700Vdc Input, 50W Rugged Industrial Quality DC/DC Converter
HVI 50FT Series

- Rugged, industrial quality
- Wide DC-input voltage range
- Field-proven design
- Conduction/convection cooled (no fans)
- Full electronic protection
- Wide DC-input voltage range

This 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 a 700Vdc input voltage. To ensure high reliability and long operating life, all critical components on the primary side are designed and tested for corona inception levels that are significantly higher than the operating voltages. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. Cooling is via base-plate to a heat-sinking surface and by natural convection. Customized versions are also available. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage
700Vdc nominal
600V- 800V operating range
Other input range on request

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

Isolation
3000Vdc input to chassis
3000Vdc input to output
5600Vdc type test
500Vdc output to chassis

Standards
Designed to meet EN 60950 and related standards

EMI
EN 55022 Class A with margins

Switching Frequency
47kHz +/- 2kHz

Output Voltage/Current
12V/4A, 24Vdc/2A or 48Vdc/1A
Output is floating; either terminal can be grounded
Other outputs on request

Redundancy Diode
None
Available as option

Line/Load Regulation
+/-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 (hiccup)
Thermal shutdown in case of insufficient airflow (self-resetting)

Output Over-voltage Protection
Second regulator loop, completely stable and independent of main regulator loop

Efficiency
Typically 80% at full load

Operating Temperature Range
0°C to 50°C cold plate temperature for full specification without derating
Extended temperature ranges available

Temperature Drift
0.03% per °C over operating temperature range

Cooling
Conduction to customer heatsink or chassis and natural convection

Environmental Protection
Basic ruggedizing and conformal coating
Heavy ruggedizing available on request

Shock/Vibration
IEC 61373 Cat 1 A&B

Humidity
5 – 95%, non condensing

MTBF
130,000 hours @ 45 °C
Demonstrated MTBF is significantly higher.

Indicators
Green "Output ON" LED visible through cooling slots

Control Input
None

Alarm Outputs
None.

Package/Dimensions (W x H x L)
F1: 114 x 51 x 201 mm
(4.5" x 2" x 7.9") including terminal block and flanges.
Mounting holes are clear

Weight
0.8kg (1.8 lbs)

Connections
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

OUTPUT		INPUT				
+	–	GND ⏚	NOT USED	+	NOT USED	–
1	2	3	4	5	6	7

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

Designer and manufacturer of quality ac-dc power supplies and battery chargers, converters, inverters, dc-output 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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