

## Ultrasonic Wall Switch Occupancy Sensor – Dual Circuit Commercial Grade with Neutral—SLSUWD1277N

Retain for Future Use

### INTRODUCTION

The Ultrasonic Dual Circuit Wall Switch Occupancy Sensor provides automatic control of lighting by detecting motion and ambient light within the detection area.

### Features

**Figure 1: Ultrasonic Wall Switch Occupancy Sensor**

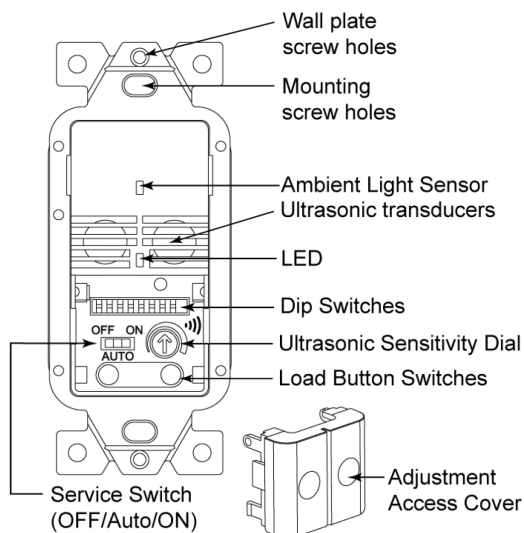


Sensor features include:

- 180° motion detection using ultrasonic (US) technology.
- Ultrasonic transducers to provide high resolution for detecting major and minor motion.
- Advanced logic enhances energy savings and user convenience.
- Two convenient pushbuttons for manual control.
- Automatic adaptive technology adjusts the time delay for maximum energy savings.
- Automatic 15 second test mode.
- Service Switch (OFF/Auto/ON).
- Audible alert 10 seconds before sensor turns loads OFF.
- Advanced Lamp Saver mode extends the lamp life in 50/50 bi-level lighting applications.
- Selectable auto/manual on relays.

### Before You Begin

**Figure 2: Description – Ultrasonic Wall Switch Occupancy Sensor**



**Table 1: Contents of the Box**

Item	Quantity
Sensor: SLSUWD1277NX*	1
Decorator Wall Plate	1
Mounting screws (captive to sensor unit)	2
Wall plate screws	2
Instruction bulletin	1
Accessories (purchased separately)	Part Number
2 Gang cover plate (blank)	SLSWP2DBX*
2 Gang cover plate (toggle switch)	SLSWP2DTX*
Buttonless Adjustment Access Cover (package of five)	SLSBCX*

\*X=colors available: W=white, I=ivory, G=gray, L=light almond, B=black

**STANDARDS AND SPECIFICATIONS**

<b>Standards</b>	UL and cUL Listed
	FCC part 15 for Home and Office Use (Class B)
<b>Specifications</b>	
Input:	120 or 277Vac +/-10% 50/60Hz
Output:	120Vac - 1000W max. tungsten incandescent load - 1000VA max. ballast load - 1/4 hp max. motor load 277Vac - 1800 VA max. ballast load No minimum load required
Temperature:	32 to 122°F (0 to 50°C)
Humidity:	0% to 90% RH non-condensing
Time delay adjustment:	
Initial Minimum:	5, 10, 15, or 30 minutes
Walk through mode:	2 minutes if no activity is detected after 30 seconds
Test mode:	15 seconds
Auto Light Level Range :	0.5 to 250 footcandles (FC)
Audible alert:	Selectable
Service Switch:	OFF/Auto/ON
Manual operation:	Pushbutton ON/OFF
Ultrasonic Transducer:	40KHz
Relay Switching:	0° +/- 500uS
Physical dimensions of Unit as illustrated under "Contents of the Box" section (H x W x D):	4.1 x 1.7 x 1.9in. (104 x 44 x 49mm)

**CLASS B FCC STATEMENT**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this device that are not expressly approved by Schneider Electric could void the user's authority to operate this equipment.

## SAFETY PRECAUTIONS

This section contains important safety precautions that must be followed before attempting to install or maintain electrical equipment. Carefully read and follow the safety precautions below.

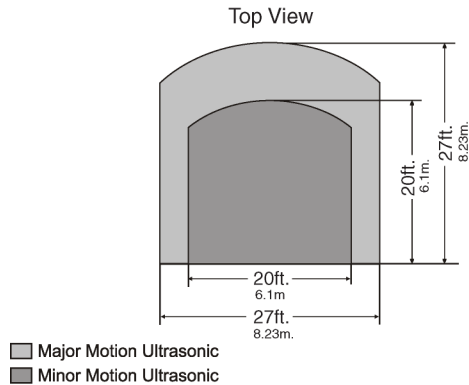
### **⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must be installed and serviced by qualified electrical personnel.
- Turn off all electrical power supplying this equipment before working on or inside the equipment.
- Always use a properly rated voltage sensing device to confirm that power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.

**Failure to follow these instructions will result in death or serious injury.**

## LOCATION AND COVERAGE AREA



*NOTE: Coverage area may vary depending upon the shape, size, and absorbent properties of the room.*

## INSTALLING THE SENSOR

*NOTE: The unit conforms to NEMA WD 6 specifications.*

To install the sensor:

1. Observe national and local electrical codes when installing the sensor.
2. Turn off power at the circuit breaker. Always use a properly rated voltage sensing device to confirm power is off.
3. Remove existing switch, if applicable.

*NOTE: Leave sensor dip switches in the factory default positions until sensor is installed. Refer to the "Setting the Dip Switches" section for correct positions.*

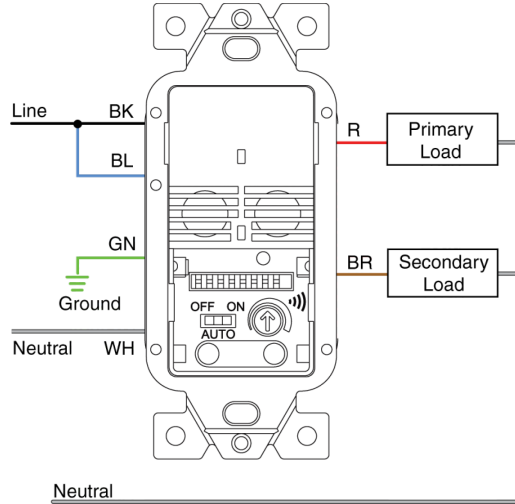
4. Wire the sensor according to the "Wiring Diagram" illustration.
5. Use one of the two methods described below to connect the ground wire (green) to a ground point.
  - screw the ground wire directly to a metal wall box using the captive screw provided on the wire.
  - cut off the lug/screw combination and connect to a ground wire using a wire nut or other approved method.

*NOTE: The neutral and ground wires must be securely connected for proper operation.*

6. Position the wires into the wall box and mount the sensor.
7. Secure the sensor to the box with the two longer mounting screws provided.
8. Attach the wall plate with the two short screws provided.
9. Turn on power at the circuit breaker. Wait three minutes for the sensor to properly initialize.

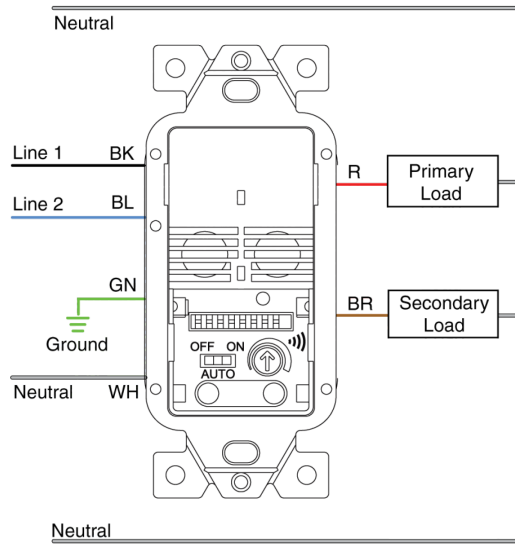
**Wiring Diagrams**

**Figure 3: Bi-level Wiring**



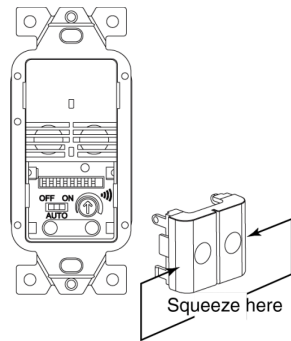
*NOTE: Observe Wiring Polarity*

**Figure 4: Dual Circuit Wiring**



**ADJUSTING THE SETTINGS**

**Figure 5: Removing the Button Cover**



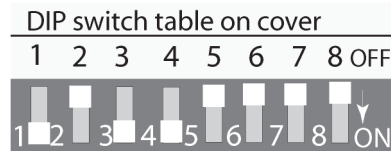
Before making adjustments, squeeze the sides of the access cover together and gently pull away from the sensor to remove the cover. The cover is located below the sensor LED.

Replace the cover when adjustments are complete.

*NOTE: The optional buttonless adjustment access cover (purchased separately) prevents access to adjustment settings. This cover cannot be removed when the wall plate is attached.*

**Setting the Dip Switches**

**Figure 6: Dip Switches**



NOTE: Dip switches are set to the factory default.

**Dip Switch Settings**

**Table 2: Dip Switch Sensor Functionality**

Dip Switch	Functionality	Description	Position	
			ON	OFF
1	Time Delay	Assigns an initial minimum duration to the length of time the loads stay on when occupancy is not detected. Automatic adaptive adjustment begins from this setting. Refer to the "Setting the Minimum Time Delay" section.	—	—
2			—	—
3	Not used	Not used	—	—
4	Audible Alert	The sensor beeps to indicate the load will turn off in ten seconds.	Enabled*	Disabled
5	Walk Through	The sensor turns the load OFF two minutes after occupancy detection if no motion is detected after the first 30 seconds. The normal time delay applies if motion is detected after 30 seconds. <i>NOTE: Walk through mode is only effective for the time delay settings greater than two minutes.</i>	Enabled	Disabled*
6	Not used	—	—	—
7	Auto Light Level	When the dip switch is set in the On position, the sensor is in automatic light level mode. When the dip switch is set to the Off position, ambient light level mode function is disabled. <i>Note: At least one of the Relays must be set to automatic on mode.</i>	Enabled	Disabled*
8	Lamp Saver	The Lamp Saver is used for 50/50 bi-level lighting applications. When enabled, only one load turns ON automatically. The other load remains OFF unless light level drops below set point. The load that turns ON alternates each time the lights turn ON. If additional lighting is required the other relay maybe turned on manually. <i>Note: Both of the relays must be set to Automatic ON mode and Auto Light Level must be enabled.</i>	Enabled	Disabled*

\* Default Setting

### Setting the Minimum Time Delay

To preserve lamp life and save energy, use the table below to select the time that most closely matches the usage pattern within an area.

**Table 3: Minimum Time Delay Duration Values**

Time Delay	Dip Switch 1	Dip Switch 2
5 minutes	OFF	OFF
10 minutes*	ON	OFF
15 minutes	OFF	ON
30 minutes	ON	ON

\*Default settings.

The sensor's automatic adaptive adjustment begins at the minimum time set using the dip switches. The time delay is never adjusted to less than the selected time.

### Sensitivity Adjustment

The sensor's sensitivity is adjustable from 10% to 100% of maximum coverage to increase or decrease the distance and movement required to trigger the sensor. Turning the adjustment dial fully counter-clockwise selects the minimum coverage sensitivity. Turning the adjustment pot fully clockwise selects the maximum coverage sensitivity. The factory default setting is the maximum coverage position (100%).

### Automatic Light Level Setup

The Automatic Light Level setup feature simplifies sensor's light level threshold setup for faster, easier installation. When dip switch #7 is turned to the On position (DOWN) the sensor reads and stores the light level in the area automatically. The saved light level setting becomes the threshold the sensor uses for day light harvesting.

Follow these steps to automatically set up the light level

1. Move dip switch #7 to ON (DOWN) to start the automatic light level setup process.
2. Verify that the following automatic process occurs.
  - o The sensor will turn on the load, ignoring any occupancy detections.
  - o The sensor will sit idle for 30 seconds while flashing the green LED.

*NOTE: The 30 seconds allows time to move away from the sensor preventing shadowing or ambient light interference. During this period the lights will remain on.*

- o After the 30 seconds expires, the sensor will take a measurement of the light level in the area with the lighting on.
- o The sensor will save the light level measurement into memory. From this point forward this saved light level reading is the light level threshold for the sensor.
- o The green LED flashes rapidly for 3 seconds to confirm the sensor has stored the new light level.
- o Once the light level threshold is saved the setup process is complete. The sensor will return to its previous operating mode.

To turn off the automatic light level feature, turn dip switch #7 to OFF (UP).

### Resetting the Light Level

To reset the light level threshold, Toggle dip switch #7 from OFF (UP) to ON (DOWN). This will force the sensor to receive and store a new light level reading.

**Setting the Service Switch**

The service switch is used to bypass normal sensor operation. The sensor only responds to user occupancy when the service switch is set to AUTO.

**Table 4: Service Switch Settings**

Setting	Description
OFF	Load is forced OFF.
AUTO	The Sensor operates according to the selected settings.
ON	Load is forced ON.

**OPERATING THE SENSOR**

**Table 5: Sensor Operation Settings**

Setting	Description
Pushbutton	<p>Push the front pushbutton to turn the lights ON and OFF.</p> <p>Follow the steps below to change the relay from automatic on to manual on mode</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Press and hold the left or right push button for 3 seconds to change the relay from Automatic ON to Manual ON mode. The sensor will beep 3 times to confirm Manual ON is enabled.</li> <li><input type="checkbox"/> Press and hold the button again for 3 seconds to change is back to Automatic ON mode. The sensor will beep 2 times to confirm Automatic ON is enabled.</li> </ul> <p>Both relays are Factory preset to automatic on.</p>
Automatic ON Mode	<ul style="list-style-type: none"> <li><input type="checkbox"/> Load turns ON automatically when occupancy is detected. The load automatically turns OFF after the assigned time duration lapses, and no occupancy is detected.</li> <li><input type="checkbox"/> If a pushbutton is used to turn the load OFF manually, the load will stay off as long as motion is being detected. The Automatic ON setting is restored after 5 minutes when the sensor is clear of motion and time out.</li> </ul>
Manual ON Mode	<ul style="list-style-type: none"> <li><input type="checkbox"/> The load does not turn ON automatically. Press the left or right pushbutton to turn the primary or secondary load ON when entering the room. Loads automatically turns OFF after the assigned time delay lapses, and no occupancy is detected.</li> <li><input type="checkbox"/> There is a 30 second grace period after the load automatically turns OFF. Load turns ON automatically if motion is detected during this time.</li> </ul>
Test Modes	<p>Test mode is a temporary setting used to test the coverage area. Follow the instructions below to activate test mode.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Press and hold either pushbutton for 7 seconds. An audible beep indicates test mode is enabled.</li> <li><input type="checkbox"/> The Sensor automatically turns OFF after no movement is detected for 15 seconds while in test mode. Movement detected in the coverage area triggers the sensor.</li> <li><input type="checkbox"/> Press the pushbutton to exit test mode.</li> </ul> <p><i>NOTE: Test mode deactivates after 30 minutes if the pushbutton is not pressed.</i></p>
LED Detection	The motion detection LED blinks when occupancy is detected.

**TROUBLESHOOTING**

**Table 6: Troubleshooting the Sensor**

<b>Issue</b>	<b>Solution</b>
No sensor functionality. The LED and loads do not turn ON.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Verify the sensor has power.</li> <li><input type="checkbox"/> Wait three minutes after power is restored.</li> <li><input type="checkbox"/> Check the wiring connections. Verify that the wiring connections are made according to the wiring diagrams. Refer to the Installation section.</li> <li><input type="checkbox"/> Confirm the service switch is not set to OFF.</li> <li><input type="checkbox"/> Press the pushbutton to manually turn the load ON.</li> <li><input type="checkbox"/> If LED and load does not turn ON, contact technical support. See the Support and Service section.</li> </ul>
Load does not automatically turn ON when motion is detected.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm the service switch is set to AUTO.</li> <li><input type="checkbox"/> Press both the right and left pushbutton to verify correct manual operation.</li> <li><input type="checkbox"/> Confirm relays are in automatic on mode. Refer to the sensor operation section.</li> <li><input type="checkbox"/> Confirm auto light level was set up correctly or set dip switch #7 to the off position. Refer to the Automatic Light Level section.</li> </ul>
Load does not turn OFF.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Check the minimum time delay duration value assigned to the sensor. Load can be ON up to 30 minutes.</li> <li><input type="checkbox"/> Confirm relays are in automatic on mode. Refer to the sensor operation section.</li> <li><input type="checkbox"/> Confirm the sensor is mounted at least 6 ft. (2 m.) away from any ventilation devices or heat sources that may cause false motion detection.</li> <li><input type="checkbox"/> Confirm the coverage area does not extend to unintended areas such as a hallway.</li> <li><input type="checkbox"/> Follow the instructions in the Sensor Operation: Test Mode section to confirm functionality.</li> </ul>

**CUSTOMER SERVICE AND SUPPORT**

Contact the Customer Information Center for technical support by phone at 1-888-778-2733 or e-mail at [lightingcontrol.support@us.schneider-electric.com](mailto:lightingcontrol.support@us.schneider-electric.com).

Contact your local Schneider Electric service representative for repairs or service to your network.

You may also find helpful information on our web site at [www.Schneider-Electric.us](http://www.Schneider-Electric.us).