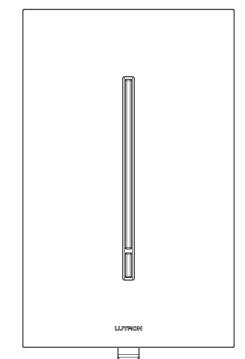
## Wallbox Controls

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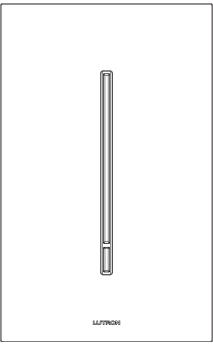
# GRAFIK T Controls

### **Features**

- Controls include dimmers, switches, and companion devices.
- Simple touch control.
- Distinctive architectural aesthetic.
- Softly lit white LEDs indicate light level and coordinate with any décor.
- Models available with or without Clear Connect RF • wireless technology.
- Clear Connect RF technology (GTJ models only) compatible with:
  - Pico wireless controls
  - Radio Powr Savr Occupancy/Vacancy Sensors
  - Radio Powr Savr Daylight Sensors
- Advanced microprocessor dimming technology for control of dimmable LED lamps.<sup>1</sup>
- Low-end and high-end trim are available for improved ٠ LED dimming performance (dimmer only).
- Optional neutral connection available on 250 W LED models for superior LED dimming performance (C•L dimmer only).<sup>2</sup>
- Phase selectable technology allows forward or reverse • phase dimming for compatibility with more load types.
- Installs in single-pole or multi-location applications. Companion devices are available for multi-location control with dimmers and switches (maximum 4 companion devices per dimmer or switch, 1 main control per circuit).
- Use Lutron GRAFIK T wallplates. All controls come with white wallplate. Other colors and finishes are sold separately. See the Colors and Finishes on page 3 for details.
- Lutron GRAFIK T wallplates snap on with no visible means of attachment.



# Dimmer/Switch



#### Companion Device

- <sup>1</sup> If using LED bulbs, they must be Lutron compatible! For compatibility and performance information, visit our website at www.lutron.com/led, which is constantly being updated.
- <sup>2</sup> GRAFIK T switch and Phase Selectable dimmers requires neutral connection.

# 

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Job Name:	Model Numbers:	
Job Number:		
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# **Model Numbers**

Cel Dimmers

C•L Dimmers	
GT-150-WH	150 W Dimmable LED <sup>1</sup> 600 W Incandescent/Halogen 2-wire dimmer (no neutral connection) Single-pole dimmer
GT-250M-WH	250 W Dimmable LED <sup>1</sup> 600 W Incandescent/Halogen 400 VA (300 W) Magnetic Low-Voltage with Halogen based lamps 3.3 A (400 VA) Dimmable Fluorescent <sup>2</sup> 3.3 A (400 W) Hi-lume 1% 2-wire LED driver (10 driver maximum) Neutral connection available Multi-location dimmer
GTJ-150-WH	Clear Connect RF Technology 150 W Dimmable LED <sup>1</sup> 600 W Incandescent/Halogen 2-wire dimmer (no neutral connection) Single-pole dimmer
GTJ-250M-WH	Clear Connect RF Technology 250 W Dimmable LED <sup>1</sup> 600 W Incandescent/Halogen 400 VA (300 W) Magnetic Low-Voltage with Halogen based lamps 3.3 A (400 VA) Dimmable Fluorescent <sup>2</sup> 3.3 A (400 W) Hi-lume 1% 2-wire LED driver (10 driver maximum) Neutral connection available Multi-location dimmer
Phase Selectable Dimmers	
GT-5NEM-WH	500 W Electronic Low-Voltage 250 W Dimmable LED 1 500 W Incandescent/Halogen 400 VA (300 W) Magnetic Low-Voltage with Halogen based lamps 3.3 A (400 VA) Dimmable Fluorescent <sup>2</sup> 3.3 A (400 W) Hi-lume 1% 2-wire LED driver (10 driver maximum) Neutral connection required Multi-location dimmer
GTJ-5NEM-WH	Clear Connect RF Technology 500 W Electronic Low-Voltage 250 W Dimmable LED <sup>1</sup> 500 W Incandescent/Halogen 400 VA (300 W) Magnetic Low-Voltage with Halogen based lamps 3.3 A (400 VA) Dimmable Fluorescent <sup>2</sup> 3.3 A (400 W) Hi-lume 1% 2-wire LED driver (10 driver maximum) Neutral connection required Multi-location dimmer
Switches	
GT-5ANSM-WH <sup>3</sup>	5 A Incandescent/Halogen/Fluorescent/LED/MLV/ELV/HID/Relay 3 A Fan 1/10 HP Motor Neutral connection required Multi-location Switch
GTJ-5ANSM-WH3	Clear Connect RF Technology 5 A Incandescent/Halogen/Fluorescent/LED/MLV/ELV/HID/Relay 3 A Fan 1/10 HP Motor Neutral connection required Multi-location Switch
Companion Device	
	Companion device (works with dimmer or switch)

<sup>1</sup> If using LED bulbs, they must be Lutron compatible! For compatibility and performance information, visit our website at www.lutron.com/led, which constantly being updated.

<sup>2</sup> Includes Mark X, Tu-Wire, and POWERSENSE.

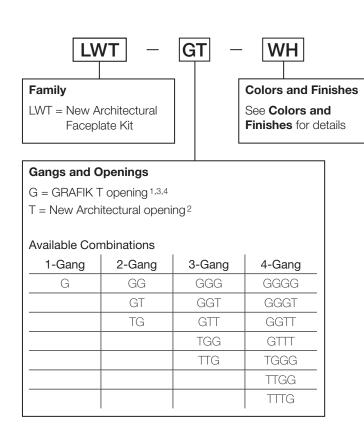
<sup>3</sup> Not for use with receptacles or appliances (e.g., garbage disposals). See Application Note #109 for compatibility with dimmable receptacles.

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# How to Build a Faceplate Kit Model Number

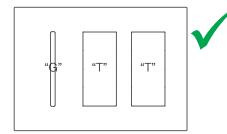
Ganging with GRAFIK T controls.



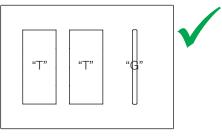


- cannot be guaranteed to perfectly match actual product colors.
- · Color chip keychains are available for more precise color matching:
  - Architectural Matte Finishes: AM-CK-1
  - Architectural Metal Finishes: AMTL-CK-1

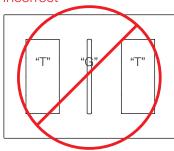
### Correct (LWT-GTT-XXX<sup>5</sup>)







Incorrect



- 1 GRAFIK T controls will only fit into "G" openings.
- <sup>2</sup> New Architectural accessories will fit into "T" openings when ganging with GRAFIK T controls.
- <sup>3</sup> GRAFIK T controls cannot be ganged with Vierti controls or wallplates.
- 4 GRAFIK T controls cannot be ganged with Palladiom controls ("P" openings)
- <sup>5</sup> "XXX" in the model number represents color/finish code. See Colors and Finishes on page 3 for details.

# SPECIFICATION SUBMITTAL

## C•L Controls

# **Specifications**

### **Regulatory Approvals**

- UL Listed •
- cUL Listed
- NOM Certified
- FCC/IC
- IFTEL

### Power

120 V∼ 50/60 Hz

## **Typical Power Consumption**

- Dimmer/Switch: 0.2 W (GTJ models), 0.1 W (GT models)
- Companion device: 0.1 W
- Test conditions: load is off

### Environment

- Ambient Temperature Operating Range: 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: 0% to 90% non-condensing
- For indoor use only.

### Performance

- Power failure memory: should power be interrupted, the control will return to its previous state when power is restored.
- Tested to withstand surge voltages without damage or loss of operation, in accordance with IEEE C62.41-1991 Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
- Tested to withstand electrostatic discharge without damage or memory loss.
- Dimmers/Switches communicate with Pico wireless controls or Radio Powr Savr sensors through Radio Frequency (RF) and must be located within 30 ft (9 m) of these devices (GTJ models only). Companion devices do not have Clear Connect RF technology and are not required to be within a specific range of these devices.
- Uses conventional 3-way and 4-way wiring.
- Total multi-location wire length (blue wire) between all units must not exceed 150 ft (45 m).

## **Application Requirements**

- When using LEDs, only Lutron approved lamps marked or rated as Dimmable can be used.
- If using LED bulbs, they must be Lutron compatible! For compatibility and performance information, visit our website at www.lutron.com/led. which is constantly being updated.
- For a complete list of approved DIMMABLE LEDs please visit www.lutron.com/led or call 1.800.523.9466.
- Up to 10 sensors or Pico wireless controls can be assigned to each dimmer or switch (GTJ models only).
- Sensors can be assigned to multiple dimmers or switches (GTJ models only).

### Mounting

• Requires a U.S. wallbox. 3<sup>1</sup>/<sub>2</sub> in (89 mm) deep recommended, 21/4 in (57 mm) deep minimum.

### Warrantv

1 Year Limited Warranty For additional Warranty information, please visit www.lutron.com/TechnicalDocumentLibrary/ 369-119 Wallbox Warranty.pdf

## LUTRON SPECIFICATION SUBMITTAL

Page Job Name: Model Numbers: Job Number:

Operation	
Adjust	
Touch to set lights to desired level (dimmer or	nly)
Slide to adjust light level (dimmer only)	
Touch anywhere to toggle load On/Off (switc	h only)
Toggle	
Touch to turn off or to turn on to previous     light level	
When On, press and hold to engage the	
delayed long fade to Off (dimmer only) <ul> <li>Toggle button is white when On, orange</li> </ul>	
when Off	
FASS	
Front Accessible	
LUTRON Service Switch Note: The FASS	
is not available on companion	
devices.	
IMPORTANT NOTICE:	
FASS - Front Accessible Service	
To replace lamp(s), remove power the FASS down fully on all main co	ontrolling
devices. After replacing lamp(s), p back up fully to restore power to t	
LUTRON SPECIFICATION SUBMITTAL	Page

# **LUTRON** SPECIFICATION SUBMITTAL

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# Advanced Programming Mode

### All Dimmers, Switches, and Accessories

GRAFIK T dimmers and switches contain an Advanced Programming Mode (APM) that allows users to customize the control to meet their specific needs. For a detailed description of APM features and uses please refer to Lutron Application Note #534.

### Available advanced features include:

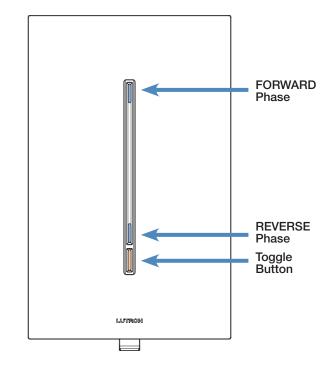
- High-end Trim: Adjust the maximum light level of the load.
- Low-end Trim: Adjust the minimum light level of the load.
- LED Brightness: Select between high and low brightness of the control LED.
- Sound On/Off: Enable or disable audible clicking feedback.
- Delayed Fade-to-Off: Adjust the waiting period upon fade-to-off.
- Toggle Fade Rate Adjust: Adjust the fade rate upon toggling.
- Protected Preset Adjust: Select between locked and unlocked presets.

## Phase Selectable Dimmers Only

GRAFIK T Phase Selectable dimmers contain an extra menu to allow for selection of FORWARD and REVERSE dimming phase. The Phase Selectable dimmer default powers up in reverse dimming phase.

### Instructions for selecting phase:

- 1. Pull the FASS down to remove power from the dimmer.
- 2. Press and hold the top (high-end) of the light bar.
- 3. Push the FASS back up fully to reapply power.
- 4. Hold the top (high-end) of the light bar for 6 seconds until the device beeps, then release.
- 5. Once in "Phase Selection Mode", two lit LEDs show current setting:
  - a. Top LED flashing indicates FORWARD-PHASE had been selected.
  - b. Bottom LED flashing indicates REVERSE-PHASE has been selected.
- 6. Press the top or bottom LED to change the dimming phase.
- 7. Press and hold the toggle button for 6 seconds to exit "Phase Selection Mode".



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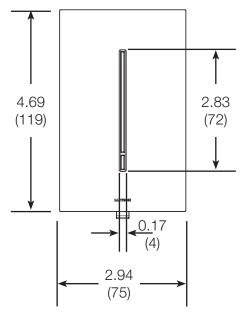
Job Name:	Model Numbers:	
Job Number:		
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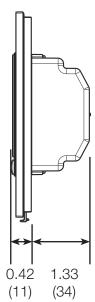
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# **Dimensions**

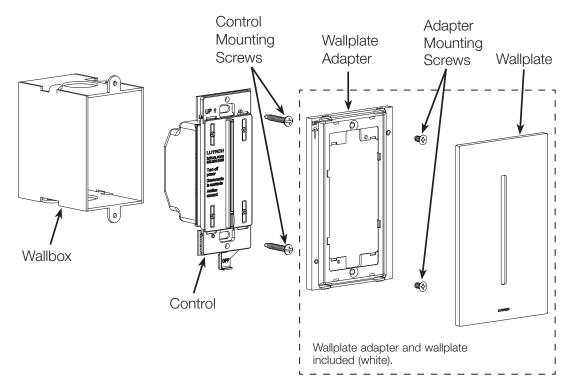
All dimensions are shown as  $\mathop{\text{in}}\limits_{(\text{mm})}$ 

### **Front View**





# Mounting and Parts Identification



### LUTRON SPECIFICATION SUBMITTAL

Page Job Name: Model Numbers: Job Number:

#### Side View

Page

## Ganging and Derating

When combining controls in the same wallbox, derating is required. See Load Type and Capacity. No derating is required for companion devices.

# Load Type and Capacity

Control	Load Type	Not Ganged	End of Gang	Middle of Gang	Neutral Connection	
GT-150-WH1	LED	150 W	150 W	150 W		
GTJ-150-WH <sup>1</sup>	Incandescent/ Halogen	600 W	500 W	400 W	No	
	LED	250 W	250 W	250 W		
	Incandescent/ Halogen	600 W	500 W	400 W		
GT-250M-WH <sup>2,3</sup>	MLV Halogen <sup>4,5,6</sup>	400 VA (300 W)	400 VA (300 W)	400 VA (300 W)	Optional	
GTJ-250M-WH <sup>2,3</sup>	Lutron Hi-lume 1% 2-wire LED Driver <sup>9</sup>	3.3 A (400 W), 10 drivers max	3.3 A (400 W), 10 drivers max	3.3 A (400 W), 10 drivers max		
	Dimmable Fluorescent <sup>7</sup>	3.3 A (400 VA)	3.3 A (400 VA)	3.3 A (400 VA)	Required	
	LED	250 W	250 W	250 W		
GT-5NEM-WH <sup>2,3</sup> GTJ-5NEM-WH <sup>2,3</sup>	Incandescent/ Halogen/ELV <sup>5</sup>	500 W	400 W	300 W		
	MLV Halogen <sup>4,5,6</sup>	400 VA (300 W)	400 VA (300 W)	400 VA (300 W)		
	Lutron Hi-lume 1% 2-wire LED Driver <sup>9</sup>	3.3 A (400 W), 10 drivers max	3.3 A (400 W), 10 drivers max	3.3 A (400 W), 10 drivers max	Required	
	Dimmable Fluorescent <sup>7</sup>	3.3 A (400 VA)	3.3 A (400 VA)	3.3 A (400 VA)		
	Lighting	5 A (600 W)	4.1 A (500 W)	3.3 A (400 W)		
GT-5ANSM-WH <sup>3,8</sup>	Fan	3 A (360 W)	3 A (360 W)	3 A (360 W)	Poquirod	
GTJ-5ANSM-WH <sup>3,8</sup>	Motor	1/10 HP	1/10 HP	1/10 HP	Required	
	Mixed	3 A (360 W)	3 A (360 W)	3 A (360 W)		

1 Designed for use with permanently installed LED, incandescent, or tungsten halogen only.

2 Designed for use with permanently installed LED, incandescent, tungsten halogen, or magnetic low voltage transformers with halogen based lamps.

3 Power Boosters/Load Interfaces: can be used to control power boosters/load interfaces. For a list of compatible power boosters/load interfaces see Compatible Power Boosters and Load Interfaces. When using with power boosters/load interfaces, the neutral must be connected.

<sup>4</sup> Low-Voltage Applications: Use only with magnetic (core and coil) low-voltage transformers with halogen based lamps. Not recommended for use with electronic (solid-state) lowvoltage transformers but UL listed for dimmable ELV transformers.

<sup>5</sup> Operation of a low-voltage circuit with lamps inoperative or removed may result in transformer overheating and premature failure. Lutron strongly recommends the following: • Do not operate low-voltage circuits without operative lamps in place.

• Replace burned-out lamps as soon as possible.

• Use transformers that incorporate thermal protection or fused transformer primary windings to prevent transformer failure due to overcurrent.

<sup>6</sup> When using the dimmer/switch to control MLV halogen fixtures, the maximum lamp wattage is determined by the efficiency of the transformer, with 70%-85% as typical. For actual transformer efficiency, contact either the fixture or transformer manufacturer. The total VA rating of the transformer(s) shall not exceed the VA rating of the dimmer/switch.

<sup>7</sup> Includes Mark X, Tu-Wire, and POWERSENSE.

<sup>8</sup> Not for use with receptacles or appliances (e.g., garbage disposals). See Application Note #109 for compatibility with dimmed receptacles.

<sup>9</sup> Neutral required for Lutron Hi-lume 1% 2-wire LED driver.

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ELV 2,3

With Neutral Connected

40 W

40 W

40 W

40 W

40 W

Page

# Minimum Load

Dimmer		ı	_ED1	Incandescent/ Halogen		MLV Halogen	
Application	Number of Companion Devices	With Neutral Connected	With Neutral Disconnected	With Neutral Connected	With Neutral Disconnected	With Neutral Connected	With Neutral Disconnected
Single Pole	0	1 LED lamp <sup>4</sup>	2 LED lamps <sup>4</sup>	5 W	40 W	40 W	40 W
Multi-location	1	1 LED lamp <sup>4</sup>	3 LED lamps <sup>4</sup>	5 W	80 W	40 W	80 W
Multi-location	2	1 LED lamp <sup>4</sup>	4 LED lamps <sup>4</sup>	5 W	120 W	40 W	120 W
Multi-location	3	1 LED lamp <sup>4</sup>	5 LED lamps <sup>4</sup>	5 W	160 W	40 W	160 W

<sup>1</sup> Includes Lutron compatible LED replacement lamps and Hi-lume 1% 2-wire LED drivers.

1 LED lamp<sup>4</sup>

<sup>2</sup> Must meet transformer minimum load requirements.

<sup>3</sup> ELV loads are only compatible with -5NEM model

4

<sup>4</sup> If using LED bulbs, they must be Lutron compatible! For compatibility and performance information, visit our website at www.lutron.com/ led, which is constantly being updated.

5 W

200 W

40 W

200 W

#### Switch

Multi-location

Minimum load for the switch is 5 W, one Lutron compatible LED replacement lamp, or one Hi-lume 1% 2-wire LED driver.

6 LED lamps<sup>4</sup>

# **Compatible Power Boosters and Load Interfaces**

Some local controls can be used to control power boosters or load interfaces. Up to three power boosters or load interfaces can be used with one control. See table below for a list of controls and compatible power boosters and load interfaces. When controlling power boosters/load interfaces, the neutral must be connected.

Control	Phase Adaptive Power Modules (PHPM-PA-120-WH & PHPM-PA-DV-WH) <sup>1</sup>	3-wire Fluorescent Power Modules (PHPM-3F-120-WH & PHPM-3F-DV-WH) <sup>2</sup>	Switched Power Module (PHPM-SW-DV-WH) <sup>3</sup>	0-10 V Interface and Switching Module (GRX-TVI) <sup>4</sup>
GT-250M GTJ-250M	✓	√		$\checkmark$
GT-5NEM GTJ-5NEM	√ 5	√ 5		√ 5
GT-5ANSM GTJ-5ANSM			$\checkmark$	

<sup>1</sup> See Lutron P/N 369356 for wiring diagrams.

<sup>2</sup> See Lutron P/N 369355 for wiring diagrams.

<sup>3</sup> See Lutron P/N 369357 for wiring diagrams.

<sup>4</sup> See Lutron P/N 369247 for wiring diagrams.

<sup>5</sup> When using -5NEM, dimming phase must be set to forward phase. See **Advanced Programming Mode** for details.

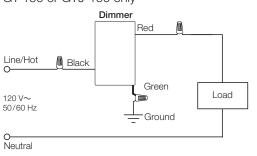
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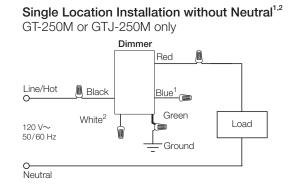
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# Wiring Diagrams

# Wiring Diagram 1

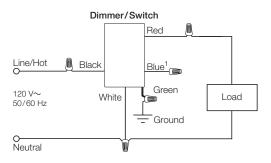
Single Location Installation without Neutral<sup>1,2</sup> GT-150 or GTJ-150 only





## Wiring Diagram 2

Single Location Installation with Neutral<sup>1</sup> GT-250M, GTJ-250M, GT-5NEM, GTJ-5NEM, GT-5ANSM, or GTJ-5ANSM,



<sup>1</sup> When using controls in single location installations, cap off the blue wire. **Do not** connect the blue wire to any other wiring or to ground (-5ANSM,-5NEM, and -250M models only).

<sup>2</sup> When neutral wire connection is unavailable, cap off the white wire. **Do not** connect the white wire to any other wiring or to ground (-250M models only).

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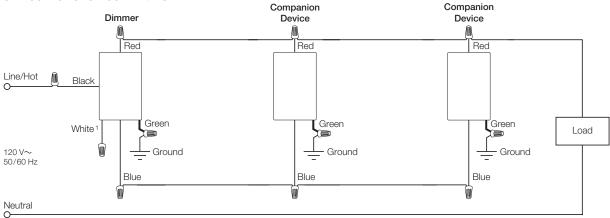
## **SPECIFICATION SUBMITTAL**

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## Wiring Diagrams (continued)

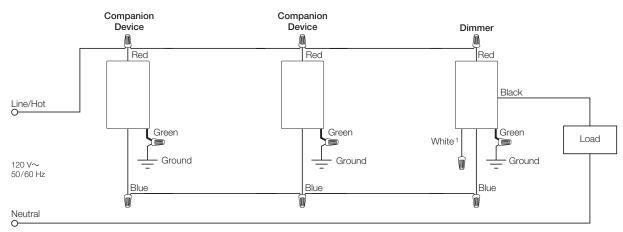
## Wiring Diagram 3

Multi-Location Installation without Neutral<sup>1,2,3</sup> - Dimmer Line Side GT-250M or GTJ-250M with GT-AD



## Wiring Diagram 4

Multi-Location Installation without Neutral<sup>1,2,3</sup> - Dimmer Load Side GT-250M or GTJ-250M with GT-AD



<sup>1</sup> When neutral wire connection is unavailable, cap off the white wire. **Do not** connect the white wire to any other wiring or to ground.

<sup>2</sup> Up to 4 companion devices may be connected to each dimmer. Total blue traveler wire length may be up to 150 ft (45 m).

<sup>3</sup> Dimmers may be connected on the Line side or Load side of a multi-location installation if neutral is not connected. The dimmer cannot be installed in the middle location of a 4-way installation.

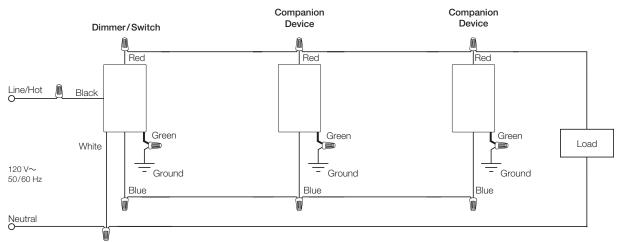
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## Wiring Diagrams (continued)

### Wiring Diagram 5

Multi-Location Installation with Neutral<sup>1,2</sup> - Control Line Side GT-250M, GTJ-250M, GT-5NEM, GTJ-5NEM, GT-5ANSM, or GTJ-5ANSM, with GT-AD



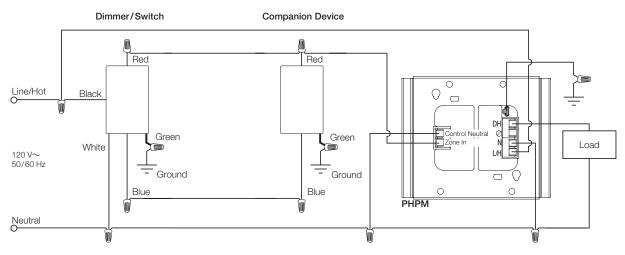
<sup>1</sup> Up to 4 companion devices may be connected to each dimmer or switch. Total blue traveler wire length may be up to 150 ft (45 m).

<sup>2</sup> Control must be installed on line side of circuit if using neutral wire.

### Wiring Diagram 6

#### Multi-Location Installation with PHPM - Neutral Required

GT-250M, GTJ-250M, GT-5NEM<sup>1</sup>, GTJ-5NEM<sup>1</sup>, GT-5ANSM, or GTJ-5ANSM, with GT-AD



<sup>1</sup> When using -5NEM, dimming phase must be set to forward phase. See **Advanced Programming Mode** for details.

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### C•L Controls

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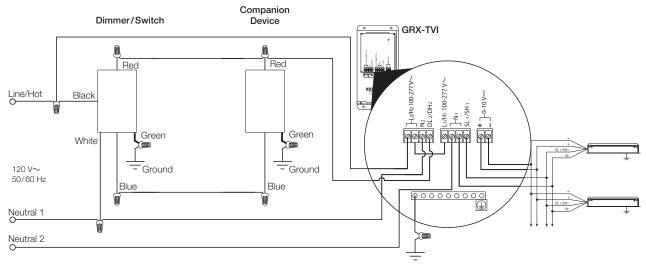
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# Wiring Diagrams (continued)

# Wiring Diagram 7

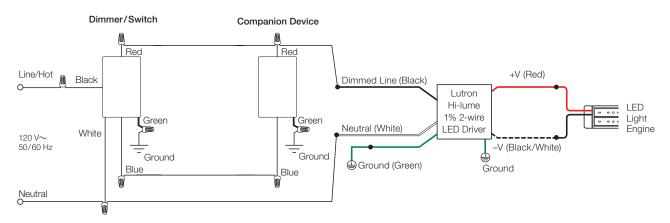
#### Multi-Location Installation with GRX-TVI - Neutral Required

GT-250M, GTJ-250M, GT-5NEM, GTJ-5NEM, GT-5ANSM, or GTJ-5ANSM, with GT-AD



## Wiring Diagram 8

Multi-Location Installation with Hi-lume 1% 2-wire LED Driver with Neutral GT-250M, GTJ-250M, GT-5NEM<sup>1</sup>, GTJ-5NEM<sup>1</sup>, GT-5ANSM, or GTJ-5ANSM, with GT-AD



<sup>1</sup> When using -5NEM, dimming phase must be set to forward phase. See **Advanced Programming Mode** for details.

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Job Name:	Model Numbers:	
Job Number:		

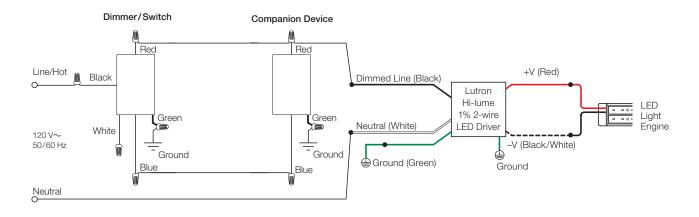
#### C•L Controls

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# Wiring Diagrams (continued)

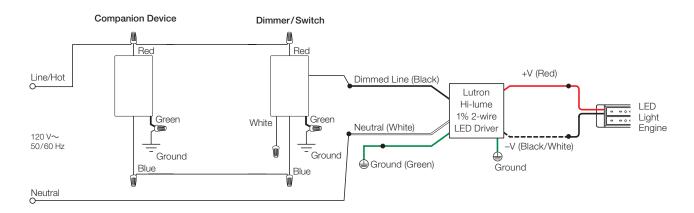
# Wiring Diagram 9

Multi-Location Installation with Hi-lume 1% 2-wire LED Driver without Neutral - Dimmer Line Side GT-250M or GTJ-250M with GT-AD



## Wiring Diagram 10

Multi-Location Installation with Hi-lume 1% 2-wire LED Driver without Neutral - Dimmer Load Side GT-250M or GTJ-250M with GT-AD



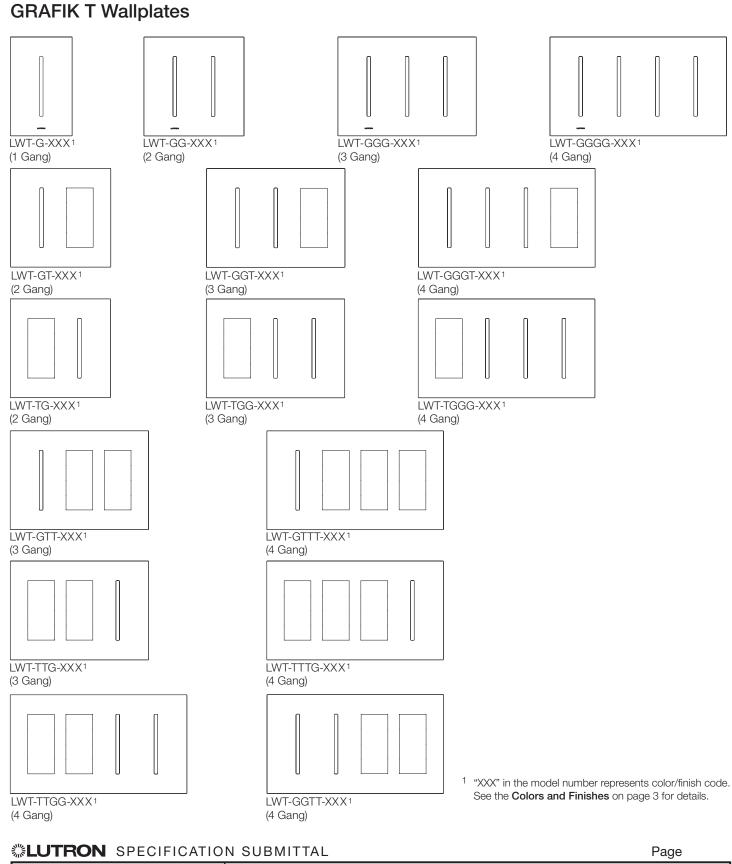
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Job Number: