

DC/DC Converter

BAP2KR-24-48-3U4-U5784-2A

Technische Daten



Model: BAP 2KR-24/48-3U4-U5784

COSD: XXXX

**Summary Description: 2000W, Railway Quality DC/DC Converter
24Vdc to 48Vdc/40A**

Customer Name: Thiele/Germany

Customer Part No: Same as above



Product Description:

This rugged, railway 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 BAP65F 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. 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 headrooms, 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: Railway, Ruggedizing, Conformal coating

SPECIFICATIONS

Input Voltage

24Vdc nominal
14.4-34Vdc operating range
Input Current: 160A 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
1500Vdc output to chassis

Standards

Designed to meet EN 62368-1 and EN 50155
EN45545

Immunity

Meets criteria of EN 50155 and EN 50121-3-2 including:
EN 61000-4-2 (ESD)
EN 61000-4-3 (RF Immunity)
EN 61000-4-4 (Fast Transients)
EN 50155 (Surge)
EN 61000-4-6 (Conducted Imm.)
EN 50155 (Voltage Variations)

EMI

EN50121-3-2

Switching Frequency

55kHz ± 3kHz

Output Voltage / Current

48Vdc ± 0.3V/40A
Output is floating either terminal can be grounded

Output Separation Diode

Installed internally for separation of the internal modules

Line / Load Regulation

±1.5% 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 Noise

Better than 80mVrms and 400mVpp (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: 42A ± 2A

Output Overvoltage Protection

Second regulator loop. Second loop completely stable and independent of main regulator loop
OVP setting: 54V ± 3V

Efficiency

Min 80% at full load

Operating Temperature Range

-25°C to +55°C for full specification

Temperature Drift

0.03% per °C over operating temperature range

Cooling

By built-in high quality fans

Environmental Protection

Ruggedizing
Conformal coating

Shock / Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

180,000 hours @ 45 °C per internal module (Fans excluded)

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)

3U4: 224 x 132 x 407mm
(9.6" x 5.2" x 16")
Mounting holes are clear

Weight

10kg (22 lbs)

Connections

Input: Threaded studs dual M6
Output: Terminal block Phoenix 125A

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures and shipping cost excluded



USV-Anlagen

Minimieren Sie Ausfallrisiken mit zuverlässigen USV-Systemen.

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Stromversorgungen

Versorgen Sie Ihre Verbaucher mit der exakt passenden Spannung.

#WECHSELTBESSER

Netzersatzanlagen

Ihre sichere Stromversorgung bei Blackout mit Notstromsystemen.

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Energiespeicherung

Schalten und trennen Sie Ihre Lasten stabil und sicher.

#SPEICHERTBESSER

Schaltung & Schutz

Schalten und trennen Sie Ihre Lasten stabil und sicher.

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Prüftechnik

Simulieren, analysieren und prüfen Sie mit verlässlichen Komponenten.

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Service & Support

Darauf können Sie sich immer zu 100% verlassen: THIELE KG

#HANDELTBESSER

Custom Design

Bringen Sie Ihr Projekt weiter voran - mit maßgeschneiderten Lösungen.

#PASSTBESSER



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