WIDE INPUT-RANGE DC-TO-DC CONVERTERS

Series 1640 dc-to-dc converters provide an isolated, regulated and well-filtered dc output voltage from 24-Vdc, 36-Vdc or 48-Vdc battery systems. Applications include powering voice and data radio transceivers and other critical electronic equipment in harsh vehicular environments. Models with 13.6-Vdc output at 15 amperes (Model 1640-12-15) and 7.5 amperes (Model 1640-12-7.5) are described in this bulletin. Technical information on other versions with output voltages in the range of 5 to 28 volts is available on request.

SPECIFICATIONS

- **Input Voltage Range**
  20 Vdc to 56 Vdc

- **Output Voltage**
  13.6 Vdc

- **Output Current**
  For Model 1640-12-15: 15 amperes intermittent, 10 amperes continuous
  For Model 1640-12-7.5: 7.5 amperes intermittent, 6 amperes continuous

- **Output Voltage Regulation**
  Versus Line: ±0.5%
  Versus Load: ±0.5%

- **Output Voltage Ripple**
  Typically less than 20mV rms, 100mV peak-to-peak

- **Efficiency**
  No-load power demand is less than 4 watts and efficiency is typically greater than 80% from 15% to full load.

- **Protection**
  Protection against overloads, short circuits and output overvoltages is provided electronically. Recovery to normal operating conditions is automatic upon removal of the overload or short-circuit fault. Following an output overvoltage shutdown, input power to the converter may need to be removed and reapplied to resume converter operation. Protection against accidental reversal of dc input-voltage polarity during installation is provided by a shunt diode working in conjunction with the fuse on the front panel.

- **Isolation**
  Isolation capable of passing a 500-Vdc stress test is provided between the input and output and between the input and chassis.

- **Ambient Temperature Range**
  -22°F to +140°F (-30°C to +60°C)

- **Mechanical**
  A. **Size**
  Dimensions given in inches (mm).
  For 7.5-ampere models: 1.9 (48) high x 7.0 (177) wide x 9.0 (228) deep (excluding flanges, terminal block and fuse holder).
  For 15-ampere models: 3.0 (76) high x 7.0 (177) wide x 9.0 (228) deep (excluding flanges, terminal block and fuse holder).

- **Mounting**
  Mounting flange on base is 0.5 (13) wide (each side). Fuse holder extends 0.65 (16.5) from front panel.
  Weight:
  For 7.5-ampere models: 3.25 pounds (1.5 kg)
  For 15-ampere models: 5 pounds (2.3 kg)

- **Input/Output Connections**
  The input, output and chassis ground connections are provided via heavy-duty barrier-strip terminal blocks. The terminal-block screws accept lugs for use with #6 hardware.

- **Additional Information**
  For additional information on this or other Wilmore Electronics Company dc-to-dc converters, dc-to-ac inverters and uninterruptible power systems, please contact our Sales Department at (919) 732-9351 or FAX (919) 732-9359.
  Web site: www.wilmoreelectronics.com