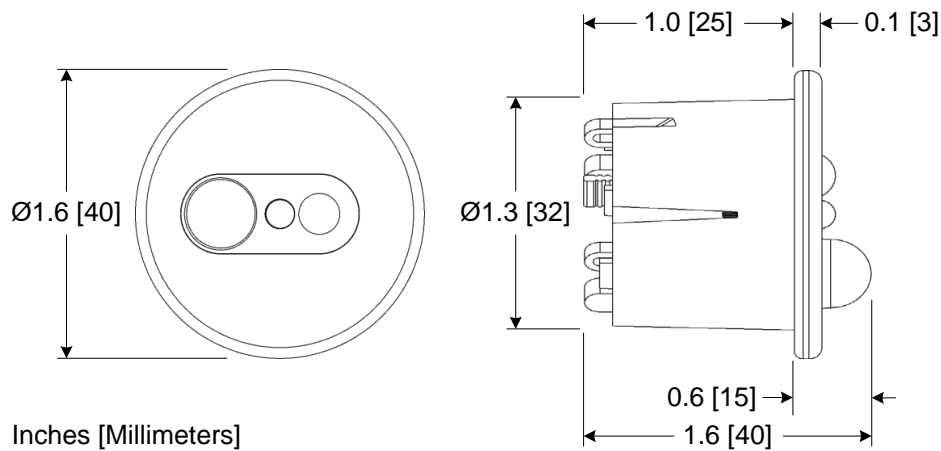


Figure 1: Dimensions

Detection Areas and Ranges

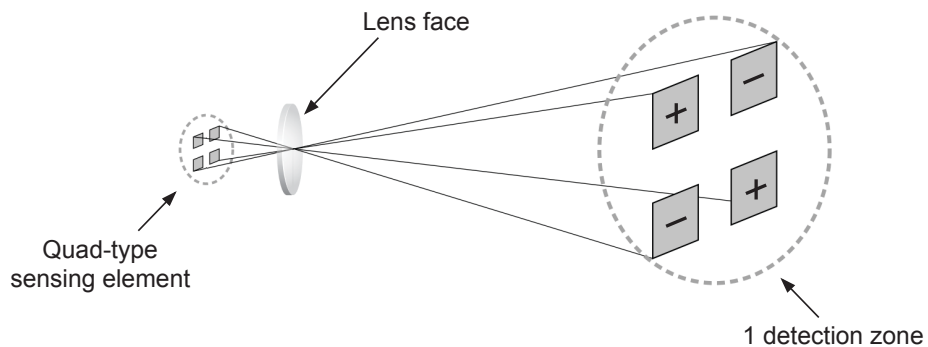


Figure 2: Operating principle

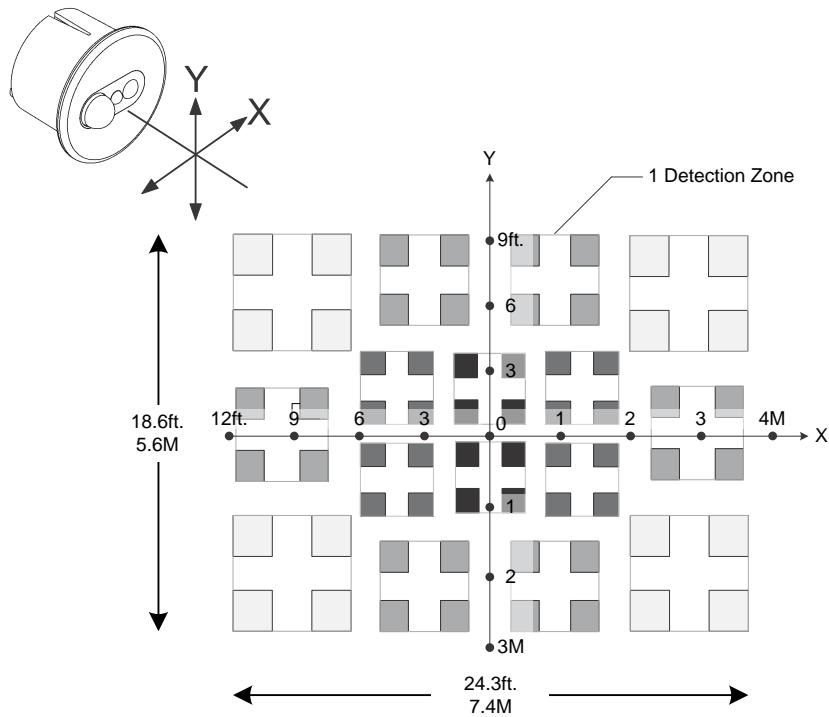


Figure 3: Detection area for a 3.25 m high sensor

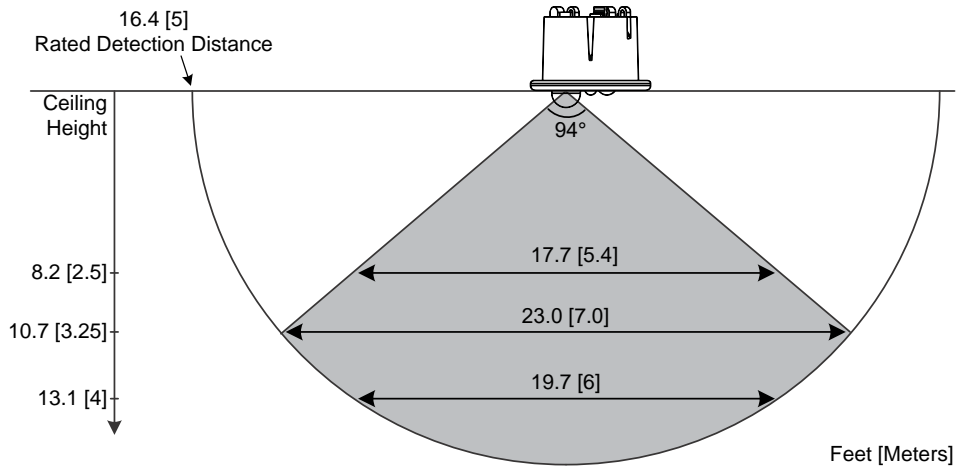


Figure 4: Projection ranges - Length

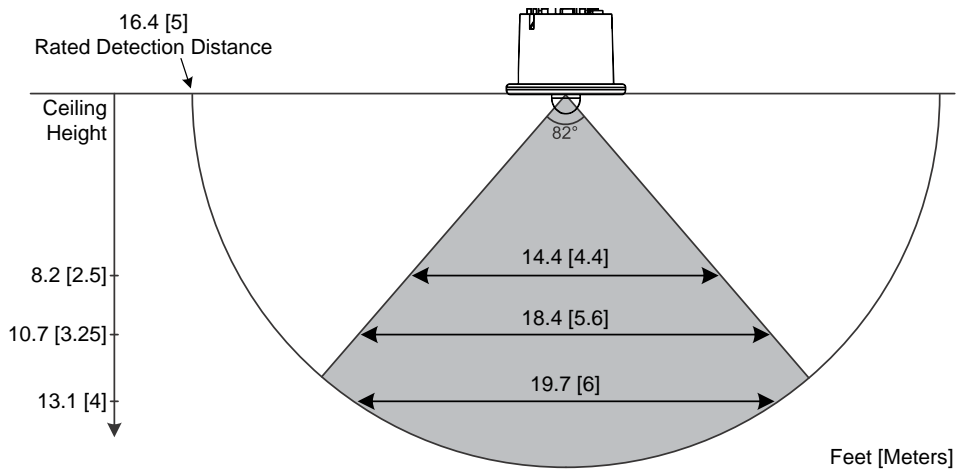
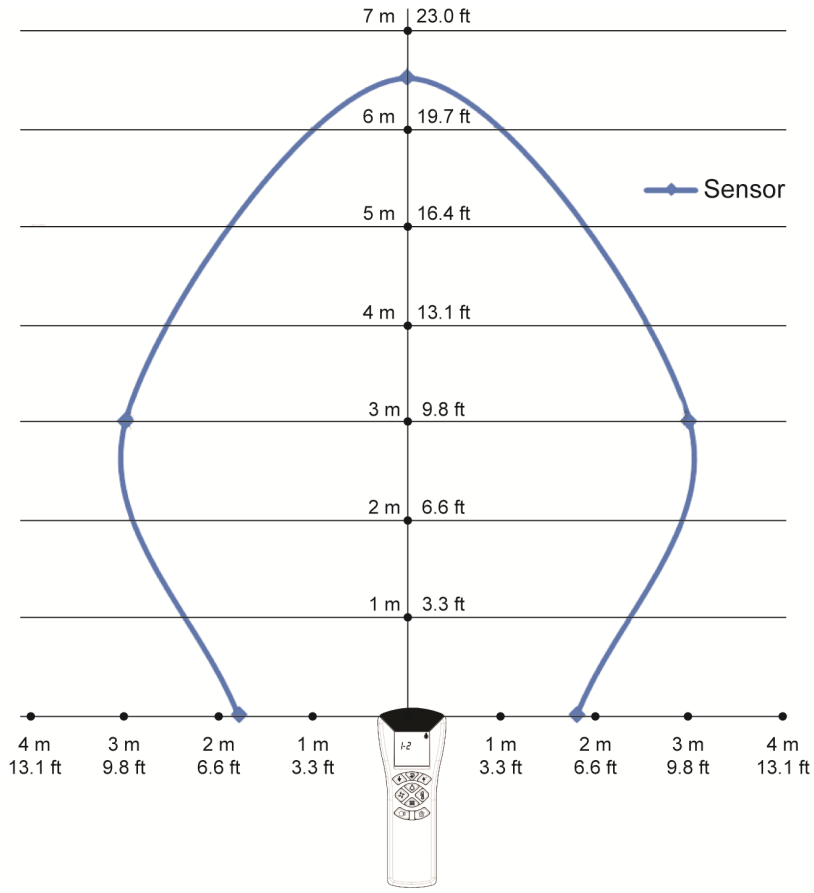


Figure 5: Projection ranges - Width



Remote Control

Figure 6: Infrared Reception Range - Sight Range

Specifications subject to change without notice.

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