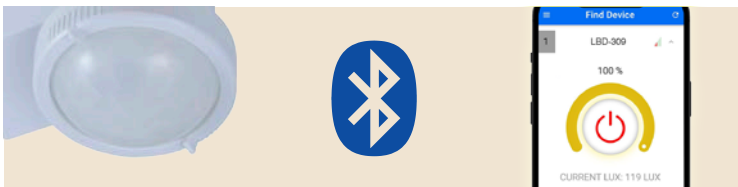


# LBD-309S

## Line Voltage SmartDIM Occupancy Sensor

TRANS



### OVERVIEW

The LBD-309S is a low-profile Bluetooth enabled occupancy sensor designed for fixture integration and providing multi-scheme control with 0-10V output for dimmable ballast or LED driver control. The sensor offers top-notch energy efficient lighting control with fully programmable multi-level high/low StepDIM or continuous SmartDIM control. All sensing control parameters can be set via IR-TEC Sensor Config App with capability of storing all sensor data and control profiles.

SmartDIM is a state-of-the-art automatic dimming control technology developed by IR-TEC, which is capable of maintaining the overall ambient light level within the preset range through a smooth, flawless continuous dimming control to the connected lighting. The sensor will turn on the connected lighting to the high dim or SmartDIM level as programmed when it detects the presence of an occupant or vehicle, and automatically dim the light down to the low level or shut off as programmed after the area is vacated for a period of time.

In addition, an exclusive Hybrid Switching technology protects the relay contacts from the high inrush current generated while switching on the LED driver. Multiple lens options are available for the LBD-309S to provide different detection coverage at various mounting heights. The sensor can be operating in the coldest of environments down to -40°C/°F. An iOS or Android App allows you to configure sensor control settings, or download the existing settings of the installed sensor from the floor.

### FEATURES

- Omni-directional digital pyroelectric infrared sensor
- Digital data control ambient light sensor built-in
- Bluetooth enabled remote sensor configurations
- Intuitive Sensor Config App delivers easy setting
- Available for on/off switching and 0-10V dimming
- Hybrid switching protect relay contacts from HIC
- SmartDIM or multi-level high/low StepDIM control
- Multiple lens selection for various mounting heights
- Fixture integrated or 1/2" hole nipple mounting



### APPLICATION

#### ☒ Occupancy Sensing with 0-10V Dimming Control

The LBD-309S sensor can be integrated with an OEM lighting fixture to provide multiple occupancy sensing control schemes with multi-level or continuous dimming by sensing the presence and movements of the occupant and the daylight available in the space. Basic wiring diagram is included at next page for reference. Consult with an IR-TEC team member if a more complex control is required.

## SmartDIM

SmartDIM is an exclusive continuous dimming control algorithm developed by IR-TEC to provide a smooth and flawless automatic dimming performance. The output of the controlled lighting will be constantly adjusted to maintain the overall ambient light level within the pre-programmed range by sensing the daylight available in the space.

## CONTROL SCHEMES

The LBD-309S can be programmed to control the luminaries in one of the following schemes. For more details of specific control scheme, please visit [www.irtec.com](http://www.irtec.com) or contact an IR-TEC team member directly.

Mode	Day <sup>1</sup>	Night <sup>2</sup>	Remarks
ON/OFF	Vac: OFF Occ: ON/OFF*	Vac: OFF Occ: ON	For non-dimmable lighting *ALS enabled
OSO	Vac: LD Occ: SD/HD	Vac: LD Occ: SD/HD	LD: Low Dim, HD: High Dim SD: SmartDIM
OSLA	Vac: OFF Occ: SD/OFF	Vac: LD Occ: SD/HD	
OSLATO	Vac: OFF Occ: SD/OFF	Vac: LD*-OFF Occ: SD/HD	*Low Dim during Time Off delay
OFF	Vac: OFF Occ: OFF	Vac: OFF Occ: OFF	Light stays off all the time for purpose

ON/OFF : ON-OFF Switching

OSO : Occupancy Sensing Only

OSLA : Occupancy Sensing at Low Ambient

OSLATO : Occupancy Sensing at Low Ambient with Time-Off

OFF : Light OFF all the time

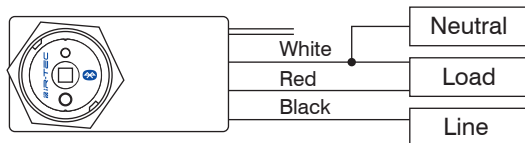
Vac : Vacant      Occ : Occupied

<sup>1</sup> While ambient light level is higher than the threshold.

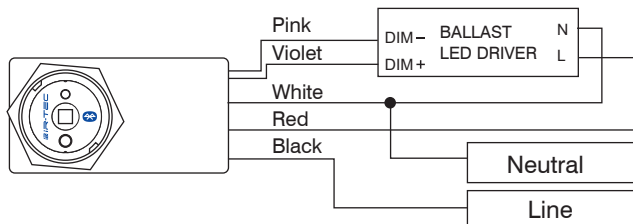
<sup>2</sup> While ambient light level is lower than the threshold.

## WIRING DIAGRAM

**Non-dimmable Lighting (ON-OFF Switching only)**



**0-10V Dimmable Lighting**

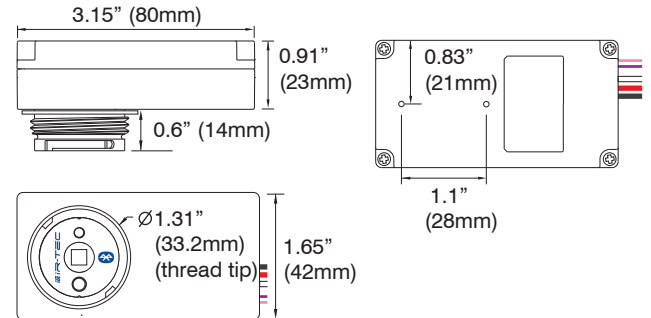


## LENS OPTIONS

The LBD-309S requires lens, following lens options available provide different coverage at different mounting height (H). Please purchase lens separately.

	Lens	Shape	Mounting Height		Coverage
a	Standard	Cone	8~15 ft.	2.4~4.5m	2X height
b	Extra wide	Cone	8~10 ft.	2.4~3.0m	6X height
c	High bay	Cone	15~30 ft.	4.5~9.0m	3X height
d	Standard	Round	8~20 ft.	2.4~6.0m	2X height
f	Extra wide	Dome	8~20 ft.	2.4~6.0m	4X height
g	Aisle way	Arch	8~40 ft.	2.4~12.0m	3X height
h	High bay	Dome	30~50 ft.	9.0~15.0m	1X height
i	Long aisle	Arch	8~10 ft.	2.4~3.0 m	6X height

## DIMENSIONS



## SPECIFICATIONS

Power supply	100/120/277VAC, 50/60 Hz	
Maximum load	100-120VAC	277VAC
-Incandescent/Halogen	800/*500W(VA)	1200/*750W(VA)
-Fluorescent Ballast/CFL	800/*500W(VA)	1200/*750W(VA)
-Ballast Electronic (LED)	540/*500VA	1200/*750VA
Infrared sensor	Digital pyroelectric sensor	
Photo sensor	Digital ambient light sensor	
HIC protection	Max. 80A for 16.7msec.	
Dim control output	0-10V, $\pm 5\%$ , isolated, max. 25mA	
Detectable speed	0.3 ~ 3 m/sec. (1~10 ft./sec.)	
Mounting height	Subject to the lens type applied	
Detection range	Subject to the lens type and mounting height	
Remote range	10 m (33 ft.) indoor, no backlight	
Op. humidity	Max. 95% RH	
Op. temperature	-40°C~70°C (-40°F~158°F)	
Dimensions	80x42x37mm (3.15"x1.65"x1.46")	

\*Max load for operating temperature at 55°C~70°C (131°F~158°F)