

500W, Rugged, Industrial Quality DC/DC Converter BAP 500-FT Series



- Rugged industrial quality
- Regulated and adjustable output
- Full electronic protection
- Field-proven design
- N+1 redundancy available

This rugged, industrial quality DC/DC converter uses field-proven design concept with a track record in numerous of applications. Cooling is via baseplate to a heat-sinking surface and by natural convection. A built-in redundancy diode allows for parallel and N+1 operation. The unit has two output terminals: a *Redundant* via the built-in redundancy diode, and a *Direct*, which bypasses the redundancy diode. Additional ruggedizing and conformal coating are available for applications requiring 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 series is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

24Vdc (21-29V)
48Vdc (42-56V)
125Vd (105-145V)
For 12Vdc and other input voltages, consult factory

Input Protection

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

Isolation

According to input voltage minimum of:
1000VDC input to chassis,
1500VDC input to output,
500VDC output to chassis

Standards

Designed to meet EN60950 and corresponding standards

EMI

EN55022 Class A with margins

Switching Frequency

55KHz +/- 3KHz

Output Voltage/Current

12V, 24V, 48V or 125Vdc
Consult factory for other voltages

Redundancy Diode

Installed on *Redundant* output

Line/Load Regulation

± 1% combined from no load to full load on the *Direct* output

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 with automatic reset in case of insufficient cooling

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 cold plate temperature for full specification
Extended temperature ranges available

Temperature Drift

0.03% per °C, over operating temperature range

Cooling

Conduction via base plate and convection

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

150,000 hours at 45°C
Demonstrated MTBF is significantly higher

Indicators

Green output ON LED visible through cooling slots

Control Input

None

Alarm Output

Output Fail Form C contacts

Package/Dimensions (W x H x L)

F4: 130 x 64 x 353 mm
(5.1 x 2.5" x 13.9)
including terminal block and flanges.
Mounting holes are clear

Weight

2.2 kg (4.9 lb)

Connections

12-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

DC OUTPUT				ALARM			DC INPUT	
DIRECT	REDUNDANT	-	-	FAIL OPEN	COM	FAIL CLOSED	-	+
+	+	+	+	-	-	-	-	+
1	2	3	4	5	6	7	8	9
							10	11

Enhancements to these general specifications can be accommodated upon request. Specifications are subject to change.

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility



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