



MSA150 Series

150 W Medical Open Frame Power Supply

- High Efficiency: Level V
- Up to 180W with Forced Air
- High Power Density 9.8W/in³
- Lifetime Expectation >5 years
- Hold-up Time >25ms at full load
- EISA & CEC Compliant
- Floating Output
- Medical Approval - EN60601-1 Class I

Elpac Part Number	Output Voltage	Output Current	Peak Current	Total Regulation	Typical Efficiency
MSA150012A	12.0V	12.5A	15.0A	±5%	91%
MSA150015A	15.0V	10.0A	12.0A	±5%	91%
MSA150018A	18.0V	8.3A	10.0A	±5%	91%
MSA150024A	24.0V	6.3A	7.5A	±5%	92%
MSA150028A	28.0V	5.4A	6.4A	±5%	92%
MSA150048A	48.0V	3.2A	3.75A	±5%	94%


Input	
Input Voltage	85 - 264VAC 100 - 240VAC Nominal
Input Frequency	47 - 63Hz
Input Current	<2A rms
Inrush Current	<37A at 230VAC cold start
Power Factor	>0.97
Zero Load Power Consumption	<0.5W
Earth Leakage Current	<150µA @ 132VAC @ 60Hz <300µA @ 264VAC @ 60Hz

Patient Leakage Current	<50 μ A @ 132VAC @ 60Hz <75 μ A @ 264VAC @ 60Hz
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Output	
Output Voltage	See Table
Total Regulation	+/-5%
Minimum Load	No minimum load required
Start-Up Delay	<1.5s
Hold-Up Time	>25ms 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)

General	
Efficiency	Avg Efficiency 91.7% @ 115VAC; 93.4% @ 230VAC
MTBF	min. 200,000 hours demonstrated
Size	5.00
Weight	0.75 lbs (.34 kg)
Power Density	9.8W/in ³

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°C
Relative Humidity	5-95%, non-condensing
Cooling	Natural Convection (150W) or Forced Air (180W)
Vibration	All units production tested to 19.6m/s ²

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-M90 CB per IEC60601-1 CE marked to LVD

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