

Bi-Level Dimming PIR Sensor



Overview

- PIR Sensor
- 0-10V Configurable output (**OS** can be set to 0%*, 10%, 25% or 50% dimming only)
- Day/Night photocell
- Time Delay 1 (**OS** adjustable 5 sec to 30 min)
- Time Delay 2: (**OS** adjustable 10 sec to ∞)
- LED Motion indicator (under lens)
- Mounting height up to 40 ft
- 360° coverage pattern
- Suitable for indoor and outdoor use
- Bluetooth options enable remote sensor programming for greater customization



Applications

The OS sensor family uses PIR Motion Detector Architecture and passive infrared (PIR) technology for improved detection coverage for ceiling mount, highbay, and lowbay applications.

The OS sensor is a Class 2 Device designed to satisfy new CA Title 24 requirements for bi-level dimming of lighting fixtures. Using a 0-10 V signal, the sensor is capable of continuous dimming lighting loads for **OSB** and **OSBC** models, and dimming down to 0%*, 10%, 25% or 50% of **OS** model.

Sensor Operation

End users can program length of time delays, motion detection sensitivity, photocell on/off, and other settings using a series of dip switches and trimpots. Simply remove the lens to gain access.

Bi-level Dimming:** 0-10V bi-level dimmer connects to 0-10V control on the LED driver. When motion is detected the sensor will bring lighting up to 100% lumen output. When no motion is detected for the length of TD1, the sensor will send a signal to dim lighting to a specific level set by the end-user. If no motion is detected for the length of TD2, the sensor will send a signal to shut off the light.

Sensor Operation (cont'd)

Relay Control: Two additional High and Low control outputs can be used to trigger relays or other control circuitry.

Bluetooth smart and Bluetooth mesh: The Bluetooth Low Energy (BLE) enabled version pairs with an Android or iOS application to allow initial setup and subsequent sensor adjustments, beyond what the analog controls on the sensor can offer. The mobile application enables adjustment of sensor parameters such as time delay, dim level, sensitivity, daylight detection, and more. Additionally, features such as parameter profiles, manual dim control, and real-time feedback from the sensor can speed up configuration and provide custom user control. The **OSBC** models support mesh networking through Bluetooth enabled Casambi software.

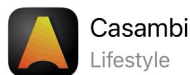
Software

Mobile Applications:

ISB: (point-to-point pairing/ control)



ISBC: (Bluetooth mesh network)



Accessories

Power Pack: The OS sensor operates on 12-24 VDC input and requires a separate power pack that incorporates a high current relay and a high voltage transformer which can accept universal input (100-305VAC).

Alternatively, the sensor can also operate with a driver that has a 12V auxiliary output.

Fresnel Lens:

Standard Lens: 8-30 ft mounting height (MH)

HBL Highbay Lens option: 20-40 ft MH

Note: Lens collar is white standard, black (**B**) is optional

******The sensor will dim the light if motion is not detected for the first time delay (TD1) and shut off the light if motion is not detected for the second time delay (TD2). TD2 will only count down after TD1 has expired and the light has dimmed. If motion is detected during TD2, the light will return to full output, and TD1 will restart.

Since one trimpot configures both TD1 and TD2, a fixed TD2 is set to each value of TD1. See page 2 for the corresponding values.

How to Order

Fixture Option	Description	Options
OS	External bi-level PIR occupancy sensor, standard lens	BK (black collar)
OSB	External bi-level PIR occupancy sensor with Bluetooth PacWave, standard lens	HBL (highbay lens)
OSBC	External bi-level PIR occupancy sensor with Casambi Bluetooth mesh, standard lens	

Summary	
Sensor Type	PIR occupancy sensor
Input Voltage Current Consumption	12-24 VDC 25 mA sensor (50 mA w/ BLE)
0-10V Output	100 mA, up to 50 LED sink drivers
High	Vin-2.5 V 100 mA source
Low	100 mA sink current
Mounting Height	Fixture or ceiling mount up to 40ft (12.2m)
Max Range*	40ft (12.2m) radius
Time Delays (TD1/TD2)**	5 sec/10 sec, 5 min/30 min, 15 min/45 min, 30 min/60 min, 10 min/∞****
Photocell Override (approximate)**	Motion Detection on <30Lux Motion Detection off >100lux
Max Bluetooth Range***	49 ~ 65ft (15 ~ 20m)
Operating Temperature	-30° C to 70° C
Storage Temperature	-40° C to 80° C
Relative Humidity	90-95% non-condensing at 30° C
Color	White
Warranty	5 years

Note:

*The absolute range of the sensor is subject to variation because of different types of clothing, backgrounds, and ambient temperature. Therefore, ensure that the lens is properly oriented along routes with expected traffic and conduct testing along those routes.

**Bluetooth versions enable adjustment of sensor parameters such as time delay, dim level, sensitivity, ON/OFF daylight detection, and more.

***Bluetooth Range is highly dependent on the integration of fixtures, surrounding environment and conditions. It is recommended to conduct testing for range accuracy.

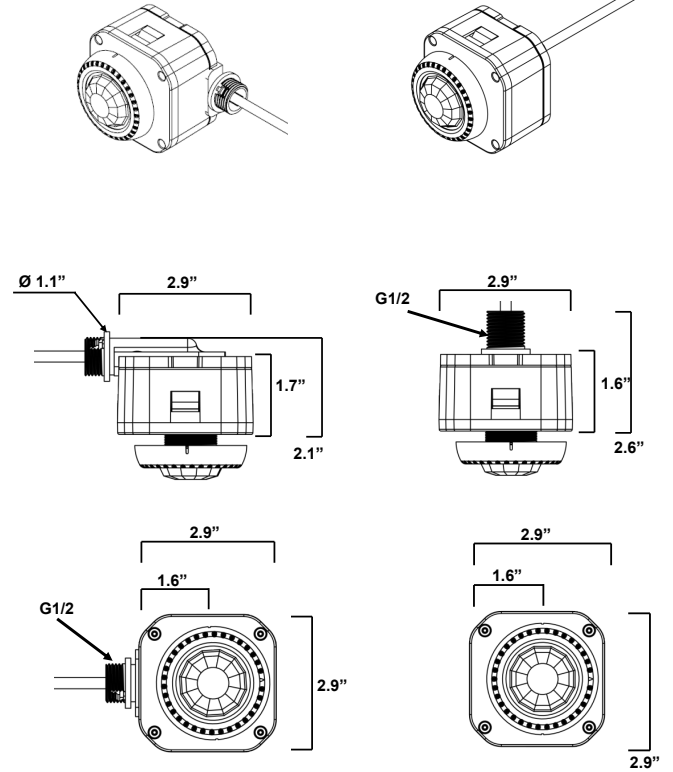
****If TD1 is set to 10 min, TD2 will never expire. So the light will remain at the dim level for as long as motion is not detected.

(MW Connect models: PSC-BL-I-FM-DC0-B/S; PSC-BL-I-FM-DC0-BLE-B/S; PSC-BL-I-FM-DC0-BLE-CB-B/S)

Dimensions

Side Mount Housing

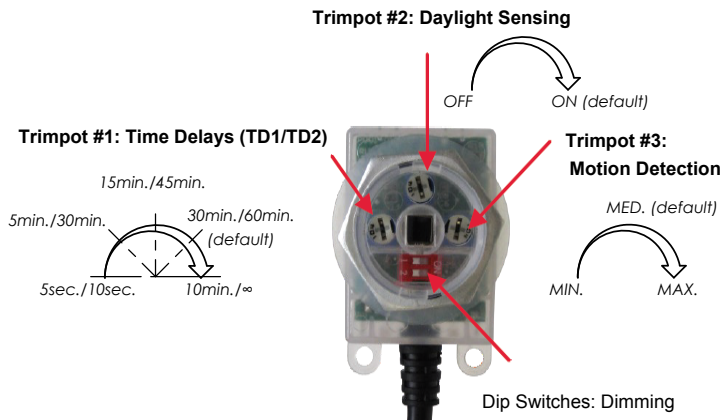
Bottom Mount Housing



Settings Adjustment

Trim pots

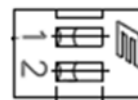
- Trim pot #1 on left adjusts time delay
- Trim pot #2 in middle controls daylight sensing (on/off)
- Trim pot #3 on right adjusts motion detection sensitivity. Turn clockwise to increase and counterclockwise to decrease.



DEFAULT SETTINGS FOR PIR OCCUPANCY SENSOR

- 100% OCCUPIED
- 50% AFTER 30 MIN. UNOCCUPIED
- OFF AFTER 60 MIN. UNOCCUPIED

Dip Switches



Dip Switch 1	Dip Switch 2	DIM Level
OFF	OFF	OFF*
OFF	ON	10%
ON	OFF	25%
ON	ON	50% (default)

* Fixture will dim to 0% if configured with a dim-to-off driver, otherwise fixture dims to lowest level of driver

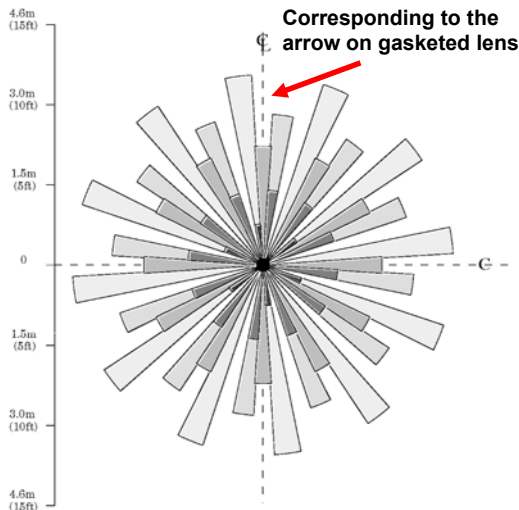
Detection Area Lens Orientation



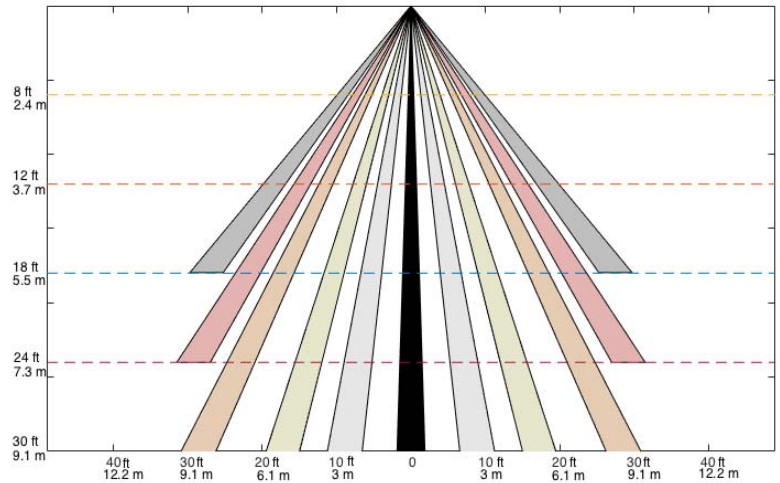
Corresponding to the CL on Detection Area Top View

Detection Area

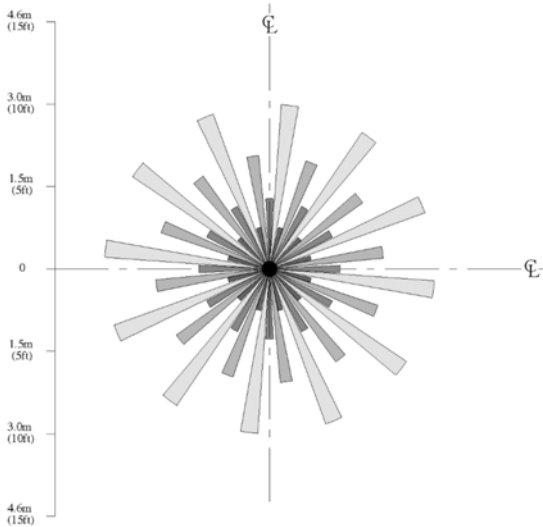
OS (standard lens) - Top View at 8 ft



Side View



OS (highbay lens)- Top View at 8 ft



Side View

