12-V and 24-V INPUT DC-DC CONVERTERS

Features

- 200-WATT OUTPUT
- 2,000-VOLT INPUT-TO-OUTPUT ISOLATION
- ELECTRICALLY AND MECHANICALLY RUGGED
- -40°C TO +70°C TEMPERATURE RANGE (CONVECTION COOLED)

Model 1675-12-12-15

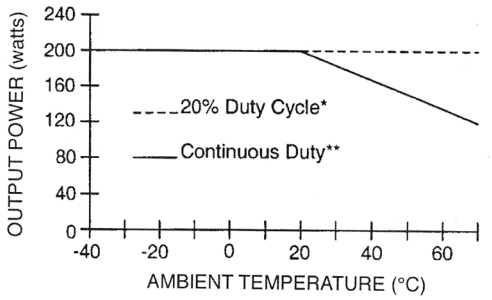
Series 1675 dc-to-dc converters provide a regulated and filtered dc output voltage from either 12-volt or 24-volt battery systems. This output is galvanically isolated from the source and chassis and, therefore, may be connected either as a positive or a negative output. Designed to perform equally well 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

Figure 1. Output Power Ratings



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

Specifications

INPUT VOLTAGE RANGE (VDC)	See table on Page 1
INPUT CURRENT (ADC)	See table on Page 1
OUTPUT VOLTAGE (VDC)	See table on Page 1
OUTPUT CURRENT (ADC)	See table on Page 1. For additional information on output power versus ambient temperature, see Figure 1 above.
OUTPUT VOLTAGE REGULATION	±0.5% versus line; ±1% versus load
OUTPUT VOLTAGE RIPPLE	10 millivolts rms (typical) 100 millivolts peak-to-peak (typical)
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".
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.
AMBIENT TEMPERATURE RANGE	-40°C to +70°C (-40°F to +158°F)
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.
INPUT/OUTPUT CONNECTIONS	Provided via a heavy-duty barrier-strip terminal block. The terminal block screws accept wire terminals for use with #8 hardware.
DIMENSIONS INCHES (MM)	3.6 (91)H x 6.1 (155)W x 10.3 (262)D, including mounting flanges and terminal block
WEIGHT LBS (KG)	Approximately 4 (1.8)
MOUNTING	Mounting flange on base accepts four #10 screws. Hole pattern is 5.5 (140) x 7.2 (183).

Products

For information about other Wilmore dc-to-dc converters or for information about other power-conditioning products such as dc-to-ac inverters, switching power supplies, and custom power solutions, please contact our sales department.

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