

OVERVIEW

The ON-MRD-200SP is a low profile DALI broadcast 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 light 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 commands 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-MRD-200SP, 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 applications.

FEATURES

- Omni-directional digital pyroelectric infrared sensor
- Universal AC mains or DALI bus power operation
- 2-way IR remote programming tool for all settings
- Single device can be member of multiple groups
- Multiple sensing control schemes programmable
- Easy-to-use DALI broadcast command control
- SmartDIM or multi-level high/low StepDIM control
- Ideal for batten linear or IP-65 weatherproof fixtures

APPLICATION

☒ Smart Lighting Controls with DALI SmartDIM or Bi-level StepDIM

The ON-MRD-200SP 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 multi-level or continuous dimming, while also activates the associated lighting 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

ON-MRD-200SP

SmartDALI OS-NET Sensor

SENSING CONTROL SCHEMES

The ON-MRD-200SP 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

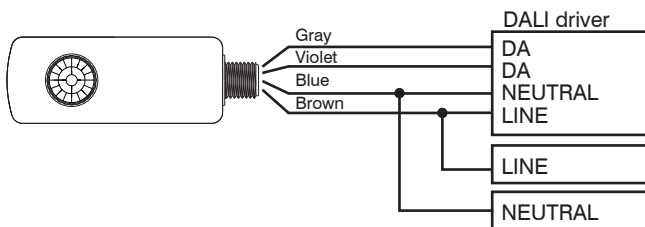
DSVM: Daylight Sensing with Virtual Midnight DSC: Daylight Sensing Control

VSC: Vacancy Sensing Control

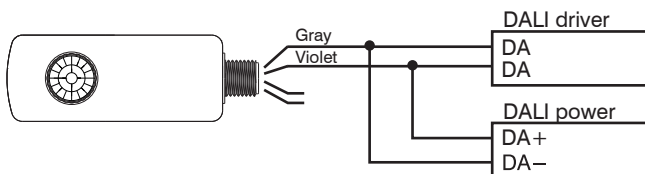
OSB: Occupancy Sensing with Background OFF: Light off all the time

WIRING DIAGRAM

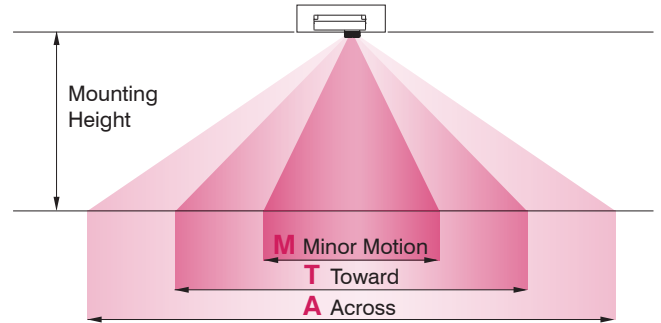
Powered by line voltage



Powered by DALI bus



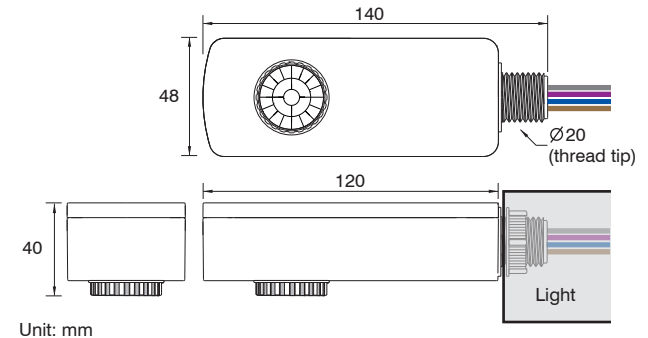
DETECTION COVERAGE



Mounting Height	2.4 m (8 ft)	3.0 m (10 ft)	3.6 m (12 ft)	6.0 m (20 ft)
Coverage Diameter	M 1.0 m (3 ft)	2.0 m (7 ft)	3.0 m (10 ft)	--
	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.

DIMENSIONS



Unit: mm

SPECIFICATIONS

Power supply	230-240 VAC or DALI bus power
Power consumption	<0.5W @AC230-240V or <60 mA with DALI bus
Infrared sensor	Omni-directional pyroelectric
Photo sensor	Digital ambient light sensor
DALI bus power	60 mA max.
Control protocol	DALI Broadcast
Wireless protocol	Modified Zigbee Light Link (ZLL)
Radio frequency	2,405~2,480 MHz
Radio channel	16
Radio range	*5 m (16 ft) @ indoor only
Radio output power	7.58dBm
Detectable speed	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)
Mounting height	2.4 ~ 6 m (8 ~ 20 ft)
Op. humidity	Max. 95% RH
Op. temperature	-40°C~70°C (-40°F~158°F)
Dimensions	140x48x40mm (5.51"x1.89"x1.50")

*Actual radio range may differ depending on environmental conditions.