
FEATURES

- IEC60601-1, EN60601-1
- UL60601-1 approved
- Cover Kits Optional

1. Description

The MP60 Series are single output, universal input switching power supplies designed for medical applications. The letter “C” calls out an optional cover kit.

Model No.	Output Voltage	Mini. Output Current	Rated Output Current	Peak output Current	Line Regulation	Load Regulation	Ripple & Noise p-p ^(Note)	Initial Setting Accuracy
MP60-C-5S	5V	0A	12A	15A	1%	2%	50mV	4.85V to 5.15V
MP60-C-12S	12V	0A	5A	6.5A	1%	2%	100mV	11.88V to 12.12V
MP60-C-15S	15V	0A	4A	5A	1%	2%	100mV	14.85V to 15.15V
MP60-C-24S	24V	0A	2.7A	3.1A	1%	2%	100mV	23.76V to 24.24V

Note: Measured by a 20MHz bandwidth limited oscilloscope with each output is connected to a 10 μ F Electrolytic Capacitor and a 0.1 μ F Ceramic Capacitor.

2. Input Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input Voltage-AC	Continuous	90	115/230	264	VAC
Input Frequency	AC input	47		63	Hz
Hold Up Time	Nominal AC Input Voltage (115VAC), rated load.	16			ms
Input Current	Nominal AC Input Voltage (115VAC/230VAC), rated load.			2/1	A
Inrush Current	Nominal AC Input Voltage (115VAC/230VAC), one cycle at 25°C.			40/60	A
Input Protect	Non-user serviceable internally located AC input line fuse.				

3. Output Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Efficiency	Rated load, 115VAC.		75		%
Minimum load			See Description		
Ripple & Noise	Rated load, 20MHz bandwidth		See Description		
Output Power	Continuous output power.		See Description		
Line Regulation	Less than $\pm 1\%$ at rated load with $\pm 10\%$ change in input voltage.		See Description		
Load Regulation	Measured from 60% to 100% rated load and from 60% to 20% rated load (60% $\pm 40\%$ rated load).		See Description		
Turn-on Delay	Time required for initial output voltage stabilization	0.3		4	Sec

4. Internal Protection

Parameter	Conditions/Description
Over Load Protection	Fully protected against output overload and short circuit. Automatic recovery upon removal of overload condition.
Over Voltage Protection	The built-in over voltage protection circuit will go into hiccup to prevent damage to external circuits

5. Safety Approvals, EMI and EMS Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input Voltage-AC	UL, UL 60601-1				
	TUV, EN60601-1 CB, IEC60601-1		Approved		
Hi-Pot	Input to output	4000			VAC
Hold Up Time	Nominal AC Input Voltage (115VAC), rated load.	16			mS
EMC	IEC 60601-1-2	B			Class

6. Environment Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Operating Temperature	Derate linearly above 50°C by 2.5% per °C at 100% load:	0		50	°C
	to a maximum temperature of 70°C			At 50% load:	
Storage Temperature		-40		+70	°C
Relative Humidity	Non-condensing.	5		95	%RH
Altitude	Operating			10K	Feet
	Non-operating			40K	

7. Mechanical Specification

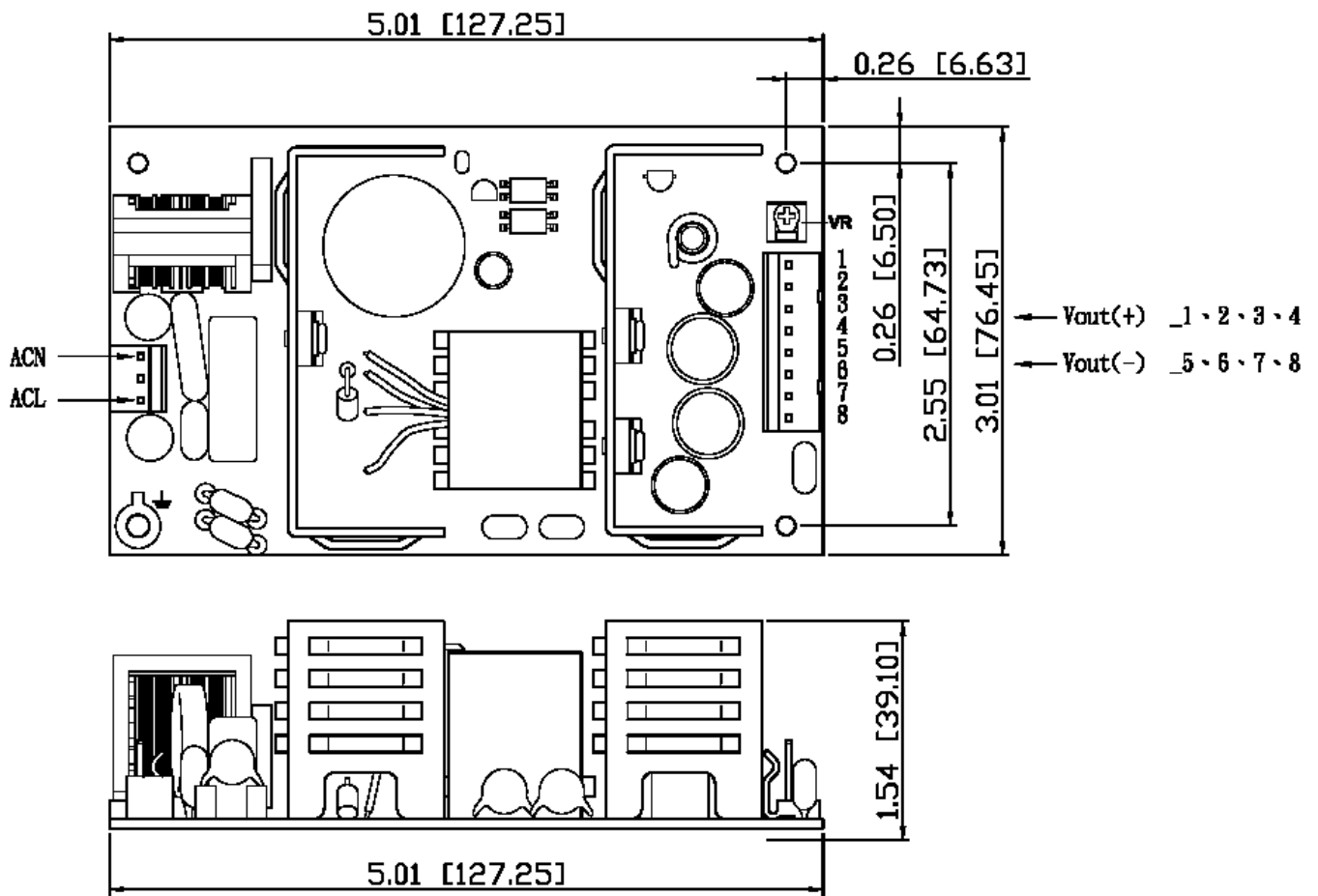
Parameter	Conditions/Description																												
Dimension	76.2 (3') x 127 (5') x 40.6(1.6'), Tolerance +/- 0.4mm. 86.86 (3.42') x 127 (5') x 51 (2.01') Tolerance +/- 0.4mm. ----- With cover Kits provided																												
Connector	CN1 --- AC input: Molex 5273-03A with draw 1 pin or equivalent. CN2 --- DC output: Molex 5273-8A or equivalent.																												
Pin Assignment	<table border="0"> <tr> <td>CN1</td> <td>Pin</td> <td>1.</td> <td>N</td> <td>2.</td> <td>L</td> <td></td> <td></td> </tr> <tr> <td rowspan="3">CN2</td> <td rowspan="3">Pin</td> <td>1.</td> <td>+V</td> <td>4.</td> <td>+V</td> <td>7.</td> <td>GND</td> </tr> <tr> <td>2.</td> <td>+V</td> <td>5.</td> <td>GND</td> <td>8.</td> <td>GND</td> </tr> <tr> <td>3.</td> <td>+V</td> <td>6.</td> <td>GND</td> <td></td> <td></td> </tr> </table>	CN1	Pin	1.	N	2.	L			CN2	Pin	1.	+V	4.	+V	7.	GND	2.	+V	5.	GND	8.	GND	3.	+V	6.	GND		
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		3.	+V	6.	GND																								

8. Options

Parameter	Conditions/Description	DIMENSIONS (mm)			
		L	W	H	T
Cover Kits (No.831-5C61 and 831-5C62)	Aluminum.	86.86	127.0	51.0	1.5

◆ Dimension

UNIT: inch [mm]



◆Cover Kits (No. 831-5C61 for TOP and 831-5C62 for Bottom)

