



COOPER Lighting ECS-Z-M05-LV WaveLinx Pro Insights Ceiling Sensor Instruction Manual

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WARNING



IMPORTANT: Read carefully before installing the product. Retain for future reference.

Risk of Fire, Electrical Shock, Cuts, or other Casualty Hazards- Installation and maintenance of this product must be performed by a qualified electrician. This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved. For continued protection against shock, and hazards replace all covers and guards after field wiring is completed.



Risk of Fire and Electric Shock- Before installing or performing any service, the power **MUST** be turned OFF. All installations should be in compliance with the National Electric Code and all state and local codes.



Risk of Burn- Disconnect power and allow product to cool before handling or servicing.



Risk of Personal Injury- Due to sharp edges, handle with care.

Failure to comply with these instructions may result in death, serious bodily injury, and property damage.

DISCLAIMER OF LIABILITY: Cooper Lighting Solutions assumes no liability for damages or losses of any kind that may arise from the improper, careless, or negligent installation, handling, or use of this product.

NOTICE: The product may become damaged and/or unstable if not installed properly.

Note: Specifications and dimensions are subject to change without notice.

ATTENTION Receiving Department: Note the actual product description of any shortage or noticeable damage on the delivery receipt. File claim for common carrier (LTL) directly with the carrier. Claims for concealed damage must be filed within 15 days of delivery. All damaged material, complete with original packing must be retained.

NOTICE: Designed for indoor installation and use only. Dry location rated.

Do not mount near gas or electric heaters.

Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.

The use of accessory equipment is not recommended by Cooper Lighting Solutions as it may cause an unsafe condition.

Do not use this equipment for other than the intended use.

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Warranties and Limitation of Liability

Please refer to www.cooperlighting.com for our terms and conditions.

FCC Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Part 15 Clause 15.21 Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Part 15.19a This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

FCC 2.1093/RSS-102 This product complies with the RF exposure limit set forth for an uncontrolled environment and is safe for intended operation as described in this manual.

ISED RSS

This device complies with Industry Canada's license-exempt RSS. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device. CAN ICES-003(B)/NMB-003(B).

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

General Information

Overview

The WaveLinx Pro Insights ceiling sensor is an integral part of the WaveLinx Pro System and offers Occupant count, Passive Infra-Red (PIR) occupancy sensing, daylighting, temperature, and humidity capability. This sensor has Occupant count and Occupancy coverage patterns of up to 600 square feet, it is low voltage powered and is one of the smartest ceiling-mounted sensors for multi-sensing in the market. The sensor operates on a wireless mesh network based on IEEE802.15.4 standards.

Plenum rating

The WaveLinx Pro Insights ceiling sensor components intended for installation above the ceiling are plenum rated.

Specifications

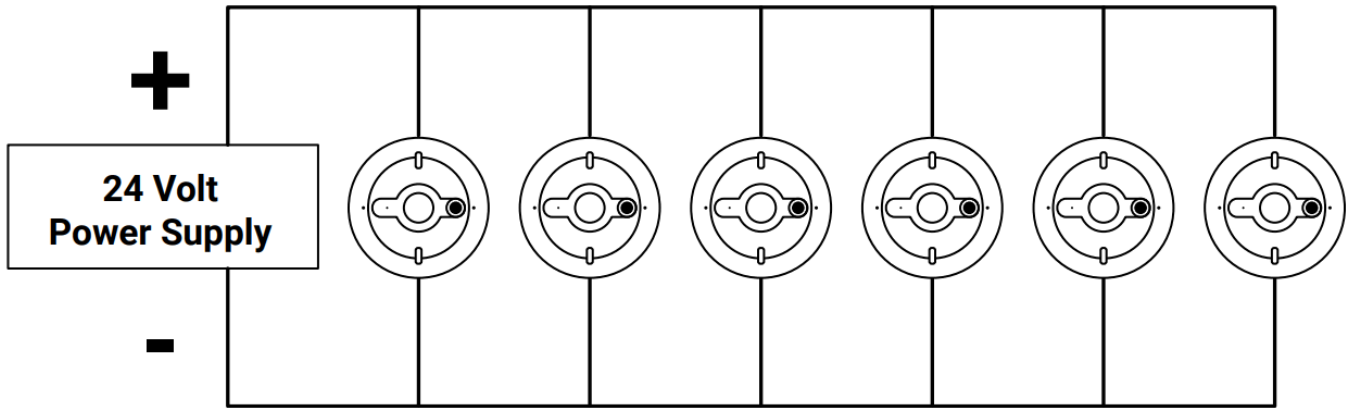
Compatible only with Cooper Lighting Solutions Lighting WaveLinx Pro Wireless Systems.

Power	Input power: 120/277VAC Connections: Hot, Neutral
Indicators	LED functionality •Indication of wireless network connection •Indication of daylight hold-off
Environmental Specifications	Operating Temperature Range: -4°F – 131°F (-20°C – 55°C) Storage Temperature Range: -40°F – 158°F (-40°C – 70°C) Relative Humidity: 5% to 95% non-condensing, for indoor use only
Standards	Listings: UL/cUL Listed, FCC, IC UL244A – Appliance Control /Creepage and Clearance UL 508/NEMA 410 Industrial Control Equipment UL 2043 (Plenum installation) Meets latest ASHRAE Standard 90.1 requirements Meets latest IECC requirements Meets latest CEC Title 24 requirements
Wireless Specifications	Radio 2.4GHz Standard IEEE 802.15.4 Configuration type Router, End Point Range 75ft (25m) LOS 2 interior walls of standard construction Best practice: 100 devices per Wireless Area Controller
Mounting Height	8-12ft (2.4 – 3.7m)

Wiring

The unit is powered by a 24VDC power supply. Please make sure the correct polarity is used for the power supply connections.

6 WaveLinx Pro Insights Sensors connected to 1 power supply

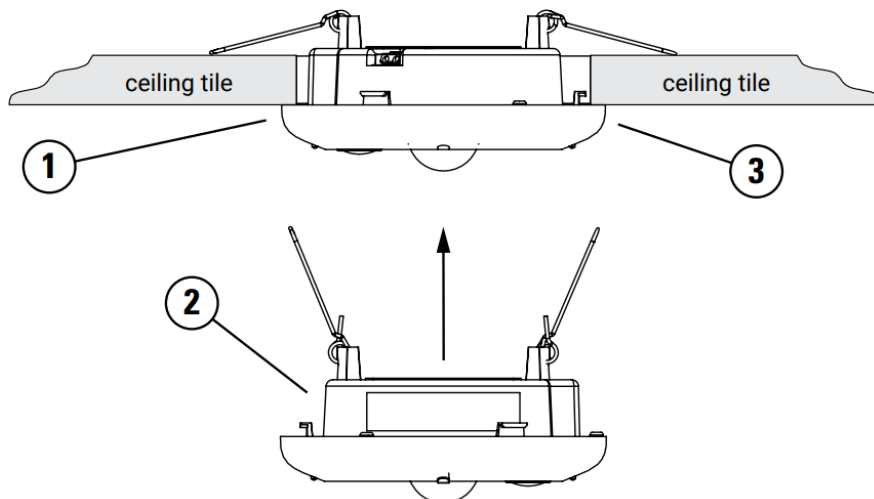


Insights Ceiling Sensor Installation

There are various methods that may be used to affix the Wavelinx Insights Sensor to a ceiling surface.

Tilemount installation

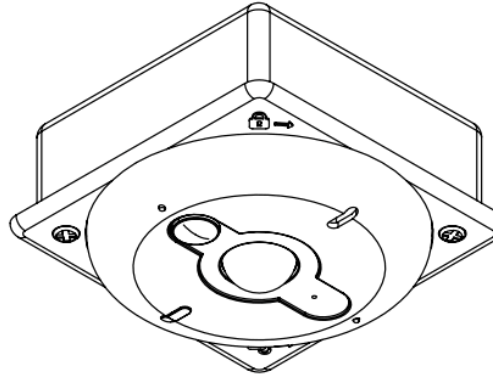
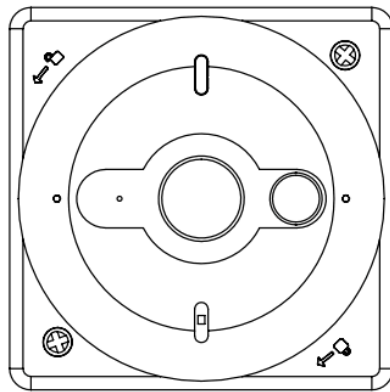
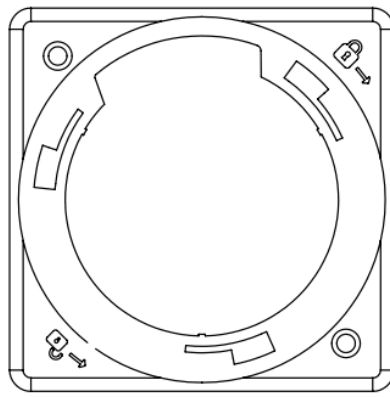
1. Cut a 3.8" (95.3mm) diameter hole in the ceiling tile.
2. Snap sensor body into ceiling trim.
3. Torsion spring clips secure the Insights Sensor to a recessed ceiling tile.



Surface Mount / J-Box installation

1. Attach junction box adapter plate to 4" (101.6mm) square junction box. (screws not included)
2. Align sensor with keyhole pattern.
3. The Wireless Sensor may be installed directly to a ceiling surface via a 4" (101.6mm) square junction box adapter plate.

4" (101.6mm)
square junction box
adapter plate



Installation Notes

Consult www.cooperlighting.com for the most up-to-date revision of the Insights Ceiling system design guide and install this product according to the guidelines described.

The Sensor is to be installed in dry, indoor locations **ONLY**. Do not install the Sensor in damp locations. Damp locations are defined as interior locations subject to moderate degrees of moisture, such as some basements, some barns, some cold-storage warehouses, and the like, and partially protected locations under canopies, marquees, roofed open porches, and the like.

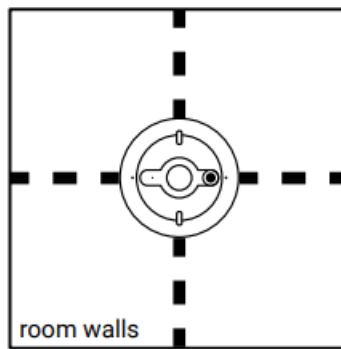
Camera and Sensor Location Notes

The Sensor provides a 360° coverage pattern. It is recommended to install the sensor more than 4ft (1.2m) away from air supply vents.

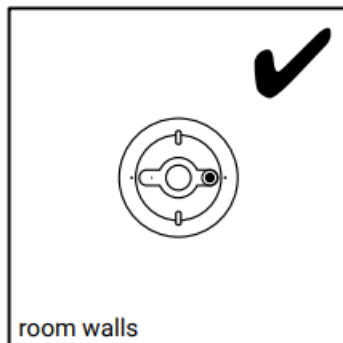
Single Sensor Setup

1. The imaginary "+" made with the vent holes and LEDs should be approximately perpendicular to walls when possible.

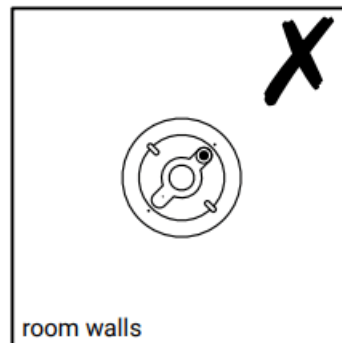
Imaginary “+” made with the vent holes and LED



Single camera room **CORRECT** orientation

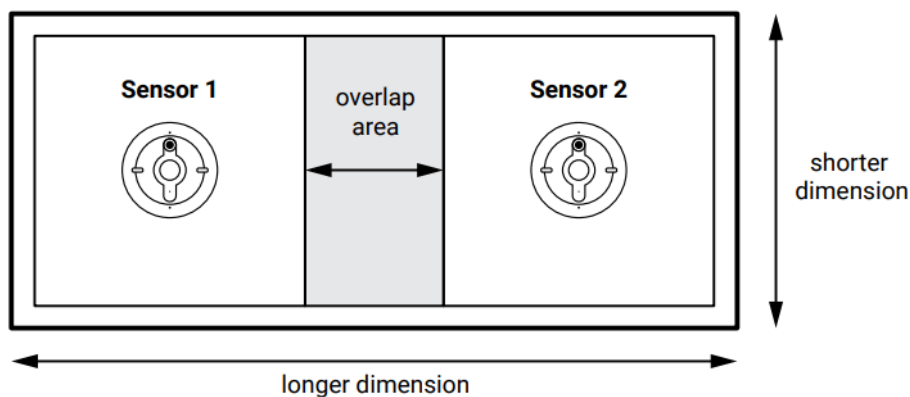


Single camera room **INCORRECT** orientation

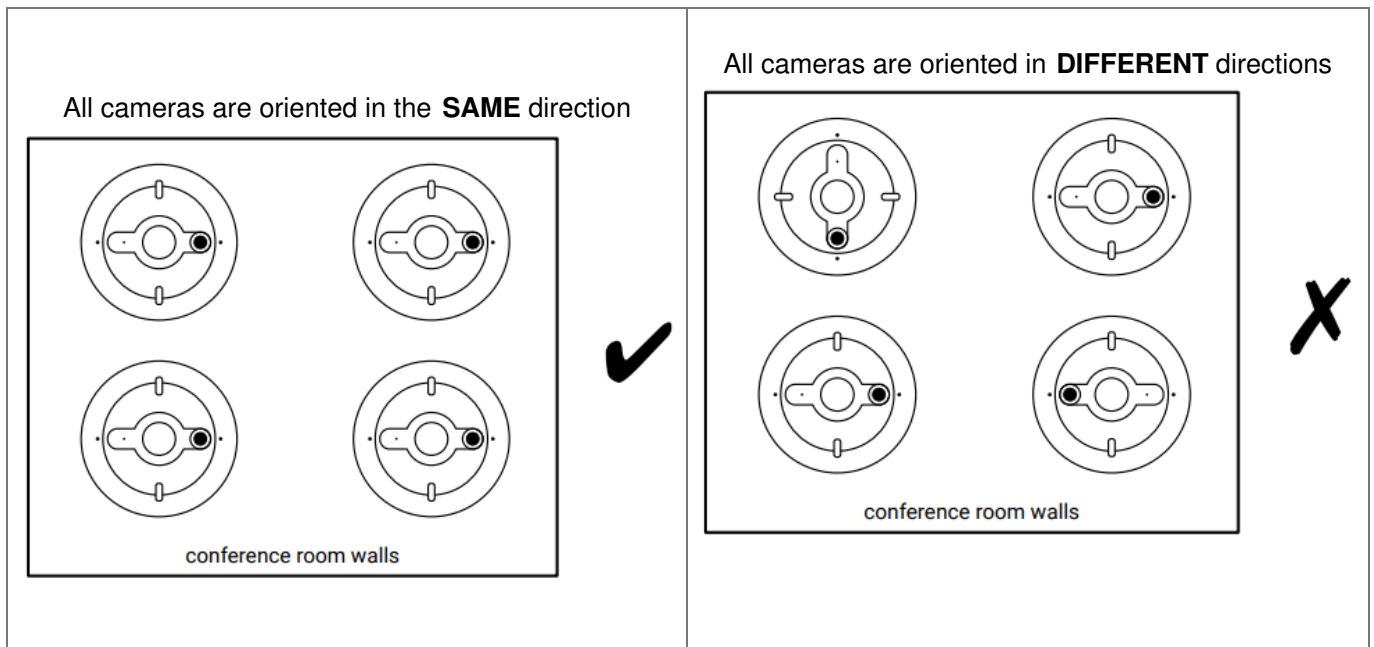


Multi-Sensor Setup

1. The imaginary “+” made with the vent holes and LEDs should be approximately perpendicular to the walls when possible
2. The lens as a reference point should be facing the same way in all those included in a multi-sensor setup
3. Best practice for rectangular rooms: The camera side of the sensor should point at one of the “longer” walls of the room, and as previously mentioned, the two cameras should both point in the same direction. See image below



Multi Sensor Camera Orientation



LED and Button Definitions

- One press and release will reboot the unit
- Press and release 6 times, for 5 seconds each, for a factory reset

Sensor Status LED Indication while in out-of-box mode

There are two LED indicators on this sensor, one positioned above the camera lens (People count sensor status LED or BLE LED), and one on the other side below the reset button (Zigbee LED).

On power up

- Zigbee LED blink momentarily in red and once after that it will blink green on detecting occupancy/motion.
- BLE LED/Occupant Count LED momentarily in Amber and will remain OFF until sensor is claimed to WAC and registered under license.

Reset the button to enable pairing mode

On power up the sensor will not be in pairing mode, it requires a two-time power cycle or IR remote command or press the reset button two times (equivalent to power cycle) to get the sensor to pairing mode to get join a WAC which is in pairing/commissioning mode.

Out-of-box functionality

As Insights CS is a ceiling sensor without its own light fixture associated with it there is no user functionality before it is added to the WAC.

Troubleshooting

- There are no user-serviceable parts inside the Sensor Interface Module. Please return the device to Cooper Lighting Solutions if service is required.
- The device is **ONLY** intended for use with WAC and Trellex releases of and beyond. (If the device is claimed to be a WAC prior to SR9, it will not be represented correctly and Occupancy Counting will not work unless it is completely reset after the WAC is upgraded to SR9 or later.) **NEED to re-word this.**


If still having trouble, call Technical Services at 1-800-553-3879.

Cooper Lighting Solutions 1121 Highway 74 South Peachtree City, GA 30269 www.cooperlighting.com For service or technical assistance: 1-800-553-3879	Canada Sales 5925 McLaughlin Road Mississauga, Ontario L5R 1B8 P: 905-501-3000 F: 905-501-3172	© 2022 Cooper Lighting Solutions All Rights Reserved Printed in Mexico Publication No. IL50372722 August 2022
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Product availability, specifications, and compliances are subject to change without notice.



Documents / Resources

	COOPER Lighting ECS-Z-M05-LV WaveLinX Pro Insights Ceiling Sensor [pdf] Instruction Manual 05800000038, 2AKCY-05800000038, 2AKCY05800000038, ECS-Z-M05-LV WaveLinX Pro Insights Ceiling Sensor, ECS-Z-M05-LV, WaveLinX Pro Insights Ceiling Sensor
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References

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[Commercial Lighting Company - Commercial LED | Cooper Lighting Solutions](#)

[Manuals+](#)