

## DESCRIPTION

The PUP150N/PUP150NS series of AC/DC switching power supplies are for 150 watts of continuous output power. They are enclosed in a 94V-1 rated polyphenylene-oxide case with an inlet of the IEC 320/C14 or IEC320/C6 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 PUP150N 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
- Standby consumption less than 0.5W
- Compliant with CEC and Energy Star efficiency level IV requirements
- Compliant with RoHS requirements

New!!

## PUP150N/PUP150NS SERIES



## Safety Standard Approvals :



**UL60950-1, CSA C22.2 No. 60950-1**  
File No. E190414



**TUV EN60950-1**  
Certificate No. S 50136092

## INPUT SPECIFICATIONS

Input voltage :	90 to 260 VAC
Input frequency :	47 to 63 Hz
Input current :	2.0A (rms) for 115 VAC 1.0A (rms) for 230 VAC
Earth leakage current : (Touch current)	150uA max. @ 115 VAC, 60 Hz 250uA max. @ 230 VAC, 50 Hz

## 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 $\pm 0.04\%$ / $^{\circ}\text{C}$ 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 +40 $^{\circ}\text{C}$
Storage temperature :	-20 $^{\circ}\text{C}$ to +80 $^{\circ}\text{C}$
Relative humidity :	10% to 90% non-condensing

## GENERAL SPECIFICATIONS

Hold-up time :	3 msec minimum at 100VAC
Turn on delay time :	5 S maximum at 100VAC
Power Factor :	0.95 typical
Efficiency :	86% min at 110 VAC or 240 VAC.
Line regulation :	$\pm 0.5\%$ maximum at full load
Inrush current :	No damage
Withstand voltage :	1500 VAC from input to output
MTBF :	100,000 hours at full load at 25 $^{\circ}\text{C}$ ambient, calculated per MIL-HDBK- 217F
EMC Performance	
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
(EN55024)	
EN61000-4-2:	ESD, $\pm 8\text{KV}$ air and $\pm 4\text{KV}$ contact
EN61000-4-3:	Radiated immunity, 3V/m
EN61000-4-4:	Fast transient/burst, $\pm 1\text{KV}$
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, 1A/m
EN61000-4-11:	Voltage dips, 30% reduction for 500ms and >95% reduction for 10ms

# UNIVERSAL INPUT

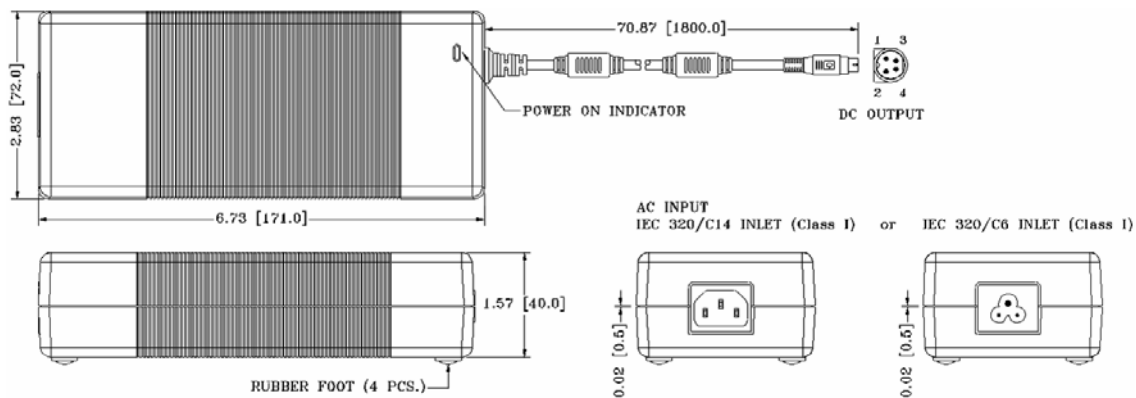
# PUP150N/PUP150NS SERIES

## OUTPUT VOLTAGE/CURRENT RATING CHART

MODEL	Vnom.	Imax.	Output		Tol.	Maximum Output Power
			Imin.			
PUP150N-12 PUP150NS-12	12V	12.5A	0A		+3% -7%	150W
PUP150N-13-2 PUP150NS-13-2	19V	7.89A	0A		5%	150W
PUP150N-14 PUP150NS-14	24V	6.25A	0A		5%	150W

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 PUP150N, e.g. PUP150NS-12.

## MECHANICAL SPECIFICATIONS



### NOTES:

- Dimensions shown in inches [mm]
- Tolerance 0.02 [0.5] maximum
- Weight: 800 grams approx.
- See pages 69 for optional output connector. Add the suffix assigned for a selected connector to a wanted model number, e.g. PUP150N-14-B1, for ordering.
- The length of output cable for PUP150N-12 is 37.4 (950.0)

## PIN CHART

MODEL	PIN	1	2	3	4	Shell of connector
		PUP150N-12 PUP150NS-12	PUP150NS-12	Output +V	Output +V	
PUP150N-13-2 PUP150NS-13-2	PUP150NS-13-2	Output +V	Output +V	Return	Return	Return
PUP150N-14 PUP150NS-14	PUP150NS-14					