

60-90 WATTS MEDICAL & ITE SWITCHING POWER SUPPLIES

DESCRIPTION

The PMP90 series of AC/DC switching power supplies are for 60 to 90 watts of continuous output power. They are enclosed in a 94V-1 rated case with an IEC 320/C14 or C18 inlet for medical and ITE applications. All models meet EN55011, EN55022 and FCC class B emission limits, and are designed for medical applications, not for life-supporting equipment.

FEATURES

- Low safety ground leakage current
- Option IEC320/C14(Class I) or C18(Class II)
- Wide input range 90 to 264VAC
- Optional output connector
- Overvoltage protection
- Overcurrent protection
- 100% burn-in
- Compliant with CEC and Energy Star efficiency level IV requirements
(For all models except PMP90-10, PMP90-10-1 and PMP90-11)
*No load power consumption less than 0.5W
*Average active efficiency $\geq 85\%$
- Compliant with RoHS requirements

INPUT SPECIFICATIONS

Input voltage : 90 to 264VAC
Input frequency : 47 to 63Hz
Input current : 1.20A (rms) for 115VAC
 0.60A (rms) for 230VAC
Earth leakage current : 90uA max. @ 115VAC, 60Hz
 150uA max. @ 230VAC, 50Hz

OUTPUT SPECIFICATIONS

Output voltage/current : See rating chart
Total output power : See rating chart
Ripple and noise : 2% peak to peak maximum
Over voltage protection : Set at 112-140% of its nominal output voltage
Over current protection : Protected to short circuit conditions
Temperature coefficient : $\pm 0.04\%$ / $^{\circ}\text{C}$ maximum
Transient response : Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500us after a 25% step load change

ENVIRONMENTAL SPECIFICATIONS

Operating temperature : 0 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$
Storage temperature : -40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Relative humidity : 5% to 95% non-condensing
Derating : Derate from 100% at +40 $^{\circ}\text{C}$ linearly to 50% at +60 $^{\circ}\text{C}$

PMP90 SERIES

CE (LVD)
RoHS



Safety Standard Approvals :



UL 60601-1, CSA C22.2 NO. 601.1
 File NO. E178020



UL 60950-1, CSA C22.2 NO. 60950-1
 File NO. E137410



TÜV EN60601-1



TÜV EN60950-1



GENERAL SPECIFICATIONS

Switching frequency : 50 KHz - 110 KHz
Power factor : 0.98 Typical
Efficiency : 85% min.
 (78% min. for PMP90-10, PMP90-10-1, PMP90-11 and PMP90-12)
Hold-up time : 15 msec minimum at 110VAC
Line regulation : $\pm 0.5\%$ maximum at full load
Inrush current : 50 amps @ 115VAC or 100 amps @ 230VAC, @ 25 $^{\circ}\text{C}$ cold start
Withstand voltage : 4000VAC from input to output
 1500VAC from input to ground
 500VAC from output to ground
MTBF : 150,000 hours minimum at full load at 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK-217F

EMC Performance (IEC60601-1-2: 2001)

EN55011/EN55022: Class B conducted, Class B radiated
FCC: Class B conducted, Class B radiated
VCCI: Class B conducted, Class B radiated
EN61000-3-2: Harmonic distortion, Class A and D
EN61000-3-3: Line flicker
EN61000-4-2: ESD, $\pm 8\text{KV}$ air and $\pm 6\text{KV}$ contact
EN61000-4-3: Radiated immunity, 3V/m
EN61000-4-4: Fast transient/burst, $\pm 2\text{KV}$
EN61000-4-5: Surge, $\pm 1\text{KV}$ diff., $\pm 2\text{KV}$ com.
EN61000-4-6: Conducted immunity, 3Vrms
EN61000-4-8: Magnetic field immunity, 3A/m
EN61000-4-11: Voltage dips, 30% reduction for 500ms, 60% reduction for 100ms and >95% reduction for 10ms

UNIVERSAL INPUT

PMP90 SERIES

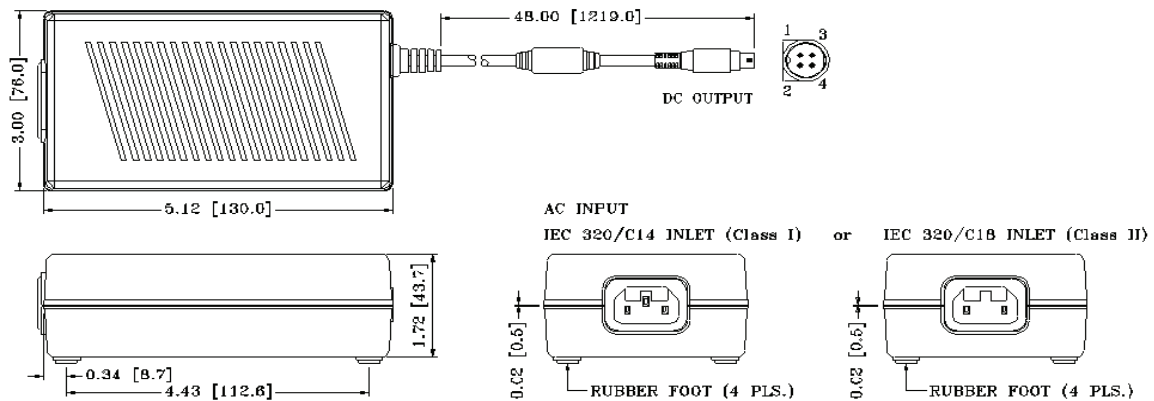
OUTPUT VOLTAGE/CURRENT RATING CHART

MODEL	Vnom.	Output			Maximum Output Power
		Imin.	Imax.	Tol.	
PMP90-12	12V	0A	6.67A	5%	80W
PMP90-14	24V	0A	3.75A	5%	90W

NOTES:

1. Ripple and noise: Peak -to -peak with 20MHz bandwidth and 10uF tantalum capacitor in parallel with a 0.1uF ceramic capacitor at rated line voltage and load ranges.
2. To order a model with IEC320/C18 inlet, add suffix "F" to the PMP90, e.g. PMP90F-12.

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions show in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 658 grams approx.
4. See pages 5-1 to 5-2 for the optional output connectors. Add the suffix assigned for a selected connector to a wanted model number, e.g. PMP90-14-B1 for ordering.
5. PMP90-10, PMP90-10-1, PMP90-12 and PMP90-12-1 output connectors are without lock.

PIN CHART

PIN		1	2	3	4
MODEL					
PMP90-10	PMP90-10-1	RETURN	OUTPUT +V	RETURN	OUTPUT +V
PMP90-11	PMP90-12				
PMP90-12-1	PMP90-13				
PMP90-13-1	PMP90-13-2				
PMP90-14	PMP90-16				
PMP90-18					