37-V INPUT DC-DC CONVERTERS

- FOR RAIL-TRANSIT APPLICATIONS
- 13.6-V OR 24-V OUTPUT AT UP TO 400 WATTS
- INPUT SURGE/TRANSIENT PROTECTION AND INPUT-TO-OUTPUT ISOLATION
- -40°C TO +70°C OPERATING TEMPERATURE RANGE (CONVECTION COOLED)
- EXTREMELY RUGGED AND RELIABLE

Model 1620H-37-13-30 and Model 1620H-37-24-16 dc-to-dc converters provide an isolated, regulated and well-filtered output voltage from 37-Vdc electrical systems on rail transit vehicles. Field-proven input-transient protection and extremely rugged mechanical construction make them well suited for powering voice/data radios and other sensitive electronic loads in the harsh railroad vehicle environment.

SPECIFICATIONS

Input Voltage Range
25 Vdc to 45 Vdc

Output Voltage
Model 1620H-37-13-30
13.6 Vdc
Model 1620H-37-24-16
24.0 Vdc

Output Current
Model 1620H-37-13-30
30 amperes @25% duty cycle†
20 amperes continuous duty
Model 1620H-37-24-16
16 amperes @25% duty cycle†
11 amperes continuous duty
†(up to 5 minutes in any 20-minute period, with the remainder of the period at less than 50% of this maximum)

Output Voltage Regulation
Versus line: ±1%
Versus load: ±2%

Output Voltage Ripple
Typically less than 20 mV rms

Ambient Temperature Range
-40°C to +70°C (-40°F to +158°F) (Convection Cooling)

Isolation
Isolation capable of passing a 2,500-Vdc stress test is provided between the input and output and between the input and chassis.

Protection
Protection against output short circuits and overvoltages is provided electronically. Recovery to normal operating conditions is automatic upon removal of a short-circuit fault. Following an overvoltage shutdown, input power to the converter must be removed and reapplied to resume converter operation. Protection against accidental reversal of the dc input-voltage polarity during installation is provided by a shunt diode working in conjunction with a user-supplied input fuse or circuit breaker. See section titled “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 converter. The converter will not be damaged when its input is subjected to high-energy transients as specified in IEC 1000-4-5, Surge Immunity Test, Level 3, applied line-to-line or line-to-chassis.

Input/Output Connections
The input and output connections are provided via heavy-duty barrier-strip terminal blocks that accept lugs for use with #8 hardware. The chassis ground connection is provided by a self-locking #8 sems screw.

Protection Against Accidental Reversal of the Dc Input-Voltage Polarity: During installation, the input-voltage polarity is protected against accidental reversal by a shunt diode working in conjunction with a user-supplied input fuse or circuit breaker. See section titled “Installation”.

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

For Additional Information
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