DUAL TECHNOLOGY DUAL RELAY WALL SWITCH OCCUPANCY SENSOR

DSW-302

High sensitivity and dense coverage for exceptional performance

Two relays for control of two separate lighting loads or circuits

Color-matched lens and low profile for appealing design

120/240/277 VAC and 347 VAC models

Defaults to Manual-ON operation for maximum energy savings

Allows multi-way control from one of up to four control locations

DESCRIPTION

The DSW-302 dual technology wall switch sensor turns lights ON and OFF based on occupancy and contains two relays for controlling two independent lighting loads or circuits. It combines the benefits of passive infrared (PIR) and ultrasonic detection technologies for high sensitivity to small and large movements. The DSW-302 replaces existing wall switches and fits a standard decorator wall plate.

OPERATION

Each of the DSW-302's relays can control a separate lighting load. By default, when the PIR and Ultrasonic sensors detect occupancy, relay 1 turns ON automatically. Remaining lighting must be turned on manually. Detection by either PIR or ultrasonic technology holds lights ON. When occupancy is no longer detected and the time delay elapses, lights automatically turn OFF. Dual ON/OFF buttons allow the user to turn on and off each of the loads manually. DIP switch settings allow for a variety of control options such as Auto-ON or Manual-ON for each relay, walk-through, and test mode. Multiple sensors may be used for control of one or more loads from up to four locations.

COMPATIBLE WITH 2 WIRE OR 3 WIRE CONNECTIONS

Any DSW-302 sensor can be used for a two-wire or three wire application, either to work with existing wiring, or to meet local or national code requirements. The DSW-302 120/240/277v 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 DSW-302-347 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.

APPLICATIONS

The DSW-302 sensor is great for retrofit projects and has the flexibility for applications where one technology alone may not be sufficient. In addition, its dual relays allow bi-level switching or control of two loads. Applications include small and executive offices, small and medium conference rooms and lunch/break rooms. This sensor is also a perfect choice for ADA-compliant buildings due to lower mounting height requirements.

FEATURES

- Complies with 2017 NEC requirements
- Zero-crossing on both relays for long relay life
- Vandal resistant lens combines precise coverage with durability
- 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
- Selectable audible alert for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations

- Test mode allows quick and easy adjustments
- Four occupancy logic options to customize control to meet application needs
- Optional light level sensor holds secondary lights off when ambient lighting is above the preset level
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
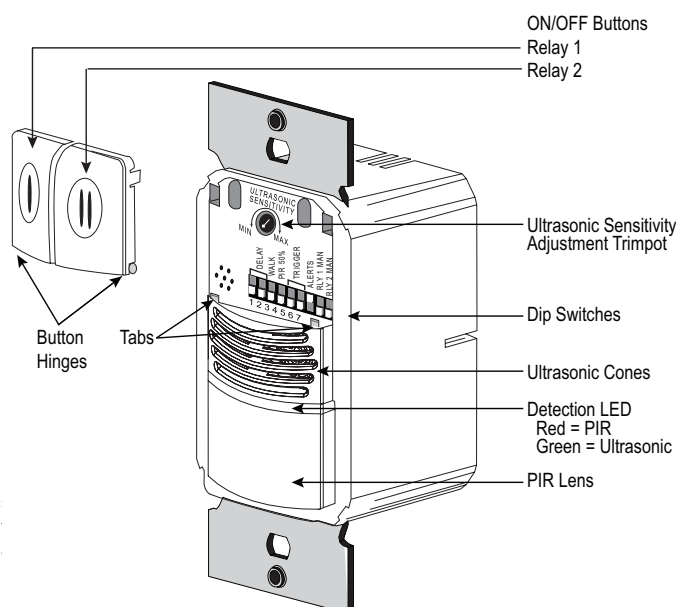- BAA/TAA-compliant models available

PROJECT		LOCATION/ TYPE	

SPECIFICATIONS

- DSW-302: 120/240/277VAC; 50/60Hz,
  - @ 120VAC
    Relay 1: 0-1000W ballast, LED, and tungsten,1/4 hp
    Relay 2: 0-800W ballast, LED, and tungsten 1/6hp
  - @ 240/277VAC, 0-1200W ballast and LED,
    Relay 1: 1/4 hp, Relay 2: 1/6hp
- DSW-302-347: 347VAC; 50/60Hz, 0-1500W ballast and LED
  Relay 1: 1/4 hp, Relay 2: 1/6hp
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)

- Time delays: 5, 15 or 30 minutes), walk-through, test mode/20 minutes
- Coverage: Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
  Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Dimensions (L x W x D): 2.73" x 1.75" x 1.81"
  (69mm x 44mm x 46mm)
- UL and cUL listed
- Five year warranty

CONTROLS & SETTINGS

Product Controls & Neutral Option

ON/OFF Buttons
Relay 1
Relay 2

Ultrasonic Sensitivity Adjustment Trimpot

Dip Switches

Ultrasonic Cones

Detection LED
  Red = PIR
  Green = Ultrasonic

PIR Lens

Button Hinges   Tabs

DIP Switch Settings

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

Time Delay / Trigger Mode / On Mode Relay 1 / Relay 2
Walk-Through / Audible Alerts
PIR Sensitivity

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	↓	

DSW-301 and DSW-302

Relay 1 On Mode	8	
Manual On	↑	⚠1
Auto On	↓	⚠2

DSW-302 ONLY

Relay 2 On Mode	9
Manual On	↑ ◄
Auto On	↓

Factory Settings:
  ◄ All models
  ⚠1 DSW-301
  ⚠2 DSW-302

COVERAGE

Major motion
Minor motion
PIR Coverage

Major motion
Minor motion
Ultrasonic Coverage

35' (10.6m)
20' (6.1m)
13' (4.0m)
10' (3.0m)
7.5' (2.2m)
7.5' (2.2m)
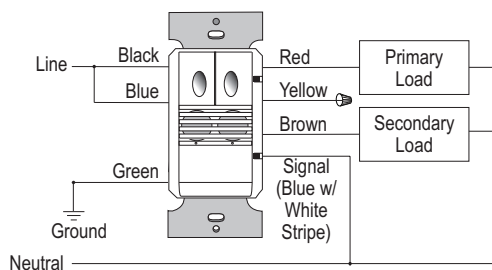15' (4.5m)
10' (3.0m)

4' (1.2m)
0
13' (4.0m)
35' (10.6m)
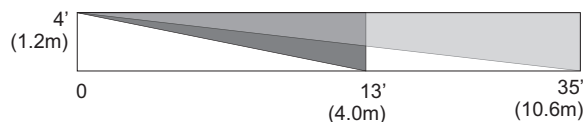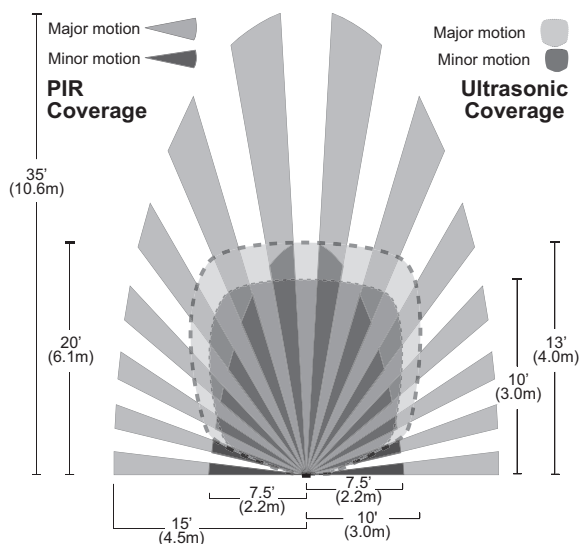
For best performance, Wattstopper recommends using this sensor in spaces no larger than 18' x 15'.

WIRING

DSW-302

Bi-Level

Line — Black, Blue
Red, Yellow — Primary Load
Brown — Secondary Load
Green
Signal (Blue w/ White Stripe)
Ground
Neutral

Dual Circuit

Neutral
Line 1 — Black
Line 2 — Blue
Red, Yellow — Primary Load
Brown — Secondary Load
Green
Signal (Blue w/ White Stripe)
Ground
Neutral

Bi-Level Multi-way

Line
Black, Blue — Red, Yellow, Brown
Green — Signal (Blue w/ White Stripe)
Ground
Black, Blue — Red, Brown — Primary Load, Secondary Load
Green — Signal (Blue w/ White Stripe)
Ground
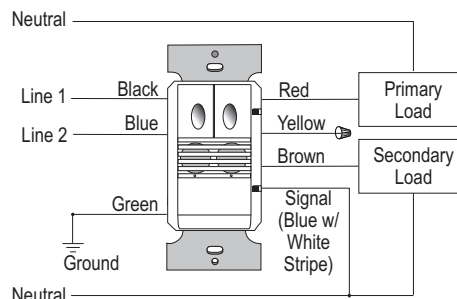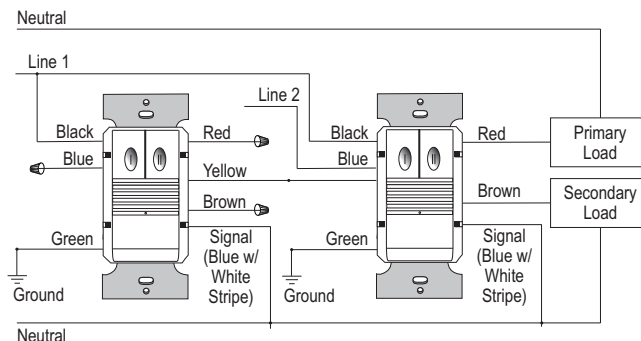Neutral

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

Dual Circuit Multi-way

Neutral
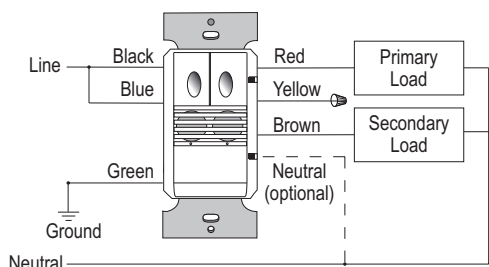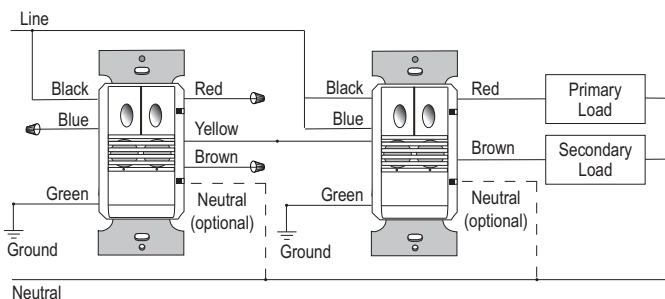Line 1
Line 2
Black, Blue — Red, Yellow, Brown
Green — Signal (Blue w/ White Stripe)
Ground
Black, Blue — Red, Brown — Primary Load, Secondary Load
Green — Signal (Blue w/ White Stripe)
Ground
Neutral

DSW-302-347

Bi-Level

Line — Black, Blue
Red, Yellow — Primary Load
Brown — Secondary Load
Green
Neutral (optional)
Ground
Neutral

Dual Circuit

Neutral
Line 1 — Black
Line 2 — Blue
Red, Yellow — Primary Load
Brown — Secondary Load
Green
Neutral (optional)
Ground
Neutral

Bi-Level Multi-way

Line
Black, Blue — Red, Yellow, Brown
Green — Neutral (optional)
Ground
Black, Blue — Red, Brown — Primary Load, Secondary Load
Green — Neutral (optional)
Ground
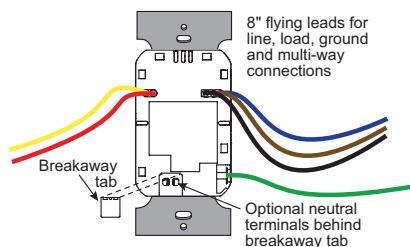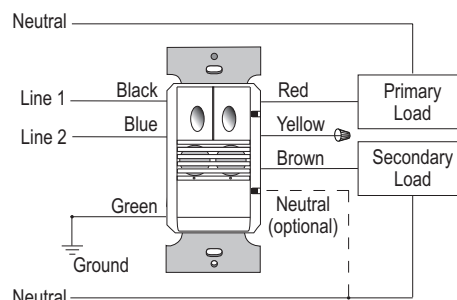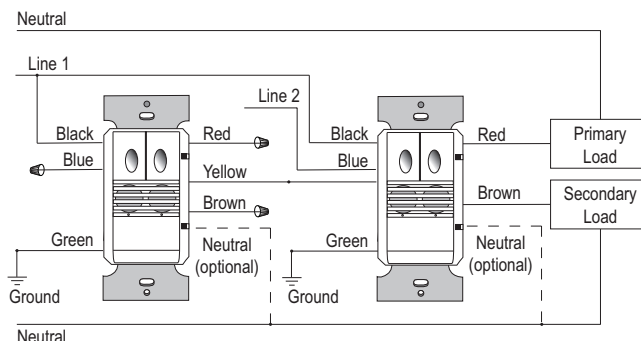Neutral

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.

Breakaway tab
8" flying leads for line, load, ground and multi-way connections
Optional neutral terminals behind breakaway tab

Dual Circuit Multi-way

Neutral
Line 1
Line 2
Black, Blue — Red, Yellow, Brown
Green — Neutral (optional)
Ground
Black, Blue — Red, Brown — Primary Load, Secondary Load
Green — Neutral (optional)
Ground
Neutral

Note: For multiway, all units should be on the same phase.

ORDERING INFORMATION

Catalog #	Color	Voltage	Load Rating
☐ DSW-302-W	White	120VAC; 50/60Hz or 240/277VAC; 50/60Hz	@ 120VAC, 0-1000W ballast, LED, tungsten, 1/4 hp or @ 240/277VAC 0-1200W ballast, LED, 1/4 hp
☐ DSW-302-W-U	White		
☐ DSW-302-LA	Light Almond		
☐ DSW-302-I	Ivory		
☐ DSW-302-G	Gray		
☐ DSW-302-B	Black		
☐ DSW-302-R	Red		
☐ DSW-302-347-W	White	347VAC; 50/60Hz	0-1500W ballast & LED, 1/4 hp

Order wall plate separately.

-U = BAA/TAA-compliant models available. Product is compliant with Buy American Act and Trade Agreement Act