

DESCRIPTION

The PUP120 series of AC/DC switching power supplies are for 96-120 watts of continuous output power. They are enclosed in a 94V-1 rated polyphenylene-oxide case with an IEC320/C6 inlet to mate with interchangeable cord for world-wide use. All models meet CISPR 22 and FCC class B emission limits and comply with UL, CSA, IEC and CE requirements.

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 0.5 W
- Compliant with CEC and Energy Star 2.0 efficiency level V requirements
- * No load power consumption less than 0.5 W
- * Average active efficiency $\geq 87\%$
- Compliant with RoHS requirements

INPUT SPECIFICATIONS

| | |
|------------------|--|
| Input voltage: | 90-264 VAC |
| Input frequency: | 50-60 Hz |
| Input current: | 2.0 A (rms) for 115 VAC 1.0 A (rms) for 230 VAC |
| Touch current: | 125 μ A max. @ 132 VAC, 60 Hz 250 μ A max. @ 264 VAC, 60 Hz |

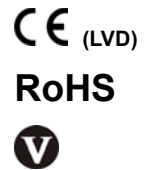
OUTPUT SPECIFICATIONS

| | |
|--------------------------|--|
| Output voltage /current: | See rating chart. |
| Maximum output power: | See rating chart. |
| Ripple and noise: | 350 mV 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 $\pm 0.04\%$ / $^{\circ}$ C maximum |
| Transient response: | Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 μ s 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 |
| Relative humidity: | 10% to 95% non-condensing |

PUP120 SERIES



SAFETY STANDARD APPROVALS



UL 60950 3 rd, CSA C22.2 NO. 60950 3 rd
File No. E137410



Nemko EN 60950: 2000
Certificate NO. PO4202683

GENERAL SPECIFICATIONS

| | |
|---------------------------|--|
| Hold-up time: | 15 ms minimum at 115 VAC |
| Turn on delay time: | 2 S maximum |
| Power factor: | 0.98 typical at 115 VAC |
| Efficiency: | 86% min. (80% min. for PUP120-12 & PUP120-13) |
| 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: | 1500 VAC from input to output |
| MTBF: | 100,000 hours at full load at 25 $^{\circ}$ C ambient, calculated per MIL-HDBK- 217F |
| EMC Performance (EN55024) | |
| 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 A and D |
| EN61000-3-3: | Line flicker |
| 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 |

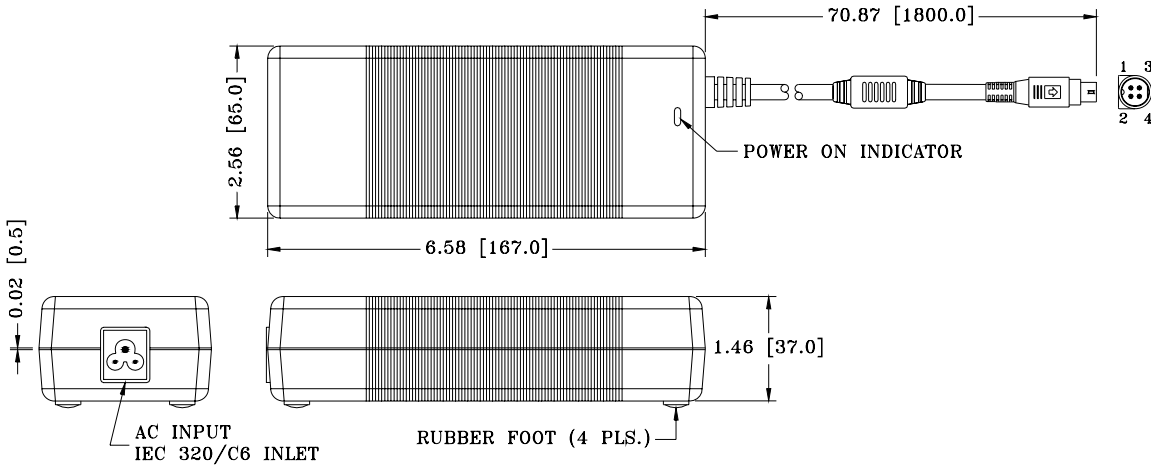
OUTPUT VOLTAGE/CURRENT RATING CHART

| Model | Output | | | | | | Average Active Efficiency (typical) @115 / 230 Vac |
|-------------|--------|--------------|--------------|------|-------------------------------|-------------------|--|
| | V1 | Min. Current | Max. Current | Tol. | Ripple & Noise ⁽¹⁾ | Max. Output Power | |
| PUP120-13 | 15 V | 0 A | 7.0 A | ±5% | 350 mV | 105 W | 88 / 87 % |
| PUP120-13-1 | 18 V | 0 A | 6.67 A | ±5% | 350 mV | 120 W | 89 / 88 % |
| PUP120-13-2 | 19 V | 0 A | 6.32 A | ±5% | 350 mV | 120 W | 88 / 88 % |
| PUP120-13-3 | 20 V | 0 A | 6.0 A | ±5% | 350 mV | 120 W | 88 / 88 % |
| PUP120-14 | 24 V | 0 A | 5.0 A | ±5% | 350 mV | 120 W | 89 / 88 % |
| PUP120-16 | 30 V | 0 A | 4.0 A | ±5% | 350 mV | 120 W | 89 / 89 % |
| PUP120-17 | 36 V | 0 A | 3.34 A | ±5% | 350 mV | 120 W | 89 / 88 % |
| PUP120-18 | 48 V | 0 A | 2.5 A | ±5% | 350 mV | 120 W | 89 / 88 % |

NOTES:

- 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 10 µF tantalum 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: 621 grams (1.37 lbs.) approx.
- Refer to Section titled "OPTIONAL OUTPUT CONNECTORS". Add the suffix assigned for a selected connector to a wanted model number, e.g. PUP120-14-BI, for ordering. The output connector shown is for model PUP120-1X-BI, and its pinning is as shown in the following pin chart.

PIN CHART

| MODEL | PIN | 1 | 2 | 3 | 4 | SHELL OF CONNECTOR |
|-------------|-----------|-----------------------|-----|-----------------------|-----|-----------------------|
| PUP120-12 | PUP120-14 | V1 Return & AC Ground | +V1 | V1 Return & AC Ground | +V1 | V1 Return & AC Ground |
| PUP120-13 | PUP120-16 | | | | | |
| PUP120-13-1 | PUP120-17 | | | | | |
| PUP120-13-2 | PUP120-18 | | | | | |
| PUP120-13-3 | | | | | | |