

Features

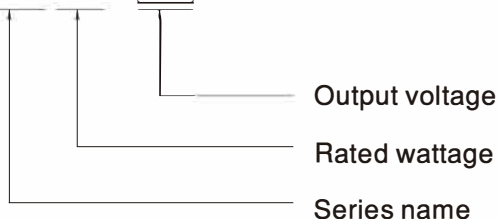
- 3"x2" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- Suitable for BF application with appropriate system consideration
- Cooling by free air convection
- EMI class B for class II configuration
- No load power consumption<0.1W
- Extremely low leakage current
- Protections: Short circuit / Overload / Over voltage
- Lifetime > 105K hours
- Operating altitude up to 4000 meters
- 3 years warranty

Description

RPS-30 is a 30W 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 92% and the extremely low no load power consumption is down below 0.1W. RPS-30 is able to be used for Class II (no FG) system design. The extremely low leakage current is less than 80 μ A. 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- 30 - 3.3



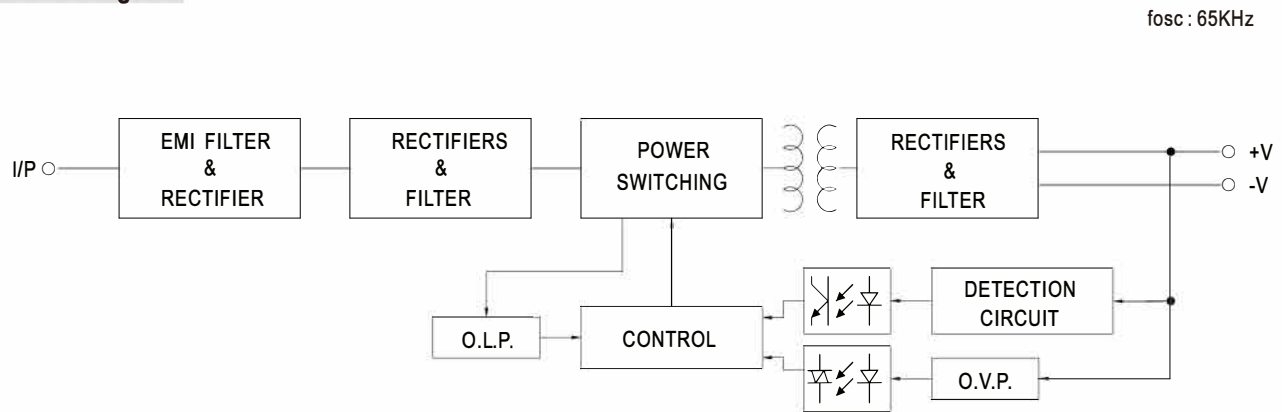
Applications

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

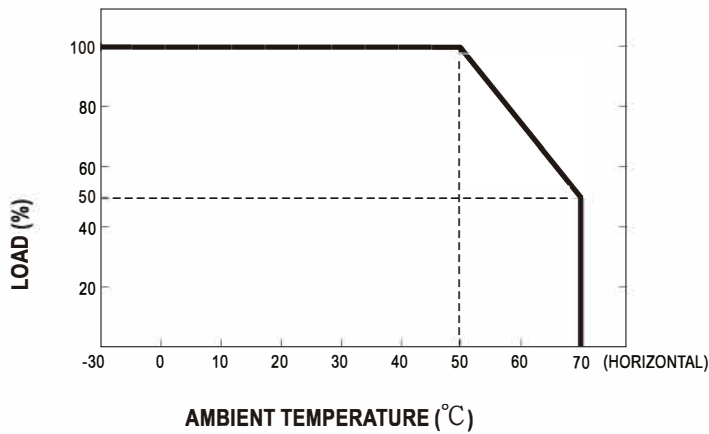
SPECIFICATION

ORDER NO.		RPS-30-3.3	RPS-30-5	RPS-30-7.5	RPS-30-12	RPS-30-15	RPS-30-24	RPS-30-48
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	48V
	RATED CURRENT	6A	6A	4A	2.5A	2A	1.25A	0.625A
	CURRENT RANGE	0 ~ 6.6A	0 ~ 6.6A	0 ~ 4.4A	0 ~ 2.75A	0 ~ 2.2A	0 ~ 1.375A	0 ~ 0.687A
	RATED POWER	19.8W	30W	30W	30W	30W	30W	30W
	PEAK LOAD(10sec.) <small>Note.2</small>	21.8W	33W	33W	33W	33W	33W	33W
	RIPPLE & NOISE (max.) <small>Note.3</small>	80mVp-p	80mVp-p	80mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-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	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	200ms, 30ms / 230VAC 200ms, 30ms / 115VAC at full load						
	HOLD UP TIME (Typ.)	30ms / 230VAC 16ms / 115VAC at full load						
INPUT	VOLTAGE RANGE <small>Note.5</small>	80 ~ 264VAC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	80%	82%	84%	88%	89%	89.5%	92%
	AC CURRENT (Typ.)	1A / 115VAC 0.5A / 230VAC						
	INRUSH CURRENT (Typ.)	COLD STAR 30A/115VAC 60A/230VAC						
	LEAKAGE CURRENT(max.) <small>Note.6</small>	Touch current< 80 μ 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	8.6~11.3V	13.8~16.2V	17.2~20.3V	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℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20% ~ 90% RH non-condensing						
	STORAGE TEMP, HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE <small>Note.7</small>	4000 meters						
SAFETY & EMC (Note. 8)	SAFETY STANDARDS	IEC60601-1, TUV EN60601-1, EAC TP TC 004, UL ANSI / AAMI ES60601-1 (3.1 version), CAN/CSA-C22.2 No. 60601-1:14 - Edition 3 approved; Design refer to EN60335-1						
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP						
	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC						
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH						
	EMC EMISSION	Parameter			Standard		Test Level / Note	
		Conducted emission			EN55011 (CISPR11)		Class B	
		Radiated emission			EN55011 (CISPR11)		Class B	
		Harmonic current			EN61000-3-2		Class A	
		Voltage flicker			EN61000-3-3		-----	
	EMC IMMUNITY	EN60601-1-2						
		Parameter			Standard		Test Level / Note	
		ESD			EN61000-4-2		Level 4, 15KV air ; Level 4, 8KV contact	
		RF field susceptibility			EN61000-4-3		Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)	
		EFT bursts			EN61000-4-4		Level 3, 2KV	
		Surge susceptibility			EN61000-4-5		Level 4, 2KV/Line-Line	
		Conducted susceptibility			EN61000-4-6		Level 3, 10V	
		Magnetic field immunity			EN61000-4-8		Level 4, 30A/m	
		Voltage dip, interruption			EN61000-4-11		100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	
OTHERS		MTBF	628.7Khrs min. MIL-HDBK-217(25℃)					
	DIMENSION (L*W*H)	76.2*50.8*24mm or 3" * 2" *0.945" inch						
	PACKING	0.09Kg; 120pcs/11.8Kg/0.97CUFT						
NOTE		1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power. 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ f & 47 μ f parallel capacitor. 4. Tolerance : includes set up tolerance, line regulation and load regulation. 5. Derating may be needed under low input voltages. Please check the derating curve for more details. 6. Touch current was measured from primary input to DC output. 7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). 8. The power supply is considered a component which will be installed into a final equipment. 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 http://www.meanwell.com)						

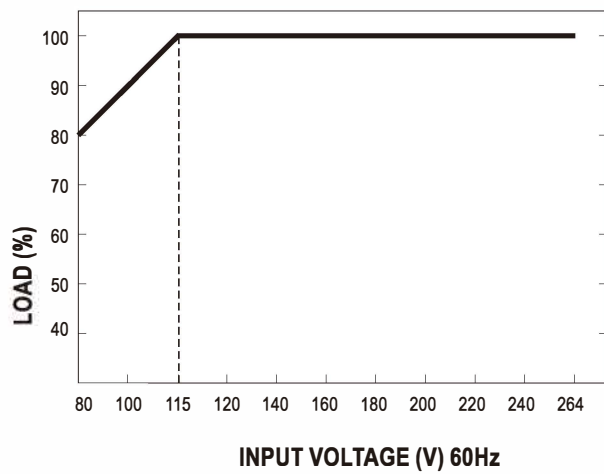
■ Block Diagram



■ Derating Curve

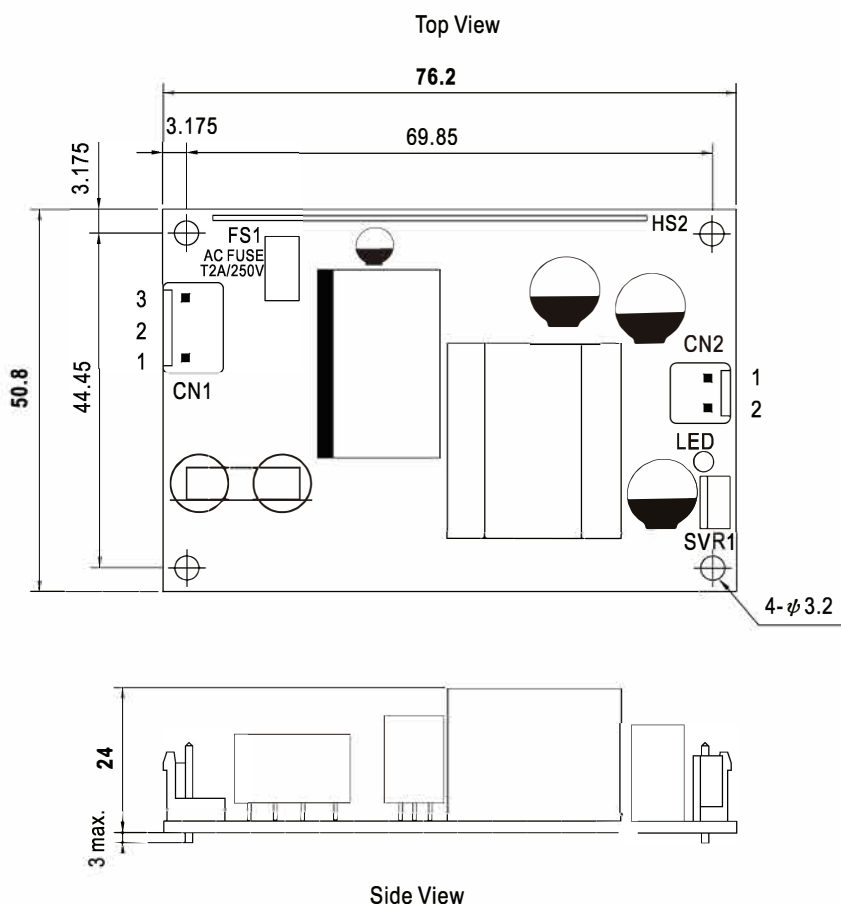


■ Static Characteristics



■ 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		

■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>