

PLC Multipoint

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, LA, GY, RD, BK)

ADDITIONAL OPTIONS

- **HE:** High Humidity Environment

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) - Standard
-40° F/C (with **-HE** Option)

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

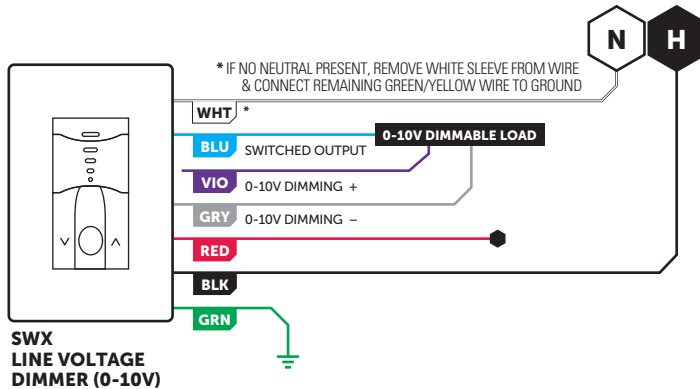
OPERATIONAL FEATURES

- 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

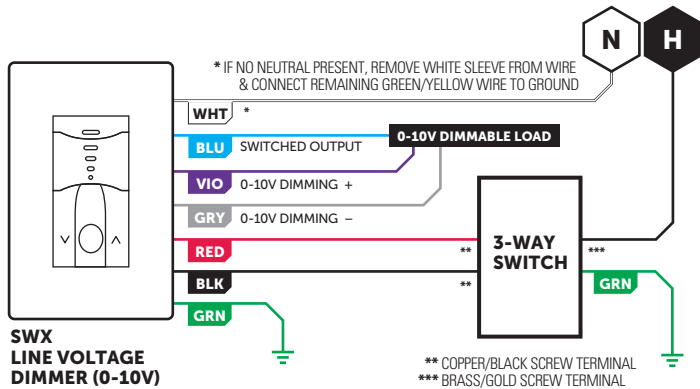
- Unit works both in installations where neutral connection is available as well as installations where only ground connection is present.
- If no neutral is present, remove the white sleeve from the wire & connect the now Green/Yellow wire to ground.
- The White wire (or Green/Yellow wire underneath 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



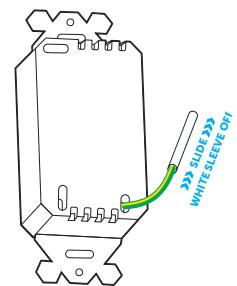
NOTE: This product is UL listed and meets NEC 404.2(c) & 404.22 guidelines regarding powering over ground & current leakage. Powering over ground is permitted for replacement / retrofit only.

3-WAY WIRING



NEUTRAL TO GROUND CONVERSION DETAIL

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

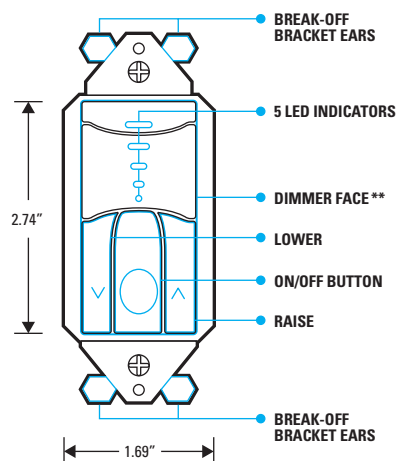


INSTALLATION

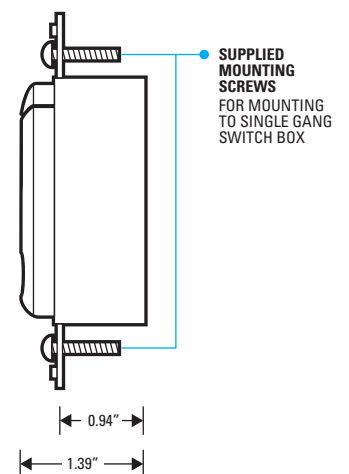
MOUNTING

- 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

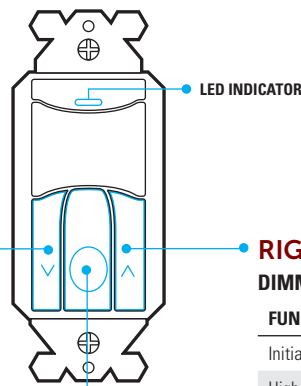
CONFIGURATION SETTINGS

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