500W 5"×3" Reliable Green Medical Power Supply RPS-500 series

ANSI/AAMI ES60601-1 EN60601-1 IEC60601-1

Features

- 5"×3" compact size
- 320W convection,500W force air
- 550W peak power (3sec.)
- Medical safety approved (2 x MOPP) accroding to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- EMI for both Class Ⅰ & Class Ⅱ configuration
- -30~+70℃ wide range operating temperature
- No load power consumption<0.5W by PS_ON control
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- 5Vdc standby output, 12Vdc fan supply, Power Good, Power Fail and remote sense
- Operating altitude up to 4000 meters (Note.5)
- LED indicator for power on
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices
- Pump machine
- Electric bed

Description

RPS-500 is a 500W highly reliable green PCB type medical power supply with a high power density on the 5" by 3" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 48V.The working efficiency is up to 94% and the extremely low no load power consumption is down below 0.5W.RPS-500 (blank type only) is able to be used for both Class Ⅰ (with FG) and Class Ⅱ (no FG) system design. The extremely low leakage current is less than 220μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC EN55011, perfectlyfitting all kinds of BF rated "patient contact" medical system equipment. RPS-500 series also offers the enclosed style models(-C / TF /SF)

Model Encoding

RPS - 500 - 12 -C

- -C: Type
- 12: Output voltage
- 500: Rated wattage
- RPS: Series name

Type	Description	Note
Blank	PCB Type	In stock
-C	Enclosed casing Type	In stock
-TF	Enclosed Type with fan on the top	In stock
-SF	Enclosed Type with fan on the side	In stock

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SPECIFICATION

MODEL				RPS-500-12□	RPS-500-15□	RPS-500-18□	RPS-500-24□	RPS-500-27□	RPS-500-36□	RPS-500-48□
OUTPUT	DC VOLTAGE			12V	15V	18V	24V	27V	36V	48V
	RATED CURRENT Note.7	Blank	25CFM	41.6A	33.3A	27.8A	20.8A	18.5A	13.9A	10.4A
			Convection	26.7A	21.3A	17.8A	13.4A	11.9A	8.9A	6.7A
		-C	25CFM	41.6A	33.3A	27.8A	20.8A	18.5A	13.9A	10.4A
			Convection	25.8A	20.7A	17.2A	12.9A	11.5A	8.6A	6.5A
		-TF/SF	Built-in fan	41.6A	33.3A	27.8A	20.8A	18.5A	13.9A	10.4A
	RATED POWER Note.7	Blank	25CFM	499.2W	499.5W	500.4W	499.2W	499.5W	500.4W	499.2W
			Convection	320.4W	319.5W	320.4W	321.6W	321.3W	320.4W	321.6W
		-C	25CFM	499.2W	499.5W	500.4W	499.2W	499.5W	500.4W	499.2W
			Convection	309.6W	310.5W	309.6W	309.6W	310.5W	309.6W	312W
		-TF/SF	Built-in fan	499.2W	499.5W	500.4W	499.2W	499.5W	500.4W	499.2W
	PEAK POWER(3sec.)			550W						
	RIPPLE & NOISE (max.) Note.2			200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE(main output)			11.4~12.6V	14.3~15.8V	17.1~18.9V	22.8~25.2V	25.6 ~ 28.4V	34.2 ~37.8V	45.6 ~50.4V
	VOLTAGE TOLERANCE Note.3			±3.0%	±3.0%	±3.0%	±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			1000ms, 30ms/230VAC 1500ms, 30ms/115VAC at full load						
	HOLD UP TIME (Typ.)			10ms/230VAC 10ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.4			80 ~ 264VAC 113 ~ 370VDC						
	FREQUENCY RANGE			47 ~ 63Hz						
	POWER FACTOR			PF>0.94/230VAC PF>0.98/115VAC at full load						
	EFFICIENCY (Typ.)			91%	92%	92.5%	93%	93.5%	94%	94%
	AC CURRENT (Typ.)			5.8A/115VAC 2.9A/230VAC						
	INRUSH CURRENT (Typ.)			COLD START 40A/115VAC 80A/230VAC						
	LEAKAGE CURRENT (max.) Note.5			Earth leakage current <220μA/264VAC 50Hz , Touch current < 100μA/264VAC						
PROTECTION	OVERLOAD			105 ~ 135% rated output power						
				Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE			13.2 ~ 15.6V	16.5 ~ 19.5V	19.8 ~23.4V	26.4 ~ 31.2V	29.7 ~ 35.1V	39.6 ~ 46.8V	52.8 ~ 62.4V
				Protection type : Shut down o/p voltage, re-power on to recover						
	OVER TEMPERATURE			Protection type : Shut down o/p voltage, recovers automatically after temperature goes down						
FUNCTION	5V STANDBY			5Vsb : 5V@0.6A without fan, 1A with fan 25CFM ; Tolerance ±2%, ripple : 120mVp-p(max.)						
	12V FAN SUPPLY			12V@0.5A for driving fan ; Tolerance ±10%						
	PS-ON INPUT SIGNAL			Power ON: PS-ON = "Hi" or " > 2 ~ 5V" ; Power OFF: PS-ON = "Low" or " < 0 ~ 0.5V"						
	POWER GOOD / POWER FAIL			500ms>PG>10ms ; The TTL signal goes high with 10ms to 500ms delay after power set up ; The TTL signal goes low at least 1ms before Vo below 90% of rated value						
ENVIRONMENT	WORKING TEMP.			-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY			20 ~ 90% RH non-condensing						
	STORAGE TEMP.			-40 ~ +85℃						
	TEMP. COEFFICIENT			±0.03%/℃ (0 ~ 50℃)						
	VIBRATION			10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.6			4000 meters						