



PROTEK POWER

## PUP90N3 AC/DC Switching Power Supply Series (90W)

### Features:

- No load power consumption less than 0.15W
- Compliant with DoE level VI requirements
- Meets energy star EPS2.0/ErP EC No 278/2009 (lot 7)
- Meets EU CoC EPS V5 Tier2
- Operating altitude up to 5000 meters
- Overvoltage protection (latch)
- Short circuit protection (auto-recovery)
- Overcurrent protection (auto-recovery)
- Over temperature protection (latch)
- High efficiency,  $\geq 89\%$
- With PFC circuit
- 100% burn-in at full rated load
- Compliant with RoHS requirement



CE  
RoHS



### Description:

The PUP90N3 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 or IEC320/C6 inlet to mate with interchangeable cord for world-wide use. All models meet EN55032, EN55024 and FCC class B emission limits, and comply with UL, CSA, IEC and CE requirements.

Part Number	Output Voltage	Min. Current	Max. Current	Tolerance	Ripple & Noise	Wattage	Average Efficiency @115/230 Vac
PUP90N3-13-2	19V	0A	4.74A	$\pm 5\%$	350mV	90W	89/89%
PUP90N3S-13-2	19V	0A	4.74A	$\pm 5\%$	350mV	90W	89/89%
PUP90N3-14	24V	0A	3.75A	$\pm 5\%$	350mV	90W	90/90%
PUP90N3S-14	24V	0A	3.75A	$\pm 5\%$	350mV	90W	90/90%
PUP90N3-18	48V	0A	1.88A	$\pm 5\%$	350mV	90W	91/91%
PUP90N3S-18	48V	0A	1.88A	$\pm 5\%$	350mV	90W	91/91%
PUP90N3-19	54V	0A	1.67A	$\pm 5\%$	350mV	90W	90/90%
PUP90N3S-19	54V	0A	1.67A	$\pm 5\%$	350mV	90W	90/90%

### NOTES:

1. PUP90N3 models are equipped with IEC320/C14 inlet, and PUP90N3S 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 $\mu$ F electrolytic capacitor in parallel with a 0.1  $\mu$ F ceramic capacitor across the output.



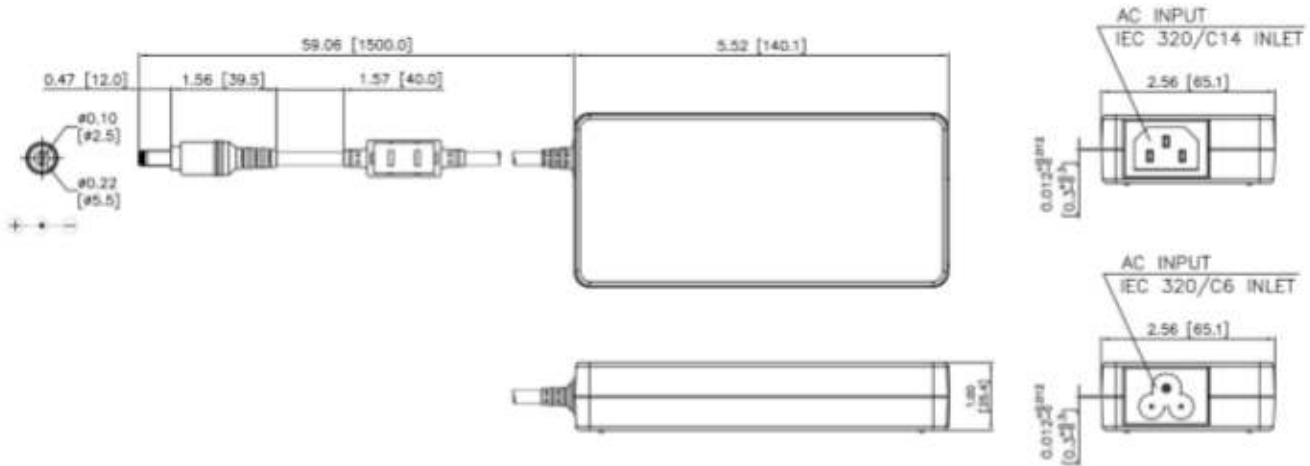
## PUP90N3 AC/DC Switching Power Supply Series (90W)

<b>Specifications</b>	
<b>Safety Standards &amp; EMC Specifications</b>	
Safety Standard Approvals	UL 62368-1 File No. E190414 CSA C22.2 No. 62368-1 TÜV EN 62368-1
EMI Standard	EN55032, FCC, and VCCI Class B (radiated and conducted)
EMC Performance	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, 3V/m EN61000-4-4: Fast transient/burst, ±1 KV EN61000-4-5: Surge, ±1 KV diff., ±2 KV com. EN61000-4-6: Conducted immunity, 3Vrms EN61000-4-8: Magnetic field immunity, 1A/m EN61000-4-11: Voltage dip immunity, 30% reduction for 500ms, and >95% reduction for 10ms
*Consult with TT Electronics for information on additional country safety approvals	
<b>Input Specifications</b>	
Input Voltage Range	90 to 264 Vdc
Input Frequency Range	47 to 63Hz
Input Current	1.0A (rms) for 115 VAC or 0.5A (rms) for 230 VAC Maximum
Earth Leakage Current	250µA max. @ 264 VAC, 60Hz
<b>Output Specifications</b>	
Output Connection Type	2.5mm ID x 5.5mm OD x 12mm L, Center Positive, Straight Barrel
Over Voltage Protection	Set at 110–155% of its nominal output voltage
Over Current Protection	Protect to short circuit conditions
Temperature Coefficient	All outputs ±0.04%/°C maximum
Transient Response	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 µs after a 25% step load change
<b>Environmental Specifications</b>	
Operating Temperature	0°C → +40°C (41°C to 60°C with derating)
Storage Temperature	-20°C → 80°C
Operating Humidity	20% to 80% non-condensing
Storage Humidity	10% to 90% non-condensing
<b>General Specifications</b>	
Hold-up Time	10ms minimum at 100 VAC
Power Factor	0.90 Typical at 115 VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	60A @ 115 Vac or 120A @ 230 Vac at 25°C cold start
Withstand Voltage	4242 VDC input to output, 2500 VDC input to ground
MTBF	200,000 hours at full load at 25°C ambient, calculated per SR332



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## Diagrams



### 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

PIN NO.	CONNECTION
Polarity	

## OUTPUT POWER DERATING CURVE

