

Dimmer Installation Instructions

Please Leave for Occupant

Fluorescent Dimmer
VTF-6AM: 120 V~ / 277 V~ 60 Hz 6.0 A

Companion Dimmer
VT-AD: 120 V~ 60 Hz 8.3 A 277 V~ 60 Hz 6.0 A

Important Notes:

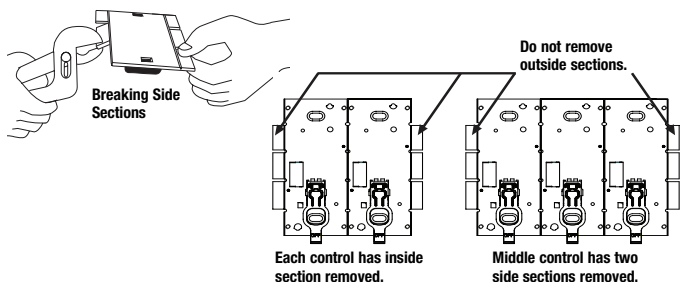
Please read before installing.

- Use with Lutron® 3-Wire Electronic Fluorescent Dimming Ballasts only. Do not use with any other ballasts.
- The Main Dimmer requires a neutral wire in the wallbox. If your wallbox does not have a neutral wire, one must be run. The dimmers will not operate without one.
- Install in accordance with all national and local electrical codes.
- The Verti® Main Dimmer must be wired on the load-side of a multi-location circuit.**
- Use only the lamp types listed on the label of the ballast. Compact fluorescent lamps must have 4 pins for dimming.
- When "no grounding means" exists within the wallbox, then the NEC® 2008, Article 404.9 allows a Dimmer without a grounding connection to be installed as a replacement, as long as a plastic, noncombustible wallplate is used. For this type of installation, twist a wire connector onto the green ground wire of the Dimmer or remove the green ground wire.
- Verti Main Dimmers are not compatible with standard 3-way switches. Use only with Companion Dimmers (VT-AD).
- Companion Dimmers (VT-AD) cannot be used individually but must be used in conjunction with a Verti Main Dimmer in a 3-way/4-way application.
- In any 3-way/4-way circuit, use only one Main Dimmer with up to four Companion Dimmers.
- Maximum total wire length between all devices is 250 feet (76 m).
- Operate between 32 °F (0 °C) and 104 °F (40 °C).
- The Dimmer may feel warm to the touch during normal operation.
- Do not paint Dimmers or Companion Dimmers (VT-AD).
- Recommended wallbox depth is 2.5 in (64 mm) minimum.
- In multi-phase applications, use a separate neutral for each Dimmer circuit. If further information is required, obtain Application Note #17 *Common Neutral Interaction*. Call Lutron at 1.800.523.9466 or access www.lutron.com.

Multigang Installation

Lutron Verti wallplates are available in one to six gang versions. When combining controls in a wallbox, derating of the Main Dimmer is required; see the Derating Chart below.

Note: Companion Dimmers do not need to be derated.



Derating Chart

Dimmer Type	Maximum Load		
	No Sides Removed	1 Side Removed	2 Sides Removed
VTF-6AM	6 A	5 A	3.5 A
	60 Ballasts	50 Ballasts	35 Ballasts

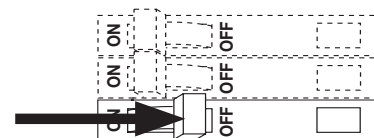
Note: The maximum load for the Fluorescent Dimmer is the derated load or the number of ballasts, whichever is less.

Preparing for Installation

1 Turn the Power OFF

- Turn the power OFF at the circuit breaker (or remove the fuse).

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



2 Check the Wiring

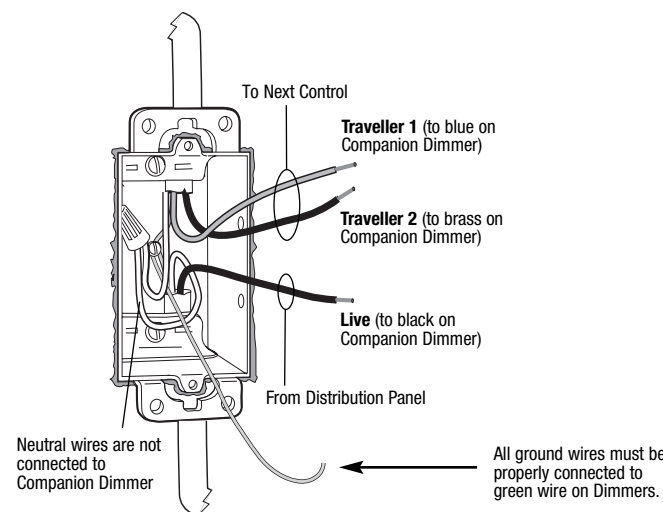
2a This Dimmer requires special wiring to control electronic ballasts.

Before starting, make sure that the wires shown below are available in your wallbox.

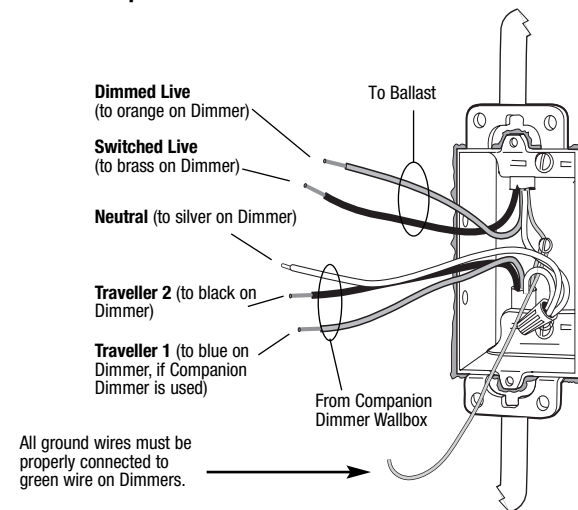
If these wires are not available in your wallbox, contact a licensed electrician to have them installed.

All wiring must comply with national and local electrical codes.

Required Wires for First Line-Side Companion Dimmer



Required Wires for Load Side Main Dimmer



2b

Check new installations for short or open circuits **BEFORE** installing the Fluorescent Dimmer.

Proceed as follows:

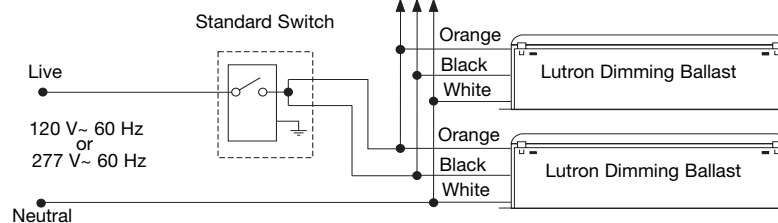
- Make certain that the power has been turned OFF at the circuit breaker or that the fuse has been removed.
- Connect a standard switch as shown in the Test Switch Wiring Diagram below.
- Turn the power ON at the circuit breaker box or replace the fuse.
- Turn the switch ON.

If lights do not come on, there is a break in the wiring. If the breaker trips, there is a short in the wiring. If necessary, turn the power OFF at the circuit breaker box or remove the fuse, correct any wiring problems, and recheck the circuit.

After the problem has been corrected, remove the test switch before proceeding with the installation.

Test Switch Wiring Diagram

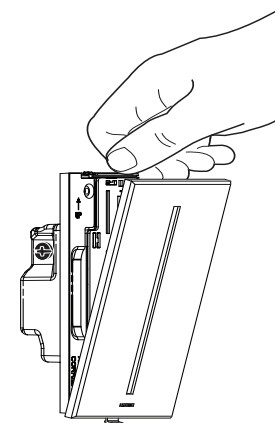
To Additional Lutron Dimming Ballasts



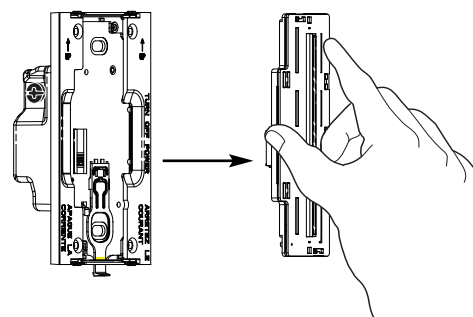
3

Prepare the Dimmer for Installation

- The Dimmer has a pre-installed Verti wallplate. Remove the wallplate before proceeding with the installation.
- The Dimmer has a pre-installed front module containing LEDs. Before proceeding with the installation, grab the module and pull it straight out. Removing the Front Module will expose the mounting holes.



Grasp the wallplate at top and pull forward to remove.



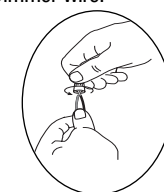
Grasp the front module on each side and pull to remove.

4 Wire the Main Dimmer and Companion Dimmer (s)

Important Wiring Information

When making wire connections, follow the recommended strip lengths and combinations for the supplied wire connector. **Note:** All wire connectors provided are suitable for **copper wire only**. For aluminum wire, consult an electrician.

Wire Connector:
Use to join 12 AWG (2.5 mm²) or 14 AWG (1.5 mm²) ground wire to 18 AWG (0.75 mm²) Dimmer wire.



Twist wire connector tight.

Trim or strip wallbox wires to the length indicated by the strip gauge on the back of the Dimmer.

Push-in Terminals: Insert wires fully. **Note:** Push-in terminals are for use with 14 AWG (1.5 mm²) **solid copper wire only**. DO NOT use stranded or twisted wire.



or

Screw Terminals: Tighten securely. Screw terminals are for use with 12 AWG (2.5 mm²) or 14 AWG (1.5 mm²) **solid copper wire only**. DO NOT use stranded or twisted wire.



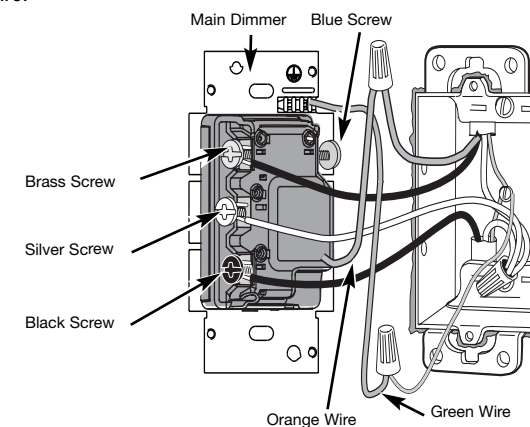
- For installations involving more than one control in a wallbox, refer to Multigang Installation before beginning.

4a - Single-Pole Wiring

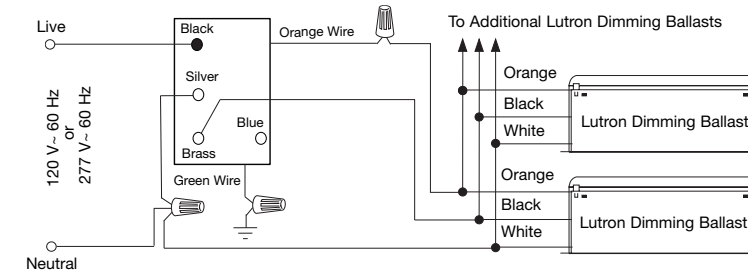
Before beginning, make absolutely sure that the power is OFF!

Wiring the Main Dimmer (Only the Main Dimmer is used in this installation.)

- Connect the green ground wire to the bare or green ground wire in the wallbox.
- Black screw:** Connect the live supply wire (120 V~ or 277 V~) to this screw.
- Brass screw:** Connect the wire coming from the black terminal on the ballast to this screw.
- Blue screw:** Tighten the blue screw. **The blue screw is not used in a single-pole circuit.**
- Silver screw:** Connect the neutral wire in the wallbox to this screw.
- Orange wire:** Connect the wire coming from the orange terminal on the ballast to this wire.



Single-Pole Wiring Diagram



The wiring has now been completed.

4b - 3-Way Wiring (Two Locations)

Before beginning, make absolutely sure that the power is OFF!

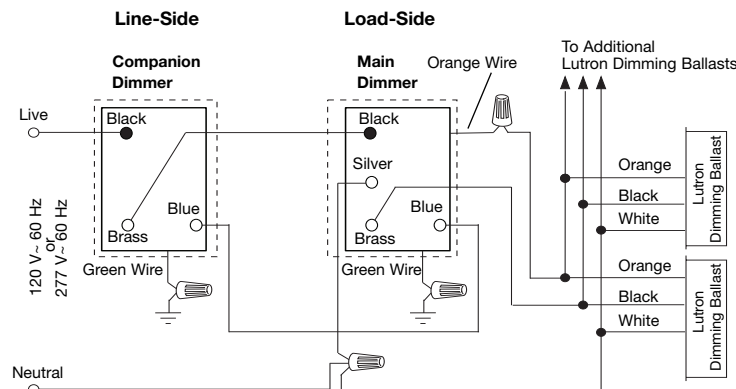
Only the Main Dimmer has an orange wire and a silver screw.

Wiring the Companion Dimmer on the line-side.

1. Connect the green ground wire to the bare or green ground wire in the wallbox.
2. **Black screw:** Connect the live wire (120 V~ or 277 V~) to this screw.
3. **Brass screw:** Connect a wire (note wire color) to this screw.
4. **Blue screw:** Connect the remaining wire (note wire color) to this screw.

Wiring the Main Dimmer on the load-side.

1. Connect the green ground wire to the bare or green ground wire in the wallbox.
2. **Black screw:** Connect the wire coming from the brass screw of the Companion Dimmer to this screw.
3. **Brass screw:** Connect the wire from the black terminal on the ballast to this screw.
4. **Blue screw:** Connect the wire coming from the blue screw of the Companion Dimmer to this screw.
5. **Silver screw:** Connect the neutral wire in the wallbox to this screw.
6. **Orange wire:** Connect the wire from the orange terminal of the ballast to this wire.



The wiring has now been completed.

4c - 4-Way Wiring (Three to Five Locations)

Before beginning, make absolutely sure that the power is OFF!

Notes:

- Only one location can be a Main Dimmer. The other locations are Companion Dimmers with up to four Companion Dimmers in an installation.
- The Companion Dimmer does not have a silver screw or an orange wire.

Wiring the first Companion Dimmer to the line-side.

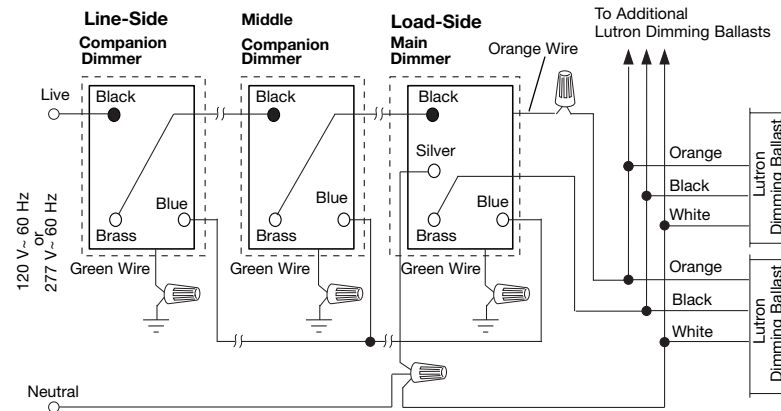
1. Connect the green ground wire to the bare or green ground wire in the wallbox.
2. **Black screw:** Connect the live wire (120 V~ or 277 V~) to this screw.
3. **Brass screw:** Connect a wire from this screw to the black screw of the next (middle) Companion Dimmer (note wire color).
4. **Blue screw:** Connect a wire from this screw to the blue screw of the next (middle) Companion Dimmer (note wire color).

Wiring the middle Companion Dimmer(s).

1. Connect the green ground wire to the bare or green ground wire in the wallbox.
2. **Black screw:** Connect the wire coming from the brass screw of the previous line-side Companion Dimmer (see above) to this screw.
3. **Brass screw:** Connect a wire from this screw to the black screw of the next load-side Companion Dimmer or the Main Dimmer (note wire color).
4. **Blue screw:** Connect the wire coming from the first Companion Dimmer to this screw. This wire will then continue to the blue screw of the Main Dimmer or next load-side Companion Dimmer.

Wiring the Main Dimmer on the load-side.

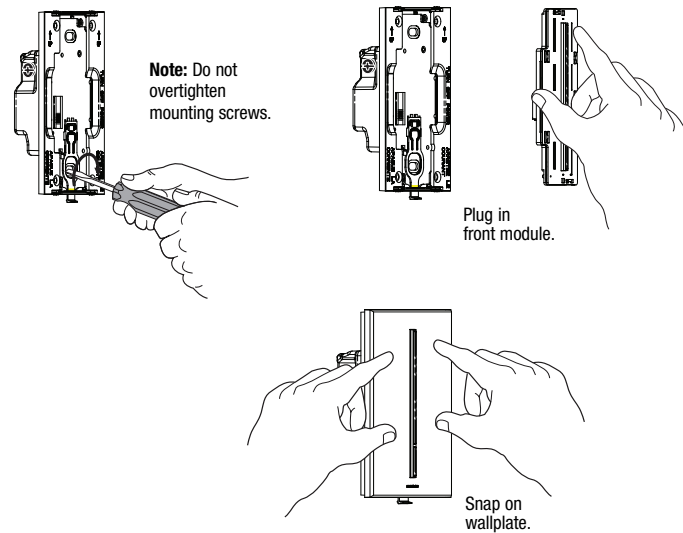
1. Connect the green ground wire to the bare or green ground wire in the wallbox.
2. **Black screw:** Connect the wire coming from the brass screw of the middle Companion Dimmer(s) to this screw.
3. **Brass screw:** Connect the wire coming from the black terminal of the ballast to this screw.
4. **Blue screw:** Connect the wire coming from the blue screws of the first and middle Companion Dimmer(s) to this screw.
5. **Silver screw:** Connect the neutral wire in the wallbox to this screw.
6. **Orange wire:** Connect the wire coming from the orange terminal of the ballast to this wire.



The wiring has now been completed.

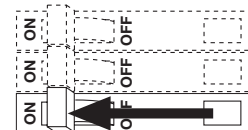
5 Mount the Dimmer or Companion Dimmer(s) to the Wallbox

- Form wires carefully into the wallbox, mount and align Dimmer (and Companion Dimmer).
- Install the front module and the wallplate.



6 Turn Power ON

- Turn the power ON at the circuit breaker (or replace the fuse).

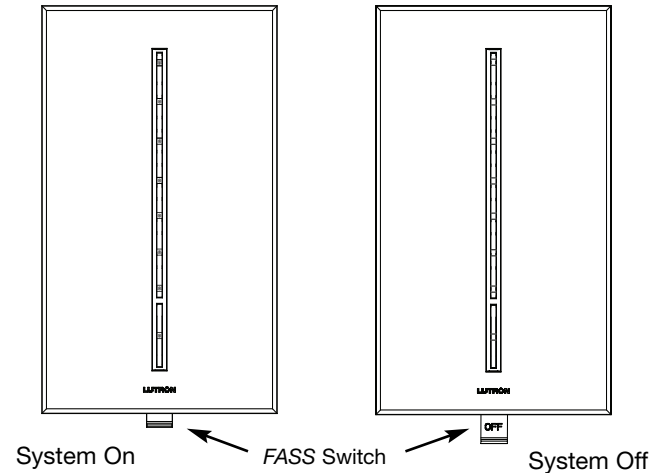


7 Dimmer Operation

Turning the System On/Off

Turn the system on by pushing the Front Accessible Service Switch (FASS™) up. Pulling the FASS switch down, removes power from the load.

Note: The FASS switch is not used during normal operation.



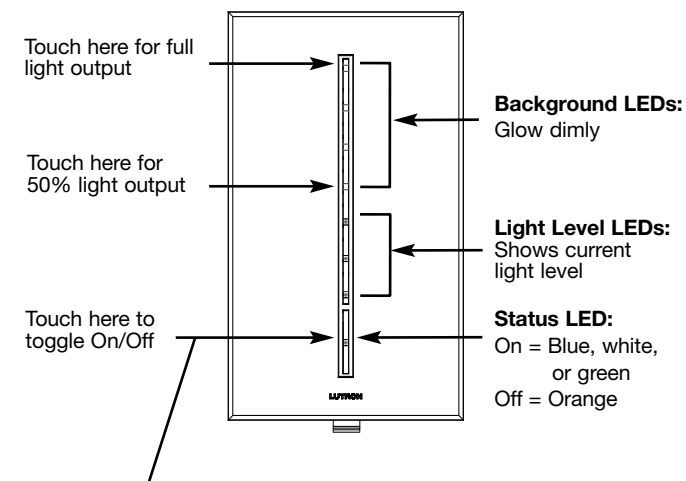
Important Notice:

To replace lamps, power may be conveniently removed by pulling the FASS switch down on the Dimmer or any Companion Dimmer. **For any procedure, other than routine lamp replacement, power must be turned OFF at the main electrical panel.**

Note:

In a 277 V installation, it may be necessary to adjust the low-end light level trim of the *Vierti* Dimmer to achieve the desired minimum light level. The low-end trim can be adjusted by using the *Vierti* Dimmer's Advanced Programming Mode. Learn how to adjust the low-end trim by consulting Section *Selecting High and Low End Trim* in Application Note #205 *Vierti* Advanced Programming Mode. Please visit www.lutron.com/vierti.

Dimmer Functions



Touch and hold when the unit is on: Each time the Dimmer is turned off, delayed fade to off can be activated. As this region is held, an LED will begin to flash, and the lights will begin to fade off with a 30 second delay.

Advanced Programming Mode

The following *Vierti* Dimmer settings can be modified using the Advanced Programming Mode:

- High/Low End Trims
- LED Brightness
- Sound Off/On
- Delayed Fade Wait Time
- Off Fade Time
- On Fade Time
- Locked Preset

Consult Application Note #205 on how to use the Advanced Programming Mode. Please visit www.lutron.com/vierti or call **Lutron Technical Support**.

Troubleshooting

Symptom	Possible Cause
Light does not turn on and no LEDs turn on.	<ul style="list-style-type: none"> • The FASS switch on the Dimmer or Companion Dimmer(s) is pulled down to the off position. • Breaker is OFF or tripped. • Dimmer is miswired. Check wiring.
Light turns on and Dimmer works, but Companion Dimmer does not work.	<ul style="list-style-type: none"> • Wire connected to the blue screw terminal on the Dimmer is not the same wire connected to the blue screw terminal on the Companion Dimmer. Check wiring.
LEDs scroll up and down.	<ul style="list-style-type: none"> • Dimmer has encountered an error condition. Call Lutron Technical Support.
Light does not dim properly, drops out at low-end, or goes to full bright light level at low-end.	<ul style="list-style-type: none"> • Dimmer is not wired correctly. Check wiring. • Adjust the low-end trim setting in Advanced Programming Mode.
Dimmer works properly, then shuts off.	<ul style="list-style-type: none"> • Dimmer is overloaded. Check for correct number of ballasts (maximum of 60) and/or total ballast current load on Dimmer.
LEDs turn on, but light does not.	<ul style="list-style-type: none"> • Lamps burned out. • Ballast/Dimmer miswired. Check wiring.

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 +1.610.282.6311

Visit our web site at www.lutron.com

Limited Warranty

(Valid only in U.S.A., Canada, Puerto Rico, and the Caribbean.)

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 Sufer Rd., Coopersburg, PA 18036-1299, postage pre-paid.

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