

### TMP180 SERIES

Class I, Class II

#### DESCRIPTION

The TMP180 series of AC/DC switching power supplies delivers 180 watts of continuous output power. They are enclosed in a 94V-1 rated polyphenylene-oxide case with AC inlet of the IEC 320/C14 or IEC320/C8 to mate with an interchangeable cord for world-wide use. All models meet CISPR 11 and FCC class B emission limits, and are designed for medical applications, not for life- supporting equipment.

#### FEATURES

- High efficiency
- Low ripple & noise
- Overvoltage protection
- Short-circuit protection
- Overpower protection
- Over temperature protection
- 100% burn-in at full rated load
- Standby consumption less than 0.5 W
- Compliant with CEC and ENERGY STAR efficiency level V requirements
- Compliant with RoHS requirements
- 0.95 Power factor



#### Safety Standard Approvals



UL 60601-1  
CSA C22.2 No. 601.1



TÜV EN60601-1

Note: Agency approvals ready on 24V output; pending on other outputs

#### INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	2.3 A (rms) for 100 VAC 0.8 A (rms) for 240 VAC
Earth leakage current:	300 uA max. @ 264 VAC, 60 Hz

#### OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart
Total output power:	See rating chart
Ripple and noise:	380 mV peak to peak maximum
Overvoltage protection:	Set at 130% to 150% of its nominal output voltage
Overcurrent protection:	All models protected to short circuit conditions
Transient response:	+10% maximum excursion Output load step is: (1) 0% to 50% (2) 50% to 100% Slew rate = 0.5 A/uS Frequency is 100 Hz and 1 KHz

#### ENVIRONMENTAL SPECIFICATIONS

Operating temperature : 0°C to +40°C  
Storage temperature : -20°C to +80°C  
Relative humidity : 10% to 90% non-condensing

#### GENERAL SPECIFICATIONS

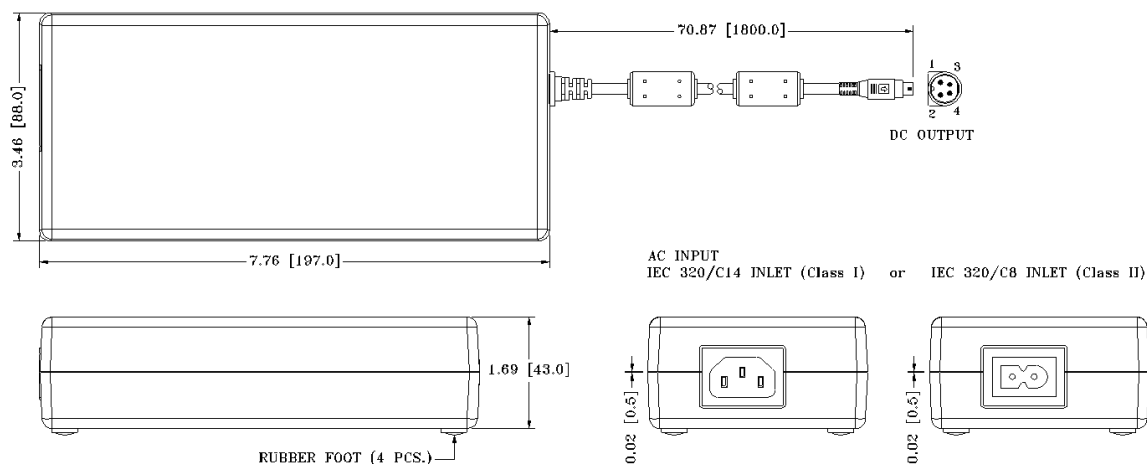
Hold-up time:	5 msec minimum at 100 VAC
Turn on delay time:	3 S maximum at 100 VAC
Power Factor:	0.95 typical
Efficiency:	87% min. at 100 VAC or 240 VAC
Line regulation:	±0.5% maximum at full load
Inrush current:	No damage
Withstand voltage:	2000 VAC from input to output
MTBF:	100,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F
EMC Performance (IEC 60601-1-2)	
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 D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, ±15 KV air and ±8 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

## OUTPUT VOLTAGE/CURRENT RATING CHART

P/N	Vnom.	Imin.	Imax.	Tol.	Maximum Output Power
TMP180-19	19 V	0 A	9.47 A	5%	180 W
TMP180-24	24 V	0 A	7.5 A	5%	180 W
TMP180-28	28 V	0 A	6.42 A	5%	180 W
TMP180-24-C2	24 V	0 A	7.5 A	5%	180 W

NOTE: 1. Ripple and noise: Peak to peak with 20 MHz bandwidth and 47 uF tantalum capacitor in parallel with a 0.1 uF ceramic capacitor at rated line voltage and load ranges.  
 2. All models are with IEC320/C14 inlet (class I), except TMP180-24-C2 is with IEC320/C8 (class II).

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 950 grams (2.09 lbs.) approx.

## PIN CHART

MODEL \ PIN	1	2	3	4	Shield
TMP180-19 TMP180-24 TMP180-28	Output +V	Output +V	Return & Ground	Return & Ground	Return & Ground
TMP180-24-C2	Output +V	Output +V	Return	Return	Return