

RadioRA 2 Hybrid Keypads

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

RadioRA 2 Hybrid Keypads have an available neutral wire terminal that allows them to be installed in either two-wire or neutral wire installations. Connecting the neutral wire to a Hybrid Keypad allows a lower minimum load to be used. Also, normal keypad operation will be available even if the attached load is not installed or if the lamp is burned out. If a neutral wire is available in the wallbox it should be connected to the silver terminal on the Hybrid Keypad. If a neutral wire is not available and not desired, then the silver terminal should be tightened without any wires connected to it. Hybrid Keypads can be installed in either single location or multi-location (with Remote Dimmer) installations.

RadioRA 2 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

RadioRA 2 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 Hybrid Keypad buttons are rounded, allowing engraving to be displayed at an upward angle, increasing readability. RadioRA 2 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 ONLY compatible with Lutron wallplates 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 Kits are available in a variety of colors and with custom engraving to identify clearly each button's function.



RRD-H1RLD



RRD-H2RLD



RRD-H3BSRL



RRD-H3S



RRD-H4S



RRD-H5BRL



RRD-H6BRL



RD-RD

RadioRA 2 Hybrid Keypads

Model Numbers

RRD-H1RLD-XX ¹	Dual Group with Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H1RLD-XX ¹ -E	Engraved Replacement Kit
RRD-H2RLD-XX ¹	Dual Group with Dual Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H2RLD-XX ¹ -E	Engraved Replacement Kit
RRD-H3BSRL-XX ¹	3 Button with Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H3BSRL-XX ¹ -E	Engraved Replacement Kit
RRD-H3S-XX ¹	3 Scene with Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H3S-XX ¹ -E	Engraved Replacement Kit
RRD-H4S-XX ¹	4 Scene with Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H4S-XX ¹ -E	Engraved Replacement Kit
RRD-H5BRL-XX ¹	5 Button with Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H5BRL-XX ¹ -E	Engraved Replacement Kit
RRD-H6BRL-XX ¹	6 Button with Raise/Lower Keypad and 450 W/450 VA Two-wire or Neutral Wire Dimmer 120~ (Incandescent/Halogen/Magnetic Low-Voltage)
RKD-H6BRL-XX ¹ -E	Engraved Replacement Kit
RD-RD-XX ¹	Remote Dimmer for multi-location installations

¹ "XX" in the model number represents color/finish code. See **Colors and Finishes** at end of document.

RadioRA 2 Hybrid Keypads

Specifications

Model Numbers	Keypads: RRD-H1RLD-XX, RRD-H2RLD-XX, RRD-H3BSRL-XX, RRD-H3S-XX, RRD-H4S-XX, RRD-H5BRL-XX, RRD-H6BRL-XX, Engraved Replacement Kit: 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 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, CSA, NOM, FCC, IC, COFETEL
Environment	Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C), 0% to 90% humidity, non-condensing. Indoor use only.
Communications	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. 3 ½ in (89 mm) deep recommended, 2 ¼ in (57 mm) deep minimum. If mounting one control above another, leave at least 4 ½ in (114 mm) vertical space between them.
Wiring	Uses conventional 3-way and 4-way wiring.
Warranty	www.lutron.com/TechnicalDocumentLibrary/warranty.pdf

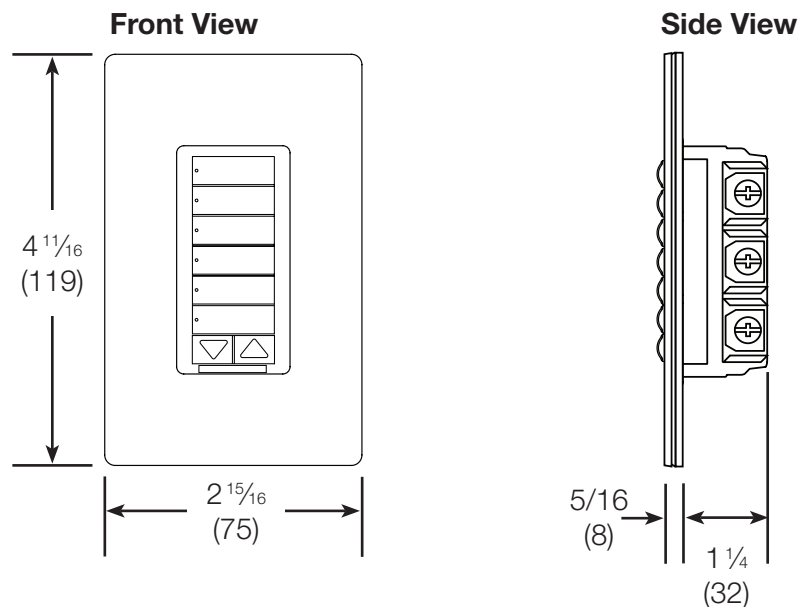
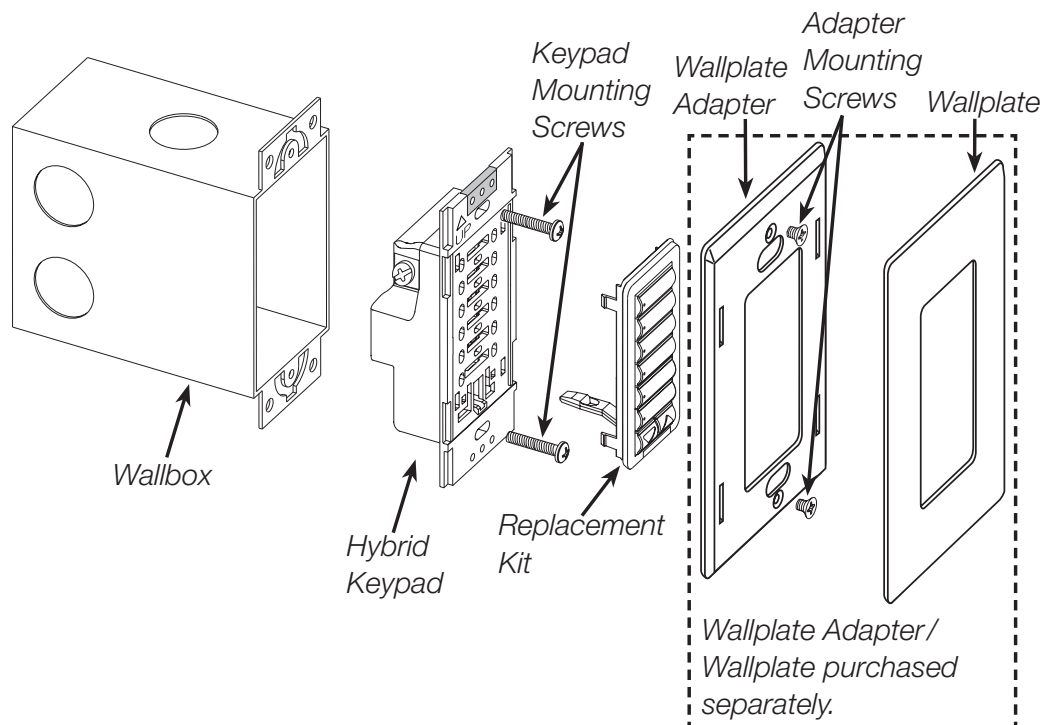
Design Features

- 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 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 Hybrid Keypad and can be programmed to be controlled by any Keypad.
- Can be installed in two-wire or neutral wire applications.
- Can be installed in either single location or multi-location (with Remote Dimmer) installations.

RadioRA 2 Hybrid Keypads

Dimensions

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

**Mounting and Parts Identification**

RadioRA 2 Hybrid Keypads

Load Type and Capacity

Load Type	Minimum Load		Not Ganged	End of Gang	Middle of Gang
	With Neutral	Without Neutral			
Incandescent ¹	15 W	50 W	450 W	350 W	250 W
MLV ²	15 W/VA	50 W/VA	350 W/450 VA	250 W/350 VA	200 W/250 VA

1 Load Type: Hybrid Keypads are designed for use with permanently installed incandescent, magnetic low-voltage, or tungsten halogen only. To reduce the risk of overheating and possible damage to other equipment, do not install Hybrid Keypads to control receptacles or motor-operated appliances.

2 Low-Voltage Applications: Use 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:

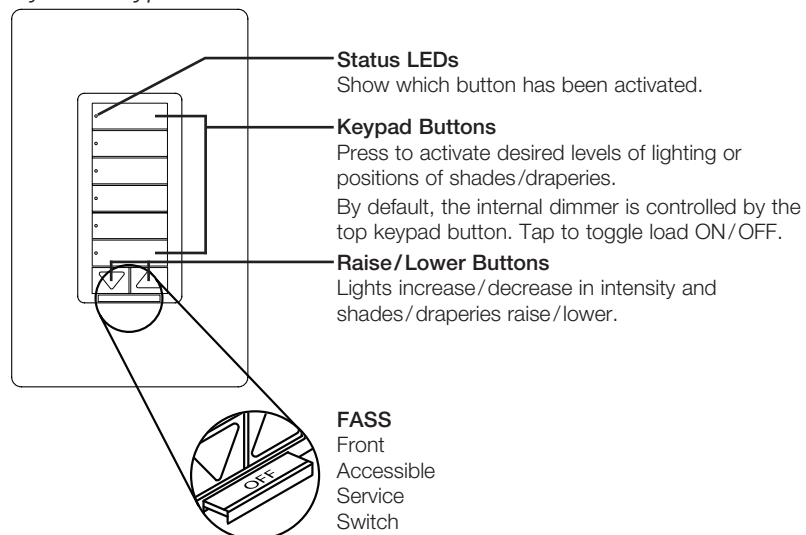
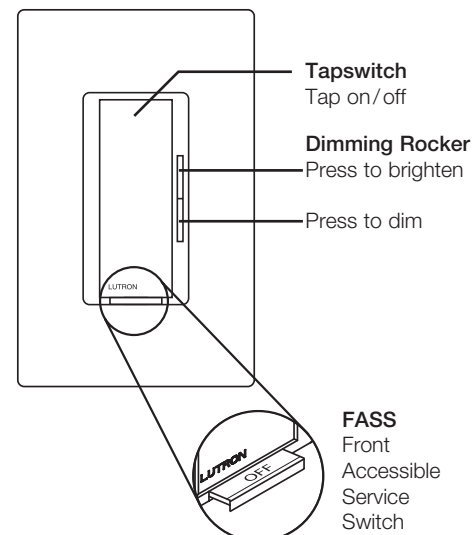
- Do not operate low-voltage circuits without operative lamps in place.
- Replace burned-out lamps as quickly as possible.
- Use transformers that incorporate thermal protection or fused transformer primary windings to prevent transformer failure due to overcurrent.

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-H1RLD RRD-H2RLD RRD-H3BSRL RRD-H3S RRD-H4S RRD-H5BRL RRD-H6BRL	✓	✓	✓	✓

RadioRA 2 Hybrid Keypads

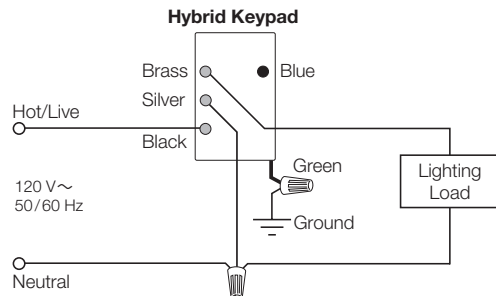
Operation*Hybrid Keypad**Remote Dimmer***IMPORTANT NOTICE:****FASS – Front Accessible Service Switch**

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.

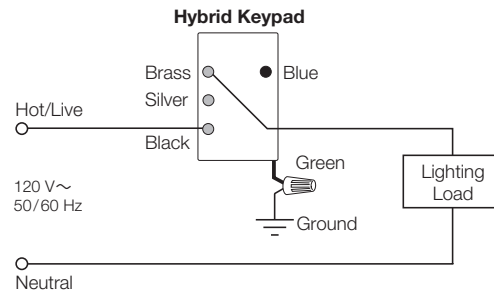
RadioRA 2 Hybrid Keypads

Wiring Diagrams

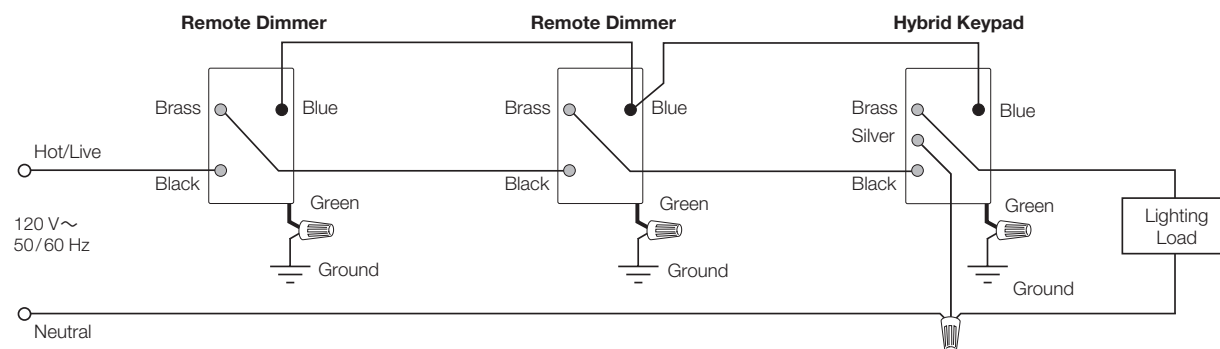
Single Location Installation with Neutral¹



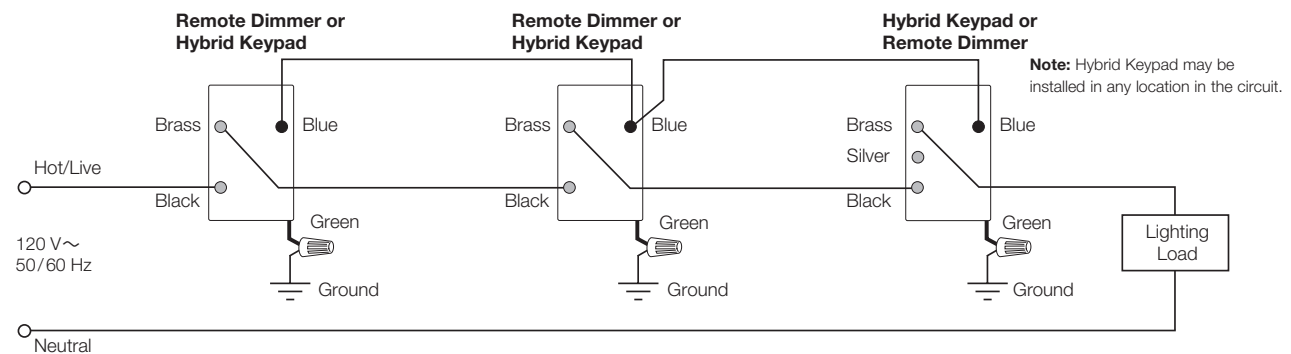
Single Location Installation without Neutral^{1,2}



Multi-Location Installation with Neutral^{3,4}



Multi-Location Installation without Neutral^{2,3}



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 In installations without a neutral wire connection, tighten the silver terminal without any wires attached. DO NOT connect the silver terminal to any other wiring or to ground.

³ Up to 9 Remote Dimmers may be connected to the Hybrid Keypad. Total blue terminal wire length may be up to 250 ft (76 m).

⁴ Neutral wire Hybrid Keypads must be connected on the load side of a multi-location installation.

RadioRA 2 Hybrid Keypads

Colors and Finishes

Gloss Finishes



White
WH



Ivory
IV



Almond
AL



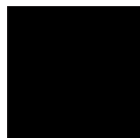
Light
Almond
LA



Gray
GR



Brown
BR



Black
BL

Satin Finishes



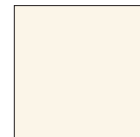
Snow
SW



Midnight
MN



Taupe
TP



Biscuit
BI



Eggshell
ES



Palladium
PD



Hot
HT



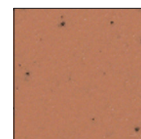
Merlot
MR



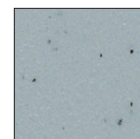
Plum
PL



Sienna
SI



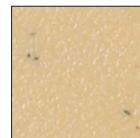
Terracotta
TC



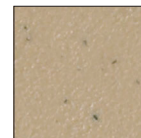
Bluestone
BG



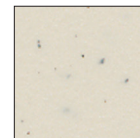
Greenbriar
GB



Goldstone
GS



Mocha
Stone
MS



Stone
ST

- Due to printing limitations, colors and finishes shown cannot be guaranteed to perfectly match actual product colors.

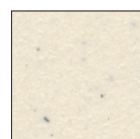
- Color chip keychains are available for more precise color matching:

Gloss Finishes- DG-CK-1

Satin Finishes - SC-CK-1



Desert Stone
DS



Limestone
LS

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).