

2.5kW, Heavy Duty, AC/DC Lab Power Supply with 4 Isolated 12Vdc/50A Outputs LPS 2K5-U/4x12CT



- Electronic power factor correction (PFC)
- Rugged industrial quality
- Four isolated outputs
- Cooling by two high quality built in fans
- Full electronic protection
- Field-proven design

This 2.5kW heavy-duty, industrial grade AC/DC power supply with power factor corrected input was developed to generate voltages in the 12V to 48Vdc range with high current for laboratory and engineering applications. The system is built with four galvanically isolated internal modules. Each module provides a 12Vdc/50A floating output and can be connected in series or in parallel in any combination from 12V/200A to 48V/50A. In addition, several LPS 2K5 units can be combined to generate voltages of up to 7.5kW power. The power supply accepts a universal AC-input voltage (95V to 264Vac). The preferred input voltage is 230Vac for full output power. If the unit is plugged into a standard 115V output, the output power is limited to 1500W by the capacity of the outlet. Each module is equipped with an ON/OFF switch, which allows a gradual increase in output power. A 20A input breaker on the AC-input can also be used as the main ON/OFF switch for the entire system. Built-in fans provide sufficient airflow for operation at the specified temperature without de-rating. The fans on the rear side draw air into the unit and the exhaust exits at the rear of the unit. Large design headroom and the exclusive use of components with established reliability contribute to high MTBF. This versatile power supply can also be used as a battery replacer with paralleled outputs (12V/200A). The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

95-264Vac (Universal) 47... 63Hz
Input Current: 15Arms max at 190V input, full load
Power Factor is better than 0.97 at full load for the entire input range.
Meets EN61000-3-2 and -12

Input Protection

Inrush current limiting
Varistor
Internal safety fuse
Lower voltage than the specified minimum input will not damage the unit

Isolation

2250VDC input to chassis
4300VDC input to output
8mm spacing
1000VDC output to chassis

Standards

Designed to meet EN60950-1 and related standards.

EMI

EN 55022 Class A with margins

Switching Frequency

50-150kHz, load dependent

Hold-Up Time

Minimum 5ms at full load for 5% drop of output voltage at nominal input

Output Voltage/Current

12V ± 0.1V/50A on all four outputs
Outputs are floating; they can be connected in series or parallel
Consult factory for other outputs

Redundancy Diodes

None

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 40mVrms or 200mVpp on each 12V output (20MHz BW)

Overload Protection

Rectangular current limiting with short-circuit protection (non-hiccup type)
Thermal shutdown on each module in case of insufficient cooling (self resetting)

Output Overvoltage Protection

Second regulator loop, completely stable and independent of main regulator loop
OVP limit: 14V ± 1V

Efficiency

Typically 80% at full load

Operating Temperature

0°C to 50°C for full specification

Temperature Drift

0.03% per °C over operating temperature range

Cooling

By high quality internal fans, drawing air into the unit

Environmental Protection

Ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5-95% non-condensing

MTBF

Min 140,000 hours @45°C on each module
Demonstrated MTBF is significantly higher.
Fans are not included.

Indicators

Green "Output ON" LED visible through cooling slots

Controls

None

Alarm Output

None

Package/Dimensions (W x H x D)

U11713: 334 x 189 x 317 mm
13.2" x 7.45" x 12.5"
(depth incl. connectors)

Weight

Approx. 10kg (22 lb)

Connections

Input: AWG 16 Line cord
Output: Threaded studs 1/4" 20NC

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures, fans and shipping costs exclude

**Please note that the above specifications set only generic guidelines for the design.
Customizing and enhancements are possible. Please contact us with your specific 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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