

ON-LRD-209S



Line Voltage OS-NET Sensor

Flexibility | Functionality | Simplicity



OVERVIEW

The ON-LRD-209S is a low profile OS-NET Sensor (ONS) packed with multiple sensing 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.

The sensor not only controls the connected lighting in the programmed scheme independently when it detects the presence of an occupant or the change of ambient light level, but also acts as a network node to broadcast the OS-NET command for group lighting activation wirelessly. All network setup, grouping and control settings; including sensing control scheme, delay times, 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.

Being a member of Mini ONS, this sensor can be integrated with general office luminaires through a 1" hole. A flat lens provides excellent detection to the office activities within its coverage of 2X mounting height. With ON-LRD-209S, you can effortlessly 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 environments.

FEATURES

- Omni-directional digital pyroelectric infrared 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
- Single device can be members of multiple groups
- Hybrid switching protects from high inrush current
- SmartDIM or multi-level high/low StepDIM control
- Available for integrating with Troffer or LED panel

APPLICATION

☒ Multiple Sensing Controls with 0-10V SmartDIM or Bi-level StepDIM

The ON-LRD-209S sensor can be integrated with Troffer or side-lit LED panel to provide multi-scheme occupancy/vacancy/daylight sensing, with continuous or multi-level dimming control to the connected lighting and the assigned groups via OS-NET wireless communication.

APPLICABLE REMOTE (order separately)

Model	Description	Remarks
SRP-281	OS-NET Remote Programmer	Full functionality
URP-100	User Remote	Manual ON/OFF/DIM TIME/LUX setting

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SENSING CONTROL SCHEMES

The ON-LRD-209S can be programmed to control the connected light 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 or contact an IR-TEC team member directly.

Mode	Status	Day*	Night*	Remarks
ON/OFF	Vacant	OFF	OFF	For non-dimmable lighting ALS enabled
	Occupied	ON/OFF ¹	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/LD ²	² 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

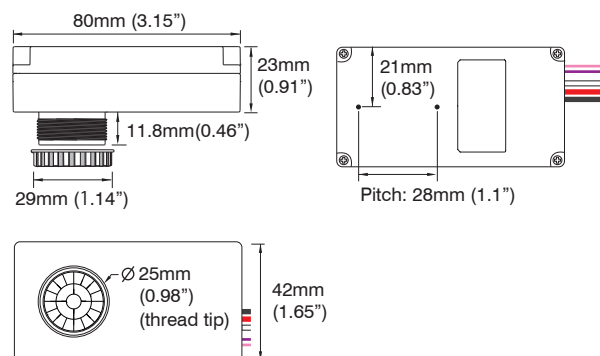
OSLATO : Occupancy Sensing at Low Ambient with Time-Off

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

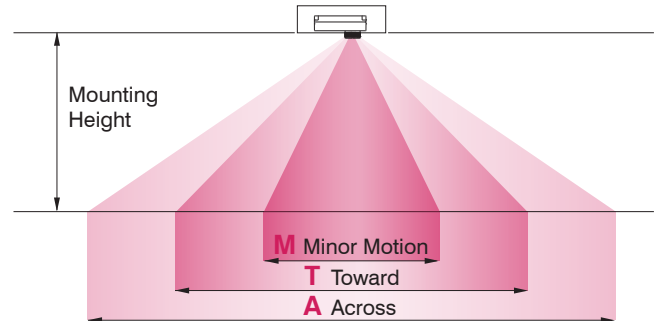
VSC: Vacancy Sensing Control

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

DIMENSIONS



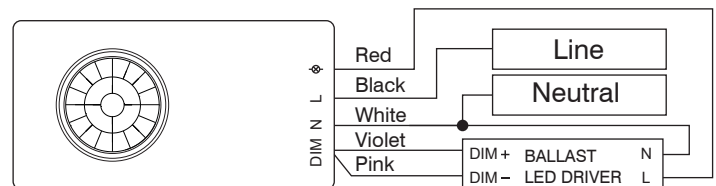
DETECTION PATTERN



Mounting Height	2.4 m (8 ft)	3.0 m (10 ft)	3.6 m (12 ft)	6.0 m (20 ft)
Coverage	M 1.0 m (3 ft)	2.0 m (7 ft)	3.0 m (10 ft)	--
Diameter	T 3.0 m (10 ft)	4.0 m (13 ft)	5.0 m (16 ft)	6.0 m (20 ft)
	A 5.0 m (16 ft)	6.0 m (20 ft)	7.0 m (23 ft)	9.0 m (30 ft)

NOTE: High ambient temperature (above 28°C/82°F) could reduce the coverage of PIR sensor. If ambient temperature at the covered area are expected to be high sometimes, consider adding more sensors or reduce the mounting height, if possible.

WIRING DIAGRAM



SPECIFICATIONS

Power supply	120/230/277VAC, 50/60Hz
Maximum load	Ballast Electronic (LED)-500VA
Infrared sensor	Omni-directional pyroelectric
Dim control	0-10V, ±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	*5 m (16 ft) @ indoor only
Radio output power	6.19dBm
Detectable speed	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)
Mounting height	2.4~6.0 m (8~20 ft)
Remote range	Typ. 10 m (33 ft), indoor with no backlight
Op. humidity	Max. 95% RH
Op. temperature	-40°C ~ 70°C (-40°F ~ 158°F)
Dimensions	80x42x34.8mm (3.15"x1.65"x1.37")

*Actual radio range may differ depending on environmental conditions.