

## 600Vdc Input, 2kW Rugged, Industrial Quality DC/DC Converter HVI 2K-3U3

- Rugged industrial quality
- Wide DC-input voltage range
- Field-proven design
- Full electronic protection
- Fan cooling
- N+1 redundancy possible



This rugged, industrial quality power converter system uses field proven topology to generate up to 3000W output power, depending on input/output combination. The unit is built with internal modules. It is a mature design with a track record in numerous applications. It accepts an input voltage of 600Vdc. An optional built-in redundancy diode would allow for a number of units to be connected in parallel to achieve higher output power or N+1 redundancy. The output separation diode also makes the unit suitable for battery charging applications. To ensure high reliability and long operating life, all critical components on the primary side are designed and tested for corona inception levels, which are significantly higher than the operating voltages. Built-in fans provide sufficient airflow for operation at the specified temperature without de-rating. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. The series is manufactured at our plant under strict quality control.

### SPECIFICATIONS

<b>Input Voltage</b> 600Vdc nominal 450V – 800V operating range Other input range on request	<b>Output Voltage</b> 24V, 36V, 48V or 110Vdc Other outputs on request Output is floating; either terminal can be grounded	<b>Efficiency</b> Min 80% at full load depending on input/output configuration	<b>Indicators</b> Not on standard version Available as option
<b>Input Protection</b> Inrush current limiting Varistors Reverse polarity protection Internal safety fuse Lower voltage than the specified minimum input will not damage the unit	<b>Redundancy Diode</b> Included for the separation of the internal modules	<b>Operating Temperature Range</b> 0°C to 50°C for full specification Wider range available as option	<b>Control Input</b> None on standard version Available as option
<b>Isolation</b> 3000Vdc input-chassis 3000Vdc input-output 5600Vdc type test 1000Vdc output-chassis	<b>Line/Load Regulation</b> Better than ±1% combined from zero load to full load	<b>Temperature Drift</b> 0.03% per °C over operating temperature range	<b>Alarm Outputs</b> None Available as option
<b>Standards</b> Designed to meet EN 60950-1 and related standards	<b>Dynamic Response</b> Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time	<b>Cooling</b> Forced air by high quality built-in fans and conduction to customer heat sink or chassis. Fans draw air into the unit.	<b>Package/Dimensions (H x W x D)</b> 3U3: 132 x 187 x 407 mm 5.2 x 7.4 x 16" including terminal block and mounting flanges Mounting holes are clear
<b>EMI</b> EN55022 Class A with margins	<b>Output Ripple/Noise</b> Better than 0.2% Vrms or 1% Vpp of the output voltage (20MHz BW)	<b>Environmental Protection</b> Basic ruggedizing and conformal coating Full ruggedizing available as an option	<b>Weight</b> Approx 7 kg (15 lb)
<b>Switching Frequency</b> 55kHz ±3kHz	<b>Output Overload Protection</b> Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient airflow (self-resetting)	<b>Shock/Vibration</b> IEC 61373 Cat 1 A&B	<b>Connections</b> Input: Terminal block Output: Threaded studs, M6
	<b>Output Overvoltage Protection</b> Second regulator loop, completely stable and independent of main regulator loop	<b>Humidity</b> 5 – 95% non-condensing	<b>RoHS Compliance</b> Compliant
		<b>MTBF</b> 85,000 hours @45 °C (fans excluded) Demonstrated MTBF is significantly higher.	<b>Warranty</b> Two years subject to application within good engineering practice



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