

## DESCRIPTION

This series of AC/DC switching power supplies are for 90 watts of continuous output power. They are enclosed in a 94V-0 rated polycarbonate case with an IEC320/C14, C6 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.

## FEATURES

- High efficiency
- Operation up to 5000 meters
- Low safety ground leakage current
- Wide input range 90 to 264 VAC
- 100% burn-in
- Overvoltage protection
- Over-temperature protection
- Short-circuit protection
- Compliant with DOE Efficiency level VI requirement
  - \* No load power consumption less than 0.21 W
  - \* Average active efficiency greater than 88%
- Compliant with RoHS requirements

## INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	1.5 A (rms) for 115 VAC 0.6 A (rms) for 230 VAC
Earth leakage current:	220 uA max. @ 264 VAC, 63 Hz
Touch current	100 µA max. @ 264 VAC, 63 Hz

## OUTPUT SPECIFICATIONS

Output voltage /current:	See rating chart.
Maximum output power:	See rating chart.
Ripple and noise:	200 mV <sub>P-P</sub> maximum on 12V, 300 mV <sub>P-P</sub> maximum on other voltage outputs (15 V, 18 V, 19V and 24V)
Over voltage protection:	Provided and set at 112-140% of its nominal output voltage, latching by recycle input to reset
Short circuit protection:	Automatic recovery
Over temperature protection	Automatic recovery
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
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

## PMP92 SERIES



RoHS



## SAFETY STANDARD APPROVALS



UL ES 60601-1, CSA C22.2 No. 60601-1  
File No. E211696



TÜV EN 60601-1

## GENERAL SPECIFICATIONS

Switching frequency:	75-150 KHz
Power factor:	0.98 typical
Efficiency:	88% minimum.
Hold-up time:	10 ms minimum at 115 VAC
Line regulation:	±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 (2 MOPP) 1500 VAC from input to ground (1 MOPP)
MTBF:	100,000 hours at full load at 25°C ambient , calculated per MIL-HDBK-217F
EMC Performance (IEC60601-1-2)	
EN55011:	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, ±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

## OUTPUT VOLTAGE/CURRENT RATING CHART

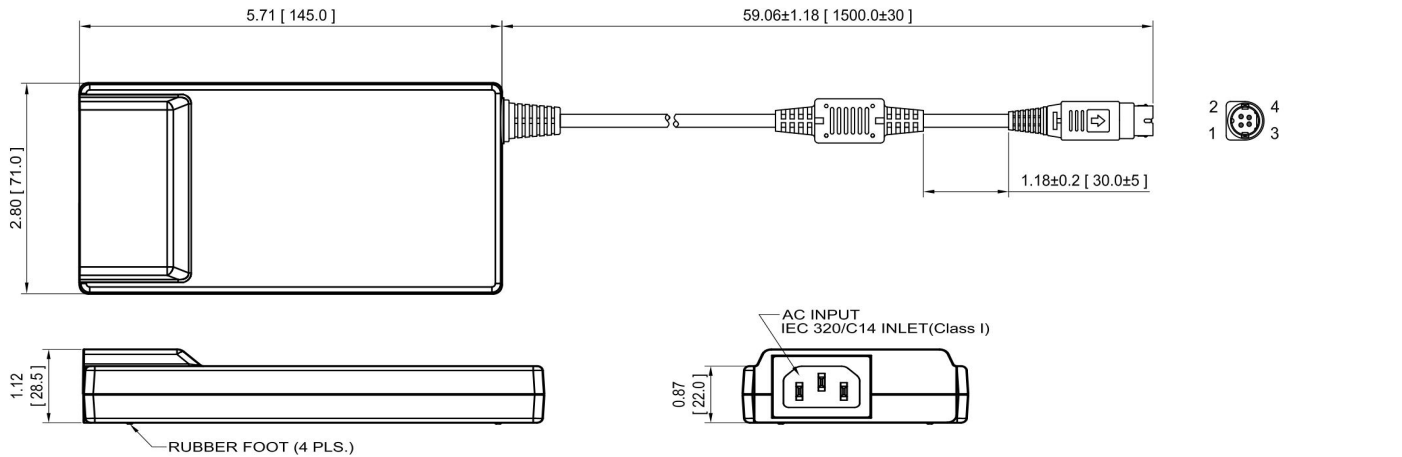
Model <sup>(1)</sup>		Output						Average Active Efficiency (typical) @ 115 / 230 Vac
Class-I	Class-II	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>(2)</sup>	Max. Power	
PMP92-12	PMP92SF-12	12.0 V	0 A	7.50 A	±5%	200 mV	90 W	88 /89%
PMP92S-12		12.0 V	0 A	7.50 A	±5%	200 mV	90 W	88 /89%
PMP92-13	PMP92SF-13-1	15.0 V	0A	6.00 A	±5%	300 mV	90 W	88 /89%
PMP92S-13-1		18.0 V	0 A	5.00 A	±5%	300 mV	90 W	88 /89%
PMP92-13-2	PMP92SF-13-2	19.0 V	0 A	4.74 A	±5%	300 mV	90 W	88 /89%
PMP92S-13-2		19.0 V	0 A	4.74 A	±5%	300 mV	90 W	88 /89%
PMP92-14	PMP92SF-14	24.0 V	0 A	3.75 A	±5%	300 mV	90 W	88 /89%
PMP92S-14		24.0 V	0 A	3.75 A	±5%	300 mV	90 W	88 /89%

**NOTES:**

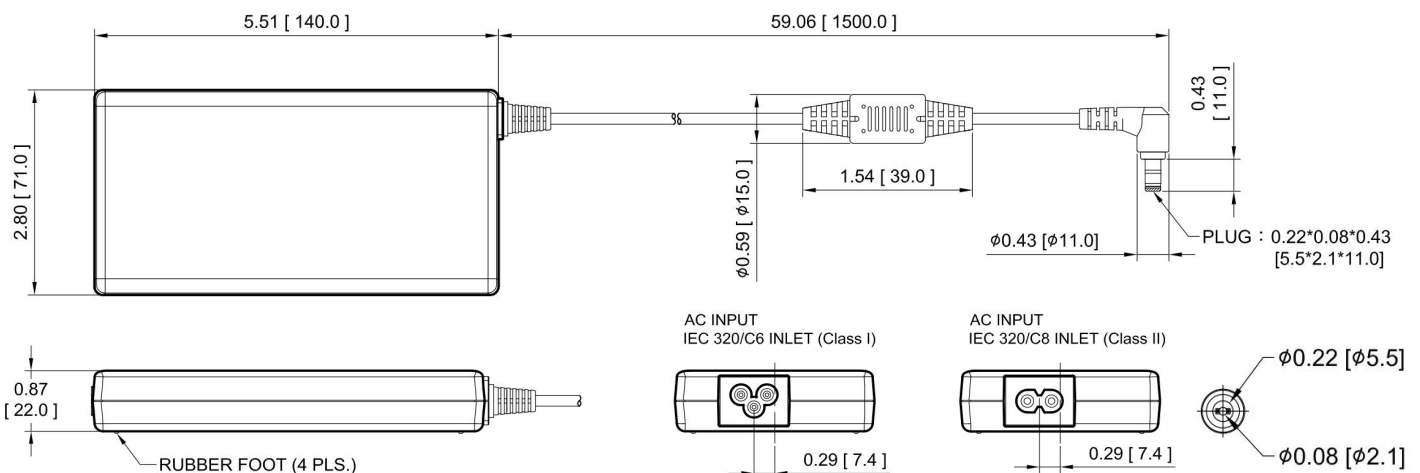
- PMP92-1X Class I models are equipped with IEC320/C14 inlet, and PMP92S-1X Class I models with IEC320/C6 inlet. PMP92SF-1X Class II models are equipped with IEC320/C8 inlet.
- Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and 100% load with a 47 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

## MECHANICAL SPECIFICATIONS

### PMP92 Models



### PMP92S/PMP92SF Models



**NOTES:**

- Dimensions shown in inches [mm]
- Tolerance 0.02 [0.5] maximum
- Weight: 350 grams (0.772 lbs.) approx.

## PIN CHART

PMP92 Models	
PIN 1	V1 Return
PIN 2	+V1
PIN 3	V1 Return
PIN 4	+V1

MODEL	CONNECTION
PMP92S/PMP92SF Models	⊕ — ● — ⊖

## OUTPUT POWER DERATING CURVE

