

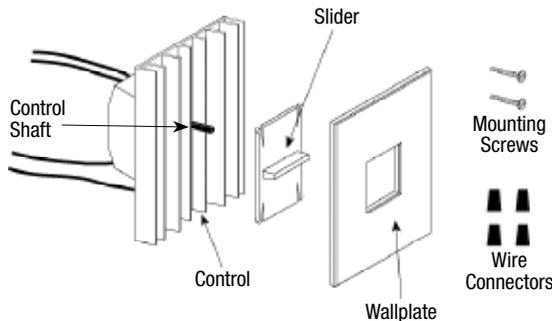


Model	Maximum VA
NLV-600	600 VA
NLV-1000	1000 VA
NLV-1500	1500 VA

### Table Of Contents

Package Contents.....	1
Important Notes.....	1
Single Unit Installation.....	1
Multigang Installation- No Side Sections Removed.....	2
Multigang Installation- Side Section Removed.....	3
Installation Assistance.....	4

### Package Contents:



### Important Notes

#### Please Read Before Installation

**Transformer Information:** Use with core and coil (magnetic) low-voltage transformers **only**. For more information, call the toll-free **Lutron® Technical Assistance Hotline** for Application Note 19, "Guide to Dimming Low-Voltage Lighting."

**Caution:** Operation of a dimmer low voltage circuit with all lamps inoperative or removed may result in current flow in excess of normal levels. To avoid possible transformer overheating and premature transformer failure, Lutron strongly recommends the following:

- Do not operate dimmed 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.

**Lamp Type:** Use incandescent low-voltage lamps in combination with a low-voltage transformer or 120 V~ incandescent lamps.

**Caution:** To avoid overheating and possible damage to other equipment, do not install to control receptacles, fluorescent lighting fixtures, and motor-operated appliances.

**Multi-phase Applications:** In multi-phase applications, use a separate neutral for each phase containing a dimming circuit. For more information, please see Application Note #17 (P/N 360283), "Common Neutral Interaction" on [www.lutron.com](http://www.lutron.com).

**Short Circuit Check:** Check new installation for short circuits prior to installation. With power OFF, use a single pole switch and connect appropriate wires to hot wire and lamp. Turn power ON. If lights do not work or breaker trips, a short is present. Correct wiring and check circuit again. Install dimmer only when short is no longer present.

**Wire Connectors:** Wire connectors provided can be used to join one 18 AWG to 10 AWG (0.75 mm<sup>2</sup> to 4 mm<sup>2</sup>) wire with one or two 14 AWG to 12 AWG (2.5 mm<sup>2</sup> to 1.5 mm<sup>2</sup>) wires. Use them with copper wire only.

**Wallbox Location:** A single-gang wallbox, 3 in high x 2 in wide x 2½ in deep (76 mm high x 51 mm wide x 64 mm deep) will service all individual Nova® dimmers. Allow a minimum space of 4½ in (114 mm) above and below the dimmers for proper heat dissipation. These dimmers are designed for use where ambient temperature is between 32 °F to 104 °F (0 °C to 40 °C).

**Multigang Installations:** Lutron offers a multigang wallplate to simplify and improve the appearance of your installation. A multigang mounting frame is provided with each standard wallplate to ensure proper alignment of the dimmers, easy application of the wallplate, and a flat surface.

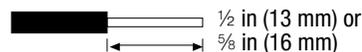
**Clean dimmer with a soft damp cloth only.** Do not use any chemical cleaners.

### Single Unit Installation



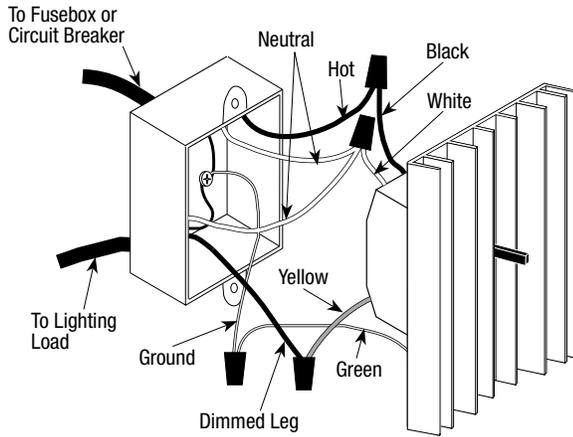
**WARNING! Shock Hazard.** May result in serious injury or death. Turn off power at circuit breaker before installing the unit.

- Remove wallplate from dimmer to prevent damage and to access mounting holes. Pull out at top and bottom edges, plate will snap off.
- Strip insulation from dimmer wires and from wires to which dimmer is to be connected as follows:
  - ½ in (13 mm) for 14 AWG to 10 AWG (1.5 mm<sup>2</sup> to 4 mm<sup>2</sup>) wire
  - ⅝ in (16 mm) for 18 AWG to 16 AWG (0.75 mm<sup>2</sup> to 10.0 mm<sup>2</sup>) wire

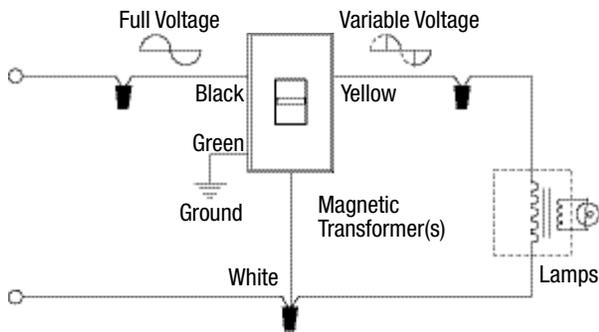


- Use wire connectors provided to make the following connections:
  - Green or bare ground wire to ground in the wallbox.  
**Note:** If a bare copper or green ground wire is not in the wallbox, contact a licensed electrician.
  - Black control lead to 120 V~ lead.
  - Yellow lead to one transformer primary lead.
  - White lead to neutral, along with the other transformer primary lead. See Figures A and B.

**Figure A. Wallbox Wiring**

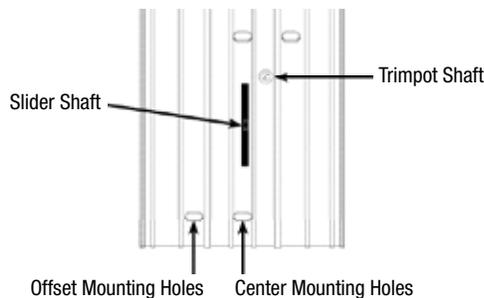


**Figure B. Wiring Diagram**



- Carefully push wires into wallbox allowing room for dimmer backbox.
- Mount dimmer to wallbox using two screws provided and center mounting holes. See Figure C. Unit must be mounted vertically.

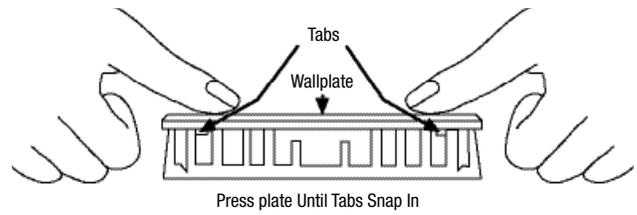
**Figure C. Front View - Single Unit Installation**



- Turn power ON. Slide shaft up to increase light intensity, down to decrease light intensity and turn OFF.
- Minimum light intensity is preset. If adjustment is necessary, use the screwdriver provided to turn the tripot screw (inside tripot shaft) clockwise to increase light level and counterclockwise to decrease light level.

- Install slider on shaft. Replace wallplate by firmly pressing at top, center, and bottom to snap tabs into place. See Figure D.

**Figure D. Snap on Wallplate**



### Multigang Installation- No Side Sections Removed (No Derating Required)



**WARNING! Shock Hazard.** May result in serious injury or death. Turn off power at circuit breaker before installing the unit.

In multigang installations several dimmers or controls are grouped horizontally in one ganging wallbox or in a series of interconnected wallboxes. Lutron offers multigang wallplates to simplify and improve the appearance of these installations. A multigang mounting frame is provided with each standard multigang wallplate to ensure proper alignment of dimmers, easy application of the wallplate, and a flat surface for the installation. Refer to instructions supplied with the multigang wallplate.

Installation of dimmers without removing side sections allows operation at full capacity (i.e., no derating is required). Follow instructions below. For retrofit installations, side sections can be removed to fit existing wallboxes. See “Multigang Installation - Side Sections Removed” on page 3.

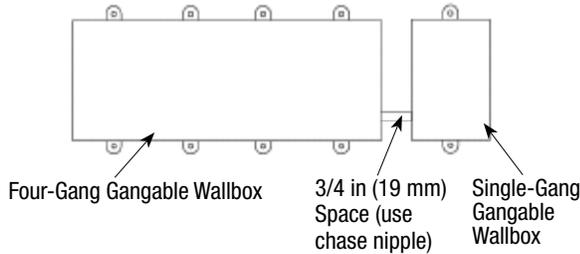
- Determine the number of wallboxes necessary by using the Wallbox Requirement Chart (Table A). When ganging any combination of small dimmers (NLV-600) and large dimmers (NLV-1000 and NLV-1500), place all small dimmers at one end of the gang and all large dimmers at the other.

**Table A. Wallbox Requirement Chart  
No Side Sections Removed**

		Number of Small Controls						
		0	1	2	3	4	5	6
Number of Large Controls	0	0	1	1+1*	4	4+1*	7	7+1*
	1	1	3	5	6	8	9	11
	2	4	6	7	9	10	12	13
	3	6	8	10	11	13	14	16
	4	9	11	12	14	15	17	18

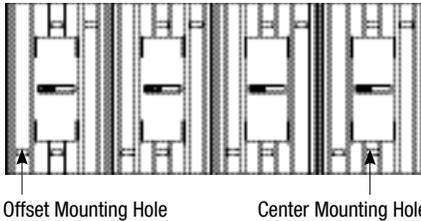
- When ganging an even number of small dimmers use gangable 3 in x 2 in (76 mm x 51 mm) wallboxes. Do not use plaster rings or gangbox covers. You need one wallbox in addition to the total number of controls in order to provide space for wallplates (e.g. 4 dimmers require 5 wallboxes). Place additional wallboxes 3/4 in (19 mm) apart from other wallbox(es) to provide space for wallplate(s). See Figure E.

**Figure E. Wallbox Positioning Four-Gang Controls**



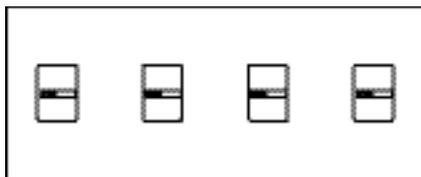
- Turn power OFF.
- Wire each dimmer according to step 1-4 in "Single Unit Installation" on page 1.
- Install dimmers in wallbox(es) using screws provided. Use the center of offset mounting holes as needed. Allow 1/32 in (0.8 mm) between dimmers for ease in attaching wallplate. See Figure F.

**Figure F. Front View - Four-Gang Installation**



- Turn power on. Slide shaft up to increase light intensity, down to decrease light intensity and turn off.
- Minimum light intensity is preset. To adjust, use the screwdriver provided to turn the trimpot screw (located in trimpot shaft) clockwise to increase light level and counterclockwise to decrease light level.
- Install slider on shaft. Snap on wallplate by pressing firmly at top, center, and bottom to snap tabs into place. Adjust up or down for a snug fit. Figure G is an example of a multigang unit with a multigang wallplate.

**Figure G. Multigang Unit With Wallplate**



## Multigang Installation- Side Sections Removed (Derating Required)

In multigang installations several dimmers or controls are grouped horizontally in one ganging wallbox or in a series of connected wallboxes. Lutron offers multigang wallplates to simplify and improve the appearance of this installation. A multigang mounting frame is provided with each standard multigang wallplate to ensure proper alignment of dimmers, easy application of wallplate, and a flat surface for the installation. Refer to multigang instruction sheet supplied with multigang wallplate.

- Derating is required when side sections are removed. Ensure safe operation by using derating chart (Table B) to determine maximum possible load when side sections are removed. Match dimmer size and number of side sections removed with maximum safe load size.

**Table B. Derating Chart-Maximum Amperage Load**

	NLV-600	NLV-1000	NLV-1500
VA (A)	600 (5)	1000 (8.3)	1500 (12.5)
VA (A) one side off	600 (5)	900 (7.5)	1250 (10.4)
VA (A) two sides off	500 (4.2)	700 (5.8)	1000 (8.3)

When VA load on dimmer is unknown, use Table C to estimate correct dimmer loading and derating according to wattage.

**Table C. Derating Chart-Maximum Lamp Wattage**

	NLV-600	NLV-1000	NLV-1500
Lamp wattage	500	800	1250
Wattage one side off	500	750	1000
Wattage two sides off	400	550	800

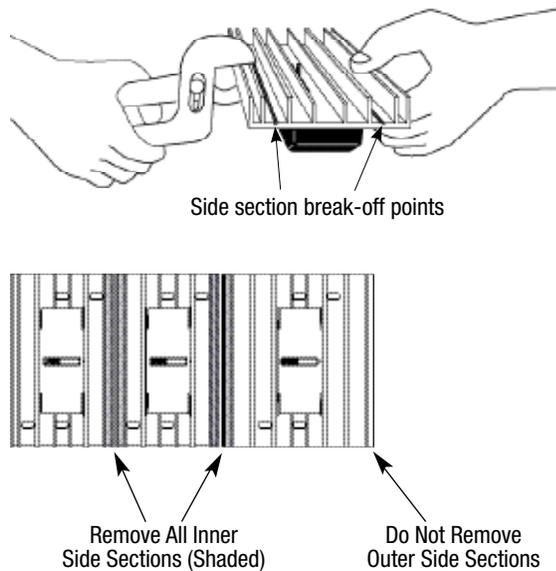
- Determine number of wallboxes you need by using the wallbox requirement chart (Table D). When ganging any combination of small dimmers (NLV-600) and large dimmers (NLV-1000, NLV-1500), place all small dimmers at one end of the gang and all large dimmers at the other end.

**Table D. Wallbox Requirement Chart Side Sections Removed**

		Number of Small Controls						
		0	1	2	3	4	5	6
Number of Large Controls	0	0	1	2	3	4	5	6
	1	1	3	4	5	6	7	8
	2	3	5	6	7	8	9	10
	3	5	7	8	9	10	11	12
	4	7	9	10	11	12	13	14

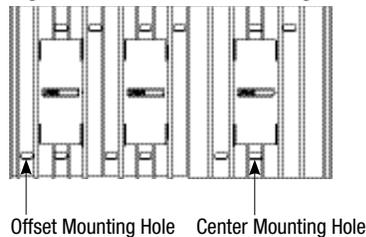
- Remove desired inner side sections of dimmers. Using pliers, bend side sections down as far as you can and then back to their original positions. See Figure H. Repeat several times and side sections will break off. Do not remove outer side sections of dimmers on ends of gang.

**Figure H. Side Section Removal**



- Turn power OFF.
- Wire each dimmer according to step 1-4 in “Single Unit Installation” on page 1.
- Install dimmers in wallbox(es) using screws provided. Use the center or offset mounting holes as needed. See Figure I. Allow 1/32 in (0.8 mm) between dimmers for ease in attaching wallplate.

**Figure I. Front View - Four-Gang Installation**

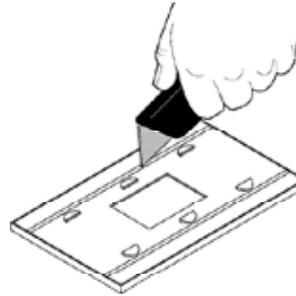


- Turn power ON. Slide shaft up to increase light intensity, down to decrease light intensity and turn OFF.
- Minimum light intensity is preset. If adjustment is necessary, use the screwdriver provided to turn the trimpot screw (located in trimpot shaft) clockwise to increase light level and counterclockwise to decrease light level. See Figure C.
- Install sliders on shafts. Replace wallplates by pressing firmly at top, center, and bottom to snap into place. Figure G is an example of a multigang unit and wallplate.

### Cutting Wallplates When Removing Side Sections:

Some wallplates will need to be cut if removing side sections of dimmers and not using a multigang wallplate. Position wallplate on a soft cloth face down. Press firmly and score the groove on the back of wallplate with a razor-sharp knife, using vertical side groove to keep knife on straight course (see Figure J). Bend section back and forth to break it off. Smooth edges by placing fine-grained sandpaper on a flat surface and rub edge of the wallplate over the sandpaper a few times. Hold wallplate steady as you rub to keep a true edge.

**Figure J. Cutting Wallplate**



Multigang wallplates, which require no cutting, are available from Lutron in a variety of colors to simplify and beautify your installation.

## Technical Assistance

If you have questions concerning the installation or operation of this product, call the **Lutron® Technical Support Center**. Please provide exact model number when calling.

1.800.523.9466 (U.S.A., Canada, and the Caribbean)

Other countries call +1.610.282.3800

Fax: +1.610.282.1243

Internet: [www.lutron.com](http://www.lutron.com)

## Limited Warranty

Lutron will, at its option, repair or replace any unit that is defective in materials or manufacture within one year after purchase. For warranty service, return unit to place of purchase or mail to Lutron at 7200 Suter Rd., Coopersburg, PA 18036-1299, postage pre-paid.

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