

## LRS-509 series

### Line Voltage Occupancy Sensor



### OVERVIEW

The LRS-509 series member of the TRANS family is a 2-way IR remote programmable line voltage switching occupancy sensor designed for all-purposes energy efficient lighting control.

This state-of-the-art occupancy sensor employs a cutting edge quad-element pyroelectric infrared sensor to provide omni-directional sensing capability of occupant's presence and movements. The sensor can be easily programmed with specific delay time and ambient light level as desired, or download the existing settings of installed sensor from the floor via a two-way handheld IR remote programmer. An exclusive Hybrid Switching technology allows the LRS-509 series to control a group of LED lightings that could generate exceptionally high inrush current (HIC) while switching on.

Like all sensors in the TRANS family, the LRS-509 series is also 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°C/°F. The LRS-509 is designed to provide complete occupancy sensing for automatic lighting control, ease of use, and the simplest installation possible.

### FEATURES

- Omni-directional digital pyroelectric infrared sensor
- Digital data control ambient light sensor built-in
- 100/120/230/277VAC multiple line voltage operation
- Hybrid switching for controlling loads with HIC
- 2-way IR remote programmable sensor setting
- Walk test and sensor operation LED indicator
- Remote programming range exceeds 10 m.
- Beeping or light flashing acknowledgement
- Available with a variety of mounting options
- Available with interchangeable lens options

### APPLICATION

#### ☒ Occupancy Sensing On/Off Control

The LRS-509 series occupancy sensor can be used to directly control on/off switching of the connected light, or other loads, by sensing the presence and movements of the occupant. Basic wiring diagrams are included. Consult with an IR-TEC team member if a more complex wiring diagram is required.

### APPLICABLE REMOTE (order separately)

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

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#### CONTROL MODES

The sensor can be easily configured to control the light in one of the following schemes via remote programmer. For 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	
OFF	Vac: OFF Occ: OFF	Vac: OFF Occ: OFF	Light stays 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.

#### MOUNTING OPTIONS

The LRS-509xX series provides multiple mounting options for versatile applications. The bracket will be shipped with the sensor when ordered with the respective code. Codes F and W allow the LRS-509xX to be directly integrated with OEM light fixtures in any environment.

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

#### LENS OPTIONS

The LRS-509xX series is available with following lens options which provide different coverage at different mounting height (H).

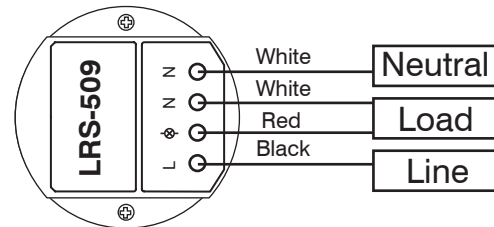
	Lens	Shape	Mounting Height		Coverage
A	Standard	Cone	8~15 ft.	2.4~4.5m	2X height
B	Extra wide	Cone	8~10 ft.	2.4~3.0m	6X height
C	High bay	Cone	15~30 ft.	4.5~9.0m	3X height
D	Standard	Round	8~20 ft.	2.4~6.0m	2X height
F	Extra wide	Dome	8~20 ft.	2.4~6.0m	4X height
G	Aisle way	Arch	8~40 ft.	2.4~12.0m	3X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

#### Example: LRS-509SWB

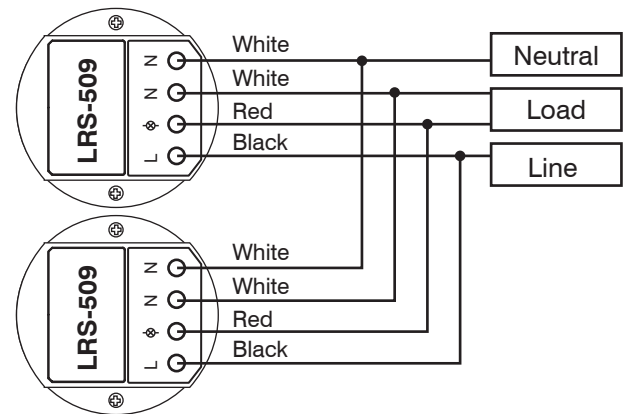
This sensor would come with ambient light sensor built-in and lens with extra wide detection for wet location control. Specific mounting bracket or lens may be order separately if needed. For help selecting sensors with proper mounting and lens options please visit [www.irtec.com](http://www.irtec.com), send your inquiry to [sales@irtec.com](mailto:sales@irtec.com) or contact an IR-TEC team member directly.

#### WIRING DIAGRAM

A. Single sensor control



B. Multiple sensors control



#### 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/*500W(VA)	5A	1200/*750W(VA)
-Ballast Electronic (LED)	540/*500VA	5A	1200/*750VA
Infrared sensor	Omni-directional pyroelectric		
HIC protection	Max. 80A for 16.7msec.		
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 applied and height		
Remote range	>10m (33 ft.) indoor, no backlight		
Op. humidity	Max. 95% RH		
Op. temperature	-40°C~70°C (-40°F~158°F)		
Dimensions	Ø60 x H37mm (Ø2.36"x H1.45")		

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