

LOS800

SMART SWITCH OCCUPANCY SENSOR

Installation Manual



RAB
LIGHTING

Features

Maximum Energy savings

- Sensitive 180° view passive infrared motion detector keeps lights on only when rooms are in use.
- No ON switch so lights are never left on by mistake.
- Meets California Title 24 standards.
- Suitable for all utility rebate programs

Maximum Coverage

- 180° wide angle detection pattern
- Picks up people entering doorways quickly with standard next to doorway location.
- Covers 1000 square feet, eliminates needs for multiple sensors.
- Superb small movement sensitivity within 18 feet. Great for sedentary office use.
- No dead spots with 18 sensing fingers.

Easy Installation

- Works with electronic ballasts.
- No minimum load requirement.
- Replaces single pole wall switches without additional wiring.
- Decorator style, rectangular switchplate included.
- Only 1/2" protrusion from switch plate.
- No adjustments required for most installations.

- Compact design fits standard switch boxes with plenty of room for wiring.
- Tamperproof control panel cover reduces call backs for tampering.

Maximum Versatility

- Switches all types of fluorescent and/or incandescent lighting.
- Fits single or multi-gang locations without special adapters.

Specifications

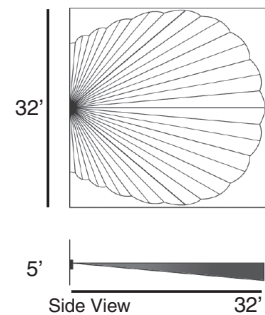
Coverage:

1000 square feet,
up to 32' from the sensor

Detection Zone:

180° in 18 zones
32' range

Detection Pattern:



Note:

Detection of sedentary small movement (desk work) within 18'

Time Adjustment:

8 seconds to 15 minutes
after motion stops (approximate)

Detection Indicator:

Red LED

Energy Codes:

Complies with California Title 24

Switching Capacity:

120v: 800w Incandescent &
Fluorescent
277v: 1200w Incandescent &
Fluorescent

Minimum Load:

None

Power Consumption:

Negligible

Wiring:

Replaces single pole wall switch,
3 wire system where neutral & hot
are present.

Temperature Range:

-4°F to +104°F
(-20°C to +40°C)

Humidity Range:

93% relative humidity

Approvals:

UL Listed Photocontrol
UL Standard 773A

Weight:

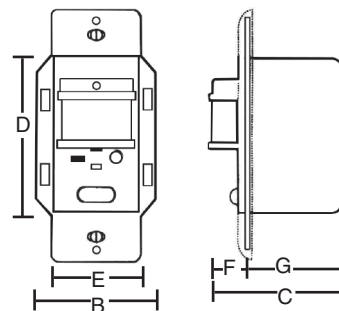
3.3 oz. (no box)

Parts List:

LOS800 Sensor
Matching Wall Plate
2 matching wall plate screws
2 sensor mounting screws

Dimensions:

A=4.06" (103mm) B=1.69" (43mm)
C=2.25" (57mm) D=2.56" (65mm)
E=1.25" (32mm) F=.5" (13mm)
G=1.68" (43mm)



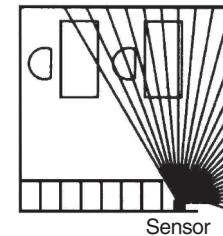
1 Selecting A Location

Locate the LOS800 where it has an unobstructed view of the room, particularly the areas normally occupied by people. Ideal mounting height is 3.5 to 4.5 feet above the floor.

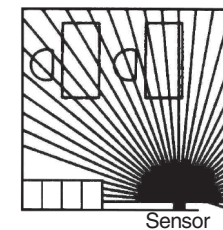
If people cannot see the sensor lens from their normal positions in the room, the sensor will not detect their presence.

High cabinets, walls, doors and other obstructions may limit the sensor's view of the entire room. If obstructions can be moved the sensor will have a better view. If the areas obstructed are not areas normally occupied, the sensor will still be able to see normal occupancy.

Cabinet obstructs sensor's view of active area

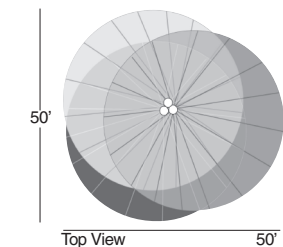


Obstruction moved, sensor has full view



If the room is L shaped or the sensor's view is badly obstructed from the door switch location, use the LOS2500 ceiling mounted sensor instead of the LOS800.

Ceiling mounted LOS2500 sensor with 360° detection

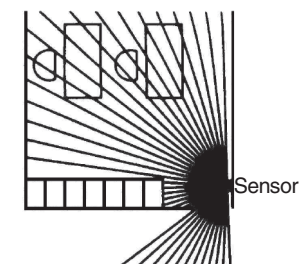


Do not locate sensor over or looking at heating vents, baseboard heaters, hanging plants or air conditioners.

Do not locate sensor where it will view direct sunlight.

If the sensor's location gives it a view of the other rooms or hallways, lights will be turned on when movement is detected in these adjacent areas. If this is undesirable, the sensor's detection zone may be restricted by covering a portion of the lens with a white paper label or tape.

Sensor has view of adjacent area



2 Installation

Caution:

• TURN OFF ALL POWER BY REMOVING THE POWER FUSES OR TURNING OFF THE CIRCUIT BREAKER FOR YOUR SAFETY AND TO PREVENT DAMAGE TO THE UNIT.

• Please read this entire Owner's Manual before installing.

• All wiring should comply with local electrical codes and requires a qualified electrician.

• Make sure the total lighting load connected to the LOS800 does not exceed the following:

- 120v: 800w Incandescent & Fluorescent
- 277v: 1200w Incandescent & Fluorescent

Exceeding the wattage limits may damage the unit. To switch more wattage, an electrician can install a relay to handle the load.

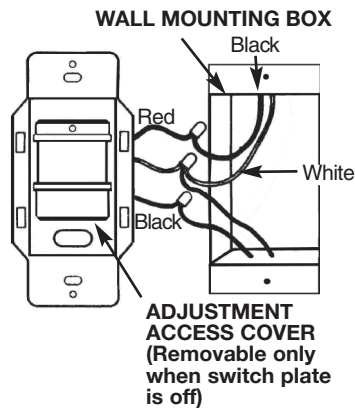
• Do not use LOS800 to control high intensity discharge lights, fans, heaters or motors. Small bathroom exhaust fans may be used with LOS800.

• The LOS800 may be used with both standard and electronic fluorescent ballasts.



Installation Step by Step

1. Remove the existing switch, if necessary.
2. Connect as shown in the wiring diagrams. See page 3.
3. Twist on wire nuts. Secure with electrical tape. Mount LOS800 in wall box with two screws provided.
4. Place switch in OFF position before turning on power.
5. Press the Auto/Off switch IN to "Auto". After a short delay, the lights will turn ON. When the room is vacated, the lights will turn OFF after the time delay you set.
6. See "Adjustments" section for control options. Only make adjustments after a 3 minute warmup period.
7. Attach the wall plate.



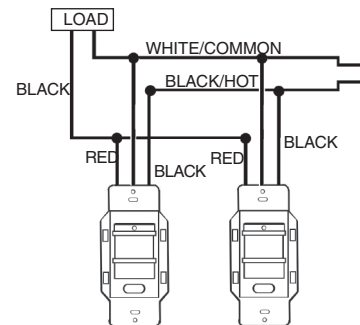
3 Wiring Diagrams

Caution:

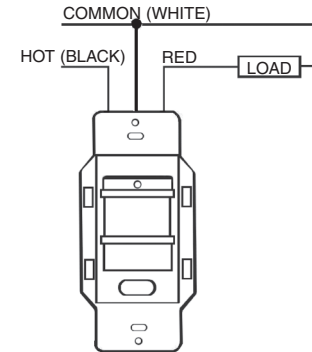
• TURN OFF ALL POWER BY REMOVING THE POWER FUSES OR TURNING OFF THE CIRCUIT BREAKER FOR YOUR SAFETY AND TO PREVENT DAMAGE TO THE UNIT.

• The supply ground wire must be tightly secured to ground.

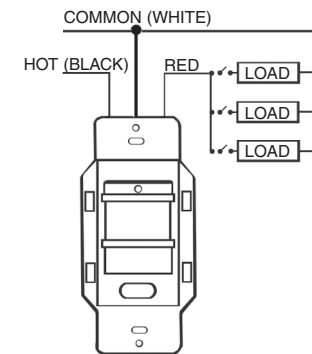
3-way Switch wiring Diagram



Basic Wiring Diagram Single Level Lighting



Multiple Level Lighting Wiring Diagram

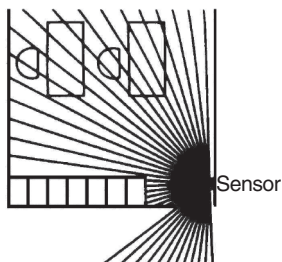


4 Adjustments

Field of View Adjustment

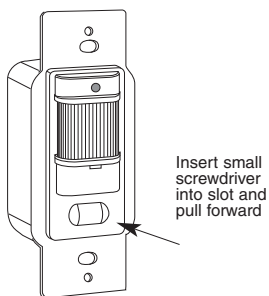
If the sensor is “seeing” out through a doorway into a hallway or “seeing” undesired areas, simply cover part of the sensor lens with opaque white tape or a paper label. Clear tape may be used, but it limits detection only partially. Test that the portion of the lens covered limits detection as desired and does not reduce detection in other areas.

Sensor has view of adjacent area



Removing the Adjustment Access Cover:

This cover is tamperproof and can not be removed if the switch cover Plate is attached. The cover has two “ears” that hook under the cover plate and prevent tampering. To remove the cover insert a screwdriver into the latch and pull forward.

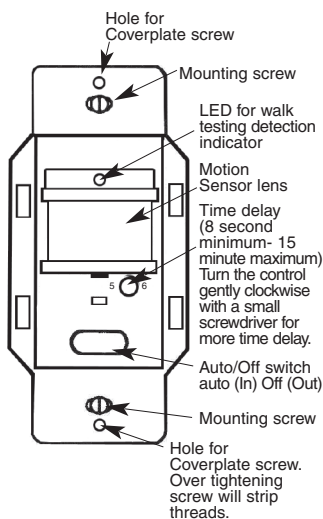


Time Delay Adjustment

The time delay adjustment can be set so the lights turn off from 8 seconds minimum to 15 minutes maximum after the room is vacated (approximate).

Walk Test

To test the detection pattern of the LOS800, make no motion for 30 seconds. Move sideways up to 12”. The red LED flashes once every 4 seconds when turned on initially and twice every second to show detection.



5 Troubleshooting

Lights do Not Turn On

1. Check that:
 - the lamps and fixtures work;
 - wiring exactly matches the wiring diagram;
 - wiring polarity is correct;
 - power is on;
 - sensor has warmed up for 3 minutes;
 - off/auto switch is not OFF

2. Make sure sensor's view of the room is not blocked

Lights do Not Turn Off

1. Check that the Time delay control is set to minimum.
2. Stay completely out of the protection pattern to avoid activation.
3. Make sure sensor is not seeing movement in an adjacent area through a doorway or other opening.
4. Make sure unit is not aimed at something that would move or cause a temperature change such as hot water pipes, air conditioners or heating vents.
5. Check that the wattage controlled does not exceed the maximum limits.

Lights Go On and Off Quickly

1. Check that wattage controlled does not exceed maximum limits.
2. Certain energy saving fluorescent lamps strobe when turned on within a minute of being turned off.

Lights Go On for “No Reason”

1. Look for sources of electrical noise such as fans or air conditioners on the same circuit or nearby. If possible, unplug or move the noise sources.
2. Check if sensor is “seeing” into adjacent rooms or hallways. Mask sensor lens in that direction with opaque tape.
3. Check if sensor is “seeing” heaters or air conditioning vents. Mask sensor lens if necessary.
4. Make sure unit is at room temperature. If it was installed immediately after being in an extremely hot or cold environment, wait an hour for it to adjust.

Limited Warranty

An LOS800 Smart Switch requires no maintenance other than keeping the lens area clean and free of obstructions. do not attempt to open or repair the unit. There are dangerous voltages inside the case and no user serviceable parts.

Your LOS800 will be replaced or repaired, at our option, if it proves to be defective in workmanship or materials within one year from the date of original purchase.

For repair or replacement, return the product freight prepaid and insured to the address below. The LOS800 should be packed carefully. Please include your sales receipt and a description of the problem.

If your unit is out of warranty or the damage is unrelated to its original manufacture, return your unit directly to RAB with a check for \$20.00 (payable to RAB Lighting). We will repair or replace the unit.

Under no circumstances shall we be liable for any incidental or consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property or revenue or cost of installation, removal or re-installation. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

RAB
LIGHTING

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