Wilmore ELECTRONICS CO., INC.
P. O. Box 1329, Hillsborough, N. C. 27278, U.S.A.

MODEL 1716
(RR SERIES)
DC-AC INVERTERS

BULLETIN NO. 6041B

74-V AND 36-V INPUT DC-AC INVERTER

250-VA OUTPUT, 120-VAC 60-HZ

- **FOR LOCOMOTIVE AND RAIL/TRANSIT APPLICATIONS**
- **WELL-REGULATED, FREQUENCY-STABLE OUTPUT**
- **INPUT SURGE/TRANSIENT PROTECTION**
- **HIGHLY EFFICIENT, CONVECTION-COOLED**

Model 1716-74RR-120-60

Model 1716 (RR series) dc-to-ac inverters provide 250 volt-amperes of 120-Vac, 60-Hz output power in a compact, lightweight package ideally suited for powering test equipment, laptop computers and other ac loads from 74-Vdc and 36-Vdc electrical systems aboard locomotives and other rail vehicles . High power-conversion efficiencies allow these inverters to operate continuously at full power with simple convection cooling (no fans). These inverters provide well-regulated, frequency-stable outputs well-suited for powering both sensitive electronic equipment and loads normally considered difficult for inverters, including switch-mode power supplies, small motors and other nonlinear loads.

SPECIFICATIONS

Input Voltage Range
Model 1716-36RR-120-60
25 Vdc to 45 Vdc
Model 1716-74RR-120-60
50 Vdc to 90 Vdc

Output Voltage
118 Vac nominal, single phase (as measured with a conventional average-responding, rms-calibrated voltmeter). Voltage regulation is ±1% versus dc input line and ±2% versus output load.

Frequency
60 Hz nominal, ±0.15 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
250 VA

Output Voltage Waveshape
Three-level stepped approximation to a sine wave with peak, average and rms voltages approximating those of a sine wave.

Temperature Range
Operating: -30°C to +50°C
Storage: -40°C to +90°C

Efficiency
The power conversion efficiency exceeds 85% under full load conditions. At nominal input voltage, the no-load input current is approximately 75 milliamperes for Model 1716-36RR-120-60 and approximately 55 milliamperes for Model 1716-74RR-120-60.

Protection
Protection against overloads and accidental short-circuit of the output is provided electronically, and recovery is automatic upon removal of the abnormal load. A front-panel circuit breaker in series with the dc input provides protection against accidental reversal of input polarity during installation.

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-μF capacitor, charged to 1,500 Vdc and applied from line to line across the input or from either input line to chassis, will not damage the inverter or interfere with its operation.

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

Input/Output Connections
DC input connections are provided via a two-part (plug and header) connector.
The ac output connection is provided via a NEMA type 5-15R duplex receptacle.
A front panel chassis ground connection is provided for use with #8 hardware.

Mechanical
Dimensions in inches (mm):
3.25 (83) high x 7.60 (193) wide x 11.25 (286) deep (excluding flanges and terminal block). Mounting flange on base is 0.6 (5) wide each side. Terminal block (including cover) extends 0.8 (20) from front panel.
Weight: 8 lbs.
Mounting: Flange on base accepts six #10 screws. Hole pattern (3 each side) is 3.8 (97) between holes front-to-back and 8.1(206) wide.

For Additional Information
Telephone: (919) 732-9351
Fax: (919) 732-9359
E-mail: info@wilmoreelectronics.com
Web: www.wilmoreelectronics.com