

600Vdc Input, 500W Rugged Industrial Quality DC/DC Converter HVI 500F Series

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



The rugged, industrial quality DC/DC converter series uses field proven design topology to generate the specified output power. It is a mature design with a track record in numerous applications. The unit 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 without de-rating to the specified temperature. 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
450 - 800Vdc operating range
Other input range on request

Input Protection

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

Isolation

3000VDC input to chassis
4300VDC input to output,
5600 type test
1000VDC output to 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
Output is floating; either terminal can be grounded
Other outputs on request

Redundancy diode

None
Available as option

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% rms or 1% pp 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

0°C to 55°C for full specification without derating
Extended temperature ranges available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

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

Environmental Protection

Basic ruggedizing and conformal coating
Heavy ruggedizing available as option

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95%, non condensing

MTBF

130,000 hours @45°C (fans excluded)
Demonstrated MTBF is significantly higher.

Indicators

Green "Output ON" LED visible through cooling slots

Control Input

None on standard version
Available as option

Alarm Outputs

None.
Available as option

Package/Dimensions (W x H x L)

FFX: 185 x 66 x 351 mm (7.3" x 2.6" x 13.8") including terminal block and mounting flanges
Mounting holes are clear

Weight

2.9 Kg (6.4 lb)

Connections

12-pole barrier type terminal block with 3/8" spacing

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

Terminal Block Pin-out

ALARM (option)			DC OUTPUT				DC INPUT				
FAIL OPEN	COM	FAIL CLOSED	+	+	-	-	GND	N/C	+	N/C	-
1	2	3	4	5	6	7	8	9	10	11	12

Enhancements to these general specifications can be accommodated upon request. Specifications subject to change.

Designer and manufacturer of custom and standard switch-mode power supplies, battery chargers, dc/dc converters, sine wave inverters, complete power systems with plug-in modules for 19" and 23" racks and DC-input fluorescent lamp inverters, since 1982. Absopulse is a BABT-approved facility.



ABOPULSE ELECTRONICS LTD

110 Walgreen Road, Ottawa
Ontario. K0A 1L0. CANADA
Tel: +1-613-836-3511 Fax: +1-613-836-7488
E-mail: absopulse@absopulse.com
<http://www.absopulse.com>

For more information, please see:

http://www.absopulse.com/Absopulse_DC_DC_Converters.php

April 25, 2011/TS/CL

Made in Canada