

## RadioRA 2 Maestro® Local Controls

RadioRA 2 Maestro 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 2 Maestro dimmers incorporate advanced features such as fade on/fade off, delayed long fade to off, and rapid full on.

RadioRA 2 Maestro local controls include a Front Accessible Service Switch (FASS™) for safe lamp replacement. RadioRA 2 Maestro local controls install in single-pole or multi-location applications. Remote dimmers/switches are available for multi-location control.

Use Lutron® Designer (Claro® or Satin Colors®) wallplates or designer-style wallplates from other manufacturers. Wallplates are sold separately. Lutron Claro and Satin Colors wallplates snap on with no visible means of attachment. RadioRA 2 Maestro local controls support color change kits.



Dimmer



Remote Dimmer



Switch



Remote Switch

## Model Numbers

### Dimmers

Incandescent/Halogen/MLV (120 V~)

RRD-6D-XX\* 600 W/600 VA Dimmer

RRD-10D-XX\* 1000 W/1000 VA Dimmer

RRD-10ND-XX\* 1000 W/1000 VA Neutral Wire Dimmer

Incandescent/Halogen/MLV/ELV (120 V~)

RRD-6NE-XX\* 600 W/600 VA Neutral Wire Dimmer

3-Wire Fluorescent/LED (120-277 V~)

RRD-F6AN-DV-XX\* 6 A Neutral Wire Dimmer

### Switches

Lighting and Motor Loads (120 V~)

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

Lighting and Motor Loads (120-277 V~)

RRD-8S-DV-XX\* 8 A Light, 1/10 HP 3 A Motor Two-Wire Electronic Switch

### Remotes (for multi-location installations)

RD-RD-XX\* Remote Dimmer (120 V~)

RD-RS-XX\* Remote Switch (120 V~)

RD-RD-277-XX\* Remote Dimmer (277 V~)  
Use only with -F6AN-DV

RD-RS-277-XX\* Remote Switch (277 V~)  
Use only with -8S-DV

### Color Change Kits

RK-D-XX\* Dimmers (-6D, -10D, -10ND, -6NE, and -F6AN-DV)

RK-S-XX\* Switches (-8ANS and -8S-DV)

RK-AD-XX\* Remote Dimmers (-RD and -RD-277)

RK-AS-XX\* Remote Switches (-RS and -RS-277)

\*RadioRA 2 Maestro local controls are available in 27 colors. Please see page 10 for color selections.

## RadioRA 2 Maestro® Local Controls

### Specifications

|                                  |                                                                                                                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Model Numbers</b>             | Dimmer: RRD-6D-XX, RRD-10D-XX, RRD-10ND-XX, RRD-6NE-XX, RRD-F6AN-DV-XX<br>Switch: RRD-8ANS-XX, RRD-8S-DV-XX<br>Remote: RD-RD-XX, RD-RS-XX, RD-RD-277-XX, RD-RS-277-XX                                                     |
| <b>Power</b>                     | 120 V~ 50/60 Hz (-6D, -10D, -10ND, -6NE, -8ANS, -RD, -RS)<br>120–277 V~ 50/60 Hz (-F6AN-DV, -8S-DV)<br>277 V~ 50/60 Hz (-RD-277, -RS-277)                                                                                 |
| <b>Typical Power Consumption</b> | Dimmer/Switch: 0.2 W<br>Test conditions: load is off and nightlight mode is enabled.<br>Remote Dimmer/Switch: 0 W<br>Test conditions: load is off.                                                                        |
| <b>Regulatory Approvals</b>      | UL, CSA (all except -6NE), cUL (-6NE only), NOM, FCC, IC, COFETEL                                                                                                                                                         |
| <b>Environment</b>               | Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C),<br>0% to 90% humidity, non-condensing. Indoor use only.                                                                                                   |
| <b>Communications</b>            | Dimmers and switches communicate with the system through Radio Frequency (RF) and must be located within 30 ft (9 m) of a repeater. Remote dimmers/switches are not required to be within a specific range of a repeater. |
| <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>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. 3 1/2 in (89 mm) deep recommended, 2 1/4 in (57 mm) deep minimum.                                                                                                                                |
| <b>Wiring</b>                    | Uses conventional 3-way and 4-way wiring.                                                                                                                                                                                 |
| <b>Warranty</b>                  | 1 Year Limited Warranty. <a href="http://www.lutron.com/resiinfo">http://www.lutron.com/resiinfo</a>                                                                                                                      |

### Design Features

#### Dimmer

- On a single-tap, lights fade ON or OFF.
- On a double-tap, lights go to full ON.
- When ON, press and hold the tapswitch to engage the delayed long fade to OFF.
- Light levels can be fine-tuned by pressing and holding the dimming rocker until the desired light level is reached.
- Neutral and two-wire dimmers available.

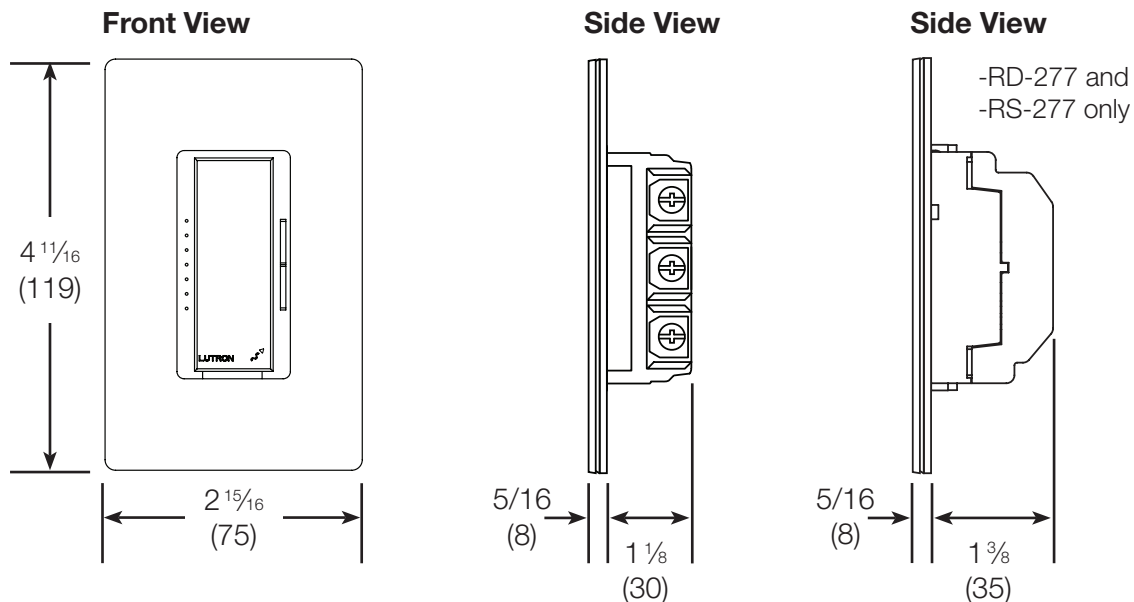
#### Switch

- On a single-tap, lights or motors turn ON or OFF.
- Neutral and two-wire switches available.

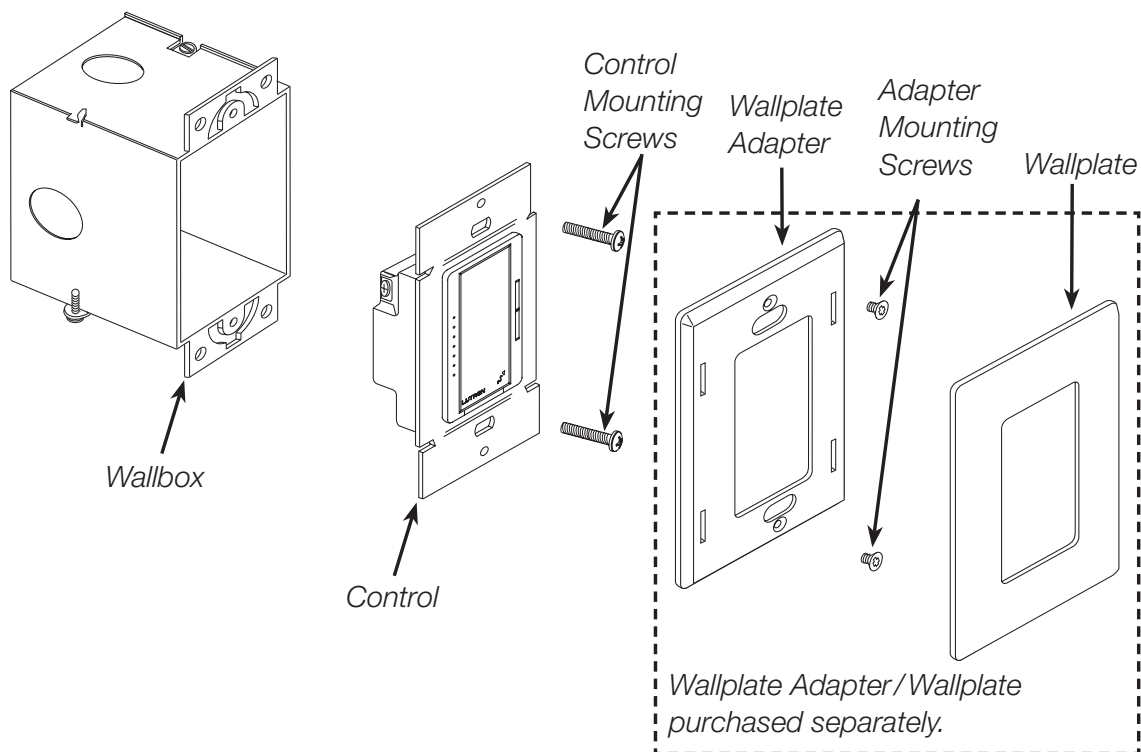
## RadioRA 2 Maestro® Local Controls

### Dimensions

All dimensions are shown as  $\frac{\text{in}}{(\text{mm})}$



### Mounting and Parts Identification

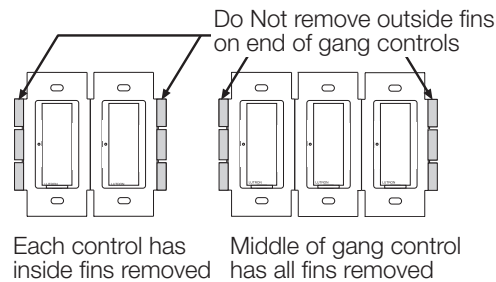


## RadioRA 2 Maestro® Local Controls

### Ganging and Derating

When combining controls in the same wallbox, derating is required. See **Load Type and Capacity**. No derating is required for remote dimmers/switches. -8ANS, -RD-277, and -RS-277 have fins that need to be removed for multigang installations.

#### -8ANS, -RD-277, and -RS-277 only:



### Load Type and Capacity

| Control                        | Load Type        | Minimum Load | Not Ganged        | End of Gang                  | Middle of Gang   | Neutral Connection |
|--------------------------------|------------------|--------------|-------------------|------------------------------|------------------|--------------------|
| RRD-6D <sup>1</sup>            | Incand.          | 50 W         | 600 W             | 500 W                        | 400 W            | NO                 |
|                                | MLV <sup>2</sup> | 50 W/VA      | 450 W/<br>600 VA  | 400 W/<br>500 VA             | 300 W/<br>400 VA |                    |
| RRD-10D <sup>1</sup>           | Incand.          | 50 W         | 1000 W            | 800 W                        | 650 W            | NO                 |
|                                | MLV <sup>2</sup> | 50 W/VA      | 800 W/<br>1000 VA | 600 W/<br>800 VA             | 500 W/<br>650 VA |                    |
| RRD-10ND <sup>1, 4</sup>       | Incand.          | 10 W         | 1000 W            | 800 W                        | 650 W            | YES                |
|                                | MLV <sup>2</sup> | 10 W/VA      | 800 W/<br>1000 VA | 600 W/<br>800 VA             | 500 W/<br>650 VA |                    |
| RRD-6NE <sup>1, 4</sup>        | ELV              | 5 W          | 600 W             | 500 W                        | 400 W            | YES                |
| RRD-F6AN-DV <sup>3, 4, 5</sup> | Fluorescent/LED  | 0.05 A       | 6 A               | 5 A                          | 3.5 A            | YES                |
|                                |                  | 1 ballast    | 60 ballasts       | 50 ballasts                  | 35 ballasts      |                    |
| RRD-8ANS <sup>4, 6</sup>       | Lighting         | 10 W         | 8 A               | 6.5 A                        | 5 A              | YES                |
|                                | Motor            | 0.08 A       | 1/4 HP<br>5.8 A   | 1/4 HP<br>5.8 A              | 1/6 HP<br>4.4 A  |                    |
| RRD-8S-DV <sup>6, 7</sup>      | Lighting         | 40 W/VA      | 8 A               | 8 A (2-gang)<br>7 A (3-gang) | 7 A              | NO                 |
|                                | Motor            | 0.4 A        | 1/10 HP<br>3 A    |                              |                  |                    |

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## RadioRA 2 Maestro® Local Controls

### Load Type and Capacity (continued)

- <sup>1</sup> Dimmer Load Type: -6D, -10D, and -10ND are designed for use with permanently installed incandescent, magnetic low-voltage, or tungsten halogen only. -6XA is designed for use with permanently installed incandescent, electronic low-voltage, magnetic low-voltage, or tungsten halogen only. Do not install dimmers to control receptacles or motor-operated appliances.
- <sup>2</sup> Low-Voltage Applications: Use -6D, -10D and -10ND with magnetic (core and coil) low-voltage transformers only. Not for use with electronic (solid-state) low-voltage transformers. Use -6XA with electronic (solid-state) or magnetic (core and coil) transformers.  
Operation of a low-voltage circuit with lamps inoperative or removed may result in transformer overheating and premature failure. Lutron strongly recommends the following:
  - Do not operate low-voltage circuits without operative lamps in place.
  - Replace burned-out lamps as soon as possible.
  - Use transformers that incorporate thermal protection or fused transformer primary windings to prevent transformer failure due to overcurrent.
- <sup>3</sup> Fluorescent Dimmer Load Type: -F6AN-DV is designed for use with permanently installed 3-wire 120 V $\sim$  or 277 V $\sim$  line voltage control fluorescent ballasts or LED drivers. Use only with Hi-lume®, Hi-lume® 3D, Compact SE™, Eco-10®, or Ecosystem® (H3D-, FDB-, ECO-, HL3-, EC5-, L3D). Do NOT use with any other ballasts or drivers. Do not install to control receptacles or motor-operated appliances.
- <sup>4</sup> Power Boosters/Load Interfaces: -10ND, -6XA (with neutral), -F6AN-DV, and -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** below.
- <sup>5</sup> Maximum Load: The maximum load for the -F6AN-DV is either the derated load or the number of ballasts, whichever is **LESS**.
- <sup>6</sup> Switch Load Type: -8ANS and -8S-DV are designed for use with permanently installed 120 V $\sim$  incandescent, magnetic low-voltage, electronic low-voltage, tungsten halogen, fluorescent, or motor loads. -8S-DV can also be used with permanently installed 277 V $\sim$  magnetic low-voltage or fluorescent loads.
- <sup>7</sup> Shunt Capacitor: Some -8S-DV installations may require the use of a shunt capacitor (included with -8S-DV). This is especially necessary for load types sensitive to leakage current (i.e. fluorescent ballasts). If load flickers, install a shunt capacitor. Optional shunt capacitor must be installed inside the load fixture or in a separate J-box. For shunt capacitor installation see **Wiring Diagram 4, 9, or 10**.

### Compatible Power Boosters and Load Interfaces

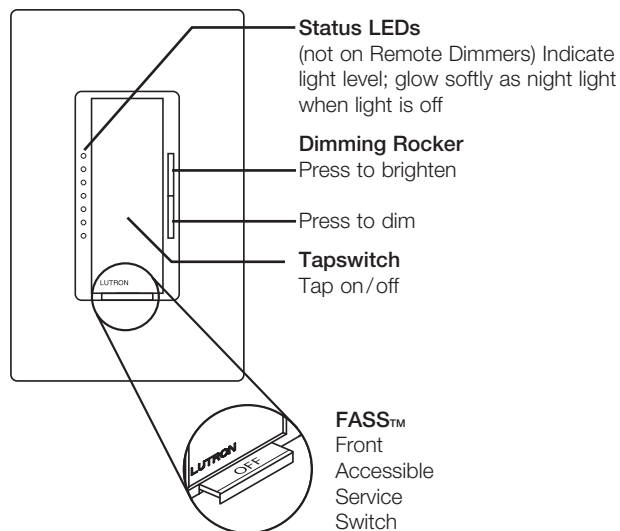
Some local controls can be used to control power boosters or load interfaces. Up to three power boosters or load interfaces can be used with one control. See table below for a list of controls and compatible power boosters and load interfaces.

| 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 Interface and Switching Module (GRX-TVI) |
|-------------|---------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------|-------------------------------------------------|
| RRD-10ND    | ✓                                                             | ✓                                                                 | ✓                                     | ✓                                               |
| RRD-F6AN-DV | ✓                                                             | ✓                                                                 | ✓                                     | ✓                                               |
| RRD-8ANS    |                                                               |                                                                   | ✓<br>(preferred)                      |                                                 |

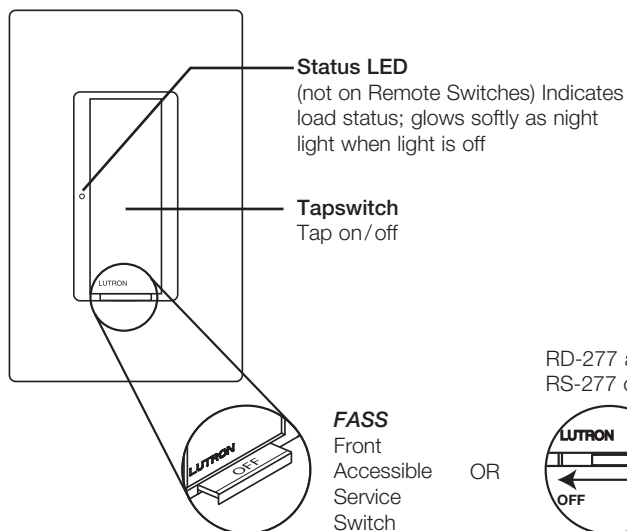
## RadioRA 2 Maestro® Local Controls

### Operation

#### Dimmer



#### Switch



#### IMPORTANT NOTICE:

##### FASS - Front Accessible Service Switch

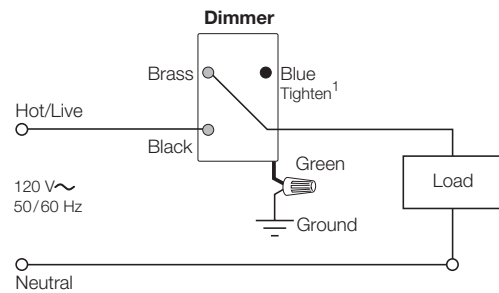
To replace bulb, remove power by pulling the FASS switch out fully on all controlling devices. After replacing bulb(s), push the FASS switch(es) back in fully to restore power to the control(s).

## RadioRA 2 Maestro® Local Controls

### Wiring Diagrams

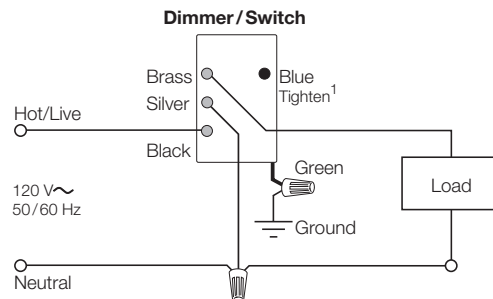
#### Wiring Diagram 1

**Single Location Installation without Neutral<sup>1</sup>**  
-6D, and -10D



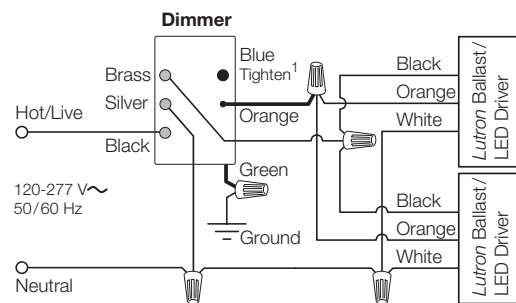
#### Wiring Diagram 2

**Single Location Installation with Neutral<sup>1</sup>**  
-10ND, -6NE, and -8ANS



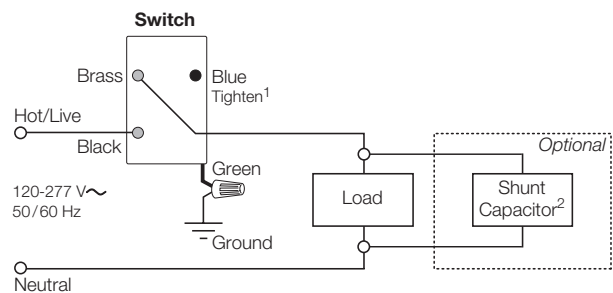
#### Wiring Diagram 3

**Single Location Fluorescent Dimmer Installation<sup>1</sup>**  
-F6AN-DV with Lutron® Ballast/LED Driver



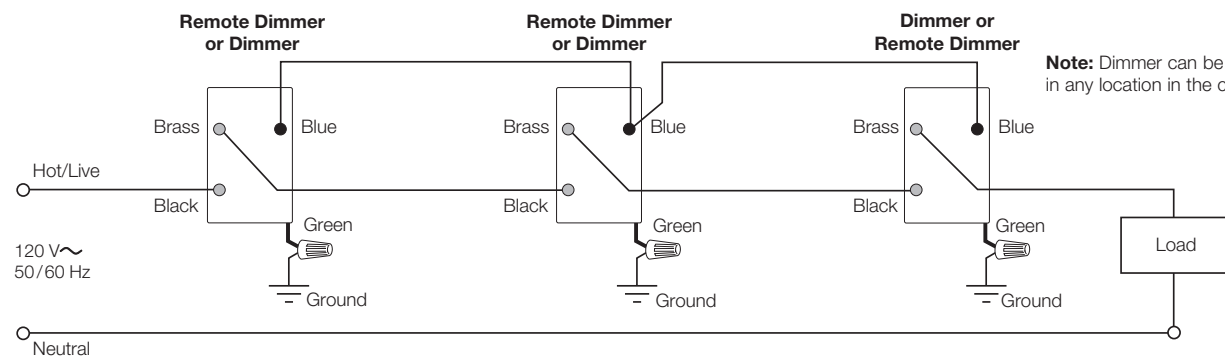
#### Wiring Diagram 4

**Single Location 2-wire Switch Installation<sup>1</sup>**  
-8S-DV with optional shunt capacitor<sup>2</sup>



#### Wiring Diagram 5

**Multi-Location Installation without Neutral<sup>3</sup>**  
-6D, and -10D with RD-RD



**Note:** Dimmer can be installed in any location in the circuit.

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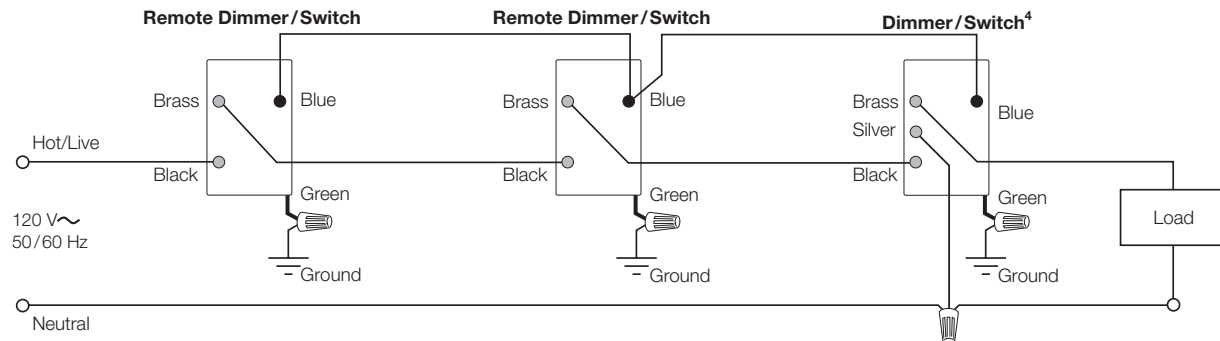
## RadioRA 2 Maestro® Local Controls

## Wiring Diagrams (continued)

## Wiring Diagram 6

Multi-Location Installation with Neutral<sup>3,4</sup>

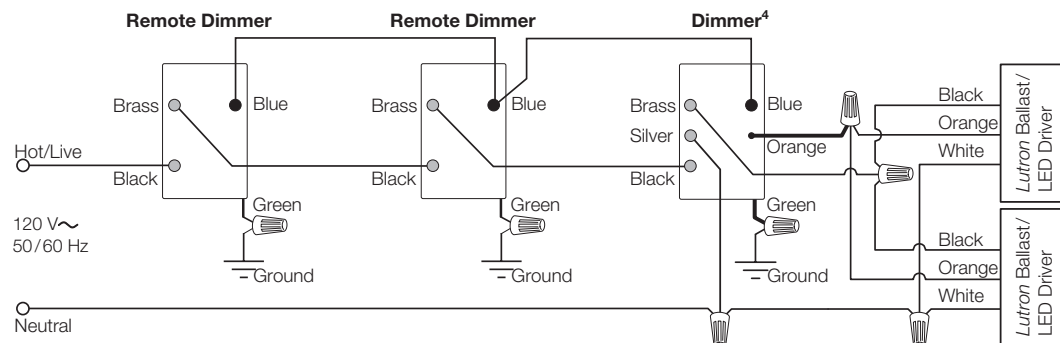
-10ND and -6NE with RD-RD; -8ANS with RD-RS



## Wiring Diagram 7

Multi-Location Fluorescent Dimmer Installation<sup>3,4</sup> (120 V~)

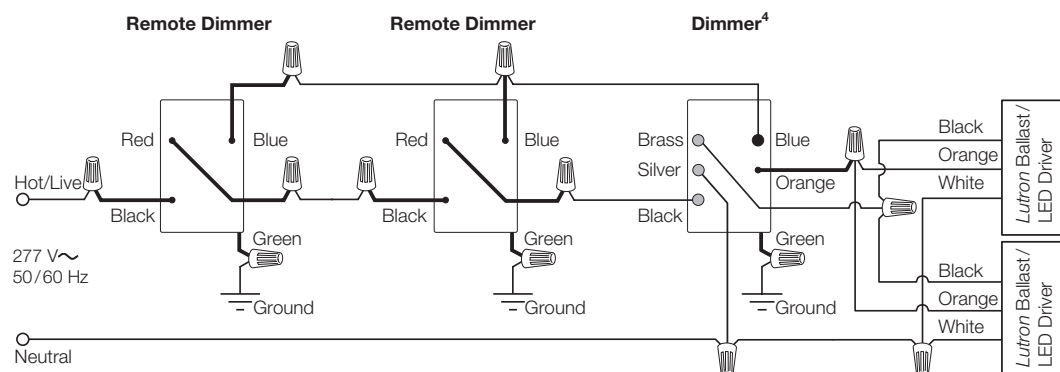
-F6AN with RD-RD and Lutron® Ballast/LED Driver



## Wiring Diagram 8

Multi-Location Fluorescent Dimmer Installation<sup>3,4</sup> (277 V~)

-F6AN with RD-RD-277 and Lutron® Ballast/LED Driver



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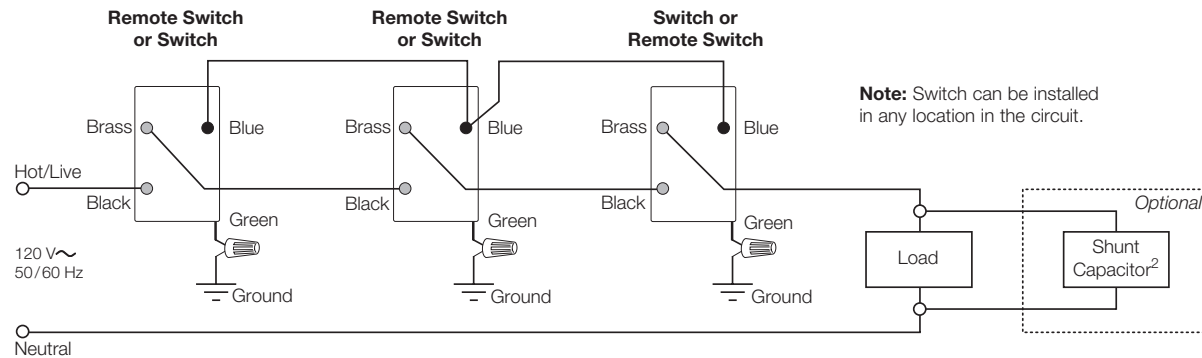
## RadioRA 2 Maestro® Local Controls

## Wiring Diagrams (continued)

## Wiring Diagram 9

Multi-Location 2-wire Switch Installation<sup>3</sup> (120 V~)

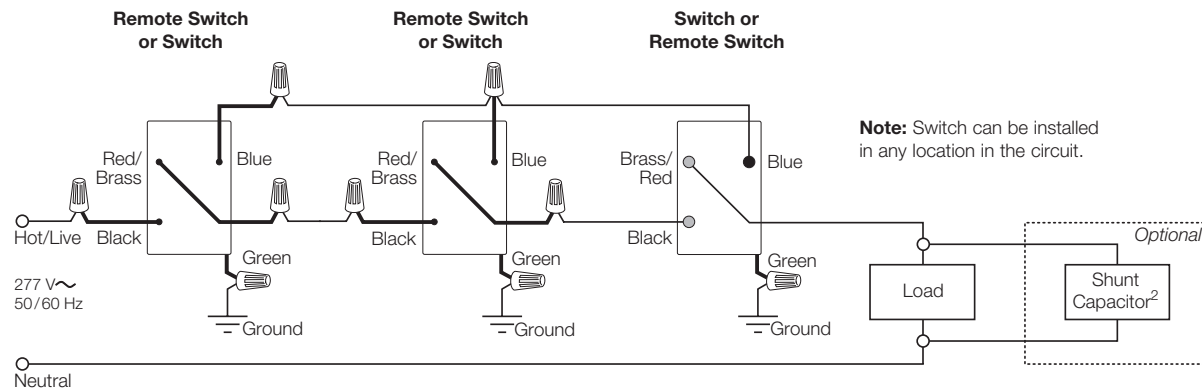
-8S-DV with RD-RS and optional shunt capacitor



## Wiring Diagram 10

Multi-Location 2-wire Switch Installation<sup>3</sup> (277 V~)

-8S-DV with RD-RS-277 and optional shunt capacitor



<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.

<sup>2</sup> Optional shunt capacitor must be installed inside the load fixture or in a separate J-box. Shunt capacitor is included with -8S-DV.

<sup>3</sup> Up to 9 RadioRA 2 Remote Dimmers/Switches may be connected to the RadioRA 2 Dimmer/Switch. Total blue terminal wire length may be up to 250 ft (76 m).

<sup>4</sup> Neutral wire Dimmers/Switches must be connected on the Load side of a multi-location installation.

## RadioRA 2 Maestro® Local Controls

### Colors and Finishes

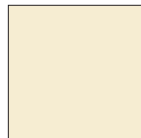
#### Gloss Finishes



White  
WH



Ivory  
IV



Almond  
AL



Light  
Almond  
LA



Gray  
GR



Brown  
BR



Black  
BL

#### Satin Finishes



Hot  
HT



Merlot  
MR



Plum  
PL



Turquoise  
TQ



Taupe  
TP



Eggshell  
ES



Biscuit  
BI



Snow  
SW



Palladium  
PD



Midnight  
MN



Sienna  
SI



Terracotta  
TC



Greenbriar  
GB



Bluestone  
BG



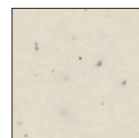
Mocha  
Stone  
MS



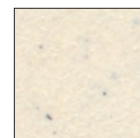
Goldstone  
GS



Desert Stone  
DS



Stone  
ST



Limestone  
LS

- 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 - SC-CK-1

#### Metal Finish (wallplate only)



Stainless  
Steel SS

When using Stainless Steel wallplates, it is recommended to order the controls in Black (BL) or Midnight (MN).