

## LRD-309SP

### Line Voltage SmartDIM Occupancy Sensor



#### OVERVIEW

The LRD-309SP is an IP-66 passive infrared (PIR) occupancy sensor designed to deliver multi-scheme occupancy sensing controls to commercial and industrial luminaires equipped with typical or 0-10V dimmable ballasts and LED drivers. This remote-programmable sensor is capable of providing four different control schemes with fully adjustable multi-level high/low StepDIM or SmartDIM control to the integrated lighting. SmartDIM is a state-of-the-art automatic dimming control technology developed by IR-TEC, which enables the sensor to maintain the overall lighting level within the preset range through a smooth and continuous dimming on the controlled lighting. The LRD-309SP also employs an exclusive Hybrid Switching technology to endure switching the LED driver with high inrush current up to 500,000 cycles.

The sensor can be nipple mounted with an OEM luminaire through a 1/2" hole, turn on or ramp up the light to high dim or SmartDIM level as programmed when it detects the presence of an occupant or vehicle, and dim down to low level or shut off the light automatically after the area is vacated for a period of time. A two-way IR handheld remote programmer (SRP-280) allows you to easily configure the control scheme and settings, or download the existing settings of a sensor from the floor. Four EZ-SET profiles can be stored in the SRP-280 for quick setup and parameter adjustment of multiple sensors.

#### FEATURES

- Omni-directional passive infrared
- Digital data control ambient light sensor built-in
- 2-way IR remote programmable sensor settings
- Hybrid switching withstands high inrush current
- 4 occupancy sensing control schemes available
- SmartDIM or multi-level high/low StepDIM control
- Remote programmable SmartDIM level setting
- Remote programmable range up to 15 m high
- Beeping or flashing light as acknowledgement
- Multiple interchangeable lens options available
- External mount through a 1/2" knockout hole
- Available for integrating with IP-66 rated fixture

#### APPLICATION

##### Occupancy Sensing Control with 0-10V Multi-level or Continuous Dimming

The LRD-309SP sensor can be externally mounted 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 occupant and the daylight available in the space. A basic wiring diagram is included at next page for reference. Consult with an IR-TEC team member if a more complex control is required.

## LRD-309SP

### Line Voltage SmartDIM Occupancy Sensor

#### SmartDIM

SmartDIM is an exclusive continuous dimming control algorithm developed by IR-TEC to provide 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 LRD-309SP can be programmed by the SRP-280 to control the lighting in one of the following control schemes with various conditions as set. For more details about 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

**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

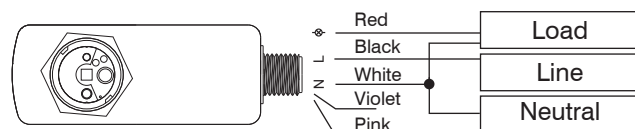
**Vac** : Vacant      **Occ** : Occupied

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

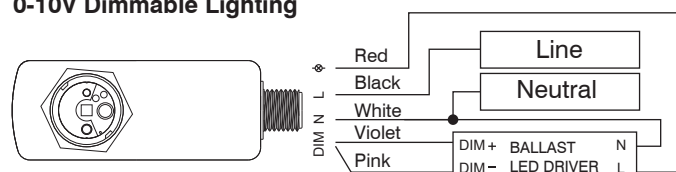
<sup>2</sup> While ambient light level is lower than the threshold.

#### WIRING DIAGRAM

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



##### 0-10V Dimmable Lighting

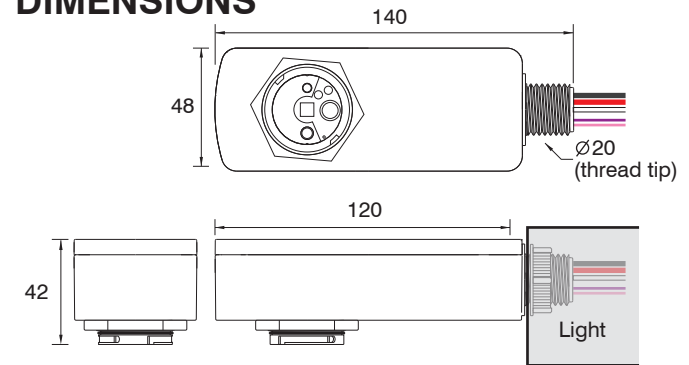


#### LENS OPTIONS

Following lens options are available with LRD-309SP for separately purchase to provide different coverage at different mounting heights (h).

	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



Unit: mm

#### 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	Omni-directional pyroelectric	
Photo sensor	Digital ambient light sensor	
HIC protection	Max. 80A for 16.7msec.	
Dim control output	0-10V, ±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	140x48x40mm (5.51"x1.89"x1.50")	

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