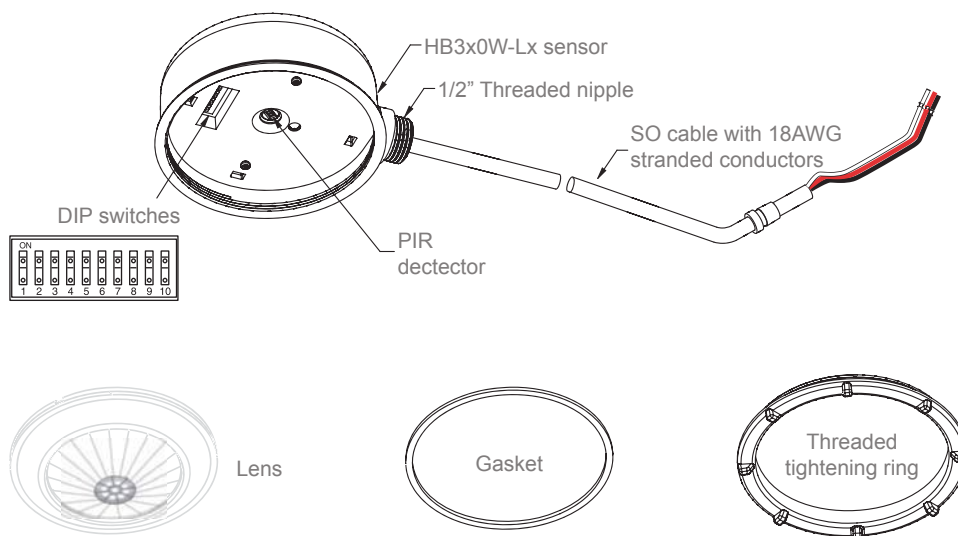**ABOVE ALL**

SUITABLE FOR MODEL

IMAGE MAY VARY FROM ACTUAL PRODUCT
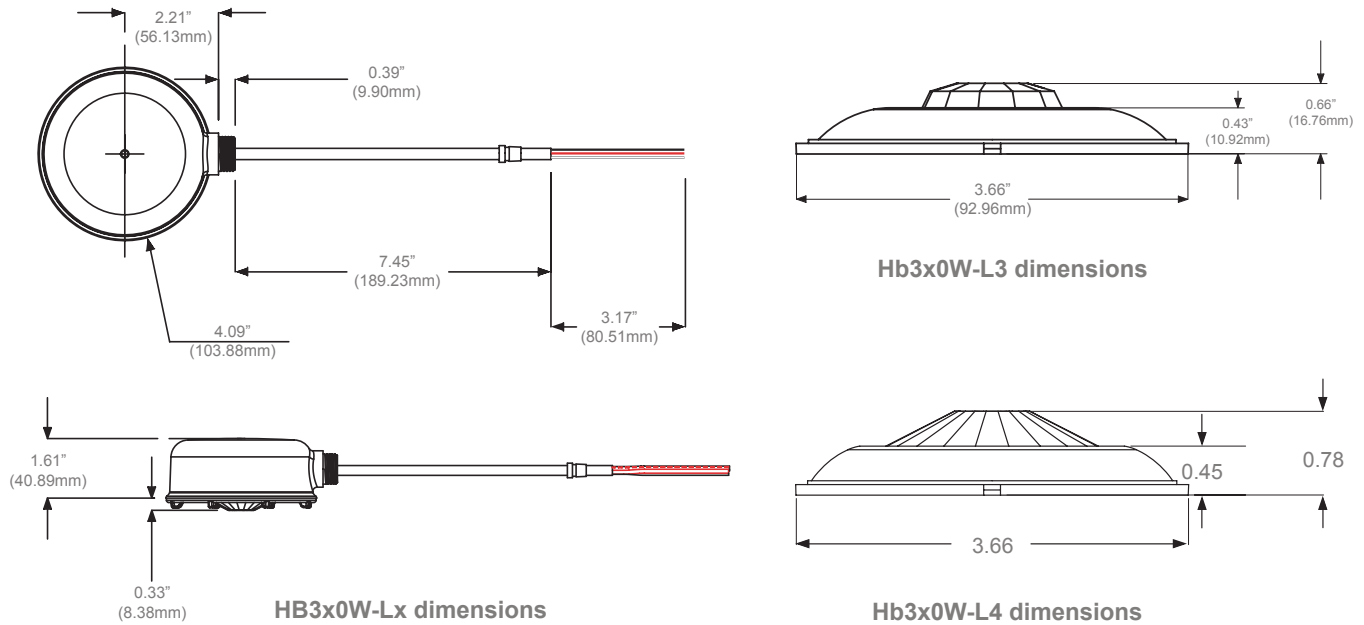
DESCRIPTION AND OPERATION

The HB3x0W-Lx occupancy sensors are designed for automatic lighting control in high bay wet location applications.
The sensors are modular and are made up of two parts, a Sensor Module (HB3x0W) and a Lens (Lx).
This sensor is available in two models for different line voltage applications: HB350W-Lx for 120/277VAC and HB340W-Lx for 347/480VAC.
The sensors use a set of DIP switches to set the time delay and PIR sensitivity as explained on page 5. The HB350W-Lx provides a single load controlling relay. The HB340W-Lx have two relays for phase switching.

COMPONENTS AND MOUNTING

Components

- HB3x0W-Lx sensor
- 1/2" Threaded nipple
- SO cable with 18AWG stranded conductors
- DIP switches
- PIR dectector

ON
1 2 3 4 5 6 7 8 9 10

Lens

Gasket

Threaded tightening ring

ABOVE ALL

Dimensions

2.21"
(56.13mm)

0.39"
(9.90mm)

7.45"
(189.23mm)

3.17"
(80.51mm)

4.09"
(103.88mm)

0.66"
(16.76mm)

0.43"
(10.92mm)

3.66"
(92.96mm)

Hb3x0W-L3 dimensions

1.61"
(40.89mm)

0.33"
(8.38mm)

**HB3x0W-Lx dimensions**

0.45

0.78

3.66

Hb3x0W-L4 dimensions

Mounting

As shown in the illustration below, the HB3x0W-Lx can be attached directly to the fixture or junction box that is equipped with a threaded nipple. The center of the threaded nipple should be no more than approximately one inch (1") from the bottom of the fixture to avoid blocking the sensor's view.

light fixture

HB3x0W-Lxsensor

Threaded female 1/2"connector
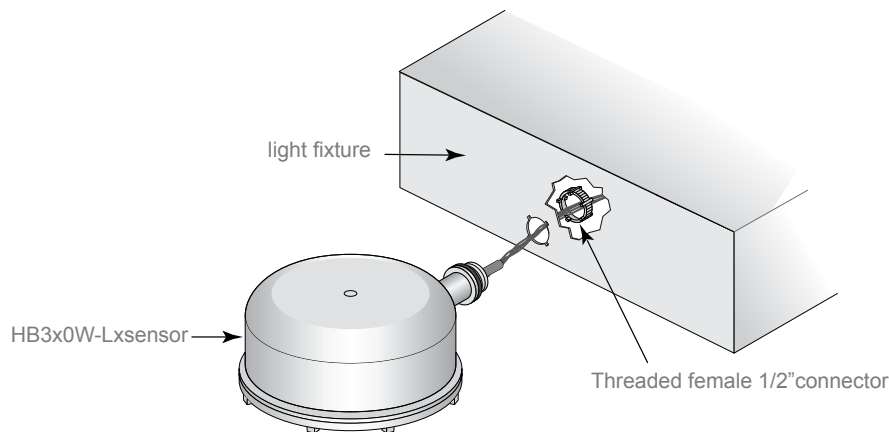
**HB3x0W-Lx Mount to light fixture**

LENS COVERAGE

The HB350W-Lx and HB340W-Lx have multi-cell, multi-tier Fresnel lenses with a 360° view. Coverages shown in the diagrams are maximum. They represent coverage for full-step walking motion, with no barriers or obstacles. Temperature variations may affect coverages and sensor detection.

ABOVE ALL

HB3x0-L3 360° Lens
Coverage@ 20' height: 40' dia.
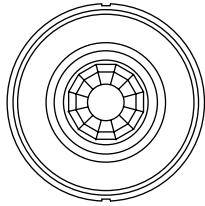
The -L3 has a high density lens that covers a 40' diameter area at a height of 20'. As shown in the coverage diagrams.
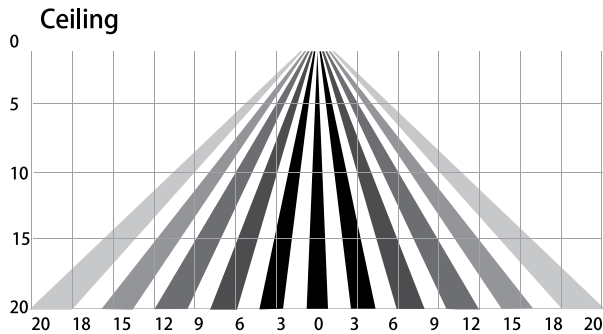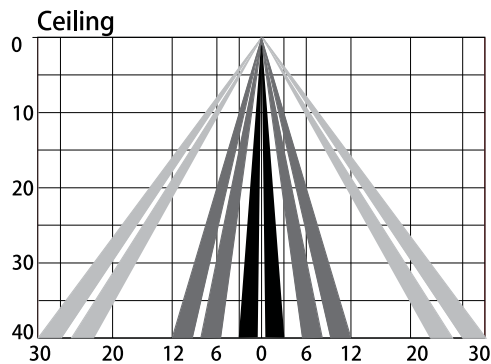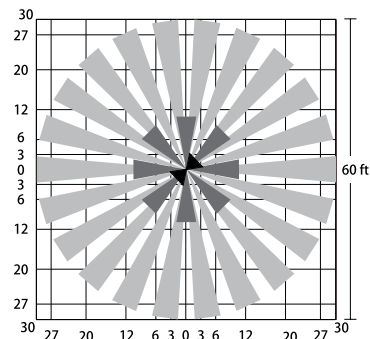

HB3x0-L3 side coverage pattern
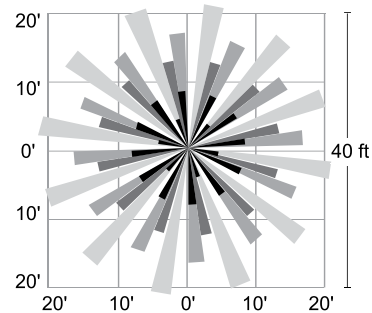
HB3x0-L3 top coverage pattern

HB3x0-L4 360° Lens
Coverage@ 40' height: 60' dia.
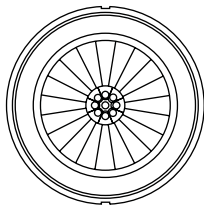
The -L4 is designed for mounting at heights between 30' to 40'. Its coverage area can be up to 60' in diameter when mounted at 40'.*

HB3x0-L4 side coverage pattern

HB3x0-L4 top coverage pattern

* Ambient temperature variations in unconditioned spaces may affect sensor detection and coverage areas.

Above All standard one: HB3x0-L4 360° Lens
Customers need another coverage lens should be ordered separately.

WIRE CONNECTION

Universal voltage driver permits operation at 120V thru 277V, 60Hz with on/off motion sensor(-MSO)
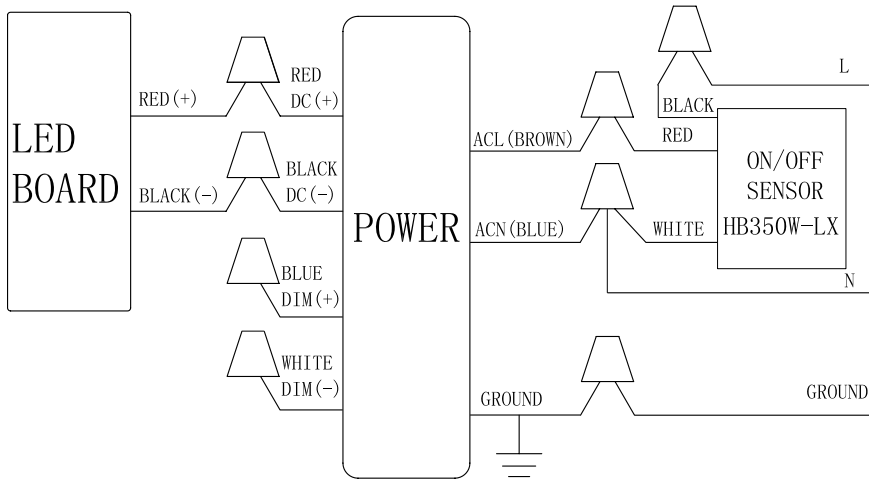
High voltage driver permits operation at 347V, 60Hz with on/off motion sensor(-MSO)

High voltage driver permits operation at 480V, 60Hz with on/off motion sensor(-MSO)

INSTALLATION OVERVIEW

⚠ **CAUTION**
TURN THE POWER OFF AT THE CIRCUIT BREAKER BEFORE INSTALLING THE SENSOR.

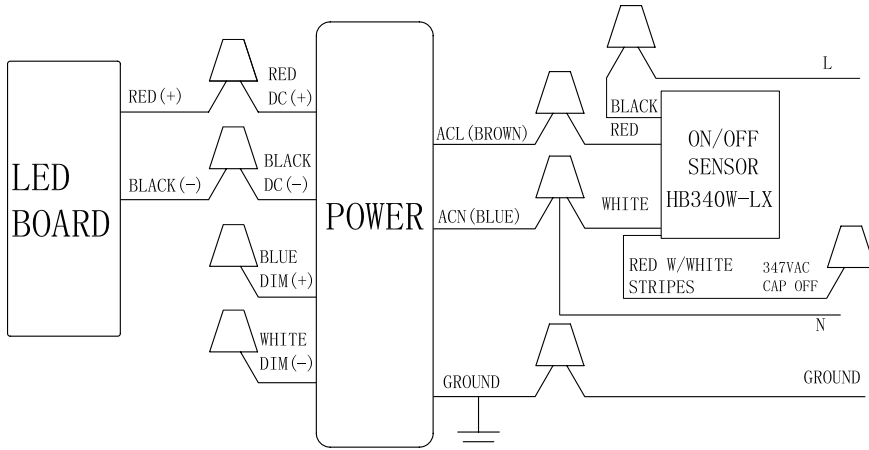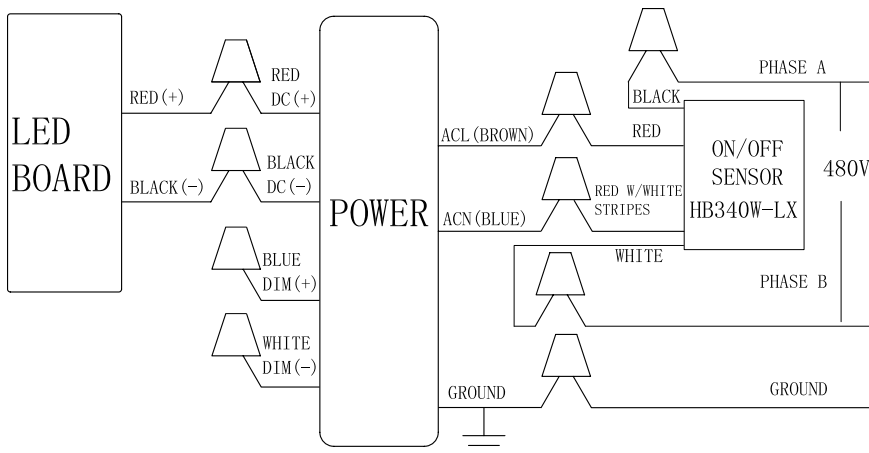1. Review the ADJUSTMENTS section and complete any necessary DIP switch setting changes.
2. Mount the sensor so the lens is below the edge of the fixture and away from the lamps. Heat from the lamps could affect the sensor operation.
Make sure that you have the appropriate accessories for the sensor mounting configuration.
3. Assemble any necessary mounting accessories and attach them to the sensor module. Make sure that the flying leads from the sensor module cable are accessible inside the fixture.
4. Connect the line voltage and load wires to the sensor leads as shown in the applicable Wiring Diagram for the sensor module.
  ·Do not allow bare wire to show.
  ·Make sure all connections are secure.
  ·Check all gaskets for watertight fit.
5. Check sensor operation. Refer to the TESTING section.
6. Attach the Lens to the HB3x0

ADJUSTMENTS

The sensor is pre-set at the factory to meet the requirements of most applications. Review this section if your application requires changing factory pre-sets.
Sensor factory pre-sets are as follows (default settings are **bold**):
Factory Switch Settings (N/A = not applicable, no effect)

1	2	3	4	5	6	7	8	9	10
ON	OFF	OFF	OFF	OFF	ON	ON	OFF	N/A	N/A

PIR Sensitivity (switches 1 & 2) .... **Normal**
Time Delay (switches 3-7) ....**15 minutes**
Override (switch 8) .... **Occupancy control enabled**

PIR Sensitivity (Switches 1-2)

The factory setting (Normal) is suitable for most applications, but it may be necessary to adjust the PIR sensitivity if there is any environmental interference causing false triggers or if sensitivity needs to be increased for your particular application. Use DIP switches 1 & 2 to adjust sensitivity.

Switch	1	2	PIR SENSITIVITY
	OFF	OFF	High
	ON	**OFF**	**Normal**
	OFF	ON	Medium
	ON	ON	Low

Time Delay (Switches 3-7)

Use DIP switches 3 to 7 to adjust the time delay.

Switch	3	4	5	6	7	TIME DELAY
	ON	ON	ON	ON	ON	15 seconds
	OFF	ON	ON	ON	ON	5 minutes
	OFF	OFF	ON	ON	ON	10 minutes
	OFF	**OFF**	**OFF**	**ON**	**ON**	**15 minutes**
	OFF	OFF	OFF	OFF	ON	20 minutes
	OFF	OFF	OFF	OFF	OFF	30 minutes

Override (Switch 8)

The override disables the occupancy control feature of the HB3x0W-Lx sensor module. When occupancy control is disabled, the load remains ON as long as the sensor is powered.

Switch	8	LOAD EFFECT
	OFF	**Controlled by Occupancy**
	ON	PIR override. Load always ON

IMPORTANT START-UP INFORMATION

A 60-second start-up period occurs during initial installation and after a power failure of 5 minutes or more. After applying power to the sensor wait at least 60 seconds for the sensor to begin detecting occupancy and the load to turn ON. It may turn ON during the start-up period, depending on the state of the relay when power was off.
• If the sensor detects occupancy during the start-up, when the load turns ON it stays ON as long as the sensor continues to detect motion, plus the Time Delay.
• If no occupancy is detected during the 60-second start-up, the load may come on anyway during the start-up. If no occupancy is detected by the time the start-up is complete, the relay opens and the load turns OFF.

TESTING

1. When mounting and wiring are complete, cover up the sensor to prevent it from detecting motion.
2. Apply power to the sensor and light fixture. Lights may turn ON during the 60-second start-up period.
3. Wait for the start-up period to end. For the next 1 to 2 minutes the sensor runs through a self-diagnostic routine.
4. If the load came on during the start-up period, wait for it to turn OFF, indicating the self diagnostic routine is complete.
5. Uncover the sensor and confirm that when the sensor detects motion, it's red LED blinks and the light turns ON.
6. Disconnect power.
7. Attach the lens as shown in the assembly drawing. Tighten securely to ensure that seal is complete.

TROUBLESHOOTING

To confirm proper operation, review the Start-Up and Testing information.

Red LED on sensor module does not blink:

Check for proper sensor wire connections and make sure they are tightly secured.

Red LED blinks but lights do not turn ON:

1. Make sure that power to the sensor has been ON continuously for at least one minute, then
   a) Turn OFF power to the sensor.
      The relay will close.
   b) Turn ON power to the sensor.
      The load should come ON. If not, continue with step 2.
2. Check power connections to the load.
3. Check all sensor wire connections. Verify the load wire is tightly secured.

Lights will not turn OFF:

1. If there is no motion from people or equipment in the sensor's view but the red LED blinks, look for any nearby source of infrared energy (heat) in motion, such as turbulent air from a heating or cooling supply, or other sources such as heat from the fluorescent lamps in the fixture.
   • Mount the sensor so that it's lens is below the edge of the fixture and does not directly view the lamps.
   • Divert the air supply away from the sensor, or move the sensor.
2. Verify time delay set in switches 3-7. The time delay can be set from 15 seconds to 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.
3. Check Override DIP switch setting. If switch 8 is ON, the PIR is overridden. Occupancy control functions are overridden and the load stays ON.
4. Check sensor wire connections. Verify that all connections are complete.

Warranty
Five year limited warranty. Full warranty terms located at www.abovealllighting.com/warrantystatements