L7 **legrand**

HIGH BAY PASSIVE INFRARED OCCUPANCY SENSOR

HB3X0 AND HB3X0C SERIES

MODELS
HB300-B .... low voltage
HB300C-B (for cold environments)....... low voltage
HB330-B 208/240V
HB340-B 347/480V
HB340 (Surface Mount)............................ 347/480V
HB350C-B (for cold environments) 120/277V

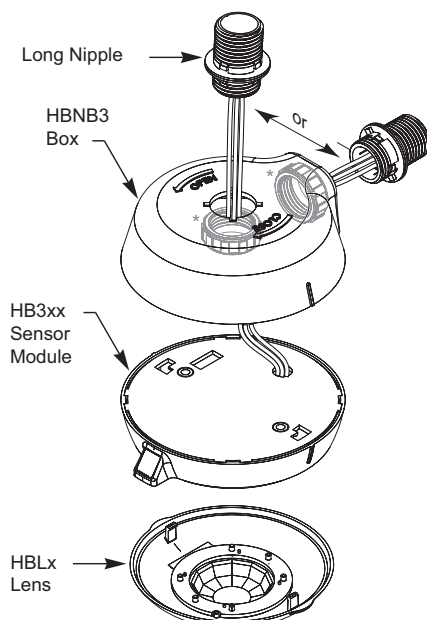| SPECIFICATIONS & FEATURES |
|---|
| HB330-B, HB340, HB340-B, HB350c-B: Line voltage for direct connection to load
HB300, HB300C-B: Low voltage for connection to BZ-50, BZ-150, BZ-200, or BZ-250 power pack |
| Power consumption for line voltage models:
HB330-B, HB340, HB340-B: 0.34W
HB350C-B: 0.36W |
| Power consumption for low voltage models:
11mA @ 24VDC |
| Snap-in mounting hardware |
| Easy mounting using knockout at end of fluorescent high bay luminaire |
| Hardware choices for adjustability or static mount |
| Operating Temperature: 32°F to 158°F (0°C to 70°C)
Operating Temperature for cold environment models: -40°F to 131°F (-40°C to 55°C) |
| Operating Humidity: 5% to 95%, non-condensing |
| Indoor use only |
| Weight: 6.4 oz (181 g) |
| UL and cUL listed |
| Five year warranty |

PRODUCT OVERVIEW

The HB3x0 series occupancy sensors are designed for automatic lighting control in high bay applications. All models contain a passive infrared (PIR) sensor.

Sensitivity and time delay adjustments are set using DIP switches located on the sensor module. Each HB3x0 series sensor module accepts one of four interchangeable lenses, which provide different types of coverage for specific applications.

Sensors provide On/Off switching based on occupancy within a space.

The HB340 model is intended for surface mounting and does not come with Back Box (HBNB3), while all other models do. The Cold location models are ideal for indoor cold environments.

The HB3x0-B can be attached either directly to the fixture surface via the two screw holes provided in the Power Module or using the HBNB3 back box and chase nipple. The Extender Module (HBEM3) allows attaching the sensor to the side of the fixture in a number of configurations using provided chase nipples.

| LENSES |
|---|
| Four interchangeable lenses (HBL1, HBL2, HBL3, HBL7) |
| Asymmetric 2-way and 360° lenses |
| Lens choices for mounting between 8 and 40 feet, aisleway and open area lenses
(lens required for operation) |

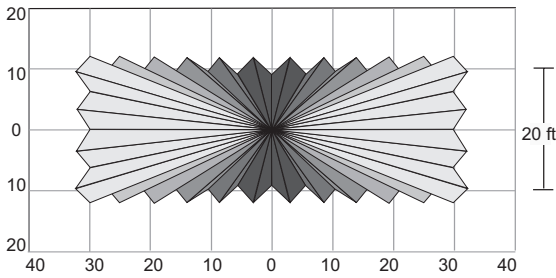| MATERIALS |
|---|
| ABS, flame retardant
Impact resistant
Recyclable
Meets materials restrictions of RoHS |

FACTORY DEFAULTS	
Time Delay:	15 minutes
Sensitivity:	Medium

Long Nipple

HBNB3 Box

HB3xx Sensor Module

HBLx Lens

or

designed to be better®

L? legrand
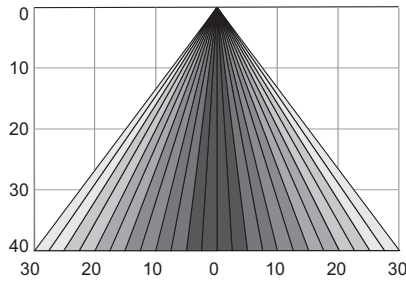
COVERAGE

HBL1 side coverage pattern

20 ft

HBL1 top coverage pattern
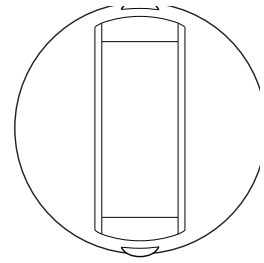
HBL1 Aisleway Lens
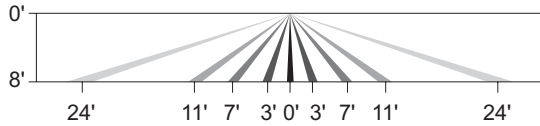
HBL2 side coverage pattern

60 ft
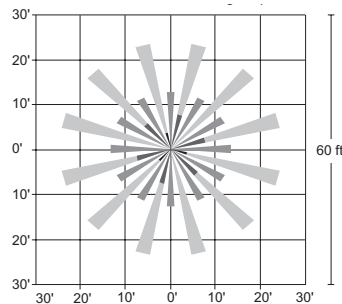
HBL2 top coverage pattern
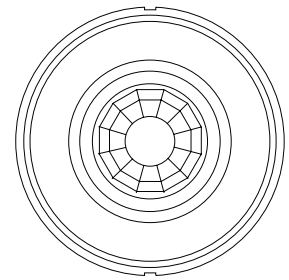
HBL2 Low Bay Lens
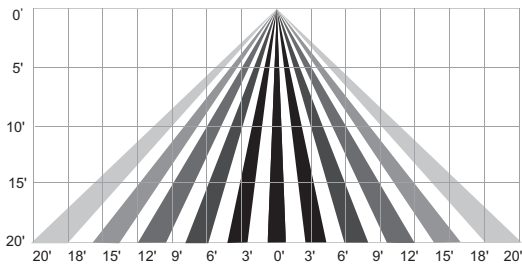
HBL3 side coverage pattern

40 ft
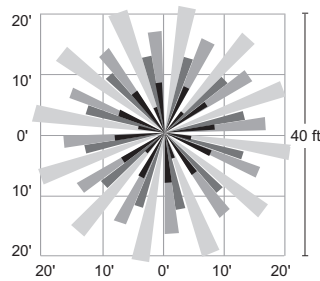
HBL3 top coverage pattern
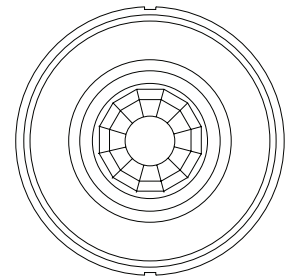
HBL3 Mid Bay Lens
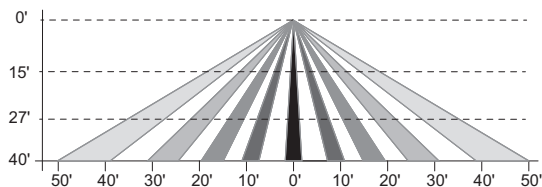
HBL7 side coverage pattern

100'
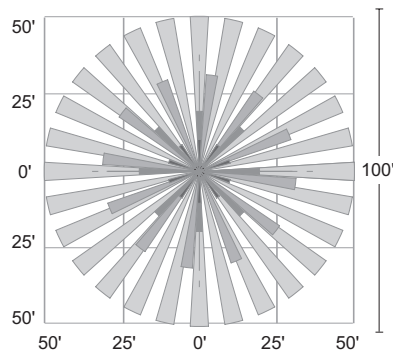
HBL7 top coverage pattern
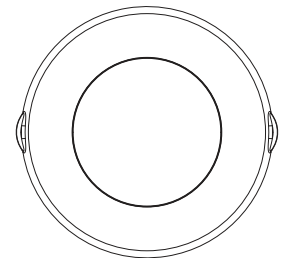
HBL7 High Bay Lens

DIMENSIONS AND CONTROLS

Backbox

Sensor
Module

Lens

1.265"

0.635"

0.85"

2.75"
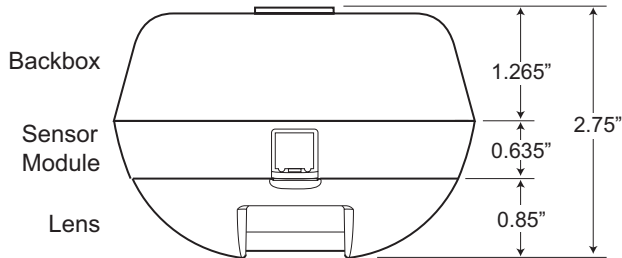
Dimensions of HB3x0 sensor module with back box and HBL1 lens module.

2.58"

0.68"
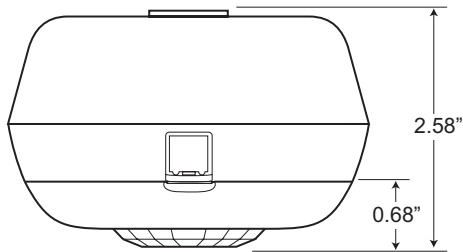
Dimensions of HB3x0 sensor module with back box and HBL2 or HBL3 lens module.

2.86"

0.97"
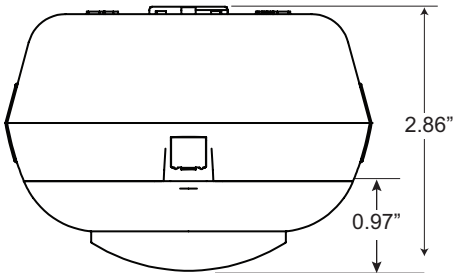
Dimensions of HB3x0 sensor module with back box and HBL7 lens module.
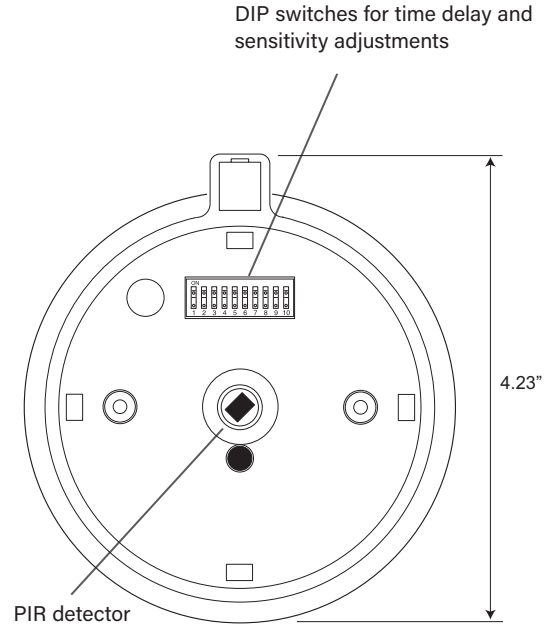
For HB340 model (without backbox), add 0.635" (sensor module) to dimensions of specific lens.

DIP switches for time delay and sensitivity adjustments

4.23"

PIR detector

INSTALLING AND MOUNTING INSTRUCTIONS

1. Select a mounting configuration that ensures the sensor is positioned below the fixture edge and away from fluorescent lamps so that lamp heat does not affect the sensor. The sensor can either be directly mounted to the fixture housing (Figure 1) or to the extender module (HBEM3) (Figure 2). The latter enables offset mounting so sensor is positioned at or below the plane of the lamps.

2. Thread wires through extender module's chase nipples and into fixture for connection. Snap the extender module's sides together to protect wires. The short chase nipple snaps into sensor module while longer chase nipple snaps into any metal fixture or connection box with a standard 1/2 inch knockout. The caps on the extender module can be removed to allow moving chase nipples and to adjust the sensor height.

3. Determine if angular adjustment accessory (HBAA1 or HBAA2) is required.

4. Assemble all necessary mounting accessories and attach them to sensor module, ensuring that flying leads from power module are accessible.

5. Feed sensor leads through knockout to line voltage and load wires for the unit's application. Conceal all bare wire, and confirm all connections are secure.

6. Attach lens as shown in assembly drawing (Figure 3).

Figure 1.

Rear mounting hole

Side of fixture

HBNB3 Box

HB350 Sensor Module

Lens below edge of fixture

Figure 2.

Side of fixture

HBEM3 Extender Module

Rear mounting hole

HBNB3 Box

Bottom edge of fixture

HB350 Sensor Module

Lens below edge of fixture

Figure 3.

HBEM3 Extender Module

HBNB3 Box

or

HB350 Sensor Module

Alignment Guides

Daylight Sensor Housing

HBLx Lens
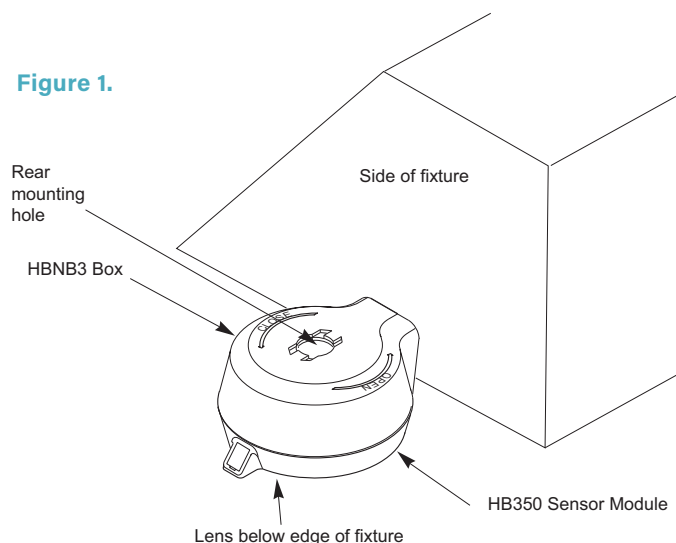
WIRING DIAGRAMS

HB300

BZ-50, BZ-150, BZ-200, or BZ-250 Power pack may be used.

White (Neutral)

Red (Line)

N — White — Power Pack

Line — Black — Red (Load) — Switch — Lighting Load

Blue | Red | Blk

Common

+24VDC

Control Output 24VDC

Blue | Red | Black

HB300

HB330

208/240VAC Wiring

Phase A — Black — Red (Load A) — Load

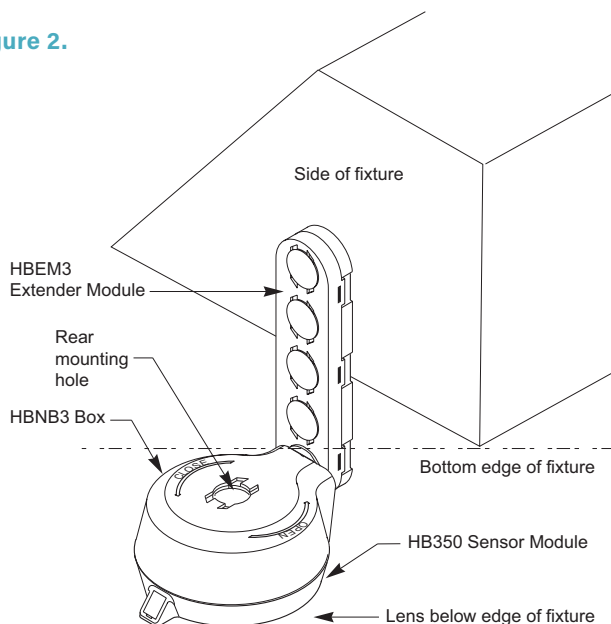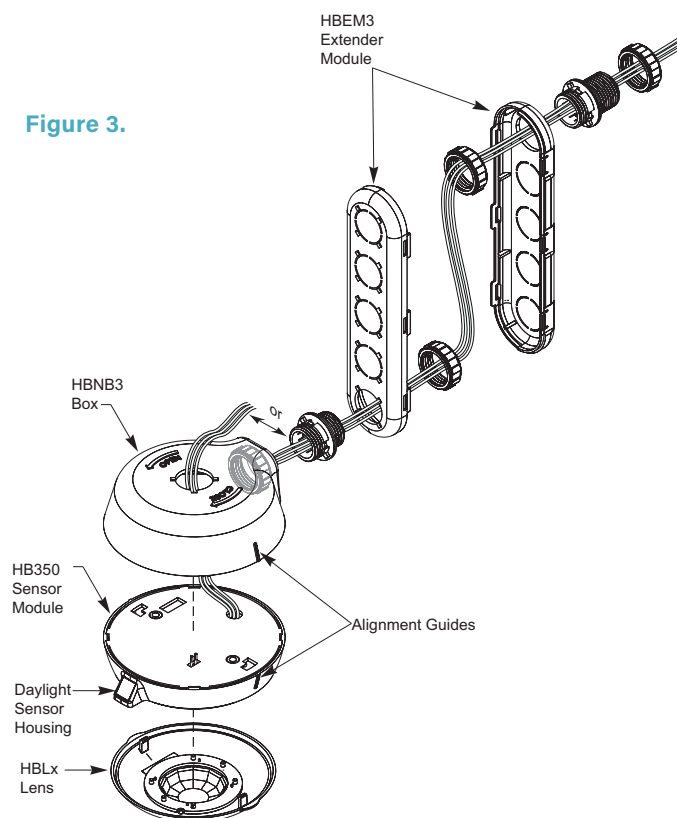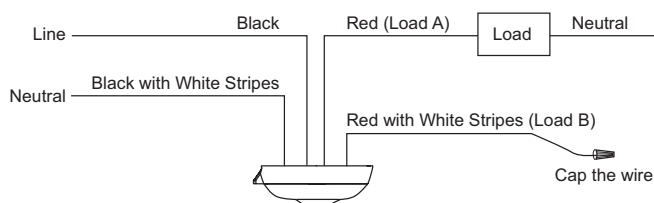Phase B — Black w/White Stripes — Red w/White Stripes (Load B)

HB340

347VAC Wiring

Line — Black — Red (Load A) — Load — Neutral

Neutral — Black with White Stripes

Red with White Stripes (Load B)

Cap the wire

480VAC Wiring

Phase A — Black — Red (Load A) — Load

Phase B — Black with White Stripes — Red w/White Stripes (Load B)

HB350C

Neutral —

Line — Black — Red — Load
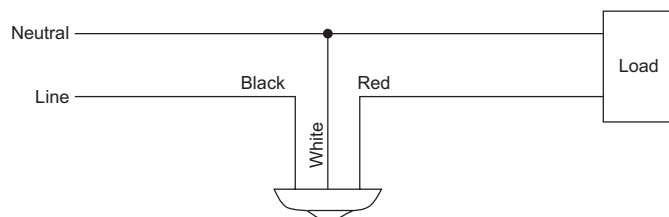
White

SEQUENCE OF OPERATION

The HB3x0 series occupancy sensor is designed to mount to a light fixture and control the load in the fixture based on occupancy. 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 sensor signals a relay to close, and lighting loads turn on automatically. 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 100% and 15 minutes, respectively, which are suitable for most high bay applications. However, the values can be easily adjusted for specific applications using the DIP switches on the sensor module. Refer to the Installation Instructions for changing factory preset values, and for important start up instructions.

ORDERING INFORMATION

Catalog #	Master Pack Details					Inner Pack Details				
	Master Pack Quantity	Case dimensions (inches)			Weight (pounds)	Inner Pack Quantity	Case dimensions (inches)			Weight (pounds)
		Length	Width	Height			Length	Width	Height	
HB300-B	50	21.2	17.5	15.7	20	N/A	N/A	N/A	N/A	N/A
HB300C-B	50	21.2	17.5	15.7	20	N/A	N/A	N/A	N/A	N/A
HB330-B	50	21.2	17.5	15.7	22.2	N/A	N/A	N/A	N/A	N/A
HB340	100	21.2	17.5	15.7	30.5	50	20.6	8.35	15.3	14.5
HB340-B	50	21.2	17.5	15.7	22.4	N/A	N/A	N/A	N/A	N/A
HB350C-B	50	21.2	17.5	15.7	22.4	N/A	N/A	N/A	N/A	N/A
HBEM3	180	21.4	17.9	16.3	30.5	90	20.6	17.1	7.6	13.8
HBAA-1	500	21.2	14.6	17.4	21.5	10 (in a bag)	10	7.1	0.35	0.41
HBNB3	100	21.2	17.6	15.9	16	50	20.6	8.3	15.3	8
BZ-50	40	12.6	8.7	12.6	16.1	10	12.2	4	6.1	3.8

Catalog #	Description	Voltage	
☐ HB300-B	High Bay Low Voltage Sensor w/ Back Box, No Lens	24 VDC*	
☐ HB300C-B	High Bay Low Voltage Sensor w/ Back Box, for Cold Environments, No Lens	24 VDC*	
☐ HB330-B	High Bay Line Voltage Sensor w/ Back Box, No Lens	208/240 VAC	5 A ballast @ 240 VAC
☐ HB340	High Bay Line Voltage Sensor, No Back Box, No Lens	347/480 VAC	5 A ballast @ 347/480 VAC
☐ HB340-B	High Bay Line Voltage Sensor w/ Back Box, No Lens	347/480 VAC	5 A ballast @ 347/480 VAC
☐ HB350C-B	High Bay Line Voltage Sensor w/ Back Box for Cold Environments, No Lens	120/277 VAC	0-800W ballast/tungsten @ 120 VAC, 60Hz; 0-1200W ballast @ 277 VAC, 60Hz 1/6 hp @ 120 VAC
☐ HBEM3	High Bay Extender Module		
☐ HBAA-1	HB Angle Fitting		
☐ HBNB3	HB Nipple Mounting Back Box (included with all models except HB340)		
☐ BZ-50	Power Pack Note: BZ-150, BZ-200, or BZ-250 may also be used	120/277 VAC, 230/240 VAC (Single Phase), 50/60Hz	20 A ballast and tungsten or 1 hp motor
Prepackaged Sensor/Lens Combinations			
☐ HB300B-L1	High Bay Low Voltage Sensor w/ Back Box, and L1 lens	24 VDC*	
☐ HB300B-L3	High Bay Low Voltage Sensor w/ Back Box, and L3 lens	24 VDC*	
☐ HB300B-L7	High Bay Low Voltage Sensor w/ Back Box, and L7 lens	24 VDC*	
☐ HB340B-L1	High Bay Line Voltage Sensor w/ Back Box, and L1 lens	347/480 VAC	5 A ballast @ 347/480 VAC
☐ HB340B-L3	High Bay Line Voltage Sensor w/ Back Box, and L3 lens	347/480 VAC	5 A ballast @ 347/480 VAC
☐ HB340B-L7	High Bay Line Voltage Sensor w/ Back Box, and L7 lens	347/480 VAC	5 A ballast @ 347/480 VAC

All sensors are white.
* HB300 and HB300C Low voltage models require a BZ series power pack.

Please refer to the HBLx Series Lens Module datasheet for lens information. Compatible with all standard lenses and extender module. Bulk packaged products are shipped without individual boxes or installation instructions. Information supplied above is subject to change.

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