LINE VOLTAGE HIGH/LOW/OFF PIR FIXTURE INTEGRATED OUTDOOR PHOTO/MOTION SENSOR

FSP-211

Product Overview

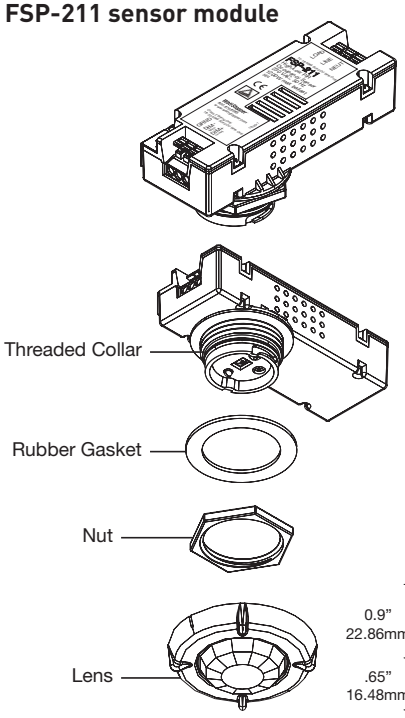
The FSP-211 is a passive infrared (PIR) outdoor sensor that raises or lowers the electric lighting level to high, low or off based on motion and/or daylight contribution. Typically, once the sensor stops detecting movement and the time delay elapses, lights will first fade to low mode, and eventually switch off. When motion is detected, the sensor ramps the light level to high mode unless the daylight contribution is sufficient. The integral photocell can also switch the lights on and off for dusk to dawn control, so that lighting remains on overnight even without motion detection.

This slim, low-profile sensor is designed for installation inside the bottom of a light fixture body, and is rated for wet and cold locations.

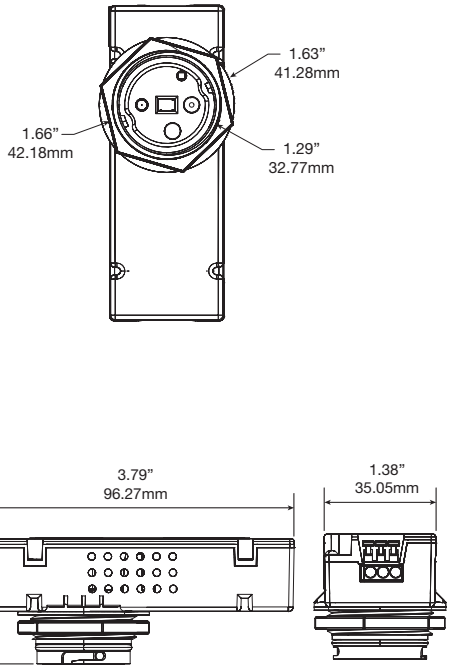
Initial setup and subsequent sensor adjustments are made using a wireless handheld configuration tool (FSIR-100). This tool enables adjustment of sensor parameters including high/low mode, sensitivity, time delay, cut off and more.

The FSIR-100 can read current parameter settings, and stores up to six sensor parameter profiles to speed commissioning of multiple sensors.

FSP-211 sensor module



FSP-211 dimensions



Models

FSP-211
120-277VAC, 50-60Hz
Load @ 120VAC 0-800W ballast or incandescent
Load @ 230VAC 0-300W ballast
Load @ 277VAC 0-1200W ballast

Specifications and Features

- Compact design ideal for use in parking garage, gas station, and parking lot luminaires
- Power consumption: 1W
- 0-10V sinking current: 50mA
- Four interchangeable lenses for mounting between 8' and 40'
- Remote setup and adjustment with handheld wireless configuration tool
- Adjustable high and low modes (high: 0 to 10V, low: off, 0 to 9.8V)
- Adjustable time delay (30 seconds, 5 to 30 minutes)
- Adjustable cut off delay (none, 1 to 60 minutes, 1 to 5 hours)
- Adjustable sensitivity (low, med, max)
- Adjustable setpoints: hold off setpoint (none, 1 to 250 fc, auto); photocell on/off setpoint (1 to 250 fc)
- Adjustable ramp and fade times (1 to 60 seconds)
- Operating temperature: -40°F to +167°F (-40°C to +75°C)
- Storage temperature: -40°F to +176°F (-40°C to + 80°C)
- Operating Humidity: 5% to 95% non-condensing
- Relay life rating: 200,000 cycles (120/277VAC), 50,000 cycles (230VAC)
- Weight: 2.8 oz (80 grams)
- UL and cUL listed; CE; TUV listed
- IP66 rated
- FSIR-100 is FCC Part 15 compliant
- Five year warranty

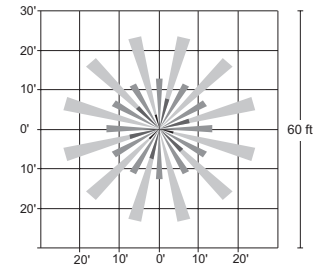
Materials

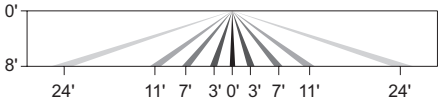
Polycarbonate, flame retardant
UV resistant
Impact resistant
Recyclable
Meets materials restrictions of RoHS

Factory Defaults

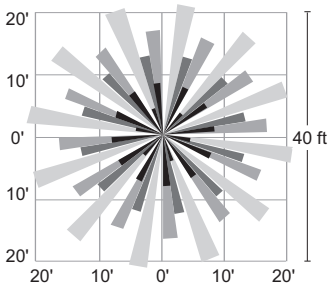
High mode:	10V
Low mode:	1V
Time delay:	5 minutes
Cut off:	1 hour
Setpoint:	Disabled
Sensitivity:	Max
Ramp up time:	Disabled
Fade down time:	Disabled
Photocell On/Off:	Disabled

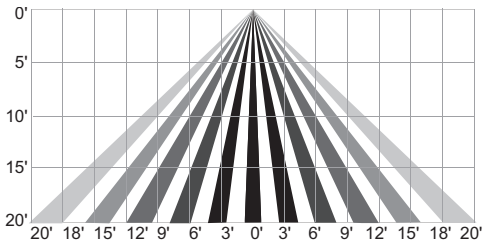
Coverage



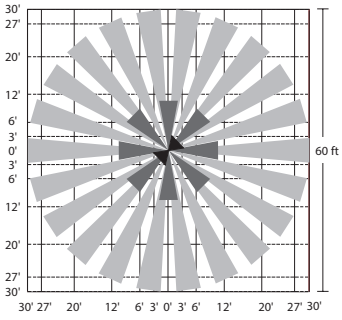


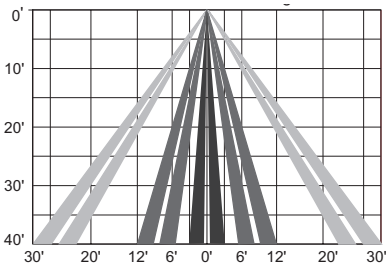
FSP-L2 top and side coverage patterns



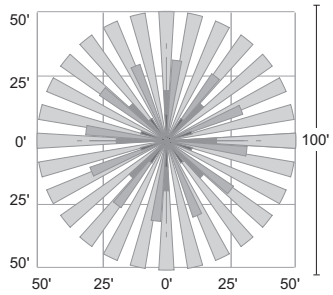


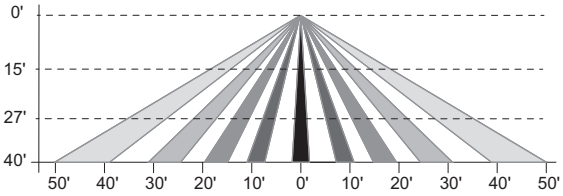
FSP-L3 top and side coverage patterns





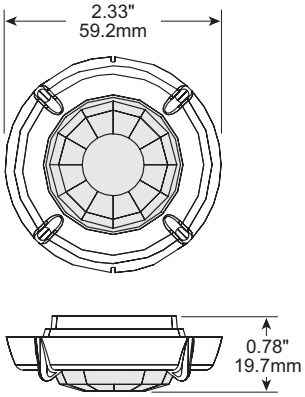
FSP-L4 top and side coverage patterns



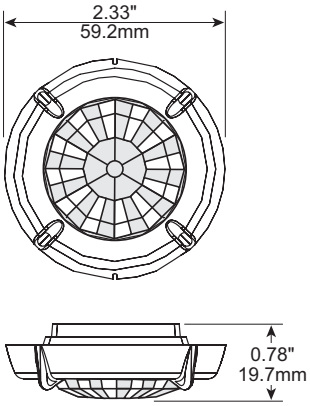


FSP-L7 top and side coverage patterns

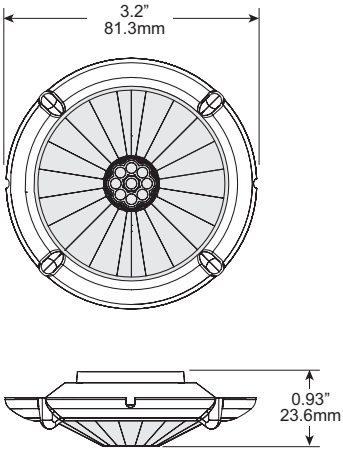
Dimensions of Lens Options



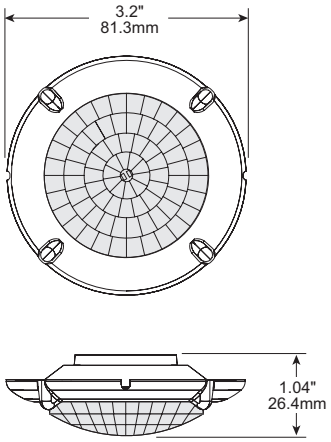
FSP-L2 dimensions



FSP-L3 dimensions



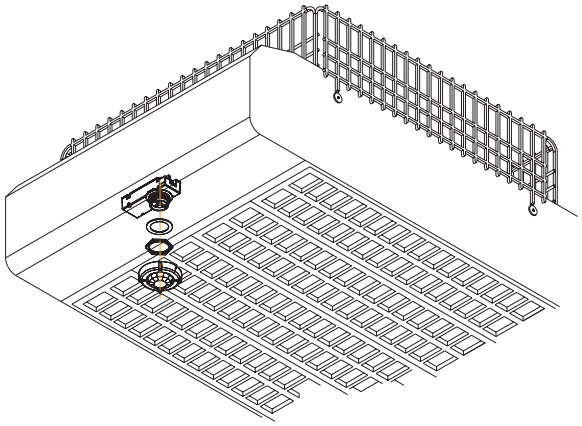
FSP-L4 dimensions



FSP-L7 dimensions

Installing the FSP-211 Sensor in Light Fixture

1. Determine an appropriate mounting location inside the light fixture. Allow a minimum distance of 0.2" (5.1mm) from the end of the sensor to the wall of the fixture.
2. Drill a 1.31" (33.3mm) diameter hole through the sheet metal in the bottom of the fixture.
3. Place the rubber gasket on 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 tightening nut securely against the fixture and torque to 25-30 in-lbs to maintain IP rating.
4. Align the locking features between the sensor and lens module and push the lens module forward until the 0-ring seals firmly. Turn the lens module clockwise to lock in place.
5. Connect load, supply and control wires (see Figures 3 and 4).
6. Restore power from the circuit breaker.



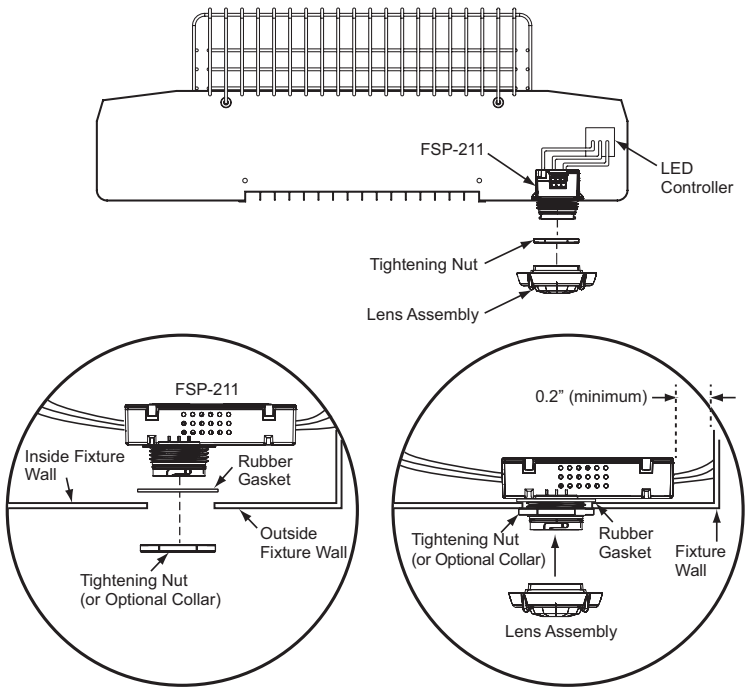


Figure 1. Installing the FSP-211 in the light fixture

NOTE: The outside fixture wall thickness should be no greater than 0.125" (3.18mm) for optimal sensor mounting and security.

Adjustable Control Parameters

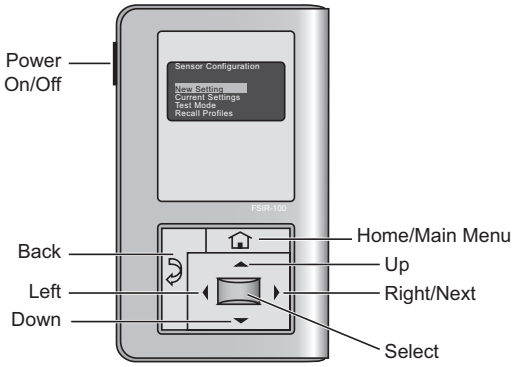
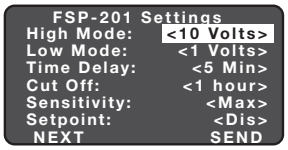
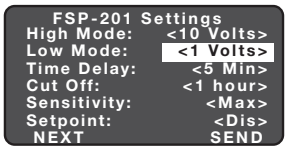


Figure 2. The FSIR-100 is a convenient handheld remote tool for setting up the FSP-211. Adjustable settings can be changed as needed for specific applications.

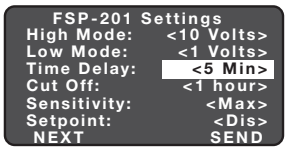
1. High Mode: When the sensor detects motion the dimming control output ramps up to the selected HIGH light level (default is 10V).



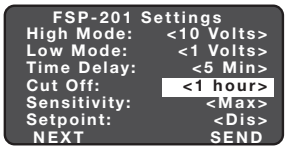
2. Low Mode: After the sensor stops detecting motion and the time delay expires the dimming control output fades down to the selected LOW light level (default is 1V).



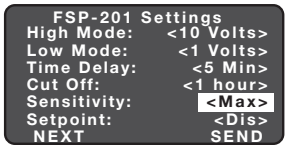
3. Time Delay: The selected time period that must elapse after the last time the sensor detects motion for the electric lights to fade to LOW mode (default is 5 minutes).



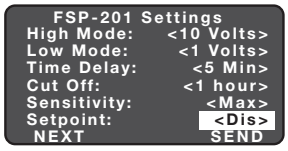
4. Cut Off: The time period that must elapse after the lights fade to LOW mode and the sensor detects no motion for the electric lights to turn OFF (default is 1 hour).



5. Sensitivity: The response of the PIR detector to motion within the sensor's coverage area (default is max).

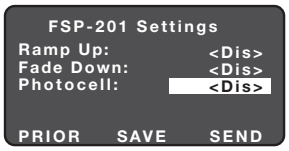


6. Setpoint: When enabled, the selectable ambient light level threshold that will hold the electric lights off or at LOW level when the sensor detects motion (default is disabled).



   The Auto option invokes an automatic calibration procedure to establish an appropriate setpoint based upon the contribution of the electric light. As part of this procedure, the controlled load is turned on for two minutes to warm up the lamp, and then switched off and on eight times, terminating in an off state. After this process, a new setpoint value is automatically calculated.

7. Photocell On/Off: When enabled, the sensor will force the load OFF after the light level has exceeded the selected photocell setpoint for at least a minute. It will also force the load ON when the light level goes below the setpoint, even if no motion is detected (default if disabled).

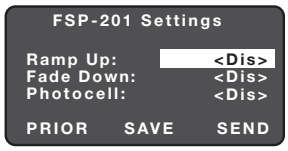


   Once ON (initially at High), the load will dim to Low following the Time Delay, and to OFF following the Cut Off time. To ensure dusk to dawn control, Cut Off must be disabled.

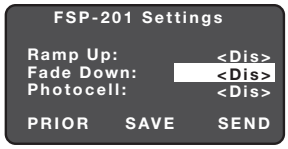
   The photocell On/Off setpoint is automatically set to maintain a deadband of at least 10 fc above the Hold Off Setpoint to prevent cycling if the two features are used together.

8. Ramp Up Time: Time period for light level to increase from LOW to HIGH (default is disabled; lights switch instantly).

9. Fade Down Time: Time period for light level to decrease from HIGH to LOW (default is disabled; lights switch instantly).



10. Lock Settings: Time delayed IR communication lock initiated from the FSIR-100 to prevent unauthorized changes of FSP-211 parameters until power is cycled to the sensor (default is disabled).



    To lock settings, select Lock Delay, set a time, and press SEND to send the parameter change to FSP-211. After the countdown, FSP-211 will no longer respond to the FSIR-100. If additional configuration is required, cycle the power to the FSP-211 off and then back on. To disable the lock parameter after the power cycle, select Lock Delay, select Disable, and press SEND.

Wiring Diagram

Figure 3. FSP-211 wiring with dimming ballast or LED driver.

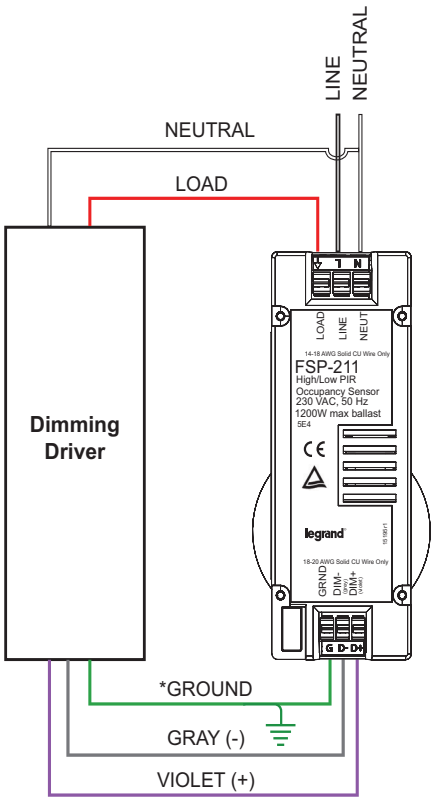
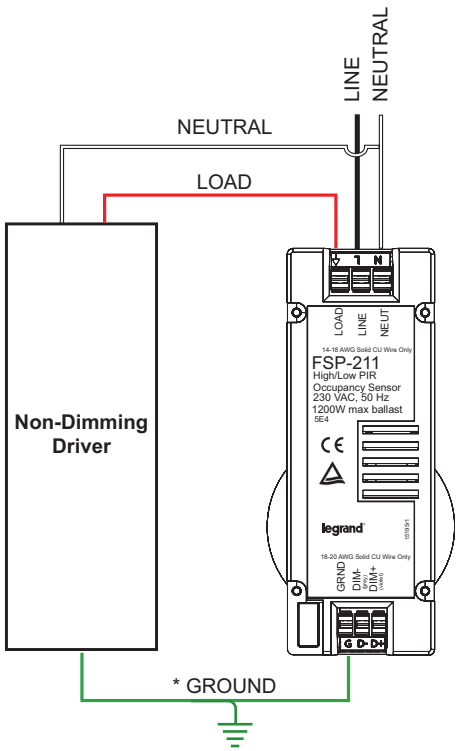


Figure 4. FSP-211 wiring with non-dimming ballast or LED driver.



NOTE: The FSP-211 must be properly grounded.

Sequence of Operation

1. **Dimming:** When motion is detected within the sensor's coverage area, the sensor sends a signal to ramp the load up to the selectable High Mode level unless the ambient light level is higher than the selected setpoint. When no motion is detected for the duration of the time delay setting (factory preset at 5 minutes), the lights will go to the selectable Low Mode level based on the signal from the sensor. If desired, a cut off time delay (factory preset at 1 hour) will trigger to eventually turn the lights OFF.
2. **Non dimming:** When motion is detected within the sensor's coverage area, the sensor sends a signal to turn the load ON unless the ambient light level is higher than the selected setpoint. When no motion is detected for the duration of the time delay setting (factory preset at 5 minutes), the lights will go OFF based on the signal from the sensor.
3. **Dusk to dawn control:** When photocell on/off is enabled, and the ambient light falls below the photocell setpoint, the sensor ramps the load up to the selectable High Mode level. If no motion is detected for the duration of the time delay setting (factory preset at 5 minutes), the lights will go to the selectable Low Mode level. If the cut off time delay is disabled, the load will remain on, at High or Low level, based on motion detection, until the ambient light increases above the photocell setpoint.

Ordering Information

Catalog #	Master Pack Details					Inner Pack Details				
	Master Pack Quantity	Case dimensions (inches)			Weight (pounds)	Inner Pack Quantity	Case dimensions (inches)			Weight (pounds)
		Length	Width	Height			Length	Width	Height	
FSP-211	100	21.14	19.72	10.31	24.2	50	20.67	9.44	9.76	10.8
FSIR-100	40	12.83	14.02	10.04	21.84	10	9.44	6.10	6.69	5.24
FSP-L2	400	16.14	15.35	18.74	21.6	100	15.50	7.32	8.60	4.82
FSP-L3	400	16.14	15.35	18.74	20.3	100	15.50	7.32	8.60	4.82
FSP-L4	100	23.82	16.22	9.69	9.44	50	23.03	7.72	8.58	3.78
FSP-L7	100	23.82	16.22	9.69	10.74	50	23.03	7.72	8.58	4.72

Catalog #		Color	Description	Voltage
☐	FSP-211	White	Fixture mount, passive infrared motion sensor	120-277VAC, 50/60Hz
☐	FSIR-100	Black	Remote Handheld Configuration Tool	Three standard 1.5V AAA alkaline batteries (included)
☐	FSP-L2	White	360° lens, maximum coverage 48' diameter from 8' height	
☐	FSP-L2-B	Black		
☐	FSP-L2-BR	Brown		
☐	FSP-L2-G	Grey		
☐	FSP-L3	White	360° lens, maximum coverage 40' diameter from 20' height	
☐	FSP-L3-B	Black		
☐	FSP-L3-BR	Brown		
☐	FSP-L3-G	Grey		
☐	FSP-L7	White	360° lens, maximum coverage 100' diameter from 40' height	
☐	FSP-L7-B	Black		
☐	FSP-L7-BR	Brown		
☐	FSP-L7-G	Grey		
☐	FSP-C1-W	White	Small collar, for use with FSP-L2 and FSP-L3 lenses (Optional for models above. Included with -D and -S models ordered below)	
☐	FSP-C1-B	Black		
☐	FSP-C1-BR	Brown		
☐	FSP-C1-G	Gray		
☐	FSP-C2-W	White	Large collar, for use with FSP-L7 lens (Optional for models above. Included with -D and -S models ordered below)	
☐	FSP-C2-B	Black		
☐	FSP-C2-BR	Brown		
☐	FSP-C2-G	Gray		

Information supplied above is subject to change.
Harmonization code: 8538908080. Country of origin: China.