

# EMERAL TECH

**EF70S110M14P Potted 70Vin 110Vout 1500W Super Brick**

## Description

The EF70S110M14P super brick DC/DC converters is a high density, high reliability power converter. They are targeted specifically at the aerospace, aircraft, portable weaponry industry and distributed power markets. With an input voltage range of 56-90V and output voltage of 110 Volts. The module feature an input filter, input undervoltage lockout, output overvoltage and overtemperature protection, output current limiting and short circuit protection. The fully enclosed, encapsulated construction with aluminum heat spreader design achieves efficient heat transfer with no hot spots. The use of Patent-pending Hybrid Planar Transformer technology and other patent-pending design concepts facilitate maximum power delivery with the highest efficiency of up to 97%. The unique enclosed construction with aluminum heat spreader design achieves efficient heat transfer with no hot spots.



## Features

- Delivers up to 13.6A, 110V, 1500W in Super Brick
- High efficiency patent pending topology
- Low profile of only 0.55 inch high
- 13.6A/110V output module
- Sync function
- -55°C to +125 °C ambient operation
- Inhibit function – Input and Output
- Output trim on single output models
- Indefinite short circuit protection
- Remote sense on single output models
- Parallelable up to 8000 Watts
- N+1 Redundance
- Meets Basic Insulation requirements of EN60950
- UL 1950 recognized, TUV EN60950, and CSA C22.2 No. 950 Certified and CE marked
- Meets conducted limits of FCC Class B and CEI IEC61204-3 Class B with external filter

## Applications

- Aerospace, Aircraft
- Complex power system
- Portable weaponry
- Distributed Power Architecture

## Specification Summary

- Input: 70V, Output: 13.6A/110V, 1500W.
- Tight output regulation, typical  $\pm 0.5\%$
- No minimum load required
- Ripple & Noise ( 20Mhz BW) 200 mv (pk-pk) typical
- Wide input operating range 55-90V
- On/Off pin and remote sense
- Output adjustment +/-10% range
- Remote sense compensation
- 1500V, 10M $\Omega$  input-to-output isolation
- Parallelable up to 8000 Watts with N+1 Redundance
- Output overvoltage protection
- Over Temperature protection
- Input Under voltage protection
- MTBF of 1,500,000 hours @ 50°C ( Bellcore )

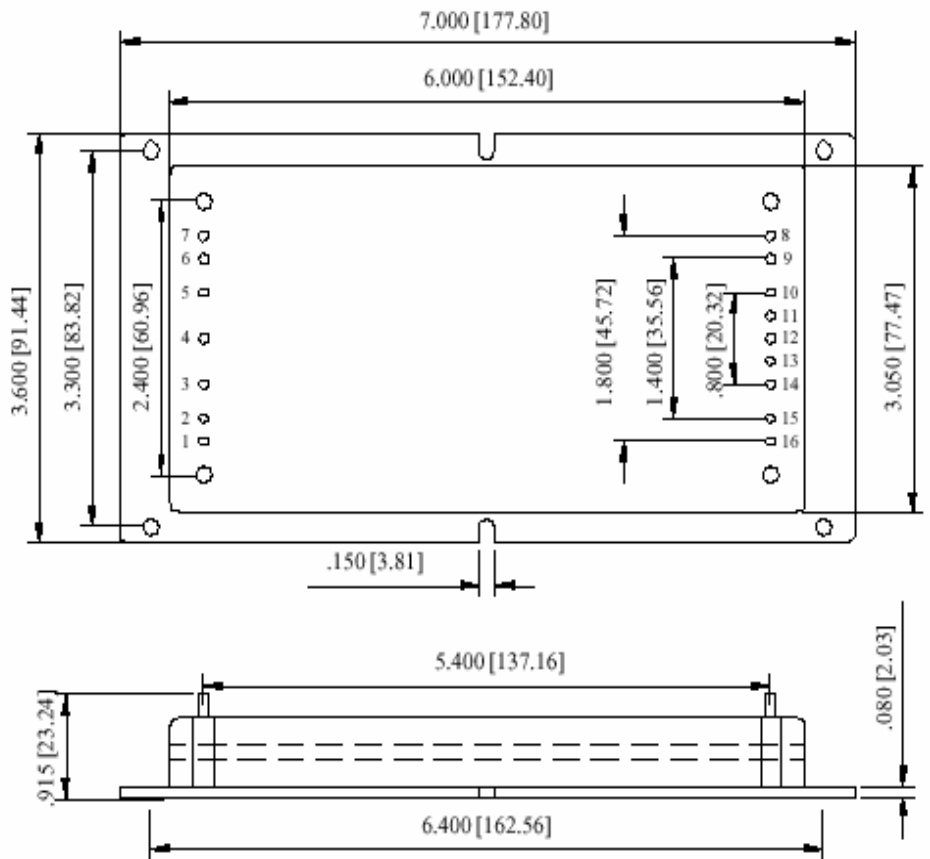
**Part Number and Selection Information**

Model Part Number	Input			Output		Efficiency 75% Load (%)
	Voltage (Volts) Nominal	Current (A) No load      Full load		Voltage (Volts)	Current (Amps)	
<b>EF70S110M14P</b>	70	0.2	23	110	13.6	96

Consult factory for other output voltage configurations

**Outline Information and Pin-out**

Pin Connection		Pin Size	
Pin #	Function	Inch	mm
1	Vin +	0.08"	2.03
2	Vin +	0.08"	2.03
3			
4	On/Off	0.08"	2.03
5			
6	Vin -	0.08"	2.03
7	Vin -	0.08"	2.03
8	Vo -	0.08"	2.03
9	Vo -	0.08"	2.03
10	S -	0.18"	2.03
11	LSHR	0.08"	2.03
12	TRIM	0.08"	2.03
13	ILIM	0.08"	2.03
14	S +	0.08"	2.03
15	Vo +	0.08"	2.03
16	Vo +	0.08"	2.03



**Notes:**

- All dimensions are in inches [mm]  
0.08" [2.032mm], 0.18" [4.572mm]
- Pin material: Brass
- Pin finish: Tin/Lead plated
- Baseplate material: Aluminum.
- Outline dimension:  
6"(152.4)x3"(76.2)x0.55"(14.0)
- Max. Weight: 490g

**Thermal Derating**

Vin = 28V
Full load (30A) from -55 °C to 125 °C base plate temperature, Linearly derate to zero from 125 °C to 135 °C.

The information and specifications contained in this specification are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice.