

Lumina™ RF 0-10V Dimming Wall Switch

Cat. No. ZSD07-ADZ

DI-000-ZSD07-00C

INSTALLATION AND QUICK START SHEET

ENGLISH

WARNINGS AND CAUTIONS

- **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!**
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician.

NOTES:

- 10A robust/commercial mechanical latching relay to handle high inrush (LED) and large loads.
- Utilizes Leviton Lumina™ RF technology to communicate with other Lumina RF wireless compatible products.
- Requires Lumina gateway for programming and control communication to other devices.

LEVITON LUMINA RF 0-10 V DIMMING WALL SWITCH OVERVIEW

The Lumina RF components are designed to communicate with each other via 2.4GHz Radio Frequency (RF) to provide remote control of your lighting. Each module in the Lumina RF component line is designed to act as part of a system. Line powered devices are designed to act as a router. These routers will re-transmit the RF signal from one device to another until the intended device is reached. This ensures that the signal is received by its intended device by routing the signal around obstacles and radio dead spots.

CHANGING SWITCH COLOR

The color of the Leviton Lumina RF 0-10 V Dimming Wall Switch may be changed to complement the interior décor. The Leviton Lumina RF 0-10 V Dimming Wall Switch is supplied with a white, ivory and light almond switch plate. Additional colors are available; contact your Leviton® distributor for more information. When changing the switch plate, **before** wiring and installation, proceed as follows:

1. Push in at two tabs on side to release (see Figure 2).
2. Line up and press in side to attach (see Figure 2).

WIRING

The Leviton Lumina RF 0-10V Dimming Wall Switch is wired directly to the load and utilizes a mechanical latching relay for power switching control from the Decora® rocker. The device uses the 0-10V (Violet and Gray) wires to connect to the fixture for dimming. When multiple wall switches are controlling the same load, the following wiring instructions apply to each wall switch and the multi-location load control is completed through programming via the Leviton Lumina gateway. A gateway is required for all Lumina RF 0-10V Dimming Wall Switches to control programming. Please refer to the Lumina gateway user manual for details.

NOTES:

1. Refer to Figure 3 to determine the wire colors for each connection.
2. Wiring Connections:

- a. Connect the Load (blue) wire to the lighting load.
- b. Connect the Neutral (white) wire to the neutral supply.
- c. Connect the Line (black) wire to single phase of the 120-277V supply.
- d. Connect the Violet wire to the + 0-10V line and the Gray wire to the common 0-10V line using Class 1 or Class 2 wiring methods as indicated by the load / ballast installation instructions or label markings.

INSTALLATION

1. **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER at circuit breaker or fuse and test that power is off before wiring!**
2. If applicable, remove the faceplate from the existing wall switch, remove the existing wall switch from the wall box, and disconnect the wires from the existing wall switch. Identify the "Line", "Neutral", "Load" and "Traveler" (if applicable) wires.

NOTE: Existing traveler wire is not required for multi-location load control. If it exists, cap and tape wire so that it may be safely abandoned.

3. Remove 3/4" of insulation from each of the wires on the Leviton Lumina RF 0-10V Dimming Wall Switch. Install the Leviton Lumina RF 0-10V Dimming Wall switch by connecting wires per wiring diagram (see Figure 3).
4. After all connections have been made, ensure that all wire connectors are firmly attached and there is no exposed copper.
5. Gently place the wires and the Leviton Lumina RF 0-10V Dimming Wall Switch into the wall box with the LED at the bottom of device. Using the supplied screws, attach the Leviton Lumina RF 0-10V Dimming Wall Switch to the wall box.
6. Before installing the faceplate, restore power to the circuit, and verify locator LED lights and switch ON/OFF operation.
7. After testing the Leviton Lumina RF 0-10V Dimming Wall Switch and Multi-location Switches for proper local operation (see Figure 1), install a Decora faceplate over each switch.

CLASS 2 INSTALLATION NOTE: The 0-10 V DC dimmer control circuit can be installed as Class 1 or Class 2. If installed as Class 2, all devices in the circuit must be Class 2 rated and this switch must be wired per instructions below, which are in accordance with NEC Code NFPA 70, paragraph 725.136 (d).

For Class 2 Installation: The 0-10V control wires must be mechanically separated from Class 1, line, neutral and ground power lines. This can be accomplished by performing the following:

- 1) Installing a mechanical barrier, in the form of silicone tubing or other non-conducting sleeve, over the length of the individual 0-10V (Violet & Gray) control wires contained within the electrical box and to the point where they extend out of the electrical box.^{1,3}
- 2) Use of approved wire connectors shall be used to join the 0-10V control wires to building control wires.^{2,3}
- 3) When CL3, CL3R or CL3P rated control cables (or permitted substitute) are used to connect devices within the building silicone tubing, or other non-conducting sleeve, shall be installed over the cable starting from the switch to the point where they extend out of the electrical box.^{1,2,3}

¹ Silicone tubing shall be NRTL (UL/CSA/ETL) recognized or equivalent to provide mechanical separation equal to .25" in air.

² Connectors joining 0-10V control wires shall be approved LISTED connectors.

³ Wire connectors and wire tubing shall be provided by the installation contractor.

WARNINGS AND CAUTIONS

- Use this device with **copper or copper clad wire only**.
- For indoor applications only.
- Save these instructions.

Figure 1 - Lumina RF 0-10V Dimming Wall Switch

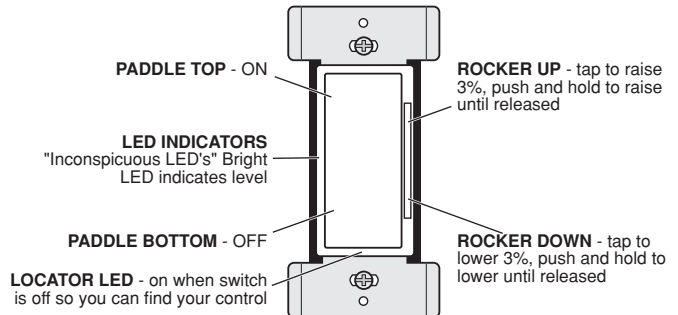


Figure 2 - Changing Switch Color

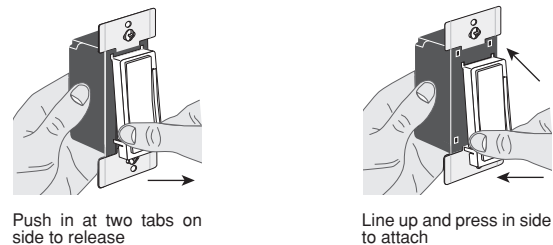
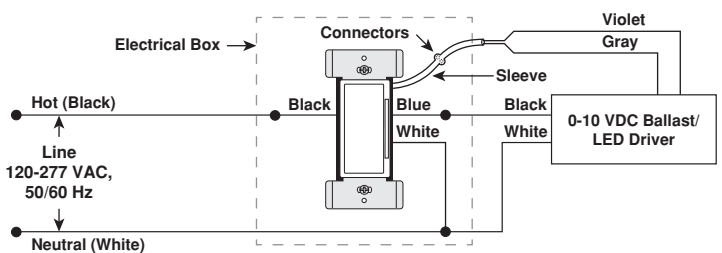


Figure 3 - Class 2 Wiring Diagram



3-Way NOTE (two or more ZSD07):

Any switch can be used to control the Dimming and Relay to attached load(s). Only one switch will be wired to load (master switch). Remaining switches will cap off blue, gray, and violet wires.

SPECIFICATIONS	
	ZSD07-ADZ
Input Voltage	120-277 VAC, 50/60 Hz
LED/CFL Load Rating	120 V: 8 A, 960 VA 277 V: 5 A, 1385 VA
Incandescent/Tungsten Load Rating	120 V: 800 W
Electronic Ballast Load rating, Inductive Load Rating	120 V: 8 A, 960 VA 277 V: 5 A, 1385 VA
Ballast Load Rating	120 V: 10 A, 1200 VA 277 V: 10 A, 2700 VA
Motor Load Rating	120 V: 1/4 Hp 277 V: 1/3 Hp
LED Loads	Yes
Motor Operated Appliances	Yes
Connections	16 AWG (Power) 18 AWG (0-10 V)
LED Indicator	Yes
Dimensions	4.13" x 2.12" x 1.43" (104.9 mm x 53.95 mm x 36.42 mm)
Weight	0.25 lbs, 0.11 kg
Mounting	Standard switch boxes, multi-gang is allowed. Uses standard Decora face plates
Frequency/Range	2.4 GHz / 75 - 150 ft.
Maximum Load (0-10 V Control)	50 mA sinking
Power Consumption	120 VAC @ 11.4mA AC (630mW typical) 277 VAC @ 8.5mA AC (960mW typical)
Operating Temperature	0°C - 40°C (32°F - 104°F)
ETL Certified to UL Standard	UL-508, CAN/CSA-C22.2 No. 14

SWITCH OPERATION

Local Rocker Switch Operation

The Leviton *Lumina* RF 0-10V Dimming Wall Switch has a rocker that can be used to control the load (see Figure 1).

LED Indicator

The Leviton *Lumina* RF 0-10V Dimming Wall Switch comes equipped with a locator LED indicator that is normally lit to green when the load is OFF. The locator LED is OFF when the load is ON.

Dimming LED Indicator

The Leviton *Lumina* RF 0-10V Dimming Wall Switch also has a dimming indicator on the left side of the switch to display the current dimming level via single bright LED - the remaining LED's will be lit at a dimmer level to display range of dimming. The bright LED will move up or down the dimming indicator based on user presses to the Dim/Bright rocker.

SETUP MODE FOR CONTROLS COMMUNICATION

Configure the Leviton *Lumina* RF 0-10V Dimming Wall Switch using a *Lumina* gateway. Visit the Leviton Cloud Service at cloud.leviton.com for gateway installation software. **NOTE:** The device must be in mode 1, enrollment while the *Lumina* gateway is searching for new devices to Enroll.

TABLE 1 - Operation Modes Defined	
Mode / Blink(s)	Operation
1	Enrollment - Allows the device to enroll in a network, or be removed.
2	Identify - The device will go into Identify Mode.
3	RF Pairing - Will initiate a search for compatible devices that are already in Identify Mode.
4	LED Operation - Allows the device to enable/disable locator LED operations.
5	Reset - Resets device to Factory Default settings.
TABLE 2 - Configuration Menu, Quick Start Programming	
Notes	Requires <i>Lumina</i> gateway - Review all related gateway instructions before beginning.
	Idle Time Exit: No button presses for > 20 seconds will time out the menu and return to normal operation.
Mode 1: Enrolling your Device in RF Network	
Enter Menu	Press and hold the bottom (OFF) rocker for > 10 seconds - identified by the LED switching to amber blinking (Mode 1 - One Blink - Enroll into <i>Lumina</i> RF Network).
Step 1: Add Device	Press and hold the bottom (OFF) rocker for > 5 seconds to enroll into <i>Lumina</i> RF network. Start green blinking until completion (time out or press of bottom rocker), then return to Mode 1 - One Blink.
Step 2	Review <i>Lumina</i> gateway instructions. Power up gateway, add ZSD07 device and begin Enroll process to add new device to the gateway. Note: The device will stay in Enroll Mode for up to 5 minutes before exiting. The <i>Lumina</i> gateway will only stay in Enroll Mode for 1 minute.
Exit	Tap the top (ON) rocker.
Mode 1: Removing your Device from RF Network	
Enter Menu	Press and hold the bottom (OFF) rocker for > 10 seconds - identified by the LED switching to amber blinking (Mode 1 - One Blink - Enroll into <i>Lumina</i> RF Network).
Step 1: Remove Device	Press and hold the bottom (OFF) rocker for > 5 seconds to enter the enroll into <i>Lumina</i> RF network. Once the green blinking starts, Press and hold the bottom (OFF) rocker for > 5 seconds to leave the <i>Lumina</i> RF network. When complete the device will return to Mode 1 - One Blink.
Step 2	Tap the top (ON) rocker. Note: Ensure to DISBAND device from <i>Lumina</i> RF gateway when done.
Exit	Tap the top (ON) rocker.
Mode 4: Turn locator LED OFF/ON	
Enter Menu	Press and hold the bottom (OFF) rocker for > 10 seconds - identified by the LED switching to amber blinking (Mode 1 - One Blink - Enroll into <i>Lumina</i> RF Network).
Step 1	Tap the bottom (OFF) rocker 3 times to move into Four Blink (Mode 4 - LED Operation).
Step 2	Press and hold the bottom (OFF) rocker for > 5 seconds to toggle the LED mode - Green LED confirmation blink indicates locator LED will operate normally - Red LED confirmation blink indicates locator LED will be disabled and remain OFF.
Exit	Tap the top (ON) rocker.

TABLE 3 - Configuration Menu: Reset to Factory Default Settings		Mode 5
Enter Menu	Press and hold the bottom (OFF) rocker for > 10 seconds - identified by the LED switching to amber blinking (Mode 1 - One Blink - Enroll into <i>Lumina</i> RF Network).	
Step 1	Tap the bottom (OFF) rocker 4 times to move into Five Blink (Mode 5 - Reset).	
Step 2	Press and hold the bottom (OFF) rocker for > 5 seconds to enter Factory Default pending mode (Start red blinking until top (ON) rocker is pressed to initiate. To cancel Reset - press the bottom (OFF) rocker or allow idle timeout.	
Step 3: Reset/Exit	Press and hold the top (ON) rocker for > 5 seconds to complete Reset process (Stops the red blinking, cancels the menu and returns to normal device operation when reset is complete.	
Identify		Mode 2
Enter Menu	Press and hold the bottom (OFF) rocker for > 10 seconds - identified by the LED switching to amber blinking (Mode 1 - One Blink - Enroll into <i>Lumina</i> RF Network).	
Step 1	Tap the bottom (OFF) rocker 1 time to move into Two Blink (Mode 2 - Identify).	
Step 2	Press and hold the bottom (OFF) rocker for > 5 seconds to enter "60 second RF Identify Devices". Start fast green blinking until completion (times out). Press bottom (OFF) rocker after pairing to return to Mode 2 - Two Blink.	
Exit	Tap the top (ON) rocker.	
Pairing		Mode 3
Enter Menu	Press and hold the bottom (OFF) rocker for > 10 seconds - identified by the LED switching to amber blinking (Mode 1 - One Blink - Enroll into <i>Lumina</i> RF Network).	
Step 1	Tap the bottom (OFF) rocker 2 times to move into Three Blink (Mode 3 - Pairing).	
Step 2	Press and hold the bottom (OFF) rocker for > 5 seconds to initiate a search of compatible devices currently in the RF Identify Mode. Will blink Amber on enter followed by a three second solid green for success or solid red for failure, then return to Mode 3 - Three Blink.	
Exit	Tap the top (ON) rocker.	

NOTE: To pair switches activate Identify Mode (2) before activating Pair Mode (3). The Pairing Mode happens very quickly once it scans network and finds another device in Identify Mode. Devices need to be enrolled in network for 3-way pairing to work. Pairing and Identify needs to be done on both devices for full 3-way control. The maximum recommended switches that can be paired is 5 devices. Devices can be unpaired by repeating the same Identify/Pairing process used above for pairing.

FCC COMPLIANCE STATEMENT:

Contains FCC ID: W7Z-ZICM357SP0

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) This device may not cause harmful interference (ii.) This device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by Leviton could void the user's authority to operate this equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INDUSTRY CANADA COMPLIANCE STATEMENT:

Contains IC: 8254A-ZICM357SP0.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. IMPORTANT! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This Class B digital apparatus complies with Canadian ICES-003.

FOR CANADA ONLY

For warranty information and/or product returns, residents of Canada should contact Leviton in writing at **Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9** or by telephone at **1 800 405-5320**.

LEVITON LIMITED WARRANTY	
Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that products manufactured by Leviton under the Leviton brand name ("Product") will be free from defects in material and workmanship for the time periods indicated below, whichever is shorter: • OmniPro II and Lumina Pro: three (3) years from installation or 42 months from manufacture date. • Omni LTe, Omni Ile, and Lumina: two (2) years from installation or 30 months from manufacture date. • BitWise Controllers, Accessories: two (2) years from installation or 30 months from manufacture date. • Lumina Gateway Controllers: two (2) years from installation or 30 months from manufacture date. • Thermostats, Accessories: two (2) years from installation or 30 months from manufacture date. • Batteries: Rechargeable batteries in products are warranted for ninety (90) days from date of purchase. Note: Primary (non-rechargeable) batteries shipped in products are not warranted. Products with Windows® Operating Systems: During the warranty period, Leviton will restore corrupted operating systems to factory default at no charge, provided that the product has been used as originally intended. Installation of non-Leviton software or modification of the operating system voids this warranty. Leviton's obligation under this Limited Warranty is limited to the repair or replacement, at Leviton's option, of Product that fails due to defect in material or workmanship. Leviton reserves the right to replace product under this Limited Warranty with new or remanufactured product. Leviton will not be responsible for labor costs of removal or reinstallation of Product. The repaired or replaced product is then warranted under the terms of this Limited Warranty for the remainder of the Limited Warranty time period or ninety (90) days, whichever is longer. This Limited Warranty does not cover PC-based software products. Leviton is not responsible for conditions or applications beyond Leviton's control. Leviton is not responsible for issues related to improper installation, including failure to follow written installation and operation instructions, normal wear and tear, catastrophe, fault or negligence of the user or other problems external to the Product. To view complete warranty and instructions for returning product, please visit us at www.leviton.com .	

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