

## MOD-510 series

### DALI Occupancy Sensor



## OVERVIEW

The MOD-510 series member of the TRANS family is a DALI occupancy sensor featuring multi-mode bi-level control for lighting with a DALI driver or ballast. The sensor can be powered by line voltage or DALI bus to provide multi-mode occupancy sensing control with DALI Broadcast commands.

The sensor will command DALI drivers to provide full output when it detects the presence of an occupant or vehicle, and automatically dim to low level or shut off the light after the area is vacant for a period of time. An ambient light sensor is built-in to inhibit activation of the light if the ambient light level is higher than the adjustable threshold. 8 different control modes can be easily selected via a rotary DIP switch. The sensor offers 7 delay times and dim levels that are both pre-settable via faster, easier and accurate Accu-Set digital potentiometers.

Like all sensors in the TRANS family, the MOD-510 series can be directly integrated or attached to a lighting fixture. Additionally, the sensor can be flexibly mounted on the ceiling by combining specific mounting brackets. Interchangeable lenses provide different coverage options for the sensor mounted at different heights. This innovative modular design provides second-to-none application and installation flexibility.

## FEATURES

- Omni-directional quad element infrared sensor
- Available with line voltage or DALI bus power
- DALI broadcast command for multi-driver control
- Programmable ALS to inhibit daytime lighting
- Walk test and sensor operation LED indicator
- 8 control modes selectable via rotary DIP switch
- Accu-Set potentiometer delay and dim settings
- Provides DALI bus power supply up to 100 mA
- Flexible fixture integration or ceiling mount options
- Interchangeable lens options for all applications

## APPLICATION

### ☒ DALI Broadcast Lighting Control

The MOD-510 series occupancy sensor can be used to directly control a DALI driver or ballast in different modes by sensing the presence and movements of the occupant. One sensor can control multiple DALI lighting luminaires in the same mode, while a DALI lighting luminaire can only be controlled by one sensor.

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#### CONTROL MODES

The sensor can be easily set to control the light in one of eight different modes via rotary DIP switch. For details of specific control modes, please visit [www.irtec.com](http://www.irtec.com) or contact an IR-TEC team member directly.

Mode	Day <sup>1</sup>	Night <sup>2</sup>	Remarks
ON/OFF	Vac: OFF Occ: ON	Vac: OFF Occ: ON	ALS disabled at all time
OSO	Vac: LD Occ: ON	Vac: LD Occ: ON	LD: Low Dim
OSLA OSMA OSHA	Vac: OFF Occ: OFF	Vac: LD Occ: ON	Night/Day threshold: OSLA/OSLATO: 20-50 lux OSMA/OSMATO: 80-130 lux OSHA/OSHATO: 500-600 lux TO: Time-Off delay, 10 min.
OSLATO OSMATO OSHATO	Vac: OFF Occ: OFF	Vac: OFF Occ: ON Time-Off: LD	

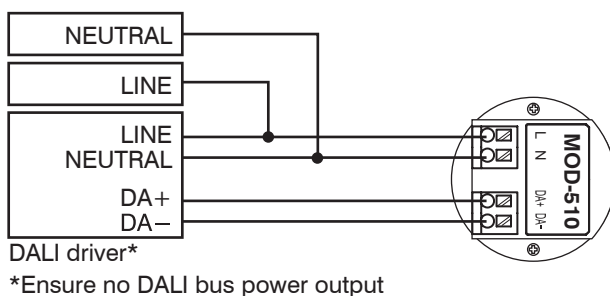
**ON/OFF:** ON-OFF Switching    **OSO:** Occupancy Sensing Only  
**OSLA:** Occupancy Sensing at Low Ambient  
**OSMA:** Occupancy Sensing at Medium Ambient  
**OSHA:** Occupancy Sensing at High Ambient  
**OSLATO:** Occupancy Sensing at Low Ambient with Time-Off  
**OSMATO:** Occupancy Sensing at Medium Ambient with Time-Off  
**OSHATO:** Occupancy Sensing at High Ambient with Time-Off  
**Vac :** Vacant    **Occ :** Occupied

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

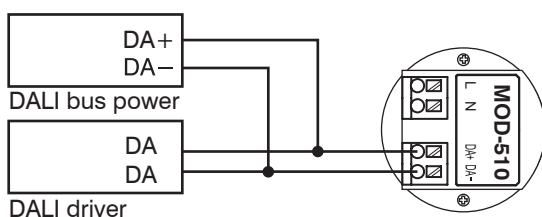
<sup>2</sup> While ambient light level is lower than the respective Night threshold.

#### WIRING DIAGRAM

##### Powered by line voltage



##### Powered by DALI bus



#### MOUNTING OPTIONS

The MOD-510SxX series can be mounted into the ceiling, attached to a fixture or mounted into a junction box. Codes F and W allow the MRD-510SxX to be directly integrated with OEM light fixtures in any environment.

Code	Mounting Option	Mounting Bracket
<b>F</b>	Fixture Integrated	---
<b>W</b>	IP-66 Fixture Integrated	---
<b>E</b>	Fixture External	<b>EMB-500</b>
<b>P</b>	IP-66 Fixture External	<b>PMB-500</b>
<b>S</b>	Ceiling Surface	<b>SMB-500</b>
<b>C</b>	Junction Box	<b>CMB-500</b>
<b>L</b>	Ceiling Recess	<b>LMB-500</b>

#### LENS OPTIONS

The MOD-510SxX series is available with following lens options which provide different coverage at different mounting heights (H).

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

#### SPECIFICATIONS

Power supply	120/240/277VAC or DALI bus power
Power consumption	<0.5W @240VAC, <15 mA with DALI bus
Infrared sensor	Omni-directional quad element pyroelectric
Photo sensor	Digital ambient light sensor
DALI bus power	Max. 100 mA with line voltage power
Control protocol	DALI Broadcast
Delay time	T/3'/5'/10'/15'/20'/30', T:10 sec.
Low dim setting	0/5/10/20/25/33/50% selectable
Time Off delay	10 min. (OSLATO/OSMATO/OSHATO)
Detectable speed	0.3 ~ 3 m/sec. (1~10 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	Ø60 x H37mm (Ø2.36"x H1.45")