

# SAVANT



## Wireless Keypad Switch

### Quick Reference Guide

#### Box Contents

- (1) Switch (faceplate not included)
- (5) Wire Nuts (045-0177-xx)
- (1) Quick Reference Guide (this document)

#### Specifications

Environmental				
Temperature	32° to 104° F (0° to 40° C)			
Humidity	10% to 90% Relative Humidity (non-condensing)			
Location	Indoor Use Only			
Pollution	Degree 2			
Dimensions and Weights				
	Height	Width	Depth	Weight
WPB-xxS106				
WPS-xxS102	4.13 in.	2.36 in.	1.57 in.	.30 lb.
WIB-xxS106	10.50 cm)	(6.00 cm)	(3.99 cm)	(0.136 kg)
WIS-xxS102				
WPK-xxS105	4.13 in.	2.36 in.	1.80 in.	.30 lb.
WIK-xxS105	(10.50 cm)	(6.00 cm)	(4.57 cm)	(0.136 kg)
Shipping	7.0 in.	4.5 in.	3.0 in.	.60 lb.
	(17.78 cm)	(11.43 cm)	(7.62 cm)	(0.272 kg)
Recommended Back Box Depth				
Savant wireless switches require a standard U.S. electrical back box.				
<ul style="list-style-type: none"><li>- Recommended - 3.5 in (8.89 cm) deep</li><li>- Minimum 2.25 in (5.72 cm) deep</li><li>- Type 1 enclosure for control</li></ul>				
Mounting				
Independently mounted (vertical position only)				
Installation				
Operating Control	Type 1.B action			
Software	Class A			
Power				
Input	120V AC at 60 Hz			
Power: Load (Max)	600W 5A @ 120V AC (See <a href="#">Derating Table</a> )			
Rated Impulse Voltage	2500V			
Standards				
Wireless	802.11 b/g/n (2.4GHz only)			
Security	WPA™, WPA2™, WPA1™ +WPA2™, WEP			
Regulatory				
Safety and Emissions	FCC Part 15		UL	
				
Contains FCC ID:	TLZ-CU277B			
Contains IC:	6100A-CU277B			
RoHS	Compliant			
Minimum Supported Release				
da Vinci 9.0				

#### Products

##### Switches

Configurable Keypad Switch (WPB-xxS106-xx, WIB-xxS106-xx)

Switch (WPS-xxS102-xx, WIS-xxS102-xx)

Dial Keypad (WPK-xxS105-xx, WIK-xxS105-xx)

##### Supported Load Types

Standard Configuration	Incandescent, Electronic/Magnetic Low Voltage, CFL, LED
No Neutral Configuration	Not Supported

#### Regulatory

The following statements apply to all Savant Wireless Dimmers, Switches, and Keypads.

##### FCC Regulations

15.19. These devices comply with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) These devices may not cause harmful interference, and (2) these devices must accept any interference received, including interferences that may cause undesired operation.

15.21. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.105. This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving circuit different from that to which receiver is connected.
- Increase the separation between the equipment and the receiver.
- Consult the dealer or experienced radio/TV technician for help.

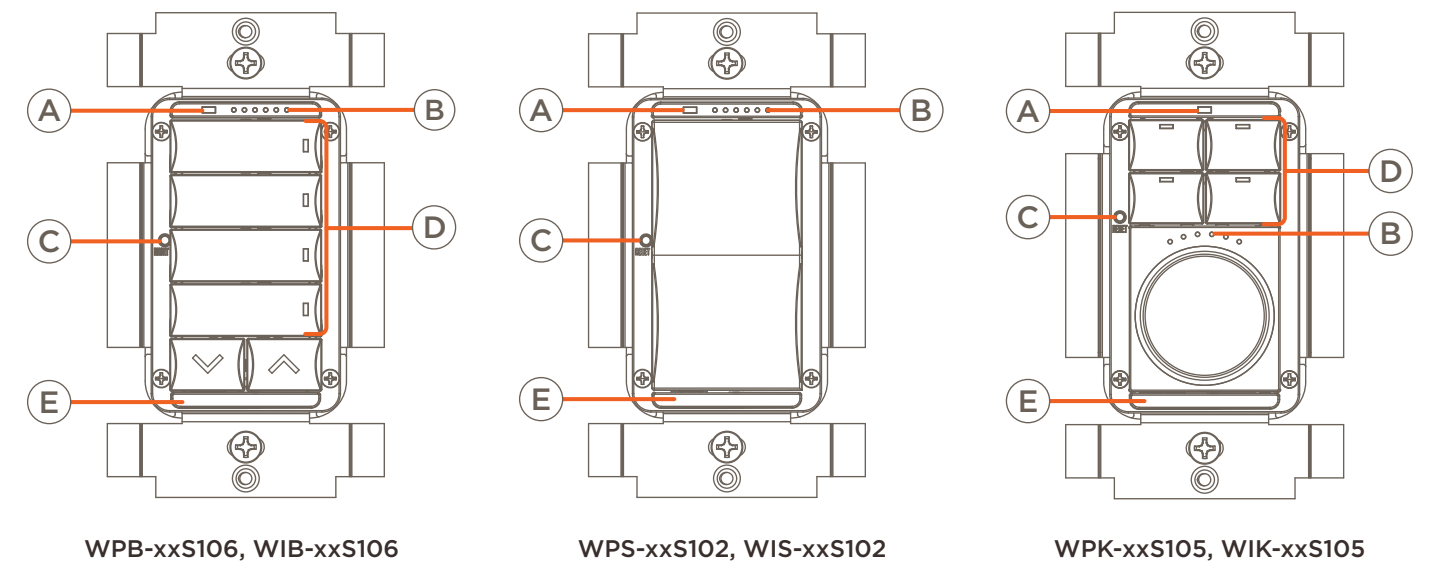
##### IC Regulations:

RSS-Gen 7.1.3. These devices comply with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) These devices may not cause interference, and (2) These devices must accept any interference, including interference that may cause undesired operation of the device.

RSS-21- Annexe 9: A 9.4. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

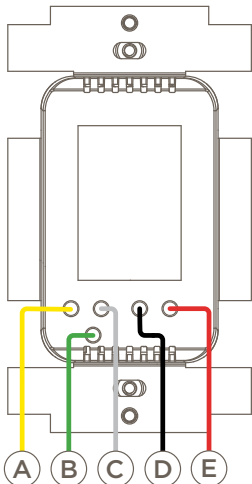
Hardware Overview

Front Panel



- A** **Ambient Light Sensor** - Detects the level of ambient light in the room and adjusts the brightness of both the button and dimming LEDs. The ambient light sensor is enabled and disabled from within the Lighting Manager in Blueprint®.
- B** **Dimming Level** - Six indicator LEDs track the brightness of the load being controlled. LEDs turn on from left to right as intensity increases, and turn off from right to left as intensity decreases. Once configured in Blueprint, the LEDs can track the brightness of a lighting scene.
- C** **Reset Button (Press and hold)** - Press and hold the reset button for 5 seconds to clear the network settings then release. Once released, the switch will reboot. During the reboot, the LEDs will cycle through a sequence of colors (red > green > blue > white). When complete, the dimming LED array on the front panel will blink in an alternating pattern. This indicates the switch is not communicating with a network and needs to be provisioned. For more information on LED patterns, refer to the **LED Sequencing** table on the next page.
- Reset Button (Press and release)** - Not applicable when not connected to a Savant Pro System.
- D** **Button LED** - When provisioned to a network but not configured or bound to a Savant Pro system, the button LEDs will track the state of the output wire (red wire) when connected to a load. When configured and bound to a Savant Pro system, the button LEDs follow the state configured in the LED Behavior field of the RacePoint Blueprint the Lighting/Keypad Manager.
- E** **Service Switch** - The service switch disconnects power from the load (red wire). Toggle the service switch to the Off position whenever changing the load. The service switch can also be used to power cycle the keypad.

Rear Panel



<b>A</b>	Yellow	Traveler - Wire to one or more Auxiliary Controls for multi-location control.
<b>B</b>	Green	Ground - Wire to Gnd.
<b>C</b>	White	Neutral - Return path for voltage.
<b>D</b>	Black	Line - Wire to hot from AC power source.
<b>E</b>	Red	Load -Wire to the load.

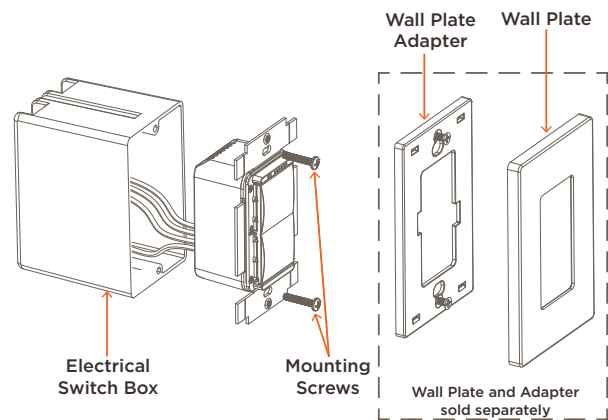
Wires are all a five inch #16 AWG stranded wire.

## Electrician Removal/Installation

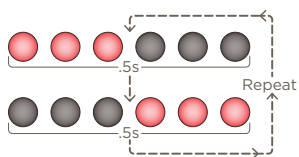
**ELECTRIC SHOCK!** The 120V AC, 60 Hz source power poses an electrical shock hazard that has the potential to cause serious injury to installers and end users.

### IMPORTANT NOTES!

- A licensed electrician is required to install any Savant wireless lighting devices. Isolate and turn off power at the main breaker panel prior to installing any electrical devices.
  - Use #14 AWG or larger solid copper wires (80°C) for the supply, neutral, and ground connections. Strip wires to  $\frac{5}{8}$  in (16.0 mm).
1. At the main breaker panel, switch off the breaker that supplies power to the dimmer or switch being replaced.
  2. Unscrew the wall plate and remove. Verify power is removed using a 120V AC tester.
  3. Unscrew the two 6-32 flat head screws and pull out the existing electrical switch/dimmer.
  4. Disconnect and label each wire as they are removed from the existing switch/dimmer. Labeling the wires ensures they will be installed onto the new switch/dimmer correctly, especially if the circuit employs a 3-way configuration.
  5. Using the supplied wire nuts or an approved alternative, connect the in-wall wires removed in step 4 to the leads coming from the new Savant wireless switch/dimmer. See the [Wiring Diagrams](#) and [Rear Panel](#) sections for more information.
  6. Insert the switch/dimmer into the electrical switch box and secure using the 6-32 flat head screws provided. **DO NOT** use a powered screw driver. A powered screw driver can over tighten the screws.
  7. Install the wall plate adapter. When installing, ensure the adapter completely covers the metal yoke.
  8. From the main breaker panel, switch on the breaker that was switched off in step 1 above.
  9. Toggle the power button on the front panel to the ON position. With power applied, the switch/dimmer will go through a boot sequence and both the button and dimming array LEDs on the front panel will cycle red, green, blue, then white.
  10. After the boot sequence completes, the LEDs on the dimming array will blink red in an alternating pattern. This pattern indicates the switch is in a state where an IP Address is currently not assigned. **NOTE:** Provisioning will be accomplished later in the process.
  11. Press the buttons on the front panel and verify the load reacts appropriately.
  12. Install the wall plate once all steps are complete.



## LED Sequencing

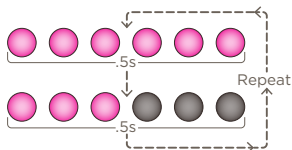


### Three dimming LEDs alternate red left to right.

The keypad is not connected to the local wireless network and needs to be provisioned. After a short time (up to one minute), the blinking stops.

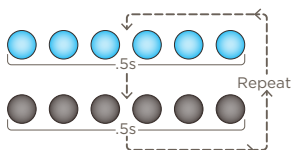


**HELPFUL!** To check the state of the switch/dimmer after the blinking has stopped, press any button and the LEDs will begin blinking again. The blinking sequence indicates the state of the keypad.



### Three dimming LEDs on the left are solid magenta and the three dimming LEDs on the right blink magenta.

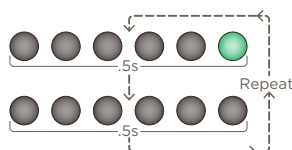
The keypad is connected to the local network (IP Address assigned) but not bound to the Host/Controller. See **HELPFUL** note above.



### All Dimming LEDs blink.

Indicates the type of load connected is not supported. Try either toggling the service switch or pressing and releasing the reset button on the front panel to recalibrate the switch for the connected load..

**NOTE:** Once the keypad connects to a system the color may change but the sequencing remains the same..



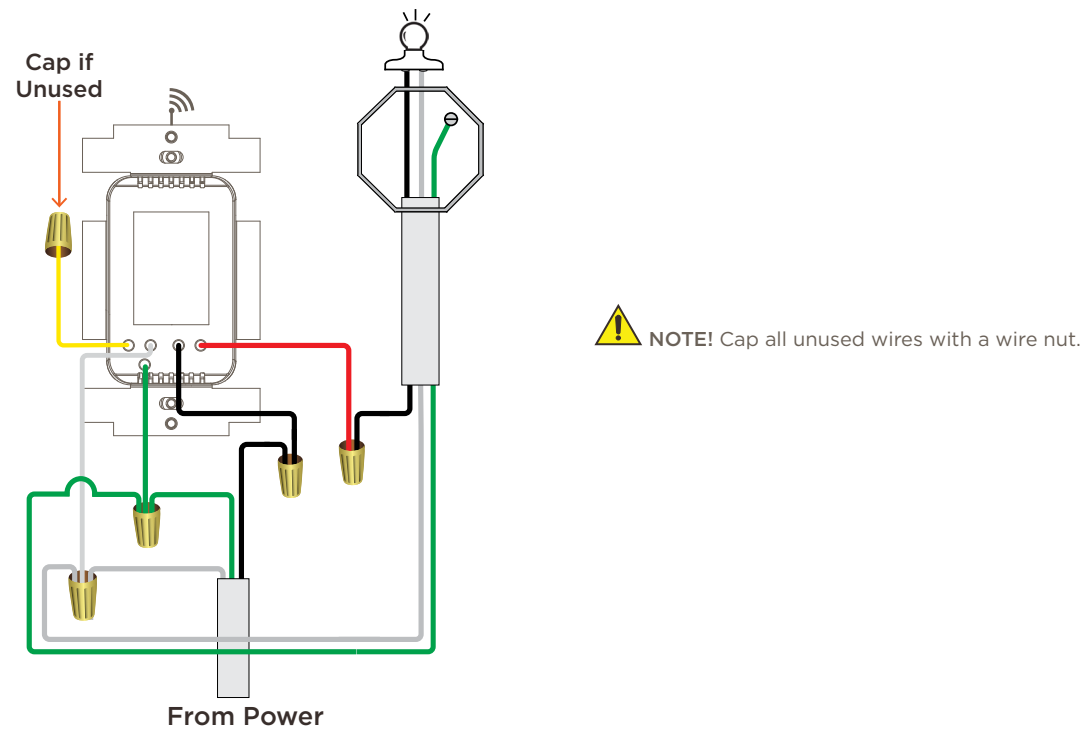
### Rightmost dimming LED blinks green.

Boot loader mode. The keypad is ready/receiving an update.

Wiring Diagrams

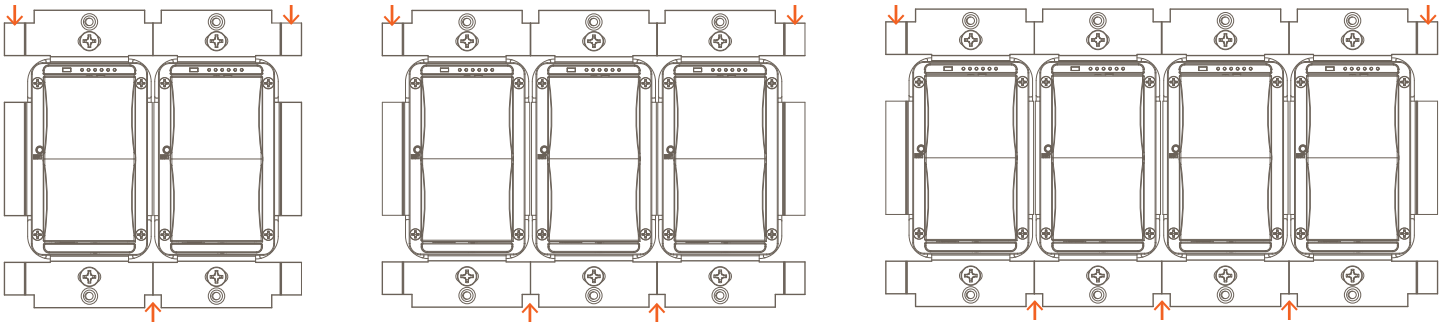
Standard wiring for the Savant wireless keypad switch is shown below. A **Wireless Lighting Installation and Calibration Guide** is available on the Savant Store or through the Savant Customer Community found on the [Savant.com](http://Savant.com) website.

Single Switch



Multi-Gang Installations

When combining multiple Keypads into a multi-ganged box, derating is required per the table below. Remove the tabs from one or both sides of each device so they all fit into the electrical switch box. Below are examples of 2, 3 and 4-gang scenarios.



- Tabs are removed from both sides of the inside gang devices.
- Tabs are NOT removed from outside edges of the devices at the end of each gang.

Derating Table

Device	Load Type	1-Gang	2-Gang	3-Gang	4-Gang
Switch	Incandescent	600W	550W	500W	500W
	CFL/LED	150W	150W	150W	150W
	Magnetic Low Voltage (Electrical Discharge lamp loads (magnetic ballast))	600VA (450W)	550VA (400W)	500VA (375W)	500VA (375W)
	Electronic Low Voltage	450W	400W	375W	375W