

The ODSOD-TD Occupancy Sensor—

- Controls two separate lighting loads from a single unit
- Manual ON only for the secondary relay
- Features new self-adjusting occupancy sensor technology with automatic “walk-through” sensing
- 30 Minute maximum time-OUT delay
- CEC Title 24 Compliant

APPLICATION

Leviton’s Cat. No. ODSOD-TD Dual-Relay Decora Wall Switch Passive Infrared (PIR) Occupancy Sensor is used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications, including:

- Class rooms
- Conference rooms
- Offices
- Multimedia rooms
- Day care centers
- Lounges

The ODSOD-TD provides automatic switching of two separate lighting loads from a single unit. It is compatible with incandescent, fluorescent and low-voltage lighting. 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 ODSOD-TD can be installed in place of two single-pole wall switches and fits in a standard single-gang wall box. The unit requires a ground connection for proper operation.

The sensor has an adjustable 30 minute time-delay setting for the first relay and second relay. To comply with California Energy Commission’s Title 24, the second relay is a manual ON only.

BASIC OPERATION

The ODSOD-TD uses passive infrared (PIR) detection technology to monitor a room for occupancy through a segmented Fresnel lens. This specialized lens 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 two separate lighting loads ON. The lights will remain ON as long as there is an occupant moving through the sensor zones.

A delayed-OFF time adjustment prevents the lights from switching OFF when the space is occupied. In order to keep the lights ON, a person must pass through a sensor zone at least once during the selected delayed-OFF time interval. A **self-adjusting delayed-OFF time feature** compensates for real-time occupancy patterns to prevent unnecessary ON/OFF switching. An LED indicator blinks each time the unit detects activity in the sensor zones. When the space being monitored by the sensor is unoccupied for the length of the delayed-OFF time interval, the unit will beep 3 times. Ten seconds after the last warning beep, the unit will switch the lights OFF.



Cat. No. ODSOD-TD

To ensure longer service life and compatibility with electronic ballasts, the device carefully times the primary relay switching contact opening and closing with the zero crossing point of the AC power curve. This minimizes contact wear caused by in-rush currents from electronic ballasts.

An exclusive walk-through feature addresses the typical situation where personnel may only enter a room momentarily. The walk-through feature provides increased energy savings by preventing the lights from remaining ON for an extended period after only momentary occupancy.

The **walk-through feature** operates as follows: The ODSOD-TD will switch the primary relay lights ON when it detects a person entering the area it monitors. However, if there is no occupant activity detected during the 2-1/2 minutes immediately following the initial entry, the unit recognizes that a person was just “walking through” the area. It will then automatically time out. After the initial 2-1/2 minute time interval expires, the unit will beep 3 times and then wait 10 seconds before switching the lights OFF.

NOTE: The Self-Adjusting Delayed-OFF Time and the Walk-Through features are factory-preset features in the ODSOD-TD. These features can be disabled if required—See “Non-Adaptive Mode.”

LEVITON SPECIFICATION SUBMITTAL

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Product Specifications

ODS0D-TD

Ambient Light Override

To maximize energy savings, the Ambient Light Override feature prevents the ODS0D-TD from switching the primary relay lights ON when there is ample natural sunlight in the room, regardless of occupancy. The push-button can be used to turn lights ON at any time, regardless of the override setting.

Push-button Manual Override Control

For manual control of primary and secondary lighting loads, the ODS0D-TD features dual push-button switches that will “toggle” the ON/OFF status of each load. Push-button 1 controls the primary relay, and push-button 2 controls the secondary relay. If the lights are OFF, pressing either button 1 or 2 will turn the respective lighting loads ON and keep them ON for as long as the room is occupied. The lights will be turned OFF once the room is vacant, after the delayed-OFF time expires.

The dual manual-override switches provide a **viewing mode feature**: If the lights are ON, pressing the push buttons will turn lights OFF and keep them OFF even if the room is occupied. This feature is particularly useful for viewing slide or film presentations. The lights can be turned back ON as needed by simply pressing the buttons. The lights will remain OFF when the room becomes vacant. After the delayed-OFF time expires, the unit will resume motion detection operation.

OPERATION MODES

Daylight Response Mode—The sensor will take a measurement of the ambient light in the room when it first detects motion. If there is enough light in the room, the sensor will leave the lights OFF. If there is not enough light in the room, the sensor will turn the lights connected to the primary relay ON. Note that the sensor will time out and turn the lights OFF after no motion is detected, regardless of mode of operation. ODS0D-TD is UL listed, CSA certified, and conforms to California Title 24 requirements.

FIELD OF VIEW

The ODS0D-TD provides a 180° field of view with a maximum coverage area of approximately 2100 square feet. The maximum sensing distance in front of the sensor is 40 feet, and at each side is 30 feet. A “small-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 “large-motion” zone, exhibits a lesser degree of sensitivity and requires larger movements.

ENHANCED ADJUSTMENT OPTIONS

The ODS0D-TD is factory preset to deliver optimum performance in a wide variety of commercial applications. Factory settings are: 10-minute delayed-OFF time with self-adjusting delayed-OFF feature, 2-1/2 minute walk-through feature, no Ambient Light Override in effect, maximum range, manual on for secondary relay and blinders open.

To meet specific installation requirements, the Cat. No. ODS0D-TD provides enhanced adjustment options for sensitivity, Ambient Light Override, delayed-OFF time, field-of-view, and Non-Adaptive mode.

To avoid tampering, all adjustments can only be accessed by removing the control panel cover. A small flat-head screwdriver can be used to adjust the control knobs, and the field-of-view blinders are finger-tip operated.

Blinders—Integral sliding blinders on each side of the lens may be used to restrict the 180° field of view down to 32°. This will prevent unwanted detection in areas such as hallways.

Time—The delayed-OFF time is preset at 10 minutes. A choice of four delayed-OFF time settings is available: 30-seconds (for walking test purposes only), 5 minutes, 10 minutes, and 20 minutes. Unit will beep when adjusting knob is set to the indicated time value.

Self-Adjusting Delayed-OFF Time—Provides convenience and energy savings by preventing unnecessary ON/OFF light switching. During periods of occupancy where there is little activity and infrequent motion detection, the delayed-OFF time setting is automatically increased, up to a maximum of 30 minutes. During periods of occupancy where there's more activity and frequent motion detection, the delayed-OFF time setting will automatically be decreased. The decreased delayed-OFF time setting will be in effect after the unit has timed out and the next period of occupancy begins. The delayed-OFF time will not be reduced beyond the preset 10-minute interval or the custom-selected time interval. This feature only applies to the primary relay.

Non-Adaptive Mode—Both the Self-Adjusting Delayed-OFF Time and Walk-Through Features can be disabled for installations where they are not required. Refer to Instruction Sheet enclosed with unit.

Range—Reducing the coverage range of the sensor allows the unit to ignore motion at the far end of its range and avoid unnecessarily switching lights ON. The range can be adjusted from 100% to 36% of the total coverage area.

Light—To maximize energy savings, the Ambient Light Override feature will prevent the unit from switching the primary relay lights ON when there is ample natural sunlight, regardless of occupancy. The Ambient Light Override adjustment should be made during a period where the ambient light in the room being monitored is at a level where no artificial light is needed. The push-button can be used to turn lights ON at any time, regardless of the override setting.

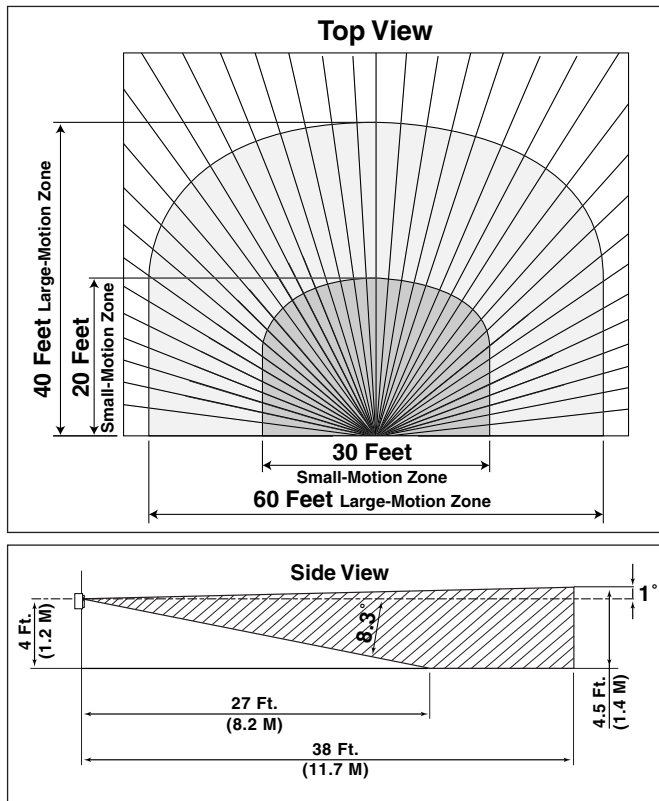
Self-Adjusting Ambient Light Override Feature—After the Ambient Light Override level has been set, the ODS0D-TD can compensate for changes in lighting requirements. When the push-button is used to cancel the Ambient Light Override and turn the lights ON, the Ambient Light Override is automatically reset based on the natural light level at that time. To return the Ambient Light Override back to the original setting, press and hold the push button down for approximately three seconds until the unit beeps, indicating the original level is restored. *NOTE*: Either push button 1 or 2 can be used to reset the Ambient Light Override level. The

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Product Specifications

ODSOD-TD



adapting light level only affects the Primary relay.

SPECIFICATIONS

The device listed herein shall be Leviton Commercial Specification Grade Dual Relay Decora Wall Switch Occupancy Sensor, capable of detecting infrared emissions from human presence and responding by switching ON two separate loads of incandescent, low-voltage, or fluorescent lighting. If this unit does not detect movement after a preset period of time, it will respond by switching both its assigned load off. The primary relay in the unit shall switch at the zero crossing point of the AC power curve to ensure maximum relay contact life and compatibility with electronic ballasts.

Dual Relay Wall Switch Occupancy Sensor shall be equipped with dual push-buttons to provide manual on/off switching for each load. Unit shall provide a walk-through feature to prevent lights from remaining on for extended periods after momentary occupancy in the area being monitored. Leviton Dual Relay Decora Wall Switch Occupancy Sensor shall feature self-adjusting delayed-OFF time and Ambient Light Override capabilities. Non-adaptive mode shall be provided so that walk-through and self-adjusting delayed-OFF time features can be disabled. Wall Switch Occupancy Sensor shall also provide sensitivity adjustment and integral sliding blinders to customize the horizontal field of view. Unit shall be capable of providing optional manual-on/automatic-off operation.

FEATURES AND BENEFITS

- Provides automatic switching for two separate banks of fluorescent, incandescent, or low-voltage lighting from a single unit. Ideal for classrooms, day care centers, offices, multimedia areas, conference rooms, lounges and other commercial areas.
- Convenient dual push-buttons provide manual ON/OFF light switching of each load at any time.
- To comply with California Title 24, the second relay is a manual ON only with a maximum 30 minute time-out.
- Daylight Savings Mode—Sensor measures the ambient light in the room when it first detects motion and leaves the lights 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. Both relays respond to Ambient Light Override, preventing lights from turning ON automatically during periods of ample natural light, for increased energy savings.
- Viewing Mode feature for slide or film presentations allows push buttons to turn lights OFF and keep them OFF even if room is occupied.
- Self-adjusting delayed-OFF time interval compensates for real-time occupancy patterns, preventing unnecessary ON/OFF switching.
- 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.
- New, low-profile design eliminates obtrusive “scanning-device” look. Elegant Decora styling complements any interior; uses Decora wallplates and coordinates with Leviton’s popular line of Decora wiring devices.
- 180° field-of-view provides approximately 2100 square feet of coverage, suitable for a variety of commercial areas.
- Segmented Fresnel lens provides optimum sensitivity and performance. Designed with an extensive “small motion” area where even slight body movements will be detected.
- Horizontal field of view may be adjusted between 180° and 32° arc by using integral blinders located on either side of the lens.
- Optional manual adjustment for delayed-OFF time settings of 30 seconds (for walking test), 5 minutes, 10 minutes and 20 minutes. Allows customized adjustments to maximize energy savings.
- Adjustable Ambient Light Override ranges from approximately 2 foot-candles (20 lux) to 500+ foot-candles (5000+ lux).
- Self-Adjusting Ambient Light Override compensates for changes in lighting requirements after override level has been set.
- Manual-ON/Automatic-OFF mode for installations where manual ON switching is required but automatic OFF switching is still desired for energy savings.
- LED indicator light flashes when sensor detects motion to verify detection is active.
- Unit beeps 3 times after delayed-OFF time expires, then waits 10 seconds before turning lights OFF.
- One unit can be used for either 120V or 277V lighting. Compatible with both electronic and magnetic ballasts.

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Product Specifications

ODS0D-TD

WIRING DIAGRAMS

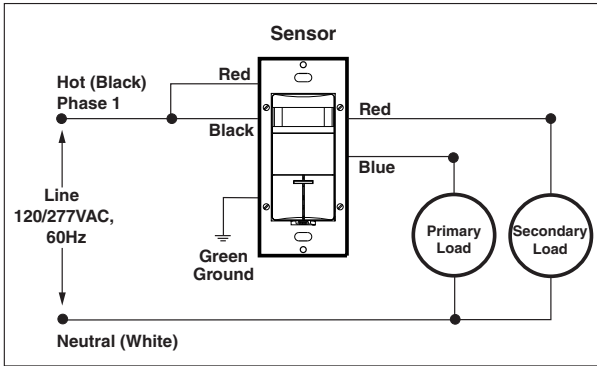


Diagram 1
Cat. No. ODS0D-TD Wiring Diagram for Single Pole Application—Single Phase

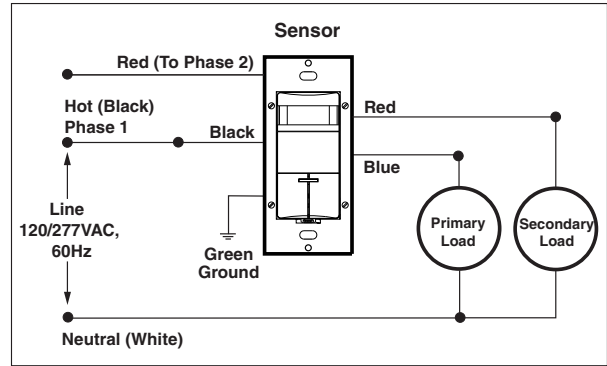


Diagram 2
Cat. No. ODS0D-TD Wiring Diagram for Single Pole Application—2 Phase

PHYSICAL SPECIFICATIONS

Operating Temperature Range 0°C to 50°C
Storage Temperature Range -10°C to 85°C
Relative Humidity 20% to 90% non-condensing

AGENCY APPROVALS

CUL/US Certified
Complies with California Title 24 Energy Code
Complies with FCC Regulations

ELECTRICAL REQUIREMENTS

Line Voltage	120/277 VAC	
Operational Frequency	60Hz	
Wire Designation	Primary Relay— No. 16 AWG leads: Line—Black Load—Blue Ground—Green	Secondary Relay— NO. 18 AWG isolated contact leads: (2) Red
Load Rating	Primary Relay— Fluorescent: 1200VA @ 120V 2700VA @ 277V Incandescent: 800W @ 120V 60Hz AC only	Secondary Relay— Fluorescent: 800VA @ 120V 1200VA @ 277V Incandescent: 800W @ 120V 60Hz AC only

ORDERING INFORMATION

Cat. No. Ivory	Cat. No. White	Cat. No. Gray	Cat. No. Almond	Cat. No. Light Almond	Description
ODS0D-TDI	ODS0D-TDW	ODS0D-TDG	ODS0D-TDA	ODS0D-TDT	CEC Title 24 Compliant Dual-Relay Decora Wall Switch Occupancy Sensor for 120/277 VAC applications

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Product Specifications

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FEATURES AND BENEFITS

- Primary relay switches at the zero crossing point of the AC power curve to ensure longer contact life and compatibility with electronic ballasts.
- Unit fits in standard single-gang wallbox and replaces two single-pole wall switches; ground connection required. Gangable with other devices.
- CUL/US Certified, complies with California Title 24 Energy Code and FCC Regulations.
- Limited Five-Year Warranty

Non-Adaptive Mode: In some installations, the Self-Adjusting Delayed-OFF Time and the 2-1/2 minute Walk-Through features may not be required. For example, shelving or office dividers may partially block the ODS0D-TD's line of sight to personnel in the certain areas. In this case, a longer delayed-OFF time would always be required and the Walk-Through feature would not be appropriate. Setting the unit for the "Non-Adaptive Mode" can disable these two features. Refer to the Instruction Sheet enclosed with the ODS0D-TD to set the device in the Non-Adaptive Mode.

Manual-ON/Auto-OFF Switching Mode: In this mode, the Primary load will never turn ON automatically when motion is detected. Lights can only be turned ON manually by pressing the push-buttons. The lights will remain ON as long as the unit detects activity in the sensor zones. The Secondary load is always manual-ON only mode.

The unit will shut lights OFF automatically after the space becomes unoccupied and the delayed-OFF time expires. Lights can also be turned OFF manually at any time by pressing the push-button. This mode is ideal for any area where manual ON switching is required but automatic OFF switching is desired for energy savings.

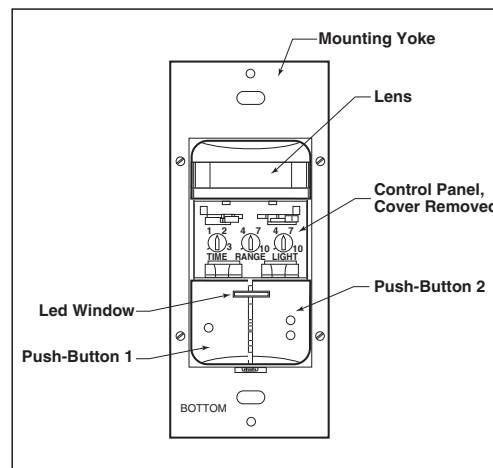
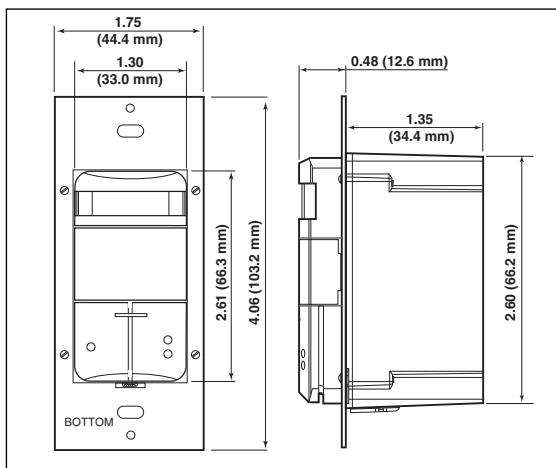
INSTALLATION:

The ODS0D-TD is designed to control two separate lighting loads (inner and outer banks of fluorescent lighting or separate banks of incandescent lighting) in the area it is monitoring. The photocell-controlled Ambient Light Override is an important energy-saving feature that should always be adjusted during the time of day when the ambient light is at a level where no additional lighting is required. Exclusive self-adjusting operating features will automatically compensate for real-time occupancy patterns to provide maximum convenience and energy savings.

The Cat. No. ODS0D-TD mounts in a standard single-gang wallbox and will replace 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 ODS0D-TD should be positioned at least 4 feet away from HVAC registers. Note that whenever the unit is powered up, it will take approximately 1 minute to begin normal operation.

DIMENSIONAL DIAGRAMS



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