

## Occupancy & Vacancy Sensors & Timers Technology



### Passive Infrared Sensors (PIR)

Using a patented fresnel lens which minimizes optical aberrations, each Legrand/Pass & Seymour PIR sensor breaks its coverage area into zones. Upon detecting an infrared energy change within a zone, one of the elements in the dual-element pyroelectric sensing device of an occupancy sensor generates a positive pulse. Within milliseconds, the other element produces a negative pulse and the lights are turned on. Vacancy sensors turn lights off when the room is vacant for a period of time, or when there is no infrared energy detected within a zone.

Passive infrared sensors are unable to detect occupancy around barriers, and are more effective when sensing movement across their field of sight rather than towards or away from it.

#### All Legrand/Pass & Seymour PIR occupancy sensors feature:

- Patented fresnel lenses with multi-segment design
- Dual-element pyroelectric sensors
- Low-profile design
- Daylight filter systems
- Adjustable settings for time and sensitivity
- Custom Detection Signature Analysis for high immunity to RFI and EMI, and reliability
- Self-adaptive technology is available on some models

### Ultrasonic Sensors

Ultrasonic sensors use a multi-directional transmitter/receiver system to broadcast ultrasonic sound waves generated by a quartz crystal oscillator, and then measure the amount of time it takes the waves to return. Movement within the area results in the sound waves returning to the sensor at a slower or faster rate, and thus occupancy is detected.

Ultrasonic sensors broadcast in three dimensions, and are therefore able to detect smaller movements than PIR sensors. Proper placement of the sensors is essential as sound waves can escape through open doorways, resulting in false triggering.

While Legrand/Pass & Seymour ultrasonic sensors use special circuitry to filter out air-flow movement caused by HVAC equipment or fans, sensors should be kept away from breezy areas. Also, heavy carpeting and other sound-absorbing materials used in the construction of a room will reduce coverage.

#### Legrand/Pass & Seymour ultrasonic occupancy sensor features:

- Temperature- and humidity-resistant tuned receivers
- Signal Processing Circuitry
- Solid-state, crystal-controlled transmitter
- Adjustable controls for time and sensitivity

### Dual Technology

Dual Technology sensors combine PIR and Ultrasonic sensing in one device. This minimizes false ONs and nuisance OFFs. Sensitivity adjustments and user selectable operational characteristics make dual technology sensors the most versatile, even in the most difficult installations.

Use dual technology sensors for the most demanding sensor applications. Odd shaped rooms, lots of partitions, and changing floor plans can be handled best by dual technology sensors.



# Occupancy & Vacancy Sensors & Timers Applications



Pass & Seymour

P&S Model	Catalog Page #	Best Suited For:
<b>Residential Occupancy Sensors</b>		
RW500U	L-5	Storage rooms, walk-in closets, pantries, garage where no neutral is available
RWU600U	L-5	Storage rooms, walk-in closets, pantries, garage where a neutral is available
<b>Residential Vacancy Sensors (T24 Compliant)</b>		
RW500B	L-4	Bedrooms, basements bathrooms, laundry rooms, where no neutral is available
RWU600B	L-4	Bedrooms, basements bathrooms, laundry rooms, where a neutral is available
RW600BTC	L-4	Bedrooms, basements bathrooms, laundry rooms, where no neutral is available
<b>3-Way Residential Occupancy/Vacancy Sensor</b>		
RW3U600	L-6	Any room/hall with multiple entrances — allows manual ON/OFF control from both locations. Can be switched between occupancy and vacancy.
RW3U603	L-6	<b>T24 Compliant.</b> Any room/hall with multiple entrances — allows manual ON/OFF control from both locations. Can be switched between occupancy and vacancy.
<b>Residential Occupancy/Vacancy Sensor with Dimmer</b>		
RWDU500	L-7	Any room where adjustable light level is desired
<b>Commercial Passive Infrared (PIR) Wall Box Sensors</b>		
PTWSP250	L-8	Small offices, closets, utility rooms with no partitions or obstructions
WSP250	L-8	Small offices, closets, utility rooms with no partitions or obstructions
OS300S	L10	Small offices, closets, small conference rooms with no partitions or obstructions
OSR300S	L-11	Small rooms with two individually-controlled loads or bi-level lighting with no partitions or obstructions
<b>Commercial Passive Infrared (PIR) and Ultrasonic Wall Sensors</b>		
WDT100	L-9	Small offices, executive suites, conference rooms, break rooms.
WDT200	L-9	
<b>Commercial Passive Infrared (PIR) Ceiling Sensors</b>		
CS500	L-13	Open offices, lunch, utility, storage, and computer rooms with no partitions or obstructions
CS1200	L-13	Larger rooms, up to 1200 sq. ft., with open floor plans, no partitions or obstructions
<b>Commercial Passive Infrared (PIR) Wall or Ceiling Mount Sensors</b>		
HS1001	L-12	Hallways, or aisles
WA1001	L-12	Entrances, vestibules, classrooms, for wide-angle applications
<b>Commercial Ultrasonic Ceiling Mount Sensors</b>		
CSU600	L-14	Offices, computer, meeting, copy, and restrooms
CSU1100	L-14	Offices, lunch, break and classrooms, restrooms, and conference rooms
CSU2200	L-14	Offices, lunch, break and classrooms, restrooms, conference rooms, halls, storage areas
<b>Commercial Dual Technology Sensors</b>		
CSD1000	L-15	Meeting, conference and classrooms, restrooms, dressing rooms, libraries, interview rooms, testing areas, lunch and break rooms
<b>Timers</b>		
RT1	L-18	Closets, bathroom fans, exhaust fans, heat lamps, bedrooms
RT12	L-19	Garages, basements, laundry rooms, fans, motors, landscape lights
RT24	L-19	Exterior lights, landscape lighting, security lighting, holiday lighting
97015, 30, 60	L-20	Bathroom fans, heat lamps, guest rooms
97115, 30, 60	L-20	Bathroom fans, heat lamps, guest rooms where a hold function is desired
97352	L-20	Dual control for bathroom light and fan



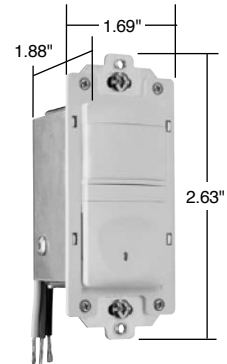
# Occupancy & Vacancy Sensors & Timers Residential Occupancy Sensors

Passive Infrared (PIR)

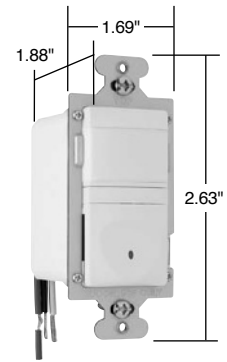


Pass & Seymour

Features	
<ul style="list-style-type: none"> <li>Replaces a standard light or fan single pole switch.</li> <li>Lighted switch for visibility in darkened rooms.</li> <li>Automatic-ON operation.</li> <li>Fixed five-minute time delay.</li> <li>Low-profile styling with uniform color-matched lens and device.</li> <li>Coverage: 180°, max. 600 ft.<sup>2</sup> (56m<sup>2</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>cULus listed.</li> <li>5-year warranty.</li> <li>Works with most common residential lighting types</li> </ul> <p><b>RWU600U only</b></p> <ul style="list-style-type: none"> <li>Load: Incandescent, fluorescent, compact fluorescent (CFL), magnetic low-voltage (MLV) and electronic low-voltage (ELV), 1/6 hp</li> </ul>



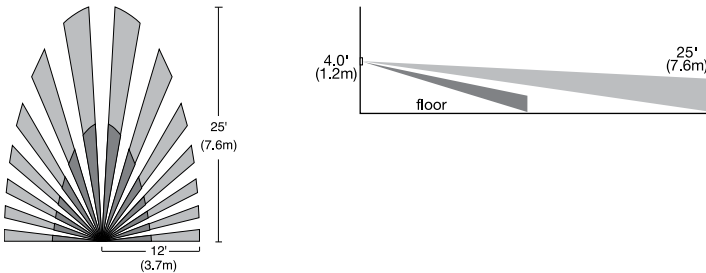
RW500ULACC4



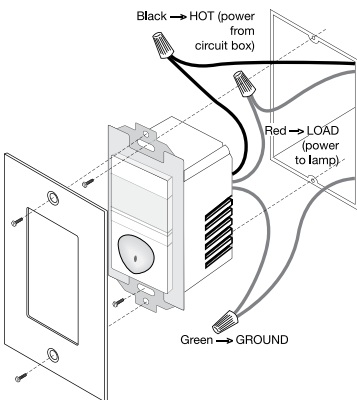
RWU600ULACC4

Catalog Number	Description	Voltage	Load	Auto ON	Manual ON	Selectable Auto/Man. ON	Color
<b>Single Pole Occupancy Sensors</b>							
RW500UICC4 RW500UWCC4 RW500UBKCC4 RW500ULACC4	No neutral required, ideal for storage and utility rooms	120VAC 60 Hz	25-500W Incandescent	Yes Yes Yes Yes	No No No No	No No No No	Ivory White Black Lt. Almond
RWU600UICC4 RWU600UWCC4 RWU600UBKCC4 RWU600ULACC4	Neutral required, controls most types of lighting, ideal for storage & utility rooms	120VAC 60 Hz	0-600W All	Yes Yes Yes Yes	No No No No	No No No No	Ivory White Black Lt. Almond

**Coverage**

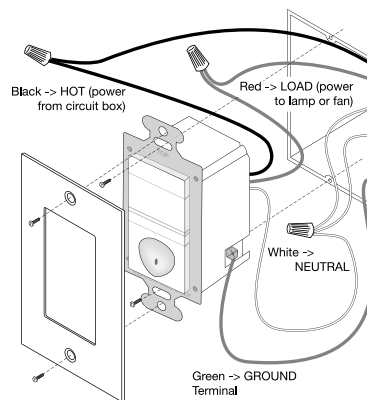


**RW500U Wiring**



Wiring for RW500U does not require a neutral.

**RWU600U Wiring**



Wiring for RWU600U requires a neutral.

All devices listed on this page conform to NEMA WD-1 and WD-6.