



CONTRACTOR:	
PROJECT:	DATE:
PREPARED BY:	MODEL:

SPECIFICATION & FEATURES

Dual-Technology PIR/Ultrasonic Wall Switch Occupancy Sensor

This Multi-technology wall switch sensor combines advanced passive infrared (PIR) and ultrasonic technologies into one unit. The combined technologies help to avoid false triggering. Selectable operating modes allow the sensor to turn a load on, and hold it on as long as either or both technologies detect occupancy. After no movement is detected for the selected time delay, the lights switch off. A “walk-through” mode can turn lights off after only 3 minutes. If no activity is detected after 30 seconds following an occupancy detection. This sensor also contains a light level sensor. If adequate daylight is present, the sensor holds the load OFF until light levels drop, even if the area is occupied.

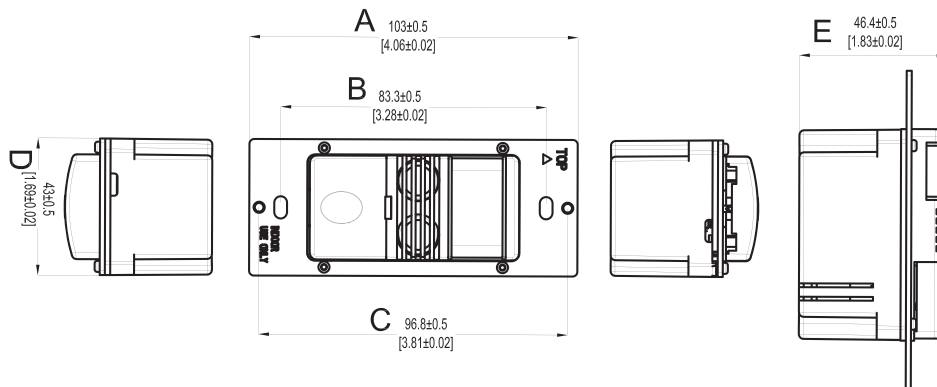


CERTIFICATIONS/WARRANTY

Warranty

Guaranteed for three years from the purchase date of the product, against mechanical defects in manufacturing.

LINE DRAWING



CONSTRUCTION

Finish

White

Sensor Technology

Passive Infrared/Ultrasonic

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SPECIFICATIONS

Voltage 120/277VAC, 50/60Hz	Tungsten 800W	Resistive 800W	Electronic Ballast 600VA-120VAC, 1385VA-277VAC, 50/60Hz
Motor 1/4HP	Operating Temperature 32° F--131° F	Adjustment Time Delay 15 sec. to 30 mins	Walk-Through Mode 3 minutes if no activity after 30 sec.
Test Mode 15 sec. at initial power up or DIP switch reset	PIR Adjustment High or Low (DIP switch)	Ultrasonic Adjustment Minimum to Maximum (trimpot)	Light Level Adjustment 100 Lux - daylight (trimpot)

LOAD REQUIREMENTS

Incandescent 800W - 120VAC	Fluorescent 800VA-120VAC, 1600VA- 277VAC, 50/60Hz	Motor 1/4HP-120VAC, 50/60Hz	LED 100W
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COVER PATTERN

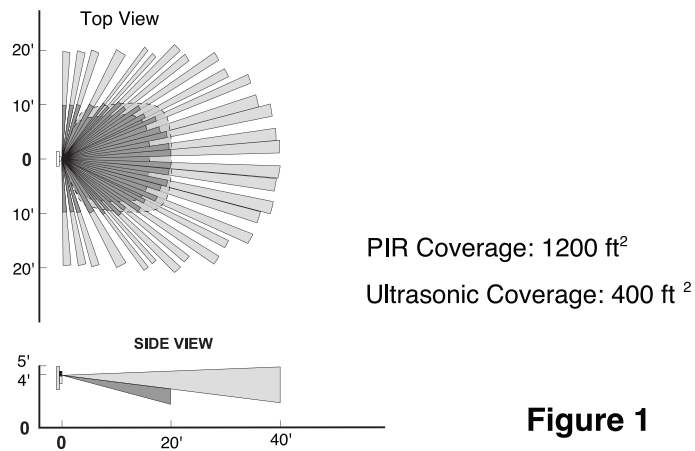


Figure 1

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INSTALLATION

1. Make sure that the power has been turned OFF at the circuit breaker.
2. Connect lead wires as WIRING DIAGRAM (see Figure 2): Black lead to Line (Hot), Red lead to Load wire, White lead to Neutral wire, Green lead to Ground.
3. Mount device "TOP" up.
4. Gently position wires in wall box, attach sensor switch to the box.
5. Restore power at circuit breaker or fuse, wait one minute.
6. Remove the small cover plate. (illustrated as Figure 3.)
7. Locate the adjustment trimpots on the control panel to perform test and adjustment. (illustrated as Figure 3 and 4.)
8. Replace the small cover plate after testing and adjustment.

Wiring Diagram:

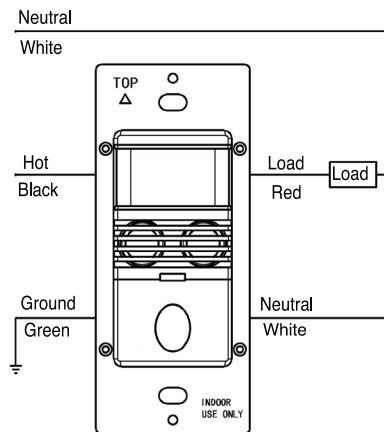


Figure 2

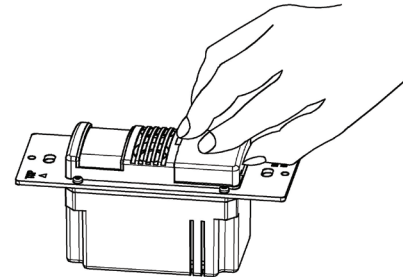


Figure 3

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MOUNTING

Ultrasonic Sensitivity Adjustment Trimpot

Default position: Center at 65%

Adjustable: 30% (Position 1) to 100% (Position 4) Note: Turn toward right for greater room space.

Turn toward left to avoid false alert in smaller room and near the door way or heat source.

Ambient Light Level Adjustment Trimpot

Default position: Daylight (100% at position 4) Adjustable: Daylight to 100Lux (Counter clockwise)

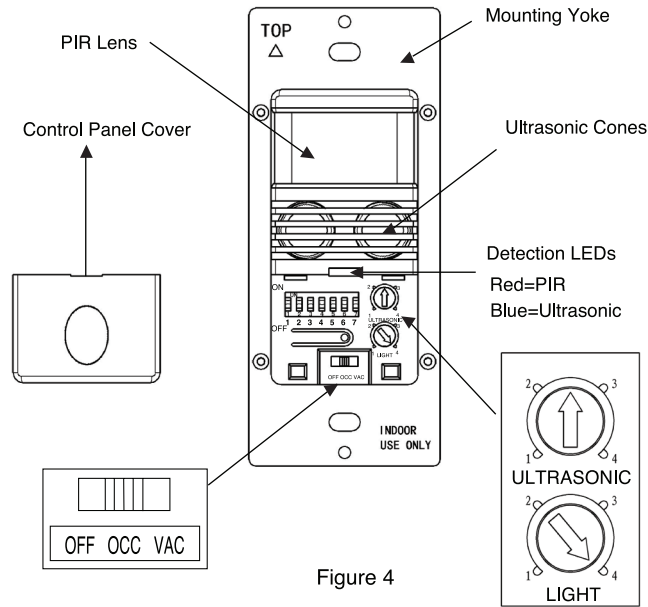


Figure 4

Band switch prescription.

Mode	Position	Description	React to the push-button
OFF	Left	Circuit is permanently opened. (switched off)	None
OCC	Center	Occupancy Mode: Automatic On, automatic Off after set time delay.	Manually toggles On / Off the load.
VAC	Right	Vacancy Mode: Manual On only, automatic Off after set time delay.	Manually toggles On/Off the load.

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DIP SWITCH SETTING

The VCDOSW-WH has 7 DIP switches under the cover. They are used to set sensitivity, time delay, trigger mode, walk through mode feature settings.

PIR Sensitivity setting: Switch 1

50%, sensor's coverage is smaller, just about half of the widest range. 100%, the maximum range of sensor's PIR coverage is 1200 square feet, see "coverage pattern".

Trigger Mode: Switches 2, 3

The sensor has 4 trigger options, set with DIP switches 2 and 3. In the trigger mode DIP switch setting table:

- Both:** Requires motion detection by the PIR and the Ultrasonic.
- Either:** Requires motion detection by only one technology.
- PIR:** Requires motion detection by the PIR.
- US:** Requires motion detection by the Ultrasonic.

Time Delay: Switches 4, 5, 6

The sensor will hold the lights on as long as occupancy is detected. The time delay countdown starts when no motion is detected. After no motion is detected for the length of the time delay, the sensor will turn the lights off.

Walk-through mode: Switch 7

Turns the lights off three minutes after the area is initially occupied, if no motion is detected after the first 30 seconds. If motion continues beyond the first 30 seconds, the selected time delay applies.

Trigger Mode	Trigger	Maintain Load Output	Re-trigger	2	3
Option 1	Both	Either	Either	↓	↓
Option 2	PIR	PIR	PIR	↓	↑
Option 3	US	US	US	↑	↓
Option 4	Both	Both	Both	↑	↑

PIR Sensitivity	1
50%	↓
100%	↑

Walk Through	7
Disabled	↓
Enabled	↑

Time Delay	4	5	6
15 Sec/Test	↓	↓	↓
1 Minute	↓	↑	↑
5 Minutes	↓	↑	↑
10 Minutes	↓	↑	↑
15 Minutes	↑	↓	↓
20 Minutes	↑	↓	↓
25 Minutes	↑	↑	↓
30 Minutes	↑	↑	↑

↓=OFF ↑=ON ◀=Factory Setting

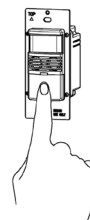


Figure 5

OPERATION

The Sensor Switch is programmed independently for either Occupancy Mode or Vacancy Mode as refer to the Band Switch position under the control panel cover. Some might call the Vacancy mode as "Manual On Occupancy Mode".

Manual On/Off Button

By Pushing the Control Panel Cover, the Load can be turned On/Off under either OCC or VAC mode. (illustrated as Figure 5)

Turning On the Load under Occupancy Mode

Load to be Automatic On once occupancy detected.

Turning On the Load under Vacancy Mode

Manual On/Off Button has to be pushed to turn On the Load.

Automatic Turning Off the Load

Under either mode, the Sensor keeps the Load On until no motion is detected plus the set time delay, load(s) to be Off automatically. Under VAC Mode, the Load can turn On automatically if motion detected within the first 3 minutes.

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OPERATION

Manual Turning Off the Load

By Manual On/Off Button, the Load can be turned Off under either OCC or VAC mode. Under OCC Mode, if you press manual On/Off button first, when set-time is more than 3 minutes, the sensor switch returns to normal after 3 minutes. However, when set-time is less than 3 minutes, the sensor switch returns to normal until set-time finished.

Note: Only when there is no motion is detected during the set-time period, the sensor switch returns to normal.

TROUBLESHOOTING

For proper operation, the Sensor Switch has to consume power from hot and **Neutral**. Therefore, a **Secured Neutral Wiring is required**.

Initial run

The Sensor Switch needs **initial run within one minute**. During the initial run, the load might be turned On and Off several times. The Time Delay Switch is default set on 15 seconds, do not adjust it until initial run is finished and proper operation function confirmed.

The Load is out of control (frequently flashing)

1. It can take up to one minute for initial run.
2. Check the wiring connections, especially the Neutral Wiring.

The Load does not turn On without LED flashing or LED flashing regardless of motion

1. Push Manual On/Off Button, if the load turns On, verify that Sensitive Range is on high. If the Load does not turn On, go to Step 2.
2. Check the wiring connections, especially Hot line and Neutral wiring.

The Load does not turn On while LED flashing with motion detected

1. Check to see if Ambient Light Level is enable by covering the lens by hand.
2. Push Manual On/Off Button, if the load turns On, verify that Sensitivity Range is on high. If the Load does not turn On, go to Step 3.
3. Check the wiring connections, especially Hot Line and Neutral wiring.

The Load does not turn Off

1. There can be up to a 30 minutes time delay after the last motion detected. To verify proper operation, turn the Time Delay Switch to 15s (Test Mode), make sure there is no motion (no LED flashing), the Load should turn Off in 15 seconds.
2. Check the wiring connections, especially the Neutral wiring to the sensor switch.

The Load turns On while no desired

1. Switch from OCC to VAC mode.
2. Reduce the Sensitivity Level to avoid false alert in smaller room and near the door way.

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ORDERING INFORMATION

Part Code	IMS Code
VCDOSW-WH	0320-3895

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