Radio Powr Savr™

Installation Instructions *Please Read Before Installing*

English

Wireless Battery-Powered Occupancy Sensor

LRF3-OCRB-P 3 V⎓ 14 µA 868 MHz

Compatible Products

For a full list of compatible products visit www.lutron.com/globalenergysolutions

Product Description

Lutron's Occupancy Sensors are wireless, ceiling-mounted, battery-powered, passive infrared (PIR) devices that automatically control lights via RF communication with a dimming or switching device. These Sensors detect the heat from people moving within an area to determine when the space is occupied. The Sensors then transmit the appropriate commands to the associated dimming or switching device to turn the lights on or off automatically, providing both convenience and exceptional energy savings.

- **Easy-to-follow Instructions**

P/N 041-176b

Important Notes

1. This Sensor is part of a system and cannot be used to control a load without a compatible dimming or switching device. Refer to the instruction sheets of the receiving device(s) for installation information.
2. ***Clean Sensor with a soft damp cloth only.*** **DO NOT** use any chemical cleaners.
3. The Sensor is intended for indoor use only. Operate between 0 °C and 40 °C (32 °F and 104 °F).
4. **DO NOT** paint Sensor.
5. The range and performance of the RF system is highly dependent on a variety of complex factors such as:
   - Distance between system components
   - Geometry of the building structure
   - Construction of walls separating system components
   - Electrical equipment located near system components

CAUTION: This product must not be used to control equipment which could create hazardous situations, such as entrapment, if operated accidentally. Examples of equipment which must not be controlled with this product include (but are not limited to) motorized gates, garage doors, industrial doors, etc.

NOTICE: DO NOT disassemble, crush, puncture, or incinerate the batteries. DO NOT dispose of batteries in normal household waste. Please recycle, take to a proper battery disposal facility, or contact your local waste disposal provider regarding local restrictions on the disposal or recycling of batteries.

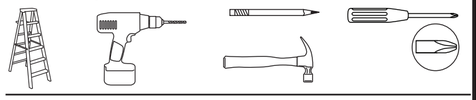
Key Features

- **Low Maintenance**. 10-year battery life. Convenient low-battery indicator.
- **Multiple Devices.** Up to 3 Sensors can work together to control lights for broader coverage in large spaces. Each Sensor may be added to a maximum of 10 receiving devices.

Sensor Operation

The Sensor will automatically turn lights on when a space is occupied and automatically turn lights off after a space is vacated. The lights can also be manually turned off at any time by using the dimming or switching device directly.

Tools You May Need



Installation

The Sensor installation procedure is outlined below. Please follow these steps to ensure the Sensor will perform as intended:

A. Pre-Installation
B. Set-Up
C. Sensor Placement and Coverage
D. Temporary Mounting Methods
E. Testing Sensor Coverage
F. Testing Wireless Communication
G. Permanent Mounting Methods
H. Advanced Set-Up (Optional)
I. Lens Masking (Optional)

Technical Assistance

For questions concerning the installation or operation of this product, call the ***Lutron Technical Support Center.*** Please provide exact model number when calling.

United Kingdom
0800.282.107 or +44.(0)20.7680.4481
Other countries 8am – 8pm EST
+1.610.282.3800 www.lutron.com

Lutron Electronics hereby declares that LRF3-OCRB-P is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the DoC can be obtained by writing to: Lutron Electronics Co., Inc. 7200 Suter Road, Coopersburg, PA 18036 U.S.A.

CE

Limited Warranty

Lutron EA Ltd. ("Lutron EA") warrants each unit to be free from defects in material and workmanship and to perform under normal use and service. To the extent permitted by law, Lutron EA and Lutron Electronics Co. Inc. ("Lutron") make no warranties or representations as to the units except as set forth herein. This warranty shall run for a period of two years from the date of purchase and Lutron's obligations under this warranty are limited to remedying any defect, replacing any defective part or replacement (at Lutron EA's sole option) and shall be effective only if the defective unit is shipped to Lutron EA postage prepaid within 24 months after purchase of the unit. Repair or replacement of the unit does not affect the expiry date of the warranty. This warranty does not cover damage or deficiencies due to abuse, misuse, inadequate wiring or insulation or use or installation other than in accordance with instructions accompanying the unit. To the extent permitted by law, neither Lutron EA nor Lutron shall be liable for any other loss or damage including consequential or special loss or damages, loss of profits, loss of income, or loss of contracts arising out of or relating to the supply of the unit or the use of the unit and the purchaser assumes and will hold harmless Lutron EA and Lutron in respect of all such loss or damage. Nothing in this warranty shall have the effect of limiting or excluding Lutron EA's or Lutron's liability for fraud or for death or personal injury resulting from its own negligence, or any other liability, if and to the extent that the same may not be limited or excluded as a matter of law. This warranty does not affect the statutory rights of consumer purchasers of this product. Although every attempt is made to ensure that catalogue information is accurate and up-to-date, please check with Lutron EA before specifying or purchasing this equipment to confirm availability, exact specifications, and suitability for your application.

LUTRON®

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Coopersburg, PA 18036-1299, U.S.A.
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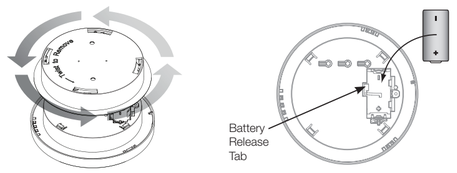
Instructions

Install a Sensor in as little as 15 minutes

A Pre-Installation

1 Before setting up the Sensor, the corresponding dimming or switching device(s) should be installed. Refer to that product's installation sheet for instructions.

2 Twist and remove mounting bracket to insert battery.



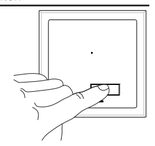
B Set-Up

In order for the Sensor to operate properly, it must first be set up with a corresponding dimming or switching device. The procedure for setting up a Sensor with a Rania® Wireless RF Switch is detailed below.

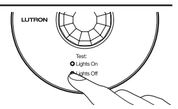
If setting up a Sensor with a different device, visit www.lutron.com/occsensors or consult the installation guide for that device for the correct set-up procedure.

Setting up a Sensor with a Rania® Wireless RF Switch

1 While the Rania Wireless RF Switch is off, press and hold the On/Off Button for approximately 6 seconds. Once the LED starts to blink slowly, release the button.



2 Add the Sensor to the Switch by pressing and holding the "Lights Off" button on the front of the Sensor for approximately 6 seconds until the lens flashes briefly. The lights in the room will also flash 3 times, indicating the Sensor has been successfully added. The Switch will exit set-up mode automatically.



3 The "Lights On" and "Lights Off" buttons should now switch the lights in the room on and off, respectively, when pressed.
Repeat the above procedure to set up the Sensor with any additional devices.

C Sensor Placement and Coverage

Before mounting the Sensor, please note the following:

- The Sensor is designed for ceiling use only. **DO NOT** install on ceilings higher than 3,7 m (12 ft) or non-ceiling surfaces. Doing so may significantly inhibit the Sensor's performance.
- The Sensor should be installed in a location where it has a good view of all parts of the room. The Sensor requires line of sight to operate properly. **If you cannot see the Sensor, it cannot see you.** The Sensor cannot see through glass objects such as patio or shower doors.
- **DO NOT** mount the Sensor within 1,2 m (4 ft) of HVAC vents, within15 cm (6 in) of other RF devices, or within 1,2 m (4 ft) of light bulbs installed below the ceiling line.
- The Sensor may be installed up to 18,3 m (60 ft) away from the associated dimming or switching device(s) if they are in direct line of sight. If there are walls or other barriers between the Sensor and receiving device(s), the Sensor should be located within 9,1 m (30 ft).
- Whenever possible, avoid placing the Sensor in a location where it has a broad view outside the intended space. If this is unavoidable, the lens can be masked to block the view of undesired areas (refer to section ***I. Lens Masking***).
- The Sensor's detection range is dependent on the ceiling height, as shown in the table below.

Sensor Coverage Chart

Ceiling Height	Max. Room Dimensions for Complete Coverage	Radius of Coverage at Floor
2,4 m (8 ft)	5,5 x 5,5 m (18 x 18 ft)	4,0 m (13 ft)
2,7 m (9 ft)	6,1 x 6,1 m (20 x 20 ft)	4,4 m (14,5 ft)
3,0 m (10 ft)	6,7 x 6,7 m (22 x 22 ft)	4,9 m (16 ft)
3,7 m (12 ft)	7,9 x 7,9 m (26 x 26 ft)	5,8 m (19 ft)

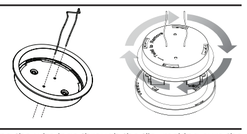
D Temporary Mounting Methods

If you are uncertain about correctly positioning the Sensor, the following temporary mounting and testing procedures are recommended to verify proper performance before permanently installing the Sensor.

1 Temporary Drop Ceiling Mounting

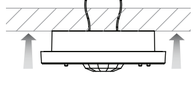
Use this procedure if the Sensor will be mounted on a ceiling tile.
The ceiling tile mounting wire is provided for both temporary and permanent mounting of the Sensor to drop ceilings composed of multiple tiles. It is designed to allow temporary mounting, testing, and repositioning (if necessary) of the Sensor without damaging a ceiling tile. Once the Sensor's final position has been chosen, the mounting wire can be twisted to lock the Sensor in place permanently.

1.1 Insert the ceiling tile mounting wire through the two smaller holes in the mounting bracket and replace the mounting bracket.



1.2 Mount Sensor to a ceiling tile by inserting the wire legs through the tile, making sure the Sensor is flush to the tile.

Note: Do not twist wire legs together.



1.3 Perform the Sensor coverage and wireless communication tests as described in sections ***E. Testing Sensor Coverage*** and ***F. Testing Wireless Communication***.

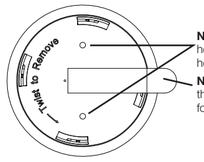
1.4 If the Sensor does not perform satisfactorily from this location, it may be moved to another location by pulling the Sensor straight down and repeating steps 1.2 and 1.4.

1.5 If the Sensor's performance is satisfactory, it should be permanently attached to the ceiling tile, as described in section ***G. Permanent Mounting***.

2 Temporary Solid Ceiling Mounting

Use this procedure if the Sensor will be mounted on a solid, continuous ceiling surface such as drywall, plaster, concrete, or wood.
Two 3M™ Command™ adhesive strips are provided for temporarily mounting and testing the Sensor on smooth, solid ceiling surfaces. These strips are designed for easy, damage-free removal and are not reusable. These strips should not be used for permanently mounting the Sensor (see section ***G. Permanent Mounting***). Carefully follow the removal instructions below to ensure the ceiling is not damaged during removal.
NOTE: DO NOT use the adhesive strips on ceiling tiles, as they will likely cause damage to the tile upon removal.

2.1 Peel the **red** "Command Strips" liner off of one of the adhesive strips and apply the strip to the flat side of the mounting bracket as shown in the diagram. Press firmly.

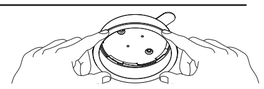


NOTE: DO NOT cover the bracket's screw holes because they will be used to mark screw hole locations on the ceiling.
NOTE: Leave the removal tab exposed past the edge of the bracket so it can be accessed for removal later.

2.2 Identify a location on the ceiling where the Sensor will have a good view of the room.

2.3 Remove the **black** "wall side" liner from the adhesive strip.

2.4 Position the mounting bracket on the ceiling and press firmly for several seconds.



2.5 Attach the Sensor to the mounting bracket by inserting and twisting in a clockwise direction until the Sensor locks into place.

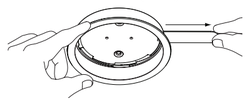
2.6 Perform the Sensor coverage and wireless communication tests as described in sections ***E. Testing Sensor Coverage*** and ***F. Testing Wireless Communication***.

Removing Temporary Mounting Strip

2.7 Remove the Sensor from the mounting bracket by twisting in a counter-clockwise direction.
If the Sensor coverage and wireless communication tests have been successfully completed, use the mounting bracket as a template to mark the screw hole locations with a pencil.

2.8 To remove the bracket from the ceiling, grasp the removal tab on the adhesive strip and pull the tab **VERY SLOWLY** straight across the ceiling, stretching the strip until the bracket releases from the ceiling. Discard the strip. **NEVER** pull the strip at an angle, as it may break or damage the ceiling surface.

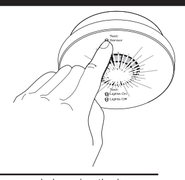
NOTE: Pull very slowly.



NOTE: Do not pull at an angle.

E Testing Sensor Coverage

1 With the Sensor mounted on the ceiling, press and release the "Test: Sensor" button on the front of the device. The lens will glow briefly, indicating the test mode has been entered.



NOTE: There is a warm-up period of approximately 40 seconds after the batteries are installed before the test mode can be activated. If the button is pressed during this time, the lens will flash continuously until the warm-up period is complete, and then the test mode will be automatically entered.

2 Confirm the coverage area by walking through the space and observing the lens. The lens will glow solid every time motion is detected. If the lens remains off during motion, the Sensor cannot detect motion at that location.

3 Press and release the "Test: Sensor" button again to exit the test mode. If the button is not pressed, the test mode will automatically time out 15 minutes after being enabled, or 5 minutes after the last detected motion if the room is vacated.

4 If the Sensor has significant trouble detecting motion during the test, it should be moved to another location and retested. If the Sensor still has poor detection from the new location, refer to the ***Troubleshooting*** page.
NOTE: If the Sensor is detecting motion in areas that are not desirable, such as hallways or adjacent rooms, refer to section ***I. Lens Masking***.

5 If Sensor detection is satisfactory during this test, perform the wireless communication test as described in section ***F. Testing Wireless Communication***.

F Testing Wireless Communication

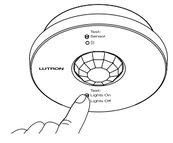
This test should be performed to verify that the Sensor has been correctly set up with the corresponding dimming or switching device and that there is proper wireless communication from the chosen Sensor location.

1 If the lights in the room are not on, turn them ON manually at the dimming or switching device.

2 Press and release the "Lights Off" button on the front of the Sensor. The lights should turn OFF.

3 Press and release the "Lights On" button on the front of the Sensor. The lights should turn ON.

If the lights do not respond correctly, refer to the ***Troubleshooting*** page.

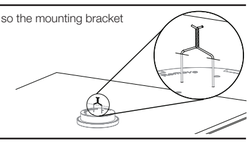


G Permanent Mounting Methods

1 Permanent Drop Ceiling Mounting

1.1 After the Sensor has been temporarily mounted, leave the Sensor in place on the tile and either take the tile down or remove an adjacent tile to gain access to the legs of the mounting wire on the back of the tile.

1.2 Twist the wire legs together tightly so the mounting bracket remains snug against the tile.



1.3 Replace the tile.

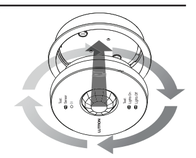
2 Permanent Solid Ceiling Mounting

2.1 Drill two 4,6 mm (3/16 in) pilot holes for the provided screw anchors.

2.2 Press the anchors into the holes and tap flush with a hammer.

2.3 Place the flat side of the mounting bracket against the ceiling and install the two provided screws using a hand screwdriver.

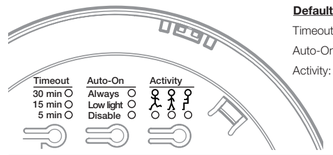
2.4 Attach the Sensor to the mounting bracket by inserting and twisting in a clockwise direction until the Sensor locks into place.



H Advanced Set-Up (Optional)

The Sensor features several advanced set-up modes. For the majority of installations, the default settings will provide the best performance and you will not need to utilize the advanced set-up.

The Sensor has three adjustable advanced set-up modes:
Timeout, Auto-On, and Activity. The default settings are listed below.



Default Settings:
Timeout: 15 minutes
Auto-On: Always
Activity: Low Activity

Advanced Set-Up Modes

Timeout

The Sensor will turn the lights off if no motion occurs for the duration of the timeout period. There are three available timeout settings: **5, 15, and 30 minutes**.

Auto-On

The automatic-on functionality of the Sensor can be adjusted to control how the lights respond upon initial occupancy. There are three available settings: Always, Low light, and Disable.

Always: The lights will always turn on.

Low light: The lights will only turn on automatically upon entry if there is not already sufficient ambient light in the room.

Disable: This setting converts the Sensor to vacancy mode. The lights will not automatically turn on but will still automatically turn off after vacancy. The lights must be manually turned on by using the associated dimming or switching device.

NOTE: When Auto-On is disabled, there is a built-in 15-second vacancy grace period that begins when the lights are automatically turned off, during which the lights will automatically turn back on in response to motion. This grace period is provided as a safety and convenience feature in the event that the lights turn off while the room is still occupied, so that the user does not need to manually turn the lights back on. After 15 seconds, the grace period expires and the lights must be manually turned on.

Activity

The sensitivity of the Sensor can be adjusted based on the expected level of activity within the room. There are three available activity settings: Low Activity, Medium Activity, and High Activity.

Low Activity: This is the most sensitive setting and will detect very slight motions. This is the recommended setting, as it will work well for nearly all applications. It is ideal for spaces where occupants will often be seated for long periods of time.

Medium Activity*: This setting is slightly less sensitive than the Low Activity setting and can be used for spaces that experience normal activity.

High Activity*: This is the least sensitive setting and can be used for spaces that will generally only experience large motions, such as foot traffic.

*The Low Activity setting is the default and will perform best for most applications. Rarely, if the Sensor is placed near external noise sources such as heating vents, air conditioning vents, or light bulbs, it may turn the lights on without occupancy or keep the lights on too long after vacancy. If this occurs, changing the sensitivity to Medium Activity or High Activity should resolve the problem.

Advanced Set-Up Operation

The advanced set-up is accessed by using the buttons on the back of the Sensor.

1 To display the current setting, press and release the desired button. An LED will illuminate briefly, indicating the current setting.

2 To adjust a setting, press and hold the desired button until the LED corresponding to the current setting begins flashing rapidly, indicating the setting can now be adjusted.

3 Each subsequent button press of less than 2 seconds will increment the mode to the next available setting. Pressing any of the other buttons will have no effect.

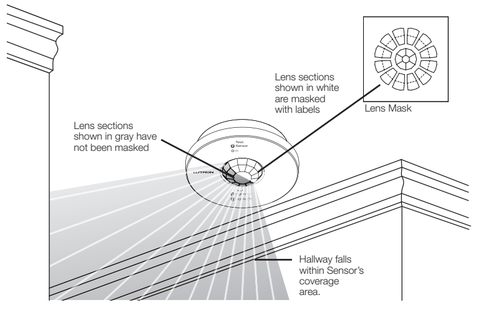
4 To save the selected setting, press and hold the button until the LED turns on solid, indicating the saved setting.

5 During the adjustment procedure, if there is no activity for 30 seconds, the LEDs will turn off and no settings will be saved.

I Lens Masking (Optional)

Whenever possible, the Sensor should be installed in a location where it cannot easily see into areas outside the intended space, such as hallways or adjacent rooms. If this situation cannot be avoided, portions of the lens may be masked with the provided labels to block the Sensor's view of the undesired areas. **Note:** Apply mask to outside of lens only; do not disassemble sensor.

- It is recommended to remove the Sensor from the mounting bracket before applying the masking labels.
  NOTE: The Sensor can be screwed onto the mounting bracket in several different orientations. Be sure to note the Sensor's orientation before taking it down and replace the Sensor in the same orientation to ensure the intended area gets blocked.
- Outer lens sections correspond to the detection regions furthest away from the Sensor, while inner sections correspond to regions closer to the Sensor.
- Be careful when applying the labels to avoid creating gaps between adjacent masked sections. The Sensor may detect motion through inadvertent gaps.



Troubleshooting

Symptom	Possible Causes	Solution
Lights do not turn ON when space is occupied.	Sensor is not correctly added to dimming/switching device(s).	Refer to section **B. Set-Up.**
	Sensor's Auto-On setting is set to "Low light" or "Disable".	Refer to section **H. Advanced Set-Up.**
	The lights were recently turned off manually and the timeout has not yet expired.	For more details, refer to Frequently Asked Questions at www.lutron.com/occsensors
	Sensor does not have full view of room.	Refer to section **C. Sensor Placement.**
	Sensor is outside wireless range of dimming/switching device.	Refer to section **C. Sensor Placement** or **F. Testing Wireless Communication.**
	Battery has been installed incorrectly.	Refer to section **A. Pre-Installation.**
	Dimming/switching device has been improperly wired.	Refer to the instruction sheet of the receiving device or call Lutron Technical Support Center at 0800.282.107 or +44.(0)20.7680.4481.
	Light bulb(s) burned out.	
	Breaker is off or tripped.	
Lights turn OFF while space is occupied.	Sensor's timeout is too short for this application.	Refer to section **H. Advanced Set-Up.**
	Sensor does not have full view of room.	Refer to section **C. Sensor Placement.**
	Lens mask is improperly applied.	Refer to section **I. Lens Masking.**
	Sensor's sensitivity is too low.	Refer to section **H. Advanced Set-Up.**
Lights stay ON after space is vacated.	Sensor's timeout has not yet expired.	Refer to section **H. Advanced Set-Up.**
	An external noise source such as an HVAC vent is interfering.	Try moving Sensor to a new location or reducing sensitivity. Refer to section **C. Sensor Placement** or **H. Advanced Set-Up.**
	Battery has been installed incorrectly.	Refer to section **A. Pre-Installation.**
Lights turn ON when walking past room.	Sensor coverage extends beyond room perimeter.	Refer to section **C. Sensor Placement** or **I. Lens Masking.**
Behavior of lights does not match Sensor settings.	The intended setting was not saved.	Refer to section **H. Advanced Set-Up.**
	Multiple Sensors are added to a dimming/switching device and their settings do not match.	Refer to section **H. Advanced Set-Up.**
Sensor lens does not glow in response to motion during Sensor coverage testing.	Sensor cannot see motion due to obstruction.	Move Sensor to another location. Refer to section **C. Sensor Placement.**
	Room is too big or oddly shaped.	Multiple Sensors may be necessary for full room coverage. For more details, refer to Frequently Asked Questions at www.lutron.com/occsensors
	Battery has been installed incorrectly.	Refer to section **A. Pre-Installation.**
Lens does not stop glowing during Sensor coverage testing even when there is no motion.	An external noise source such as an HVAC vent is interfering.	Try moving Sensor to a new location or reducing sensitivity. Refer to section **C. Sensor Placement** or **H. Advanced Set-Up.**
Lights do not respond correctly during wireless communication testing.	Sensor is not correctly added to dimming/switching device.	Refer to section **B. Set-Up**.
	Sensor is outside wireless range of dimming/switching device.	Move Sensor closer to dimming/switching device and retry test. Refer to section **F. Testing Wireless Communication.**
	Battery has been installed incorrectly.	Refer to section **A. Pre-Installation.**
	Dimming/switching device has been improperly wired.	Refer to the instruction sheet of the receiving device or call Lutron Technical Support Center at 0800.282.107 or +44.(0)20.7680.4481.
	Light bulb(s) burned out.	
	Breaker is off or tripped.	
Sensor lens flashes and lights do not turn ON when space is occupied.	Battery is low.	Replace battery. For more details, refer to Frequently Asked Questions at www.lutron.com/occsensors
	Sensor is in test mode.	Remove sensor from test mode. Refer to section **E. Testing Sensor Coverage.**