

UL Listed Hi-lume® A-Series Constant Voltage Driver Overview

The UL Listed Hi-lume® A-Series Constant Voltage Driver is a high-performance LED driver that provides smooth, continuous 1% dimming for 12 V_{DC} and 24 V_{DC} constant voltage LED sources up to 40 W. The UL listing ensures a safe and reliable installation because the driver is pre-packaged with its own specialized wiring and mounting enclosure.

Features

- UL Listed for the United States and Canada
- Continuous, flicker-free dimming from 100% to 1%
- 4 in (102 mm) square, metal junction box included to provide a UL Listed wiring compartment
- Guaranteed compatibility with these Lutron® systems:
 - All EcoSystem® compatible products
 - GRAFIK Systems™
 - HomeWorks® QS
 - Maestro Wireless®
 - Quantum®
 - RadioRA® 2
 - Lutron® wallbox 3-Wire fluorescent controls and interfaces
 - Select wallbox products
 - Select C•L® products

For a complete list of controls, see charts in the **Wiring** section:

- LTE models (pages 5–7)
- L3D models (pages 8–10)

Note: L3D models for commercial spaces only.

- **LED Load Replacement.** Because these are Class 2 rated drivers, the LED load can be changed while the driver is installed and powered.



Hi-lume® A-Series Driver Model LTEA4U1UKL-AV120

- 100% performance-tested at factory
- Protected from miswires of input power to EcoSystem® control inputs
- A rated lifetime of 50,000 hours @ t_c = 65 °C
- FCC Part 15 compliant for commercial and residential applications at 120 V_~ (LTE models only)
- FCC Part 15 compliant for commercial applications at 120 V_~ and 277 V_~ (L3D models only)
- RoHS Compliant
- For more information please go to: www.lutron.com/HilumeLED

Specifications

Performance

- Dimming Range: 100% to 1% (measured light output)
- Operating Voltage
 - LTE models: 120 V~ at 50/60 Hz
 - L3D models: 120–277 V~ at 50/60 Hz (for commercial space only)
- Output: 12 V_{DC} and 24 V_{DC} constant voltage

Note: Not intended for use with MR-16 lamps
- Output: 5–40 W
- A rated lifetime of 50,000 hours @ $t_c = 65^\circ\text{C}$
 - For rated warranty, t_c not to exceed the maximum rated temperatures.¹
- Patented thermal foldback protection
- LEDs turn on to any dimmed level without going to full brightness
- Nonvolatile memory restores all driver settings after power failure
- Power Factor: >0.90 for loads greater than 20 W
- Total Harmonic Distortion (THD): <20% for loads greater than 20 W
- Inrush Current: <2 A
- Inrush Current Limiting Circuitry: eliminates circuit breaker tripping, switch arcing and relay failure
- Output is open-circuit protected
- Output is short-circuit protected
- Turn-on time²: ≤ 1.5 second
- PWM Dimming Frequency: 550 Hz

Environmental

- Sound Rating: Inaudible in 27 dB ambient
- Relative Humidity: Maximum 90% non-condensing
- Operating ambient temperature

$t_a = 32 - 104^\circ\text{F}$ (0–40 °C)

Regulatory Approvals

- Meets ANSI C62.41 category A surge protection standards up to and including 4 kV
- FCC Part 15 compliant for commercial and residential applications at 120 V~ (LTE models only)
- FCC Part 15 compliant for commercial applications at 120 V~ and 277 V~ (L3D models only)
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron® Quality Systems registered to ISO 9001.2008
- UL 8750-listed
- Class 2 output

Driver Wiring and Mounting

- Driver is grounded by green ground wire connection on the enclosure or by ground lug terminal in the junction box
- Driver and junction box must be grounded in accordance with local and national electrical codes
- All wire connections must be made in the junction box to maintain UL listing
- 4 in (102 mm) square junction box is 1.5 in (38 mm) deep with a 22.0 cubic in (360.5 cubic cm) capacity and complies with NEMA® OS 1-2008 Figure 112
- Driver is pre-wired with 6 in (152 mm), 18 AWG (0.75 mm²) solid copper leads in all terminal blocks
- For 277~ V applications, a suitable barrier should be installed between the input and Class 2 wiring inside the junction box per local and national electrical wiring codes
- Maximum driver-to-LED light engine wire length for **Constant Voltage Drivers:**

Wire Gauge	Maximum Lead Length	
	12 V _{DC}	24 V _{DC}
18 AWG (0.75 mm ²)	10 ft (3 m)	15 ft (4.5 m)
16 AWG (1.5 mm ²)	15 ft (4.5 m)	25 ft (7.5 m)
14 AWG (2.5 mm ²)	25 ft (7.5 m)	40 ft (12 m)
12 AWG (4.0 mm ²)	40 ft (12 m)	60 ft (18 m)

¹ Installer is responsible for ensuring that the driver case temperature does not exceed the maximum rated temperature.

² Models available with turn-on times ≤ 1 second.

Job Name:	Model Numbers:
Job Number:	

Models Available

		Model	Input Voltage (V~)	Input Current (mA)	Power Factor ¹	Output Power (W)	Output Voltage (V==)
2-Wire Forward Phase Control ²	For 24 V== Constant Voltage LED Loads	LTE A4U1UKL-CV240	120	380	0.99	5–40	24.0
	For 12 V== Constant Voltage LED Loads	LTE A4U1UKL-AV120	120	400	0.98	5–40	12.0
3-Wire or EcoSystem® Control ^{3,4}	For 24 V== Constant Voltage LED Loads	L3D A4U1UKL-CV240	120	370	0.99	5–40	24.0
			277	170	0.96	5–40	24.0
	For 12 V== Constant Voltage LED Loads	L3D A4U1UKL-AV120	120	390	0.99	5–40	12.0
			277	170	0.95	5–40	12.0

Note: for OEMs: Other constant current and constant voltage models available; refer to Hi-lume® A-Series LED Driver Specification Submittals for more details: Lutron® P/N 369325 and P/N 369543.

Note: Lutron® LED drivers are not intended for use with with MR-16 lamps.

¹ At maximum output power.

² For wiring options, see **Wiring** section, pages 5–7.

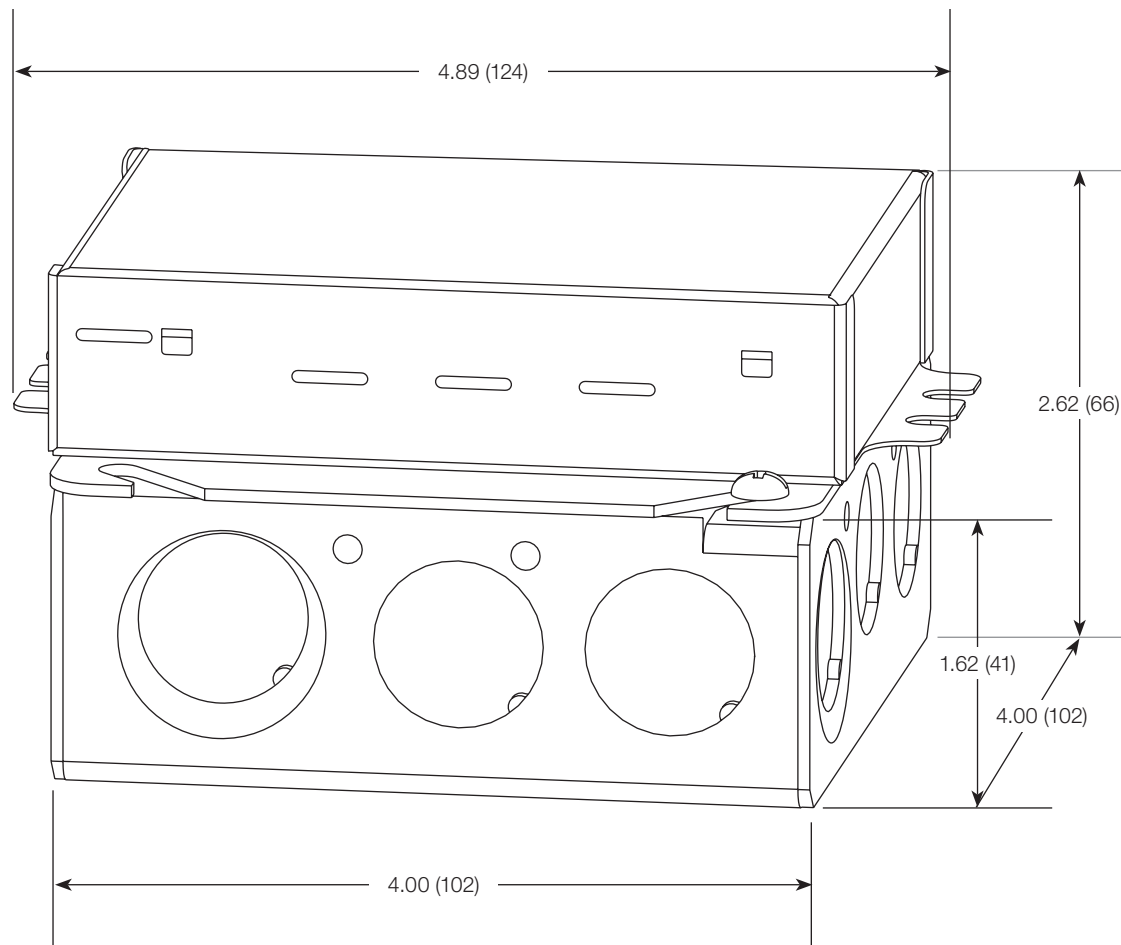
³ For wiring options, see **Wiring** section, pages 8–10.

⁴ For commercial application only.

Job Name:	Model Numbers:
Job Number:	

KL Enclosure Dimensions

Measurements are shown as: in (mm)



KL enclosure includes a 4 in (102 mm) square junction box which complies with NEMA® OS 1-2008 Figure 112.

Knockouts

- Sides
 - 8 locations: 0.5 in (13 mm)
 - 4 locations: 0.5/0.75 in (13/19 mm)
- Bottom
 - 2 locations: 0.5 in (13 mm)
 - 2 locations: 0.5/0.75 in (13/19 mm)

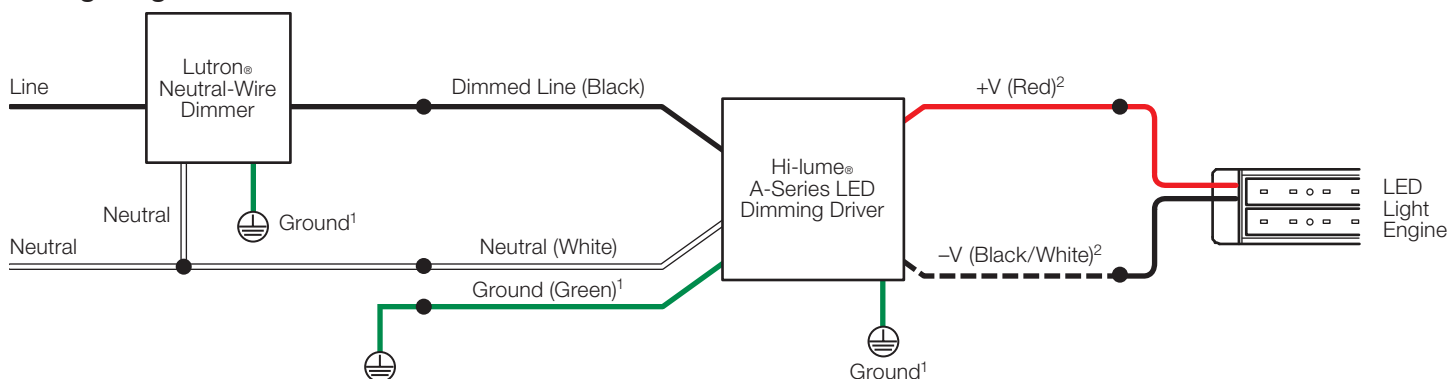
Job Name:	Model Numbers:
Job Number:	

Wiring

LTE 2-Wire Forward Phase Models: Controls Requiring Neutral

Note: Driver is pre-wired with 6 in (152 mm) solid copper leads of 18 AWG (0.75 mm²) in all terminal blocks. Colors shown correspond to wires on driver.

Wiring Diagram



¹ Enclosure and junction box must be grounded in accordance with local and national electrical codes. Ground provided by grounding of junction box or by using the green ground wire connection.

² For maximum driver-to-LED light engine wire length, see charts in **Driver Wiring and Mounting** section.

Compatible Controls: Lutron® Neutral-Wire Wallbox Dimmers

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at **1.877.346.5338** or **LEDs@lutron.com**

Product	Part Number	Low-End Setting/Load-Type Setting*	Drivers per Control		
			A: Not Ganged	B: End of Gang	C: Middle of Gang
Maestro Wireless® dimmer	MRF2-6ND-120	Trim low-end per Advanced Programming Mode App Note (Lutron® P/N 048370)	1 – 8	1 – 8	1 – 8
HomeWorks® QS adaptive dimmer	HQRD-6NA-	LED Lutron® A-Series 2-Wire	1 – 8	1 – 8	1 – 8
HomeWorks® QS 600 W dimmer	HQRD-6ND-	LED Lutron® A-Series 2-Wire	1 – 8	1 – 8	1 – 8
HomeWorks® QS 1000 W dimmer	HQRD-10ND-	LED Lutron® A-Series 2-Wire	1 – 13	1 – 13	1 – 13
RadioRA® 2 adaptive dimmer	RRD-6NA-	Hi-lume® A-Series LTE LED Driver 2-Wire	1 – 8	1 – 8	1 – 8
RadioRA® 2 1000 W dimmer	RRD-10ND-	Set Device type to "INC/MLV Neutral Dimmer"; Set High-End Trim to 99%; Set Low-End Trim to 35%	1 – 13	1 – 13	1 – 13

* Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

Note: For information about Legacy Product use in existing control application, contact LEDs@lutron.com

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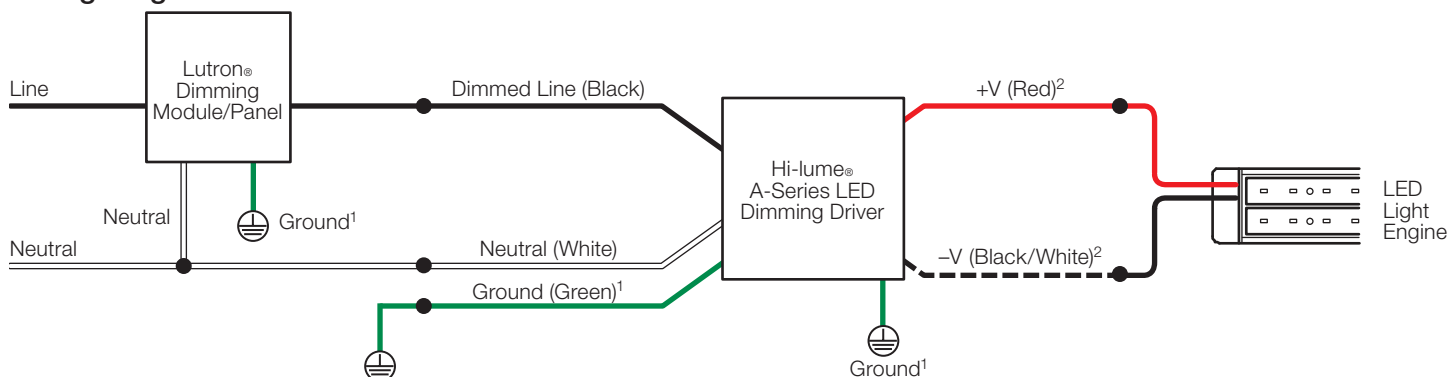
Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

LTE 2-Wire Forward Phase Models: Controls Requiring Neutral (continued)

Note: Driver is pre-wired with 6 in (152 mm) solid copper leads of 18 AWG (0.75 mm²) in all terminal blocks. Colors shown correspond to wires on driver.

Wiring Diagram



¹ Enclosure and junction box must be grounded in accordance with local and national electrical codes. Ground provided by grounding of junction box or by using the green ground wire connection.

² For maximum driver-to-LED light engine wire length, see charts in **Driver Wiring and Mounting** section.

Compatible Controls: Lutron® Dimming Modules/Panels

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at **1.877.346.5338** or **LEDs@lutron.com**

Product	Part Number	Drivers per Control	Low-End Setting/Load-Type Setting*
HomeWorks® QS wallbox power module	HQRJ-WPM-6D-120	1 – 10 (per output); 26 total per module	LED Lutron® A-Series 2-Wire
HomeWorks® wallbox power module	HWI-WPM-6D-120	1 – 10 (per output); 26 total per module	Set load type to “GRX-FDBI or GRX-TVI”
GRAFIK Eye® QS control unit	QSGR-, QSGRJ-	1 – 10 (per output); 26 total per unit	Set load type to “Fluorescent Module”
GRAFIK Eye® 3000 control unit	GRX-3100-, GRX-3500-	1 – 10 (per output); 26 total per unit	Set load type to “GRX-FDBI or GRX-TVI”
RPM-4U module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4U-120, LP-RPM-4U-120	1 – 26 (per output); 26 total per module	LED Lutron® A-Series 2-Wire Set load type to “2-1”
RPM-4A module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4A-120, LP-RPM-4A-120	1 – 13 (per output); 26 total per module	LED Lutron® A-Series 2-Wire Set load type to “2-1”
GP dimming panels	Various	1 – 26	Set load type to “2-1”

* Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

Note: For information about Legacy Product use in existing control application, contact LEDs@lutron.com

Job Name:	Model Numbers:
Job Number:	

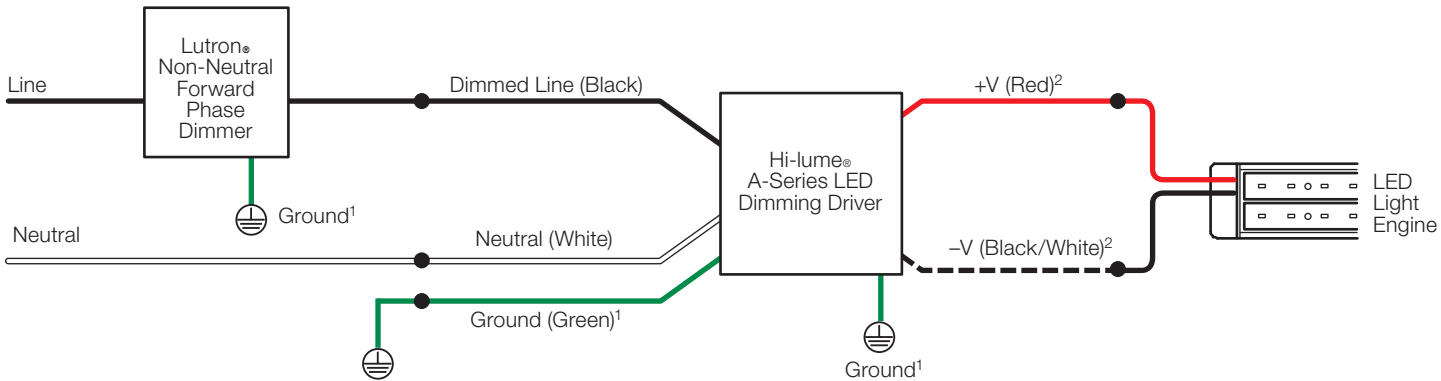
Wiring (continued)

Controls Not Requiring Neutral

LTE 2-Wire Forward Phase Models: Controls Not Requiring Neutral

Note: Driver is pre-wired with 6 in (152 mm) solid copper leads of 18 AWG (0.75 mm²) in all terminal blocks. Colors shown correspond to wires on driver.

Wiring Diagram



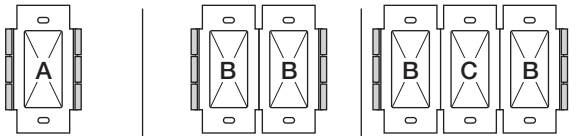
¹ Enclosure and junction box must be grounded in accordance with local and national electrical codes. Ground provided by grounding of junction box or by using the green ground wire connection.

² For maximum driver-to-LED light engine wire length, see charts in *Driver Wiring and Mounting* section.

Compatible Controls: Lutron® Non-Neutral Wallbox Dimmers

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at **1.877.346.5338** or **LEDs@lutron.com**



Product	Part Number	Low-End Setting/Load-Type Setting*	Drivers per Control		
			A: Not Ganged	B: End of Gang	C: Middle of Gang
Ariadni® C•L® 250 W dimmer	AYCL-253P-	Set low-end trim dial to 1 o'clock. Adjust slightly if needed. See Figure 1 under 'Dimmer Range Adjustment' section in the Dimmer Installation Guide for how to adjust low-end trim.	1–8	1–8	1–8
Diva® C•L® 250 W dimmer	DVCL-253P-	Set low-end trim dial to 10 o'clock. Adjust slightly if needed. See Figure 1 under 'Dimmer Range Adjustment' section in the Dimmer Installation Instructions for how to adjust low-end trim.	1–8	1–8	1–8
	DVSCCL-253P-				
GRAFIK T _{TM} , C•L® or RF C•L® dimmer	GT-250M-	Set low-end trim per Dimmer Installation Instructions.	1–8	1–8	1–8
	GTJ-250M-				

* Setting the low-end trim and load type is necessary to ensure optimal performance and 1% dimming capability.

Note: For information about Legacy Product use in existing control application, contact LEDs@lutron.com

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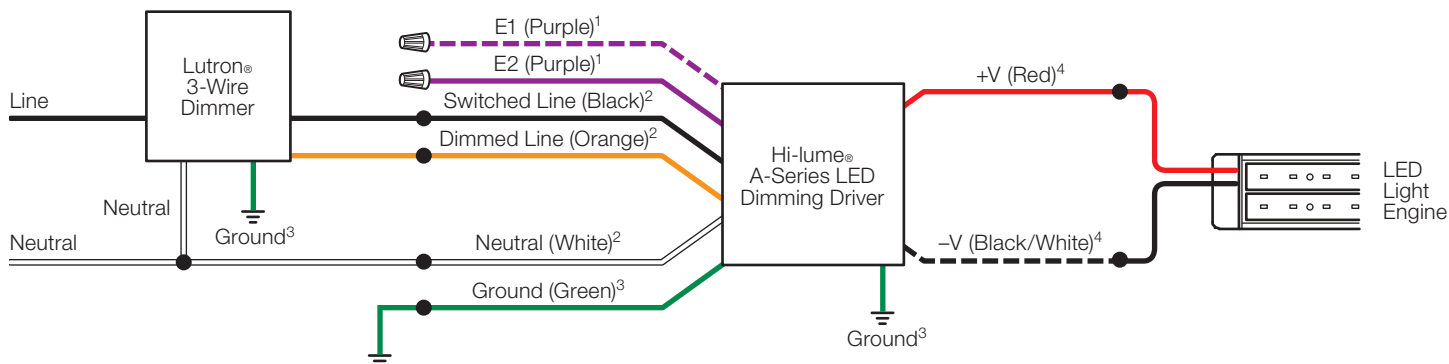
Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

L3D Models: 3-Wire Controls (Third wire required for control signal)

Note: Driver is pre-wired with 6 in (152 mm) solid copper leads of 18 AWG (0.75 mm²) in all terminal blocks. Colors shown correspond to wires on driver.

Wiring Diagram



¹ Purple wires must be capped off separately if dimmed hot (orange) is being used.

² For 277 V~ applications, a suitable barrier should be installed between the input and Class 2 wiring inside the junction box per local and national electrical wiring codes.

³ Enclosure and junction box must be grounded in accordance with local and national electrical codes. Ground provided by grounding of junction box or by using the green ground wire connection.

⁴ For maximum driver-to-LED light engine wire length, see charts in *Driver Wiring and Mounting* section.

Compatible Controls: Lutron® 3-Wire Wallbox Dimmers

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at **1.877.346.5338** or **LEDs@lutron.com**

Product	Part Number		Drivers per Control*	
	120 V~	277 V~	120 V~	277 V~
Nova T [®] dimmer	NTF-10-	NTF-10-277-	1-41	1-44
	NTF-103P-	NTF-103P-277-	1-20	1-33
Nova [®] dimmer	NF-10-	NF-10-277-	1-41	1-44
	NF-103P-	NF-103P-277-	1-20	1-33
Skylark [®] dimmer	SF-10P-	SF-12P-277-	1-20	1-33
	SF-103P-	SF-12P-277-3-	1-20	1-33
Diva [®] dimmer	DVF-103P-	DVF-103P-277-	1-20	1-33
	DVSCF-103P-	DVSCF-103P-277-	1-20	1-33
Lyneo [®] Lx dimmer	LXF-103PL-	LXF-103PL-277-	1-20	1-20
Ariadni [®] dimmer	AYF-103P-	AYF-103P-277-	1-20	1-44

* No derating required in multi-gang applications provided that driver count does not exceed quantity listed.

Note: For information about Legacy Product use in existing control application, contact LEDs@lutron.com

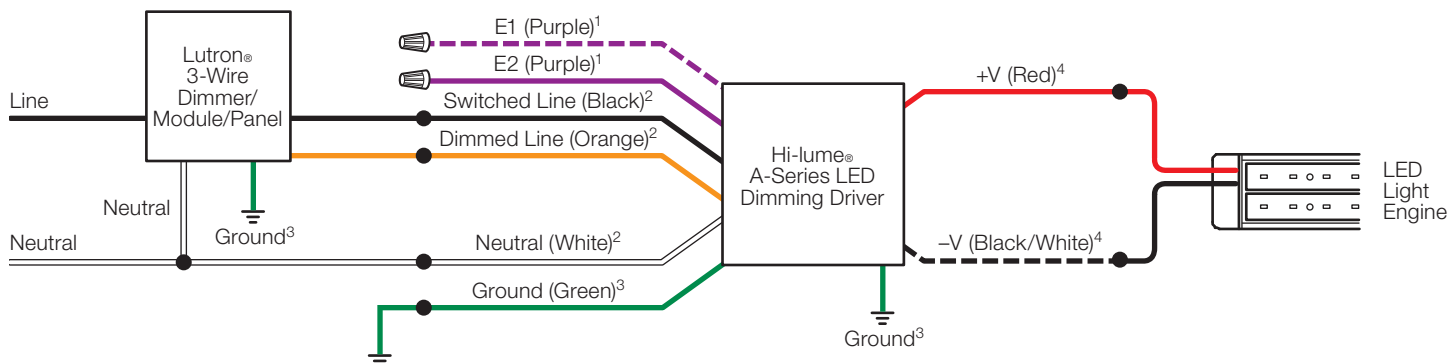
Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

L3D Models: 3-Wire Controls (Third wire required for control signal) (continued)

Note: Driver is pre-wired with 6 in (152 mm) solid copper leads of 18 AWG (0.75 mm²) in all terminal blocks. Colors shown correspond to wires on driver.

Wiring Diagram



¹ Purple wires must be capped off separately if dimmed hot (orange) is being used.

² For 277 V~ applications, a suitable barrier should be installed between the input and Class 2 wiring inside the junction box per local and national electrical wiring codes.

³ Enclosure and junction box must be grounded in accordance with local and national electrical codes. Ground provided by grounding of junction box or by using the green ground wire connection.

⁴ For maximum driver-to-LED light engine wire length, see charts in **Driver Wiring and Mounting** section.

Compatible Controls: Lutron® 3-Wire Wallbox Dimmers, Modules, and Panels

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at **1.877.346.5338** or **LEDs@lutron.com**

Product	Part Number		Drivers per Control ¹	
	120 V~	277 V~	120 V~	277 V~
Verti® dimmer	VTF-6A-		1 – 15	1 – 33
Maestro® dimmer	MAF-6AM-	MAF-6AM-277-	1 – 15	1 – 33
	MSCF-6AM-	MSCF-6AM-277-	1 – 15	1 – 33
Maestro Wireless® dimmer	MRF2-F6AN-DV-		1 – 15	1 – 33
RadioRA® 2 dimmer	RRD-F6AN-DV-		1 – 15	1 – 33
HomeWorks® QS dimmer	HQRD-F6AN-DV-		1 – 15	1 – 33
Interfaces ²	PHPM-3F-120-	—	1 – 41	—
	PHPM-3F-DV-		1 – 41	1 – 88
GP dimming panels	Various		1 – 41	1 – 88

¹ No derating required in multi-gang applications provided that fixture-count does not exceed quantity listed.

² For use with 3-Wire controls, Commercial Systems applications, RadioRA® 2 Systems, or other Home Systems applications.

Note: For information about Legacy Product use in existing control application, contact LEDs@lutron.com

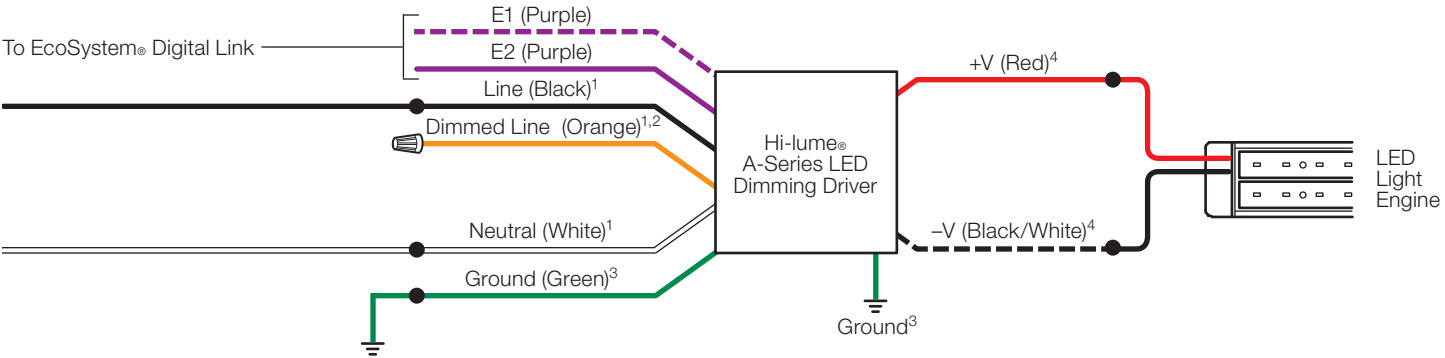
Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

L3D Models: EcoSystem® Digital Controls

Note: Driver is pre-wired with 6 in (152 mm) solid copper leads of 18 AWG (0.75 mm²) in all terminal blocks. Colors shown correspond to wires on driver.

Wiring Diagram



¹ For 277 V~ control applications, the 277~ V wiring and Class 2 wiring should be separated by a barrier in accordance with local and national electric codes.

² Dimmed hot (orange) wire must be capped off separately if EcoSystem® control is used.

³ Enclosure must be grounded in accordance with local and national electrical codes. Ground provided by grounding of junction box or by using the green ground wire connection.

⁴ For maximum driver-to-LED light engine wire length, see charts in *Driver Wiring and Mounting* section.

Compatible Controls: Lutron® EcoSystem® Digital Controls

Guaranteed performance specifications with the controls listed in the chart below.

For assistance selecting controls, contact our LED Center of Excellence at 1.877.346.5338 or LEDs@lutron.com

Product	Part Number		Drivers per Control
	120 V~	277 V~	
PowPak® Dimming Module with EcoSystem®	RMJ-ECO32-DV-B		32 per EcoSystem® link
Energi Savr Node™ unit with EcoSystem®	QSN-1ECO-S, QSN-2ECO-S		64 per EcoSystem® link
GRAFIK Eye® QS unit with EcoSystem®	QSGRJ- QSGR-	—	64 per EcoSystem® link
Quantum® Light Management Hub	QP2- QP3- QP4-	—	64 per EcoSystem® link
HomeWorks® QS DIN Rail Power Module with EcoSystem®	LQSE-2ECO-D	—	64 per EcoSystem® link