

DESCRIPTION

The PUP121L/ PUP121LS/ PUP151/ PUP151S series of AC/DC switching power supplies are for 120-150 watts of continuous output power. They are enclosed in a 94V-0 rated plastic case with an inlet of the IEC320/C14 or IEC320/C6 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 0.21 W
- Meet efficiency level VI
- Meet Energy Star EPS2.0 /ErP lot 7
- Operating altitude up to 5000 meters
- Overvoltage protection (latch)
- Short-circuit protection (auto-recovery)
- Overpower protection (auto-recovery)
- Over temperature protection (latch)
- High Efficiency $\geq 88\%$
- 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: | 2.0 A (rms) for 115 VAC 1.0 A (rms) for 230 VAC |
| Touch 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: | 350 mV peak to peak maximum |
| Overvoltage protection: | Set at 125-155% of its nominal output voltage |
| Overcurrent protection: | All models protected to short circuit conditions (auto-recovery) |
| 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 +60 $^{\circ}$ C (See Derating) |
| Storage temperature: | -20 $^{\circ}$ C to +80 $^{\circ}$ C |
| Relative humidity: | 10% to 90% non-condensing |
| Derating: | Derate output power linearly from 100% at 40 $^{\circ}$ C to 50% at 60 $^{\circ}$ C |

PUP121L/PUP151 SERIES



RoHS



SAFETY STANDARD APPROVALS



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



TUV EN 60950-1

GENERAL SPECIFICATIONS

| | |
|--------------------------|---|
| Hold-up time: | 10 ms minimum at 100 VAC |
| Turn on delay time: | 3 s maximum at 100 VAC |
| Power factor: | 0.95 typical |
| Efficiency: | 88% minimum at 110 VAC or 240 VAC. |
| Line regulation: | $\pm 0.5\%$ maximum at full load |
| Inrush current: | 100 A @ 115 Vac or 200 A @ 230 Vac at 25 $^{\circ}$ C cold start |
| Withstand voltage: MTBF: | 1500 VAC from input to output and ground 500,000 hours at full load at 25 $^{\circ}$ C ambient, calculated per SR332 |
| Ingress Protection: | IP22 Compliant |
| EMC Performance EN55022: | Class B conducted, Class B radiated Class B conducted, Class B radiated Class B |
| FCC: | Class B conducted, Class B radiated Harmonic distortion, Class D |
| VCCI: | Line flicker |
| EN61000-3-2: | |
| EN61000-3-3: | |
| EN55024 | ESD, ± 8 KV air and ± 4 KV contact Radiated immunity, 3 V/m |
| EN61000-4-2: | Fast transient/burst, ± 1 KV |
| EN61000-4-3: | Surge, ± 1 KV diff., ± 2 KV com. |
| EN61000-4-4: | Conducted immunity, 3 Vrms |
| EN61000-4-5: | Magnetic field immunity, 1 A/m |
| EN61000-4-6: | Voltage dip immunity, 30% reduction for 500 ms, and $>95\%$ reduction for 10 ms |
| EN61000-4-8: | |
| EN61000-4-11: | |

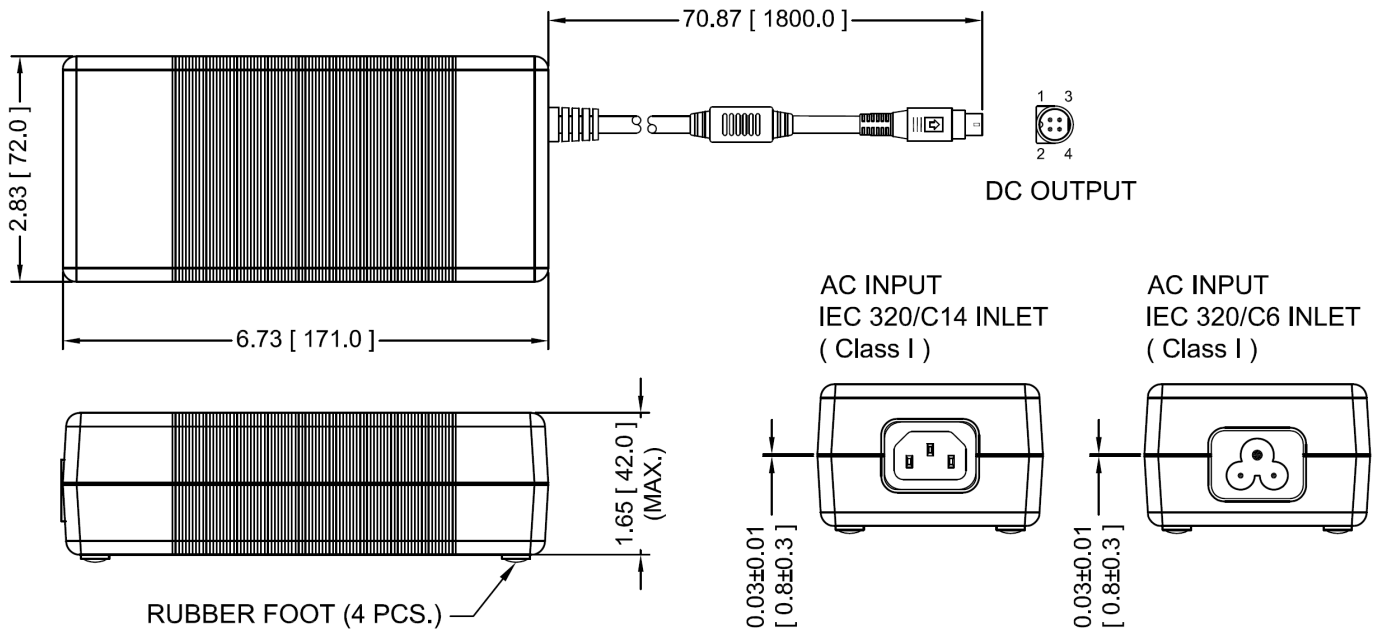
OUTPUT VOLTAGE/CURRENT RATING CHART

| Model ⁽¹⁾ | Output | | | | | | Average Active efficiency (typical) @ 115 / 230 Vac |
|----------------------|--------|--------------|--------------|------|-------------------------------|------------|---|
| | V1 | Min. Current | Max. Current | Tol. | Ripple & Noise ⁽²⁾ | Max. Power | |
| PUP121L-12 | 12 V | 0 A | 10 A | ±5% | 350 mV | 120 W | 88.4 / 89.4% |
| PUP121LS-12 | 12 V | 0 A | 10 A | ±5% | 350 mV | 120 W | 88.4 / 89.4% |
| PUP151-12 | 12 V | 0 A | 12.5 A | ±5% | 350 mV | 150 W | 88.8 / 90.0% |
| PUP151S-12 | 12 V | 0 A | 12.5 A | ±5% | 350 mV | 150 W | 88.8 / 90.0% |
| PUP151-13-2 | 19 V | 0 A | 7.89 A | ±5% | 350 mV | 150 W | 88.8 / 90.0% |
| PUP151S-13-2 | 19 V | 0 A | 7.89 A | ±5% | 350 mV | 150 W | 88.8 / 90.0% |
| PUP151-14 | 24 V | 0 A | 6.25 A | ±5% | 350 mV | 150 W | 90.0 / 91.0% |
| PUP151S-14 | 24 V | 0 A | 6.25 A | ±5% | 350 mV | 150 W | 90.0 / 91.0% |

NOTES:

- PUP121L /PUP151 models are equipped with IEC320/C14 inlet, and PUP121LS /PUP151S 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 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: 800 grams (1.76 lbs.) approx.
- Refer to Section titled "OPTIONAL OUTPUT CONNECTORS". Change suffix assigned for a selected connector to a wanted model number, e.g. PUP151-14-B1, for ordering.
- The length of output cable for output voltage 12V is 37.4 [950.0].
- V1 return (-) is electrically connected to incoming Earth Ground through a 3K ohm resistor as standard.

PIN CHART

| PIN NO. | 1 | 2 | 3 | 4 | SHELL OF CONNECTOR |
|----------|-----|-----|-----------|-----------|--------------------|
| Polarity | +V1 | +V1 | V1 Return | V1 Return | V1 Return |