

## Installation Instructions

### Please Leave for Occupant

### Electronic Tapswitch Dimmers

V-600	120 V~ 60 Hz 600 W Incandescent
	120 V~ 60 Hz 600 VA / 450 W BVM
V-1000	120 V~ 60 Hz 1000 W Incandescent
	120 V~ 60 Hz 1000 VA / 800 W BVM

### Electronic Tapswitches

VETN-1000, VETS-1000, VETS-1000-SL	120 V~ 60 Hz 1000 W
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### Auxiliary Tapswitch

VETS-R, VETS-A-SL	120 V~ 60 Hz 8.3 A
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### Incandescent Applications

These controls are for use with incandescent and halogen lamps only, 120 V ~ 60 Hz. Do not connect to receptacles, fluorescent fixtures, motor-operated appliances, or transformer-supplied appliances.

### Magnetic Low-Voltage (MLV) Applications

These controls are for use with low-voltage incandescent and halogen lamps only. Do not connect to receptacles, fluorescent fixtures, or motor-operated appliances. Use with core and coil (magnetic) low-voltage transformers. Do not attempt to control a solid-state electronic low-voltage transformer. Call the **Lutron® Technical Support Center** and ask for Application Note 19: *Guide to Dimming Low-Voltage Lighting*. Operation of a dimmed MLV circuit with all lamps removed or inoperative may result in current flow in excess of normal levels. To avoid possible transformer failure, *Lutron* strongly recommends the following:

- Do not operate dimmed MLV circuits without operative lamps in place.
- Replace burned-out bulbs immediately.
- Use transformers with thermal protection or fuse the transformer primary windings to prevent transformer failure due to overcurrent.

### Electronic Low-Voltage (ELV) Applications

(VETN-1000 only)

This control is for use with low-voltage incandescent and halogen lamps only. Do not connect to receptacles, or motor-operated appliances. Use with a solid state electronic low-voltage transformer. Call the **Lutron® Technical Support Center** and ask for Application Note 19: *Guide to Dimming Low-Voltage Lighting*.

### Fluorescent Switching Applications

(VETN-1000, VETS-1000, and VETS-1000-SL only)

These controls are for use with electronic fluorescent ballasts. Some high power factor magnetic fluorescent ballasts with shunt capacitor connection for compact fluorescent lamps may not operate properly with this control. Contact your ballast manufacturer or the **Lutron Technical Support Center** for more information.

### Important Notes

- Install in accordance with all national and local electrical codes.
- These controls are designed to operate in ambient temperatures from 32 °F to 104 °F (0 °C to 40 °C).
- Strip wallbox wires. **Important:** When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connectors. Twist wire connector tight making sure that no bare wire is exposed. **Note:** Wire connectors provided are suitable for copper wire only. For aluminum wire, consult an electrician.

### Small:

Strip insulation 3/8 in (10 mm) for #14 AWG (1.5 mm<sup>2</sup>) wire.  
Strip insulation 1/2 in (13 mm) for #16 AWG (1.0 mm<sup>2</sup>) or #18 AWG (0.75 mm<sup>2</sup>) wire.  
Use to join one #14 AWG (1.5 mm<sup>2</sup>) supply wire with one #16 AWG (1.0 mm<sup>2</sup>) or #18 AWG (0.75 mm<sup>2</sup>) control wire.

### Large:

Strip insulation 1/2 in (13 mm) for #10 AWG (6 mm<sup>2</sup>), #12 AWG (2.5 mm<sup>2</sup>), or #14 AWG (1.5 mm<sup>2</sup>) wire.  
Strip insulation 5/8 in (16 mm) for #16 AWG (1.0 mm<sup>2</sup>) or #18 AWG (0.75 mm<sup>2</sup>) wire.  
Use to join one or two #12 AWG (2.5 mm<sup>2</sup>) or #14 AWG (1.5 mm<sup>2</sup>) supply wires with one #10 AWG (6 mm<sup>2</sup>), #12 AWG (2.5 mm<sup>2</sup>), #14 AWG (1.5 mm<sup>2</sup>), #16 AWG (1.0 mm<sup>2</sup>), or #18 AWG (0.75 mm<sup>2</sup>) control wire.



- Check for short circuits in new installations before wiring controls. With power OFF, use an appropriate switch and connect to line and lamp. Turn the power ON. If breaker trips, a short is present. Correct wiring and check circuit again. Install control only when short is no longer present.
- Auxiliary Switching:  
V-600, V-1000, VETS-1000, and VETN-1000 use a VETS-R for auxiliary switching up to (9) additional locations. VETS-1000-SL uses a VETS-A-SL for auxiliary switching up to (4) additional locations. Controls will not work with standard 3-way and 4-way switches.
- VETN-1000 and VETS-1000-SL require a neutral connection. Their auxiliaries, VETS-A-SL and VETS-R do not require a neutral connection.
- Multiphase applications: Use a separate neutral for each phase containing a control circuit. For more information call the **Lutron Technical Support Center** and ask for Application Note 17: *Common Neutral Interaction*.

### Cleaning Instructions

To clean, wipe with a soft clean damp cloth. **DO NOT** use any chemical cleaning solutions.

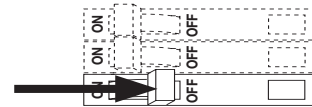
### Installation

If more than one control is to be installed in the same wallbox, review Multigang Installation section (back page) before beginning.

- Turn power OFF at fusebox or circuit breaker.



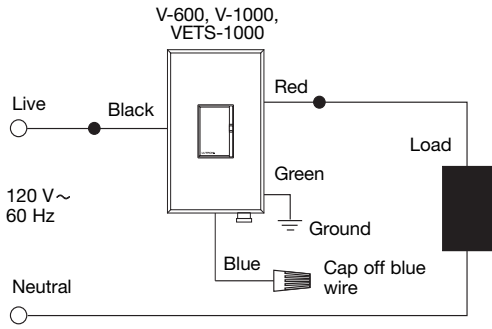
**Warning:** Verify that power is OFF before proceeding. Failure to turn power OFF could cause death or serious injury.



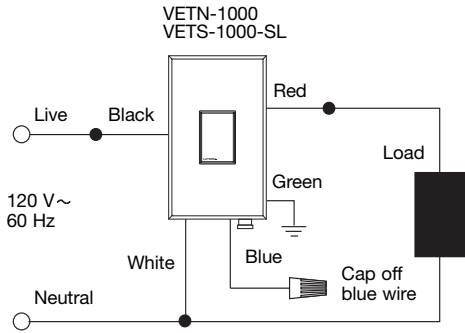
- Remove faceplate from control to access mounting holes. Pull from top of faceplate to remove.
- Wire control per appropriate wiring diagram (see next page) using wire connectors provided. Dots on diagrams represent wire connectors and color names refer to the wire color on the control.

Model Number	Wiring Diagram	
V-600, V-1000, VETS-1000	Single-Pole	1
	Multi-Location	3
VETS-R	Multi-Location	3, 5
VETS-1000-SL	Single-Pole	2
	Multi-Location	4
VETS-A-SL	Multi-Location	4
VETN-1000	Single-Pole	2
	Multi-Location	5

### Wiring Diagram 1

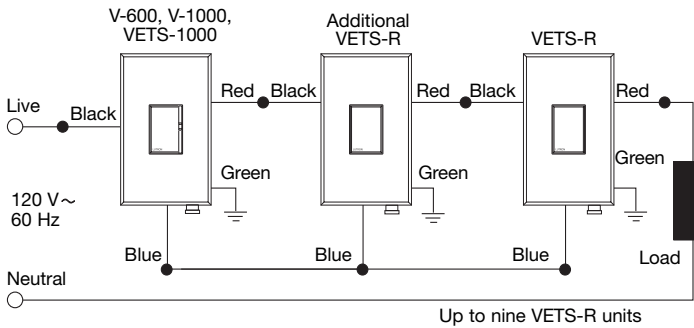


### Wiring Diagram 2

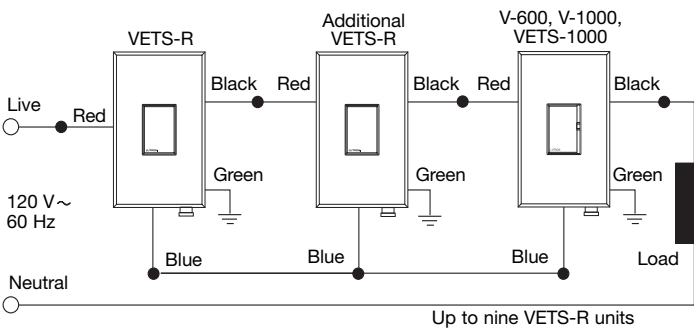


### Wiring Diagram 3

#### Line-Side Control Wiring Diagram

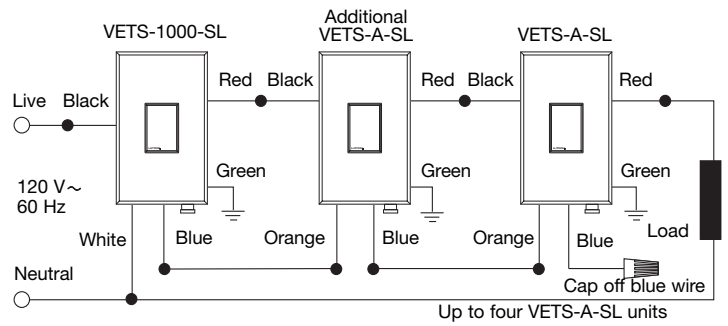


#### Load-Side Control Wiring Diagram

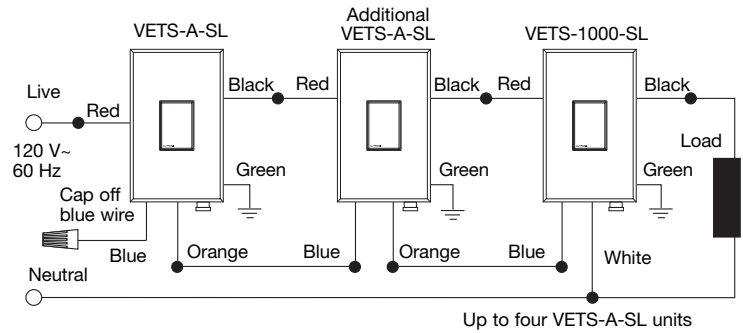


### Wiring Diagram 4

#### Line-Side Control Wiring Diagram

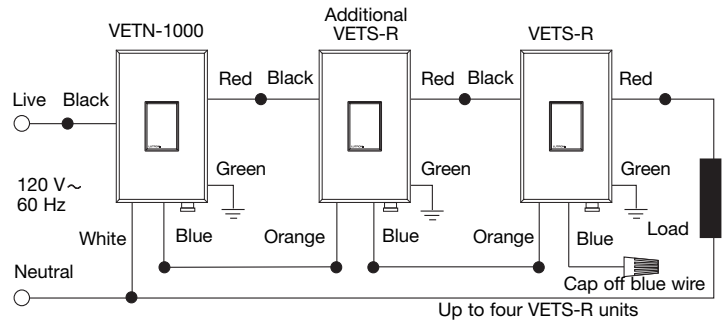


#### Load-Side Control Wiring Diagram

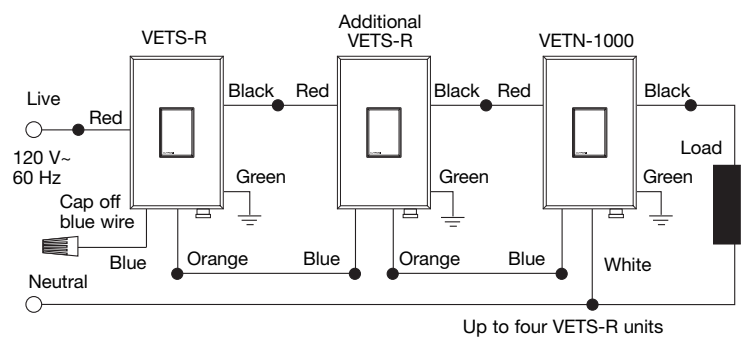


### Wiring Diagram 5

#### Line-Side Control Wiring Diagram



#### Load-Side Control Wiring Diagram

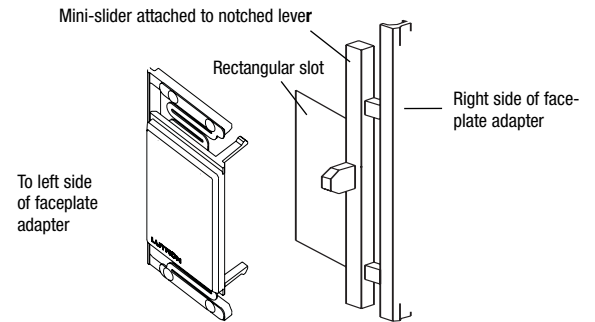
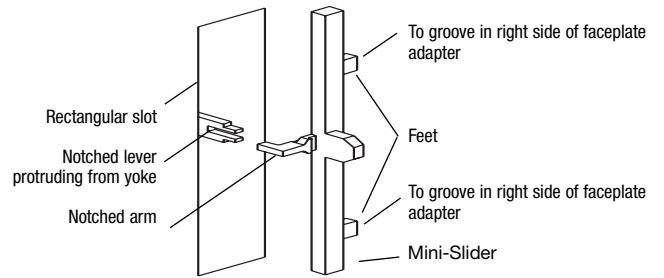
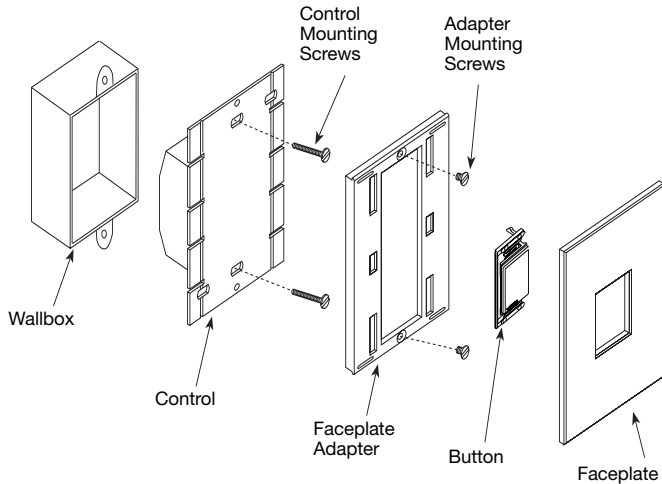


## Mounting Instructions

1. Remove faceplate from control to access mounting holes. Pull faceplate from top to remove.
2. Push wires into wallbox, allowing room for control backbox to be inserted. Do not pinch wires between wallbox and control.
3. Mount control to wallbox using screws provided.
4. Replace the Faceplate.

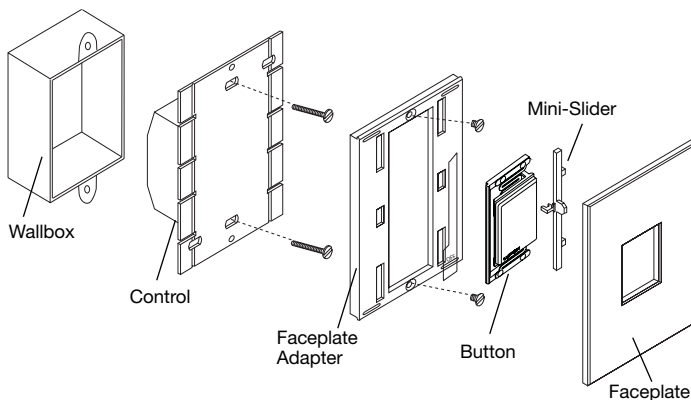
### Component Assembly

VETN-1000, VETS-1000-SL, VETS-A-SL, VETS-1000, VETS-R



### Component Assembly (V-600, V-1000)

1. Make sure that the faceplate adapter is correctly mounted to the control. (Observe the UP arrows on the faceplate adapter and make sure that the FASS switch is in the lower right corner.)
2. Hold the mini-slide so that the two feet face right and the notched arm faces left. Fit the feet into the groove on the right side of the faceplate adapter and fit the arm into the notched slider in the control. Slide the mini-slide up and down to make sure it slides smoothly.
3. To mount the button, hold it so that the name LUTRON appears in the lower left corner. Fit the plastic slider on the left side of the button into the left groove of the faceplate adapter. Push the two legs on the right side of the button gently into the slot in the control. The button should fit loosely but not fall out.
4. Mount the faceplate adapter to the control, using the faceplate adapter mounting screws.



## Operation

### Dimmers

Push button in center of dimmer to turn lights on and off. Raise slider to increase light intensity. Lower slider to decrease light intensity.

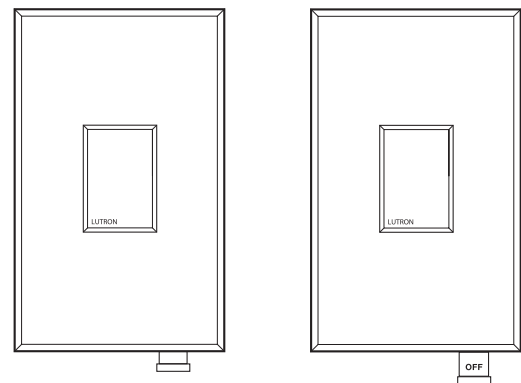
### Electronic Tapswitches

Push button in center of Tapswitch to turn lights on and off.

### Electronic Tapswitches with Status Light

Push button in center of Tapswitch to turn lights on and off. The status light will be lit when the circuit is on. The status light will turn off when the circuit is off.

For routine lamp replacement, power may be conveniently disconnected from fixtures by pulling the clear FASS (Front-Accessible Service Switch) so OFF is visible (see below). For any procedure other than routine lamp replacement, power must be disconnected at the main electrical panel. The FASS switch must be returned to the up (on) position in order to operate lights.



System On

System Off

FASS Switch Location

## Multigang Installation

Multiple controls can be installed in a common gangable wallbox or a series of interconnected wallboxes for a clean, consolidated appearance. *Lutron* multigang faceplates are available to complete the installation. Refer to instruction sheet supplied with the multigang faceplate for installation.

For new installations, controls can be ganged without removing side sections. However, to reduce the size of the multigang installation or to fit existing wallboxes, inner side sections must be removed. Because side sections are designed to dissipate heat, removing them requires derating the capacity of the control.

**Note:** 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 rating of each control.

## Control Size and Rating Chart

Model	Control Size	No Sides Removed	1 Side Removed	2 Sides Removed
V-600	S	600 W / VA	500 W / VA	400 W / VA
V-1000	S	1000 W / VA	900 W / VA	700 W / VA
VETN-1000	S	1000 W / VA	800 W / VA	650 W / VA
VETS-1000	S	1000 W / VA	800 W / VA	650 W / VA
VETS-1000-SL	S	1000 W / VA	800 W / VA	650 W / VA
VETS-R	S	8.3 A	*	*
VETS-A-SL	S	8.3 A	*	*

\* No derating required for VETS-R and VETS-A-SL

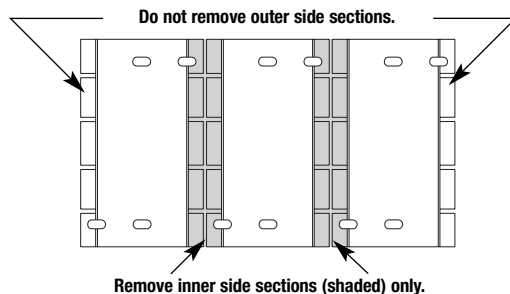
## Fins Broken (Side Sections Removed)

(Capacity reduction required)

## Wallbox Requirement Chart

		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 inner side sections from controls. Using pliers, bend side sections up and down until they break off.



## No Fins Broken (No Side Sections Removed)

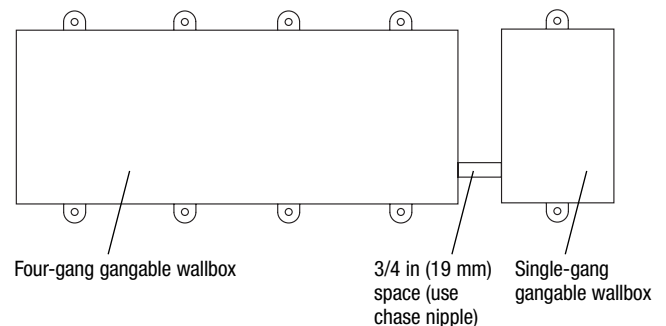
(Capacity reduction not required)

## Wallbox Requirement Chart

		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 controls with side sections intact and there are no large controls, use gangable 3 in x 2 in (76 mm x 51 mm) wallboxes. Space an additional wallbox 3/4 in (19 mm) apart from the other wallboxes. A 3/4 in (19 mm) chase nipple is recommended as a spacer between wallboxes.

**Example:** Wallbox arrangement required for ganging 4 small controls with no side sections removed.



## Worldwide Technical and Sales Assistance

For questions concerning the installation or operation of these products, call the **Lutron Technical Support Center**. Please provide the exact model number when calling.

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

Other Countries call +1.610.282.3800

Fax +1.610.282.3090

Visit our web site at [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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This product may be covered by one or more of the following U.S. patents: 4,737,609; 4,783,581; 4,803,380; 4,833,339; 4,835,343; 4,876,498; 4,954,768; DES 311,371; DES 337,755; and corresponding foreign patents. U.S. and foreign patents pending. Lutron and Vareo are registered trademarks and FASS is a trademark of Lutron Electronics Co., Inc.

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