

## DESCRIPTION

The PMP31 series of AC/DC switching power supplies are for 25-30 watts of continuous output power. They are enclosed in a 94V-0 rated polyphenylene-oxide case with an inlet of the IEC320/C14 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
- Low ripple & noise
- Overvoltage protection
- Over-temperature protection
- Short-circuit protection
- 100% burn-in at full rated load
- Standby consumption less than 0.3 W
- Compliant with CEC and ENERGY STAR efficiency level V requirements
- Compliant with RoHS requirements

## INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	1.0 A (rms) for 115 VAC 0.6 A (rms) for 230 VAC
Earth leakage current:	200 µA 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:	1% peak to peak maximum, except 75 mVp-p max. for PMP31-10
Overvoltage protection:	Set at 116% to 230% of its nominal output voltage
Overcurrent protection:	All models protected to short-circuit conditions
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 µs after a 25% step load change

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	0°C to +60°C
Storage temperature:	-40°C to +85°C
Relative humidity:	10% to 90% non-condensing
Derating	Derate from 100% at +40°C linearly to 50% at +60°C

## PMP31 SERIES



CE

RoHS



## SAFETY STANDARD APPROVALS



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



TÜV EN 60601-1

## GENERAL SPECIFICATIONS

Hold-up time:	8 ms minimum at 115 VAC
Turn on delay time:	3 s maximum at 115 VAC
Efficiency:	Compliant with Energy Star efficiency level V requirements (see rating chart)
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 (2MOPP)
MTBF:	300,000 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
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

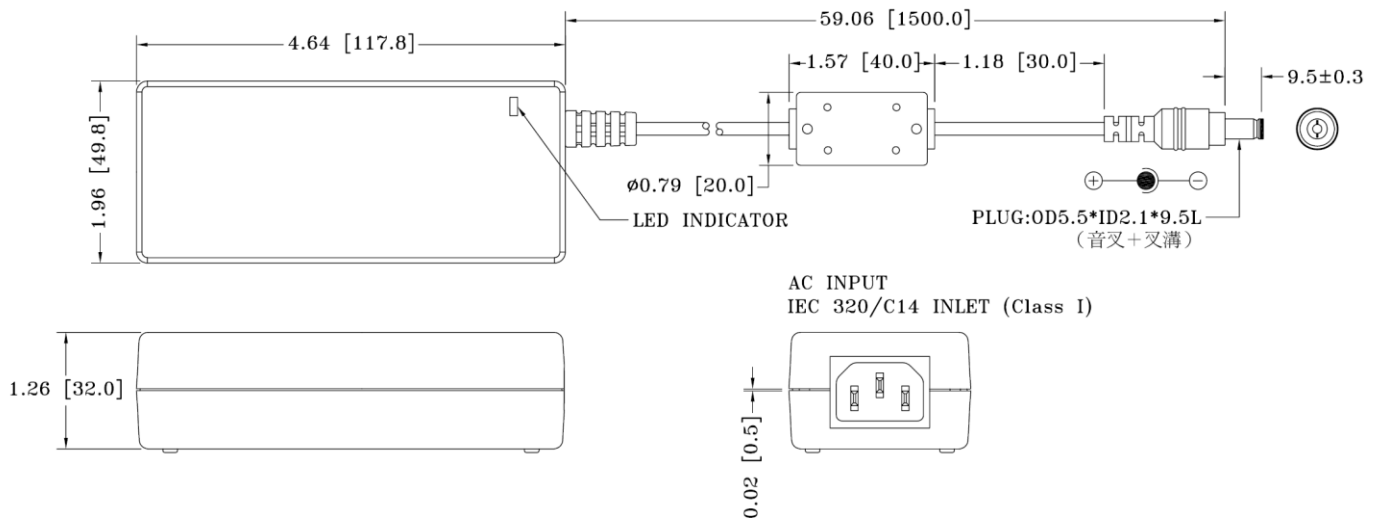
## OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Output					Max. Output Power	Average Active Efficiency (typical) @ 115 / 230 Vac
	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>(1)</sup>		
PMP31-10	5 V	0 A	5.0 A	±5%	75 mV	25 W	83 / 81%
PMP31-11	9 V	0 A	3.33 A	±5%	90 mV	30 W	86 / 84%
PMP31-12	12 V	0 A	2.5 A	±5%	120 mV	30 W	86 / 85%
PMP31-13	15 V	0 A	2.0 A	±5%	150 mV	30 W	88 / 86%
PMP31-13-1	18 V	0 A	1.66 A	±5%	180 mV	30 W	88 / 86%
PMP31-14	24 V	0 A	1.25 A	±5%	240 mV	30 W	89 / 87%
PMP31-18	48 V	0 A	0.625 A	±5%	480 mV	30 W	91 / 90%

**NOTES:**

- 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 47 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

## MECHANICAL SPECIFICATIONS



**NOTES:**

- Dimensions shown in inches [mm]
- Tolerance 0.02 [0.5] maximum
- Weight: 260 grams (0.57 lbs.) approx.
- Output cable is 1500 mm, 18 AWG, except 1000 mm 16 AWG for 5V and 9V output models, so as to comply with CEC and Energy Star efficiency level V requirements.
- Output connector is 5.5 mm O.D., 2.1 mm I.D., 9.5 mm long barrel female connector, center positive voltage.