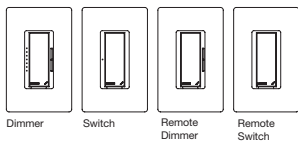


Installation Instructions

Please Read Before Installing



Use these instructions to install the model numbers listed above.

Load Specifications:

Control	Load Type	Min. Load	Max. Load
-6D ¹	Incand.	50 W	600 W
	MLV ²	50 W/VA	450 W/ 600 VA
-6NA ^{1, 2, 3}	Incand./ELV ²	5 W	600 W
	MLV ²	5 W/VA	450 W/ 600 VA
-6ND ^{1, 2, 3}	Incand.	10 W	600 W
	MLV ²	10 W/VA	450 W/ 600 VA
-6NE ²	MLV ²	5 W/VA	450 W/ 600 VA
	Incand.	50 W	1000 W
-10D ^{1, 3}	MLV ²	50 W/VA	800 W/ 1000 VA
	Incand.	10 W	1000 W
-10ND ¹	MLV ²	10 W/VA	800 W/ 1000 VA
	Lighting	10 W/VA	8 A
-8ANS ^{3, 4}	Motor	0.08 A	1/4 HP 5.8 A
	See Dimmer		8.3 A
-RD	See Dimmer		8.3 A
-RS	See Switch		8.3 A

1 Dimmer Load Type: -6D, -6ND, -10D and -10ND are designed for use with permanently installed incandescent, magnetic low-voltage, or tungsten halogen only.

-6NA 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.

2 Low-Voltage Applications: Use -6D, -6ND, -10D and -10ND with magnetic (core and coil) low-voltage transformers only. Not for use with electronic (solid-state) low-voltage transformers.

Use -6NA with electronic (solid-state) or magnetic (core and coil) transformers.

Use -6NE with electronic (solid-state) transformers only. 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 Power Boosters/Load Interfaces: -6NA, -6ND, -6NE, -10ND, -8ANS, can control the following power boosters/load interfaces: Phase-adaptive Power Modules (PHPM-PA-120-WH and PHPM-PA-DV-WH), Switched Power Modules (PHPM-SW-DV-WH), and 0-10 V (GRX-TV). Neutral wire must be connected when used with power boosters.

4 Switch Load Type: -8ANS is designed for use with permanently installed incandescent, magnetic low-voltage, electronic low-voltage, or fluorescent loads and with motor loads up to 1/4 HP (5.8 A).

*Typical Power Consumption test conditions:

Dimmer: load is off, nightlight mode enabled.

Switch: load is off, nightlight mode enabled.

Remote Dimmer / Switch: load is off.

Technical Assistance:

U.S.A./Canada: 1.800.523.9466

Mexico: +1.888.235.2910

Other Countries: +1.610.282.3800

24 hours a day, 7 days a week.

Lutron Electronics Co., Inc.
7200 Suter Road
Coopersburg, PA 18036-1299
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Designer-Style RF Maestro®

Dimmers: HQRD-6D, -6NA, -6ND, -6NE, -10D, -10ND

Switch: HQRD-8ANS

Typical Power Consumption*: 0.2 W

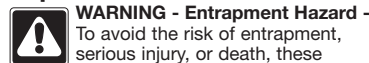
Remote Dimmer: HQD-RD

Remote Switch: HQD-RS

Typical Power Consumption*: 0 W

120 V ~ 50/60 Hz

Important Notes



WARNING - Entrapment Hazard - To avoid the risk of entrapment, serious injury, or death, these controls must not be used to control equipment which is not visible from every control location or which could create hazardous situations such as entrapment if operated accidentally. Examples of such equipment which must not be operated by these controls include (but are not limited to) motorized gates, garage doors, industrial doors, microwave ovens, heating pads, etc. It is the installer's responsibility to ensure that the equipment being controlled is visible from every control location and that only suitable equipment is connected to these controls. Failure to do so could result in serious injury or death.

Codes: Install in accordance with all local and national electrical codes.

Grounding: When no "grounding means" exist within the wallbox, then the NEC® 2008, Article 404.9 allows a dimmer without a grounding connection to be installed as a replacement, as long as a plastic, noncombustible wallplate is used. For this type of installation, cap or remove the green ground wire on the dimmer and use an appropriate wallplate such as Lutron® Claro® or Satin Colors® wallplates.

Neutral Wire: -6NA, -6ND, -6NE, -10ND and -8ANS require a neutral wire connection in the wallbox where the Dimmer/Switch is to be installed. If a neutral wire connection is not available in the wallbox, contact a licensed electrician for installation.

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

Spacing: If mounting one control above another, leave at least 4 1/2 in (114 mm) vertical space between them.

Wallplates: Lutron® Claro® and Satin Colors® wallplates are recommended for best color match and aesthetic appearance. Do not paint controls or wallplates.

Cleaning: To clean, wipe with a clean damp cloth. **DO NOT** use any chemical cleaning solutions.

Wallboxes: Lutron recommends using 3 1/2 in (89 mm) deep wallboxes for easier installation. Several controls may be installed in one multigang wallbox. See **Derating Chart**.

Remote Dimmers/Switches: Use only Remote Dimmers (HQD-RD) with -6D, -6NA, -6ND, -6NE, -10D, and -10ND controls. Use only Remote Switches (HQD-RS) with -8ANS controls. Up to 9 -RD or -RS controls may be used with Dimmers or Switches. Mechanical 3- or 4-way switches will not work.

RF Device Placement: RF devices must be located within 30 ft (9 m) of an RF signal repeater. Remote dimmers/switches are not required to be within a specific range of a repeater.

System Programming: Programming and activation (addressing) must be accomplished through the HomeWorks QS software.

Multigang Installations

In multigang installations, several controls are grouped horizontally in one multigang wallbox.

When combining controls in a wallbox, derating is required; however, no derating is required for Remote Dimmers/Switches.

Derating Chart

Control	Load Type	End of Gang	Middle of Gang
-6D, -6ND	Incand.	500 W	400 W
	MLV	400 W/ 500 VA	300 W/ 400 VA
-6NA	Incand./ELV	500 W	400 W
	MLV	400 W/ 500 VA	300 W/ 400 VA
-6NE	ELV	500 W	400 W
-10D, -10ND	Incand.	800 W	650 W
	MLV	600 W/ 800 VA	500 W/ 650 VA
-8ANS	Lighting	6.5 A	5 A
	Motor	1/4 HP 5.8 A	1/6 HP 4.4 A

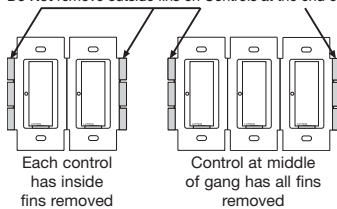
Note: -8ANS controls have fins that need to be removed for multigang installations. -6D, -6NA, -6ND, -6NE, -10D, -10ND, -RD and -RS controls do not have fins that need to be removed for multigang installations.

Removing Fins on -8ANS

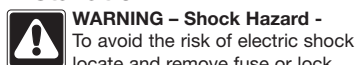


Control Location for Ganging

Do Not remove outside fins on Controls at the end of gang



Installation



WARNING - Shock Hazard - To avoid the risk of electric shock locate and remove fuse or lock circuit breaker in the OFF position before proceeding. Wiring with power ON could result in serious injury or death.

- Turn power OFF at fusebox or circuit breaker.
- Check the installation for short circuits before installing control(s). With power OFF, install standard mechanical switch(es) between Hot and load. Restore power. If lights do not work or a breaker trips, check wiring. Correct wiring and check again. Install control(s) only when short is no longer present. Warranty is void if control is turned ON with a shorted circuit.

3. Wire controls according to one of the following options:

- Terminals:** Trim or strip wallbox wires to the length indicated by the strip gauge on the back of the control.
 - **Push-In Terminals:** Use with 14 AWG (1.5 mm²) solid copper wire only. DO NOT use stranded or twisted wire.
- Wire Connectors:** Prepare wires. When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connector.
 - Note: Wire connector provided is suitable for copper wire only.*
 - Wire Connector:
 - Strip insulation 3/8 in (10 mm) for 14 AWG (1.5 mm²) or 12 AWG (2.5 mm²) wire
 - Strip insulation 7/16 in (11 mm) for 18 AWG (0.75 mm²) wire
 - Use to join one or two 14 AWG (1.5 mm²) or 12 AWG (2.5 mm²) wires with one 18 AWG (0.75 mm²) ground wire.

OR

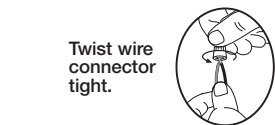


- **Screw Terminals:** use with 12 AWG (2.5 mm²) or 14 AWG (1.5 mm²) solid copper wire only. DO NOT use stranded or twisted wire.

- Wire Connectors:** Prepare wires. When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connector.

Note: Wire connector provided is suitable for copper wire only.

- Wire Connector:
- Strip insulation 3/8 in (10 mm) for 14 AWG (1.5 mm²) or 12 AWG (2.5 mm²) wire
 - Strip insulation 7/16 in (11 mm) for 18 AWG (0.75 mm²) wire
 - Use to join one or two 14 AWG (1.5 mm²) or 12 AWG (2.5 mm²) wires with one 18 AWG (0.75 mm²) ground wire.



For installations WITHOUT a neutral wire: See **Wiring Diagram 1** or **3**.

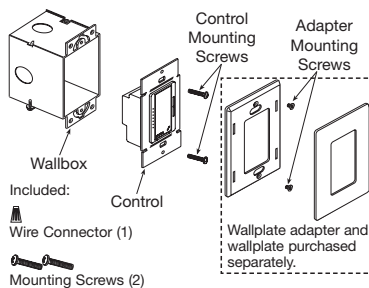
For installations WITH a neutral wire: See **Wiring Diagrams 2** or **4**.

Note: If a neutral wire connection is available, connect it to the silver terminal.

- Push all wires back into the wallbox and loosely fasten the control to the wallbox using the control mounting screws provided. Do not pinch the wires.
- Attach the Lutron Claro or Satin Colors wallplate adapter and wallplate.

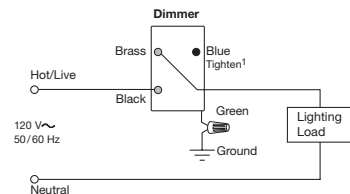
- Install wallplate adapter onto front of control(s).
 - Tighten control mounting screws until wallplate adapter is flush to wall (do not over-tighten).
 - Snap wallplate onto wallplate adapter, and verify that control is aligned properly.
 - If controls are misaligned, loosen mounting screws appropriately.
- Restore power. Verify correct local operation (see **Dimmer Operation** and **Switch Operation**).

Mounting Diagram



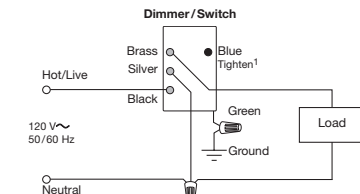
Wiring Diagram 1

Single Location Installation without Neutral¹ -6D and -10D



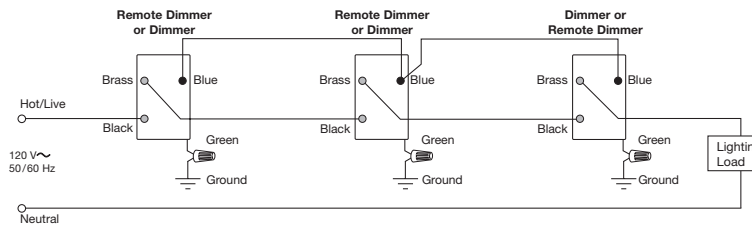
Wiring Diagram 2

Single Location Installation with Neutral¹ -6NA, -6ND, -6NE, -10ND, and -8ANS



Wiring Diagram 3

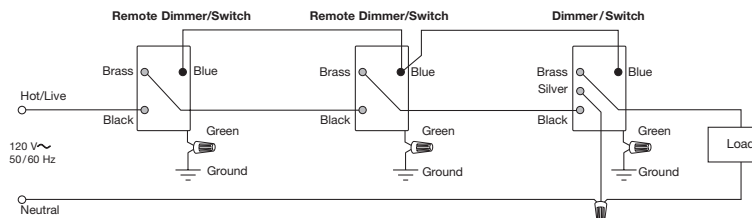
Multi-Location Installation without Neutral² -6D and -10D with HQD-RD



Wiring Diagram 4

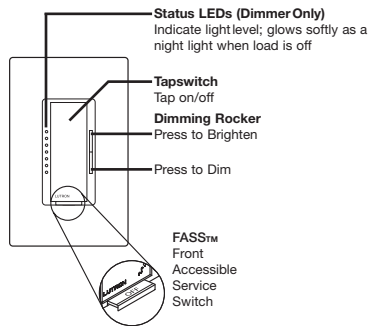
Multi-Location Installation with Neutral² -6NA, -6ND, -6NE, and -10ND with HQD-RD, and -8ANS with HQD-RS

Note: Neutral wire Dimmers/Switches must be connected on the Load side of a multi-location installation

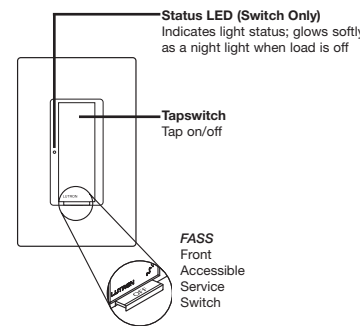


- When using controls in single location installations, tighten the blue terminal without any wires attached. DO NOT connect the blue terminal to any other wiring or to ground.
- Up to 9 Remote Dimmers/Switches may be connected to a Dimmer/Switch. Total blue terminal wire length may be up to 250 ft (76 m).

Dimmer Operation



Switch Operation



Lamp Replacement

WARNING - Shock Hazard - For any procedure other than routine lamp replacement, power must be disconnected at the main electrical panel. Working with power ON could result in serious injury or even death.

For your safety during routine lamp replacement, remove power from the fixture(s) by pulling the FASS switch out on both the Dimmer/Switch and all Remote Dimmers/Switches.

Troubleshooting Guide

Symptom	Probable Cause and Action
Lights don't switch ON/OFF when Tapswitch on Dimmer/Switch/Remote is pressed	<p>Power not present</p> <ul style="list-style-type: none"> • Circuit breaker OFF or tripped. Perform short circuit check. • FASS is in the OFF position. Move FASS to the ON position by fully pushing it in. Check both the dimmer/switch and all of the remote dimmers/switches. See Lamp Replacement. <p>Wiring</p> <ul style="list-style-type: none"> • Wires shorted. Make sure the blue terminal is not grounded or shorted to any other wires. • Wiring error. Check wiring to be sure it agrees with installation instructions and wiring diagrams. • Increase load to meet the appropriate minimum load requirement. See Load Specifications. • Neutral wire connection may be required for proper operation. <p>Lamps burned out or not installed</p> <ul style="list-style-type: none"> • Replace or install lamps. <p>Diode lamps</p> <ul style="list-style-type: none"> • If diode lamps are being used, replace with non-diode lamps.
Light turns ON and OFF continuously or lights turn ON when Tapswitch is pressed, then turn OFF	<p>Load is less than minimum load requirement</p> <ul style="list-style-type: none"> • Make sure the connected load meets the appropriate minimum load requirement for that control. See Load Specifications.
Lights don't turn ON/OFF from a Keypad	<p>Verify other lights or system devices respond to that keypad.</p> <ul style="list-style-type: none"> • If not, the issue may not be with the dimmer/switch but may be the keypad or system. <p>Device is not communicating with the system.</p> <ul style="list-style-type: none"> • Device is out of range of an RF signal repeater. • The device is in the Factory Default Settings mode and has not been activated into the system. Use the HomeWorks QS software to verify activation or reactivate the device and transfer its database. <p>Device is not properly programmed</p> <ul style="list-style-type: none"> • Program the device using the HomeWorks QS software.
Wallplate is warm	<p>Solid-state control dissipation</p> <ul style="list-style-type: none"> • Solid-state dimmers and switches internally dissipate about 2% of the total connected load. It is normal for dimmers and switches to feel warm to the touch during operation.

Returning Dimmers/Switches to Factory Settings

Note: Returning a dimmer/switch to its factory settings will remove it from the system and erase all programming from it.

Step 1 : Triple tap the tapswitch on a dimmer/switch. DO NOT release after the third tap.

Step 2 : Keep the tapswitch pressed on the third tap (for approximately 3 seconds) until the LEDs on the dimmer start to scroll up and down quickly, or the LED on the switch flashes quickly

Step 3 : Release the tapswitch and immediately triple tap the tapswitch again. The LEDs on the dimmer will scroll up and down slowly. The LED on the switch will flash slowly.

The dimmer/switch has now been returned to factory settings and needs to be reprogrammed into a system.

Warranty: For warranty information, please see the enclosed Warranty, or visit www.lutron.com/resiinfo