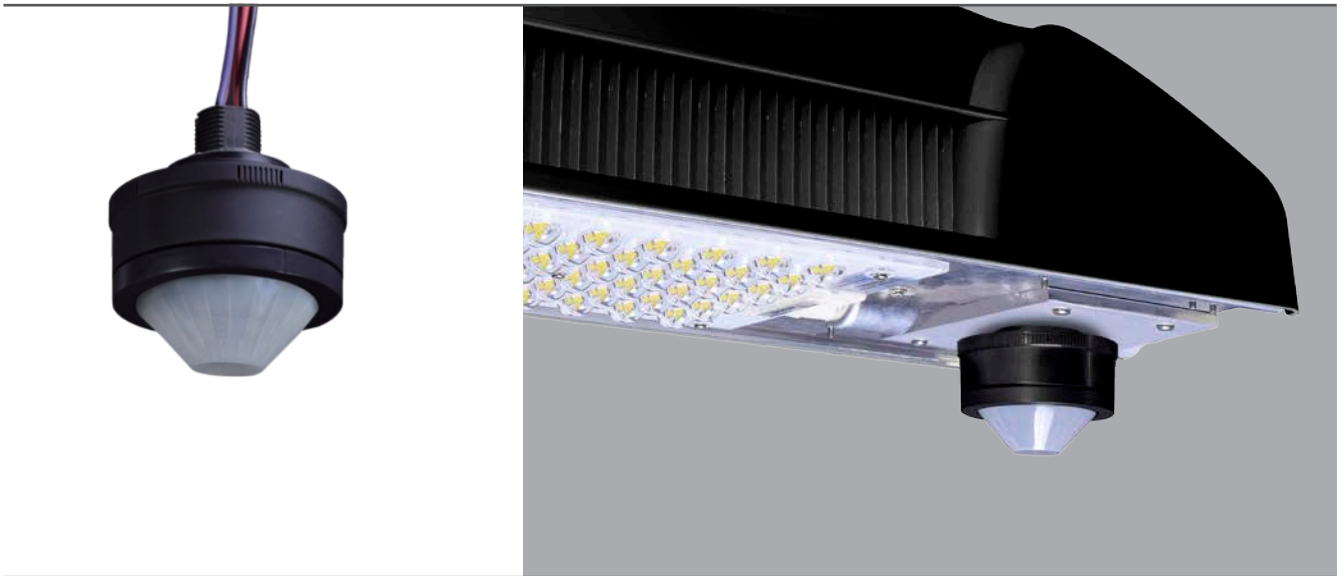


# ON-MRD-734SZ



## SmartDALI OS-NET Sensor

Flexibility ▪ Functionality ▪ Simplicity



### OVERVIEW

The ON-MRD-734SZ is a Zhaga Book 18 Type A compatible OS-NET Sensor packed with all functionalities, including occupancy/vacancy sensing, daylight harvesting, bi-level StepDIM or continuous SmartDIM control, and state-of-the-art wireless mesh networking capability required to enable smart lighting control with unequaled simplicity.

Through an easy twist and lock connection with standard Zhaga Book 18 receptacle on the luminaire, the sensor not only controls the integrated luminaire in the programmed scheme by sensing the motion of occupant/vehicle and ambient light level, but also functions as a network node to broadcast wireless commands for group control. Network linking, grouping and all control settings; including group assignment, control scheme, delay time, ambient light level threshold, day/night sync, ramp up/fade down speed, sensitivity, burn-in duration...etc. can be easily and intuitively done via a 2-way handheld remote programmer (SRP-281) from the ground.

IP66 and IK08 protections allow the sensor to be used for high bay, parking lots, pedestrian areas, public parks, outdoor display and playgrounds. Multiple lens options offer different detection coverage to detect the motions with various orientations. Adjustable mask can be applied on the lens to avoid detecting the unwanted motions. By connecting the ON-MRD-734SZ to a DALI drivers\* with AUX or bus power integrated, an energy efficient IoT-based smart lighting control can be effortlessly achieved.

\*References including Signify SR, OSRAM DEXAL, and other D4i drivers certified by DiiA.

### FEATURES

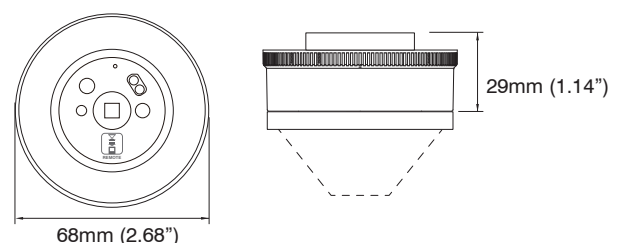
- Omni-directional digital quad element PIR sensor
- OS-NET wireless mesh networking technology
- Supports DALI drivers with AUX and bus powers
- Supports 4-pin Zhaga Book 18 edition 2 receptacle
- Multiple sensing control schemes programmable
- SmartDIM or multi-level high/low StepDIM control
- Single device can be members of multiple groups
- 2-way IR remote programming tool for all settings
- Master/slave set for day/night sync group control
- Occupied status digital output for auxiliary control
- Multiple lens options selectable for different ranges
- IP66 and IK08 protections for outdoor applications
- Occupancy sensing status digital output available

### APPLICATION

#### ☒ Networked Smart Lighting Control

The ON-MRD-734SZ can be easily applied with outdoor luminaires for parking lots, pedestrian areas, public parks, outdoor display and playgrounds to provide occupancy/vacancy/daylight sensing based smart control.

### DIMENSIONS



# ON-MRD-734SZ

## SmartDALI OS-NET Sensor

### CONTROL SCHEMES

The ON-MRD-734SZ can be programmed to control the associated luminaire in one of the following schemes, while also transmits wireless command for group lighting 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 *ALS enabled
	Occupied	ON/OFF <sup>1</sup>	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 <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

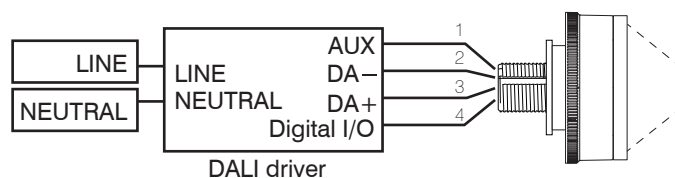
OSB: Occupancy Sensing with Background OFF: Light off all the time

<sup>1</sup> While ambient light level is higher than the threshold.

<sup>2</sup> While ambient light level is lower than the threshold.

### WIRING DIAGRAM

#### DALI driver with AUX power / integrated bus power



#### Pin definition

No.	Definition
1	AUX power (+24V)
2*	DALI bus (DA-, GND for AUX power)
3*	DALI bus (DA+)
4	Digital I/O (Occ. status output)

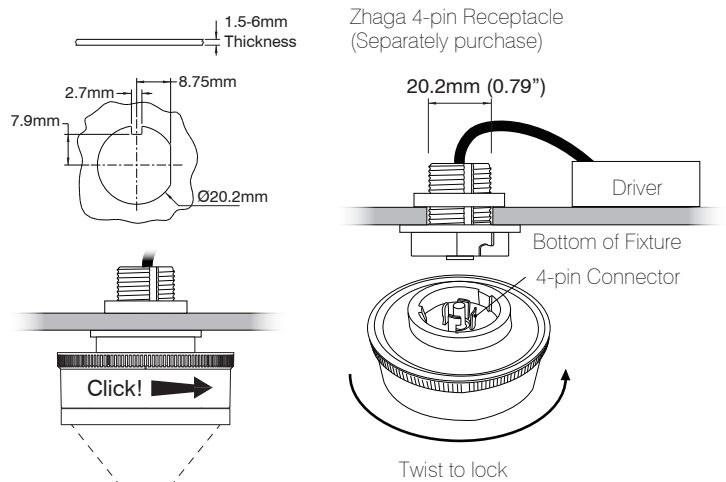
\* Follow Zhaga Book 18.

### LENS OPTIONS

The MRD-734SZ is available with following lens options which provide different coverage at different mounting heights (H).

	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

### FIXTURE INTEGRATION



### SPECIFICATIONS

Power supply	AUX (+24V)
Power consumption	<50 mA
Infrared sensor	Digital quad-element pyroelectric sensor
Photo sensor	Digital ambient light sensor
Control protocol	DALI Broadcast
Wireless protocol	Modified Zigbee Light Link (ZLL)
Radio frequency	2,405~2,480 MHz
Radio range	15/100 m @indoor/outdoor, open space
Digital output	16V, 5mA max @pin #4
Detectable speed	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)
Mounting height	2.4~10 m
Detection range	Subject to the lens applied and height
Remote range	>10 m (33 ft) without direct sunlight
Op. humidity	Max. 95% RH
Op. temperature	-40°C~70°C (-40°F~158°F)
Dimensions	Ø68 x H29mm (Ø2.68"x H1.14")