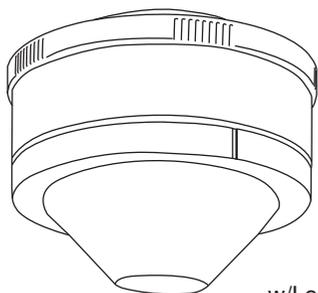# TRANS

MRD-734SZ series

SmartDALI Occupancy Sensor
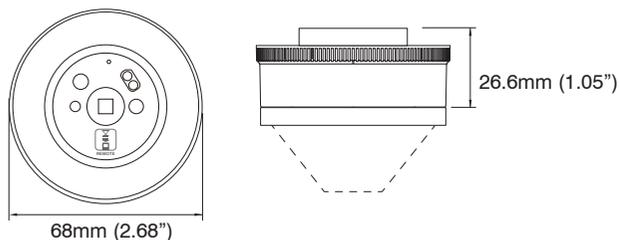
INSTALLATION INSTRUCTIONS

w/Lens A/B/C

*More lens options are available for this sensor.
Please refer to the Lens Datasheet for more details.

DIMENSIONS

68mm (2.68")

26.6mm (1.05")

⚠ WARNING & CAUTION

- **Do NOT touch the square window of infrared sensor under the lens assembly.**

OVERVIEW

The MRD-734SZ is a Zhaga based IR remote programmable DALI occupancy sensor featuring multi-scheme bi-level StepDIM or continuous SmartDIM control for outdoor smart lighting. Through an easy twist and lock connection with standard Zhaga Book 18 receptacle (type B) on the luminaire, the sensor can provide smart sensing control as programmed to the luminaire integrated with D4i certified driver.

The sensor employs a digital quad-element passive infrared (PIR) sensor together with the lens applied to detect the motion of occupant/vehicle within the respective sensing coverage. A digital ambient light sensor is built-in to enable daylight harvesting or inhibit unnecessary daytime lighting. The sensor will command DALI driver to provide the programmed output when it detects the presence of an occupant or vehicle, and automatically dim to the low level or shut off the light after the area is vacant for a period of time.

An exclusive two-way handheld remote programmer (SRP-280) allows you to configure sensor control scheme and settings, or download the existing settings of the installed sensor from the ground. IP66 and IK08 protections allow the sensor to be used in commercial/industrial applications indoors and outdoors. Multiple lens options offer distinctive coverage for different heights. By connecting the MRD-734SZ to a DALI driver with AUX or bus power integrated*, an energy efficient smart outdoor lighting can be easily available to the market.

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

APPLICATION NOTES

1. The sensor is more sensitive to the movements "crossing" the detection zones than "toward" or "away" the sensor unit. If possible, avoid placing the sensor in line with occupant path.

2. The closer the movement is to the sensor, the easier for sensor to pick up. The higher the sensor is, the larger movement is required.

3. Ensure to place the sensor at least at 1.5m (5 ft.) away from air supply ducts as strong wind may cause false detection.

4. To obtain optimal wireless communication range, avoid enveloping the sensor with a metallic enclosure.

WIRING DIAGRAM

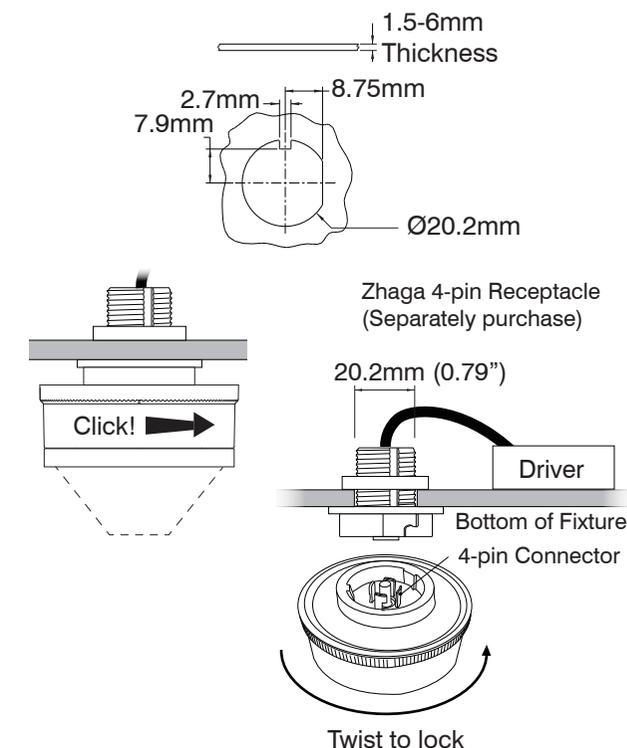**DALI driver with AUX power / integrated bus power**

DALI driver
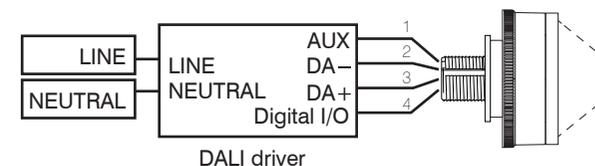
Pin definition

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.

FIXTURE INTEGRATION

1.5-6mm Thickness

2.7mm
7.9mm
8.75mm
Ø20.2mm

Click! ▶

Zhaga 4-pin Receptacle (Separately purchase)

20.2mm (0.79")

Driver

Bottom of Fixture

4-pin Connector

Twist to lock

CE ⚠

☷ iR-TEC

CONTROL MODE

The MRD-734SZ sensor can be programmed by SRP-280 remote programmer to control the lighting in one of the following modes. For more details of specific control mode, please visit www.irtec.com or contact an IR-TEC team member directly.

ON/OFF : ON-OFF Switching
OSO : Occupancy Sensing Only
OSLA : Occupancy Sensing at Low Ambient
OSLATO : Occupancy Sensing at Low Ambient with Time-Off
OFF : Light OFF all the time

Mode	Control
ON/OFF	1. While ambient lux is **higher** than the level set, light stays **OFF**. 2. While ambient lux is **lower** than the level set, and **occupancy detected**, switch the light to **HIGH DIM.** 3. Turn **OFF** the light after occupant leave and delay time elapses.
OSO	1. Ambient light sensor disabled. 2. Dim the light to **LOW DIM** at **all time** under vacancy. 3. Switch the light to **HIGH DIM** under occupancy. 4. Dim the light to **LOW DIM** after occupant leave and delay time elapses.
OSLA	1. While ambient lux is **higher** than the level set, light stays **OFF**. 2. While ambient lux is **lower** than the level set, dim the light to **LOW DIM** under vacancy. 3. While ambient lux is **lower** than the level set, and **occupancy detected**, switch the light to **HIGH DIM** 4. Dim the light to **LOW DIM** after occupant leave and delay time elapses.
OSLATO	1. While ambient lux is **higher** than the level set, light stays **OFF**. 2. While ambient lux is **lower** than the level set, and **occupancy detected**, switch the light to **HIGH DIM**. 3. Dim the light to **LOW DIM** after occupant leave and delay time elapses. 4. Turn **OFF** the lights when **TIME OFF** delay elapses. 5. When **occupancy detected** during **TIME OFF**, switch the light to **HIGH DIM**.
OFF	1. All lighting controlled by the sensor will remain **OFF** until another mode is selected.

SENSOR ACKNOWLEDGMENT

Acknowledgement	Sensor LED	Beep	Lighting
Full sensor setting upload completed	-	Long x 1 Short x 2	Flash x 2
Sensor resume to factory default	-	-	Flash x 2
SmartDIM level set completed	-	Short x 2	Flash x 2
Single setting ok	-	Short x 2	-
Occupancy detected	Flash x 1	-	-

SENSOR SETTINGS

The followings are settings and options available with MRD-734SZ that can be configured through the operation of SRP-280 remote programmer. For more details of remote sensor setting, please refer to the operation instruction of SRP-280.

Settings	Description	Options	Default
CONTROL	The mode that the sensor will control.	ON/OFF, OSO, OSLA, OSLATO, OFF	OSLATO
AMBIENT LUX	Thresholds of ambient light level for sensor to execute the control.	10/20/40/60/100/200/400 LUX/DISABLED	DISABLED
DELAY	The delay time that sensor is set to turn off or dim the light after the area is vacant.	30 sec./1/3/5/10/15/20/30/60 min.	10 min.
TIME OFF	The delay time that sensor will keep the light at low dim level after the OFF delay time elapsed.	10/30 sec./3/5/10/15/20/30/45/60 min.	10 min.
HIGH DIM	The output level set to control the light during occupancy.	50/55/60/65/70/80/90/100%/SmartDIM	100%
LOW DIM/ SmartDIM	The output level set to dim the light when space is vacant for bi-level control. Low dim setting will become SmartDIM bar if SmartDIM control is selected.	0/5/10/15/20/25/30/40%	-- Max
RAMP UP	The speed of increasing the lighting output to HIGH DIM level.	INSTANT/SOFT/SLOW	INSTANT
FADE DOWN	The speed of decreasing the lighting output to LOW DIM level or off.	INSTANT/SOFT/SLOW	SOFT
SENSITIVITY	The sensitivity of occupancy sensor.	HIGH/NORMAL/LOW	HIGH
LED INDICATOR	Enable/disable the LED indicator of sensor.	ENABLED/DISABLED	ENABLED

SPECIFICATIONS

Power supply	AUX (+24V) or DALI bus power
Power consumption	<16 mA with DALI bus
Infrared sensor	Omni-directional quad element pyroelectric
Photo sensor	Digital ambient light sensor
Control protocol	DALI Broadcast
Digital output	16V, 5mA max @pin #4
Detectable speed	0.15 ~ 3 m/sec.
Mounting height	Subject to the lens applied
Detection range	Subject to the lens type and mounting height
Remote range	10 m (33 ft) typical, indoor, no backlight
Op. humidity	Max. 95% RH
Op. temperature	-40°C~70°C (-40°F~158°F)
Dimensions	Ø68 x H29mm (Ø2.68"x H1.14")

WARRANTY

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