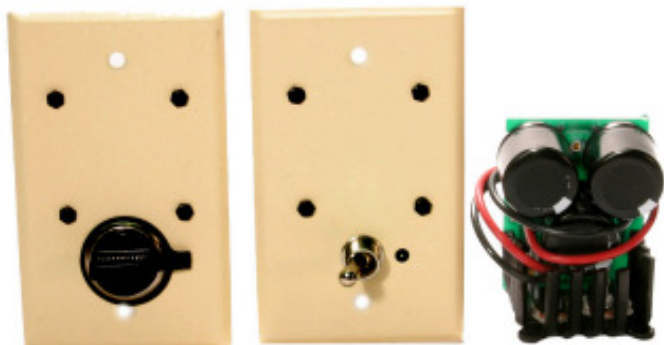


# DC Voltage Doubler, 2 and 7.5 Amp

## Double Voltage From a 6V or 12V Source Battery



### Compact, efficient, low cost

**W**ith a ZANE DC Voltage Doubler, you can power a higher voltage fan, light, and most electronics (including LED lighting) directly from a lower voltage source battery with zero electrical system modification. Units are available to double either a 6V or a 12V source battery, and deliver up to either 2 amps or 7.5 amps of smooth, low ripple DC current to a load.

Conversion efficiency is as high as 99 percent to make maximum use of expensive battery power -- the highest of any conversion typology. Efficiency remains high even under partial loading, while only a minuscule 16 mA (about the same as an LED) of current is required in standby mode. Driving inductive loads (motors, relays) is a particular strength.

The ruggedized, top quality construction of this Voltage Doubler means high reliability in the adverse electrical and environmental conditions often encountered in electrical systems, even under continuous use at high current.

Electrical connections are 100 percent soldered for long-term reliability. The heat sink doubles as a protective enclosure to shield delicate components from the physical shock and abrasions of everyday use. A 5 mill coating of silicon seal provides extra protection against moisture, corrosive fumes, and other contaminants. Wiring is 105 C rated for extra safety margin, while double filtering attenuates radio interference to the nil-to-none range. An included on/off switch reduces current draw to zero when inactive.

Because this DC Voltage Doubler delivers a close approximation to double battery voltage under light loading, it can be used to charge a higher voltage 12V/24V battery in parallel with a lower voltage 6V/12V battery. A maximum backflow of only about 10mA virtually eliminates the requirement for a blocking diode.

Each Voltage Doubler comes complete and ready-to-install into a standard, outlet box with color-coordinated mounting screws and detailed installation instructions (see table, reverse side). Installation only takes about 10 minutes using common hand tools.

### Features

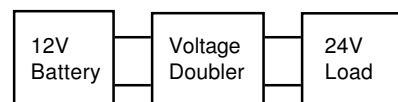
- Convenient, low cost source of double DC voltage from a 6V/12V battery
- Easy outlet box installation in minutes
- Amazingly efficient
- Powers almost any DC load
- Electrically quiet: nil radio interference
- Low standby current
- Driving inductive loads a particular strength

### Applications

- Power higher voltage DC appliances from a lower voltage source battery
- LED lighting
- Charge higher voltage battery in parallel with lower voltage battery
- Fluorescent and incandescent lighting
- Fans, relays, motors

Pat Pend  
Made in USA

#### Wiring Diagram:



# Technical Specifications

## Mode of Operation

Dual stage voltage doubler. Point-of-use, non-isolated design (output DC voltages must remain isolated from input DC voltages)

## Supply Voltage

**6V Battery Version:** Operates from 4 to 11 vdc (working range). Can take up to 13 vdc for a short time.

**12V Battery Version:** Operates from 8 to 15 vdc (working range). Can take up to 19 vdc (absolute maximum) for a short time.

Fuse unit in electrical box. Driven device should be fused separately at rating recommended by device manufacturer

Output voltage at positive and negative output leads differs from those at input leads and cannot be connected back in any way. Paralleling of Doublers is not possible. Battery or filtered dc only.

## DC Output Voltage Range

Essentially double that of source DC voltage

## Output Current (general)

System can deliver about 2A or 7.5A (depending on version) before exceeding a 10% voltage drop where some appliances may fail to operate satisfactory. Output leads must remain isolated from input leads or aberrant operation and damage may result

## Ambient Temperature Range

Rated current between - 40 F (- 40 C) and 90 F (32 C) ambient; 75% of rated up to about 115 F (46 C)

## Load Types

Resistive, capacitive, and inductive. Can also drive mixed loads

## Voltage Drift

Nil with steady input voltage

## Reverse Polarity Protection

User-installed input fuse blows if input leads are reverse connected. Included fuse link blows if no user installed fuse is present

## Power Dissipation of Drive Circuitry

No-load current draw is about 16mA. Nil current used in click-off position

## DC-DC Conversion Efficiency

About 99% at full rated load

## Transient Protection

Double resistive/capacitive filtering, zener diode clamping

## Size

Sized to fit a standard, 1-gang outlet box

## Output Ripple Voltage

About 0.1V peak-to-peak at full rated current

## Weight

About 4 oz (120 gm)

## Heat Sink

Heat sink is electrically isolated from voltage and acts as an open frame circuit enclosure. Temperature rise under maximum load is about 20 F (11 C) above ambient

## Accessories Included

Color-coordinated plate mounting screws, 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.

### DC Voltage Doubler Outlet Box Installation

Part #	UPC Number	Input Voltage	Rated Current
AVD-34L-SW-6V (Switch, 1-gang plate)	18805	6V	2A
AVD-34L-SW-12V (Switch, 1-gang plate)	18905	12V	2A
AVD-48L-SW-6V (Switch, 2-gang plate)	19005	6V	7.5A
AVD-48L-SW-12V (Switch, 2-gang plate)	19105	12V	7.5A