

PRODUCT SPECIFICATIONS - (M)WLP225

(M)WLP225 SERIES:

The Blue Series offers the size conscious customer industry leading watts per cubic inch in height profiles ranging from 25 mm to 30 mm in industry standard footprints. The Blue Series allows customers shrink their applications without compromising on power, quality or functionality.

FEATURES:

For WLP series- 4 x 2 x 1 Inches Form factor, 225 Watts with Forced Air Cooling, Efficiencies up to 94 %, -40 to 70 degree operating temperature, 12V/0.5A Fan Output, Thermal Shut-Down feature, > 3.37m Hours, Telcordia -SR332-issue 3 MTBF, No Load Power < 0.5W.

For MWLP series- 4 x 2 x 1 Inches Form factor, 225 Watts with Forced Air Cooling, 7 Year Extended Warranty Option, Efficiencies up to 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).

Input Specifications:

Input Voltage	85-264 VAC/390 VDC, Universal
Input Frequency	47-63 Hz
Input Current	2.2 A max @ 115 VAC AND 1.1 A max @ 230 VAC
No Load Power	less than 0.5W typical
Inrush Current	25 A @ 115 VAC; 45 A @ 230 VAC; 75 A @ 264 VAC

Output Specifications:

Output Voltage	From 12 VDC to 58 VDC (Refer to model matrix table in detail in product datasheet)
Output Power	225W with 13 CFM, up to 120W Convection
Output Voltage Adjustment ⁴	+/-3 %
Hold-up Time	225W:10 ms ; 110W: 16 ms
Line Regulation	+/-0.5 %
Load Regulation	+/-0.5 %
Minimum Load	0.0 A
Transient Response	max excursion 4 %; 25 % step load change at 0.1A/uS slew rate, 50 % duty cycle, 50/60Hz, recovery time < 5 ms.
Ripple ¹	1.0 % max for all outputs.
Rise Time	55 ms typical
Set Point Accuracy	+/-1 %
Over Current Protection	>110 %
Over Voltage Protection	110 to 140 %
Short Circuit Protection	Hiccup mode
Cooling	225W with 13 CFM forced air cooling ² , up to 120W with natural convection cooling, (refer Mechanical Drawing)

General Specifications:

Efficiency	94 % (48V), 93 % (24V,30V), 92 % (12V,15V)
Power Factor	Exceeds 0.95 with Full Load
Isolation Voltage	ITE application: Input to Output - 3000 VAC Input to GND - 1500 VAC (Not applicable for Class II Option) Medical applications: Input to Output - 4000 VAC 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)
MTBF	3.37m Hours, Telcordia -SR332-issue 3
Switching Frequency	PFC - 70 to 130 KHz ,PWM - 50-80 KHz
Earth Leakage Current	300 uA Typical, (Not applicable for Class II Option) Touch current <100uA
Dimensions	4 x 2 x 1 inches (101.60 x 50.8x 25.4 mm)
Weight	200 gm approx

Environmental Specifications:

Operating Temperature	- 40 to +70°C, (-40 to 0°C startup is guaranteed with spec deviation) ³
Storage Temperature	-40 to +85°C
Relative Humidity	5 % to 95 %, noncondensing
Altitude	Operating: 16,000 ft.; Non-operating: 40,000 ft

General Notes:

- * Combined output power of main output, fan supply shall not exceed max. Power rating.
- * 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.
- * Specifications are for nominal input voltage, 25°C unless otherwise stated.
- * When used in Cover Kit, de-rate output power to 70 % under all operating conditions.
- * Class II version available, Add "-II" suffix at the end of the Model Number.

Notes:

1. Ripple is peak to peak with 20 MHz bandwidth and 10 uF (Electrolytic capacitor) in parallel with a 0.1 uF capacitor at rated line voltage and load ranges. 2. Up to 225W with 13CFM forced air cooling and 120W with natural convection cooling at 100 to 264 VAC.
3. Output ripple can be more than 10 % of the output voltage. 4. Adjustment potentiometer is located on the SMT side of the PCB. 5.To order extended warranty medical product add the suffix -EX to your required part number, example -LFMWLP225-1001-EX. Refer to your local EOS representative for further details.

EMC		
Parameter	Conditions/Description	Criteria
Conducted Emissions	EN55032-B, CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55032 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 3, 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 3, Criterion A
Voltage dips, interruptions	EN 61000-4-11	Criterion A & B

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

Mechanical Specifications

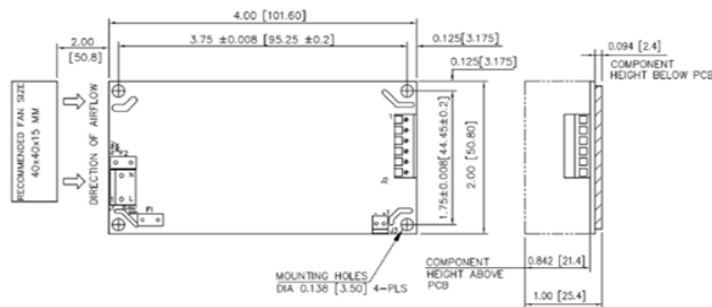
AC Input Connector (J1)	Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106	Pin 1 Pin 2 Pin 3	AC LINE NOT FITTED AC NEUTRAL
DC Output Connector (J2) Option 1 (Screw Terminal)	Molex: 39357 Series or equivalent	Pin 1,2,3 Pin 4,5,6	V1 +VE V1 -VE
DC Output Connector (J2) Option 2 (Molex Connector)	Molex: 26-60-4060 Mating: 09-50-3061; Pins: 08-50-0106	Pin 1,2,3 Pin 4,5,6	V1 +VE V1 -VE
Aux (Fan) Output(J3)	AMP :640456-2 Mating: 640440-2	Pin 1 Pin 2	FAN +VE FAN -VE

Safety	
CE Mark	Complies with LVD Directive
Safety Standard(s)	EN60950-1, IEC60950-1 (ed.2) , UL 60950 (ed.2), CSA C22.2 No.60950-1 (ed.2), Class1 SELV, GB4943.1-2011 , GB9254-2008 ; GB17625.1-2012
Approval Agency	Nemko, UL, C-UL, CCC
Safety File Number(s)	Class-I : Nemko : Certificate No. P14219072, CB Ref. Certif. No: NO83507 Class-II : Nemko : Certificate No. P14219134, CB Ref. Certif. No.NO83790 UL: Certificate Number 20141217-E150565

Safety	
CE Mark	Complies with LVD Directive
Safety Standard(s)	EN60601-1, IEC 60601-1 (ed.3), ANSI / AAMI ES 60601 - 1, CSA C22.2 No. 60601-1
Approval Agency	Nemko, UL, C-UL
Safety File Number(s)	Class I UL: Certificate Number 20141230-E173812, Nemko: Certificate No: P14219157, CB Test Certificate No: NO83948 Class II UL: Certificate Number 20141230-E173812, Nemko: Certificate No: P14219181, CB Test Certificate No: NO84076

Mechanical Drawing - Option 1

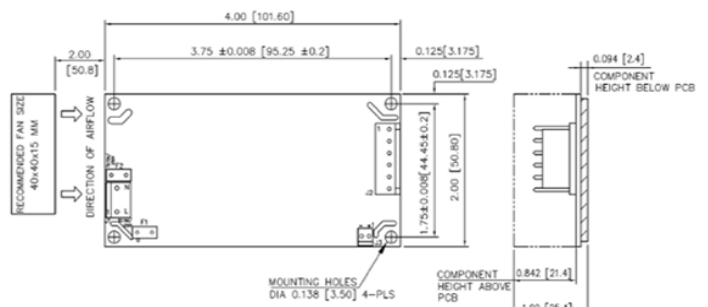
Output connector with Screw Terminal



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

Mechanical Drawing - Option 2

Output connector with Header Type



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

- General 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.

For more details please logon to www.eospower.com