

## LOD-500 series

### Line Voltage Bi-Level Occupancy Sensor



## OVERVIEW

The LOD-500 series member of the TRANS family is a line voltage switching occupancy sensor with 0-10V output for dimmable ballast or LED driver control. The sensor is capable of providing bi-level light control for energy efficient building management.

This sensor will provide full power output for dimmable ballast or an LED module when it detects the presence of an occupant, or vehicle, and switch back to the low dim level after the area is vacated for a period of time. The Accu-Set digital potentiometer makes the sensor setting work easier, faster and more accurate than conventional analog potentiometers.

The LOD-500 series offers 8 different control modes set via a rotary DIP switch. Additionally the sensor has 7 delay times and low dim levels both pre-settable via Accu-Set digital potentiometers. The LOD-500 is designed to provide complete occupancy sensing dimmable ballasts/LED lighting control, ease of use, and the simplest installation.

Like all sensors in the TRANS family, the LOD-500 series is available with various mounting options and interchangeable lenses. This provides a second-to-none design and complete installation flexibility. The sensor is designed to operate in the coldest of environments, down to -40°C/°F.

## FEATURES

- Omni-directional quad element infrared sensor
- 100/120/240/277VAC universal line voltage
- Frequency detection zero-cross relay switching
- 0-10V selectable output for low dim control
- Walk test and sensor operation LED indicator
- Direct lead wires for easy wiring connections
- 8 rotary DIP switch selectable control modes
- 7 low dim levels changeable via Accu-Set
- Available with variety of mounting options
- Available with interchangeable lens options

## APPLICATION

- ☒ Lighting Control
- ☒ 0-10V Bi-level Dimming
- ☒ LED Control

The LOD-500 series occupancy sensor can be used to directly control lighting with 0-10V dimmable ballast or LED driver, by sensing the presence and movements of the occupant. Various control modes can be achieved with rotary switch setting. Basic wiring diagrams are included. Consult with an IR-TEC team member if a more complex wiring diagram is required.

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#### CONTROL MODES

The LOD-500 series can be set to control the lighting in one of the following modes. For more details of specific control modes, please visit [www.irtec.com](http://www.irtec.com) or contact a IR-TEC team member directly.

**OSO** : Occupancy Sensing Only

**OSLA/OSMA/OSHA** : Occupancy Sensing at Low/  
Medium/High Ambient

**OSLATO/OSMATO/** : Occupancy Sensing at Low/  
**OSHATO** Medium/High Ambient with Time-Off

Mode	Day <sup>1</sup>	Night <sup>2</sup>	Remarks
<b>A TEST</b>	Turns ON light for 5 sec. at every motion detected. DIM the light for 10 sec. and then turn OFF.		
<b>B OSO</b>	Vac: DIM Occ: ON	Vac: DIM Occ: ON	
<b>C OSLA</b> <b>D OSMA</b> <b>E OSHA</b>	Vac: OFF Occ: OFF	Vac: DIM Occ: ON	
<b>F OSLATO</b> <b>G OSMATO</b> <b>H OSHATO</b>	Vac: OFF Occ: OFF	Vac: OFF Occ: ON -DIM	DIM during Time-Off delay

**Vac** : Vacant      **Occ** : Occupied

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

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

#### MOUNTING OPTIONS

The LOD-500Sx series can be mounted on the ceiling or attached to a fixture by combining a specific mounting bracket (if applicable) from the chart below. The bracket will be shipped with the sensor when ordered with the respective code. Codes F and W allow the LOD-500Sx to be directly integrated with OEM light fixtures in any environment.

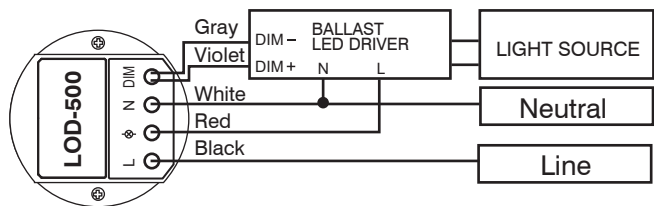
Code	Mounting Option	Mounting Bracket
<b>F</b>	Fixture Integrated	---
<b>W</b>	IP-66 Fixture Integrated	---
<b>E</b>	Fixture External	<b>EMB-500</b>
<b>P</b>	IP-66 Fixture External	<b>PMB-500</b>
<b>S</b>	Ceiling Surface	<b>SMB-500</b>
<b>C</b>	Junction Box	<b>CMB-500</b>
<b>L</b>	Ceiling Recess	<b>LMB-500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

#### LENS OPTIONS

The LOD-500Sx series is available with the following lens options which provide different coverage at different mounting heights (H). When adding the lens code, the lens is then shipped with the sensor.

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

#### WIRING DIAGRAM



#### SPECIFICATIONS

Power supply	100/120/240/277VAC, 50/60Hz
Maximum load	800W (VA)
Infrared sensor	Omni-directional quad element pyroelectric
Detectable speed	0.15~3m/sec. (0.5~10 ft./sec.)
Mounting height	Subject to the lens type applied
Detection range	Subject to the lens applied and height
Zero crossing	Automatic frequency detection
Low dim control	0-10V
Dim output current	Max. 2mA @ 120VAC
	Max. 5mA @ 277VAC
Low dim level	0/5/10/20/25/33/50% selectable
Ambient light level	L:20~50 lux, M:80~130 lux, H:500~600 lux
Delay time setting	1'/3'/5'/10'/15'/20'/30' selectable
Time-off delay	10 min., <b>TO</b> modes only
Op. humidity	Max. 95% RH
Op. temperature	-40°C~55°C (-40°F~131°F)
Dimensions	Ø60 x H37mm (Ø2.36"x H1.45")