ON-MRD-600SA series

SmartDALI OS-NET Sensor

Flexibility • Functionality • Simplicity

OVERVIEW

TThe ON-MRD-600SA series is an 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 mode independently when it detects the presence of an occupant/vehicle or 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.

The sensor comes with a universal mounting design which provides complete installation flexibility. Changeable lens options allow the sensor to be mounted at various heights with different detection patterns for all applications. With ON-MRD-600SA, you can effortlessly achieve energy efficient, code-compliant smart lighting control through a wireless sensor mesh network effortlessly deployed while installing the OS-NET enabled lighting.

FEATURES

- Omni-directional digital quad element PIR sensor
- Switched AC mains or DALI bus power operation
- 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
- SmartDIM or multi-level high/low StepDIM control
- Exceptionally long range of remote programming
- IP-66 rating universal mounting design
- Multiple lens options allow broadest applications

APPLICATION

☑ Multiple Sensing Controls with DALI SmartDIM or Bi-level StepDIM

The ON-MRD-600SA sensor can be flexibly integrated with OEM luminaire 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.

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Sensing Control Schemes

The ON-MRD-600SA employs a top-notch digital passive infrared (PIR) sensor to detect the occupancy status within its range and 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	Day[1]	Night[2]	Remarks
ON/OFF	Vac: OFF Occ: ON/OFF*	Vac: OFF Occ: ON	For non-dimmable lighting *ALS enabled
OSO	Vac: LD Occ: SD/HD	Vac: LD Occ: SD/HD	LD: Low Dim, HD: High Dim SD: SmartDIM
OSLA	Vac: OFF Occ: OFF/SD	Vac: LD Occ: SD/HD	
OSLATO	Vac: OFF Occ: OFF/SD	Vac: LD-OFF Occ: HD/SD	Low dim during Time Off (TO) delay
DSVM	Vac: OFF Occ: OFF	Vac: HD-LD Occ: HD-LD	Dusk - Virtual midnight : High Dim Virtual midnight - Dawn : Low Dim
DSC	Vac: OFF Occ: OFF	Vac: HD/SD Occ: HD/SD	Occupancy sensing disabled, Daylight sensing control only
VSC	Vac: OFF Occ: Manual	Vac: OFF Occ: Manual	Require pressing OS-NET Button to turn on the light, automatic shut-off
OSB	Vac: OFF Occ: OFF	Vac: OFF/LD* Occ: SD/HD	*As background lighting before the entire group area is vacant.
OFF	Vac: OFF Occ: OFF	Vac: OFF Occ: OFF	Occupancy sensing enabled, Light stays off

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

[1] While ambient light level is higher than the threshold.
[2] While ambient light level is lower than the threshold.

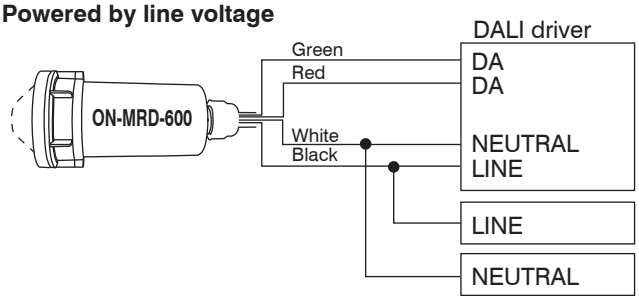
Lens Options

The ON-MRD-600SA**X** series is available with following lens options which provide different coverage at different mounting height (H). When adding the lens code, the lens is then automatically shipped with the sensor.

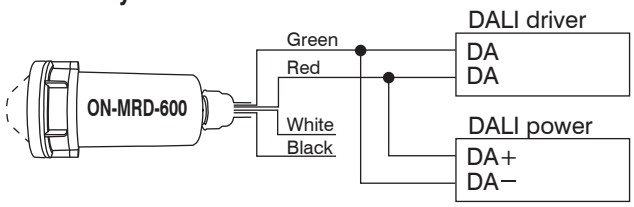
Lens		Shape	Mounting Height		Coverage
A	Standard	Cone	8~15 ft.	2.4~4.5m	2X height
B	Extra wide	Cone	8~10 ft.	2.4~3.0m	6X height
C	High bay	Cone	15~30 ft.	4.5~9.0m	3X height
D	Standard	Round	8~20 ft.	2.4~6.0m	2X height
F	Extra wide	Dome	8~20 ft.	2.4~6.0m	4X height
G	Aisle way	Arch	8~40 ft.	2.4~12.0m	3X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

Wiring Diagram

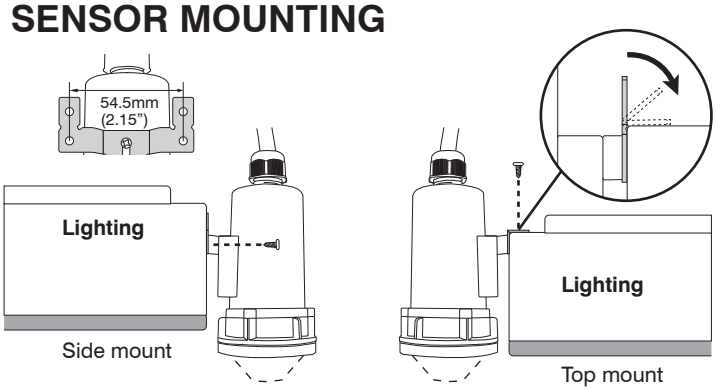
Powered by line voltage



Powered by DALI bus



SENSOR MOUNTING



SPECIFICATIONS

Power supply	230VAC or DALI bus power
Power consumption	<0.5W @277VAC or <60 mA with DALI bus
Infrared sensor	Digital quad-element pyroelectric sensor
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	15/100 m @indoor/outdoor, open space
Radio output power	6.98dBm
Detectable speed	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)
Mounting height	Subject to the lens applied
Detection range	As per lens applied and mounting height
Op. humidity	Max. 95% RH
Op. temperature	-40°C~70°C (-40°F~158°F)
Dimensions	L65 x W73 x H131mm (L2.56" x W2.87" x H5.16")