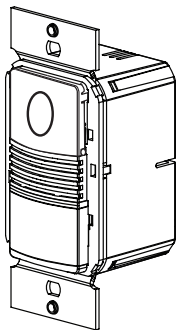


PW-100-24 v3 Passive Infrared Low Voltage Wall Switch Occupancy Sensor



Specifications

Voltage	18-24VDC, 24VAC or Half-wave rectified AC
Current Consumption	20mA
Power Supply	WattStopper Power Packs
Isolated Relay Rating	1A @30VDC/VAC
Time Delay Adjustment	5 to 30 minutes
Walk-Through Mode	3 minutes if no activity after 30 sec.
Test Mode	5 sec. for 10 min. with DIP switch setting
PIR Adjustment	High or Low (DIP switch)
Light Level Adjustment	8fc to 180+fc
Alerts	Selectable Audible & Visual

US Patents: 6617560

WattStopper®

Santa Clara, CA 95050

800.879.8585

Installation Instructions

UNIT DESCRIPTION AND OPERATION

The PW-100-24 Passive Infrared Low Voltage Wall Switch sensors use advanced passive infrared (PIR) technology.

The PW-100-24 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 PW-100-24 has one relay and one **ON/OFF** button. It also contains 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. Users can overrule this function by pressing the **ON/OFF** button. See Light Level Adjustment.

Turning ON the Load (ON Mode)

The PW-100-24 can be set for either Auto **ON** or Manual **ON** mode using a DIP switch. In either mode, the load can be turned **ON** or **OFF** using the **ON/OFF** button.

Manual ON DIP 8 ON	With the ON Mode DIP switch in the ON position, the occupant 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 is detected 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.
Auto ON DIP 8 OFF	Load turns ON and OFF automatically based on occupancy. With an ON Mode DIP switch in the OFF position, the load turns ON and OFF automatically based on occupancy. If the load is turned OFF manually, Presentation Mode operation applies. This prevents the load from turning ON automatically after it was deliberately turned OFF . Pressing the button to turn lights ON and returns the sensor to Auto ON mode.

Presentation Mode is a feature of the Auto **ON** mode. When the relay is manually turned **OFF** the PW holds the lights **OFF** until no motion has been detected for the duration of the Time Delay. With subsequent occupancy, the PW turns the load **ON**.

Shading indicates default operation and switch setting.

Call 800.879.8585 for Technical Support

Time Delays

The PW-100-24 holds the load **ON** until no motion is detected for the selected time delay. Select the time delay using DIP switch settings.

Test/20 min	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 ten minutes, or when you set a fixed time delay. When the Test Mode times out, the sensor assumes a 20 minute time delay. To restart Test Mode, change the time delay setting to any fixed amount and then return it to the Test setting.
Fixed Time Delay (DIP 1 ON , 2 & 3 OFF)	Time delays are 5, 10, 15, 20 (default), 25, or 30 minutes.

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 PW-100-24 turns the load OFF three 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 (DIP #4 OFF)	Walk-Through mode disabled.

PIR Sensitivity Adjustment

The PW-100-24 constantly monitors the controlled environment and automatically adjusts the PIR to avoid common ambient conditions that can cause false detections, while providing maximum coverage.

High (DIP #5 OFF)	Default setting. Suitable for most applications.
Low, 50% (DIP #5 ON)	Reduces sensitivity by approximately 50%. Useful in cases where the PIR is detecting movement outside of the desired area (also consider masking the lens) and where heat sources cause unnecessary activation.

Alerts

The PW-100-24 can provide audible and/or visible alerts as a warning before the load turns OFF.

Visible Alert (DIP #6 ON)	When only one minute is left in the time delay, the load connected to the relay turns OFF for one second. This provides a one minute warning before the load(s) are turned OFF by the sensor.
No Visible Alerts (DIP #6 OFF)	No visible warnings provided.
Audible Alerts (DIP #7 ON)	Unit will beep at one minute, at 30 seconds and at 10 seconds before turning OFF load. When Walk-Through is active, the unit beeps three times at 10 seconds before the load goes OFF . *If Visible Alert is also ON , the one-minute time-out warning beep is replaced by the visible alert.
No Audible Alerts (DIP #7 OFF)	No audible warnings provided.

COVERAGE PATTERNS

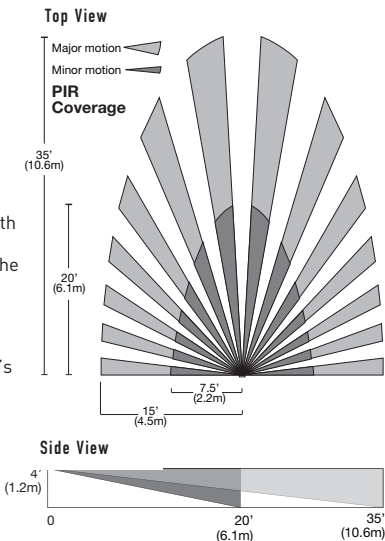
Coverage testing has been performed according to the NEMA WD 7 guideline. For best performance, use in spaces not larger than 15' x 12'.

PIR Sensor

The sensor has a two-tiered, multi-cell viewing Fresnel lens with 180 degree field of view. The red LED on the sensor flashes when the PIR detects motion.

Masking the lens

Opaque adhesive tape is supplied so that sections of the PIR sensor's view can be masked. This allows you to eliminate coverage in unwanted areas. Since masking removes bands of coverage, remember to take this into account when troubleshooting coverage problems.



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INSTALLATION

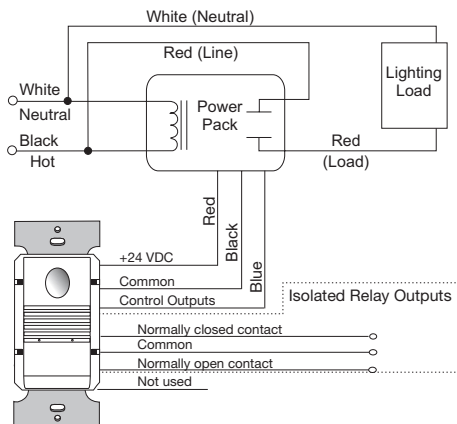


WARNING



**TURN THE POWER OFF AT THE CIRCUIT BREAKER
BEFORE INSTALLING POWER PACKS OR SENSORS.**

1. Install the power pack according to its instructions.
2. Connect the power pack wires to the sensor as follows:
RED wire (+24VDC) to the +24V IN terminal on the sensor.
BLACK wire (Return) to common (COMM.) terminal on the sensor.
BLUE wire to control output (CTRL. OUT) terminal on the sensor.
3. Wire the Isolated Relay. The Isolated Relay is rated for 1A @ 30VAC/VDC.
Connect the wires necessary to the application that requires this output:
Normally Closed (N.C.) - Open when occupancy is detected.
Relay Common (must be used for proper operation)
Normally Open (N.O.) - Closed when occupancy is detected.
The bottom terminal on the sensor is not used.
4. Turn the power on.
5. Test and adjust the sensor if necessary.
6. Install industry standard decorator wall switch cover plate (not included).



PW-100-24 Wiring

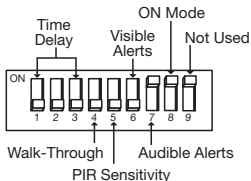
Visit our website for FAQs: www.wattstopper.com

DIP SWITCH SETTINGS

Time Delay	1	2	3
Test/20 min	↓	↓	↓
5 minutes	↓	↓	↑
10 minutes	↓	↑	↓
15 minutes	↓	↑	↑
20 minutes	↑	↓	↓
25 minutes	↑	↓	↑
30 minutes	↑	↑	↓
Service	↑	↑	↑

Walk-Through	4
Enabled	↑
Disabled	↓

Ⓢ Service bypasses occupancy & light level functions. Control the load manually using **ON/OFF** button.



PIR Sensitivity	5
Low, 50%	↑
High	↓

Visible Alert	6
Enabled	↑
Disabled	↓

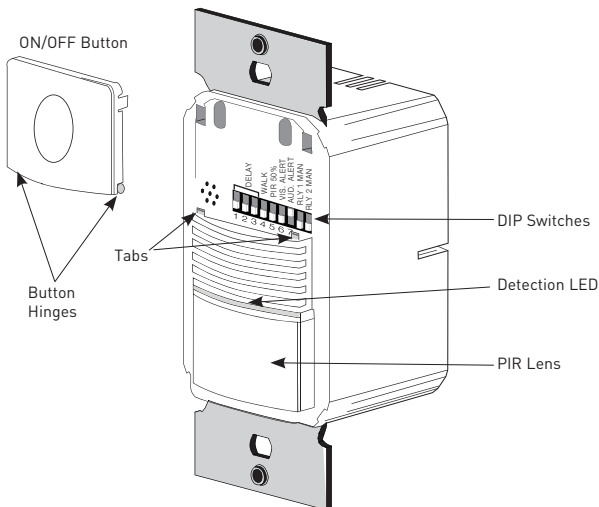
Audible Alert	7
Enabled	↑
Disabled	↓

ON Mode	8
Manual On	↑
Auto On	↓

Switch 9 is not used

↑ = 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 using the Time Delay DIP switches.
- 3) Press and hold the **ON/OFF** button 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.
- 5) Set the Time Delay DIP switches to the desired delay time.

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

Reset to Default

Use the DIP Switch Settings tables on the previous page to return features to factory settings. To reset the PW press and hold the **ON/OFF** button for **10 seconds**, until a triple beep sounds. This resets the sensor 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 the **ON/OFF** button to make sure that the correct lights come ON. **If the lights do NOT turn ON**, check wire connections. **If the lights turn ON**, verify that the correct On Mode is selected in DIP switch 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 the **ON/OFF** button to make sure that the correct lights come ON. If the lights turn **ON**, verify that Sensitivity is on High.
2. Check the wire 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. Verify that there is no significant heat source (e.g., high wattage light bulb) mounted near the sensor.
3. If the lights still do not turn **OFF**, call 800.879.8585 for technical support.

Sensing motion outside desired areas

1. Select PIR Sensitivity – Low (DIP switch 5 = **ON**) if necessary.
2. Mask the PIR sensor's lens to eliminate unwanted coverage area.

Red LED is lit all the time and the sensor features don't work.

1. Check DIP switches 1,2,3. If they are all **ON** the unit is in Service Mode. Set the DIP switches to a valid Time Delay setting.
2. If re-setting the Time Delay switches does not clear the LED call technical support.

COVER PLATES

WattStopper PW series wall switches fit behind industry standard decorator-style switch cover plates. Cover plates are not included.

Units come in the following colors, which are indicated by the final suffix of the catalog number (shown here in parentheses):

White (-W), Light Almond (-LA), Ivory (-I), Grey (-G), Black (-B).

Warranty Information

WattStopper 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 WattStopper 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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07178r2 6/2011

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