



# WALL SWITCH OCCUPANCY SENSOR

LINE VOLTAGE



**SENSORWORX®**

## OVERVIEW

The **SENSORWORX** family of wall switch occupancy sensors provides a simple yet cost effective lighting control solution for many retrofit applications. Designed with contractors in mind, the **SENSORWORX** wall switch sensor is significantly shallower than typical sensors, resulting in less crowded wall boxes. Additionally, versatile wiring enables usage with or without a neutral and allows reversal of line and load connections. **SENSORWORX** products utilize the latest passive infrared technology and digital signal processing techniques to provide unmatched motion detection performance. These units are also available with an integrated microphone to provide overlapping passive acoustic occupancy detection for rooms with obstructions or where occupant motion is limited.

## BASIC OPERATION

Sensors detect movement in the infrared energy that radiates from occupants as they move within the devices field-of-view. Once occupancy is identified, the sensor's internal relay switches power on to the connected lighting. Units can also be configured to operate in Vacancy Mode (e.g., require lights be manually switched on). Once lights are on and if equipped with passive dual technology (PIR/Acoustic), the unit's microphone is enabled to further enhance detection. An internal timer is set to keep lights on during brief periods of inactivity, and is reset every time occupancy is signaled by either the passive infrared or acoustic detection technologies. Ambient daylight detection can also be enabled in the unit so that lights are held off in rooms with sufficient light contribution from windows or skylights.

## SPECIFICATIONS

### ELECTRICAL

#### OPERATING VOLTAGE

120/277 VAC, 50/60 Hz

#### LOAD RATINGS

MAX: 1000W @ 120VAC

1200W @ 277VAC

MIN: None

#### LOAD TYPES

LED Driver

Electronic/Magnetic Ballasts

Incandescent

#### MOTOR LOAD

1/4 HP

### ENVIRONMENTAL

#### OPERATING TEMP

-10°F to 122°F (14°C to 50°C)

#### RELATIVE HUMIDITY

0-95% Non-Condensing,

Indoor Use Only

### PHYSICAL

#### SIZE

2.74"H x 1.68"W x 1.39"D

(6.96 x 4.27 x 3.53 cm)

Not Including Ground Strap

#### WEIGHT

4.5 oz.

#### MOUNTING

Single Gang Switch Box



## FEATURES

### ELECTRICAL FEATURES

- Interchangeable Line & Load Wires - Impossible to Wire Backwards
- Accommodates Neutral (3-wire) and No-Neutral (2-Wire) Installation
- Electronically Timed Switching Ensures Long Relay Life
- Compatible with LED, Fluorescent and Incandescent Lighting
- Meets NEC Guidelines Regarding Current Leakage

### PHYSICAL FEATURES

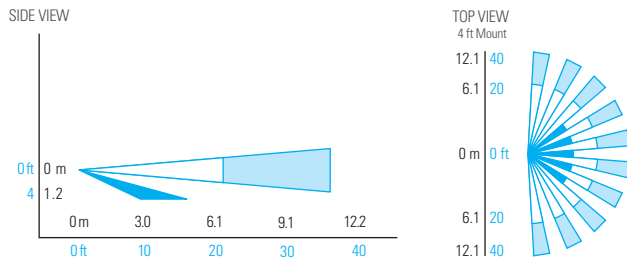
- Modern Look and Intuitive Easy-Tap Button
- Enclosure is 25-40% Shallower than Other Sensors (< 1" depth into wallbox)
- Self-Grounding Mounting Strap
- Rugged Vandal Resistant Lens
- Settings are Adjustable Without Removing Cover Plate

### OPERATIONAL FEATURES

- Wall-To-Wall Passive Infrared Small Motion Detection
- Passive Acoustic Detection (Optional) - Prevents False Offs when No Motion is Present
- 100% Passive Detection Methods - No Interference Potential from External Devices
- Unique Bat-Wing Shaped Lens Provides Enhanced Peripheral Detection
- Configurable Time Delays and Operating Modes

## COVERAGE PATTERNS

- 30" to 48' (0.76 - 1.22 m) recommended mounting height
- Wall to wall (~180 degree) coverage
- Small motion (e.g., hand movement) detection up to 20 ft (6.10 m), ~625 ft<sup>2</sup>
- Large motion (e.g., walking) detection greater than 36 ft (10.97 m), ~ 2025 ft<sup>2</sup>
- PIR coverage tested per WD 7-2011 standard
- Overlapping acoustic detection of occupants over entire coverage area
- Advanced signal processing filters out nuisance noises while not effecting overall sensitivity



## APPLICATIONS

A wall switch sensor is typically used to retrofit an existing wall switch in a small room or enclosed space. A Passive Infrared (PIR) only sensor is sufficient for spaces where line of site is maintained and occupants are periodically moving (e.g., copy rooms, storage rooms). Dual technology sensors are necessary where occupants may be partially blocked from the sensor's direct view or where they may be stationary (e.g., private offices or restrooms with stalls).

- Private Restrooms
- Small Meeting Room
- Storage Room
- Copy Rooms
- Small Office
- Break Room
- Restroom with Stalls
- Vestibule

### ✓ CODE COMPLIANCE

Wall Switch sensors can be used to meet many requirements of ASHRAE 90.1(2016), IECC (2015), and Title 24 (2016). In particular, Manual On (e.g., Vacancy) operation is prescribed for many building spaces.

## OPERATION SETTINGS

### TIME DELAY

- Test Mode, 30 sec., 5-30 min.

### AMBIENT LIGHT DETECTION

- Sensor holds lights off when ambient light is present.
- Setting Levels: Disabled, High, Medium, Low, Minimum.

### TURN-ON SENSITIVITY

- When enabled, this setting reduces the sensor's PIR sensitivity for initial turn-ons in order to eliminate false on caused by reflective surfaces like windows.
- Unit returns to full sensitivity after initial turn-on.

### OPERATIONAL MODES

**SENSORWORX** wall switch sensors are intelligent devices that provide both excellent energy savings and enhanced user convenience. Users can choose from several pre-programmed operational modes that best fit their preferences and applicable energy codes.

#### 1 Vacancy Mode

Manual On / Automatic Off operation. Lights can also be switched off manually. This mode provides increased energy savings but requires the user to initially turn on the lights. Models SWX-103, SWX-104, SWX-123, and SWX-124 default to Vacancy mode.

#### 2 Automatic On Mode

Automatic On and Automatic Off operation. If lights are switched off manually, the Automatic On functionality is temporarily disabled until the space becomes unoccupied. This mode is the default operation of SWX-101 and SWX-121 models and is perfect when occupants turn off the lights but remain in the room (i.e. for a presentation).

#### 3 Automatic On w/ Exit Time Mode

Automatic On and Automatic Off operation. If lights are switched off manually, the Automatic On functionality is disabled for a fixed 30 seconds to allow a person time to leave the room.

#### 4 Override Off Mode

Automatic On and Automatic Off operation until lights are switched off manually, at which point Automatic On functionality is disabled until the switch is pressed again.

#### 5 Disabled Switch Mode

Automatic On and Automatic Off operation only. Switch functionality to manually turn on/off lights is disabled.

## ORDERING INFO

SAMPLE MODEL # SWX-101-WH

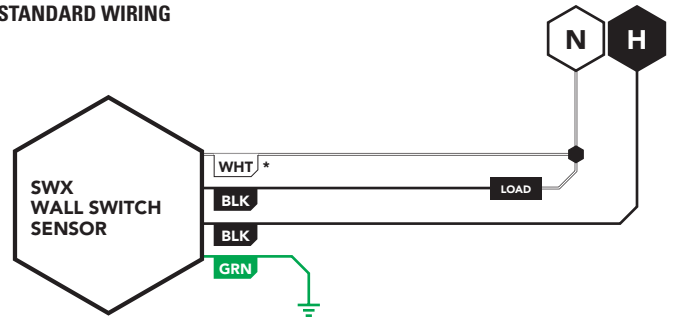
	PRODUCT		DETECTION		DEFAULT OPERATING MODE		COLOR*	
SWX	Wall Switch Sensor	1	Passive Infrared (PIR)	0	Auto On	1	White	WH
			Passive Dual Technology (PIR/Acoustic)	2	Manual On	3	Ivory	IV
					Vacancy Only	4	Light Almond	LA
							Gray	GR

\*Wall plate not included.

# WIRING

- Unit works in installations where Neutral connection is available as well as installations where only Ground connection is present.
- The unit's two black wires are interchangeable (i.e. one connects to line power, one connects to load).

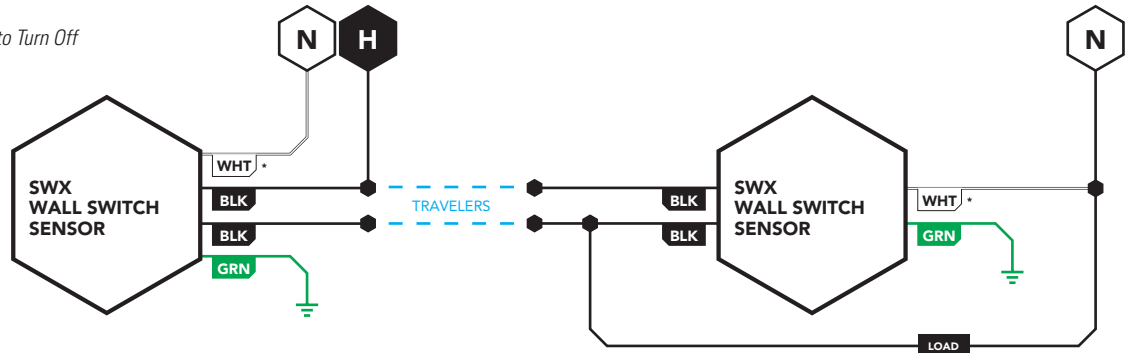
## STANDARD WIRING



## 3-WAY WIRING

### TWO SENSORS IN PARALLEL

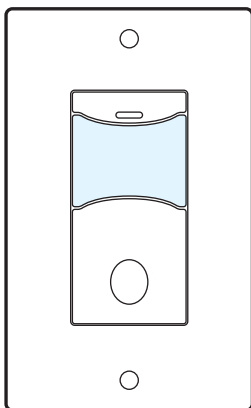
*Both Sensors Must Time Out for Lights to Turn Off*



# INSTALLATION

## FRONT

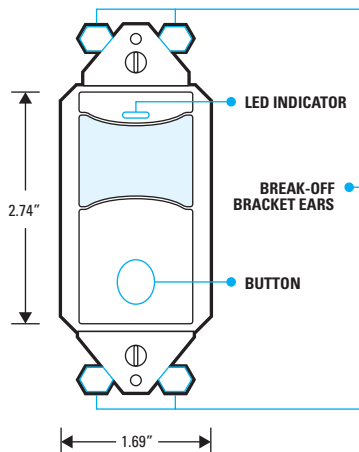
### FACEPLATE\*



\* FACEPLATE NOT INCLUDED.

\*\* SENSOR FACE IS FIELD REMOVABLE IN ORDER TO CHANGE COLORS. CONTACT FACTORY FOR ADDITIONAL FACES.

### SENSOR

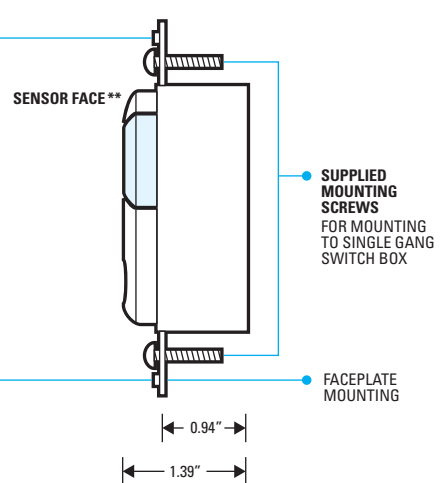


## SIDE

### FACEPLATE\*



### SENSOR



25-40% SHALLOWER THAN OTHER WALL SWITCH SENSORS

