

## MOD-510 series

### DALI Occupancy Sensor



## OVERVIEW

The MOD-510 series member of the TRANS family is a DALI occupancy sensor that can be set as a master/slave sensor for single/multi-sensor DALI lighting control. The sensor can be powered by either AC mains or DALI bus to provide multi-mode occupancy sensing control for DALI drivers or ballasts.

One master sensor can supply DALI bus power for maximum four slave sensors per area lighting network. The master sensor will command the connected DALI driver(s) to provide full output when any networked sensor detects the presence of an occupant or vehicle. Only the photocell of master sensor will be enabled to provide ambient light sensing capability for daylight harvesting control. The slave sensor will only report occupancy signal to the DALI network upon detecting the movement. All controlled lighting will be automatically dimmed to the low-level or shut off after the whole area is completely vacant for a period of time. Total seven different control schemes can be easily set via the rotary DIP switch of the master sensor. 7 different delay times and low-dim levels can be fast and accurately set by Accu-Set potentiometers on the master sensor.

Like all sensors in the TRANS family, the MOD-510 series can be integrated or attached to a luminaire. In addition, the sensor can also be mounted on the ceiling by combining specific mounting bracket. Multiple lens options allow the sensor to be mounted at different heights with different coverage. This innovative modular design concept provides second-to-none application and installation flexibility.

## FEATURES

- Omni-directional pyroelectric infrared sensor
- Operated by 230VAC mains or DALI bus power
- DALI broadcast command for multi-driver control
- Walk test and sensor operation LED indicator
- Flexible fixture integration or ceiling mount options
- Interchangeable lens options for all applications
- Supply two-wire DALI bus power up to 100 mA\*
- Programmable ALS to inhibit daytime lighting\*
- 7 control schemes selectable via rotary DIP switch\*
- Accu-Set potentiometer delay and dim settings\*

\*available only if sensor is set as master

## APPLICATION

### ☒ DALI Area Lighting Control

The MOD-510 series is factory set as a master sensor that can control single/multiple DALI luminaire(s) as per programmed scheme by sensing the presence and movement of the occupant. For the areas require multiple sensors to cover, the MOD-510 sensor can be easily switched to a slave sensor that only reports occupancy status to the master sensor for area lighting control.

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#### MODE SETTING

As a master sensor, the MOD-510 can be set to control the light in one of seven control schemes (B-H) via rotary DIP switch. For details of specific control, 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
<b>A</b> SLAVE			
<b>B</b> OSO	Vac: LD Occ: ON	Vac: LD Occ: ON	LD: Low Dim
<b>C</b> OSLA	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.
<b>D</b> OSMA			
<b>E</b> OSHA			
<b>F</b> OSLATO	Vac: OFF Occ: OFF	Vac: OFF Occ: ON	
<b>G</b> OSMATO		Time-Off: LD	
<b>H</b> OSHATO			

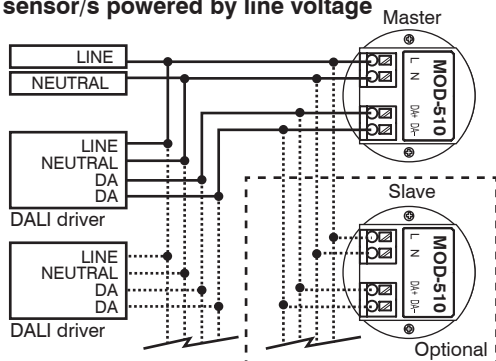
**SLAVE:** Slave sensor of DALI network **OSO:** Occupancy Sensing Only  
**OSL/M/HA:** Occupancy Sensing at Low/Medium/High Ambient  
**OSL/M/HATO:** Occupancy Sensing at Low/Medium/High Ambient with Time-Off

**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.

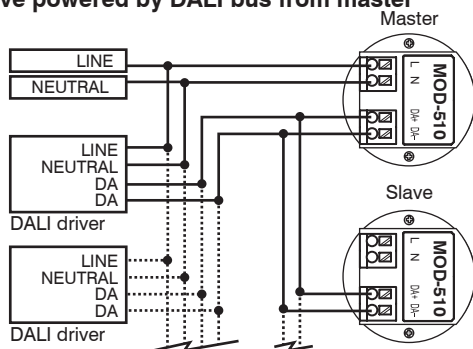
#### WIRING DIAGRAM

All sensor/s powered by line voltage



NOTE: 1. Ensure no DALI bus power output from DALI driver(s).  
 2. Ensure total DALI power consumption of driver(s) does not exceed 100mA.

Master powered by line voltage,  
 slave powered by DALI bus from master



NOTE: 1. Ensure no DALI bus power output from DALI driver(s).  
 2. Ensure total DALI power consumption of driver(s) and slave sensor(s) does not exceed 100mA (max 4 slave sensors).  
 3. Power consumption of slave sensor is 15mA (max) each.

#### 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-511SXX 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

Operating power	230~240 VAC or DALI bus power
Power consumption	<0.5W @ 240 VAC, <15 mA with DALI bus
Infrared sensor	Omni-directional pyroelectric
Photo sensor	Digital ambient light sensor
DALI bus power*	Max. 100 mA (powered by line voltage)
Control command	DALI Broadcast
Delay time*	T/30"/2'/5'/10'/20'/30', T:10 sec. for testing
Low dim setting*	0/5/10/20/25/33/50% selectable
Time Off delay*	10 min. (OSLATO/OSMATO/OSHATO)
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	Ø60 x H37mm (Ø2.36"x H1.45")

\*available only if the sensor is set as master.