



E-Star Power Development Co., Ltd. (E-STAR)
 No.305, Sec. 2, Zhongshan Rd., Banciao City, Taipei County 22067, Taiwan
 Phone : 886-2-2957 5580 Fax : 886-2-2957 7473

100W Desktop type Medical power supply < PMP90

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 85 to 264VAC
- Optional output connectors
- 100% burn-in
- Overvoltage protection
- Overcurrent protection
- 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 : 90-264 VAC
 Input frequency : 47-63 Hz
 Input current : 1.20 A (rms) for 115 VAC
 0.60 A (rms) for 230 VAC
 Earth leakage current : 90 uA max. @ 115 VAC, 60 Hz
 150 uA max. @ 230 VAC, 50 Hz

OUTPUT SPECIFICATIONS

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

ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0°C to +60°C
 Storage temperature: -40°C to +85°C
 Relative humidity: 5% to 95% non-condensing
 Derating: Derate from 100% at +40°C linearly to 50% at +60°C

PMP90 SERIES



CE (LVD)
RoHS

SAFETY STANDARD APPROVALS



UL 60601-1, CSA C22.2 No. 601.1
 File No. E178020
 UL 60950-1
 File No. E137410



TÜV EN60601-1



TÜV EN60950-1

GENERAL SPECIFICATIONS

Switching frequency : 50-110 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 110 VAC
 Line regulation : $\pm 0.5\%$ maximum at full load
 Inrush current : 50 A @ 115 VAC or 100 A @ 230 VAC, at 25°C cold start
 Withstand voltage : 4000 VAC from input to output
 1500 VAC from input to ground
 500 VAC from output to ground
 MTBF : 150,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F
 EMC Performance (EN60601-1-2: 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, ± 8 KV air and ± 6 KV contact
 EN61000-4-3: Radiated immunity, 3 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, 3 Vrms
 EN61000-4-8: Magnetic field immunity, 3 A/m
 EN61000-4-11: Voltage dips, 30% reduction for 500 ms, 60% reduction for 100 ms and >95% reduction for 10 ms



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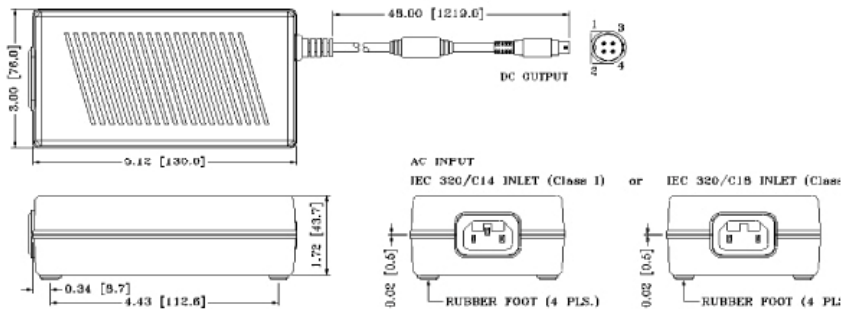
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OUTPUT VOLTAGE/CURRENT RATING CHART

MODEL	Vnom.	Output		ToL	Maximum Output Power
		Imin.	Imax.		
PMP90-10	5 V	0 A	12.0 A	5%	60 W
PMP90-10-1	6 V	0 A	10.0 A	5%	60 W
PMP90-11	9 V	0 A	7.78 A	5%	70 W
PMP90-12	12 V	0 A	6.67 A	5%	80 W
PMP90-12-1	13.5 V	0 A	6.3 A	5%	85 W
PMP90-13	15 V	0 A	5.67 A	5%	85 W
PMP90-13-1	18 V	0 A	5.0 A	5%	90 W
PMP90-13-2	19 V	0 A	4.74 A	5%	90 W
PMP90-14	24 V	0 A	3.75 A	5%	90 W
PMP90-16	30 V	0 A	3.0 A	5%	90 W
PMP90-18	48 V	0 A	1.87 A	5%	90 W

- NOTES:
1. Ripple and noise: Peak to peak with 20 MHz bandwidth and 10 uF tantalum capacitor in parallel with a 0.1 uF 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 shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight : 658 grams approx
4. Refer to Section titled "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

MODEL	PIN	1	2	3	4
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					