W-500A, W-1000A, W-2000A & W-2000H

Ultrasonic Occupancy Sensors

Installation Instructions

SPECIFICATIONS

Voltage	24VDC
Power Supply	Watt Stopper Power Packs
Current Consumption	16mA
Sensitivity Adjustment	1- 10
Time Adjustment	15 seconds. to 15 minutes

WattStopper

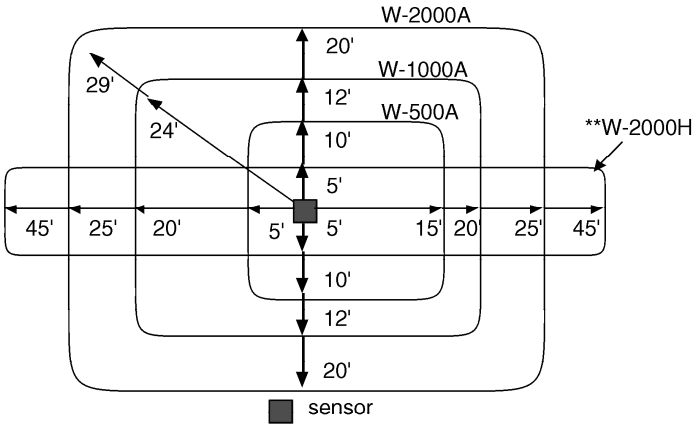
legrand®

UNIT DESCRIPTION AND PLACEMENT

Watt Stopper Ultrasonic Sensors are 24VDC switching devices that automatically switch lighting and HVAC systems off when no motion is sensed over a given time period. They sense when an area is occupied and turn lights back on again. Watt Stopper ultrasonic occupancy sensors use the doppler shift principle to detect occupancy. Motion in the controlled area causes a slight change in the reflected frequency and amplitude of the broadcast ultrasonic waves. Watt Stopper sensors then control lighting systems through Watt Stopper power and auxiliary relay packs.

Placement of the sensor is critical for proper operation. Watt Stopper sensors are volumetric sensors and sense motion in a 360 degree pattern. It is best to place the sensor so that it has a clear view of all the desktops or work surfaces within the coverage area. Also, ultrasonic sensors may false-trigger when confronted by high volumes of air flow. **Sensors should be installed at least four feet from most supply ducts and a minimum of six feet from horizontal discharge ducts.** In addition, do not mount sensor within 6" of power pack. Always mount the sensor on a rigid, vibration-free surface. When positioning the sensor make sure the receiver is aimed away from nearest wall and toward area to be covered.

SENSOR COVERAGES



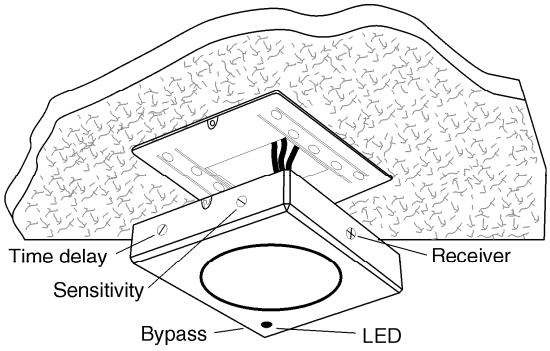
** Make sure dual receivers are aimed along the length of the hallway.

UNIT CONTROLS

All of the controls for the sensor are located on the sides of the sensor.

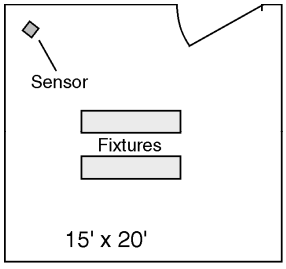
1. **Time Delay**—is denoted by "Time" and is adjustable from 15 seconds to 15 minutes. This adjustment determines the length of time the lights stay on after no motion has been detected.
2. **Sensitivity Adjustment**—is denoted by "Sense" and is adjustable from zero to 10. The zero setting is OFF and the 10 setting is the most sensitive.
3. **Bypass Setting**—should a sensor fail, it can be overridden and set to a permanent ON position through the installation of the override pin provided with the sensor.
4. **LED Indicator**—the LED will blink each time the unit triggers.

SENSOR PLACEMENT



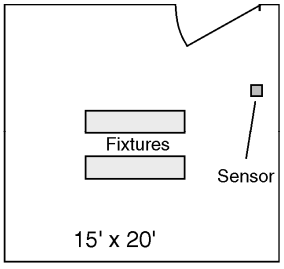
When positioning the sensor make sure the receiver is aimed away from nearest wall and toward the area to be covered.

On the **W-500A** model, there is only one receiver, which is on the opposite side of the by-pass pin. Always make sure this receiver is pointed toward activity area. The **W-1000** and **W-2000** both have dual receivers. Point these toward the activity area.



For enclosed spaces, place sensors as shown above.

CORRECT LOCATION



Sensors placed as shown above may see out the door and cause false triggers.

INCORRECT LOCATION

INSTALLATION

CAUTION

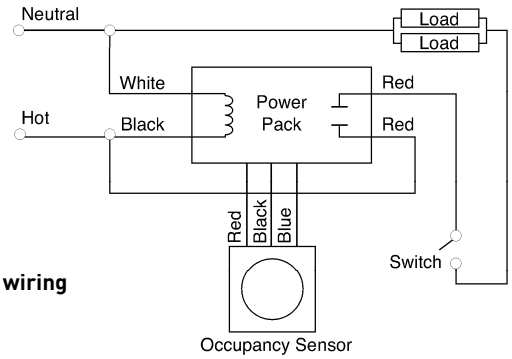
TURN THE POWER OFF AT THE CIRCUIT BREAKER BEFORE INSTALLING THE SENSOR.

For normal Installation, connect:

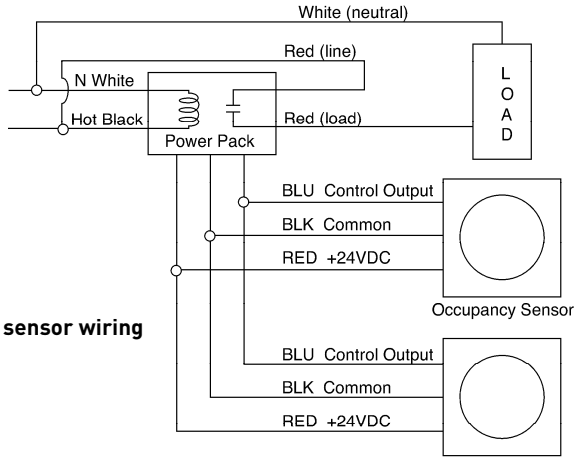
Blue wire from sensor to Blue wire from Power Pack

Red wire from sensor to Red wire from Power Pack.

Black wire from sensor to Black wire from Power Pack.



Single sensor wiring



Multiple sensor wiring

Call 800.879.8585 for Technical Support

SENSOR ADJUSTMENT

⚠ WARNING ⚠

DO NOT OVERTURN TRIMPOTS WHEN ADJUSTING THE SENSOR!

After the unit is installed, the sensitivity should be adjusted so the lights stay on whenever the controlled area is occupied. Before starting the adjustment process, make sure office furniture is installed, lighting circuits are powered up and HVAC systems are in the overridden/ON position. VAV systems should be set to their highest airflow.

1. Set the unit sensitivity to low (usually 3 or 4).
2. Set the unit's time delay at it's minimum, usually 15 seconds.
3. Move out of sensor range until the lights turn off.
4. Walk into the controlled area. If the lights don't turn on, increase the sensitivity slightly and try again. Repeat until the lights come on.
5. It may be necessary to turn the sensitivity up slightly if the lights turn off while the room is occupied.
6. For best acceptance and performance, we recommend max. Time delay for normal applications.

TROUBLESHOOTING

If the lights do not go OFF after the time out period, and the LED does not come on when moving in front of sensor:

1. Disconnect blue wire to power pack, if lights do not go OFF, check Power Pack connections:
   - voltage going in (110 or 277AC) – If there is no power, check to see that the breaker has been turned back on.
   - 24VDC coming out of the power pack (Red and Black) – If there is no power, check to see that the power pack has been wired correctly. Power Pack may need to be replaced.
2. If lights still do not go off, call 800.879.8585 to talk to Technical Support.

Motion occurs in the room and the lights do not turn on:

1. Check the sensitivity setting and increase as needed.
2. Check connections between sensors and power packs.
3. If there is still a problem, check to see that there is 24VDC at the sensor (Red and Black wires).
   - If 24VDC is present, replace sensor.
   - If 24VDC is not present, check Power Pack.
4. If lights still do not turn on, call 800.879.8585 to talk to Technical Support.

Call 800.879.8585 for Technical Support

ORDERING INFORMATION

Catalog #	Description
W-500A	Ultrasonic Occupancy Sensor, 500sq ft Coverage, 360°
W-1000A	Ultrasonic Occupancy Sensor, 1000sq ft Coverage, 360°
W-2000A	Ultrasonic Occupancy Sensor, 2000sq ft Coverage, 360°
W-2000H	Ultrasonic Occupancy Sensor, 900 linear ft Coverage, 360°
BZ-100	Power Pack: 120/277VAC, 60Hz, 150mA, 20A ballast or incandescent, 1HP@120/240VAC
B120E-P	Power Pack: 120VAC, 60Hz, 150mA, 20A ballast/13A incandescent
B230E-P	Power Pack: 230VAC, 50/60Hz, 150mA 20A ballast/13A incandescent
B277E-P	Power Pack: 277VAC, 60Hz, 150mA, 20A ballast
S120/277/347E-P	Auxiliary Relay Pack: 120/277VAC, 60Hz, 20A Ballast 347VAC, 60Hz, 15A Ballast

WARRANTY INFORMATION

Watt Stopper/Legrand warranties its products to be free of defects in materials and workmanship for a period of five (5) 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.

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