

500W, Rugged, Industrial Quality, Fan Cooled DC/DC Converter BAP 236TF-FT Series

- Rugged industrial quality
- Compact size
- Field-proven design
- Cooling by high quality fan
- Full electronic protection
- N+1 redundancy available as option



This rugged, industrial quality DC/DC converter uses field-proven topology to generate up to 500W output power. It is a mature design with a track record in numerous applications. Cooling is by a high-quality fan attached to the top of the unit which provides sufficient airflow for operation to the specified temperature without de-rating. Installation on a heat-sinking surface is not required: the unit can also be installed on thermally non-conductive surfaces, such as plastic, or on curved, uneven surfaces. An optional built-in redundancy diode allows for paralleling and N+1 operation or back-up battery connected. Additional ruggedizing and conformal coating are available for applications that require higher immunity to shock, vibration and humidity. 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. Customized versions are available.

SPECIFICATIONS

Input Voltage

36Vdc (31-41V)
48Vdc (42-60V)
72Vdc (60-82V)
110Vdc (90-130V)
125Vdc (105-145V)
Max. 17A input current capacity
Other inputs on request

Input Protection

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

Isolation

According to input and output voltage minimum of:
1500Vdc input to chassis
2250Vdc input to output,
500VDC output to chassis

Standards

Designed to meet EN60950-1 and corresponding standards

EMI

EN 55022 Class A with margins conducted and radiated
Class B is also available

Switching Frequency

55kHz \pm 3kHz

Output Voltages

24V, 48V or 125Vdc
500W continuous
Outputs current capacity: 20A max
Output is floating; either terminal can be grounded
Other outputs on request

Redundancy diode

Not included
Available as option

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% Vrms (20MHz BW)

Output Overload Protection

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

Output Overvoltage Protection

Double regulator loop. Second loop completely stable and independent of main regulator loop

Efficiency

Typically 85% at full load depending on input/output combination

Operating Temperature Range

0°C to +50°C for full specification
Extended temperature ranges available

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Forced air by a high quality fan on the top of the unit

Environmental Protection

Basic ruggedizing
Heavy ruggedizing and conformal coating as option

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

110,000 hours at 45°C
Fans not included
Demonstrated MTBF is significantly higher

Indicators

Green 'Output ON' LED visible through cooling slots

Control Input

None on standard version
Voltage adjustment potmeter accessible through cooling slots available on request

Alarm Output

None on standard version
Optional output fail, Form C contacts

Package/Dimensions (W x D x H)

Modified F2 with fan on top:
114 x 135 x 261 mm
(4.5" x 5.3" x 10.3") including terminal block and flanges.
Mounting holes are clear

Weight

1.4 kg (3.1 lb)

Connections

9-pole barrier type terminal block, 3/8" spacing

RoHS Compliance

Fully compliant

Warranty

Two years subject to application within good engineering practice

Terminal Block Pin-out

NOT USED			DC OUTPUT		INPUT			
NOT USED	NOT USED	NOT USED	-	+	NOT USED	GND	-	+
1	2	3	4	5	6	7	8	9



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