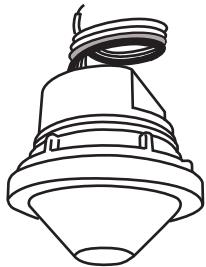# TRANS
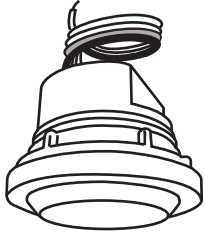
LOD-500 series

Line Voltage Bi-Level Occupancy Sensor
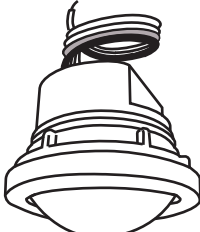
INSTALLATION INSTRUCTIONS

w/Lens A/B/C

w/Lens D

w/Lens F

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.

INSTALLATION NOTES

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

2. The closer the movement is to the sensor, the more sensitive the sensor is. The higher the sensor is installed, the larger movement is required to be detected.

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

4. The sensor cannot "see" the movements behind obstacles, such as furniture, shelf, glass or partition. As a general rule, each occupant should be able to clearly view the sensor unit.

5. For open office areas with partition which could block the sensor view to occupant movements, it is best to place the sensors over the intersection of multiple workstations. For large areas of open office or space, place multiple sensors so that there is overlap coverage with each adjacent sensor.
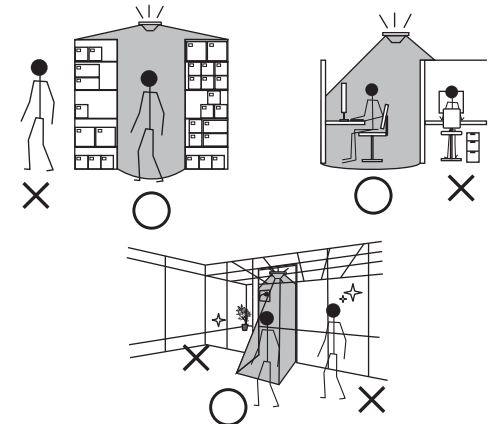
⚠ CAUTION

- **Risk of Electric Shock - Disconnect power supply before servicing.**

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

Open Type Photoelectric Switches.

⚠ PRUDENCE

- **Risque de choc électrique -
Débranchez l'alimentation avant l'entretien.**

- **Ne PAS toucher la fenêtre carrée de capteur infrarouge sous l'ensemble de l'objectif.**

Ouvrir Type commutateurs optoélectroniques

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IR-TEC

WIRING DIAGRAM

Gray / Violet → DIM− / DIM+ BALLAST LED DRIVER → LIGHT SOURCE
White → Neutral
Red → N
Black → Line

LOD-500: DIM, N, Red, L

SENSOR SETTINGS

MODE (TEST)

```
    A
 H     B
G   ⊟   C
 F     D
    E
```

TIME (10 minutes) — (Factory set) — DIM (OFF)

TIME dial:
```
  4
3   5
2   6
1   7
```

DIM dial:
```
  4
3   5
2   6
1   7
```

POS.	1	2	3	4	5	6	7
TIME	1'	3'	5'	10'	15'	20'	30'
DIM	OFF	5%	10%	20%	25%	33%	50%

Factory Set

Delay Time

The LOD-500 series offers 7 different delay time settings via Accu-Set potentiometer. The light will remain ON if sensor detects occupant's movement before the set delay time expires. The Accu-Set potentiometer will provide accurate delay time as the arrowhead pointed.

Dim Level

The LOD-500 series offers 7 different dim level settings via Accu-Set potentiometer. The LED light will be dimmed as the level set when condition of selected control mode applies. The Accu-Set potentiometer will provide accurate dim level as the arrowhead pointed.

TESTING

1. Set the control mode switch pointing to position "A".

2. Walk within the desired range* at normal speed. Light should be switched ON for 5 seconds and dim for 10 seconds whenever sensor detects the movement.

3. The LED indicator behind lens assembly will blink to indicate sensor detection as well.
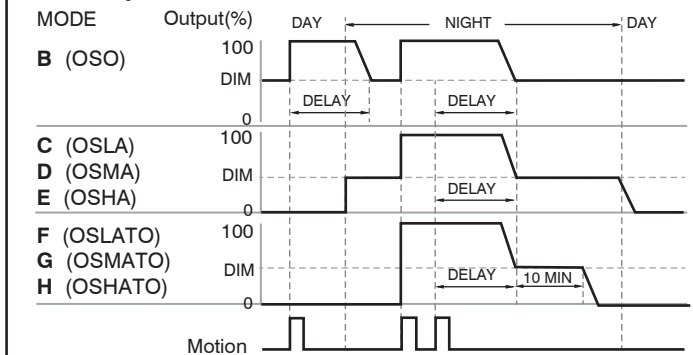
* Depending on the lens type ordered and mounting height, the sensor could have different sensing coverage as instructed on the LENS DATASHEET attached.

Control Mode

The LOD-500S series features 8 different control modes selectable via rotary DIP switch. Please refer to the following description and select the desired control mode.

Mode	Sensor Control Description
A	1. Turn on the light for 5 seconds at every motion detected. 2. Dim the light for 10 seconds and then turn off.
B	1. Ambient light sensor is disabled with this mode. 2. Dim the light to low level as DIM set all time under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
C	1. Light off while ambient light is higher than 50 lux. 2. While ambient light is lower than 20 lux, dim the light to low level as DIM set under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
D	1. Light off while ambient light is higher than 130 lux. 2. While ambient light is lower than 80 lux, dim the light to low level as DIM set under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
E	1. Light off while ambient light is higher than 600 lux. 2. While ambient light is lower than 500 lux, dim the light to low level as DIM set under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
F	1. Light off while ambient light is higher than 50 lux. 2. While ambient light is lower than 20 lux, light stays off under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy. When delay time elapse, dim the light to low level as DIM set for 10 minutes as Time Off delay. 4. Turn the light to full-ON per delay TIME set if sensor detects occupancy during Time Off. Turn the light off if no occupancy detected during Time Off delay.
G	1. Light off while ambient light is higher than 130 lux. 2. While ambient light is lower than 80 lux, light stays off under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy. When delay time elapse, dim the light to low level as DIM set for 10 minutes as Time Off delay. 4. Turn the light to full-ON per delay TIME set if sensor detects occupancy during Time Off. Turn the light off if no occupancy detected during Time Off delay.
H	1. Light off while ambient light is higher than 600 lux. 2. While ambient light is lower than 500 lux, light stays off under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy. When delay time elapse, dim the light to low level as DIM set for 10 minutes as Time Off delay. 4. Turn the light to full-ON per delay TIME set if sensor detects occupancy during Time Off. Turn the light off if no occupancy detected during Time Off delay.

Mode Operation Chart

MODE / Output(%) / DAY — NIGHT — DAY

B (OSO)
C (OSLA) D (OSMA) E (OSHA)
F (OSLATO) G (OSMATO) H (OSHATO)
Motion

SPECIFICATIONS

Power supply	100/120/240/277VAC, 50/60Hz
Maximum load	800W
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., TO 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")

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