RadioRA 2 C•L Hybrid Keypads

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

C•L 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 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 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 Hybrid Keypad buttons are rounded, allowing engraving to be displayed at an upward angle, increasing readability. C•L Hybrid Keypads include a Front Accessible Service Switch (FASS) for safe lamp replacement.

Use only Lutron Designer (Claro or Satin Colors) wallplates. The mechanical design of the keypad is compatible with Lutron wallplates ONLY and is NOT compatible with any other manufacturer’s wallplate. Wallplates are sold separately. Lutron Claro and Satin Colors 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 Hybrid Keypads are designed for use with permanently installed incandescent, tungsten halogen, CFL/LED, magnetic low-voltage, or Lutron Hi-lume A-Series LTE LED drivers only.
RadioRA 2 C•L Hybrid Keypads

Model Numbers

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRD-HN1RLD-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-HN1RLD-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RRD-HN2RLD-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-H2RLD-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RRD-HN3BSRL-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-H3BSRL-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RRD-HN3S-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-H3S-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RRD-HN4S-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-H4S-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RRD-HN5BRL-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-H5BRL-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RRD-HN6BRL-XX*</td>
<td>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~</td>
</tr>
<tr>
<td>RRD-H6BRL-XX*-E</td>
<td>Engraved Replacement Button Kit</td>
</tr>
<tr>
<td>RD-RD-XX*</td>
<td>Remote Dimmer for multiple-location installations</td>
</tr>
</tbody>
</table>

* "XX" in the model number represents color/finish code. See Colors and Finishes at end of document.
RadioRA 2 C•L Hybrid Keypads

Specifications

Model Numbers  
**Keypads:** RRD-HN1RLD-XX, RRD-HN2RLD-XX, RRD-HN3BSRL-XX,  
RRD-HN3S-XX, RRD-HN4S-XX, RRD-HN5BRL-XX, RRD-HN6BRL-XX  
**Engraved Replacement Button Kit:** RKD-H1RLD-XX-E, RKD-H2RLD-XX-E,  
RRD-H3BSRL-XX-E, RKD-H3S-XX-E, RRD-H4S-XX-E, RRD-H5BRL-XX-E,  
RRD-H6BRL-XX-E  
**Remote Dimmer:** RD-RD-XX

Power  
120 V～ 50 / 60 Hz

Typical Power Consumption  
0.75 W  
*Test conditions:* load is off, all backlights on medium intensity, two LEDs on  
(two presets active), keypad powered at 120 V～

Regulatory Approvals  
UL, cUL, NOM, FCC, IC, COFETEL, ANATEL

Environment  
**Ambient operating temperature:** 32 °F to 104 °F (0 °C to 40 °C), 0% to 90%  
humidity, non-condensing. Indoor use only.

Communications  
C•L 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.

ESD Protection  
Tested to withstand electrostatic discharge without damage or memory  
loss, in accordance with IEC 61000-4-2.

Surge Protection  
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.

Power Failure  
Power failure memory: should power be interrupted, the control will return  
to its previous state when power is restored.

Mounting  
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.

Multiple-Location Wiring  
Uses conventional 3-way and 4-way wiring. RD-RD dimmer needs to be  
installed to control from another location.

Warranty  

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 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
- Can be installed in either single location  
or multiple-location (with Remote Dimmer) installations.
RadioRA 2 C•L Hybrid Keypads

Dimensions
All dimensions are shown as: in (mm)

- Wallbox: 2 3/16 (75)
- C•L Hybrid Keypad: 4 3/16 (119)
- Mounting Screws: 5/16 (8)
- Keypad Mounting Screws: 1 1/4 (32)

Mounting

Wallbox
C•L Hybrid Keypad
Keypad Mounting Screws
Replacement Button Kit
Wallplate Adapter
Adapter Mounting Screws
Wallplate
Wallplate Adapter/Wallplate purchased separately.

Customer Support: 1.844.LUTRON1 (U.S.A)
RadioRA 2 C•L Hybrid Keypads

Load Type and Capacity

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Minimum Load</th>
<th>Maximum Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incandescent/Halogen</td>
<td>15 W</td>
<td>450 W</td>
</tr>
<tr>
<td></td>
<td>350 W</td>
<td>250 W</td>
</tr>
<tr>
<td>CFL/LED</td>
<td>See compatible list</td>
<td>100 W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 W</td>
</tr>
<tr>
<td>MLV2</td>
<td>15 W/VA</td>
<td>350 W/450 VA</td>
</tr>
<tr>
<td></td>
<td>250 W/350 VA</td>
<td>200 W/250 VA</td>
</tr>
<tr>
<td>Hi-lume® A-Series LTE LED Driver2</td>
<td>1 driver</td>
<td>150 W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 W</td>
</tr>
</tbody>
</table>

1 Load Type: C•L Hybrid Keypads are designed for use with permanently installed incandescent, tungsten halogen, CFL/LED, magnetic low-voltage, or Lutron Hi-lume A-Series LTE LED drivers only. To reduce the risk of overheating and possible damage to other equipment, do not install C•L Hybrid Keypads to control receptacles, ELV loads, or motor-operated appliances.

2 Low-Voltage Applications: Use C•L 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.

3 Each C•L Hybrid Keypad may have a maximum of 10 Lutron 150 W Hi-lume A-series LTE LED drivers.

4 For a complete list of compatible Dimmable CFLs and LEDs, please visit www.lutron.com/ledtool

Mixed-Load Derating Chart

<table>
<thead>
<tr>
<th>Total CFL/LED Wattage</th>
<th>Total Incandescent/Halogen Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A: Not Ganged</td>
</tr>
<tr>
<td>0 W</td>
<td>+ 15 W – 450 W Or 15 W – 350 W Or 10 W – 250 W</td>
</tr>
<tr>
<td>1 W – 25 W</td>
<td>+ 0 W – 350 W Or 0 W – 250 W Or 0 W – 100 W</td>
</tr>
<tr>
<td>26 W – 50 W</td>
<td>+ 0 W – 250 W Or 0 W – 150 W Or 0 W – 50 W</td>
</tr>
<tr>
<td>51 W – 75 W</td>
<td>+ 0 W – 150 W Or 0 W – 50 W Or 0 W</td>
</tr>
<tr>
<td>76 W – 100 W</td>
<td>+ 0 W Or 0 W Or 0 W</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>RRD-HN1RLD</td>
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<td>RRD-HN2RLD</td>
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<td>RRD-HN3BSRL</td>
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<tr>
<td>RRD-HN5BRL</td>
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<tr>
<td>RRD-HN6BRL</td>
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</tr>
</tbody>
</table>
RadioRA 2 C•L Hybrid Keypads

Operation

C•L® Hybrid Keypad

**Status LEDs**
Show which button has been activated.

**Keypad Buttons**
Press to activate desired levels of lighting or positions of shades/draperies. By default, the internal dimmer is controlled by the top keypad button. Tap to toggle load ON/OFF.

**Raise/Lower Buttons**
Lights increase/decrease in intensity and shades/draperies raise/lower.

**FASS**
Front Accessible Service Switch

**Remote Dimmer**

**Tap Switch**
Tap ON/OFF.

**Dimming Rocker**
Press to brighten.
Press to dim.

**Important Notice**

**FASS: Front Accessible Service Switch**
To replace bulbs, remove power by pulling the FASS out fully on all controlling devices. After replacing bulbs, push every FASS back in fully to restore power to the controls.
RadioRA 2 C•L Hybrid Keypads

Wiring

Single-Location Installation with Neutral¹

Multiple-Location Installation with Neutral²,³

¹ 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.

² 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).

³ Neutral-wire C•L Hybrid Keypads must be connected on the load side of a multiple-location installation.
RadioRA 2 C•L Hybrid Keypads

Colors and Finishes

Gloss Finishes
- White (WH)
- Ivory (IV)
- Snow (SW)
- Midnight (MN)
- Taupe (TP)
- Biscuit (BI)
- Almond (AL)
- Light Almond (LA)
- Eggshell (ES)
- Palladium (PD)
- Hot (HT)
- Merlot (MR)
- Gray (GR)
- Brown (BR)
- Plum (PL)
- Sienna (SI)
- Terracotta (TC)
- Bluestone (BG)
- Black (BL)
- Greenbriar (GB)
- Goldstone (GS)
- Mocha Stone (MS)
- Stone (ST)
- Desert Stone (DS)
- Limestone (LS)

Satin Finishes
- White (WH)
- Ivory (IV)
- Snow (SW)
- Midnight (MN)
- Taupe (TP)
- Biscuit (BI)
- Almond (AL)
- Light Almond (LA)
- Eggshell (ES)
- Palladium (PD)
- Hot (HT)
- Merlot (MR)
- Gray (GR)
- Brown (BR)
- Plum (PL)
- Sienna (SI)
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- Bluestone (BG)
- Black (BL)
- Greenbriar (GB)
- Goldstone (GS)
- Mocha Stone (MS)
- Stone (ST)
- Desert Stone (DS)
- 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

For the latest color offerings see our website: http://www.lutron.com/satincolors

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).