

LRD-509 series

Line Voltage Bi-Level Occupancy Sensor



OVERVIEW

The LRD-509 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 different bi-level control modes with various settings for OEM fixture integration or local lighting circuit via a handheld programmer.

The sensor will turn the connected lighting to the high dim level as programmed when it detects the presence of an occupant, or vehicle, and switch back to the low dim level after the area is vacated for a period of time. The LRD-509 sensor can also be programmed to operate as a daylight sensor for the area that requires automatic daylighting control. The two-way remote programmer allows you to upload the new settings to the sensor, or download the existing settings from the installed sensor from the floor. In addition, an exclusive Hybrid Switching technology makes the LRD-509 series ideal to control the lighting with exceptionally high inrush current (HIC) while switching ON, such as multiple LED or CFL loads connected in parallel.

Like all sensors in the TRANS family, the LRD-509 series is available with various mounting options and interchangeable lenses. This provides a second-to-none design and complete installation flexibility. The sensor is designed to operate in the coldest of environments, down to -40°F/°C.

FEATURES

- Omni-directional quad element infrared sensor
- Digital data control ambient light sensor built-in
- 120/230/277VAC multiple line voltage operation
- Hybrid switching for controlling loads with HIC
- 2-way IR remote programmable sensor setting
- Multi-level high/low dimming control capability
- Multiple occupancy or daylight control modes
- Audible beeping indication can be enabled
- Available with a variety of mounting options
- Available with interchangeable lens options

APPLICATION

0-10V Dimmable Lighting Control

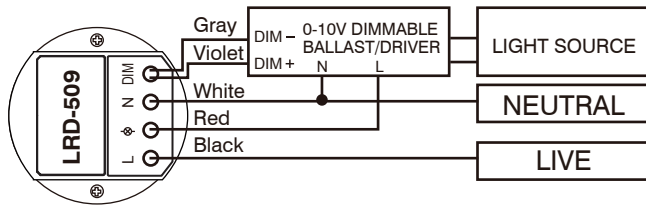
The LRD-509 sensor can be used to provide bi-level lighting control as an occupancy sensor by sensing the presence and movements of the occupant, or as a daylight sensor to control the light by sensing the change of ambient light level. Specific control mode and sensor setting can be achieved with the SRP-280 sensor remote programmer. Within the maximum load allowed, one LRD-509 sensor can control up to 50 dimmable ballasts/drivers in parallel with sinking current less than 0.5mA each. Basic wiring diagram is included at next page for reference. Consult with an IR-TEC team member if a more complex control is required.

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TRANS

Wiring Diagram



Mounting Options

The LRD-509xx series can be mounted into the ceiling or integrated with an OEM lighting fixture. The mounting options are available by combining a specific mounting bracket (if applicable) from the chart below. The bracket will be shipped with the sensor when ordered with the respective code.

Code	Mounting Option	Mounting Bracket
F	Fixture Integrated	---
W*	Wet Location	---
E	Fixture External	EMB-500
S	Ceiling Surface	SMB-500
P*	IP-66 Fixture External	PMB-500
C	Junction Box	CMB-500

*Available for IP-66 fixture integration

Lens Options

The LRD-509xx 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.

Type	Lens	Shape	Mounting Height	Coverage
A	Standard	Cone	2.4~4.5m (8~15 ft.)	2X height
B	Extra Wide	Cone	2.4~3.0m (8~10 ft.)	6X height
C	High bay	Cone	4.5~9.0m (15~30 ft.)	3X height
D	Standard	Round	2.4~6.0m (8~20 ft.)	2X height
F	Extra Wide	Dome	2.4~6.0m (8~20 ft.)	4X height

Example: LRD-509SWC

This sensor would come with C lens for high bay detection for IP-66 fixture integration. Specific mounting bracket or lens may be ordered separately if needed. For help selecting sensors with proper mounting and lens options please visit www.irtec.com, send your inquiry to info@irtec.com or contact an IR-TEC team member directly.

Control Modes

The LRD-509 series can be programmed to control the load in one of the following modes. For detailed descriptions of available control modes, please visit www.irtec.com or contact an IR-TEC team member directly.

Mode	Day	Night	Remarks
OOS	Vac: OFF Occ: ON/OFF*	Vac: OFF Occ: ON(HD)	Good for non-dimmable *ALS enabled
OSO	Vac: LD Occ: HD	Vac: LD Occ: HD	
OSLA	Vac: OFF Occ: OFF	Vac: LD Occ: HD	
OSLATO	Vac: OFF Occ: OFF	Vac: OFF Occ: HD+LD*	*LD during Time Off delay
DSO	OFF	HD(ON*)	*For non-dimmable light
DSVM	OFF	HD+LD*	*LD after Virtual Midnight

OOS : ON-OFF Switching

OSO : Occupancy Sensing Only

OSLA : Occupancy Sensing at Low Ambient

OSLATO : Occupancy Sensing at Low Ambient with Time-Off

DSO : Daylight Sensing Only

DSVM : Daylight Sensing with Virtual Midnight

SPECIFICATIONS

Power supply	120/230/277VAC, 50/60Hz
Maximum load	Incandescent/Halogen – 800W
	Fluorescent Ballast/CFL – 800W
	Ballast Electronic (LED) – 540/800W@120/277V
	Motor – 1/6 HP
Infrared sensor	Omni-directional quad element pyroelectric
Photo sensor	Digital ambient light sensor
HIC protection	Max. 80A for 16.7 msec.
Dim control output	0-10V, max 25/mA sinking current
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	Subject to the lens type applied
Detection range	Subject to the lens type and mounting height
Remote range	33 ft. (10m) indoor, no backlight
Delay time setting	Remote programmable, default 10 min.
Op. humidity	Max. 95% RH
Op. temperature	-40°F~131°F (-40°C~55°C)
Dimensions	Ø2.36" x H1.45" (Ø60 x H37mm)