



SPECIFICATION

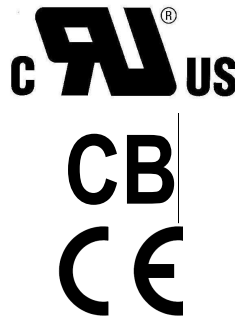
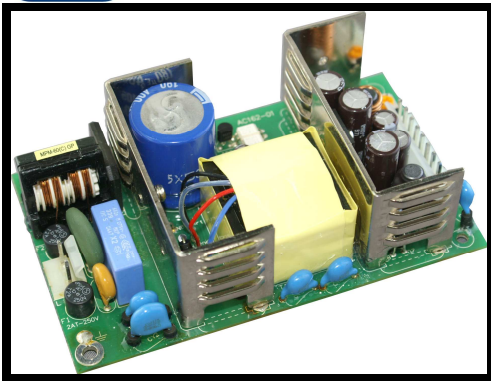
For

SWITCHING ADAPTER

M/N: MPM-60-xx(C) series

Revisions History

REV.	Feb. 16 th 2006	
REV.	Dec. 5 th 2008	Update photo and mechanical drawing.
REV.	Mar. 11 th 2009	Updated mechanical drawing.
REV.	Mar. 28 th 2011	Update the safety approved status.
REV.	Jan. 4 th 2013	Update the safety approved status.



FEATURES

- 60W medical open frame
- IEC60601-1, EN60601-1 and UL60601-1 approved
- MTBF>287,000 hr. MIL-217F at 50°C
- Cover Kits Optional

1. Description

MPM-60-xx(C) are 60Watts single output, universal input switching power supplies, which are designed for medical application. Letter “C” is for Cover Kits provided.

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
MPM-60-05(C)	5V	0A	12A	15A	1%	2%	50mV	4.85V to 5.15V
MPM-60-12(C)	12V	0A	5A	6.5A	1%	2%	100mV	11.88V to 12.12V
MPM-60-15(C)	15V	0A	4A	5A	1%	2%	100mV	14.85V to 15.15V
MPM-60-24(C)	24V	0A	2.7A	3.1A	1%	2%	100mV	23.76V to 24.24V

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

2. Input Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input Voltage-AC	Continuous input range.	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 “Chart of Description”		
Ripple & Noise	Rated load, 20MHz bandwidth		See “Chart of Description”		
Output Power	Continuous output power.		See “Chart of Description”		
Line Regulation	Less than ±1% at rated load with ±10% changing in input voltage.		See “Chart of Description”		
Load Regulation	Measured from 60% to 100% rated load and from 60% to 20% rated load (60% ±40% rated load).		See Chart of 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 of overload condition.
Over Voltage Protection	For some reasons the power supply fails to control itself, the build-in over voltage protection circuit will go into hiccup mode the outputs to prevent damaging to external circuits



5. Safety Approvals, EMI and EMS Specification

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Safety Approvals	IEC 60601-1: 1988+A1+A2			TUV approved	
	UL 60601-1, First Edition			UL approved	
	CAN/CSA-C22.2 No.601.1-M90			cUL approved	
	EN 60601-1: 1990+A1+A2+A13			TUV approved	
Hi-Pot	Input to output	4000			VAC
EMC	IEC 60601-1-2	B			Class

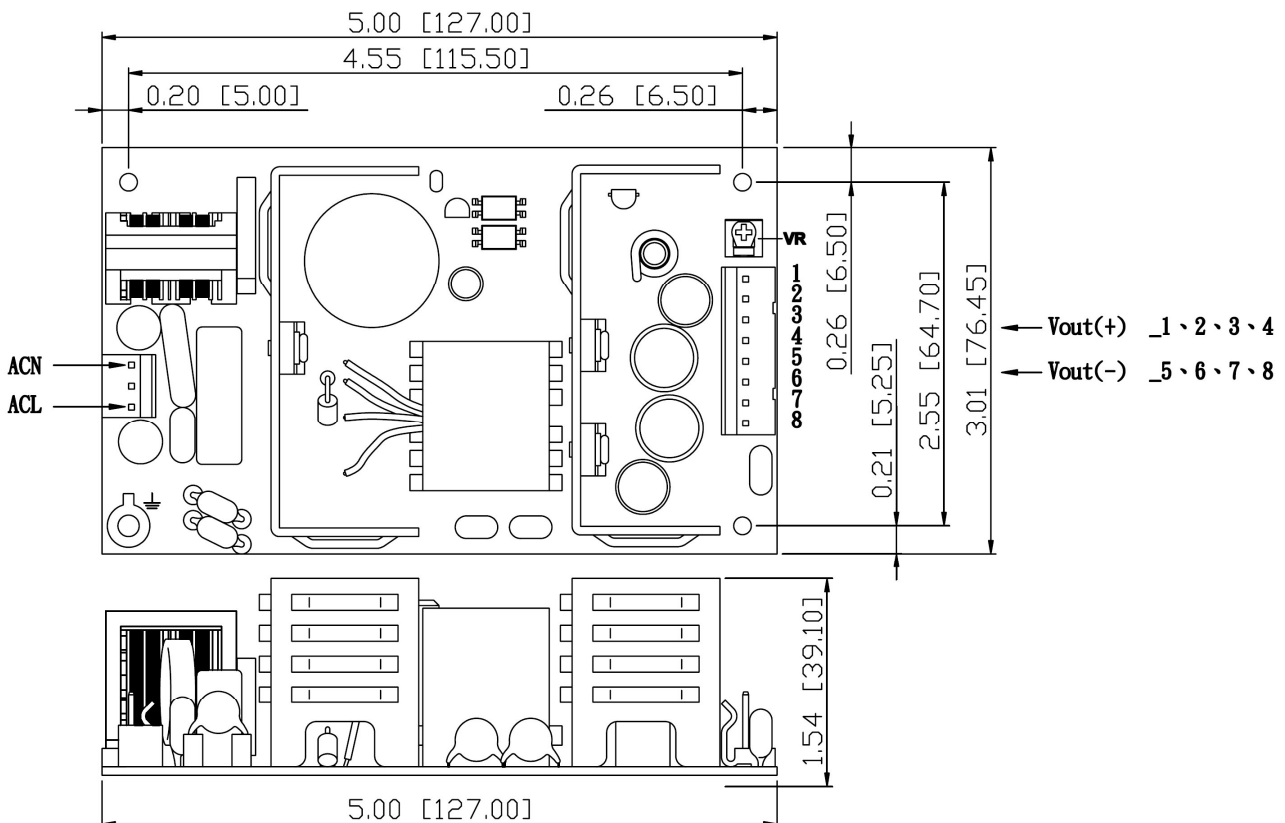
6. Environment Specification

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:			+70	
Storage Temperature		-40		+85	°C
Relative Humidity	Non-condensing.	5		95	%RH
Altitude	Operating			10K	Feet
	Non-operating			40K	

7. Mechanical Specification

Parameter	Conditions/Description																												
Dimension	76.45 x 127 x 39.1 mm, tolerance +/-0.5mm. 86.86 (3.42') x 127 (5') x 51 (2.01') mm, tolerance +/-0.5mm with cover kits provided																												
Connector	CN1 --- AC input: Molex 5273-03A or equivalent withdraw 1 pin. 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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		2.	+V	5.	GND	8.	GND																						
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◆ Dimension





8. Options

Parameter	Conditions/Description	DIMENSIONS (mm)			
		L	W	H	T
Cover Kits (No.831-5C61 Aluminum. and 831-5C62)		127	86.86	51.0	1.5

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

