Decora® Multi-Technology Wall Switch Occupancy Sensor

Description

The Cooper Lighting Solutions Decora® Multi-Technology Wall Switch Occupancy Sensors (OLW-DT-MV-N-W and OLW-DT-MV-W) are used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications. Designed for install-and-forget use, the sensors automatically analyzes room conditions and adapts to errors or changing environment.

Passive Infrared (PIR) technology provides 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. Ultrasonic (U/S) technology provides 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

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

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
- Convenient push button 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
- 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 for 2019 Title 24, Part 6 energy savings
- 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.

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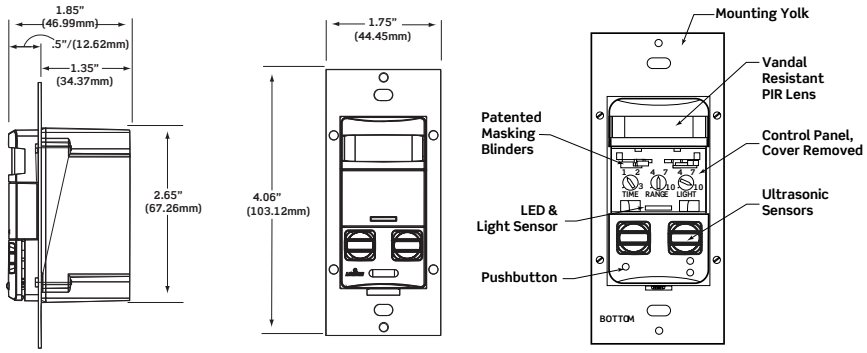
Features, cont'd

- 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 (OLW-DT-MV-W) or 40- second (OLW-DT-MV-N-W) 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 U/S (OLW-DT-MV-N-W). For added flexibility, OLW-DT-MV-W have the ability to disable both PIR and U/S
- 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 High Inrush Stability (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
- Tested and complies with NEMA WD 7-2011 Occupancy Sensor Testing Standard

How the OLW-DT-MV-N-W Automatically Adapt

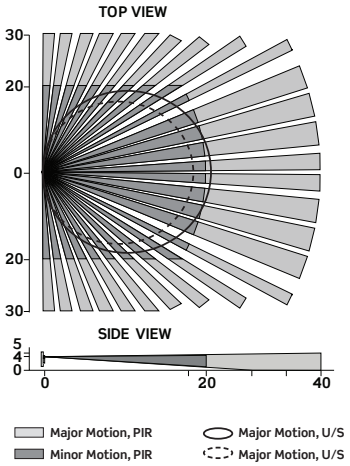
Condition	Example	Adaptive Reaction
False-ON: Sensor incorrectly turns the lights ON	The sensor detects movement in the corridor or hallway and the room light turns ON	After an initial movement is sensed, if another movement is not sensed within the timer setting the delayed off-time setting is automatically reduced
False-OFF: 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

Dimensions & Features Diagrams



Field-of-View

The sensor provides a 180° field-of-view with a maximum coverage area of approximately 2,400 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 "major motion" zone exhibits a lesser degree of sensitivity and requires larger movements.



Warning

- This product is not intended to be used in applications involving the use of ammonia-based or VOC cleaners.
- Use of ammonia-based or VOC cleaners on this device must be avoided. Prolonged use may cause loss of integrity and expose electrified components. If this occurs, turn OFF power to the unit and replace.
- For detailed cleaning guidelines please refer to: Controls Care and Maintenance instructions at the end of this document.

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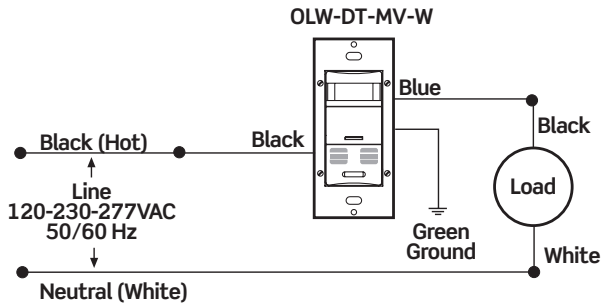
Installation

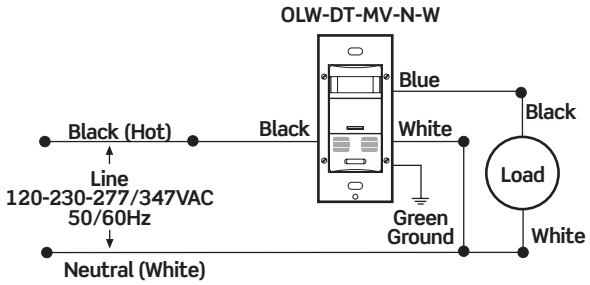
The OLW-DT-MV-W and OLW-DT-MV-N-W are preset to deliver optimum performance in a wide variety of applications without requiring any adjustments during installation. Exclusive self-adjusting operating features will automatically compensate for real-time occupancy patterns to provide maximum convenience and energy savings. The unit may replace a single-pole wall switch mounted in a standard wall box. The OLW-DT-MV-N-W must have a neutral and be properly grounded in order to operate. The OLW-DT-MV-N-W do 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.

Wiring Diagrams

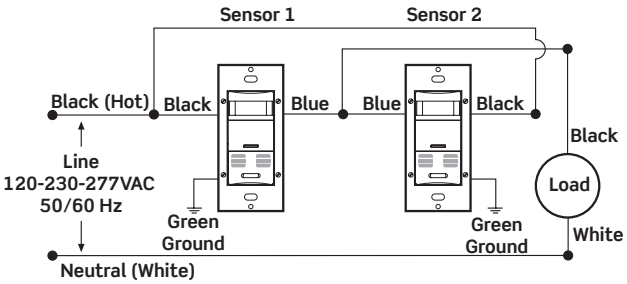


Note: Ground wire must be connected.

OLW-DT-MV-W Wall Switch Occupancy Sensor Wiring Diagram, Single Location Control



OLW-DT-MV-N-W Wall Switch Occupancy Sensor Wiring Diagram, Single Location Control



Note: Ground wire must be connected.

OLW-DT-MV-W Wall Switch Occupancy Sensor Wiring Diagram, Two Location Control

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Specifications

Electrical			
Line Voltage	120-230-277 VAC		
Power Consumption		**U/S & PIR**	**PIR Only**
OLW-DT-MV-N-W	120V 277V	390mW 480mW	190mW 270mW
OLW-DT-MV-W	120V 277V	110mW 340mW	70mW 310mW
Operational Frequency	50/60 Hz		
Ultrasonic Operational Frequency	40 kHz		
Wire Designation	Line-Black Neutral-White Load-Blue Ground-Green		
Load Rating	Incandescent/Tungsten: 800W @ 120V Fluorescent: 1200VA @ 120V 2700VA @ 277V, 1500VA @ 347V, Motor: 1/4 HP @ 120V		
Environmental			
Operating Temperature Range	32 to 104°F (0 to 104°C)		
Storage Temperature Range	14 to 185°F (-10 to 85°C)		
Relativity Humidity	20-90% non-condensing		
Other			
Listings	OLW-DT-MV-N-W: UL/cUL Listed OLW-DT-MV-W: ETL/cETL Listed, CSA		
Energy Codes	Can be used to comply with IECC, ASHRAE 90.1, and 2022 Title 24, Part 6 occupancy sensing requirements		
Warranty	Limited Five-Year Warranty		

Ordering Information

Cat. No.	Description
OLW-DT-MV-N-W	Multi-Technology Wall Switch Occupancy Sensor
OLW-DT-MV-W	No Neutral, Multi Technology Wall Switch Occupancy Sensor

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Cooper Lighting Solutions

Cooper Lighting Solutions has developed recommended guidelines for cleaning our products that will not impact the operation or finish of the product.

image for reference only

Recommended cleaning tips:

- **Never spray any fluids directly into the device.**
- **Use of ammonia-based or VOC cleaners on this device must be avoided.** Prolonged use may cause loss of integrity and expose electrified components. If this occurs, turn OFF power to the unit and replace.
- **Use a damp rag or single-use wipe** to avoid excess liquid penetrating the device.
- Be sure to wipe up remaining excess liquid after cleaning.
- Ensure the cleaning agent used does not have harsh chemicals such as bleach, ammonia, highly alkaline or concentrated acids (such as hydrochloric acid that can be found inhousehold cleaners such as toilet bowl cleaners, bathroom tile and porcelain cleaners) as they could damage the device, causing them to become brittle and discolored.
- Cooper Lighting Solutions recommends the use of a mild liquid detergent and water to clean the devices. Single use wipes (e.g. Lysol brand or equivalent) are acceptable to use for cleaning the devices, however the single-use wipes **cannot contain bleach, ammonia, highly alkaline or concentrated acids.**

⚠ WARNING

This product is not intended for use in applications involving the use of ammonia-based or VOC cleaners.

Prolonged use may cause loss of integrity and expose electrified components.

If this occurs, turn OFF power to the unit and replace.

Recommended cleaning instructions:

- **Never spray any fluids directly into the device.**
- Apply the mild liquid detergent to a damp cloth or paper towel. Single use wipes (e.g. Lysol brand or equivalent) are acceptable to use for cleaning the devices, however single-use wipes cannot contain bleach, ammonia, highly alkaline or concentrated acids.
- If excess liquid is present, remove by wringing out the cloth or paper towel to avoid liquid penetration into the device.
- Clean the Cooper Lighting Solutions device by wiping over the surface with the damp cloth.
- Remove an excess liquid remaining on the device with a dry cloth or paper towel.

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