

1600W, 1U, Rugged, Industrial Power Supply Shelf HBL 1K6-1U Series

- Rugged, industrial quality
- Low-profile 1U rack-mount enclosure
- Field-proven design
- Cooled by internal fans
- A + B input possible
- Full electronic protection
- Also as 1+1 redundant unit



This rugged, industrial quality modular AC/DC power supply 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 is built with two HBL 800 internal modules. The built-in redundancy diode allows for application as a 1+1 redundant power supply. A number of units may also be connected in parallel to achieve higher output power with or without N+1 redundancy. Built-in fans provide sufficient airflow for operation without de-rating to the specified temperature. Full electronic protection, low component count, large design headroom, and the use of components with established reliability result in a high MTBF. In order to maximize MTBF, no PFC-input is used on this series. Additional ruggedizing and conformal coating are available for operation in extreme environments. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

230Vac $\pm 15\%$; 47-63Hz
115Vac can be selected by internal jumper.
DC input and other voltages are available on request

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
1500VDC output to chassis

Standards

Designed to meet EN 60950 and related standards

EMI

Meets EN 55022 Class A with margins

Switching Frequency

55 kHz ± 3 kHz

Hold Up Time

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

Output Voltage

Any single voltage
24V to 150Vdc
1600W continuous max
Output is floating; either terminal can be grounded
Other voltages available on request

Redundancy Diode

Installed

Line/Load Regulation

$\pm 1\%$ 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 1% of output voltage peak to peak or 0.2% RMS of the output voltage (20MHz BW)

Overload Protection

Rectangular current limiting with short circuit protection (no hiccup)
Thermal shutdown with automatic reset in case of insufficient airflow

Output Overvoltage Protection

Double regulator loop

Efficiency

Min. 80% at full load depending on input/output configuration

Operating Temperature

0 °C to +50 °C for full specification with proper cooling
Wider temperature ranges as option

Temperature Drift

0.03% per °C, over operating temperature range

Cooling

Forced air by two high quality built-in fans and conduction to customer heat-sink or chassis
Fans draw air into the unit.

Environmental Protection

Basic ruggedizing
Heavy ruggedizing and conformal coating on request

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 – 95%, non-condensing

MTBF

85,000 hours @45 °C in non-redundant mode (fans excluded)
Demonstrated MTBF is significantly higher

Indicators

Two green "Output ON" LEDs on front-panel

Control Input

None

Alarm Outputs

Module fail alarm
Form C contacts

Package/Dimensions (H x W x D)

1U (1.75") x 19" x 15.4"
rack-mount chassis, including terminal blocks, not including front-panel handles. (Please refer to outline drawing on website)

Weight

Approx. 5 kg (11 lb.)

Connections

Input/output: barrier-type terminal block

RoHS Compliance

Fully compliant

Warranty:

Two years subject to application within good engineering practice



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