PROTEK POWER

TT Electronics
POWER PARTNERS

PMP105 Medical Power Supplies (90-105W)

Features:

- Low safety ground leakage current
- Wide input range 90 to 264 VAC
- Optional output connectors
- 100% burn-in at full load
- Overvoltage protection
- Over-temperature protection
- Overcurrent protection
- Compliant with CEC and Energy Star Efficiency Level V requirements
  * No load power consumption less than 0.5W
  * Average active efficiency greater than 87%
- Compliant with RoHs requirements
- IEC 60601-2-4th Edition EMC Compliant

CE RoHS V

EN 60601-1
IEC 60601-1

c UL us

Description:

The PMP105 series of AC/DC switching power supplies are for 90-105 watts of continuous output power. They are enclosed in a 94V-0 rated polyphenylene-oxide case with an IEC320/C14, C6, C18 or C8 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 [1]		Output							Average Active Efficiency (typical) @115/230 Vac
Class I [1]	Class II [2]	V1	Imin.	Imax.	Peak Current[3]	Tol	Ripple & Noise[4]	Max Power	
PMP105-12	PMP105SF-12	12V	0A	7.5A	15A	±5%	120mV	90W	87/87%
PMP105-12-1	PMP105SF-12-1	13V	0A	6.93A	13.8A	±5%	130mV	90W	87/87%
PMP105-13	PMP105SF-13	14-16V	0A	6.79A	13.58A	±5%	150mV	95W	87/88%
PMP105-13-1	PMP105SF-13-1	18-19V	0A	5.84A	11.6A	±5%	180mV	105W	88/89%
PMP105-13-3	PMP105SF-13-3	20-21V	0A	5.25A	10.5A	±5%	200mV	105W	88/89%
PMP105-14	PMP105SF-14	24-25V	0A	4.38A	8.7A	±5%	240mV	105W	88/89%
PMP105-15	PMP105SF-15	28-29V	0A	3.75A	4.5A	±5%	280mV	105W	88/89%
PMP105-16	PMP105SF-16	30-32V	0A	3.50A	4.2A	±5%	300mV	105W	88/89%
PMP105-17	PMP105SF-17	36-38V	0A	2.92A	3.5A	±5%	360mV	105W	89/90%
PMP105-18	PMP105SF-18	46-50V	0A	2.29A	2.7A	±5%	480mV	105W	90/91%

NOTES:

1. Class I models are equipped with IEC320/C14 inlet. To order a model with C6 inlet, add “S” to the prefix, PMP105, of model number, e.g. PMP105S-12.
2. Class II models are equipped with IEC320/C8 inlet. To order a model with C18 inlet, change “SF” in the prefix of model number to “F”, e.g. PMP105F-12.
3. For 10 seconds maximum, average power not to exceed maximum power rating.
4. 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 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

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Specifications	
Safety Standards & EMC Specifications	
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, ±15 KV air and ±8 KV contact EN61000-4-3: Radiated immunity, 10 V/m EN61000-4-4: Fast transient/burst, ±2 KV EN61000-4-5: Surge, ±1 KV diff., ±2 KV 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 500 ms, 100% reduction for 10 ms
*Consult with TT Electronics for information on additional country safety approvals	
Input Specifications	
Input Voltage Range	90-264 VAC
Input Frequency Range	47 to 63Hz
Input Current	1.4 A (rms) for 115 VAC, 0.7 A (rms) for 230 VAC
Earth Leakage Current	200 µA max. @ 264 VAC, 63Hz
Touch Current	100 µA max. @ 264 VAC, 63Hz
Power Factor	>0.9
Output Specifications	
Ripple and Noise	1% peak to peak maximum at the full load
Overvoltage Protection	Provided and set at 115-140% 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	0°C to +60°C (See Derating)
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Temperature derating	Derate from 100% at +40°C linearly to 50% at +60°C
General Specifications	
Switching Frequency	70-140KHz
Power Factor	0.98 Typical at 115 VAC
Efficiency	87% min. at full load
Hold-up Time	10ms minimum at 110 VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	80 A @ 115 VAC or 120 A @ 230 VAC, at 25□ cold start
Withstand Voltage	5600 VDC from input to output (2 MOPP) 2100 VDC from input to ground (1 MOPP) 700 VDC 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□ ambient, calculated per MIL-HDBK -217F

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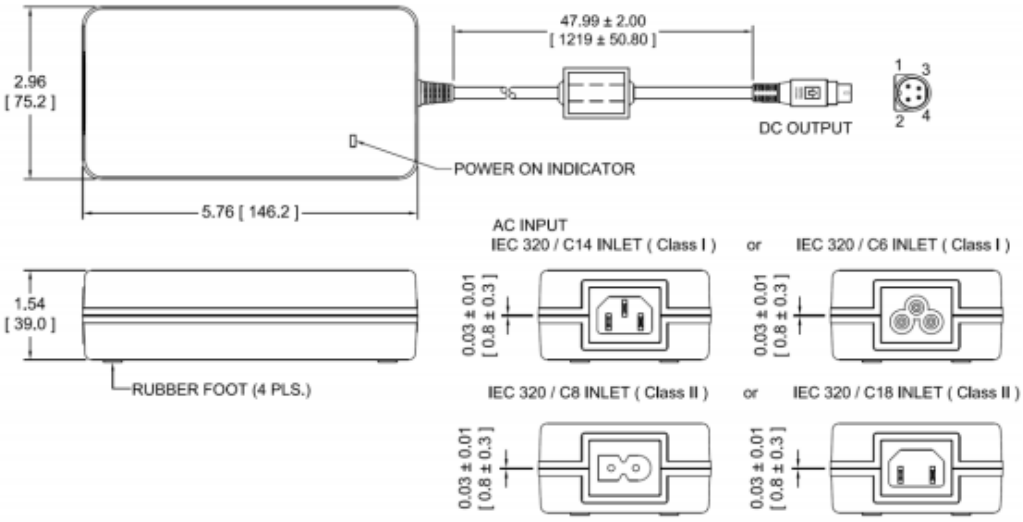
Diagrams

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 681 grams (1.505 lbs.) approx.
4. Refer to Section titled "OPTIONAL OUTPUT CONNECTORS". Add the suffix assigned for a selected connector to a wanted model number, e.g. PMP105-14-B1, for ordering.
5. The length of output cable for PMP105-12, PMP105-12-1, and PMP105-13 is 37.4 (950)

PIN CHART

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

OUTPUT POWER DERATING CURVE