

## RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads

RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads function as a dimmer and keypad combined into a single device. C•L<sup>®</sup> Hybrid Keypads are great for retro-fit applications since they eliminate the need to install two separate devices.

C•L<sup>®</sup> Hybrid Keypads are neutral-wire controls that can be used with small loads, such as screw-in CFL/LED lamps. Normal keypad operation will be available even if the attached load is not installed or the lamp is burned out.

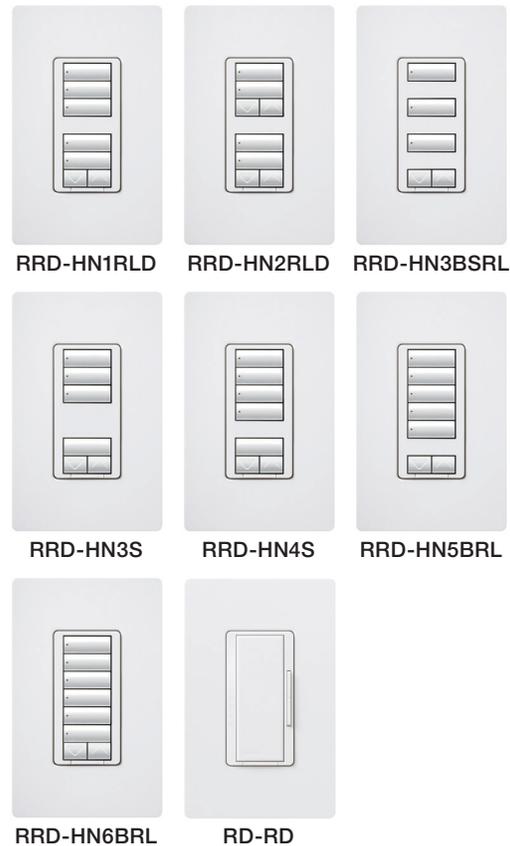
C•L<sup>®</sup> Hybrid Keypads can be controlled as part of a lighting control system and incorporate advanced features such as fade on/fade off and rapid full on.

C•L<sup>®</sup> Hybrid Keypads feature large, easy-to-use buttons, plus a unique backlit engraving option that makes them readable any time of the day or night. The C•L<sup>®</sup> Hybrid Keypad buttons are rounded, allowing engraving to be displayed at an upward angle, increasing readability. C•L<sup>®</sup> Hybrid Keypads include a Front Accessible Service Switch (FASS<sup>™</sup>) for safe lamp replacement.

Use only Lutron<sup>®</sup> Designer (Claro<sup>®</sup> or Satin Colors<sup>®</sup>) wallplates. The mechanical design of the keypad is compatible with Lutron<sup>®</sup> wallplates ONLY and is NOT compatible with any other manufacturer's wallplate. Wallplates are sold separately. Lutron<sup>®</sup> Claro<sup>®</sup> and Satin Colors<sup>®</sup> wallplates snap on with no visible means of attachment. Replacement Button Kits are available in a variety of colors and with custom engraving to identify clearly each button's function.

C•L<sup>®</sup> Hybrid Keypads are designed for use with permanently installed incandescent, tungsten halogen, CFL/LED, magnetic low-voltage, or Lutron<sup>®</sup> Hi-lume<sup>®</sup> A-Series LTE LED drivers only.

### C•L<sup>®</sup> Hybrid Keypads



RadioRA<sup>®</sup> 2 C•L<sup>®</sup> Hybrid Keypads

## Model Numbers

RRD-HN1RLD-XX*	Dual-Group with Raise/Lower Keypad Neutral-Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H1RLD-XX*-E	Engraved Replacement Button Kit
RRD-HN2RLD-XX*	Dual-Group with Dual Raise/Lower Keypad Neutral-Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H2RLD-XX*-E	Engraved Replacement Button Kit
RRD-HN3BSRL-XX*	3-Button with Raise/Lower Keypad Neutral-Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H3BSRL-XX*-E	Engraved Replacement Button Kit
RRD-HN3S-XX*	3-Scene with Raise/Lower Keypad Neutral-Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H3S-XX*-E	Engraved Replacement Button Kit
RRD-HN4S-XX*	4-Scene with Raise/Lower Keypad Neutral Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H4S-XX*-E	Engraved Replacement Button Kit
RRD-HN5BRL-XX*	5-Button with Raise/Lower Keypad Neutral Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H5BRL-XX*-E	Engraved Replacement Button Kit
RRD-HN6BRL-XX*	6-Button with Raise/Lower Keypad Neutral Wire Dimmer. 450 W/450 VA (Incandescent/Halogen/Magnetic Low Voltage) or 100 W (approved CFL/LED) 120 V~
RKD-H6BRL-XX*-E	Engraved Replacement Button Kit
RD-RD-XX*	Remote Dimmer for multiple-location installations

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

## RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads

### Specifications

<b>Model Numbers</b>	<i>Keypads:</i> RRD-HN1RLD-XX, RRD-HN2RLD-XX, RRD-HN3BSRL-XX, RRD-HN3S-XX, RRD-HN4S-XX, RRD-HN5BRL-XX, RRD-HN6BRL-XX <i>Engraved Replacement Button Kit:</i> RKD-H1RLD-XX-E, RKD-H2RLD-XX-E, RKD-H3BSRL-XX-E, RKD-H3S-XX-E, RKD-H4S-XX-E, RKD-H5BRL-XX-E, RKD-H6BRL-XX-E <i>Remote Dimmer:</i> RD-RD-XX
<b>Power</b>	120 V~ 50/60 Hz
<b>Typical Power Consumption</b>	0.75 W <i>Test conditions:</i> load is off, all backlights on medium intensity, two LEDs on (two presets active), keypad powered at 120 V~
<b>Regulatory Approvals</b>	UL, cUL, NOM, FCC, IC, COFETEL
<b>Environment</b>	<i>Ambient operating temperature:</i> 32 °F to 104 °F (0 °C to 40 °C), 0% to 90% humidity, non-condensing. Indoor use only.
<b>Communications</b>	C•L <sup>®</sup> Hybrid Keypads communicate with the system through Radio Frequency (RF) and must be located within 30 ft (9 m) of a repeater. Remote dimmers are not required to be within a specific range of a repeater. System devices operate on frequencies between 431.0 MHz and 437.0 MHz.
<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. 3½ in (89 mm) deep recommended, 2¼ in (57 mm) deep minimum. If mounting one control above another, leave at least 4½ in (114 mm) vertical space between them.
<b>Multiple-Location Wiring</b>	Uses conventional 3-way and 4-way wiring. RD-RD dimmer needs to be installed to control from another location.
<b>Warranty</b>	<a href="http://www.lutron.com/TechnicalDocumentLibrary/Warranty.pdf">www.lutron.com/TechnicalDocumentLibrary/Warranty.pdf</a>

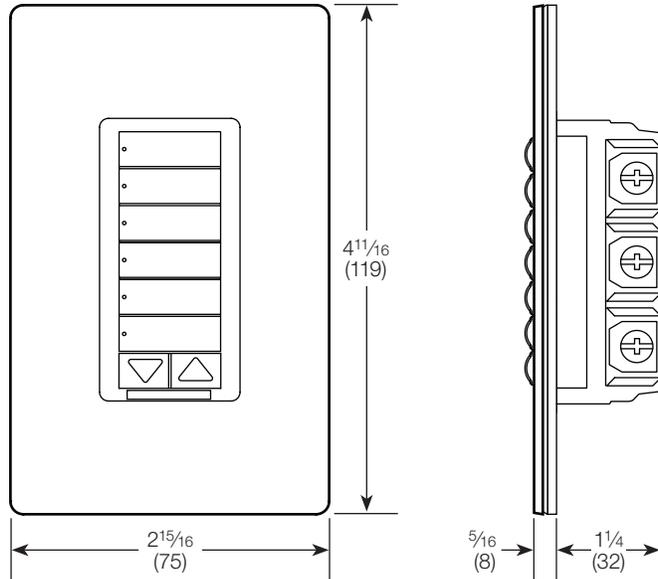
### Design Features

- Keypad buttons are programmable to select scene or room preset levels or positions.
- At the press of a keypad button, lights fade ON or OFF to desired levels and shades/ draperies open or close to desired positions.
- Adjustable backlight intensity.
- Prepaid engraving included. Redeemable for one engraved Replacement Button Kit.
- Internal dimmer is assigned to top button by default. Tap top button to toggle load ON/OFF.
- Internal dimmer can be assigned to any button on the C•L<sup>®</sup> Hybrid Keypad and can be programmed to be controlled by any keypad.
- Designed for use with a wide variety of approved LEDs. Refer to the LED Product Selection Tool at [www.lutron.com/ledtool](http://www.lutron.com/ledtool)
- Can be installed in either single location or multiple-location (with Remote Dimmer) installations.

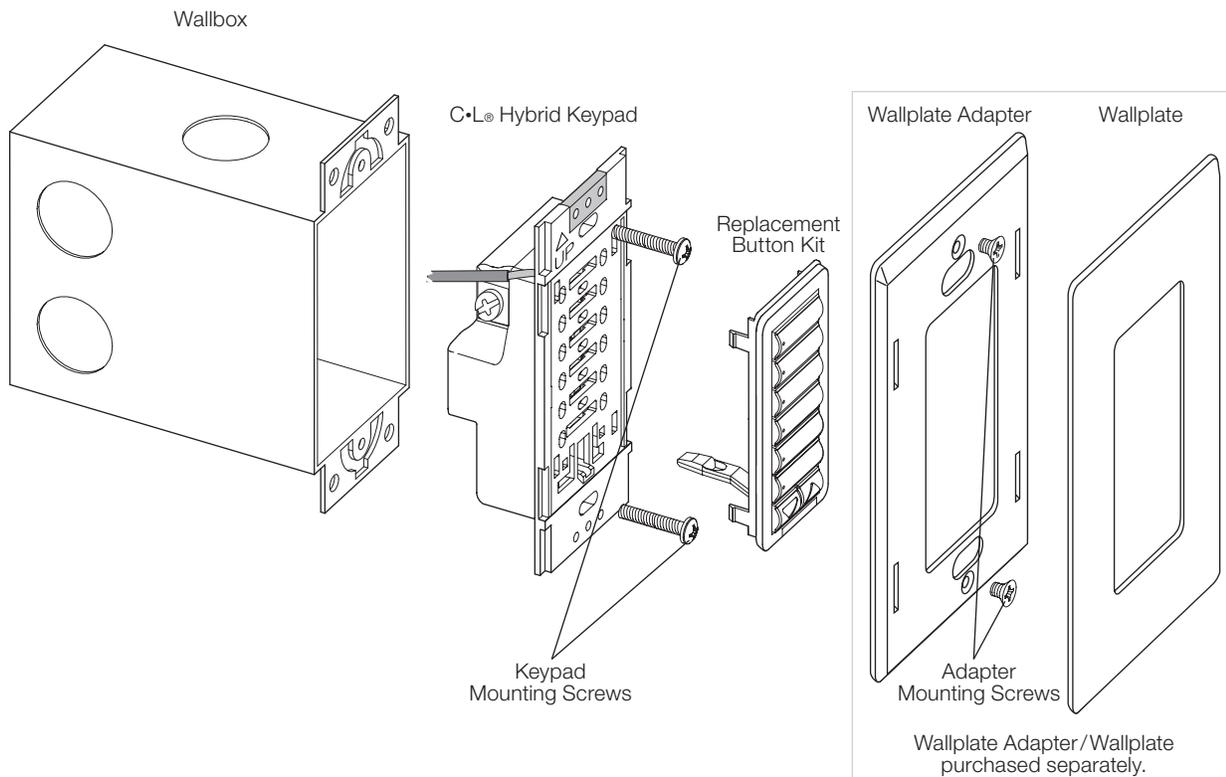
## RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads

### Dimensions

All dimensions are shown as: in (mm)

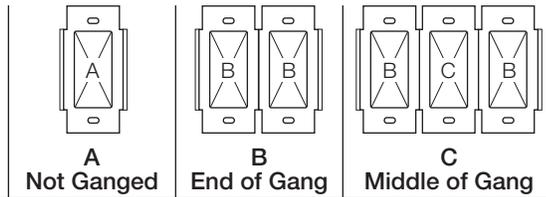


### Mounting



## RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads

### Load Type and Capacity



Load Type <sup>1</sup>	Minimum Load	Maximum Load		
		A Not Ganged	B End of Gang	C Middle of Gang
Incandescent/Halogen	15 W	450 W	350 W	250 W
CFL/LED	See compatible list <sup>4</sup>	100 W	100 W	100 W
MLV <sup>2</sup>	15 W/VA	350 W/450 VA	250 W/350 VA	200 W/250 VA
Hi-lume <sup>®</sup> A-Series LTE LED Driver <sup>3</sup>	1 driver	150 W	100 W	100 W

- Load Type: C•L<sup>®</sup> Hybrid Keypads are designed for use with permanently installed incandescent, tungsten halogen, CFL/LED, magnetic low-voltage, or Lutron<sup>®</sup> Hi-lume<sup>®</sup> A-Series LTE LED drivers only. To reduce the risk of overheating and possible damage to other equipment, do not install C•L<sup>®</sup> Hybrid Keypads to control receptacles, ELV loads, or motor-operated appliances.
- Low-Voltage Applications: Use C•L<sup>®</sup> Hybrid Keypads with magnetic (core and coil) low-voltage transformers only. Not for use with electronic (solid-state) low-voltage 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 quickly as possible.
  - Use transformers that incorporate thermal protection or fused transformer primary windings to prevent transformer failure due to overcurrent.
- Each C•L<sup>®</sup> Hybrid Keypad may have a maximum of 10 Lutron<sup>®</sup> 150 W Hi-lume<sup>®</sup> A-series LTE LED drivers.
- For a complete list of compatible Dimmable CFLs and LEDs, please visit [www.lutron.com/ledtool](http://www.lutron.com/ledtool)

### Mixed-Load Derating Chart

Total CFL/LED Wattage	Total Incandescent/Halogen Wattage		
	A: Not Ganged	B: End of Gang	C: Middle of Gang
0 W	+ 15 W–450 W	Or 15 W–350 W	Or 10 W–250 W
1 W–25 W	+ 0 W–350 W	Or 0 W–250 W	Or 0 W–100 W
26 W–50 W	+ 0 W–250 W	Or 0 W–150 W	Or 0 W–50 W
51 W–75 W	+ 0 W–150 W	Or 0 W–50 W	Or 0 W
76 W–100 W	+ 0 W	Or 0 W	Or 0 W

### Compatible Power Boosters and Load Interfaces

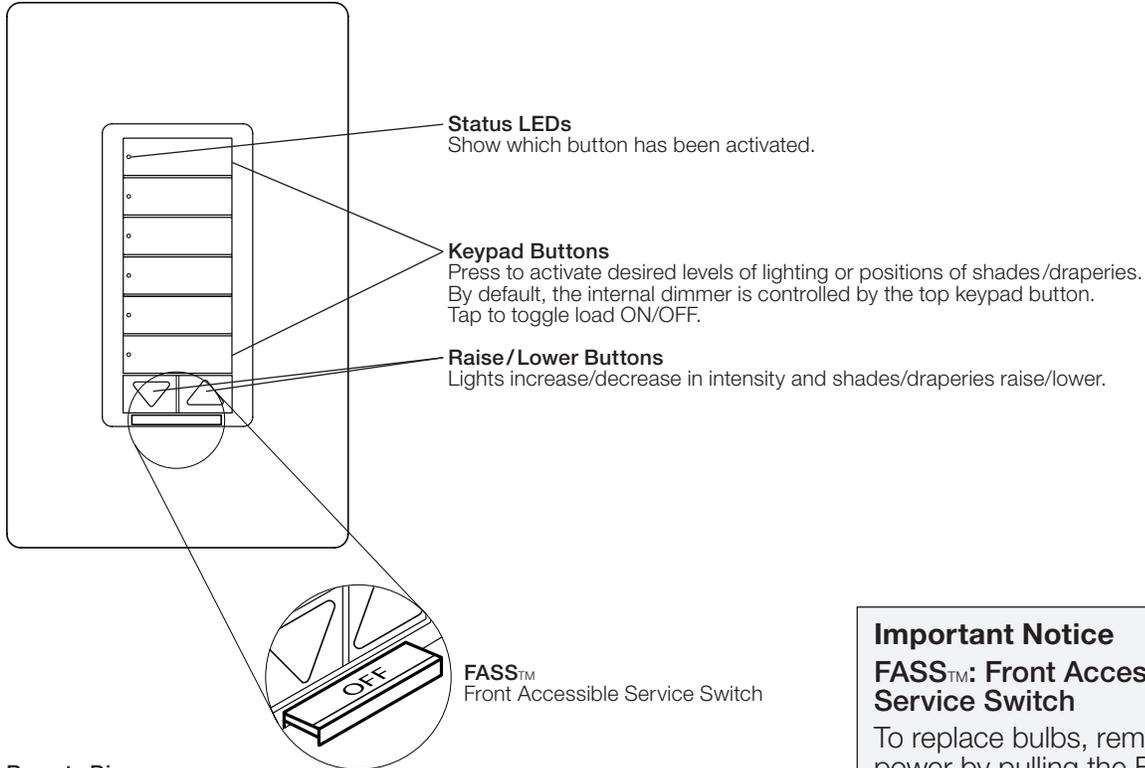
Some local controls can be used to control power boosters or load interfaces. Up to three power boosters or load interfaces can be used with one control. See table below for a list of compatible power boosters and load interfaces.

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-HN1RLD	✓	✓	✓	✓
RRD-HN2RLD				
RRD-HN3BSRL				
RRD-HN3S				
RRD-HN4S				
RRD-HN5BRL				
RRD-HN6BRL				

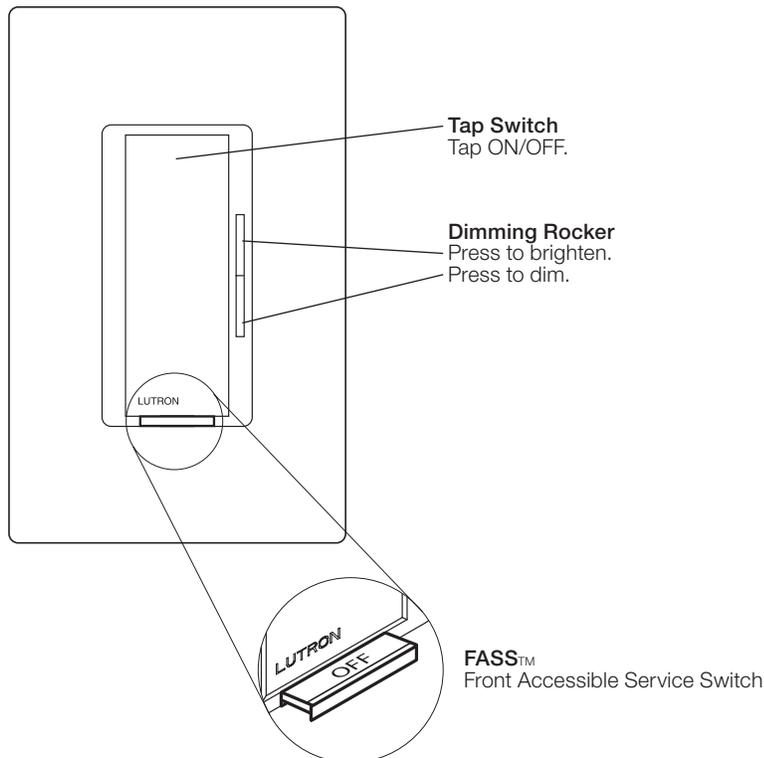
## RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads

### Operation

#### C•L<sup>®</sup> Hybrid Keypad



#### Remote Dimmer



#### Important Notice

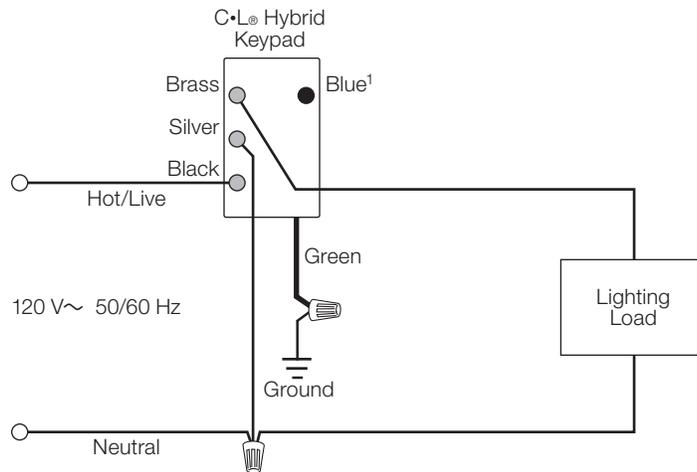
##### FASS<sup>™</sup>: Front Accessible Service Switch

To replace bulbs, remove power by pulling the FASS<sup>™</sup> out fully on all controlling devices. After replacing bulbs, push every FASS<sup>™</sup> back in fully to restore power to the controls.

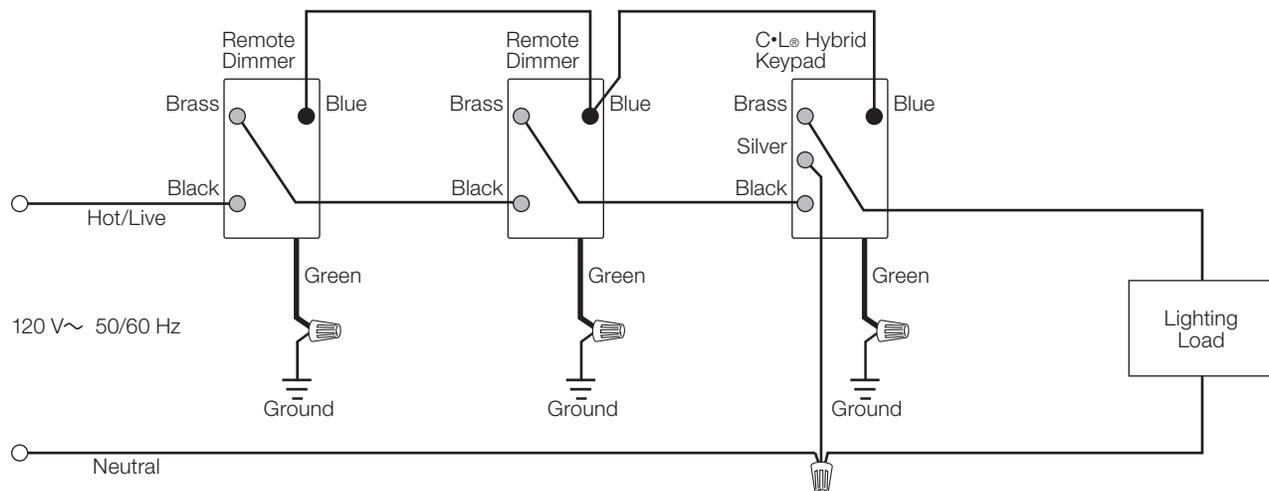
## RadioRA<sup>2</sup> C•L<sup>®</sup> Hybrid Keypads

### Wiring

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



#### Multiple-Location Installation with Neutral<sup>2,3</sup>



<sup>1</sup> When using controls in single-location installations, tighten the blue terminal without any wires attached. DO NOT connect the blue terminal to any other wiring or to ground.

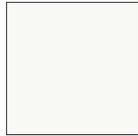
<sup>2</sup> Up to nine Remote Dimmers may be connected to the C•L Hybrid Keypad. Total blue terminal wire length may be up to 250 ft (76 m).

<sup>3</sup> Neutral-wire C•L Hybrid Keypads must be connected on the load side of a multiple-location installation.

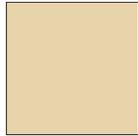
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### Colors and Finishes

#### Gloss Finishes



White  
WH



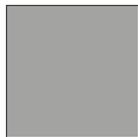
Ivory  
IV



Almond  
AL



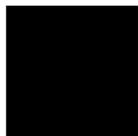
Light Almond  
LA



Gray  
GR



Brown  
BR



Black  
BL

#### Satin Finishes



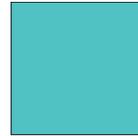
Hot  
HT



Merlot  
MR



Plum  
PL



Turquoise  
TQ



Taupe  
TP



Eggshell  
ES



Biscuit  
BI



Snow  
SW



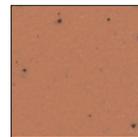
Palladium  
PD



Midnight  
MN



Sienna  
SI



Terracotta  
TC



Greenbriar  
GB



Bluestone  
BG



Mocha Stone  
MS



Goldstone  
GS



Desert Stone  
DS



Stone  
ST



Limestone  
LS

#### 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).

- 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