



### TECHNICAL SUPPORT

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## Elpac Power Systems™

HIGHER EFFICIENCY, HIGHER POWER DENSITY, UNCOMPROMISED RELIABILITY



- High Efficiency: Level V
- Wide Range AC Input
- Power Factor Correction
- +5V Standby & Fan Power
- Fully regulated DC output
- EISA and CEC Compliant
- Floating Output
- ITE and Medical Grade Approval

**5-YEAR LIMITED WARRANTY\***

Input	
Input Voltage	85 – 264VAC 100 – 240VAC Nominal
Input Frequency	47 – 63Hz
Input Current	<5A rms
Inrush Current	<37A at 230VAC cold start
Power Factor	>0.98
Zero Load Power Consumption	0.75W
Touch Current/ Leakage Current (typical)	<200µA @ 132VAC @ 60Hz
	<300µA @ 264VAC @ 60Hz

Output	
Output Voltage	See Table
Total Regulation	+/-5%
Minimum Load	No minimum load required
Start-Up Delay	<1s
Hold-Up Time	>24ms at any input voltage
Ripple & Noise	<1% pk-pk **
Over Voltage Protection	110 – 135%
Over Temperature Protection	Active - Recoverable; plus Passive - Non Recoverable
Over Current Protection	120 – 180%
Short Circuit Protection	Shutdown, auto-restart (hiccup mode)

Notes

\*visit [www.iccus.com](http://www.iccus.com) for complete details

\*\*Ripple and noise measured with 20MHz bandwidth; 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor.





Model Number	Output Voltage	Output Current <sup>1</sup>	Forced Air Current <sup>2</sup>	+5V Standby Output Current <sup>3</sup>	Adjustable Fan Output Current <sup>4</sup>	Typical Efficiency <sup>5</sup>
MSMP25012F	12.0V	20.0A	28.0A	1.0A	0.35A	88%
MSMP25015F	15.0V	16.5A	23.0A	1.0A	0.35A	88%
MSMP25024F	24.0V	10.5A	14.5A	1.0A	0.35A	88%
MSMP25028F	28.0V	9.0A	12.5A	1.0A	0.35A	89%
MSMP25048F	48.0V	5.3A	7.4A	1.0A	0.35A	88%

- Notes
- 1) With convection cooling. Peak load (350W) lasting up to 500ms with a maximum 10% duty cycle.
  - 2) Sustained output current with minimum 100 LFM.
  - 3) Output present when ever AC input is applied
  - 4) Output self adjusting dependant on ambient temperature. Range of 5 to 13V over 25°C to 50°C ambient.
  - 5) Typical at 115VAC.

General	
Efficiency	Avg Efficiency 88.5% @ 115VAC; 90.6% @ 230VAC
MTBF	min. 200,000 hours demonstrated
Size	8.00" (203.2mm) x 5.00" (127mm) x 1.50" (38.1mm)
Weight	2.1 lbs (0.95Kg)
Total Regulation	±5% (incl. line & load regulation, and thermal drift)

Environmental	
Operating Temperature	0 – 70°C (Full load to 50°C, derate linearly to 50% load at 70°C)
Storage Temperature	-40°C to +85°
Relative Humidity	5-95%, non-condensing
Cooling	Natural Convection (250W) or Forced Air (350W)
Vibration	All units production tested to 19.6m/s <sup>2</sup>

EMC & Safety	
Emissions	FCC class B, CISPR11 class B EN61000-3-2, -3
Immunity	EN61000-4-2, -3, -4, -5, -6, -8, -11
Certified by TUV to the following:	cTUVus
	UL 60601-1
	CAN/CSA-22.2 No.601.1-M
	CB per IEC60601-1
	CE marked to LVD



**Input Configuration (H1)**

Connection on Power Supply Body	JITE p/n BTB555-10-03 Barrier Strip, M3 screws
Pin 1	AC Line
Pin 2	AC Neutral
Pin 3	Gnd

**Output Configuration (H4)**

Connector (PSU side)	JITE p/n BTB555-10-04 Barrier Strip, M3 screws
Pin 1	+V1
Pin 2	+V1
Pin 3	Return
Pin 4	Return

**Signal Configuration (H2)**

Connector:	AMP P/N 640456-8 or equivalent	
Mating connector:	AMP p/n 640440-8 or equivalent	
Pin 1	DC-Good	TTL high when DC is within regulation
Pin 2	AC-Fail	TTL high when AC is present; min. 8ms warning before loss of DC output
Pin 3	Remote On/Off	Connect to Pin 7 (Rtn) to enable power supply
Pin 4	+ Sense	Must be connected to output, either at H4 connector, or at point of load. Will compensate for up to 500mV cable drop.
Pin 5	- Sense	
Pin 6	<no connection>	
Pin 7	Return	Return for Remote on/off and +5V Standby
Pin 8	+5V Standby	Return to Pin 7 for +5V @ 1.0A Standby output

**Fan Configuration (H3)**

Connector:	AMP P/N 640456-2 or equivalent	
Mating connector:	AMP p/n 640440-2 or equivalent	
Pin 1	+V	Fan output will adjust from +5V to +12V depending on ambient temperature.
Pin 2	-V	

**Ordering Options Available**

Cooling	Cable Harness
Grounded Output	Load Share
Chassis Mount	

**Mechanical Drawing**

