



## PSP4000-E/500-3U4SA-T6849 POWER SUPPLY

### SERIES PSP4000

This rugged, industrial quality power converter utilizes field proven technology to generate the required output power. It is a mature design with a track record in numerous applications.

The unit is built with four internal modules, which are connected parallel via redundancy diodes. This modular construction also provides inherent redundancy; the failure of one internal module only causes a drop in output power while the unit remains operational.

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, and exhaust at the terminal 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.

Customized versions are also available.

### APPLICATIONS

- Marine / Automotive / RV
- Electric Utilities and Substations
- Telecom Power Plants
- Manufacturing Locations
- Steel Mills
- Military Applications (COTS)
- Industrial Controls
- OEM Applications
- Solar / Alternative Power Systems
- Fuel Cells

### FEATURES

- 4000W output power
- Rugged industrial quality
- Inrush current limiting
- Over-temperature shutdown (self resetting)
- Field-proven design
- Fan cooling
- Full electronic protection
- N+1 redundancy



High frequency technology



Light weight, compact size



Full electronic protection



Optional Control input



Optional Extended temperature range



Output fail alarm (Form C)

# SPECIFICATIONS

Input Voltage	230Vac nominal, 47-63Hz 195-264Vacc operating range Input current: 24Arms max at 195Vac Power factor meets EN61000-3-12
Input Protection	Inrush current limiting Varistor Internal safety fuses Input contactor Lower input voltages than the specified minimum will not damage the unit
Isolation	2250Vdc input to chassis 4300Vdc input to output 3100Vdc output to chassis
Switching Frequency	80kHz $\pm$ 5kHz
Output Voltage	500Vdc $\pm$ 1V/8A Output is floating Other outputs on request
Output Separation Diode	Installed for separation of the internal modules
Load/Line Regulation	$\pm$ 1% combined from zero load to full load including redundancy diode
Dynamic Response	Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time
Output Ripple Noise	Better than 150mVrms and 1Vpp (20MHz BW)
Efficiency	85% at full load
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: 8.6A $\pm$ 0.4A
Output Overvoltage Protection	Second regulator loop. Second loop completely stable and independent of main regulator loop OVP setting: 560V $\pm$ 20V
Standards	Designed to meet EN60950-1 and related standards
EMI	EN55022 Class A with margins

Operating Temperature	0°C to 50°C cold plate temperature for full specification Extended temperature ranges available
Humidity	5 - 95% non-condensing
Temperature Drift	0.03% per °C over operating temperature range
Cooling	By built-in high quality fans
Environmental Protection	Basic ruggedizing Conformal coating
Shock/Vibration	IEC 61373 Cat 1 A&B
Dimensions	3U4: 244 x 132 x 407 mm Mounting holes are clear
Weight	8 Kg
Connections	Input: Terminal block Output: Terminal block HV assembly
MTBF	110,000 hours at 45°C Demonstrated MTBF is significantly higher
Indicators	Green OUTPUT ON LED installed on each internal module visible through the cooling slots
Control Input	None Available as option
Alarm output	Output fail alarm Form C relay contacts
RoHS Compliance	Fully compliant
Warranty	2 years

