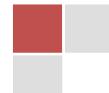


FEATURES	5W AC/DC Medical Open Frame	SP-M series
Universal AC input / Full range	Withstand 2G vibration test	
Cooling by free air convection	Green design, No-load power consumption < 0.3W	
Brown-out ( Low AC Input voltage )	100% full load burn-in test	
Medical safety approved	Protections: Short circuit / Over load / Over voltage	
Isolation class II	3 Year Warranty	
All using 105°C long life electrolytic capacitors	High operation temperature up to 70 C	

## SPECIFICATION

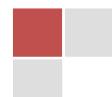
	Model	SP-M05-05	SP-M05-12	SP-M05-15	SP-M05-24
Output Requirements	Voltage (1)	5V	12V	15V	24V
	Rated Current	1A	0.42A	0.33A	0.21A
	Current Range	0~1A	0 ~ 0.42A	0 ~ 0.33A	0 ~ 0.21A
	Rated Power	5W	5.04W	4.95W	5.04W
	Ripple & Noise (Max) (2)	80mV	150mV	150mV	240mV
	Voltage Adjustment Range			±10%	
	Voltage Tolerance (3)	± 2%	± 1%	± 1%	± 1%
	Line Regulation	±0.5%	±0.5%	±0.5%	±0.5%
	Load Regulation	± 1%	±0.5%	±0.5%	±0.5%
	Setup, Rise Time	100ms, 25ms/230VAC 100ms, 25ms/115VAC at full load			
Input Requirements	Hold-up Time	100ms / 230VAC 25ms / 115VAC at full load			
	Voltage (4)	85V ~ 264VAC 125 ~ 373VDC			
	Frequency	47Hz ~ 63Hz			
	Efficiency (Typ.)	71%	75%	75%	77%
	AC Current (max.)	0.13 A / 115VAC 0.08A / 230VAC			
Protection	Inrush Current (Typ.)	Cold Start 25A / 115VAC 45A / 230VAC			
	Over Load	110% rated output power minimum Protection type : Hiccup mode, recovers automatically after fault condition is removed			
	Over Voltage	115% ~ 145% rated output voltage Protection type : latch-off mode, recycle AC to restart			
Environmental Conditions	Operating Temperature	-20°C ~ +70°C (Refer to output load de-rating curve)			
	Operating Humidity	20 ~ 90% RH non-condensing			
	Storage Temperature, Humidity	- 40 +85°C / 10 ~ 95% R.H			
	Temperature Coefficient	±0.03%/°C (0 ~ 50°C)			
	Vibration	10 ~ 500HZ, 2G 10min./ 1 cycle, period for 60 min. Each along X,Y,Z axes			



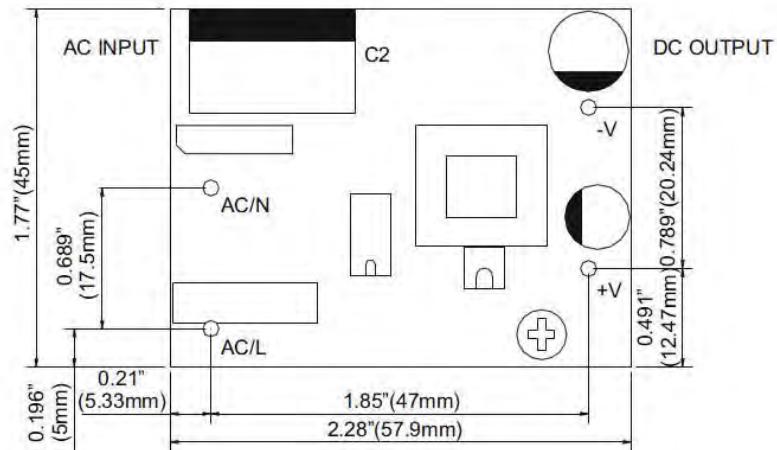
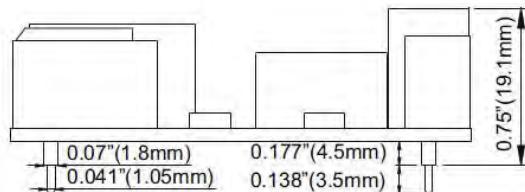
Model	SP-M05-05	SP-M05-12	SP-M05-15	SP-M05-24
Safety & EMC (5)	Safety Standards	UL60601-1/ TUVEN60601-1/ IEC60601-1Approved		
	Green Energy	ENERGY STAR® Compliant Single Voltage External AC – DC and AC – AC Power Supplies Eligibility Criteria ( Version 1.1 )		
	Withstand Voltage	I/P -O/P: 4KVAC		
	Isolation Resistance	I/P -O/P : 100M Ohms / 500VDC		
	EMI Conduction & Radiation	EN55011: 2007+A2: 2007 Class B		
	Harmonic Current	EN61000-3-2: 2006 Class A, EN61000-3-3: 1995+A1: 2001+A2: 2005		
Others	EMS Immunity	EN60601-1-2: 2001+A1: 2006, IEC61000-4-2,3,4,5,6,8,11 light industry level, criteria A		
	MTBF	217.4K HRS Compliance: MIL-HDBK-217F		
	Dimension (W*H*D)	57.9 x 45 x 19.1(mm) or 2.28 x 1.77 x 0.75(inches)		
	Packing	0.033kg ; 192Pcs/6.33kg		

**NOTES:**

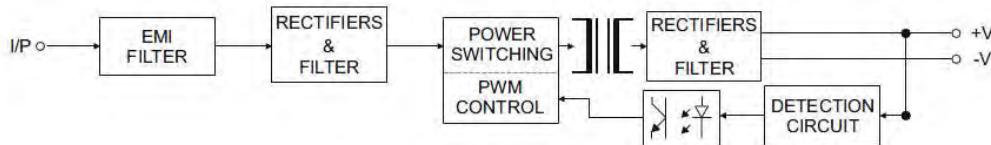
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25C ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47 uf parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation and load regulation.
4. Line regulation is measured from low line to high line at rated load.
5. Load regulation is measured from 0% to 100% rated load.
6. The power supply is considered a component which will be installed into a final system. The final system must be re-tested to meet EMC directives.
7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the setup time.



## ■ Mechanical Specification



## ■ Block Diagram



## ■ De-rating Curve

