# 200W, Rugged, Industrial Quality, Convection Cooled DC-DC Converter LTH-65-F3TH Series

- Rugged industrial quality
- Field-proven design
- Regulated and adjustable output
- Pure convection cooling by heat-sink fins
- Full electronic protection
- N+1 redundancy available as option



This rugged, industrial quality DC-DC converter uses field proven topology to generate up to 200W output power. Cooling is via heatsink fins on the top of the unit for installations where surface mounting is not possible. 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. Ruggedizing and conformal coating ensure 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. It is manufactured at our plant under strict quality control. A railway quality version of this design, the LTH-65R-F3TH, is also available.

**SPECIFICATIONS** 

# Input Voltage

12dc (10.5-16V) Other inputs upon request

### Input Protection

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

#### Isolation

According to input and output voltage minimum of: 500Vdc input to chassis 10000Vdc input to output, 500VDC output to chassis

#### Standards

Designed to meet EN60950-1 and corresponding standards

EMI

EN55022 Class A with margins

# Switching Frequency

Output Voltage Any voltage in the 12V to 125V range 12V, 24V, 48V or corresponding float voltages are standard Output is floating; either terminal can be grounded Other outputs on request

Redundancy diode Not included Available as option

Line/Load Regulation ± 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% RMS of the output voltage (20MHZ BW)

# **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 80% at full load depending on input/output combination

**Operating Temperature** 0 °C to 50°C for full specification Extended temperature ranges with derating

**Temperature Drift** 0.03% per °C over operating temperature range

**Cooling** Convection by heat-sink fins on top of unit

Environmental Protection Ruggedizing Conformal coating

Shock/Vibration IEC 61373 Cat 1 A&B

Humidity 5 – 95% non-condensing

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

#### Indicators Green 'Output ON' LED visible through cooling slots

**Control Input** None Available as option

Alarm Output None on standard version Optional output fail, Form C contacts

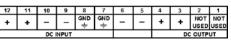
Package/Dimensions (W x D x L) F3TH: 132 x 91 x 300mm (5.2" x 3.6" x 11.8") Mounting holes are clear

Weight 2.8 kg (6.2lbs)

**Connections** Barrier type terminal block with 9.5mm spacing, 12 poles

RoHS Compliance Compliant

Warranty Two years subject to application within good engineering practice





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