600Vdc Input, Rugged 300W Industrial Quality DC/DC Converter
HVI 300 Series

- Rugged industrial quality
- Wide DC-input voltage range
- Field-proven design
- Full electronic protection
- Conduction/convection cooled (no fans)
- N+1 redundancy available

This rugged, industrial quality DC/DC converter series uses field proven design topology to generate the specified output power. Higher output power is possible by using forced air-cooling. 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. The unit is cooled by natural air convection and requires no fans. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. The unit 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
Varistors
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
EN55022 Class A with margins

Switching Frequency
55kHz +/- 3kHz

Output Voltage/Current
12V/20A, 24V/12A, 48V/6A or 110V/2.5A
Output is floating; either terminal can be grounded
Other outputs on request

Redundancy Diode
Available as option

Line/Load Regulation
+/-1.5% 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
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
150,000 hours at 45 °C
Demonstrated MTBF is significantly higher.

Indicators
Green "Output ON" LED visible through cooling slots

Control Input
None
Available as option

Alarm Outputs
None.
Available as option

Dimensions (WxHxD)
F3: 132 x 64 x 300 mm
(5.2" x 2.5" x 11.8") including mounting flanges and terminals
Mounting holes are clear.

Weight
2 kg (4.4 lbs)

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 Pint Out

DC OUTPUT							DC INPUT				
+	+	0V	0V	NOT USED	NOT USED	NOT USED	NOT USED	RTN	NOT USED	+	NOT USED
1	2	3	4	5	6	7	8	9	10	11	12

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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