

# Decora® Wall Switch Lev-Lok® Multi-Technology Occupancy Sensor



## Basic Operation

Occupancy sensors have two tasks: keeping the lights ON while the space is occupied and turning the lights OFF when unoccupied.

Passive Infrared (PIR) sensors provide immunity to false ON through a specialized Fresnel lens which 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 lights ON.

The Ultrasonic (U/S) sensors provide maximum sensitivity and range in difficult spaces with irregular shaped rooms and partitions that can block the PIR field-of-view. A pair of U/S sensors will detect Doppler shifts caused by motion in a space preventing false OFF. These sensors are more sensitive to small movements since they do not rely on zones.

## Applications

The Leviton Multi-Technology Decora® Lev-Lok® Wall Switch Occupancy Sensor (MSSMT) is used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications:

- Retrofit
- Private and executive offices
- Conference rooms
- Storage areas
- Restrooms
- Classrooms
- Lounges
- Training areas
- Multi-location switching (similar to 3-way)

## Self-Adaptive Technology

- Designed for “install and forget” use, the MSSMT automatically analyzes room conditions and adapts to errors or changing environment

## Lev-Lok Technology

Lev-Lok’s innovative design streamlines installation and reduces costs. In just two easy steps, the wiring device is securely attached to the wiring module. Place the wiring module over the device’s connection pins and twist clockwise to lock. Replacement is just as easy—just turn counter-clockwise to unlock and remove. The module is keyed so that it cannot be installed incorrectly. This not only saves time during the initial installation, but makes maintenance applications quicker, safer and easier as well.

## How the MSSMT 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

## Features

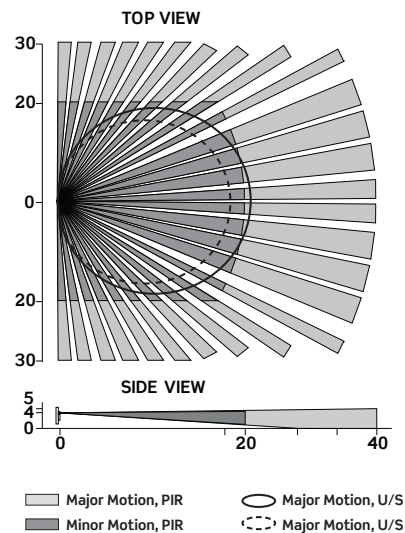
- Fast, simple installation: fits in a standard wall box and replaces a single-pole wall-switch; neutral and no neutral options available. Sensor can be ganged together with other units in a multiple-switch wall plate
- Low-profile design eliminates obtrusive “scanning-device” look
- Elegant Decora wallplates complement any interior for sleek aesthetics; uses Decora wallplates and coordinates with Leviton’s popular line of Decora wiring devices
- Convenient pushbutton provides manual-ON/OFF light switching 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
- Lev-Lok makes installation and replacement simple with latch-and-lock system which streamlines installation and reduces costs
- The Lev-Lok wiring module is keyed so that it cannot be installed incorrectly, saving time during installation and making maintenance quicker, safer and easier
- 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 required.
- Manual-ON/auto-OFF mode for installations where manual-ON switching is required but auto-OFF switching is still desired
- LED indicator light flashes when sensor detects motion to verify detection is active. Green flashes for ultrasonic, red flashes for PIR.
- Time: the delayed OFF time is preset at 30 minutes in the Auto Adapting mode. A choice of four delayed-OFF time settings are available: 30-seconds (for walking test purposes only), 10, 20 and 30 minutes for fixed time and auto adapting. The LED will flash when the adjusting knob is set to the indicated time value.
- Ambient light recognition: integrated light sensor prevents lights from turning on when the room is adequately illuminated by natural light
- Self-adaptive technology: callbacks for adjustment are eliminated. 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
- Vacancy confirmation: when the time out expires and the relays turn OFF, a 30 second vacancy confirmation exists to turn the relays back on
- False detection circuitry
- Small Motion Sensitivity (U/S): Ultrasonic technology provides excellent minor motion sensitivity
- Ability to disable both PIR and U/S
- Presentation mode feature: for slide or film presentations, allows pushbuttons to turn lights OFF and keep them OFF while the room is occupied
- Exclusive Leviton H.I.S. Circuitry—specifically designed to handle today’s high inrush electronic ballast loads and offer unmatched durability and service
- 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

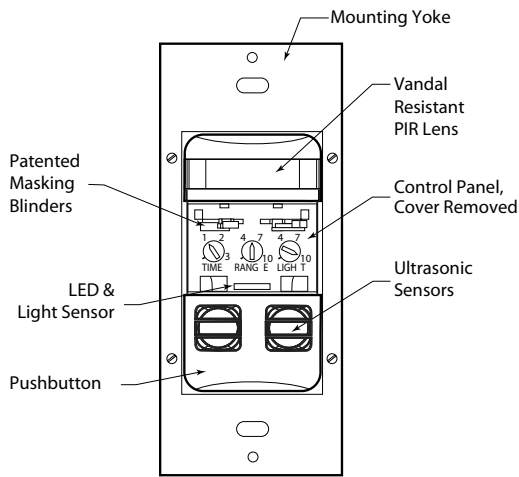
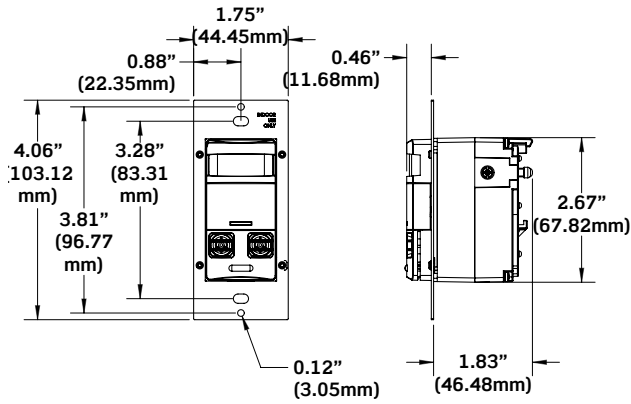
The MSSMT is preset to deliver optimum performance in a wide variety of applications without requiring any adjustments during installation. Exclusive self-adjusting operating features will automatically compensate for real-time occupancy patterns to provide maximum convenience and energy savings. The unit may replace a single-pole wall switch mounted in a standard wall box. The MSSMT does not require a neutral for installation. The unit’s integral blinders may be used to restrict the field of view to prevent unwanted detection of traffic. It 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.

## Field-of-View

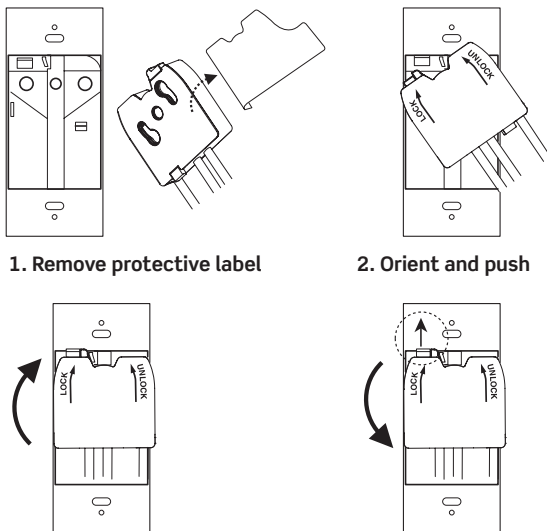
The MSSMT provides a 180° field-of-view with a maximum coverage area of approximately 2400 square feet. The maximum sensing distance in front of the sensor is 40 feet, and side to side is 30 feet. The “minor motion” zone detects relatively small body movements and allows the lights to stay ON even though a person may not be moving or walking around the room. The remainder of the field-of-view, the “major motion” zone, exhibits a lesser degree of sensitivity and requires larger movements.



**Dimensions Diagrams**

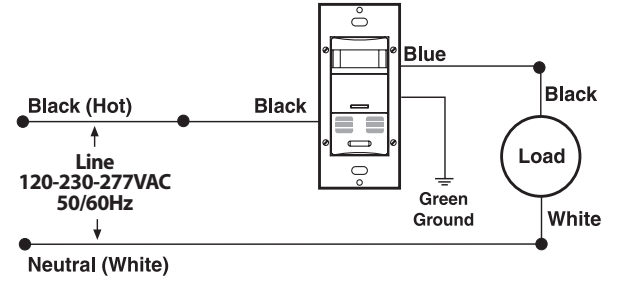


**Lev-Lok Diagram**



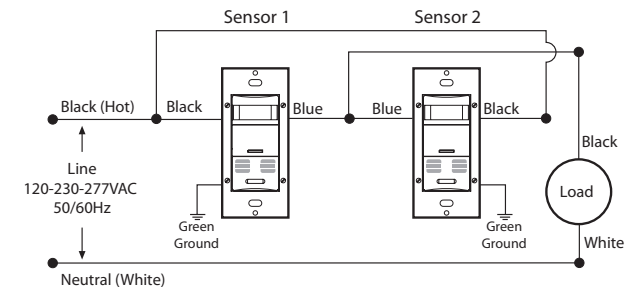
3. Turn and lock flush      4. Push latch up and turn to release

**Wiring Diagrams**



MSSMT-GD

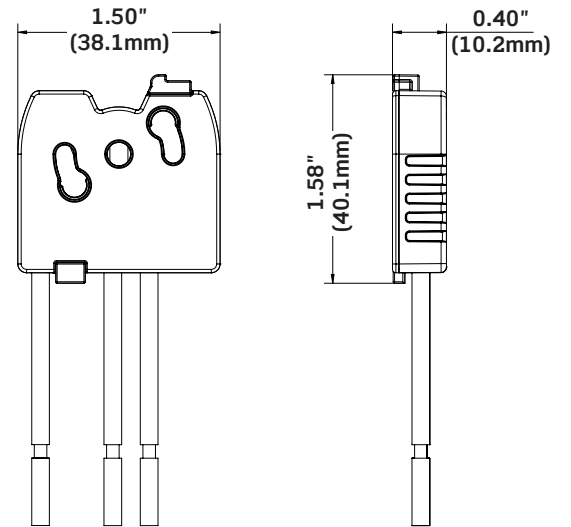
**Note:** Ground wire must be connected  
MSSMT-GD Wall Switch Occupancy Sensor Wiring Diagram, Single Location Control



MSSMT-GD

**Note:** Ground wire must be connected  
MSSMT-GD Wall Switch Occupancy Sensor Wiring Diagram, Two Location Control

**Lev-Lok Dimensions**



MSPSW-XSx

## Specifications

Electrical			
Line Voltage	120-230-277 VAC		
Power Consumption		U/S & PIR	PIR Only
MSSMT-GD	120, 277	110mW, 340mW	70mW, 310mW
Operational Frequency	60Hz		
Ultrasonic Operating Frequency	40kHz		
Load Rating	Incandescent/Tungsten: 800W @ 120V Fluorescent: 1200VA @ 120V-2700VA @ 277V, 1/4 HP @ 120V		
Environmental			
Operating Temperature Range	32-104°F (0-40°C)		
Storage Temperature Range	14-185°F (-10-85°C)		
Relative Humidity	20-90% non-condensing		
Other			
Listings	ETC/cETL Listed, complies with FCC regulations, NOM		
Energy Codes	Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 occupancy sensing requirements		
Warranty	Limited 5-Year		

## Ordering Information

Lev-Lok Multi-Tech Wall Switch Occupancy Sensor	
Cat. No.	Description
MSSMT-GDx	Lev-Lok Multi-Technology Wall Switch Occupancy Sensor, No Neutral
MSPSW-XSD	Separable Terminal Assemblies - Solid wire leads
MSPSW-XST	Separable Terminal Assemblies - Stranded wire leads

Replace x to indicate color: (W) = White, (I) = Ivory, (T) = Light Almond

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