

I N S T E O N<sup>®</sup>



**INSTEON Door Sensor 2845-x22**  
Owner's Manual

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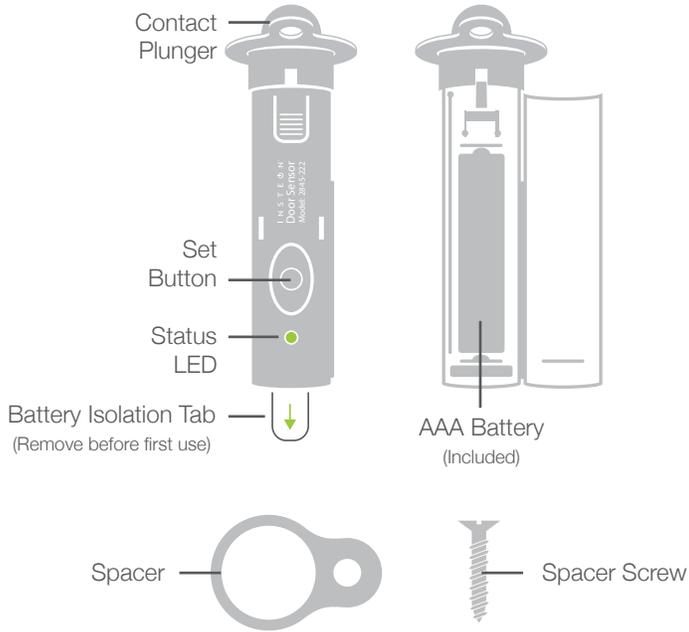
## **Getting Started**

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Everything you need to quickly get up and running.

# INSTEON Door Sensor

## Device Overview



## Tools Needed for Installation



Power Drill



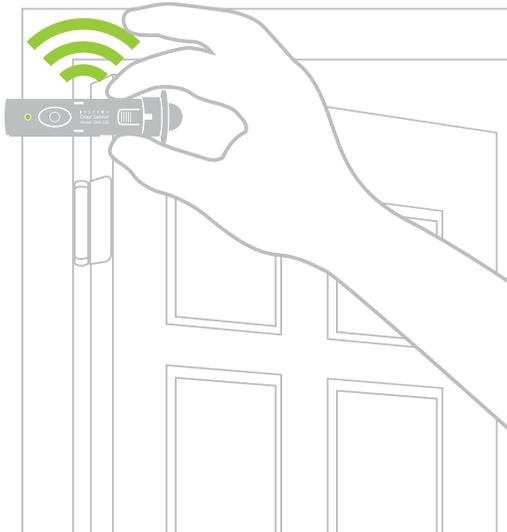
3/4-inch Auger Drill Bit  
(Recommended)



Phillips Screwdriver

## Test Your Location First

Test your desired location first. Hold the Door Sensor in its intended location and try linking to your Hub or responder. If linking is unsuccessful, try repositioning the sensor or add a Range Extender.

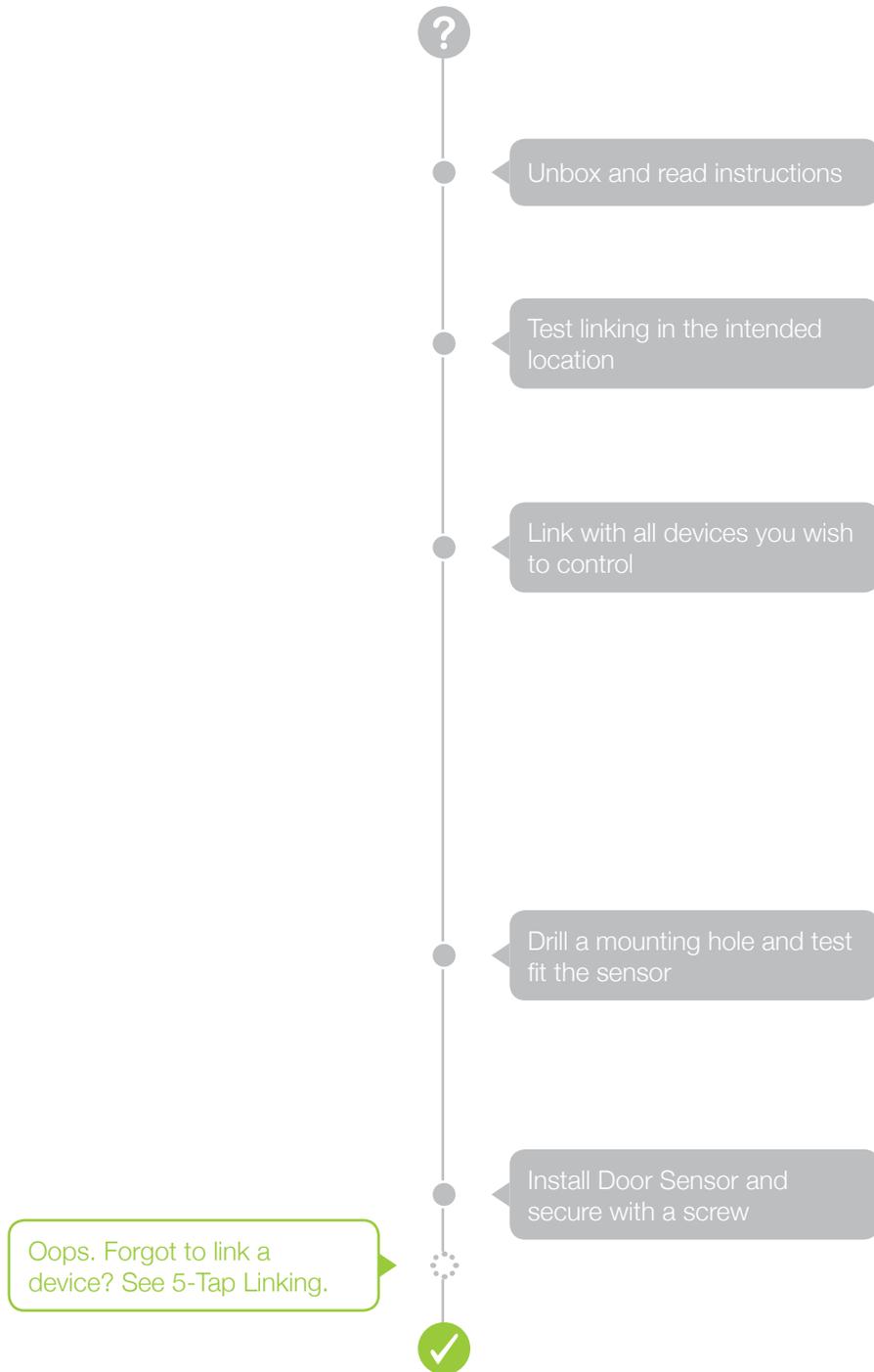


## Install in a Window Frame

If installing in a window frame, Door Sensor works best with casement windows. Follow the same installation steps. INSTEON recommends using Open/Close Sensor (2843-222) for sash windows.



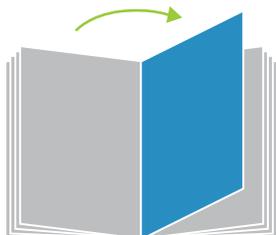
## Installation



## Installation

### Link First

- 1 As installing Door Sensor obscures its set button, perform any linking now before you install the sensor.

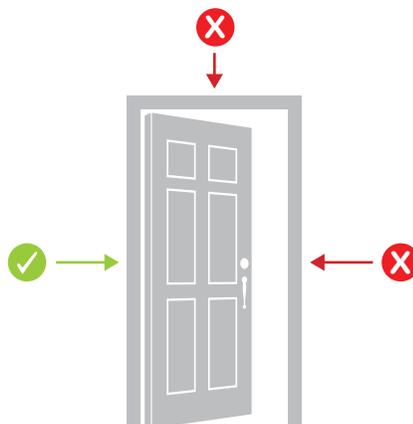


For linking instructions, turn to Page 9.

? If you skip linking now, you can link later using Five-Tap linking.

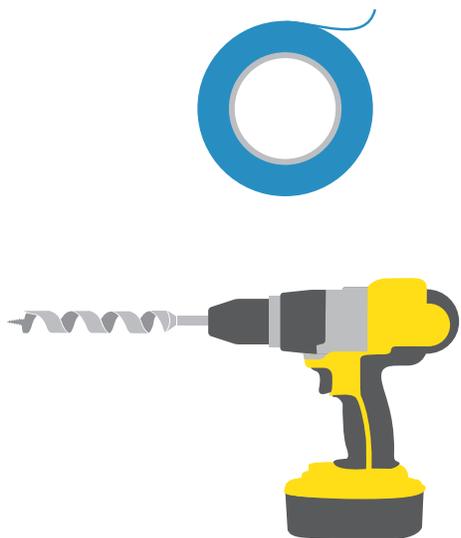
### Locate the Hole

- 2 Find a location for Door Sensor in either the hinge-side of the door frame or the hinge-side of the door itself. Higher is better for wireless range but low will still work.



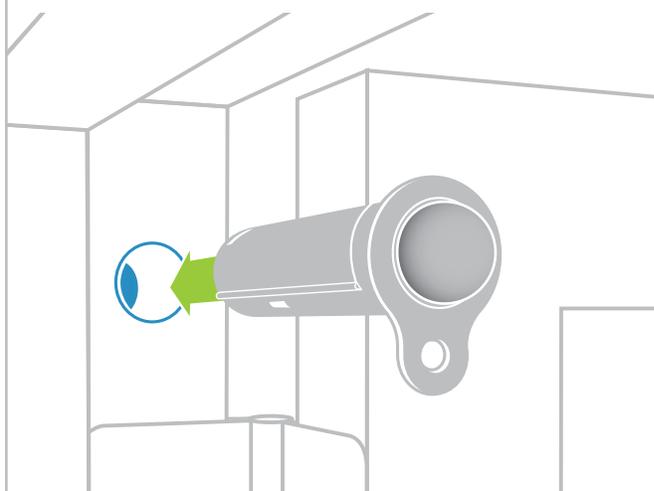
### Drill the Hole

- 3 Place masking tape over any surfaces that may be marred by the drill chuck and drill a 4-inch deep, 3/4-inch diameter hole. If drilling into the door, have an assistant hold the door steady.



### Test the Fit

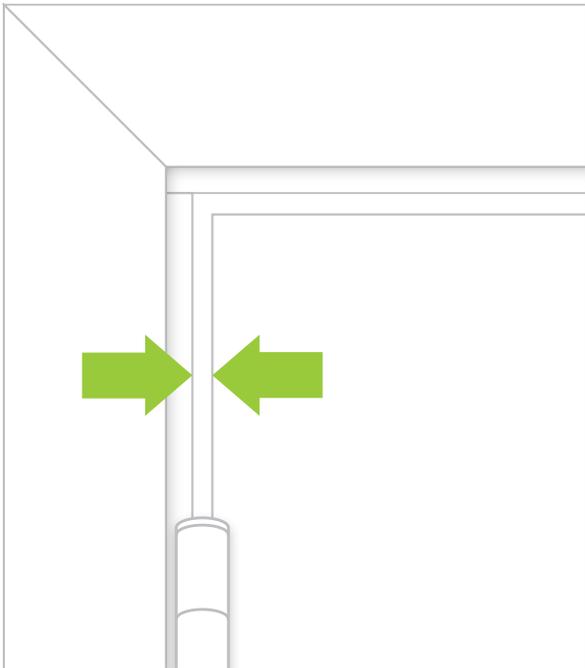
- 4 Clean out any wood shavings with a vacuum and test fit the sensor. When ready, insert the sensor into the hole and fasten with the included screw.



✓ Installation of your Door Sensor is now complete.

## Using the Spacer

If the gap between your door and door frame is too wide to depress the contact plunger, try using the spacer.



Slide the spacer over Door Sensor to increase the thickness of the collar. Fasten with the screw provided.



## **INSTEON Links**

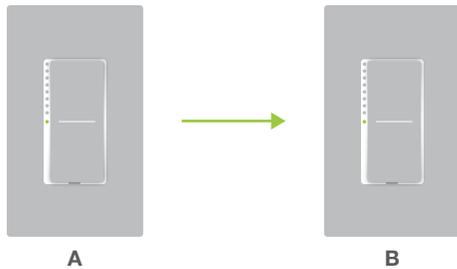
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INSTEON devices can stand alone and function as a local switch or dimmer, but their real power comes when they are connected together to form a control system. Most INSTEON devices can control one another and be the recipient of control. The process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

## Understanding Linking

### Links are One-Way

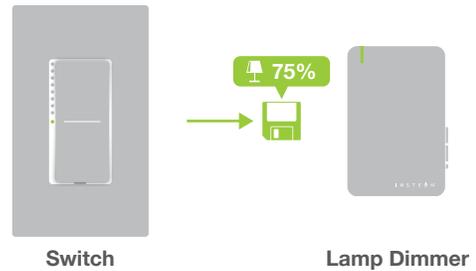
When linking INSTEON devices, the links that are created are one-way.



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

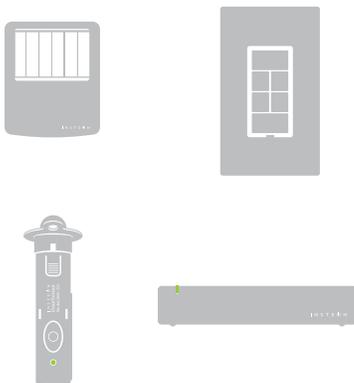
The current state of the controlled device is stored in the link: On, off or dimmed.



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

### Controllers

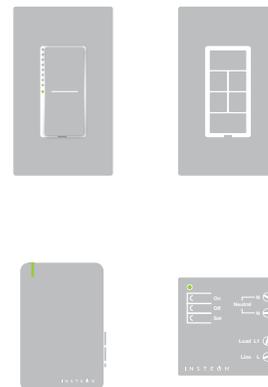
INSTEON devices that can turn other devices on or off are called controllers.



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

### Responders

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

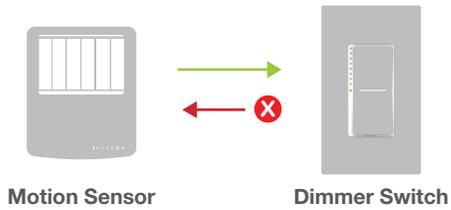


Switches, Keypads, Plug-In Modules and In-Line Modules are common responders.

## Understanding Linking

### Controller-Only

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

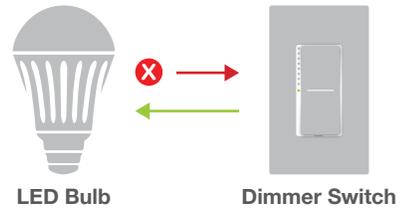


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The Motion Sensor will turn on the Switch but the switches cannot control the Motion Sensor.

### Responder-Only

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

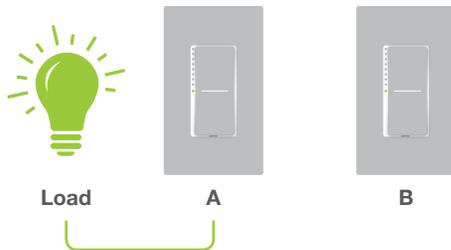


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Some devices can only link as responders to devices and scenes.

### 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.

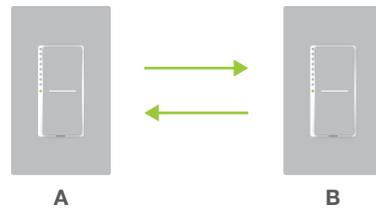


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To mirror Switch A and B so that they each control one another and the connected load, Cross Linking is necessary.

### Use Cross Linking

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

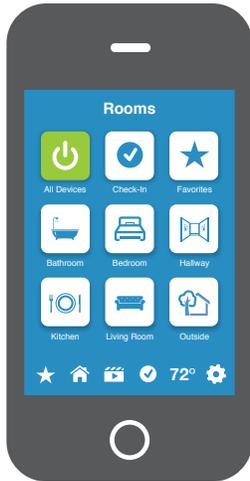


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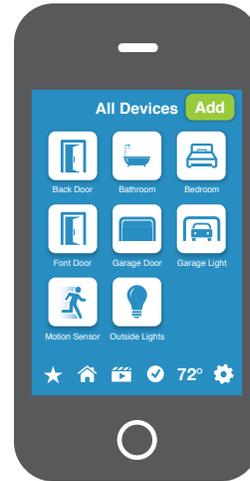
Link Switch A to Switch B and repeat to link Switch B to Switch A.

## Linking to the INSTEON Hub

- 1 From Rooms, navigate to All Devices.



- 2 Tap the Add button.

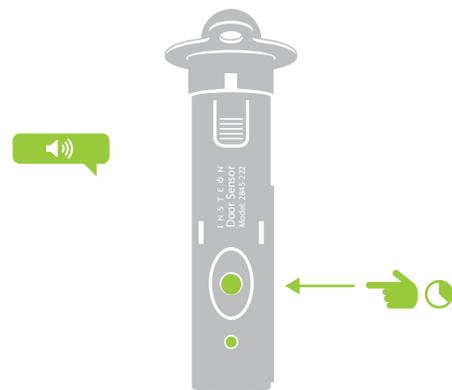


### For Hardware Preview

- 3 Select Open/Close Sensor from the list of devices.



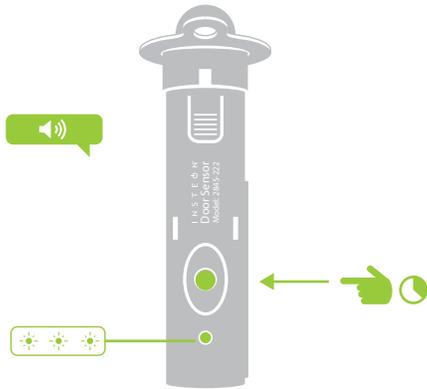
- 4 When prompted, press and hold the set button on your Door Sensor until the device beeps.



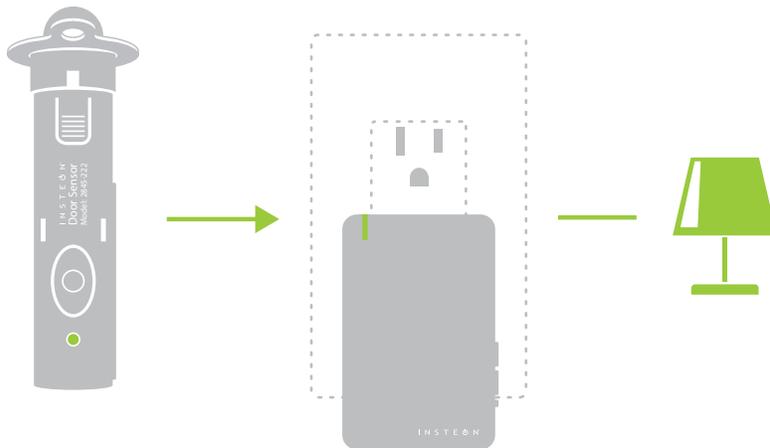
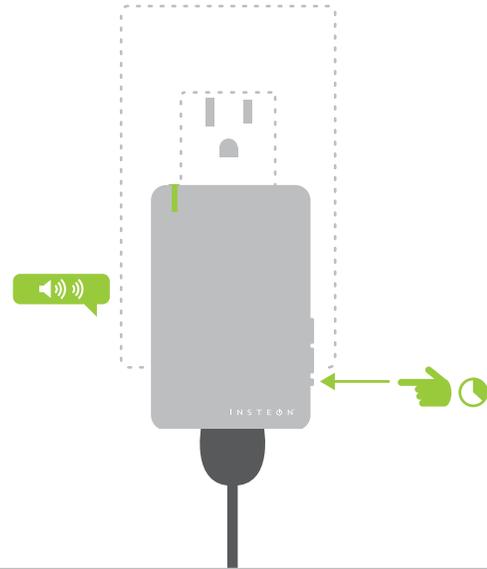
✓ Your Door Sensor is now added to your INSTEON Hub.

## Linking to Control Another Device

- 1 On your Door Sensor, 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.

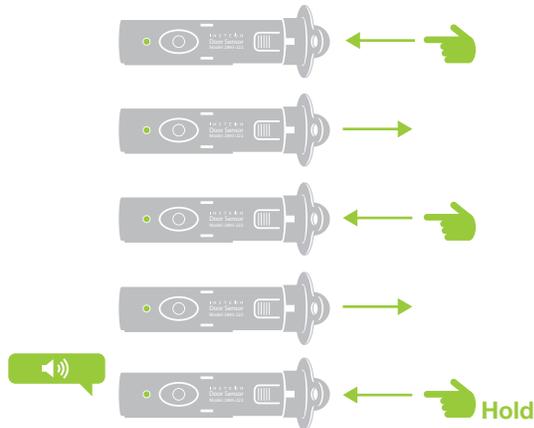


✓ Your INSTEON controller will now control your On/Off Module.

## Five-Tap Linking to Control Another Device

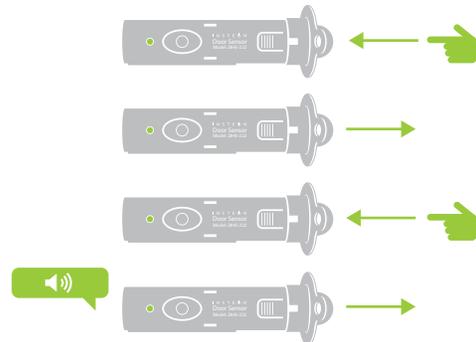
### If Your Door Is Already Open

- 1 Press and release Door Sensor's contact plunger twice then hold the contact plunger until Door Sensor beeps.



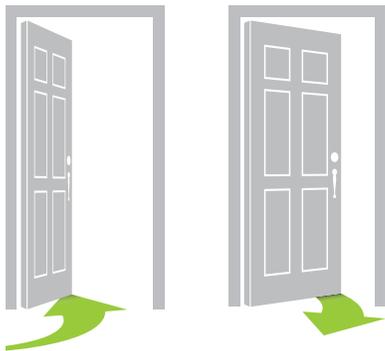
### If Your Door Is Closed

Open your door and press and release Door Sensor's contact plunger twice. After a pause, Door Sensor will beep.



OR

- ? Once in linking mode, you can open or close the door without exiting linking mode.

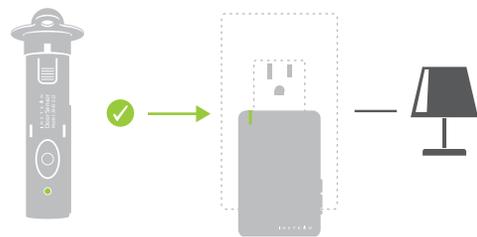
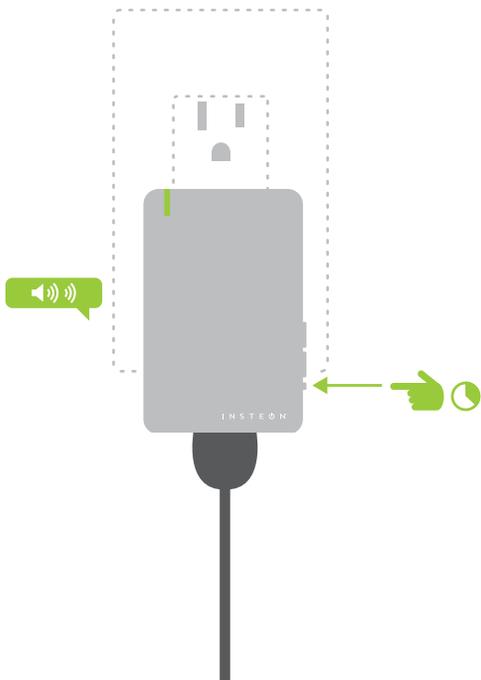


- ? You can cycle between Linking and Unlinking by repeating the Five-Tap Linking process.



## Five-Tap Linking to Control Another Device

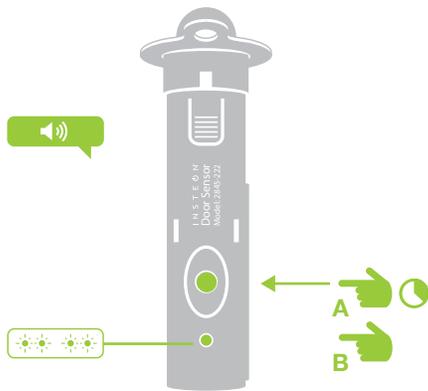
- 2 Adjust your responder to the desired state: On, off, or brightness level if dimming, and then press and hold the set button until the device double-beeps.



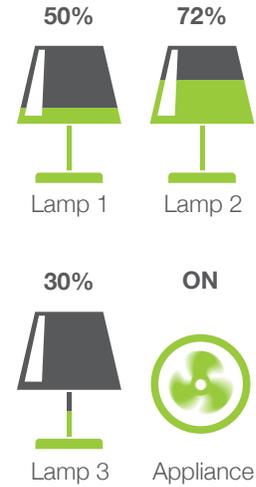
✓ Your INSTEON controller will now control your On/Off Module.

## Multi-Linking or Making a Scene

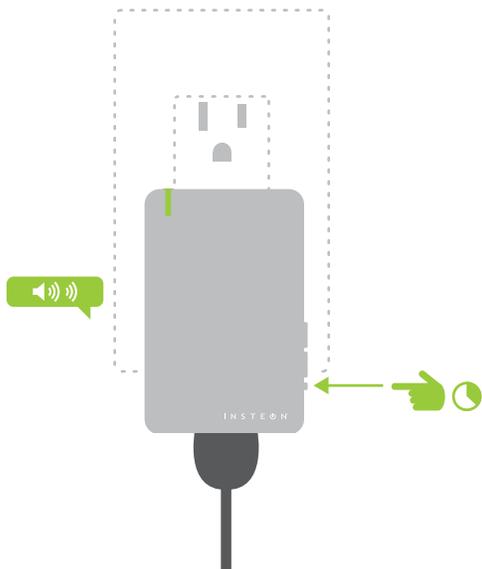
- 1 On your Door Sensor, press and hold the set button until the device beeps then tap the set button.



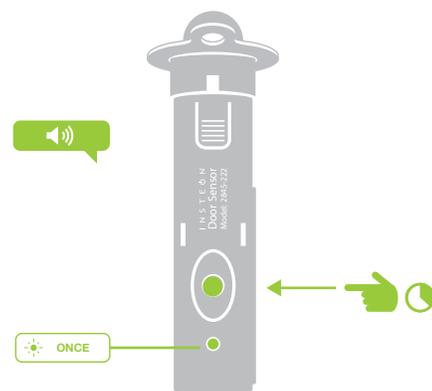
- 2 Adjust your scene members to their desired state: On, off, or brightness level if dimming.



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



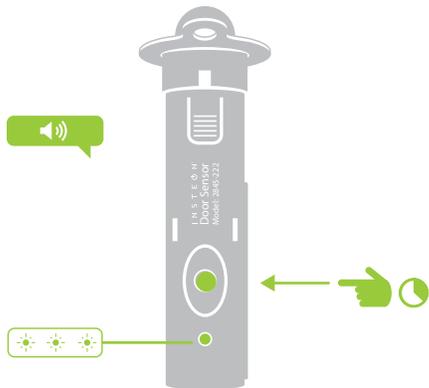
- 4 Tap the set button on your Door Sensor to finish building your scene.



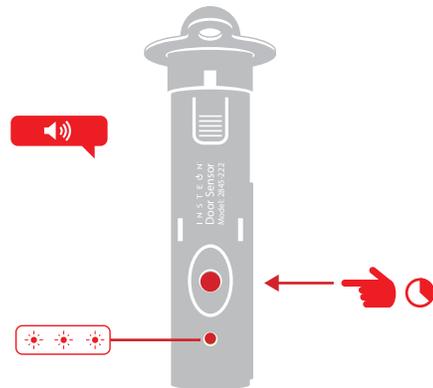
✓ Your Door Sensor will now control your scene.

## Unlinking a Device

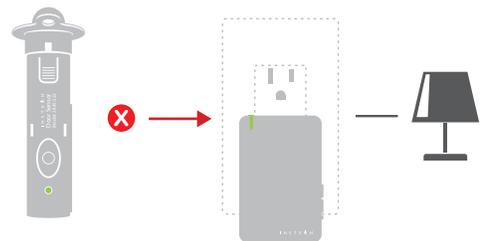
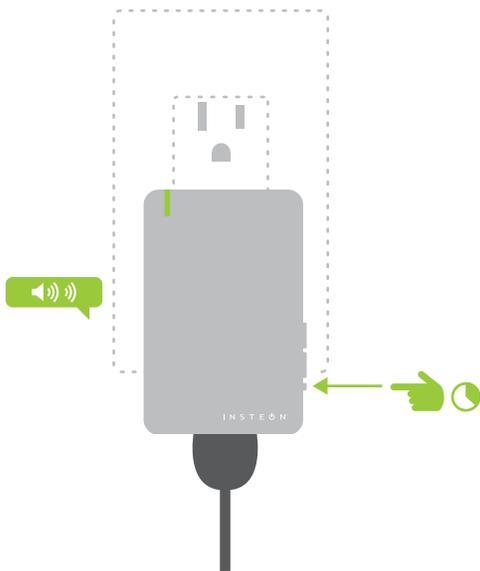
- 1 On your Door Sensor, press and hold the set button until the device beeps.



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



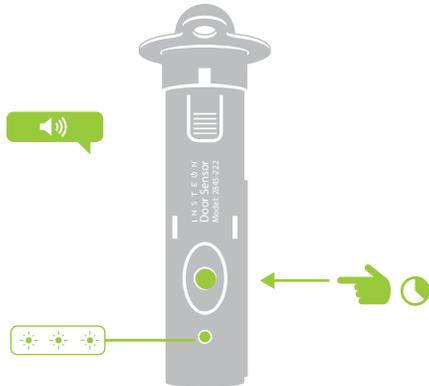
- 3 Press and hold the controlled device's set button until the device double-beeps.



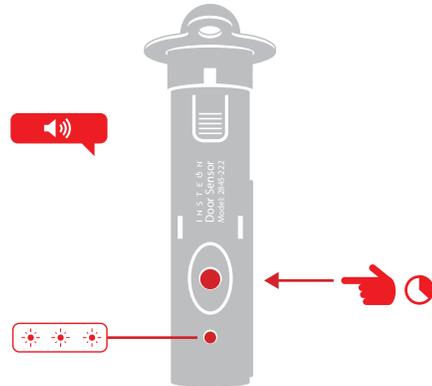
✓ Your Door Sensor will no longer control your INSTEON device.

## Multi-Unlinking or Removing a Scene

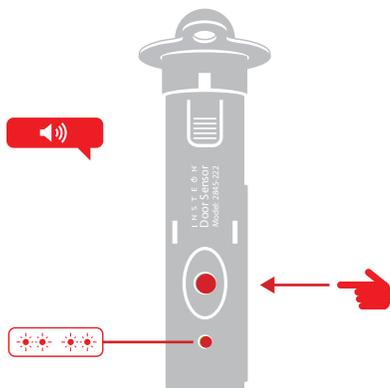
- 1 On your Door Sensor, press and hold the set button until the device beeps.



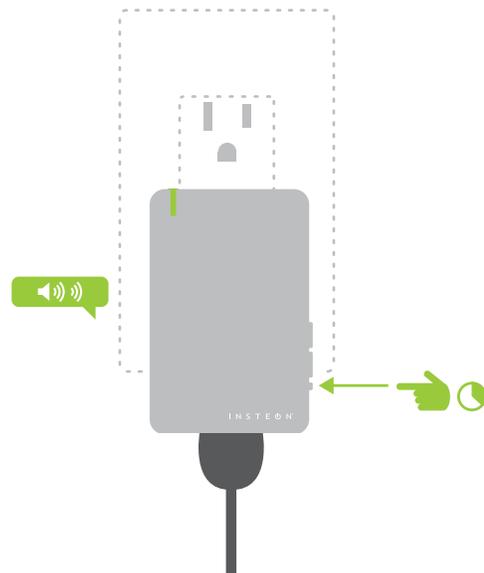
- 2 Press and hold the set button again until the device beeps.



- 3 Tap the set button.

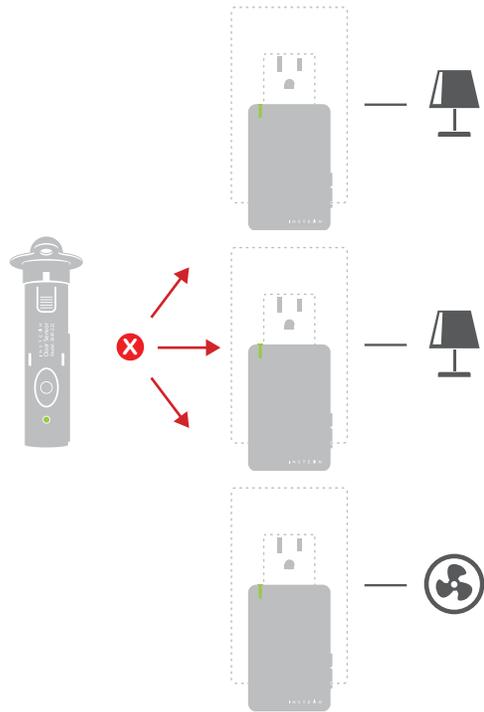
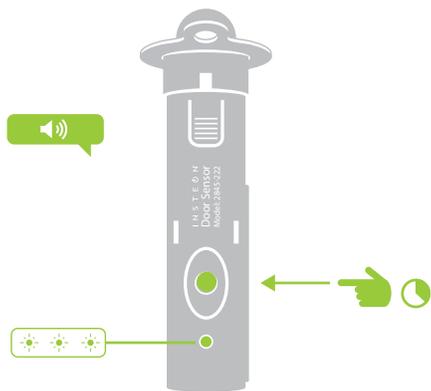


- 4 Press and hold the controlled device's set button until the device double-beeps.



## Multi-Unlinking or Removing a Scene

- 5 Tap the set button on your Door Sensor to exit Multi-Unlinking mode.



✓ Your Door Sensor will no longer control your INSTEON responders.

## **Programming Wheel**

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

## About the Programming Wheel

### About the Wheel

The Programming Wheel is a visual representation of the device's settings. Many device features can be configured using the Programming Wheel. Some devices have more options than others but the programming wheel presents even the most complicated devices with a straightforward, navigable path.

### Navigating the Wheel



To move right, press and hold the set button



To move down, tap the set button



Status LED blinks green



Status LED double-blinks green



Status LED blinks red

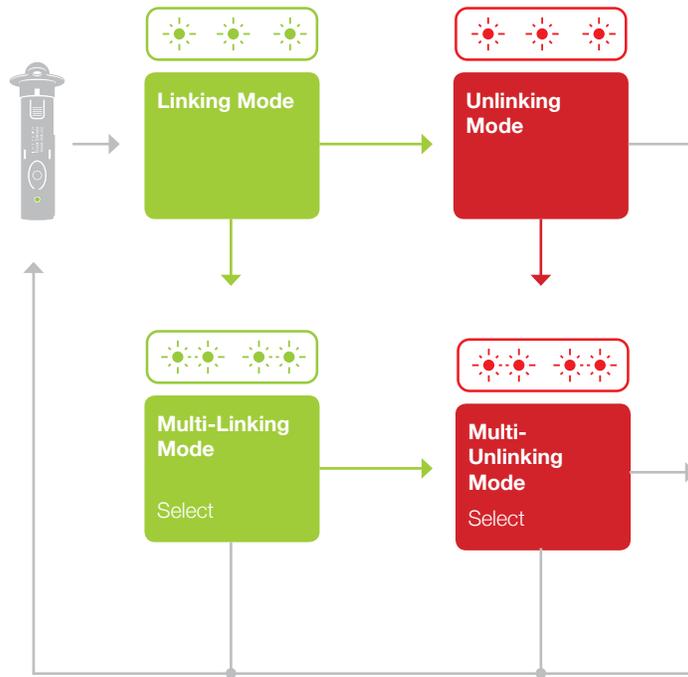


Status LED double-blinks red

## Programming Wheel 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.

## Programming Wheel



### Navigating the Wheel



To move right, press and hold the set button



To move down, tap the set button

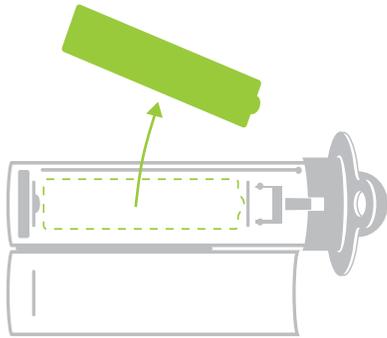
## **Factory Reset**

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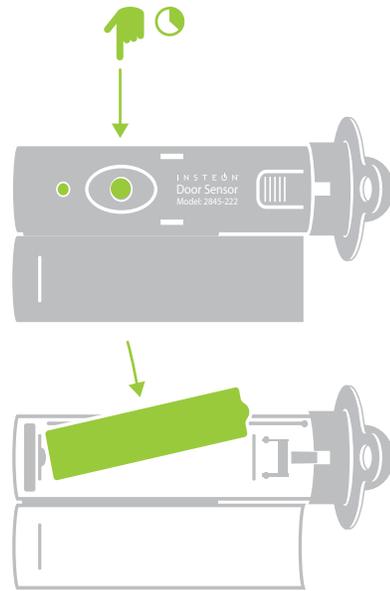
A factory reset will erase all links stored in the device's database as well as any customized properties.

## Factory Reset

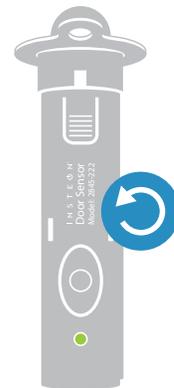
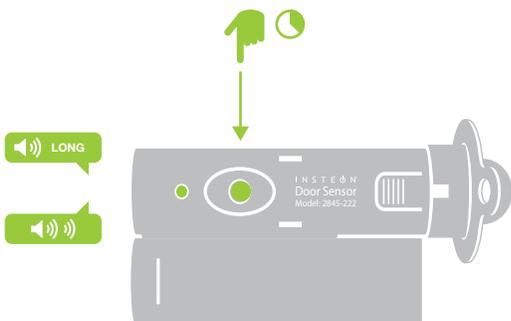
- 1 Remove Door Sensor from the door frame and take out the sensor's battery.



- 2 Press and hold the set button while reinstalling the battery.



- 3 Continue to hold the set button until the long beep stops. Let go and Door Sensor will emit a double-beep.



✓ Your Door Sensor has been restored to factory settings.

## **Software-Only Features**

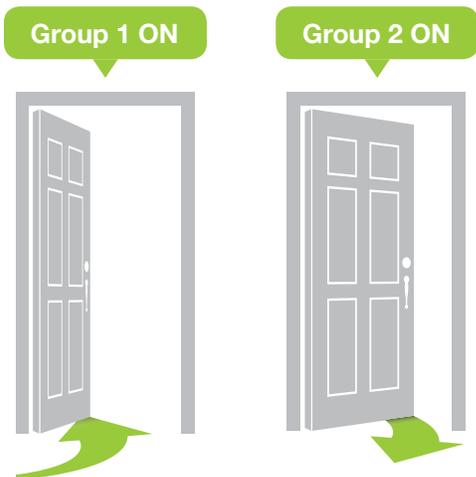
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Most INSTEON devices contain features that can only be enabled, disabled or modified using INSTEON control software such as HouseLinc and an INSTEON PowerLine Modem.

## Software-Only Features

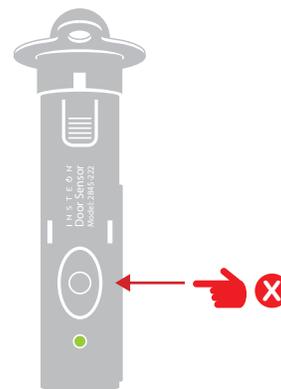
### Enable Group 1 & 2 Broadcast

When enabled, Door Sensor will send a separate On for opening and for closing. Useful if you want a device to turn on when the door closes, like a bathroom fan.



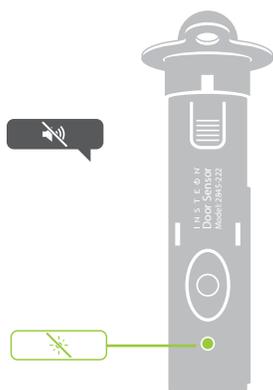
### Disable Local Programming

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



### Disable LED and Beeper

The status LED will not blink when the sensor is triggered and the beeper will not respond to button presses.



### Adjust Heartbeat Interval

Customize the duration of time between sensor check-ins; by default, the sensor will broadcast it's state once every 24 hours.



## Software-Only Features

### Low Battery Warning

Enable or disable a low battery broadcast that can trigger events with software.



## **Appendix**

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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	SPB28452
Industry Canada	5202A-28452
Product Number.	2845-222 US 2845-422 EU 2845-522 AUS/NZ
Patent	Protected under US and Freign Patents (see <a href="http://www.insteon.com/patents">www.insteon.com/patents</a> )
UPC	813922013092 US 813922013603 EU 813922013610 AUS/NZ
Warranty	2 years, limited

### Operation

Audio Alert	Beeper, can be disabled through software
Operation Modes	INSTEON only
Operational Gap	Direct contact with contact plunger required
Setup Memory	Non-volatile EEPROM
Status LED	Red/Green LED

### INSTEON Features

INSTEON Addresses	400
INSTEON Device Category	0x10
INSTEON Device Subcategory	0x11 US 0x14 EU 0x15 AUS/NZ
INSTEON ID	1
INSTEON Links	417
INSTEON Messages Repeated	No
INSTEON Powerline Device	No
INSTEON RF Device	Yes
Maximum Controlled Scenes	2

## Specifications

Maximum Scene Memberships	1	
Multi-Link Support	Yes	
Multi-Unlink Support	Yes	
Phase Detect Beacon	No	
Radio Frequency	915 MHz US 869.85 MHz EU 921 MHz AUS/NZ	
Radio Frequency Range	150 feet	
Scene Commands Supported as Controller	On	Off
Scene Commands Supported as Responder	None	
Software Configurable	Yes	

## Mechanical

Switch Type	Momentary mechanical switch	
Dimensions	0.75" diameter, 3.4" length 15.9mm diameter, 87mm length	
Enclosure Material	Plastic	
Mounting	0.75" diameter, 3.1" deep hole in door frame or door 19mm diameter, 79mm deep hole in door frame or door	
Operating Environment	Indoors	
Operating Humidity Range	0-90% relative humidity, non-condensing	
Operating Temperature Range	-40° to 104° F -40° to 40° C	
Set Button	1, recessed. Requires removal of sensor to access	
Storage Temperature Range	-40° to 104° F -40° to 40° C	
Weight	0.64 oz 20g	

## Specifications

### Electrical

Battery Type AAA

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Battery Life 6 months

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Certification N/A, Battery-powered device

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#### Power Consumption:

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Supply Voltage 1.5V DC (AAA Battery)

### X10 Features (Powerline Only)

X10 Support No

## Troubleshooting

### Door Sensor won't link to other INSTEON Devices

Your Door Sensor may be out of range of a dual-band INSTEON device or your network may be powerline-only.

#### Try this:

- If your INSTEON network lacks any dual-band devices, add a Range Extender or other dual-band INSTEON device near your Door Sensor to bridge the INSTEON RF and powerline networks.
- Door Sensor must be placed within 100' of a dual-band device. Radio interference and building construction may reduce range. Relocate a dual-band device or add a Range Extender to increase RF coverage.

### Status LED flashes rapidly after triggering Door Sensor's contact plunger

While you can only see the Status LED when Door Sensor is removed from the door frame, this blinking indicates that Door Sensor may have not received acknowledgment from one or more linked devices.

#### Try this:

- If you have removed any INSTEON devices from your network that were previously controlled by Door Sensor, unlink them from Door Sensor. If the removed device is no longer available, use software to remove the link from Door Sensor's link table or perform a factory reset to clear all links.
- Door Sensor may be on the fringe of your INSTEON RF network. Add an additional INSTEON dual-band device or Range Extender near Door Sensor for improved RF and powerline signal bridging.

### Status LED does not flash when the set button is tapped or when the contact plunger is depressed

Your Door Sensor's battery may be low and require replacement.

#### Try this:

- Remove Door Sensor from the retention collar and try a different AAA battery.

## 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 present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorise aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioelectrique subi, mme 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.

### DECLARATION OF CONFORMITY

Hereby, INSTEON declares that this device is in compliance with the essential requirements and other relevant provisions of the following Directives:

- 1) Electromagnetic Compatibility Directive 2004/108/EC
- 2) Hazardous Substance Directive 2005/95/EC

Technical data and copies of the original Declaration of Conformity are available and can be obtained from INSTEON; 16542 Millikan Ave, Irvine, CA, USA.

User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE)

This document contains important information for users with regards to the proper disposal and recycling of INSTEON products. Consumers are required to comply with this notice for all electronic products bearing the following symbol:



### Environmental Information for Customers in the European Union

European Directive 2002/96/EC requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams.

## Certifications and Warnings

It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health.

For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

DECLARATION OF CONFORMITY TO R&TTE DIRECTIVE 1999/5/EC for the European Community, Switzerland, Norway, Iceland and Liechtenstein

Product category: general consumer (category 3).

English: This equipment is in compliance with the essential requirements and other relevant provisions of the European R&TTE Directive 1999/5/EC

Deutsch [German]: Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.

Nederlands [Dutch]: Dit apparaat voldoet aan de essentiële eisen en andere van toepassing zijnde bepalingen van de Richtlijn 1999/5/EC.

Svenska [Swedish]: Denna utrustning står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Français [French]: Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 1999/5/EC

Español [Spanish]: Este equipo cumple con los requisitos esenciales así como con otras disposiciones de la Directiva 1999/5/CE.

Português [Portuguese]: Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC. Italiano [Italian]: Questo apparato è conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/CE.

Norsk [Norwegian]: Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 1999/5/EF.

Suomi [Finnish]: Tämä laite täyttää direktiivin 1999/5/EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen. Dansk [Danish]: Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 1999/5/EF.

Polski [Polish]: Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE: 1999/5/EC

## 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.