**WARNING AND CAUTIONS**

- **TO AVOID FIRE, SHOCK, OR DEATH: TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT THE POWER IS OFF BEFORE WIRING.**

- **TO AVOID FIRE, SHOCK, DEATH, OR DAMAGE TO PROPERTY, DO NOT CONTROL LOAD IN EXCESS OF THE SPECIFIED RATING. CHECK YOUR LOAD RATINGS TO DETERMINE THE UNIT’S SUITABILITY FOR YOUR APPLICATION.**

- **IF YOU ARE NOT SURE ABOUT ANY PART OF THESE INSTRUCTIONS, CONSULT AN ELECTRICIAN.**

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**FEATURES**

- Feature or electrical box mounted Passive Infrared Occupancy Sensor
- Auto Calibration
- Adjustable Time Delay
- Pre-striped color coded wire leads
- Optional aisles mask
- 1-10V Dimming
- Partial OFF modes
- Adjustable PIR sensitivity
- Ladderless daylighting configuration
- Visual LED indicators for easy troubleshooting
- 360° field-of-view for 20 ft. to 40 ft. High Bay mounting heights
- 360° field-of-view for 8 ft. to 20 ft. Low Bay mounting heights
- H.S.I. (High Inrush Stability) Technology
- Zero Crossing
- Robust Mechanical Latching Relays
- LED indicator light blinks when sensor detects motion, visible from long distance
- H.I.S. (High Inrush Stability) Technology
- LED blinks when a hand is waved in front of the lens, then the Sensor was installed properly. If the operation is different, refer to the TROUBLESHOOTING SECTIONS.

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**DESCRIPTION**

Leviton’s High Bay Occupancy Sensors, Cat. No. HB011, are specifically designed for high mounted areas such as warehouses, manufacturing and other high ceiling applications. The HB011 installs directly to an industrial luminaire or an electrical junction box. It is a self-contained sensor and relay that detects motion using the passive infrared (PIR) to sense sources (such as a person entering a room) within its field-of-view (monitored space) and automatically switches lights ON. The Sensor's field-of-view may be partially obstructed by the luminaire or electrical box. The Sensor's field-of-view will not be affected (refer to Figure 1A). As long as the bottom of the sensor is mounted within 1” from the bottom of the luminaire, the field-of-view will not be affected (refer to Figure 1B).

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**INSTALLATION**

**NOTE:** The HB011 is supplied with two lens trim rings. The 360 degree High Bay lens (integral PhotoCon) and the 360 degree Low Bay lens (blue color trim ring) in the carton. An aisle mask is included for aisle coverage if desired. Change the lens for use in Low or Uplight applications. See below for changing lens trim ring.

The HB011 Sensor mounts in a 1/2” knockout hole on the end of a luminaire or an electrical box. The Sensor’s field-of-view may be partially obstructed by the luminaire housing (refer to Figure 1A). At higher mounting heights, the outer beams are not used. As long as the bottom of the sensor is mounted within 1” from the bottom of the luminaire, the field-of-view will not be affected (refer to Figure 1B).

**ADAPTOR NOTE:** For deep baffle luminaires or to clear other obstructions use Leviton’s OSFOA-40W Adapter. The Adapter is designed to provide multiple mounting positions to accommodate different mounting heights for optimum sensor positioning. A keyless, threaded snap-in nipple that holds the Adapter in place while tightening the provided lock-nut. The OSFOA is a single height position adapter with a quick install snap in fitting without a lock nut (refer to Figures 2A and 2B).

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**CHOOSE LENS**

1. To change lens, turn trim ring so that the two indented dots line up and pull out by the finger tabs (refer to Figure 7A).

2. Remove the inner lock-nut from the threaded nipple and insert the wires and the threaded nipple into a half inch hole of the luminaire or the electrical box. The Sensor’s field-of-view may be partially obstructed by the luminaire or electrical box. The Sensor's field-of-view will not be affected (refer to Figure 1A). As long as the bottom of the sensor is mounted within 1” from the bottom of the luminaire, the field-of-view will not be affected (refer to Figure 1B).

3. Connect wires per Wiring Diagram as follows: RED leads to LOAD; WHITE leads to LINE (Hot); BLACK leads to LINE (Hot), Connect 1-10V dimming wires (Gray & Violet). Test strands of each lead tightly and, with circuit conductors, push firmly into the appropriate wire connector. Screw connector on clockwise making sure that no bare wires show below the connector.

4. Restore power at circuit breaker or fuse.

**NOTE:** Allow approximately 30 seconds for change-up. If the lights turn ON and the LED blinks when a hand is waved in front of the lens, then the Sensor was installed properly. If the operation is different, refer to the TROUBLESHOOTING SECTIONS.

The Sensor is factory preset to work without any adjustments. If you desire to change the factory settings, refer to the SETTINGS AND CALIBRATION section.

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**WARNING AND INSTALLATIONS**

- **TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH ELECTRICAL CODES AND REGULATIONS.**

- **DISCONNECT POWER WHEN SERVICING LUMINARIE OR CHANGING BULBS.**

- **USE THIS DEVICE WITH COPPER OR COPPER CLAD WIRED ONLY.**

- **DO NOT ATTEMPT TO DISASSEMBLE OR REPAIR. CLEAN OUTER SURFACE WITH A DAMP CLOTH ONLY.**

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**PIR DETECTION**

Value

10 minutes

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**LOAD RATINGS TO DETERMINE THE UNIT’S SUITABILITY FOR YOUR APPLICATION.**

- **TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH ELECTRICAL CODES AND REGULATIONS.**

- **DISCONNECT POWER WHEN SERVICING LUMINARIE OR CHANGING BULBS.**

- **USE THIS DEVICE WITH COPPER OR COPPER CLAD WIRED ONLY.**

- **DO NOT ATTEMPT TO DISASSEMBLE OR REPAIR. CLEAN OUTER SURFACE WITH A DAMP CLOTH ONLY.**
PHOTOCELL OPERATION

During occupancy the photocell controls a 1-10 VDC dimmable ballast or LED Driver to achieve maximum Energy savings while maintaining a minimum light level referred to as the "DDL". When no daylight is available, the photocell allows the load to operate at its full bright level. As daylight increases in the room, the photocell dims the load. When the minimum dim level is reached (and one of the Dim modes is selected), the device will switch off the lights when the light level is above the DOL for 30 seconds. The lights will remain off until the light level drops below the DOL for 30 seconds. The lights will then be turned on, with the light source set at its minimum dim level. The photocell will increase the light output until the DOL is reached. As the light levels change, the photocell will reduce or increase the dim level in order to maintain the DOL. The light levels changes occur in 5 minutes fade rate dial to make the light levels transitions unnoticeable to room.

The photocell holds the lights OFF when sufficient ambient light is present if motion is detected in vacancy state.

MODES OF OPERATION

Select using the MODE knob.

MODE 1 - Doff, T2 = 0:
- Daylighting Dim to Off - Partial Off Disabled (T2 = 0)
  - During daylighting, lights will Dim to Off. On vacancy, lights will turn Off after T1 expires.
- Daylighting Dim to Mn - Partial Off Disabled (T2 = 0)
  - During daylighting, lights will Dim to Mn. Upon vacancy, lights will turn Off after T1 expires.

MODE 2 - Dimn, T2 = 60:
- Daylighting Dim to Off - Partial Off Enabled (T2 = 60 min)
  - During daylighting, lights will dim to Off. Upon vacancy, lights will turn Off after T1 expires.
- Daylighting Dim to Mn - Partial Off Enabled (T2 = 60 min)
  - During daylighting, lights will dim to Mn. Upon vacancy, lights will turn Off after T1 expires.

MODE 3 - Dimn, T2 = 0:
- Daylighting Dim to Mn - Partial Off Disabled (T2 = 0)
  - During daylighting, lights will Dim to Mn. Upon vacancy, lights will turn Off after T1 expires.
- Daylighting Dim to Off - Partial Off Enabled (T2 = 0)
  - During daylighting, lights will dim to Off. Upon vacancy, lights will turn Off after T1 expires.

MODE 4 - Dimn, T2 = 60:
- Daylighting Dim to Off - Partial Off Enabled (T2 = 60 min)
  - During daylighting, lights will Dim to Off. Upon vacancy, lights will turn Off after T1 expires.
- Daylighting Dim to Mn - Partial Off Enabled (T2 = 60 min)
  - During daylighting, lights will Dim to Mn. Upon vacancy, lights will turn Off after T1 expires.

MODE 5 - Dimn, T2 = infinity:
- Daylighting Dim to Mn - Partial Off Enabled (T2 = infinity sign)
  - During daylighting, lights will Dim to Mn. Upon vacancy, lights will turn Off after T1 expires.
  - In this mode, lights will not turn OFF.

NOTE: Motion detection by the infrared sensor will reset T1 and T2.

PHOTOCELL TEST MODE

- Can be initiated from PHOTO SETPOINT knob change and lasts for two minutes.
- While active, the dimming fade rate will be reduced to 30 seconds and LED blinks yellow.

TROUBLESHOOTING

- Lights do not turn ON
  - Circuit breaker or fuse has tripped. Turn the breaker ON. Ensure the lights being controlled are in working order (i.e., working bulbs, ballasts, etc.)
  - Photocell is in override mode (light not needed). See LED Indicators Table.
  - Lens is dirty or obstructed: Inspect the lens visually and clean if necessary, or remove the obstruction.
  - Sensor is wired incorrectly or may be defective: Confirm that the sensor’s wiring is done correctly and inspect visually for problems.
  - Lights stay ON
    - The line voltage has dropped: Perform the necessary tests to ensure the line voltage has not dropped 10% beneath the specified voltage.
    - Sensor may be mounted too close to an air conditioning or heating vent: Move the sensor or close the vent.
  - Sensor is wired incorrectly or may be defective: Confirm that the sensor’s wiring is done correctly and inspect visually for problems.

- If the lights stay ON when enough light is present check the following:
  - Wiring and settings.
  - Poor sensor location (Ensure proper installation and re-calibrate).
  - Photocell is in failed calibration mode (Blue LED is solid ON).
  - Photocell is not calibrated.
  - DOL multiplier is set too high. Adjust DDL knob to a lower setpoint.

CERTIFICATIONS

- Line Voltage Units
  - All models meet all requirements and pass certification testing per UL 737A and CSA 22.2 No. 205.

FOR CANADA ONLY

For warranty information and/or product returns, residents of Canada should contact Leviton in writing at Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9 or by telephone at 1 800 405-5320.

LIMITED 1 YEAR WARRANTY AND EXCLUSIONS

Leviton warrants the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use for five years from the purchase date. Leviton’s only obligation is to correct such defects by repair or replace the product or any part thereof. No other warranty, either expressed or implied, shall extend beyond the terms hereof except as set forth herein. Leviton’s obligation hereunder is limited to the repair or replacement of such defective part and such repair or replacement shall constitute fulfillment of all obligations and responsibilities of Leviton under this warranty. This warranty does not apply to products that have been subject to unauthorized repair, alteration, or misuse.

Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost axes or profits or delay or failure to perform this warranty obligation. The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.