PSC-BL-I-FM-DC0-BLE-SR | Bi-level Dimming PIR Sensor

Overview

- Quad Element PIR sensor
- 0-10V configurable output: set to 0% (OFF)*, 10%, 25% or 50% dimming
- Day/Night Photocell
- Time delay 1 adjustable 5 sec to 30 min
- Time delay 2 adjustable 10 sec to ∞
- LED Motion indicator
- Active High/Low outputs for Relay drive
- Mounting height up to 40 ft (12.2 m).
- 360° coverage pattern
- Bluetooth add-on enables remote sensor programming with greater customization of dimming levels, and time delays.

Suitable for indoor and outdoor use

E341446
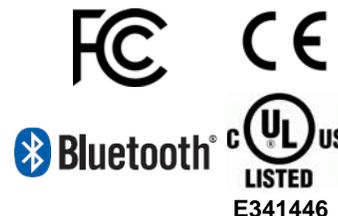
Suffix "-BLE-FSR" is also in compliance with IC, AS/NZS and JAPAN for Radio Communication

Applications

The ATG Wireless Control System PSC-BL-I-FM-DC0 provided by McWong, uses PIR Motion Detector Architecture and Quad Element passive infrared (PIR) technology for improved detection coverage for ceiling mount, high bay, and low bay applications.

The PSC-BL-I-FM-DC0 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 dimming light loads down to 0%, 10%, 25%, or 50%

The sensor is suitable for a variety of indoor and outdoor** applications. It supports fixture and ceiling mounts up to 40 ft (12.2 m) high. Both sensor and power pack are rated for use in temperatures ranging from -30° to 70°C and relative humidity from 90 to 95% at 30°C.

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

*For dim to off, Pacificwave PSC-AC-PP-200 Power Pack or LED dimming driver capable of dimming to off is required.

**PSC-BL-I-FM-DCO is outdoor use at the Sensor Collar part only. Side and Bottom Mount IP65 enclosure available for completely external outdoor sensor option.

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**: 0-10 V bi-level dimmer connects to 0-10 V 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 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 Bluetooth Smart™ enabled sensors support mesh networking through a variety of software and wireless platforms.

Accessories

Power Pack: The PSC-BL-I-FM-DC0 operates on 12-24 VDC input and requires a separate power pack such as the PacWave™ PSC-AC-PP-200/400/700C.

This power pack 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 an auxiliary output (12 V).

Fresnel Lens:
LBL: 8-30 ft (2.4-9.1 m) Fresnel Low bay lens
HBL: 20-40 ft (6.1-12.2 m) Fresnel High bay lens

**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.

If using a power pack, the sensor will tell the power pack to shut off the driver after TD2 expires to turn off the light. If using a dimming driver without a power pack, the sensor will try to dim down to 0% upon expiration of TD2.

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

For Line to Low Voltage Power Supply/Controller, please check PacWave™ PSC-AC-PP-200/400/700C

Model No.	Description	Input Voltage	Output
PSC-BL-I-FM-DC0-BLE-SR	Bi-Level Passive Infrared (PIR) Occupancy Sensor	12-24VDC	0-10VDC Control High Control Low
PIR-BL01-F3-LBL	360° Low Bay Lens, maximum coverage 60ft diameter at 30ft height, White Color		
PIR-BL01-F3-LBL-BN	360° Low Bay Lens, maximum coverage 60ft diameter at 30ft height, Brown Color		
PIR-BL01-F5-HBL	360° High Bay Lens, maximum coverage 70ft diameter at 40ft height or 80ft diameter at 32ft height, White Color		
PIR-BL01-F5-HBL-BN	360° High Bay Lens, maximum coverage 70ft diameter at 40ft height or 80ft diameter at 32ft height, Brown Color		
Add Suffix for options:			
-B	with Bottom-mount enclosure. IP65		
-S	with Side-mount enclosure. IP65		
/C	With Connector, see page 4, Lead Option B		

PSC-BL-I-FM-DC0-BLE-SR

| 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.

Settings Adjustment
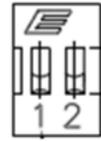
	Dipswitch 1	Dipswitch 2	DIM Level
	OFF	OFF	OFF
	OFF	ON	10%
	ON	OFF	25%
	ON	ON	50%

Trimpots

Trimpot #2:
Daylight Sense (On/Off)

Trimpot #1:
Time Delay

Trimpot #3:
Motion Detection

Dipswitches:
Dimming Level
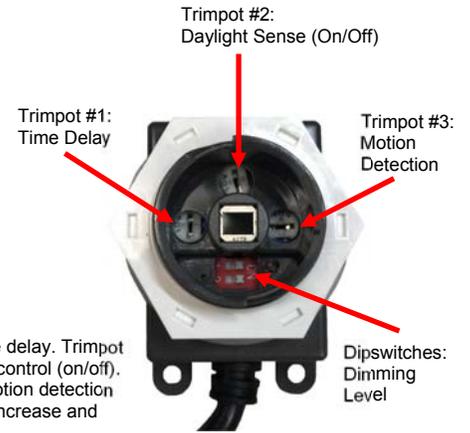
Trimpot #1 on left adjusts time delay. Trimpot #2 in middle daylight sensing control (on/off). Trimpot #3 on right adjusts motion detection sensitivity. Turn clockwise to increase and counterclockwise to decrease.

Physical Dimensions

Standard Housing

1.37"
(34.80mm)

2.18"
(55.37mm)

1.12"
(28.45mm)

1.41"
(35.82mm)

.73"
(18.54mm)

Lens Cover

Ø 2.40"
(60.96mm)

0.83"
(21.08mm)

Side Mount Housing (-S)

Ø1.07"
(27.18mm)

2.91"
(73.91mm)

1.67"
(42.42mm)

2.07"
(52.58mm)

2.91"
(73.91mm)

1.58"
(40.13mm)

G1/2

2.91"
(73.91mm)

Bottom Mount Housing (-B)

2.91"
(73.91mm)

G1/2

1.67"
(42.42mm)

2.61"
(66.29mm)

2.91"
(73.91mm)

1.58"
(40.13mm)

2.91"
(73.91mm)

ATG LED LIGHTING
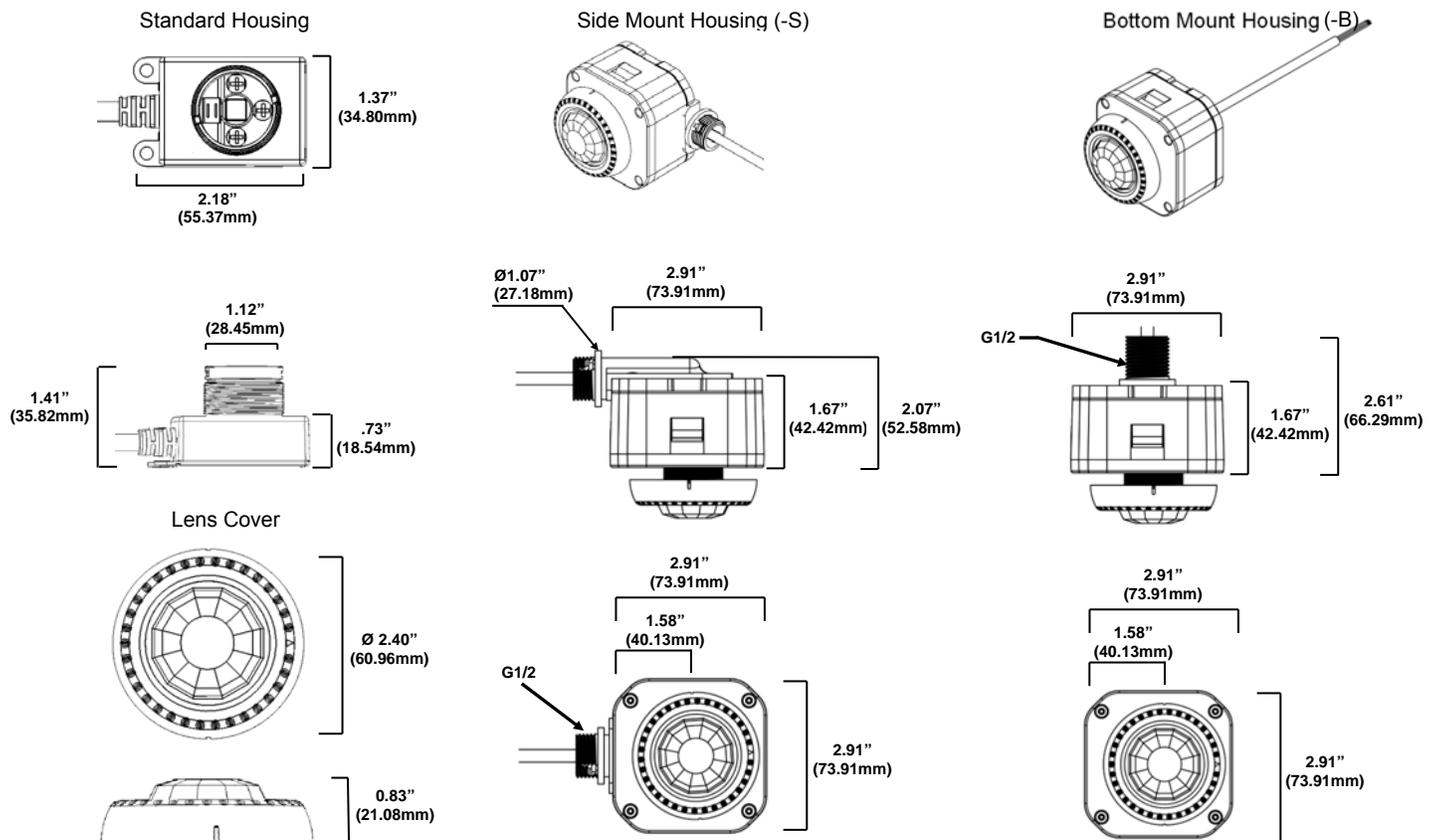
Detection Area lens Orientation

Corresponding to the CL on Detection Area Top View

LBL

Wiring Diagram

Vin-2.5V 100mA source

YLW — Control High

100mA sink current

Control Low — WHT

0-10V Driver Dimming Wires

BRN — DIM GND

Sensor

GND — BLK

12-24V Power Source

PRP — 0-10V

+V — RED
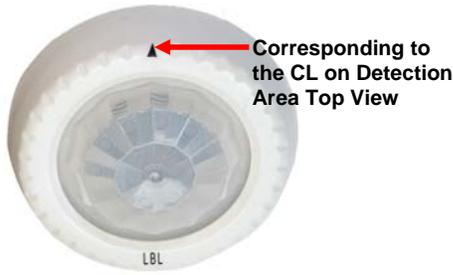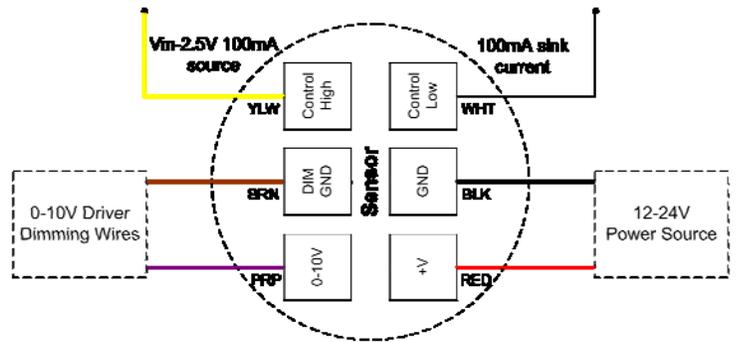
Note: If using a power pack other than PSC-AC-PP-200, connect either Control Hi or Control Low, depending on power pack relay circuitry.

## Detection Area

HBL: High Bay Lens-Top View at 8 ft (2.4m)

Corresponding to the Arrow on Gasketed Lens
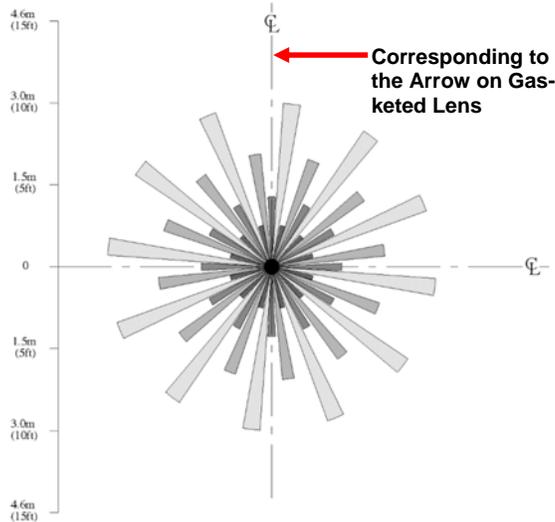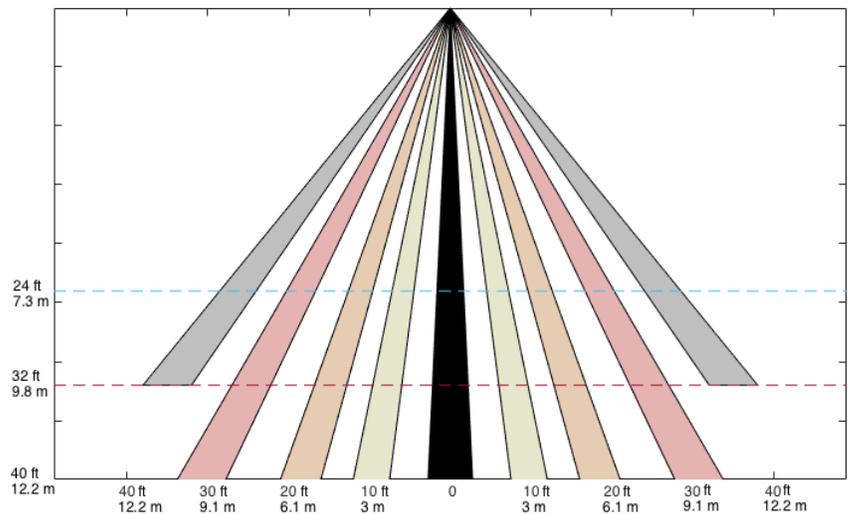
HBL - Side View

LBL: Low Bay Lens-Top View at 8 ft (2.4m)
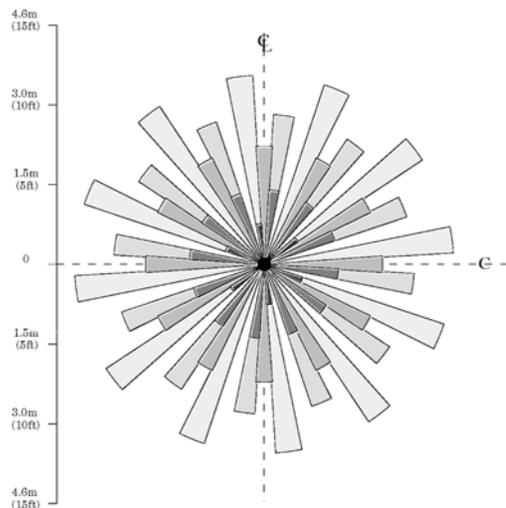
LBL - Side View

Installation

Nut

Gaskets

Nut

Inside Fixture Wall

Tightening Nuts

Gaskets

Outside Fixture Wall

Inside Fixture Wall

Tightening Nuts

Lens Assembly

Outside Fixture Wall
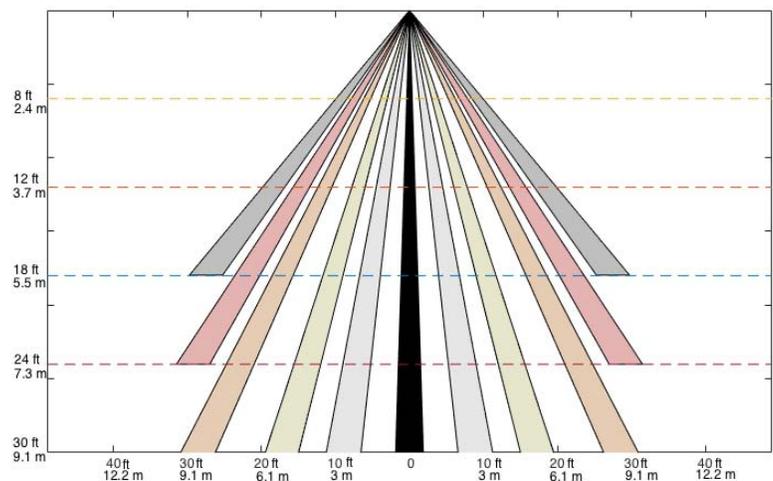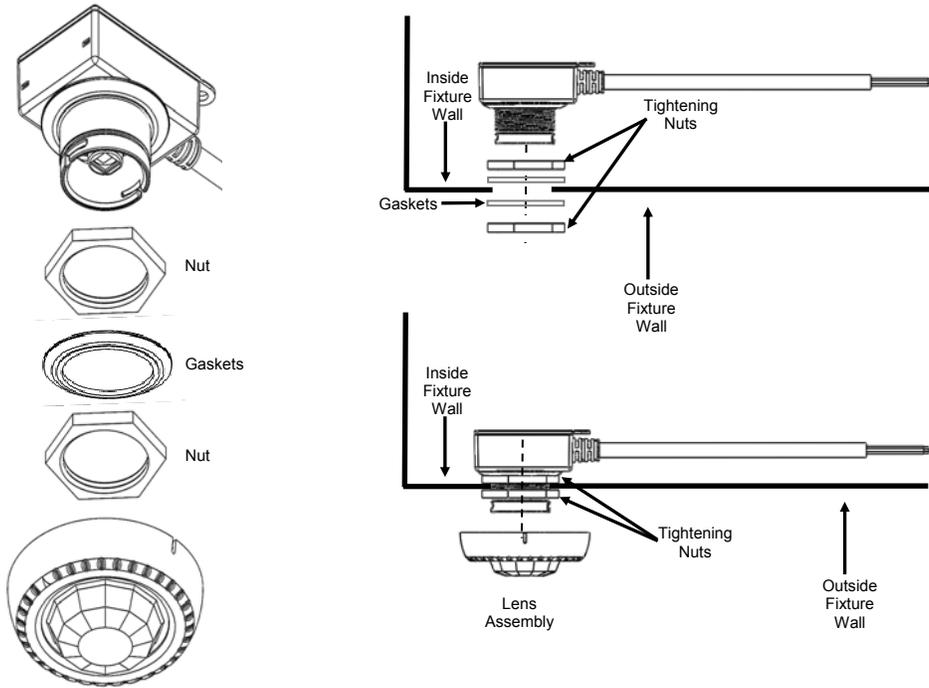
Lead Options:

Option A (Standard):

Shielded Jacket

Flying Leads with 0.394" (10mm) Wire Strip Length

12" (304.8mm)

6" (152.4mm)

18" (457.2mm)

Tolerance ±1" (25.4mm)

Option B (/C):

Shielded Jacket

1

17" (431.8mm)

18" (457.2mm)

1

Flying Leads with 0.394" (10mm) Wire Strip Length

6" (152.4mm)

Tolerance ±1" (25.4mm)
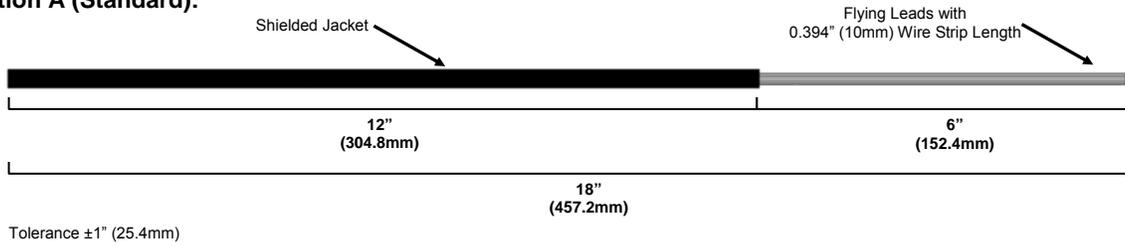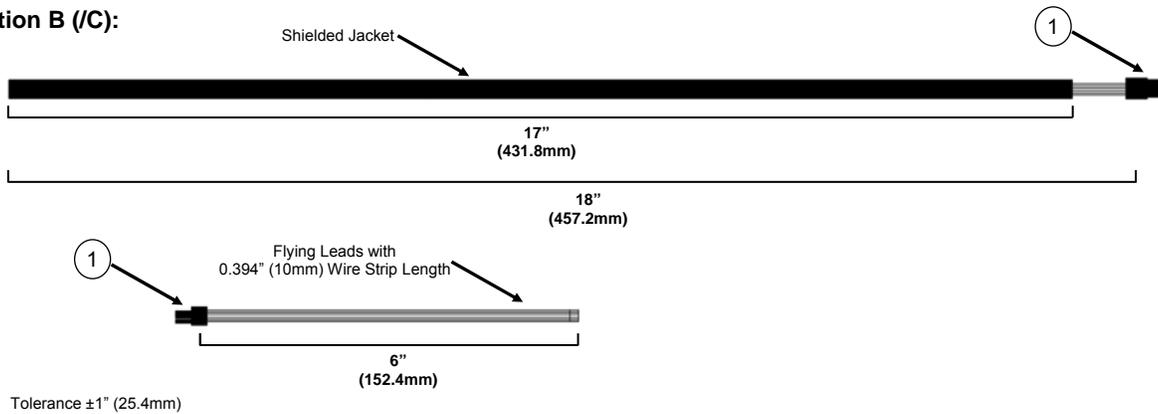
1 Matching male and female connector: TE 794617, 794616 or equivalent