

GRX-TVI Ten Volt Interface

LUTRON-MERLIN LIGHT WIRING SCHEMATICS FOR ELECTRONIC DIMMING BALLASTS POWERING CMH LAMPS

Features

- Provides 0-10 V control and ballast switching capabilities to switch and dim fluorescent and LED lights.
- Switches and dims 0-10 V electronic dimming ballasts powered by 100-277 V \sim (ballast must provide 0-10 V source). Switches up to 16 A of electronic capacitive ballasts.
- Switches motors up to 1/4 HP @ 100-127 V \sim , 1/2 HP @ 200-277 V \sim .
- Up to five Ten Volt Interfaces may be connected to one Control Unit zone. This allows one zone to control up to five 16 A circuits of Electronic Dimming Ballasts or five motors.
- Provides 100-277 V \sim power to loads.
- Requires 100-127 V \sim or 200-240 V \sim power for internal operations.



Compatible Controls

WHAT LUTRON CONTROL SYSTEM ARE YOU USING?

Family	Product	Wiring Diagram
Residential	HW-RPM-4U	I, J
	HW-RPM-4A	I, J
	HWI-WPM-6D (Wallbox Power Module)	A, B
	HxD-6ND	C, D
	HWV-FDB-8A	E, F
	Rx-6ND	C, D
	RRD-10ND	C, D
Commercial Systems	LP-RPM-4U	I, J
	LP-RPM-4A	I, J
	GRAFIK Eye® Control Unit	A, B
	GP Panels	K, L

Family	Product	Wiring Diagram
Wallbox	AYF-103P	E, F
Flourescent	DVF-103P	E, F
Dimmers	DVSCF-103P	E, F
	LXF-103PL	E, F
	MAF-6AM*	G, H
	MSCF-6AM*	G, H
	NF-10	E, F
	NF-103P	E, F
	NTF-10	E, F
	NTF-103P	E, F
	SF-10P	E, F
	SF-103P	E, F
	SPSF-6A*	G, H
	SPSF-6AM*	G, H
	VF-10	E, F
	VTF-6AM	G, H

* Note: These controls do not conform to IEC929 standard for 0-10 V output signal; they cannot reach the 1 V minimum.

Job Name:

Model Numbers:

Job Number:

Specifications

Standards

- UL Listed in US and Canada
- NOM
- CE
- C-Tick

Power

- Load (output) power: 100-277 V \sim . Phase independent of lighting control.

0-10 V Dimming Control

- Output rating: 10 μ A-300 mA. Sinks current only (ballast must source/provide 10 V supply). <1 V minimum, >10 V maximum

Zone Capacity

- Up to five Ten Volt Interfaces per Control Unit zone.

Key Design Features

- Complies with Standard UL 508.
- Provides a Class 2 isolated 0-10 V output signal that conforms to EN60929 and IEC929.
- Accepts a phase control signal (100-127 V \sim or 200-240 V \sim ; 50/60 Hz).

Terminals

- Each terminal accepts up to two 12 AWG (2.5 mm²) conductors.

Physical Design

- Wall-mounted. Indoor use only. Type 1 enclosure.
- Weight: 4.25 lbs (2 kg).

Environment

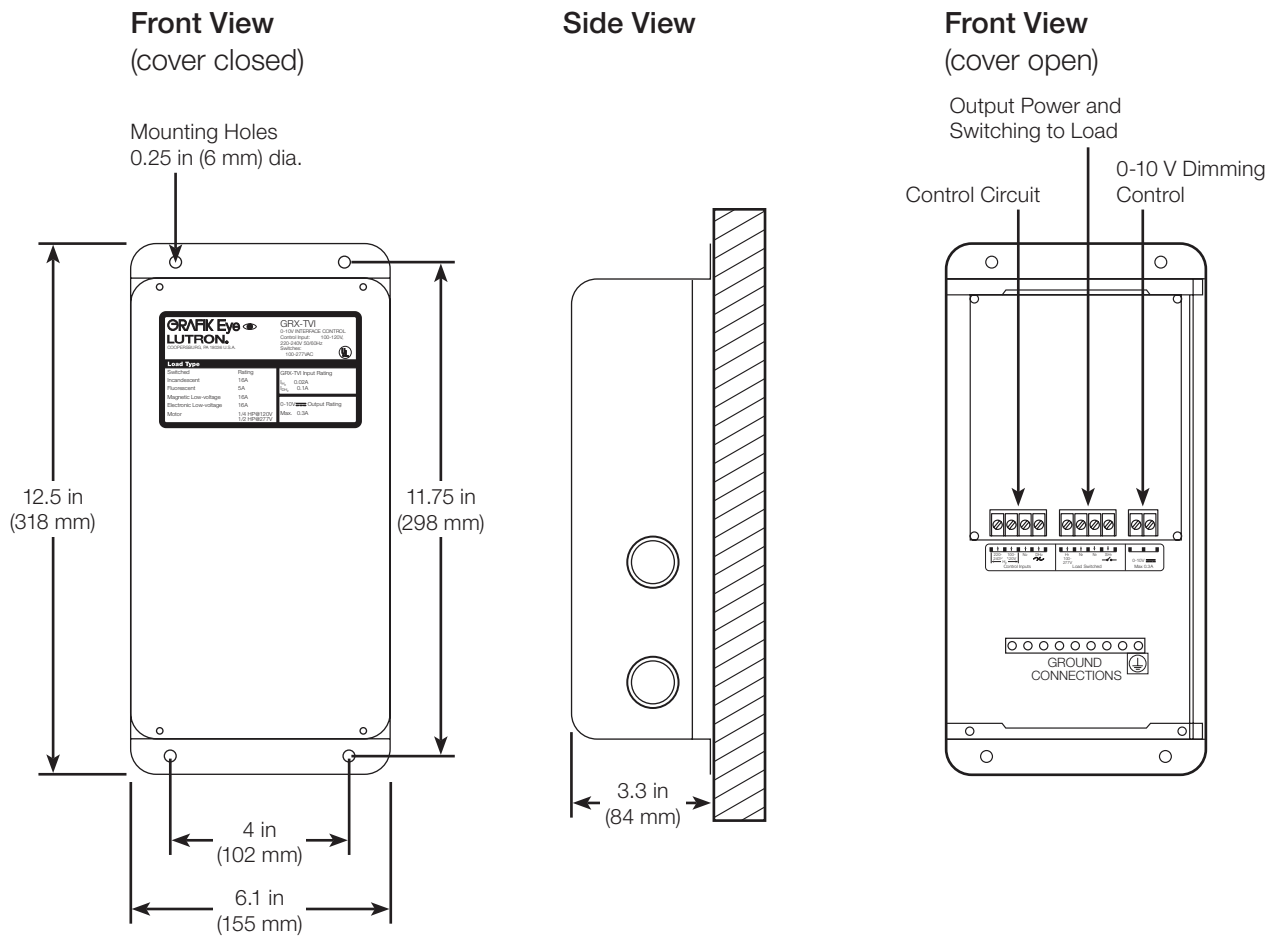
- Temperature: 32 °F to 104 °F (0 °C to 40 °C)
- 0-90% humidity, non-condensing.

Switching Load Types and Capacities

Source/Load Type	100-127 V \sim 200-277 V \sim	230 V \sim (CE)
Fluorescent		
• Lutron Eco-10® (TVE Series)	16 A	—
• Electronic Capacitive Non-Dim	16 A	16 A
• Other manufacturers' 0-10 V ballasts	16 A	16 A
LED	16 A	16 A
Incandescent	16 A	16 A
Low-voltage	16 A	16 A
Metal Halide	16 A	16 A
Neon/Cold Cathode	16 A	16 A
Motor	1/4 HP @ 100-127 V \sim 1/2 HP @ 200-277 V \sim	

Dimensions and Mounting

- Mount only where ambient temperature is 32 °F to 104 °F (0 °C to 40 °C).
- Allow 4.5 in (114 mm) between Interfaces when mounting several in a vertical layout.
- Mount so that line (mains) voltage wiring is at least 6 ft (1.8 m) from sound or electronic equipment and wiring.
- Mount within 7° of true vertical.

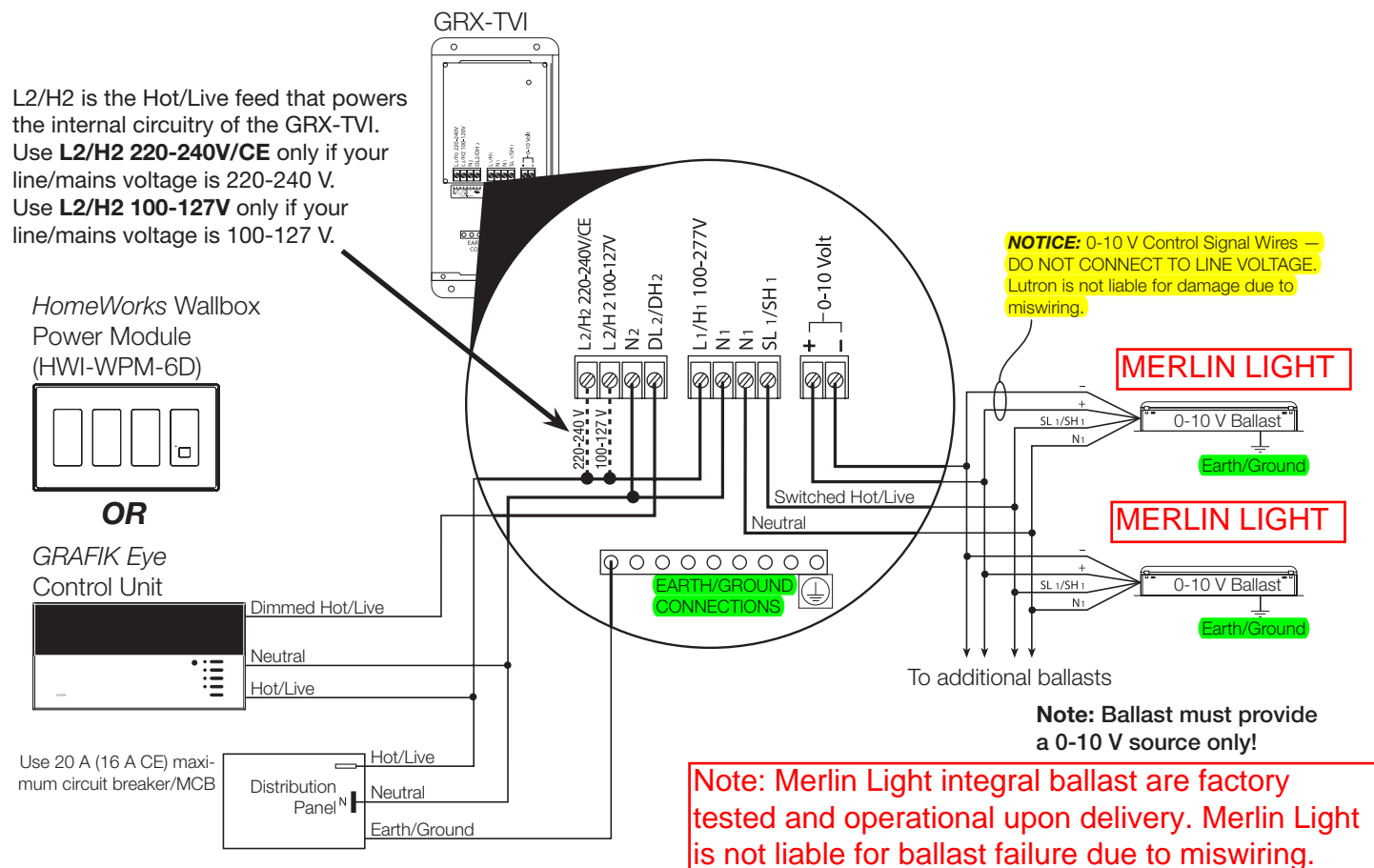


Job Name:	Model Numbers:
Job Number:	

Wiring Diagrams

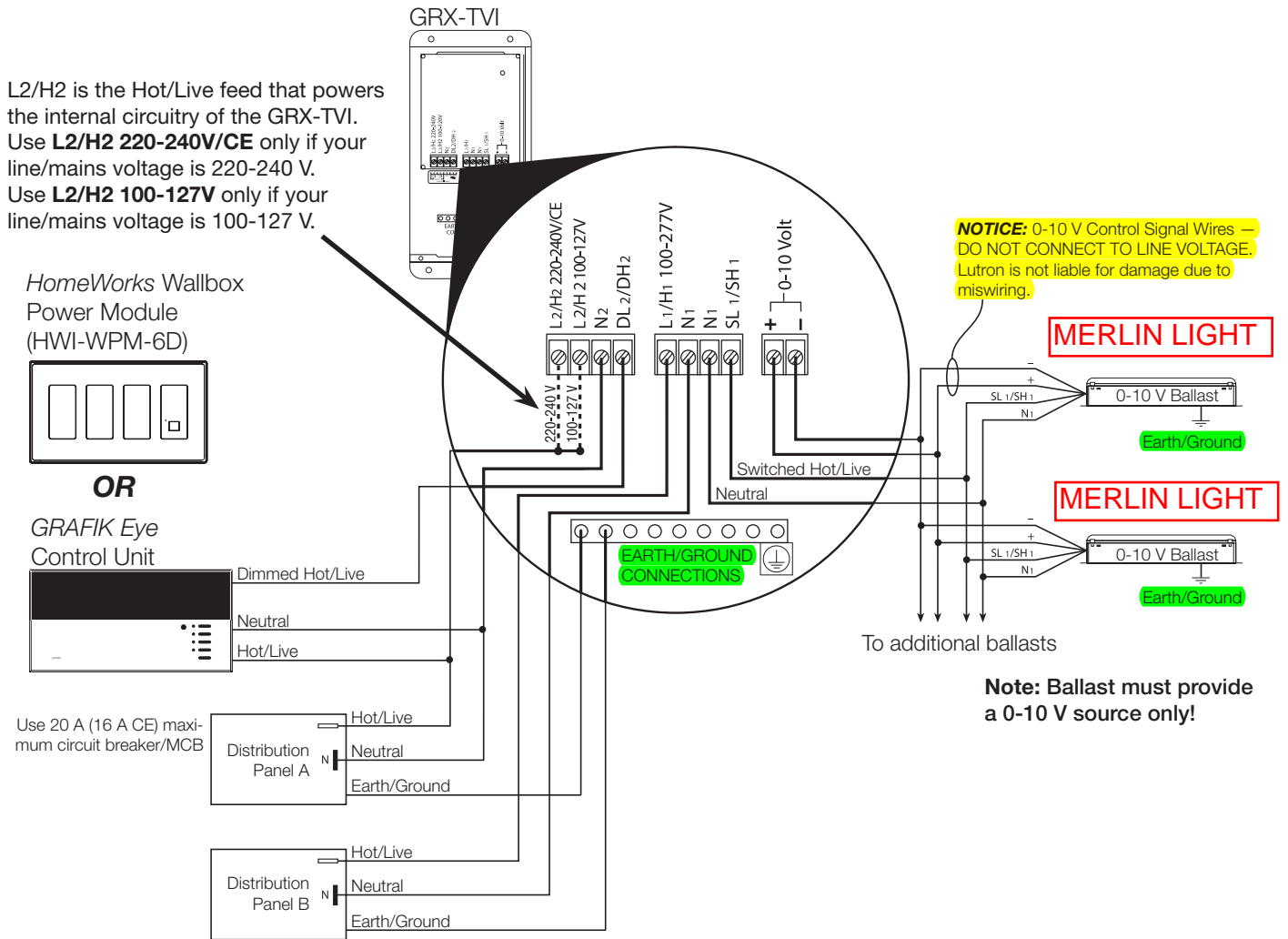
- Each terminal can accept up to two 12 AWG (2.5mm²) conductors.
- L1/H1 is the Live/Hot feed to power the load.
- L2/H2 (on the control circuit terminals) supplies operating power for the Ten Volt Interface.
- Wiring Diagrams A, C, E, G, and I show a GRX-TVI wired from one distribution panel. If the power requirement of the complete system is less than an MCB/circuit breaker rating, one feed can be jumped inside the enclosure (as shown).
- Wiring Diagrams B, D, F, H, and J show a GRX-TVI wired from two separate distribution panels that may be different phases or voltages.
- Choose the correct L2/H2 terminal for your operating power.
 - Leave one terminal empty - do not use both.
 - Do not connect 277 V to either L2/H2 terminal.
 - Make sure L2/H2 is on the same phase as DL2/DH2 (Dimmed Live/Dimmed Hot) from the lighting control.
- Run separate neutrals for load circuit - no common neutrals.
- NEC® Class 2/IEC PELV, 0-10 V wiring from a ballast to the GRX-TVI must be separated from the power wiring. Enter the Class 2/PELV wires through the knockout adjacent to the 0-10 V terminal blocks. The Nomex® barrier ensures separation and is flexible to allow access to the terminals. The barrier must be in place when installation is complete.

Wiring Diagram A: HomeWorks® Wallbox Power Module/GRAFIK Eye® Control Unit — 1 Distribution Panel



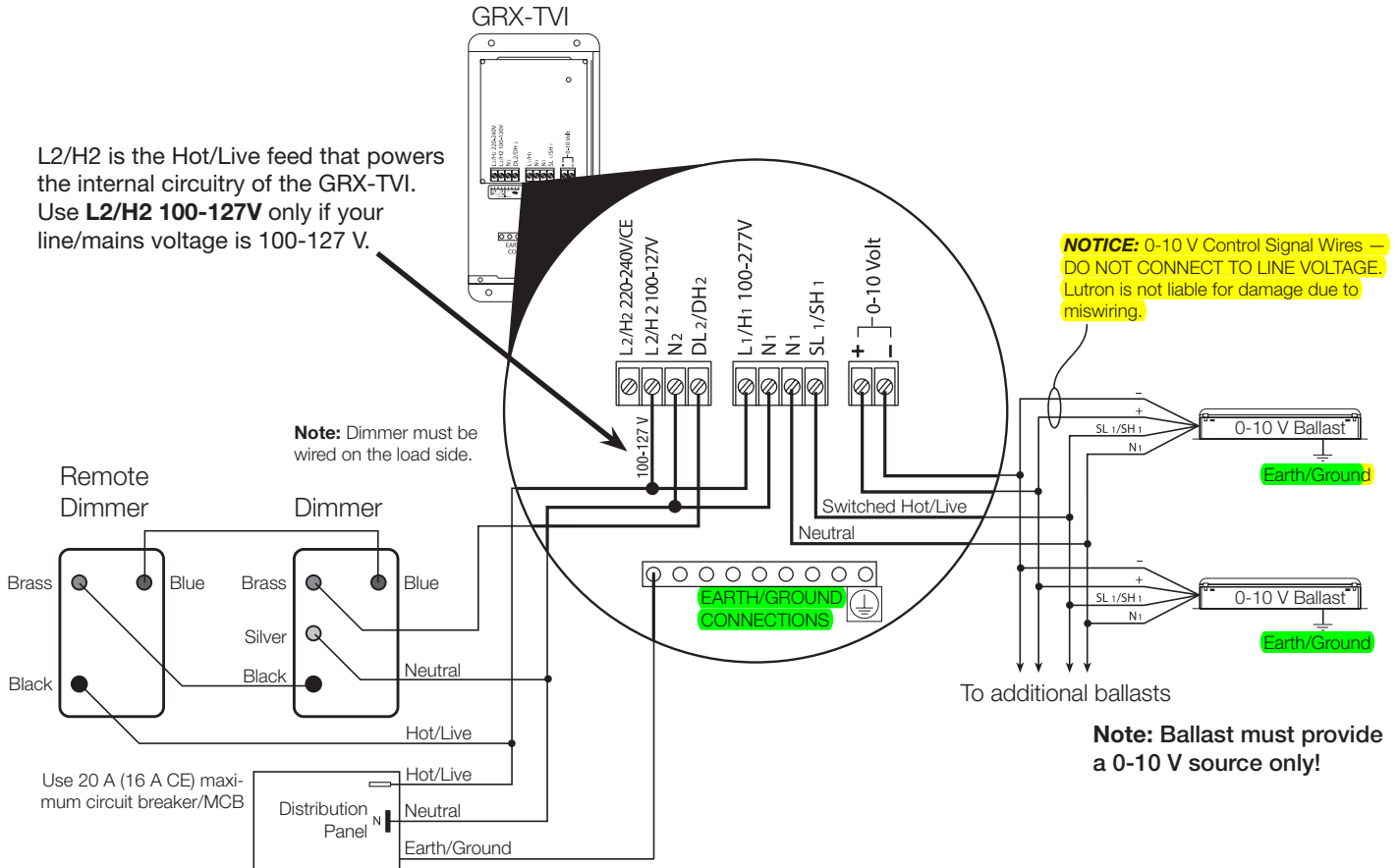
<p>LUTRON® SPECIFICATION SUBMITTAL MERLIN LIGHT 0-10V DIMMING</p>		<p>Page</p>
<p>Job Name:</p>	<p>Model Numbers:</p>	
<p>Job Number:</p>		

Wiring Diagram B: HomeWorks® Wallbox Power Module/GRAFIK Eye® Control Unit — 2 Distribution Panels



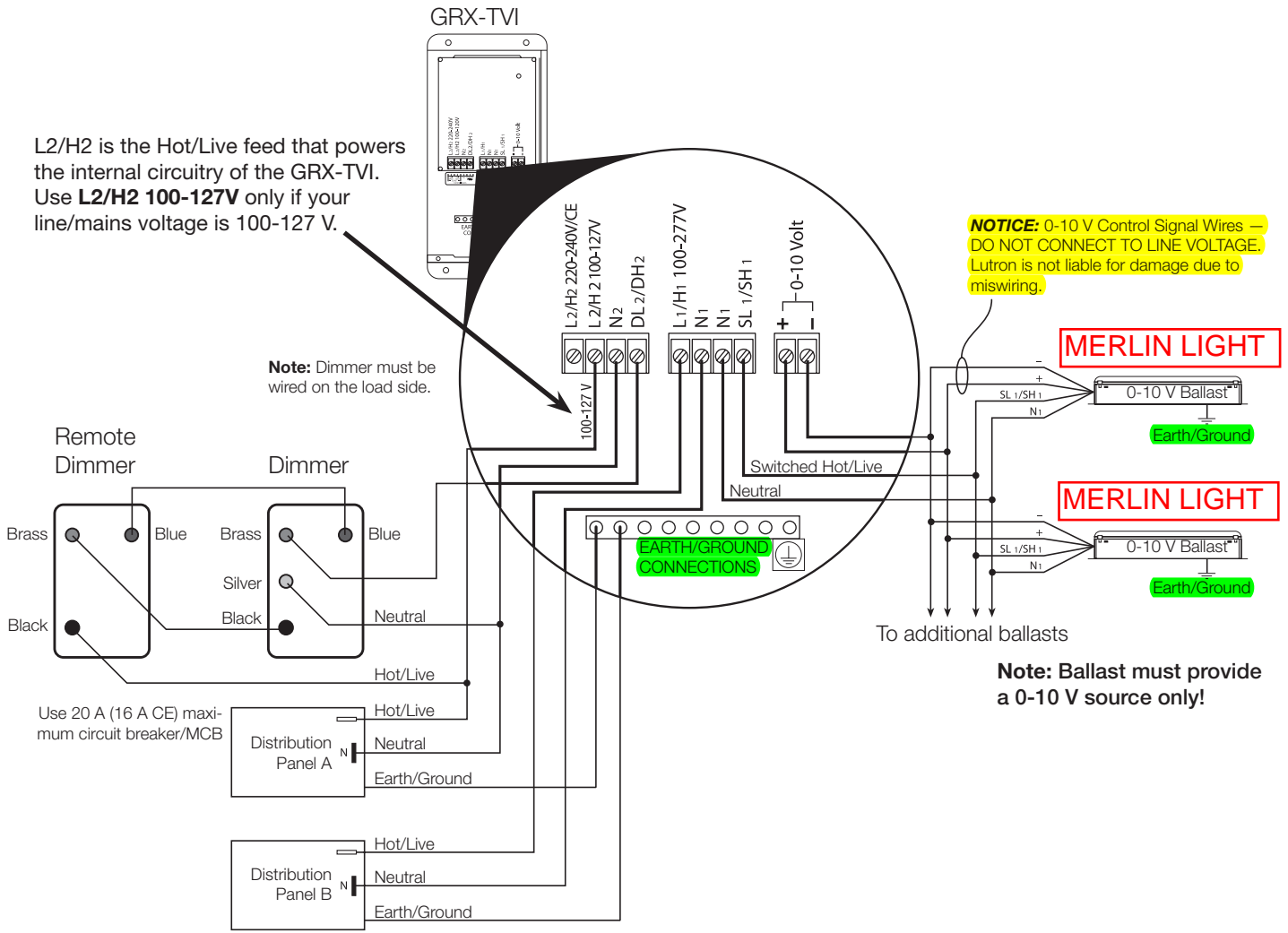
Note: Merlin Light integral ballast are factory tested and operational upon delivery. Merlin Light is not liable for ballast failure due to miswiring.

Wiring Diagram C: HomeWorks® Maestro®/RadioRA®/RadioRA® 2 Dimmers— 1 Distribution Panel

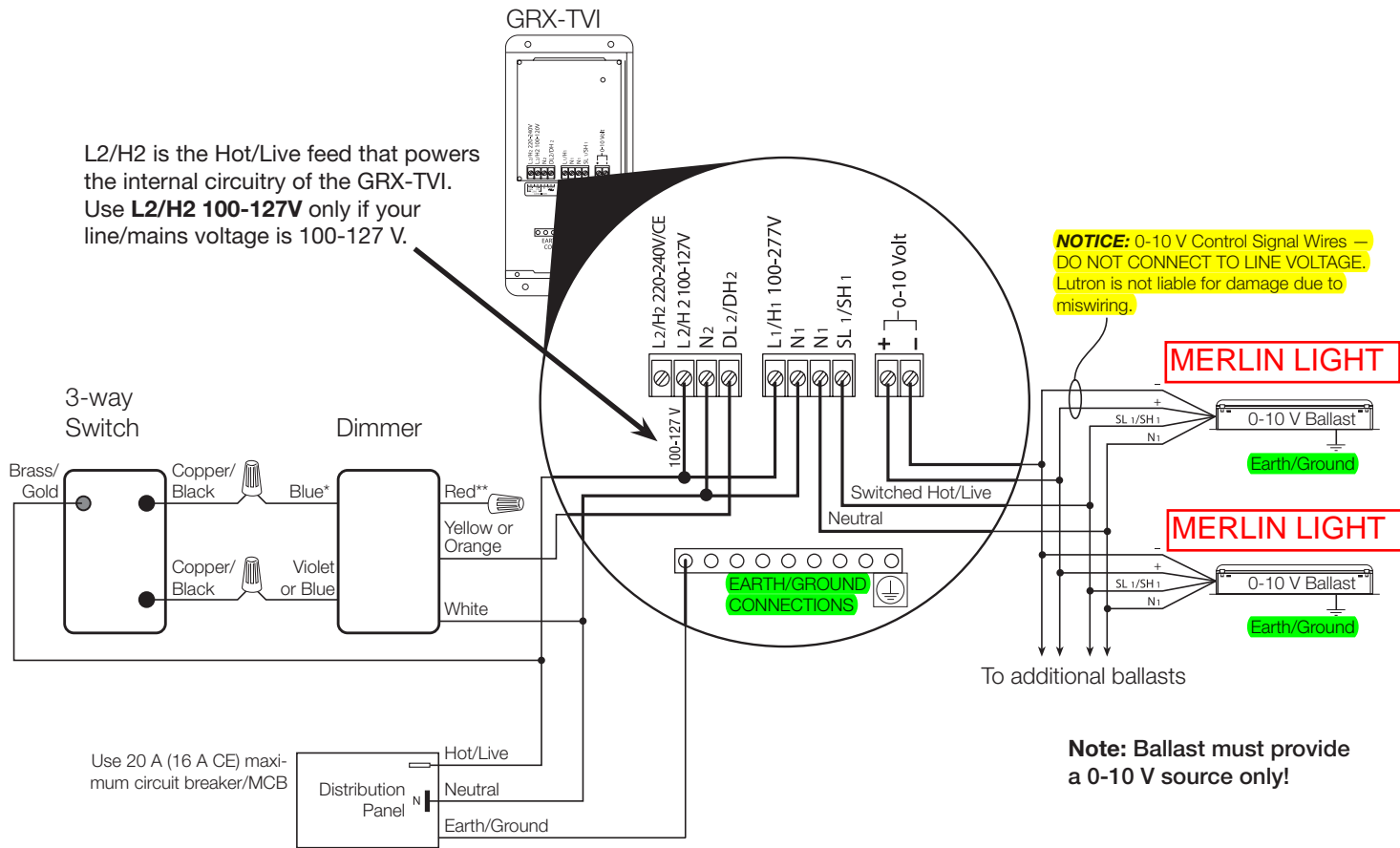


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Wiring Diagram D: HomeWorks® Maestro®/RadioRA®/RadioRA® 2 Dimmers — 2 Distribution Panels



Wiring Diagram E: **Ariadni®/Diva®/Lyneo®/Skylark®/Nova®/Nova T®/Vareo®**
3-wire Fluorescent Dimmers — 1 Distribution Panel

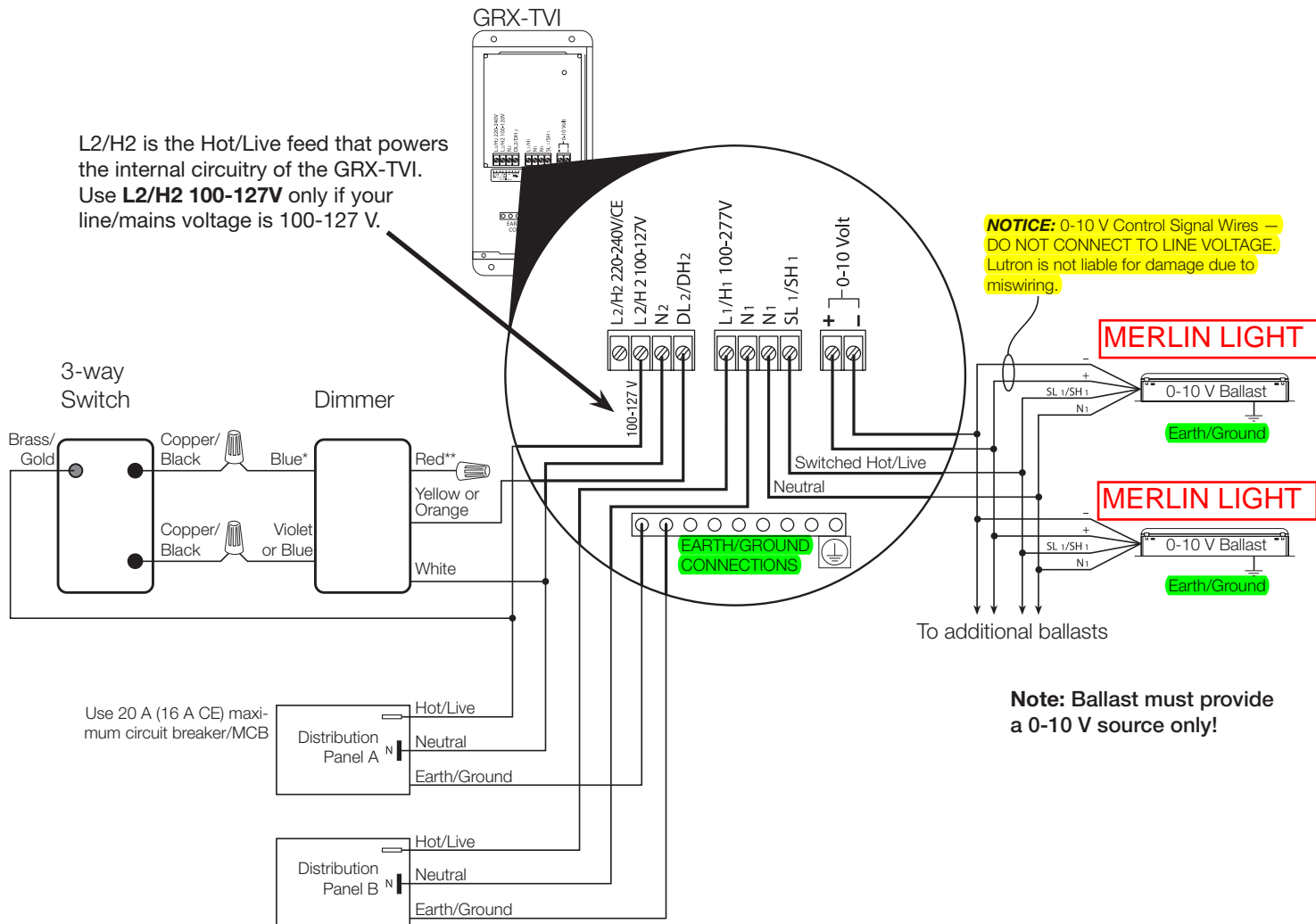


* Single pole dimmers use black for the hot/live wire. Refer to the single-pole dimmer's installation instructions to identify the hot/live wire for that product.
 ** The red wire is not used. Cap off the red wire using a wire connector. Do not wire the red wire to ground or to any other wiring.

Note: Merlin Light integral ballast are factory tested and operational upon delivery. Merlin Light is not liable for ballast failure due to miswiring.

Job Name:	Model Numbers:
Job Number:	

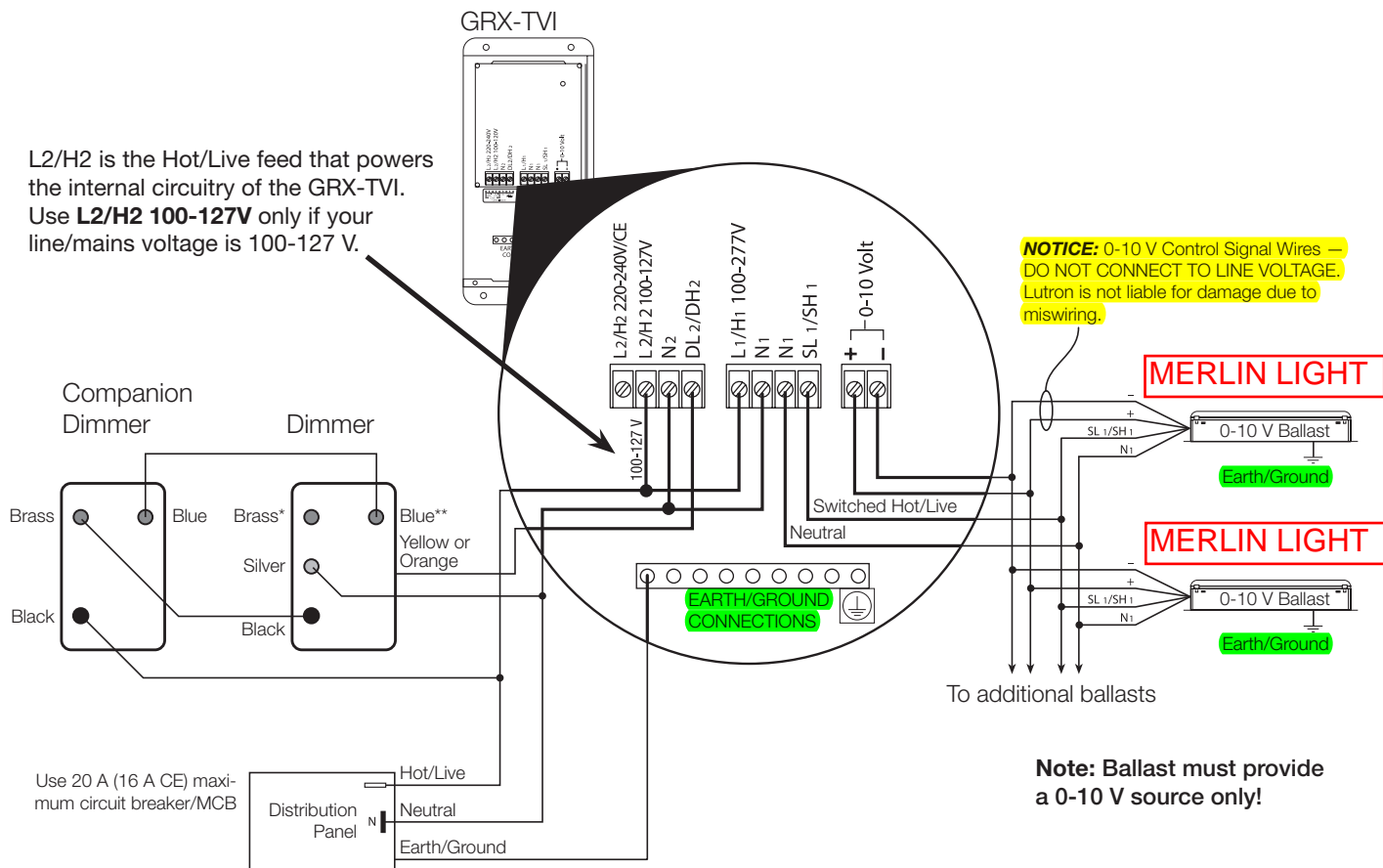
Wiring Diagram F: **Ariadni®/Diva®/Lyneo®/Skylark®/Nova®/Nova T®/Vareo®**
3-wire Fluorescent Dimmers — 2 Distribution Panels



- * Single pole dimmers use black for the hot/live wire. Refer to the single-pole dimmer's installation instructions to identify the hot/live wire for that product.
- ** The red wire is not used. Cap off the red wire using a wire connector. Do not wire the red wire to ground or to any other wiring.

Note: Merlin Light integral ballast are factory tested and operational upon delivery. Merlin Light is not liable for ballast failure due to miswiring.

Wiring Diagram G: **Maestro®/Spacer System®/Vierti®**
3-wire Fluorescent Dimmers — 1 Distribution Panel

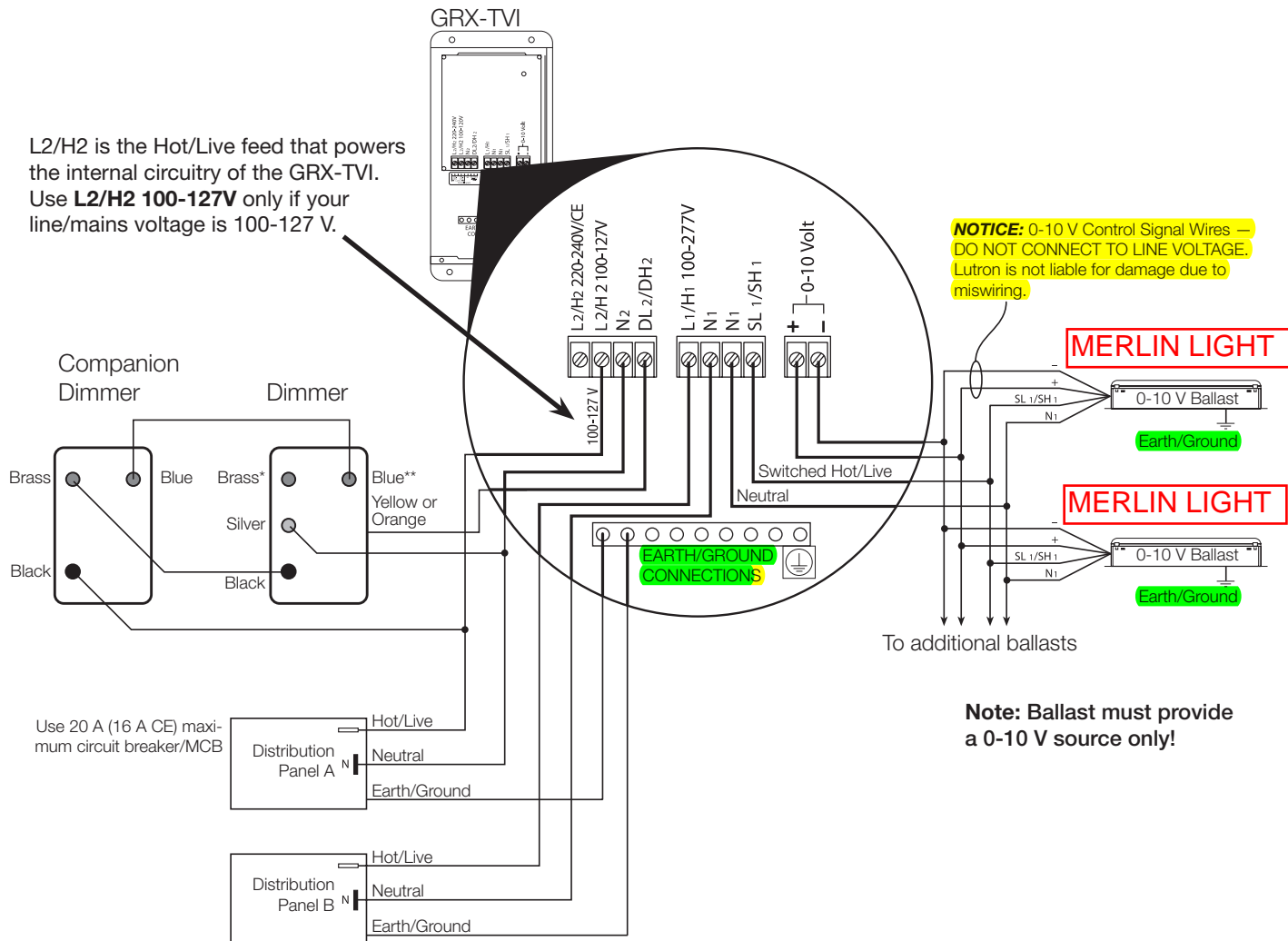


- * The brass screw terminal is not used. Tighten the brass screw terminal. Do not connect the brass screw terminal to ground or to any other wiring.
- ** When used as a single-pole dimmer, the blue screw terminal is not used. When used as a single-pole dimmer, tighten the blue screw terminal—do not connect the blue screw terminal to ground or to any other wiring.

Note: Merlin Light integral ballast are factory tested and operational upon delivery. Merlin Light is not liable for ballast failure due to miswiring.

<p>LUTRON® SPECIFICATION SUBMITTAL MERLIN LIGHT 0-10V DIMMING</p>		<p>Page</p>
<p>Job Name:</p>	<p>Model Numbers:</p>	
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Wiring Diagram H: **Maestro®/Spacer System®/Vierti®**
3-wire Fluorescent Dimmers — 2 Distribution Panels



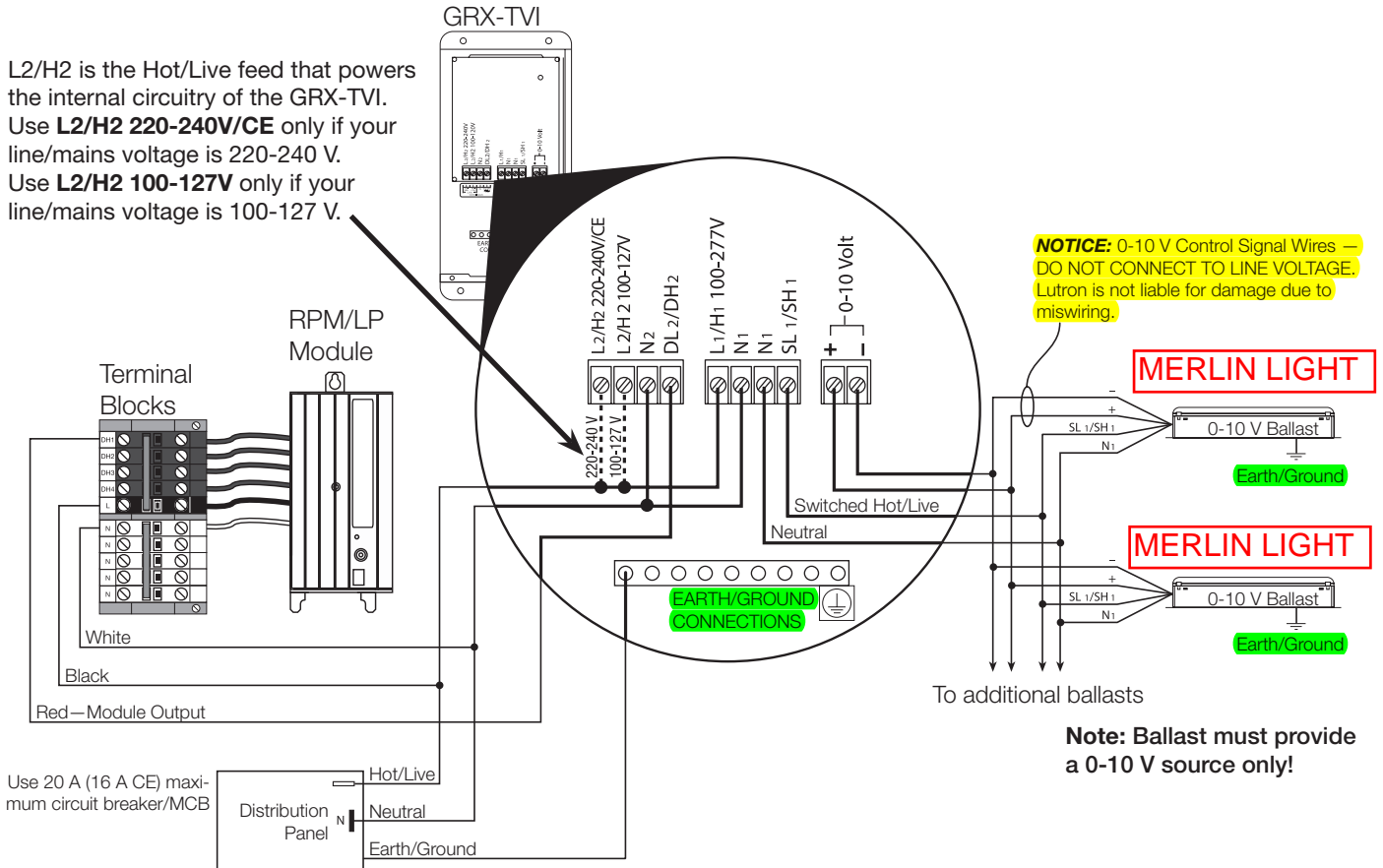
* The brass screw terminal is not used. Tighten the brass screw terminal. Do not connect the brass screw terminal to ground or to any other wiring.

** When used as a single-pole dimmer, the blue screw terminal is not used. When used as a single-pole dimmer, tighten the blue screw terminal—do not connect the blue screw terminal to ground or to any other wiring.

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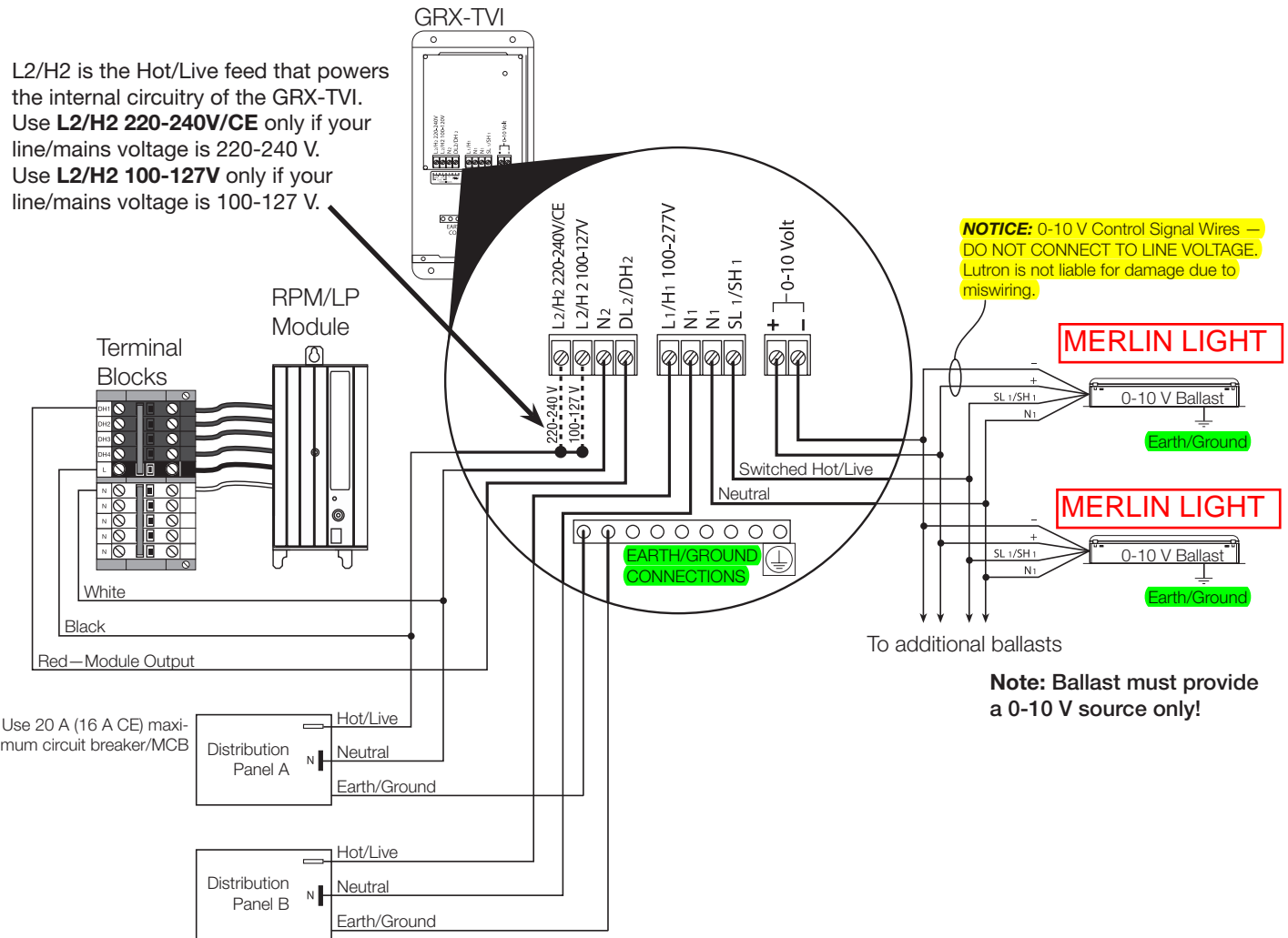
Wiring Diagram I: HomeWorks® Remote Power Module/LP Module — 1 Distribution Panel

L2/H2 is the Hot/Live feed that powers the internal circuitry of the GRX-TVI.
Use **L2/H2 220-240V/CE** only if your line/mains voltage is 220-240 V.
Use **L2/H2 100-127V** only if your line/mains voltage is 100-127 V.



Note: Merlin Light integral ballast are factory tested and operational upon delivery. Merlin Light is not liable for ballast failure due to miswiring.

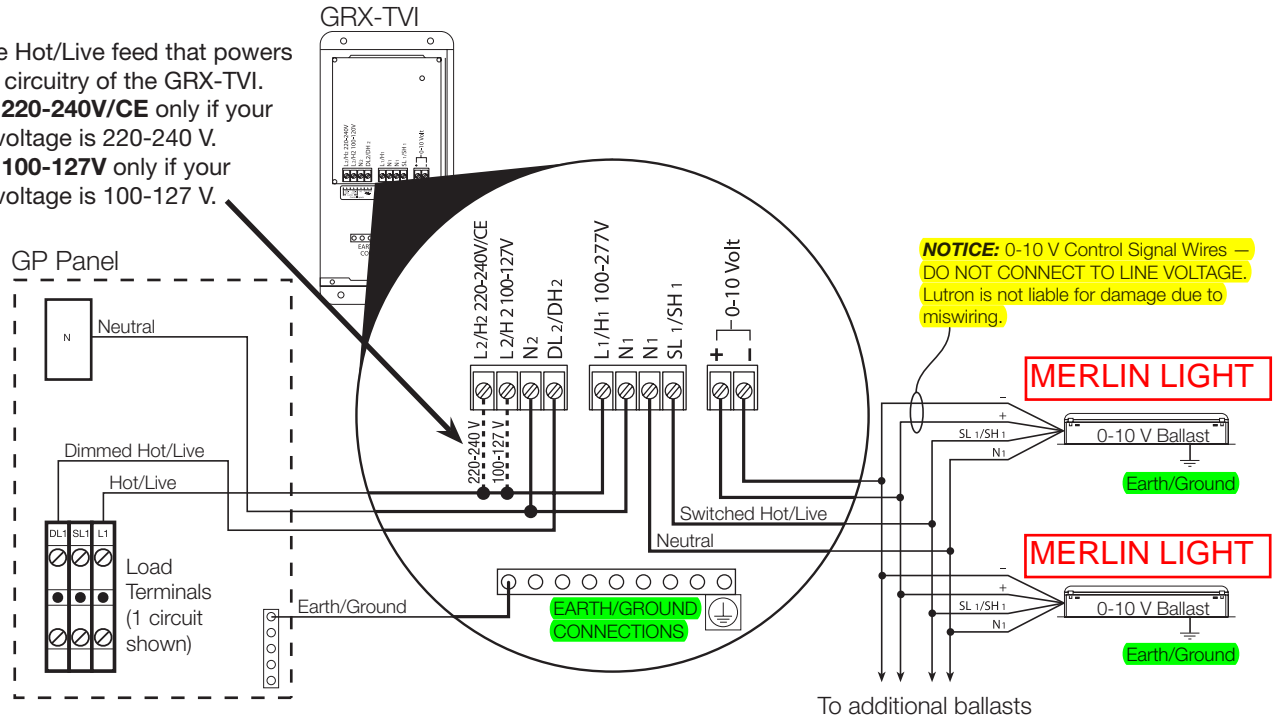
Wiring Diagram J: HomeWorks® Remote Power Module/LP Module — 2 Distribution Panels



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Wiring Diagram K: **GP Panel — 1 Distribution Panel**

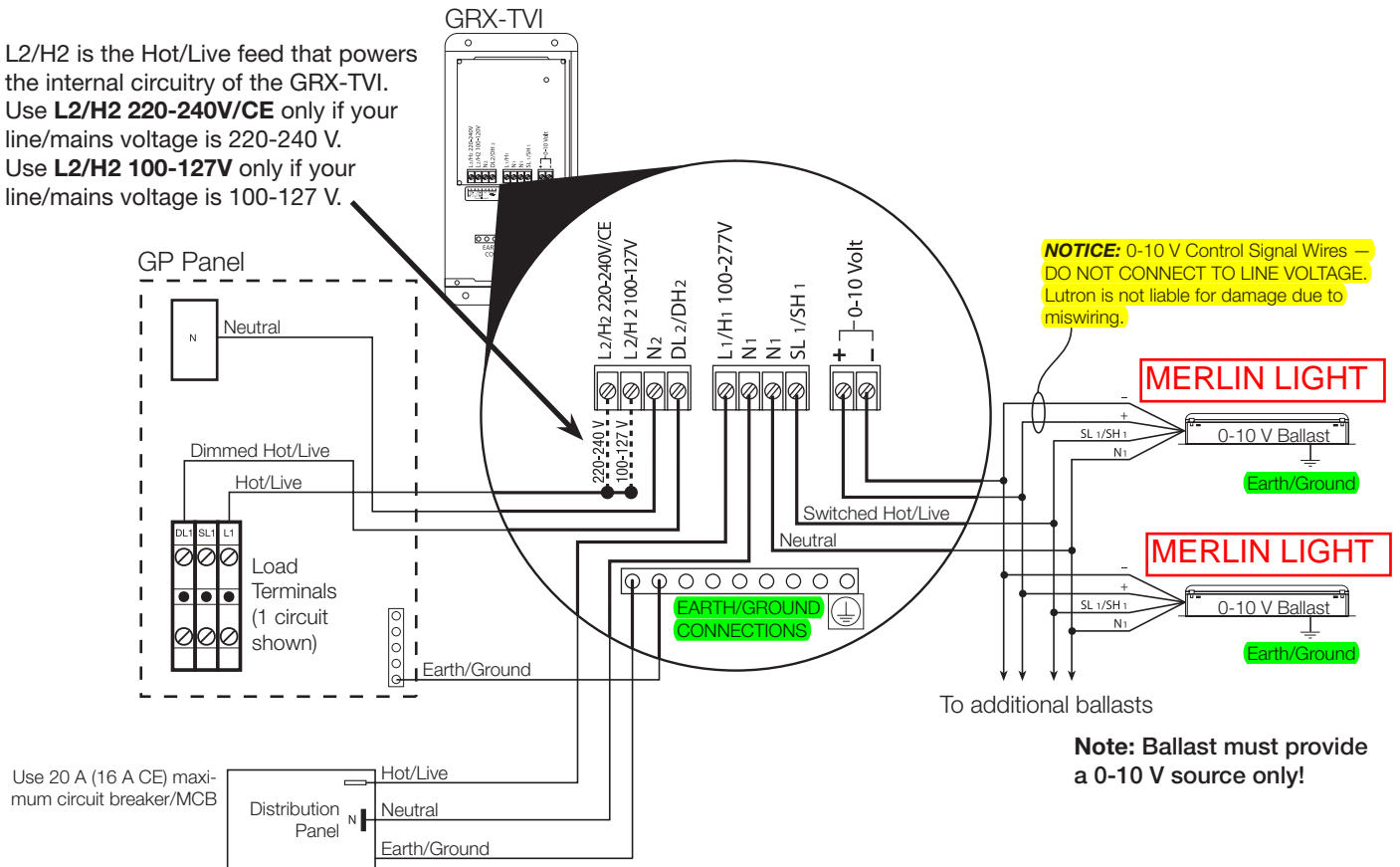
L2/H2 is the Hot/Live feed that powers the internal circuitry of the GRX-TVI.
Use **L2/H2 220-240V/CE** only if your line/mains voltage is 220-240 V.
Use **L2/H2 100-127V** only if your line/mains voltage is 100-127 V.



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Wiring Diagram L: **GP Panel — 2 Distribution Panels**

L2/H2 is the Hot/Live feed that powers the internal circuitry of the GRX-TVI.
Use **L2/H2 220-240V/CE** only if your line/mains voltage is 220-240 V.
Use **L2/H2 100-127V** only if your line/mains voltage is 100-127 V.



Note: Merlin Light integral ballast are factory tested and operational upon delivery. Merlin Light is not liable for ballast failure due to miswiring.

Job Name:	Model Numbers:
Job Number:	