

### TYPICAL APPLICATIONS

- Private Offices where occupant turns back to sensor
- Restroom with Stalls
- Storage rooms with shelving

### FEATURES

- Patented Dual Technology with PIR/Microphonics™ Detection
- Small Motion Detection to 20 Feet
- Interfaces w/ G.E. RR-7 Relays
- Time Delay: 30 sec. to 20 minutes, selectable in 2.5 min. increments
- Green LED Activity Indicator
- Push-Button Programmable

### AVAILABLE OPTIONS

- Vandal-Resistant Lens (-V)
- Isolated Low Voltage Relay (-R)
- Low Temp/Hi Humidity (-LT)

### SPECIFICATIONS

- Size: 4.2" H x 1.8" W x 1.5" D (10.67cm x 4.57cm x 3.81cm)
- Sensor Weight: 5 Ounces
- Colors: Ivory, White, Gray, Almond
- Mounting Height: 30 to 48 inches
- Relative Humidity: 20 to 90% non-condensing
- Operating Temp: 14° to 85° F (-10° to 29° C)
- Storage Temp: -14° to 160° F (-26° to 71° C)
- Operating Voltage: 24 VAC (half wave rectified)
- Max. Pulsing Current: 4 Amps
- UL and CUL Listed
- 5 Year Warranty
- Made in U.S.A.

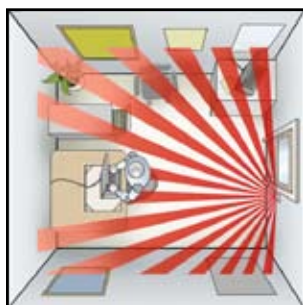
### LOW TEMP/HI HUMIDITY(-LT)

- Conformally coated Circuit Board is corrosion resistant from moisture
- Operates down to -4° F (-20° C)

## WSD-PDT-RR7 Series Programmable Edition!

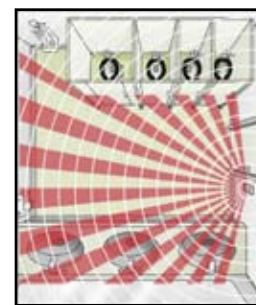


The *WSD-PDT-RR7 Series* wall switch occupancy sensor is designed to interface directly with the G.E. RR-7 Relay System. This sensor combines Passive Infrared (PIR) detection with patented Microphonics™; enabling it to literally “See & Hear” occupants in areas with or without obstructions. The *WSD-PDT-RR7* is the ideal solution for restrooms with stalls, private offices where the occupant turns his back to the sensor, or storage rooms with obstructions. The *WSD-PDT-RR7* offers a Vandal Resistant version for high abuse or public areas. For colder environments or areas with high humidity, the “-LT” option should be utilized.



#### Small Offices

- Sensors maintain effectiveness in obstructed locations
- Detects keyboard, phone, paper shuffling



#### Bathrooms

- Senses partitioned spaces
- Voice sound re-activation prevents lights out condition

### SENSOR OPERATIONS

Sensors with Passive Dual Technology (PDT) first “See” motion using Passive Infrared (PIR) and then engage Microphonics™ to “Hear” sounds that indicate continued occupancy. This patented technology uses Automatic Gain Control (AGC) to dynamically self adapt a sensor to its environment by filtering out constant background noise and detecting only noises typical of human activity. An internal timer, factory set at 10 minutes, keeps the lights “On” during brief periods of no activity. This timer is selectable at 2.5 minute increments from 30 seconds to 20 minutes, and is reset every time occupancy is re-detected. Once the lights turn “Off”, a 10 second grace period allows for the occupant to voice re-activate the lights back “On” if needed. System power is provided by a Class II 24 VAC transformer.

### INTERFACE TO G.E. RR-7 RELAY

The *WSD-PDT-RR7* wall switch sensor interfaces to the G.E. RR-7 relay via a 3-wire parallel connection, thus replacing the local (SPDT “Momentary” type) switch normally used. No wires from the sensor to the transformer are required; an advantage considering most transformers are typically located in a centralized panel and not easily accessible. Upon occupancy, the sensor pulses the red wire, causing the RR-7 relay to turn on the lights. Once the sensor time delay expires, it pulses the black wire causing the RR-7 relay to turn off the lights. The sensor’s push-button switch can also pulse on and off the relay.

### MODEL NUMBERING SYSTEM: WSD-PDT-RR7-[LENS]-[LV RELAY]-[COLOR\*]-[TEMP/HUMIDITY]

SERIES #	LENS	LOW VOLTAGE RELAY	COLOR	TEMP/HUMIDITY
WSD-PDT-RR7	Blank = Standard -V = Vandal Resistant	Blank = No Relay -R = w/ SPDT Relay, 1 Amp	-I = Ivory -W = White -G = Gray -A = Almond	Blank = 14° to 85° F -LT = -4° to 85° F

**WIRING INSTRUCTIONS**

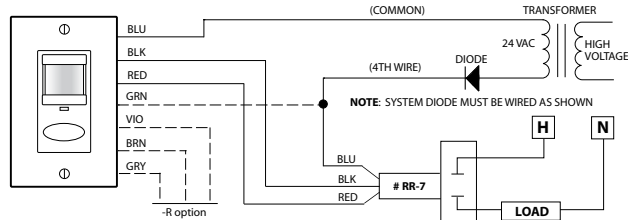
Wire lead connections are Class II, 18 to 22 AWG.

**STANDARD WSD-PDT-RR7**

BLUE – Common (non Diode leg of transformer)

RED – Pulse On

BLACK – Pulse Off



**LOW VOLTAGE RELAY OPTION (WSD-PDT-RR7-R)**

To enable a sensor to interface with a building management system, the -R option provides dry contact closure via a SPDT, 1 Amp, 40 Volt relay. The relay is energized while the sensor registers “Unoccupied”. The relay is then de-energized when the sensor registers “Occupied”.

**LOW VOLTAGE RELAY OPTION WIRING**

GRAY / BROWN – Connected during Occupied state  
 VIOLET / BROWN – Connected during Unoccupied state

GREEN – Wire to transformer

**Note:** Relay is energized during Unoccupied state and must have power at all times to function. Sensor must be powered from both legs of the transformer therefore a “4th wire” is required.

**OPERATIONAL MODES**

**On Modes (\*Default)**

**Automatic On\*** - The sensor automatically turns the lights on when the sensor detects occupancy.

**Semi-Automatic (Manual On)** - The occupant must push the sensor’s button to turn the lights on.

**Reduced Turn-On** - The sensor is set to initially only detect large motions, effectively ignoring any reflected PIR signals while still sensing occupants when they enter the room. Once on, the sensor returns to maximum sensitivity.

**Switch Modes**

The default operation of the push-button switch will turn the lights off no matter what the occupancy state. The lights will stay off until the switch is pressed again, restoring the sensor to Automatic On.

Other switch modes include:

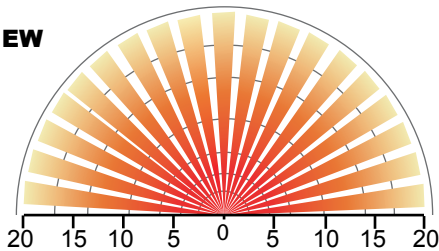
**Switch Disable** - Prevents user from manually turning off the lights via the push-button.

**Predictive Off** - Pressing the switch overrides the lights off and disables the occupancy detection. After an exit time delay (default 10 seconds) the occupancy detection reactivates and monitors for an additional grace period time (default 10 seconds). If no occupancy is detected during this period, the sensor will revert to Automatic On operation. If occupancy is detected, the sensor will remain in permanent off mode requiring the switch to be pressed again in order to restore the sensor to Automatic On.

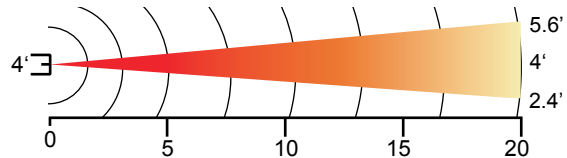
**AREA OF COVERAGE:**

The PIR collector beams view out horizontally in a wall-to-wall pattern. The beams will see out to 50 feet, however, their effectiveness with *Standard Lens* is 20 feet for small hand or body motions and 10 feet for the *Vandal Resistant lens*. The Microphonics™ will detect normal human activity up to 20 feet, but will detect greater distances in spaces with hard floors or very quiet rooms with little or no background noise.

**TOP VIEW**



**SIDE VIEW**



**STANDARD vs. VANDAL RESISTANT LENS**

The Standard lens should be used in typical offices or rooms where occupants work for extended periods of time. The Vandal Resistant lens should be used in high abuse or public areas, where occupants simply come and go and make larger types of motions. Copy rooms, small public restrooms, storage or janitor’s closets are ideal applications. A sensor with a Vandal Resistant lens will have its PIR detection range reduced by 50%., however the Microphonics™ range is not affected.

**WARRANTY:** Sensor Switch, Inc. warrants these products to be free of defects in manufacture and workmanship for a period of sixty months. Sensor Switch, Inc., upon prompt notice of such defect will, at its option, provide a Returned Material Authorization number and a replacement product.

**LIMITATIONS AND EXCLUSIONS:** This Warranty is in full lieu of all other representation and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Sensor Switch, Inc. be liable for any incidental or consequential property damages or losses.



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