

Troubleshooting Guide

Problem	Possible Cause	Test and Repair Procedure
No lights at all.	A. Circuit breaker tripped B. FASS slider(s) in the off position C. Wires shorted D. Wiring error	A. Turn breaker on. If it trips again, check circuit for shorts. B. Make sure all FASS sliders are in the on position. Press tapswitch. Lights should turn on. C. Be sure blue leads are not shorted to any other wires. D. Check wiring to be sure it agrees with Installation Instructions and wiring diagrams.
Lamps turn on when tapswitch is pressed, then turn off.	A. Wiring error B. Tapswitch stuck at another location	A. Check wiring to be sure it agrees with Installation Instructions and wiring diagrams. In particular, check that red and black wires are not swapped. B. Check to see that tapswitches are not sticking for all auxiliary switching locations for the circuit.
Lights don't switch when tapswitch is pressed.	A. Faceplate not properly attached to control B. Wires shorted C. Wiring error	A. Check alignment of faceplate to make sure button is activating the control. B. Be sure wires are not shorted to any other wires. C. Check wiring to be sure it agrees with Installation Instructions and wiring diagrams.
Lights don't switch On/Off when VETS-R tapswitch is pressed.	A. Wires shorted B. Wiring error	A. Be sure blue leads are not shorted to any other wires. B. Check wiring to be sure it agrees with Installation Instructions and wiring diagrams.
Lights don't switch On/Off from Master Keypad.	A. Improper programming B. Wires shorted C. Wiring errors	A. Check startup procedure for HomeWorks system. B. Be sure violet leads are not shorted together or to any other wires. C. Check wiring to be sure it agrees with Installation Instructions and wiring diagrams.
Faceplate is warm.	A. Solid-state control dissipation	A. It is normal for solid-state controls to dissipate about 2% of the total connected load. Faceplates will feel warm. Temperatures of the faceplates may go up to 40°C (104°F) under normal operation.

Warranty

Lutron will, at its option, repair or replace any control that is defective in materials or manufacture within two years after the purchase. For warranty service, return control to place of purchase or mail to Lutron at 7200 Suter Road, Coopersburg, PA 18036-1299, postage prepaid.

This warranty is in lieu of all other warranties, express or implied, and the implied warranty of merchantability is limited to two years from purchase. This warranty does not cover the cost of installation, removal, or reinstallation, or damage resulting from misuse, abuse, or improper wiring or installation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty may last, so the above limitations and exclusions may not apply to you.

Technical and Sales Assistance

If you need assistance, call the toll-free **Lutron Technical Assistance Hotline:**

(800) 523-9466 (U.S.A.)
Outside the U.S.A., call (610) 282-3800
Fax (610) 282-3090

LUTRON

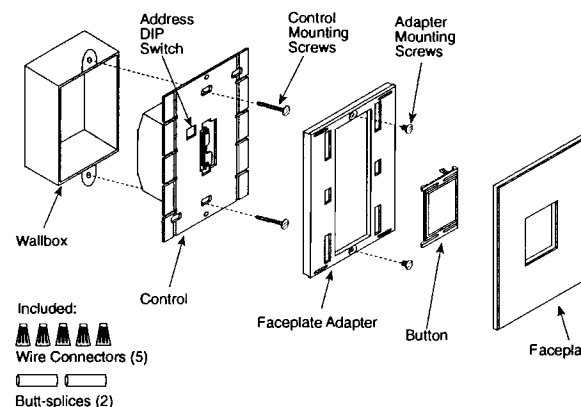
Lutron Electronics Co., Inc.
7200 Suter Road
Coopersburg, PA 18036-1299
Made and printed in the U.S.A. 11/96 P/N 030-498 Rev. A

HomeWorks™ VAREO®

Installation Instructions

HWV-1000NS
Single Pole or 3-Way Lighting Controls
120VAC, 60Hz

Parts Identification



Important Notes

Please Read Before Installation

Codes: Install in accordance with all local and national electrical codes.

Overheat Damage: To reduce the risk of overheating and possibly damaging other equipment, do not install these devices to control receptacles or motor-operated appliances.

Lamp Type: HWV-1000NS is designed for use with incandescent, low-voltage, and magnetic fluorescent loads.

Temperature: Controls are designed to be used where temperatures are between 0°-40° C (32°-104° F).

Wallboxes: Controls mount in standard wallboxes. For easy installation, Lutron recommends using 3 1/2" deep wallboxes. Several controls can be installed in one wallbox (refer to the section "Multigang Installations"). This requires removal of side sections and derating of controls. To maintain a smooth, clean installation, standard one-piece multigang faceplates are available in various colors and sizes from Lutron.

Auxiliary Controls: Use only Lutron auxiliary tapswitches (VETS-R) with HWV-1000NS controls. Mechanical 3- or 4-Way switches will not work. Up to nine VETS-R auxiliary tapswitches may be used with a HomeWorks Vareo control.

Spacing: If mounting one control above another, leave at least 4 1/2" vertical space between controls.

Multigang Installations

In multigang installations, several controls are grouped horizontally in one wallbox.

- When combining controls in a wallbox, remove inner side sections prior to wiring (See Figure A). Do not remove outer sections. Derating is required (see Derating Chart below).

Derating Chart

	No Sides Removed	One Side Removed	Two Sides Removed
HWV-1000NS	1000VA 800W*	700VA 550W*	550VA 450W*
VETS-R	No Derating Necessary		

* Because low-voltage transformers vary widely in efficiency, the input VA of each transformer should be measured directly. If this is not possible, use the maximum lamp wattage figures which have a built-in safety margin.

- To remove side sections: Bend side sections back and forth with pliers. Repeat until side sections break off. Use a file or sandpaper to remove any burrs or excess metal. **Note:** For no side sections removed in a multigang installation, refer to Lutron catalog P/N 360-178.

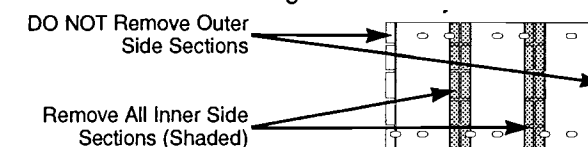


Figure A: Side Section Removal for Ganging

Prewire for Mastering Applications

Controls have Class 2 remote-circuit connectors which exit at the top of the control and connect to the HomeWorks Panel. Pull Class 2 wires from each wallbox location that contains a control to a HomeWorks Panel. Use #18 to 22 AWG, shielded, 2-conductor wire. Up to four HomeWorks Vareo controls can be wired in parallel to a single bus. Wiring can be daisy chained, T-tapped, or homerun back to the HomeWorks Panel.

Address Devices

Up to four HomeWorks Vareo devices can be wired to each Vareo bus of a HomeWorks panel. Assign a unique address to each device using the DIP switch accessible through the front of the yoke (see Parts Identification diagram above). See Figure B below for DIP switch settings. Be sure to record the addresses for future programming purposes. This device may be placed on links with older dimmers that have software configurable addresses. Lutron recommends setting the addresses on this device prior to entering address mode on the HomeWorks panel. Refer to the Integrated Systems Training manual for more information on addressing. **Note:** It is only necessary to enter address mode on the HomeWorks panel to address software configurable devices.

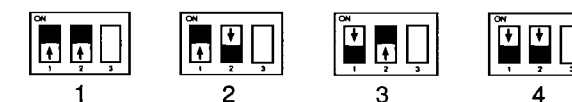


Figure B: DIP Switch Settings

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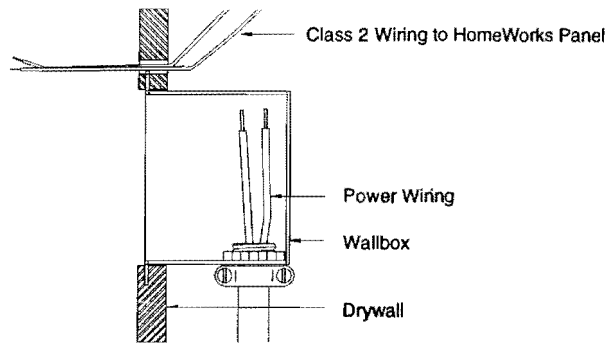
This product may be covered by one or more of the following U.S. patents: RE 33,504; 4,737,609; 4,783,581; 4,833,339; 4,889,999; 5,170,068; 5,237,207; DES 311,371 and corresponding foreign patents. U.S. and foreign patents may be pending. Lutron and Vareo are registered trademarks and FASS and HomeWorks are trademarks of Lutron Electronics Co., Inc. © 1996 Lutron Electronics Co., Inc.

Installation

WARNING: REMOVE FUSE OR TURN OFF POWER AT BREAKER. INSTALLING WITH POWER ON CAN RESULT IN SERIOUS PERSONAL INJURY.

Short Circuit Check: Check new installations for short circuits before installing control(s). With power off, install standard switch(es) between hot and load. Restore power. If lights don't work or a breaker trips, check wiring. Correct wiring and check again. Install control(s) only when short is no longer present. Warranty is void if control is turned ON with a shorted load.

1. Turn power OFF at fusebox or circuit breaker.
2. Remove faceplate. Pull out at top to snap off. Remove faceplate adapter.
3. If necessary for multigang installation remove adapter.
4. Set control address according to Figure B.
5. Pull Class 2 wires from outside of wallbox through hole in the drywall. See Figure C. Leave wires outside the top of the wallbox.



Note: For supply connections use wires rated for at least 75° C.

Figure C: Class 2 Wire Installation

6. Wire Controls

Single location installation: See Wiring Diagram 1 on next page.

Multi-location installation: See Wiring Diagrams 2 and 3 on next page. You can connect up to nine VETS-R auxiliary tapswitches to one HWV-1000NS control. **Warning: Do not** connect blue wires to red or black wires.

7. Crimp the violet and gray wires of the HWV-1000NS to the Class 2 wires connected to the HomeWorks Panel. Use the Butt-splices provided. See Figure D. Push the Class 2 wires and the splices through the hole in the drywall. This provides the necessary separation required by the National Electric Code.

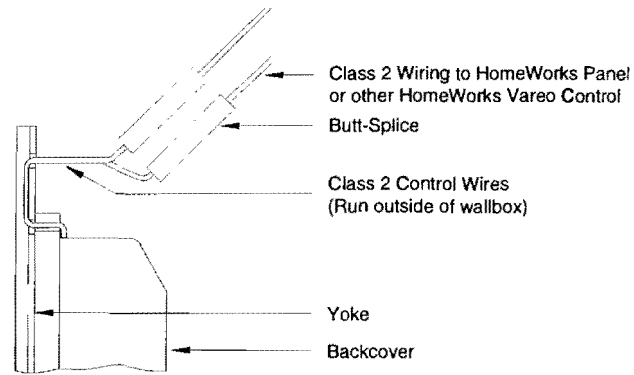


Figure D: Class 2 Wire Connection

8. Push all wires back into the wallbox and fasten the control to the wallbox with the screws provided. Do not pinch the wires.
9. Attach faceplate adapter (see Parts Identification diagram on the first page).
10. Replace components. (See Figure E).

Tapswitch Button

To mount the button, hold it so the name "LUTRON" is right side up. Fit the feet in the groove in the left side of the faceplate adapter. Push the two legs on right side of button gently into slot in control. Button should fit loosely but not fall out. Snap faceplate onto the faceplate adapter.

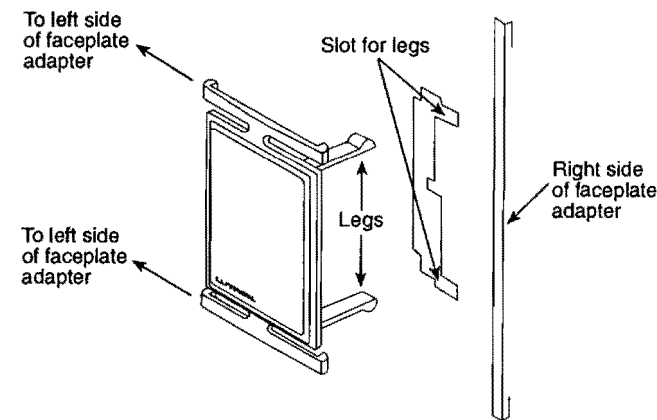


Figure E: Component Assembly

11. Restore power.

Operation

Pressing the tapswitch on any HomeWorks Vareo or VETS-R control will alternately turn the lights ON and OFF.

For routine lamp replacement, power may be removed from the fixtures by pulling down the clear Front-Accessible Service Switch (FASS™) until the word "OFF" is visible (see Figure F). After replacing lamps, the switch must be pushed up to the ON position ("OFF" is not visible) to operate lamps.

Caution: For any procedure other than routine lamp replacement, power must be disconnected at the main electrical panel.

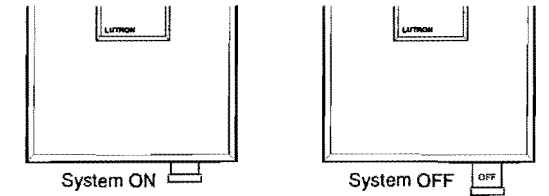
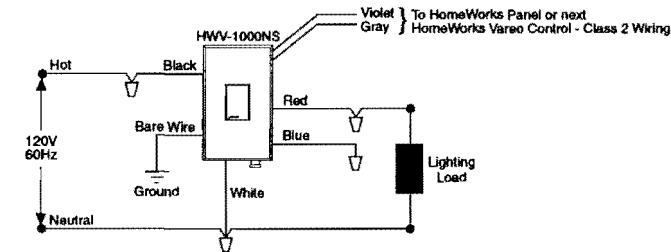
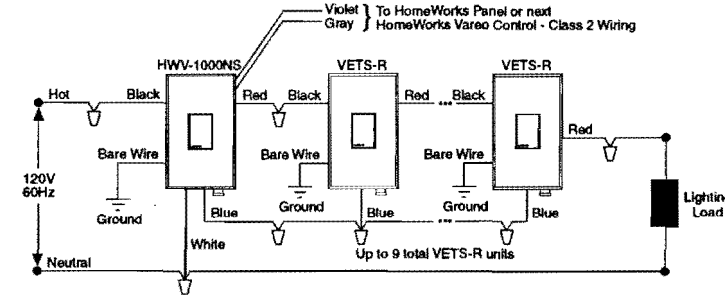


Figure F: FASS™ (Front-Accessible Service Switch)

Wiring Diagram 1: Single Location Installation



Wiring Diagram 2: Multiple Location Installation (Control Line Side)



Wiring Diagram 3: Multiple Location Installation (Control Load Side)

