

Windstream 12V Voltage Regulator

Stock no. 461400

Description - The 461400 solid state voltage regulator is designed for charging 12 V batteries. It will accept input voltages of up to 80 volts dc and will regulate the output voltage so as not to exceed about 14 volts. The electronic circuit board is enclosed in a weather resistant die cast aluminum housing.

The type of voltage regulation circuit is a zener- regulated series Darlington transistor, in which excess power is dissipated as heat.

In typical operation, once the battery is fully charged, the regulator serves to limit the maximum applied voltage. In this mode of operation even a high voltage drop at low current produces very little heat.

Specifications: Input voltage – 80 volts dc maximum
 Output voltage – 13.8 volts nominal at no load
 Output current – 10 amperes dc maximum
 Int. voltage drop – load sensitive, 0.5-3 volts

Dimensions: 152 mm long, 90mm wide, 48 mm high - 380 g

 (5.35" long, 2.68" wide and 1.89" high - 13.5 oz)

Mounting: The 461400 voltage regulator can be mounted in any position, provided that the base of the regulator, which dissipates heat, is in contact with a heat sink (a heat absorbing surface, such as a metal plate or cabinet - or ideally an aluminum heat sink) Silicon or other thermal compound should be used to improve thermal conductivity between the regulator and the surface to which it is mounted.

The regulator is mounted using four M4 screws (# 8) spaced at the corners.

Electrical connections – the input and output wires are connected to the two barrier strips in the top of the regulator case, according to the polarity markings indicated on the case. The wires should preferably be terminated in crimp- on spade terminals, but if such terminals are not available, the wires, if stranded, should be twisted and tinned with solder, so that no wire strands can contact each other.

The regulator case is not electrically connected and does not require grounding, but may be grounded if desired.

Cautions – heat dissipation the regulator must be mounted in a heat sink with adequate thermal conductivity if it is to be operated near its maximum ratings, or if there is a high voltage drop between input and output.

Reverse Polarity – the correct polarity (positive to positive, negative to negative) must be observed or permanent damage to the circuit will result.

Short circuits – if the output is short circuited, and the output current exceeds the maximum specifications (10 amperes) for more that a few seconds, permanent damage to the circuit will result.