



**legrand BCS-  
WS-IS-FSP-211  
High Low PIR  
Fixture Mount  
Sensor**



## legrand BCS-WS-IS-FSP-211 High Low PIR Fixture Mount Sensor User Guide

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**legrand BCS-WS-IS-FSP-211 High Low PIR Fixture Mount Sensor**

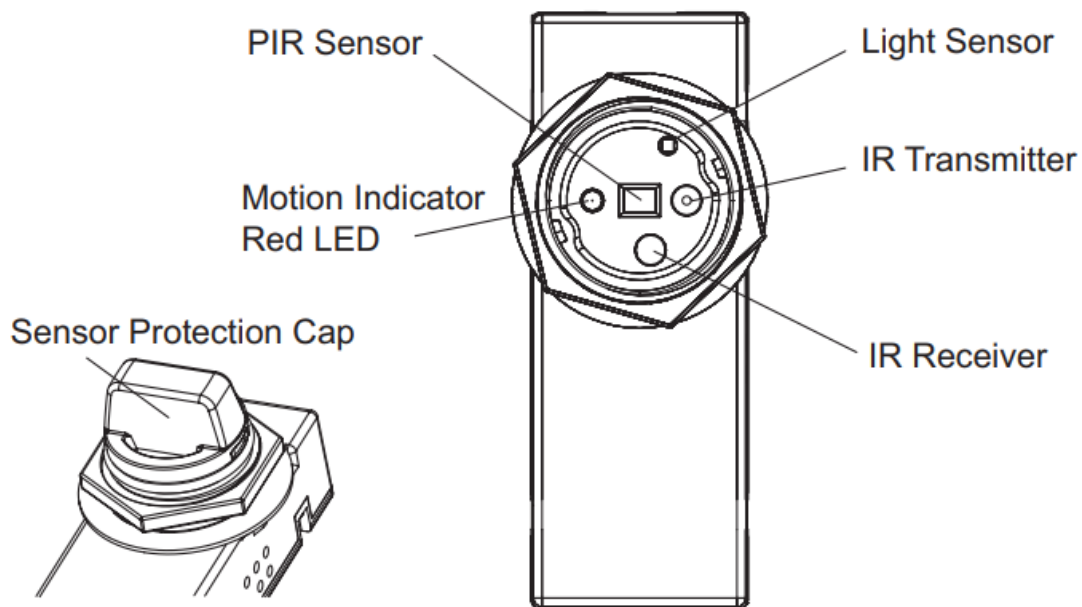


**Catalog Number:** FSP-211

**Country of Origin:** Product produced in the U.S.

## **DESCRIPTION AND OPERATION**

The FSP-211 is a motion sensor that dims lighting from high to low based on movement. This slim, low-profile sensor is designed for installation inside the bottom of a light fixture body. The PIR lens module connects to the FSP-211 through a 1.30" diameter hole in the bottom of the fixture. The sensors use passive infrared (PIR) sensing technology that reacts to changes in infrared energy (moving body heat) within the coverage area. Once the sensor stops detecting movement and the time delay elapses lights will go from high to low mode and eventually to an OFF position if it is desired. Sensors must directly "see" motion of a person or moving object to detect them, so careful consideration must be given to sensor luminaire placement and lens selection. Avoid placing the sensor where obstructions may block the sensor's line of sight. The FSP-211 operates at 120V/277V, and 230V–240V Single Phase. No power pack is required. It is designed to be installed in both indoor and outdoor environments.



**NOTE: Remove Cap before use**

Once powering the device up, the FSP-211 will use factory default parameters to operate. If adjustments are needed, Wattstopper FSIR-100 configuration tool must be used.

## SPECIFICATIONS

- **Voltage**

120V/277V, 50/60Hz: UL/cUL Listed 230–240V, 50/60Hz, Single Phase: CE

- **Load Ratings**

- @ 230–240V..... 0–300W Ballast or LED Driver
- @ 120V..... 0–800W Tungsten, Ballasts or LED Driver
- Motor @ 120V/277V..... 1/6 HP
- @ 277V..... 0–1200W Ballast or LED Driver

- **Wiring Terminals**

- Line Voltage.....Line, Neutral, Load – 16AWG–18AWG
- Low Voltage..Dim + (purple), Dim – (pink) – 18AWG–20AWG
- Use Solid or Tinned Stranded Copper Conductor

- Operating Temperature.....-40°F (-40°C) to 167°F (75°C)

- Tightening Nut Torque.....25–30 in-lbs

- **Dimensions**

Collar..... 1.30" diameter (33.0mm)

Collar height.....0.64" (16.3mm)

Body.....1.38" x 3.8" x 0.9" (35.1mm x 96.5mm x 22.9mm)

- **Weight** .....2.8 oz (80 g)

**Coverage**

- FSP-L2 Lens @ 8' height..... up to 44' diameter
- FSP-L3 Lens @ 20' height..... up to 40' diameter
- FSP-L7 Lens @ 40' height..... up to 100' diameter

- **Adjustments and Features**

- High Mode..... 0 V–10 V

- Low Mode .....0 V – 9.8 V, Off
- Time Delay..... 30 seconds, 1 min – 30 min
- Cut Off..... Disable, 1 min – 59 min ,1 hr – 5 hr
- Sensitivity..... On-Fix, Off-Fix, Low, Med, Max
- Hold Off Setpoint..... Auto, None, 1–250 fc
- Ramp Up.....Disable, 1 sec – 60 sec
- Fade Down.....Disable, 1 sec – 60 sec
- Photocell Setpoint for On/Off..... 1–250 fc

• **Factory Defaults**

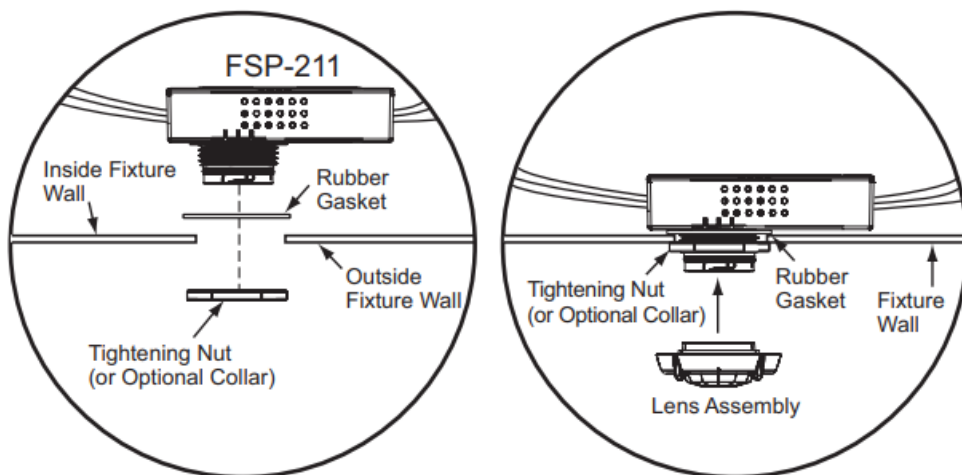
- High Mode.....10 V
- Low Mode ..... 1 V
- Time Delay..... 5 min
- Cut Off.....1 hr
- Sensitivity ..... Max
- Hold Off Setpoint ..... Disable
- Ramp Up..... Disable
- Fade Down..... Disable
- Photocell Setpoint for On/Off..... Disabl

OPEN DEVICE for installation in the Listed Enclosure per Installation Instructions.

## INSTALLATION

1. Determine an appropriate mounting location inside the light fixture minimizing the electric light contribution to the sensor's photocell. Allow a minimum distance of 0.2" (5.1mm) from the wiring end of the sensor to the wall of the fixture.
2. Drill a hole 1.30" (33.0mm) in diameter through the sheet metal in the bottom of the fixture.
3. Add the rubber gasket to the threaded collar, and install the sensor face down, parallel to the mounting surface. Ensure the rubber gasket touches the inside surface of the fixture. Install the plastic nut (or optional collar) securely against the fixture to a torque of 25–30 in-lbs to ensure IP rating is maintained.
4. Align the locking features between the sensor and lens module and push the lens module forward until the o-ring seals firmly. Turn the lens module clockwise to ensure it locks in place.
5. Connect wires as shown in wiring diagram.
6. Restore power from the circuit breaker.

NOTE: An optional collar can be installed in place of the tightening nut. See the Ordering Information table on page 4 for details.



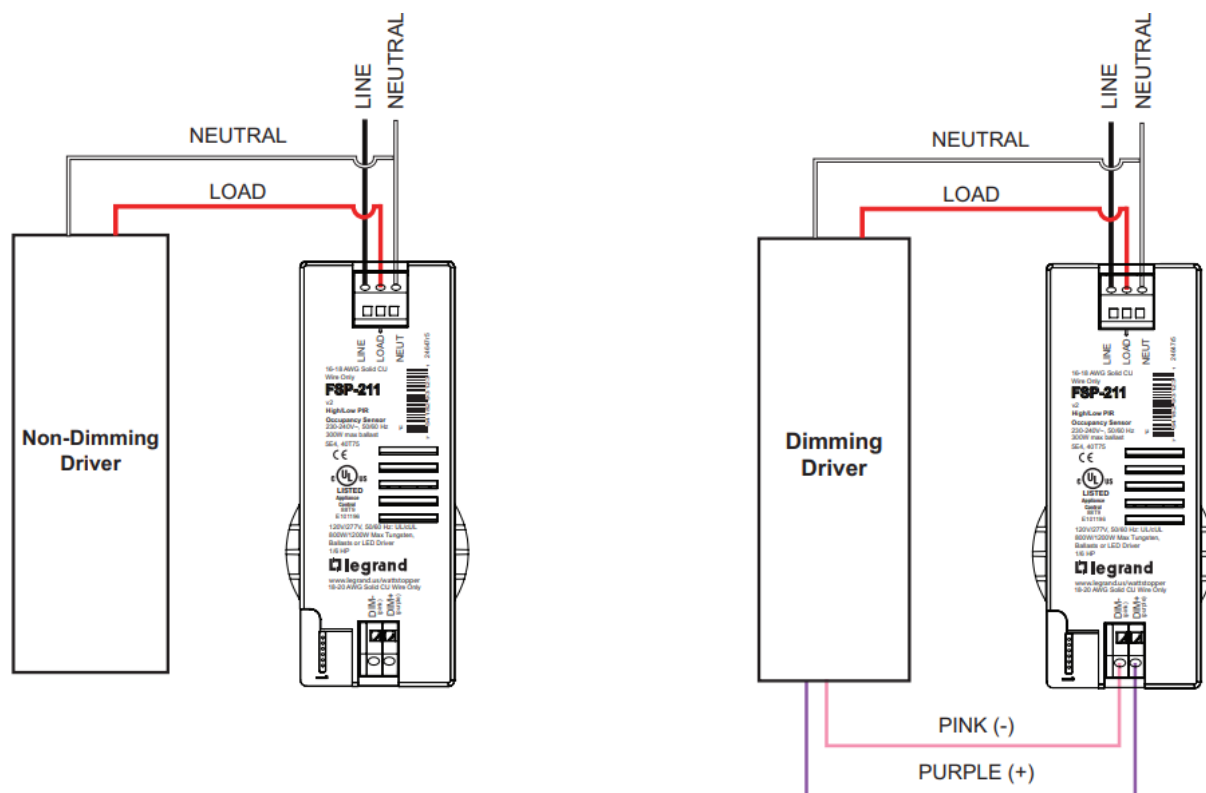
**NOTE:** The Outside Fixture Wall thickness should be no greater than 0.125" (3.18mm) for optimal sensor mounting and security.

## LENS OPTIONS

Several lenses are available for use with the FSP-211. Lenses give coverage at mounting heights between 8' – 40' for applications such as offices, warehouses, and outdoor use. Density and range of the coverage is determined by the type of lens and mounting height.

A lens with shroud option is also available. The shroud blocks light coming from the fixture, to prevent interference with the photocell function of the sensor. Lens modules are IP-66-rated when combined with an FSP-211 sensor mounted to an outdoor-rated fixture. See the FSP-Lx Lens Coverage Guide for more information.

## WIRING



**NOTE:** Per UL, the 0-10V negative dimming wire color has been changed from gray to pink.

**OUTDOORS**—USE AT THE EXPOSED SENSOR COLLAR PART ONLY WHEN INSTALLED AT THE SPECIFIC

LOCATION PER INSTALLATION INSTRUCTIONS WITH A LISTED OUTDOOR ENCLOSURE.

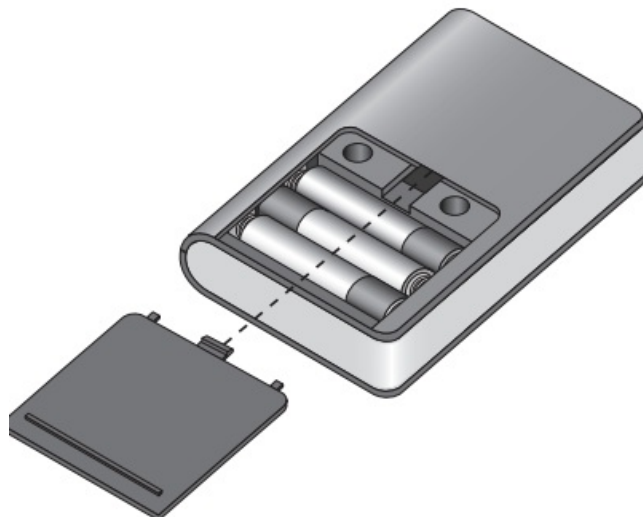
## USING THE FSIR-100 CONFIGURATION TOOL

- The configuration process establishes the appropriate parameters for the FSP-211 operation. This is done through the FSIR-100 configuration tool. If no configuration steps are taken, the sensor will use its default parameter values.
- The FSIR-100 Wireless IR Configuration Tool is a handheld tool for changing defaults and testing of Wattstopper FSP-211. It provides wireless access to the FSP-211 sensors for parameter changes and testing.
- The FSIR-100 display shows menus and prompts to lead you through each process. The navigation pad provides a simple way to navigate through the customization fields.
- Within a certain mounting height of the sensor, the FSIR-100 allows modification of the system without requiring ladders or tools; simply with a touch of a few buttons.
- The FSIR-100 IR transceiver allows bi-directional communication between the FSP-211 and the FSIR-100 configuration tool. Simple menu screens let you see the current status of the sensor and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off, and more. With the FSIR-100 you can also establish and store FSP-211 parameter profiles.

## BATTERIES

The FSIR-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FSIR-100 automatically shuts off 10 minutes after the last key press.

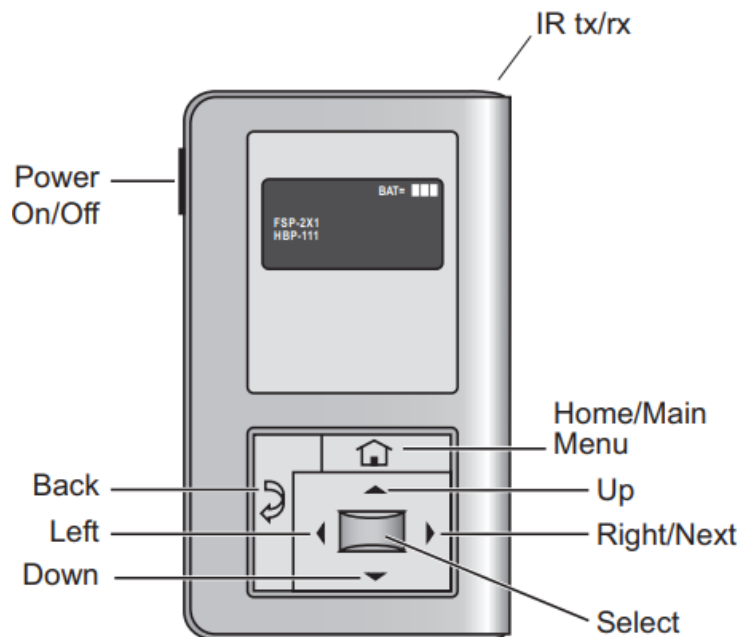
- If communication is not successful, (if possible) move closer to the sensor.
- If still not successful, there may be too much IR interference from other sources. Programming the unit at night when there is no daylight available may be the only way to communicate with the sensor.



## NAVIGATION

Navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates) between yellow text on black background and black text on yellow background. Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in “less-than/greater-than” symbols: <value>. Once active, change

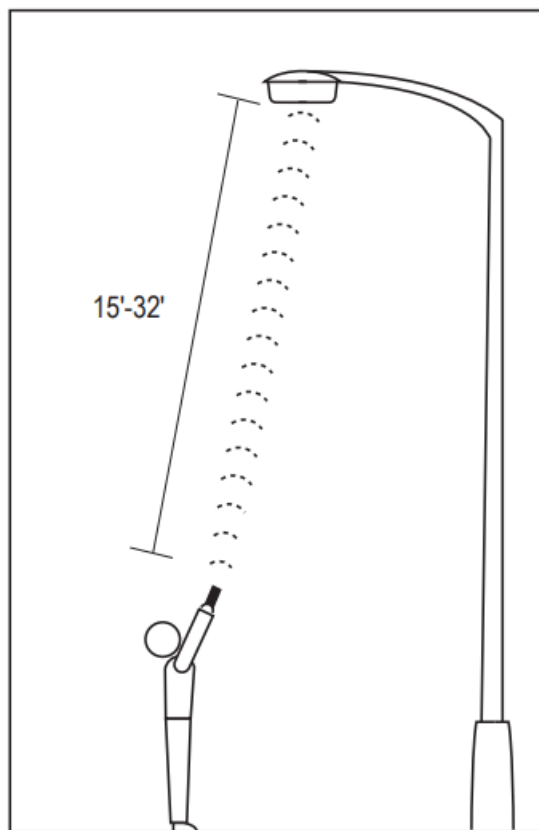
them using(left) and(right) arrow keys. The right key increments and the left key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.



## IR COMMUNICATION

IR communication can be affected by the mounting height of the sensor and high ambient lighting such as direct daylight or electric light such as floodlights, and some halogen, fluorescent lamps, LED's.

When trying to communicate with the FSP-211, be sure to be positioned under the sensor without any obstructions. Every time the commissioning tool establishes communication with the FSP-211, the controlled load will cycle.



\* Distance may vary depending on the lighting environment

## TROUBLESHOOTING

### • Lights will not go to High Mode:

- Check all wire connections and verify the load wires are tightly secured.
- Make sure that the sensor is not obstructed.
- Check light level parameter, to find out the amount of light that the sensor is detecting. Cover the sensor lens to simulate darkness in the room. If the lights come ON, the setpoint needs to be adjusted. If set for minimum, more than 1 fc at the sensor of ambient light will cause the lights to be held OFF. See the new settings section for instructions.
- If lights still do not turn ON, call 800.879.8585 for technical support.

### • Lights will not go into Low Mode:

- The time delay can be set from a minimum of 30 seconds to a maximum of 30 minutes. Ensure that the time delay is set to the desired delay and that there is no movement within the sensor's view for that time period.  
To quickly test the unit operation, enable test mode and move out of the sensor's view. Lights should fade to low mode after 5 seconds.
- If lights still do not fade to Low Mode, call 800.879.8585 for technical support

### • Lights will not turn OFF:

- Cut Off time may be set to "None."
- Ensure that the Cut Off is set to the desired time and that there is no movement within the sensor's view for that time period when the lights are in Low Mode.
- To quickly test the unit operation, enable test mode and move out of the sensor's view. Lights should fade to low mode after 5 seconds, and the OFF (if cut off is enabled) after 10 sec.



- If lights still do not turn OFF, call 800.879.8585 for technical support.
- False Triggering may occur if the sensor is exposed to high ambient temperature conditions and the unit is set to maximum sensitivity for PIR detection.
- If this occurs, reduce the PIR sensitivity setting from maximum to a medium point and re-check unit operation.
- If experiencing false triggering during fade down/Off, try increasing the fade time.

• **Lights do not turn ON:**

Check for blinking red LED. If the LED blinks with long pulses, as opposed to short pulses, the sensor has reached its Hold Off setpoint or Photocell Light Level setpoint.

• **Lights suddenly turn off and will not come back on:**

Check for blinking red LED. If the LED blinks with long pulses, as opposed to short pulses, the sensor has reached its Hold Off setpoint or Photocell Light Level setpoint.

• **There is no IR communication:**

Perform a power cycle on the FSP-211.

## OPERATION DURING POWER-UP

During the sensor warm-up period, which can last up to 5 seconds after initial power-up (or after a lengthy power outage), the load will remain ON until the selected time delay expires.

## ORDERING INFORMATION

Catalog #	Description
FSP-211	Digital High/Low PIR Fixture Integrated Sensor
FSIR-100	Configuration Tool
FSP-L2	360° lens, up to 44' diameter at 8' height
FSP-L2-S	360° lens, up to 44' diameter at 8' height, with shroud
FSP-L3	360° lens, up to 40' diameter at 20' height
FSP-L3-S	360° lens, up to 40' diameter at 20' height, with shroud
FSP-L7	360° lens, up to 100' diameter at 40' height
FSP-L7-S	360° lens, up to 100' diameter at 40' height, with shroud
FSP-C1	Small collar, for use with FSP-L2 and FSP-L3 lenses
FSP-C2	Large collar, for use with FSP-L7 lens


Sensor is White.

## WARRANTY INFORMATION

Wattstopper warrants its products to be free of defects in materials and workmanship for a period of five (5) years. There are no obligations or liabilities on the part of Wattstopper for consequential damages arising out of, or in connection with, the use or performance of this product or other indirect damages with respect to loss of property, revenue or profit, or cost of removal, installation or reinstallation.

800.879.8585  
[www.legrand.us](http://www.legrand.us)

Documents / Resources

	<a href="#">legrand BCS-WS-IS-FSP-211 High Low PIR Fixture Mount Sensor</a> [pdf] User Guide BCS-WS-IS-FSP-211 High Low PIR Fixture Mount Sensor, BCS-WS-IS-FSP-211, High Low PIR Fixture Mount Sensor, PIR Fixture Mount Sensor, Mount Sensor, Sensor
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References

- [Wattstopper Lighting Control Systems](#)
- [User Manual](#)

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