

## DESCRIPTION

The PUP25 series of AC-DC switching power supplies are for 15-25 watts of continuous output power. They are enclosed in a 94V-0 rated plastic case with an IEC320/C14 inlet to mate with interchangeable cord for world-wide use. All models meet EN55022, EN55024 and FCC class B emission limits and comply with UL, CSA, IEC and CE requirements.

## FEATURES

- No load power consumption less than 0.1w
- Meet efficiency level VI
- Meet energy star EPS2.0 /ErP lot 7
- Operating altitude up to 5000 meters
- Overvoltage protection (auto-recovery)
- Short-circuit protection (auto-recovery)
- Overcurrent protection (auto-recovery)
- High Efficiency
- 100% burn-in at full rated load
- Compliant with RoHS requirements

## INPUT SPECIFICATIONS

Input voltage: 90-264 VAC  
 Input frequency: 47-63 Hz  
 Input current: 0.8A (rms) for 115 Vac  
 0.45A (rms) for 230 Vac  
 Touch current: 250  $\mu$ A max. @ 264 VAC, 60 Hz

## OUTPUT SPECIFICATIONS

Output voltage /current: See rating chart.  
 Maximum output power: See rating chart.  
 Ripple and noise: See rating chart.  
 Overvoltage protection: Set at 115-180% of its nominal output voltage  
 Overcurrent protection: Protect to short circuit conditions  
 Temperature coefficient: All outputs  $\pm 0.04\%$  / $^{\circ}$ C maximum  
 Transient response: Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0 $^{\circ}$ C to +40 $^{\circ}$ C  
 Storage temperature: -20 $^{\circ}$ C to +80 $^{\circ}$ C  
 Operating humidity: 20% to 80% non-condensing  
 Storage humidity: 10% to 90% non-condensing

## PUP25 SERIES



## SAFETY STANDARD APPROVALS



UL 60950-1, CSA C22.2 No. 60950-1  
 File No. E190414



TUV EN 60950-1

## GENERAL SPECIFICATIONS

Hold-up time: 8 ms minimum at 115 VAC  
 Turn on delay time: 3 s maximum at 115 VAC  
 Efficiency: 83% min. at full load  
 Line regulation:  $\pm 0.5\%$  maximum at full load  
 Inrush current: 30 A @ 115 VAC or 60 A @ 230 VAC at 25 $^{\circ}$ C cold start  
 Withstand voltage: 1500 VAC from input to ground and output  
 MTBF: 1,000,000 hours at full load at 25 $^{\circ}$ C ambient, calculated per SR332

## EMC Performance

EN55022(CISPR 22): 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 and D  
 EN61000-3-3: Line flicker  
 EN55024  
 EN61000-4-2: ESD,  $\pm 8$  KV air and  $\pm 4$  KV contact  
 EN61000-4-3: Radiated immunity, 3 V/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, 3 Vrms  
 EN61000-4-8: Magnetic field immunity, 1 A/m  
 EN61000-4-11: Voltage dip immunity, 30% reduction for 500 ms, and >95% reduction for 10 ms

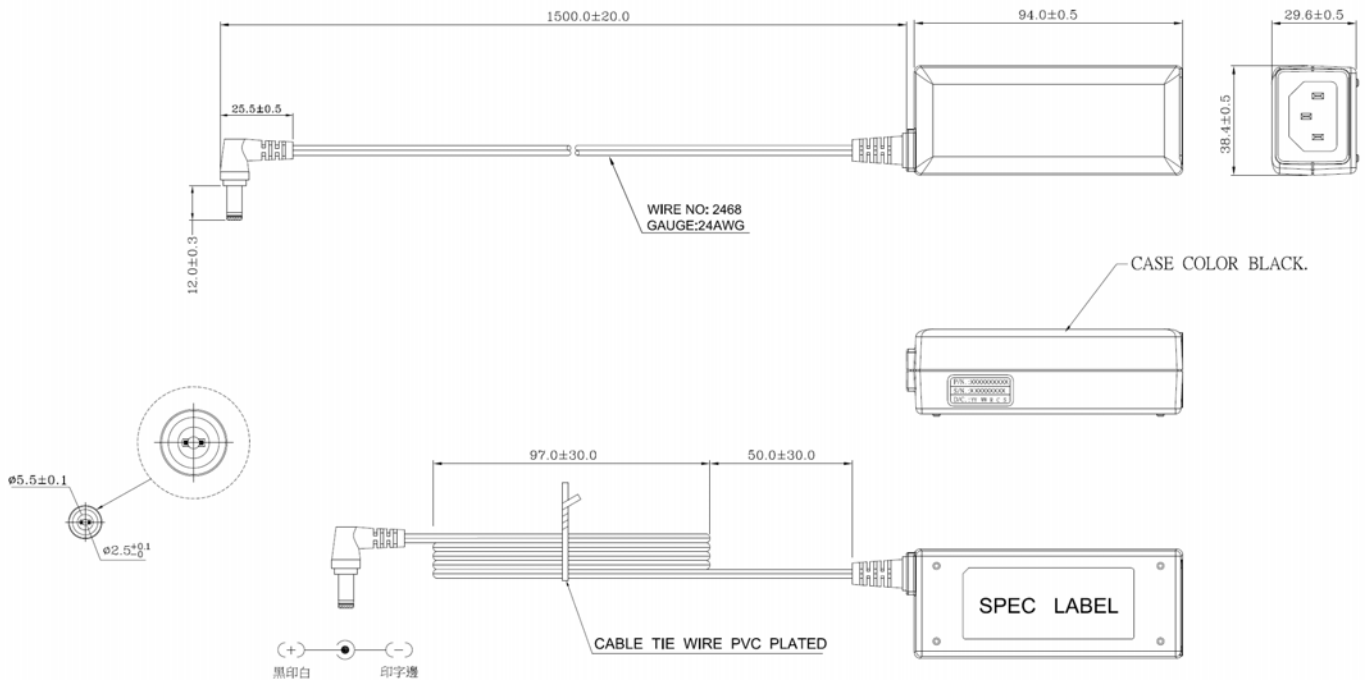
## OUTPUT VOLTAGE/CURRENT RATING CHART

Model	Output						Average efficiency (typical) @ 115 / 230 Vac
	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>(1)</sup>	Max. Power	
PUP25-10	5 V	0 A	3.00 A	±5%	120 mV	15 W	83 /83%
PUP25-12	12 V	0 A	2.08 A	±5%	120 mV	25 W	87 /88%
PUP25-13-2	19 V	0 A	1.32 A	±5%	190 mV	25 W	88 /89%
PUP25-14	24 V	0 A	1.04 A	±5%	240 mV	25 W	89 /89%

### NOTES:

1. 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 electrolytic capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

## MECHANICAL SPECIFICATIONS



### NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 255.80 grams (0.5627 lbs.) approx.
4. Output return connected to Earth Ground on standard models. Please contact Protek Power for alternate configurations.

## PIN CHART

MODEL	CONNECTION
Polarity	