

600Vdc Input, 2kW Rugged, Industrial Quality DC/DC Converter HVI 2K



- 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 headrooms, 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

Input Voltage

600Vdc nominal
450V – 800V operating range
Other input range on request

Input Protection

Inrush current limiting
Varistors
Reverse polarity protection
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Isolation

3000Vdc input-chassis
3000Vdc input-output
5600Vdc type test
500Vdc output-chassis

Standards

Designed to meet EN 60950 and related standards

EMI

EN55022 Class A with margins

Switching Frequency

55kHz +/- 3kHz

Output Voltage

24V, 36V, 48V or 110Vdc
Other outputs on request
Output is floating; either terminal can be grounded

Redundancy Diode

Included for the separation of the internal modules

Line/Load Regulation

Better than +/-1% combined from zero load to full load

Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

Output Ripple/Noise

Better than 0.2% Vrms or 1% Vpp of the output voltage (20MHz BW)

Output Overload Protection

Rectangular current limiting with short-circuit protection (no hiccup)
Thermal shutdown in case of insufficient airflow (self-resetting)

Output Overvoltage Protection

Second regulator loop, completely stable and independent of main regulator loop

Efficiency

Min 80% at full load depending on input/output configuration

Operating Temperature Range

0°C to 50°C for full specification
Wider range available as option

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Forced air by high quality built-in fans and conduction to customer heat sink or chassis.
Fans draw air into the unit.

Environmental Protection

Basic ruggedizing and conformal coating
Full ruggedizing available as an option

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 – 95% non-condensing

MTBF

85,000 hours @45 °C (fans excluded)
Demonstrated MTBF is significantly higher.

Indicators

Not on standard version
Available as option

Control Input

None on standard version
Available as option

Alarm Outputs

None
Available as option

Package/Dimensions (W x H x D)

3U3: 187 x 132 x 407 mm (7.4 x 5.2 x 16") including connectors, excluding flanges
Can be chassis or 19" rack mounted

Weight

Approx. 6kg (13 lbs.)

Connections

Input: Terminal block
Output: Terminal block or threaded studs

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

Enhancements to these general specifications can be accommodated upon request. Designed to meet common approval requirements

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility



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