PSC-BL-U-FM-DC0 (-BLE) | Dimming Ultrasonic Sensor

Overview

- Ultrasonic sensor 40KHz ± 1kHz.
- 0-10V configurable output: set to 0%, 10%, 25% or 50% dimming
- Photocell for daylight sensing
- Time delay adjustable 1 min, 5 min, 20 min
- LED Motion indicator
- Active High/Low outputs for Relay drive
- Bluetooth add-on enables remote sensor programming with greater customization of dimming levels, and time delays.
- Test Mode

E341446

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

Suitable for indoor use

Applications

The PSC-BL-U-FM-DC0 is an ultrasonic sensor. It actively emits high frequency sound waves (40kHz) and uses the Doppler Effect to detect motion.

The PSC-BL-U-FM-DC0 is a Class 2 Device designed to satisfy new CA Title 24 requirements for bi-level dimming of lighting fixtures. Using a 0-10V signal, the sensor is capable of dimming lighting loads down to 0% *, 10%, 25%, or 50%.

The sensor is suitable for a variety of indoor applications. It supports fixture and ceiling mounts from 8-12ft (2.4-3.7m) 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.

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

*For dim to off, Pacific PSC-AC-PP-200/700C Power Pack or LED dimming driver capable of dimming to off is required.

Sensor Operation

End users can manually program length of time delays, sensor range and dimming level using a series of dipswitches and trimpots.

Bi-level Dimming: 0-10V 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 selected Time Delay, the sensor will send a signal to dim lighting to a specific level set by the end-user.

Test Mode: Test Mode sets the time delay to five seconds and runs for 5 minutes. LED flashed 2 times to indicate Test Mode started. After 5 minutes (or push the Test Mode button again), LED flashed 3 times, the sensor returns to the selected time delay. During test mode, full output when triggered, and dimming level reflects the dip switch setting.

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

Optional 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.

Accessories

Power Pack: The PSC-BL-I-FM-DC0 operates on 12-24VDC input and requires a separate power pack such as the PacWave™ PSC-AC-PP-200/300/400.

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 (12V).

How to Order

Model No.	Description	Input Voltage	Output
PSC-BL-U-FM-DC0	Bi-Level Ultrasonic Occupancy Sensor	12-24VDC	0-10VDC Motion High Motion Low
PSC-AC-PP-200	Dimming Power Pack for Fixture Mount	100-277VAC	12.5VDC
PSC-AC-PP-700C	Power Pack for Fixture Mount	100-277VAC	12.5VDC
PSC-AC-PP-400	Power Pack for Fixture Mount no Relay	100-277VAC	12.5VDC
Add Suffix for options:			
-BLE	For PacWave Standalone Bluetooth Enabled Version		
-BLE-SR / -BLE-FSR	For Bluetooth Mesh in TruBlu™ Enabled Version / For Bluetooth Mesh in Future-Silvair Enabled Version		
-BLE-CB	For Bluetooth Mesh in Casambi Enabled Version		
/C	with Connector, see page 3, Lead Option B		

| Summary	
Sensor Type	Ultrasonic occupancy sensor
Input Voltage | Current Consumption	12-24VDC | 45mA sensor (70mA w/ BLE)
0-10V Output	100mA, up to 50LED sink drivers
High	Vin-2.5V 100mA source
Low	100mA sink current
Mounting Height	Fixture-Wall Mount or ceiling mount at 8-12ft (2.4-3.7m) high
[Low/Med/High] Max Range* (Wall Mounted)	13ft (4.0m) / 18ft (5.5m) / 35ft (10.7m)
Time Delays (TD1) **	1min, 5min, 20min
Photocell Sensitivity **	N/A
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

*Results may vary based on mounting height, angle, floor material, and line of sight
**Time Delays (TD2) and Photocell can be activated through optional Bluetooth version only. **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.
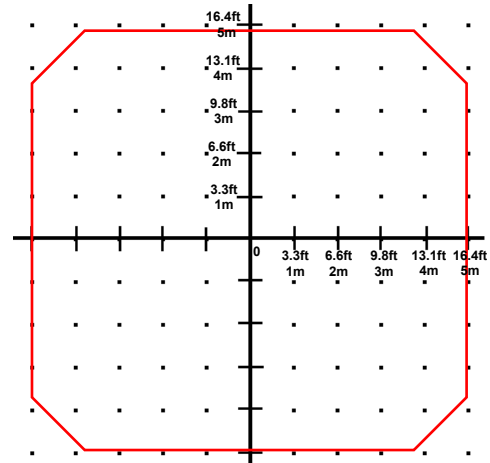
Physical Dimensions
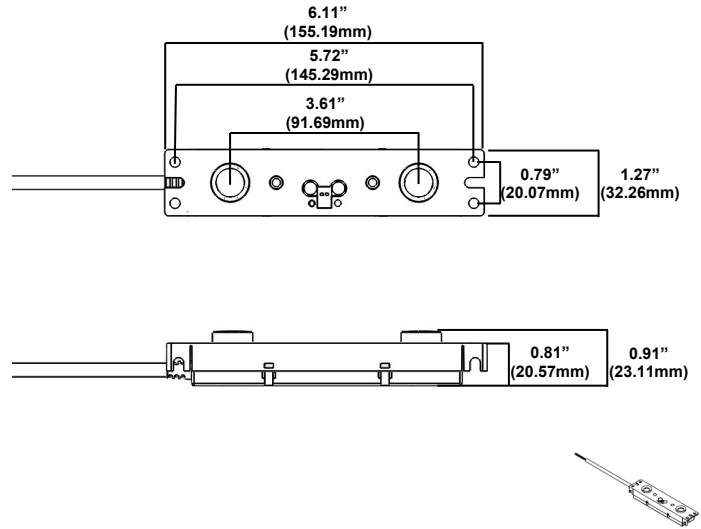
Drawings are Not to Scale
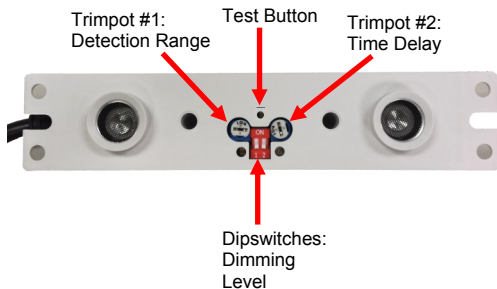
Wiring Diagram
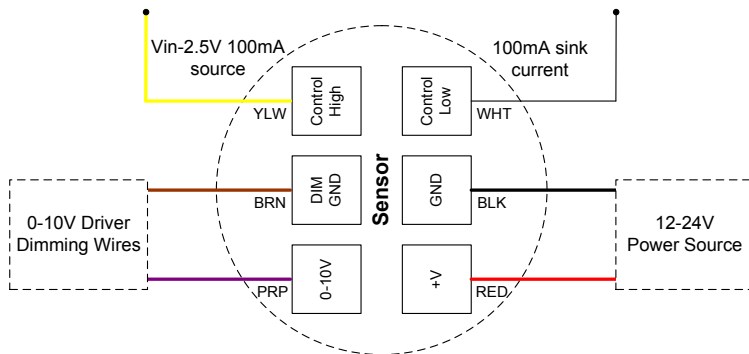
Note: If using a power pack other than PSC-AC-PP-200, connect either Control Hi or Control Low, depending on power pack relay circuitry.

Detection Area for 7.9ft (2.4m) Ceiling Mounted

Settings Adjustment

Trimpot #1: Detection Range
Test Button
Trimpot #2: Time Delay
Dipswitches: Dimming Level

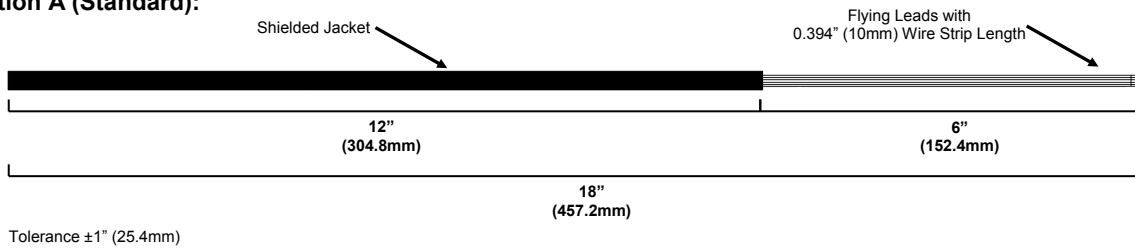| Dipswitch 1	Dipswitch 2	DIM Level
OFF	OFF	OFF
OFF	ON	10%
ON	OFF	25%
ON	ON	50%

Trimpots

Trimpot #1 on left adjusts motion detection range and sensitivity. Trimpot #2 on right adjusts time delay. Turn clockwise to increase, turn counter-clockwise to decrease.
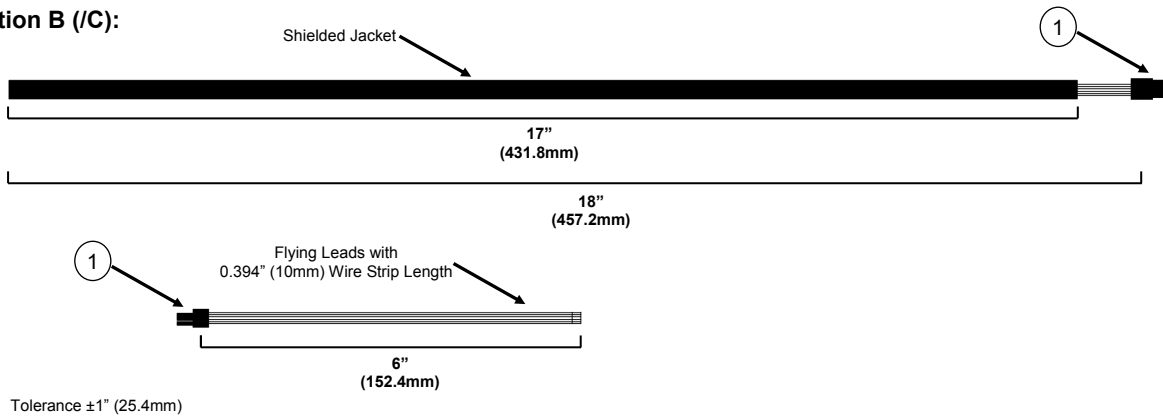
Test Button sets the time delay to five seconds and runs for 5 minutes. LED flashed 2 times to indicate Test Mode started. After 5 minutes (or push the Test Mode button again), LED flashed 3 times, the sensor returns to the selected Trimpot time delay setting.

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