800Vdc Input, 2000W Rugged, Industrial Quality DC/DC Converter
HVI 2K-F6W Series

- Rugged industrial quality
- High input voltage
- Wide DC-input voltage range
- Full electronic protection
- Cooling by high quality built-in fans

This rugged, industrial quality DC-DC power converter utilizes field-proven technology to generate the required output power. It is based on mature design topology with a track record in numerous applications. Cooling is by high quality built-in fans with which draw air into the unit, and by conduction via the baseplate. All heat generating components are installed on aluminum heatsink blocks that are thermally connected to the base plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. An optional built-in redundancy diode allows for paralleling and N+1 operation or back-up battery connected. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
800Vdc nominal
700-900Vdc 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
4300Vdc input-output
5600Vdc type test
1000Vdc output-chassis

Standards
Designed to meet EIC 61010-1 and related standards

EMI
EN55032 Class A with margins

Switching Frequency
55kHz ±3kHz

Output Voltage
24V, 28V, 36V, 48V or 110Vdc
2000W continuous
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% Vrms or
1% Vpp of the output voltage (20MHz BW)

Output Overload Protection
Continuous current limiting with short-circuit protection
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
Ruggedizing
Conformal coating
Heavy ruggedizing available as option

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 – 95% non-condensing

MTBF
120,000 hours @45°C (fans excluded)
Demonstrated MTBF is significantly higher.

Indicators
Green Output ON LED visible through the cooling slots

Control Input
None on standard version
Available as option

Alarm Outputs
None
Available as option

Package/Dimensions (W x H x L)
F6W: 254 x 65 x 349 mm
10" x 2.6" x 13.75"
including terminal block and mounting flanges
Mounting holes are clear

Weight
Approx. 3.4 kg (7.5 lb)

Connections
Input: Phoenix FRONT 4-V-7.62 assembly;
Output: Terminal block or threaded M6 studs with stud boots

RoHS Compliance
Compliant

Warranty
Two years subject to application within good engineering practice

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

OEM of industrial and railway AC/DC power supplies and battery chargers, DC/DC converters, DC-AC sine-wave inverters, phase & frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom & standard. ABSOPULSE is a BABT-approved facility

ABSOPULSE 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

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