

UW-100/UW-100-347/UW-200 **Ultrasonic Wall Switch** **Occupancy Sensor**



UW-100 & UW-100-347



UW-200

Specifications

Voltages:

UW-100 & UW-200120/230/277VAC, 50/60Hz

UW-100-347347VAC, 50/60Hz

Load Limits for each relay:

@120VAC0-800W tungsten or ballast, 1/6 HP

@230 or 277VAC0-1200W ballast

@347VAC0-1500W ballast

Load Type Compatibility:

Incandescent, fluorescent, magnetic or electronic ballast

Horsepower Rating (each relay)1/6 HP @120VAC

Time Delay Adjustment5 to 30 minutes

Walk-Through Mode3 minutes if no activity after 30 sec.

Test Mode5 sec. at initial power up or DIP switch reset

Ultrasonic AdjustmentMinimum to Maximum (trimpot), Off

Frequency40kHz

Light Level Adjustment8fc to 180+fc

AlertsSelectable Audible & Visible



US Patents: 5640113

6617560B2

Santa Clara, CA 95050

800.879.8585

Installation Instructions

UNIT DESCRIPTION AND OPERATION

The UW Ultrasonic Wall Switch sensors employ 40kHz ultrasonic technology in a single-gang wall switch unit. The UW sensor can turn a load ON, and hold it ON as long as the sensor detects 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.

The UW-100 has one relay and one ON/OFF button. The UW-200 contains two relays and two ON/OFF buttons to allow control of one or two loads independently. Pressing a button toggles the state of the corresponding relay.

UW sensors contain 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. In the UW-200, light level only affects the load on Relay 2. Users can override this function by pressing the ON/OFF button. See Light Level Adjustment.

Turning The Load ON

The relays are programmed independently for either Auto ON or Manual ON. In either mode, the load can be turned ON or OFF using the ON/OFF button.

Auto ON DIP 7 OFF for Relay 1	Load turns ON and OFF automatically based on occupancy. If the load is turned OFF manually, it stays OFF until 5 minutes after the last occupancy detection, at which time it reverts to Auto ON mode. This prevents the load from turning ON automatically after it was deliberately turned OFF. Pressing the button to turn lights ON returns the sensor to Auto ON mode.
DIP 8 OFF for Relay 2	
Manual ON DIP 7 ON for Relay 1	Occupants must press the ON/OFF button to turn ON the load. The sensor keeps the load ON until no motion is detected for the selected time delay. There is a 30 second re-trigger delay. If occupancy re-triggers during the delay, the sensor turns the load back ON. After the re-trigger delay elapses the ON/OFF button must be pressed to turn ON the load.
DIP 8** ON for Relay 2	

** UW-100: Switch 8 is not used. UW-200: Switch 8 default is ON to comply with CA Energy Commission Title 24 bi-level switching requirements.

Time Delays

The UW sensor holds the load ON until no motion is detected for the selected time delay. Select the time delay using DIP switch settings. The sensor automatically sets the time delay when SmartSet is enabled. In the UW-200, both relays use the same delay.

Shading indicates default operation and switch setting.

SmartSet™ auto adjust time delay and Test Mode	<p>The sensor records typical occupancy patterns. Using this history (which is constantly updated), it chooses an optimal time delay from 7 minutes (if the space is usually vacant) up to 30 minutes (if the space gets heavy usage). SmartSet behavior starts immediately, and is refined continually as history is collected.</p> <p>A Test Mode with a short time delay of 5 seconds is set when DIP switches 1, 2 & 3 are OFF. It cancels automatically after five minutes, or when you set a fixed time delay. To restart Test Mode, change the time delay setting to any fixed amount and then return it to the Auto/Test setting.</p>
Fixed Time Delay (DIP 1&2 OFF, 3 ON)	Time delays of 5, 15 (default), or 30 minutes are available. See DIP SWITCH SETTINGS for information.

Walk-Through

The Walk-Through mode shortens the time delay to reduce the amount of time the load is ON after a brief moment of occupancy, such as returning to an office to pick up a forgotten item then immediately exiting.

Walk-Through Mode (DIP #4 ON)	The UW sensor turns the load OFF 3 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 set time delay applies.
No Walk-Through	Walk-Through mode disabled.

Visible Alert

The UW sensor can provide a visual alert as a warning one minute before the load turns OFF.

Visible (DIP #5 ON)	Load turns OFF then back ON before delay expires.
No Visible (DIP #5 OFF)	No visual alert for delay expiration warning.

Audible Alerts

The UW can provide audible alerts as a warning before the load turns OFF.

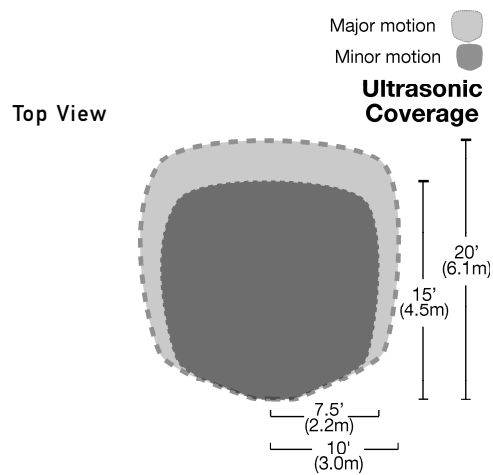
Audible Alerts (DIP #6 ON)	"Whistles" twice, at one minute and at 30 seconds before turning OFF load. "Chirps" 10 seconds before turning OFF load. "Beeps" three times 10 seconds before the load goes OFF for Walk-Through.
No Alerts	No warnings provided.

COVERAGE PATTERNS

Coverage testing has been performed according to the NEMA WD 7 guideline. For best performance, use in spaces not larger than 15' x 15'.

Ultrasonic Sensor

The sensor has two ultrasonic transceivers operating at 40kHz. Detection sensitivity can be adjusted using the trimpot under the ON/OFF buttons.



UW sensor coverage pattern

Call 800.879.8585 for Technical Support

INSTALLATION



WARNING



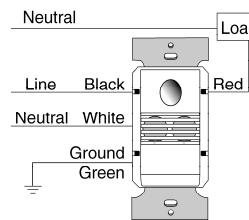
**TURN THE POWER OFF AT THE CIRCUIT BREAKER
BEFORE INSTALLING THE SENSOR OR WORKING ON THE LOAD.**

1. Make sure that the power has been turned OFF at the circuit breaker.
2. Connect wires to the UW flying leads as shown in the wiring diagram below that is appropriate to the UW model and electrical supply.
3. Attach the UW to the wall box by inserting screws into the two wide holes on the top and bottom of the attached metal bracket. Match them up with the holes in the wall box and tighten.
4. Turn the circuit breaker ON. Wait one minute, then push the ON/OFF button for each load and the lights will turn ON.
5. Test and adjust the sensor if necessary.
6. Attach the cover plate.

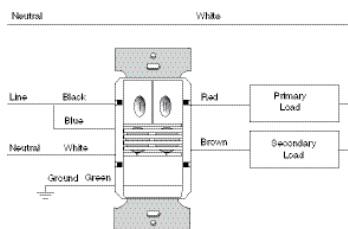
#12 – #14 AWG



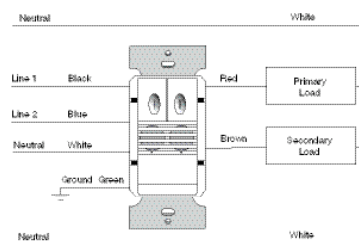
Cu Wire Only



UW-100 and UW-100-347 Wiring



UW-200 Bi-Level Wiring



UW-200 Dual Circuit Wiring

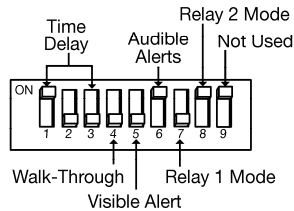
Visit our website for FAQs: www.wattstopper.com

DIP SWITCH SETTINGS

Time Delay	1	2	3
Auto/Test	↓	↓	↓
5 minutes	↓	↓	↑
10 minutes	↓	↑	↓
15 minutes	↓	↑	↑
20 minutes	↑	↓	↓
25 minutes	↑	↓	↑
30 minutes	↑	↑	↓
⊗ override	↑	↑	↑

Walk-Through	4
Disabled	↓
Enabled	↑

⊗ Bypass occupancy & light level functions. Disable ultrasonic transmissions. Loads are manually controlled with UW buttons.



Visible Alert	5
Disabled	↓
Enabled	↑

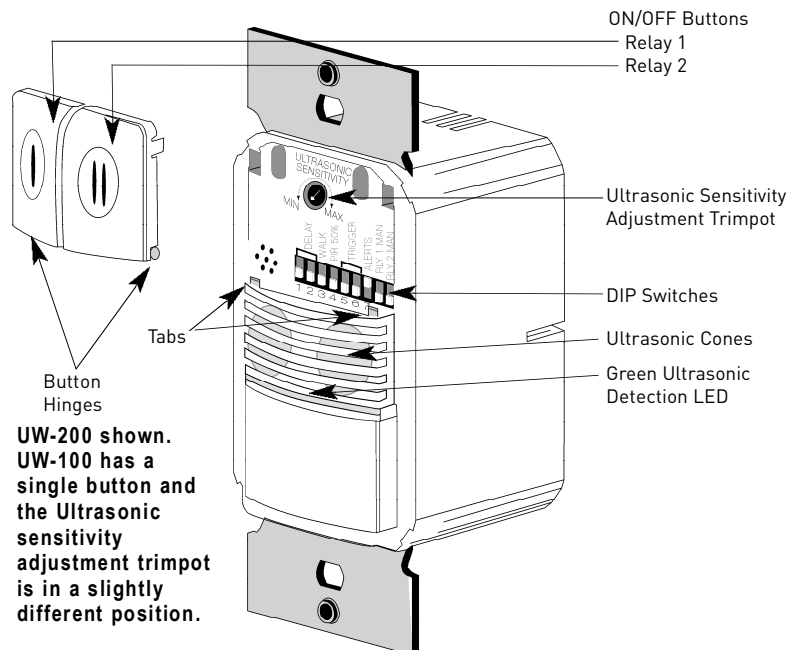
Audible Alert	6
Disabled	↓
Enabled	↑

Relay 1 Mode	7
Auto On	↓
Manual On	↑

UW-200 ONLY	
Relay 2 Mode	8
Auto On	↓
Manual On	↑

No Function	9

↑ = ON ↓ = OFF ◀ = Factory Setting



Call 800.879.8585 for Technical Support

ADJUSTMENTS

Sensor Adjustment

Remove the wall plate. Remove the button cap by firmly squeezing together the top sides of the button assembly. Gently pull it away from the unit.

When the adjustments are completed, replace the button cap by inserting its hinges into the tabs on the main unit and then squeeze the top of the button while pressing it into the unit. Reinstall the cover plate.

Light Level Adjustment

The light level can be set with loads ON or OFF. To enable light level control and set the threshold: 1) Make sure the room is lit appropriately. 2) Put the sensor into TEST mode. You have 5 minutes to complete the procedure. 3) Press and hold the ON/OFF button (Relay **1** button on the UW-200) for 3 seconds, until you hear a beep. 4) Step away from the sensor. After 25 seconds a beep sounds, indicating that the threshold level is set. This threshold is retained, even if power is lost, until it is re-set or disabled. In the UW-200, light level control only affects Relay **2**.

To disable light level control, press and hold the Relay **1** button for **7 seconds**, until a double beep tone sounds.

Reset to Default

To reset the UW to factory settings, press and hold the Relay **1** button for **10 seconds**, until a triple beep sounds. This resets the sensor occupancy history and disables light level control (the brightest ambient light will not hold the light OFF).

TROUBLESHOOTING

Lights do not turn ON with motion (LED does flash)

1. Press and release each button to make sure that the correct lights come ON for each relay. **If the lights do NOT turn ON**, check wire connections, especially the Load connection. **If the lights turn ON**, verify that the correct On Mode is selected in DIP switches 7 and 8.
2. Check to see if light level control is enabled: cover the sensor lens with your hand. If the lights come ON, adjust the light level setting.
3. If lights still do not turn ON, call 800.879.8585 for technical support.

Lights do not turn ON with motion (LED does not flash)

1. Press and release each button. Make sure that the correct lights come ON for each relay. If the lights turn ON, set Ultrasonic Sensitivity to max.
2. Check the wire connections, in particular, the Neutral and Line connections. Verify that connections are tightly secured.
3. If lights still do not turn ON, call 800.879.8585 for technical support.

Lights do not turn OFF

1. There can be up to a 30 minute time delay after the last motion is detected. To verify proper operation, set DIP switch 1 to ON, then reset switches 1, 2 and 3 to OFF to start Test Mode. Move out of view of the sensor. The lights should turn OFF in approximately 5 seconds.
2. Verify that the sensor is mounted at least six feet (2 meters) away from any heating/ventilating/air conditioning device that may cause false detection.
3. Verify that the Ultrasonic Sensitivity trimpot is not pointing at "override" (green LED is always ON). If so, rotate the trimpot to it's middle setting (pointing up). The override setting allows users to operate the sensor as a service switch in the unlikely event of a failure.
4. Verify that DIP switches 1, 2, and 3 are not set to "override" (all switches ON). If they are, change them to an appropriate Time Delay setting.
5. If the lights still do not turn OFF, call 800.879.8585 for technical support.

Sensing motion outside desired areas

Adjust the Ultrasonic Sensitivity. Rotate trimpot counterclockwise to reduce sensitivity.

ORDERING INFORMATION

Catalog #	Description
UW-100	Ultrasonic wall switch sensor; 120/230/277VAC, 50/60Hz
UW-100-347	Ultrasonic wall switch sensor; 347VAC, 50/60Hz
UW-200	Ultrasonic dual relay wall switch sensor; 120/230/277VAC, 50/60Hz
ASP-422	Blank cover plate for 2-gang box
ASP-432	Switch option cover plate for 2-gang box

Units come in White (-W), Light Almond (-LA), Ivory (-I), Gray (-G), Black (-B).

Add color designator to catalog number when ordering.

* One ASP-211 Cover Plate for single gang box is included with each switch.

Warranty Information

Watt Stopper/Legrand warrants its products to be free of defects in materials and workmanship for a period of five years. There are no obligations or liabilities on the part of Watt Stopper/Legrand for consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation or reinstallation.



2800 De La Cruz Boulevard, Santa Clara CA 95050
Technical Support: 800.879.8585 • www.wattstopper.com
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