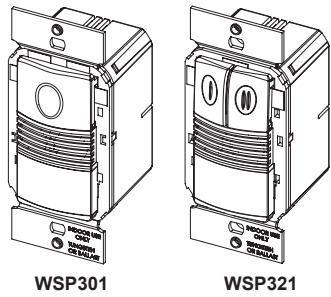


Catalog Numbers: WSP301, WSP321

Country of Origin: Made in China



SPECIFICATIONS

Voltages:	120/277 VAC, 50/60 Hz
Load Limits for relay 1:	
@120 VAC	1000-W tungsten ballast, E-ballast, LED, 1/4 HP
@277 VAC	1200-W ballast, E-ballast, LED, 1/4 HP
Load Limits for relay 2:	
@120 VAC	800-W tungsten ballast, E-ballast, LED, 1/6 HP
@277 VAC	1200-W ballast, E-ballast, LED, 1/6 HP
Time Delay Adjustment	5 to 30 minutes

Walk-Through Mode	3 minutes if no activity after 30 sec.
Test Mode	10 min. with 5-sec. time delay
PIR Adjustment	High or Low
Light Level Adjustment	8fc to 180+fc
Alerts	Selectable Audible & Visual
Optional Neutral	All models
Multi-Way Capability	All models
Terminal screw torque	16 lbf-in (18 kgf-cm)

UNIT DESCRIPTION AND OPERATION

The WSP Passive Infrared Wall Switch sensors use advanced passive infrared (PIR) technology. The WSP sensor has Optional Neutral capability for applications requiring neutral wiring. It also has Multi-Way available on all models. 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 WSP301 has one relay and one **ON/OFF** button. The WSP302 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. WSP 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 WSP302, light level only affects the load on Relay 2. Users can overrule the hold OFF function by pressing the **ON/OFF** button. See the **Light Level Adjustment** section.

Turning Load(s) ON (ON Mode)

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.

Manual ON DIP 8 ON for Relay 1 DIP 9** ON for Relay 2	With an 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 for Relay 1 DIP 9** OFF for Relay 2	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 returns the sensor to Auto ON mode.

WSP301: Switch 9 is not used. WSP302: Switch 9 default is **ON to comply with CA Energy Commission Title 24 bi-level switching requirements.

Model #	Relay	Default ON Mode	DIP switch #	Setting
WSP301	1	Manual ON	8	ON
WSP302	1	Auto ON	8	OFF
	2	Manual ON	9	ON

Presentation Mode

Presentation Mode is a feature of the **Auto ON** mode. When both relays are manually turned **OFF** the WSP holds the lights **OFF** until no motion has been detected for the duration of the Time Delay. With subsequent occupancy, the WSP turns the load **ON**. If both relays are **ON** and one relay is manually turned **OFF** this relay remains **OFF** until both the Time Delay and re-trigger delay expires for the relay that is **ON**, after that time the **ON Mode** control settings again apply.

Time Delays

The WSP sensor holds the load **ON** until no motion is detected for the selected time delay. Select the time delay using DIP switch settings. In the WSP302, both relays use the same delay. See **DIP SWITCH SETTINGS** for more information.

Test/20 min (DIP 1, 2, 3, OFF)	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 (20 min. 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 WSP sensor 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 (default).

PIR Sensitivity Adjustment

The WSP sensor 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 WSP 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 (default).
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

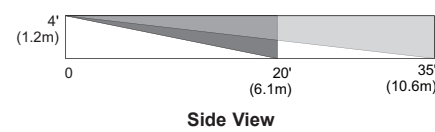
Coverage testing has been performed according to the NEMA WD 7 guideline. For best performance, use in spaces not larger than 15' x 12'.

PIR Sensor

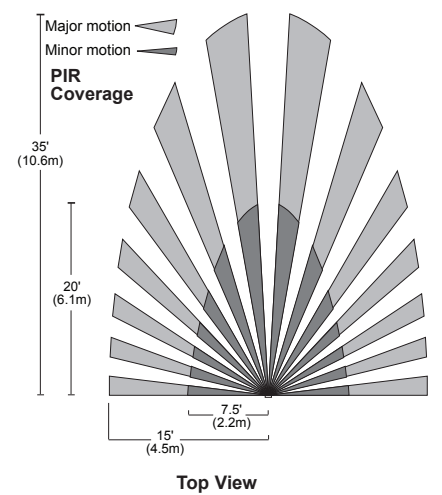
The sensor has a two-tiered, multi-cell viewing Fresnel lens with 180 degree field of view. The red LED on the sensor flashes when the PIR detects motion.

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.



Side View



Top View

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 (see Time Delay switches). You have **10 minutes** to complete the procedure.
3. Press and hold the **ON/OFF** button (**Relay 1** button on the WSP302) for 3 seconds, until you hear a beep.
4. Step away from the sensor. After 10 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 WSP302, 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

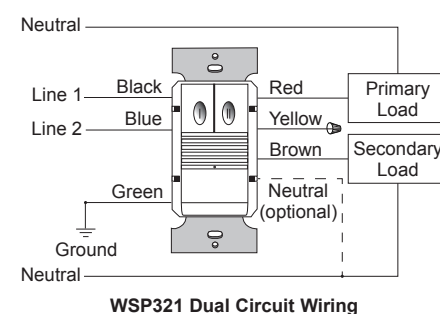
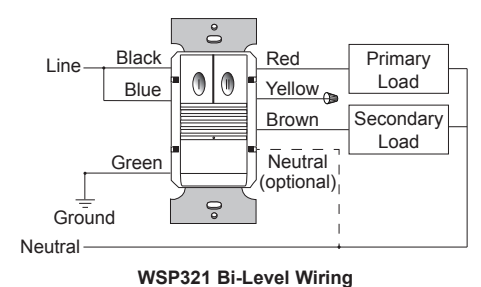
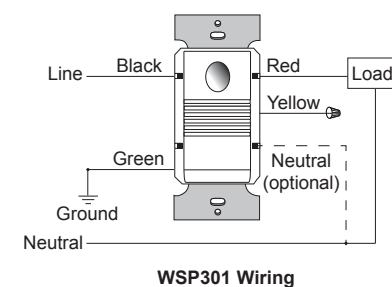
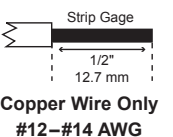
Use the DIP Switch Settings tables to return features to factory settings. To reset the WSP, **press and hold the Relay 1** button for **10 seconds**, until a triple beep sounds. This resets the sensor and disables light level control (the brightest ambient light will not hold the light **OFF**).

INSTALLATION

WARNING

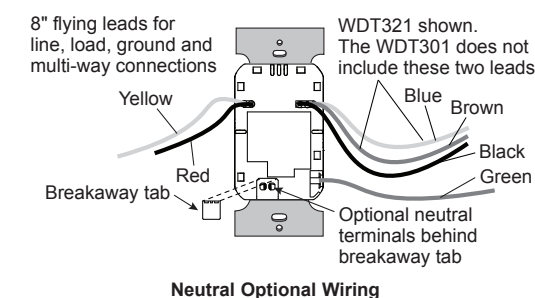
Turn off the power at the circuit breaker before installing the sensor working on the load.

1. Make sure that the power has been turned **OFF** at the circuit breaker.
2. Connect wires to the WSP flying leads as shown in the wiring diagram that is appropriate to the WSP model and electrical supply. **The ground wire (green) must be fastened to ground for the sensor to work properly.**
3. Attach the sensor 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 Auto **ON/OFF** switch for each load and the lights will turn **ON**. There is a delay due to initial power-up of the sensor that only occurs during installation.
5. Test and adjust the sensor if necessary.
6. Install industry standard decorator wall switch cover plate (not included).



OPTIONAL NEUTRAL WIRING

For applications requiring neutral wiring, remove tab as shown to expose terminals for wiring.

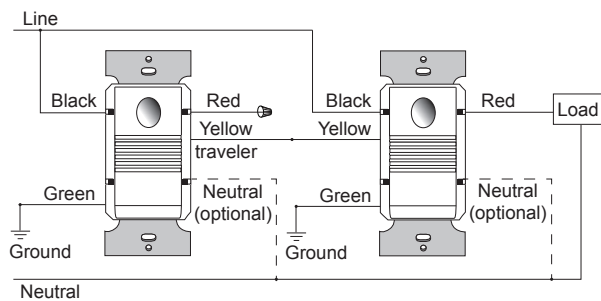


MULTI-WAY

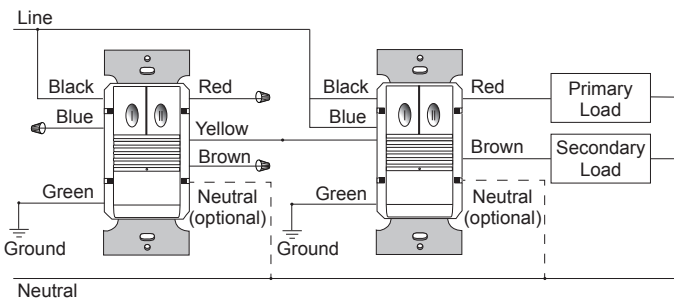
The Multi-Way capability is available on all models. Sensors can easily be wired together for convenient control of a common load. When wiring this way, only use WSP300 series sensors.

The following principles apply for Multi-Way:

- All units can see each other's push button events and respond accordingly.
- All units can see each other's trigger event. The response will be determined by the Light Level setting and/or conditions of the space of the detecting sensor.
- The time delay for all units is defined by the unit with the smallest time delay.

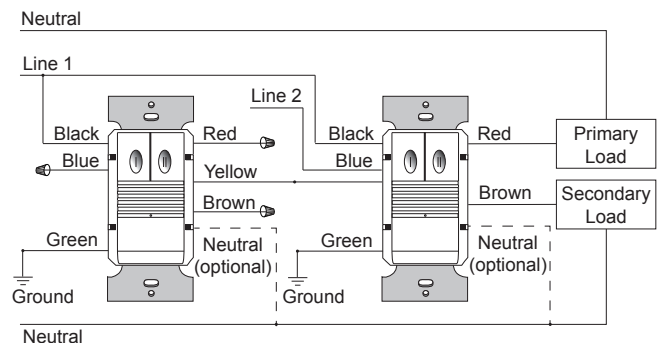


Typical Wiring
(WSP301 up to 4 sensors)



Bi-level Wiring
(WSP321 up to 4 sensors)

Note: Button 1 on any sensor controls load #1 and button 2 on any sensor controls load #2.



Two-phase Wiring

SENSOR OPERATING MODES

Sensor #1	Sensor #2	Light Fixture
Auto-ON	Auto-ON	The load turns ON and OFF automatically based on occupancy detection by either one of the sensors. The sensors keep the load ON until no motion is detected and will use the time delay of the sensor with the lowest value. At any time, the light can be turned ON and OFF using the ON/OFF button of any one of the sensors. If the load is turned OFF manually by pressing either one of the ON/OFF buttons, the unit will enter Presentation mode.
Auto-ON*	Manual ON*	The load can only be turned ON automatically by the sensor set in Auto ON mode. The sensors keep the load ON until no motion is detected and will use the time delay of the sensor with the lowest value. There is either a 30 second re-trigger delay for the sensor set in Manual ON mode or instant re-trigger for the sensor set in Auto ON mode. After the re-trigger delay elapses, the ON/OFF button of the sensor set in Manual ON mode must be pressed to turn the load back on unless the sensor set in Auto ON mode detects motion. If the light is turned OFF manually by pressing the ON/OFF button set in Auto ON , it will enter Presentation mode.
Manual-ON	Manual-ON	The occupant must press the ON/OFF button on either one of the sensors to turn the light ON . The sensors keep the load ON until no motion is detected and will use the time delay of the sensor with the lowest value. There is a 30 second re-trigger delay, meaning the occupant has 30 seconds to be detected for the sensor to turn the load back on automatically. After the re-trigger delay elapses, the ON/OFF button of any one of the sensors must be pressed to turn the load back ON .

* Although this configuration may be selected, it is not recommended.

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	↓

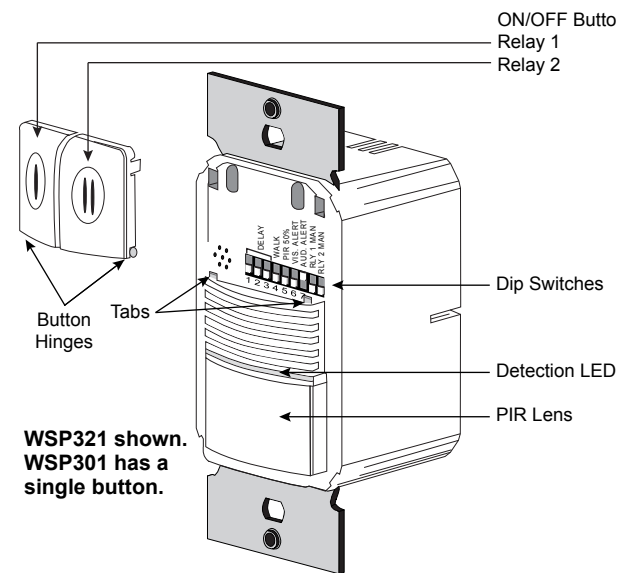
Visible Alert	6
Enabled	↑
Disabled	↓

Relay 1 Mode	7
Enabled	↑
Disabled	↓

Relay 1 Mode	8
Manual On	↑
Auto On	↓

Relay 2 Mode	9
Manual On	↑
Auto On	↓

Factory Settings:
 ◀ All models
 ▲ WSP301 series
 ▲ WSP321 series



WSP321 shown.
WSP301 has a single button.

TROUBLESHOOTING

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

- 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 8 and 9.
- 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.
- If lights still do not turn **ON**, call 800.223.4185 for technical support.

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

- Press and release each button to make sure that the correct lights come **ON** for each relay. If the lights turn **ON**, verify that Sensitivity is on High.
- Check the wire connections, in particular, the Line connection. Verify that connections are tightly secured.
- If lights still do not turn **ON**, call 800.223.4185 for technical support.

Lights do not turn OFF

- 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.
- 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.
- If the lights still do not turn **OFF**, call 800.223.4185 for technical support.

Sensing motion outside desired areas

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

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

- 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.
- If resetting the Time Delay switches does not set the sensor features, call 800.223.4185 for technical support.

COVER PLATES

Legrand WSP 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 (-GRY)
- Black (-BK)

WARRANTIES

Lifetime Warranty. The device you have purchased is warranted under normal use against defects in workmanship and materials for as long as you own the device. If the device fails due to manufacturing defect during normal use, return the device for replacement to the store where purchased or send to: Legrand, 50 Boyd Avenue, Syracuse, NY 13209

All requests for replacement must include a dated sales receipt (legible copies acceptable).

ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO A PERIOD OF TWO YEARS FROM THE DATE OF PURCHASE. YOUR SOLE AND EXCLUSIVE REMEDY AGAINST LEGRAND UNDER ANY WARRANTY SHALL BE THE EQUIVALENT REPLACEMENT OF THE DEVICE. IN NO EVENT SHALL ANY WARRANTY APPLY TO ANY DEFECT ARISING OUT OF ANY ALTERATION OF THE DEVICE, IMPROPER WIRING, IMPROPER INSTALLATION,

MISUSE, ABNORMAL USE OR NEGLIGENCE. IN NO EVENT SHALL LEGRAND BE LIABLE FOR LOST PROFITS, INDIRECT, SPECIAL, EXEMPLARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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For covering patents, see www.legrand.us/patents

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