SAVANT

Wireless Keypad Switch - Quick Reference Guide

Box Contents

(1) Switch (faceplate not included)

(5) Wire Nuts

(2) Double Height Keypad Buttons - (for configurable keypads)

(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 WIB-xxS106 WIS-xxS102	4.13 in. (10.50 cm)	2.36 in. (6.00 cm)	1.57 in. (3.99 cm)	.30 lb. (0.136 kg)
WPK-xxS105 WIK-xxS105	4.13 in. (10.50 cm)	2.36 in. (6.00 cm)	1.80 in. (4.57 cm)	.30 lb. (0.136 kg)
Shipping	7.0 in. (17.78 cm)	4.5 in. (11.43 cm)	3.0 in. (7.62 cm)	.60 lb. (0.272 kg)

Recommended Back Box Depth

Savant's wireless switches require a standard U.S. electrical back box.

- Recommended - 3.5 in (8.89 cm) deep
- Minimum 2.25 in (5.72 cm) deep
- Type 1 enclosure for control

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 Derating Table)
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 Class B	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 are 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.

Front Panel
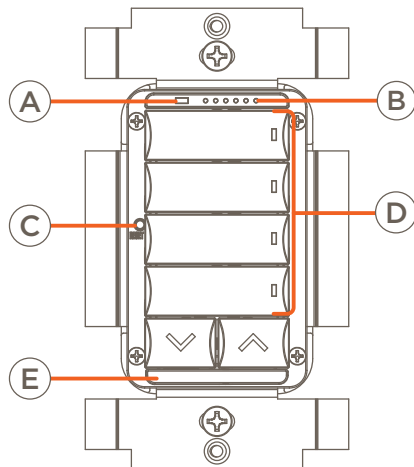
WPB-xxS106, WIB-xxS106   WPS-xxS102, WIS-xxS102   WPK-xxS105, WIK-xxS105
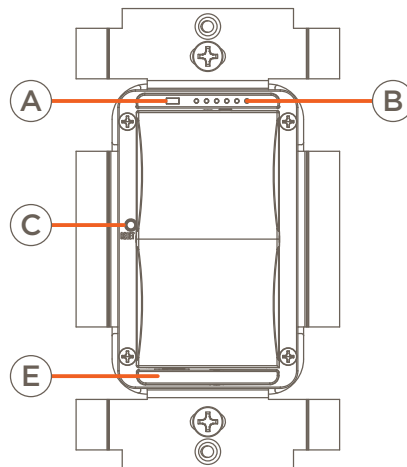
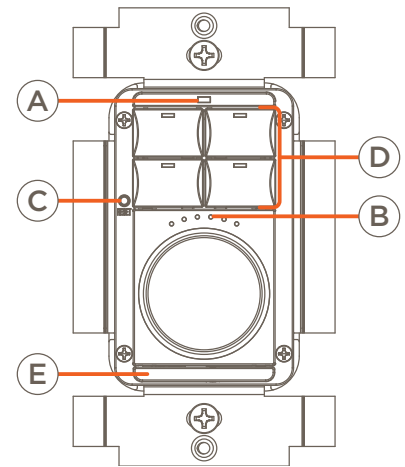|	
A	**Ambient Light Sensor** - Detects the ambient light level in the room and adjusts the brightness of both the button and dimming LEDs. The ambient light sensor can be enabled or disabled using the Lighting Manager in Blueprint®.
B	**Indicator LED's** - The six status LED's on the front panel can indicate the following: – The amount of power applied to the load. The LED's light from left to right as the power is increased and switch off from right to left as the power is decreases. – The amount of power applied to the load for any scenes created in Blueprint or the Pro App. – The status of the keypad during the setup and provisioning process. See the LED Sequencing section.
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 reboots. During the reboot, the LEDs cycle through a sequence of colors (red > green > blue > white), and when complete, the LED array on the front panel begins blinking in an alternating pattern. This pattern 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 section. **Reset Button (Press and release)** - Determines the type of load connected to the keypad's output wire and calibrates itself to function with that load. Press and release the reset button to fix issues such as flickering or a load that isn't performing optimally.
D	**Button LED** - When provisioned to a network, but not configured or bound to a Savant system, the button LED's track the state of the output load wire (red wire). When configured and bound to a Savant system, the state of the button LED is defined by the selection made in the LED Behavior field of the Lighting/Keypad Manager in Blueprint.
E	**Service Switch** - Toggle to disconnect or apply power to the load (red wire). When changing a load connected to the switch, Savant recommends toggling the service switch off, replacing the load, and then toggling the service switch back on. Doing this calibrates the switch to the new load. If the keypad gets into an unrecognizable state, Savant recommends toggling the service switch so the keypad can reboot and recalibrate.

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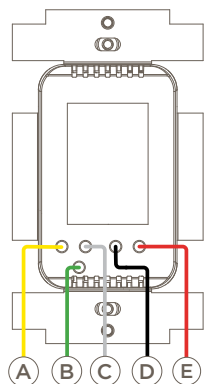
A	Yellow	Traveler - Wire to one or more Auxiliary Controls for multi-location control.
B	Green	Ground - Wire to Gnd.
C	White	Neutral - Return path for voltage.
D	Black	Line - Wire to hot from AC power source.
E	Red	Load -Wire to the load.

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 before installing any electrical devices.

- Use #14 AWG or larger solid copper wires (80°C) for the supply, neutral, and ground connections. Strip wires to ⅝ in (16.0 mm).

1. At the main breaker panel, switch off the breaker that supplies power to the dimmer or switch getting replaced.

2. Unscrew the wall plate and remove it. 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 removed from the existing switch/dimmer. Labeling the wires ensures they will be installed onto the new switch/dimmer correctly, mainly 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 screwdriver. A powered screwdriver 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, which 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.

13. Once installed, if the keypad is not already provisioned to the local network, provisioning information is available in the **Wireless Keypad Provisioning Guide** available on the Savant Community.

Wall Plate Adapter — Wall Plate

Electrical Switch Box — Mounting Screws

Wall Plate and Adapter sold separately

LED Sequencing

Three dimming LEDs alternate red left to right.

The keypad is not communicating with the local wireless network and needs to be provisioned. After a short time (up to one minute), the blinking stops. To check the status of the keypad after the LED's stop blinking, press any button on the keypad and the LEDs will begin flashing again to indicate the state of the keypad.

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

The keypad is connected to the local network (IP Address assigned) but not bound to the configuration running on the Host.

All Dimming LEDs blink.

Indicates the type of load connected is not supported. Try toggling the service switch or pressing and releasing the reset button on the front panel. This will reboot and recalibrate the keypad to the load connected to its output.

NOTE: Once the keypad connects to a Savant 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

The image below displays how the keypad is wired to a single load using a standard electrical setup. For more diagrams, see the **Wireless Keypad Wiring Guide** available on the Savant Community.

Single Switch

Cap if Unused

From Power

⚠ **NOTE!** Cap all unused wires with a wire nut.
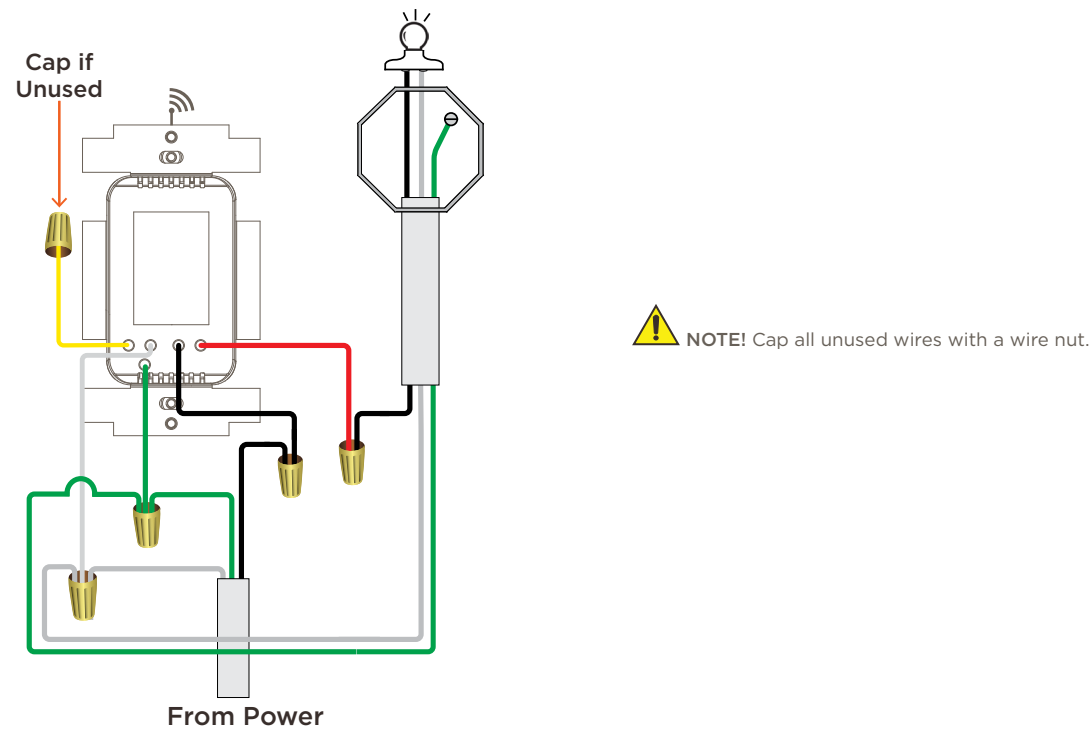
Multi-Gang Installations

Derating is required when combining more than one keypad into a multi-ganged electrical box. Derating is removing the tabs from one or both sides of each device so they all fit into the electrical switch box. Examples of 2, 3 and 4-gang scenarios are shown below.
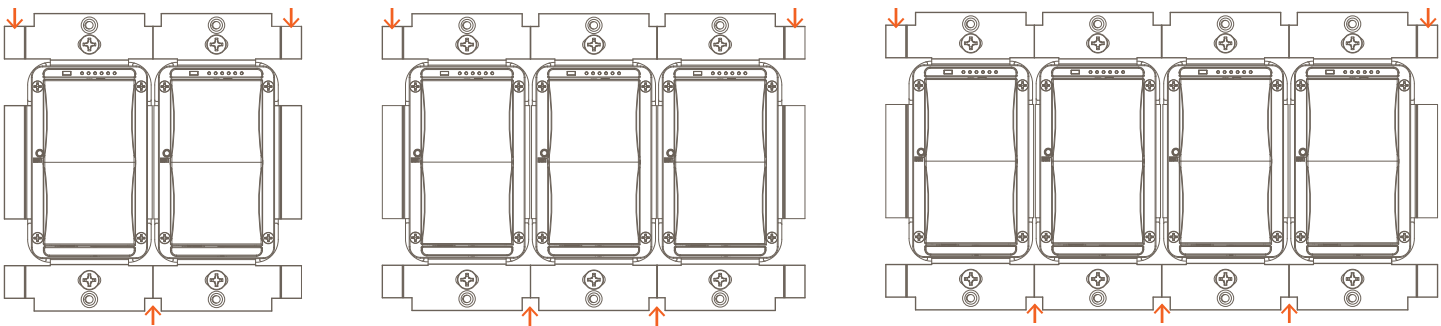
– Tabs are removed from both sides of any devices positioned on the inside of an electrical box.
– Tabs are NOT removed from the outside edge of any device positioned at the far ends of each electrical box.

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 with a magnetic ballast)	600VA (450W)	550VA (400W)	500VA (375W)	500VA (375W)
	Electronic Low Voltage	450W	400W	375W	375W