PROTEK POWER

TT Electronics
POWER PARTNERS

PMP250 Medical Power Supply Series (220-250W)

Features:

- BF class insulation
- Operating altitude up to 5000 meters
- Compliant with DoE level V I
- CoC EPS V5 tier 2 requirements
- No load power consumption less than 0. 15W
- With PFC circuit
- Wide input range 80 to 264 VAC
- 100% burn-in
- Overvoltage protection
- Overcurrent protection
- Compliant with RoHS requirements

RoHS VI

Description:

The PMP250 series of AC/DC switching power supplies are for 220-250 watts of continuous output power. They are enclosed in a 94V-0 rated polyphenylene-oxide case with an IEC320/C14 or C18 inlet to mate with interchangeable cord for world-wide use. All models meet EN 55011 class B emission limits, and are designed for medical applications.

Model[1]		Output						Average Active Efficiency (typical) @115/230 Vac
Class I	Class II	V1	Min Current	Max Current	Tol	Ripple & Noise [2]	Max Power	
PMP250-12	PMP250F-12	12V	0A	18.34A	±5%	120mV	220W	89/89%
PMP250-13	PMP250F-13	15V	0A	14.67A	±5%	150mV	220W	89/89%
PMP250-13-1	PMP250F-13-1	18V	0A	13.89A	±5%	180mV	250W	89/89%
PMP250-13-2	PMP250F-13-2	19V	0A	13.16A	±5%	190mV	250W	89/89%
PMP250-13-3	PMP250F-13-3	20V	0A	12.50A	±5%	200mV	250W	89/89%
PMP250-14	PMP250F-14	24V	0A	10.42A	±5%	240mV	250W	90/90%
PMP250-15	PMP250F-15	27V	0A	9.26A	±5%	270mV	250W	90/90%
PMP250-16	PMP250F-16	30V	0A	8.34A	±5%	300mV	250W	90/90%
PMP250-16-1	PMP250F-16-1	32V	0A	7.82A	±5%	320mV	250W	90/90%
PMP250-17	PMP250F-17	36V	0A	6.95A	±5%	360mV	250W	90/90%
PMP250-18	PMP250F-18	48V	0A	5.21A	±5%	480mV	250W	90/90%
PMP250-19	PMP250F-19	54V	0A	4.63A	±5%	540mV	250W	90/90%

Notes:

1. C14 Standard Receptacle.
2. For C8 Class II Receptacle, model number is PEAMD100SF, for example PEAMD100SF-12-B2 C6 and C18 input connectors available. Please contact sales for details

TT Electronics | Power Partners, Inc
43 Broad Street Suite B206, Hudson, MA 01749, USA. t: +1 (978) 567-9600

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Specifications	
Safety Standards & EMC Specifications	
Safety Standards Approval	UL ES 60601-1, CSA C22.2 No. 60601-1 File No. E178020 TÜV EN 60601-1
EMI Standard	EN55011, FCC, and VCCI Class B (radiated and conducted)
EMC Performance	EN61000-3-2: Harmonic distortion, Class A and D EN61000-3-3: Line flicker EN61000-4-2: ESD, ±15 KV air and ± 8KV contact EN61000-4-3: Radiated immunity, 10V/m EN61000-4-4: Fast transient/burst, ±2KV EN61000-4-5: Surge, ±1 KV diff., ±2 KV com. EN61000-4-6: Conducted immunity, 10Vrms EN61000-4-8: Magnetic field immunity, 30 A/m EN61000-4-11: Voltage dip immunity, 30% reduction for 500 ms (criteria A @ 230VAC, criteria B @ 100VAC), 60% reduction for 100 ms (criteria A @ 230VAC, criteria B @ 100VAC) and >95% reduction for 20 ms
*Consult with TT Electronics for information on additional country safety approvals	
Input Specifications	
Input Voltage Range	80 to 264VAC
Power Derating	Derate linearly from 100% at 90 VAC to 90% at 85Vac and 80% at 80 VAC
Input Frequency Range	47 to 63Hz
Input Current	2.5A (rms) @100VAC, 60 Hz or 1.25A(rms) @240VAC, 50 Hz
Earth Leakage Current	220µA max. @ 264VAC, 63Hz
Touch Current	100µA max. @ 264 VAC, 63Hz
Output Specifications	
Ripple & Noise	1% peak to peak maximum
Overvoltage Protection	Provided and set at 112-140% of its nominal output voltage
Overcurrent Protection	Protected to short circuit conditions
Temperature Coefficient	±0.04%/°C maximum
Transient Response	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change
Environmental Specifications	
Operating Temperature	-20°C to +60°C
Atmospheric Pressure	540 hPa to 1060 hPa
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Temperature Derating	Derate from 100% at +40° linearly to 50% at +60°
General Specifications	
Switching Frequency	50 KHz to 130 KHz
Power Factor	0.98 Typical at 115 VAC
Efficiency	89% min. at full load
Hold-up Time	20ms minimum at 100 VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	130 A @ 115 VAC or 260 A @ 230 VAC, at 25° cold start
Withstand Voltage	4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP) 500 VAC from output to ground (For class II models, 4000VAC from input to output)
MTBF	100,000 hours at full load at 25□ambient , calculated per MIL-HDBK-217F

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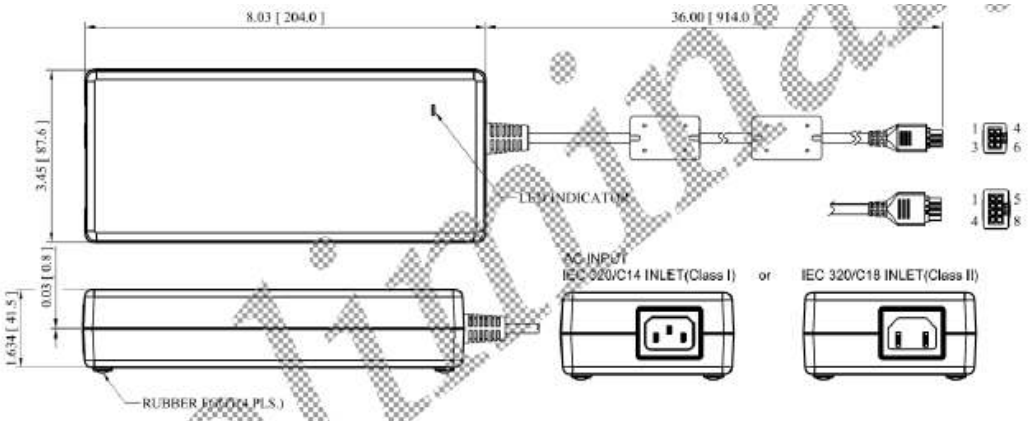
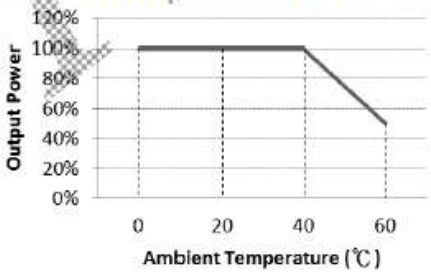
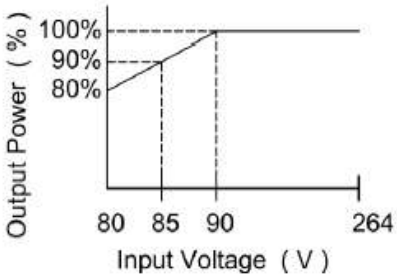


NOTES:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 1100 grams (2.425 lbs.) approx.
4. Output connector is Molex Mini - Fit receptacle, P/N: 39-01-2060 (or P/N: 39-01-2080) with female terminal #5556 or equivalent, mating with Molex plug 39-01-2066 (or P/N: 39-01-2086) and male terminal #5558 or equivalent. It also mates with Molex headers #5566, #5569, or equivalent.

OUTPUT POWER DERATING CURVE





PIN CHART (output 18Vdc to 54Vdc)

PIN	1	2	3	4	5	6
1 3 4 6	+V1	V1 Return	V1 Return	+V1	+V1	V1 Return

PIN CHART (output 12Vdc and 15Vdc)

PIN	1	2	3	4	5	6	7	8
1 4 5 8	+V1	V1 Return	V1 Return	V1 Return	+V1	+V1	+V1	V1 Return