

## 300 - 750W, Rugged Industrial Quality DC/DC Converter with High Output Current BAL 65F-Series



- Rugged industrial quality
- Field-proven design
- Cooling by built in fans
- Low noise output
- Full electronic protection

The BAL 65F Series rugged, industrial quality DC/DC converter is specifically designed for lower output voltages with high output current, up to 60A. It uses a field proven technology to generate up to 750W, depending on input/output combination. The basic design topology has a track record in numerous custom applications. Cooling is by built-in fans, with additional conduction via baseplate. Other options include a Form C output fail alarm and remote shutdown. Additional ruggedizing and conformal coating are available for applications that require immunity to high levels of shock, vibration and humidity. Full electronic protection, low component count, large design headrooms, 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)  
Consult factory for other voltages

#### Input Protection

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

#### Input 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 related standards

#### EMI

EN 55022 Class A as a minimum

#### Switching Frequency

55kHz +/- 3kHz

#### Output Voltage

5V/60A, 12V/60A, 15V/50A  
(300 – 750W depending on input/output combination)  
Output is floating; either terminal can be grounded  
Other outputs on request

#### Redundancy diode

None  
Available as option

#### Line/Load Regulation

+/-1% combined

#### Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

#### Output Ripple/Noise

Better than 0.2% rms or 1% peak-to-peak 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

#### Efficiency

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

#### Operating Temperature

0 °C to 50 °C full specification with proper airflow.  
Extended temperature ranges available as an option.

#### Temperature Drift

0.03% per °C over operating temperature range

#### Cooling

Forced air by two high quality built-in fans and conduction to customer heatsink or chassis

#### Environmental Protection

Basic ruggedizing  
Optional heavy ruggedizing and conformal coating is available

#### Shock/Vibration

IEC 61373 Cat 1 A&B

#### Humidity

5 - 95% non-condensing

#### MTBF

130,000 hours @ 45 °C (fans excluded)  
Demonstrated MTBF is significantly higher.

#### Indicators

None

#### Control Input

None  
Available as option

#### Alarm Outputs

None  
Available as option

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

FF3: 155 x 64 x 300 mm  
(6.1" x 2.5" x 11.8") including terminal block and flanges

#### Weight

2.3kg (5 lbs.)

#### Connections

12 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				
+	+	+	-	-	-	N/A	GND	-	-	+	+
1	2	3	4	5	6	7	8	9	10	11	12



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