

I N S T E  N[®]



Insteon Wall Switch
Owner's Manual

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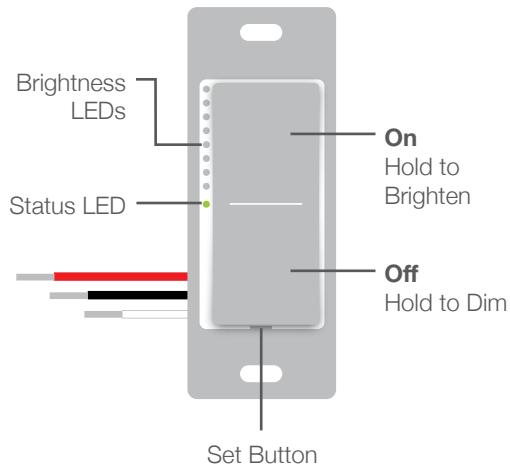
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Getting Started

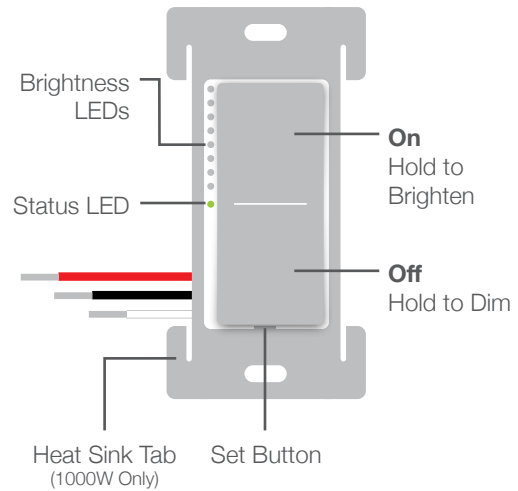
Everything you need to quickly get up and running.

Insteon Wall Switch

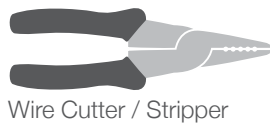
Dimmer Switch & On/Off Switch



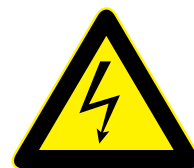
High-Wattage Dimmer Switch



Tools Needed for Installation



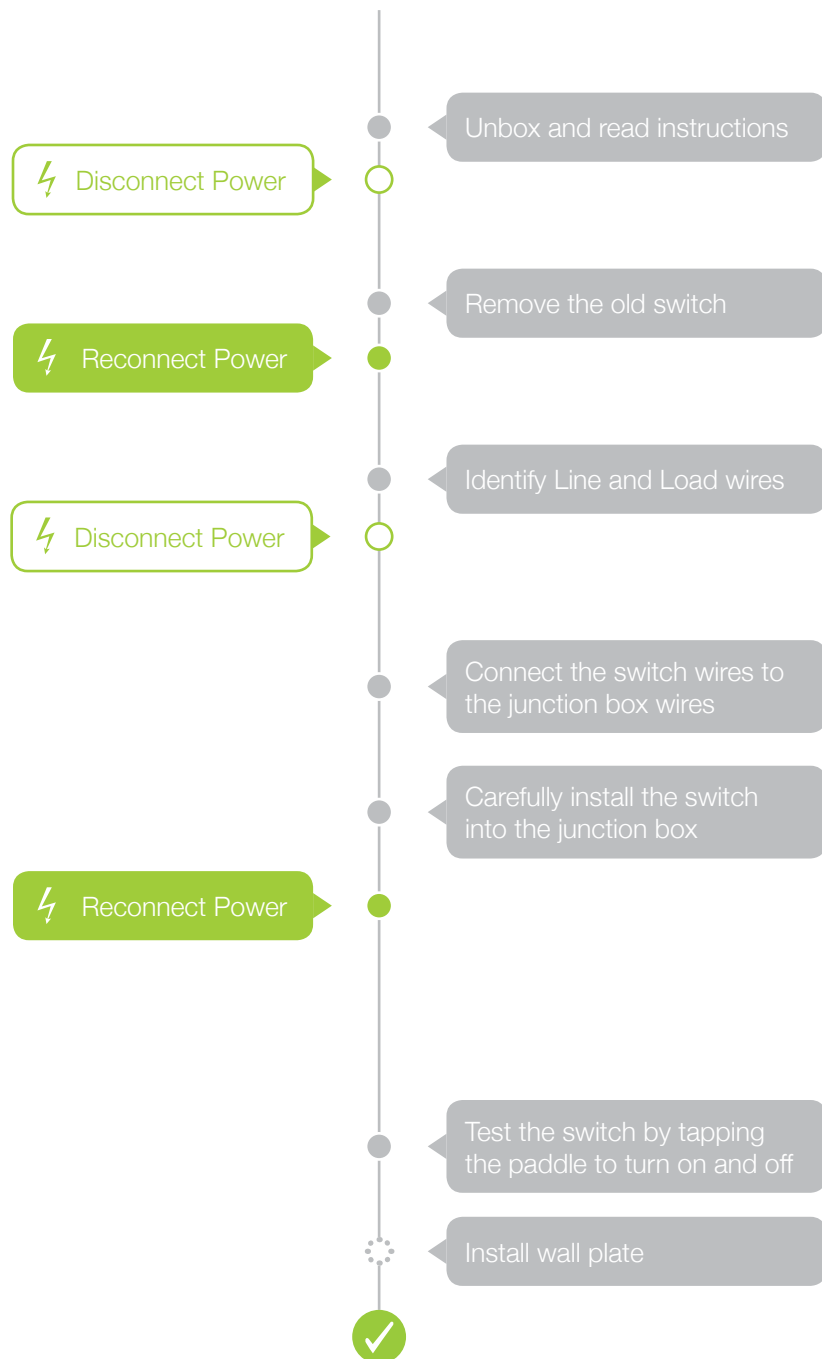
Disconnect Power



Always disconnect power before installation. Contact Insteon Support when uncertain about installation.

1-866-243-8022

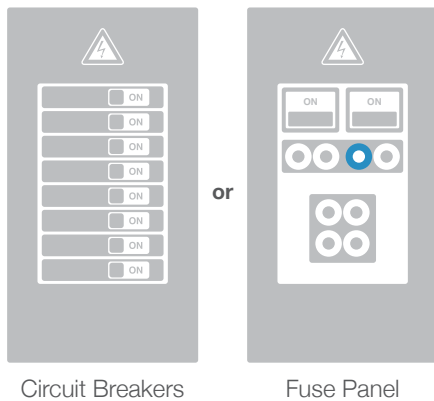
Installation



Installation

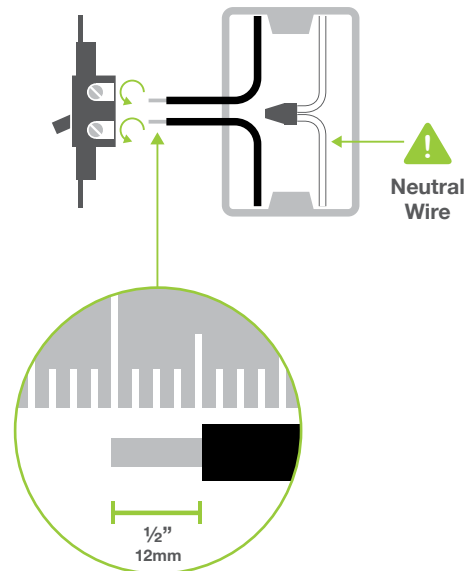
Disconnect Power

- 1 Turn off power to your switch at the electrical service panel.



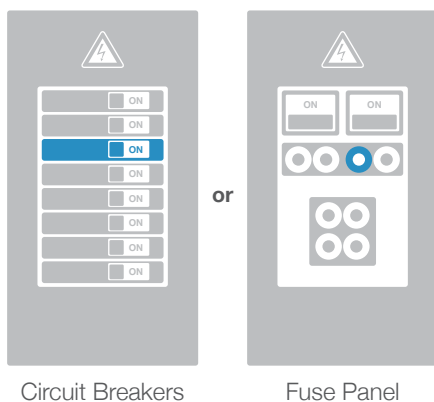
Remove the Old Switch

- 2 Remove the old switch and disconnect the wires. If your box lacks neutral wires, stop and contact support.



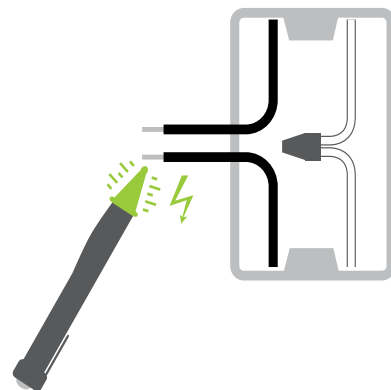
Reconnect Power

- 3 Turn on power at the circuit breaker.



Identify Line and Load

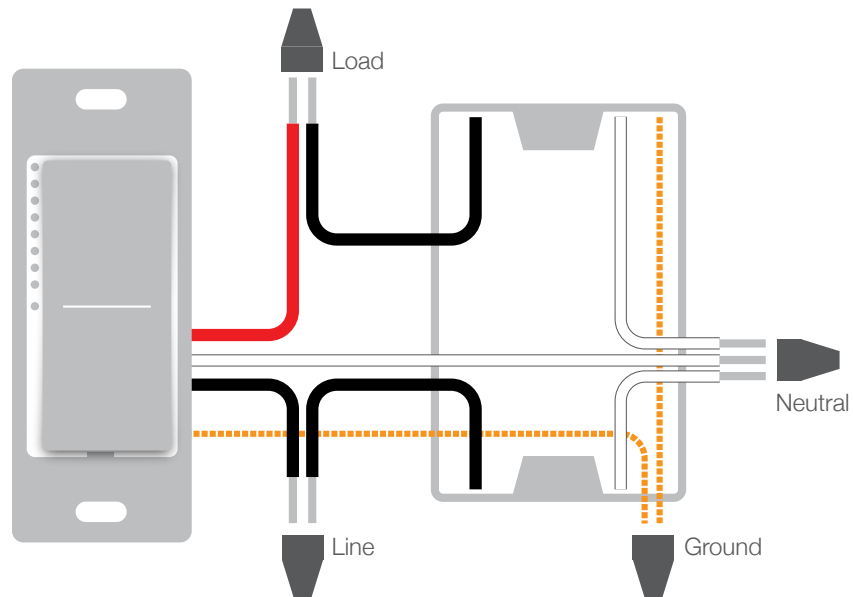
- 4 Use a voltage detector or multi-meter to identify **line** and **load**. **Line** will be energized.



Installation

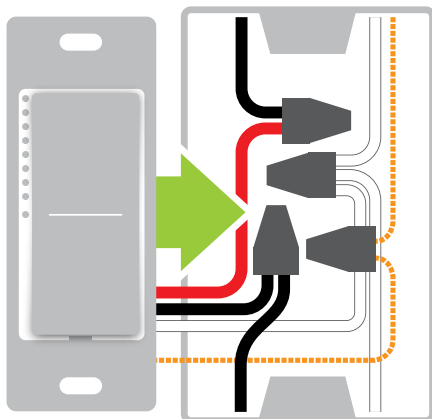
Wire-In The Switch

- 5 Turn off power at the circuit breaker. Connect the Wall Switch wires to the identified wires in the junction box. Verify that the wire nuts are secure and that no exposed copper wire is visible except for the bare ground wire. Additional wiring diagrams can be found in the Installation Diagrams section.



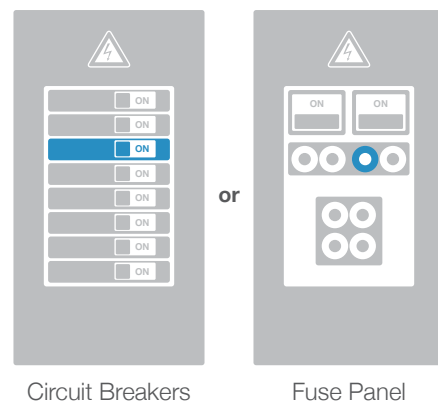
Install the Switch

- 6 Mount the Wall Switch into the junction box with the LED bar on the left.



Reconnect Power

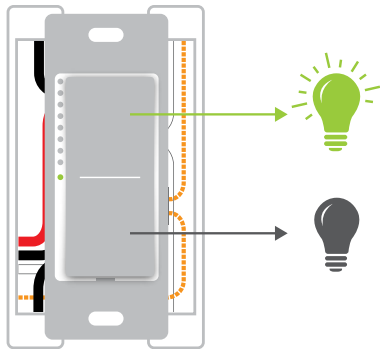
- 7 Turn power on to the switch at the circuit breaker panel.



Installation

Test the Switch

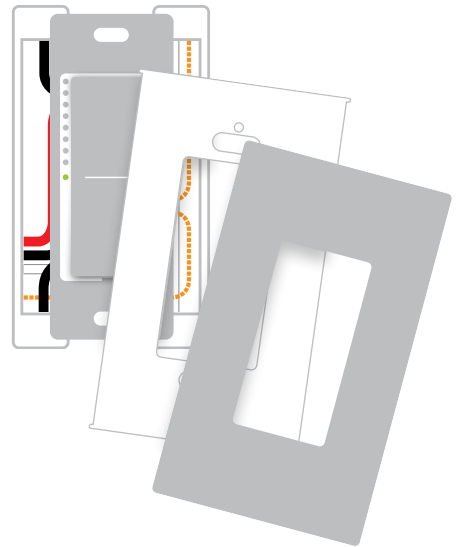
- 8** Test your Wall Switch by tapping the paddle to turn On and Off. Press and hold to dim or brighten.



✓ Installation of your Wall Switch is now complete.

Install Wall Plate

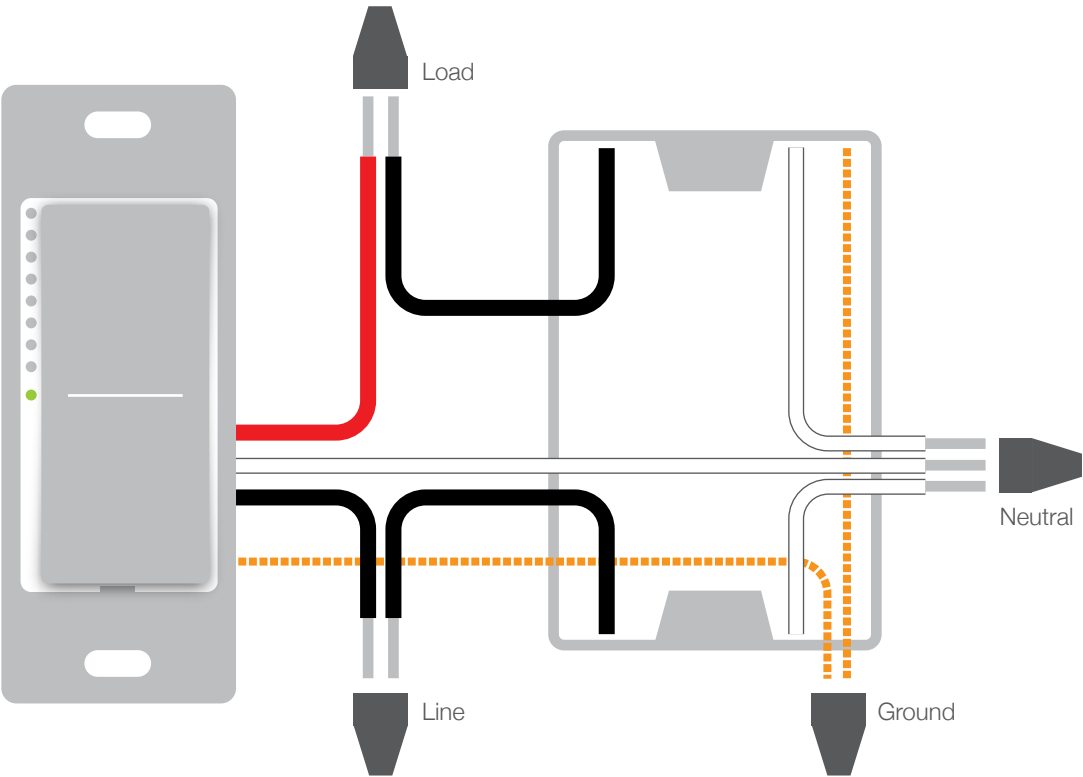
- 9** Complete installation by reattaching your wall plate. For the best look, use an Insteon Screwless Wall Plate.



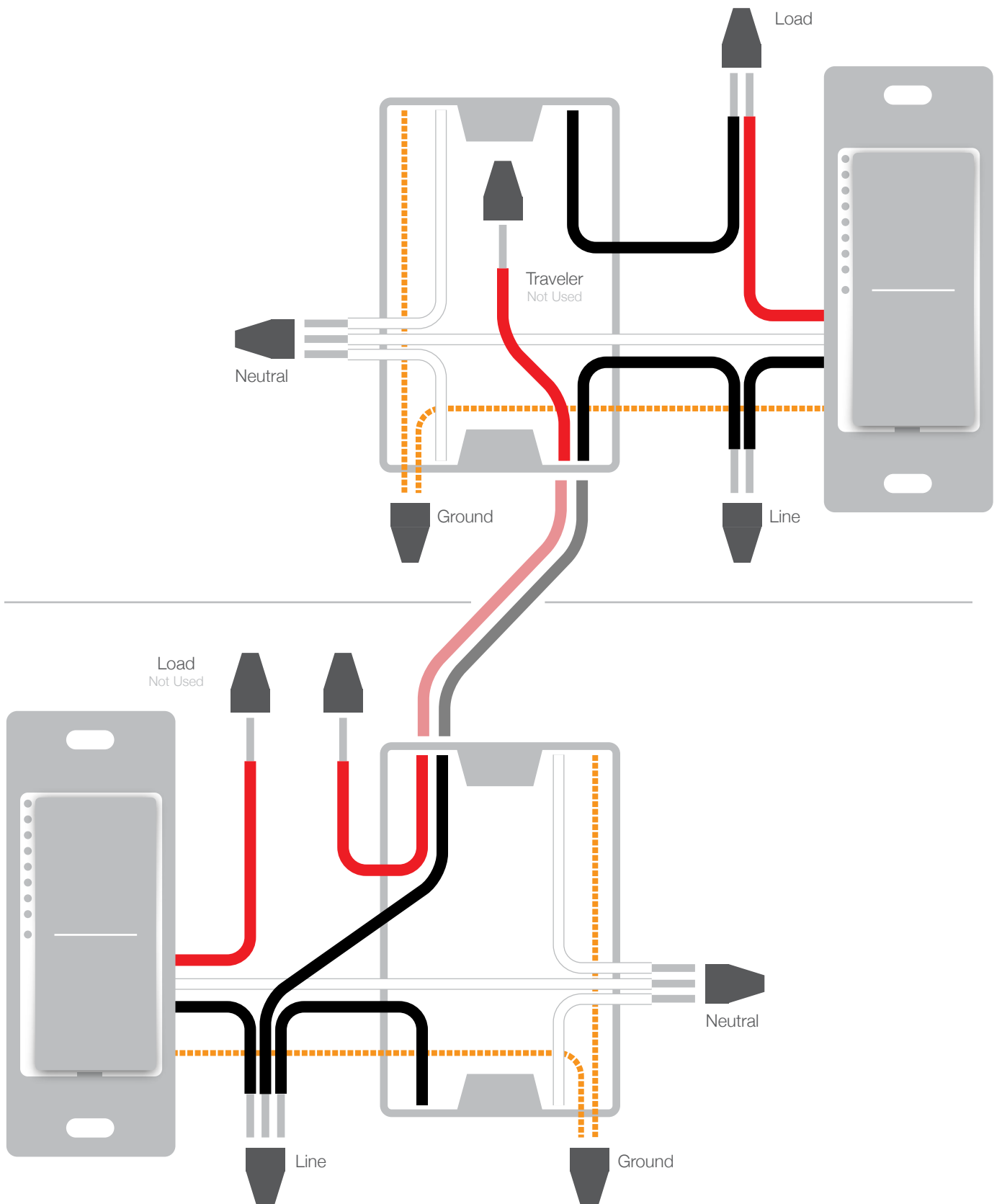
Installation Diagrams

Use the installation diagrams in this section to help you wire your Wall Switch, everything from straight forward, single-switch to multi-way and beyond.

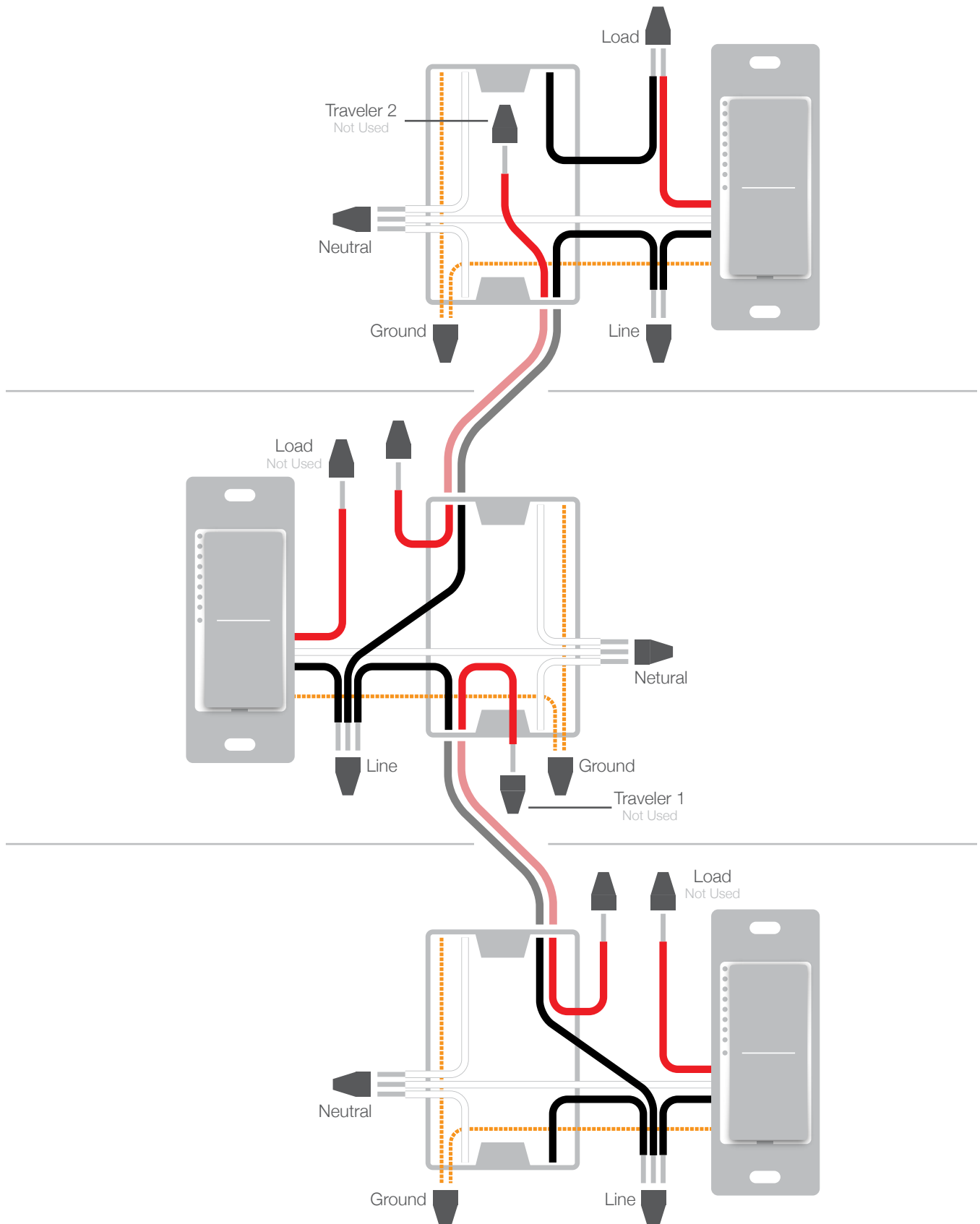
Standard Switch



Three-Way Switch



Four-Way Switch



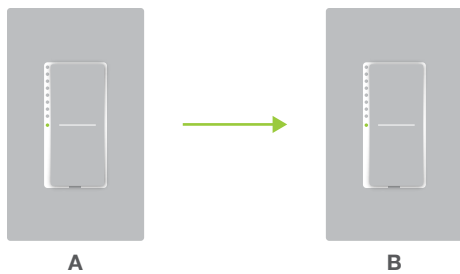
Insteon Links

Insteon devices can stand alone and function as a local switch or dimmer, but their real power comes when they are connected together to form a control system. Most Insteon devices can control one another and be the recipient of control. The process of associating multiple Insteon devices to one another is called Linking.

Understanding Linking

Links are One-Way

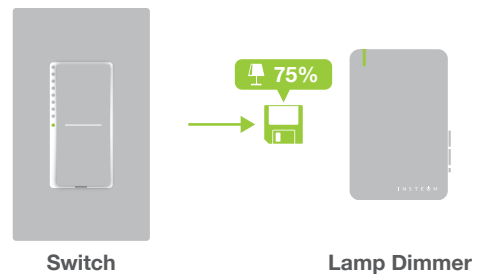
When linking Insteon devices, the links that are created are one-way.



Switch A will turn Switch B on and off but Switch B cannot turn Switch A on or off.

Links Remember a Device's State

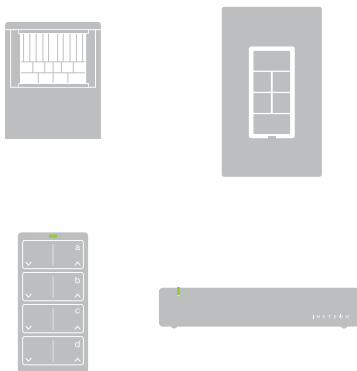
The current state of the controlled device is stored in the link: On, off or dimmed.



The switch will turn on the Lamp Dimmer to 75% brightness.

Controllers

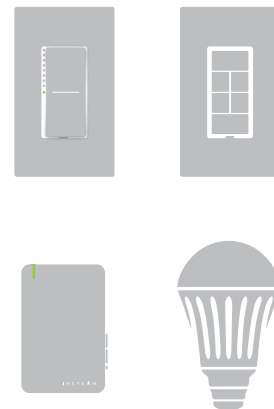
Insteon devices that can turn other devices on or off are called controllers.



Sensors, Switches, Keypads and the Hub are common controllers.

Responders

Insteon devices that receive the command of a controller are called responders.

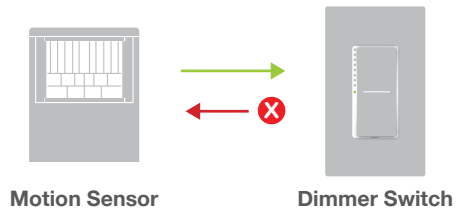


Switches, Keypads, Plug-In Modules and LED Bulbs are common responders.

Understanding Linking

Controller-Only

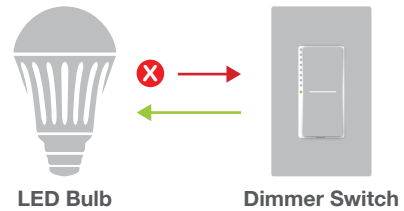
Some devices, like sensors, can only control other devices.



The Motion Sensor will turn on the Switch but the switches cannot control the Motion Sensor.

Responder-Only

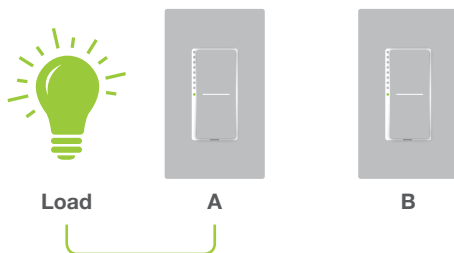
Some devices cannot control other devices; these devices only receive Insteon commands.



Some devices can only link as responders to devices and scenes.

Grouping Devices

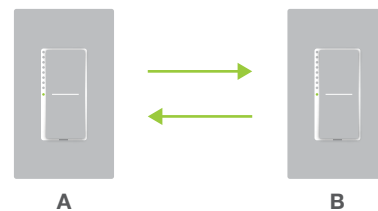
You may want to group together two devices, for example, in a virtual-three way configuration. For Insteon, this is called Cross Linking.



To mirror Switch A and B so that they each control one another and the connected load, Cross Linking is necessary.

Use Cross Linking

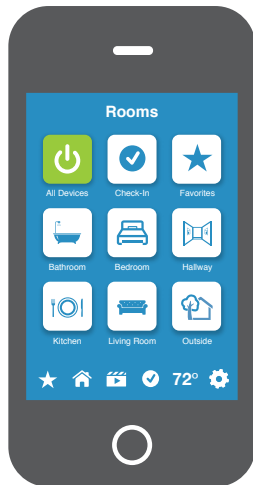
To Cross Link, simply turn on the devices and perform the linking process twice, once in each direction.



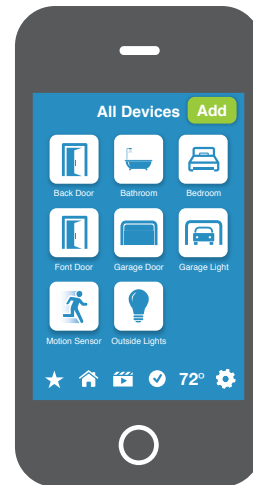
Link Switch A to Switch B and repeat to link Switch B to Switch A.

Linking to the Insteon Hub

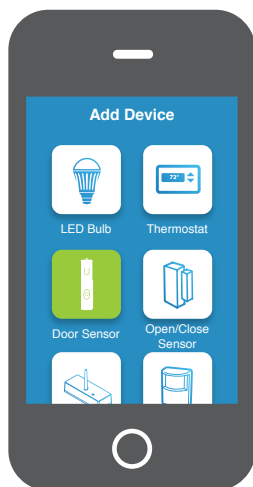
- 1 From Rooms, navigate to All Devices.



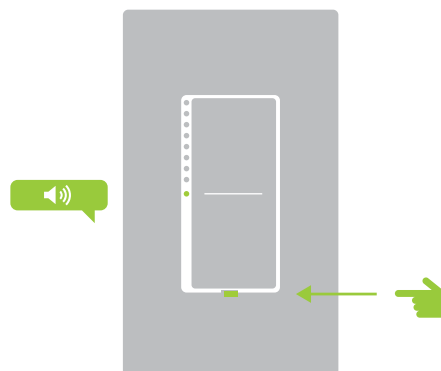
- 2 Tap the Add button.



- 3 Select Wire-In Device from the list of devices.



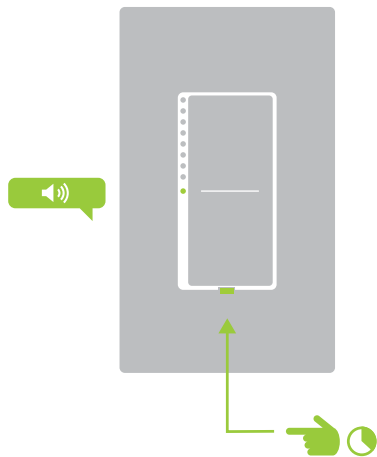
- 4 When prompted, press and hold the set button on your Wall Switch until the device beeps.



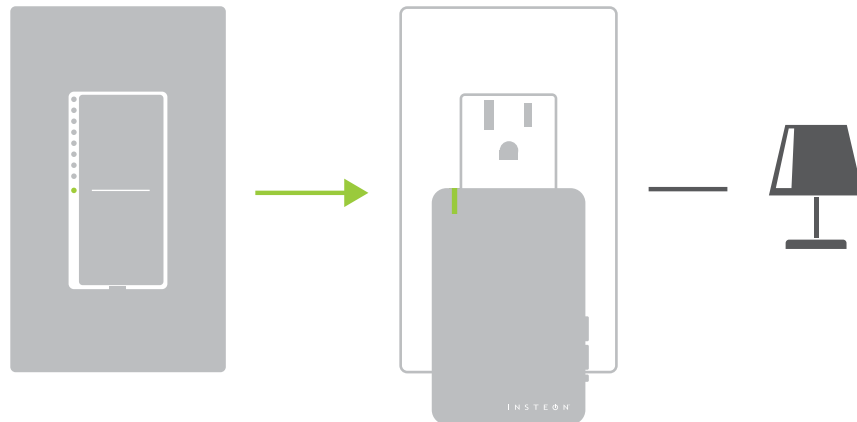
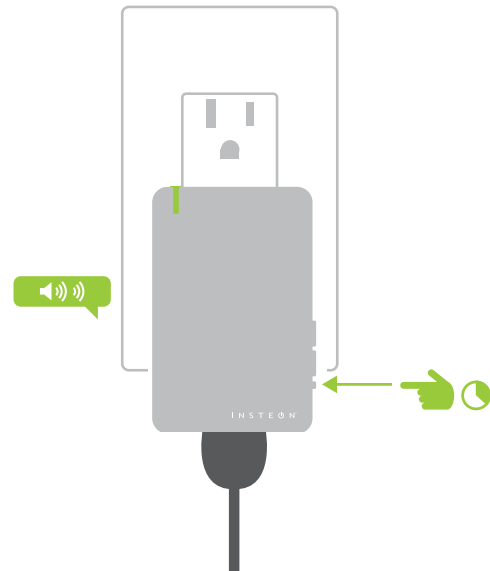
✓ Your Wall Switch is now added to your Insteon Hub.

Linking with a Single-Button Controller

- 1 On your Insteon Wall Switch, press and hold the set button until the device beeps.



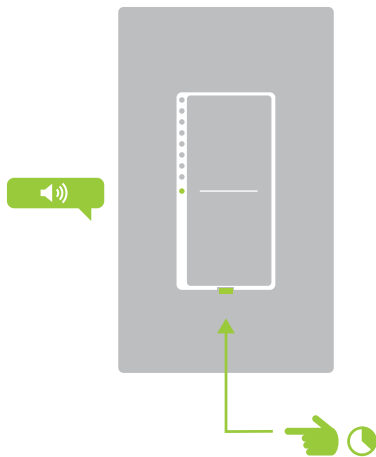
- 2 Adjust your responder to the desired state: On, off, or brightness level if dimming, and then press and hold the set button until the device double-beeps.



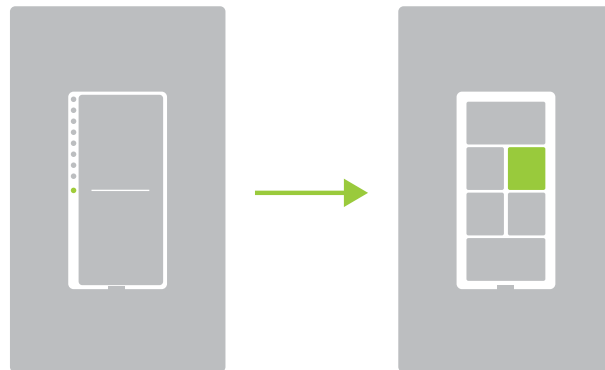
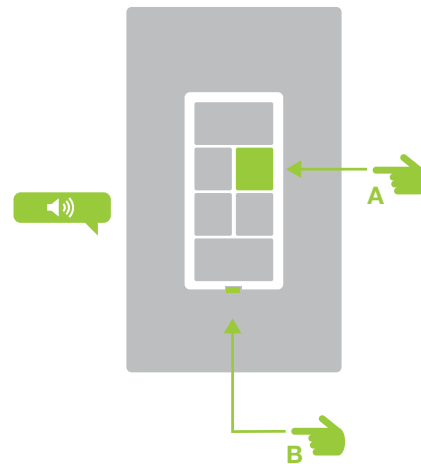
✓ Your Insteon Wall Switch will now control your Insteon device.

Linking with a Multi-Button Controller

- 1 Press and hold the set button on your Wall Switch.



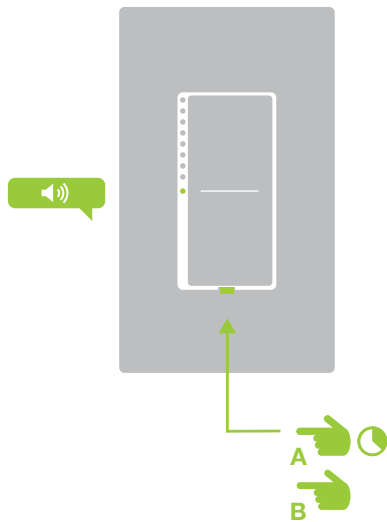
- 2 On your multi-button Insteon device, tap the desired button and then press and hold the set button until the device beeps.



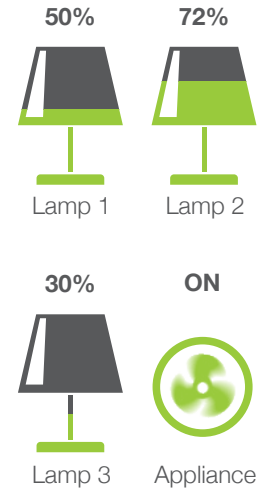
✓ Your Wall Switch will now control a button on your multi-button Insteon device.

Multi-Linking or Making a Scene

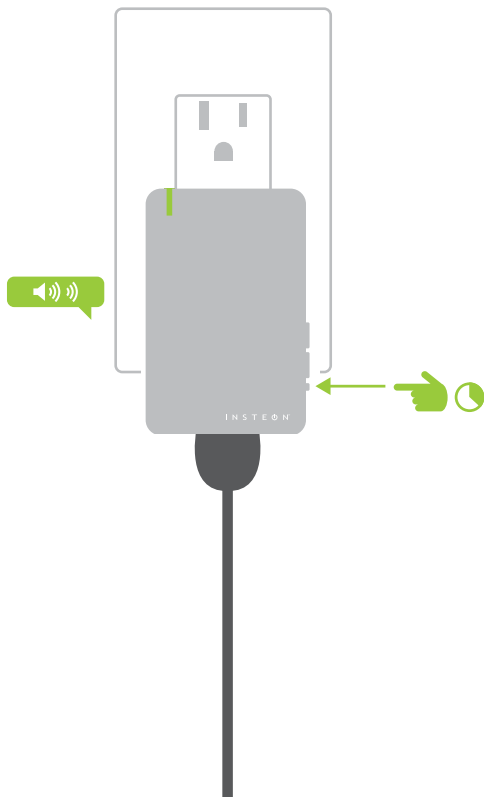
- 1 On your Insteon Wall Switch, press and hold the set button until the device beeps, then tap the set button.



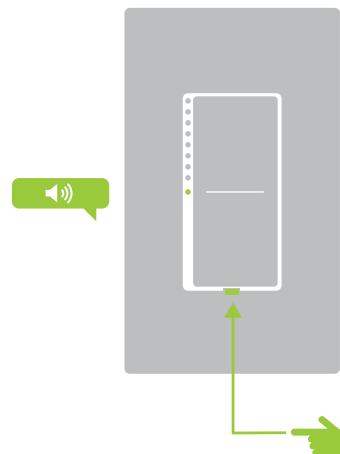
- 2 Adjust the devices in your scene to their desired state: on, off, or brightness level if dimming.



- 3 One at a time, press and hold the set button on each device in the scene until it double-beeps.



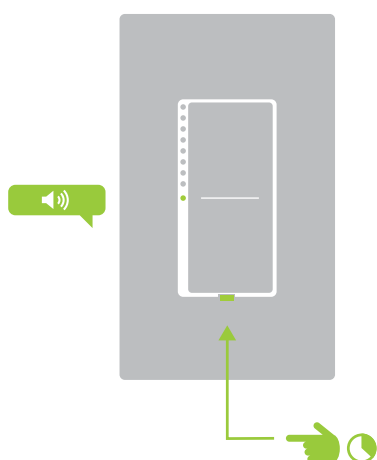
- 4 Tap the set button on your Wall Switch to finish building your scene.



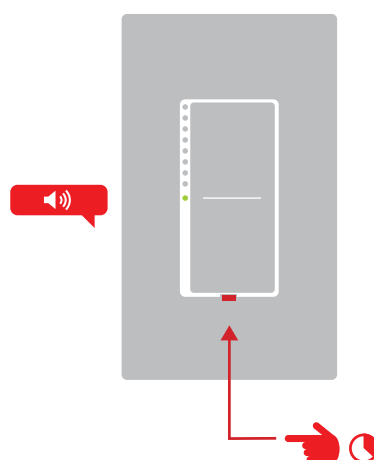
✓ Your Wall Switch will now control your scene.

Unlinking from a Single-Button Controller

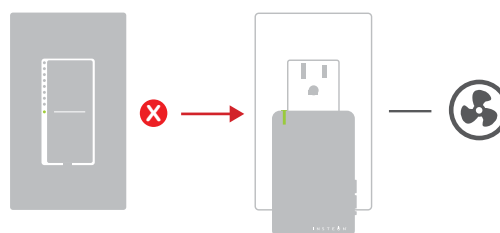
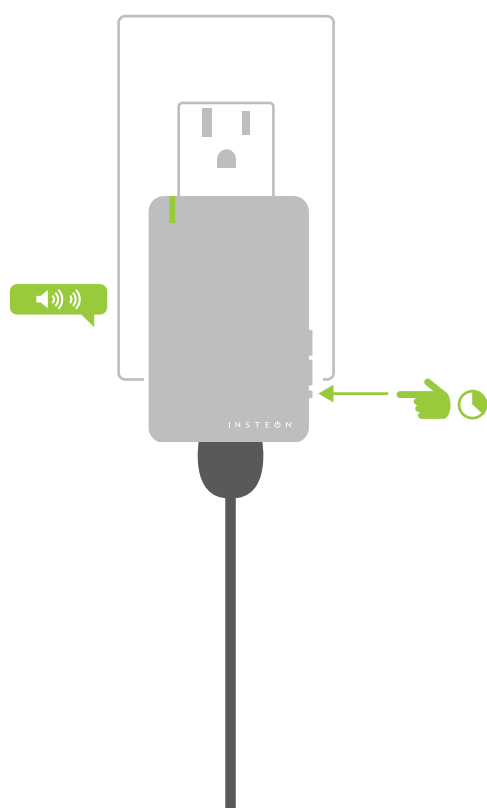
- 1 On your Insteon Wall Switch, press and hold the set button until the device beeps.



- 2 Press and hold the set button again until the device beeps.



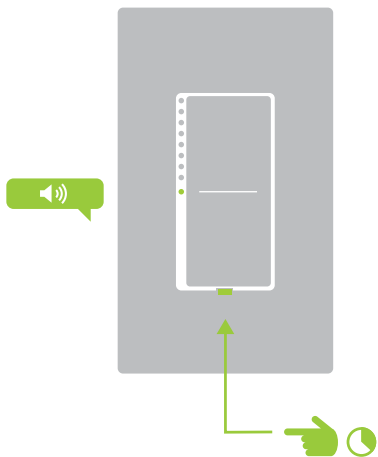
- 3 Press and hold the controlled device's set button until the device double-beeps.



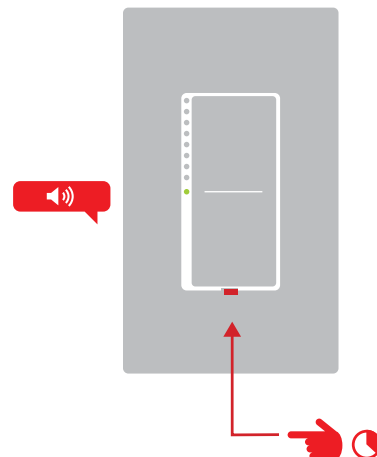
✓ Your Wall Switch will no longer control your Insteon device.

Unlinking from a Multi-Button Controller

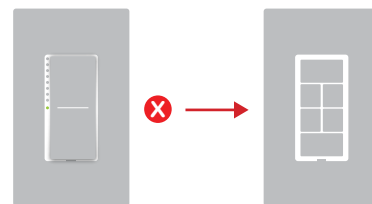
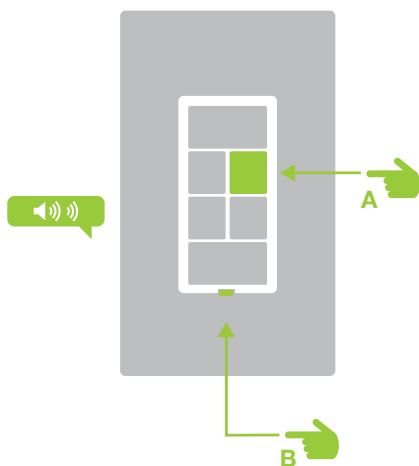
- 1 On your Insteon Wall Switch, press and hold the set button until the device beeps.



- 2 Press and hold the set button again until the device beeps.



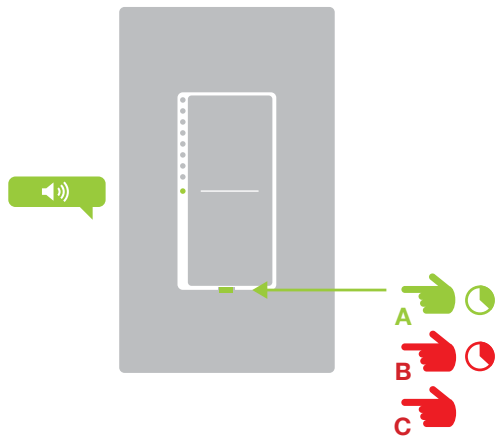
- 3 On your multi-button Insteon device, tap the desired button and then press and hold the set button until the device double-beeps.



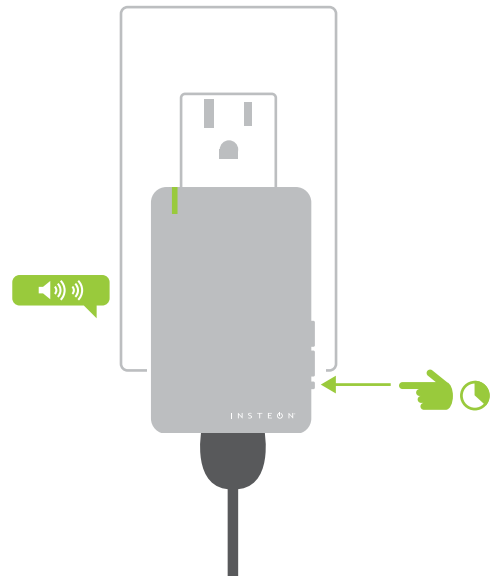
✓ Your Wall Switch will no longer control your multi-button Insteon device.

Multi-Unlinking or Removing a Scene

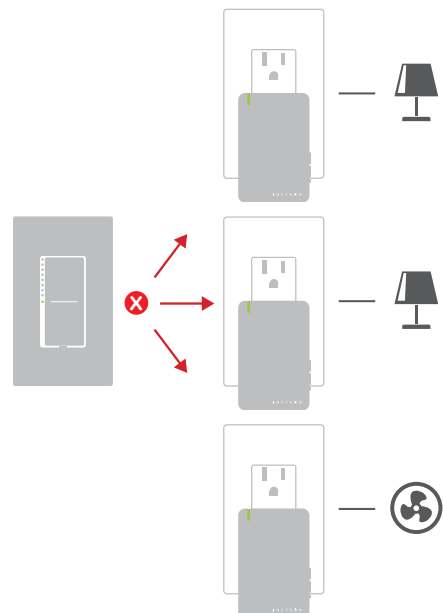
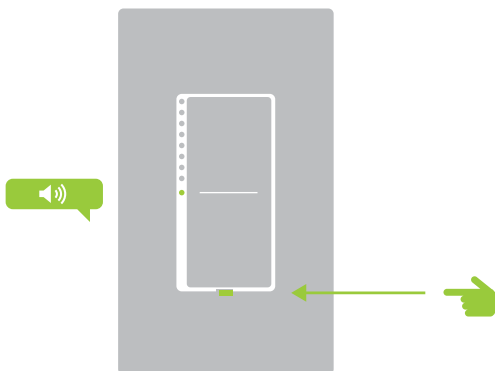
- 1 On your Insteon Wall Switch, press and hold the set button until the device beeps. Press and hold the set button again, then tap the set button.



- 2 One at a time, press and hold the set button on each device in your scene until it double-beeps.



- 3 Tap the set button on your Wall Switch to exit Multi-Unlinking mode.

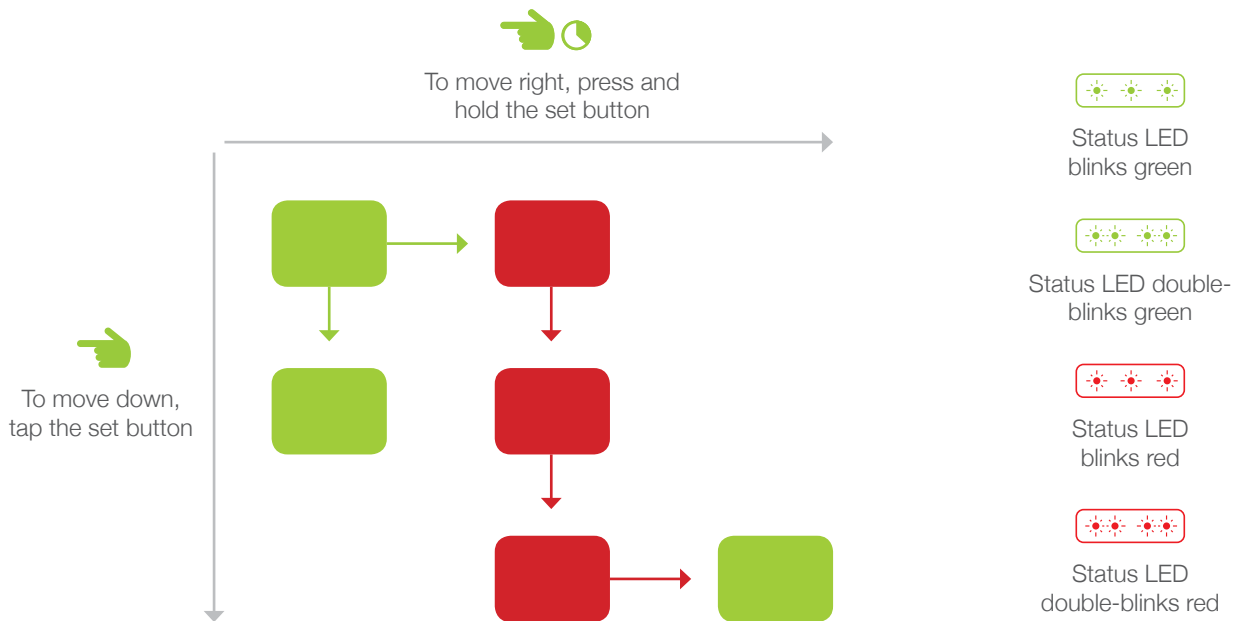


✓ Your Wall Switch will no longer control your scene.

Local Programming

Encompassing all on-device programming options, use the local programming to set local properties and factory reset. For the best experience, use software for managing device properties.

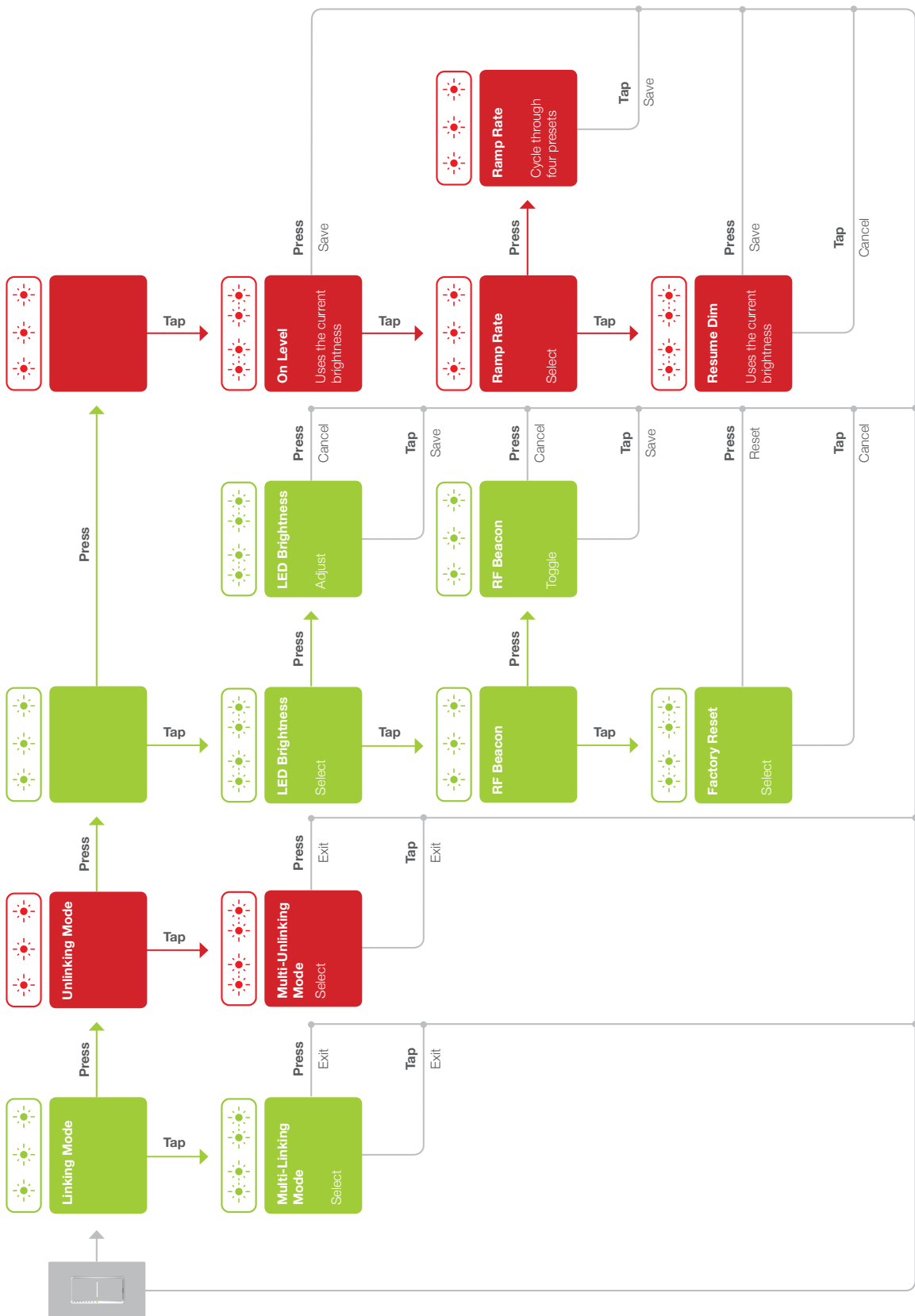
Navigating the Chart



Features

Linking Mode	Readies the module for linking to another Insteon module. As linking is directional, the first device placed into linking mode will become the controller in the controller/responder relationship. The second device will become the responder. The device automatically exits linking mode after a link has been made with another Insteon device.
Multi-Linking Mode	Readies the module for linking to multiple Insteon modules. The module will remain in linking mode for 4 minutes or until the module's set button is tapped. This mode is very usefully for manually creating scenes.
Unlinking Mode	Allows the removal of links from the Insteon module. The device will automatically exit unlinking mode after a link has been removed from another Insteon device.
Multi-Unlinking Mode	Allows the removal of multiple links from the Insteon module. The device will stay in unlinking mode for 4 minutes or until the device's set button is tapped.

Flow Chart

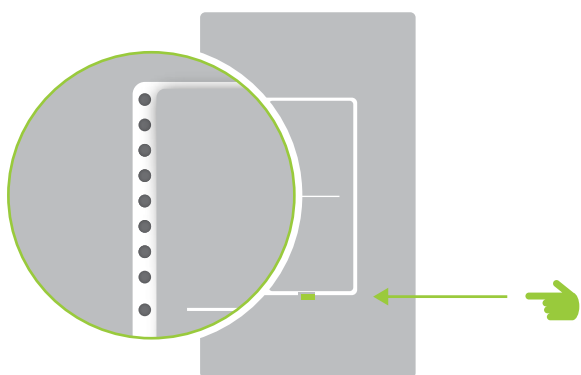


Factory Reset

A factory reset will erase all links stored in the device's database as well as any customized properties.

Factory Reset

- 1 Pull the set button out from the switch until the status LEDs turn off.

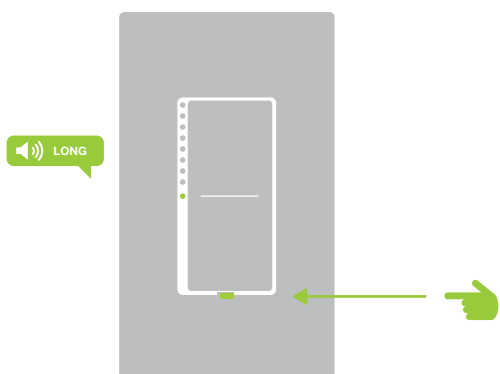


- 2 Wait about ten seconds.

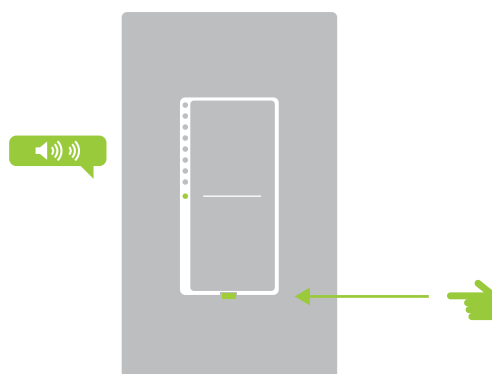


10 Seconds

- 3 Push in and hold the set button until the long beep subsides.



- 4 Release the set button. The switch will double beep.



? Press and hold for 10 seconds on older switches that don't long beep.

✓ Your Wall Switch has been restored to factory settings.

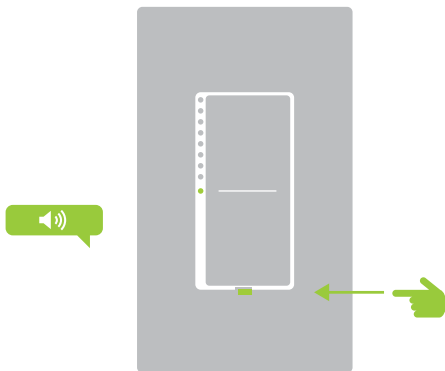
Software-Only Features

Most Insteon devices contain features that can only be enabled, disabled or modified using Insteon control software such as HouseLinc and an Insteon PowerLine Modem.

Software-Only Features

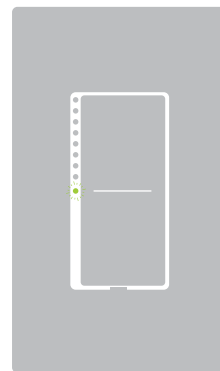
Beep on Button Press

The Wall Switch will beep every time one of its buttons are tapped. By default, this feature is disabled.



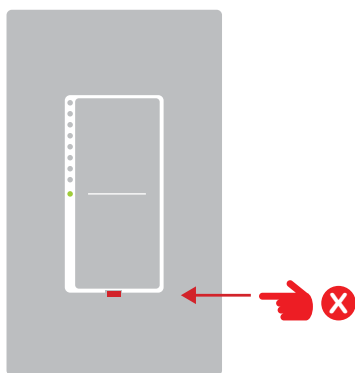
Blink on Traffic

The Wall Switch LED will blink if it detects Insteon communication. By default, this feature is disabled.



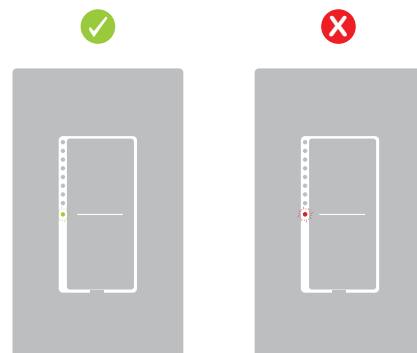
Disable Local Programming

Prevents changing any settings using the set button or tap-and-hold programming.



Error Blink

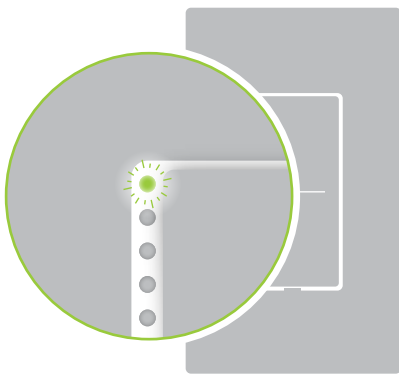
The Wall Switch LED will blink red once if one or more responders do not acknowledge a message and will blink green once if all responders successfully acknowledge a message. By default, this feature is enabled.



Software-Only Features

LED Brightness

Adjust the brightness of the status LEDs from full bright to off.



Appendix

Everything else you might need to know about your Insteon product.

Insteon Glossary

Controller	The Insteon transmitter
Responder	The Insteon receiver
Blinking	LED turning on and off repeatedly
Dual-Band	An Insteon device that can send and receive both Insteon powerline signals and Insteon radio frequency signals
Ramp Rate	The speed at which the load fades on or off
On-Level	The preset brightness level a device will return to when turned on
Insteon	A dual-band, mesh networking technology developed by Smarthome/Insteon. The world's most reliable, expandable and simple home automation and control technology.
Link	A one way association between a controller and responder
Linking	A method for associating Insteon controller buttons with groups of Insteon responders such that the responders instantly return to a memorized state when the button is pushed. Links can be made manually with the set button or using software.
Unlinking	The process by which an Insteon device can remove stored links. Just as with linking, unlinking is a one-way process and should be performed in both directions for devices that are both controllers and responders of each other, as in a 3-way switch scenario.
Multi-Linking / Unlinking	A special mode that allows more than one link to be either created or removed simultaneously, without laborious set button presses. When in linking or unlinking mode, an Insteon device will continue to link to other devices until the set button is tapped or four minutes have elapsed, whichever occurs first.
Factory Reset	A process that erases all stored links and reconfigures the device to factory defaults.
Load	The device that you are controlling (e.g. a light bulb, ceiling fan, etc.)
On/Off	A device that can control its connected load to turn on and off but cannot dim. Usually a relay-based device.
Retry	A 2nd (or subsequent) attempt by a controller to send an Insteon signal, usually after an acknowledge is not received from the responder in the expected time-slot.
Scene	Multiple devices respond to memorized states. For example, a dinner time scene turns on the dining table light, dims the kitchen lights to 10%, backyard lights turn off and the thermostat adjusts to 72°.
Set Button	A button on an Insteon device that is used for setting or changing its properties
Simulcast	A method for increasing the reliability of message delivery in a network. When a node in a network sends a message, every other node that hears the message retransmits it at precisely the same time based on a global clock, provided that the message has not already been retransmitted some maximum number of times. Message propagation is more robust because each node adds its energy to the signal, much like voices in a choir. Simulcasting is much simpler than message routing because there are no routing tables to maintain and nodes can join the network without any installation procedure.
X10	A legacy powerline networking technology. Many Insteon devices are backwards compatible with X10 devices by setting a house and unit code.

Specifications

General

Available Colors	White
Brand	Insteon
FCC ID	SPB2477
Industry Canada	5202A-24772
Product Number.	2477S On/Off Switch 2477D Dimmer Switch 2477DH Dimmer Switch (High Wattage)
Patent	Protected under US and Freign Patents (see www.insteon.com/patents)
UPC	813922012378 On/Off Switch 689076401746 Dimmer Switch 813922011005 Dimmer Switch (High Wattage)
Warranty	2 years, limited

Operation

On-Levels	32 locally, increments of 1% with software
Ramp Rates	0.125 seconds to 8 minutes
Status LED	9 White LEDs
Operation Modes	Insteon
Multi-Way Circuit Support	Yes, one switch controls the load. All other switches are secondaries.
Setup Memory	Non-volatile EEPROM

Insteon Features

Insteon Addresses	400
Insteon Device Category	0x01
Insteon Device Subcategory	0x00
Insteon ID	1
Insteon Links	417
Insteon Messages Repeated	Yes
Insteon Powerline Device	Yes
Insteon RF Device	Yes

Specifications

Maximum Controlled Scenes	1	
Maximum Scene Memberships	1	
Multi-Link Support	Yes	
Multi-Unlink Support	Yes	
Phase Detect Beacon	Yes	
Radio Frequency	915.0 MHz US	
Radio Frequency Range	150 feet	
Scene Commands Supported as Controller	On	Off
	Fast-On	Fast-Off
	Begin Brighten	Begin Dim
	End Brighten	End Dim
Scene Commands Supported as Responder	On	Off
	Fast-On	Fast-Off
	Begin Brighten	Begin Dim
	End Brighten	End Dim
Software Configurable	Yes	

Mechanical

Paddle Type	True rocker action
Wire Nuts	4 Included
Mounting	Single or multi-gang junction boxes. Derating of 200W for each immediately adjacent dimmer.
Dimensions	On/Off and Dimmer Switch 4.1" H x 1.8" W x 1.2" D 104mm x 46mm W x 31mm D Dimmer Switch (High Wattage) 4.1" H x 2.5" W x 1.2" D 104mm x 64mm W x 31mm D
Operating Environment	Indoors
Operating Humidity Range	0-90% relative humidity, non-condensing
Operating Temperature Range	-40° to 104° F -40° to 40° C

Specifications

Set Button	1, recessed. Requires removal of sensor to access
Storage Temperature Range	-40° to 104° F -40° to 40° C
Weight	3.6 oz 102g

Electrical

Supply Voltage	100-277 Volts AC $\pm$ 10%, 50/60Hz, Single Phase
Neutral Wire	Required
Power Wire Leads	6" 16 AWG stranded 600V Line Load Neutral
Maximum Amperage	5 amps
Ground Lead	6" 18 AWG stranded bare copper
Power Consumption	0.59 Watts
Certification	ETL 3017581

Troubleshooting

The LED lights on the Wall Switch are not illuminated

It is possible that your switch is not getting power or that the status LEDs have been disabled.

Try this:

- Check to make sure power is flowing to your Insteon Wall Switch. If your switch was just installed, make sure the circuit breaker controlling the switch has been turned on. It is also advisable to verify the wire connections in the junction box are secure and not showing any bare wire. If any changes were made to the fixture when installing your Insteon Wall Switch, check the wire connections there, too.
- If the switch works and the connected light can be controlled, use software or the Local Programming Flowchart to change the behavior of the status LED. The status LED brightness can be dimmed to the point that it appears off. The Insteon Hub and other central controller software allow setting of this device property.

Unable to add the Wall Switch to a scene as a controller or a responder

If the device has power, something is likely interfering with the Insteon signal. Large appliances, power strips and some electronic devices may generate powerline noise.

Try this:

- Check to see if you have connected your Wall Switch downstream of a GFCI outlet. While this wiring scenario is unlikely, GFCI outlets often unintentionally filter out the Insteon powerline signal. If testing the GFCI outlet disconnects power to your Wall Switch, investigate alternative wiring options.
- Large appliances like refrigerators or air conditioners may be generating powerline noise that is disrupting the Insteon signal. If the issue only appears to happen when one of these large appliances is running, install a noise filter at that device. If you are uncertain of the device generating the noise, disconnect the potentially offending devices from power and test your Wall Switch again. If the issue is resolved, install noise filters at each offending appliance.
- Some small electronics devices that include an AC/DC power supply can generate substantial electrical noise, in some cases, enough to disrupt an entire house of Insteon devices. Search your home for speaker docks, small stereos, etc. and disconnect them from power to perform testing. If removing these devices from your powerline resolves the Insteon issue, install a noise filter at each offending small electronic appliance.
- Your Wall Switch may be too far from another Insteon device to receive a signal. Try locating a Range Extender or other Dual-Band Insteon device between the location of your Wall Switch and the next nearest Insteon device.

The Wall Switch is slow to respond to commands from a controller

This issue most likely lies with the controller, not the Wall Switch; the controller is most likely repeating commands not acknowledged by an Insteon device that has been removed from the network. The repeated commands are slowing down the Insteon network, resulting in a delayed response from the Wall Switch.

Try this:

- Consider if you have removed any Insteon devices from your network that were part of the slow-to-respond scene. If so, the links to these devices need to be removed from the controller. Use software to examine the database of the controller or if you know the modules that were removed, manually remove their links using the standard unlinking procedure.
- If you are unable to identify the missing devices, perform a factory reset on the controller. This will remove all links from the controller's database but will also require that you reconfigure the device's scenes and properties.

Troubleshooting

The connected light turned on by itself

There must be a device in your Insteon network that is unexpectedly linked to the Wall Switch. If you have given your device an X10 address, powerline noise may be triggering the Insteon device.

Try this:

- Use software to examine the Wall Switch's links. If you can identify the stray controller, remove the link.
- If you are unable to identify the unexpected controller, perform a factory reset on the Wall Switch. This will remove all links from the module's database but will also require that you reconfigure the device's scenes and properties.
- If you have assigned your device an X10 address, try assigning a different X10 address or taking steps to identify and isolate electronics that may be generating powerline noise.

Using a controller, the Wall Switch will turn off but not turn on

Most likely, the Wall Switch was linked to the controller with the load set to Off

Try this:

- Make sure the Wall Switch's connected load is on and then re-link the device to your Insteon controller. This link will overwrite the previous "off" link.

The Wall Switch does not respond to button taps or controller links

A power surge or excessive powerline noise may have caused the switch to unexpectedly stop responding.

Try this:

- Temporarily disconnect your switch from power by pulling the set button out from the switch until the status LEDs turn off. Wait about 10 seconds and then push in the set button. Test the switch to see if the load will turn on or off.
- While unusual, the Wall Switch may require a factory reset to restore normal operation. Follow the procedure outlined in Local Programming to reset the device to factory settings. You will be required to reconfigure the device's scenes and properties after the reset.

After installing the Wall Switch, the switch produces a long, continuous beep

Your Wall Switch has been wired incorrectly and will not function.

Try this:

- Turn off power and verify the wire connections in the junction box are secure, not showing any bare wire and labeled correctly. The color of wire in your junction box may differ from the installation diagrams and it is possible that the function of the wire is incorrect for its color. Use a voltage detector or multi-meter to properly identify line, load and neutral. If you are unable to do so, contact an electrician.

Certifications and Warnings

This device complies with FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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.

Changes or modifications to this unit voids the user's authority to operate this product and the manufacturer's warranty.

The digital circuitry of this device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. 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 and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna of the device experiencing the interference
- Increase the distance between this device and the receiver
- Connect the device to an AC outlet on a circuit different from the one that supplies power to the receiver
- Consult the dealer or an experienced radio/TV technician

WARNING: Changes or modifications to this device not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Product Warranty

Limited Warranty

Seller warrants to the original consumer purchaser of this product that, for a period of two years from the date of purchase, this product will be free from defects in material and workmanship and will perform in substantial conformity to the description of the product in this Owner's Manual. This warranty shall not apply to defects or errors caused by misuse or neglect. If the product is found to be defective in material or workmanship, or if the product does not perform as warranted above during the warranty period, Seller will either repair it, replace it, or refund the purchase price, at its option, upon receipt of the product at the address below, postage prepaid, with proof of the date of purchase and an explanation of the defect or error. The repair, replacement, or refund that is provided for above shall be the full extent of Seller's liability with respect to this product. For repair or replacement during the warranty period, call 866-243-8022 with the Model # and Revision # of the device to receive an RMA# and send the product, along with all other required materials to:

Insteon
ATTN: Receiving
16542 Millikan Ave.
Irvine, CA 92606-5027

Limitations

The above warranty is in lieu of and Seller disclaims all other warranties, whether oral or written, express or implied, including any warranty of merchantability or fitness for a particular purpose. Any implied warranty, including any warranty of merchantability or fitness for a particular purpose, which may not be disclaimed or supplanted as provided above shall be limited to the two-year of the express warranty above. No other representation or claim of any nature by any person shall be binding upon Seller or modify the terms of the above warranty and disclaimer.

Home automation devices have the risk of failure to operate, incorrect operation, or electrical or mechanical tampering. For optimal use, manually verify the device state. Any home automation device should be viewed as a convenience, but not as a sole method for controlling your home.

In no event shall Seller be liable for special, incidental, consequential, or other damages resulting from possession or use of this device, including without limitation damage to property and, to the extent permitted by law, personal injury, even if Seller knew or should have known of the possibility of such damages. Some states do not allow limitations on how long an implied warranty lasts and/or the exclusion or limitation of damages, in which case the above limitations and/or exclusions may not apply to you. You may also have other legal rights that may vary from state to state.