

# Dual Relay Decora® Wall Switch Multi-Technology Occupancy Sensors



## Description

OSSMD dual relay occupancy sensors combine Passive Infrared (PIR) and Ultrasonic (U/S) motion detection technologies in a single sensor to keep lights ON while a space is occupied and turn lights OFF when vacant. PIR technology is used to detect motion and turn lights ON, while either technology is used to keep lights ON while occupied. This allows the Ultrasonic (U/S) to be set to higher sensitivity levels minimizing false OFF conditions. The PIR portion gives immunity to false ON through a specialized lens that divides the field-of-view into sensor zones. When a person passes into or out of a sensor zone, the sensor detects motion and switches the primary lighting load ON while the secondary relay operates in manual-ON/auto-OFF (MA/GA models). The lights will remain ON as long as there is an occupant moving through the sensor zones. The U/S motion detection in the sensors give maximum sensitivity and range in difficult spaces with irregular shaped rooms and partitions that can block the PIR field-of-view. The OSSMD also features the ability to turn off PIR or U/S to become a single tech device.

The OSSMD provides automatic lighting control for two separate loads from a single unit. It is compatible with LED, incandescent, fluorescent, low-voltage lighting and fan loads. The unit features dual manual-override switches that can be used to toggle the ON/OFF status of each lighting load while an area is occupied. The OSSMD can be installed in place of two single-pole wall switches and fits in a standard single-gang wall box. The second relay is manual-ON only and can be used to comply with 2019 Title 24, Part 6 occupancy sensing requirements.

## Applications

- Private and executive offices
- Conference rooms
- Classrooms
- Restrooms
- Storage areas
- Training areas
- Multimedia rooms
- Day care centers
- Lounges
- Retrofits
- Bi-level or A/B switching
- Multi-location switching (similar to 3-way)

## Features

- Provides automatic lighting control for two separate banks of LED, fluorescent, incandescent or low-voltage lighting from a single unit
- The second relay is a manual-ON only with a maximum 30 minute time-out for maximum energy savings and can be used to comply with 2019 Title 24, Part 6 occupancy sensing requirements
- Fits in a standard single-gang wall box and replaces two single-pole wall-switches for fast and easy installation; neutral and ground connection required for OSSMD-MA. OSSMD-GA does not require a neutral for installation.
- Low-profile design eliminates obtrusive “scanning-device” look. Elegant Decora® wallplates complement any interior for sleek aesthetics; uses Decora wallplates and coordinates with Leviton’s popular line of Decora wiring devices.
- 180° field-of-view provides approximately 2400 square feet of coverage, suitable for a variety of commercial areas
- Convenient push buttons provide manual-ON/OFF light switching of each load at any time
- Segmented Fresnel lens provides optimum sensitivity and performance. Designed with an extensive “minor motion” area where even slight body movements will be detected.
- Vandal resistant PIR lens
- Patented blinders—adjustable horizontal field-of-view (PIR) may be adjusted between 180° and 60° of arc by using integral blinders located on either side of the lens. No masking tape required.
- Manual-ON/auto-OFF mode for installations where manual-ON switching is required
- The LED indicator light flashes when the sensor detects motion to verify detection is active and can be used to comply with 2019 Title 24, Part 6 occupancy sensing requirements. Green flashes for ultrasonic, red flashes for PIR.

## Leviton Manufacturing Co., Inc. Lighting & Controls

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**Features, Cont'd**

- Time delay adjustment for delayed-OFF time settings of 30 seconds (for walking test), 10 minutes, 20 minutes and 30 minutes. Allows customized adjustments to maximize energy savings.
- Light sensor measures the ambient light in the room when it first detects motion and leaves the lights OFF (hold-off) if there is enough light in the room or turns the lights connected to the first relay ON if there is not enough light in the room
- Self-Adaptive technology eliminates callbacks for adjustments. Time delay and sensitivity settings are continually adjusted to occupant patterns of use in auto adapt mode.
- Exclusive Walk-Through feature provides increased energy savings by not leaving the lights ON for an extended period after only momentary occupancy
- Non-Adaptive Mode disables self-adjusting delayed-OFF time and walk-through feature in applications where these feature are not desired. Optional manual adjustment for delayed-OFF time settings allows customized adjustments to maximize energy savings.
- Vacancy confirmation; when the time out expires and the relay turns OFF, a 30-second vacancy confirmation exists to turn the relays back ON if motion is detected
- U/S technology provides excellent minor motion sensitivity
- Ability to disable PIR or U/S for added flexibility
- Presentation Mode feature for slide or film presentations allows push buttons to turn lights OFF and keep them OFF while the room is occupied
- Exclusive Leviton High Inrush Stability (H.I.S.) Circuitry—specifically designed to handle today’s high inrush LED electronic ballast loads and offer unmatched durability and service
- Compatible with both electronic and magnetic ballasts
- True zero-cross relay switches at the zero crossing point of the AC power curve to ensure maximum contactor life and compatibility with electronic ballasts

**Installation**

The OSSMD mounts in a standard single-gang wall box and replaces two single-pole wall switches that control two separate lighting loads. The unit must be properly grounded in order to operate. The unit’s integral blinders may be used to restrict the field-of-view to prevent unwanted detection of hallway traffic.

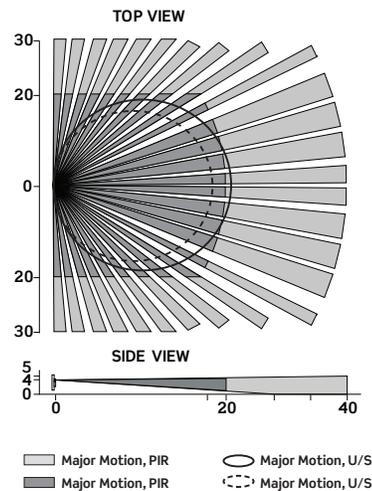
The OSSMD should be positioned at least 6 feet away from HVAC registers. Note that whenever the unit is powered up, it will take approximately 1 minute to begin normal operation.

**How The OSSMD Automatically Adapts**

Condition	Example	Adaptive reaction
<b>False-ON:</b> Sensor incorrectly turns the lights ON	The sensor detects movement in the corridor or hallway and the room light turns ON	After an initial movement is sensed, if another movement is not sensed within the timer setting the delayed off-time setting is automatically reduced
<b>False-OFF:</b> Sensor incorrectly turns the lights OFF	The sensor does not detect movement because an occupant is virtually motionless and the lights turn OFF	If motion is detected shortly after the lights go off, the current delayed off-time setting is increased

**Field-of-View**

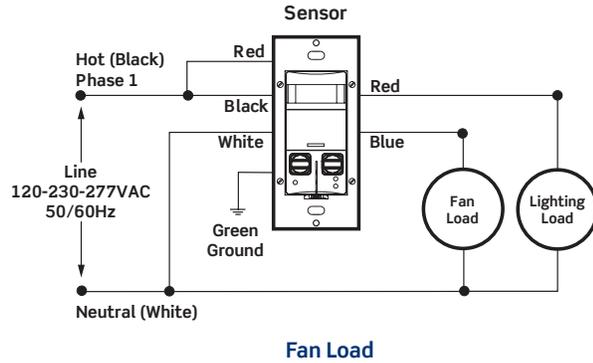
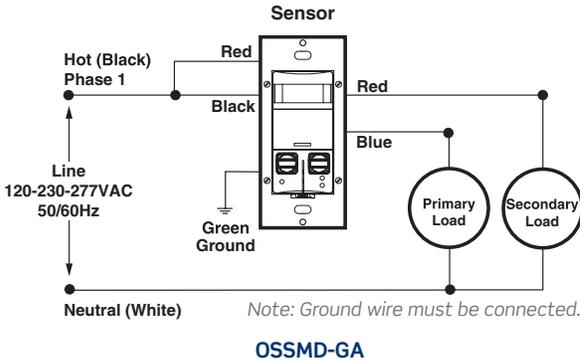
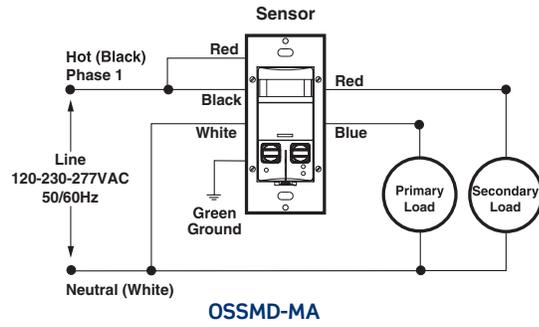
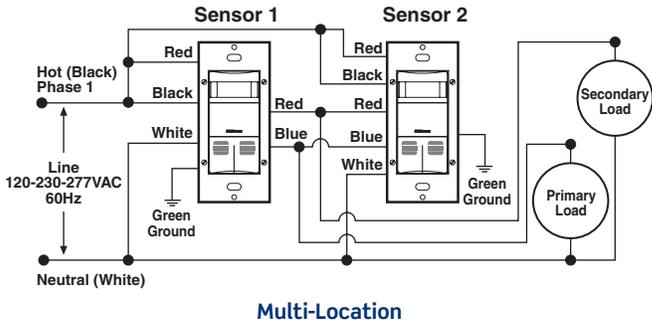
The OSSMD provides a 180° field-of-view with a maximum coverage area of approximately 2,400 square feet. The maximum major motion sensing distance in front of the sensor is 40 feet, and side to side is 30 feet. The “minor-motion” zone detects relatively small body movements and allows the lights to stay ON even though a person may not be moving or walking around the room. This zone is approximately 40 feet by 20 feet.



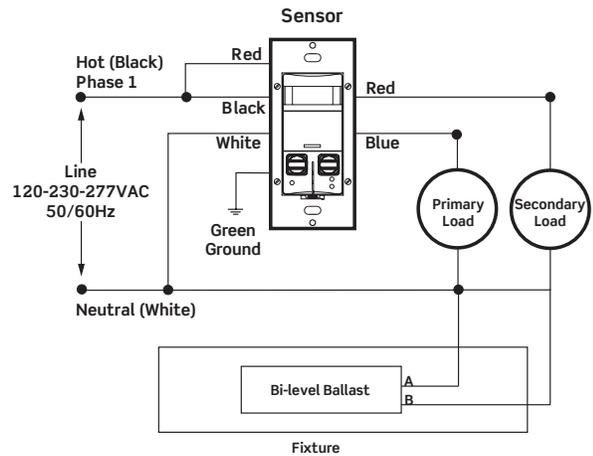
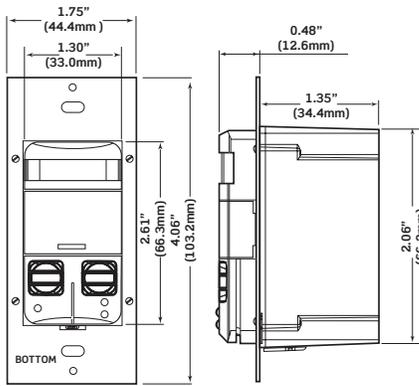
or Motion = Dual Technology coverage. This also represents the maximum ultrasonic range coverage.

OSSMD Field-of-View (in feet)

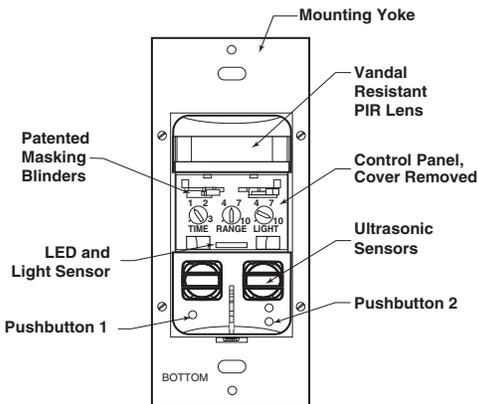
## Wiring Diagrams



## Dimensions Diagram



## Sensor Features



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**Specifications**

<b>Electrical</b>			
Line Voltage	120-230-277VAC		
Power Consumption		<b>-MA</b>	<b>-GA</b>
	120V	210mW	140mW
	277V	410mW	360mW
Operational Frequency	50/60Hz		
U/S Operating Frequency	40 kHz		
Wire Designation	Primary Relay: No. 16 AWG leads: Line: Black, Load: Blue Ground: Green, White: Neutral (where provided)	Secondary Relay: No. 16 AWG isolated contact leads: (2) Red	
Load Rating	Primary Relay: LED:10A @ 120V 10A @ 277V Fluorescent:1200VA @ 120V 2700VA @ 277V Incandescent: 800W @ 120V	Secondary Relay: LED:10A @ 120V 10A @ 277V Fluorescent: 800VA @ 120V 1200VA @ 277V Incandescent: 800W @ 120V Motor: 1/4 HP	
<b>Environmental</b>			
Operating Temperature Range	32 to 104°F (0 to 40° C)		
Storage Temperature Range	-50 to 185°F (-10 to 85° C)		
Relative Humidity	20-90% non-condensing		
<b>Other</b>			
Listings	ETL/cETL listed, CSA, FCC and NOM		
Energy Codes	Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 occupancy/vacancy sensing requirements		
Warranty	5-year Limited		

**Ordering Information**

<b>Product Name</b>	
<b>Cat. No.*</b>	<b>Description</b>
OSSMD- MA**	Dual Relay Multi-Tech Wall Switch Occupancy Sensor
OSSMD-GA**	No Neutral, Dual Relay Multi-Tech Wall Switch Occupancy Sensor

\* To indicate color, add suffix to the end of the catalog number.  
White (-W), Ivory (-I), Light Almond (-T), Gray (-G), Ebony (-E), and Red (-R)  
\*\* NAFTA compliant and Made in USA models

**Leviton Manufacturing Co., Inc. Lighting & Controls**

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