Catalog Number: | Date: | Project:

OVERVIEW

The WSX family of wall switch occupancy sensors provides simple and cost effective solutions for commercial and residential lighting control applications. All WSX family sensors have a stylish low profile appearance, soft-click buttons, and provide small motion detection up to 20 ft (6.10 m), making them perfect for private offices, private rest rooms, closets, copy rooms, or any other small enclosed space. Additionally, all WSX family sensors have a patent-pending wiring method that enables them to function either with or without a neutral connection. WSX units come pre-configured for wiring without a neutral, however if connection to neutral is required by code, contractors can convert the unit in seconds.

SPECIFICATIONS

Size:	2.74" H x 1.68" W x 1.63" D (6.96 cm x 4.27 cm x 4.14 cm) (not including ground strap)
Weight:	5 oz
Mounting:	Single Gang Switch Box
Mounting Height:	30-48 in (76.2-121.9 cm)
Maximum Load/Pole:	(Relay) 800 W @ 120VAC, 1200 W @ 277VAC, 1500 W @ 347VAC
Minimum Load:	None
Motor Load:	1/4 HP
Max Sink Current:	50 mA
0-10V Dim Min Output:	<0.3 V
Frequency:	50/60 Hz (timers are 1.2x for 50Hz)
Temperature Rating:	0°C-60°C

ROHS Compliant

Warranty

5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

AcuityControls™

Sensor Switch™

WSX D

Dimming Occupancy Wall Switch

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ORDERING INFORMATION

WSX D — **Example: WSX PDTD 347 WH 8H**

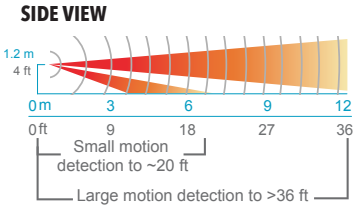
Series	Detection Mode	eldoLED	Dimming	Operating Mode
WSX Wall Switch Occupancy Sensor	[blank] Passive Infrared (PIR) PDT Dual Technology	[blank] None EZ[1] eldoLED Driver Compatibility	D Dimming	[blank] Automatic On SA Manual On VA Vacancy

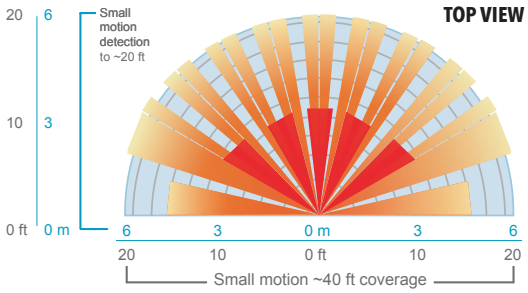
Voltage	Color[3]				Max Dim Level[5]	Min Dim Level[5]			
[blank] 120/277 VAC 347[2] 347 VAC	WH White IV Ivory GY Gray		AL Almond BK Black RD[4] Red		[blank] 10 VDC 9H 9 VDC 8H 8 VDC 7H 7 VDC	[blank] 0 VDC 1V 1 VDC 2V 2 VDC 3V 3 VDC		4V 4 VDC 5V 5 VDC 6V 6 VDC	

NOTES:
1. Max Dim Level default set to 9.1VDC. Min Dim Level default set to 1.5VDC
2. Wall plated included for white or ivory only for 347 VAC units
3. Matching wall plate provided for 120/277 VAC units
4. Special order
5. For setting other than default, minimum order quantity of 30 units

COVERAGE PATTERNS

- Small motion (e.g. hand movements) detection up to 20 ft (6.10 m), ~625 ft2
- Large motion (e.g. walking) detection greater than 36 ft (10.97 m), ~2025 ft2
- Wall-to-wall PIR coverage
- Units with -PDT (Passive Dual Technology) option (also called Microphonics) provide overlapping detection of human activity over the complete PIR coverage area. Advanced filtering is utilized to prevent non-occupant noises from keeping the lights on.

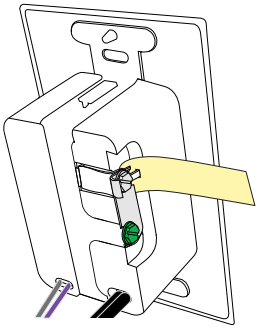




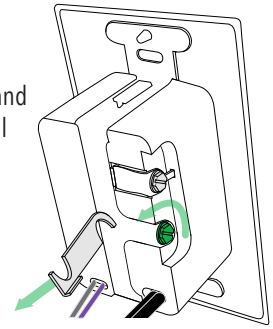
CONVERSION FROM GROUND ONLY (NO NEUTRAL) TO NEUTRAL WIRING

This product is pre-configured for wiring without a neutral; however, if connection to neutral is required by code, the unit easily converts in seconds.

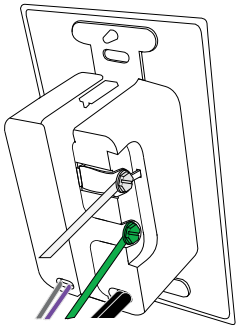
Step 1: Remove Yellow Label



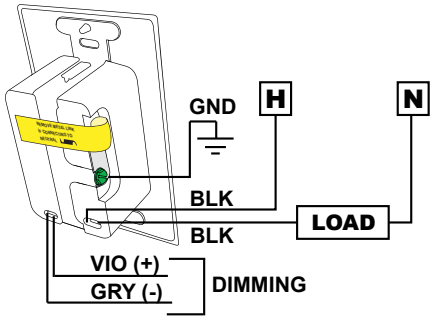
Step 2: Loosen Screws and Remove Metal Link



Step 3: Connect Neutral to Silver Screw and Ground to Green Screw



WIRING TO GROUND (NO NEUTRAL)



WIRE COLOR KEY

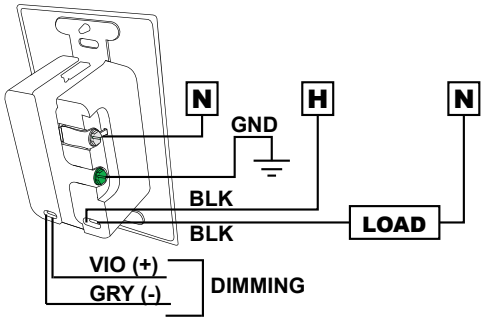
120/277 VAC WIRING

BLACK* - Line 1 Input
BLACK* - Load 1 Output
} *BLACK wires can be reversed
VIOLET - Low Voltage Dim Output (0-10 VDC)
GRAY - Low Voltage Common

347 VAC WIRING (-347 Option)

Red wires replace Black wires.

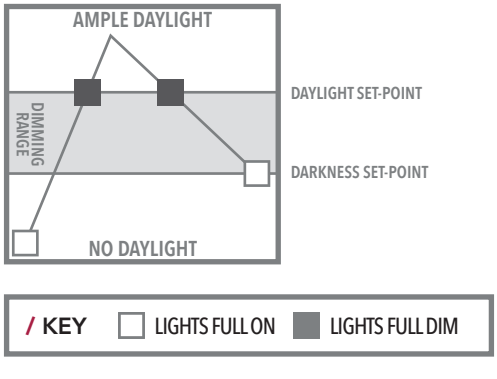
WIRING TO NEUTRAL



NOTES:
1.) Per NEC requirements, the 0-10V violet and gray wires must be installed as Class One.
2.) The 0-10V control wires must not exceed 250 ft (76 m) in length and must be sized at no less than 20AWG.

Adaptive Daylight Harvesting (ADH)

With Sensor Switch's Adaptive Daylight Harvesting (ADH), automatic dimming has never been more reliable - even in a wall switch. It works by establishing two state change set-points; daylight and darkness. The light level in the space will then be automatically maintained by ***intelligently controlling*** the dim level of the electric light source. Set-points can be established using the "Set Now" option or programmed using desired light levels as measured in foot candles (fc).



OPERATIONAL SETTINGS

2 = Occupancy Time Delay
The length of time an occupancy sensor will keep the lights on after it last detects occupancy.

1 - Test Mode**	5 - 7.5 min	9 - 17.5 min	13 - 27.5 min
2 - 30 sec	6 - 10.0 min*	10 - 20.0 min	14 - 30.0 min
3 - 2.5 min	7 - 12.5 min	11 - 22.5 min	
4 - 5.0 min	8 - 15.0 min	12 - 25.0 min	

**Test mode sets Occupancy Time Delay to 30 seconds, and increases photocell transition rate in addition to disabling the microphone on units with Dual Technology.

3 = On Mode
Automatic On [1]
Sensor automatically turns the lights on when it detects occupancy.
Manual On
Sensor requires pressing the button to turn the lights on.
Reduced Turn-On
Sensor is set to initially only detect large motions, effectively ignoring any reflected Passive Infrared (PIR) signals. Occupants will still be detected immediately when they enter the room as their PIR signal is large. Once lights are on, the sensor returns to maximum sensitivity.

1 - Automatic On* 3 - Reduced Turn-On

2 - Manual On

4 = Switch Modes
Switch Enable (Override Off) [1]
Button will turn lights off and keep them off until pressed again. The lights will remain off until the button is pressed again, restoring the sensor to Automatic On mode.
Switch Disable
User is prevented from turning off the lights via the push-button.
Predictive Mode
Pressing the push-button switch overrides the lights off and temporarily disables the occupancy detection. After 10 seconds, the occupancy detection reactivates and monitors for an additional 30 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 Override Off mode and requires the switch to be pressed again in order to restore the sensor to Automatic On.
Predictive Mode with Expiration
Pressing the push-button switch overrides the lights off and temporarily disables the occupancy detection. After 10 seconds, the occupancy detection reactivates and monitors for an additional 30 seconds. If no occupancy is detected during this period, the sensor will revert to Automatic On operation.

1 - Switch Enable 3 - Predictive Mode

2 - Switch Disable 4 - Predictive Mode with Expiration*

5 = Darkness Set-Point/ Inhibit Set-Point
The ambient light level at which the sensor sets the lights to the High Trim setting.

1 - Set Now**	5 - 8 fc	9 - 48 fc	13 - 128 fc
2 - 0.1 fc	6 - 16 fc	10 - 64 fc	14- 192 fc
3 - 1 fc	7 - 24 fc*	11 - 80 fc	15 - 256 fc
4 - 4 fc	8 - 32 fc	12 - 96 fc	

**Set Now will automatically select the Darkness Set-Point based on the current conditions in the room. Lights will go to full bright and sensor will rapid flash for 15 seconds allowing occupant to move out of direct view of sensor. Once the set-point selection is completed, the sensor will double-blink in confirmation.

6 = Daylight Set-Point
The ambient light level at which the sensor sets the lights to the Low Trim setting.

1 - Set Now**	5 - 8 fc	9 - 48 fc	13 - 128 fc
2 - 0.1 fc	6 - 16 fc	10 - 64 fc*	14- 192 fc
3 - 1 fc	7 - 24 fc	11 - 80 fc	15 - 256 fc
4 - 4 fc	8 - 32 fc	12 - 96 fc	

**Set Now will automatically select the Daylight Set-Point based on the current conditions in the room. Lights will go to full dim and sensor will rapid flash for 15 seconds allowing occupant to move out of direct view of sensor. Once the set-point selection is completed, the sensor will double-blink in confirmation.

7 = Photocell Mode
Inhibit Only
Prevents lights from automatically coming on when light level is above the Inhibit Set-Point.

Adaptive Daylight Harvesting
Dims lights from high trim to low trim setting according to Darkness and Daylight set-points.

1 - Disabled* 3 - Adaptive Daylight Harvesting

2 - Inhibit Only

8 = Dim to Off Occupancy Time Delay
After the Occupancy Time Delay (Function 2) has expired, this setting specifies the amount of time lights are held at Low Trim (Function 16) before turning off.

1 - 0 sec*	5 - 7.5 min	9 - 17.5 min
2 - 30 sec	6 - 10 min	10 - 20 min
3 - 2.5 min	7 - 12.5 min	11 - Stays at dim (never off)
4 - 5 min	8 - 15 min	

9 = Restore Defaults
Returns all functions to original settings.

1 - Maintain Current*

2 - Restore Defaults

10 = Minimum On Time
Required initial time for lamps to be on after each switch on, regardless of occupancy status. Once met, lights resume following occupancy time delay.

1 - 0 min (disabled)* 4 - 45 min

2 - 15 min 5 - 60 min

3 - 30 min

11 = LED Operation
Indicates behavior of device's LED.

1 - Occupancy Indication*

2 - Disabled

12 = Dual Technology (Microphonics™)
The secondary method of occupancy detection that allows the sensor to hear occupants.

1 - Normal* 4 - Low

2 - Off 5 - Phase Off (15-10-5 min)

3 - Medium

13 = Microphone Grace Period
Time period after lights are automatically turned off that they can be voice reactivated.

1 - 0 sec 5 - 40 sec

2 - 10 sec* 6 - 50 sec

3 - 20 sec 7 - 60 sec

4 - 30 sec

14 = Manual On Grace Period
Time period after lights automatically turn off that they can be reactivated by motion. Applicable only when sensor is in Manual On (Semi Auto) mode.

1 - 0 sec 3 - 15 sec*

15 = Dimming Range Max (High Trim)
The maximum output level of the sensor.

1 - 0 VDC	5 - 3 VDC	9 - 7 VDC	13 - 10 VDC*
2 - 1 VDC	6 - 4 VDC	10 - 8 VDC	
3 - 1.5 VDC	7 - 5 VDC	11 - 9 VDC	
4 - 2 VDC	8 - 6 VDC	12 - 9.1 VDC**	

**Default for EZ option

16 = Dimming Range Min (Low Trim)
The minimum output level of the sensor.

1 - 0 VDC	5 - 3 VDC	9 - 7 VDC	13 - 10 VDC
2 - 1 VDC*	6 - 4 VDC	10 - 8 VDC	
3 - 1.5 VDC**	7 - 5 VDC	11 - 9 VDC	
4 - 2 VDC	8 - 6 VDC	12 - 9.1 VDC	

**Default for EZ option

17 = Predictive Exit Time
Time period after manually switching lights off for occupant to leave the space. Applicable only when sensor is in Predictive Off mode.

1 - 5 sec	4 - 8 sec	7 - 15 sec
2 - 6 sec	5 - 9 sec	8 - 20 sec
3 - 7 sec	6 - 10 sec*	9 - 30 sec

18 = Predictive Grace Time
Time period after Predictive Exit Time that sensor rescans the room for remaining occupants. Applicable only when sensor is in Predictive Off mode.

1 - 0 sec	4 - 20 sec	7 - 50 sec
2 - 5 sec	5 - 30 sec*	8 - 60 sec
3 - 10 sec	6 - 40 sec	

19 = Fade On Rate
Time required for light to reach preset level.

1 - 0.75 sec* 3 - 5 sec

2 - 2.5 sec 4 - 15 sec

20 = Fade Off Rate
Time required for light to turn Off.

1 - 0.75 sec 3 - 5 sec

2 - 2.5 sec* 4 - 15 sec

21 = Start Level
Level of light output when occupancy is initially detected. Not applicable in Automatic Dimming Control (ADH) mode.

1 - 10%	4 - 40%	7 - 70%	10 - 100%*
2 - 20%	5 - 50%	8 - 80%	
3 - 30%	6 - 60%	9 - 90%	

*** Default Setting**
1. Not Applicable with Vacancy (VA) Option

PROGRAMMING INSTRUCTIONS

Operational settings can be changed via the push-button sequence outlined below (note the example used is for changing occupancy time delay).