

## ■ Features

- 3"×2" miniature size
- Universal AC input / Full range
- Class II (without FG) installations
- Medical safety approved  
(2 x MOPP between primary to secondary)
- Suitable for BF application with appropriate system consideration
- Low leakage current <100μA
- No load power consumption<0.1W
- High efficiency up to 91%
- For 1U applications
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- -30~70°C wide range of operating temperature
- Operating altitude up to 4000 meters(Note 7.)
- LED indicator for power on
- 3 years warranty

## ■ Applications

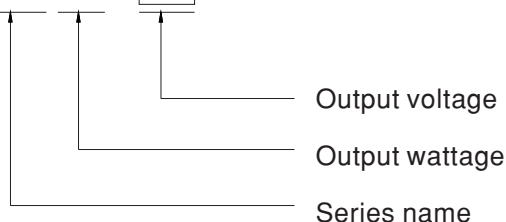
- Oral irrigator
- Hemodialysis machine
- Medical monitors
- Sleep apnea devices

## ■ Description

RPS-45 is a 45W highly reliable green PCB type medical power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 91% and the extremely low no load power consumption is down below 0.1W. RPS-45 is able to be used for Class II (no FG) system design. The extremely low leakage current is less than 100μA. In addition, it conforms to international medical regulations (2\*MOPP) and EMC EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

## ■ Model Encoding

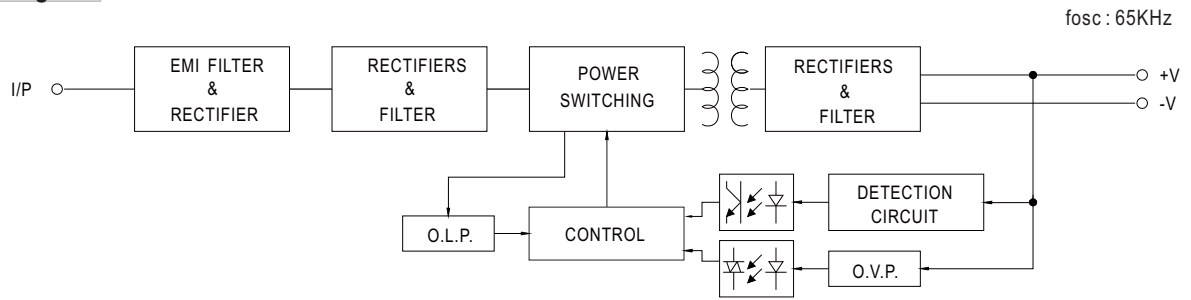
**RPS- 45 - 3.3**



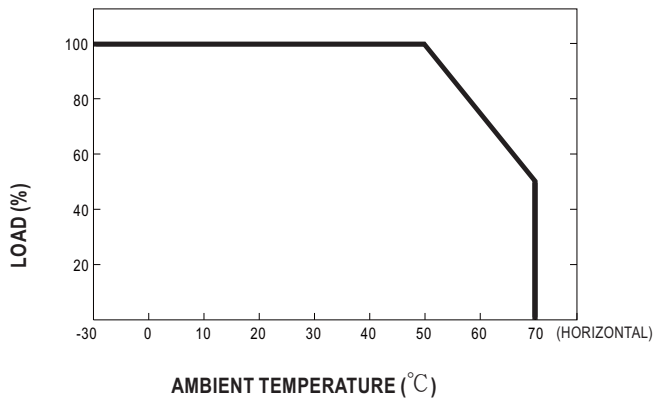
## SPECIFICATION

ORDER NO.		RPS-45-3.3	RPS-45-5	RPS-45-7.5	RPS-45-12	RPS-45-15	RPS-45-24	RPS-45-48	
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	48V	
	RATED CURRENT	8A	8A	5.4A	3.8A	3A	1.9A	0.94A	
	CURRENT RANGE	0 ~ 8.8A	0 ~ 8.8A	0 ~ 5.95A	0 ~ 4.18A	0 ~ 3.3A	0 ~ 2.1A	0 ~ 1.03A	
	RATED POWER	26.4W	40W	40.5W	45.6W	45W	45.6W	45.1W	
	PEAK LOAD(10sec.) <small>Note.2</small>	29W	44W	44.6W	50.2W	49.5W	50.2W	49.4W	
	RIPPLE & NOISE (max.) <small>Note.3</small>	80mVp-p	80mVp-p	80mVp-p	120mVp-p	150mVp-p	240mVp-p	300mVp-p	
	VOLTAGE ADJ. RANGE	3.1~3.6V	4.7~5.5V	7.12~8.3V	11.4~13.2V	13.5~16.5V	22.8~27.6V	45.6~52.8V	
	VOLTAGE TOLERANCE <small>Note.4</small>	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	
	SETUP, RISE TIME	500ms, 30ms / 230VAC    500ms, 30ms / 115VAC at full load							
HOLD UP TIME (Typ.)	30ms / 230VAC    12ms / 115VAC at full load								
INPUT	VOLTAGE RANGE <small>Note.5</small>	80 ~ 264VAC							
	FREQUENCY RANGE	47 ~ 63Hz							
	EFFICIENCY (Typ.)	80%	83%	85%	88%	89%	90%	91%	
	AC CURRENT (Typ.)	1.2A / 115VAC    1A / 230VAC							
	INRUSH CURRENT (Typ.)	COLD STAR 30A/115VAC    60A/230VAC							
	LEAKAGE CURRENT(max.)	Touch current < 100 $\mu$ A/264VAC							
PROTECTION	OVERLOAD	115 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed							
	OVER VOLTAGE	3.8~5V	5.7~6.8V	8.62~11.3V	13.8~16.2V	17.25~20.3V	28.4~32.4V	55.2~64.8V	
		Protection type : Shut down o/p voltage, re-power on to recover							
ENVIRONMENT	WORKING TEMP.	-30 ~ +70 $^{\circ}$ C (Refer to "Derating Curve")							
	WORKING HUMIDITY	20% ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +85 $^{\circ}$ C, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03% / $^{\circ}$ C (0 ~ 50 $^{\circ}$ C)							
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes							
SAFETY & EMC (Note. 7)	SAFETY STANDARDS	ANSI/AAMI ES60601-1 / TUV EN60601-1 / IEC60601-1 approved							
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP							
	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC							
	ISOLATION RESISTANCE	I/P-O/P: 100M Ohms / 500VDC / 25 $^{\circ}$ C / 70% RH							
	EMC EMISSION	Compliance to EN55011(CISPR11) class B, EN61000-3-2,3							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN60601-1-2 medical level, criteria A							
OTHERS	MTBF	726.2Khrs min. MIL-HDBK-217(25 $^{\circ}$ C)							
	DIMENSION	76.2*50.8*24mm (L*W*H)							
	PACKING	0.11Kg; 120pcs/14.2Kg/0.97CUFT							
NOTE	<ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25<math>^{\circ}</math>C of ambient temperature.</li> <li>33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1<math>\mu</math>f &amp; 47<math>\mu</math>f parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>Derating may be needed under low input voltages. Please check the derating curve for more details.</li> <li>Touch current was measured from primary input to DC output.</li> <li>The ambient temperature derating of 5<math>^{\circ}</math>C/1000m is needed for operating altitude greater than 2000m (6500ft).</li> <li>The power supply is considered a component which will be installed into a final equipment. "All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness." The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> </ol>								

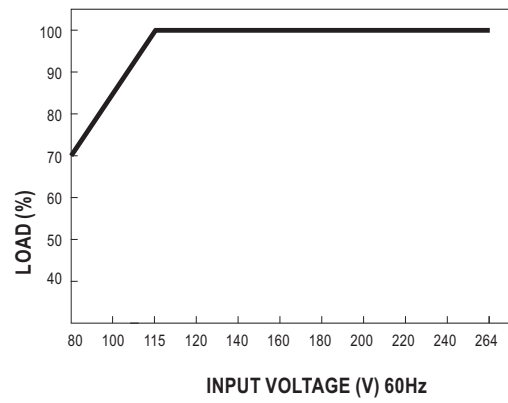
### Block Diagram



### Derating Curve

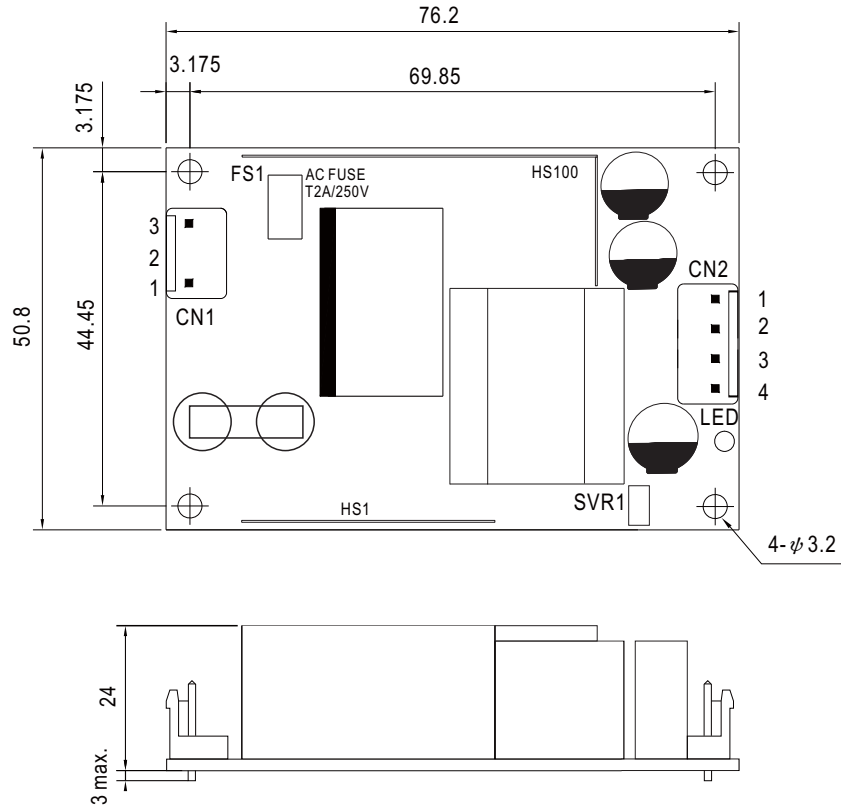


### Static Characteristics



## Mechanical Specification

Case No. Unit:mm



AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

DC Output Connector (CN2) : JST B2P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	+V		
3	-V		
4	-V		

## Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>