

#### **Features**

- 4 x 2 x 1 Inches Form factor
- 225 Watts with Forced Air Cooling
- 7 Year Extended Warranty Option
- Efficiencies upto 94%
- -40 to 70 degree operating temperature\*
- Dual fusing
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- 3.37m Hours, Telcordia -SR332-issue 3 MTBF
- No Load Power < 0.5W
- Medical (BF) Safety Approvals
- Meets standard IEC60601-1-2: 2014 (4th Edition)

Electrical Specifications						
Input Voltage	85-264 VAC/390 VDC, Universal (Derate from 100% at 100V AC to 95% at 85V AC)					
Input Frequency	47–63 Hz					
Input Current	115 VAC: 2.2 A max. 230 VAC: 1.1 A max.					
No Load Power	less than 0.5W typical					
Inrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A					
Leakage Current	300 uA Typical, (N.A. For Class II Option) Touch current <100uA					
Efficiency	94%(48V), 93%(24V,30V), 92%(12V,15V)					
Hold-up Time	at 225W:10 ms ; 110W: 16 ms					
Power Factor	exceeds 0.95 with Full Load					
Output Power	225W with 13 CFM, upto 120W Convection					
Line Regulation	+/-0.5%					
Load Regulation	+/-0.5%					
Transient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4%,					
	recovery time < 5 ms					
Rise Time	55ms typical					
Set Point Tolerance	+/-1%					
Output Voltage Adjustment	+/-3% (Ref. Note 9)					
Over Current Protection	>110%					
Over Voltage Protection	110 to 140%					
Short Circuit Protection	Hiccup mode					
Switching Frequency	PFC - 70 to 130 KHz ,PWM - 50-80 KHz					
Operating Temperature <sup>7</sup>	- 40 to +70°C, * -40 to 0°C startup is guaranteed with spec deviation					
Storage Temperature	-40 to +85°C					
Relative Humidity	5% to 95%, noncondensing					
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.					
MTBF	3.37m Hours, Telcordia -SR332-issue 3					
Isolation Voltage	Input to Output – 4000 VAC medical applications.					
	Input to GND - 1500 VAC (Not Applicable For Class II Option)					
	Output to GND- 1500VAC for type BF , 500 VAC for type B (Not Applicable For Class II Option)					
Cooling	225W with 13 CFM forced air cooling <sup>6</sup> (refer Mechanical Drawing)					
	upto 120W with natural convection cooling <sup>6</sup> (refer Derating Curve)					

Model Number	Description	Voltage	Max. Load (Convection) (112.5W) 50°C	Max.Load (Convection) (120W) 40°C	Max. Load (13 CFM) (225W)	Min. Load	Ripple <sup>1</sup>
LFMWLP225-1001	with Screw Terminal	12 V	9.37A	10.0A	18.75A	0.0 A	1%
LFMWLP225-1301	with Molex Connector	12 V	9.37A	10.0A	18.75A	0.0 A	1%
LFMWLP225-1002	with Screw Terminal	15 V	7.5A	8.0A	15A	0.0 A	1%
LFMWLP225-1302	with Molex Connector	15 V	7.5A	8.0A	15A	0.0 A	1%
LFMWLP225-1003	with Screw Terminal	24 V	4.68A	5.0A	9.37A	0.0 A	1%
LFMWLP225-1303	with Molex Connector	24 V	4.68A	5.0A	9.37A	0.0 A	1%
LFMWLP225-1004	with Screw Terminal	48 V	2.34A	2.5A	4.68A	0.0 A	1%
LFMWLP225-1304	with Molex Connector	48 V	2.34A	2.5A	4.68A	0.0 A	1%
LFMWLP225-1005	with Screw Terminal	30 V	3.75A	4.0A	7.5A	0.0 A	1%
LFMWLP225-1305	with Molex Connector	30 V	3.75A	4.0A	7.5A	0.0 A	1%
LFMWLP225-1006	with Screw Terminal	58 V	1.94A	2.07A	3.88A	0.0 A	1%
LFMWLP225-1306	with Molex Connector	58 V	1.94A	2.07A	3.88A	0.0 A	1%
LFWLP225-CK metal co	ver kit accessory						

To order the extended warranty product please add the suffix –EX to your required part number

For Example - MWLP225-1001-EX (See Note 8)

	Connecto	ors	
J1	Pin 1	AC LINE	
	Pin 2	NOT FITTED	
	Pin 3	AC NEUTRAL	
J2 Option 1 & 2	Pin 1,2,3	V1 +VE	
	Pin 4,5,6	V1 -VE	
J3	Pin 1	FAN +VE	
	Pin 2	FAN -VE	

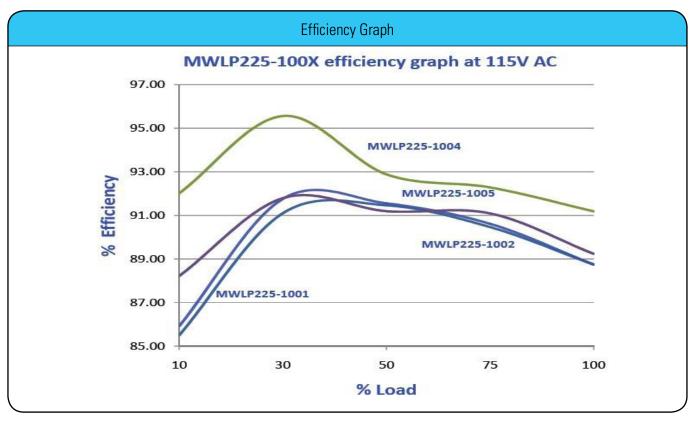
#### Notes

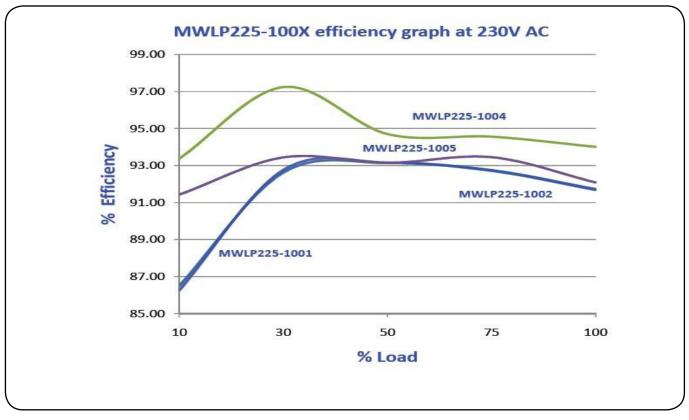
- 1. Ripple is peak to peak with 20 MHz bandwidth and 10  $\mu$ F (Electrolytic capacitor) in parallel with a 0.1  $\mu$ F capacitor at rated line voltage and load ranges.
- 2. Class II version available, Add "-II" suffix at the end of the Model Number.
- 3. Combined output power of main output, fan supply shall not exceed max. Power rating.
- 4. Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-15 % and Ripple and noise is less than 10 %. With V1 fully loaded, Vfan need to have min load of 20mA to be within regulation band.
- 5. Specifications are for nominal input voltage, 25°C unless otherwise stated.
- 6. 225W with 13CFM forced air cooling and 120W with natural convection cooling at 100 to 264VAC.
- 7. Output ripple can be more than 10% of the output voltage.
- 8. The extended warranty period is 7 years from the date of manufacture and will continue for 6 months thereafter to allow for transport and stock holding prior to end customer receipt. The extended warranty is a "return to base" warranty and does not imply a guarantee of 7 year operation. The standard EOS warranty T&C's apply for the extended warranty period. Refer to your local EOS representative for further details.
- 9. Adjustment potentiometer is located on the SMT side of the PCB.
- 10. When used in Cover Kit, de-rate output power to 70 % under all operating conditions



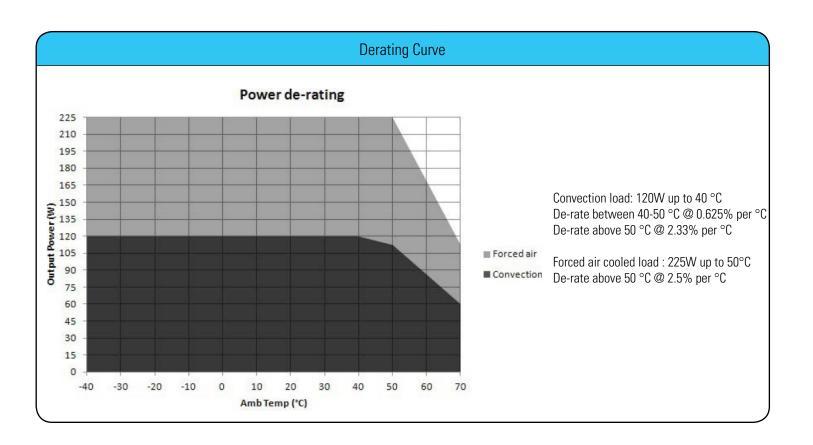
	Mechanical Specification	s				
AC Input Connector (J1)	Molex: 26-60-4030					
	Mating: 09-50-3031; Pins: 08-50-0106					
DC Output Connector (J2) Option 1 (Screw Terminal)	Molex: 39357 Series or equivalent					
DC Output Connector (J2)	Molex: 26-60-4060					
(Molex Connector)	Mating: 09-50-3061; Pins: 08-50-0106					
Aux (Fan) Output(J3)	AMP :640456-2					
	Mating: 640440-2					
Dimensions	4 x 2 x 1 inches					
	(101.60 x 50.8x 25.4 mm)					
Weight	200 gm approx					
	EMC					
Parameter	Conditions/Description	Criteria				
Conducted Emissions	EN 55011-B,CISPR22-B, FCC PART15-B	Pass				
Radiated Emissions	EN 55011 A	Pass				
		Level B with external core (King core K5B RC				
		25x12x15-M in input cable)				
Input Current Harmonics	EN 61000-3-2	Class D				
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass				
ESD Immunity	EN 61000-4-2	Level 4, Criterion A				
Radiated Field Immunity	EN 61000-4-3	Level 3, Criterion A				
Electrical Fast Transient Immunity	EN 61000-4-4	Level 3, Criterion A				
Surge Immunity	EN 61000-4-5	Level 3, Criterion A				
Conducted Immunity	EN 61000-4-6	Level 3, Criterion A				
Magnetic Field Immunity	EN 61000-4-8	Level 4, Criterion A				
Voltage dips, interruptions	EN 61000-4-11	Criterion B				
	Safety					
CE Mark	Complies with LVD Directive					
Approval Agency	Nemko, UL, C-UL					
Safety Standard(s)	EN60601-1, IEC 60601-1 (ed.3), ANSI / AAMI ES 60601 - 1, CSA C22.2 No. 60601-1					
Safety File Number(s)						
	CB Certif. No.:N083948					
	Class-II: UL: Certificate Number 20141230-E173812, NEMKO: Certificate No. P14219181,					
	CB Certif. No. NO84076					

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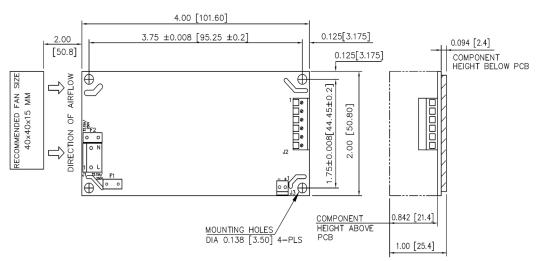




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### **Mechanical Drawing**

# Option 1



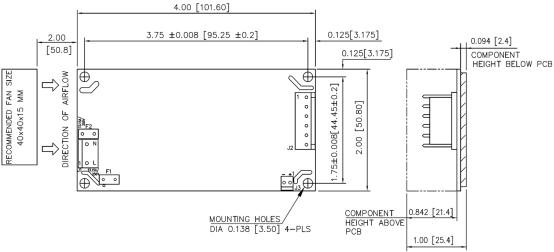
MECHANICAL OUTLINE DIMENSIONS ALL DIMENSIONS ARE IN INCHES[MM] GEN TOLERANCE :+/-0.04 [+/-1.0MM]

Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.

## **Mechanical Drawing**

## Option 2



MECHANICAL OUTLINE DIMENSIONS ALL DIMENSIONS ARE IN INCHES[MM] GEN TOLERANCE: +/-0.04[+/-1.0MM]

Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

- 1. Stand off, used to mount PCB has OD of 5.4 mm max.
- 2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
- 3. Washer, if used, to have dia of 6.5 mm max.