

480Vac, 3-phase Input, 3.5kW Rugged, Industrial Quality Power Supply HVI 3K5-3U4

- Rugged industrial quality
- 3-Phase input
- Full electronic protection
- Cooling by built in fans
- N+1 redundancy available



This rugged, industrial quality AC-DC power supply series with 3-phase input generates up to 3500W output power, depending on output voltage. It utilizes a field proven modular design concept with a track record in numerous heavy-duty applications. The unit is built with internal power modules, one FIB 380 and three KHI 1200 modules. A built-in redundancy diode separates the internal modules and also allows for a number of units to be connected in parallel to achieve higher output power, N+1 redundancy. The output redundancy diode also makes the unit suitable for battery charging applications. High quality built-in fans provide sufficient airflow for operation to the specified temperature without de-rating. The fans draw air into the unit and the exhaust exits at the rear of the unit. 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. Several units can be connected in parallel for higher output power. The design is also available in versions with higher and lower output power.

SPECIFICATIONS

Input Voltage

480Vac $\pm 15\%$, 3-phase
47-63Hz
DC-input 500-800V also available
Other input voltages 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
5600V type test
8mm spacing
2250Vdc output to chassis

Standards

Designed to meet EN 60950-1
and related standards

EMI

EN55022 Class A with margins

Switching Frequency

55kHz ± 3 kHz

Output Voltage

Several standard output
configurations available
include 24V, 48V, or 125Vdc.
Custom voltage upon request
up to 600Vdc.
Output is floating; either
terminal can be grounded
Other outputs on request

Redundancy Diode

According to requirements

Line/Load 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 0.2% rms or 1% peak-
to-peak of the output voltage
(20MHz BW)

Output Overload Protection

Rectangular current limiting with
short-circuit protection (no hiccup)
Thermal shutdown in case of
insufficient cooling (self-resetting)

Output Over-voltage Protection

Second regulator loop completely
stable and independent of the
main regulator loop

Efficiency

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

Operating Temperature Range

0°C to 50°C for full specification
Wider range available as option

Temperature Drift

0.03% per °C over operating
temperature range

Cooling

By two built-in high quality fans

Environmental Protection

Basic ruggedizing and conformal
coating
Heavy ruggedizing available as
option

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

90,000 hours @ 45°C
(fans excluded)
Demonstrated MTBF is
significantly higher.

Indicators

Diagnostic Output ON LED on each
internal module visible through
the rear perforation.

Control Input

None on standard version
Available as option

Alarm Outputs

Not installed
Available as option

Package/Dimensions (H x W x D)

3U4: 132 x 244 x 407 mm
(5.2" x 9.6" x 16") including
terminal blocks and fans,
excluding flanges
Mounting holes are clear

Weight

8 kg (18 lb)

Connections

Input: Terminal block
Output: Terminal block or
threaded studs

RoHS Compliance

Fully compliant

Warranty

Two years subject to application
within good engineering practice
Contamination related failures not
covered.



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