Lumina™ RF Wireless Occupancy Sensor

Cat. Nos. ZSC04 & ZSC15

DI-002-ZSCXX-00A

INSTALLATION AND QUICK START SHEET **ENGLISH**

WARNINGS AND CAUTIONS

- **TO AVOID SERIOUS PERSONAL INJURY, DO NOT RECHARGE, DISASSEMBLE OR INCINERATE BATTERY, NOR HEAT IT ABOVE 100° C (212° F).** Dispose of used battery promptly. DO NOT dispose of battery in normal household waste. Keep away from children. Please contact your local waste provider or recycling facility for proper disposal of used battery.
- Replace battery with Panasonic, Energizer, Sony, Duracell, Rayovac or Maxell CR2450 only. Use of another battery may present a risk of fire or explosion.
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician.
- For indoor applications only.
- Save these instructions.

COMPATIBLE DEVICES

- Lumina™ gateway (required for ZSC04 & ZSC15 operation)
- Lumina™ 10A Decora® Wall Switch

NOTES

- Requires Lumina™ gateway for programming and control communication to other devices.
- Do not mount the sensor until after it has been programmed to communicate with all appropriate receivers.

LEVITON LUMINA™ RF WALL SWITCH OVERVIEW

The Lumina™ RF components are designed to communicate with each other via 2.4GHz Radio Frequency (RF) to provide remote control of your lighting. Each module in the Lumina™ RF component line is designed to act as part of a system. Line powered devices are designed to act as a router. These routers will re-transmit the RF signal from one device to another until the intended device is reached. This ensures that the signal is received by its intended device by routing the signal around obstacles and radio dead spots.

DESCRIPTION

The Occupancy Sensor is a 2.4GHz wireless communication device which transmits a wireless message to the Lumina™ gateway. This communication occurs each time an occupancy change occurs in a room, occupied to unoccupied or unoccupied to occupied. The gateway then routes the message to the load control device to take assigned action. Occupancy/Vacancy time delays are configured and maintained in the gateway and load control devices; this improves the design and efficiency of the wireless system.

QUICK START: SETUP, PROGRAMMING AND ACTIVATION

NOTE: Remove "Battery Pull Tab" to activate device.

Make sure the sensor is within 16 feet (5 meters) of the desired receiver when programming.

- Configure the Lumina™ RF occupancy sensor using a Lumina™ gateway with a PC running the Lumina™ RF smart configuration software **(see configuration videos and software for detailed radio frequency pairing and control programming online at www.leviton.com/luminarf). The device must be in Network Enrollment mode while the Lumina™ gateway is searching for new devices to Enroll (see TABLE 2, MODE 1).**
- **Occupancy Sensor Programming:** To associate a sensor with the receiving device (gateway or other coordinator), remove the front access cover and use the MENU button to enter the menu and enroll into a network **(See TABLE 2, MODE 1 and the Lumina™ gateway manual for details)**. Occupancy time delays are configured in gateway or coordinator control device.
- **Gateway Activation:** Once the Occupancy Sensor has been associated with a gateway/coordinator, that device can then specify which loads to turn ON or OFF each time the sensor's field of view is entered (see configuration videos and software for detailed radio frequency pairing and control programming online at www.leviton.com/luminarf).

OPERATION

LED Indicator (See TABLE 2, MODE 4)

The Lumina™ RF occupancy sensor comes equipped with an LED indicator that normally flashes red for correct occupancy operation. This LED is also used during programming for Menu and Mode selection.

- **RED:** PIR Motion detection (normal operation mode)
- **AMBER:** Signal to release push button when in Menu Mode
- **GREEN**: Represents a Menu mode or an active menu state (attempting to join a network, identifying on the network, etc.)

OPERATION TESTING

1. Once joined into a network, confirm occupancy detection (RED LED will blink), then cover the occupancy sensor so no further detection is detected.
   a. Verify timeout and load turns OFF accurately
2. Uncover the occupancy sensor to verify Auto-ON responds and energizes load(s).

FIELD OF VIEW & SENSITIVITY TESTING

- Perform a FOV walk test of the coverage area and confirm the RED LED blinks and detects within the responsible space **(See TABLE 3)**.
- Adjust the sensitivity POT as necessary to increase or decrease the detection sensitivity within the field of view.

PIR SENSITIVITY ADJUSTMENT: This can increase or decrease the amount of detection points within the specified field of view. This does not increase or decrease the range of the PIR detection.

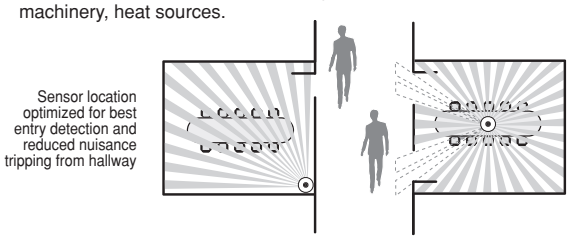
INSTALLATION

Do not mount the sensor until after it has been programmed to communicate with all appropriate receivers. Equipment needed for installation:

- Ceiling Tile Stem, Nut, & Washer (included)
- Double Sided Foam Mounting Tape (included)
- Screws (included) with Wall Anchors (not included)

Location: (Choose location to mount the sensor and the appropriate method - Tile Stem, Screws, Mounting Tape)

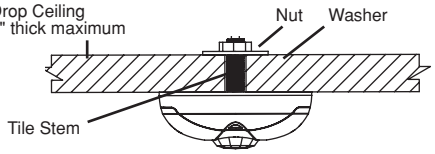
1. Sensor location is very important to ensure correct operation within each unique space.
2. Improve performance to Auto-ON response and reduce risk of false tripping from external motion (example: hallway traffic) by choosing the best location.
3. Do not locate a sensor on a mounting surface within 6 feet of - air ducts, moving machinery, heat sources.



CEILING TILE MOUNT

1. Use the included ceiling tile stem, connect the stem to the back cover and twist to secure, reference figures below for details.
2. In desired location, press the ceiling tile stem through the ceiling tile and install the washer and nut above the ceiling tile to secure.
   NOTE: The sensor back cover and front body are keyed with arrows for ease of separation. To lock the sensor body to the back cover, align arrows and press back cover to the front body, then rotate until the arrows are not aligned.
3. Rotate the sensor to the desired orientation.

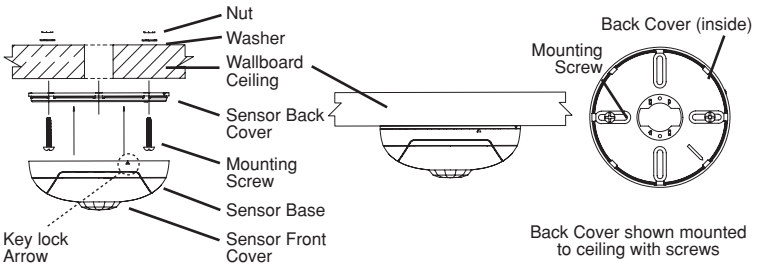
Mounting Option Diagram A
Sensor Mounted to Drop Ceiling Using Tile Stem



SURFACE MOUNT USING SCREWS

1. To remove the back cover of the sensor, locate alignment arrow on the edge of the back cover and on the edge of the front body, rotate the back cover and front body until the two arrows line up and pull apart.
2. Install back cover of the ceiling sensor to desired location using the included screws (nuts and washers), or screws in combination with commercially available wall anchors. If necessary, drill pilot holes.
3. Secure the sensor body to the back cover by aligning the arrows. Lock it by turning the sensor such that the arrows do not line up.
4. Rotate the sensor to the desired orientation.

Mounting Option Diagram B
Sensor Mounted to Wallboard or Drop Ceiling Using Screws



SURFACE MOUNT USING TAPE

1. Remove backing material and apply double sided mounting tape to the Sensor Base.
2. Press and hold the Wireless Occupancy Sensor to the desired mounting surface for a few seconds before releasing. **NOTE:** The sensor back cover and front body are keyed with arrows for ease of separation. To lock the sensor body to the back cover, align arrows and press back cover to the front body, then rotate until the arrows are not aligned.
3. Rotate the sensor to the desired orientation.

TABLE 1 - Operation Modes Defined	
Mode / Blink(s)	**Operation**
1	Enrollment - Allows the device to enroll in a network, and be removed.
2	Identify - The device will announce itself to other devices in the network.
3	Walk Test - The device shortens the blackout and occupancy detection periods to 2 seconds. This mode Auto Exits after 3 minutes.
4	LED Operation - Allows the device to enable/disable LED operations.
5	Reset - Resets device to Factory Default settings.

TABLE 2 - Configuration Menu, Quick Start Programming	
Notes	Requires Lumina™ gateway - Review all related gateway instructions before beginning.
	Idle Time Exit: No button presses for > 20 seconds will time out the menu and return to normal operation.
Mode 1: Enrolling your Device in RF Network	
Enter Menu	Press and hold the Menu button for > 10 seconds - identified by the LED switching to rapid green blinking (Mode 1 - One Blink - Enroll into Lumina™ RF Network).
Add Device	Press and hold the Menu button for > 5 seconds to enroll into Lumina™ RF network. Rapid green blinking continues until device is enrolled. Upon completion, device returns to Menu selection.
Review	Review Lumina™ gateway instructions. Power up gateway and prepare network.
Exit	Tap Menu button (<3s) to go back to menu selection. Alternative option is to wait 20 seconds for auto exit timeout.
Mode 2: Identify a Device	
Enter Menu	Press and hold the Menu button for > 10 seconds - identified by the LED switching to rapid green blinking (Mode 1 - One Blink - Enroll into Lumina™ RF Network).
Step 1	Tap (< 3 seconds) Menu button 1 time to move into Two Blink (Mode 2 - Identify Operation).
Identify Device	Press and hold the Menu button for > 5 seconds to enter Identify Device Mode. Rapid green blinking continues until identify time is complete.
Exit	Will auto exit after 60 seconds.
Mode 4: Turn LED OFF/ON	
Enter Menu	Press and hold the Menu button for > 10 seconds - identified by the LED switching to rapid green blinking (Mode 1 - One Blink - Enroll into Lumina™ RF Network).
Step 1	Tap (< 3 seconds) Menu button 3 times to move into Four Blink (Mode 4 - LED Operation).
Step 2	Press and hold Menu button for > 3 seconds to toggle the LED mode - Green LED confirmation blink indicates locator LED will operate normally - Red LED confirmation blink indicates locator LED will be disabled and remain OFF.
Exit	Tap Menu button (< 3 seconds) to go back to the menu selection. Alternative option is to wait 20 seconds for auto exit timeout.

TROUBLESHOOTING

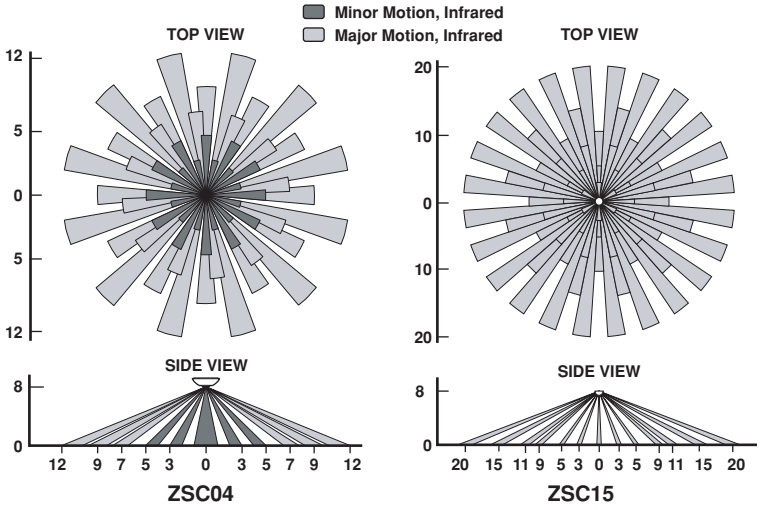
- Verify Red LED is blinking every 60 seconds with occupancy, this indicates the device is working properly and detecting occupancy.
- See the installation manual for Lumina™ gateway and software for additional information of networking systems.
- Separate the device from other noisy electronics (example: personal computers, electronic ballasts, machinery).
- Ensure the RF design is within specified range.
- Ensure that the control devices are located properly to optimize RF design within buildings (example: building construction compared to line of sight).
- Remove the device and re-enroll to the network.
- Reset to factory defaults.

TABLE 3 - Field of View Walk Test Operation	Mode 3
Enter Menu	Press and hold the Menu button for > 10 seconds - identified by the LED switching to rapid green blinking (Mode 1 - One Blink - Enroll into Lumina™ RF Network).
Step 1	Tap (< 3 seconds) Menu button 2 times to move into Three Blink (Mode 3 - Walk Test Operation).
Walk Test	Press and hold the Menu button for > 5 seconds to enter Walk Test Mode. Walk test time is for 3 minutes. Field of view testing is done by walking the perimeter, entry points, and directly toward the sensor (NOTE: When in this mode, the device shortens the blackout and occupancy detection periods to 2 seconds).
Exit	Tap Menu button (<3s) to go back to menu selection. Alternative option is to wait 20 seconds for auto exit timeout.

TABLE 4 - Configuration Menu: Reset to Factory Default Settings	Mode 5
Enter Menu	Press and hold the Menu button for > 10 seconds - identified by the LED switching to rapid green blinking (Mode 1 - One Blink - Enroll into Lumina™ RF Network).
Step 1	Tap (< 3 seconds) Menu button 4 times to move into Five Blink (Mode 5 - Reset).
Step 2	Press and hold the Menu button for > 5 seconds to enter Factory Default pending mode (Start red blinking - to cancel Reset: press the Menu button or allow idle timeout).
Step 3: Reset/ Exit	Press and hold the Menu button for > 5 seconds to enter Factory Default Reset process (Stops the red blinking, cancels the menu and returns to normal device operation when reset is complete.

SPECIFICATIONS	
Field of View (FOV)	ZSC04 = 450 sq. ft. ZSC15 = 1,500 sq. ft.
Frequency/Range	2.4 GHz/50-150 ft.
Operational Temperature	0° to 40° C
Power Supply	CR2450 battery, 620mAh
Power Consumption	< 10uA @ 3VDC
Antenna	Integrated PCB Trace Antenna
UL Standard	UL916 Standard for Energy Management Equipment, CSA-C22.2, No. 205-12 Signal Equipment - Edition 2

PASSIVE INFRARED FIELD OF VIEW



FCC COMPLIANCE STATEMENT:
Contains FCC ID: W7Z-ZICM357SP0
The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(i.) This device may not cause harmful interference (ii.) This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by Leviton could void the user's authority to operate this equipment. 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.

INDUSTRY CANADA COMPLIANCE STATEMENT:
Contains IC: 8254A-ZICM357SP0.
This device complies with Industry Canada license-exempt RSS standard(s). 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. IMPORTANT! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This Class B digital apparatus complies with Canadian ICES-003.

FOR CANADA ONLY: For warranty information and/or product returns, residents of Canada should contact Leviton in writing at **Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9** or by telephone at **1 800 405-5320.**

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Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that products manufactured by Leviton under the Leviton brand name ("Product") will be free from defects in material and workmanship for the time periods indicated below, whichever is shorter: • **OmniPro II and Lumina Pro:** three (3) years from installation or 42 months from manufacture date. • **OmniLT, Omni IIe, and Lumina:** two (2) years from installation or 30 months from manufacture date. • **Thermostats, Accessories:** two (2) years from installation or 30 months from manufacture date. • **Batteries:** Rechargeable batteries in products are warranted for ninety (90) days from date of purchase. **Note:** Primary (non-rechargeable) batteries shipped in products are not warranted. **Products with Windows® Operating Systems:** During the warranty period, Leviton will restore corrupted operating systems to factory default at no charge, provided that the product has been used as originally intended. Installation of non-Leviton software or modification of the operating system voids this warranty. Leviton's obligation under this Limited Warranty is limited to the repair or replacement, at Leviton's option, of Product that fails due to defect in material or workmanship. Leviton reserves the right to replace product under this Limited Warranty with new or re-manufactured product. **Leviton will not be responsible for labor costs of removal or re-installation of Product**. The repaired or replaced product is then warranted under the terms of this Limited Warranty for the remainder of the Limited Warranty time period or ninety (90) days, whichever is longer. This Limited Warranty does not cover PC-based software products. **Leviton is not responsible for conditions or applications beyond Leviton's control**. **Leviton is not responsible for issues related to improper installation, including failure to follow written installation and operation instructions, normal wear and tear, catastrophe, fault or negligence of the user or other problems external to the Product**. To view complete warranty and instructions for returning product, please visit us at **www.leviton.com**.