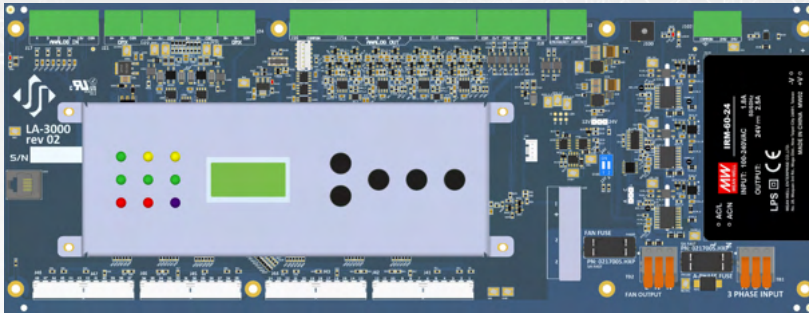


LA-3000

A Brain Transplant for your Leviton A-2000



The LA-3000 is a next-generation retrofit electronics package designed specifically for Leviton A-2000 dimmer racks. The LA-3000 will replace the aging control electronics of the existing dimmer rack making system replacement unnecessary. This ETL Certified, full-featured state-of-the-art unit provides a low-cost digital interface to any of today's modern lighting communication protocols.

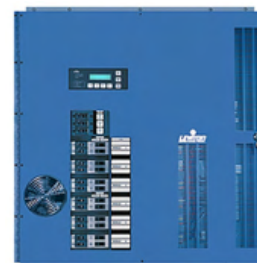
Designed to install in minutes with minimal hand tools, this elegant package has been designed for longevity and reliability with the end-user in mind. Intuitive LCD user-interface combined with a single modular design makes the LA-3000 extremely user-friendly and easily serviceable. Advanced next-generation hardware and software designs reduce standby power consumption to less than 1 Watt, allowing for compliance with the International Energy Agency's "One Watt Initiative" for standby power consumption.



Full-featured, hi-resolution dimming with a lightning-fast response. An environmentally and financially responsible solution that installs in a matter of minutes!

- Replaces the old Leviton A-2000 electronic card cage, with new "next generation" control electronics. Upgrades any vintage of Leviton A-2000 rack(s) in minutes.
- Processor reverse compatibility with all existing CD-3000 systems.
- Modular design with a single "plug-in" module.
- Compatible with OEM dimmer rack wiring for fast easy installation.
- USB-C Bootloader permits ease of onsite firmware upgrades.

- Energy efficient. Compliance with the International Energy Agency's "One Watt Initiative".
- 24 Hi-resolution digital outputs with individual dimmer profile selection.
- Dual opto-isolated DMX512 inputs.
- 4 Analog Inputs and 8 Analog Outputs 0-10V Source / Sink Dimming
- 24VDC Power supply on board eliminates the need of the old obsolete OEM power supply. This also permits the ease of use of Presidor PWS-20P and PWS-70P.
- Optional Ethernet node supports a wide range of communication protocols.
- Analog and dedicated dry contact BMS in / outputs for interface with HVAC, security and fire alarms.
- "Load Shed" inputs for power management and photocell interface.
- LCD user interface for ease of set up and monitoring. Site programmable via a user-friendly, intuitive and self-prompting menu structure. No laptop computer or special software is required!
- Dimmer rack thermal shutdown protection.
- Removable memory dongle permits remote/off-site backup of configuration data and fast "swapping" of Processor modules.
- Ease of future firmware upgrades.



LA-3000 Specifications

1.0 LA-3000 GENERAL

LA-3000 is a direct retrofit kit specifically designed for facilities with existing Leviton A-2000 dimmer rack(s) requiring new, reliable and cost-effective control electronics. LA-3000 is designed to upgrade existing dimmer installations to current dimming technology with options equaling or exceeding those of most new dimming systems. LA-3000 has been designed with pin-to-pin compatibility with OEM factory wiring for ease of installation. Facilities can upgrade to this state-of-the-art technology in minutes with minimal hand tools. The LA-3000 is ETL Certified and complies fully with UL 508 and CSA 22.2 safety approvals. Engineered with both the installer and end-user in mind, the LA-3000 incorporates the following features:

LA-3000 will offer compliance with the International Energy Agency's "One Watt Initiative" on stand-by power requirements (please refer to U.S. Executive Order #13221). Standby power on LA-3000 controlled dimmer racks shall not exceed 1 Watt.

An LCD user interface for ease of set up and monitoring. All programming shall be via a user-friendly, intuitive and self-prompting menu structure. No PC or special software will be required. Modular design of the unit shall make any potential service requirements fast and easy with no requirement for an on-site service call. The LA-3000 shall have only one plug-in control module. This single control module shall contain all ancillary control electronics for the dimmer rack. Dimmer control outputs shall be designed for precise and reliable control of the existing A-2000 dimmer modules. It shall never be necessary to adjust ramp circuits for proper dimmer output. The LA-3000 shall accept dual independent DMX 512-A digital data protocol inputs allowing industry wide compatibility with modern control consoles. Both DMX inputs shall be independently opto-isolated from all other control circuitry, as well as from the DMX output ports. An internal protocol manager shall allow priority management or merging of both DMX inputs. An optional Ethernet node shall support a wide range of communication protocols including Net2, Strand, ArtNet, ACN (Net3) and Pathport. Automatic recognition will permit interface to most popular lighting control protocols. It shall not be necessary to assign protocol. An infrared LED link shall be provided on the control module face panel. This interface will permit hard copy printouts of all programmed data via an optional hand-held infrared printer. Rack thermal protection shall be employed via a mechanical relay interface to the existing two Leviton A-2000 rack OEM fans. An active stage one over-temp input shall illuminate a red warning LED, while a stage two over-temp input shall cause an immediate disconnect of all dimmer control outputs.

2.0 ELECTRONIC CONTROL MODULE

Control electronics shall be contained in one plug-in tray and shall provide the following features:

The LA-3000 control electronics shall be capable of controlling up to 24 dimmers in the Leviton A-2000 dimmer cabinet. Advanced state-of-the-art voltage regulation hardware and software will ensure >1% all dimmer outputs. The LA-3000 will operate with a voltage input range of 85-277VAC at 50 or 60Hz.

The DMX512 input ports shall accept two independent sources of DMX512 data protocol simultaneously from the system control console(s) or architectural control unit(s). The DMX inputs shall comply with USITT DMX512-A (ANSI E1.11 - 2008), standard protocol for digital data control.

It shall be possible to assign (patch) any dimmer control signal to any module position in the cabinet, thereby allowing dimmer modules of any rating to be used in the same cabinet. The LA-3000 control electronics shall be possible to "back up" all system configuration data. All data shall be protected from power failure by EEROM for a minimum of 100 years.

The LA-3000 shall contain a removable memory dongle to facilitate remote or off site back up of all system configuration. Control module swaps will be easy and fast with no loss of rack programming or system parameters.

The ECU module shall accept up to 4 (four) analog inputs with the ability to be assigned to any of the 24 dimmer outputs in the system. Each analog input shall be selectable as either "Normal" mode (0-10VDC input) for dimmed applications or "Load Shed" mode (5VDC trigger) for power management interface to building management systems (BMS). The analog inputs shall function in a pile-on or HTP mode with the DMX control signal.

The ECU module shall provide up to 8 (eight) analog outputs with the ability to source or sink. Dedicated dry contact inputs shall be provided for BMS, HVAC, security and fire alarm. Active security input shall "flash" any programmed dimmer outputs to a selectable level at a rate of 1Hz. Active fire alarm input shall bring any programmed dimmers to a selectable level and override all incoming control data.

Each individual dimmer in the dimmer cabinet shall be capable of being assigned one of four dimmer curves: incandescent square law curve, direct curve, linear curve, or non-dim (adjustable threshold with 5% hysteresis).

Specifications subject to change without notice.
A-2000 is a registered trademark of LevitonLighting.



The face of the control module shall include an LCD display and momentary push buttons for function select, parameter setting and feature monitoring. All programming shall be via a user-friendly, intuitive and self-prompting menu structure. It shall not be necessary to use a PC or any external programming device to configure or set-up any function of the LA-3000.

The LA-3000 control module shall employ the "system-on-a-chip" advanced digital electronic technology. Such electronic circuitry shall permit real time signal monitoring and status LED indication to allow easy setup and remote troubleshooting.

The LA-3000 control module shall include a green LED indicator for power supply and microprocessor status. The LED, when illuminated, shall indicate normal operation, and when flashing shall indicate a hardware fault. A power supply or power failure shall cause the LED to extinguish.

The LA-3000 control module shall include three green LED's for phase detect and two yellow LED's for data receive indication. Loss of accurate phase detect signal and/or invalid DMX512 data shall cause the corresponding LED to extinguish.

The LA-3000 control module shall include two red LED's for active alarm status or dimmer rack over temperature. Active inputs shall cause these cause the corresponding LED to illuminate.

A reset push-button shall be included on the face of the module. Resetting the unit, whether by the reset button or power-up shall not affect any stored parameters or presets, and dimmer outputs shall automatically return to their former status without any noticeable change. It shall be possible to "Lock" and "Unlock" the programming keypad of the LA-3000 ECU module in order to protect all programmed system data.

The LA-3000 shall incorporate fan control circuitry designed to allow for an additional five (5) minutes of air evacuation from the dimmer cabinet with loss of input control signal. All printed circuit boards (PCB's) shall be FR4/G10 with a UL 94V-0 Flame Class Rating. The entire assembly shall be ETL Certified and comply fully with UL 508 and CSA 22.2 safety approval standards.

1.	Modules	Setup of active versus non active modules in rack.
2.	DIM TEST	Test the dimmer outputs one at a time, or all at once.
3.	DIM LOCK	Locking a specific channel (s) to a predetermined DMX level.
4.	MONITOR	View the control level to each dimmer output.
5.	ADDRESS	Set the DMX start address.
6.	DMX MODE	Configure the mode of the on-board DMX protocol manager.
7.	2 RM SET	Set the 2 Room assignment for each of the dimmer outputs.
8.	DMXA TRM	Enable or disable termination on the DMX A input.
9.	DMXB TRM	Enable or disable termination on the DMX B input.
10.	DMX O/P	Configure the on-board DMX protocol manager for Offset or Patch mode.
11.	DMXA PAT	Patch the 24 dimmer (PWM) outputs to any DMX A input channel.
12.	DMXB PAT	Patch the 24 dimmer (PWM) outputs to any DMX B input channel.
13.	SH TIME	Set the DMX status hold time from 0 to 99 minutes or infinite.
14.	DC PATCH	Configure the dimmer to channel patch for the dimmer rack.
15.	DIM CURV	Configure the dimmer curve for each output.
16.	ND-LEVEL	Set the non-dim trigger level threshold for each output.
17.	REGULATE	Enable or disable the dimmer output voltage regulation.
18.	ANA MODE	Configure the analog inputs for normal or load shed mode.
19.	ANA PAT	Patch the analog inputs to any combination of control channels.
20.	ANA TEST	View the control level for each of the analog inputs.
21.	ANA BLOC	Enable or disable the analog inputs when DMX is being received.
22.	ANA OUT	Enable Analog Output and set DMX channel versus Analog channel.
23.	STANDBY	Enable or disable the power savings standby mode.
24.	S-ALARM	Select the level and control channels triggered by the security alarm input.
25.	F-ALARM	Select the level and control channels triggered by the fire alarm input.
26.	Ø-PATCH	Set the zero-cross phase reference for each dimmer control output circuit.
27.	POLARITY	Display the PWM output polarity the system is set for.
28.	LINE V	View the RMS line voltage for each power phase.
29.	LINE F	View the line frequency of phase A.
30.	CTL TEMP	View the temperature of the microcontroller.
31.	RTIME	View the total run time of the microcontroller.
32.	HARD-KEY	Adjust the microcontroller's unique six-character hard-key code. One time only!
33.	SERIAL#	View the microcontroller's unique six-character silicone serial number.
34.	VERSION	View the microcontroller's firmware version.
35.	RESTORE	Restore parameters saved in the EEPROM memory module.
36.	BACKUP	Backup parameters and save them in the EEPROM memory module.
37.	PRINTOUT	Print various system configuration settings using a handheld infrared printer.
38.	DEFAULTS	Set various system configuration settings to the factory default.
39.	LCD VIEW	Adjust the contrast of the LCD Display for optimum viewing.