

## Product Specification

Universal AC Input with PFC  
3" x 2" x 1.0" Footprint

## Key Product Features

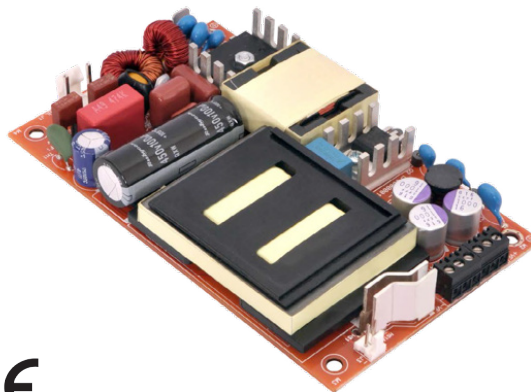
- Medical (BF) Safety Approved
- Class I or Class II
- Active PFC
- High Efficiency—up to 93%.

## Safety and EMC

- UL/CSA 60601-1 (ed.3) Medical Safety
- IEC/EN60601-1 (ed.3)
- ANSI / AAMI ES 60601-1
- CAN/CSA C22.2 No. 60601-1 Class 1 SELV
- Nemko, UL, cUL and CE Marks
- EN50011-B (CISPR 11-B) FCC Part 15 Conducted—Level B
- EN61000-3-2 Class D Harmonics
- EN61000-4-2, 3, 4, 5 Level 3 Immunity

# DPMWLP75 Series

## 75 Watt AC/DC Medical Grade Power Supply



### Description

The MWLP75 Series of open frame switching power supplies utilizes a highly advanced circuit topology to deliver 75 Watts in an industry standard package that has a 3.00 x 2.00 inch footprint and 1.00 in. height. The series has been designed to meet the requirements of Medical, Telecom, and Industrial applications and operates over the universal AC input range with active PFC. These supplies are fully compliant with worldwide safety and EMC standards.

### Ratings

Input Voltage Range—AC Input	85–264VAC/390VDC(5), Universal (see derating curves)
Input Frequency Range	47–63Hz
Input Current	1.0A at 115VAC max., 0.5A at 230VAC max.
Output Power—natural convection	75W natural convection—see derating curves
Operating Temperature Range	-40°C to +70°C
Power Factor	>0.95 at full load

### Model Selection

Model	Output Voltage, VDC	Rated Current, A	
		Natural Convection	Min. Load
DPMWLP75-1Z01	12.0	6.25	0.0
DPMWLP75-1Z02	15.0	5.00	0.0
DPMWLP75-1Z03	24.0	3.12	0.0
DPMWLP75-1Z04	48.0	1.56	0.0
DPMWLP75-1Z05	30.0	2.50	0.0
DPMWLP75-1Z06	58.0	1.29	0.0
DPMWLP75-CK	Metal Cover Kit		

Complete model number as follows:

Replace Z in model number with 0 for Euro Style Terminal Blocks (J1). 39357-0003, Tyco: 2-1776112-3 (J1), Or 3 for Molex 1722861103 (J1). Add - II for class II.

## Electrical Specifications

### Input

Input Voltage	85–264VAC/390VDC <sup>3</sup> , Universal (see derating under output power)
Input Frequency	47–63Hz
Input Current	1A at 115VAC max., 0.5A at 230VAC max.
No Load Power	<0.3W typical
Inrush Current	115VAC – 25A, 230VAC – 45A, 264VAC – 75A
Leakage Current	300uA Typical, (N.A. For Class II option), Touch current<100uA
Efficiency	93% (48V, 54V), 91% (24V, 30V), 90% (12V, 15V)
Hold-up Time	>16 ms typical
Power Factor	> 0.95 with full load

### Output

Output Voltage Adjustability	+/-3%
Line Regulation	+/-0.5%
Load Regulation	+/-1%
Transient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4% , recovery time < 5ms
Rise Time	55ms typical
Set Point Tolerance	+/-1%
Over Current Protection	> 110%
Over Voltage Protection	110 to 140%
Short Circuit Protection	Hiccup mode

## EMC and Safety Certifications

### EMC

CE Mark	Complies with LVD Directive
Conducted Emissions	EN55011-B, CISPR22-B, FCC PART15-B
Static Discharge	EN61000-4-2, Level-3
RF Field Susceptibility	EN61000-4-3, Level-3
Fast Transients/Bursts	EN61000-4-4, Level-3
Radiated Emissions	Level A radiated, Level B radiated with external core (King core K5B RC 25x12x15-M in input cable (5 turns))
Surge Susceptibility	EN61000-4-5, Level-3
Harmonic Current	EN61000-3-2, Class D

### Safety

Safety Standard(s)	EN 60601-1, IEC 60601-1 (ed.3), AAMI ES 60601-1, CSA C22.2 No. 60601-1
Approval Agency	Nemko, UL, C-UL
Isolation Voltage	Input to Output—4000VAC medical applications. Input to GND—1500VAC (Not Applicable For Class II Option) Output to GND—1500VAC for type BF, 500VAC for type B (Not Applicable For Class II Option)

### Environmental Specifications

Operating Temperature*	-40 to +70°C
Storage Temperature	-40 to +85°C
Relative Humidity	5% to 95%, noncondensing
Altitude	Operating: 16,000ft.; Nonoperating: 40,000ft.
MTBF	2m Hours, Telcordia-SR332-issue 3

### Mechanical Specifications

AC Input Connector (J1) Option 1	Molex: 39357-0003 Tyco: 2-1776112-4
AC Input Connector (J1) Option 2	Molex: 1722861103 (Mating: Molex 1722561003)
DC Output Connector (J2) Option 1	Molex: 39357-0004 Tyco: 640445-4
DC Output Connector (J2) Option 2	Molex: 1722861104 (Mating: Molex 1722561004)
Dimensions	3 x 2 x 1 inches (76.20 x 50.8 x 25.4mm)
Weight	180gm Max.

### Connector Pin Assignments

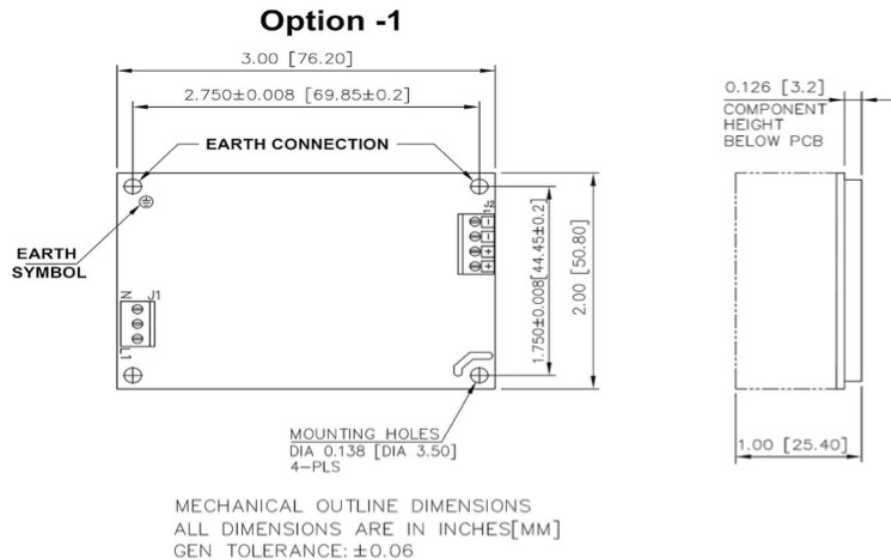
Connector	Pin	Function
J1	1	AC Line
	2	Not Provided
	3	AC Neutral
J2 (Option 1 & 3)	1, 2	-Vout
	3, 4	+Vout

**Notes:**

1. Ripple is peak to peak with 20MHz bandwidth and 10 $\mu$ F (Tantalum capacitor) in parallel with a 0.1 $\mu$ F capacitor at rated line voltage and load ranges.
2. Class II means without Earth pin.
3. Specifications are for nominal input voltage, 25°C unless otherwise stated.
4. -40 to 0°C startup is guaranteed with spec deviation in output ripple can be more than 10%.
5. Functional, not approved

## Mechanical Outline

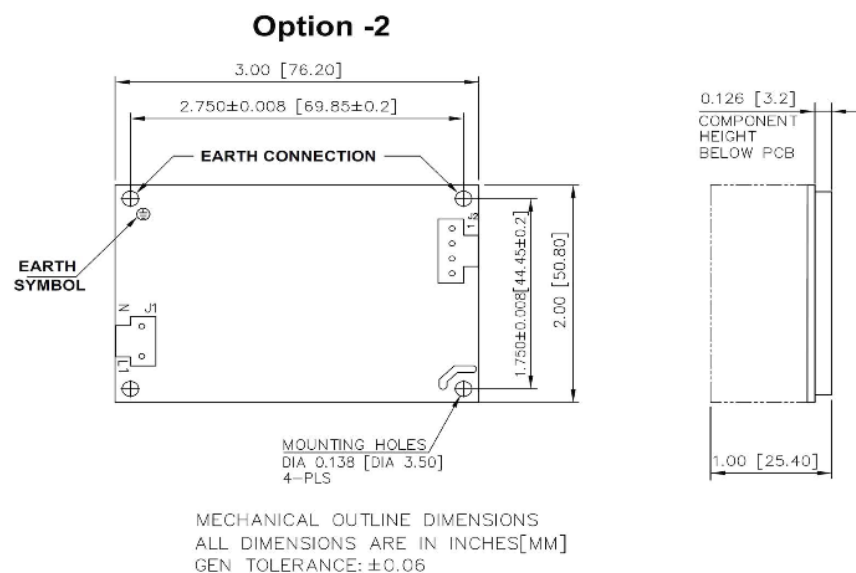
### Option 1



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 5.4mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0mm max.
3. Washer, if used, to have dia of 6.5mm max.

### Option 2



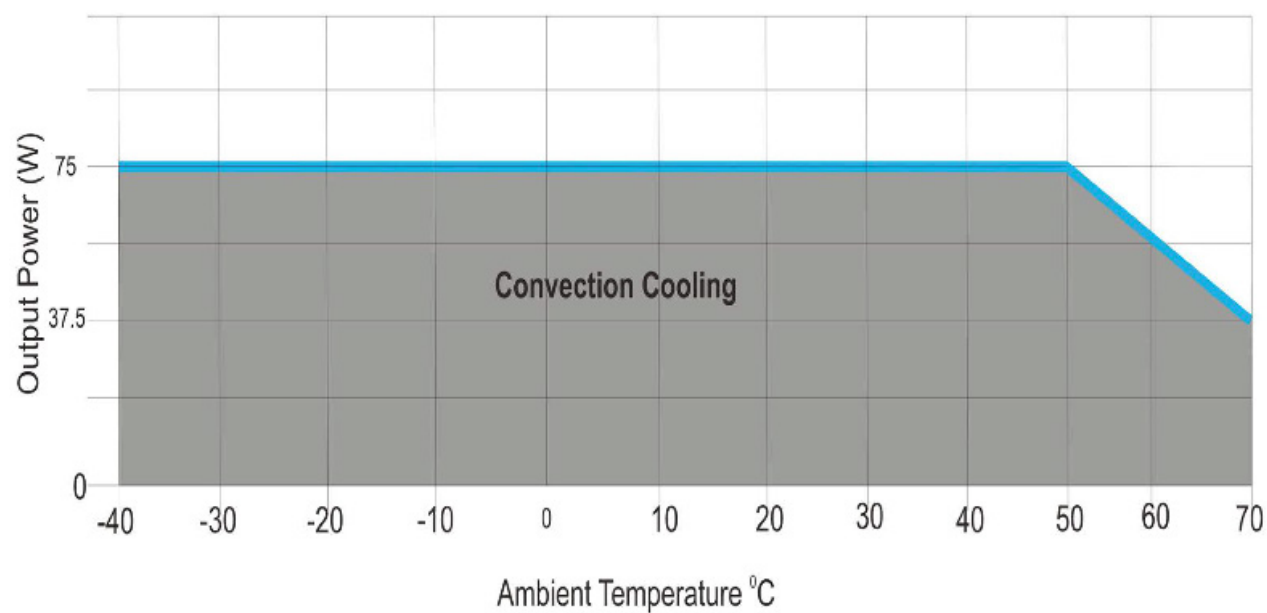
Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

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**Derating Curve**

12V,15V,24V,30V,48V,58V Output



### Key Product Features

- Noncorrosive
- Easy assembly
- Low weight
- Fully safe

## MWLP75\_120-CK Cover Kit

75 Watt High Density AC/DC Medical Grade Power Supply



### Derating Guidelines

WLP120/MWLP120/WLP75/MWLP75: Ambient > 50°C, derate by 50% to 70°C. 300 LFM air flow to be maintained.

### Contents

Mounting Base, Cover, Insulator, Fixing Screws

### Mechanical Dimensions

Cover and Base Material	EG(Zintec)/CRCA/GI 1.0mm thick (Powder coating/ Passivation/ ED coating black)
Marked	A: PCB MTG; B: COVER MTG; C: SYSTEM MTG, M3 Thread; D : EARTH CONNECTION

All dimensions are in mm. General tolerance : +/-1.0

### Mechanical Outline

