

# PASSIVE INFRARED 0-10 VOLT DIMMING WALL SWITCH OCCUPANCY SENSOR

PW-311

Defaults to Manual-ON operation for maximum energy savings

120/230/240/277VAC and 347VAC models

Color-matched lens and low profile for appealing design



Supports Partial-ON operation for energy code compliance or incentives

Neutral Sense™ connection option with break off tab to expose neutral terminals (PW-311-347 only)

Allows fully functional multi-way control from up to four switch locations

## DESCRIPTION

The PW-311 passive infrared (PIR) dimming wall switch sensor can turn lights OFF and ON based on occupancy and allow the user to increase or decrease the lighting level. It works with 0-10 VDC dimming drivers and ballasts to control lighting loads including LEDs.

## OPERATION

The PW-311 installs in a single gang junction box with or without neutral wiring. Factory default operation is for Manual-ON, so that users turn lights on only when needed. It uses PIR technology to detect occupancy. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings enable a variety of control options such as Auto-ON operation, high and low trim, ramp up and fade down times, power loss mode, smart light level, walk-through and test modes. Multiple sensors may be used to dim a lighting load from up to four locations.

On loss of normal power to the PW-311, the 0-10V dimming control will open. Any light fed with a separate circuit but controlled by the unit's 0-10V signal will go to 100%. When combined with a Wattstopper ELCU-200, this ensures lights fed with a separate

Emergency Power Circuit but dimmed with the PW-311's 0-10V signal circuit will go to 100% when normal power fails.

## PARTIAL-ON OPTION

When set for Automatic-ON operation, the PW-311 typically comes ON to the last non-zero light level for occupant comfort and convenience. However, this default setting may be changed to a fixed light level value of 50%, 75% or 100%. The dimmed level options (Preset On Level) support new state and federal energy code requirements.

## APPLICATIONS

The PW-311 sensor is ideal for enclosed spaces with clear line of sight of the occupant. Common applications include small offices, small conference rooms and lunch/break rooms. The PW-311 120/230/240/277v model uses a blue and white signal wire to connect to neutral or, in cases of retrofit or replacement when no neutral is present, can be connected to ground. The PW-311-347 model has a plastic tab that covers neutral screw terminals; once the sensor is connected to neutral it complies with all codes that restrict current leakage to ground.

## FEATURES

- Complies with 2017 NEC requirements (PW-311)
- Vandal resistant lens combines precise coverage with durability
- Presentation mode may be deactivated to allow Auto-ON operation after 15 second time delay
- Optional Smart Light Level adapts ambient light hold off threshold to meet user needs
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy verification of coverage
- Selectable audible and/or visual alerts for impending shutoff
- LED indicates occupancy detection
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Zero-crossing for long relay life
- No derating required for multi-gang applications
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- This product meets the material restrictions of RoHS

PROJECT

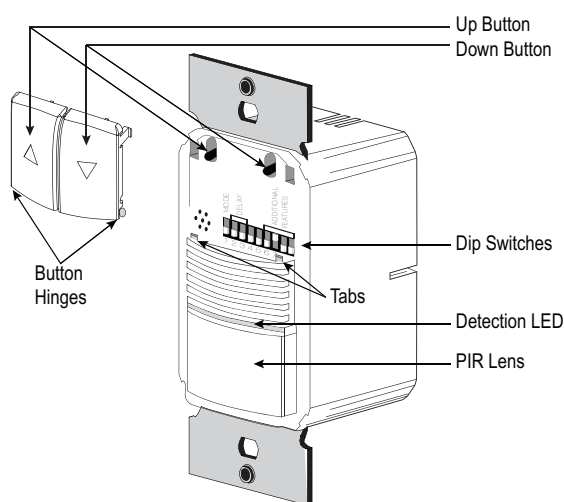
LOCATION/  
TYPE

## SPECIFICATIONS

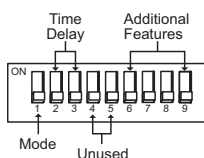
- PW-311: 120/230/240/277VAC; 50/60Hz
- PW-311-347: 347VAC; 50/60Hz
- Dimming control signal: 0-10VDC, sinks up to 50mA for control of compatible ballasts (25 if each sources 2mA); Class 1 wiring
- Time delays: 3, 5, 15 or 30 minutes, walk-through, test-mode
- Power up after power loss: On, Off or last state
- Coverage: Major motion 35' x 30', Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)
- Dimensions (L x W x D): 2.73" x 1.75" x 1.81" (69mm x 44mm x 46mm)
- UL and cUL listed (E101196). Complementary Listed to "Emergency Lighting Equipment", (UL924)
- Five year warranty

## CONTROLS & SETTINGS

### Product Controls



### DIP Switch Settings



Mode	1
Manual - On	↑
Auto - On	↓

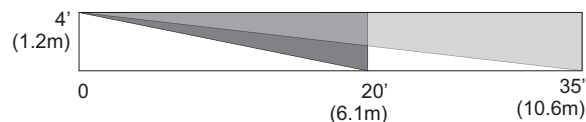
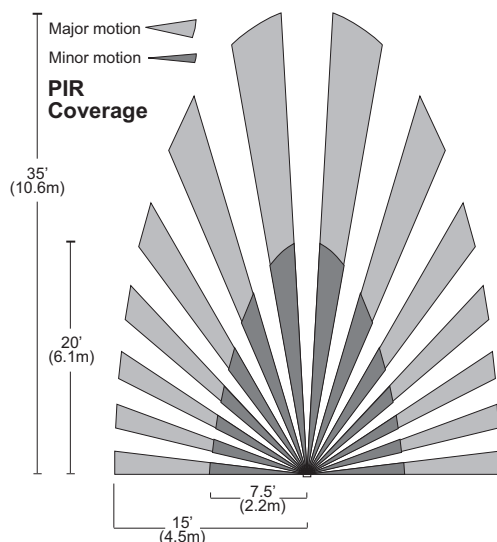
Time Delay	2	3
Test/3 min	↓	↓
5 minutes	↓	↑
<b>15 minutes</b>	↑	↓
30 minutes	↑	↑

↑ = ON ↓ = OFF

Default Values Shown in **Bold**

Additional Features	6	7	8	9	Green LED # of Blinks
Exit Programming Mode	↓	↓	↓	↓	
Visual Alert	↓	↓	↓	↑	1=OFF, 2=ON
Audio Alert	↓	↑	↓	↓	1=ON, 2=OFF
Walk-Thru	↓	↓	↑	↑	1=OFF, 2=ON
PIR Sensitivity	↓	↑	↓	↓	1=100%, 2=50%
High Trim	↓	↑	↓	↑	1=10V, 2=Manual Adjustment
Low Trim	↓	↑	↑	↓	1=0V, 2=Manual Adjustment
Ramp Up Time	↓	↑	↑	↑	1=1, 2=2.5, 3=5, 4=10 seconds
Fade Down Time	↑	↓	↓	↓	1=2.5, 2=5, 3=15, 4=30 seconds
Light Level Adjust	↑	↓	↓	↑	1=Disable, 2=Enable, 3=Smart Light Level
Power Loss Mode	↑	↓	↓	↓	1=Keep Last State, 2=Default On, 3=Default Off
Presentation Mode	↑	↓	↑	↑	1=ON, 2=OFF
Service Mode	↑	↑	↓	↓	1=OFF, 2=ON
Preset On Level	↑	↑	↑	↑	1=Last Non-Zero Value, 2=50%, 3=75%, 4=100%
Non-Dim Mode	↑	↑	↓	↓	1=OFF, 2=ON
Reset To Default	↑	↑	↑	↑	Press and Hold UP or DOWN for 5 seconds

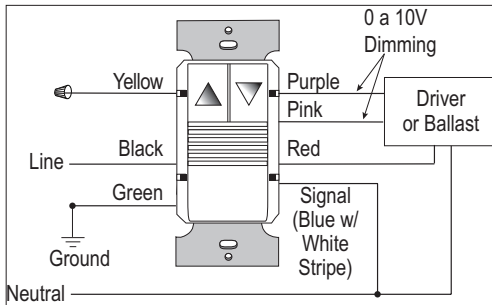
## COVERAGE PATTERNS



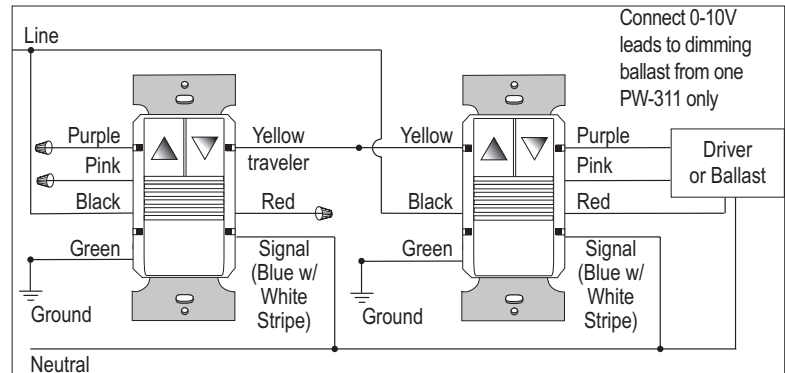
For best performance, Legrand recommends using this sensor in spaces no larger than 15' x 12'.

## WIRING

## PW-311

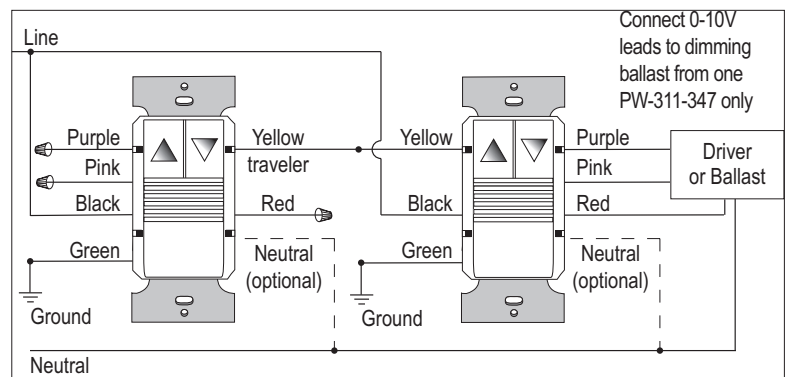
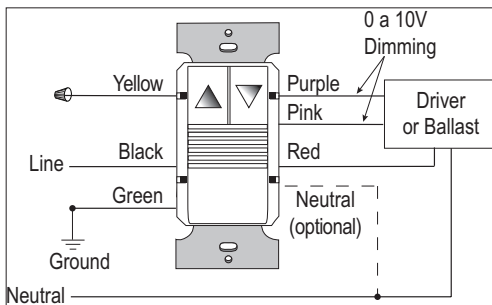


Signal wire connects to neutral. Signal wire can connect to ground in replacement or retrofit application



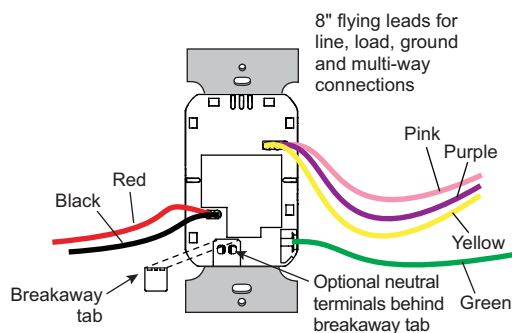
Multi-way Wiring (up to 4 sensors)

## PW-311-347



Multi-way Wiring (up to 4 sensors)

**Note:** For multi-way wiring, All units should be on the same phase



Simple optional neutral connection allows installation in any 2-wire or 3-wire application. When used in a multi-way application, all devices in that space must be wired using the same method of either with neutral or without neutral.

**NOTE:** Per UL, the 0-10V negative dimming wire color has been changed from gray to pink.

## ORDERING INFORMATION

Catalog #		Color		Voltage	Load Rating
<input type="checkbox"/>	PW-311-W	White	PIR 0-10V Dimming Wall Switch Occupancy Sensor	120VAC; 50/60Hz  or  230/240/277VAC; 50/60Hz	@ 120VAC: 0-1000W ballast, E-ballast, LED, tungsten; 1/4hp motor  or  @ 230/240/277VAC: 0-1200W ballast, E-ballast, LED; 1/4hp motor
<input type="checkbox"/>	PW-311-LA	Light Almond			
<input type="checkbox"/>	PW-311-I	Ivory			
<input type="checkbox"/>	PW-311-G	Gray			
<input type="checkbox"/>	PW-311-B	Black			
<input type="checkbox"/>	PW-311-R	Red			
<input type="checkbox"/>	PW-311-W-U	White	PIR 0-10V Dimming Wall Switch Occupancy Sensor, BAA/TAA compliant*		
<input type="checkbox"/>	PW-311-I-U	Ivory			
<input type="checkbox"/>	PW-311-R-U	Red			
<input type="checkbox"/>	PW-311-347-W	White	PIR 0-10V Dimming Wall Switch Occupancy Sensor	347VAC; 50/60Hz	0-1500W ballast, LED; 1/4hp motor
<input type="checkbox"/>	PW-311-347-LA	Light Almond			
<input type="checkbox"/>	PW-311-347-I	Ivory			
<input type="checkbox"/>	PW-311-347-G	Gray			
<input type="checkbox"/>	PW-311-347-B	Black			
<input type="checkbox"/>	PW-311-347-R	Red			

\* BAA/TAA compliant. Product is compliant with Buy American Act and Trade Agreement Act

Order wall plate separately.