JOHNSON CONTROLS

OLS-2000/OLS-2100 Occupancy Lighting Switch

The OLS-2000/OLS-2100 Occupancy Lighting Switch is a passive infrared sensor that turns lights on when occupancy is detected and off when the area is empty. Three adjustments are available: light level, time delay, and sensitivity level--allowing for changes that best match the room's use and the occupant's needs.

Lighting is a large part of a typical commercial building's energy consumption, accounting for 40% of the electricity used. Whether used as standalone lighting control or as part of an existing lighting system, the OLS-2000/OLS-2100 helps reduce energy costs.

Figure 1: OLS-2000/OLS-2100

Features and Benefits

❑ **Standard, Single-toggle Switch Size**	Allows quick and easy replacement of existing wall switches, reducing installation time
❑ **Infrared Occupancy Sensor**	Controls lighting usage based on occupancy
❑ **Two Models Available: 120/277 or 347 VAC (60 Hz Only)**	Provides compatibility with supply voltages in most commercial buildings
❑ **Low-profile Design**	Complements any building or office decor
❑ **180° Field of View: Coverage to 900 sq ft (81 sq m)**	Covers most typical offices, conference rooms, and storage areas
❑ **Adjustment Cover with Anti-tampering Feature**	Prevents unauthorized changes to selected settings

Part No. 24-7691-25, Rev. B
Code No. LIT-216270

Application Information

The OLS-2000/OLS-2100 Occupancy Lighting Switch is a passive infrared sensor that turns lights on when occupant movement is detected within its field of view. The OLS-2000/OLS-2100 replaces standard single-pole light switches that control incandescent or fluorescent fixtures with either magnetic or electronic ballasts. The switch is an indoor lighting control and should not be used outdoors or as a security device.

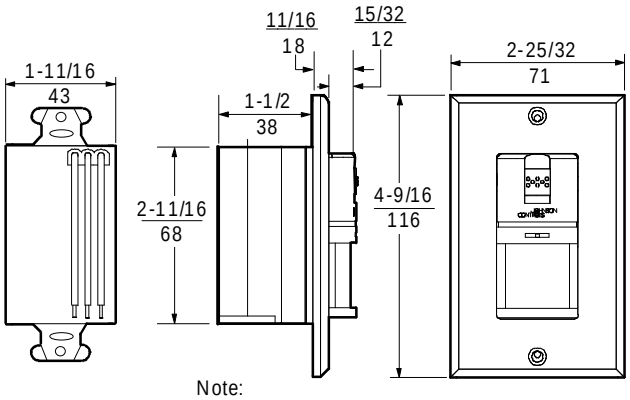

Figure 2: OLS-2000/OLS-2100 Dimensions (in./mm)

Choosing a Mounting Location

Install the OLS-2000/OLS-2100 3.5 to 4.5 feet (1.1 to 1.4 m) above the floor, with an unobstructed view of the work or traffic area to be monitored. The OLS-2000/OLS-2100 has a 180 degree field of view [900 sq ft (81 sq m)].

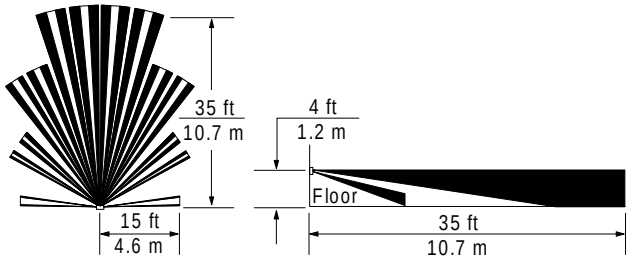

Figure 3: OLS-2000/OLS-2100 Room Coverage Patterns

Avoid locating the switch in the following areas:

- in direct sunlight or near bright lights
- near intense heat or moisture sources
- where movement in adjacent areas could unintentionally turn the lights on

Wiring

> **CAUTION:** **Shock hazard.** Avoid personal injury by disconnecting the power supply before making wiring connections.

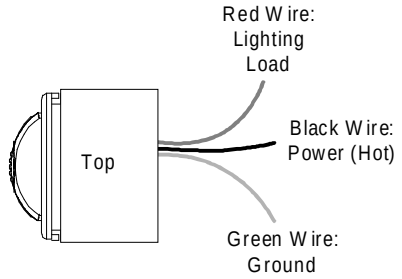

Figure 4: OLS-2000/OLS-2100 Wiring Diagram

1. Check that the combined load connected to the OLS-2000/OLS-2100 is within the load range listed in Table 2.

Note: All wiring connections must be made in accordance with the National Electric Code and all local regulations. Short-circuited or improperly connected wires will result in permanent damage to the unit.

2. Remove the existing wallplate and switch.
3. Press the OLS-2000/OLS-2100's OFF/AUTO button to the OFF position. (Button out.)
4. Wire the OLS-2000/OLS-2100 as shown in Figure 4.

Note: Use the termination on the green wire and the mounting screw (provided) for grounding to a continuous grounding system.

5. Install the OLS-2000/OLS-2100 in the utility box using the two flat-head screws provided. The OLS-2000/OLS-2100 fits into a standard, 2 in. x 4 in. (51 mm x 102 mm) utility box with a minimum depth of 1-7/8 in. (48 mm).
6. Apply power.
7. Press the OFF/AUTO switch to AUTO (button in) and the lights will turn on within ten seconds (OLS-2000) or within 60 seconds when motion is detected (OLS-2100).

Operating Information

Red LED: blinks when the sensor detects motion.

OFF/AUTO Feature: allows the lights to be turned on and off manually.

Adjustments

Wait two minutes after power is applied before making any adjustments. All adjustments are factory set to their **maximum** settings. Maximum is fully clockwise, minimum is fully counterclockwise.

> ⚠ CAUTION: The range of movement for each adjustment screw is approximately 200 degrees. Turning the adjustment screws **past their limits will break them**.

> ⚠ CAUTION: **Equipment damage hazard.** When the wallplate is off, the unit can be damaged by static electricity. Touch the metal frame around the unit before removing the control's cover.

Pull the cover surrounding the OFF/AUTO button straight off to access the adjustment screws. Use a small screwdriver to turn the adjustment screws to the desired settings. (See Figure 5.)

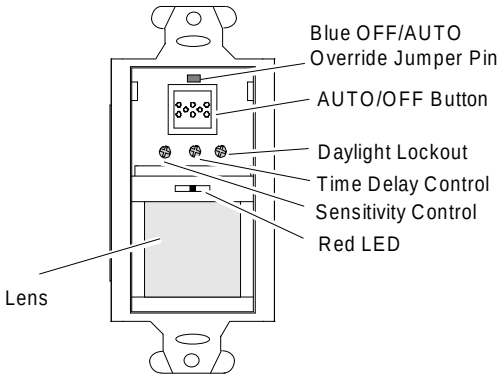

Figure 5: Location of Adjustments with Cover Removed

The following adjustments are available:

- **Sensitivity:** Controls the sensor's ability to detect motion, from less sensitive (minimum counterclockwise setting) to very sensitive (maximum clockwise setting). The maximum setting covers the entire 180° field of view. At the minimum setting, the sensor requires greater motions at closer distances to turn the lights on. The maximum setting is recommended.
- **Daylight Lockout:** Prevents lights from turning on when adequate levels of natural light are available. Wait to set the daylight lockout until the natural light level is sufficient for work or traffic. Then, to enable daylight lockout, use the following steps:
  1. Check that the OFF/AUTO switch is in the AUTO position. (Button in.)
  2. Turn the daylight lockout adjustment screw completely counterclockwise.
  3. Turn the time delay adjustment screw completely counterclockwise.
  4. **Remain motionless** until the lights turn off (approximately 30 seconds). Do not cast a shadow in front of the sensor as this movement will turn the lights on.
  5. Turn the daylight lockout adjustment screw slowly clockwise until the lights turn on. Then, turn the screw *slightly* back towards minimum.
  6. Reset the delay time control if necessary.
- **Time Delay:** Controls the length of time between the last sensed movement and when the lights are turned off, from 30 seconds (minimum) to 30 minutes (maximum). A quarter turn counterclockwise is equal to 15 minutes. The maximum clockwise setting (30 minutes) is recommended.

When finished making adjustments, snap the cover back into place. Place the wallplate over the sensor and attach with two screws. A wallplate is not included with the OLS-2000-3, 347 VAC model. Purchase a decora-style wallplate (also used for ground fault detectors) separately.

The blue **override jumper pin:** (Figure 5) can be removed to make the OLS-2000/OLS-2100 function like a standard ON/OFF switch. After removing the jumper, press the AUTO/OFF switch to turn lights on or off.

Troubleshooting

Table 1: Troubleshooting

Problem	Possible Solution(s)
Unit won't function or LED doesn't flash (LED normally flashes when the sensor detects motion)	Pull out the blue jumper (see Figure 5) to make the unit function as a regular ON/OFF switch. Press the OFF/AUTO button. If the lights still won't come on, verify that the ground connection is good. If the unit still won't work, replace it.
Unit picks up movements outside the desired area to be monitored	Use the opaque adhesive tape (included with unit) to limit the detection area. Place a strip over the part of the lens that views the area to be excluded.
	Adjust the sensitivity control counterclockwise to reduce sensitivity.

Ordering Information

To order the OLS-2000/OLS-2100 from your local Johnson Controls branch or wholesale distributor, specify the complete model code number and quantity.

Table 2: Models Available

Model	Voltage (VAC)	Lighting Type	Load Range Limits (watts)
OLS-2100-1	120 VAC 60 Hz *	Incandescent	25 to 800
		Fluorescent	40 to 800
	277 VAC 60 Hz *	Fluorescent Only	40 to 1200
OLS-2000-3▼	347 VAC 60 Hz *	Fluorescent Only	40 to 1500

* The OLS-2000/OLS-2100 is not designed to operate at 50 Hz.
▼ Does not include wallplate.

Specifications

Product	OLS-2000/OLS-2100 Occupancy Light Switch
Sensor Type	Passive infrared
Power Requirements	120/277, or 347 VAC, 60 Hz
Load Ranges:	(Standard or electronic ballast)
OLS-2100-1	120 VAC, 60 Hz; 25 to 800 watts incandescent; 40 to 800 watts fluorescent, 277 VAC, 60 Hz; 40 to 1200 watts fluorescent
OLS-2000-3	347 VAC, 60 Hz; 40 to 1500 watts fluorescent
Current Consumption	Less than 0.5 mA
Warmup Time	60 seconds maximum
Wiring	3-wire installation (Requires a continuous grounding system.)
Wallplate	Included with OLS-2100-1. OLS-2000-3: purchase a ground-fault, decora-style wallplate.
Temperature Conditions	32 to 95°F (0 to 35°C)
Humidity Conditions	5 to 95% RH non-condensing; 85°F (29°C) maximum dew point
Field of View	180° [900 sq ft (81 sq m)]
LED Indicator	Flashes when motion is detected.
Daylight Lockout Control	Lights stay off if ambient light level is adequate.
Time Delay Control	30 seconds to 30 minutes (Factory set to 30 minutes.)
Sensitivity Control	Adjustable from 20 to 100% of maximum sensitivity. (Factory set to 100%.)
Shipping Weight	0.5 lb (0.23 kg)
Agency Approvals	UL and CUL

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

JOHNSON CONTROLS

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