HOMEWORKS Designer RF Maestro Local Controls Instructions

product specifications
369305i

Contents [hide

HomeWorks Designer RF Maestro Local Controls

				
Dimmer	Switch	Fan Speed	Remote Dimmer	Remote Switch

HomeWorks RF Maestro local controls function much like standard dimmers and switches but can be controlled as part of a lighting control system. Local lighting controls are useful in locations where single circuits of lighting need to be dimmed or switched. Local fan speed controls are useful in locations where control of a single ceiling paddle fan is needed.
HomeWorks RF Maestro dimmers incorporate advanced features such as fade on / fade off, delayed long fade to off, and rapid full-on.
HomeWorks RF Maestro local controls include a Front Accessible Service Switch (FASS) for safe lamp replacement. HomeWorks RF Maestro local controls install in single-pole or multi-location applications. Remote dimmers/switches are available for multilocation control. Use Lutron Designer (Claro or Satin Colors) wallplates or designer-style wallplates from other manufacturers. Wallplates are sold separately. Lutron Claro and Satin Colors wallplates snap on with no visible means of attachment. HomeWorks RF Maestro local controls support color change kits.

Model Numbers

Dimmers	
HQRD-6CL-XX HQRD-6D-XX HQRD-6ND-XX HQRD-10D-XX HQRD-10ND-XX HQRD-6NA-XX HQRD-F6AN-DV-XX HQRD-PRO-XX	600 W / VA (Incandescent / Halogen / MLV) or 150 W (CFL / LED) Two-Wire Dimmer* 600 W Two-Wire Dimmer 600 W Neutral Wire Dimmer 1000 W Two-Wire Dimmer 1000 W Neutral Wire Dimmer 600 W Neutral Phase Adaptive Dimmer 6 A Fluorescent / LED 3-Wire Dimmer 250 W (CFL / LED) or 500 W / VA Incandescent / Halogen / ELV or 400 VA MLVPhase Selectable, Neutral Optional dimmer*
Switches	
HQRD-8ANS-XX HQRD-8S-DV-XX	Neutral Wire Electronic Switch Two-Wire Electronic Switch
Neutral Wire Electronic Switch Two-Wire Electronic Switch	
HQRD-2ANF-XX	2 A Fan Speed Control
Remotes (for multi-location installations)	
HQD-RD-XX HQD-RS-XX HQD-RD-277-XX HQD-RS-277-XX	Remote Dimmer (120 V~) Remote Switch (120 V~) Remote Dimmer (277 V~) (for use with -F6AN-DV only) Remote Switch (277 V~) (for use with -8S-DV only)
Color Change Kits	
RK-D-XX RK-S-XX RK-AD-XX RK-AS-XX RK-F-XX	Dimmers (-6CL, -6D, -10D, -10ND, -6NA, -PRO, -F6AN-DV) Switches (-8ANS and -8S-DV) Remote Dimmer (-RD) Remote Switch (-RS) Fan Speed Control (-2ANF)

* Go to www.lutron.com/ledfinder to see all compatible CFL / LED lamps.
Note: “XX” in the model number represents color/finish code. See **Colors and Finishes** at end of the document.

Specifications

Model Numbers	Dimmer: HQRD-6CL, HQRD-6D, HQRD-6ND, HQRD-10D, HQRD-10ND, HQRD-6NA, HQRD-F6AN-DV, HQRD-PRO Switch: HQRD-8ANS, HQRD-8S-DV Fan Speed Control: HQRD-2ANF Remote: HQD-RD, HQD-RS, HQD-RD-277, HQD-RS-277 Color Change Kits: RK-D, RK-S, RK-AD, RK-AS
Power	120 V~ 50 / 60 Hz: -6CL,-6D, -10D, -10ND, -6NA, -2ANF, -8ANS, -RD, -PRO, -RS 120 – 277 V~ 50 / 60 Hz: -F6AN-DV, -8S-DV
Typical Power Consumption	Dimmer / Switch / Fan Speed Control: 0.6 W Test conditions: load is off and nightlight mode is enabled. Remote Dimmer / Switch: 0 W Test conditions: load is off.
Regulatory Approvals	UL, CSA (all except -6CL, -6NA and -PRO), cUL (-6CL, -6NA, -PRO only), NOM, FCC, IC, COFETEL, ANATEL (all except -6NA, -6CL, and remotes)
Environment	Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C), 0% to 90% humidity, non-condensing. Indoor use only.
Communications	Dimmers and switches communicate with the HomeWorks system through Radio Frequency (RF) and must be located within 30 ft (9 m) of a repeater. Remote dimmers/switches are not required to be within a specific range of a repeater.
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.
RTISS Equipped	Circuitry compensates in real-time for incoming line-voltage variations (neutral connection required). -PRO only.
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.
Wiring	Use only remote dimmers (-RD / -RD-277) and remote switches (-RS / -RS-277) with dimmers / switches / fan speed controls. Up to 9 -RD / -RD-277 or -RS / -RS-277 may be used with controls.
Warranty	warranty [PDF]

Design Features

Dimmer

- On a single tap, lights fade ON or OFF.
- On a double-tap, lights go to full ON.
- When ON, press and hold the tap switch to engage the delayed long fade to OFF.
- Light levels can be fine-tuned by pressing and holding the dimming rocker until the desired light level is reached.
- Neutral and two-wire dimmers available.

Switch

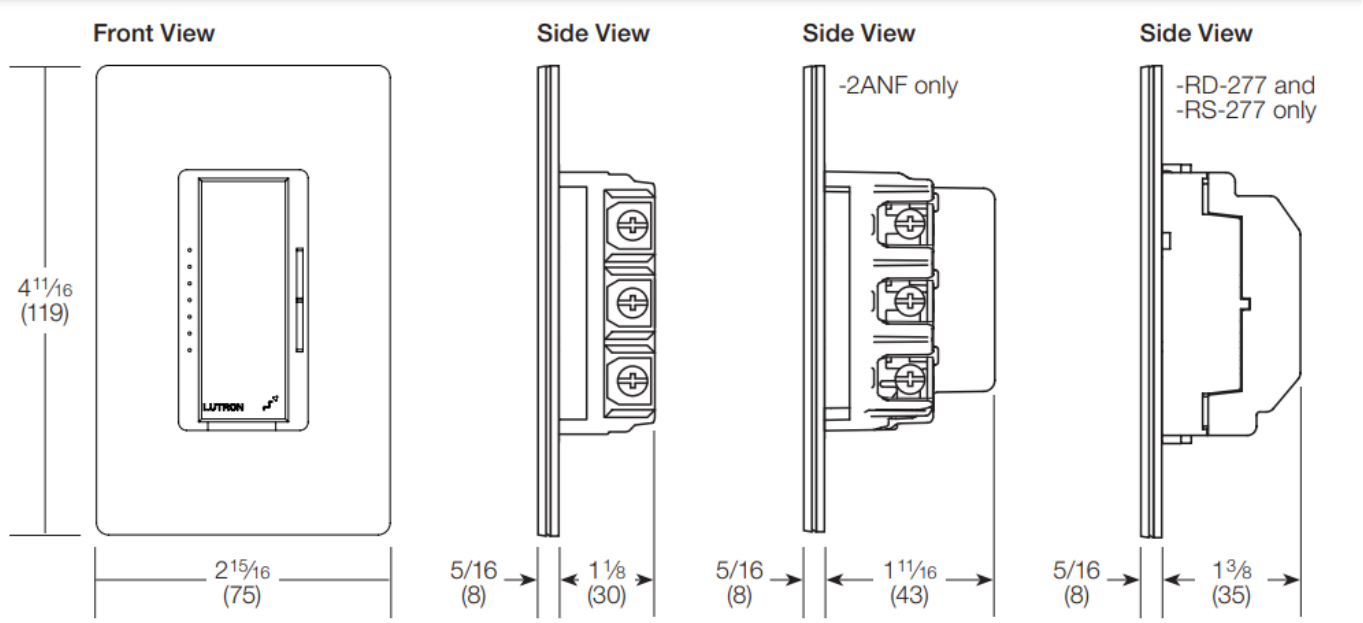
- On a single tap, lights or motors turn ON or O F F.
- Neutral and two-wire switches available.

Fan Speed Control

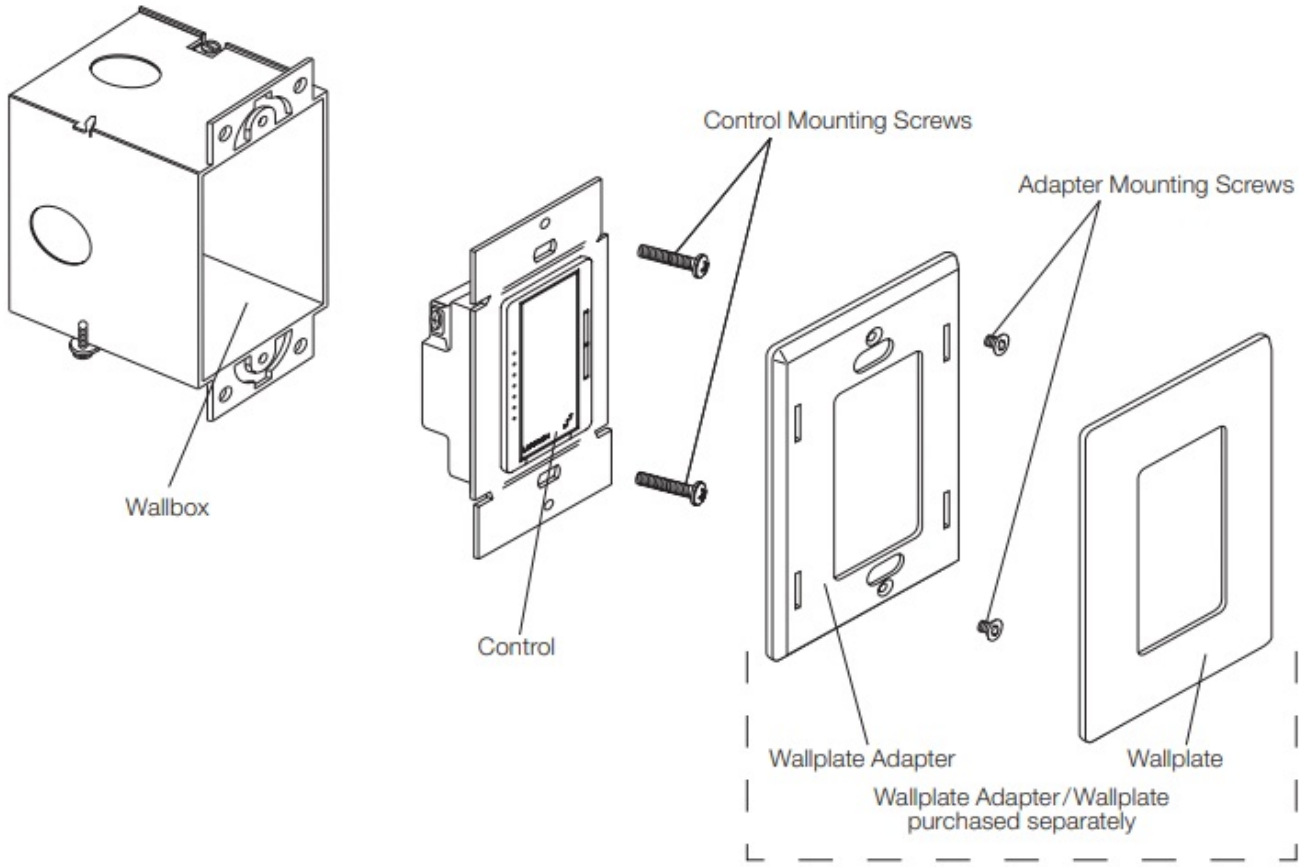
- On a single tap, the fan turns ON or OFF.
- Fan speeds can be selected by pressing and holding the fan speed control rocker until the desired fan speed is reached.
- Controls one paddle-type ceiling fan (Permanent split-capacitor motor) up to 2 A. Not for use with shaded-pole type motors (e.g., bath exhaust fans).
- Provides 4 quiet speeds plus OFF.
- Not for use with fans that have integrated fan speed and/or light control modules.
- Requires a neutral connection.

Dimensions

All dimensions are shown as in (mm)



Mounting and Parts Identification



Ganging and Derating

When combining controls in the same wall box, derating is required (see **Load Type and Capacity**). No derating is required for remote dimmers, remote switches, or fan speed controls.

Load Type and Capacity

Load Type	Minimum Load	A Not Ganged	B End of Gang	C Middle of Gang	Neutral Connection
HQRD-6CL1					
Incandescent/Halogen/CFL/LED		***see Mixing Lamp Types, page 9***			No
MLV2,3		50 W/ VA	450 W/600 VA	400 W/500 VA	300 W/400 VA

HQRD-6D1					
Incandescent/Halogen	50 W	600 W	500 W	400 W	No
MLV2	50 W/ VA	450 W/600 VA	400 W/500 VA	300 W/400 VA	
HQRD-6NA1,4					
LED	Varies5	150 W	150 W	150 W	Yes
Incandescent/Halogen/ELV2	5 W	600 W	500 W	400 W	
MLV 2,3	5 W/ VA	450 W/600 VA	400 W/500 VA	300 W/400 VA	

HQRD-6ND1,4					
LED	Varies5	150 W	150 W	150 W	Yes
Incandescent/Halogen	10 W	600 W	500 W	400 W	
MLV 2,3	10 W/ VA	450 W/600 VA	400 W/500 VA	300 W/400 VA	

HQRD-10D1					
Incandescent/Halogen	50 W	1000 W	800 W	650 W	No
MLV2	50 W/ VA	800 W/1000 VA	600 W/800 VA	500 W/650 VA	

HQRD-10ND1,4					
LED	Varies5	150 W	150 W	150 W	Yes
Incandescent/Halogen	10 W	1000 W	800 W	650 W	
MLV2,3	10 W/ VA	800 W/1000 VA	600 W/800 VA	500 W/650 VA	

1. **Dimmer Load Type:**
   • -6D, -6ND,-10D, -10ND: designed for use with permanently installed incandescent, LED, magnetic low-voltage, or tungsten halogen only.
   • -6CL: designed for use with permanently installed incandescent, magnetic low-voltage, tungsten halogen, CFL, or LED only.
   • -6NA: designed for use with permanently installed incandescent, LED, electronic low-voltage, magnetic low-voltage, or tungsten halogen only.
   Note: Do not install dimmers to control receptacles or motor-operated appliances.
2. Low-Voltage Applications: -6CL, -6D, -6ND, -10D -10ND: use with magnetic (core and coil) low-voltage transformers only. Not for use with electronic (solid-state) low-voltage transformers.

Low-Voltage Applications: -6NA: use with electronic (solid-state) or magnetic (core and coil) 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:

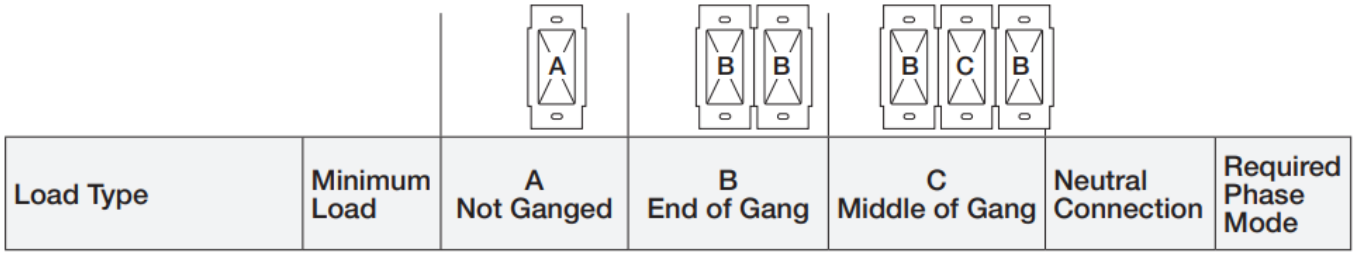
• Do not operate low-voltage circuits without operative lamps in place.

• Replace burned-out lamps as soon as possible.

• Use transformers that incorporate thermal protection or fused transformer primary windings to prevent transformer failure due to overcurrent.

3. Do not mix CFL or LED loads with MLV loads.
4. Power Boosters / Load Interfaces: -6NA, -6ND and -10ND can be used to control power boosters/load interfaces. For a list of compatible power boosters/load interfaces see Compatible Power Boosters and Load Interfaces, page 10.
5. Minimum load depends on the lamp and is not limited to a particular wattage. Refer to the LED Product Selection Tool at **www.lutron.com/ledtool**

Load Type and Capacity (continued)



Load Type	Minimum Load	A Not Ganged	B End of Gang	C Middle of Gang	Neutral Connection	Required Phase Mode

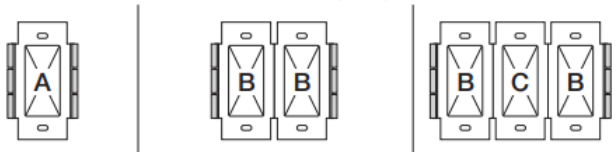
HQRD-PRO						
LED	1 bulb 2	250 W	200 W	150 W	Optional 1	Either
CFL	1 bulb 2	250 W	200 W	150 W	Optional 1	Forward
MLV Transformer with LEDs	See Application Note #559 (P/N 048559) at www.lutron.com No Derating Required				Required	Forward
ELV Transformer with LEDs						Reverse
MLV Transformer with Halogen	10 W	400 VA (300 W)	No Derating Required		Required	Forward
ELV Transformer with Halogen	10 W	500 W	400 W	300 W	Required	Reverse
Incandescent / Halogen	5 W 2	500 W	400 W	300 W	Optional 1	Either
Dimmable Fluorescent Ballast	1 ballast	3.3 A (400 VA)	No Derating Required		Required	Forward
Hi-lume 1% 2-wire (LTE) LED Driver	1 driver	3.3 A (400 W) 20 drivers max.	No Derating Required		Required	Forward
PHPM-PA / 3F and GRX-TVI 3	1 interface	3 interfaces	No Derating Required		Required	Forward

1. Neutral is recommended for best dimming performance, if available, but is not required for this load type.
2. The minimum load shown is for neutral connected operation. If no neutral is used, the minimum load is 2 bulbs LED/CFL, or 25 W Incandescent / Halogen.
3. Power Boosters / Load Interfaces: -HQRD-PRO can be used to control power boosters/load interfaces. For a list of compatible power boosters/load interfaces see Compatible Power Boosters and Load Interfaces, page 10.

Note: For dimming MLV fixtures, the maximum lamp wattage is typically 70%–85% of the transformer's VA rating. For actual transformer efficiency, contact the manufacturer. The total VA rating of the transformer(s) shall not exceed the VA rating of the dimmer.

Do not remove outside fins on ends of ganged controls (shaded areas below).

-8ANS, -8S-DV, -RD-277, and -RS-277 have fins that need to be removed for multigang installations.



Load Type	Minimum Load	A Not Ganged	B End of Gang	C Middle of Gang	Neutral Connection

HQRD-F6AN-DV 1,2,3					
Fluorescent/LED Drivers	0.05 A	6 A	5 A	3.5 A	Yes
	1 ballast	60 ballasts	50 ballasts	35 ballasts	

HQRD-2ANF4					
Ceiling Fan	0.083 A	2 A	2 A	2 A	Yes

HQRD-8ANS 1,5					
Lighting	10 W	8 A	6.5 A	5 A	Yes
Motor	0.08 A	1/4 HP 5.8 A	1/4 HP 5.8 A	1/6 HP 4.4 A	

HQRD-8S-DV5,6					
Lighting	40 W/ VA	8 A	8 A (2-gang); 7 A (3-gang)	7 A	No
Motor	0.4 A	1/10 HP 3 A			

Note: Do not install dimmers to control receptacles or motor-operated appliances.

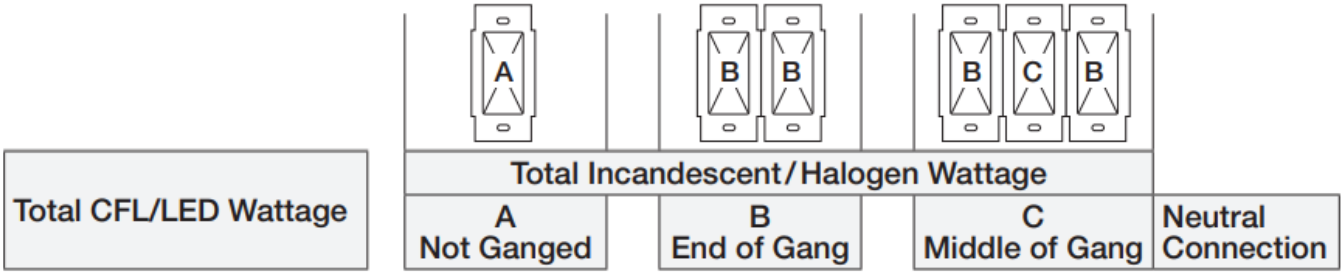
1. Power Boosters / Load Interfaces: -F6AN-DV and -8ANS can be used to control power boosters/load interfaces. For a list of compatible power boosters/load interfaces see Compatible Power Boosters and Load Interfaces, page 10.
2. Fluorescent Dimmer Load Type: -F6AN-DV: designed for use with permanently installed 3-wire 120 V~ or 277 V~ line voltage control fluorescent ballasts or LED drivers. Use with only Hi-lume, Hi-lume 3D, Hi-Lume Compact SE, Eco-10, or EcoSystem (H3D-, FDB-, ECO-,HL3-, EC5-, L3D). Do NOT use with any other ballasts or drivers. Do not install to control receptacles or motor-operated appliances.
3. Maximum Load: The maximum load for the -F6AN-DV is either the derated load or the number of ballasts, whichever is LESS.
4. Ceiling Fan Application: -2ANF
   • 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 use to control fans that use shaded-pole motors (e.g., bath exhaust fans).
   • Do not use to control fans that have integrated fan speed controls (e.g., 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 (e.g., light kit).

5. Switch Load Type:
   • -8ANS and -8S-DV: designed for use with permanently installed 120 V~ incandescent, magnetic low-voltage, electronic low-voltage, tungsten halogen, fluorescent, CFL, LED, or motor loads.
   • -8S-DV can also be used with permanently installed 277 V~ magnetic low-voltage or fluorescent loads.
6. Shunt Capacitor: Some -8S-DV installations may require the use of a shunt capacitor; this is especially necessary for load types sensitive to leakage current (e.g., fluorescent ballasts). If load flickers, install a shunt capacitor. An optional shunt capacitor must be installed inside the loading fixture or in a separate J-box. For shunt, capacitor installation see Wiring Diagram 4, 9, or 10.

Mixing Lamp Types

Mixing lamp types (using a combination of CFL / LED, and Incandescent / Halogen bulbs) and ganging with other dimmers or electronic switches may reduce maximum wattage as shown in the chart below.
Example: If you have two dimmers ganged together and you have two 24 W bulbs installed (total CFL Wattage = 48 W), on one dimmer, you may add up to 300 W of incandescent or halogen lighting to that one dimmer. Repeat the exercise for the other dimmer with which it is ganged.



HQRD-6CL1,2							
0 W	+	50 W – 600 W	Or	50 W – 500 W	Or	50 W – 400 W	No
1 W – 25 W	+	0 W – 500 W	Or	0 W – 400 W	Or	0 W – 300 W	
26 W – 50 W	+	0 W – 400 W	Or	0 W – 300 W	Or	0 W – 200 W	
51 W – 75 W	+	0 W – 300 W	Or	0 W – 200 W	Or	0 W – 100 W	
76 W – 100 W	+	0 W – 200 W	Or	0 W – 100 W	Or	0 W – 50 W	
101 W – 125 W	+	0 W – 100 W	Or	0 W – 50 W	Or	0 W	
126 W – 150 W	+	0 W	Or	0 W	Or	0 W	
HQRD-PRO3							
0 W	+	5 W3 – 500 W	Or	5 W3 – 400 W	Or	5 W3 – 300 W	Optional
1 W – 50 W	+	0 W – 400 W	Or	0 W – 300 W	Or	0 W – 200 W	
51 W – 100 W	+	0 W – 300 W	Or	0 W – 200 W	Or	0 W – 100 W	
101 W – 150 W	+	0 W – 200 W	Or	0 W – 100 W	Or	0 W	
151 W – 200 W	+	0 W – 100 W	Or	0 W	Or	0 W	
201 W – 250 W	+	0 W	Or	0 W	Or	0 W	

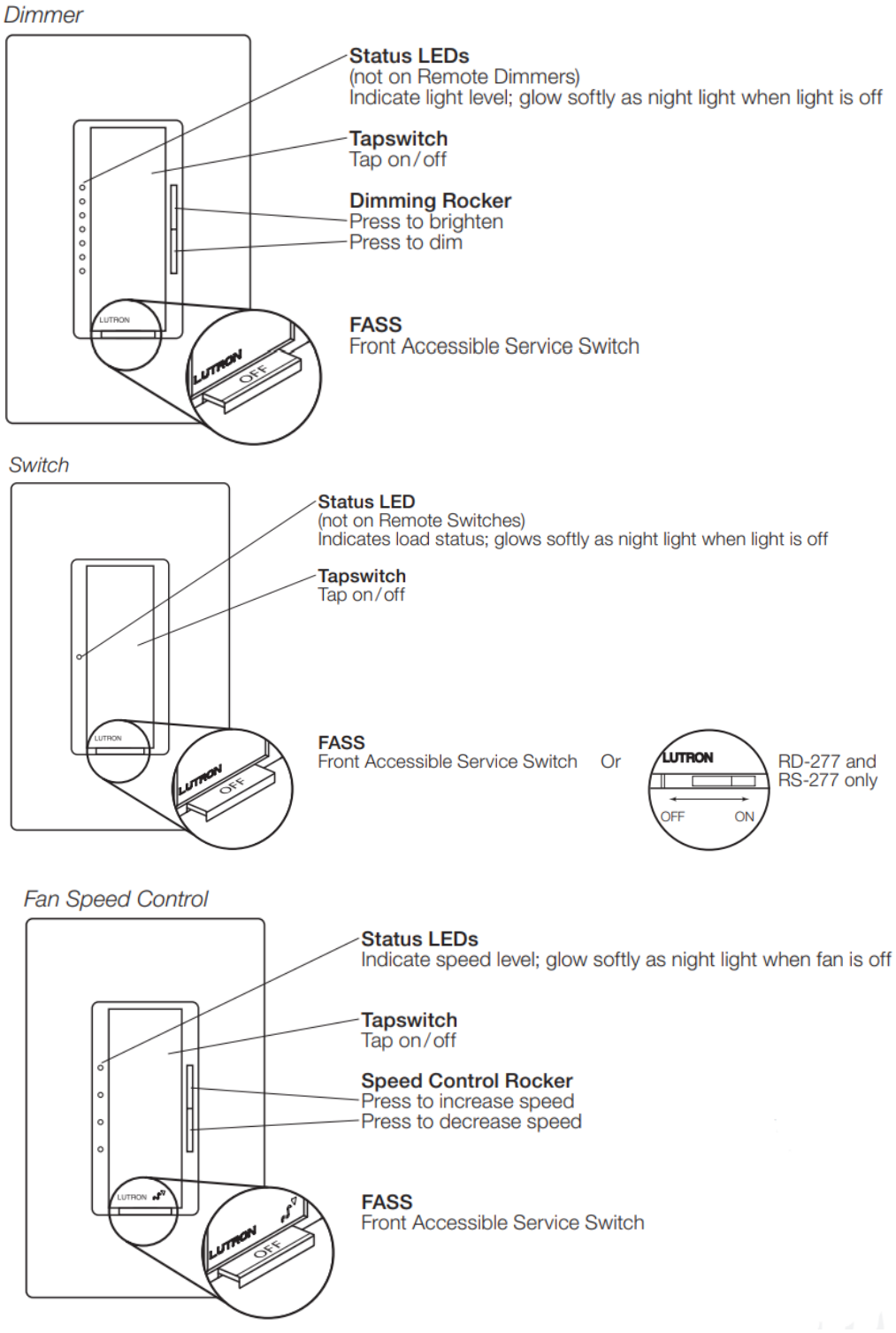
1. Dimmer Load Type -6CL is designed for use with permanently installed incandescent, CFL, LED, magnetic low-voltage, or tungsten
   halogen only. Do not install dimmers to control receptacles or motor-operated appliances.
2. Do not mix CFL and LED loads with MLV loads.
3. The minimum load shown is for neutral connected operation. If no neutral is used, the minimum load is 2 bulbs CFL / LED or 25 W Incandescent / Halogen.

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 controls and 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
HQRD-6ND	√	√		√
HQRD-10ND	√	√		√
HQRD-6NA	√	√		√
HQRD-F6AN-DV1	√	√		√
HQRD-8ANS			√	
HQRD-PRO	√	√		√

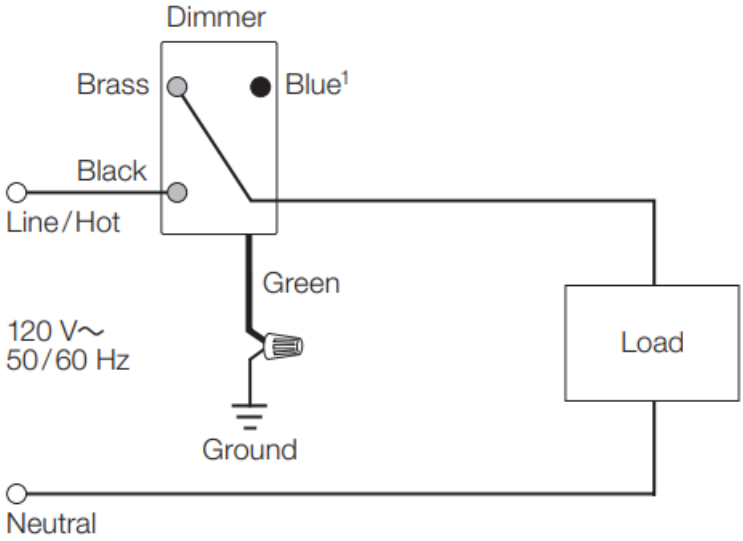
Only the GRX-TVI is compatible with the HQRD-F6AN-DV at 277 V~. All other power modules are 120 V~ only.

Operation

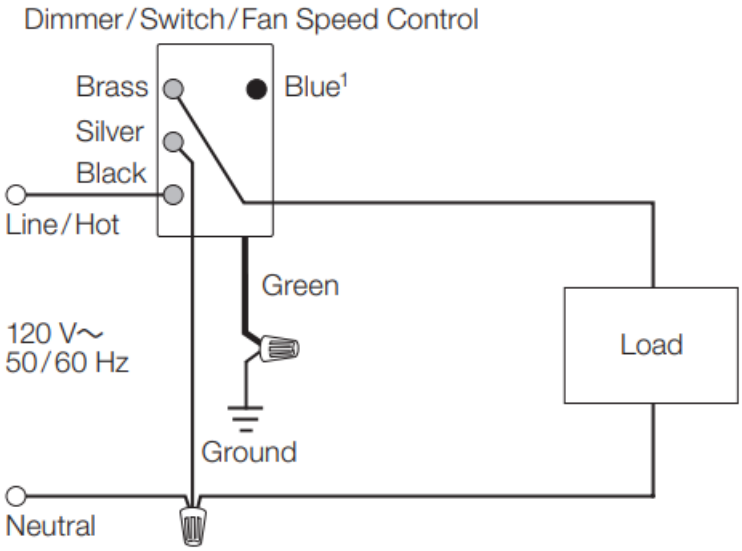


Wiring Diagrams

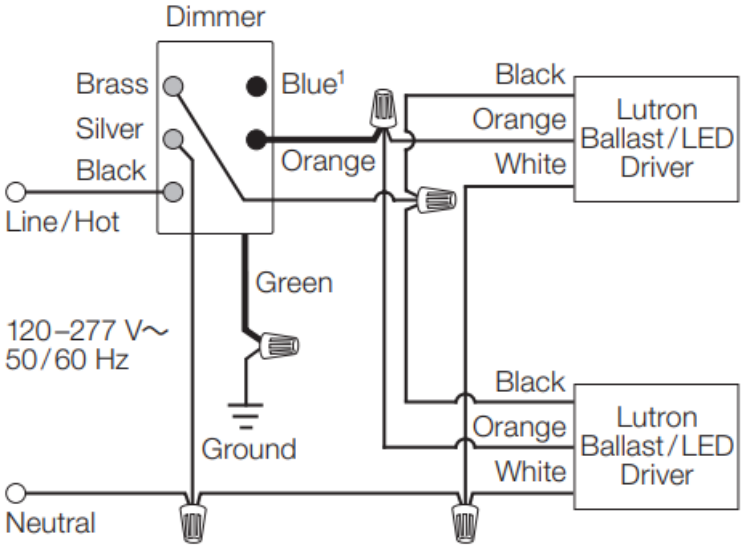
Wiring Diagram 1
Single-Location Installation without Neutral[1]
-6CL, -6D, -10D, -PRO



Wiring Diagram 2
Single-Location Installation with Neutral[1]
6ND, -10ND, -6NA, -2ANF, -8ANS, -PRO

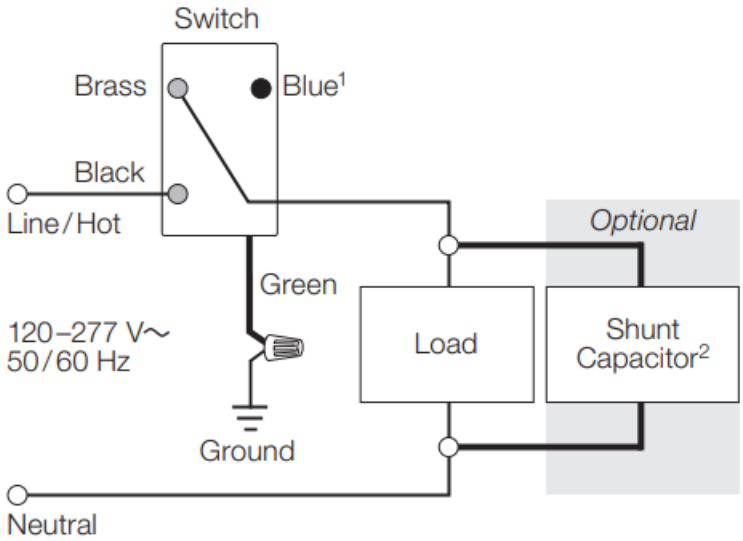


Wiring Diagram 3
Single-Location Fluorescent Dimmer Installation[1]
-F6AN-DV with Lutron Ballast / LED Driver



Wiring Diagram 4
Single-Location 2-Wire Switch Installation[1]

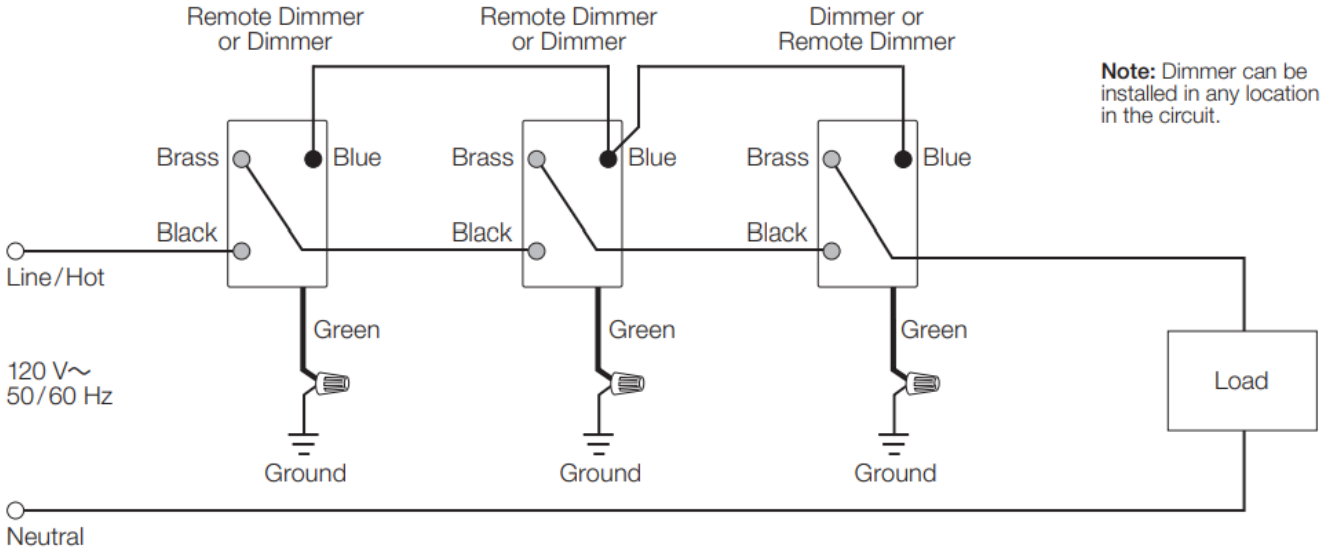
-8S-DV with Optional Shunt Capacitor[2]



Note: Bolded lines in diagrams indicate leads on products.
When using controls in single-location installations, tighten the blue terminal. Do not connect the blue terminal to any other wiring or to the ground.
Optional Shunt Capacitor must be installed inside the loading fixture or in a separate J-box.

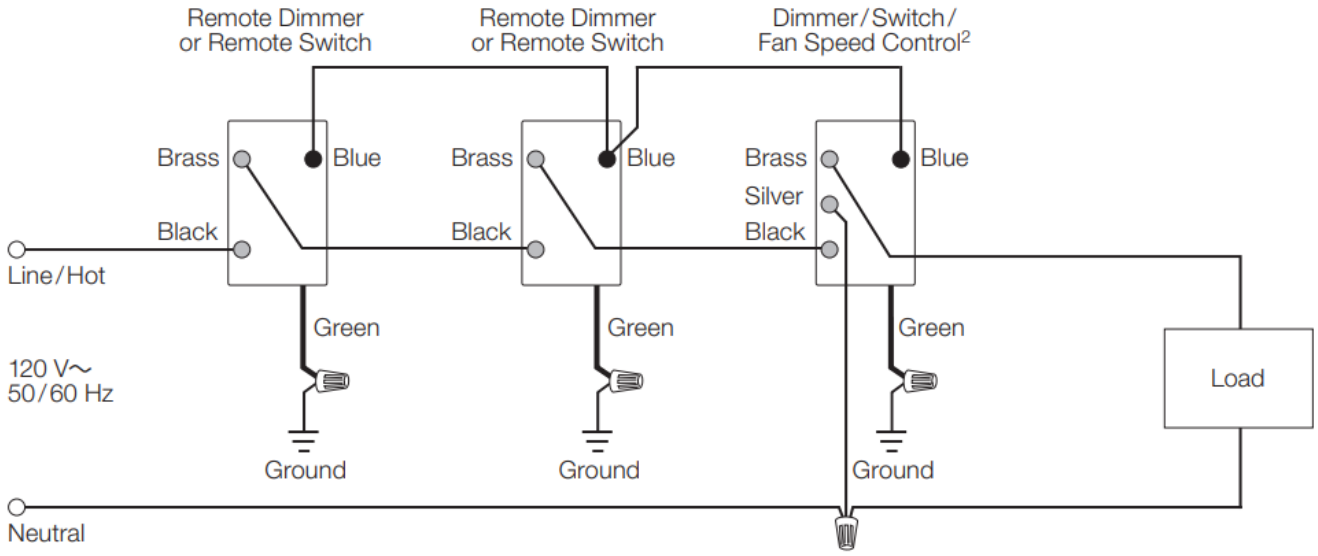
Wiring Diagram 5

Multi-Location Installation without Neutral[1]
-6CL, -6D, -10D, and -PRO with HQD-RD



Wiring Diagram 6

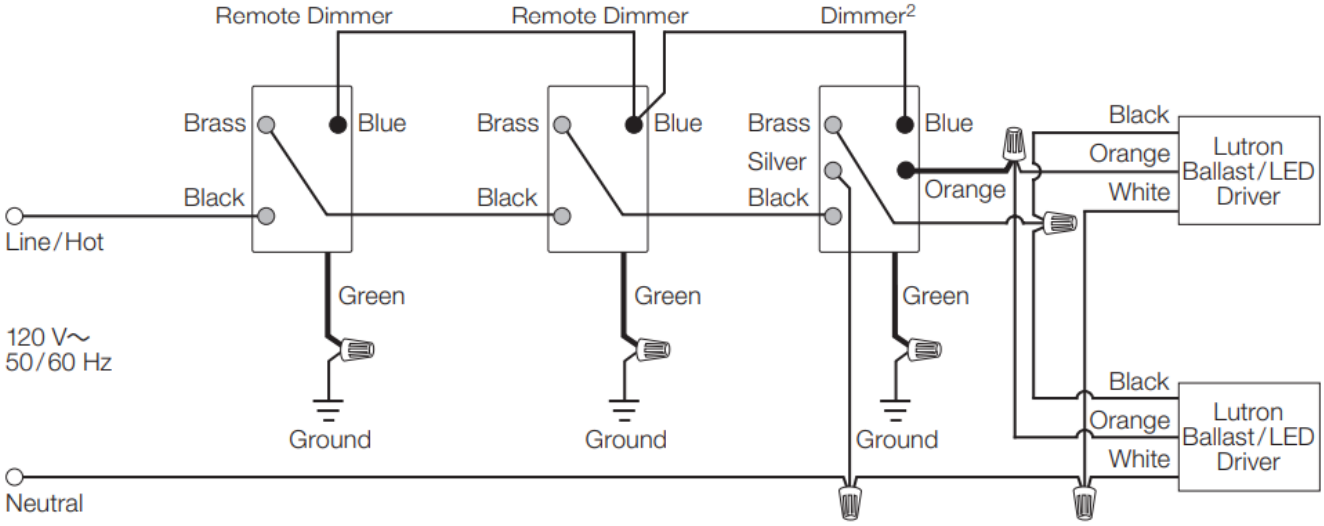
Multi-Location Installation with Neutral[1,2]
-6ND, -10ND, -6NA, -2ANF and -PRO with HQD-RD; -8ANS with HQD-RS



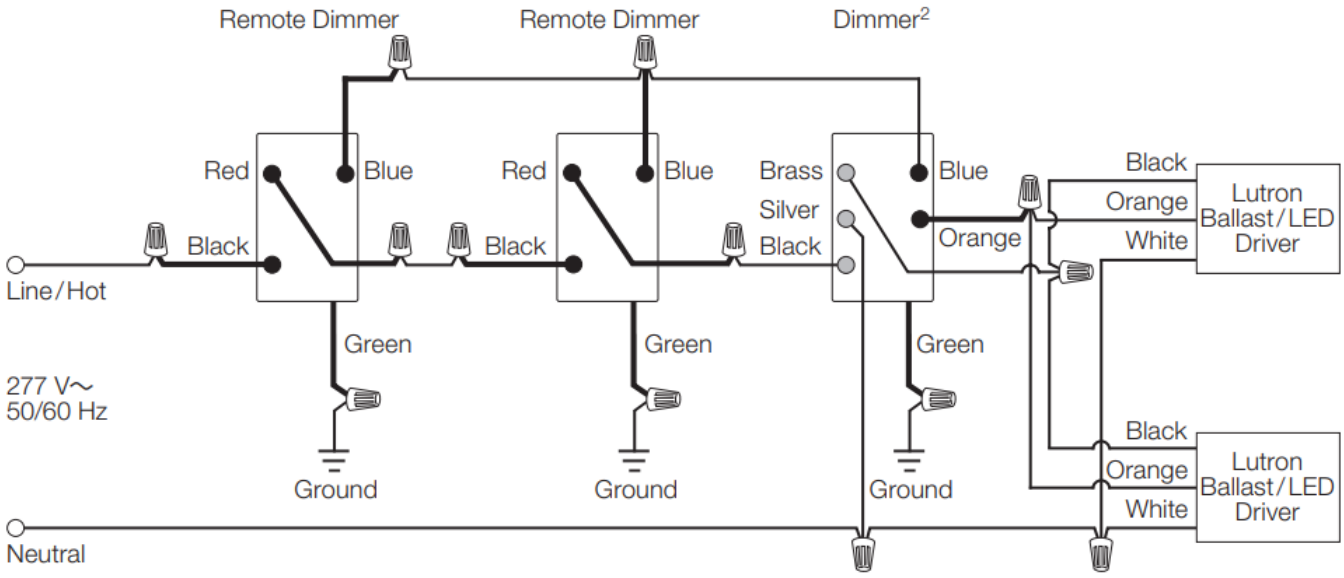
Note: Bolded lines in diagrams indicate leads on products.

1. Up to 9 Remote Dimmers/Remote Switches may be connected to the Dimmer / Switch / Fan Speed Controls. Total blue terminal wire length may be up to 250 ft (76 m), except -PRO which is up to 150 ft (45 m).
2. Neutral-Wire Dimmers / Switches / Fan Speed Controls must be connected on the Load side of a multi-location installation, except the -PRO which can be connected in any position.

Wiring Diagram 7
Multi-Location Fluorescent Dimmer Installation[1],[2](120 V~)
-F6AN with HQD-RD and Lutron Ballast / LED Driver



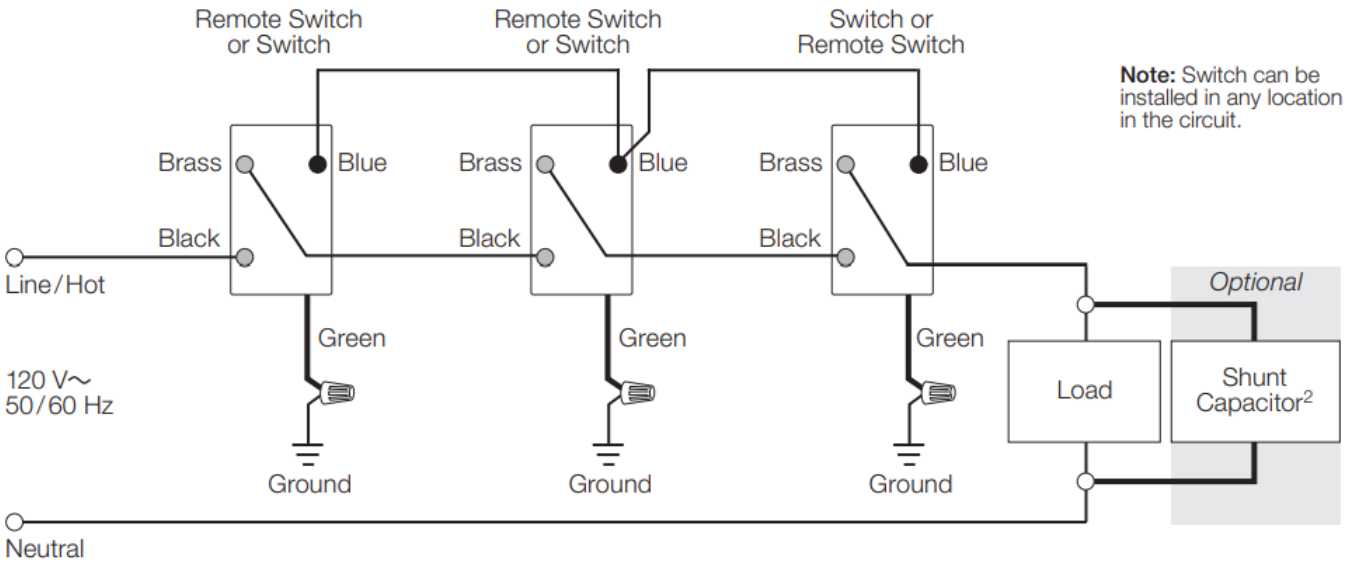
Wiring Diagram 8
Multi-Location Fluorescent Dimmer Installation[1],[2](277 V~)
-F6AN with HQD-RD-277 and Lutron Ballast / LED Driver



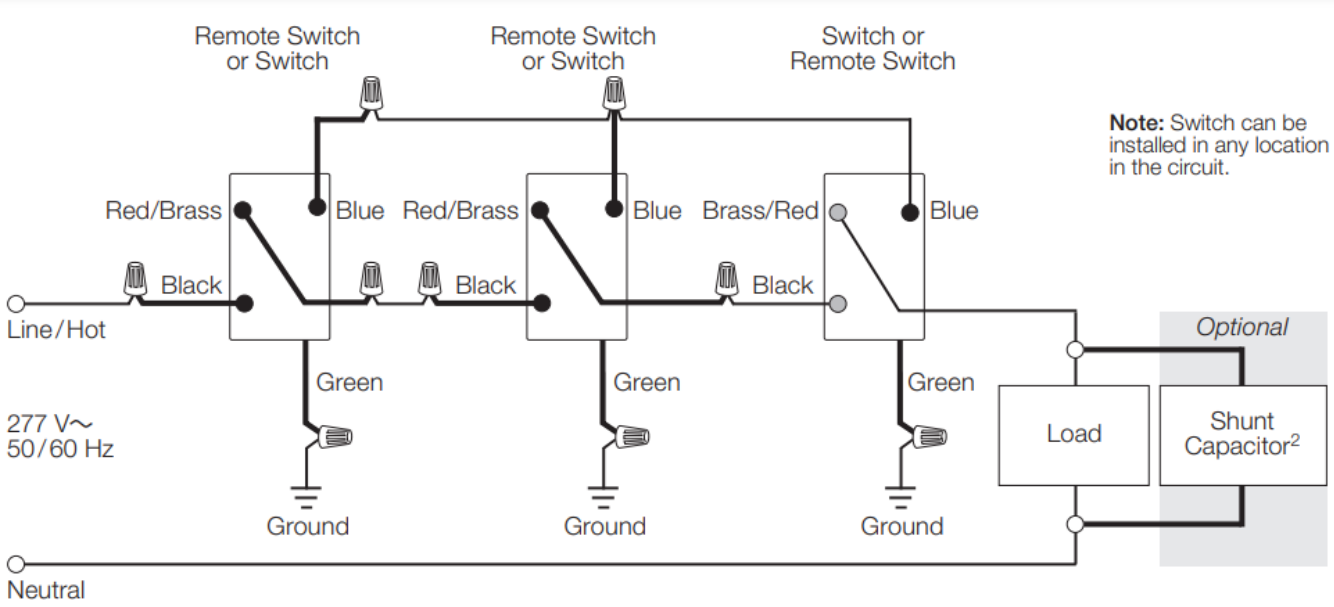
Note: Bolded lines in diagrams indicate leads on products.

1. Up to 9 Remote Dimmers / Remote Switches may be connected to the Dimmer / Switch / Fan Speed Controls. Total blue terminal wire length may be up to 250 ft (76 m), except for -PRO, which is up to 150ft (45 m).
2. Neutral-Wire Dimmers / Switches / Fan Speed Controls must be connected on the Load side of a multi-location installation, except the -PRO, which can be connected in any position.

Wiring Diagram 9
Multi-Location 2-Wire Switch Installation[1](120 V~)
-8S-DV with HQD-RS and Optional Shunt Capacitor



Wiring Diagram 10
Multi-Location 2-Wire Switch Installation[1](277 V~)
-8S-DV with HQD-RS-277 and Optional Shunt Capacitor



Note: Bolded lines in diagrams indicate leads on products.

1. Up to 9 Remote Dimmers / Remote Switches may be connected to the Dimmer / Switch / Fan Speed Controls. Total blue terminal wire length may be up to 250 ft (76 m), except for -PRO which is 150 ft (45 m).
2. Optional Shunt Capacitor must be installed inside the load fixture or in a separate J-box. Shunt capacitor (LUT-MLC) is included with 8S-DV.

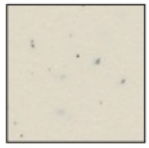
Colors and Finishes


Black
BL


Greenbriar
GB


Goldstone
GS


Mocha Stone
MS


Stone
ST


Desert Stone
DS


Limestone
LS

- Due to printing limitations, the 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 that you order the control at Midnight (MN).

Customer Assistance:
1.844.LUTRON1 (U.S.A. / Canada)

Documents / Resources

	**HOMEWORKS Designer RF Maestro Local Controls** [pdf] Instructions Designer RF Maestro Local Controls

References

- **Lutron: Beautiful light. Intelligent Shades. Powerful Controls**
- **LED Compatibility Tool | Lutron**
- **LED Product Selection Tool**
- **Colors color_C018_0.html color_2DF5_2.html color_9A3B_0.html**