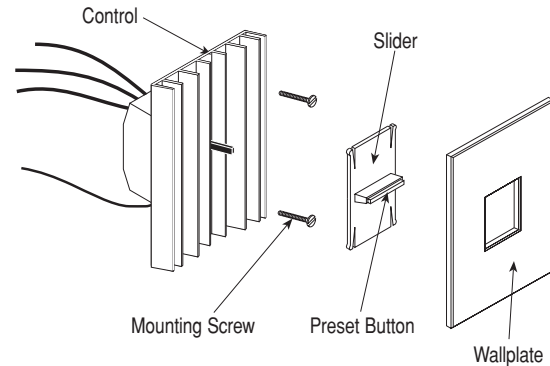


IMPORTANT NOTES:

Please read before installing.

- To avoid overheating and possible damage to other equipment, do not use to control a receptacle, a fluorescent lighting fixture, a motor-operated appliance, or a transformer-supplied appliance.
- Allow a minimum space of 4 1/2" (114 mm) above and below the dimmers for proper heat dissipation. Only mount dimmers vertically.
- Check new installation for shorts prior to installation of dimmer by using a switch and connecting appropriate wires to hot line and magnetic transformers with POWER OFF. Turn power on. If lights do not work or breaker trips, a short is present. Correct the wiring and check circuit again. Install dimmer when short is no longer present.
- If a green or bare copper ground connection is not available in the wallbox, contact a licensed electrician.
- Turn POWER OFF when installing dimmer. Wiring with power on may result in personal injury or damage to this product which will void the warranty.
- For use where ambient temperatures range from 0°C - 40°C (32°F - 104°F).
- The Nova low voltage dimmers are for use with magnetic low voltage transformers only. Do not attempt to control a solid-state electronic low voltage transformer. For solid-state electronic low voltage transformers call the **Lutron Technical Assistance Hotline** toll free and ask for Application Note #19 (A Guide to Dimming Low Voltage Lighting).
- 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 failure, Lutron strongly recommends the following:
 - a. Do not operate dimmed low-voltage circuits without operative lamps in place.
 - b. Replace burned-out lamps as quickly as possible.
 - c. Use transformers that incorporate thermal protection or fused transformer primary windings to prevent transformer failure due to overcurrent.
- **Clean dimmer with a soft damp cloth only.** Do not use any chemical cleaners.

Components



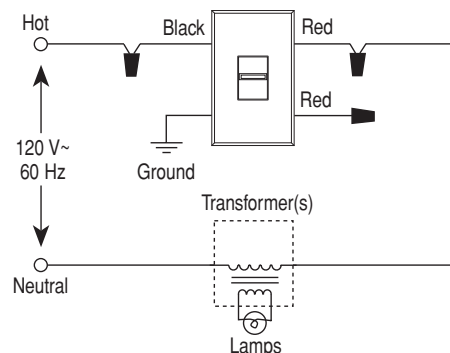
Installation

1. Turn power OFF. Dimmers may only be installed when power is turned off. Remove fuse or turn circuit breaker off.
2. Remove wallplate from dimmer to prevent damage and to access mounting holes. Pull out at top and bottom edges, plate will snap off.
3. Strip wallbox wires to following lengths:
 - 1/2" (13 mm) for 10, 12, and 14 gauge wire
 - 5/8" (16 mm) for 16 and 18 gauge wire



4. Use wire connectors supplied to make the connection as shown in diagram.
5. To wire an NLV-603P, NLV-1003P, NLV-1503P, NLV-2003P in a single pole application:
 - Connect the green or bare ground wire on the dimmer to the green or bare copper ground wire in the wallbox.
 - Connect the black wire on the dimmer to the hot wire coming from the fusebox or circuit breaker.
 - Connect one red wire on the dimmer to the wire going to the transformer load.
 - Cap off the remaining red wire on the dimmer with a wire connector. The control will function properly if either red wire is used. See Figure 1.

Figure 1. Single Pole Wiring



To Replace Existing 3-Way Switch:

For wiring a NLV-603P, NLV-1003P, NLV-1503P, or NLV-2003P in a 3-way application, the wall switch has three screws; two of one color and a third of a different color. It also has a green ground screw.

Using the wire connectors provided:

- Connect the wire from the green ground screw to the green or bare ground wire of the dimmer.
- Connect the wire from the odd color switch screw to the black wire of the dimmer.
- Connect wire from one of the remaining switch screws to one of the red wires of the dimmer.
- Connect wire from the last switch screw to the last red wire of the dimmer.

Figure 2. 3-Way Wiring

For use with 4-way switches, see Figure 3.

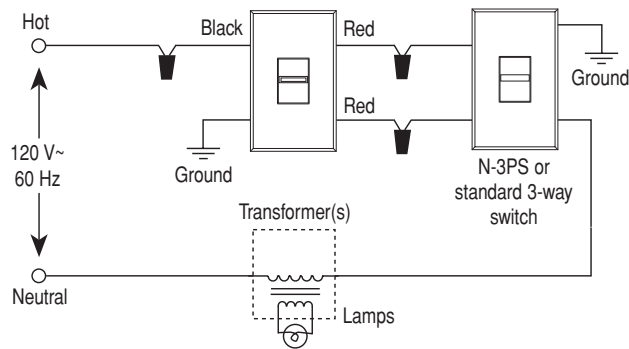
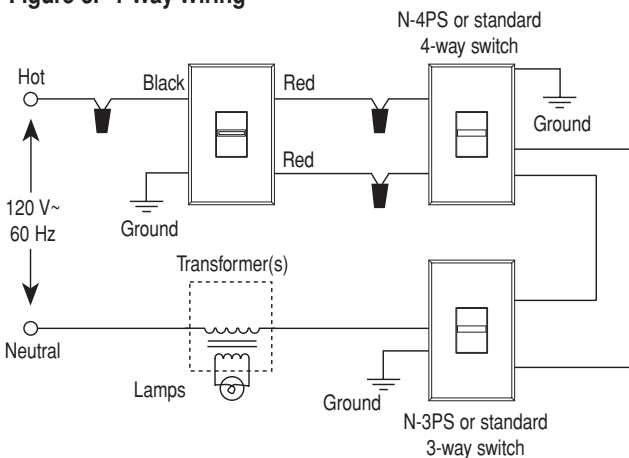


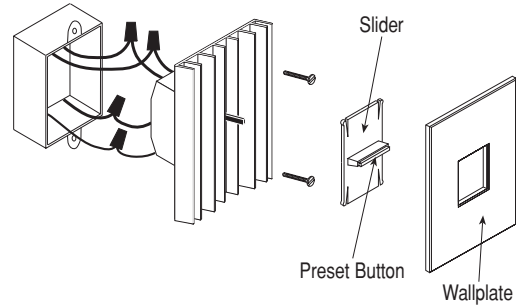
Figure 3. 4-Way Wiring



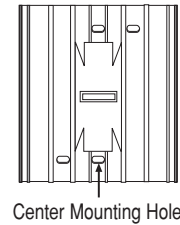
Note: Only one dimmer per 3-Way circuit. Position of NLV-603P, NLV-1003P, NLV-1503P, NLV-2003P and a 3-Way switch may be reversed in wiring diagram. 4-Way switches must be wired between NLV-603P, NLV-1003P, NLV-1503P, NLV-2003P and a 3-Way switch.

6. Push wires into wallbox allowing room for dimmer to be inserted.

Mounting Diagram



7. Mount dimmer to wallbox using two screws provided and the center mounting screw holes. Unit **MUST** be mounted vertically.



8. Snap wallplate on over fins. When ganging, slide wallplate up or down to align them.

Operation

1. Turn on power, push preset button in center of slider to turn lights on to the level set by slider.
2. Raise slider for brighter light, lower for dimmed light. Push button again to turn lights off.
3. For 3-Way applications: When switching power from a standard 3-way switch, light will come on at the level set by slider on the dimmer.

Note: When it is necessary to replace lamps or service the controlled fixtures, turn OFF circuit breaker or remove fuse.

Gangung and Special Wallplates

Dimmers can be ganged with the entire family of *Nova* controls. FOR NEW CONSTRUCTION we suggest installing the dimmers without breaking or removing the side sections. This will insure that the control can be loaded to its full-rated capacity (no derating). Follow the instructions below to install your controls with NO SIDE SECTIONS REMOVED. For a retrofit installation, side sections can be removed from the controls to fit existing wallboxes; however, this will require load derating.

To maintain a smooth, clean installation, one-piece Lutron Multi-Gang Wallplates are available. Custom finishes, engraving and silkscreening are available upon request.

Note: NLV-603P, NLV-1003P are listed as "small" controls. NLV-1503P, NLV-2003P are listed as "large" controls.

Multigang Installation: No Side Sections Removed, No Derating Required

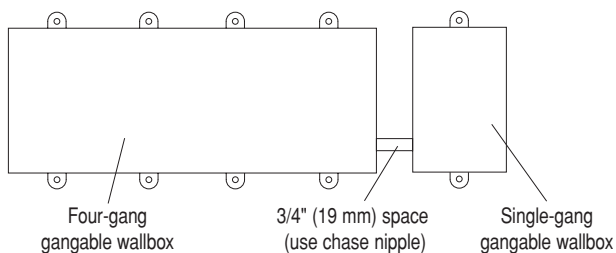
1. Determine the number of large and small controls required.

When ganging any combination of small and large controls, place a small control on one extreme end of the gang, and a large control at the other end of the gang. Use the chart below to find your wallbox requirements.

Wallbox Requirement Chart

No Side Sections Removed	Number of Small Controls						
	0	1	2	3	4	5	6
Number of Large Controls	0	1	1+1	4	4+1	7	1+7
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

Note: When ganging an even number of small controls with no side sections removed, do not use plaster rings or gangbox covers. Space an additional wallbox 3/4" (19 mm) apart from the other wallbox(es). A 3/4" (19 mm) close nipple is recommended as a spacer between the wallboxes.

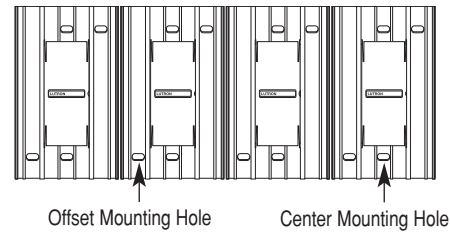


Note: Masonry Multi-Gang Wallboxes are recommended for neater installations.

2. Assemble the controls.

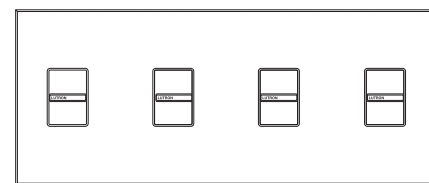
Use the center or offset mounting holes as needed. Allow a 1/32" (0.8 mm) space between controls for ease in attaching the wallplate.

Example: Four-Gang Controls



3. Snap on Multi-Gang Wallplate

Example: Four-Gang Wallplate



Multigang Installation: Side Sections Removed, Derating Required

1. Determine the number of large and small controls required.

When ganging any combination of small and large controls, place all small controls on one end of the gang and all large controls on the other. Use the chart below to determine the size and maximum capacity of each control.

Wallbox Requirement Chart

All Inside Sections Removed	Number of Small Controls						
	0	1	2	3	4	5	6
Number of Large Controls	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

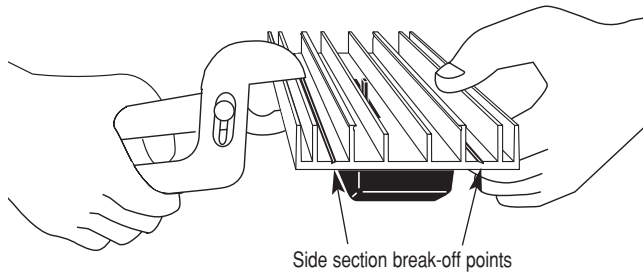
2. Derating is necessary when side sections are removed.

Capacity Derating Chart

Model	Control Size	No Sides Removed	1 Side Removed	2 Sides Removed
NLV-603P	S	600VA	600VA	500VA
NLV-1003P	S	1000VA	900VA	700VA
NLV-1503P	L	1500VA	1250VA	1000VA
NLV-2003P	L	2000VA	1800VA	1500VA

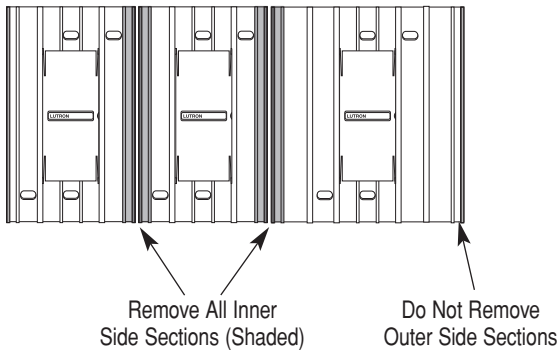
3. Remove inner side sections.

Using pliers, bend side sections down as far as you can and then bend back to original position. Side sections will break off easily.



Note: When removing side sections, remove only inner side sections. Do not remove side sections on outer ends of the gang.

Example:



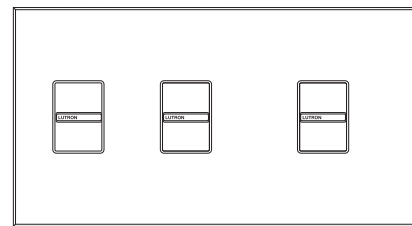
4. Assemble the controls.

Use the center or offset mounting holes as needed. Allow a 1/32" (0.8 mm) space between controls for ease in attaching the wallplate.



5. Snap on Multi-Gang Wallplate

Example:



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.

(800) 523-9466 (U.S.A., Canada, and the Caribbean)

Other countries call (610) 282-3800

Fax (610) 282-3090

Internet: 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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