

# *Neutral Sense™ Wall Switch Sensors* **Product Introduction**

July, 2014



# -300 Series Family Range Overview

WS-301 (auto-on only)	PW-30x	DSW-30x
Passive Infrared	Passive Infrared	Dual Technology
120/277V & 347V models	120/277V & 347V models	120/277V & 347V models
Single Relay	Single & Dual Relay	Single & Dual Relay
Single Pole	Multi-way	Multi-way
Optional Neutral	Optional Neutral	Optional Neutral



# WS-301 PIR Wall Switch Sensor

## Features & Benefits

- Complies with 2011 NEC requirements
- Optional neutral connection with break off tab to expose neutral terminals
- Shallow (1") back housing and flying leads for easy installation
- Zero crossing circuitry for increased sensor life
- Adjustable time delay and sensitivity
- Custom two-tier Fresnel lens enhances detection at the desktop level
- 180° coverage, maximum of 900 ft<sup>2</sup> (NEMA WD 7-2000)
- Light level sensor holds lights off when ambient lighting is above the preset level
- Patented voltage drop protection
- For safety, there is no leakage to load in the off mode and sensor is safety grounded



# WS-301 PIR Wall Switch Sensor

## Specifications

- WS-301: 120/277VAC; 50/60Hz, 1/4 hp
  - @ 120VAC, 0-1000W e-ballast, LED, and tungsten
  - @ 277VAC, 0-1200W e-ballast and LED
- WS-301-347: 347VAC; 50/60Hz, 1/4 hp;
  - 0-1500W ballast and LED
- Time delay adjustable from 30 sec. to 30 min.
- Adjustable sensitivity from 20% to 100%
- Adjustable light level setting of 10 to 200 footcandles (107.6 to 2,153 lux)



UL and cUL listed

Five year warranty

# PW-30x PIR Wall Switch Sensors

## Features & Benefits

- Complies with 2011 NEC requirements
- Optional neutral connection with break off tab to expose terminal
- Default Operation: Manual-ON (single relay) and Auto-On to 50% (dual relay) for maximum energy savings
- Allows multi-way control from one of up to four control locations
- Zero-crossing for long relay life
- Color-matched lens and low profile design
- Vandal resistant lens combines precise coverage with durability
- Selectable walk-through mode turns lights off 3 min. after the room is initially occupied if no motion is detected after the first 30 sec.
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure



# PW-30x PIR Wall Switch Sensors

## Specifications

- Load limits for relay 1:
  - @ 120VAC 1000W tungsten, ballast, e-ballast, LED, 1/4hp
  - @ 277VAC 1200W tungsten, ballast, e-ballast, LED, 1/4hp
  - @ 347VAC 1500W tungsten, ballast, LED, 1/4hp
- Load limits for relay 2:
  - @ 120VAC 800W tungsten, ballast, e-ballast, LED, 1/6hp
  - @ 277VAC 1200W tungsten, ballast, e-ballast, LED, 1/6hp
  - @ 347VAC 1500W tungsten, ballast, LED, 1/6hp
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 35' x 30'; Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)



UL and cUL listed  
Five year warranty



# DSW-30x Dual Tech Wall Switch Sensors

## Features & Benefits

- Complies with 2011 NEC requirements
- Optional neutral connection with break off tab to expose terminal
- Default Operation: Manual-ON (single relay) and Auto-On to 50% (dual relay) for maximum energy savings
- Allows multi-way control from one of up to four control locations
- Zero-crossing for long relay life
- Color-matched lens and low profile design
- Four occupancy logic options customizable for various control apps
- High sensitivity and dense coverage for exceptional performance
- Selectable walk-through mode turns lights off 3 min. after the room is initially occupied if no motion is detected after the first 30 sec.
- Test mode allows quick and easy adjustments
- Selectable audible alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch



# DSW-30x Dual Tech Wall Switch Sensors

## Specifications

- Load limits for relay 1:
  - @ 120VAC 1000W tungsten, ballast, e-ballast, LED, 1/4hp
  - @ 277VAC 1200W tungsten, ballast, e-ballast, LED, 1/4hp
  - @ 347VAC 1500W tungsten, ballast, LED, 1/4hp
- Load limits for relay 2:
  - @ 120VAC 800W tungsten, ballast, e-ballast, LED, 1/6hp
  - @ 277VAC 1200W tungsten, ballast, e-ballast, LED, 1/6hp
  - @ 347VAC 1500W tungsten, ballast, LED, 1/6hp
- Time delays: 5, 15 or 30 minutes, walk-through, test-mode/20 minutes
- Sensitivity: PIR (high/low), Ultrasonic (fully variable)
- Coverage:
  - Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
  - Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'

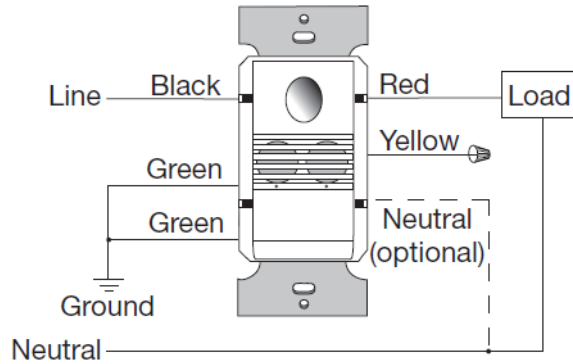


UL and cUL listed

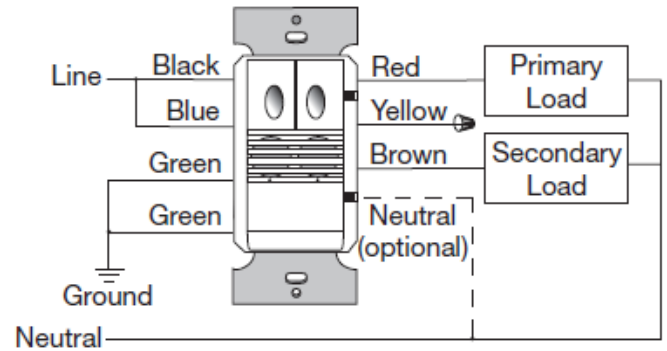
Five year warranty



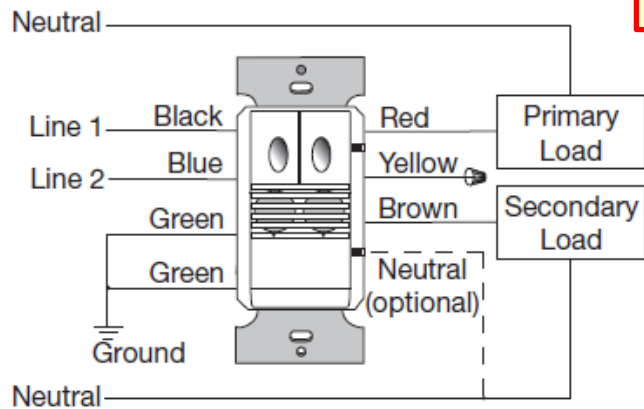
# Wiring Options



Single Pole

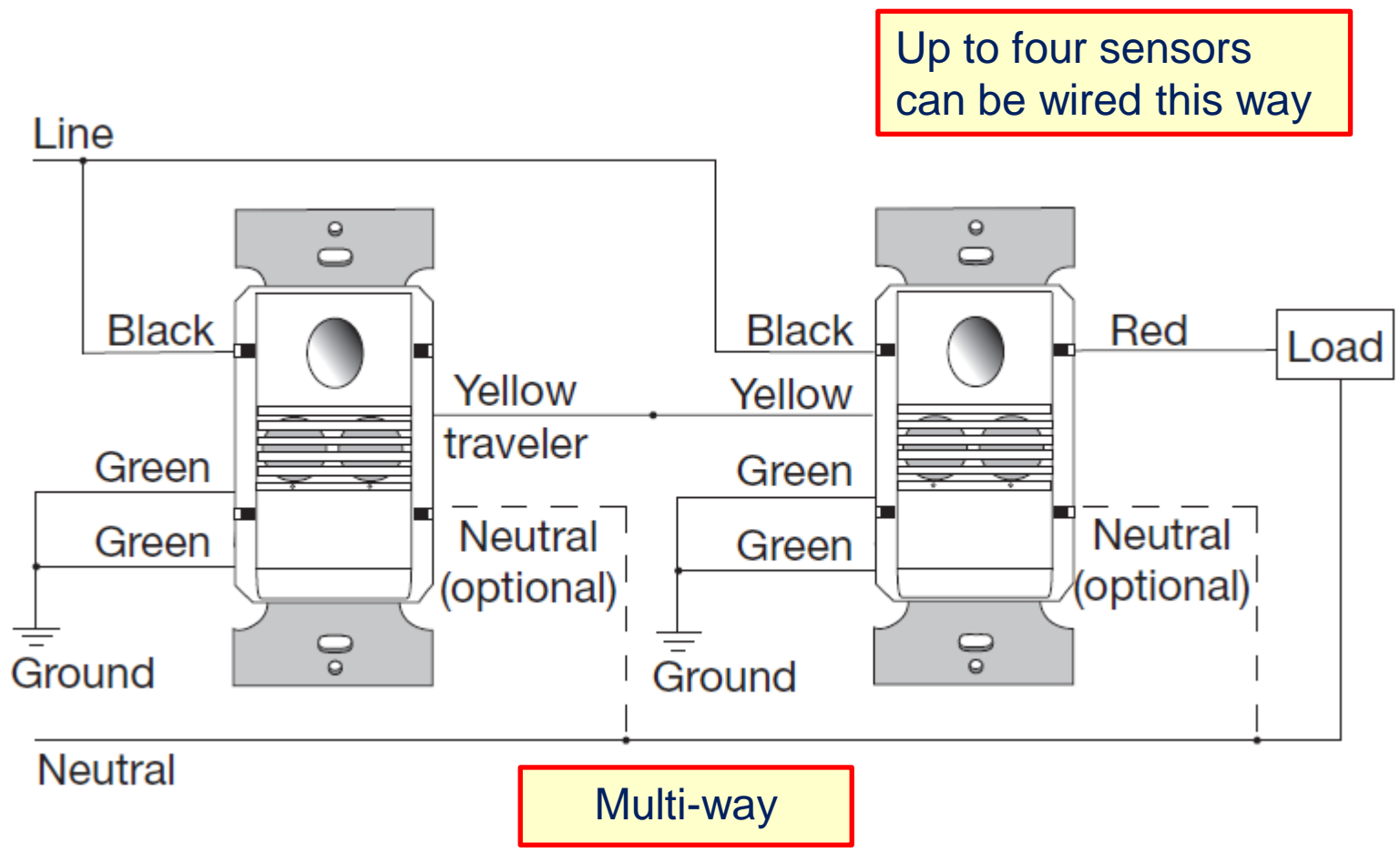


Bi-Level

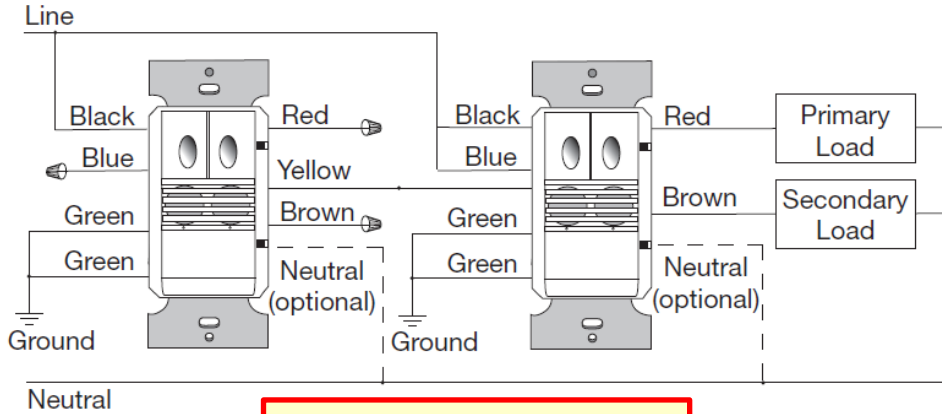


Dual Circuit

# Wiring Options (continued)

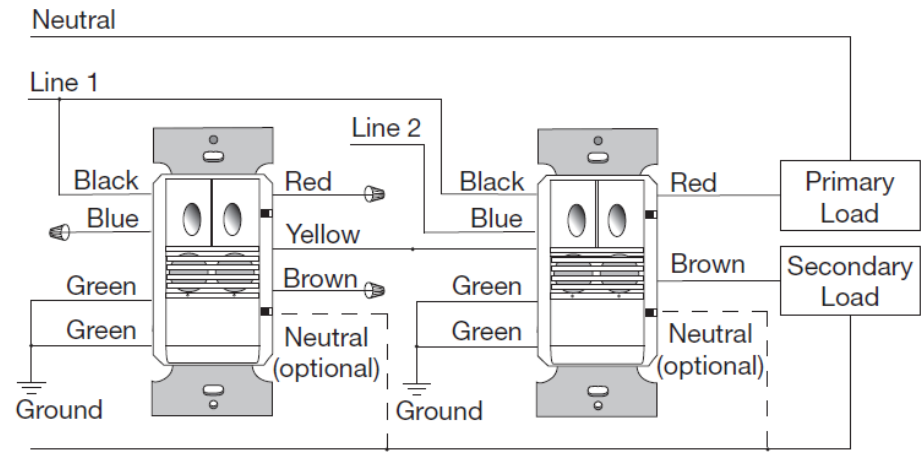


# Wiring Options (continued)



Multi-way / Bi-Level

Up to four sensors can be wired this way

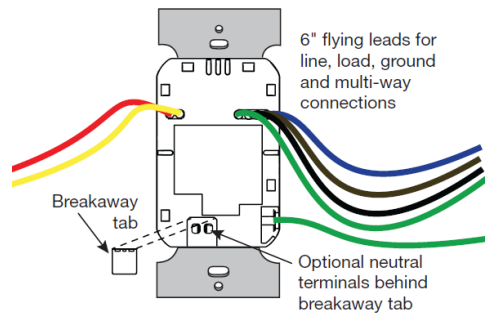


Multi-Way / Dual Circuit

# No Configuration Required

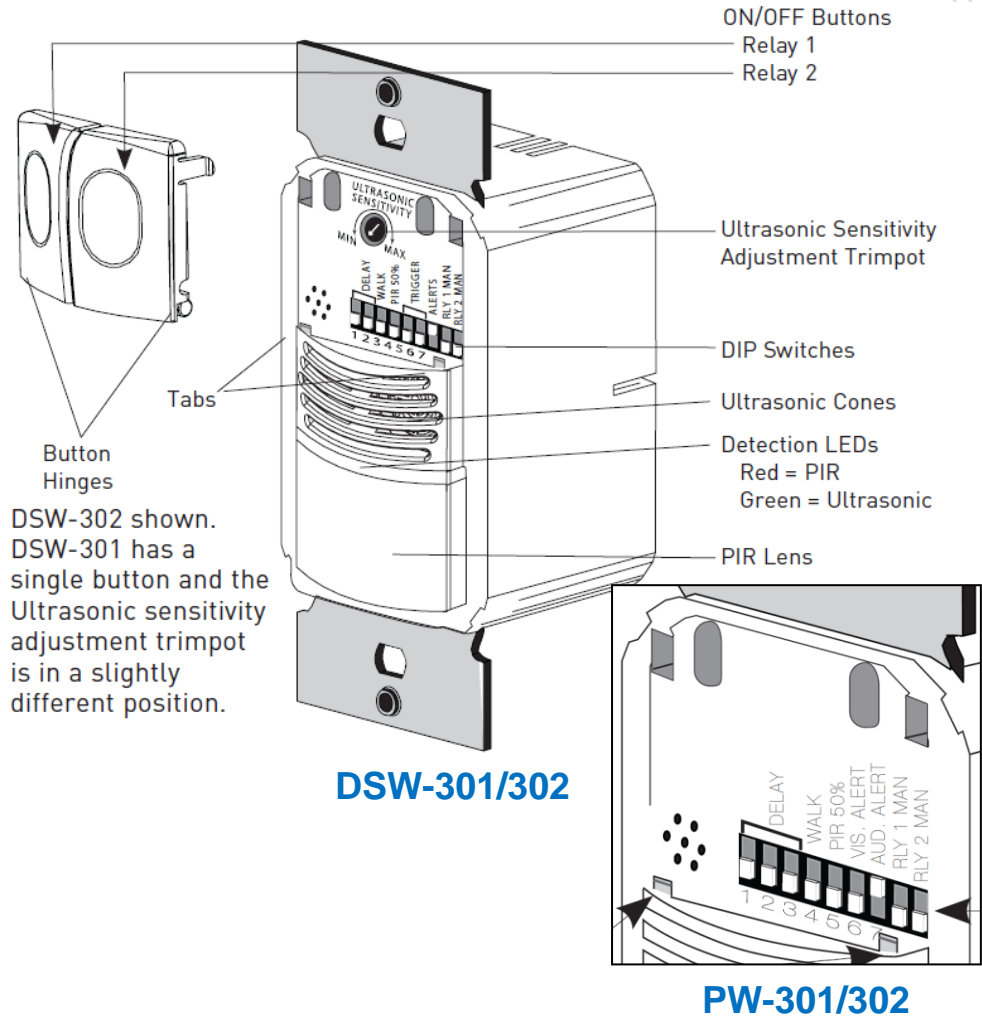
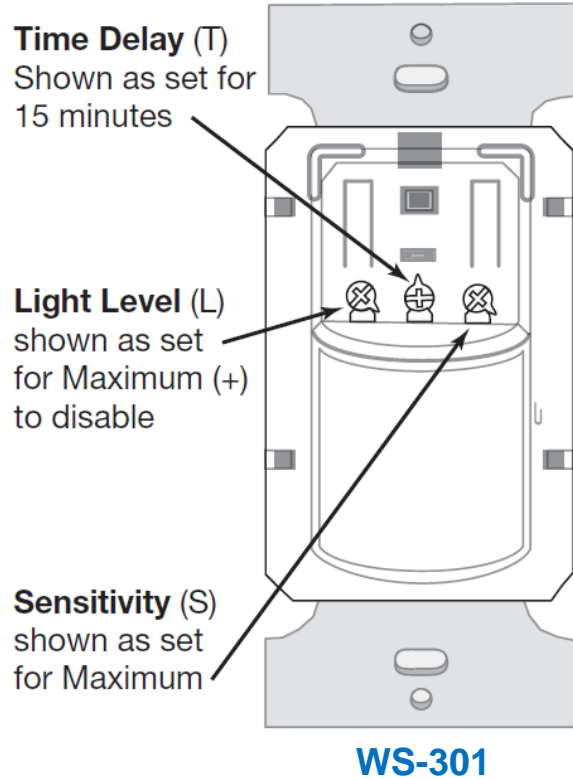
- WattStopper's **Neutral Sense™ solution** offers the fastest conversion from Ground only (no Neutral) to Neutral wiring
- Simply break the tab to expose neutral terminals if needed

**WattStopper**  
**Single Step!**




- With no loose parts to reinstall, **Neutral Sense** offers the best conversion from Neutral wiring back to Ground only

# Sensor Adjustments




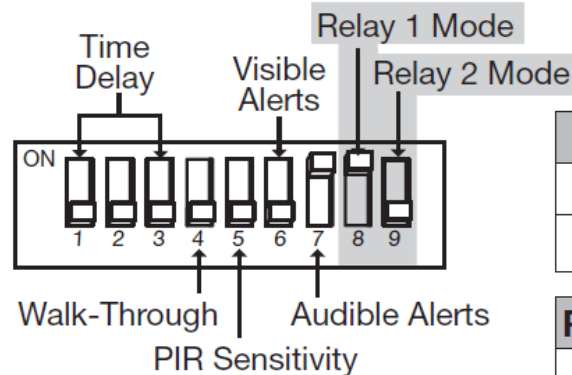
# Sensor Adjustments (continued)

## PW-301/302

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	↓

↑ = ON ↓ = OFF



Audible Alert	7
Enabled	↑
Disabled	↓

Relay 1 Mode	8
Manual On	↑ 
Auto On	↓ 

PW-302 ONLY

Relay 2 Mode	9
Manual On	↑
Auto On	↓

Factory Settings:

- ◀ All models
-  PW-301 series
-  PW-302 series

To reset to factory settings use DIP Switch Settings tables above and press and hold the ON/OFF button #1 for 10 seconds, until a triple beep sounds. This resets the sensor and disables light level control



# Sensor Adjustments (continued)

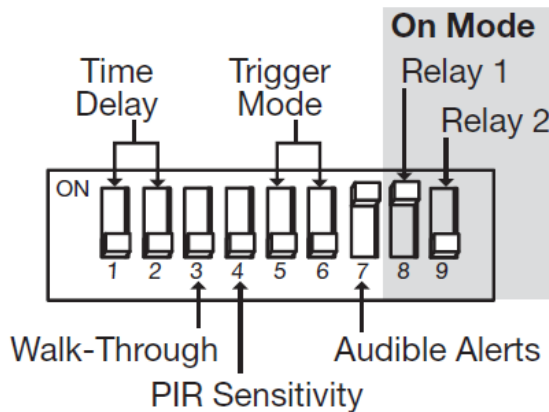
## DSW-301/302

Time Delay	1	2
Test/20 min	↓	↓
5 minutes	↓	↑
15 minutes	↑	↓
30 minutes	↑	↑

Walk-Through	3
Enabled	↑
Disabled	↓

PIR Sensitivity	4
Low, 50%	↑
High	↓

↑=ON ↓=OFF



Trigger Mode	Initial Occupancy	Maintain Occupancy	Re-trigger (seconds duration)	5	6
Standard	Both	Either	Either (5)	↓	↓
Option A	PIR	Either	Either (5)	↓	↑
Option B	PIR	PIR	PIR (5)	↑	↓
Option C	Both	Both	Both (5)	↑	↑

Audible Alert	7
Enabled	↑
Disabled	↓

Relay 1 On Mode	8
Manual On	↑ <sup>1</sup>
Auto On	↓ <sup>2</sup>

DSW-302 only:

Relay 2 On Mode	9
Manual On	↑
Auto On	↓

Factory Settings:

- ◀ All models
- <sup>1</sup> DSW-301
- <sup>2</sup> DSW-302

To reset to factory settings use DIP Switch Settings tables above and press and hold the ON/OFF button #1 for 10 seconds, until a triple beep sounds. This resets the sensor and disables light level control

# Part Numbers and Color Options

Catalog #	Description
WS-301	Neutral Sense™ PIR Wall Switch Occupancy Sensor, Auto-On only
WS-301-347	Neutral Sense™ PIR Wall Switch Occupancy Sensor, Auto-On only
PW-301	Neutral Sense™ PIR Wall Switch Occupancy Sensor, Manual- or Auto-On
PW-301-347	Neutral Sense™ PIR Wall Switch Occupancy Sensor, Manual- or Auto-On
PW-302	Neutral Sense™ Dual Relay PIR Wall Switch Occupancy Sensor, Auto-On to 50%, Manual- or Auto-On
PW-302-347	Neutral Sense™ Dual Relay PIR Wall Switch Occupancy Sensor, Auto-On to 50%, Manual- or Auto-On
DSW-301	Neutral Sense™ Dual Technology Wall Switch Occupancy Sensor, Manual- or Auto-On
DSW-301-347	Neutral Sense™ Dual Technology Wall Switch Occupancy Sensor, Manual- or Auto-On
DSW-302	Neutral Sense™ Dual Relay Dual Technology Wall Switch Occupancy Sensor, Auto-On to 50%, Manual- or Auto-On
DSW-302-347	Neutral Sense™ Dual Relay Dual Technology Wall Switch Occupancy Sensor, Auto-On to 50%, Manual- or Auto-On

All wall switches are available in white, ivory, light almond, black, grey and red

***THANK YOU***