



PROTEK POWER

# PMP150 Medical Power Supplies (132-150W)

## Features:

- Low Safety ground leakage current
- Wide input range 90 to 264 VAC
- Optional output connectors
- 100% burn in
- Overvoltage protection
- Over-temperature protection
- Overcurrent protection
- Compliant with CEC and Energy Star Efficiency level V requirements (except PMP150-12 and PMP150-13 to level IV)
  - \*No Load power consumption
  - \*Average active efficiency  $\geq 87\%$
- Compliant with RoHS Requirements
- IEC 60601-1-2-4th Edition EMC Compliant



RoHS



## Description:

The PMP150 series of AC/DC switching power supplies are for 132-150 watts of continuous output power. They are enclosed in a 94 V-0 rated polyphenylene-oxide case with an IEC320/C14 or IEC320/C18 inlet to mate with interchangeable cord for world-wide use. All models meet EN55011 and FCC class B emission limits, and are designed for medical applications.

Model <sup>1</sup>		Output						Average Active Efficiency (typical) @ 115/ 230 VAC
Class I	Class II	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>2</sup>	Max Power	
PMP150-12	PMP150F-12	12V	0A	11A	$\pm 5\%$	120mV	132W	87/86%
PMP150-13	PMP150F-13	15V	0A	9A	$\pm 5\%$	150mV	135W	87/86%
PMP150-13-2	PMP150F-13-2	19V	0A	7.9A	$\pm 5\%$	190mV	150W	88/88%
PMP150-14	PMP150F-14	24V	0A	6.25A	$\pm 5\%$	240mV	150W	88/88%
PMP150-15	PMP150F-15	27V	0A	5.56A	$\pm 5\%$	270mV	150W	89/88%
PMP150-18	PMP150F-18	48V	0A	3.13A	$\pm 5\%$	480mV	150W	88/88%

## NOTES:

1. Class I models are equipped with IEC320/C14 inlet, and class II models with IEC320/C18 inlet.
2. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 10  $\mu$ F tantalum capacitor in parallel with a 0.1  $\mu$ F ceramic capacitor across the output.



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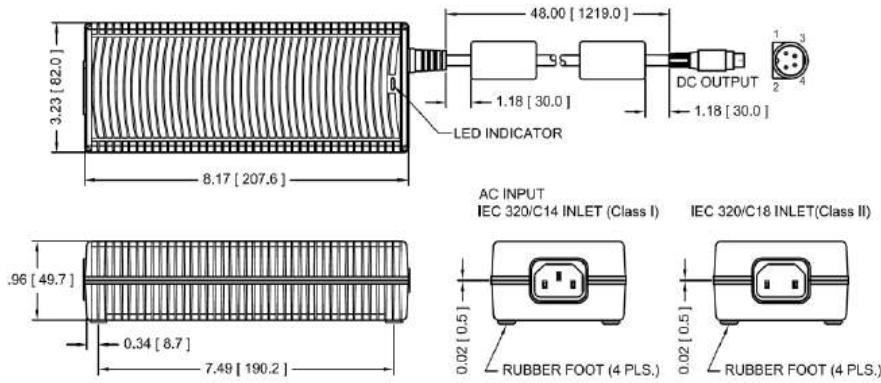
<b>Specifications</b>	
<b>Safety Standards &amp; EMC Specifications</b>	
Safety Standard Approvals	UL ES 60601-1, CSA C22.2 No. 60601-1 File No. E178020 TÜV EN 60601-1
EMI Standard	EN55011, FCC & VCCI Class B conducted and radiated
EMC Performance	EN61000-3-2: Harmonic distortion, class A and D EN61000-3-3: Line flicker EN61000-4-2: ESD, ±15KV air and ±8KV contact EN61000-4-3: Radiated immunity, 10 V/m EN61000-4-4: Fast transient/burst, ±2KV EN61000-4-5: Surge, ±1KV diff., ±2KV com EN61000-4-6: Conducted immunity, 10 Vrms EN61000-4-8: Magnetic field immunity, 30 A/m EN61000-4-11: Voltage dip immunity, 30% reduction for 500ms, 100% reduction for 10ms
*Consult with TT Electronics for information on additional country safety approvals	
<b>Input Specifications</b>	
Input Voltage Range	90-264 VAC
Input Frequency Range	47-63 Hz
Input Current	2A (rms) for 115 VAC, 1A (rms) for 230 VAC
Earth Leakage Current	220 µA max. @ 264 VAC, 63 Hz
Touch Current	100 µA max. @ 264 VAC, 63 Hz
Power Factor	>0.9
<b>Output Specifications</b>	
Ripple & Noise	1% peak to peak maximum at full load
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
<b>Environmental Specifications</b>	
Operating Temperature	0°C to +60°C (See Derating)
Storage Temperature	-40°C to + 85°C
Relative Humidity	5% to 95% non-condensing
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
<b>General Specifications</b>	
Switching Frequency	30-110KHz
Power Factor	0.98 typical at 115VAC
Efficiency	Avg. 87% min. (except 95% min. for PMP150-12 and PMP150-13)
Hold-up Time	15ms minimum at 110VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	60A @ 115 VAC or 120A @ 230 VAC, at 25°C cold start
Withstand Voltage	5600 VDC from input to output (2 MOPP) 2100VDC from input to ground (1 MOPP) 700VDC from output to ground (To verify AC strength, get correct test method to avoid power supply damage.) For Class II models, 4000 VAC from input to output
MTBF	150,000 hours at full load at 25°C ambient , calculated per MIL-HDBK-217F



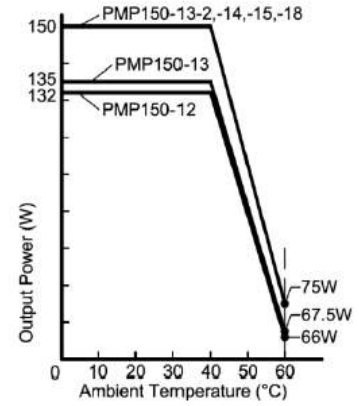
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## Diagrams

### MECHANICAL SPECIFICATIONS



### OUTPUT POWER DERATING CURVE



### NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 960 grams (2.1 lbs.) approx.
4. Output connector is 4 pin plug without lock, mating with Kycon P/N KPJX-4S-S socket or equivalent.
5. Refer to Section titled "OPTIONAL OUTPUT CONNECTORS". Add the suffix assigned for a selected connector to a wanted model number, e.g. PMP150-14-B1, for ordering.

### PIN CHART

MODEL	PIN	1	2	3	4
PMP150-12	PMP150F-12	V1 Return	+V1	V1 Return	+V1
PMP150-13	PMP150F-13				
PMP150-13-2	PMP150F-13-2				
PMP150-14	PMP150F-14				
PMP150-15	PMP150F-15				
PMP150-18	PMP150F-18				