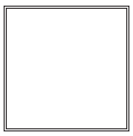
Power Boosters and 120 V Interfaces

4/8/ Wireless Series
Power Interfaces
N/A
N/A

Power Boosters and 120 V Interfaces work with specific load types and/or increase the zone capacity of Wired Vareo® Local Lighting Controls, Wired and RF Maestro® Local Lighting Controls with neutral wire, GRAFIK Eye® Preset Local Lighting Controls, and Remote Power Modules. Power Boosters and 120 V Interfaces are typically installed in electrical closets or other hidden locations, since they do not need to be accessed during normal operation of the HomeWorks® system.



POWER BOOSTER (MODEL # NGRX-PB-WH)

Single-zone interface to dim incandescent, magnetic low-voltage, and neon/cold-cathode (low/normal power factor transformers) sources. Maximum power capacity 1920 W/VA @ 120 V~.

FLUORESCENT INTERFACE (MODEL # GRX-FDBI-16A-120)

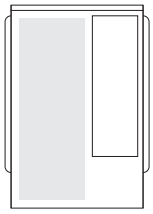
Single-zone interface to dim or switch Lutron® Hi-lume® Fluorescent Ballasts. Maximum capacity 16 A (dimming) or 10 A (switching) @ 120 V~.

ELECTRONIC LOW-VOLTAGE INTERFACE (MODEL # ELVI-1000)

Single-zone interface to dim electronic low-voltage lighting. Maximum capacity 1000 W @ 120 V~.

SYNTHETIC MINIMUM LOAD (MODEL # LUT-LBX-WH)

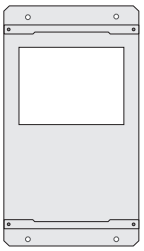
The Synthetic Minimum Load presents a simulated load to the dimmer to meet the minimum load requirements, even when the actual load is smaller. Single-circuit input: 120 V~ 100 mA.



HI-POWER BOOSTERS (MODEL # HP-2, HP-4, HP-6)

Single-zone interface to dim or switch incandescent, magnetic low-voltage, electronic low-voltage, neon/cold cathode (low/normal power factor transformers), Lutron Fluorescent Dimming Ballasts, fluorescent non-dim, and HID (High Intensity Discharge) lamps.

Maximum capacity is 1920 W/VA for HP-2, 3840 W/VA for HP-4, and 5760 W/VA for HP-6 @ 120 V. Up to five Hi-Power Boosters can be daisy-chained for additional capacity. Hi-Power Boosters are designed to be surface-mounted.



0-10 VOLT INTERFACE (MODEL # GRX-TVI)

Single-zone interface to dim or switch fluorescent lights that have *Lutron* ECO-10® (TVE Series) Electronic Dimming Ballasts.

Dims and switches any 0-10 V electronic fluorescent dimming ballast powered by 100-277 V. Ballast must supply 0-10 V signal. Switches up to 5 A of electronic capacitive fluorescent ballasts.

Also switches motors - 1/4 HP @ 100-127 V~, 1/2 HP @ 200-277 V~.

Requires 100-120 V~ or 200-240 V~ power for proper operation.

INSTALLATION NOTES:

For models NGRX-PB-WH, GRX-FDBI-16A-120, and ELVI-1000, use 3½ inch (89 mm) deep masonry wallboxes for ease of installation. The use of a Power Booster or Interface removes the lighting load from the controlling device (Wired Vareo, Wired and RF Maestro Local Lighting Controls, GRAFIK Eye Preset Local Lighting Controls, or Remote Power Modules) and replaces it with a 40 W "dummy load." This 40 W load satisfies the minimum load requirements for the controlling device.

See pgs. 109-110, 113-114, 117.

Note: *All measurements have been rounded to 1/16 inch.*

Power Boosters and 120 V Interfaces (cont.)

Wallbox-Mounted Power Booster and Interfaces

Model Numbers	NGRX-PB-WH: Power Booster. ELVI-1000: Electronic Low-Voltage Interface. GRX-FDBI-16A-120: Fluorescent Dimming Ballast Interface. LUT-LBX: Synthetic Minimum Load
Input Voltage	120 V~ 50/60 Hz
Regulatory Approvals	UL, CSA, NOM
Load Types	NGRX-PB-WH[1]: Incandescent, magnetic low-voltage, neon/cold-cathode. ELVI-1000[1,2]: Electronic low-voltage GRX-FDBI-16A-120[1]: Lutron® Hi-lume® or ECO-10® Fluorescent Dimming Ballasts. LUT-LBX: Incandescent, magnetic and electronic low-voltage, neon/cold-cathode, Lutron TuWire® Fluorescent Dimming Ballasts, LED.
Maximum Load	NGRX-PB-WH[1]: 1920 W/VA ELVI-1000[1,2]: 1000 W GRX-FDBI-16A-120[1]: 16 A (up to 20 ballasts) LUT-LBX: Up to dimmer minimum
Minimum Load	NGRX-PB-WH, ELVI-1000: 25 W/VA GRX-FDBI-16A-120: 1 ballast LUT-LBX: None
Environment	Ambient operating temperature: 0 °C to 40 °C, 32 °F to 104 °F Ambient operating humidity: 0-90% humidity, non-condensing. Indoor use only.
Cooling Method	Passive cooling.
Heat Generated Fully Loaded	NGRX-PB-WH, ELVI-1000: 82 BTUs per hr. GRX-FDBI-16A-120: 18 BTUs per hr. LUT-LBX: 35 BTUs per hr.
Line-Voltage Connections	*See Figs. 2 - 7, pgs. 109, 110.*
ESD Protection	Meets or exceeds the IEC 61000-4-2 standard.
Surge Protection	Meets or exceeds ANSI/IEEE standard c62.41.
Dimensions	*See Fig. 1, below.*
Mounting	2-gang US wallbox, 2¾ in (70 mm) deep minimum, 3½ in (89 mm) deep recommended for easier wiring.
Terminals	Each terminal will accept two 12 AWG (2.5 mm²) wires.
Shipping Weight	1 lb. (0.5 kg)

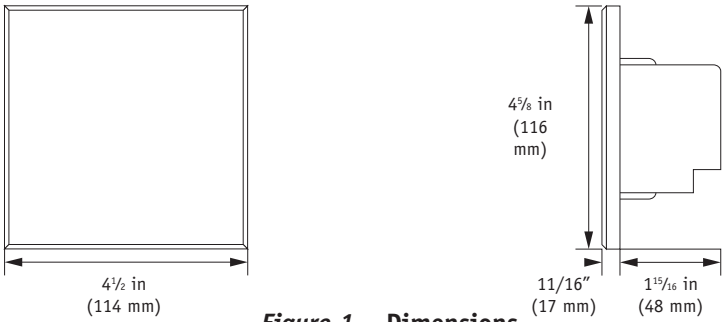


***Figure 1* – Dimensions**

[1] *Power Boosters cannot be controlled by non-system* Vareo® *Controls, non-system* Maestro® *Controls and non-neutral wire* HomeWorks® *Maestro Controls.*

[2] *It is permissible to power both incandescent and electronic low-voltage loads together on the same zone through the ELVI-1000. Up to 300 W of the interface's 1000 W capacity can be incandescent.*

Power Boosters and 120 V Interfaces (cont.)

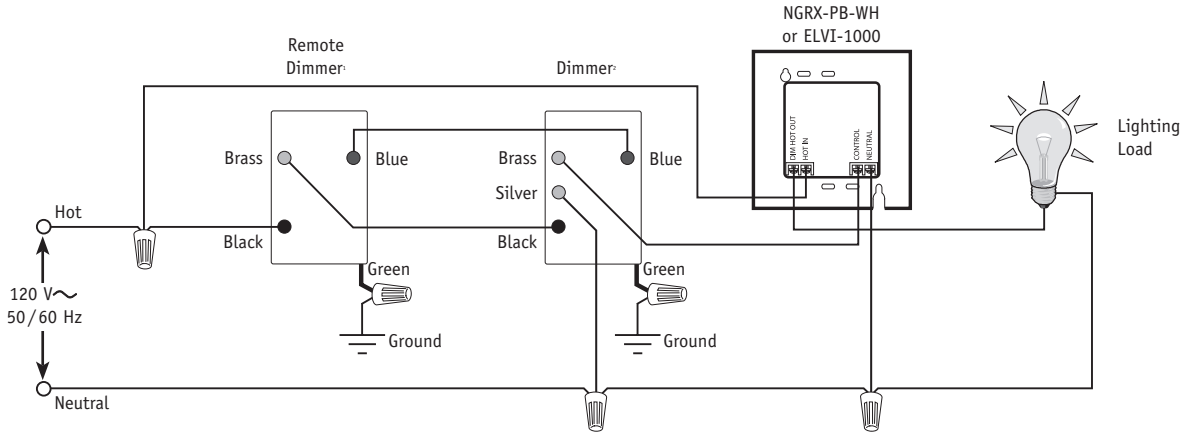


***Figure 2* – NGRX-PB-WH and ELVI-1000 Installation with HomeWorks® Maestro®**

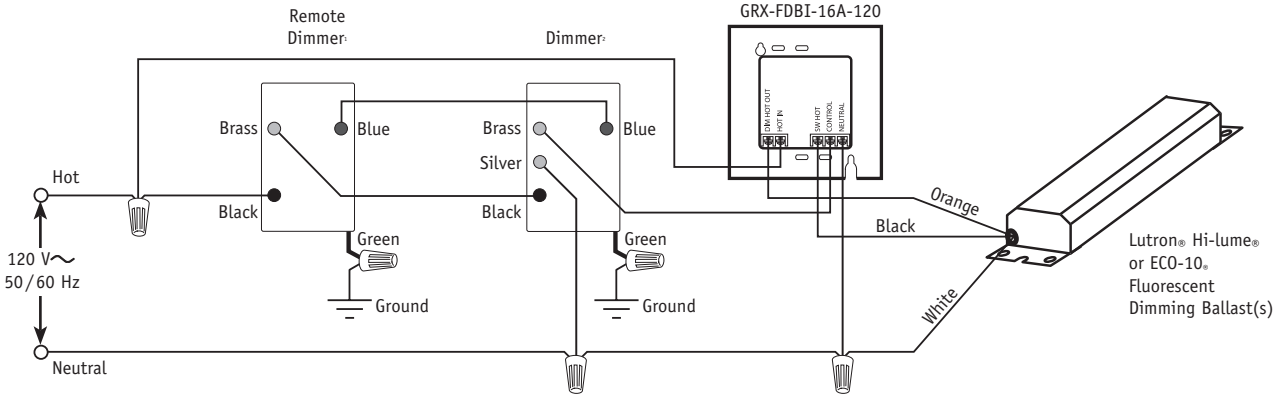


Figure 3* – GRX-FDBI-16A-120 Installation with *HomeWorks Maestro

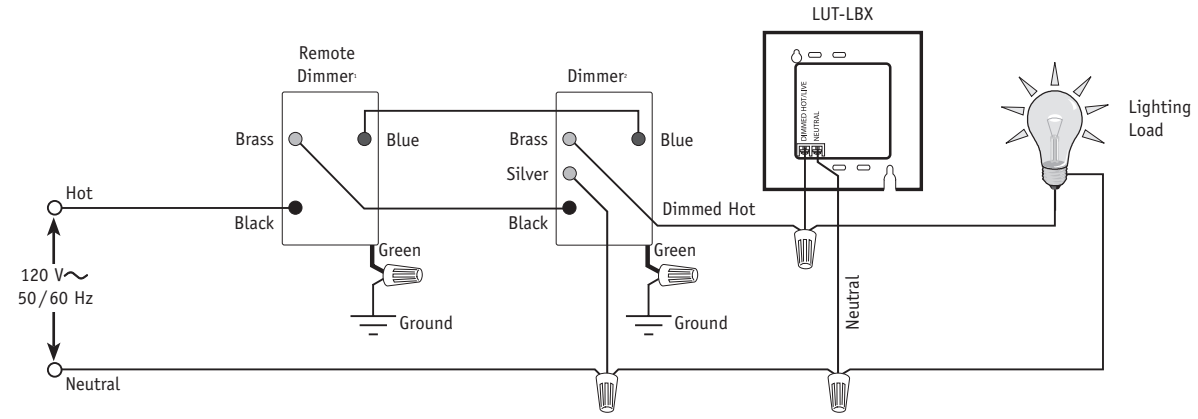


Figure 4* – LUT-LBX Installation with *HomeWorks Maestro

[1] Up to nine *HomeWorks Maestro* Remote Dimmers may be connected to a *HomeWorks Maestro* Dimmer. Total Blue terminal wire length may be up to 250 feet (76 m).

[2] Neutral wire dimmers must be connected on the lighting load side of a multi-location installation.

Power Boosters and 120 V Interfaces (cont.)

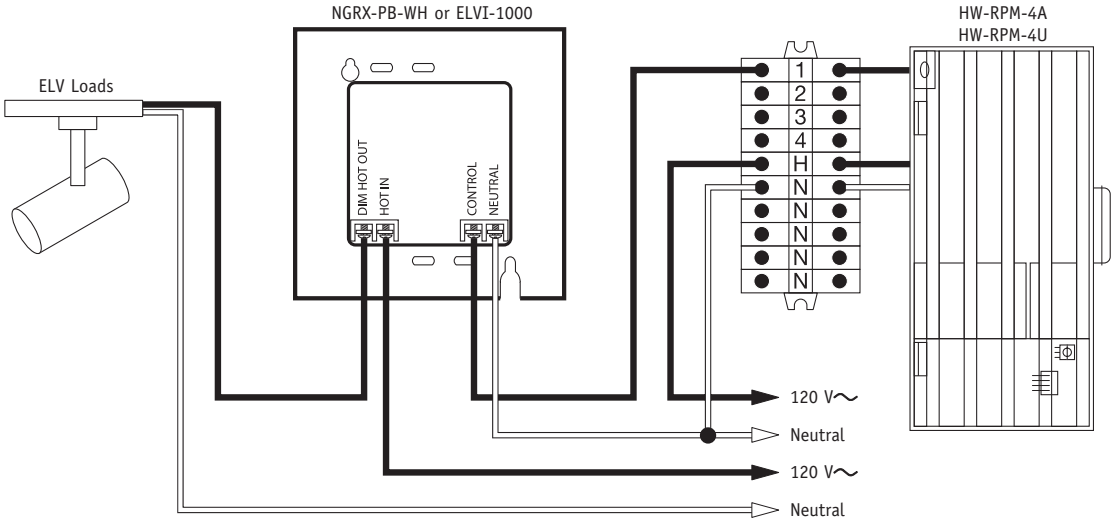


***Figure 5* – NGRX-PB-WH or ELVI-1000 Installation with Remote Power Modules**

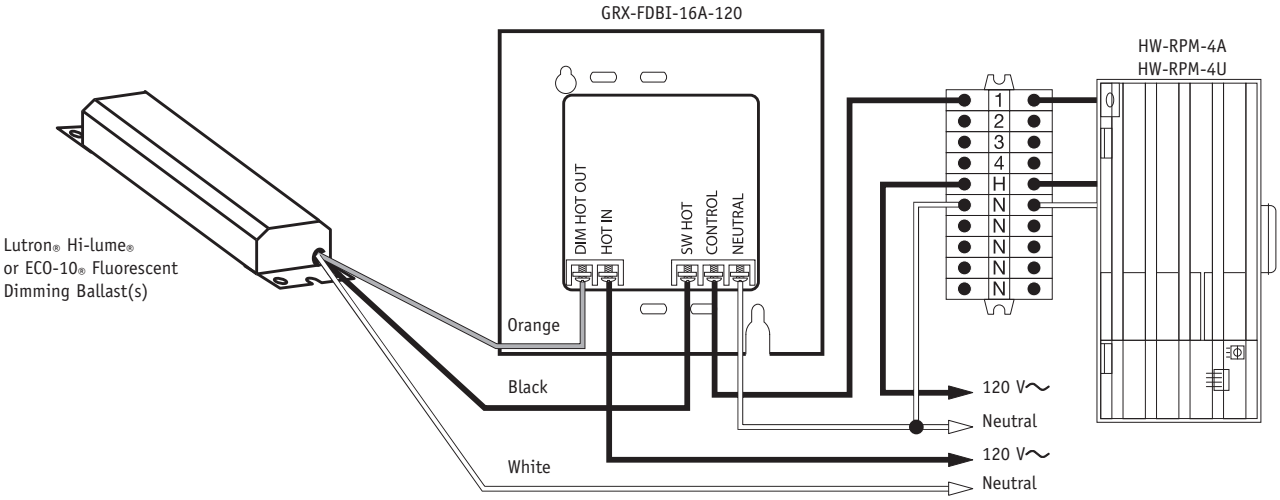


***Figure 6* – GRX-FDBI-16A-120 Installation with Remote Power Modules**

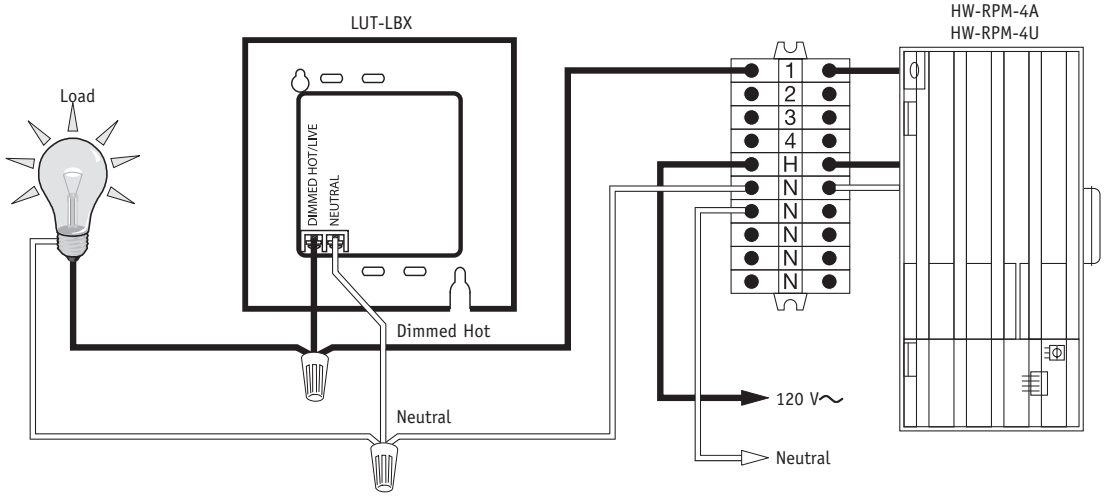


***Figure 7* – LUT-LBX Installation with Remote Power Modules**

BACK ROOM

Power Boosters and 120 V Interfaces (cont.)

Hi-Power 2•4•6™ Hi-Power Modules

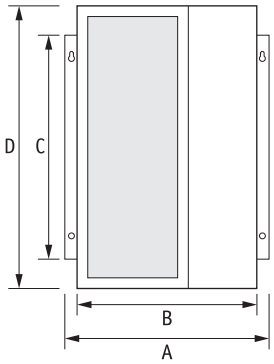
Model Numbers	HP-2: Hi-Power Module with 1 output. HP-4: Hi-Power Module with 2 outputs. HP-6: Hi-Power Module with 3 outputs.
Input Voltage	Control Circuit: 120 V~ 20 A per Hi-Power Booster Module Load Circuit[1], 120 V~ or 277 V~[2] 50/60 Hz
Regulatory Approvals	UL
Load Types	Incandescent, magnetic/electronic low-voltage (forward-phase), neon/cold cathode[3] Hi-lume®, ECO-10®, and Tu-Wire® Fluorescent Dimming Ballast, Fluorescent non-dimmed (non-capacitive), and metal halide.
Maximum Load Per Output	Dimmed: 16 A 1920 W/VA or 20 ballasts. Switched: 10 A 1200 W/VA or 20 ballasts.
Minimum Load Per Output	25 W/VA or 1 ballast.
Environment	Ambient operating temperature: 0 °C to 40 °C, 32 °F to 104 °F Ambient operating humidity: 0-90% humidity, non-condensing. Indoor use only.
Cooling Method	Passive cooling.
Heat Generated Fully Loaded	82 BTUs per hr. per output.
Line-Voltage Connections	*See Figs. 3, 4, 5, pgs. 113, 114.*
ESD Protection	Meets or exceeds the IEC 61000-4-2 standard.
Surge Protection	Meets or exceeds ANSI/IEEE standard c62.41.
Dimensions	10⅜ in (259 mm) x 9¼ in (231 mm) x 14¾ in (368 mm). *See Fig. 1, pg. 112.*
Mounting	Modules must be surface-mounted with adequate air space as indicated in *Fig. 2, pg. 112.*
System Capacity	Up to five HP-6 Modules per zone for a maximum of 30,000 W/VA.
Shipping Weight	16 lbs. (7.3 kg)

[1] Any load circuit can be connected to any phase. Each load circuit may be connected to a different load type; however, load types cannot be mixed on the same circuit.

[2] 277 V Hi-lume®, FDB, or ECO-10® fluorescent, 277 V magnetic low-voltage, or 277 V switched loads only.

[3] For neon/cold cathode light sources, consult Application Note No. 25, available on the Lutron Website or by using fax-on-demand, (800) 523-9466.

Power Boosters and 120 V Interfaces (cont.)



	Inches	mm
A	10 3/8	259
B	9 3/8	234
C	9 1/4	231
D	14 3/4	368
Depth	5 3/4	144

***Figure 1* – Dimensions**

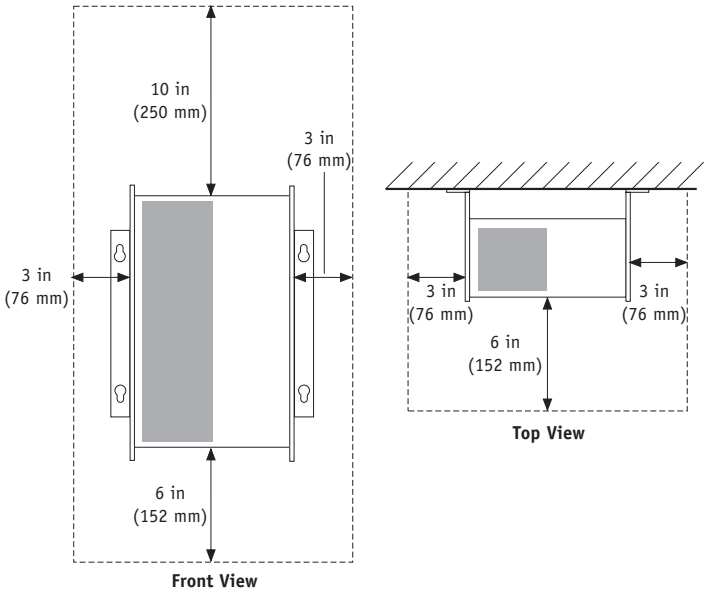


***Figure 2* – Required Mounting Clearance**

BACK ROOM

Power Boosters and 120 V Interfaces (cont.)

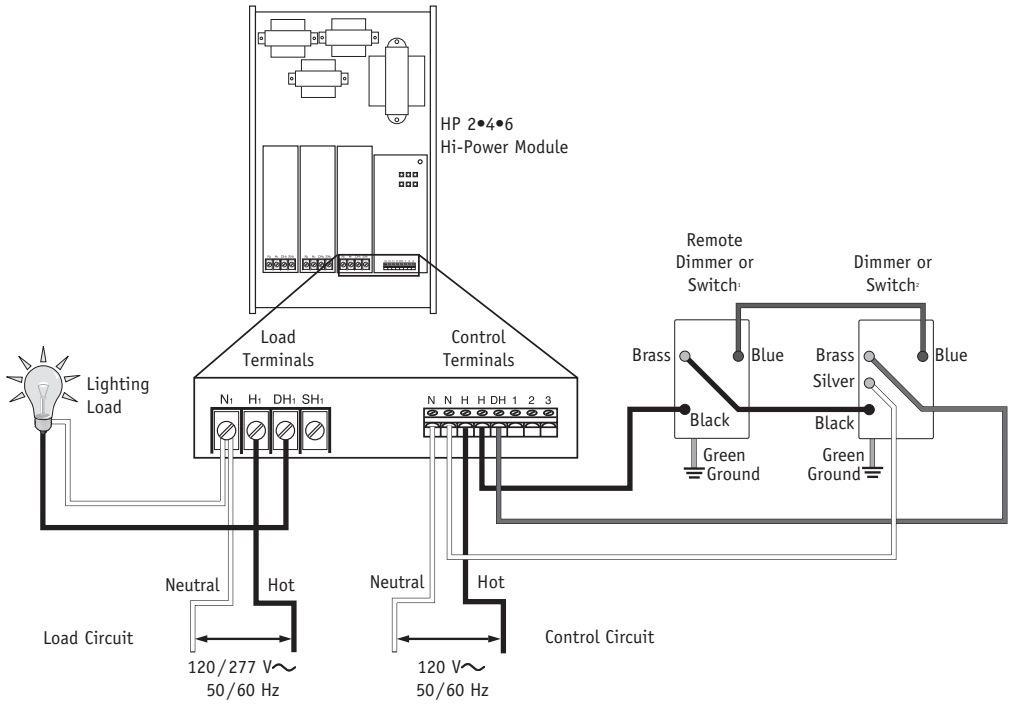


***Figure 3* – HP 2•4•6™ Installation with HomeWorks® Maestro®**

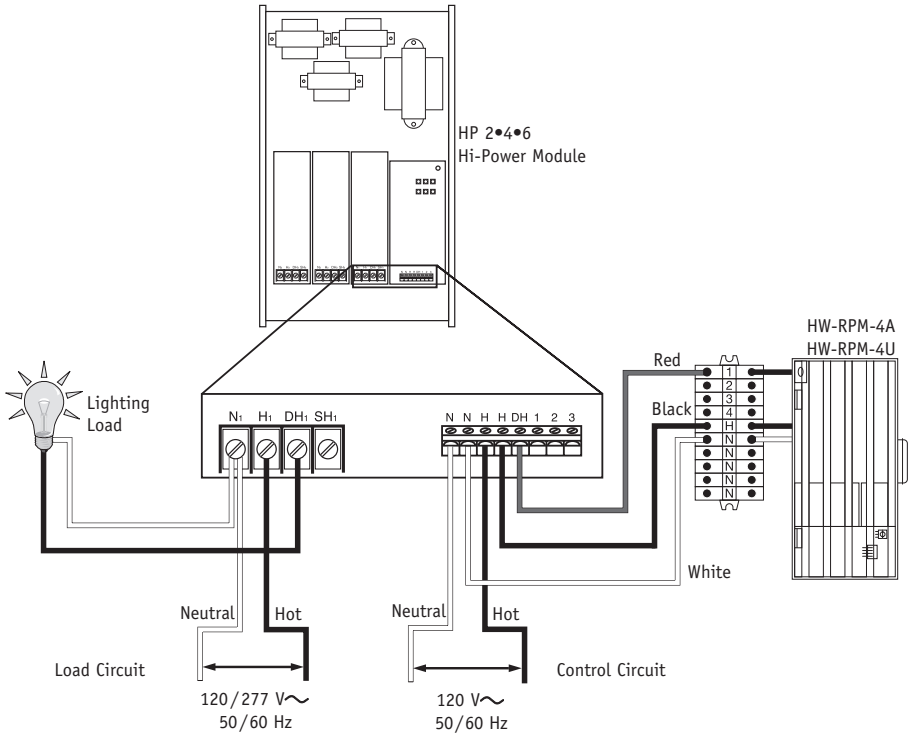


***Figure 4* – HP 2•4•6 Installation with Remote Power Modules**

[1] Up to nine *HomeWorks Maestro* Remote Dimmers or Switches may be connected to the *HomeWorks* Wired *Maestro* Dimmer or Switch. Total Blue wire length may be up to 250 feet (76 m).

[2] Neutral wire Dimmers or Switches must be connected on the lighting load side of a multi-location installation.

Power Boosters and 120 V Interfaces (cont.)

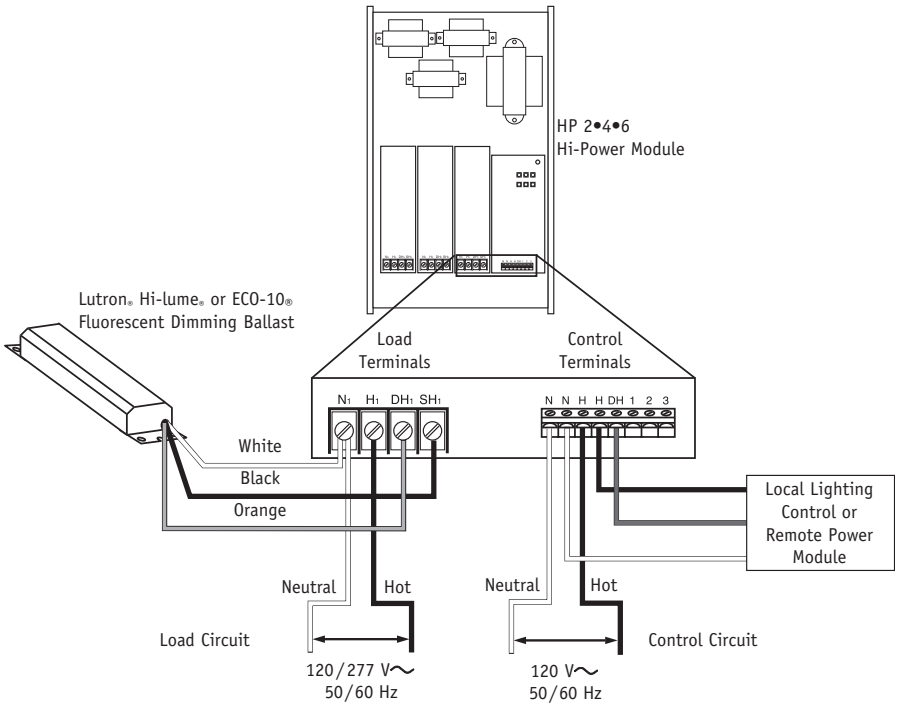


***Figure 5* – HP 2•4•6™ Installation with a Fluorescent Dimming Ballast**

BACK ROOM

Power Boosters and 120 V Interfaces (cont.)

Ten Volt Interface

Model Numbers	GRX-TVI		
Input Voltage	100-127 V~/220-240 V~ 50/60 Hz H2/L2 Terminal: 20 mA DH2/DL2 Terminal: 100 mA		
Regulatory Approvals	UL, CSA, CE, C-Tick		
Load Types	Switched: Incandescent, magnetic/electronic low-voltage, neon/cold cathode, fluorescent non-dimmed (capacitive), metal halide, and motors. Dimmed: ECO-10® (TVE Series) fluorescent dimming ballasts, other manufacturers' 0-10 V dimming ballasts (0-10 V source only)		
Maximum Load Per Output	Dimmed:	ECO-10® (TVE Series)	16 A @ 100-127 V~/200-277 V~
		Other 0-10 V ballasts	16 A @ 100-127 V~/200-277 V~ 10 A @ 230 V~ (CE)
	Switched:	Motors	1/4 HP @ 100-120 V~ 1/2 HP @ 200-277 V~ 1/2 HP @ 230 V~ (CE)
		Other loads listed above	16 A @ 100-127 V~/200-277 V~ 10 A @ 230 V~ (CE)
0-10 V Output	10 µA-300 mA — sinks current only (maximum 150 Lutron® ballasts). Conforms to Annex E of IEC60929		
Environment	Ambient operating temperature: 0 °C to 40 °C, 32 °F to 104 °F Ambient operating humidity: 0-90% humidity, non-condensing. Indoor use only.		
Cooling Method	Passive cooling.		
Heat Generated	18 BTUs per hr.		
Line-Voltage Connections	*See Figs. 2, 3, pg. 117.*		
ESD Protection	Meets or exceeds the IEC 60929 standard.		
Surge Protection	Meets or exceeds ANSI/IEEE standard c62.41.		
Dimensions	12½ in (318 mm) x 6⁹⁄₁₀ in (155 mm) x 3³⁄₁₀ in (84 mm). *See Fig. 1, pg. 116.*		
Mounting	Must be surface-mounted as indicated in *Fig. 1, pg. 116.*		
Shipping Weight	4.25 lbs. (2 kg)		

Power Boosters and 120 V Interfaces (cont.)

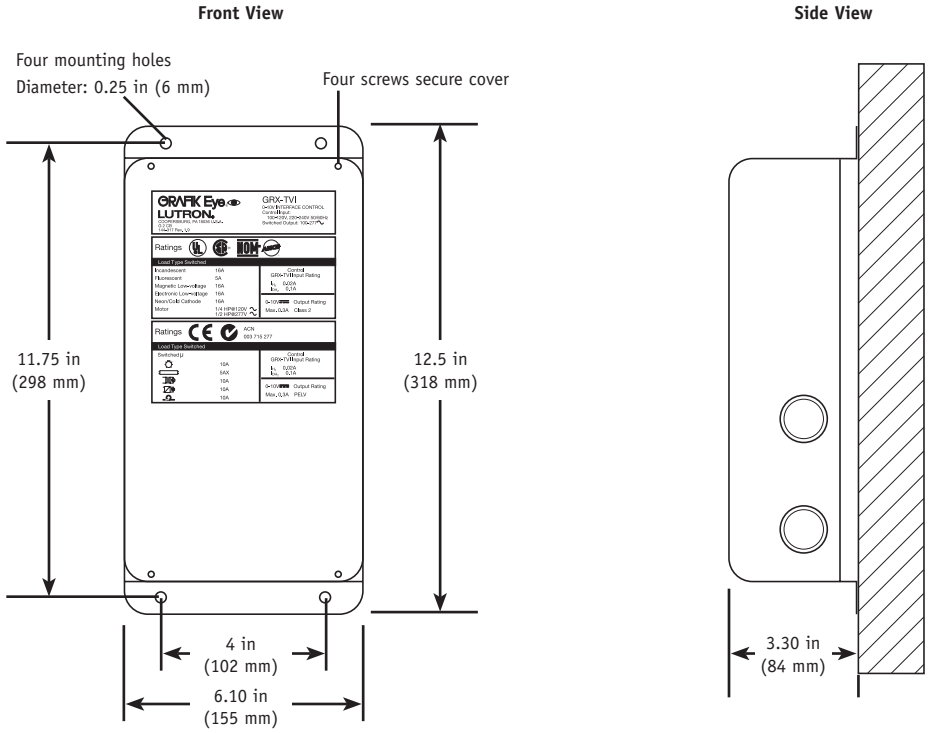


***Figure 1* – Dimensions and mounting**

Power Boosters and 120 V Interfaces (cont.)

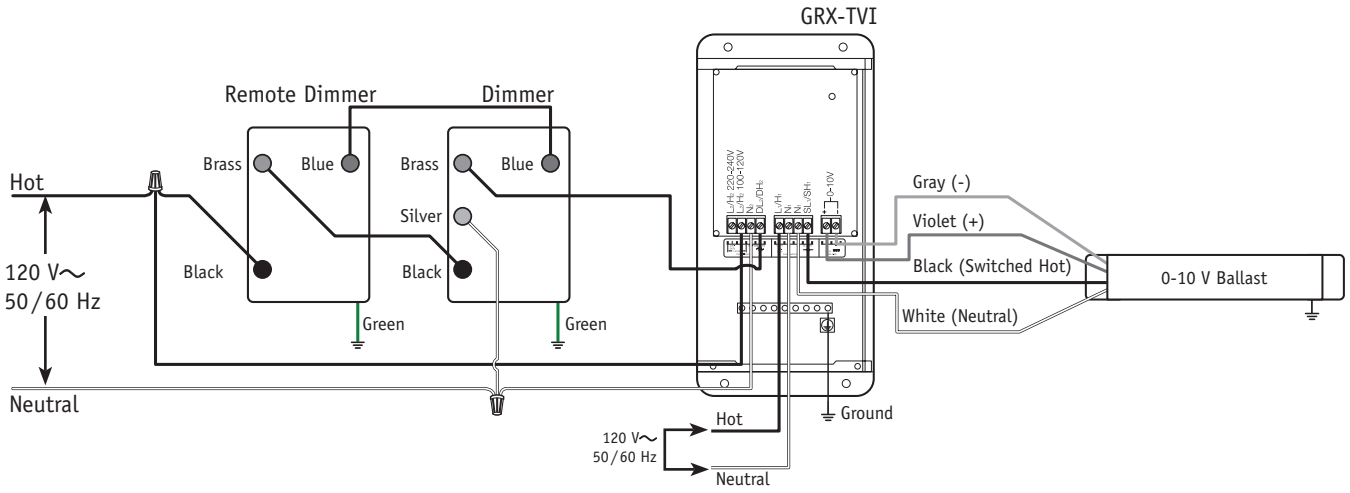


***Figure 2* – GRX-TVI Installation with HomeWorks® Maestro®**

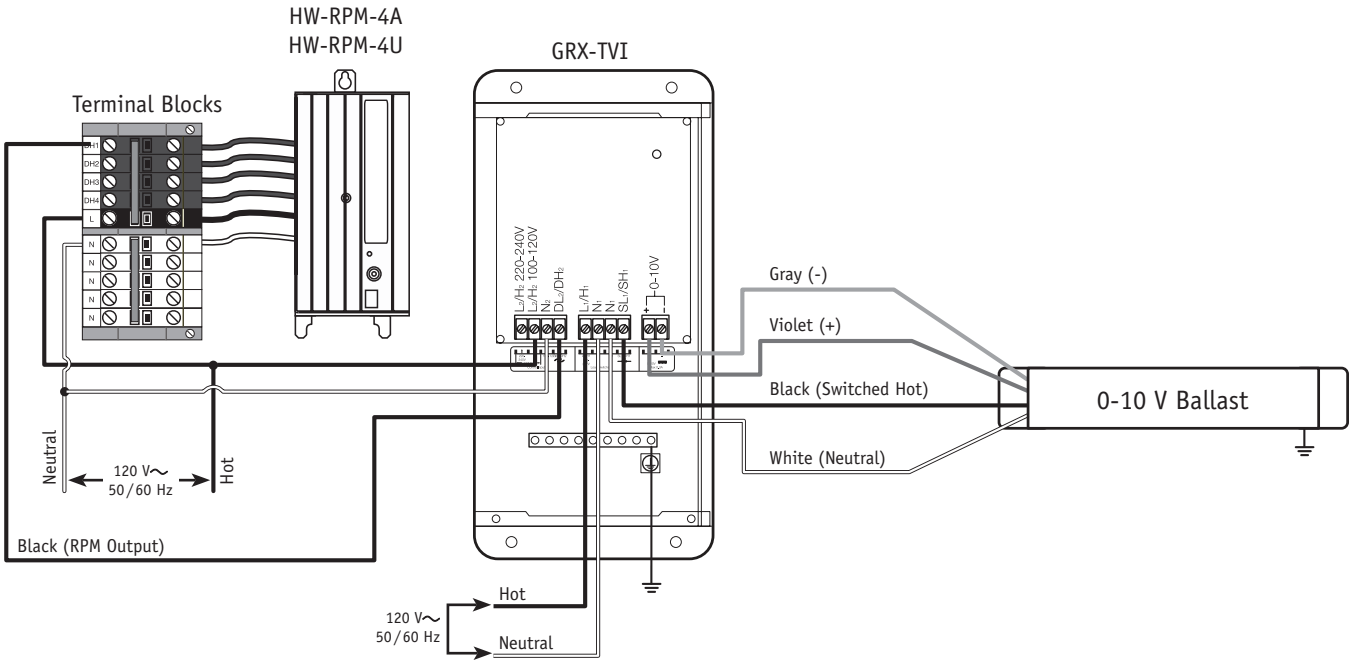


***Figure 3* – GRX-TVI Installation with Remote Power Modules**

[1] Up to nine *HomeWorks Maestro* Remote Dimmers or Switches may be connected to the *HomeWorks* Wired *Maestro* Dimmer or Switch. Total Blue terminal wire length may be up to 250 feet (76 m).

[2] Neutral wire Dimmers or Switches must be connected on the lighting load side of a multi-location installation.

BACK ROOM