# 1200Vdc Input, Rugged, 5kW DC-DC Converter for Heavy-duty Industrial Applications
## HVT 5K-1200/24-4U7 Series

- 1200Vdc nominal input (1000V-1400V)
- Field-proven design topology
- For rugged industrial applications
- Cooling by high quality built-in fans
- Full electronic protection

This rugged, industrial quality DC-DC power converter utilizes field proven technology to generate the required output power. The design is based on mature design topology with a track record in numerous applications. The unit is built with two FHD 3010 and four JHI 1500 internal modules. The input and output are filtered for low noise. High quality built-in fans provide sufficient airflow for operation within the specified temperature range without de-rating. The fans draw air into the unit which exhausts at the fan side of the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. 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**
1200Vdc nominal
1000-1400Vdc operating range
Input current: 6A max
Other inputs on request

**Input Protection**
Inrush current limiting
Varistors
Reverse polarity protection (non-destructive)
Internal safety fuse
Lower input voltages of less than the specified minimum will not damage the unit.

**Isolation**
5000Vdc input to chassis
5500Vdc input to output
500Vdc output to chassis

**Standards**
Designed to meet EN62368-1 and corresponding standards

**EMI**
EN55032 Class A with margins

**Switching Frequency**
55kHz ±5kHz

**Output Voltage/Current**
24Vdc ± 0.2V, 208A
3000W continuous
Output is floating; either terminal can be grounded
Other outputs on request

**Redundancy Diode**
Installed internally for separation of the internal modules and for parallel connection

**Line/Load Regulation**
±1.5% combined from zero load to full load including separation diodes

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

**Output Ripple/Noise**
Better than 80mVrms and 300mVpp (@20MHz BW)

**Output Overload Protection**
Rectangular current limiting with short-circuit protection
Thermal shutdown with automatic reset in case of insufficient cooling (self-resetting)
Current Limit set to: 215A ±6A

**Output Overvoltage Protection**
Second regulator loop. Second loop completely stable and independent of main regulator loop. OVP setting: 28V ±2V

**Efficiency**
85% at full load, nominal input

**Operating Temperature Range**
-20°C to 50°C for full specification without derating
Extended temperature ranges available on request

**Temperature Drift**
0.03% per °C over operating temperature range

**Cooling**
Forced air by high quality built-in fans.
Fans draw air into the unit

**Environmental Protection**
Basic ruggedizing
Conformal coating

**Shock/Vibration**
IEC 61373 Cat 1 A&B

**Humidity**
5-95% non-condensing

**MTBF**
95,000 hours @45°C (fans excluded)
Demonstrated MTBF is significantly higher.

**Indicators**
Green "Output ON" LED on each internal power module, visible through rear cooling slots

**Control Input**
None
Available as an option

**Alarm Outputs**
Not installed on basic version

**Package/Dimensions (H x W x D)**
4U7: 176.5 x 432 x 419 mm
6.95" x 17" x 16.5" chassis-mount (excludes terminals and mounting L-brackets). Mounting holes are clear 19" rack-mounting available

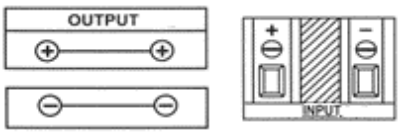
**Weight**
Approx. 14kg (31 lbs.)

**Connections**
Input: 2 Pole Terminal block
Phoenix HV assembly
Output: Threaded studs dual M6 with stud boots.

**RoHS Compliance**
Compliant

**Warranty**
Two years subject to application within good engineering practice

**Input/Output Terminals**




ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change.

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

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Made in Canada