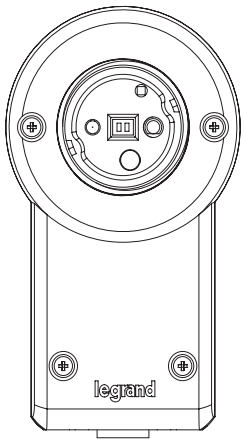
PIR OCCUPANCY SENSOR
MSWSFSP221B

MSWSFSP221B-S MSWSFSP221B-D



DESCRIPTION & OPERATION:

These fixture mounted sensors provide multi-level control based on motion and/or daylight contribution. They control 0-10 VDC LED drivers or dimming ballasts, as well as non-dimming ballasts. When mounted and affixed with appropriate lens, the sensor is rated for wet and cold locations.

The MSWSFSP221B mounts to a fixture/enclosure with a 1/2" knock out, via a nipple on the back. MSWSFSP221B operates at 100-347V Single Phase, as well as 208/230/480VAC phase-to-phase. No power pack is required. It is designed to be installed in indoor and outdoor environments.

The sensor uses 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.

FEATURES:

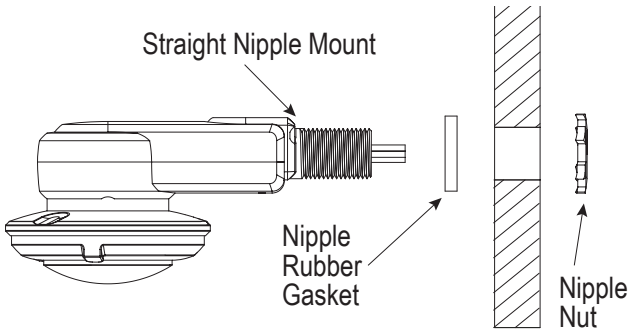
- Provides line voltage On/Off switching and 0-10VDC dimming control
- High and low modes fully adjustable from 0 to 10V
- Time delay from 5 to 30 minutes
- Optional cut off delay
- Adjustable ramp up and fade down times
- Optional daylighting setpoints
- Polycarbonate construction; flame retardant, UV resistant, impact resistant, recyclable

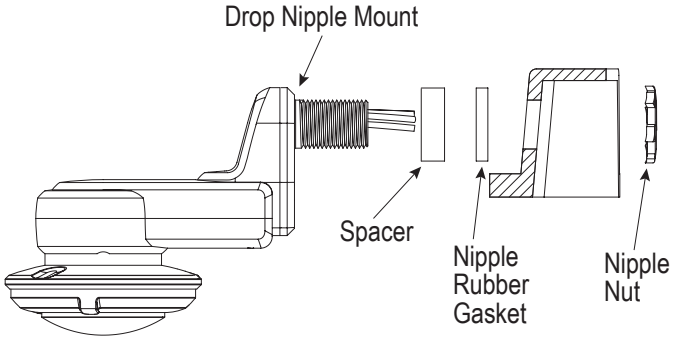
WIRELESS CONFIGURATION TOOL:

Initial setup and subsequent sensor adjustments are made using a Wireless Handheld Configuration Tool (FSIR-100). This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cut off and more.

INSTALLATION:

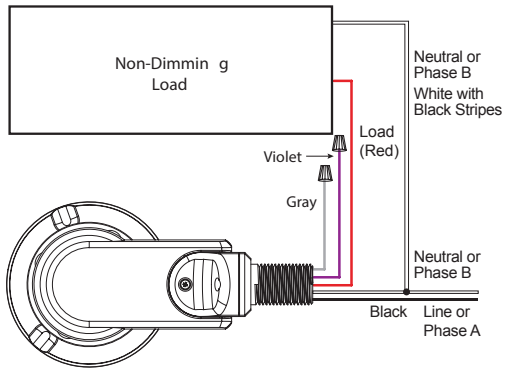
1. Determine an appropriate mounting location minimizing the electric light contribution to the sensor's photocell.
2. If there is no knockout, drill a hole 0.875" (22mm) in diameter through the sheet metal in the fixture or enclosure.
3. Add the rubber gasket to the nipple, and install the sensor face down. Ensure the rubber gasket touches the surface of the fixture. Install the nipple nut securely against the fixture to a torque of 25-30 in-lbs to ensure IP rating is maintained.

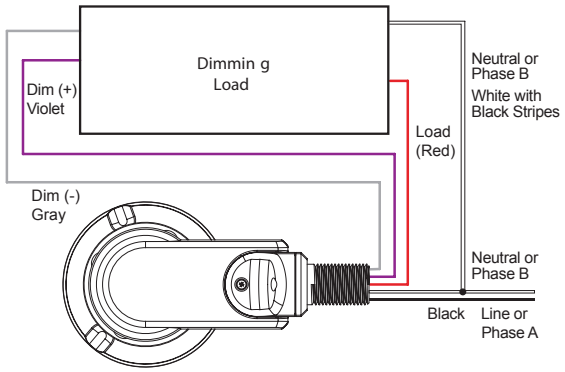




NOTE: The Outside Fixture Wall thickness should be no greater than 0.125" (3.18mm) for optimal sensor mounting and security.

WIRING:





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.

SPECIFICATION:

SPECIFICATION	MSWSFSP221B DETAILS	
VOLTAGE	100-347VAC	Single Phase
	208/230/480VAC	PHASE-TO-PHASE
MAX LOAD RATINGS	@230-240V	0-300W
	@120V	0-800W
	@277V	0-1200W
	@347/480V	0-1200W
WIRING TERMINALS	LENGTH	36”, 30” FROM NIPPLE
	LINE VOLTAGE	LINE, NEUTRAL, LOAD
	LOW VOLTAGE	Dim + (violet), Dim - (gray) 18AWG
OPERATING TEMPERATURE	-40°F (-40°C) to 167°F (75°C)	
DIMENSIONS	COLLAR	1.30” DIA
	COLLAR HEIGHT	0.64”
	BODY	5.7”L x 2.3”W x 3.5”H
WEIGHT	2.8 OZ	
COVERAGE	FSP-L2 LENS @ 8FT	up to 44’ DIA
	FSP-L3 LENS @20FT	up to 40’ DIA
	FSP-L4 LENS @40FT	up to 40’ DIA
	FSP-L7 LENS @40FT	up to 100’ DIA
ADJUSTMENTS AND FEATURES	HIGH MODE	0V-10V
	LOW MODE	0V-9.8V, OFF
	TIME DELAY	30 SEC, 1 MIN-30MIN
	CUT OFF	DISABLE, 1MIN-59MIN, 1HR-5HR
	PHOTOCELL SETPOINT	1-250FC
FACTORY DEFAULTS	HIGH MODE	10V
	LOW MODE	1V
	TIME DELAY	5 MIN
	CUT OFF	1 HR
	SENSITIVITY	MAX

OPTIONAL REMOTE CONTROL 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 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.

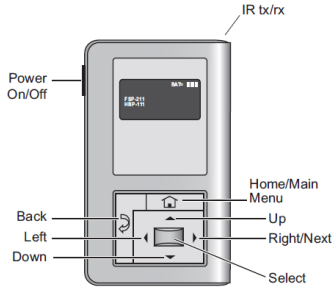
BATTERIES

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.

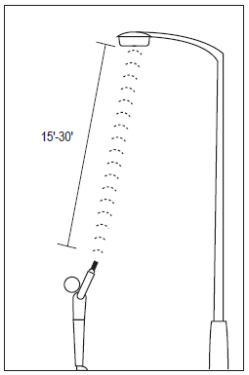
NAVIGATION

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 and the ground 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.

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.

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.

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.