

## 150W, Rugged, Industrial Quality DC-DC Converter BAP 150-F1 Series

- Rugged industrial quality
- Field-proven design
- Regulated and adjustable output
- Conduction/convection cooling (no fans)
- Full electronic protection
- 1+1 redundancy available as option
- Plug-in (Eurocard) version available



This rugged, industrial quality DC-DC converter uses field-proven topology to generate the required output power. It is a simpler version of the field proven BAP 180 series with cycling type overload protection. An optional built-in redundancy diode allows for parallel and 1+1 operation. Cooling is by conduction via baseplate. Additional cooling is achieved by natural convection through the cooling slots. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides 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.

### 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  
Internal safety fuse  
Lower voltage than the specified minimum input 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 EN60950-1 and corresponding standards

#### EMI

EN 55032 Class A with margins

#### Switching Frequency

80kHz  $\pm$ 5kHz

#### Output Voltages

24V, 48V or 125Vdc  
Total output power 150W continuous  
Output is floating; either terminal can be grounded  
Consult factory for other voltages

#### Redundancy diode

None  
Installed on request

#### 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 (hiccup).  
Thermal shutdown in case of insufficient cooling (self -resetting)

#### Output Overvoltage Protection

Double regulator loop completely stable and independent of main 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

Conduction via base plate to customer heat-sink or chassis and natural convection

#### Environmental Protection

Ruggedizing  
Conformal coating

#### 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 alarm Form C contacts installed on request

#### Package/Dimensions (W x H x D)

F1: 114 x 51x 201 mm (4.5" x 2" x 7.9") including terminal block and flanges.  
Mounting holes are clear

#### Weight

0.8 kg (1.8 lb)

#### Connections

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

#### RoHS Compliance

Compliant

#### Warranty

Two years subject to application within good engineering practice

#### Terminal Block Pin-out

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

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change.

OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.



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