

# 90 WATT ITE POWER SUPPLIES

#### **DESCRIPTION**

The PUP91 series of AC/DC switching power supplies are for 90 watts of continuous output power. They are enclosed in a 94V-0 rated plastic case with IEC320/C14, IEC320/C6 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 0.21w
- Compliant with DoE level VI requirements
- Meet energy star EPS2.0 /ErP lot 7
- Operating altitude up to 5000 meters
- Overvoltage protection (latch)
- Short circuit protection (auto-recovery)
- Overcurrent protection (auto-recovery)
- Over temperature protection (latch)
- High efficiency, ≥ 89%
- With PFC circuit
- 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: 1.2 A (rms) for 115 VAC

0.6 A (rms) for 230 VAC

Touch current: 250 µA 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: Provided and set at 110-155% of its

nominal output voltage

Overcurrent protection: Protected to short circuit conditions

Temperature coefficient:  $\pm 0.04\%$  /  $^{\circ}$  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

Operation humidity: 20% to 80% non-condensing Storage humidity 10% to 90% non-condensing

#### **PUP91 SERIES**



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**RoHS** 



## SAFETY STANDARD APPROVALS



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



TÜV EN 60950-1

#### **GENERAL SPECIFICATIONS**

Power factor: 0.90 Typical at 115 VAC
Efficiency: 89% minimum at full load
Hold-up time: 10 ms minimum at 100 VAC
Line regulation: ±0.5% maximum at full load

Inrush current: 60 A @ 115 VAC or 120 A @ 230 VAC, at 25

 $^{\circ}\!\mathbb{C}$  cold start

Withstand voltage: 1500 VAC from input to ground and output MTBF: 500,000 hours at full load at 25℃ ambient,

calculated per SR332

**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, ±8 KV air and ±4 KV contact

EN61000-4-3: Radiated immunity, 3 V/m
EN61000-4-4: Fast transient/burst, ±1 KV
EN61000-4-5: Surge, ±1 KV diff., ±2 KV com.
EN61000-4-6: Conducted immunity, 3 V/ms
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**

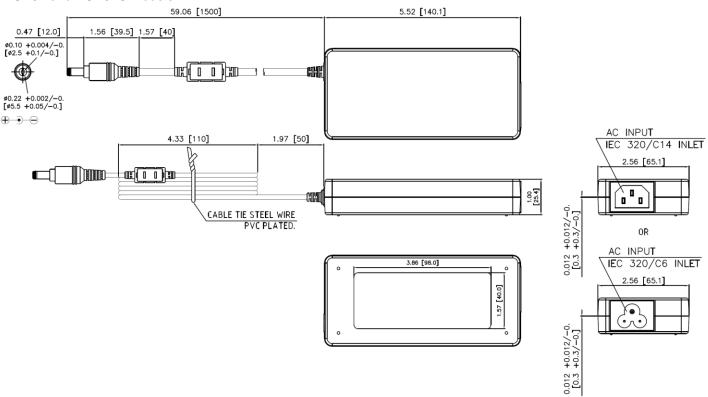
	Output						Average Active
Model <sup>(1)</sup>	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>(2)</sup>	Max. Power	Efficiency (typical) @ 115 / 230 Vac
PUP91-13-2	19 V	0 A	4.74 A	±5%	350 mV	90 W	89 /89%
PUP91S-13-2	19 V	0 A	4.74 A	±5%	350 mV	90 W	89 /89%
PUP91-14	24 V	0 A	3.75 A	±5%	350 mV	90 W	90 /90%
PUP91S-14	24 V	0 A	3.75 A	±5%	350 mV	90 W	90 /90%
PUP91-18	48 V	0 A	1.88 A	±5%	350 mV	90 W	91 /91%
PUP91S-18	48 V	0 A	1.88 A	±5%	350 mV	90 W	91 /91%
PUP91-19	54 V	0 A	1.67 A	±5%	350 mV	90 W	90 /90%
PUP91S-19	54 V	0 A	1.67 A	±5%	350 mV	90 W	90 /90%

#### NOTES:

- 1. PUP91 models are equipped with IEC320/C14 inlet, and PUP91S models with IEC320/C6 inlet.
- 2. 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**

#### PUP91 and PUP91S Models



#### NOTES:

- 1. Dimensions shown in inches [mm]
- 2. Tolerance 0.02 [0.5] maximum
- 3. Weight: 360 grams (0.79 lbs.) approx.
- 4. Output return (-) is electrically connected to incoming Earth Ground through a 1M ohm resistor as standard.

#### **PIN CHART**

MODEL	CONNECTION		
Polarity	+		