



**SENSORWORX®**

# LINE VOLTAGE 0-10V DIMMING SWITCH

INSTALLATION & OPERATION INSTRUCTIONS

CATALOG NUMBERS	DESCRIPTIONS
SWX-823-xx	Line Voltage Switch & Dimmer (0-10V) * XX = COLOR (WH, IV, AL, GY)

## OVERVIEW

The **SENSORWORX** line voltage wall switch & 0-10 volt dimmer provides manual lighting control (i.e. switching and dimming). Designed with contractors in mind, the unit is significantly shallower than typical dimmers, resulting in less crowded wall boxes. Additionally, versatile wiring enables usage with or without a neutral connection. For dimming adjustment, intuitive raise and lower buttons are present in addition to the on/off button. Five vertically stacked LEDs are provided to indicate the current dimming level. Configurable dimming parameters include High/Low Trims, Turn on Levels, and Curve Types. This dimmer also matches the **SENSORWORX** family of wall switch occupancy sensors and 0-10V dimming wall switch sensors.

## SPECIFICATIONS

### ELECTRICAL

#### OPERATING VOLTAGE

120/277 VAC, 50/60 Hz

#### LOAD RATINGS

MAX: 800W @ 120VAC  
1200W @ 277VAC

MIN: None

#### LOAD TYPES

LED Driver/Lamps  
CFL, Electronic/Magnetic Ballasts  
(Fluorescent)  
Tungsten (Incandescent)

#### DIMMING CAPABILITY

0-10 VDC ballasts or drivers compliant  
with IEC 60929 Annex E.2

#### DIMMING LOAD

50 mA maximum (sink only)

### PHYSICAL

#### SIZE

2.74"H x 1.68"W x 1.39"D  
(6.96 x 4.27 x 3.53 cm)  
Not Including Mounting Strap  
<1" Wallbox Mounting Depth

#### WEIGHT

4.5 oz

#### MOUNTING

Single Gang Switch Box

### ENVIRONMENTAL

#### OPERATING TEMP

32°F to 122°F (0°C to 50°C)

#### RELATIVE HUMIDITY

0-95% Non-Condensing



## FEATURES

### ELECTRICAL FEATURES

- Accommodates Neutral (3-wire) and No-Neutral (2-Wire) Installation
- Electronically Timed Switching Ensures Long Relay Life
- Works both Standalone and with 3-Way Switches
- Meets NEC 404.2(c) & 404.22 Guidelines Regarding Powering Over Ground & Current Leakage

### PHYSICAL FEATURES

- Enclosure is 25-40% Shallower than Other Sensors (< 1" depth into wallbox)
- Self-Grounding Mounting Strap
- Modern Look and Intuitive Easy-Tap Button for On/Off, Raise, & Lower
- Settings are Adjustable Without Removing Cover Plate

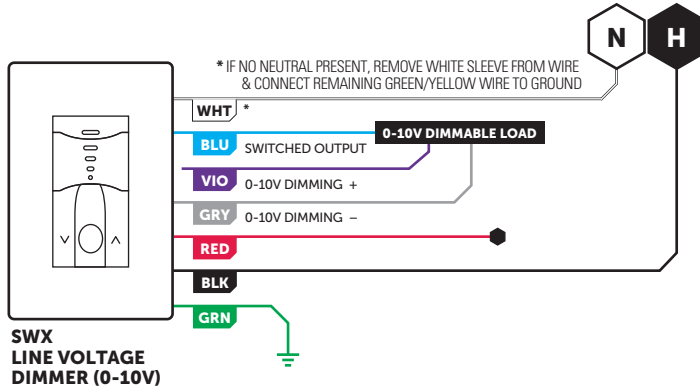
### OPERATIONAL FEATURES

- 5 LED Dimming Level Indication
- Configurable Dimming Parameters including High/Low Trims, Turn on Levels, and Curve Types
- Blue Locator LED when Lights are Off

# WIRING

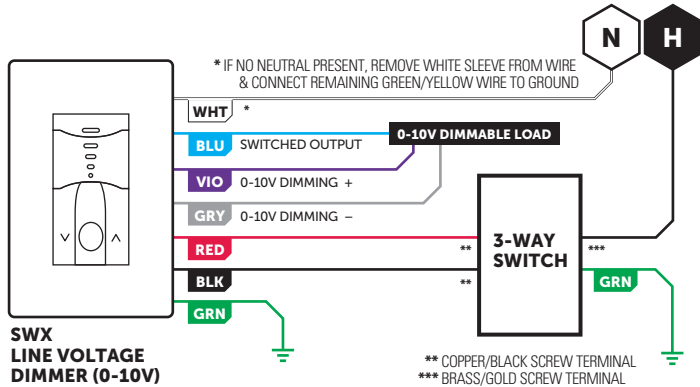
- Unit works both in installations where neutral connection is available as well as installations where only ground connection is present.
- If no neutral is present, remove the white sleeve from the wire & connect the now Green/Yellow wire to ground.
- The White wire (or Green/Yellow wire underneath the removable sleeve) MUST be connected to neutral (or ground if sleeve is removed) for the unit to operate. The all Green wire is just for safety.
- Never connect Violet or Gray wire to line voltage.

## STANDALONE WIRING



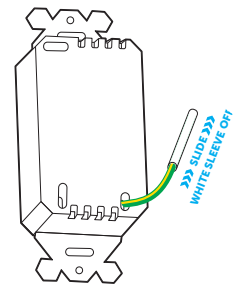
**NOTE: This product is UL listed and meets NEC 404.2(c) & 404.22 guidelines regarding powering over ground & current leakage. Powering over ground is permitted for replacement / retrofit only.**

## 3-WAY WIRING



## NEUTRAL TO GROUND CONVERSION DETAIL

- The White wire has a removable sleeve which reveals a Green/Yellow wire

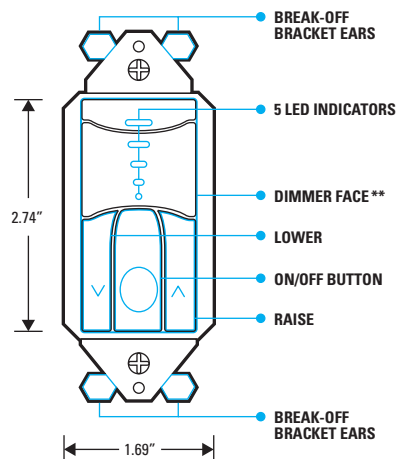


# INSTALLATION

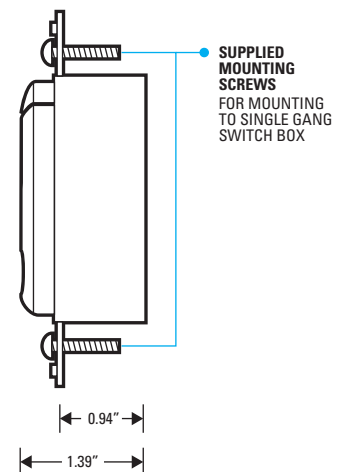
## MOUNTING

- Designed to mount in 1-gang wall box with 3.28" hole spacing
- Units also can share multiple gang wall boxes with other devices

## FRONT



## SIDE



\*\* DIMMER FACE IS FIELD REMOVABLE IN ORDER TO CHANGE COLORS. CONTACT FACTORY FOR ADDITIONAL FACES

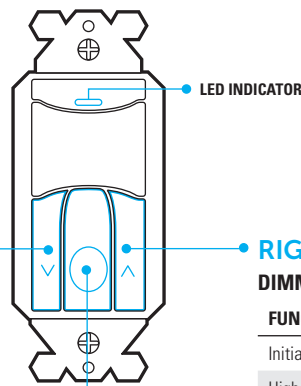
# CONFIGURATION SETTINGS

## STEPS FOR CHANGING CONFIGURATION SETTINGS

- 1 From the lists of Configuration Functions below, note the Button Position and number (#) of the Function to be changed. For example, HIGH TRIM setting is the Right Button, #3.
- 2 Enter programming mode by pressing and holding the CENTER button until the blue LED begins rapid flashing.
- 3 Press and release the applicable button for the chosen function. For example, press the RIGHT button 3 times for the HIGH TRIM setting.
- 4 The LED will flash back white the setting number of the current value as it appears in each function's detailed table of values. For example, the default HIGH TRIM is setting #2 (10V) for the RIGHT button. Following a short pause, this blink back sequence will repeat.
- 5 Press and release the applicable button the number of times equal to the new setting #. For example, RIGHT button 3 times (for 9V).
- 6 The LED will flash back the new setting number as confirmation. Following a short pause, this blink back sequence will repeat.
- 7 To Save and Exit programming mode, press and hold the function's applicable button again until the blue LED changes to white, then release. The LED will then blink white twice as confirmation of success. Note: To Exit without saving during any step, wait until unit double flashes blue.

NOTE: IF THE LED DOUBLE FLASHES TWICE BLUE AT ANY POINT, START THE ABOVE PROCEDURE OVER.

## CONFIGURATION FUNCTION OVERVIEW



### LEFT BUTTON

#### DIMMING

FUNCTION NAME	BUTTON POSITION	FUNCTION #
Turn Off Scheme	Left	2
Low Trim	Left	3
Fade Off Time	Left	4

### RIGHT BUTTON

#### DIMMING

FUNCTION NAME	BUTTON POSITION	FUNCTION #
Initial Turn On Dimming Level	Right	2
High Trim	Right	3
Fade On Time	Right	4
Dimming Curve Type	Right	5

### CENTER BUTTON

FUNCTION NAME	BUTTON POSITION	FUNCTION #
LED	Center	3
Factory Reset	Center	8

## DETAILED DIMMING FUNCTION TABLES (LEFT & RIGHT BUTTONS)

### FUNCTION #2 TURN OFF SCHEME

#### LEFT BUTTON

SETTING #	VALUES	NOTES
2	Unit's relay opens immediately, switching power off to load. Dim level goes to low trim.	Default for all models, wired in either 2-way or 3-way
3	Unit fades dimming output down to low trim level then opens relay.	For applications wired in 2-way configuration only
4	Unit fades dimming output down to low trim and then drops to 0 volts (i.e. below a connected driver's electronic off level). Relay remains closed	
5	Unit fades dimming output down to low trim level. Relay remains closed	

### FUNCTION #2 INITIAL TURN ON DIMMING LEVEL

#### RIGHT BUTTON

SETTING #	VALUES	NOTES
2	Fade on to 100% of High Trim	
3	Fade on to 50% of High Trim	
4	Fade on to last user level	Default
5	Fade on to current (custom) level	

# CONFIGURATION SETTINGS CONT.

## FUNCTION #3 LOW TRIM

### LEFT BUTTON

SETTING #	VALUES	NOTES
2	Saves current level as low trim	
3	0%	
4	10% (Default)	
5	20%	Exact output voltage level depends on Dimming Curve selected (e.g. Linear, Log). Light output at each level depends on driver/ballast and luminaire.
6	30%	
7	40%	
8	50%	

## FUNCTION #3 HIGH TRIM

### RIGHT BUTTON

SETTING #	VALUES	NOTES
2	Saves current level as high trim	
3	100% (default)	
4	90%	
5	80%	Exact output voltage level depends on Dimming Curve selected (e.g. Linear, Log). Light output at each level depends on driver/ballast and luminaire.
6	70%	
7	60%	
8	50%	

## FUNCTION #4 FADE OFF TIME

### LEFT BUTTON

SETTING #	VALUES	NOTES
2	0.75 Sec	
3	1.5 Sec (Default)	Fade to low trim functionality is only active when the Turn Off Scheme (FN#2) is not set to immediately open the relay.
4	3 Sec	
5	5 Sec	
6	15 Sec	

## FUNCTION #4 FADE ON TIME

### RIGHT BUTTON

SETTING #	VALUES	NOTES
2	0.75 Sec	
3	1.5 Sec	Default
4	3 Sec	
5	5 Sec	
6	15 Sec	

## FUNCTION #5 MANUAL DIMMING RESPONSE CURVE

### RIGHT BUTTON

SETTING #	VALUES	NOTES
2	Linear	Default
3	Log	
4	Square Log	

## DETAILED FUNCTION TABLES FOR CENTER BUTTON FEATURES

### FUNCTION #3 LED FUNCTION

#### CENTER BUTTON

The units five LEDs show the current dim level. When dimmed down to minimum the top LED will turn on white by itself. When the unit is off, by default the top LED turns blue to assist in locating.

SETTING #	DESCRIPTION	NOTES
2	White LEDs indicate dim level, blue locator LED enabled	Default for all models
3	White LEDs indicate dim level, blue locator LED disabled	
4	White LEDs indicate dim level and turn off 2 seconds after adjustment, blue locator LED disabled	

### FUNCTION #8 RESTORE FACTORY DEFAULTS

#### CENTER BUTTON

SETTING #	DESCRIPTION
3	Restore Factory Defaults

