Catalog Number: Date: Project:

SENSORWORX®

WIDE VIEW & HALLWAY OCCUPANCY SENSOR

LINE VOLTAGE

OVERVIEW

SENSORWORX® line voltage wide view and hallway occupancy sensors are self-contained lighting control solutions that mount to the wall, corner, or ceiling. Using an adjustable angled bracket and multi-position chase nipple, these sensors reduce contractor installation time and provide a secure and clean finished appearance. **SENSOR**WORX products utilize the latest passive infrared technology and digital signal processing techniques to provide unmatched detection performance. Additionally, these **SENSOR**WORX units are available with an integrated microphone to provide overlapping passive acoustic occupancy detection for rooms with obstructions or where occupant motion will be limited.

BASIC OPERATION

Sensors detect movement in the infrared energy that radiates from occupants as they move within the device's field-of-view. Once occupancy is identified, the sensor's internal relay switches power on to the connected lighting. If equipped with passive acoustic detection, the unit's microphone is then also enabled to further enhance detection while the lights are on. 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. Additionally, optional daylight detection is available that will turn off controlled lighting whenever there is sufficient ambient light in the space.

APPLICATIONS

Line voltage sensors are self-contained units that directly power from and switch 120/277 VAC. Typically, they are used to control areas where a single sensor's coverage area is sufficient for the entire space. Units can be parallel wired if necessary to increase coverage area for larger areas or longer hallways.

- Classrooms
- Open Areas
- Large Offices
- Conference Rooms
- Hallways

FEATURES

- **Digital Passive Infrared (PIR) Detection**
- **Passive Acoustic Detection (optional)**
- **Wide View (120°) or Hallway Coverage Pattern Options**
- **Compact Size and Matte Finish**
- **Convenient Test Mode and Adjustable Time Delays**
- **Electronically Timed Switching Designed for LED Fixture Control**
- **Optional Ambient Light Override (Photocell)**
- **Optional High/Low Dimming**

SPECIFICATIONS

ELECTRICAL

OPERATING VOLTAGE
MVOLT (120/277 VAC)
Single Phase

LOAD RATINGS
800W @ 120 VAC
1200W @ 277 VAC

LOAD TYPES
LED Driver/Lamps
CFL, Electronic/Magnetic Ballests (Fluorescent)
Tungston (Incandescent)

DIMMING CAPACITY (-HL OPTION)
50mA

DIMMING COMPATIBILITY
Requires Units with -HL Option
0-10 VDC Drivers or Ballasts
Compliant with IEC 60929 Annex E.2

ENVIRONMENTAL

OPERATING TEMP
32° to 122°F (0° to 50°C) - Standard
-40° F/C (with **-HE** option)

RELATIVE HUMIDITY
0-95% Non-Condensing, Indoor Use Only

PHYSICAL

SIZE
2.875" H x 2.75" W x 3.25"D
(7.30 x 6.98 x 8.25 cm)

WEIGHT
4.75 oz.

COLOR
White or Black

OPERATION

TIME DELAYS
30 sec to 30 min
10 minute default

TEST MODE
5 sec

CODE COMPLIANCE

Sensors can be used to meet ASHRAE 90.1, IECC, & Title 24 energy code requirements

OTHER

LISTINGS
UL/CUL

MADE IN THE USA · BUILD AMERICA BUY AMERICA · TAA COMPLIANT · BAA COMPLIANT · LEAD FREE RoHS COMPLIANT · c UL US LISTED

COVERAGE PATTERNS

WIDE VIEW 120° - PASSIVE INFRARED

- Designed for 8 to 12 ft (2.44 to 3.66 m) high mounting
- Small motion (e.g. hand movements) detection up to 40 ft (12.19 m)
- Large motion (e.g. walking) detection up to 70 ft (21.34 m)
- For hallway applications, install two units (parallel wired) facing each other from hall ends or back to back from center of hall

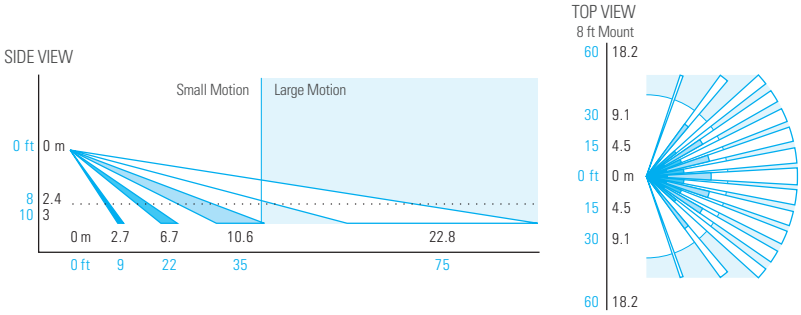
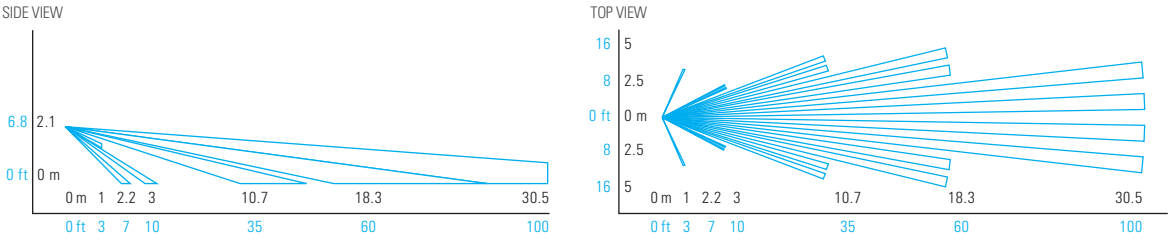


Diagram reflects sensor in first position. Adjust angle downward if mounting above 10 feet or to decrease gap directly under sensor.

HALLWAY (LONG RANGE) - PASSIVE INFRARED

- Designed for 8 to 12 ft (2.44 to 3.66 m) high mounting
- Large motion (e.g. walking) detection up to 100 ft (30.48 m)
- Detection occurs sooner when crossing coverage beams upon entry to a hallway as opposed to entering from the end and walking directly at the sensor



DUAL TECHNOLOGY (PIR/ACOUSTIC)

- Units with dual technology (**SWX-421-2** and **SWX-422-2)** have overlapping acoustic detection of the complete PIR coverage area
- A PIR event is required to initially enable acoustic detection
- Sounds indicating occupancy reset the sensor's time delay while non-occupant noises are filtered out
- Occupant sounds alone will not keep lights on indefinitely, PIR motion must be periodically detected for lights to remain on for an extended time
- After sensor time out expires, acoustic detection remains enabled for 10 seconds to enable voice reactivation of lights for additional convenience and safety

AMBIENT LIGHT OVERRIDE (PHOTOCELL)OPERATION

Sensors with an integrated photocell will turn lights on/off depending on the amount of ambient light detected. This operation makes them ideal for lighting near skylights or windows.

HIGH/LOW DIMMING (0-10V) OPERATION

By default, this option dims lighting to a lower level when the occupancy time delay expires. When occupancy is detected, lights are raised to their full bright level. This operation makes them ideal for stairwell and hallway lighting where lighting commonly is never switched entirely off. High/Low/Off operation can also be achieved by changing the dimming operation via the unit's push-button settings. In that mode lighting would drop to the dimmed level first before switching entirely off after a secondary time delay period.

ORDERING INFO

SAMPLE MODEL # SWX-421-2

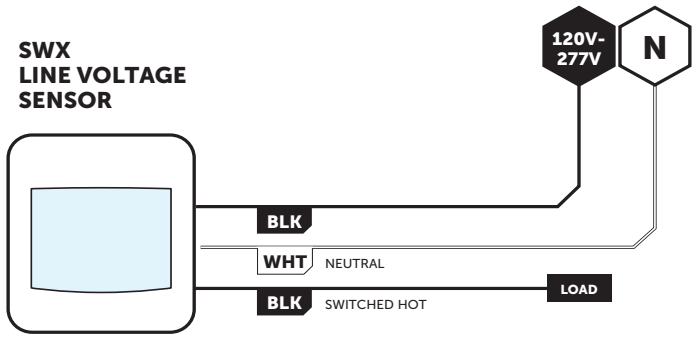
	PRODUCT		DETECTION		COVERAGE		VOLTAGE		OTHER OPTIONS	
SWX	Corner/Wall Mount	**4**	PIR	**0**	120° Wide View	**1**	MVOLT (120/277 VAC)	**- 2**	Humid Environment	**-HE**
			PIR + Daylight	**1**	Hallway*	**2***			High/Low Dimming Operation	**-HL[2]**
			Dual Tech (PIR + Acoustic)	**2[1]**					Black Cover & Lens	**-BK[3]**
			Dual Tech + Daylight (PIR + Acoustic + Daylight)	**3[1]**						

Note 1: Dual Tech detection options not available for units with the Hallway coverage option.
Note 2: Available for PIR only versions.
Note 3: Not available on units with photocells.

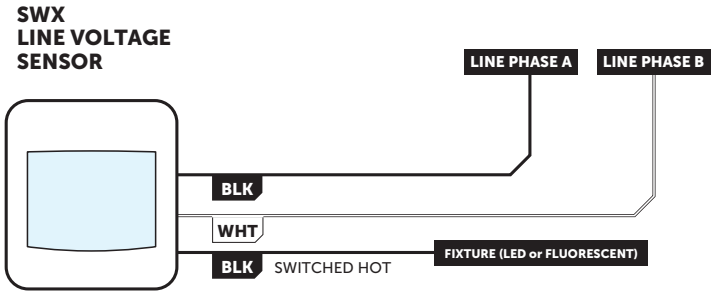
WIRING

- Sensors can be wired in parallel, although the total switching load specification remains the same as it is for one sensor.
- When wired in parallel, both sensors must time out for connected lighting to turn off.
- If wiring in an additional toggle switch for override off control, connect between the sensor and the load.
- For supply connections, use wires rated for at least 75°C or equivalent.

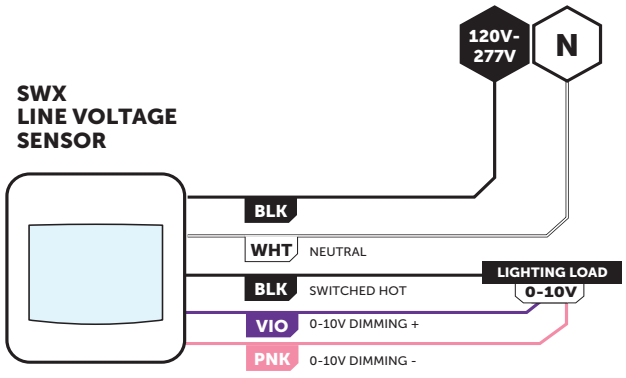
SINGLE PHASE WIRING



2-PHASE WIRING (208 VAC)



HIGH/LOW/(OFF) WIRING



** Default operation is High/Low only, but High/Low/Off can be achieved via a setting change (see instructions).

WARNING: TURN POWER OFF AT THE CIRCUIT BREAKER BEFORE WIRING

INSTALLATION OPTIONS

MOUNTING INSTRUCTIONS

1a. Mount bracket directly to a junction box using included chase nipple and plastic flange nut or,

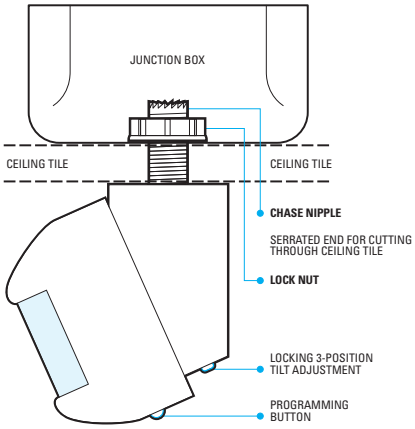
1b. If ceiling tiles are present, use serrated end of chase nipple to cut hole in tile. Then mount junction box above ceiling tile so that a 1/2 knockout aligns with hole in tile. See diagram below.

2. Align latches at top of sensor to slots on bracket. Thread sensor wires through chase nipple and terminate inside junction box.

3. Push in bottom of sensor until bottom locking adjustment engages.

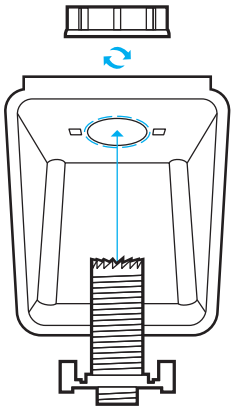
4. To adjust sensor angle, depress locking adjustment and slide sensor to desired position.

SENSOR & MOUNTING BRACKET THROUGH CEILING TILE TO JUNCTION BOX



ADDITIONAL MOUNTING DIAGRAMS

TOP INSTALLATION



REAR INSTALLATION