HIGH BAY PASSIVE INFRARED OCCUPANCY SENSOR | HB3X0-LX SERIES

Integrated occupancy
sensor and lens device

Easy mounting with snap-in
mounting hardware

Lens choices for mounting
between 20-40 feet

Line or low voltage

Description

The HB3x0B-Lx PIR occupancy sensors are designed for automatic lighting control in warehouses and other indoor high bay spaces. They are modular and are made up of two parts, a Power Module (HB3x0-B) and a Lens (HBLx), sold separately or in prepackaged combinations. The lenses are specifically engineered to provide reliable coverage from a wide range of mounting heights.

Operation

The HB3x0B-Lx series occupancy sensor is designed to mount directly to an industrial T5 or T8 light fixture and control the load in the fixture. It can be wired to control all ballasts in the fixture, or to control half of the ballasts to provide high/low lighting control. When motion is detected within the sensor's coverage area, the relay in the sensor closes, and lighting loads are automatically turned on. When motion is no longer detected for the duration of the time delay setting, the relay opens and the lighting load is turned off. The sensor's sensitivity and time delay settings are factory preset at "normal" and 15 minutes, respectively, which are suitable for most high bay applications.

Different Coverage Patterns

The HB3x0B-Lx sensor is a one-piece, self-contained line voltage unit with a ½" threaded nipple for attaching to junction boxes and conduit hubs, and to the end of fixtures. Three lens choices are available, to provide coverage for different applications, facilitating sensor use at various mounting heights and locations. Sensitivity and time delay adjustments are set using DIP switches located behind the lens.

Applications

The high bay occupancy sensor is an innovative product engineered specifically for indoor locations. The product is ideal for a range of high bay applications, such as warehouses, distribution centers, gymnasiums, and other high bay indoor spaces. An optional HB Extender Module provides additional mounting flexibility.
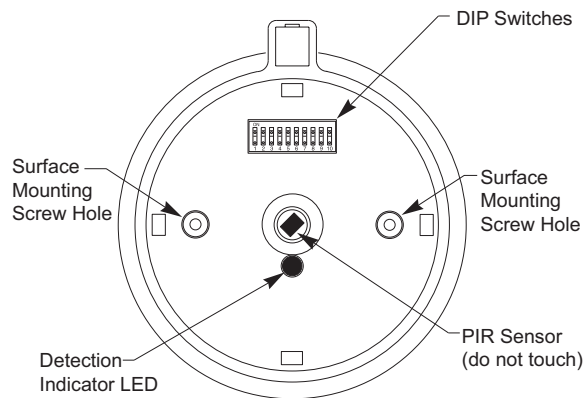
Features

- LED indicator of occupancy detection for easy verification of coverage
- Easy front access to DIP switches for time and sensitivity adjustments
- Easy mounting using knockout at end of fluorescent high bay luminaire
- Hardware choices for adjustability or static mount
- Multi-cell, multi-tier Fresnel lenses
- Asymmetric and 360° coverage lens choices
- Durable materials for optimal performance in challenging indoor high bay settings

- Zero crossing circuitry reduces stress on relay and extends sensor life
- Detection signature analysis eliminates false triggers; provides immunity to RFI and EMI
- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false offs without reducing sensitivity
- Recyclable

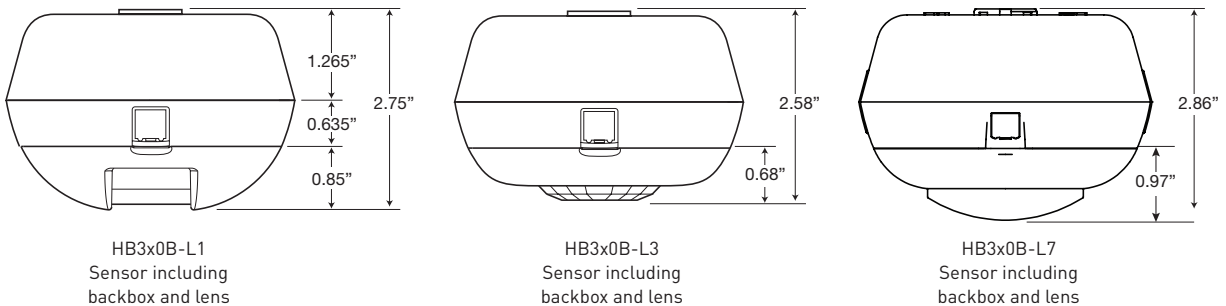| PROJECT		LOCATION/ TYPE	

Specifications

- HB300-B:
  - 7mA @ 24 VDC, Requires Power Pack
  - See Power Pack details for Load Ratings
- HB330-B:
  - 5 AMP Ballast, @ 208/240 VAC
- HB340-B:
  - 5 AMP Ballast, @ 347/480 VAC
- Adjustable time delay (15 seconds - 30 minutes; factory preset at 15 minutes)

- Operating conditions: Temperature 32-158°F (0-70°C); Humidity 20-90%, non-condensing
- Indoor use only
- Materials: ABS, flame retardant, UV resistant, impact resistant
- Five year warranty
- UL and cUL listed

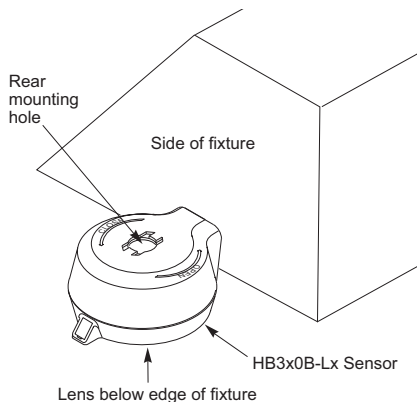# Sensor Components & Dimensions

Sensor Controls

Labels: DIP Switches, Surface Mounting Screw Hole, Surface Mounting Screw Hole, Detection Indicator LED, PIR Sensor (do not touch)

Dimensions

HB3x0B-L1
Sensor including backbox and lens
1.265", 0.635", 0.85", 2.75"

HB3x0B-L3
Sensor including backbox and lens
2.58", 0.68"

HB3x0B-L7
Sensor including backbox and lens
2.86", 0.97"

Mounting & Installation

Direct Mounting to Fixture
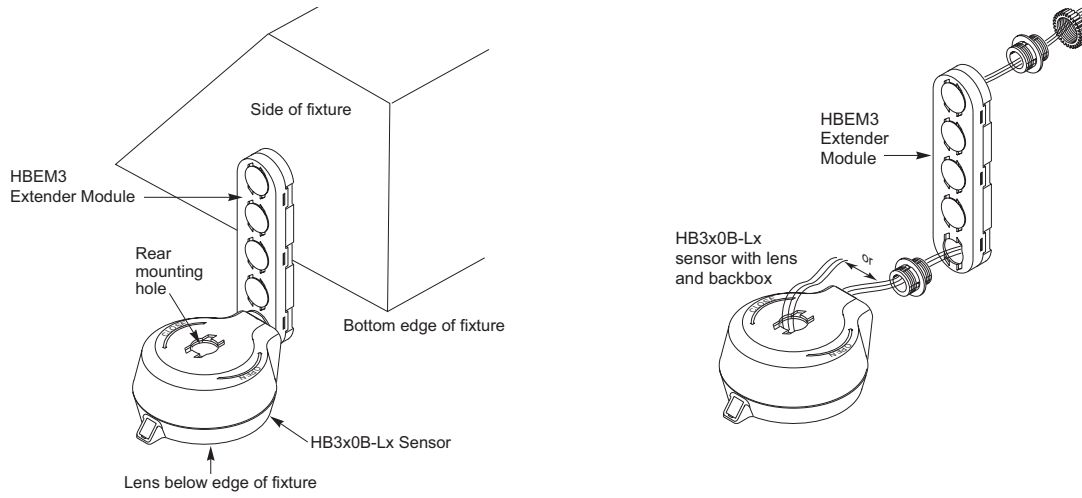

Rear mounting hole
Side of fixture
Lens below edge of fixture
HB3x0B-Lx Sensor

The sensor should be positioned below the fixture edge and away from fluorescent lamps so that lamp heat does not affect the sensor.
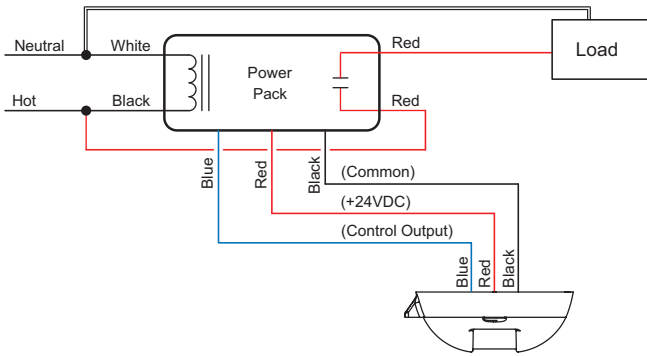
Mounting & Installation Continued
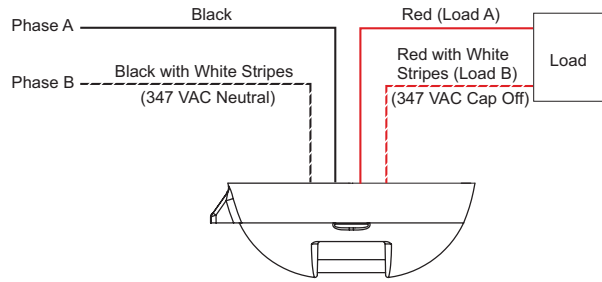
Mounting Using the Extender Module

Side of fixture
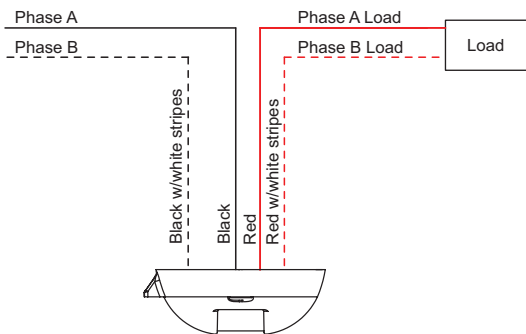
HBEM3 Extender Module

Rear mounting hole

Bottom edge of fixture

HB3x0B-Lx Sensor

Lens below edge of fixture

HBEM3 Extender Module

HB3x0B-Lx sensor with lens and backbox

or

Wiring & Connections

HB300B-Lx wiring

Neutral — White
Hot — Black

Power Pack

Red — Load
Red

Blue | Red | Black

(Common)
(+24VDC)
(Control Output)

Blue | Red | Black

HB340B-Lx wiring

Phase A — Black

Phase B — Black with White Stripes (347 VAC Neutral)

Red (Load A) — Load

Red with White Stripes (Load B) (347 VAC Cap Off)

HB330B-Lx wiring

Phase A
Phase B

Phase A Load
Phase B Load — Load

Black w/white stripes | Black | Red | Red w/white stripes

Coverage

Lens Choices

Ceiling

HBL1 side coverage pattern

HBL1 top coverage pattern
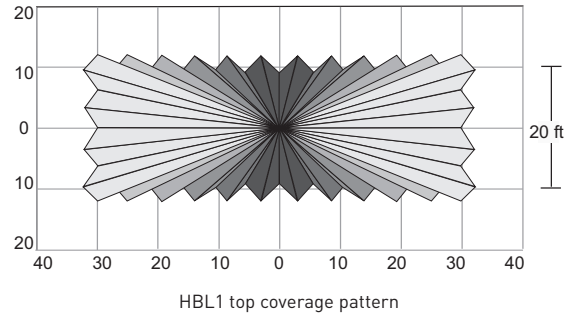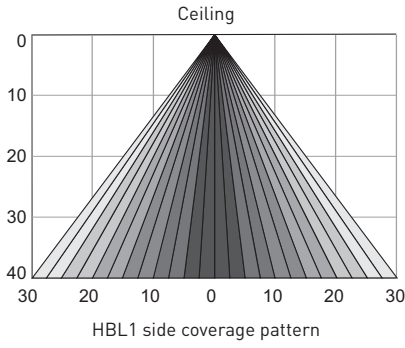
The HBL1 is designed to detect walking motion when mounted at 40' above the floor. When mounted at 40', in optimal conditions, the lens has a 60' linear detection range.

Ceiling

HBL1M side coverage pattern

HBL1M top coverage pattern
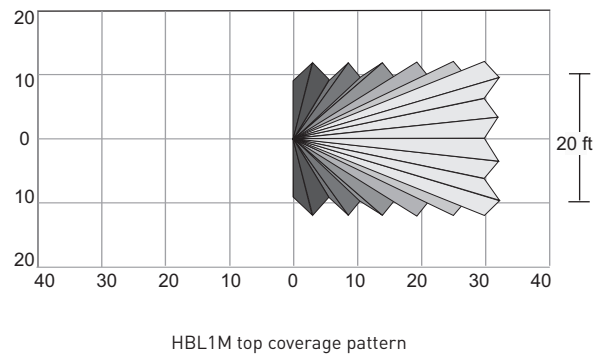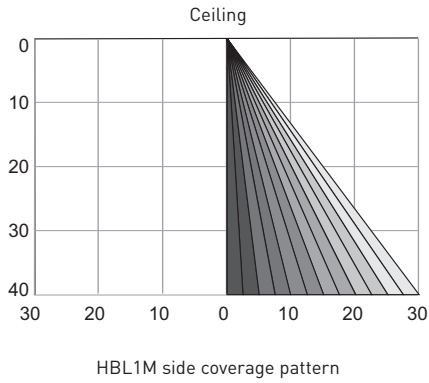
Identical to the HBL1, the HBL1M comes with opaque adhesive tape applied to the interior of the lens, cutting off 1/2 of the coverage pattern. This customized coverage is ideal for the beginning of aisle ways where cross traffic could be an issue.

Ceiling

HBL2 side coverage pattern

HBL2 top coverage pattern
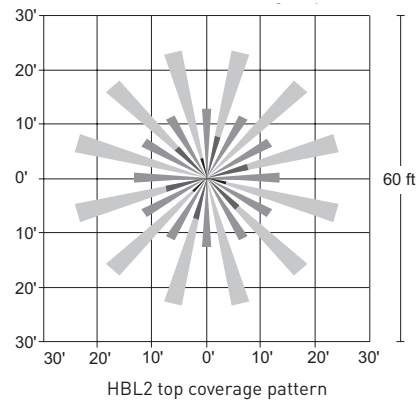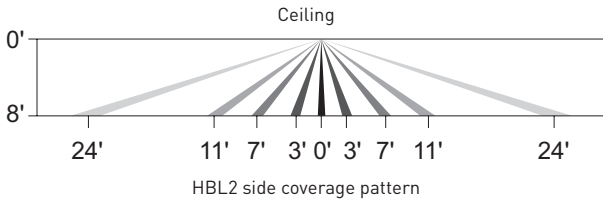
For low bay applications, the HBL2 pattern spreads over a 48' diameter area at a height of 8'.

Ceiling

HB3x0B-L3 side coverage pattern

HB3x0B-L3 top coverage pattern
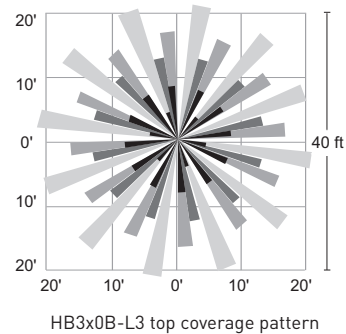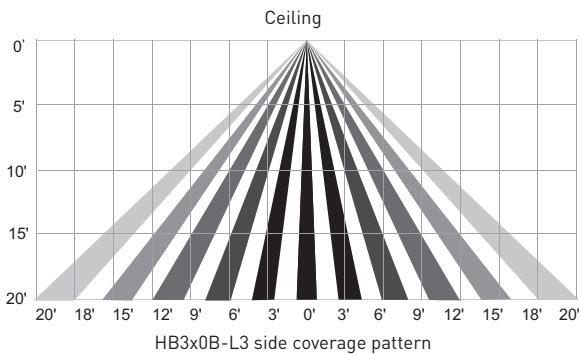
For mid bay applications, the HBL3 pattern spreads over a 40' diameter area at a height of 20'.

Ceiling

HB3x0B-L7 side coverage pattern

HB3x0B-L7 top coverage pattern
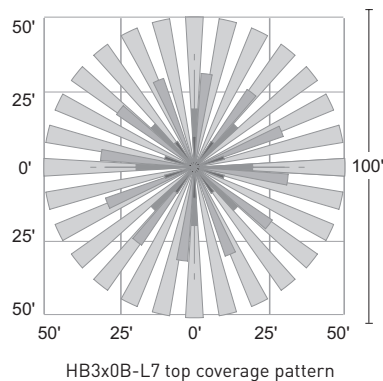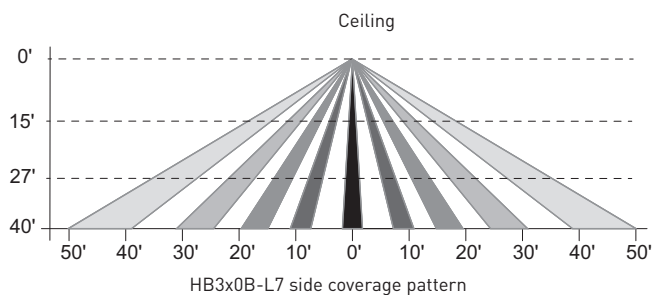
For high bay applications, the HBL7 is designed for mounting at heights between 20' to 40', with a coverage area up to 100' in diameter when mounted at 40'.

Ordering Information

Catalog #	Color	Description	Voltage	Coverage Area
☐ HB300-B	White	High Bay Occupancy Sensor with Backbox	7mA @ 24VDC	
☐ HB330-B	White	High Bay Occupancy Sensor with Backbox	208/240 VAC	
☐ HB340-B	White	High Bay Occupancy Sensor with Backbox	347/480 VAC	
☐ HBL1	White	Lens for HB3x0 sensors		Coverage @ 40' height : 60' x 20'
☐ HBL1M	White	Lens for HB3x0 sensors		Coverage @ 40' height : 30' x 20'
☐ HBL2	White	Lens for HB3x0 sensors		Coverage @ 8' height : 48' in diameter
☐ HBL3	White	Lens for HB3x0 sensors		Coverage @ 20' height : 40' in diameter
☐ HBL7	White	Lens for HB3x0 sensors		Coverage @ 40' height : 100' in diameter
☐ HBLEM3	White	High Bay Extender Module		
Prepackaged Sensor/Lens Combinations				
☐ HB300B-L1	White	High Bay Occupancy Sensor with Lens & Backbox	24 VDC	60' linear coverage from 40' height
☐ HB300B-L3	White	High Bay Occupancy Sensor with Lens & Backbox	24 VDC	40' diameter coverage from 20' height
☐ HB300B-L7	White	High Bay Occupancy Sensor with Lens & Backbox	24 VDC	100' diameter coverage from 40' height
☐ HB340B-L1	White	High Bay Occupancy Sensor with Lens & Backbox	347/480 VAC	60' linear coverage from 40' height
☐ HB340B-L3	White	High Bay Occupancy Sensor with Lens & Backbox	347/480 VAC	40' diameter coverage from 20' height
☐ HB340B-L7	White	High Bay Occupancy Sensor with Lens & Backbox	347/480 VAC	100' diameter coverage from 40' height