

DESCRIPTION

The PMP60 is a series of AC/DC switching power adapters consists of 30 to 60 watts single, dual and triple outputs. They are enclosed in a 94V-1 rated polyphenylene-oxide case with an IEC 320/C14 inlet to mate with interchangeable cord for world-wide use. All models meet CISPR 11 and FCC class B emission limits, and are designed for medical applications where low earth leakage current is required.

FEATURES

- Desktop form factor
- Single, dual, or triple outputs
- Optional output connectors
- 100% burn-in
- Wide input range 85 to 264VAC
- Input surge current protection
- Overvoltage protection
- Overcurrent protection
- Compliant with CEC and Energy Star Efficiency level IV requirements
 - * No load power consumption less than 0.5W
 - * Average active efficiency $\geq 85\%$
- Compliant with RoHS requirement

INPUT SPECIFICATIONS

Input voltage : 85 to 264 VAC
 Input frequency : 47 to 63 Hz
 Input current : 1.30A (rms) for 115 VAC
 0.70A (rms) for 230VAC
 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
 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 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 $^{\circ}\text{C}$

TMP60 SERIES



RoHS



Safety Standard Approvals:



UL 60601-1
 CSA C22.2 No. 601.1



TÜV EN60601-1

GENERAL SPECIFICATIONS

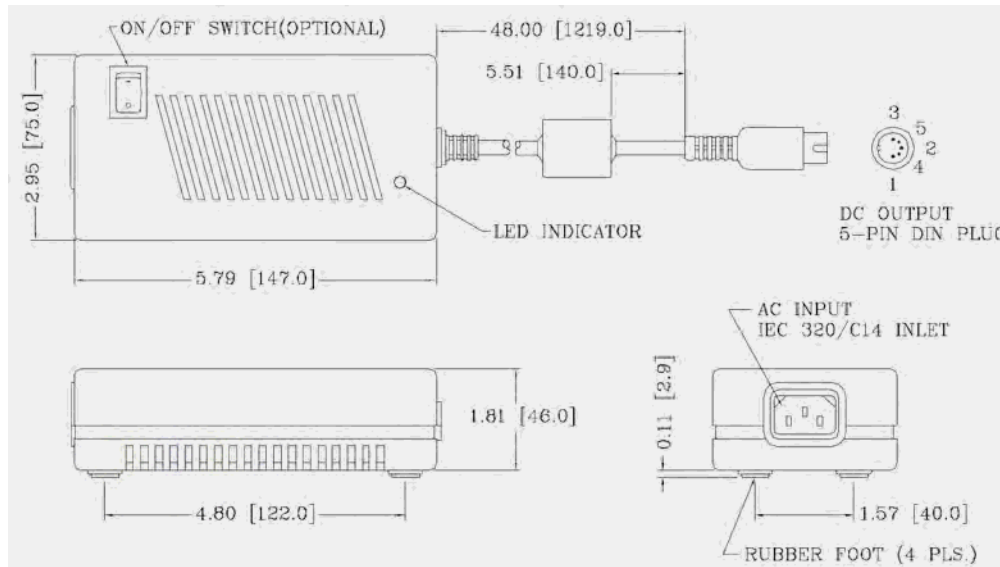
Switching frequency : 40KHz - 130KHz
 Efficiency : 85% minimum on single output models, 65% minimum on the others
 Hold-up time : 10 msec minimum at 110VAC
 Line regulation : $\pm 0.5\%$ maximum at full load
 Inrush current : 50 amps @ 115VAC, or 100 amps @ 230VAC, at 25 $^{\circ}\text{C}$ cold start
 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 (EN60601-1-2)
 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, $\pm 8\text{KV}$ air and $\pm 6\text{KV}$ contact
 EN61000-4-3: Radiated immunity, 3V/m for 80~2500MHz
 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

OUTPUT VOLTAGE/CURRENT RATING CHART

*Product No.	Vnom.	Output #1			Output #2				Output #3				Maximum Output Power
		Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	Vnom.	Imin.	Imax.	Tol.	
TMP60-Sxx	11-13V	0A	5.46A	5%		(N/A)				(N/A)			60W
TMP60-Sxx	13-17V	0A	4.62A	5%		(N/A)				(N/A)			60W
TMP60-Sxx	17-21V	0A	3.53A	5%		(N/A)				(N/A)			60W
TMP60-Sxx	21-27V	0A	2.86A	5%		(N/A)				(N/A)			60W
TMP60-Sxx	27-33V	0A	2.23A	3%		(N/A)				(N/A)			60W
TMP60-Sxx	33-39V	0A	1.82A	3%		(N/A)				(N/A)			60W
TMP60-Sxx	46-50V	0A	1.31A	3%		(N/A)				(N/A)			60W
TMP60-D23	+5V	1A	5.0A	5%	+12V	0.5A	3.0A	5%		(N/A)			40W
TMP60-T30	+3.3V	1A	6.0A	5%	+5V	0.5A	3.0A	5%	+12V	0.1A	0.7A	10%	30W
TMP60-T31	+5V	1A	5.0A	5%	+12V	0.5A	3.0A	5%	-12V	0.1A	0.7A	10%	40W
TMP60-T32	+5V	1A	5.0A	5%	+15V	0.4A	2.3A	5%	-15V	0.1A	0.7A	10%	40W
TMP60-T36	+5V	1A	5.0A	5%	+24V	0.3A	1.5A	5%	+12V	0.1A	0.7A	10%	40W

- Notes:
- (1) For single output models: Specify the output voltage xx when ordering, e.g. TMP60-S12 for 12V output, TMP60-S19.5 for 19.5V output.
 - (2) 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
 - (3) The output voltages of a multiple output model may go outside of the stated tolerance when an output load current is out of stated limits. All models may be operated at no-load without damage.

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions show in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 600 grams approx.
4. For other output connector options, please contact TRUMPower.
5. To order a model with on/off switch, add suffix "S" to the model number, e.g. TMP60-S30-S.

PIN CHART

P/N \ PIN	1	2	3	4	5
TMP60-Sxx	RETURN	RETURN	OUTPUT #1	RETURN	OUTPUT #1
TMP60-D23	COMMOM RETURN	COMMOM RETURN	OUTPUT #1	N.C.	OUTPUT #2
TMP60-T30 TMP60-T31 TMP60-T33 TMP60-T36	COMMOM RETURN	COMMOM RETURN	OUTPUT #1	OUTPUT #3	OUTPUT #2