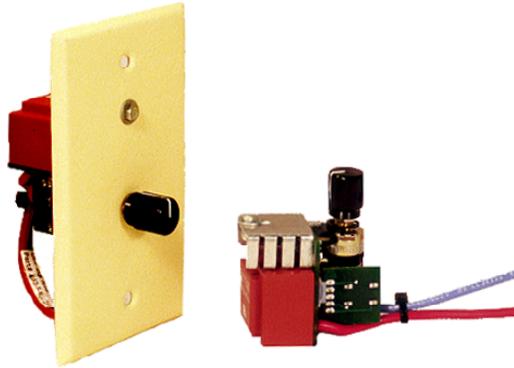


# Two-Wire, Low-Voltage AC Dimmer

Packed With Features for Incandescent/AC-Rated LED Modules



## New dimensions in low-voltage AC lighting

**W**ith the ZANE Two-Wire, Low-Voltage AC Dimmer, you can blend safe-to-the-touch 12 or 24 VAC with the superior illumination of low-voltage incandescent lighting in new and innovative ways. Energy efficient. Halogen compatible, and now optimized for AC-rated LED modules as well.

First, this ZANE AC Dimmer installs on the low-voltage side of a magnetic step-down transformer for easy system design, fast installation, individual control of fixtures, and affordable price (see Wiring Diagram, below right).

Plus, the same two-wire hookup as a toggle switch allows installation into a standard outlet box in about five minutes. There is never a grounding or bypass wire to connect, or special components to match. An existing toggle switch can even be directly replaced with zero wiring system modification.

An innovative "pi" trigger circuit delivers flicker-free, wide-band dimming performance -- from warm glow through high-intensity halogen or LED brightness. Triac-based power circuitry coupled by a low-firing-point diac further minimizes waste heat and maximizes efficiency and brightness.

Plus, a quality machined aluminum knob adds elegance and value to the installation. Rotary action is crisp and smooth, while a tactile off position reduces power drain to zero when inactive. An accelerating response curve allows better control over the important low brightness range. Bugs are not attracted at low incandescent settings.

You can even optimize minimum brightness "on the fly" via an included potentiometer to compensate for low or high AC source voltage, or to create some special effect. Soft start/end extend the life of expensive incandescent bulbs.

A heavy RF noise filter delivers about 10 times the suppression of an ordinary filter to attenuate interference with nearby radios and other electronic appliances to the nil-to-none range.

Each Dimmer comes complete and ready-to-install with wiring harness, tagged leads, and detailed installation instructions. Rating is your choice of 10 or 20 amps max, at either 12 or 24 VAC (see table, reverse side). The standard switch plate is metal (ivory only), with stainless steel optionally available. Also optional is a resealable clamshell package for counter sales, and silicone seal for extra protection in wet environments.

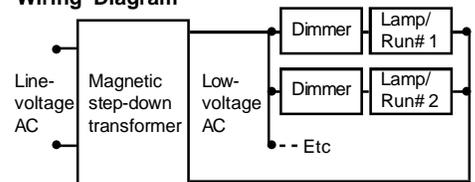
## Features

- Installs on the low voltage side of a magnetic step-down transformer for easy system design, fast installation, and individual control
- Two-wire hookup: No grounding wire, bypass wire, component matching -- ever
- Wide-band brightness performance -- from warm glow through high intensity incandescent or LED
- Rotary adjustment with tactile on/off. Soft start/end extend the life of incandescent bulbs
- Heavy filtering minimizes RF noise
- 10 or 20 amps max at either 12 or 24 VAC

## Applications

- **Yard:** Optimize illumination for pool, patio, spa, pathway, pond, fountain, security. Bugs are not attracted at low incandescent settings
- **Architectural and Landscape:** Heighten dramatic effect and improve balance for spot, wash, flood. "Moon Garden" applications. Hard-to-replace incandescent bulbs last significantly longer
- **Interior:** "Presentation" lighting, night lighting, stage lighting
- **Mobile:** Variable lighting for RV and marine interior and exterior

## Wiring Diagram



# Technical Specifications

## Mode of Operation

Triac-based with pi-configured trigger circuit, low-firing-point diac, and heavy RF filter

## Supply Voltage, Fuse/Breaker

12 VAC or 24 VAC (nominal). Each lighting circuit should be individually fused at the rated current of unit (ie, 10A or 20A). Unit can be used up to point fuse/breaker opens

## Heat Dissipation

Low-voltage operation inherently results in more waste heat than line voltage for a given power delivery. The metallic wall plate serves as an external heat dissipater and should remain out of direct sunlight and unobstructed by thermal insulating material, etc. for maximum service life of unit. Temperature rise of plate at rated current is about 40 F (22 C) above ambient (could become hot to the touch under unusual conditions)

## Maximum Load

Normal is 70-80% of rated current, though usable up to point 10A/20A user-installed fuse opens

## Minimum Load

1A (12/24W) or slight flickering may result

## Ambient Temperature Range

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

## Dimming Range

From about 10% min (factory setting) through about 90% max. Can be manually set for about 5% min

## Line Regulation

Directly proportional to AC line voltage

## Load Regulation

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

## Voltage Drift

Nil with steady input voltage

## AC-AC Conversion Efficiency

About 85% at full rated load

## Transient Protection

Pi trigger circuit acts as spike filter for additional protection against transient voltages

## Load Types

Resistive loads (incandescent, heating elements, etc) and AC-rated LED modules Not suitable for motors

## Service Life of on/off Switch

About 50,000 cycles

## Size

About 1.8" (45 mm) by 1.3" (33 mm) by 1.7" (43 mm) high (excluding knob)

## Weight

About 6 oz (168 gm) for 10A version; about 8 oz (225 gm) for 20A version

## Installation Procedure

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

## Lead Wires

Should be connected as per color coded lead wiring (as shown in installation instructions) for best RF noise suppression

## Accessories Included

Color coordinated mounting screws, tagged leads, and detailed installation instructions

## 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.

### Two-Wire AC Dimmer for Outlet Box Installation

Part #	UPC Number	Input Voltage	Maximum Current/Watts
AC2-10AL-12V	27300	12V	10A/125W
AC2-10AL-24V	27400	24V	10A/250W
AC2-20AL-12V	27700	12V	20A/250W
AC2-20AL-24V	27800	24V	20A/500W