



### OVERVIEW

The ON-LRD-309S is a low profile, fixture integrated OS-NET Sensor packed with multiple sensing control functionalities including occupancy/vacancy sensing, daylight harvesting, bi-level StepDIM or continuous SmartDIM, and wireless mesh networking capability for achieving top-notch intelligent lighting control.

The sensor not only automatically controls the integrated lighting as per scheme programmed by detecting the presence of occupant and the change of ambient light level, but also operates as a node of mesh network to relay the command for networked lighting control wirelessly. 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. Numerous lens options allow the sensor to operate from commercial office to industrial high bay with different detection coverage.

By integrating the OS-NET Sensor, a conventional luminaire can be easily transformed into a state-of-the-art OS-NET enabled lighting featuring multi-scheme smart control. You can effortlessly achieve code-compliant networked lighting control with maximum energy savings via a wireless sensor mesh network simultaneously deployed through installing the OS-NET enabled lighting. All OS-NET enabled lighting can be wirelessly linked to execute sophisticated control without losing control of your budget.

### FEATURES

- Omni-directional digital quad element PIR sensor
- Line voltage operation with wireless connectivity
- All functionalities in one and one for all controls
- 2-way IR remote programming tool for all settings
- One device can be member of up to four groups
- Hybrid Switching protects from high inrush current
- SmartDIM or high/low multi-level StepDIM control
- Exceptionally long range of remote programming
- Multiple lens options allow broadest applications

### APPLICATION

#### ☒ Smart Lighting Control with 0-10V SmartDIM or Bi-level StepDIM

The ON-LRD-309 sensor can be easily integrated with OEM luminaire to provide multi-scheme occupancy/vacancy/daylight sensing control via OS-NET wireless communication, in continuous or multi-level dimming control to the connected lighting and the assigned groups.

# ON-LRD-309S

## Line Voltage OS-NET Sensor



### SENSING CONTROL SCHEMES

The ON-LRD-309S 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 ¹ALS enabled
	Occupied	ON/OFF¹	ON	
OSO	Vacant	LD	LD	LD : Low Dim, HD : High Dim SD : SmartDIM
	Occupied	SD/HD	SD/HD	
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 Virtual midnight - Dawn : Low Dim
	Occupied	OFF	HD-LD	
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/LD²	²As 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

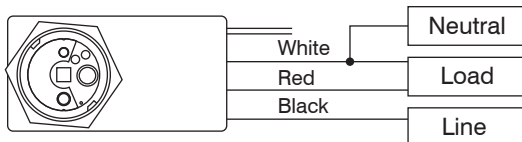
DSVM: Daylight Sensing with Virtual Midnight    DSC: Daylight Sensing Control

VSC: Vacancy Sensing Control

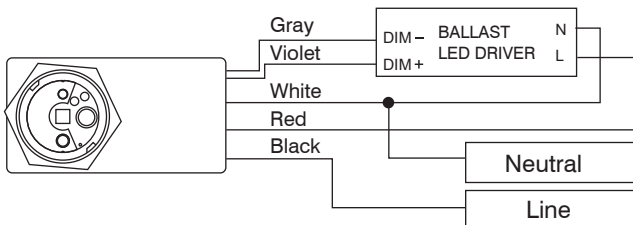
OSB: Occupancy Sensing with Background    OFF: Light off all the time

### WIRING DIAGRAM

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



#### 0-10V Dimmable Lighting

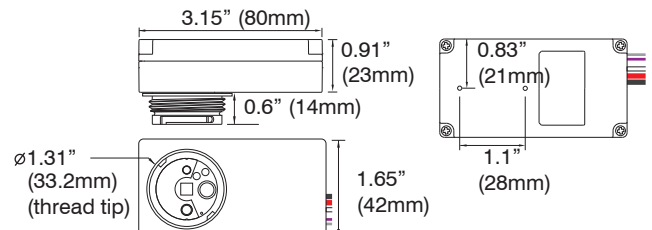


### LENS OPTIONS

Multiple lens options are available for ON-LRD-309S to provide different coverage at different mounting heights. Please purchase lens separately.

	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

### DIMENSIONS



### SPECIFICATIONS

Power supply	120/277VAC, 50/60Hz	
Maximum load	120VAC	277VAC
-Fluorescent Ballast/CFL	800/*500W(VA)	1200/*750W(VA)
-Incandescent/Halogen	800/*500W(VA)	1200/*750W(VA)
-Ballast Electronic (LED)	540/*500VA	1200/*750VA
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	2405~2475MHz	
Number of channel	15ch	
Radio range	49/295 ft (15/90 m)@indoor/outdoor, open space	
Radio power output	5.63dBm	
Detectable speed	0.5~10 ft./sec. (0.15 ~ 3 m/sec.)	
Mounting height	Subject to the lens applied	
Detection range	As per lens applied and mounting height	
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	3.15"x1.65"x1.46" (80x42x37mm)	

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

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