LUTRON PRO LED+ Phase Adaptive Power Module User Guide
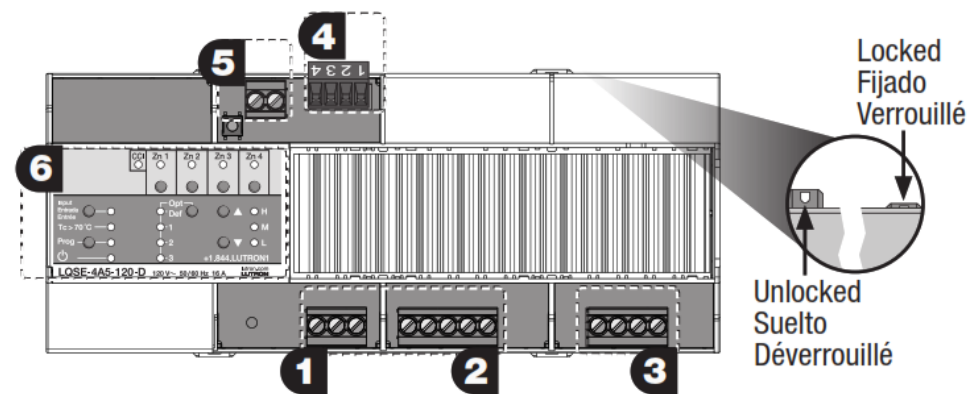
LUTRON

LQSE-4A5-120-D

120 V~ 50 / 60 Hz 16 A

032583 Rev. A
05/2021

Numbered illustrations correlate to numbered instructions.

Locked
Fijado
Verrouillé

Unlocked
Suelto
Déverrouillé

1

Neutral | Neutro | Neutre
Line / Hot | Línea / Vivo | Phase / Sous tension (120 V∼)
Earth | Tierra | Terre ⏚

5/16 in (8 mm)
14–10 AWG (2,5–4,0 mm²)
5 in-lb (0,6 N•m)

2

Neutral | Neutro | Neutre
Line / Hot | Línea / Vivo | Phase / Sous tension (120 V∼)

Load Carga Charge (x4)

5/16 in (8 mm)
5 in-lb (0,6 N•m)

3

Dim Line / Hot (120 V∼)
Atenuar Línea / Vivo
Phase / Sous tension
soumis à une gradation

Neutral | Neutro | Neutre

Load Carga Charge (x4)

5/16 in (8 mm)
5 in-lb (0,6 N•m)

4

(4) MUX
(3) MUX
(2)
(1) COM

5/16 in (8 mm)
22–12 AWG (0,25–2,5 mm²)
5 in-lb (0,6 N•m)

22–18 AWG (0,25–1,0 mm²)

5

SPST
CCI
COM

5/16 in (8 mm)
20–10 AWG (0,5–4,0 mm²)
5 in-lb (0,6 N•m)

20–16 AWG (0,5–1,5 mm²)

PRO LED+ Phase Adaptive Power Module
Install Guide

Please read before installing.

⚠ WARNING

Shock Hazard. May result in serious injury or death.
Turn off power at circuit breaker before installing the unit
Buttons and LEDs in the unit are used for programming and troubleshooting. If wiring is exposed when accessing buttons and LEDs, the unit must be accessed by a certified electrician, following local codes.
Note: For additional information on the unit operation and ratings, please refer to Lutron P/N 3691126 at
www.lutron.com.
Mounting

- Mount in a Lutron DIN panel (see 3691055 or 3691106) or in an IP20 (minimum) or NEMA Type 1 (minimum) enclosure with an integrated DIN rail (please refer to Lutron P/N 048466 at www.lutron.com).
- Mount with an arrow pointing up to ensure adequate cooling.
- Internal relays make audible noise, mount where acceptable.
- Unit is 12 DIN modules [8.5 in (216 mm)] wide.

Mount to DIN rail by pressing unit onto the rail with clips pressed in. To remove from the rail, pull clips out using a screwdriver.

Line Voltage Wiring

- Turn off power and wireline voltage to the unit as shown (DO NOT WIRE LIVE). Terminals will accept 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²) wire.
- Apply power, "u" LED will light if the unit is wired correctly.

Verify Wiring

Follow the steps below to verify there are no faults in the load or wiring.

- Turn off the power **(DO NOT WIRE LIVE).**
- Wire loads directly to Line / Hot to bypass the unit and protect it from wiring faults.

Note: If using a Lutron panel, use the bypass jumper included with the panel.

- Apply power and ensure that the desired loads power on without any faults.

Zone Wiring

Load Type	Zone 1	Zone 2, 3 and 4 (per zone)
LED (reverse- phase)[1]	6.6 A	4.2 A
Lutron Hi-lume A-series LTE	4.0 A (20 drivers maximum)	3.0 A (13 drivers maximum)
LED SSL7A-2015 (forward-phase)	400 W	200 W
Incandescent / Halogen, ELV	800 W	500 W
Neon / Cold Cathode, MLV	800 VA (600 W)	500 VA (380 W)

Works with all dimmable LED drivers whose inrush current does not exceed NEMA410 standards for electronic ballast/drivers. Refer to www.lutron.com/ledtool for specific LED compatibility information and recommended LED light sources.

• **Ratings:**
Note: Derating may be required depending on panel installation details. For derating information, refer to Lutron product specification (3691126), panel specification (3691055 or 3691106) or DIN panel App Note #466 (048466) at **www.lutron.com.**
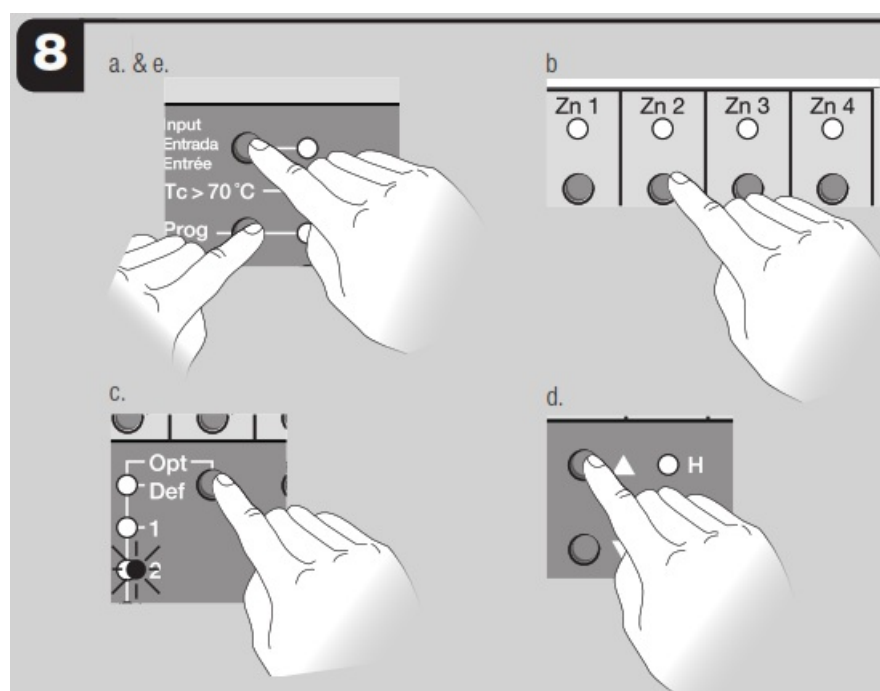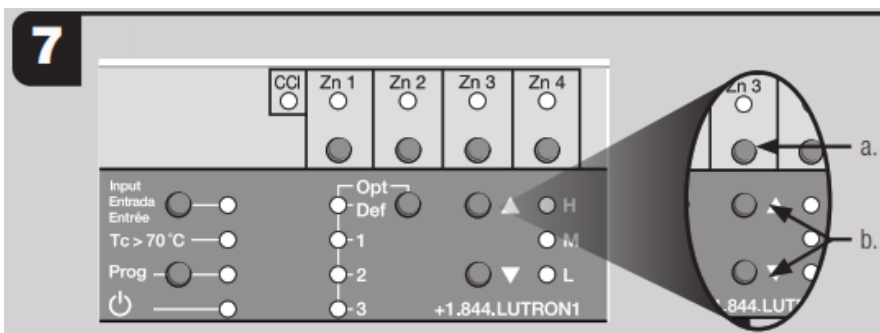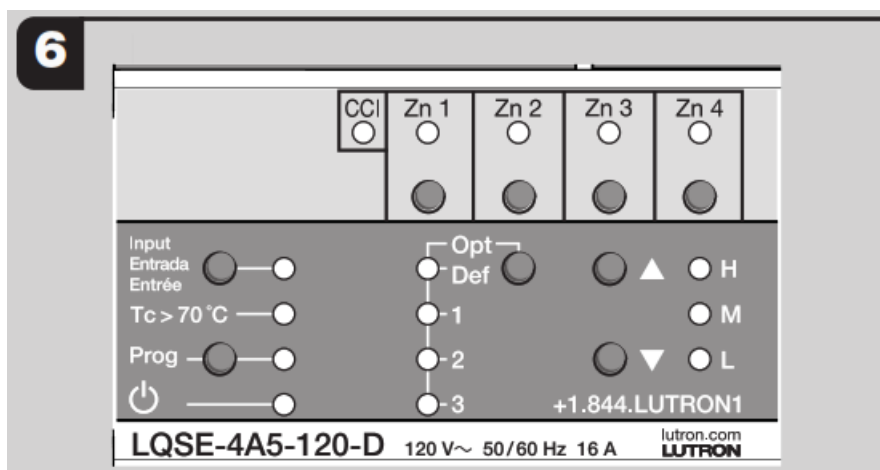
- Turn off power (DO NOT WIRE LIVE).
- Wire loads as shown. Terminals will accept 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²) wire.
- Apply power.
- Note: Operation of a low-voltage circuit with lamps inoperative or removed may result in transformer overheating and premature failure. Lutron strongly recommends the

  following:

  a. Do not operate low-voltage circuits without operative lamps in place.

  b. Replace burned-out lamps as quickly as possible.

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

QS Link (NECR Class 2)

- Turn off power while servicing unit (DO NOT WIRE LIVE).
- Wire QS Link to the unit as shown, note terminals 3 and 4 are twisted, screened pair.

  Recommended Lutron cable: GRX-CBL-346S for wiring length less than 500 ft (153 m); GRX-CBL-46L for wiring length up to 2000 ft (610 m).
- The link may be daisy-chained or t-tapped, length not to exceed 2000 ft (609 m).
- Do not connect to terminal 2.

Manual Override Contact Closure Input (NECR Class 2)

- If no external override control is required, leave a pre-installed jumper in CCI terminals.
- Turn off power while servicing unit (DO NOT WIRE LIVE).
- Wire CCI as shown using 20 AWG to 10 AWG (0.5 mm² to 4.0 mm²) wire. A single-pole switch(provided by others) must be wired in place of the jumper.
- If opened, the unit will go to manual override light levels and not respond to inputs from other devices.
- When closed or jumpered, the unit will return to the settings or levels they were at prior to entering manual override.

6 LED Diagnostic Indicators

LED	Behavior	Description
Power ⏻	Continuous on	Normal operation
	Off	General system failure/No power; verify breaker is on
	Rapid flash: 10 blinks/sec	Unit failure: contact Lutron
Hi-Temp Tc >70 °C	Off	Normal Operation
	1 second on, 7 seconds off	Unit is too hot, loads scaled to 25% power
	Continuous on	Unit is too hot, loads turned off
	Flashing: 1 blink/sec	The unit was overheated and has now cooled to an acceptable temperature. To clear the error, press the **"Input", "Prog", "▲", and "▼"** buttons simultaneously.
Prog	Off	The device in Normal Mode
	Flashing: 1 blink/sec	The device in Program Mode
Zone 1-4	Off	Normal Operation: zone off
	Continuous on	Normal Operation: zone on
	1 blink, pause	Zone selected for manual control; will timeout after 10 seconds
		Output shorted or overloaded: verify wiring
	2 blink, pause	Overvoltage: verify load type
	3 blink, pause	Shorted component: verify panel jumper/wiring; contact Lutron
	4 blink, pause	Over-temperature: zone may be overloaded, all loads scaled to 25%
	5 blink pause	Over-temperature: zone may be overloaded, all loads turned off
	Rapid flash: 10 blinks/sec	Multiple errors: contact Lutron
CCI	Continuous on	Normal operation
	Rapid flash: 10 blinks/sec	Manual override mode/Contact open/Jumper missing

Verify Lights – On / Off

a. "**Zn**" buttons: Press "**Zn**" button to select the zone to control.
b. " ▲ " and " ▼ " Buttons: Turn loads on and off.
Note: Unit will only turn on and off until load type is programmed for dimming.

Verify Lights – Dimming (Optional)

Manual Programming Load Type
a. Press and hold "**Prog**" and "**Input**" button for 3 seconds.
b. Press a "**Zn**" button to select a zone.
c. Press "**Opt**" button repeatedly until Opt 2 is selected.
d. Use the " ▲ " and " ▼ " buttons to select desired load type.

Load Types	H: Auto (dim) — Phase-detection
	M: MLV (dim) — Forward-phase
	L: ELV (dim) — Reverse-phase

Note: All load type settings will be overwritten by HomeWorks programming.
Press and hold "Prog" and "Input" button for 3 seconds to exit setup.

Programming

• For programming: Use the HomeWorks Designer software.

FAQs (Frequently Asked Questions)

1. **Can I use non-dim loads with this product?** No, only dimmable loads may be used. Use PHPM-SW-DV-WH if non-dim control is required.

2. **Can I use LED loads with this product?** Yes, Refer to www.lutron.com/ledtool for compatibility with dimmable LED light sources.

3. **Can I use multiple load types on one zone?** No, only one load type may be used per zone.

4. **Can I control receptacles with this product?** No, use PHPM-SW-DV-WH if receptacle control (15 A maximum) is required.

5. **How do I know if the unit is dimming with forward-phase or reverse-phase dimming?** Press the "**Opt**." button and look at the "**Zn**" LEDs:
   – Solid on = reverse-phase
   – 1 blink / second = forward-phase

6. How do I know if the QS link is working properly? Press the "Opt." button. If the " " LED flutters periodically, the QS link is operating normally. If the " ⏻ " LED is flashing, there is a communication error or there are no other QS devices on the link.

Customer Assistance | Asistencia al cliente |
Assistance à la clientele
www.lutron.com/support

U.S.A. (1.844.LUTRON1)
Mexico (+1.888.235.2910)

Others (610.282.3800)

Limited Warranty

Warranty [PDF]
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Help | Ayuda | Aide: **www.lutron.com/support** 1.844.LUTRON1 (U.S.A)

Documents / Resources

	LUTRON PRO LED+ Phase Adaptive Power Module [pdf] User Guide PRO LED Phase Adaptive Power Module
	Lutron PRO LED+ Phase Adaptive Power Module [pdf] Installation Guide PRO LED Phase Adaptive, Power Module, Phased Adaptive

References

- ☼ **Lutron: Beautiful light. Intelligent Shades. Powerful Controls**
- ☼ **LED Product Selection Tool**
- ☼ **Lutron Support Center | Lutron**