

# HIGH/LOW BAY SELECTABLE MODE CONTINUOUS DIMMING PASSIVE INFRARED OCCUPANCY SENSOR | HBP-2X2 SERIES

Designed for LED high bay  
or low bay applications

360° coverage from 15'-40';  
lens covers 100' diameter  
area from 40' height; rotatable  
snap-on aisleway masking

Adjustable time delay and  
hold-off daylighting level



Choice of four preconfigured  
operation modes plus test and  
service mode

cULus listed snap-in mounting  
hardware



## Description

The HBP-2x2 Series adds the convenience of automatic daylight response to the versatile HBP product family. These high bay Passive Infrared (PIR) occupancy sensors provide automatic control of individual LED lighting fixtures in warehouses and other indoor high bay and low bay spaces. The lens is designed to provide reliable coverage from a wide range of mounting heights (15' to 40') and coverage can be masked for aisle way applications using an included snap-on mask. Sensor functionality can be adjusted via rotary trimpots. The continuous dimming functionality automatically adjusts light-levels in the space based on ambient light contributions, maximizing energy savings.

## Operation

The HBP-202 operates on 12-32VDC supplied by a power pack or auxiliary output driver; the HBP-212 operates on 120 or 277VAC. The sensors have four distinct application modes and uses both PIR motion detection and ambient light levels to turn lighting on to the desired preset intensity. When a daylighting application mode is selected, the sensor automatically changes the intensity to maintain the desired light level in the space.

## Features

- Provides line voltage On/Off switching and 0-10VDC dimming control (HBP-212)
- Continuous automatic intensity control based on daylighting contribution
- Works with ballasts or LED drivers
- High or low trim fully adjustable from 1 to 10V
- Time delay from 30 seconds to 30 minutes
- Optional cut off delay
- Ramp up and fade down times (2 seconds; 10 seconds)
- Polycarbonate construction; flame retardant, UV resistant, impact resistant
- UL244A and UL508 listed, FCC and CE certified
- This product meets the materials restrictions of RoHS

## Applications

Three rotary trimpots are available on the sensor to facilitate setup and adjustment. Trim level for the selected application mode is set using the intensity trimpot adjustable from 1 to 10V. The time delay is selectable from 30 seconds to 30 minutes using a second trimpot; the cutoff delay for Mode B is 1/2 the value of the time delay. The application mode trimpot is used to define the application space and desired fixture response.

**Mode A:** Is recommended for traditional high/low/off applications. This mode uses a hold off light level set point, which can be adjusted to the desired light level or disabled using Set trimpot. Anytime occupancy is detected with ambient light level below the hold off set point, the load turns on.

**Mode B:** Is recommended for continuous dimming applications and will turn the load completely off when the contribution of ambient light reaches the desired set point.

**Mode C:** Is recommended for continuous dimming applications and will dim the load down to the minimum desired light level when the contribution of ambient light reaches the desired set point.

**Mode D:** Is recommended for continuous dimming applications where different light levels are maintained during day hours versus night hours.

**Mode E:** Is the service and setup mode to adjust time delays and desired light levels. Refer to the installation instructions for detailed direction on making these adjustments.

PROJECT

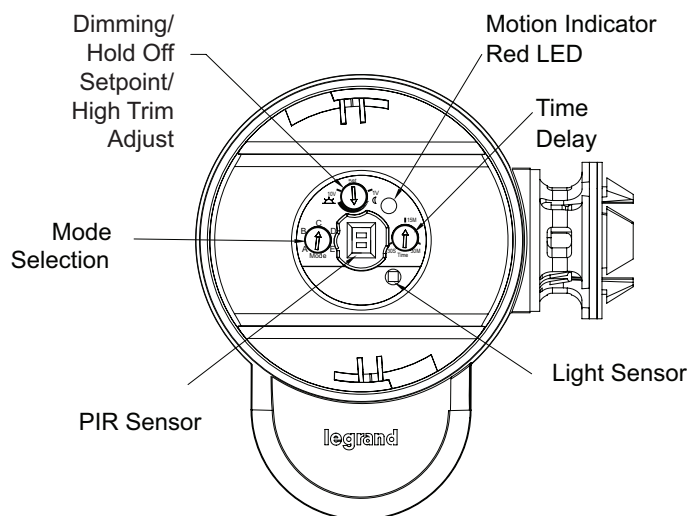
LOCATION/  
TYPE

## Specifications

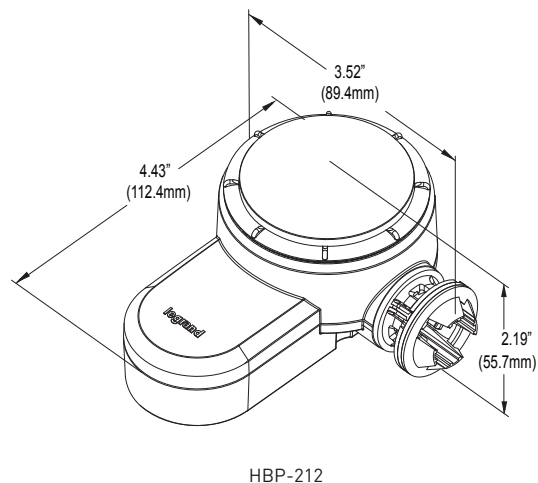
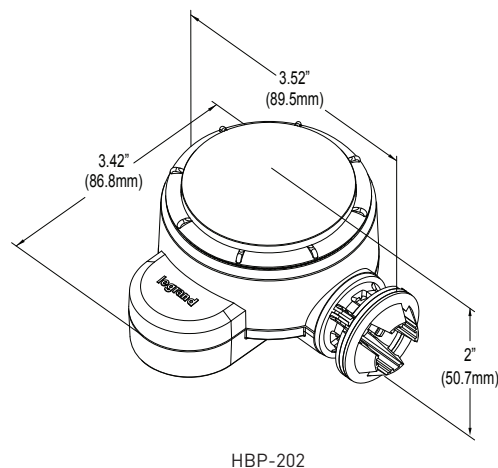
- Input voltage:
  - HBP-202, 12-32VDC
  - HBP-212, 120/277VAC; 50/60Hz, 230-240V, 50/60Hz, Single Phase
- Load ratings (HBP-212):
  - @120 VAC: 0-800W tungsten, ballast, LED driver; 1/6hp motor
  - @277 VAC: 0-1200W ballast, LED driver; 1/6hp motor
  - @230/240V 0-500W ballast, LED driver
- Relay life rating (HBP-212): 200,000 cycles (120/277VAC);
  - 50,000 cycles (230VAC)
- Trim level: 1-10V; default 1V
- Time delay: 30 sec.-30 min.; default 15 minutes
- Cut off delay: 1/2 of time delay
- Ramp up time: 2 seconds
- Fade down time: 0-10 seconds
- Operating conditions: -40 to 158°F (-40 to 70°C); 5-95% RH
- Dimensions:
  - HBP-202 – 3.52”L x 3.42”W x 2”H (89.5mm x 86.8mm x 50.7mm)
  - HBP-212 – 4.43”L x 3.52”W x 2.19”H 112.4mm x 89.4mm x 55.7mm)
- Weight:
  - HBP-202 – 3.67 oz (104 g)
  - HBP-212 – 6.56 oz (186 g)
- CE certified
- UL and cUL listed (E101196)
- Five year warranty

## Components & Dimensions

### Sensor Controls

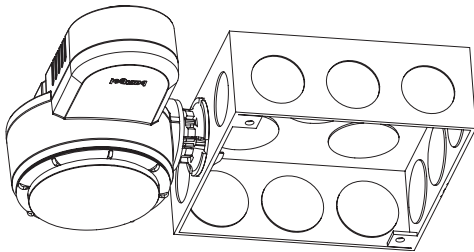


### Dimensions



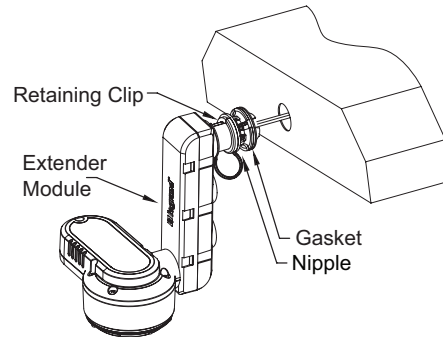
## Mounting & Installation

### Direct Mounting to Side of Fixture or Junction Box



The sensor should be positioned so that heat radiating from the fixture does not affect its performance.

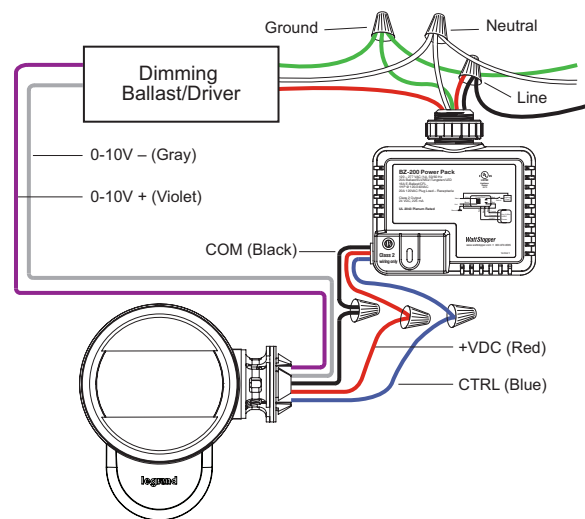
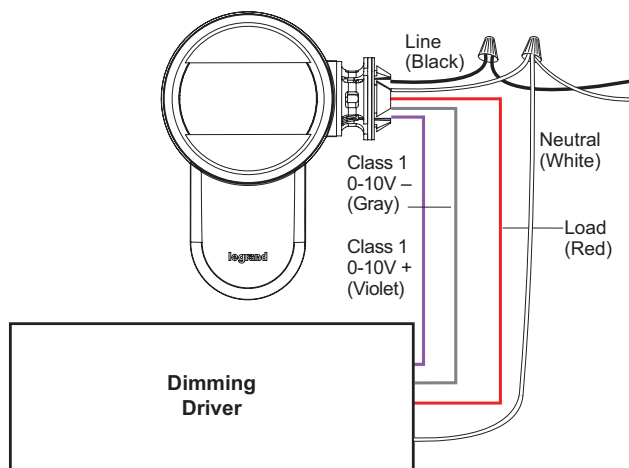
### Mounting Below Fixture



The EM1 Extender Module positions the sensor below the fixture.

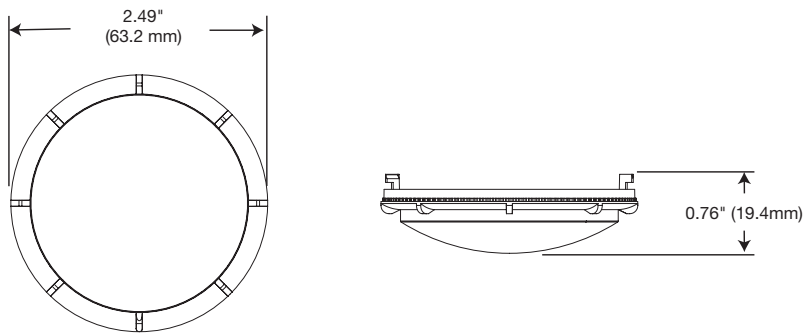
## Wiring

### Dimming Examples



## Lens Dimensions

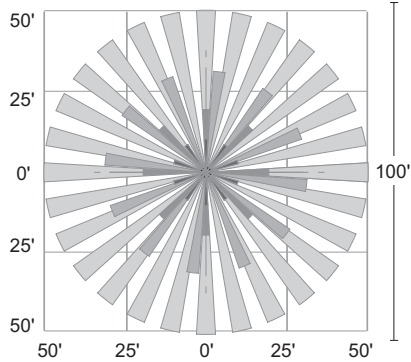
### HBP-L7 Lens (included with sensor)



## Coverage

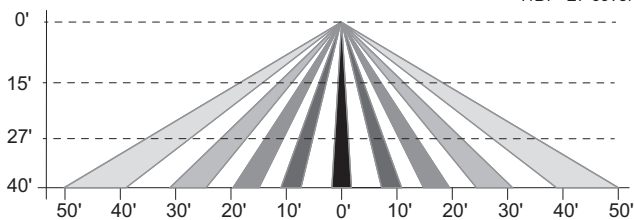
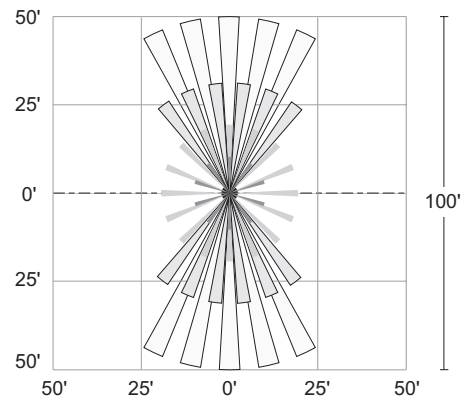
### Coverage Patterns

The HBP-L7 lens covers a 100' diameter area when mounted at a height of 40'.

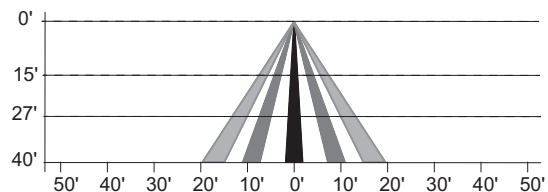


HBP-L7 coverage patterns, top views

HBP-L7 coverage with masking ring attached



HBP-L7 coverage patterns, side views



## Ordering Information

Catalog #	Color	Description
<input type="checkbox"/> HBP-212-L7-W-OEM	White	High Bay Sensor 120/277 0-10v Cont Dimming w/ L7 Lens bulk pack
<input type="checkbox"/> HBP-202-L7-W-OEM	White	High Bay Sensor 24VDC 0-10v Cont Dimming w/ L7 Lens bulk pack
<input type="checkbox"/> HBP-212-L7-EM1-W-OEM	White	High Bay Sensor 120/277 0-10v Cont Dimming w/ L7 Lens and Extender bulk pack
<input type="checkbox"/> HBP-202-L7-EM1-W-OEM	White	High Bay Sensor 24VDC 0-10v Cont Dimming w/ L7 Lens and Extender bulk pack
<input type="checkbox"/> HBP-212-L7-W	White	High Bay Sensor 120/277 0-10v Cont Dimming w/L7 Lens
<input type="checkbox"/> HBP-202-L7-W	White	High Bay Sensor 24VDC 0-10v Cont Dimming w/L7 Lens
<input type="checkbox"/> HBP-212-L7-EM1-W	White	High Bay Sensor 120/277 0-10v Cont Dimming w/ L7 Lens and Extender
<input type="checkbox"/> HBP-202-L7-EM1-W	White	High Bay Sensor 24VDC 0-10v Cont Dimming w/ L7 Lens and Extender

-OEM products are bulk packed without individual boxes or installation instructions.