MWLP350 Medical



Features

- 5 x 3 x 1 Inches Form factor
- 350 Watts with Forced Air Cooling & 200 Watts Convection Cooling
- Efficiencies upto 94%
- -40 to 70 degree operating temperature*
- 12V / 0.5A Fan Output, Thermal Shut-Down feature
- 2.56m Hours, Telcordia -SR332-issue 3 MTBF
- No Load Power < 0.5W
- 7 Year Extended Warranty Option
- Medical (BF) Safety Approvals
- Meets standard IEC60601-1-2 : 2014 (4th Edition)

Electrical Specifications				
nput Voltage	90-264 VAC/390 VDC, Universal (Derate from 100% at 100V AC to 90% at 90V AC)			
Input Frequency	47–63 Hz			
Input Current	115 VAC: 3.6 A max. 230 VAC: 1.8 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 Touch current <100uA			
Efficiency	94%(48V,58V), 93%(24V,30V), 92%(12V,15V)			
Hold-up Time	Full Load > 8 ms typical Convection Load > 14 ms typical			
Power Factor	exceeds 0.95 with Full Load			
Output Power	upto 350W with 375 LFM, upto 200W Convection			
Output Voltage Adjustability	+/-3%			
Line Regulation	+/-0.5%			
Load Regulation	+/-1%			
Transient Response	50-100% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=5% ,			
	recovery time < 5 ms			
Rise Time	55 ms typical			
Set Point Tolerance	+/-1%			
Over Current Protection	>110%, Hiccup mode / Auto Recovery			
Over Voltage Protection	110 to 140%, Hiccup mode / Auto Recovery			
Short Circuit Protection	Hiccup mode / Auto Recovery			
Switching Frequency	PFC – 70 to 130 KHz ,PWM – 50-80 KHz			
Operating Temperature	-40 to +70°C, $*$ -40 to 0°C startup is guaranteed with spec deviation (ref note 6)			
Storage Temperature	-40 to +85°C			
Relative Humidity	5% to 95%, noncondensing			
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.			
MTBF	2.56m Hours, Telcordia -SR332-issue 3			
Isolation Voltage	Input to Output – 4000 VAC medical applications.			
	Input to GND - 1500 VAC , Output to GND- 1500VAC for type BF , 500 VAC $$ for type B $$			
Cooling	350W with 375 LFM forced air cooling at 100 to 264VAC			
	200W with natural convection cooling at 100 to 264VAC.			

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Model Number	Description	Voltage	Max. Load (Convection)	Max. Load (375 LFM)	Min. Load	Ripple ¹
LFMWLP350-1001	with Screw Terminal	12V	15A	25A	0.0A	1%
LFMWLP350-1301	with Molex Connector	12V	15A	18.75A	0.0A	1%
LFMWLP350-1002	with Screw Terminal	15V	12A	21.67A	0.0A	1%
LFMWLP350-1302	with Molex Connector	15V	12A	18A	0.0A	1%
LFMWLP350-1003	with Screw Terminal	24V	8.33A	14.60A	0.0A	1%
LFMWLP350-1303	with Molex Connector	24V	8.33A	14.60A	0.0A	1%
LFMWLP350-1004	with Screw Terminal	48V	4.17A	7.30A	0.0A	1%
LFMWLP350-1304	with Molex Connector	48V	4.17A	7.30A	0.0A	1%
LFMWLP350-1005	with Screw Terminal	30V	6.67A	11.67A	0.0A	1%
LFMWLP350-1305	with Molex Connector	30V	6.67A	11.67A	0.0A	1%
LFMWLP350-1006	with Screw Terminal	58V	3.45A	6.04A	0.0A	1%
LFMWLP350-1306	with Molex Connector	58V	3.45A	6.04A	0.0A	1%
LFWLP350-CK metal cover kit accessory						

To order the extended warranty product please add the suffix –EX to your required part number For Example - MWLP350-1001-EX (See Note 7)

	Connectors	3
J1	Pin 1	AC LINE
	Pin 2	NOT FITTED
	Pin 3	AC NEUTRAL
J2 Option 1	Pin 1	V1 +VE
(Screw Terminal)	Pin 2	V1 -VE
J2 Option 2	Pin 1,2,3,4	V1 +VE
(Molex Connector)	Pin 5,6,7,8	V1 -VE
J3	Pin 1	FAN +VE
	Pin 2	FAN -VE

Notes

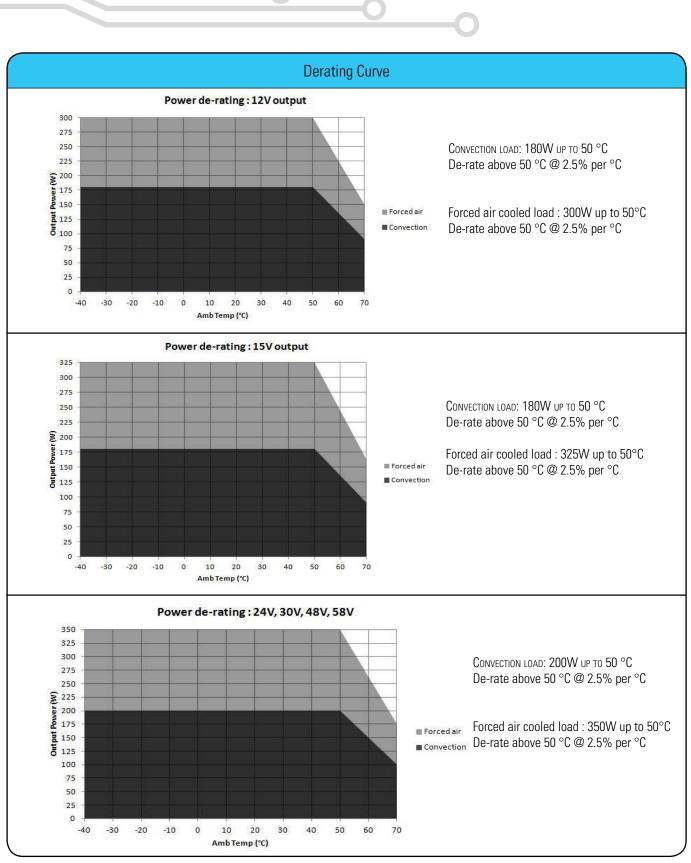
- 1. Ripple is peak to peak with 20 MHz bandwidth and 10 μF (Electrolytic capacitor) in parallel with a 0.1 μF capacitor at rated line voltage and load ranges.
- 2. Combined output power of main output, fan supply shall not exceed max. Power rating.
- 3. Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-10% and Ripple and noise is less than 10%.
- 4. Specifications are for nominal input voltage, 25°C unless otherwise stated.
- 5. Thermal shutdown feature : The power supply goes in hiccup mode when the temperature of PCB exceeds 110 °C (+/-10 °C).
- 6. Output ripple can be more than 10% of the output voltage.
- 7. 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.
- 8. When used in Cover Kit, de-rate output power to 70 % under all operating condition
- 9. Class II version available, Add "-II" suffix at the end of the Model Number.



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	Mechanical Specificatio	ns		
AC Input Connector (J1)	Molex: 26-60-4030			
	Mating: 09–50–3031; Pins: 08–50–0106			
Earth (J4)	Molex: 19705-4301			
	Mating: 19003-0001			
DC Output Connector (J2) Option 1	1 6-32 inches Screw Pan HD			
(Screw Terminal)	Mating: Designed to accept Ring Tongue Terminal AMP : 8-31886-1,			
	wherein one 16 AWG(max) wire can be crimped.			
	Note : One Ring Tongue Terminal with 16 AWG is recommended for current upto 11A only			
Use multiple tongue terminals with wire for more current.				
DC Output Connector (J2) Option 2	Molex: 26-60-4080			
(Molex Connector)	Mating: 09-50-3081; Pins: 08-50-0106			
Aux (Fan) Output(J3)	AMP :640456-2			
	Mating: 640440-2			
Dimensions	5 x 3 x 1 inches			
	(127 x 76.2x 25.4 mm)			
Weight	300 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 4, 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) Class-I : UL: Certificate Number 20150302-E173812,Nemko: Certificate No.P15219413				
	CB Certif. No.: NO85143			
	Class-II: Nemko: Certificate No.P1521	9458, CB Certif. No.: N085357		



Derating Curve Note : Between -40 to 0°C startup is guaranteed with spec deviation (ref note 6)



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