

## DESCRIPTION

The PUP180 series of AC/DC switching power supplies are for 180 watts of continuous output power. They are enclosed in a 94V-1 rated polyphenylene-oxide case with an IEC 320/C14 or C6 inlet to mate with interchangeable cord for world-wide use. All model meet CISPR 22 and FCC class B emission limits, and comply with UL, CSA, IEC and CE requirements.

**Note: Warranty period for PUP180 series is one year.**

## FEATURES

- High Efficiency
- Low Ripple & Noise
- Overvoltage protection
- Short-circuit protection
- Overpower protection
- Over temperature protection
- 100% burn-in at full rated load
- Compliant with CEC and Energy Star efficiency level IV requirements
  - \* No load power consumption less than 0.5W
  - \* Average active efficiency  $\geq 85\%$ (IV) &  $\geq 87\%$ (V)
- Compliant with RoHS requirements

**New!!**

## PUP180 SERIES



## Safety Standard Approvals :

UL 60950, CSA C22.2 NO. 60950

TÜV EN60950-1

CE Mark

CB Report

## INPUT SPECIFICATIONS

**Input voltage :** 90 to 264VAC  
**Input frequency :** 47 to 63 Hz  
**Input current :** 2.5A ( rms ) for 115VAC  
 1.25A ( rms ) for 230VAC  
**Earth leakage current:** 150uA max. @ 115VAC, 60Hz  
 (Touch current) 250uA max. @ 230VAC, 50Hz

## OUTPUT SPECIFICATIONS

**Output voltage/current :** See rating chart  
**Total output power :** See rating chart  
**Ripple and noise :** 380mV peak to peak maximum  
**Overvoltage protection :** Set at 110-140% of its nominal output voltage  
**Overcurrent protection :** All models protected to short circuit conditions  
**Temperature coefficient :** All outputs  $\pm 0.04\%$  /  $\square$  maximum  
**Transient response :**  $\pm 10\%$  Maximum.  
 Output load step is :  
 (1) 0% ~ 50%  
 (2) 50% ~ 100%  
 S/R = 0.5A/uS  
 Frequency is 100Hz and 1KHz

## ENVIRONMENTAL SPECIFICATIONS

**Operating temperature :** 0  $\square$  to +40  $\square$   
**Storage temperature :** -20  $\square$  to +80  $\square$   
**Relative humidity :** 10% to 90% non-condensing

## GENERAL SPECIFICATIONS

**Hold-up time :** 5 mS minimum at 100VAC or 240VAC  
**Turn on delay time :** 3 S maximum at 100VAC  
**Power Factor :** 0.99 @ 115Vac/60Hz, Full load  
 0.95 @ 230Vac/50Hz, Full load  
**Efficiency :** 87% minimum at 100VAC or 240VAC.

**Inrush current :** No damage  
**Withstand voltage :** 3000VAC from input to output  
 1500VAC from input to ground  
**MTBF :** 100,000 hours at full load at 25  $\square$  ambient, calculated per MIL-HDBK- 217F

## EMC Performance (EN55024)

**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 D  
**EN61000-3-3:** Line flicker  
**EN61000-4-2:** ESD,  $\pm 8$ KV air and  $\pm 4$ KV contact  
**EN61000-4-3:** Radiated immunity, 3V/m  
**EN61000-4-4:** Fast transient/burst,  $\pm 1$ KV  
**EN61000-4-5:** Surge,  $\pm 1$ KV diff.,  $\pm 2$ KV com.  
**EN61000-4-6:** Conducted immunity, 3Vrms  
**EN61000-4-8:** Magnetic field immunity, 1A/m  
**EN61000-4-11:** Voltage dips, 30% reduction for 500ms and  $>95\%$  reduction for 10ms

# UNIVERSAL INPUT

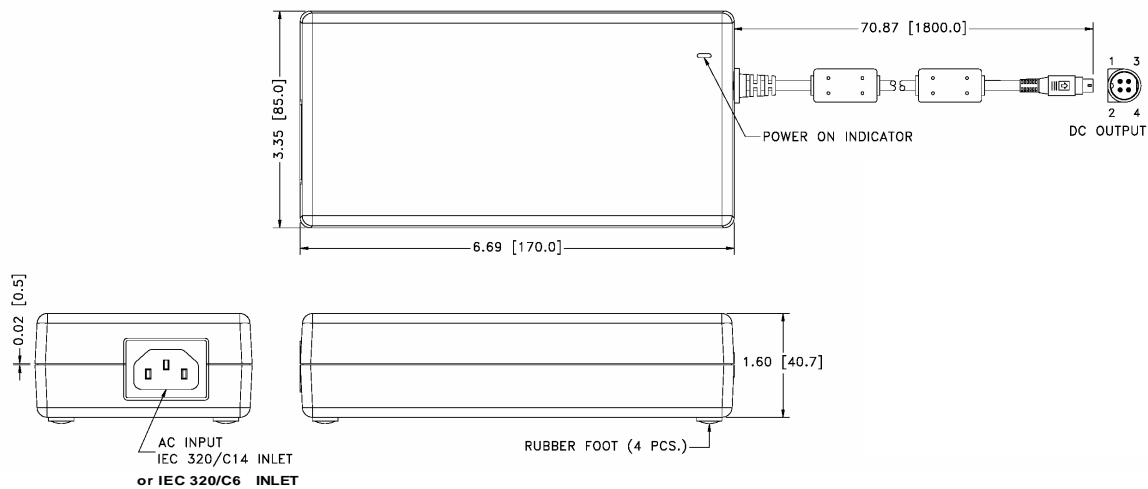
# PUP180 SERIES

## OUTPUT VOLTAGE/CURRENT RATING CHART

MODEL	Vnom.	Imax.	Output		Tol.	Maximum Output Power
			V	A		
PUP180-13-1	18V	10.0A	0A	0A	5%	180W
PUP180-13-2	19V	9.47A	0A	0A	5%	180W
PUP180-14	24V	7.5A	0A	0A	5%	180W
PUP180-18	48V	3.75A	0A	0A	5%	180W

NOTE: 1. Ripple and noise: Peak-to-peak with 20MHz bandwidth and 47uF tantalum capacitor in parallel with a 0.1uF ceramic capacitor at rated line voltage and load ranges.  
 2. To order a model with IEC320/C6 inlet, add suffix "S" to the PUP180, e.g. PUP180S-14.

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inch [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 860 grams approx.
4. See pages 5-1 to 5-2 for optional output connector. Add the suffix assigned for a selected connector to a wanted model number, e.g. PUP180-14-B1, for ordering.

## PIN CHART

MODEL	PIN	1	2	3	4	Shell of connector
PUP180-13-1 PUP180-14	PUP180-13-2 PUP180-18	Output +V	Output +V	Return	Return	Return