

# Standard (four-wire) DC Dimmer

## Dims and Switches Incandescent and LED Lighting



### Performance, versatility, reliability

**F**or high performance, wide versatility, and extra tolerance to adverse electrical and thermal conditions, this Standard (four-wire) DC Dimmer for incandescent lighting is hard to beat. Halogen compatible. Now optimized for LED lighting as well.

Performance features include full-range brightness control with 98 percent efficiency over the entire dimming range. About 99 percent of battery voltage is delivered to the lamp at full setting for a maximum brightness truly indistinguishable from a toggle switch. Double filtering reduces radio interference to nil-to-none. Bugs are not attracted at low settings

When used with halogen lighting, overall energy usage can actually be comparable to fluorescent with the added advantage of superior light quality, variable brightness, and excellent cold ambient temperature performance. At high setting rendition of color is true and natural, at medium warm and inviting; and everything in-between. You can even set the illumination level extra low for use as a night light. Meanwhile, soft start/end extend the life of expensive bulbs.

For LED lighting, adjustment range is from pale moon glow at low setting, through full brightness at high. You can add a touch of red to the ambient light level from a separate dimming circuit

for warmth during mealtime, or blue to enhance ambiance for sleeping (as done on the new Boeing Dreamliner aircraft).

A high-quality, machined metal knob adds elegance and function to the installation. Rotary action is crisp and smooth, while a tactile off position reduces power drain to zero when inactive.

This Dimmer comes complete and ready-to-install with tagged leads, detailed installation instructions, and color-coordinated mounting screws. Installation into a standard, 1-gang outlet box only takes about 10 minutes using common hand tools (see Wiring Diagram, below right). Current capacity is your choice of 4, 8, 9.5, and 11 amps (see table, reverse side). Both 12V and 24V versions are available.

The standard switch plate is metal (ivory only) for quality appearance and unmatched durability. Alternately a variety of plastic switch plates (ivory, white, dark brown) can be substituted at the same price. Extra-cost options include a stainless steel switch plate, resealable clamshell package for counter sales, and a x25 frequency option for flicker-free performance when using LED panels as a light source for video production.

### Features

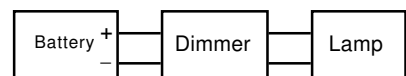
- Full range brightness control plus tactile on/off. Soft start/end extend bulb life
- Dims DC incandescent lighting to a more esthetic and energy efficient level
- Dims LED lighting for even greater energy savings
- Nil radio interference
- Installs into a standard 1-gang outlet box in minutes
- 12V and 24V versions, quality machined metal knob, variety of current capacities and wall plate options

### Applications

- **Indoor Lighting:** Match illumination level to use: bright for activities, medium for relaxing and entertaining, extra low for use as a night light
- **Outdoor Lighting:** Optimize illumination/improve balance for pool, patio, spa, pathway, pond, fountain, security. Bugs are not attracted at low settings
- Adjust LED lighting up or down for optimal illumination -- anywhere from pale moon glow through full brightness

Pat Pend  
Made in USA

#### Wiring Diagram



# Technical Specifications

## Mode of Operation

Continuously variable pulse width modulation

## Supply Voltage

12V Version: 8 to 20 vdc working, up to 32 vdc momentary.

24V Version: 18 to 30 vdc working, up to 40 vdc momentary.

Battery or filtered dc only. Fuse or breaker in electrical box

## Installation Method

Installs directly into standard 1-gang outlet box with provided plate screws

## Output Voltage Range

From zero vdc to about 99% of supply voltage

## Continuous Output Current

Full rated current up to 105 F (40 C) ambient, 75% of rated current up to 115 F (46 C)

## Ambient Temperature Range

- 40 F (- 40 C) to 115 F (46 C) (with restrictions noted)

## DC-DC Conversion Efficiency

About 98% over entire dimming range

## Load Types

Resistive loads including incandescent lights and heating elements. Also optimized for LED lighting

## Reverse Polarity Protection

Input leads can be reverse connected without damage. Fuse link on back of circuit board opens if power is reverse connected across negative leads

## Transient Protection

Double resistive/capacitive filtering, zener diode clamping

## Size

4A unit is about 1.2" (29 mm) square. Other units about 1.8" (47 mm) square

## Weight

From 3 to about 5 oz (84 to 140 gm) depending on version and options

## Voltage Drift

Nil with steady input voltage

## Line Regulation

Directly proportional to supply voltage

## Load Regulation

Generally less than 3% from minimum load to maximum load at any setting

## Heat Sink

Heat sinking is electrically isolated from voltage and acts as a protective circuit enclosure. Temperature rise under maximum load is about 40 (22 C) above ambient

## Power Dissipation of Drive Circuitry

Less than 0.04W. No-load current draw ("on" but at minimum setting) is about 1mA. Zero power used in click-off position

## Accessories Included

Color coordinated switch plate mounting screws, tagged leads, and detailed installation instructions.

## Safety Construction

Complies with ANSI/RVIA 12V Standards

## Warranty and Disclaimer:

Although Manufacturer warrants the goods, so far as the same are of its manufacturer, against defects in materials and workmanship under normal use and service for which they were designed for a period of 90 days after invoice date, Manufacturer's obligation under this warranty are limited, at its option, to the replacement of the part or parts determined to be defective or to the refund of the purchase price.

Claims made in this data sheet are based on extensive testing and are believed to be true. Manufacturer shall under no circumstances be liable for any special, indirect, incidental, or consequential damages owing to failure of the goods. Manufacturer makes no warranty of fitness for a particular purpose or merchantability or any other warranty, oral or written, expressed or implied, except as specifically set forth herein.

Do not use ZANE products as critical components in life support devices or systems, aircraft, or other hazardous applications. Quotation, order acknowledgment, purchase, etc. does not grant or imply a license under any present or future patents owned by seller except to extent purchases are made from seller.

Any goods returned under warranty must be returned freight prepaid to ZANE International Inc., Minden, NV.

### Standard (four-wire) DC Dimmer for Outlet Box Installation

Part #	UPC Number	Input Voltage	Maximum Current
ADM-34L-12V	04600	12V	4A
ADM-34L-24V	04700	24V	4A
ADM-44L-12V	04800	12V	8A
ADM-44L-24V	04900	24V	8A
ADM-48L-12V	05000	12V	9.5A
ADM-48L-24V	05100	24V	9.5A
ADM-54L-12V	05200	12V	11A
ADM-54L-24V	05300	24V	11A