

## RadioRA 3 RF Sunnata Local Controls

RadioRA 3 Sunnata local controls function much like standard dimmers and switches, but can be controlled as part of a lighting control system. Local lighting controls are useful in locations where single circuits of lighting need to be dimmed or switched.

RadioRA 3 Sunnata dimmers and companion dimmers incorporate advanced features such as fade-on/fade-off, delayed long fade-to-off, and rapid full-on.

RadioRA 3 Sunnata local controls include a locator light to assist in locating the controls at night. RadioRA 3 Sunnata local controls install in single pole or multi-location applications. Sunnata companion dimmers and companion switches must be used for multi-location control. RadioRA 3 Sunnata local controls include a Front Accessible Service Switch (FASS) for safe light bulb replacement.

Use Lutron Designer (Claro gloss or satin finish) wallplates or designer-style wallplates from other manufacturers. Wallplates are sold separately. Lutron Claro wallplates snap on with no visible means of attachment. Available colors are in the Colors and Finishes section on page 14 at the end of this document.



*Dimmer*



*Switch*



*Companion Dimmer*



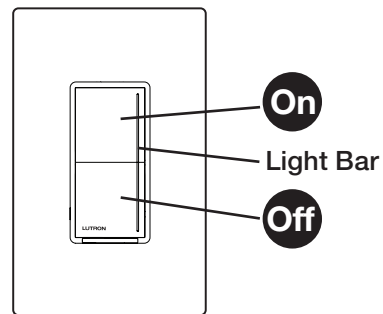
*Companion Switch*

## RadioRA 3 RF Sunnata Local Controls

### Design Features

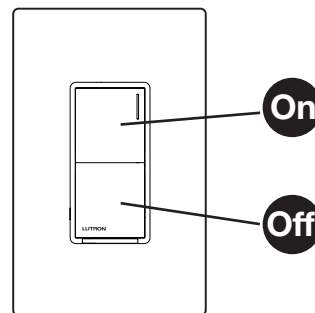
#### Dimmer and Companion Dimmer

- Pressing the top of the button, lights fade ON.
- Pressing the bottom of the button, lights fade OFF.
- Anytime - Double tap the top of the button, lights fade rapidly to full brightness.
- Pressing and holding the bottom of the button for more than 1 second - Delayed long fade to OFF (30 second delay).
- Light levels can be fine-tuned by touching your finger to the light bar and sliding your finger up or down until the desired light level is reached.
- Neutral is required. (Dimmer only)



#### Switch and Companion Switch

- Pressing the top of the button, lights or motors turn ON.
- Pressing the bottom of the button, lights or motors turn OFF.
- Neutral is required. (Switch only)
- Pressing and holding the bottom of the button for more than 1 second - Delayed Off (30 second delay)



## RadioRA 3 RF Sunnata Local Controls

### Model Numbers

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#### Dimmers

*LED/CFL/Incandescent/Halogen/MLV/ELV/Mark 10 Ballasts/Hi-lume 1% 2-wire Drivers (120 V~)*

RRST-PRO-N-XX      250 W (LED/CFL)\* or 500 W Incandescent/Halogen/ELV or 400 VA MLV  
Phase Selectable Neutral Dimmer

\* Go to [www.lutron.com/ledtool](http://www.lutron.com/ledtool) to see all compatible LED/CFL lamps.

#### Switches

*Lighting and Motor Loads (120 V~)*

RRST-8ANS-XX      8 A Light, 1/4 HP 5.8 A Motor  
Neutral Wire Electronic Switch

#### Companions (for multi-location installations)

RRST-RD-XX      Companion Dimmer (120 V~)

RRST-RS-XX      Companion Switch (120 V~)

**Note:** "XX" in the model number represents color/finish code. See **Colors and Finishes** at end of document.

## RadioRA 3 RF Sunnata Local Controls

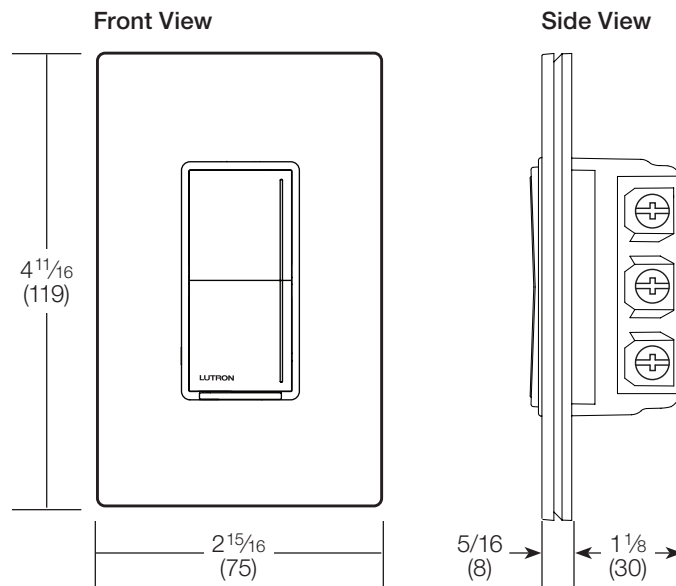
## Specifications

<b>Model Numbers</b>	<b>Dimmer:</b> RRS-PRO-N <b>Companion Dimmer:</b> RRS-RD <b>Switch:</b> RRS-8ANS <b>Companion Switch:</b> RRS-RS
<b>Power</b>	<b>120 V~ 50/60 Hz:</b> -PRO-N, -8ANS, -RD, -RS
<b>Typical Power Consumption</b>	<b>Dimmer / Switch:</b> 0.5 W Test conditions: Load is off and locator light is enabled. <b>Companion Dimmer / Switch:</b> 0.2 W Test conditions: Load is off.
<b>Regulatory Approvals</b>	cULus, NOM, FCC, IC, IFT (-PRO-N and -8ANS) cULus, NOM, FCC, IC (-RD and -RS)
<b>Environment</b>	Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C), 0% to 90% humidity, non-condensing. Indoor use only.
<b>Communications</b>	Dimmers and switches communicate with the system through Clear Connect-Type X Radio Frequency (RF) and must be located within 75 ft (22.8 m) of a centrally located RadioRA 3 wireless processor/gateway. Each Sunnata dimmer should have at least two other non-battery powered Clear Connect-Type X devices within 25 ft (7.6 m). Clear Connect-Type X devices include, for example, the RadioRA 3 wireless processor/gateway, Sunnata dimmers, Sunnata switches, and Sunnata keypads. Companion dimmers / switches are not Clear Connect-Type X devices, and are not required to be within a specific range of a RadioRA 3 wireless processor/gateway. System devices operate on a frequency of 2.4 GHz.
<b>ESD Protection</b>	Tested to withstand electrostatic discharge without damage or memory loss, in accordance with IEC 61000-4-2.
<b>Surge Protection</b>	Tested to withstand surge voltages without damage or loss of operation, in accordance with IEEE C62.41-1991 Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
<b>RTISS Equipped</b>	Circuitry compensates in real time for incoming line-voltage variations (-PRO-N only).
<b>Power Failure</b>	Power failure memory: Should power be interrupted, the control will return to its previous state when power is restored.
<b>Mounting</b>	Requires a U.S. wallbox. 3½ in (89 mm) deep recommended, 2¼ in (57 mm) deep minimum. For best wireless performance, use a metal wallbox when installing the product in a concrete or stone wall.
<b>Wiring</b>	Use only companion dimmers (-RD) and companion switches (-RS) with dimmers/switches. Up to four companion dimmers (-RD) may be connected to the dimmer and four companion switches (-RS) may be connected to the switch. Total wire length may be up to 150 ft (45 m).
<b>Warranty</b>	<a href="http://www.lutron.com/TechnicalDocumentLibrary/Warranty.pdf">www.lutron.com/TechnicalDocumentLibrary/Warranty.pdf</a>

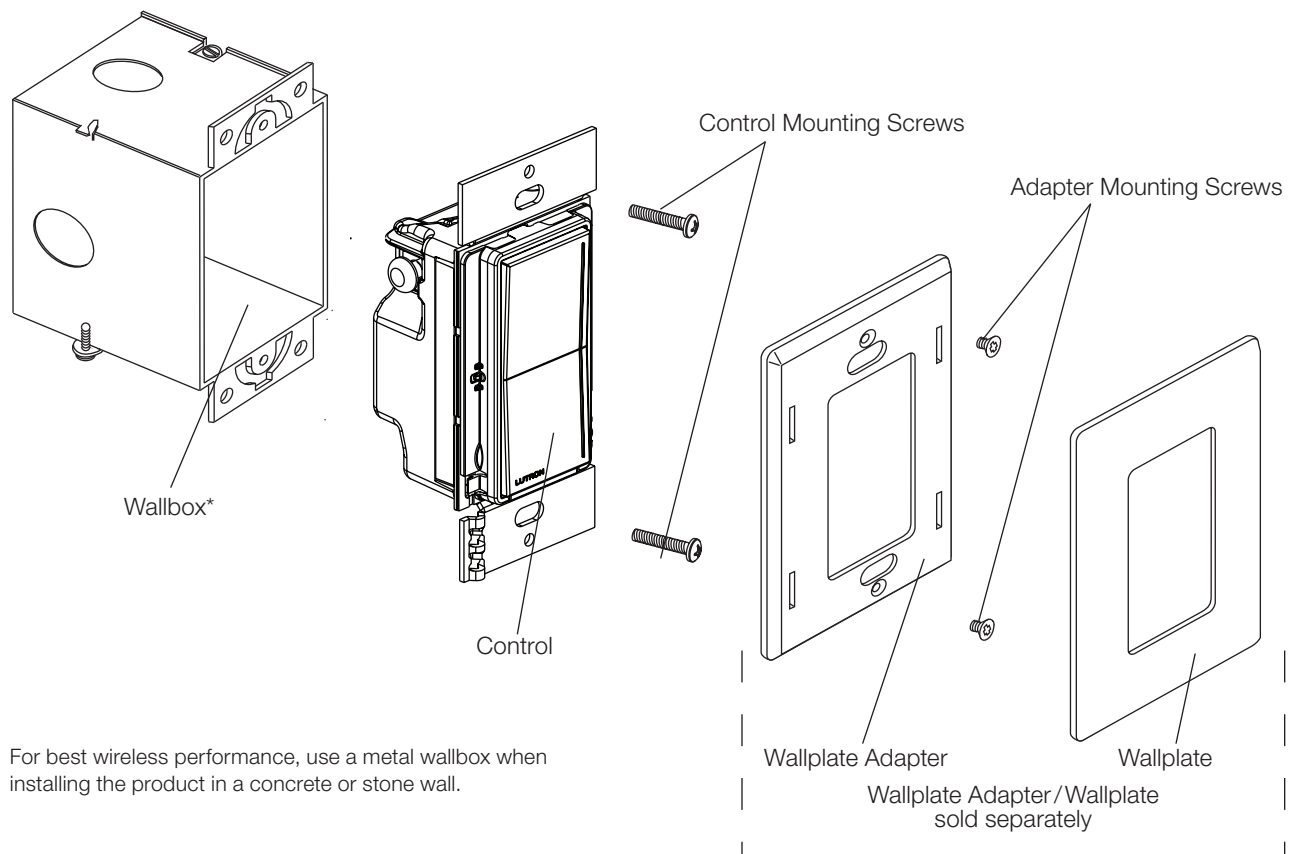
## RadioRA 3 RF Sunnata Local Controls

## Dimensions

All dimensions are shown as: in (mm)




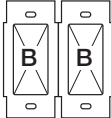
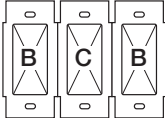
## Mounting and Parts Identification



\* For best wireless performance, use a metal wallbox when installing the product in a concrete or stone wall.

## RadioRA 3 RF Sunnata Local Controls

## Load Type and Capacity

							
Load Type	Minimum Load	A Not Ganged	B End of Gang	C Middle of Gang	Neutral Connection	Required Phase Mode <sup>4</sup>	
RRST-PRO-N <sup>2</sup>							
LED	1 bulb	250 W	200 W	150 W	Required <sup>1</sup>	Either	
MLV Transformer with LEDs	See Application Note #559 (P/N 048559) at www.lutron.com No Derating Required					Forward	
ELV Transformer with LEDs						Reverse	
MLV Transformer with Halogen	10 W	400 VA (300 W)	No Derating Required			Forward	
ELV Transformer with Halogen	10 W	500 W	400 W	300 W		Reverse	
Incandescent/Halogen	10 W	500 W	400 W	300 W		Either	
Dimmable Fluorescent Ballast	1 ballast	3.3 A (400 VA)	No Derating Required			Forward	
Hi-lume 1% 2-wire (LTE) LED Driver	1 driver	3.3 A (400 W) 20 drivers max.	No Derating Required			Forward	
PHPM-PA/3F and GRX-TVI <sup>3</sup>	1 interface	3 interfaces	No Derating Required			Forward	
CFL	1 bulb	250 W	200 W	150 W		Forward	

<sup>1</sup> Neutral is required for all load types.

<sup>2</sup> Do not install dimmers to control receptacles or motor-operated appliances.


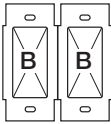
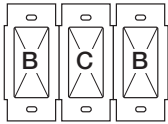
<sup>3</sup> Power Boosters/Load Interfaces: -RRST-PRO-N can be used to control power boosters/load interfaces. For a list of compatible power boosters/load interfaces see **Compatible Power Boosters and Load Interfaces**, page 9.

<sup>4</sup> Phase Mode default setting is Reverse-Phase.

**Note:** For dimming MLV fixtures, the maximum lamp wattage is typically 70%-85% of the transformer's VA rating. For actual transformer efficiency, contact the manufacturer. The total VA rating of the transformer(s) shall not exceed the VA rating of the dimmer.

## RadioRA 3 RF Sunnata Local Controls

## Load Type and Capacity (continued)

					
Load Type	Minimum Load	A Not Ganged	B End of Gang	C Middle of Gang	Neutral Connection
<b>RRST-8ANS<sup>1,2</sup></b>					
LED Lighting	1 bulb	8 A	6 A	4.5 A	Required
Other Lighting Sources	10 W/VA	8 A	6 A	4.5 A	
Motor	0.08 A	1/4 HP 5.8 A	1/4 HP 5.8 A	1/6 HP 4.4 A	

**Note:** Do not install switches to control receptacles or motor-operated appliances.

<sup>1</sup> Power Boosters/Load Interfaces: -8ANS can be used to control power boosters/load interfaces. For a list of compatible power boosters/load interfaces see **Compatible Power Boosters and Load Interfaces**, page 9.

<sup>2</sup> Switch Load Type:

-8ANS: Designed for use with permanently installed 120 V~ incandescent, MLV, ELV, tungsten halogen, fluorescent, LED, CFL, or motor loads.

## Mixing Lamp Types

Example: If you have two dimmers ganged together and you have two 13 W LED bulbs installed (total LED Wattage = 26 W) on one dimmer, you may add up to 300 W of incandescent or halogen lighting to that one dimmer. Repeat the exercise for the other dimmer with which it is ganged.

<sup>1</sup> Do not install dimmers to control receptacles or motor-operated appliances.



## RadioRA 3 RF Sunnata Local Controls

### Compatible Power Boosters and Load Interfaces

Some local controls can be used to control power boosters or load interfaces. Up to three power boosters or load interfaces can be used with one control. See table below for a list of controls and compatible power boosters and load interfaces.

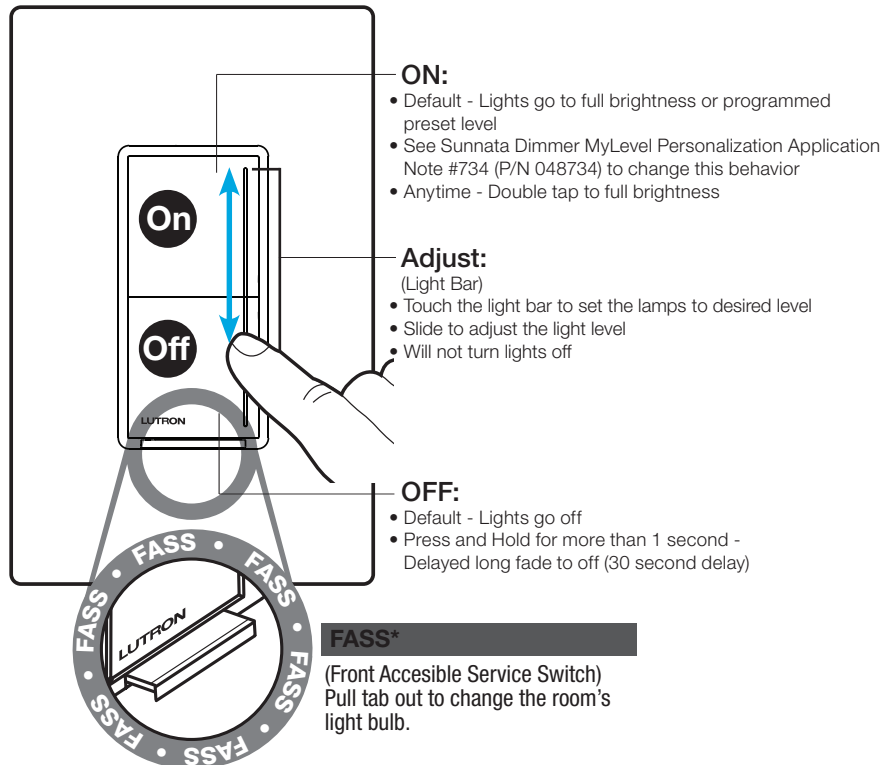
Control	Phase Adaptive Power Modules: PHPM-PA-120-WH; PHPM-PA-DV-WH	3-wire Fluorescent Power Modules: PHPM-3F-120-WH; PHPM-3F-DV-WH	Switched Power Module: PHPM-SW-DV-WH	0–10 V <sub>DC</sub> Interface and Switching Module: GRX-TVI
RRST-8ANS			✓	
RRST-PRO-N	✓	✓		✓

\* All power modules are 120 V<sub>AC</sub> only.

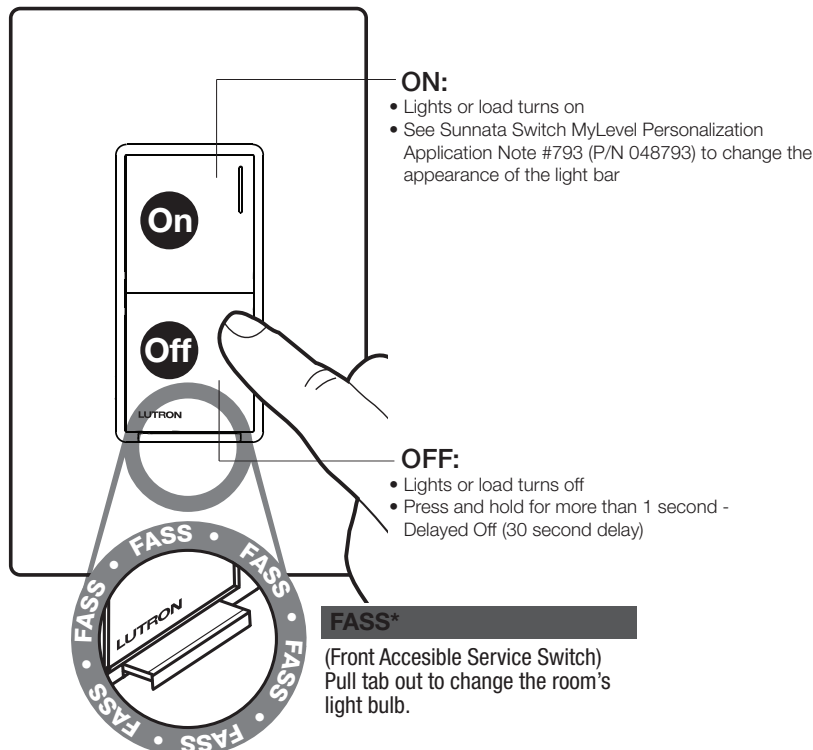
## RadioRA 3 RF Sunnata Local Controls

## Operation

## Dimmer



## Switch



\* FASS switch is **ONLY** for changing light bulbs in permanently wired fixtures. Changing wiring or installing dimmers/switches/companion devices requires turning off the breaker at the breaker panel.

## RadioRA 3 RF Sunnata Local Controls

### MyLevel Personalization Advanced Features

Sunnata RF dimmers and switches contain Advanced Features that allow users to customize the control to meet their specific needs. For a detailed description of the features and uses, please refer to the Sunnata Dimmer MyLevel Personalization Application Note #734 (P/N 048734) or Sunnata Switch MyLevel Personalization Application Note #793 (P/N 048793) at [www.lutron.com](http://www.lutron.com). Before entering MyLevel, it is important to have a good understanding of the features. Please note that these local AFM features described below will be disabled when the device(s) are commissioned into a system. All AFM settings will then be based on the system programming. See **Additional MyLevel Features Available in System Programming** below.

#### Dimmer

Available MyLevel Personalization Advanced Features	
Feature	Description
High-end trim	Select the maximum available light limit.
Low-end trim	Select the minimum available light limit.
Preset light level	Change the behavior of the device when the ON button is pressed from the OFF state to ON.
Light bar brightness	Select between high, medium, and low brightness of the control's light bar.
Light level indicator/ locator light	Select between ON and OFF for the light bar when not interacting with the control.
Phase select	Select the Phase mode in which the dimmer operates. Forward or Reverse (Default).
Restore factory default settings	Select to return dimmer to its original factory settings.

Additional MyLevel Features Available in System Programming	
Feature	Description
Fade On/Off rate	The rate at which the load turns ON and OFF from its previous state.
Delayed Long Fade To Off	Allows for control to delay the load from starting the dimming sequence. This setting delays the time between when the OFF button is pressed and the load begins the Fade to Off process.

#### Switch

Available MyLevel Personalization Advanced Features	
Feature	Description
Light bar brightness	Select between high, medium, and low brightness of the control's light bar.
Light level indicator/ locator light	Select between ON and OFF for the light bar when not interacting with the control.

Additional MyLevel Features Available in System Programming	
Feature	Description
Delayed Off	Allows for control over how quickly/slowly the load turns off. This setting delays the time between when the OFF button is pressed (normal operation) and when the lights actually turn off.

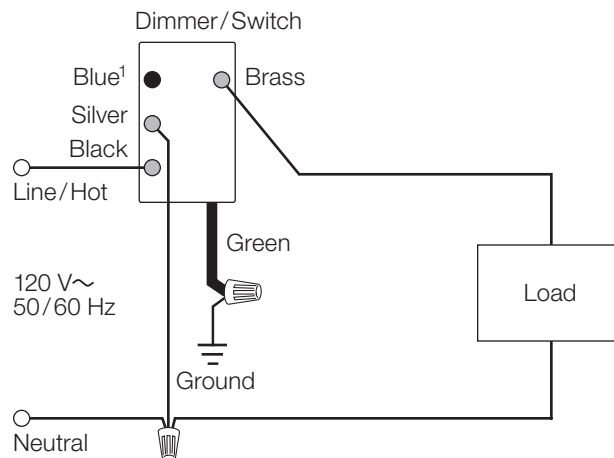
## RadioRA 3 RF Sunnata Local Controls

### Wiring Diagrams

#### Wiring Diagram 1

Single-Location Installation with required Neutral<sup>1</sup>

-PRO-N, -8ANS

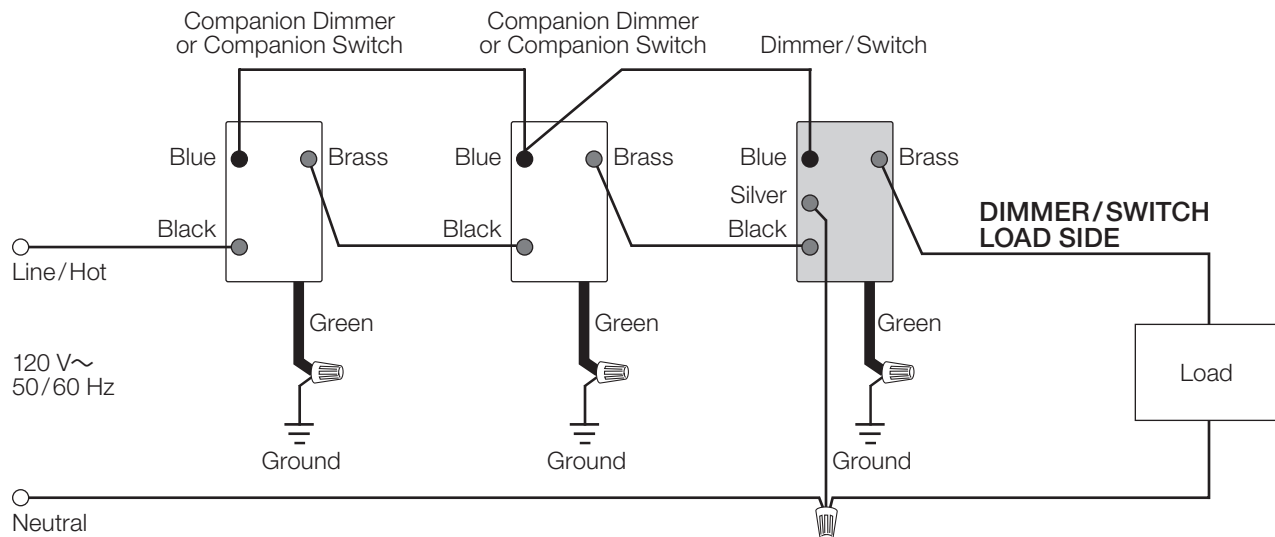


**Note:** Bolder lines in diagrams indicate leads on products.  
<sup>1</sup> When using controls in single-location installations, tighten the blue terminal.  
Do not connect the blue terminal to any other wiring or to ground.

## RadioRA 3 RF Sunnata Local Controls

## Wiring Diagrams (continued)

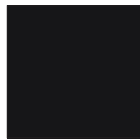
## Wiring Diagram 2

Multi-Location Installation with required Neutral<sup>1</sup>-PRO-N with -RD OR -8ANS with -RS**Note:** Dimmer and switch must be on the load side**Note:** Bolded lines in diagrams indicate leads on products.<sup>1</sup> Up to four companion dimmers/companion switches may be connected to the dimmer/switch.  
Total blue terminal wire length may be up to 150 ft (45 m).

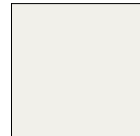
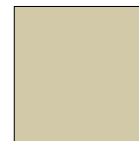
## RadioRA 3 RF Sunnata Local Controls

## Colors and Finishes

## Gloss Finishes

White  
WHIvory  
IVLight Almond  
LABlack  
BL

## Satin Finishes

Brilliant White  
BWGlacier White  
GLSnow White  
SWArchitectural  
White  
RWLunar Gray  
LGMist  
MIPebble  
PBCobblestone  
CSSlate  
SLMidnight  
MNBiscuit  
BISand  
SDTaupe  
TPPumice  
PMClay  
CYSage  
SAEspresso  
EPTruffle  
TFDeep Sea  
DESignal Red  
SR

- Due to printing limitations, colors and finishes shown cannot be guaranteed to perfectly match actual product colors.
- Color chip keychains are available for more precise color matching:  
Gloss Finishes: DG-CK-1  
Satin Finishes: SF-CK-1

\* RadioRA 3 Sunnata dimmer, companion dimmer, switch, and companion switch are NOT field colorizable.

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