

## 74-V INPUT DC-AC INVERTER 500-VA OUTPUT, 110-VAC 60-HZ

- FOR LOCOMOTIVE AND RAIL/TRANSIT APPLICATIONS
- REGULATED, ISOLATED FREQUENCY-STABLE SINE-WAVE OUTPUT
- INPUT SURGE/TRANSIENT PROTECTED
- 90% EFFICIENT, CONVECTION-COOLED
- RUGGEDIZED FOR PORTABLE USE



Model 1749-74

Designed to power test equipment, laptop computers and other ac loads from 74-Vdc locomotive battery systems, the Model 1749-74 dc-to-ac inverter provides 500 volt-amperes of 110-Vac, 60-Hz output power in a lightweight, portable package. Its high power-conversion efficiency allows the inverter to operate continuously at full power with simple convection cooling (no fans). The isolated, regulated, and frequency-stable sine-wave output is well-suited for powering a variety of loads, from sensitive electronic equipment to small motors and nonlinear loads normally considered difficult for inverters.

### SPECIFICATIONS

#### Input Voltage

50 Vdc to 90 Vdc (74 Vdc nominal)

#### Output Voltage

110 Vac nominal, single phase  
Voltage regulation is  $\pm 1\%$  versus dc input line and  $\pm 3\%$  versus output load.

#### Frequency

60 Hz nominal,  $\pm 0.01$  Hz maximum variation over the full range of load and input-voltage changes (crystal controlled).

#### Volt-Ampere Rating

500 VA (continuous duty) with surge capability for high-inrush loads

#### Output Voltage Waveshape

Sine wave with 1%-3% total harmonic distortion (typical)

#### Efficiency

The power conversion efficiency exceeds 90% for most of the output load range. At nominal input voltage, the no-load input current is approximately 0.2 amperes.

#### Temperature Range

Operating:  $-30^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$   
Storage:  $-40^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$

#### Protection

Protection against output overload (including short circuit) and input overvoltage is provided electronically. Recovery to normal operation is automatic upon removal or correction of fault conditions. A front-panel circuit breaker is provided in series with the dc input to protect against accidental reversal of dc-input polarity.

#### Isolation

Mutual electrical isolation capable of passing a 1,800-Vdc stress test is provided between the dc input, the ac output and chassis.

#### Transient-Withstand Capability

The inverter will not be damaged when its input is subjected to high energy transients as specified in IEC 1000-4-5, Surge Immunity Test, Level 3, applied line-to-line or line-to-chassis.

#### Input/Output Connections

DC input connections are provided via a two-part (plug and header) connector.  
AC output connections are provided via a NEMA type 5-15R duplex receptacle.  
A chassis connection is provided via an 8-32 screw on the front panel.

#### Mechanical

Dimensions in inches (mm):  
8.0 (203) high x 6.4 (163) wide x 15.0 (381) deep, excluding carrying handle and rubber feet.  
Weight: 12 lbs.

#### Additional Information

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These specifications are subject to change without notice.