



## MSM40A/B/D Series

### 40 Watt Triple Output Medical Open Frame Power Supply

- High Efficiency
- Wide Range AC Input
- Fully Regulated DC Output
- Lifetime Expectation >5 years
- Hold-up Time >20ms at full load
- Outputs Floating
- Safety Approval - EN60601-1 Class I

Elpac Part Number	Total Regulation	Typical Efficiency
MSM40A	±5%	73%
MSM40B	±5%	74%
MSM40D	±5%	74%

Input	
Input Voltage	85 - 264VAC 100 - 240VAC Nominal
Input Frequency	50 - 60Hz
Input Current	<1.3A rms
Inrush Current	<37A at 230VAC cold start
Zero Load Power Consumption	<7.0W
Earth Leakage Current	<25µA @ 132VAC @ 60Hz <40µA @ 264VAC @ 60Hz

Output	
Output Voltage	See Table
Total Regulation	+/-5% (each output)
Minimum Load	For V2 regulation, V1 current must be min 25% of V2, and <5x V2 current. For V3 regulation, min. load of 0.4A on V
Start-Up Delay	<750ms
Hold-Up Time	>20ms at full load, 115VAC
Ripple & Noise	<1% pk-pk **
Over Voltage Protection	112-136%
Over Temperature Protection	Active - Recoverable
Over Current Protection	120 - 180%
Short Circuit Protection	Pulsing Mode Auto Recovery


General	
Efficiency	Avg Efficiency 73.6% @ 115VAC; 74% @ 230VAC
MTBF	min. 200,000 hours demonstrated
Size	5.0

Weight	0.55 lbs (.25 kg)
Power Density	2.0W/in <sup>3</sup>

#### Environmental

Operating Temperature	0 – 50°C (Full load to 50°C, derate linearly to 50% load at 70°C)
Storage Temperature	-40°C to +85°C
Relative Humidity	5-95%, non-condensing
Cooling	Natural Convection
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 UL to the following: 	cRUus UL 60601-1 CAN/CSA-22.2 No.601.1-M90 CB per IEC60601-1 CE marked to LVD