


**SENSORWORX®**

## POWER PACK

LINE VOLTAGE

### OVERVIEW

**SENSORWORX** power packs transform incoming line voltage power to low voltage as needed by sensor(s) or other control device(s). Additionally, they switch on/off power to the connected lighting load as directed by the sensors and controls. **SENSORWORX** power packs utilize a powerful microprocessor to optimize its switching timing in order to ensure long relay life even when controlling high-inrush LEDs and ballast loads. As with all **SENSORWORX** products, these power packs are easy to install and incorporate features which reduce contractor labor time. An elongated chase nipple with snaps for quick installation and an optional snap-on low voltage wire chamber make for a hassle free contractor experience. All **SENSORWORX** products are proudly made in the USA.

### BASIC OPERATION

An input signal indicating occupancy from one or more connected sensors will signal the pack's integrated relay to close. Once closed, line voltage will flow through the relay and turn on the connected lighting load. When the input signal indicates the occupied period has ended, the relay will open and lighting will switch off. This pack is also available with an auxiliary switch input to enable manual on, hold on, and hold off configurations.

### FEATURES

- Powers Low Voltage Sensors
- Switches Line Voltage Loads
- Electronically Timed Switching Ensures Long Relay Life
- Integrated Test/Programming Button
- Optional Snap-On Attachment Provides Chamber for Low Voltage Wire Connections
- Optional Switch Input for Manual On/ Hold On/Hold Off Operation
- Plenum Rated (UL 2043)

### SPECIFICATIONS

#### ELECTRICAL

**OPERATING VOLTAGE**  
120/277 VAC

**OUTPUT VOLTAGE/CURRENT**  
18 VDC, 150 mA

**RELAY CURRENT REQs**  
40 mA

**LOAD RATINGS**  
20A @ 120 V -  
General Purpose Plug Load  
20A @ 120/277 VAC -  
General Purpose, Tungston,  
Magnetic Ballast, LED Driver

16A @ 120/277 VAC -  
Electronic Ballast

**DC LOAD RATINGS**  
20A @ 28 VDC (MAX)  
1A @ 5 VDC (MIN)

**MOTOR LOAD**  
1 HP

#### ENVIRONMENTAL

**OPERATING TEMP**  
-10°F to 122°F (14°C to 50°C)

**RELATIVE HUMIDITY**  
0-95% Non-Condensing,  
Indoor Use Only

**ROHS COMPLIANT**

#### PHYSICAL

**SIZE**  
3.00" H x 2.25" W x 1.88" D  
(7.62 cm x 5.72 cm x 4.78 cm)

**WEIGHT**  
6.00 oz.

**COLOR**  
Blue

**MOUNTING**  
1/2" Knockout

#### OTHER

**LISTINGS**  
UL/CUL



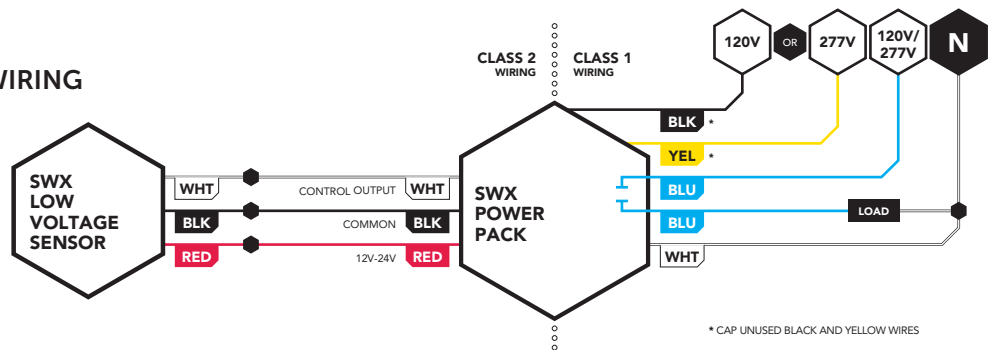
### ORDERING INFO

SAMPLE MODEL # SWX-900-AX

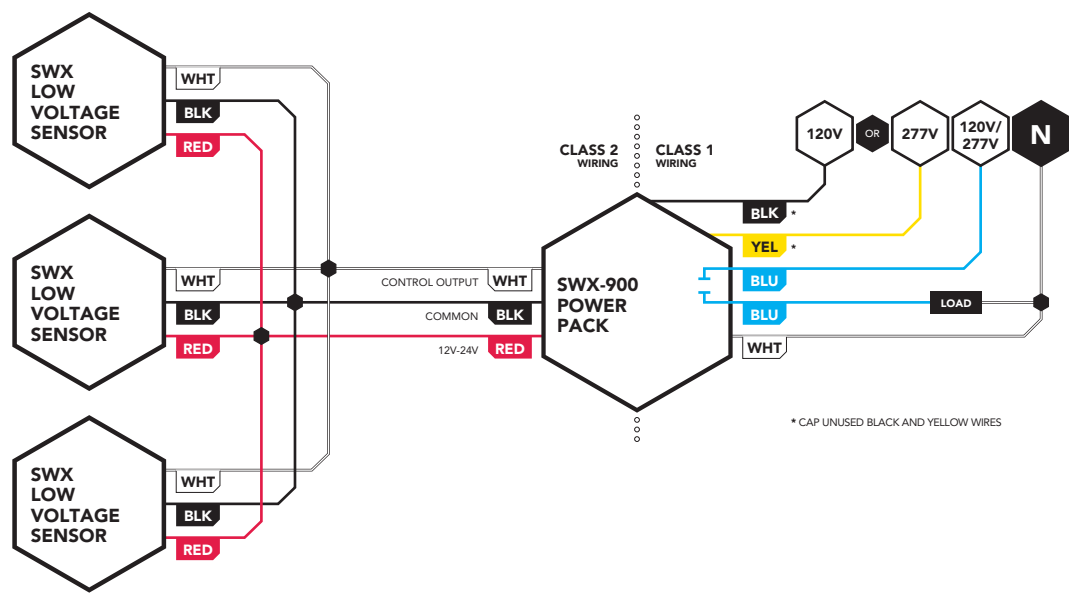
PRODUCT		FUNCTIONALITY		VOLTAGE		AUX SWITCH INPUT	
Power Pack	9	Single Relay + 150 mA Supply	0	120/277 V	0	None	Blank
		Single Relay	1			Auxiliary Switch Input	AX
		150 mA Supply	2				
ACCESSORY		DESCRIPTION					
SWX-999		Snap-On Low Voltage Wiring Chamber					

# WIRING

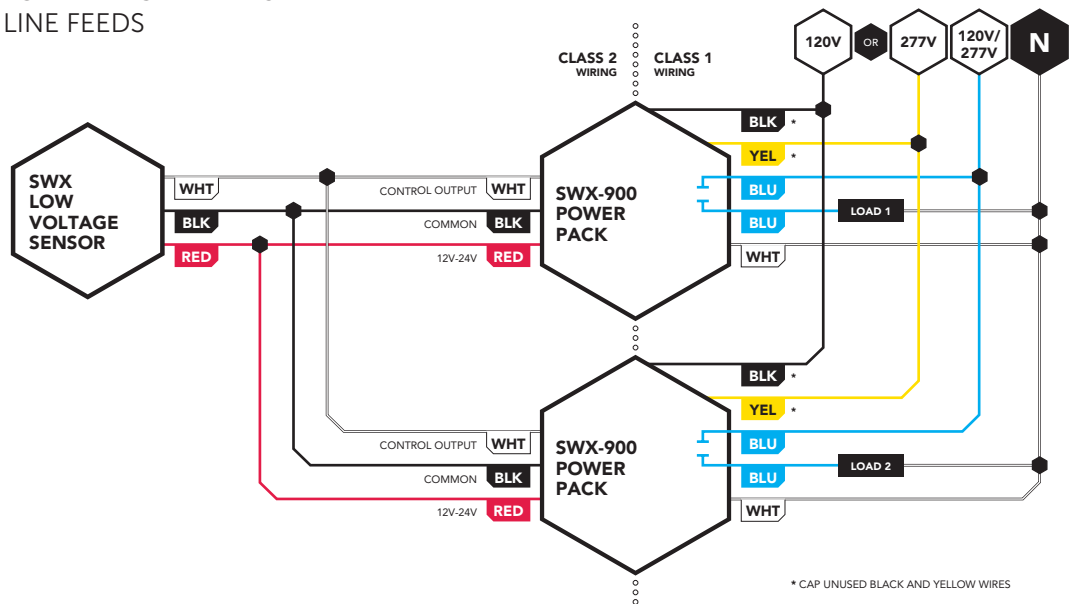
## STANDARD WIRING



## MULTIPLE SENSOR WIRING

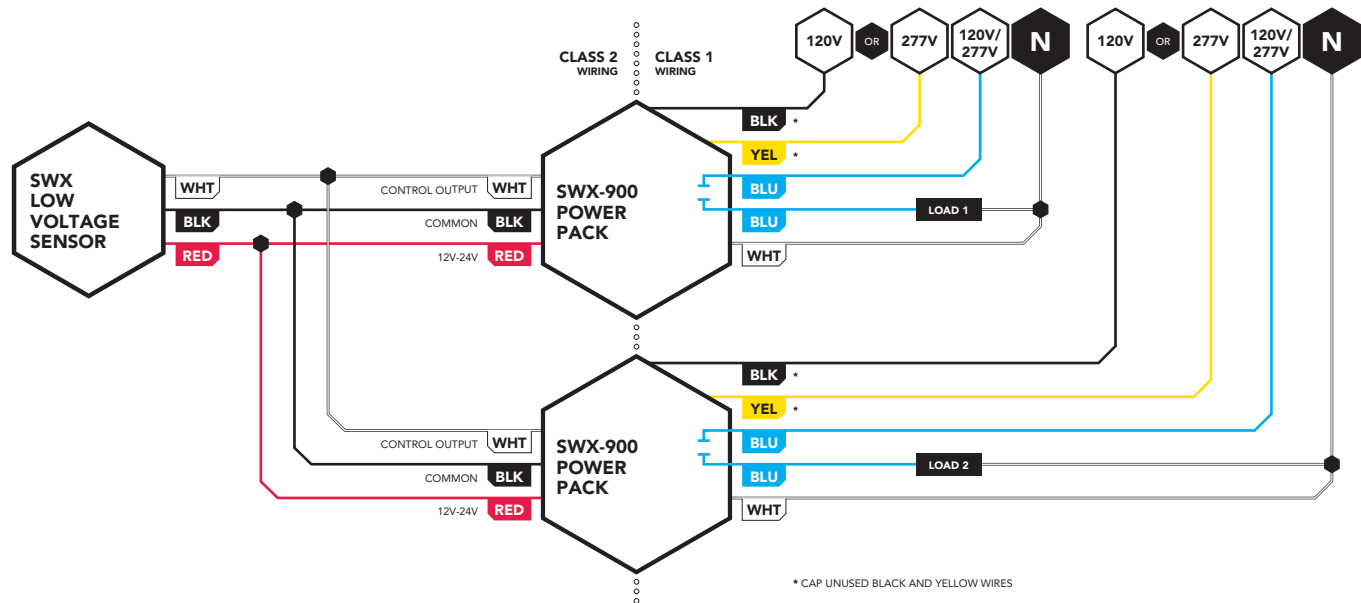


## MULTIPLE POWER PACK WIRING COMMON LINE FEEDS

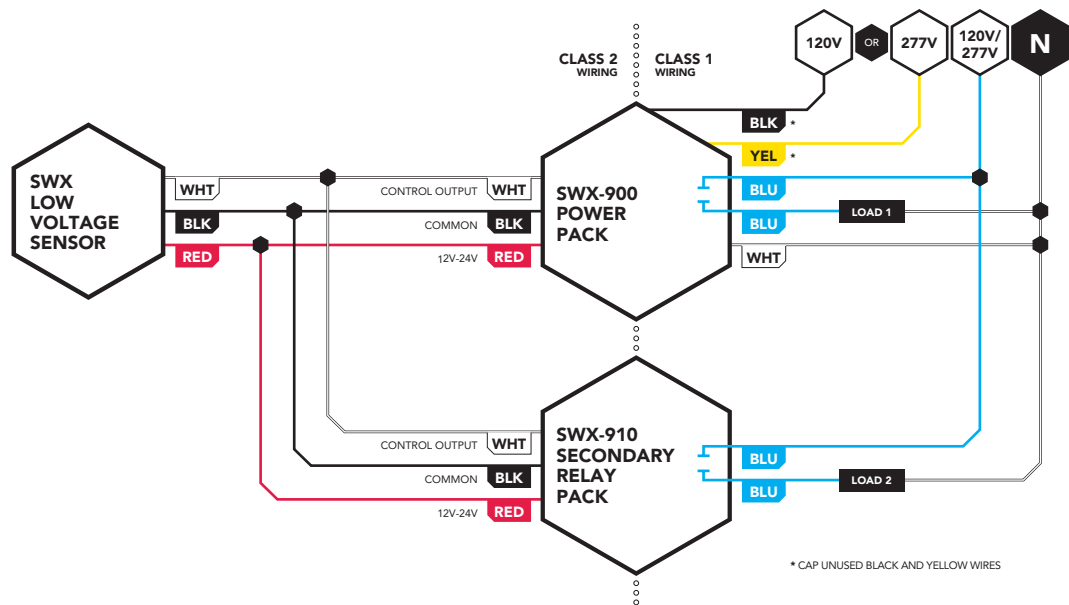


# WIRING CONT.

## MULTIPLE POWER PACK WIRING SEPARATE LINE FEEDS



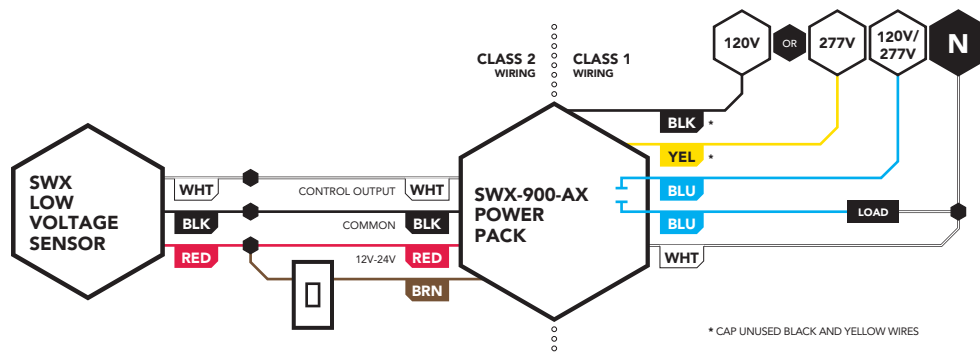
## POWER PACK w/ SECONDARY RELAY PACK WIRING



## WIRING CONT.

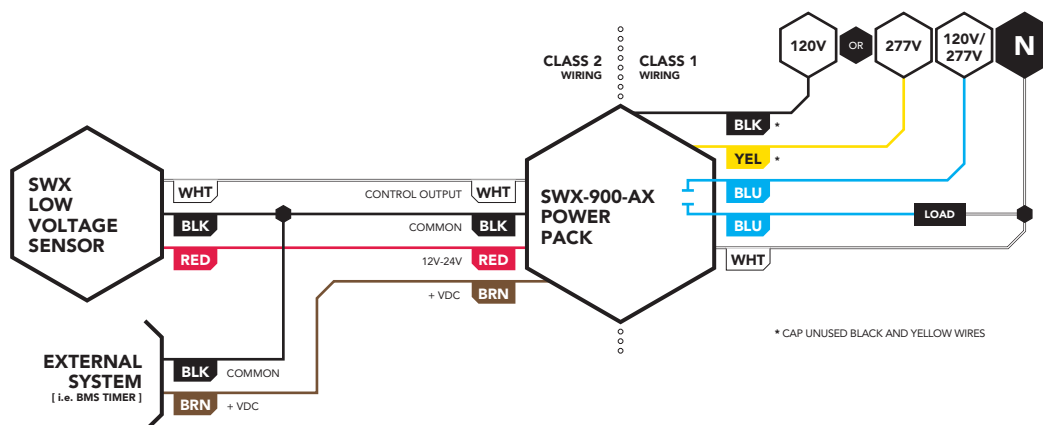
## POWER PACK CONNECTED TO SWITCH

- Some energy codes require Manual On (also called Vacancy) operation where an occupant is required to initially switch on lighting. The sensor then ensures lights are turned off once the space is unoccupied
- Both maintained and momentary switches can be utilized
- For maintained switches, any change of position will be read by the power pack as one action
- For momentary switches, the power pack will react to switch press (versus switch release)



### POWER PACK w/ SWITCH SIGNAL FROM EXTERNAL SYSTEM

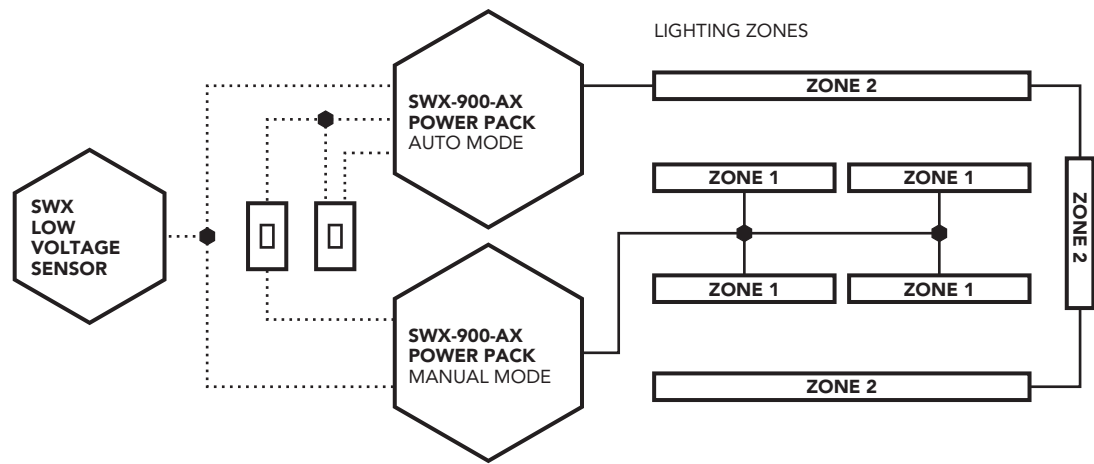
- Typical for Hold On and Hold Off applications
- BROWN switch input can be activated by external signals +5VDC or higher (i.e. logic high)
- For hold on and hold off applications, switch input can also be configured to activate on logic low



# APPLICATION NOTES

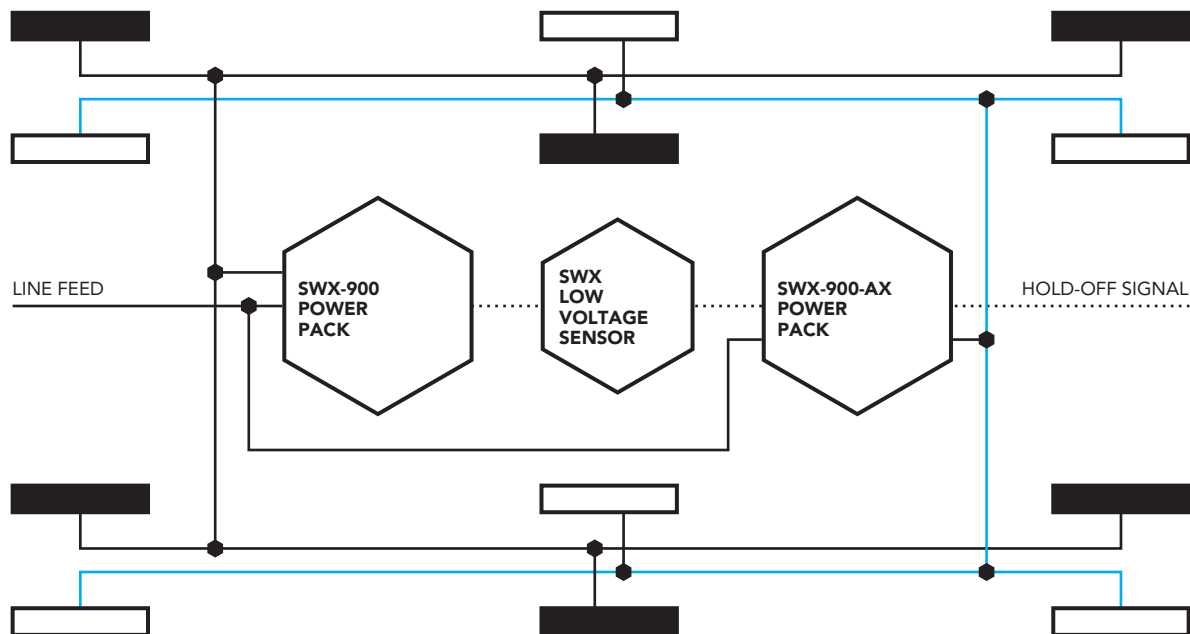
## MULTI-ZONE AND BI-LEVEL SWITCHING

Rooms with multiple lighting zones or bi-level lighting often want one zone/level to switch on automatically, with then the occupant able to manually switch on the additional zone/level if desired. Both zones/levels are then switched off automatically by the sensor once unoccupied. Two SWX-900-AX power packs are wired to switches, however one unit is set to Automatic On mode while the other is set to Manual On mode. In this configuration, lighting can be switched off manually or automatically via the occupancy sensor.



## LOAD SHED / HOLD OFF APPLICATION e.g. OPEN OFFICES

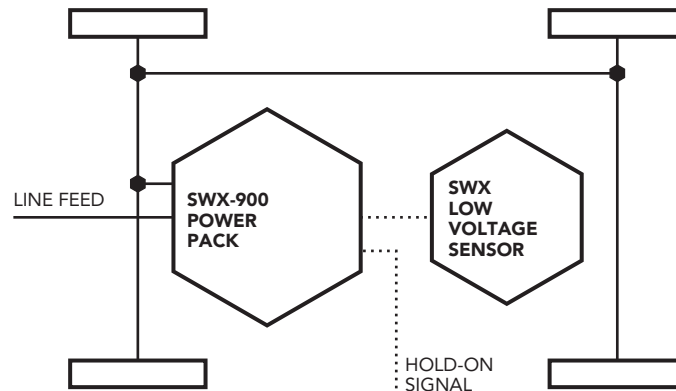
The occupancy sensor connected to both power packs normally keeps all lights on when the space is occupied. When a load shed (override off) command is given (by BMS, utility meter, etc.), lights connected to SWX-900-AX are held off. Remaining lights connected to SWX-900 are still controlled by the sensor.



## APPLICATION NOTES CONT.

### SENSOR OVERRIDE / HOLD ON APPLICATION e.g. RETAIL

During open hours, a signal from a time clock (connected to the BROWN switch input on the SWX-900-AX holds lights on, regardless of occupancy. After hours, the clock's schedule releases the hold on signal enabling the occupancy sensor to take over.



### POWER PACK CAPACITY

SWX-900 series power packs can supply power to several occupancy sensors and additional secondary relay packs. Following the below formula ensures adequate power will be available. Note the SWX-900's relay has already been factored in to formula.

$$[ (\# \text{ of PIR Sensors}) \times 2 ] + [ (\# \text{ of Dual Tech Sensors}) \times 10 ] + [ (\# \text{ of SWX-910}) \times 55 ] < [ (\# \text{ of SWX-900}) \times 95 ]$$

## INSTALLATION OPTIONS

