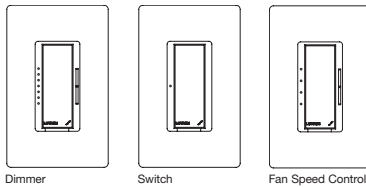


Installation Instructions

Please Read Before Installing



Load Specifications:

Control	Load Type	Min. Load	Max. Load
HRD-6D ¹	Incand.	50 W	600 W
	MLV ²	50 W/VA	450 W / 600 VA
HRD-10D ¹	Incand.	50 W	1000 W
	MLV ²	50 W/VA	800 W / 1000 VA
HRD-6ND ¹	Incand.	10 W	600 W
	MLV ²	10 W/VA	450 W / 600 VA
HRD-10ND ¹	Incand.	10 W	1000 W
	MLV ²	10 W/VA	800 W / 1000 VA
HRD-8ANS ³	Lighting	10 W/VA	8 A
	Motor	0.083 A	1/4 HP 5.8 A
HRD-2ANF ⁴	Ceiling Fan	0.083 A	2 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. 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. To control electronic low-voltage transformers, use the HRD-5NE control.

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 Switch Load Type: -8ANS is designed for use with all permanently installed lighting loads and with motor loads up to 1/4 HP (5.8 A).

4 Ceiling Fan Application (HRD-2ANF):

- DO:**
- Use to control one paddle-type ceiling fan (permanent split-capacitor)*.
 - Use the ceiling fan's pull chain to set its speed to the highest setting*.

DO NOT:

- Do not use to control fans that use shaded-pole motors (i.e. bath exhaust fans)*.
- Do not use to control fans that have integrated fan speed controls (i.e. fans that have a remote control), unless the integrated control is removed from the ceiling fan*.
- Do not connect to any other motor-operated appliance or to any lighting load type.
- Do not use to control a fan lighting load (i.e. light kit).

Designer-Style RF Maestro

Dimmers
HRD-6D, HRD-6ND, HRD-10D, HRD-10ND
Switch
HRD-8ANS
Fan Speed Control
HRD-2ANF
120 V~ 50/60 Hz

Important Notes

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

WARNING - These controls must not be used to control equipment which is not visible from every control location. They must also not be used to control equipment 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.

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.

Remotes: Use only Lutron HomeWorks Maestro Remote Dimmers (HD-RD) with -6D, -6ND, -10D, -10ND, and -2ANF controls. Use only Lutron HomeWorks Maestro Remote Switches (HD-RS) with -8ANS controls. Up to 9 HD-RD or HD-RS controls may be used with a HomeWorks RF Maestro Dimmer, Switch, or Fan Speed Control. Mechanical 3- or 4-way switches will not work.

RF Device Placement: RF Dimmers, Switches, and Fan Speed Controls must be located within 30 feet (9 m) of an RF Signal Repeater or an RF Processor. Remote Dimmers and Switches are not required to be within a specific range of a repeater or processor.

RF Dimmers, Switches or Fan Speed Controls cannot be controlled by the system until they are addressed and programmed. See the HomeWorks Software online help.

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 Fan Speed Controls or Remotes.

Derating Chart

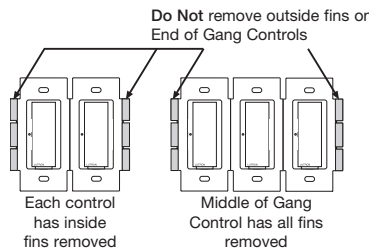
Control	Load Type	End of Gang	Middle of Gang
HRD-6D, HRD-6ND	Incand.	500 W	400 W
	MLV	400 W / 500 VA	300 W / 400 VA
HRD-10D, HRD-10ND	Incand.	800 W	650 W
	MLV	600 W / 800 VA	500 W / 650 VA
HRD-8ANS	Lighting	6.5 A	5 A
	Motor	5.8 A	5 A
HRD-2ANF	Ceiling Fan	2 A	2 A

Note: -8ANS controls have fins that need to be removed for multigang installations. -6D, -6ND, -10D, -10ND, and -2ANF controls do not have fins that need to be removed for multigang installations.

Removing Fins



Control Location for Ganging



Installation

WARNING - Locate and remove fuse or lock circuit breaker in the OFF position before proceeding. Wiring with power ON may result in personal injury or death.

Short Circuit Check: 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 or fan 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.

1. Turn power OFF at fusebox or circuit breaker.

2. Prepare wires. When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connector. Note: Wire connectors provided are suitable for copper wire only.

Wire Connector:

- Strip insulation 3/8 in. (9.5 mm) for 14 AWG (1.5 mm²) wire
- Strip insulation 1/2 in. (12.7 mm) for 16 or 18 AWG (1.0 mm² or 0.75 mm²) wire
- Use to join one 14 AWG (1.5 mm²) or 12 AWG (2.5 mm²) ground wire with one 18 AWG (0.75 mm²) control ground wire.



Twist wire connector tight.

Trim or strip wallbox wires to the length indicated by the strip gauge on the back of the control.

Push-In Terminals: Insert wires fully. Push-in terminals are for use with 14 AWG (1.5 mm²) solid copper wire only. DO NOT use stranded or twisted wire.



OR

Screw Terminals: Tighten securely to 5 in-lbs (0.55 N-m). Screw terminals are for use with solid copper wire only. DO NOT use stranded or twisted wire.



3. Wire controls as follows:

Single location installation: See Wiring Diagrams 1 and 2.

Multi-location installation: See Wiring Diagrams 3 and 4.

Power Booster and Interfaces: When using power boosters or interfaces, see Wiring Diagrams in the HomeWorks Technical Reference Guide (P/N 366-963).

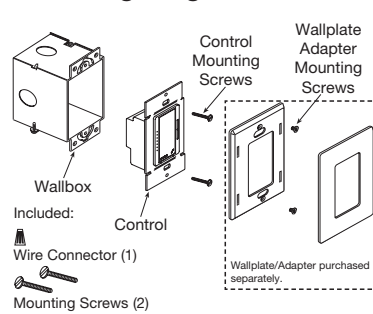
4. Push all wires back into the wallbox and loosely fasten the control to the wallbox using the control mounting screws provided. Do not pinch the wires.

5. Attach 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 control(s) is(are) misaligned, loosen mounting screws appropriately.

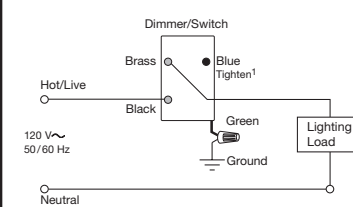
6. Restore power. Check for correct local operation (see Dimmer/Fan Operation and Switch Operation).

Mounting Diagram



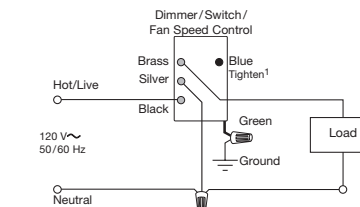
Wiring Diagram 1

Single Location Installation
-6D, -10D



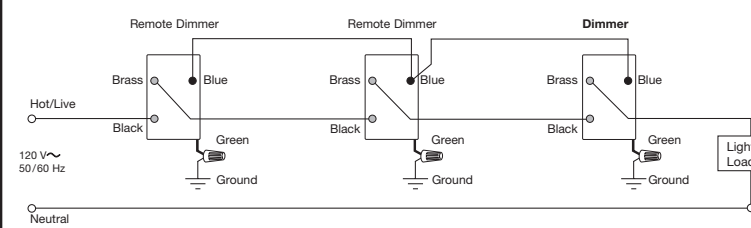
Wiring Diagram 2

Single Location Installation with Neutral
-6ND, -10ND, -2ANF, -8ANS



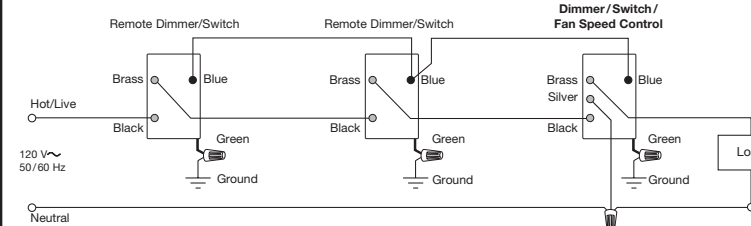
Wiring Diagram 3

Multi-Location Installation²
-6D, -10D with HD-RD



Wiring Diagram 4

Multi-Location Installation with Neutral^{2,3}
-6ND, -10ND, -2ANF with HD-RD, -8ANS with HD-RS



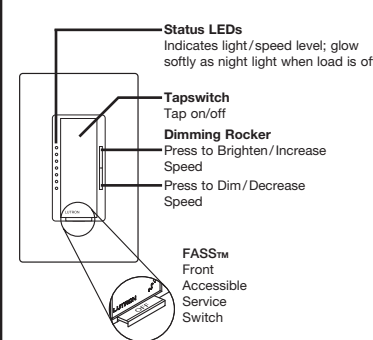
1 When using controls in single location installations, tighten the blue terminal.

DO NOT connect the blue terminal to any other wiring or to ground.

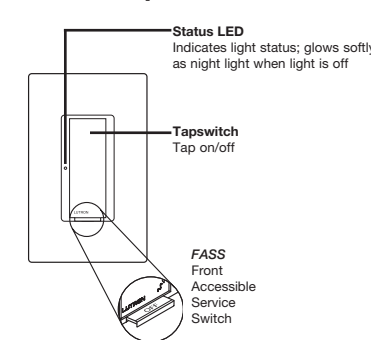
2 Up to 9 HomeWorks Maestro Remote Dimmers/Switches may be connected to the HomeWorks RF Maestro Dimmer/Switch/Fan Speed Control. Total blue terminal wire length may be up to 250 ft. (76 m).

3 Neutral wire Dimmers/Switches/Fan Speed Controls must be connected on the Load side of a multi-location installation.

Dimmer/Fan Operation



Switch Operation



Lamp Replacement

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

For 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	Cause and Action
No lights at all or no fan response	<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/Fan Control/Switch and all of the Remote Dimmers/Switches. <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. <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. <p>Fan setting</p> <ul style="list-style-type: none"> Make sure the fan is set to its highest speed using the pull-chain. <p>Fan Speed Control Wrong Load Type</p> <ul style="list-style-type: none"> Make sure that only a single ceiling paddle fan (permanent split-capacitor motor) rated at 2 A or less is connected to the control. Make sure that no lighting load (i.e. light kit) is connected to the control.
Lights/fan turn ON when Tapswitch is pressed, then turn OFF	<p>Wiring</p> <ul style="list-style-type: none"> Wiring error. Check wiring to be sure it agrees with installation instructions and wiring diagrams. <p>Tapswitch stuck</p> <ul style="list-style-type: none"> Tapswitch stuck at another location. Check to see that tapswitches are not sticking for all control locations in the circuit.
Light turns ON and OFF continuously	<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/fan don't switch ON/OFF when Tapswitch on Dimmer/Switch/Fan Speed Control/Remote is pressed	<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. Neutral-based product installation location. Check that neutral-based products are connected on the load side of a multi-location installation (see Wiring Diagram 4).
Lights/fan don't switch ON/OFF from Keypad	<p>Improper programming</p> <ul style="list-style-type: none"> Check programming in the HomeWorks software. <p>Out of RF range</p> <ul style="list-style-type: none"> Reposition RF Signal Repeater or RF Processor to be within 30 feet (9 m) of control. <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.
Wallplate is warm	<p>Solid-state control dissipation</p> <ul style="list-style-type: none"> Solid-state dimmers, switches, and fan controls internally dissipate about 2% of the total connected load. It is normal for dimmers, switches, and fan controls to feel warm to the touch during operation.
Control is buzzing or humming	<p>It is normal for dimmers, switches, and fan controls to emit a slight buzzing or humming sound.</p>

* **Note:** Refer to Application Note # 217 — "HomeWorks Maestro Controls Reference Guide" for advanced features of the HomeWorks Maestro controls.

Warranty: For Warranty information, please see the Warranty enclosed with the product, or visit www.lutron.com/resinfo.

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