

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.

FEATURES

- No load power consumption less than 0.15W
- Compliant with DoE level VI requirements
- Meet energy star EPS2.0 /ErP EC No 278/2009 (lot 7)
- Meet 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 requirements

INPUT SPECIFICATIONS

| | |
|------------------------|--|
| Input voltage: | 90-264 VAC |
| Input frequency: | 47-63 Hz |
| Input current: | 1.0 A (rms) for 115 VAC 0.5 A (rms) for 230 VAC |
| Earth Leakage current: | 250 μ 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: | Provided and set at 110-155% of its nominal output voltage |
| Overcurrent protection: | Protected to short circuit conditions |
| Temperature coefficient: | $\pm 0.04\%$ / $^{\circ}$ 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 |

PUP90N3 SERIES



SAFETY STANDARD APPROVALS



UL 62368-1, CSA C22.2 No. 62368-1
File No. E190414

TÜV EN 62368-1

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: | $\pm 0.5\%$ maximum at full load |
| Inrush current: | 60 A @ 115 VAC or 120 A @ 230 VAC, at 25 $^{\circ}$ C cold start |
| Withstand voltage: | 4242 VDC from input to output 2500 VDC from input to ground |
| MTBF: | 200,000 hours at full load at 25 $^{\circ}$ C ambient, calculated per SR332 |

EMC Performance

| | |
|---------------|--|
| EN55032: | 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 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 |

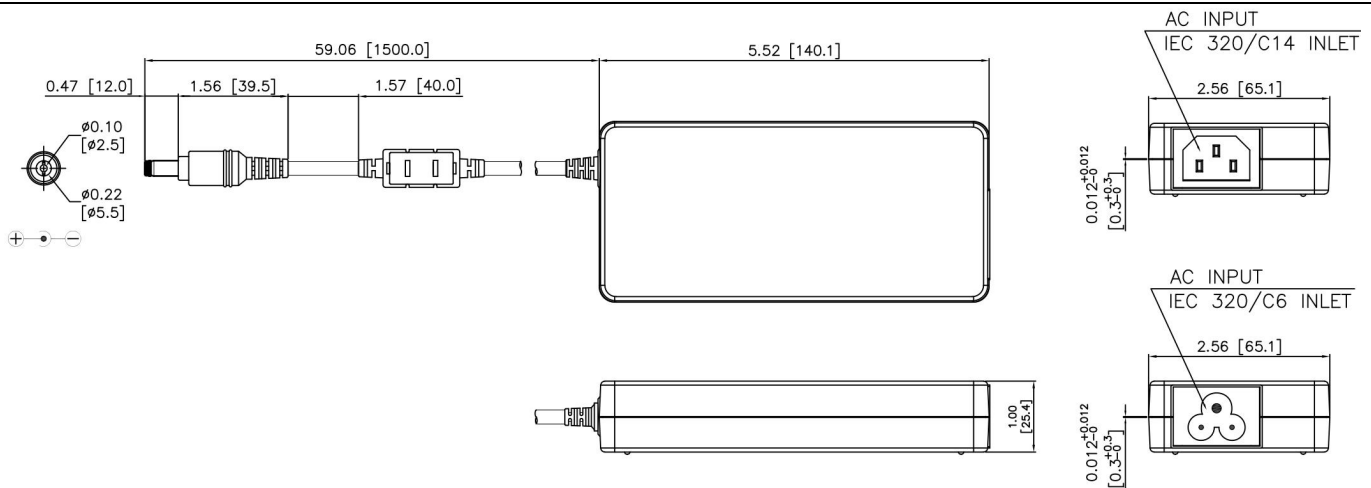
OUTPUT VOLTAGE/CURRENT RATING CHART

| Model ⁽¹⁾ | Output | | | | | | Average Active Efficiency (typical) @ 115 / 230 Vac |
|----------------------|--------|--------------|--------------|------|-------------------------------|------------|---|
| | V1 | Min. Current | Max. Current | Tol. | Ripple & Noise ⁽²⁾ | Max. Power | |
| PUP90N3-13-2 | 19 V | 0 A | 4.74 A | ±5% | 350 mV | 90 W | 89 /89% |
| PUP90N3S-13-2 | 19 V | 0 A | 4.74 A | ±5% | 350 mV | 90 W | 89 /89% |
| PUP90N3-14 | 24 V | 0 A | 3.75 A | ±5% | 350 mV | 90 W | 90 /90% |
| PUP90N3S-14 | 24 V | 0 A | 3.75 A | ±5% | 350 mV | 90 W | 90 /90% |
| PUP90N3-18 | 48 V | 0 A | 1.88 A | ±5% | 350 mV | 90 W | 91 /91% |
| PUP90N3S-18 | 48 V | 0 A | 1.88 A | ±5% | 350 mV | 90 W | 91 /91% |
| PUP90N3-19 | 54 V | 0 A | 1.67 A | ±5% | 350 mV | 90 W | 90 /90% |
| PUP90N3S-19 | 54 V | 0 A | 1.67 A | ±5% | 350 mV | 90 W | 90 /90% |

NOTES:

- PUP90N3 models are equipped with IEC320/C14 inlet, and PUP90N3S models with IEC320/C6 inlet.
- 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:

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

PIN CHART

| PIN NO. | CONNECTION |
|----------|------------|
| Polarity | |

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