

150W, Opto-less, Long Life, Wide Input Range, Industrial Quality, DC/DC Converter DHR 150-F1T

- No optocouplers, low component count
- Rugged industrial quality construction
- Conformal coating
- Excellent EMI performance
- High input/output isolation
- Conduction/convection cooled
- Operation up to 70°C
- Full electronic protection
- Customized versions available



This rugged, industrial quality DC/DC converter is designed for an operating life extending to 30 years. By eliminating optocouplers in the feedback loop and significantly reducing the component count, the MTBF of the unit is greatly improved over conventional designs. All heat generating components are installed on aluminum heat-sink blocks which are cooled via baseplate to a heat-sinking surface and by natural convection. Conformal coating provides additional environmental protection. Large design headrooms and the use of components with established reliability also contribute to the long operating life of the unit. Customized versions are available. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

20-60Vdc
43-101Vdc
60-154Vdc
90-360Vdc
Other inputs available 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

2250VDC input to chassis
5000VDC input to output
12mm spacing
500VDC output to chassis

Standards

Designed to meet EN 60950-1 and corresponding UL and CSA standards

EMI

EN55022 Class B

Switching Frequency

40-150kHz, load and input voltage dependent

Hold Up Time

Minimum 20ms at 150Vdc and higher

Output Voltages

12V, 24V, 48V or 125Vdc
150W continuous
The output is floating, either terminal can be grounded
Other outputs on request.

Redundancy Diode

Not installed
Available as option

Line/Load Regulation

Better than 1% from no load to full load.
Max 1.5% combined from no load to full load

Dynamic Response

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

Output Ripple/Noise

Less than 80mV RMS or 400mV peak to peak (20MHz BW)

Output Overload Protection

Rectangular current limiting with short-circuit protection

Output Overvoltage Protection

Transzorb clamp on the output

Efficiency

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

Operating Temperature Range

0°C to 70°C for full specification
Extended temperature ranges available on request

Temperature Drift

0.03% per °C over operating temperature range

Cooling

Conduction 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

170,000 hours @ 45 °C
Demonstrated MTBF is significantly higher

Indicators

Green "Output ON" LED visible through the cooling slots

Control Input

None

Alarm Output

Not installed on standard version

Package/Dimensions (W x H x L)

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

Weight

0.8 kg (1.8 lbs)

Connections

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

RoHS Compliance

Fully 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	⏏	-	+
1	2	3	4	5	6	7	8	9

The specifications on this data sheet are generic and are subject to change. Enhancements to these specifications can be provided upon request.

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



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