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

SERIES 1675
DC-DC CONVERTERS

BULLETIN NO. 0071C

12-V AND 24-V INPUT DC-DC CONVERTERS

Model 1675-12-24-8

- **200-WATT OUTPUT**
- **INPUT-TO-OUTPUT ISOLATION**
- **ELECTRICALLY AND MECHANICALLY RUGGED**
- **- 40°C TO +70°C TEMPERATURE RANGE**

Series 1675 dc-to-dc converters provide a regulated and filtered dc output voltage from either 12-volt or 24-volt battery systems. This output is galvanically isolated from the source and chassis and, therefore, may be connected either as a positive or a negative output. Designed to perform equally well in mobile and stationary applications, these converters can be used to power radio transceivers, telecommunications equipment and other sensitive electronic loads.

TABLE 1

Nominal Input Voltage (Vdc)	Input Voltage Range (Vdc)	Input Current Full Load[1] (Adc)	Nominal Output Voltage (Vdc)	Maximum[2] Output Current (Adc)	Model Number
12	10-16	25.3	13.6	15	**1675-12-12-15**
		22.2	15.0	12	**1675-12-15-12**
		23.1	24.0	8	**1675-12-24-8**
		23.0	28.5	7	**1675-12-28-7**
		22.6	48.0	4	**1675-12-48-4**
24	20-30	12.0	13.6	15	**1675-24-12-15**
		11.3	24.0	8	**1675-24-24-8**
		11.1	48.0	4	**1675-24-48-4**

[1] Typical at full load and minimum input voltage
[2] See Figure 1 of SPECIFICATIONS for required derating based on load duty cycle and ambient temperature.

SPECIFICATIONS

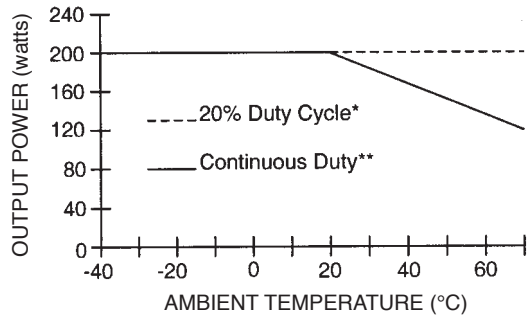
Input

The nominal input voltage, the input voltage range and the full load input current are shown in Table 1.

Output Voltage and Current

The nominal output voltage and maximum output current for each model are shown in Table 1. For further information on output power versus ambient temperature, see Figure 1 below.

Figure 1. Output Power Ratings



*Per EIA specification RS-152-B
**Mounted in any attitude with free-air convection cooling.

Output Voltage Regulation

Versus line: ±0.5%
Versus load: ±1%

Output Voltage Ripple

Typically less than 10mV rms and 100mV peak-to-peak.

Efficiency

The efficiency reaches 80% at approximately 15% of full load and remains above 80% (typically 83%-90%, depending on input/output voltage combinations) for the remainder of the load range. The no-load input current is less than 250 milliamperes for 12V-input versions and less than 120 milliamperes for 24V-input versions.

Isolation

Isolation capable of passing a 2,000-Vdc stress test is provided between the input and output and between the input and chassis.

Protection

Protection against load short circuits is provided electronically, with automatic recovery to normal operating conditions upon removal of the fault. Protection against accidental reversal of the dc input-voltage polarity during installation is provided by a shunt diode working in conjunction with an appropriately rated, user-supplied fuse or circuit breaker. See section titled “Installation”.

Ambient Temperature Range

- 40°C to +70°C (- 40°F to +158°F)

Input/Output Connections

Connections are made via a heavy-duty barrier-strip terminal block. The terminal-block screws accept wire terminals for use with #8 hardware.

Installation

Good installation practice for electronic equipment operated from a battery source dictates that input fuses or circuit breakers should be located at the battery end of the cables feeding the converter. For this reason, Series 1675 converters are not internally fused. Instead, the input line should be externally fused at 30 amperes.

Mechanical

Size:

Dimensions given in inches (mm)
3.6 (91) high x 6.1 (155) wide x 10.3 (262) deep, including mounting flanges and terminal block

Weight:

Approximately 4 pounds (1.8kg)

Mounting:

Mounting flanges on the base will accept four #10 screws. Hole pattern is 5.5 (140) x 7.2 (183).

Additional Information

For additional information about 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

Information in this technical bulletin is subject to change without notice.

WILMORE ELECTRONICS CO., INC.
P. O. Box 1329, Hillsborough, N.C. 27278 • Telephone (919) 732-9351 • FAX (919) 732-9359
www.wilmoreelectronics.com