

## LRD-609SA series

### Line Voltage SmartDIM Occupancy Sensor



#### OVERVIEW

The LRD-609SA series member of the TRANS family is a two-way IR remote programmable line voltage switching occupancy sensor with 0-10V output for dimmable ballast or LED driver control. The sensor is capable of providing top-notch energy efficient lighting control in multiple modes with fully programmable multi-level high/low dim or SmartDIM control. **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. An exclusive two-way handheld remote programmer (SRP-280) allows you to configure sensor setting, or download the existing settings of the installed sensor from the floor. In addition, an exclusive Hybrid Switching technology makes the LRD-609 series perfect sensor to control a group of LED lightings with exceptionally high inrush current (HIC) while switching on.

Like all PIR sensors of TRANS family, LRD-609SA series is available with interchangeable lenses. The sensor comes with an universal mounting design which provides complete installation flexibility. The sensor is designed to operate in the coldest of environments, down to -40°F/°C.

#### FEATURES

- Omni-directional pyroelectric infrared sensor
- Digital data control ambient light sensor built-in
- 2-way IR remote programmable sensor setting
- Hybrid switching for controlling loads with HIC
- SmartDIM or multi-level high/low dim control
- Remote programmable SmartDIM level setting
- Up to 30 ft of remote programmable range
- Beeping or light flashing acknowledgement
- IP-66 rating universal mounting design
- Available with interchangeable lens options

#### APPLICATION

##### ☒ 0-10V Continuous Dimming Control

##### ☒ 0-10V Multi-level Dimming Control

The LRD-609SA series sensor can be used to provide occupancy sensing based, multi-mode, continuous dimming control by sensing the presence and movements of the occupant and the daylight available in the space. Specific control modes and sensor setting are configured via the SRP-280 remote sensor programmer. Basic wiring diagram is included at next page for reference. Consult with an IR-TEC team member if a more complex control is required.

#### APPLICABLE REMOTE (order separately)

Model	Description	Remarks
SRP-280	TRANS Remote Programmer	Full functionality
URP-100	User Remote	Manual ON/OFF/DIM TIME/LUX setting

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### Line Voltage SmartDIM Occupancy Sensor

#### 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 MODES

The LRD-609SA series can be programmed by SRP-280 to control the lighting in one of the following modes with various conditions as set. For more details of specific control mode, 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.

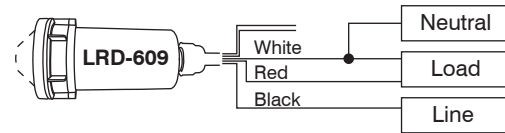
#### LENS OPTIONS

The LRD-609SAX series is available with following lens options which provide different coverage at different mounting height (H). When adding the lens code, the lens is then automatically shipped with the sensor.

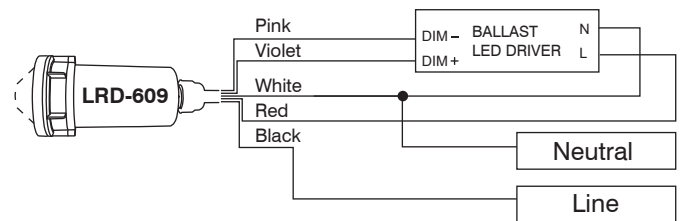
Lens	Shape	Mounting Height	Coverage
A	Standard	Cone	8~15 ft. 2.4~4.5m 2X height
B	Extra wide	Cone	8~10 ft. 2.4~3.0m 6X height
C	High bay	Cone	15~30 ft. 4.5~9.0m 3X height
D	Standard	Round	8~20 ft. 2.4~6.0m 2X height
F	Extra wide	Dome	8~20 ft. 2.4~6.0m 4X height
G	Aisle way	Arch	8~40 ft. 2.4~12.0m 3X height
H	High bay	Dome	30~50 ft. 9.0~15.0m 1X height
L	Long aisle	Arch	8~10 ft. 2.4~3.0 m 6X height

#### WIRING DIAGRAM

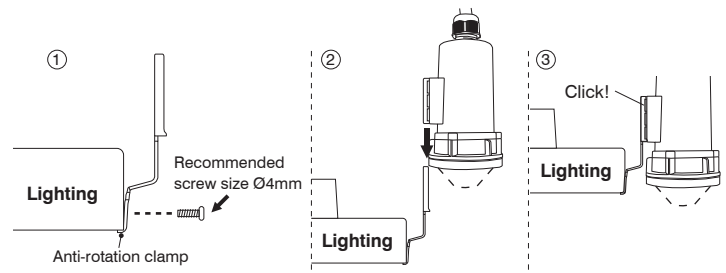
##### Non-dimmable Lighting (ON/OFF Switching only)



##### 0-10V Dimmable Lighting



#### SENSOR MOUNTING



#### SPECIFICATIONS

Power supply	100/120/230/277VAC, 50/60 Hz		
Maximum load	100-120VAC	230VAC	277VAC
-Incandescent/Halogen	800/*500W(VA)	5A	1200/*750W(VA)
-Fluorescent Ballast/CFL	800/*500(W(VA)	5A	1200/*750W(VA)
-Ballast Electronic (LED)	540/*500VA	5A	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	10m (33 ft.) indoor, no backlight		
Op. humidity	Max. 95% RH		
Op. temperature	-40°C~60°C (-40°F~140°F)		
Dimensions	L65 x W73 x H131mm (L2.56" x W2.87" x H5.16")		

\*Max load for operating temperature at 55°C~60°C (131°F~140°F)