



No: xxxx - 03/17 rev. 1

# Wattstopper®

Single/Dual Phase (Universal), High/Low/Off,  
PIR Fixture Integrated Outdoor Sensor In IP66 Enclosure

Monophasé/Biphasé (Universel), Haut/Bas/Éteint,  
Luminaire avec capteur IRP extérieur intégré dans un boîtier IP66

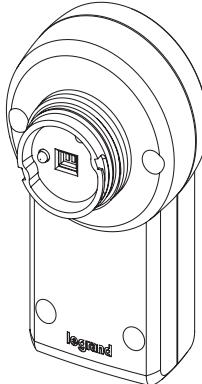
Fase simple/doble (universal), Alto/Bajo/Apagado,  
Sensor exterior integrado del aplique PIR en gabinete IP66

Installation Instructions • Instructions d'Installation • Instrucciones de Instalación

## Catalog Numbers • Les Numéros de Catalogue • Números de Catálogo: FSP-321B, FSP-321B-S, FSP-321B-D

Country of Origin: Made in China • Pays d'origine: Fabriqué en Chine • País de origen: Hecho en China

### SPECIFICATIONS



Voltage ..... 100-347VAC (single phase)  
..... 208/230/480VAC phase-to-phase

#### Load Ratings

@230-240V ..... 0-300W Ballast or LED Driver  
@ 120V ..... 0-800W Tungsten, Ballasts or LED Driver  
@ 277V ..... 0-1200W Ballast or LED Driver  
@347/480V ..... 0-1200W Ballast or LED Driver  
Motor @ 120V/277V ..... 1/6 HP

#### Wiring

Length ..... 36" (91.44cm), 30" (76.2cm) 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)  
Tightening Skirt/Nut Torque ..... 25-30 in-lbs

#### Dimensions

Collar ..... 1.30" diameter (33.0mm)  
Collar height ..... 0.64" (16.3mm)  
Body ..... 5.7" L x 2.3" W x 3.5" H (145mm x 60mm x 90mm)

Weight 2.8 oz (80 g)

Enclosure ..... IP66 (NEMA STD)

#### 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 fc - 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 ..... Disable

### DESCRIPTION AND OPERATION

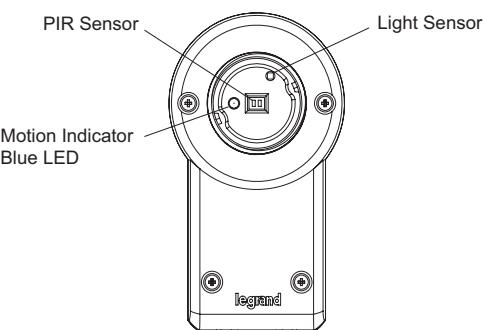
The FSP-321B is an IP66 rated motion sensor that dims lighting from high to low based on movement.

Three configurations are available. The FSP-321B mounts inside the fixture and the PIR lens connects to the FSP-321B through a 1.30" diameter hole in the bottom of the fixture. The FSP-321B-S mounts to a fixture/enclosure with a 1/2" knock out, via a nipple on the back. The FSP-321B-D has a drop mount nipple, for mounting on to a pole, or to a fixture.

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.

The FSP-321B 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.

**NOTE:** When the FSP-321B is powered up the first time, it will use factory default parameters to operate. If adjustments are needed, the FSIR-100 configuration tool must be used.



### LENS OPTIONS

Several lenses are available for use with the FSP-321B. 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. Lens modules are IP-66 rated when combined with an FSP-321B sensor mounted to an outdoor rated fixture. See the FSP-Lx Coverage Guide for more information.

## INSTALLATION

There are three configurations of the sensor:

- The FSP-321B mounts inside the fixture.
- The FSP-321B-S mounts to a fixture or an enclosure with a 1/2" knockout.
- The FSP-321B-D mounts to a pole or fixture.

### Mounting Inside the Fixture

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 skirt securely against the fixture to a torque of 25-30 in-lbs to ensure IP rating is maintained.

### Mounting to a Fixture/Enclosure – Straight Nipple

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.

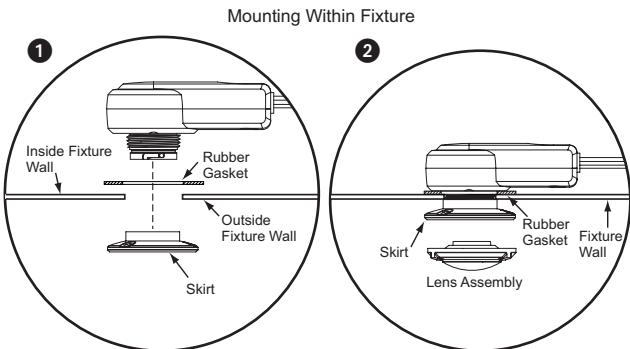
### Mounting to a Pole or Fixture – Drop Nipple

1. Determine an appropriate mounting location on the pole.
2. Drill a hole 0.875" (22mm) in diameter through the pole.
3. Add the rubber gasket to the nipple, and install the sensor face down. Ensure the rubber gasket touches the surface of the fixture. If needed, add the nut between the sensor body and the rubber gasket to ensure a secure fit. Install the nipple nut securely against the fixture to a torque of 25-30 in-lbs to ensure IP rating is maintained.

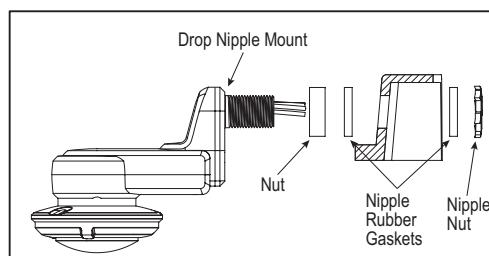
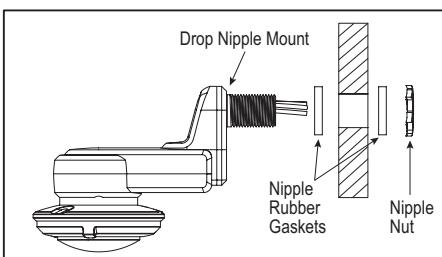
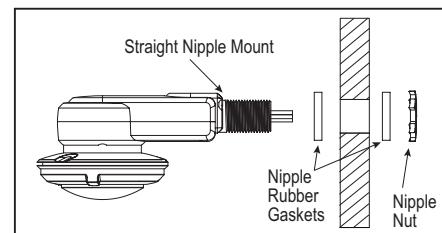
### Completing the Installation

1. 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.
2. Connect wires as shown in wiring diagram.
3. Restore power from the circuit breaker.

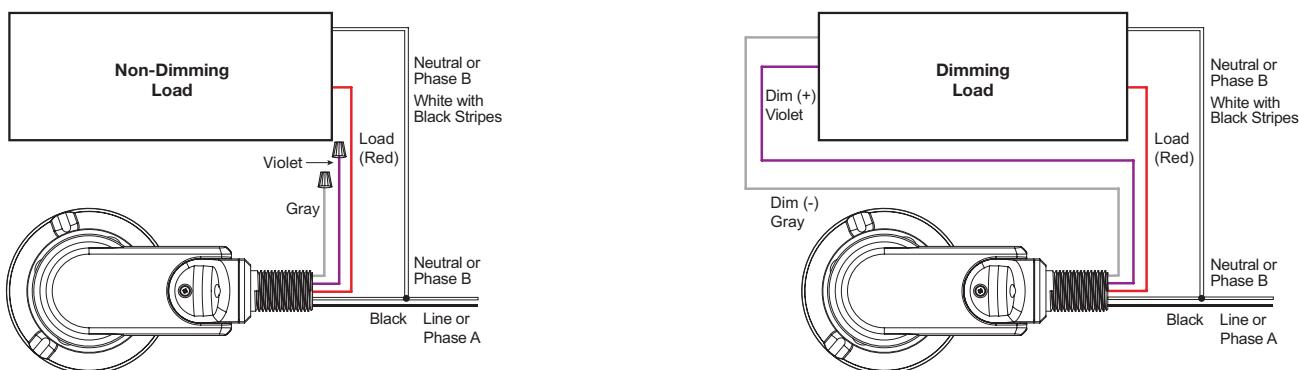
**NOTE:** The IP66 rating for this unit is based on proper installation as indicated above. However, as Fixture housings may vary in thickness, material, and hole dimensions to accommodate this unit, all precautions to maintain IP66 should be considered with the combination and installation of the unit to the Fixture Housing. This includes installation to an IP66 rated Fixture Housing and use of suitable outdoor rated silicone seals or accessories.



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



## WIRING



## FSP-321B CONFIGURATION

The configuration process establishes the appropriate parameters for the FSP-321B operation. This is done through the FSBT mobile application with Andriod version 4.3 or higher and iOS. If no configuration steps are taken, the sensor will use its default parameter values.

## USING THE FSBT CONFIGURATION SOFTWARE

The FSBT Bluetooth Configuration Software is a mobile app for changing defaults and testing of the FSP-321B. It provides wireless access to the FSP-321B sensors for parameter changes and testing.

The FSBT display shows menus and prompts to lead you through each process. The mobil app provides a simple way to navigate through the customization fields.

Within a certain mounting height of the sensor, the FSBT allows modification of the system without requiring ladders or tools.

The FSBT allows bi-directional communication between the FSP-321B and the FSBT configuration app . Simple menu screens let you see the current status of the sensor and make changes. It can change FSP-321B sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FSBT you can also establish and store FSP-321B parameter profiles.

Add QR code for app download

### NAVIGATION

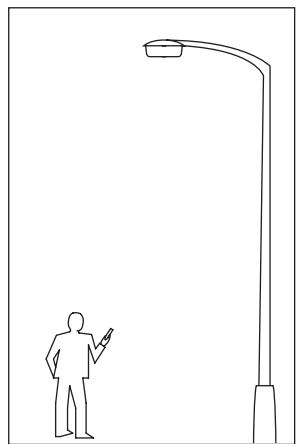
Navigation is achieved by selecting any of the desired parameters. Settings can be changed via number inputs or sliders.

**NOTE:** When you change parameter values on the FSP-321B, you need wait about 3 minutes before the new parameters are saved into the memory.

### BLE COMMUNICATION

The FSBT app has the ability to detect multiple sensors based on signal strength or distance.

Every time the commissioning tool establishes communication with the FSP-321B, the controlled load will cycle.



## 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.
- 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 "Disable."
- 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 twice, the sensor has reached it's Hold Off setpoint, if the LED blinks 3 times, the sensor has reached it's Photocell Light Level setpoint.

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

Check for blinking red LED. If the LED blinks twice, the sensor has reached it's Hold Off setpoint, if the LED blinks 3 times, the sensor has reached it's Photocell Light Level setpoint.

#### **There is no IR communication:**

Perform a power cycle on the FSP-321B.

### **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-321B	Single/Dual Phase (Universal), PIR Fixture Integrated Sensor in IP66 Enclosure
FSP-321B-S	Single/Dual Phase (Universal), PIR Fixture Integrated Sensor in IP66 Enclosure, with Straight Nipple Mount
FSP-321B-D	Single/Dual Phase (Universal), PIR Fixture Integrated Sensor in IP66 Enclosure, with Drop Nipple Mount
FSP-L2	360° lens, up to 44' diameter at 8' height
FSP-L3	360° lens, up to 40' diameter at 20' height
FSP-L7	360° lens, up to 100' diameter at 40' height

Sensor colors indicated by one of the following suffixes at the end of the catalog #:

-W = White; -BL = Black; -BR = Bronze/Brown; -G = Grey/Silver

#### **Warning:**

**This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions :**

**(1) this device may not cause harmful interference, and  
(2) this device must accept any interference received, including interference that may cause undesired operation.**

Information to user

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or

modifications not expressly approved by the party responsible for compliance could void the user's authority to operate

the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet,

the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.