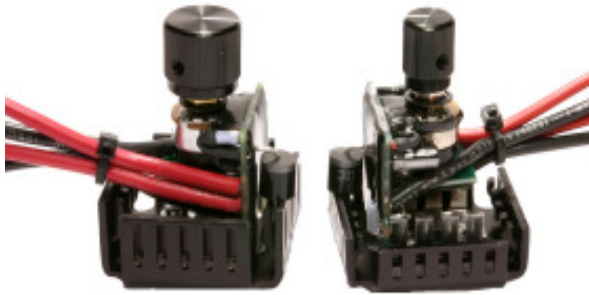


Standard (four-wire) DC Motor Speed Control

Replaces Obsolete Toggle/Voltage Dropping Devices



Smooth, quiet, controllable power

This Standard (four-wire) DC Motor Speed Control is a commercial grade unit that provides infinitely-variable speed control plus on/off for a wide range of DC appliances including pumps, ventilators, blowers, fireplace inserts, range hoods, and mixers in both mobile and stationary applications.

In retrofit applications, this Speed Control replaces an array of less effective devices including a toggle switch, tapped winding, or glow wire system.

Utility is greatly enhanced because optimal speed -- neither too fast or slow -- can be delivered while acoustical noise and power draw are both significantly reduced. Eliminated forever is the need to alternate back and forth between discrete settings to obtain optimal power delivery. Over 99 percent of battery voltage is delivered to the motor at maximum setting for an output that truly equals a toggle switch, while motor hum is minimal even at low speed settings. A tactile on/off feature reduces current drain to zero when inactive.

Meanwhile, 97 percent conversion efficiency at most settings dramatically reduces battery drain, a must

when operating for extended periods between battery recharges. Heavy rf filtering reduces radio interference to nil-to-none.

Commercial quality means this Speed Control stands up to heavy and even continuous use. An extra-heavy outer heat sink, which also acts as an open frame circuit enclosure, keep operating temperature low even in confined space siting for high reliability and long life. A premium-quality machined aluminum knob adds distinction and durability to the installation.

An included on/off activation wire allows remote switching by such devices as a standard thermostat on the "cool" or "hot" side. For example, cool air can be drawn into a building by a ventilator as temperature falls, or hot air vented as temperature rises. A pump can be activated by a float device, or a blower activated as a temperature exceeds some maximum limit. Because a mere 3mA is needed for switching, an expensive power relay is never required.

Continuous current capacity is your choice of 3, 5, 8, or 11A at 12V or 24V (see table, reverse side).

Features

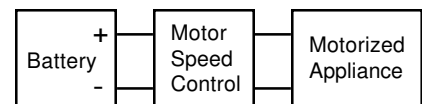
- Full-range speed control plus on-off
- Low speeds practical where dropping resistors/mechanical rheostat ineffective
- Directly replaces toggle switch, tapped winding, or glow wire system
- High conversion efficiency
- Quality construction throughout
- Both 12V and 24V versions
- Extensive standard and optional features

Applications

- Ventilation fans
- Circulating and fill/empty pumps
- Tools and industrial machinery

Protected under US Patent 5,237,263
Pat Pend
Made in USA
web: www.zaneinc.com

Wiring Diagram



Technical Specifications

Mode of Operation

Continuously variable, pulse width modulation. Included heavy diode decouples inductive motor surge

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

Output Voltage Range

From zero vdc to essentially 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 97% at full output setting, somewhat lower at lower settings

Load Types

Optimized for motors

Reverse Polarity Protection

Power can be reverse connected across the input leads for a short period without damage. Fuse link on rear of circuit board blows if power is connected across negative leads

Transient Protection

Double resistive/capacitive filtering, zener diode clamping

Installation

Installs through a 1/4" drilled hole with included hardware. Star washer prevents unwanted rotation of unit (lugs, keys, flats, etc unneeded)

Size

About 1.8" (45 mm) long by 1.8" (45 mm) wide by 2" (50 mm) high

Weight

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

Load Regulation

At a given setting, a relatively constant voltage (within about 3%) is delivered to the motor

Line Regulation

Directly proportional to supply voltage

Voltage Drift

Nil with steady input voltage

Power Dissipation of Drive Circuitry

Less than 0.038W. No-load current draw is about 1mA. Nil current used in click-off position

Service Life of on/off Switch

About 50,000 cycles

Heat Sink

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

Reverse Battery

Reverse battery connection will blow user-installed fuse

Accessories Included

Mounting hardware, 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.

Standard (four-wire) Motor Speed Control for Panel Installation

Part #	UPC Number	Input Voltage	Maximum Current Confined Space/Free Air
AMS-34R-12V	17900	12V	3A/3A
AMS-34R-24V	18000	24V	3A/3A
AMS-44R-12V	18100	12V	5A/5A
AMS-44R-24V	18200	24V	5A/5A
AMS-48R-12V	18300	12V	8A/8A
AMS-48R-24V	18400	24V	8A/8A
AMS-54R-12V	18500	12V	11A/15A
AMS-54R-24V	18600	24V	11A/15A