

## 74-V INPUT DC-AC INVERTER 500-VA OUTPUT, 120-VAC 60-HZ

- FOR PORTABLE USE OR FIXED INSTALLATION
- WELL-REGULATED FREQUENCY-STABLE OUTPUT
- INPUT SURGE/TRANSIENT PROTECTION
- 90% EFFICIENT, CONVECTION-COOLED
- RUGGEDIZED FOR LOCOMOTIVE AND RAIL/TRANSIT APPLICATIONS



Model 1710-74

The Model 1710-74 dc-to-ac inverter provides 500 volt-amperes of 120-Vac, 60-Hz output power in a lightweight, portable package ideally suited for powering test equipment, laptop computers and other ac loads from 74-Vdc locomotive battery systems. Its high power-conversion efficiency allows the inverter to operate continuously at full power with simple convection cooling (no fans). The well-regulated, frequency-stable output is well-suited for powering both sensitive electronic equipment and loads normally considered difficult for inverters, including switchmode power supplies, small motors and other nonlinear loads.

### SPECIFICATIONS

#### Input Voltage

50 Vdc to 90 Vdc (74 Vdc nominal)

#### Output Voltage

120 Vac nominal, single phase (as measured with a true-rms voltmeter). Voltage regulation is  $\pm 2\%$  versus dc input line and output load.

#### Frequency

60 Hz nominal,  $\pm 0.05$  Hz maximum variation over the full range of load and input-voltage changes. Temperature coefficient is less than 0.02% per °C.

#### Volt-Ampere Rating

500 VA

#### Output Voltage Waveshape

Three-level stepped approximation to a sinewave with regulated peak and rms voltages.

#### Efficiency

The power conversion efficiency reaches 85% at approximately 20% of full load and exceeds 90% for most of the output load range. At nominal input voltage, the no-load input current is approximately 60 milliamperes.

#### 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 short-term overloads is provided electronically, and recovery is automatic upon removal of the fault. Output overloads lasting more than about 10 seconds will trip the front-panel circuit breaker, which is in series with the positive (+) dc input line.

The inverter will automatically shut down if subjected to a dc-input undervoltage. Return to normal operation is automatic upon restoration of input voltage.

#### Isolation

Mutual electrical isolation capable of passing a 1,500-Vdc stress test is provided between the dc input, the ac output and chassis.

#### Transient-Withstand Capability

Transient input-voltage surges up to 7,000 volts peak, per IEC 571, Paragraphs 3.5 and 5.4, will not harm the inverter.

The abrupt discharge of a 16- $\mu\text{F}$  capacitor charged to 1,500 Vdc will not damage the inverter or interfere with its operation when applied from line to line

across the input, or from either input line to chassis.

#### Input/Output Connections

DC input connections are provided via a WAGO® type 228-102 wire-clamp terminal block.

Ac output connections are provided via two NEMA type 5-15R receptacles. A chassis connection is provided via a 10-32 stud on the front panel.

#### Mechanical

Dimensions in inches (mm): 8.0 (203) high x 6.4 (163) wide x 15.1 (383) deep, excluding carrying handle and removable rubber feet.

Weight: 14 lbs.

Optional Mounting Bracket: For permanent installations, a mounting bracket, part number 1710-MB, can be installed in lieu of the standard rubber feet.

#### Additional Information

Telephone: (919) 732-9351

Fax: (919) 732-9359

E-mail: [info@wilmoreelectronics.com](mailto:info@wilmoreelectronics.com)

Web: [www.wilmoreelectronics.com](http://www.wilmoreelectronics.com)

Specifications subject to change without notice