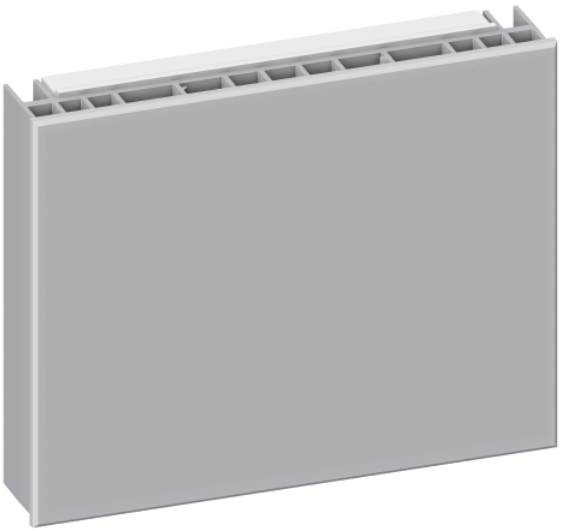
369356d 1 10.14.16

Phase-Adaptive Power Module

Description



- Provides capability for a zone on a GRAFIK Eye control unit (or other product) to dim a fully loaded circuit of lighting.
- May be used to control incandescent, electronic low-voltage, magnetic low-voltage, and neon/cold cathode lighting sources, as well as Lutron Tu-Wire fluorescent dimming ballasts.
- Automatically selects leading-edge or trailing-edge dimming for low-voltage transformers.
- Provides power and dimming for one zone.
- Up to 3 power modules may be wired on a single GRAFIK Eye zone.
- Models available for 120 V~ control power.
- Models available for 120 V~ or 120 - 277 V~ load power.
- Not for use with non-dim loads.

Works with 120 V~ versions of:

- GRAFIK Eye QS control units[1]
- GRAFIK Eye 3000 Series control units[2]
- LP, LCP, and GP dimming panels[2]
- HomeWorks and HomeWorks QS remote power panels**

Models and Capacities

Model Number	Control Power	Load Power	Capacity
PHPM-PA-DV-WH	120 V~	120–277 V~	16 A
PHPM-PA-120-WH	120 V~	120 V~	16 A

[1] Set to power module load type

[2] Set to incandescent load type

Job Name:	Model Numbers:
Job Number:	

369356d 2 10.14.16

Specifications

Regulatory Approvals

- UL® Listed
- CSA certified
- NOM certified
- Complies with requirements for use in other spaces used for environmental air (plenums) per NEC® 2014 300.22(C)(3)

Power

- Control voltage: 120 V~
- Load voltage: 120 V~ only for PHPM-PA-120-WH
  120–277 V~ for PHPM-PA-DV-WH
- Capacity: Full 16 A
  120 V~: 1920 W
  120–277 V~: 1920–4432 W
- Frequency: 50 / 60 Hz, phase-to-neutral.
- Load (output) power: Phase independent of control device/control voltage.

Sources/Load Types

- Operates these sources with a smooth continuous Square Law dimming curve:
  – Incandescent (tungsten)
  – Halogen
  – Magnetic low-voltage transformer (iron core)
  – Electronic (solid-state) low-voltage transformer (must be manufacturer approved for reverse-phase control dimming)
  – Neon/Cold cathode
  – Lutron Tu-Wire fluorescent dimming ballasts
- Incandescent and electronic low-voltage sources may be controlled on the same circuit/control zone. Up to 30% of the unit's capacity may be used for incandescent lighting.
- Incandescent and magnetic low-voltage sources may NOT be controlled on the same circuit/control zone.
- PHPM-PA not for use with non-dim loads. Use switching power module (PHPM-SW-DV-WH) for non-dim loads.
- Minimum load on power module is 10 W.
- Output must be directly connected to the load. Load side switching is not recommended.

Key Design Features

- Automatically selects between forward phase/leading edge (e.g., magnetic low-voltage) and reverse phase/trailing edge (e.g., electronic low-voltage) dimming/output based on connected load.
- Patented RTISS circuitry compensates in real time for incoming line voltage variations: Compensates for +/-2% change in RMS voltage/cycle and +/-2% Hz change in frequency/second.
- Provides air-gap off.
- Module protects itself during most temporary over-current and over-voltage conditions.
- Two LEDs on front of unit provide diagnostic information (visible when faceplate is removed).

Terminals

- Each terminal accepts up to two 12 AWG (2.5 mm^2) wires.

Environment

- 32 °F to 104 °F (0 °C to 40 °C). Relative humidity less than 90% non-condensing.
- Indoor use only.
- Maximum heat output of module: 135 BTU/hour.

Mounting

- Surface- or recess-mount.

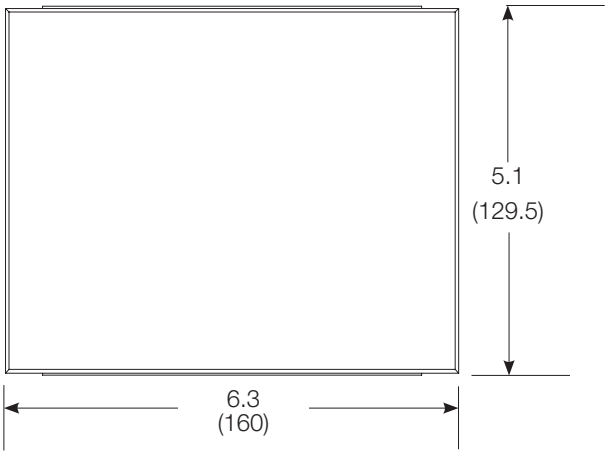
LUTRON SPECIFICATION SUBMITTAL Page

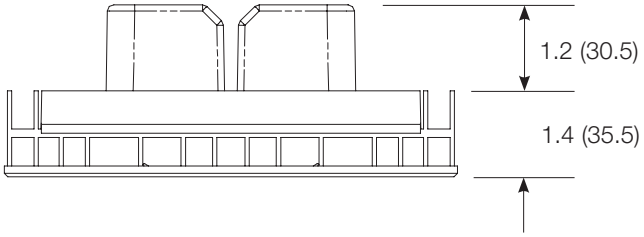
Job Name:	Model Numbers:
Job Number:	

369356d 3 10.14.16

Dimensions

All dimensions shown as: in (mm)



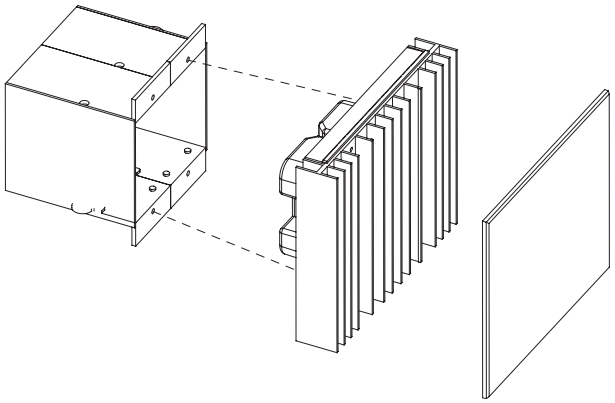


Job Name:	Model Numbers:
Job Number:	

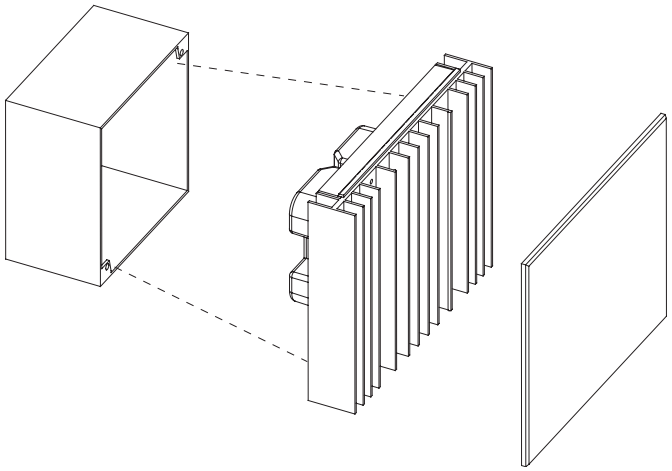
Mounting

- Mount in 2-gang U.S. wallbox 3.5 in (89 mm) deep or 4 in x 4 in (102 mm x 102 mm) junction box 2.1 in (53 mm) deep.
- Indoor use only.
- This device generates heat; mount only where ambient temperature is 32 °F to 104 °F (0 °C to 40 °C).
- Mount with arrows facing up to ensure adequate cooling.
- Allow 4.5 in (114 mm) above and below unit and between faceplates when mounting several in a vertical layout.
- Mount so 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.

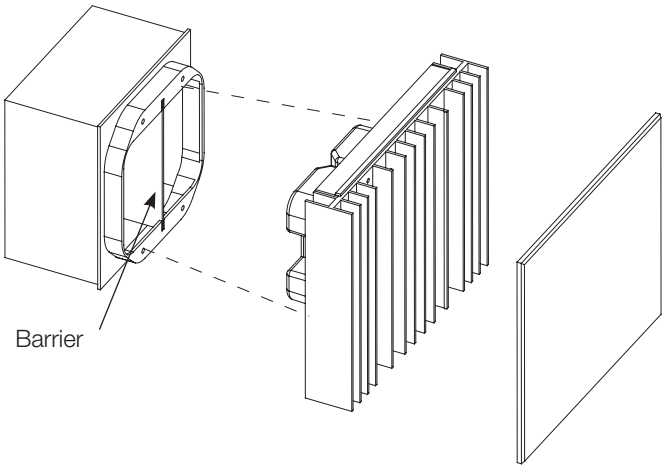
Mount to 2-gang U.S. wallbox



Mount to 4 in x 4 in (102 mm x 102 mm), 2.1 in (53 mm) deep U.S. junction box



Mount to 4 in x 4 in (102 mm x 102 mm), 2.1 in (53 mm) deep U.S. junction box with barrier (for 277 V~ model if required by local electrical code)



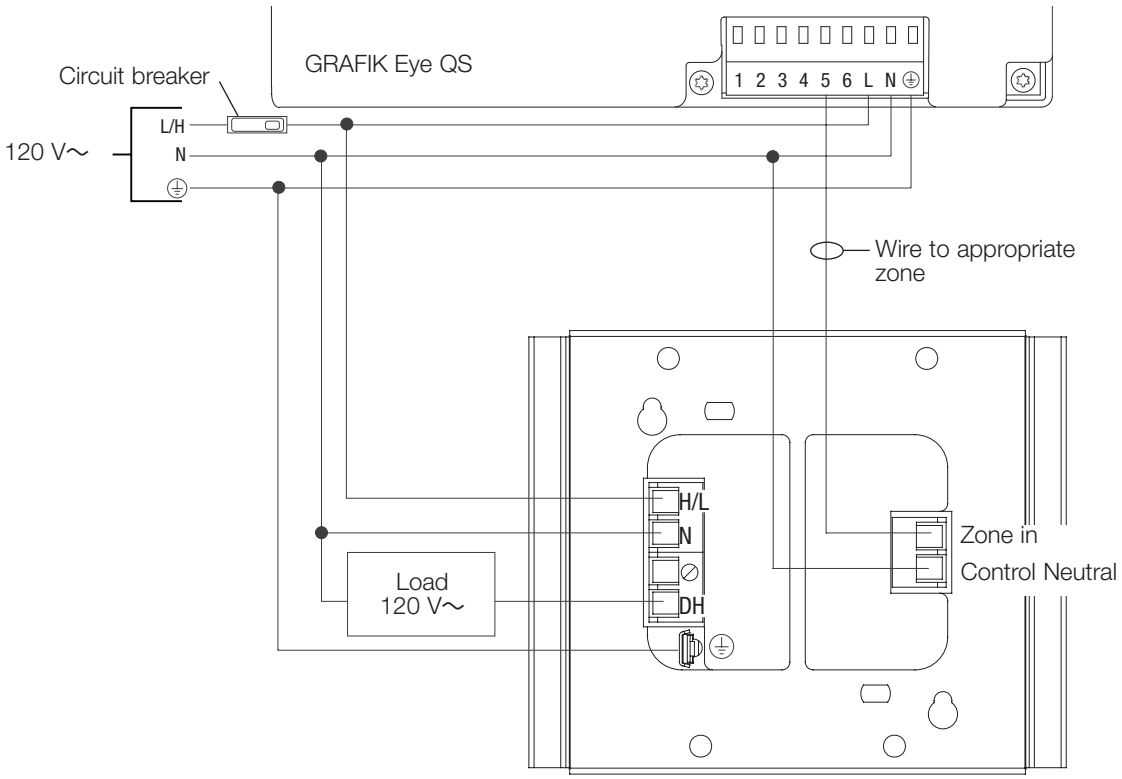
Job Name:	Model Numbers:
Job Number:	

Wiring

- Pull 12 AWG (2.5 mm²) copper (Cu) wires [167 °F (75 °C) minimum] for input power and load circuit.
- Strip 1/2 in (12 mm) insulation from wires before connecting.
- Run separate neutral for load circuit - no common neutrals.
- May be used with GFI breaker protected loads. Load circuit wiring (from GFI breaker to power module to load) must be run in its own non-metallic conduit, or nuisance tripping may occur. Maximum 100 ft (30.5 m) between power module and load.
- May be used with AFI breaker protected loads. Maximum load on AFI circuit is 1000 W. Exceeding 1000 W may cause nuisance tripping of AFI breaker.

Single Power Feed

The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker.



Legend

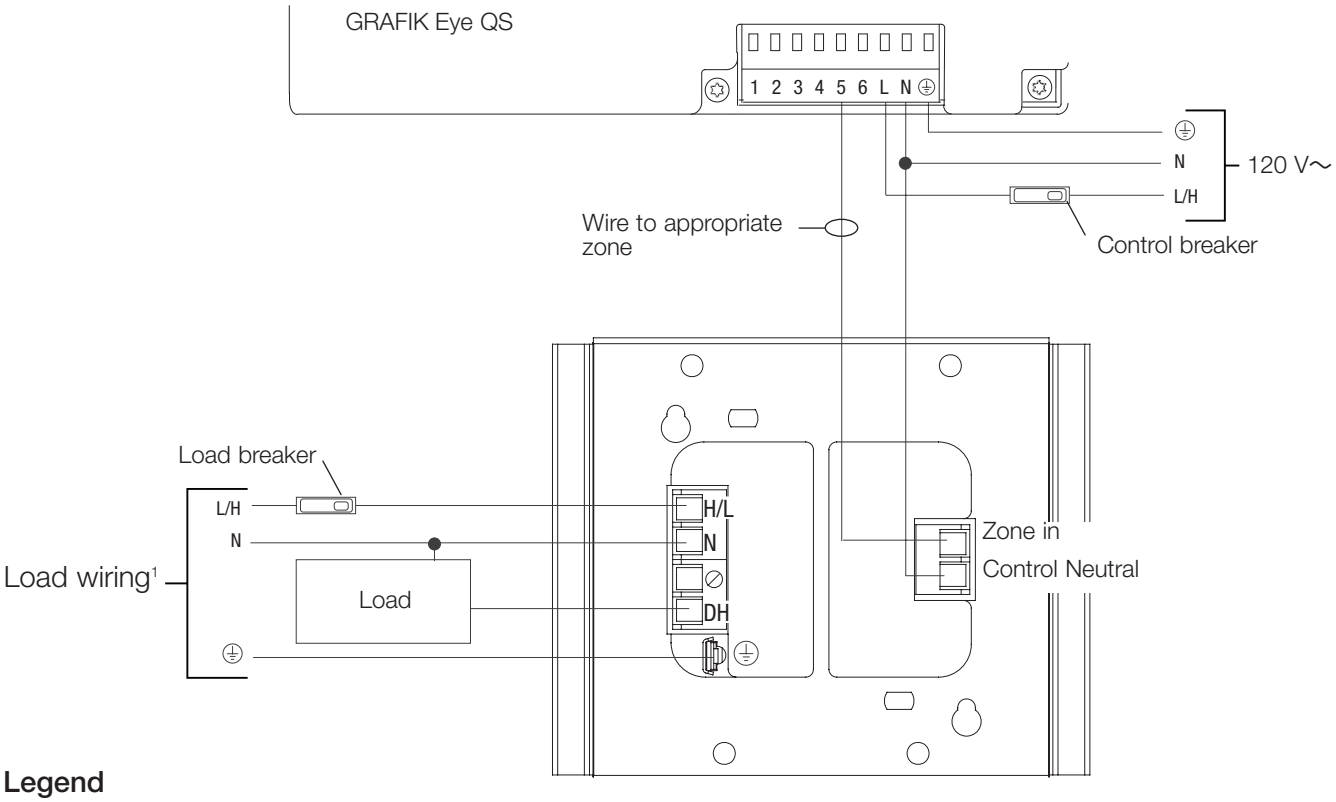
L/H	Line/Hot
N	Neutral
SH	Switched Hot
DH	Dimmed Hot
⏚	Ground
⊘	Not Used

Job Name:	Model Numbers:
Job Number:	

Wiring *(continued)*

Multiple Power Feeds

The load breaker may be on a different phase than the control breaker.



Legend

L/H	Line/Hot
N	Neutral
SH	Switched Hot
DH	Dimmed Hot
⏚	Ground
⊘	Not Used

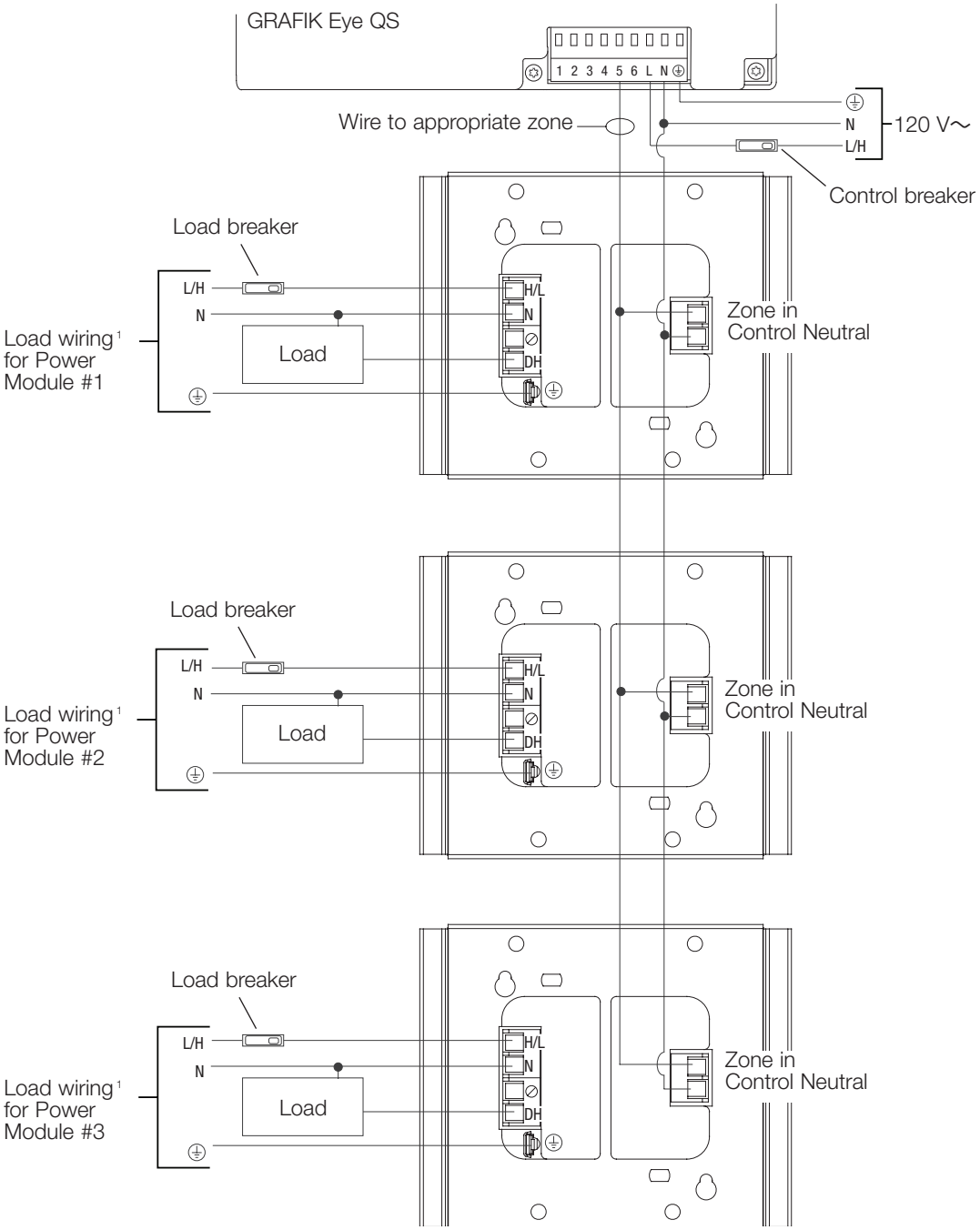
[1] Load feed: 120 V~ for PHPM-PA-120-WH; 120 – 277 V~ for PHPM-PA-DV-WH

Job Name:	Model Numbers:
Job Number:	

Wiring *(continued)*

Multiple Power Modules to a Single GRAFIK Eye Zone

Shown with separate feeds for control and loads. All breakers must be turned off prior to installing or servicing the modules. Up to 3 power modules may be wired to a single zone.



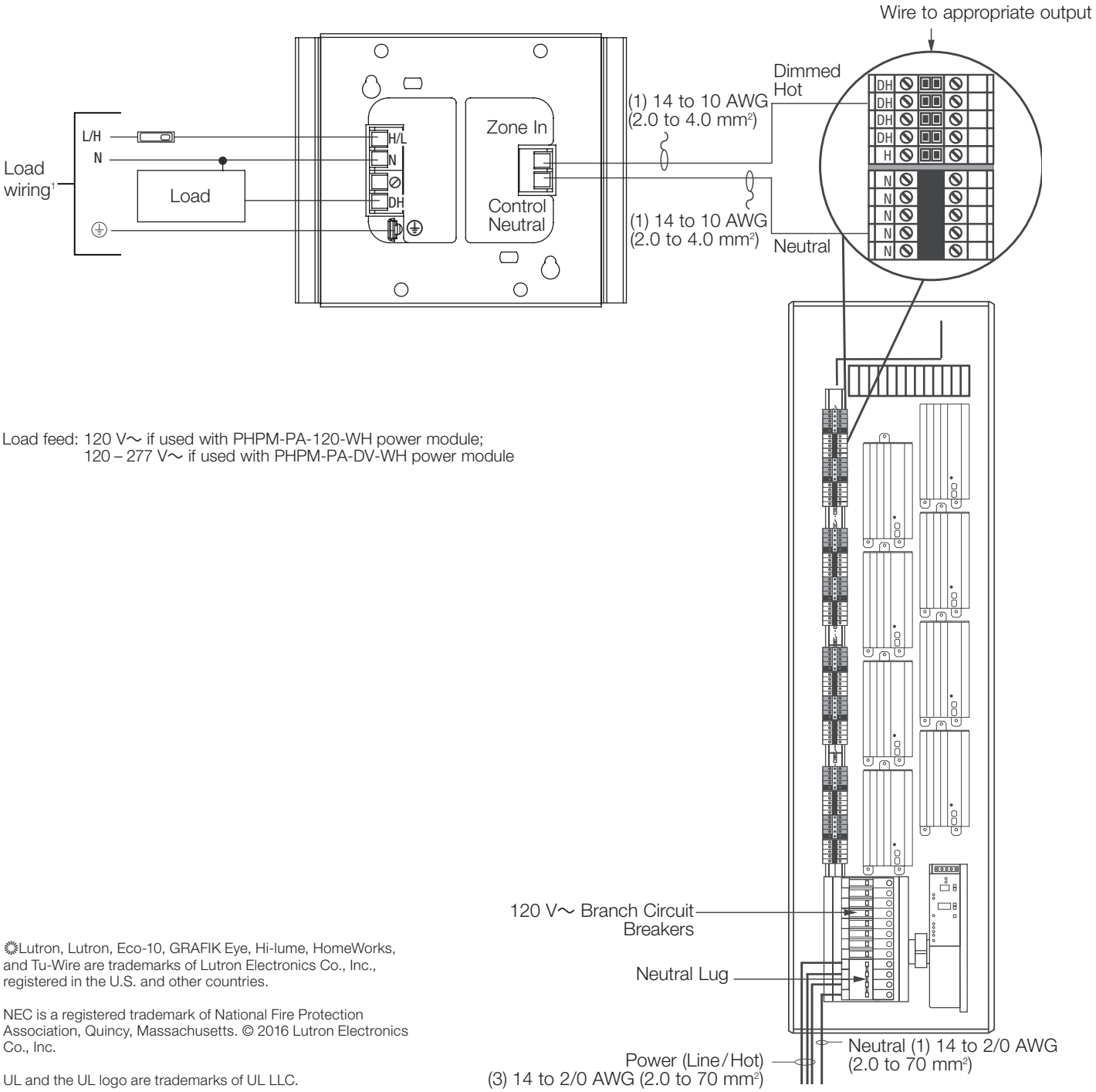
[1] Load feed: 120 V~ for PHPM-PA-120-WH; 120 – 277 V~ for PHPM-PA-DV-WH

Job Name:	Model Numbers:
Job Number:	

Wiring *(continued)*

Wiring a Power Module to an LP, LCP, GP, or HomeWorks Panel

Up to three 3-wire fluorescent power modules may be wired to an output of a 120 V~ LP or LCP panel. The load type for the output must be set as Eco-10 or Hi-lume fluorescent load type on the panel's circuit selector (for an LP or GP panel), controller (for an LCP panel), or HomeWorks software (for a HomeWorks panel).



[1] Load feed: 120 V~ if used with PHPM-PA-120-WH power module;
120 – 277 V~ if used with PHPM-PA-DV-WH power module

Job Name:	Model Numbers:
Job Number:	