



### OVERVIEW

The ON-LRD-209SP is a low profile OS-NET Sensor (ONS) packed with multiple control functionalities including occupancy/vacancy sensing, daylight harvesting, bi-level StepDIM or continuous SmartDIM, and wireless mesh networking capability for top-notch intelligent lighting control.

Being a member of Mini ONS, this passive infrared (PIR) sensor not only automatically controls the connected lighting as per scheme programmed by detecting the presence of occupant and the ambient light level, but also operates as a node of mesh network to broadcast the wireless command for group lighting control. All network setup, grouping and control settings; including sensing control scheme, delay time, ambient light level threshold, ramp up/fade down speed, sensitivity, burn-in duration...etc. can be easily and intuitively configured via a 2-way handheld remote programmer from the floor.

This batten mount sensor can be integrated with general luminaires through a 1/2" knockout hole. A low profile flat lens provides excellent occupancy sensing capability within its coverage of 2X mounting height. With ON-LRD-209SP, you can easily achieve code-compliant, energy efficient smart lighting control through a wireless sensor mesh network effortlessly deployed while installing the OS-NET enabled luminaires in commercial

### FEATURES

- Omni-directional digital quad element PIR sensor
- Line voltage operation with wireless connectivity
- Multiple sensing control schemes programmable
- 2-way IR remote programming tool for all settings
- Single device can be member of multiple groups
- Hybrid switching protects from high inrush current
- SmartDIM or multi-level high/low StepDIM control
- Ideal for batten linear or IP-65 weatherproof fixtures

### APPLICATION

- Smart Lighting Controls with 0-10V SmartDIM or Bi-level StepDIM**

The ON-LRD-209SP can be externally mounted with variety types of commercial luminaires through 1/2" knockout hole, and provide multi-scheme occupancy/vacancy/daylight sensing controls to the connected lighting with on/off switching, multi-level or continuous dimming, while also activates the associated lighting groups via OS-NET wireless communication.

### SENSING CONTROL SCHEMES

The ON-LRD-209SP can be programmed to control the connected lighting in one of the following schemes, while also transmits wireless command for lighting group activation control through mesh network. For more details of specific control, please visit [www.irtec.com](http://www.irtec.com) or contact an IR-TEC team member directly.

Mode	Status	Day*	Night*	Remarks
ON/OFF	Vacant	OFF	OFF	For non-dimmable lighting
	Occupied	ON/OFF <sup>1</sup>	ON	<sup>1</sup> ALS enabled
OSO	Vacant	LD	LD	LD : Low Dim, HD : High Dim
	Occupied	SD/HD	SD/HD	SD : SmartDIM
OSLA	Vacant	OFF	LD	Automatic low dim during vacant nighttime
	Occupied	SD/OFF	SD/HD	
OSLATO	Vacant	OFF	LD-OFF	Low dim during Time Off (TO) delay
	Occupied	SD/OFF	SD/HD	
DSVM	Vacant	OFF	HD-LD	Dusk - Virtual midnight : High Dim
	Occupied	OFF	HD-LD	Virtual midnight - Dawn : Low Dim
DSC	Vacant	OFF	SD/HD	Occupancy sensing is disabled, Daylight sensing control only
	Occupied	OFF	SD/HD	
VSC	Vacant	OFF	OFF	Press OS-NET Button to turn on the light, automatic shut-off
	Occupied	Manual	Manual	
OSB	Vacant	OFF	OFF/LD <sup>2</sup>	<sup>2</sup> As background lighting before the entire group area is vacant
	Occupied	OFF	SD/HD	
OFF	Vacant	OFF	OFF	Occupancy sensing enabled, but the light stays off all the time
	Occupied	OFF	OFF	

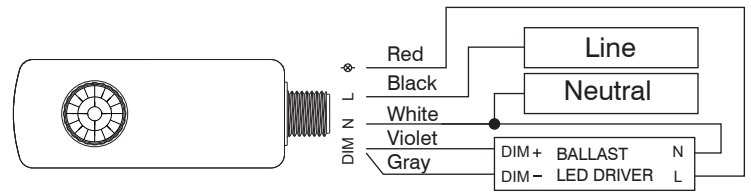
\*Day/Night: While ambient light level is higher/lower than the threshold set

- ON/OFF : On-Off Switching
- OSO : Occupancy Sensing Only
- OSLA : Occupancy Sensing at Low Ambient
- OSLATO : Occupancy Sensing at Low Ambient with Time-Off
- DSVM: Daylight Sensing with Virtual Midnight
- DSC: Daylight Sensing Control
- VSC: Vacancy Sensing Control
- OSB: Occupancy Sensing with Background
- OFF: Light off all the time

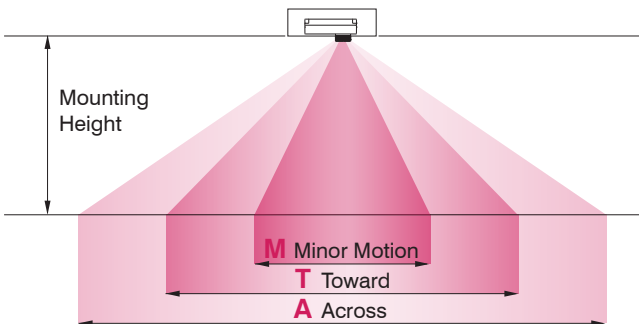
### SPECIFICATIONS

Power supply	120/230/277VAC, 50/60Hz
Maximum load	Ballast Electronic (LED)-500VA
Infrared sensor	Digital quad-element pyroelectric sensor
Dim control	0-10V, $\pm 5\%$ , isolated, max 25mA
HIC protection	Max. 80A for 16.7msec.
Wireless protocol	Modified Zigbee Light Link (ZLL)
Radio frequency	2405~2480MHz
Number of channel	16ch
Radio range	16 ft (5 m) @ indoor only
Detectable speed	0.5~10 ft./sec. (0.15 ~ 3 m/sec.)
Mounting height	8~20 ft (2.4~6 m)
Remote range	Typ. 33 ft (10 m), indoor with no backlight
Op. humidity	Max. 95% RH
Op. temperature	-40°F~158°F (-40°C~70°C)
Dimensions	5.51"x1.89"x1.50" (140x48x40mm)

### WIRING DIAGRAM



### DETECTION PATTERN



Mounting Height	2.4 m (8 ft)	3.0 m (10 ft)	3.6 m (12 ft)	6.0 m (20 ft)
Coverage Diameter	<b>M</b>	1.0 m (3 ft)	2.0 m (7 ft)	3.0 m (10 ft)
	<b>T</b>	3.0 m (10 ft)	4.0 m (13 ft)	5.0 m (16 ft)
	<b>A</b>	5.0 m (16 ft)	6.0 m (20 ft)	7.0 m (23 ft)

### DIMENSIONS

