

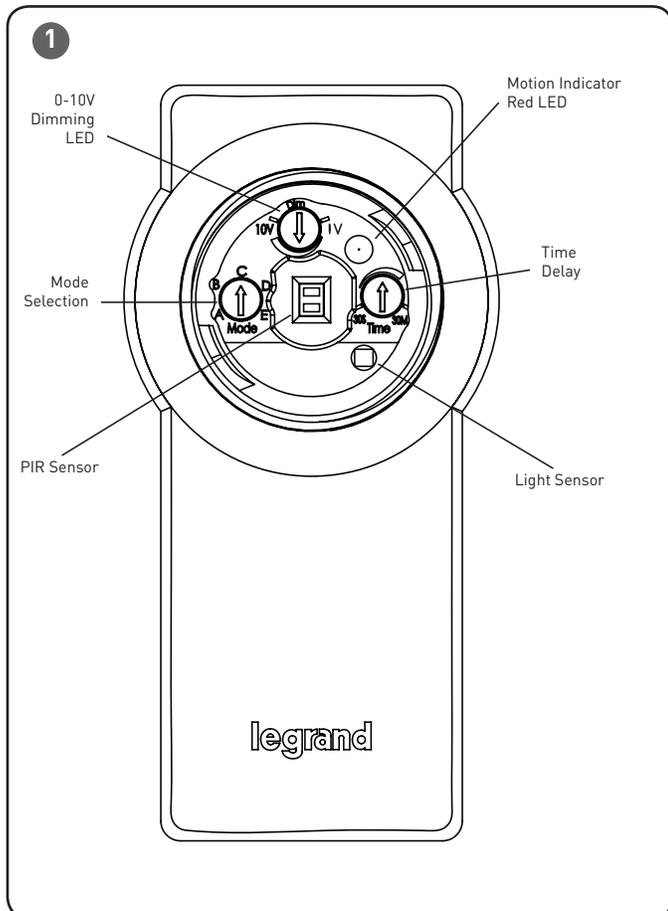
IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **DANGER**- Risk of shock- Disconnect power before installation.
DANGER – Risque de choc – Couper l’alimentation avant l’installation.
2. This luminaire must be installed in accordance with the NEC or your local electrical code. If you are not familiar with these codes and requirements, consult a qualified electrician.
Ce produit doit être installé conformément à NEC ou votre code électrique local. Si vous n’êtes pas familier avec ces codes et ces exigences, veuillez contacter un électricien qualifié.
3. All electrical connections have been made at the factory.
4. The sensor is designed for mounting heights between 8 ft. to 40 ft. (2.4 m to 12.2 m), see figure 1, 2 and 3 for product specific coverage pattern. The handheld remote unit has a range of up to 40ft (12.2 m).
5. When mounting heights are above 30ft. (9.1 m), the sensor generally only detects large objects such as forklift trucks.
6. When the sensor lens assembly is removed the exposed sensor body is sensitive to electrostatic discharge. Take the necessary steps to avoid possible damage to the sensor.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE



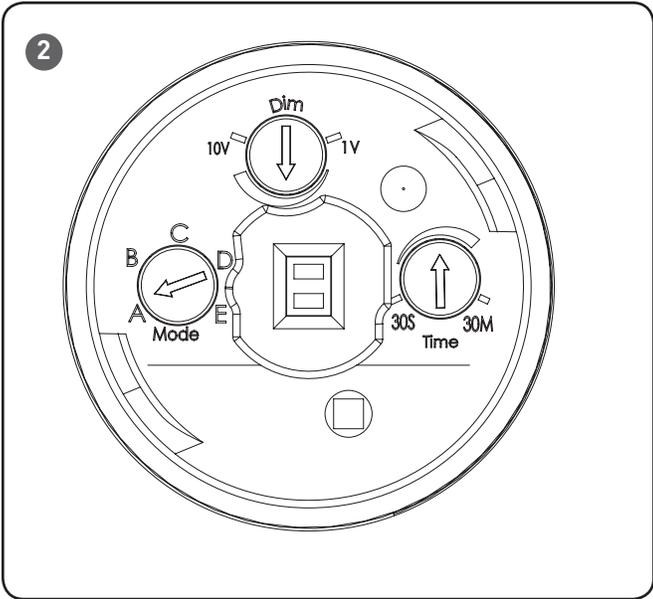
SENSOR DESCRIPTION

The FSP-212 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 with a 0-10V output dimmable ballast or LED driver control.

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-212 operates at 120V/230V-240V Single Phase/277V. It is designed to be installed in indoor and outdoor environments, and provides easy to use selectable modes with several adjustable parameters.

The FSP-212 offers four different control modes of operation, (plus service and test modes) that can be selected using a rotary pot. Once powered up, each mode has a factory default set of parameters. Additionally, sensor adjustment is available for time delay and high/low dim levels via rotary pots.



CONTROL MODES

The FSP-212 has five selectable modes, each of which has preset parameter settings. Once the mode is selected, you can further customize operation by adjusting the Dim and the Time pots.

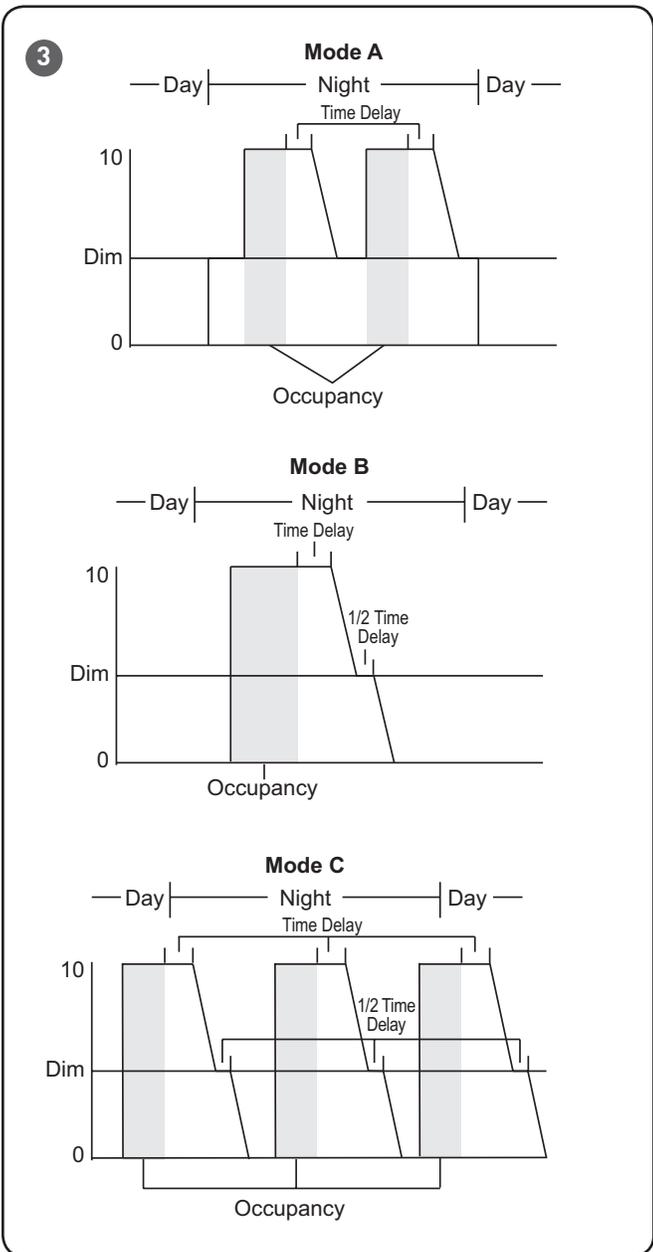
Select the Mode and adjust the other pots using a small screwdriver. **NOTE:** A sixth mode, Test mode, is accessed automatically when mode C is selected. See below and **Figure 2** for details.

Dim (High/Low) – This pot adjusts either the low dim level (for modes A, B, C, and E) or high dim level (for mode D). When the Dim pot is turned, the load goes to the current dimming level, allowing visual confirmation of the dim level. After the Dim pot has not moved for 3 minutes (this allows time to reattach the lens to the sensor), the load will go to the maximum level for 10 seconds and then turn OFF for 10 seconds. The load then returns to previous state before trim pot adjustment. This process allows auto calibration of the photocell, for daylight control.

Time – This pot sets the amount of time delay after vacancy is no longer detected before the loads go to either the Low Trim value or turn OFF, depending on the mode. Additionally, for Modes B and C, this controls the amount of time before the load goes from the Low Trim to OFF. The time will be half of the initial delay. For example, if time is set to 20 minutes, the load will go from ON to the Low Trim level 20 minutes after occupancy is no longer detected. The load will then turn OFF 10 minutes after it goes to the Low Trim level.

Daylight Control – The FSP-212 has a photocell which measures the ambient light to determine daytime/night time, for use in modes A, B, and D. Once the sensor registers enough ambient light to indicate daylight, it triggers daylight control.

Fade Time – For all modes except Mode E and Test Mode, the fade up time from OFF to ON or OFF to High Dim Level is 2 seconds, and the fade down time from ON to Low Dim Level or Low Dim Level to OFF is 10 seconds. For Mode E and Test Mode, fade up and fade down time is 0 seconds.



MODE A – OUTDOOR PARKING AREA KEEPING MINIMUM LIGHT LEVEL AT NIGHT (See Figure 3)

Features: Always ON during the night (ON at dusk, Low Dim maintains minimum level at night, OFF at dawn)

When the ambient lighting is below daylight control level, the load is always ON. If occupancy is detected, the loads turn ON at maximum level. Once no occupancy is detected and the time delay expires, the load will go to the level set with the Dim pot. Once ambient lighting rises to the daylight control level, the load will turn OFF.

MODE B – OUTDOOR PARKING AREA WITH HIGH/LOW DIM/OFF LEVELS AT NIGHT(See Figure 3)

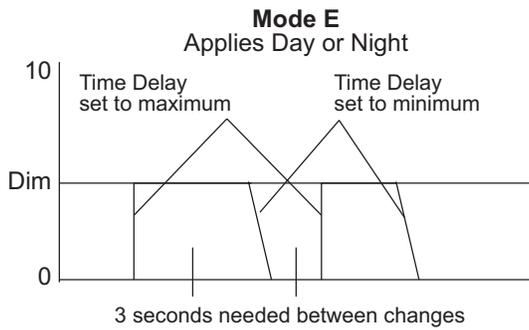
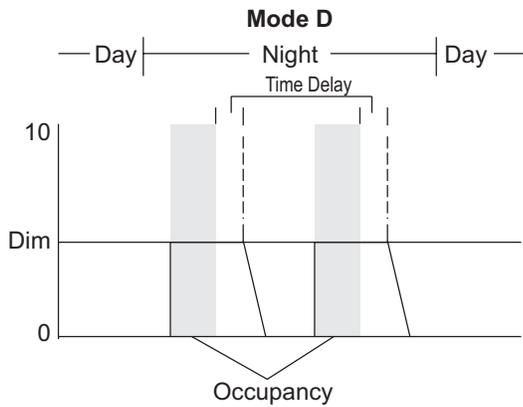
When the ambient lighting is below daylight control level and occupancy is detected, the sensor turns the loads ON at maximum level. Once no occupancy is detected and the time delay expires, the load will go to the level set with the Dim pot. As long as the area remains unoccupied, the load stays at the dim level for one half the amount of the Time delay, and then turns OFF. Once ambient lighting rises to the daylight control level, the load will turn OFF.

MODE C – INDOOR PARKING STRUCTURE OR HIGH-BAY WITH NO DAYLIGHT CONTROL (See Figure 3)

This mode is similar to mode B, except that there is no daylight control. Therefore, anytime, occupancy is detected, the load turns ON at maximum level. Once no occupancy is detected and the time delay expires, the load will go to the level set with the Dim pot. As long as the area remains unoccupied, the load stays at the dim level for one half the amount of the Time delay, and then turns OFF.

NOTE: When you select mode C, FSP-212 unit will initially enter Test mode and stay in test mode for 5 minutes, after which it will switch to mode C operation. (Test Mode is

4



MODE D – INDOOR PARKING STRUCTURE OR HIGH-BAY (See Figure 4)

Features: At dusk, turns ON with occupancy; High Dim Level sets Maximum ON level; OFF at dawn
 When the ambient lighting is below daylight control level and occupancy is detected, the load turns ON at the level set with the Dim pot. Once no occupancy is detected and the time delay expires, the load will turn OFF. Once ambient lighting rises to the daylight control level, the load will turn OFF.

MODE E – SERVICE MODE (See Figure 4)

Features: Allows visual adjustment of Dimming Level
 If the Time pot is set at maximum, the load turns ON at the current Dim level. If the Time pot is set at minimum, the load turns OFF.
 Note that after turning the Time pot to change the ON/OFF setting, the unit will not respond to further changes for 3 seconds.

TEST MODE

Test mode sets the time delay to 5 seconds to allow for testing the occupancy sensor.
 Whenever Mode C is selected using the Mode pot, the FSP-212 will enter Test mode for 5 minutes. If the FSP-212 is currently in mode C, selecting another mode and then returning to mode C will restart Test mode. During Test mode, daylight control is not active and the value of the Time pot is overridden. When occupancy is detected the load will turn ON at 10V. Once no occupancy is detected, the load will go to the dim level after 5 seconds, and then will stay at the dim level for 2.5 seconds, before turning OFF. After 5 minutes, the unit will revert to normal Mode C operation.

| | Daylight Control | High/Low Dim | Time Delay | Auto On | Auto Off |
|---------------|------------------|--------------|--|---|---|
| Mode A | Yes | Low Dim | 30sec – 30 min Default – 15 min. | Ambient light level below daylight control level | Ambient light level above daylight control level |
| Mode B | Yes | Low Dim | 30sec – 30 min 1/2 of set value during Low Trim | Ambient light level below daylight control level and occupancy detected | One half time delay expired or ambient light level above daylight control level |
| Mode C | No | Low Dim | 30sec – 30 min 1/2 of set value during Low Trim | Occupancy detected | One half time delay expired |
| Mode D | Yes | High Dim | 30sec – 30 min | Ambient light level below daylight control level and occupancy detected | Time delay expired or ambient light level above daylight control level |
| Mode E | No | Low Dim | Not applicable | Load is ON at Dim level when time delay trim in maximum position | Load is OFF when time delay trim in minimum position |

TROUBLESHOOTING

Lights do not turn ON at Full Value:

- Make sure that the sensor is not obstructed.
- If Mode is set to A or B, 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 ambient light level is too high.
- If the red LED blinks 1 time per second, the FSP-212 is in short circuit protection mode.
- If the red LED blinks 2 times per second when the sensor is triggered, and in modes A, B, or D, the ambient light level is too high.
- Make sure the FSP-212 is not set to Mode E (Service mode) and time delay trim is not at minimum position.
- If lights still do not turn ON, call 800.236.6800 for Cree technical support.

Lights will not go to Dimming Level:

- Check all wire connections and verify the dimming wires are tightly secured.
- Make sure that the sensor is not obstructed.
- If Mode is set to D, 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 go the dim level, the ambient light level is too high.
- 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 the dim level after 5 seconds and then turn OFF after 2.5 seconds.
- If lights still do not turn go to Dim Level, call 800.236.6800 for Cree technical support.

Lights will not turn OFF:

- Make sure the FSP-212 is not set to Mode E (Service mode) and time delay trim is not at max position.
- To quickly test the unit operation, enable test mode and move out of the sensor's view. Lights should fade to the dim level after 5 seconds and then turn OFF after 2.5 seconds.
- False Triggering may occur if the sensor is exposed to high ambient temperature conditions, so ensure the installed location has good ambient temperature.
- If lights still do not turn OFF, call 800.236.6800 for Cree technical support.