

Three-Location Installation Continued

Step 7

Mount and align dimmers. Attach Claro® or Satin Colors™ wallplates (purchased separately).

Tighten screws until snug.

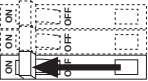
Align dimmers.

Attach wallplates.

Ensure FASS™ switches are fully pushed in.

Step 8

Turn power ON.



Troubleshooting

Symptom	Possible Cause
Light does not turn on.	• Front Accessible Service Switch (FASS™) on the dimmers are pulled out (OFF). • Light bulb(s) burned out. • Breaker is off or tripped. • Blue wire on <i>Accessory Dimmer</i> not connected to the same color wire as the blue wire on <i>Dimmer</i>.
Light turns ON and <i>Dimmer</i> works, but <i>Accessory Dimmer</i> does not work.	• Black and Red wires on <i>Dimmer</i> are reversed. • <i>Dimmer</i> wired in middle of <i>Accessory Dimmer</i> string - must be on the line or load end of string.
<i>Dimmer</i> keeps turning ON and OFF.	• Total wattage is under recommended minimum load. (See Important Note No.5.)

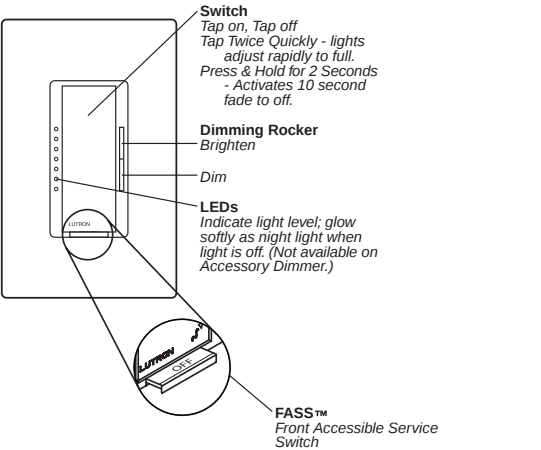
FCC Information

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 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 antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by Lutron Electronics Co. could void the user's authority to operate this equipment. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Operation



IMPORTANT NOTICE:
FASS™ - Front Accessible Service Switch - to replace bulb, power may be conveniently removed by pulling FASS switch out on both the *Dimmer* and any *Accessory Dimmers*.
For any procedure other than routine lamp replacement, power must be disconnected at the main electrical panel.

For detailed instructions on programming the system, refer to the RadioRA® Setup Guide that is included with an RF Signal Repeater or the Setup and Installation Guide that is included with a Chronos System Bridge and Timeclock.

Technical Assistance

If you have questions concerning the installation or operation of this product, call the **Lutron Technical Support Center**. Please provide exact model number when calling.
(800) 523-9466 (U.S.A., Canada, and the Caribbean)
Other countries call (610) 282-3800
Fax (610) 282-3090
Visit our web site at www.lutron.com

Limited Warranty

Lutron will, at its option, repair or replace any unit that is defective in materials or manufacture within two years after purchase. For warranty service, return unit to place of purchase or mail to Lutron at 7200 Suter Rd., Coopersburg, PA 18036-1299, postage pre-paid.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES, AND THE IMPLIED WARRANTY OF MERCHANTABILITY IS LIMITED TO TWO YEARS FROM PURCHASE. THIS WARRANTY DOES NOT COVER THE COST OF INSTALLATION, REMOVAL OR REINSTALLATION, OR DAMAGE RESULTING FROM MISUSE, ABUSE, OR IMPROPER OR INCORRECT REPAIR, OR DAMAGE FROM IMPROPER WIRING OR INSTALLATION. THIS WARRANTY DOES NOT COVER INCIDENTAL OR CONSEQUENTIAL DAMAGES. LUTRON'S LIABILITY ON ANY CLAIM FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE MANUFACTURE, SALE, INSTALLATION, DELIVERY, OR USE OF THE UNIT SHALL NEVER EXCEED THE PURCHASE PRICE OF THE UNIT.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This product may be covered under one or more of the following U.S. patents: 4,835,343; 4,954,768; 5,248,919; 5,399,940; 5,637,930; 5,736,965; 5,798,581; 5,838,226; 5,848,054; 5,905,442; 5,982,103; 6,687,487; DES 353,798; DES 378,814; DES 389,461; DES 389,805; DES 395,037; DES 404,013; DES 422,969; DES 428,855; DES 436,579, DES 439,220 and corresponding foreign patents. U.S. and foreign patents pending. Lutron, Claro, and RadioRA are registered trademarks, and FASS is a trademark of Lutron Electronics Co., Inc. © 2004 Lutron Electronics Co., Inc.

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7200 Suter Road
Coopersburg, PA 18036-1299, U.S.A.
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English

P/N 044-050

RadioRA®

Wireless Home Lighting Control

Installation Instructions for Multi-Location Control

Please Leave for Occupant

Before installation read instructions completely.

Important Notes

- 1. Caution:** To avoid overheating and possible damage to other equipment, do not use to control receptacles, fluorescent lighting fixtures, motor-operated or transformer-supplied appliances.
- 2.** Install in accordance with all national and local electrical codes.
- 3.** Do not paint dimmers or wallplates.
- 4. Clean with a *soft damp cloth only*.** Do not use any chemical cleaners.
- 5.** Do not use where total wattage is under recommended minimum load.

Minimum Load Chart

Type of Load	Dimmer Wattage	
	600W	1000W
Incandescent	50 W	50 W
Magnetic Low-Voltage	50 VA	100 VA

- 6.** Do not exceed maximum load rating of dimmers.
- 7.** In any 3-way/4-way circuit use only one *Dimmer* with up to 9 *Accessory Dimmers*.
- 8.** Dimmer may not work with dioded lamps (Sylvania Designer 16™ or Philips PAR-16™).
- 9.** Operate in ambient temperatures between 0°C (32°F) and 40°C (104°F).
- 10.** Dimmer may feel warm to the touch during normal operation.
- 11.** Recommended wallbox depth: 3 1/2" deep recommended, 2 1/2" deep minimum.
- 12.** The range and performance of the RadioRA® System is highly dependent on a variety of complex factors such as:
 - Distance between system components
 - Geometry of the home
 - Construction of walls separating system components
 - Electrical equipment located near system components
- 13.** Do not mix RadioRA® “A”(RA-) and “B” (RB-) products within the same system. “A” products and “B” products ***are not*** compatible.

Incandescent / 120V Halogen / Magnetic Low-Voltage

RA-6D, RB-6D
RA-10D, RB-10D

Accessory Dimmer

RA-AD, RB-AD

120 V ~ 50/60 Hz

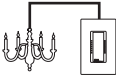
Low-Voltage dimmers only:

- 14.** Use models RA/RB-6D/10D with only core and coil (magnetic) low-voltage transformers. Do not use to control solid-state (electronic) low-voltage transformers.
- 15. CAUTION:** Operating a dimmed low-voltage circuit with all lamps inoperative or removed may result in current flow in excess of normal levels. To avoid possible transformer overheating and premature failure, Lutron strongly recommends the following:
 - Do not operate dimmed low-voltage circuits without operative lamps in place.
 - Replace burned-out lamps immediately.
 - Use transformers with thermal protection or fused primary windings to prevent transformer failure due to excess current.

Installation Contents

Single-Location Installation

Installing one RadioRA® *Dimmer* to control light(s) from a single location.



Page 2

Multi-Location Installation

For installations beyond Three-Location, call the **Lutron Technical Support Center** at 1-800-523-9466.



Page 4

Operation

Using the RadioRA® *Dimmer*.

Page 8

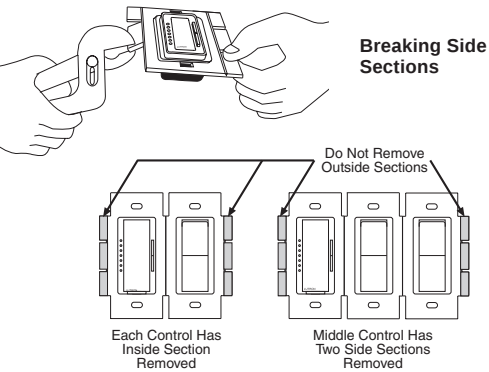
FCC Information

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.



Multigang Installations

Lutron Claro® and Satin Colors™ wallplates are available in 1 to 6 gang versions. Purchase Claro® and Satin Colors™ wallplates separately. When combining dimmers in the same wallbox, remove all inner side sections prior to wiring. Using pliers, bend side sections up and down until they break off.



When removing side sections for multigang installations, reduction of the dimmer's load capacity is required. See table below.

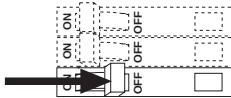
Model Number	No sides removed	1 side removed	2 sides removed
RA-6D, RB-6D	600 W/VA	500 W/VA	400 W/VA
RA-10D, RB-10D	1000 W/VA	800 W/VA	650 W/VA

Single-Location Installation

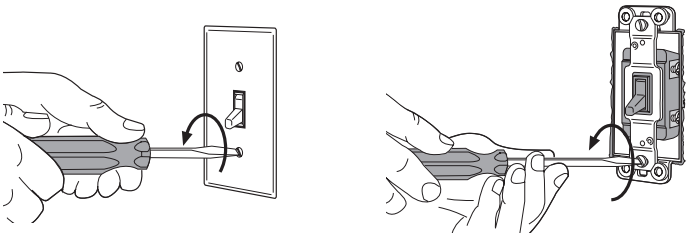
For installations involving more than one dimmer in a wallbox, refer to Multigang Installations above before beginning.

✓ Check off Steps as completed.

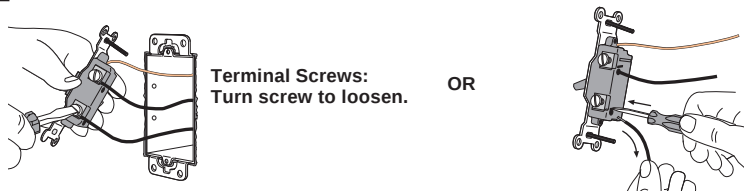
Step 1 Turn power OFF at circuit breaker or remove fuse.



Step 2 Remove wallplate. Pull switch from wall.



Step 3 Disconnect wires.



Terminal Screws:
Turn screw to loosen.

OR

Backwired:
Insert screwdriver.
Pull out wire.

Important Wiring Information

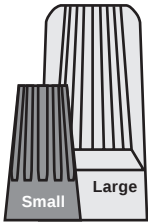
When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connectors. **Note:** Wire connectors provided are suitable for **copper wire only**. For aluminum wire, consult an electrician.

Small:

Strip insulation 3/8" for 14 AWG wire
Strip insulation 1/2" for 16 or 18 AWG wire
Use to join one 14 AWG supply wire with one 16 or 18 AWG control wire.

Large:

Strip insulation 1/2" for 10, 12 or 14 AWG wire
Strip insulation 5/8" for 16 or 18 AWG wire
Use to join one or two 12 or 14 AWG supply wires with one 10, 12, 14, 16, or 18 AWG control wire.



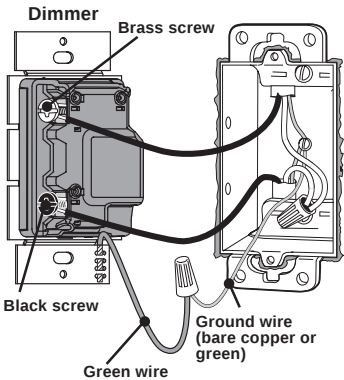
Twist wire connector tight.
Be sure no bare wire is exposed.



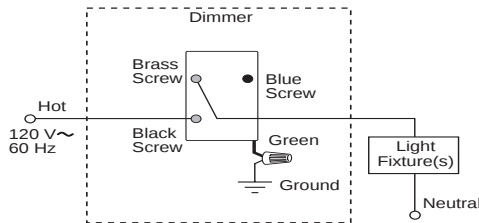
Step 4 Wire the *Dimmer*.

Using the screws (or push-in terminals) on the *Dimmer* and the wire connector provided:

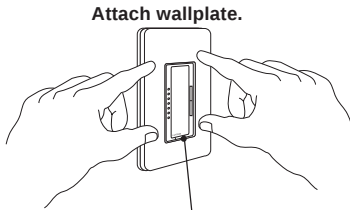
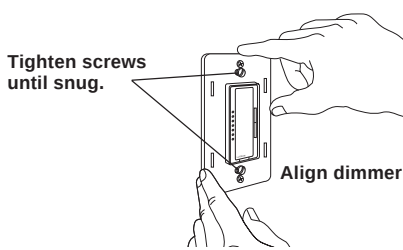
- Connect the *Dimmer* **green** ground wire to the **green or bare copper** ground wire in the wallbox. If there is no ground wire in the wallbox, consult an electrician.
- Connect the *Dimmer* **black** screw (or push-in terminal) to either of the wires removed from the switch.
- Connect the *Dimmer* **brass** screw (or push-in terminal) to the remaining wire removed from the switch.
- The *Dimmer* **blue** screw and push-in terminal are not needed for a Single Location Installation.



Wiring Diagram

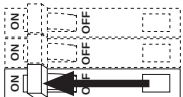


Step 5 Mount and align dimmer. Attach Claro® or Satin Colors™ wallplate (purchased separately).

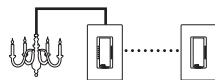


Ensure FASS™ switch is fully pushed in.

Step 6 Turn power ON.



Two-Location Installation

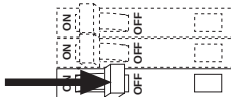


Replacing two 3-way switches or an existing dimmer and a 3-way switch.

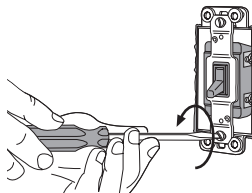
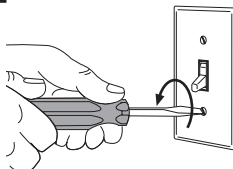
For installations involving more than one dimmer in a wallbox, refer to Multigang Installations on page 2 before beginning.

✓ **Check off Steps as completed.**

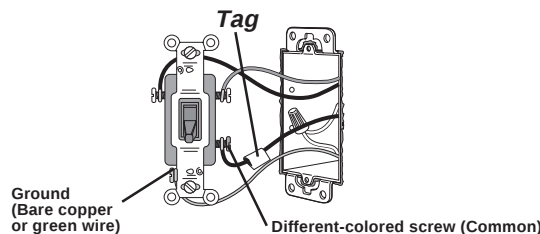
Step 1 Turn power OFF at circuit breaker or remove fuse.



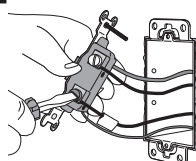
Step 2 Remove wallplates. Pull switches from wall.



Step 3 At each switch location, tag the wire that is connected to the different colored screw or screw labeled COMMON (not the green ground screw).

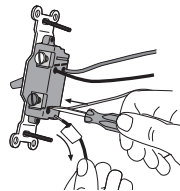


Step 4 Disconnect wires.



Terminal screws:
Turn screw to loosen.

OR



Backwired:
Insert screwdriver.
Pull out wire.

Important Wiring Information

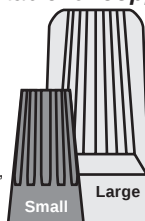
When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connectors. **Note:** Wire connectors provided are suitable for **copper wire only**. For aluminum wire, consult an electrician.

Small:

- Strip insulation 3/8" for 14 AWG wire
- Strip insulation 1/2" for 16 or 18 AWG wire
- Use to join one 14 AWG supply wire with one 16 or 18 AWG control wire.

Large:

- Strip insulation 1/2" for 10, 12 or 14 AWG wire
- Strip insulation 5/8" for 16 or 18 AWG wire
- Use to join one or two 12 or 14 AWG supply wires with one 10, 12, 14, 16, or 18 AWG control wire.



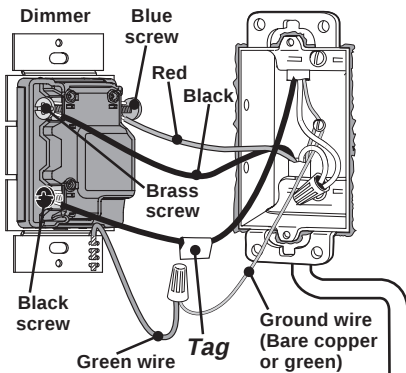
Twist wire connector tight.
Be sure no bare wire is exposed.



Step 5 Wire the Dimmer.

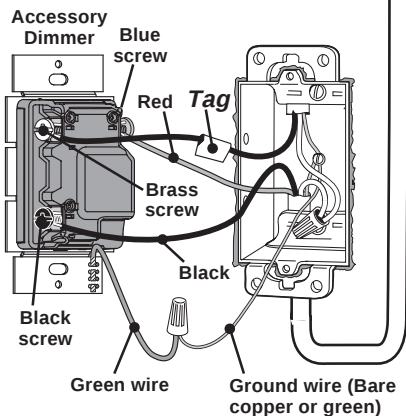
Using the screws (or push-in terminals) on the *Dimmer* and the wire connector provided:

- Connect the *Dimmer* green ground wire to the green or bare copper ground wire in the wallbox. If there is no ground wire in the wallbox, consult an electrician.
- Connect the *Dimmer* black screw (or push-in terminal) to the tagged wire removed from the switch.
- Select one of the remaining wires and connect it to the brass screw (or push-in terminal) on the *Dimmer*.
- Connect the remaining wire (note its color) to the blue screw (or push-in terminal) on the *Dimmer*.

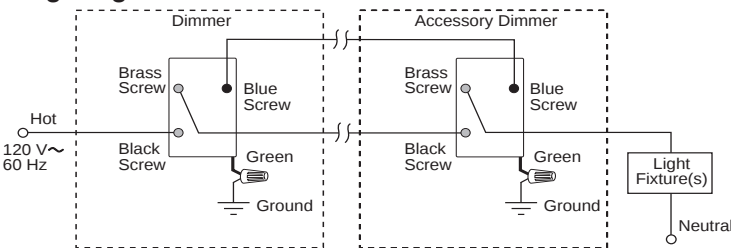


Step 6 Wiring the Accessory Dimmer.

- Connect the *Accessory Dimmer* green ground wire to the green or bare copper ground wire in the wallbox.
- Connect the *Accessory Dimmer* brass screw (or push-in terminal) to the tagged wire.
- Connect the *Accessory Dimmer* blue screw (or push-in terminal) to the same color insulated wire connected to the *Dimmer* blue screw (or push-in terminal) noted in Step 5.
- Connect the *Accessory Dimmer* black screw (or push-in terminal) to the remaining wire.

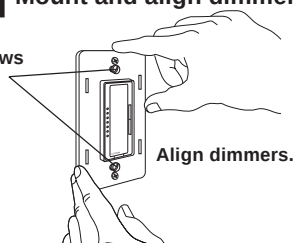


Wiring Diagram



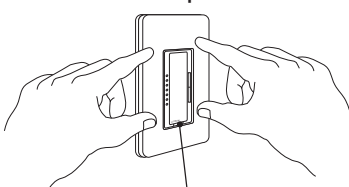
Step 7 Mount and align dimmers. Attach Claro® or Satin Colors™ wallplates (purchased separately).

Tighten screws until snug.



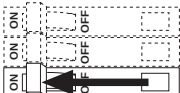
Align dimmers.

Attach wallplates.

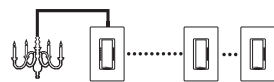


Ensure FASS™ switches are fully pushed in.

Step 8 Turn power ON.



Three-Location Installation



Replacing two 3-way switches and a 4-way switch.

For installations involving more than one dimmer in a wallbox, refer to Multigang Installations on page 2 before beginning.

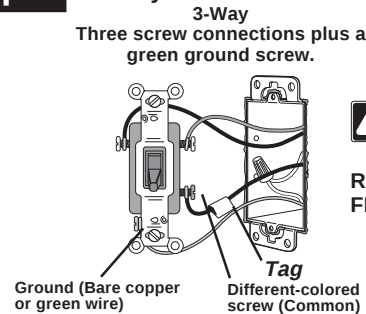
✓ **Check off Steps as completed.**

Step 1 Turn power OFF at circuit breaker or remove fuse.

Step 2 Remove wallplates. Pull switches from wall.

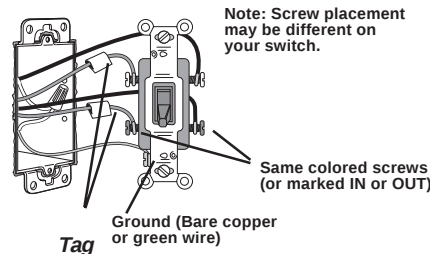


Step 3 Identify the switches.



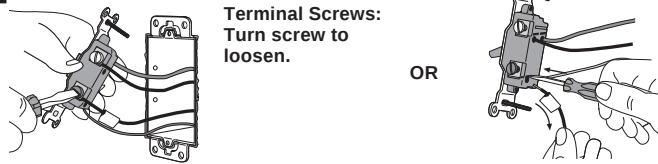
• **TAG** the insulated wire connected to the different colored screw or screw labeled 'COMMON'.

4-Way
Four screw connections plus a green ground screw.



• **TAG** the two same color insulated wires which are connected to opposite colored screws.

Step 4 Disconnect wires.



Terminal Screws:
Turn screw to loosen.

OR

Backwired:
Insert screwdriver.
Pull out wire.

Important Wiring Information

When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connectors. **Note:** Wire connectors provided are suitable for **copper wire only**. For aluminum wire, consult an electrician.

Small:
Strip insulation 3/8" for 14 AWG wire
Strip insulation 1/2" for 16 or 18 AWG wire
Use to join one 14 AWG supply wire with one 16 or 18 AWG control wire.

Large:
Strip insulation 1/2" for 10, 12 or 14 AWG wire
Strip insulation 5/8" for 16 or 18 AWG wire
Use to join one or two 12 or 14 AWG supply wires with one 10, 12, 14, 16, or 18 AWG control wire.



Twist wire connector tight.
Be sure no bare wire is exposed.



Step 5 Replace the 4-way switch with an **Accessory Dimmer**.

Using the screws (or push-in terminals) on the **Accessory Dimmer** and the wire connector provided:

- Connect the **Accessory Dimmer green** ground wire to the **green** or **bare copper** ground wire in the wallbox. If there is no ground wire in the wallbox, consult an electrician.
- Connect the **Accessory Dimmer blue** screw (or push-in terminal) to both of the tagged wires (noting their color) removed from the 4-way switch.
- Select one of the remaining wires and connect it to the **Accessory Dimmer black** screw (or push-in terminal).
- Connect the remaining wire to the **Accessory Dimmer brass** screw.

Step 6 Replace the two 3-way switches.

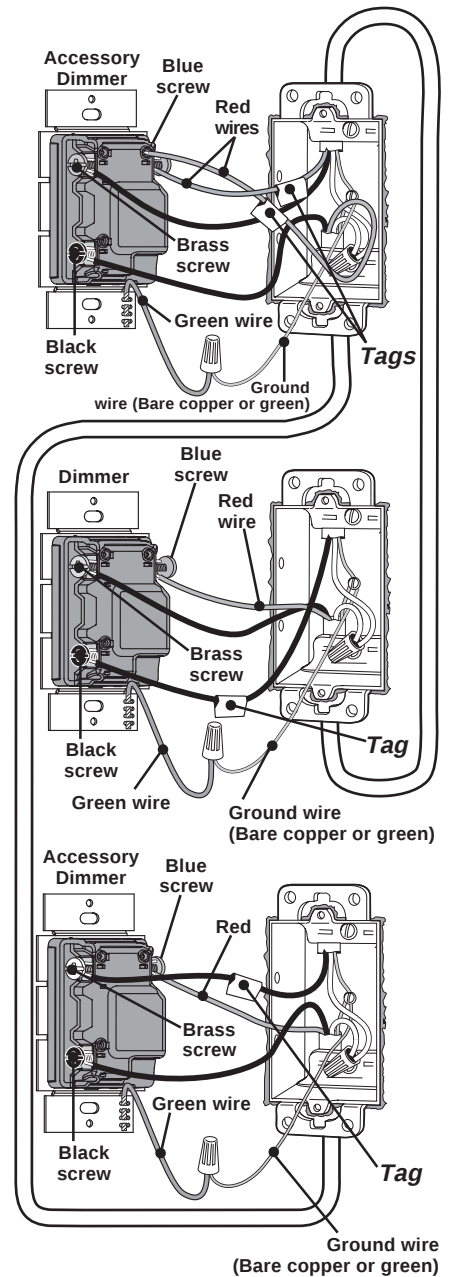
One 3-way switch **MUST** be replaced with a **Dimmer** and the other with an **Accessory Dimmer**.

Wiring the Dimmer:

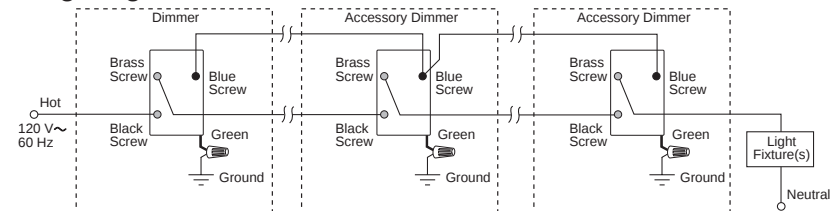
- Connect the **Dimmer green** ground wire to the **green** or **bare copper** ground wire in the wallbox.
- Connect the **Dimmer black** screw (or push-in terminals) to the tagged wire removed from the switch.
- Connect the **Dimmer blue** screw (or push-in terminal) to the same color insulated wire as the **Accessory Dimmer blue** screw (or push-in terminal) noted in Step 5.
- Connect the **Dimmer brass** screw (or push-in terminal) to the remaining wire.

Wiring the Accessory Dimmer:

- Connect the **Accessory Dimmer green** ground wire to the **green** or **bare copper** ground wire in the wallbox.
- Connect the **Accessory Dimmer brass** screw (or push-in terminal) to the tagged wire.
- Connect the **Accessory Dimmer blue** screw (or push-in terminal) to the same color insulated wire as the **Accessory Dimmer blue** screw (or push-in terminal) noted in Step 5.
- Connect the **Dimmer black** screw (or push-in terminal) to the remaining wire.



Wiring Diagram



Continued on next page