

Model: BAP 3K-240/220-3U3-T5526
COSD: XXXX
Summary description: 3000W, Industrial Quality DC/DC Converter
 240Vdc to 220Vdc/13A
Customer Name: Thiele KG/Germany (KS)
Customer Part Number: Same as above



Product description:

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 three CAC1000 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 heat sink 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.

Special Features: 192-288Vdc input range. Conformal coating

SPECIFICATIONS

Input Voltage

240Vdc nominal
 192-288Vdc operating range (requested)
 Input Current: 18A max

Input Protection

Inrush current limiting
 Varistor
 Reverse polarity protection
 Internal safety fuses
 Lower input voltages than the specified minimum will not damage the unit

Isolation

1500Vdc input to chassis
 3000Vdc input to output
 2250Vdc output to chassis

Standards

Designed to meet EN 60950-1 and related standards

EMI

EN55022 Class A with margins

Switching Frequency

55kHz ± 3kHz

Output Voltage/Current

220Vdc ± 0.5V/13A continuous
 Output is floating either terminal can be grounded.

Redundancy Diode

Installed internally

Line/Load Regulation

± 1% combined from zero load to full load including redundancy diodes

Dynamic Response

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

Output Ripple / Noise

Better than 200mVrms and 900mVpp (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: 14A ± 0.8A

Output Overvoltage Protection

Second loop completely stable and independent of main regulator loop
 OVP setting: 250V ± 20V

Efficiency

88% at full load

Operating Temperature Range

0°C to +50°C for full specification

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

Humidity

5-95% non-condensing

MTBF

160,000 hours @ 45°C per internal module (Fans excluded)
 Demonstrated MTBF is significantly higher

Indicators

Green OUTPUT ON LED on each internal module, visible through the cooling slots

Control Input

None

Alarm Output

Not installed

Package / Dimensions (W x H x L)

3U3: 187 x 132 x 432mm
 (7.4" x 5.2" x 17")
 Chassis mount

Weight

7kg (15 lbs)

Connections

Input: Terminal block
 Output: Terminal block

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice. Contamination related failures and shipping not included.

Originated by TS/kv	Date August 14, 2019
Updated by TS	Drawing No./ Rev. SCD T5526A
Approved by TS	