Bi-level Dimming PIR Sensor

FC | TITLE 24 | IP65 | UL CERTIFIED

Controls & Sensors

Overview

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- €XÓ[}æ¦^ˇdˇc(**IS** can be •^o{ÆÆ,
  F,G,Á,Á{ a* only)
- Day/Night] hotocell
- Time Delay 1 (**IS** adjustable 5 sec to 30 min)
- Time Delay 2: (**IS** adjustable 10 sec to ∞)
- LED Motion indicator (under lens)
- Mounting height up to 40 ft
- 360⁹ coverage pattern
- Suitable for indoor and outdoor use
- Bluetooth options enable remote sensor programming for greater customization

Bluetooth
PacWave™
CASAMBI

Applications

The Beghelli IS sensor family uses PIR Motion Detector Architecture and Quad Element passive infrared (PIR) technology for improved detection coverage for ceiling mount lowbay (standard) and highbay applications.

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

The sensor is suitable for a variety of indoor and outdoor applications. It supports fixture and ceiling mount heights up to 40 ft. The Beghelli IS sensor is rated for use in temperatures ranging from -30° to 70°C and relative humidity from 90 to 95% at 30°C.

0-10V: 100mA to drive up to 50 LED sink drivers on 0-10 V output.
High Vin- 2.5V 100 mA source
Low 100 mA sink current

Input Voltage: 12-24V DC

Output: 0-10V DC (control high to low)

Fresnel Lens

- Standard Fresnel Lens: 8-30 ft mounting height
- Optional **HBL** Highbay Fresnel Lens: 20-40 ft mounting height

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

Sensor Operation

End users can program length of time delays, motion detection sensitivity, photocell on/off, and other settings using a series of dipswitches 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.

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

Bluetooth Smart (ISB) and Casambi Bluetooth Mesh (ISBC): 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. Additional 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 **ISBC** sensors support mesh networking through Casambi software (download Android or iOS app).

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* In order to dim to 0% (off), fixture must be configured with a dim-to-off driver, consult fixture spec sheet or contact factory

** 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.

Note: 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
IS	B^ç^\ÁÓÁ&&] a&ˆÁ^}•[¦Áwith standard lens	**BK** (black collar)
ISB	B^ç^\ÁÓÁ&&] a&ˆÁ^}•[¦Á ãc@ÁÓ]ˇ^[c@PacWave and standard lens	**HBL** (highbay lens)
ISBC	B^ç^\ÁÓÁ&&] a&ˆÁ^}•[¦Á ãc@ÁCasambi Ó]ˇ^[c@Á^•@and standard lens	

Summary	
Sensor Type	PIR Occupancy sensor
Input Voltage/ Current Consumption	12-24 VDC | 25 mA sensor (50mA 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
Max Range*	40ft 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 (approx)**	Motion detection: ON < 30lux, 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 sensor models: PSC-BL-I-FM-DC0; PSC-BL-I-FM-DC0-BLE; PSC-BL-I-FM-DC0-BLE-CB)

Software

Mobile Applications:

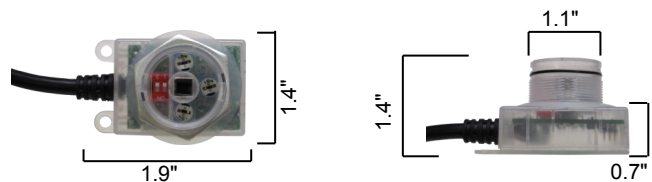**ISB:** (point-to-point pairing/ control)

PacWave Sensor
Utilities

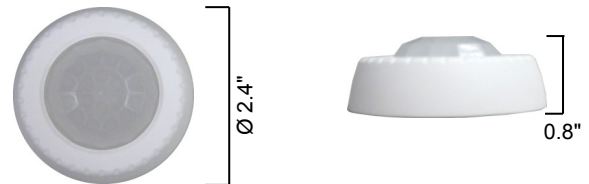**ISBC:** (Bluetooth mesh network)

Casambi
Lifestyle

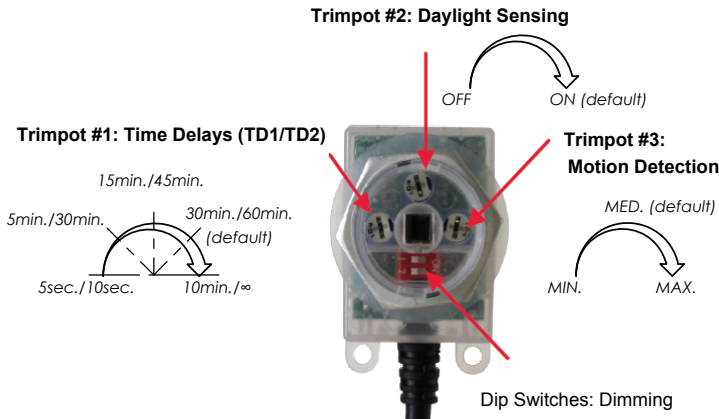## Dimensions

Sensor Housing

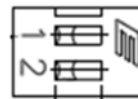Lens Cover

Settings Adjustment

Trimpots

- Trimpot #1 on left adjusts time delay
- Trimpot #2 in middle controls daylight sensing (on/off)
- Trimpot #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*

Trimpot #2: Daylight Sensing

OFF   ON (default)

Trimpot #1: Time Delays (TD1/TD2)

15min./45min.

5min./30min.   30min./60min. (default)

5sec./10sec.   10min./∞

Trimpot #3: Motion Detection

MED. (default)

MIN.   MAX.

Dip Switches: Dimming

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

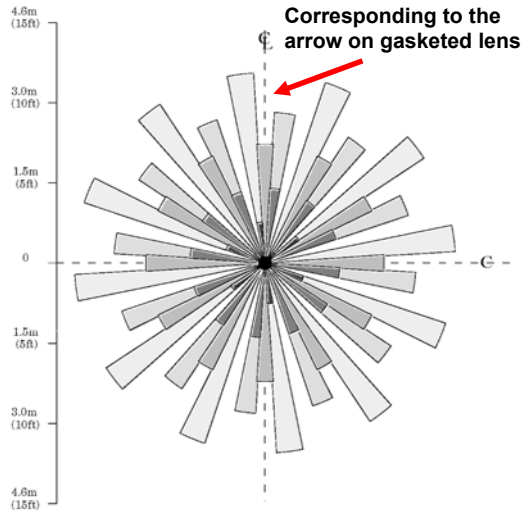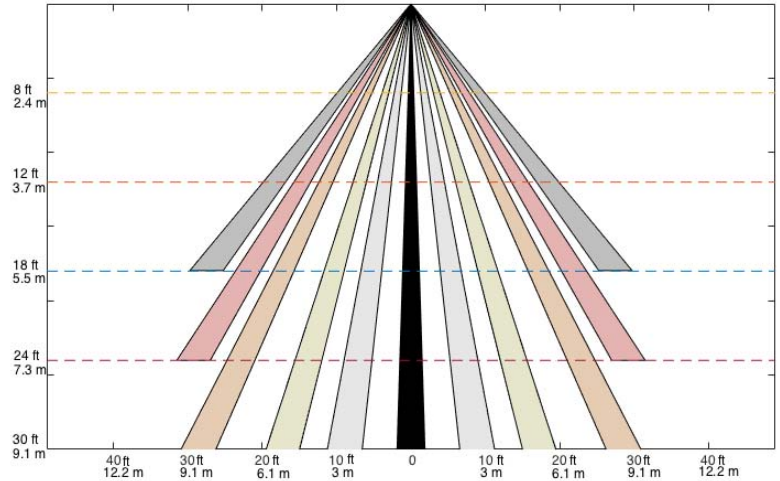## Detection Area Lens Orientation
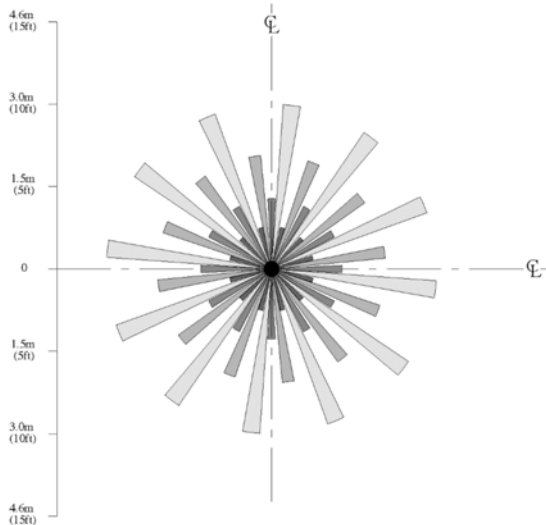
← **Corresponding to the CL on Detection Area Top View**

LBL

Detection Area

IS (standard lens) - Top View at 8 ft

Corresponding to the arrow on gasketed lens

4.6m (15ft)
3.0m (10ft)
1.5m (5ft)
0
1.5m (5ft)
3.0m (10ft)
4.6m (15ft)

Side View

8 ft 2.4 m
12 ft 3.7 m
18 ft 5.5 m
24 ft 7.3 m
30 ft 9.1 m

40ft 12.2 m   30ft 9.1 m   20ft 6.1 m   10 ft 3 m   0   10 ft 3 m   20ft 6.1 m   30ft 9.1 m   40ft 12.2 m

IS (highbay lens) - Top View at 8 ft

4.6m (15ft)
3.0m (10ft)
1.5m (5ft)
0
1.5m (5ft)
3.0m (10ft)
4.6m (15ft)

Side View

24 ft 7.3 m
32 ft 9.8 m
40 ft 12.2 m

40ft 12.2 m   30ft 9.1 m   20ft 6.1 m   10 ft 3 m   0   10 ft 3 m   20ft 6.1 m   30ft 9.1 m   40ft 12.2 m