

EC-Multi-Sensor Series

Ceiling mounted infrared multi-sensors offering motion, light, and temperature sensing



Overview

The **EC-Multi-Sensor Series** combines a motion detector, light sensor, temperature sensor, and infrared receiver in a single compact device.

This allows the ECL-PTU Series and ECB-PTU Series controllers, as well as ECL-VAV and ECB-VAV controllers to receive input signals from EC-Remote Series 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 EC-Multi-Sensor can be directly connected to a controller or an add-on module with a digital RJ45 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
 - Luminosity sensor to automatically adjust the light power to the required light level
- Infrared receiver enables the use of the EC-Remote remote control, 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 - one wire, one connection, three (3) sensing capabilities (temperature, luminosity, and motion sensing) and infrared reception
- Optimize energy use according to the actual building's conditions:
 - Control heating and cooling setback through motion sensing and temperature measurement
 - Control lighting through occupancy detection
- Compact style and discreet in-ceiling installation for optimized motion sensing performances
- Adjustable motion sensing sensitivity to fine tune presence detection
- Luminosity sensor features human-eye response for precise illuminance measurement under diverse lighting conditions
- Both power and communications pass through a single Cat 5e cable for reduced installation costs and for easier installation or system retrofit
- 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 a user-friendly management of all the room comfort parameters
- Directly addressable via a rotary switch to facilitate configuration

EC-Multi-Sensor Series



Model	EC-Multi-Sensor-M	EC-Multi-Sensor-ML	EC-Multi-Sensor-MLT
Technology	Infrared	Infrared	Infrared
Motion	■	■	■
Luminosity		■	■
Temperature			■
Connector	RJ-45	RJ-45	RJ-45

Complementary Products

Patch Cords



9 m (30 ft) to 30 m (100 ft) patch cord with protective boot and dust cap – For use in conduit or plenum applications.

Cat 5e Cable



300 m(1000 ft) Cat 5e Cable – Without Connectors. For use in conduit or plenum applications.

Patch Connector Kit



100 Crimp RJ-45 Connectors

ECx Subnet Adapter



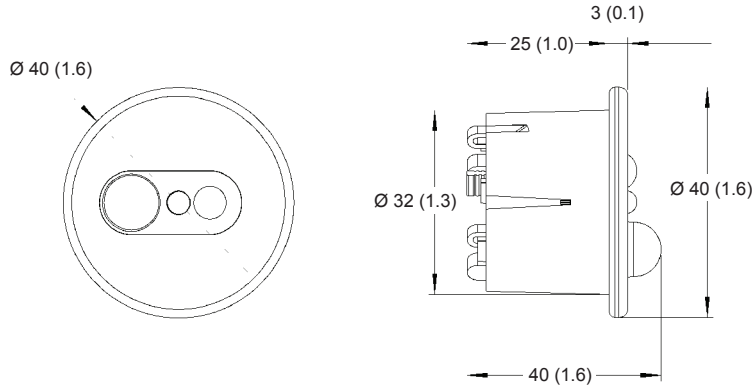
RJ-45 splitter for EC-Multi-Sensor daisy chaining

EC-Remote-I Series



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

Dimensions



Units: mm (inches)

Specifications

Power

Voltage	15 VDC maximum; Class 2
Consumption	< 0.25 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 type PA-765A
Color	White
Overall dimensions:	$\varnothing 40 \times 40$ mm ($\varnothing 1.6'' \times 1.6''$)
- Visible part	$\varnothing 40 \times 15$ mm ($\varnothing 1.6'' \times 0.6''$)
- Recessed part	$\varnothing 32 \times 25$ mm ($\varnothing 1.3'' \times 1.0''$)
Shipping box size	118 x 100 x 48 mm (4.7'' x 3.9'' x 1.9'')
Shipping weight	0.14 kg (0.30 lbs)
Installation	In-ceiling mounting, fixed by a supplied rear spring
IP	20

Temperature Sensor

Type ¹	10 k Ω NTC Thermistor
Range	-+5°C to +40°C (41°F to 104°F)

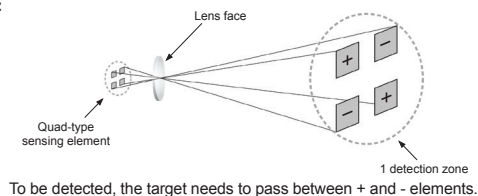
Luminosity Sensor

Type	Photodiode
Response type	Human eye response
Range	0-4000 lux

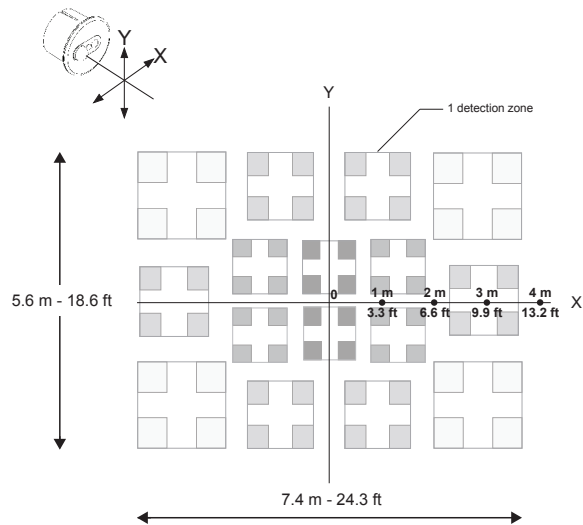
Motion Sensor

Optic	16-face Fresnel lens
Type	Quad type passive infrared element
Rated detection distance	5 m (16 ft) maximum
Speed Range	0.5 m/s to 1.5 m/s (100 ft/m to 300 ft/m)
Minimum temperature difference between target and surroundings	4°C (7.2°F)
Detection range	
Length	100°
Width	82°
Detection zones	64 zones

Operating principle:

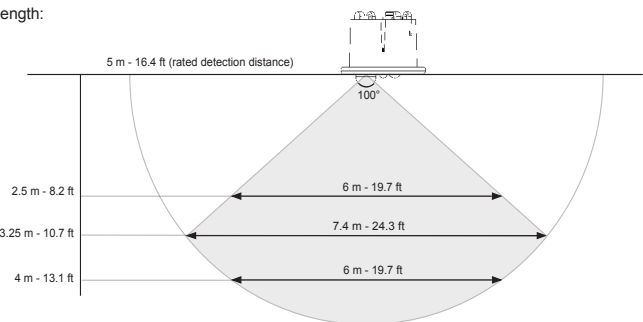


Detection area for a 3.25 m (10.7 ft) high sensor:

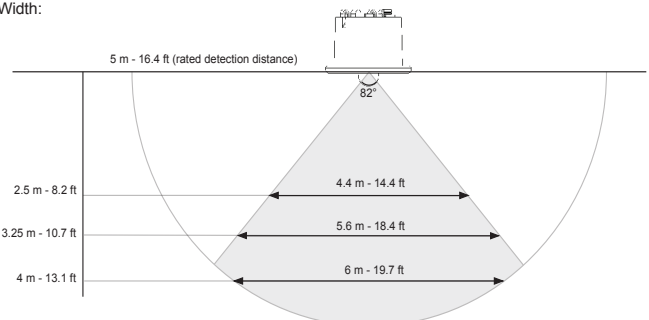


Projection ranges:

Length:



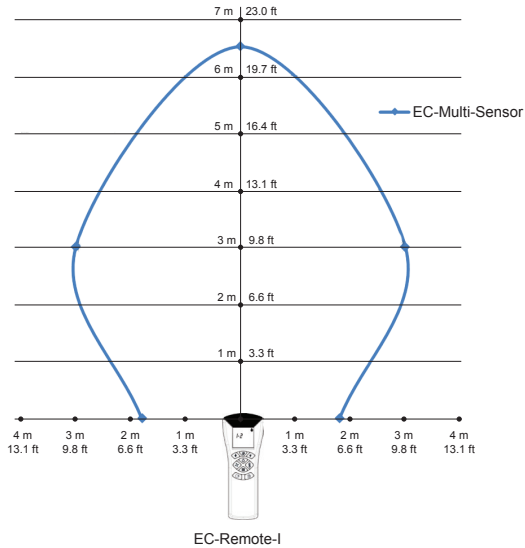
Width:



Specifications (continued)

Infrared Reception

Compatible devices EC-Remote-I Series
Sight range:



Subnetwork

Compatible controllers¹ 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 180 m (600 ft)

Maximum length between two consecutive devices 30 m (100 ft)

Number of expansion modules Depending on the master HVAC controller¹

EOL Termination Jumper selectable

Addressing Rotary switch (integrated), or using an EC-Remote (not provided)

Connection RJ-45

Cable T568B Cat 5e network cable, 4 twisted pairs

Standards and Regulation

Material UL94V0

CE - Emission IEC61000-6-3: 2006 + A1: ed.2010 Generic standards for residential, commercial and light-industrial environments

CE - Immunity IEC61000-6-1: 2005; 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

1. As the EC-Multi-Sensor is directly installed in ceilings, Distech Controls does not recommend using its temperature sensor as the input of a space temperature control loop.

Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards. Distech Controls is an ISO 9001 registered company.

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