

Dual Technology Dual Circuit Wall Switch Occupancy Sensor

Commercial Grade SLSDWD1277U

INTRODUCTION



The Dual Technology Dual Circuit Wall Switch Occupancy Sensor provides automatic control of two separate loads by detecting motion and ambient light within the detection area. Sensor features include:

- Two separate relay circuits for independently switching two loads (typically lighting loads) ON or OFF.
- 180° motion detection using passive infrared (PIR) and ultrasonic technology.
- Superior lens design and 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.

Contents of the Box

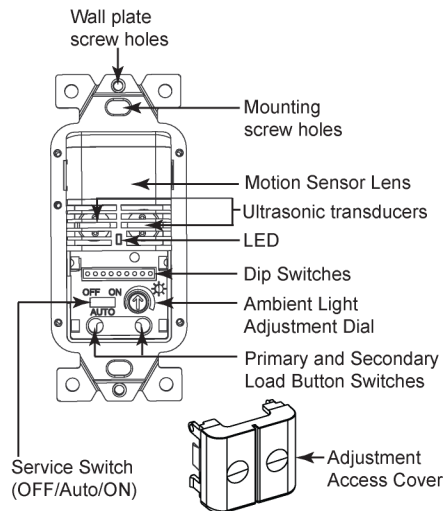


Table 1: Contents of the Box

Item	Quantity
Sensor: SLSDWD1277UX*	1
Decorator Wall Plate	1
Mounting screws (captive to sensor unit)	2
Wall plate screws	2
Masking strips	1 sheet
Instruction bulletin	1
Accessories (purchased separately)	
2 Gang cover plate (blank)	SLSWP2DBX*
2 Gang cover plate (toggle switch)	SLSWP2DTX*
Buttonless Adjustment Access Cover (package of five)	SLSBCX*

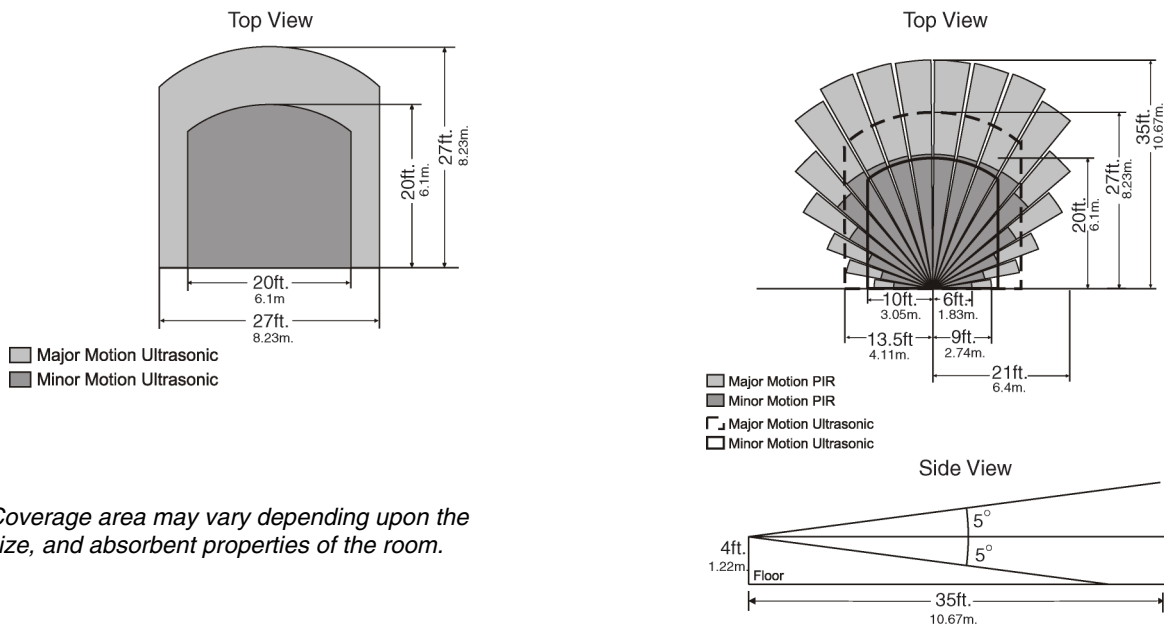
*X=colors available: (W=white, I=ivory, G=gray, L=light almond, B=black)

Standards and Specifications

Table 2: Sensor Standards and Specifications

Standards	UL and cUL Listed
	FCC part 15 for Home and Office Use (Class B)
Specifications	
Input:	120–277Vac +/-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
Light level adjustment:	0.5 to 250 footcandles (FC)
Detection:	180° passive infrared (PIR)
Audible alert:	Selectable
Service Switch:	OFF/Auto/ON
Manual operation:	Pushbutton ON/OFF
Lens:	Impact resistant
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)

LOCATION AND COVERAGE AREA



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

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.

INSTALLATION

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.

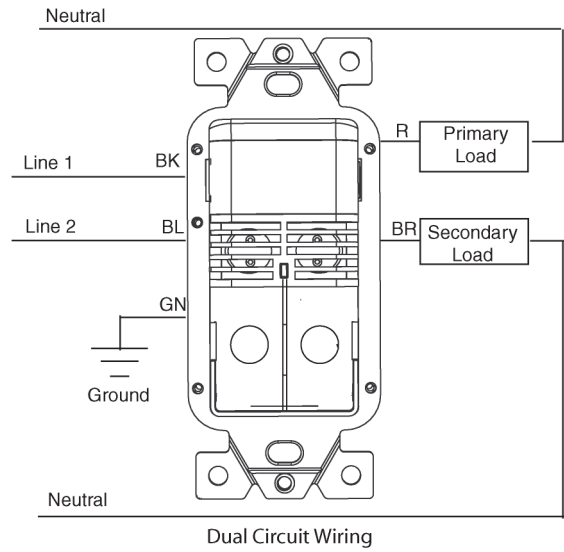
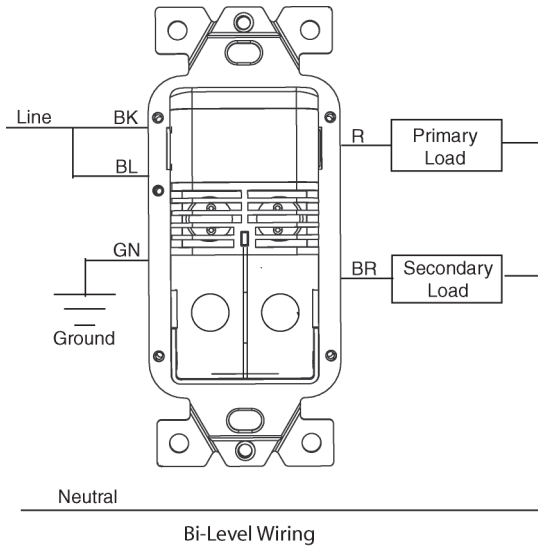
NOTE: Leave sensor dip switches in the factory default positions until sensor is installed. Refer to the "Setting the Dip Switches" section for correct positions.

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 ground wire must be securely connected to the ground 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

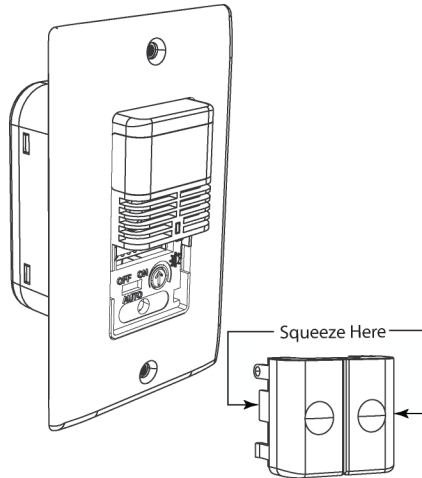


ADJUSTING THE SETTINGS

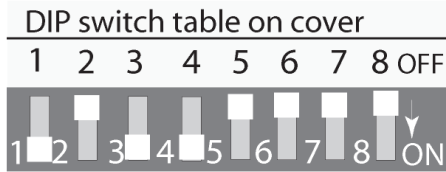
Before making adjustments, squeeze the sides of the access cover together and gently pull away from the sensor to remove the cover. The cover is located below the sensor LED.

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



Dip Switches are set to the factory default.

Table 3: 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	Time Delay		—	—
3	Activation	Loads are turned on either automatically by detecting occupancy, or manually by the user pressing the wall switch.	Auto ON*	Manual ON
4	Audible Alert	The sensor beeps to indicate loads will turn off in 10 seconds.	Enabled*	Disabled
5	Walk Through	Sensor turns load OFF 2 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.	Enabled	Disabled*
6	Reduced PIR Sensitivity	Motion sensors initially detect occupancy at a low range (about 60%). In the low position, detection always remains at 60%. In the auto position, detection increases to 100% after an initial detection	Low	Auto*
7	Reduced Ultrasonic Sensitivity	Motion sensors initially detect occupancy at a low range (about 60%). In the low position, detection always remains at 60%. In the auto position, detection increases to 100% after an initial detection	Low	Auto*
8	Lamp Saver	The Lamp Saver is used for 50/50 bi-level lighting applications. When enabled, only one load turns ON automatically. The load that turns ON alternates each time the lights turn ON. To use lamp saver, Auto ON (dip switch 3) must be enabled. Also, the light level adjustment must be set to Manual ON, or have an adjustment dial setting lower than the room's ambient light level (see Table 5).	Enabled	Disabled*

*Default settings.

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 4: 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

*Factory default setting.

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.

Light Level Adjustment (automatic mode only)

The Sensor contains a light sensor that controls the secondary load based on the ambient light level, and the setting of the ambient light adjustment dial.

To select an ambient light level to turn the secondary load ON:

1. Use a 1/8-inch flat-blade screwdriver to turn the ambient light adjustment dial.
2. Use the adjustment dial to set the operation of the secondary load to one of the modes described in the table below.

Table 5: Setting the Light Level Adjustment

Mode	Adjustment Dial Setting	Functionality
Manual ON operation (factory default)	Fully counterclockwise	The secondary load does not turn ON in response to the ambient light level, or when a user enters the room.
Automatic ambient light level operation	Manually set between fully counterclockwise and clockwise.	From the full counterclockwise position, slowly rotate the dial while also making sufficient movement to trigger the sensor. Stop when the secondary load turns ON. When the area is occupied, the secondary load turns ON when the ambient light level is below the set level. To prevent cycling, the secondary load does not turn OFF when the light level rises.
Automatic ON operation	Fully clockwise	Turn the adjustment dial fully clockwise. The secondary load ignores the ambient light level, and always turns ON when a user enters the room.

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 6: Service Switch Settings

OFF	Loads are forced OFF.
AUTO	The Sensor operates according to the selected settings.
ON	Loads are forced ON.

OPERATION

Table 7: Sensor Operation

Feature	Description
Pushbutton	Press the left and right pushbuttons to toggle the primary and secondary loads ON and OFF.
Automatic ON Mode	<p>Loads turn ON automatically when occupancy is detected. Loads automatically turn OFF after the assigned time delay lapses, and no occupancy is detected.</p> <p>Sensors initially detect occupancy at a low range (about 60%). Detection increases to 100% after the initial detection.</p> <p>If the pushbutton is used to turn loads OFF manually, automatic ON operation is restored when no motion is detected for 5 minutes.</p> <p>Automatic ON Mode is set using the third Dip Switch.</p>
Manual ON Mode	<p>Loads do not turn ON automatically. Press the left or right pushbutton to turn the primary or secondary load ON when entering the room. Loads automatically turn OFF after the assigned time delay lapses, and no occupancy is detected.</p> <p>There is a 30 second grace period after loads automatically turn OFF. Loads turn ON automatically if motion is detected during this time.</p> <p>Manual ON Mode is set using the third Dip Switch.</p>
Test Mode	<p>Test mode is a temporary setting used to test the coverage area. Follow the instructions below to activate test mode.</p> <p>Press and hold the pushbutton on the front of the sensor for five seconds. An audible beep indicates test mode is enabled.</p> <p>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.</p> <p>Press a pushbutton to exit test mode. NOTE: Test mode deactivates after 30 minutes if a pushbutton is not pressed.</p>
LED Detection	The motion detection LED blinks when occupancy is detected. Red = PIR and Green = Ultrasonic

TROUBLESHOOTING

Table 8: Troubleshooting the Sensor

Issue	Solution
No Sensor functionality. The LED and loads do not turn ON.	Verify the Sensor has power. Wait three minutes after power is restored. Check the wiring connections, including the ground connection. Confirm no connections are mis-wired. Refer to the Installation section. Press the pushbutton to manually turn loads ON. If LED and loads do not turn ON, call the Technical Support phone number on the back cover of this Instruction Bulletin.
Loads do not automatically turn ON when motion is detected.	Confirm the service switch is set to AUTO. Press both the right and left pushbutton to verify correct manual operation. Confirm dip switch 3 is set to the Auto ON position. Confirm the ambient light adjustment dial is correctly set. Refer to the Light Level Adjustment section.
Loads do not turn OFF.	Check the minimum time delay duration value assigned to the sensor. Loads can be ON up to 30 minutes. Confirm the service switch is set to AUTO. 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. Confirm the coverage area does not extend to unintended areas such as a hallway. Apply the masking strips to the motion sensor lens to reduce the coverage area. Follow the instructions in the Sensor Operation: Test Mode table section to confirm functionality.