

DESCRIPTION

The PMP120 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/C14 or IEC320/C18 inlet to mate with interchangeable cord for world-wide use. All models meet EN55011, EN55022 and FCC class B emission limits, and are designed for medical and ITE applications, not for life-supporting equipment.

FEATURES

- Low safety ground leakage current
- Both Class I and Class II models are certified to medical and ITE safety standards.
- Wide input range 90 to 264 VAC
- Optional output connectors
- 100% burn-in
- Overvoltage protection
- Overcurrent protection
- Compliant with CEC and Energy Star Efficiency level V requirements (except PMP120-12, -13, 13-1, -13-2 and -13-3 to level IV)
 - * 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: | 47-63 Hz |
| Input current: | 1.60 A (rms) for 115 VAC 0.80 A (rms) for 230 VAC |
| Earth leakage current: | 180 μ A max. @ 264 VAC, 63 Hz |
| Touch current: | 100 μ A max. @ 264 VAC, 63 Hz |

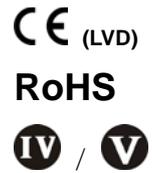
OUTPUT SPECIFICATIONS

| | |
|--------------------------|---|
| Output voltage /current: | See rating chart. |
| Maximum output power: | See rating chart. |
| Ripple and noise: | 1% peak to peak maximum |
| Overvoltage protection: | Provided and set at 112-140% 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 +60 $^{\circ}$ C |
| Storage temperature: | -40 $^{\circ}$ C to +85 $^{\circ}$ C |
| Relative humidity: | 5% to 95% non-condensing |
| Derating: | Derate from 100% at +40 $^{\circ}$ C linearly to 50% at +60 $^{\circ}$ C |

PMP120 SERIES



SAFETY STANDARD APPROVALS



UL 60601-1, CSA C22.2 No. 601.1
File No. E178020



TÜV EN 60601-1



UL 60950-1, CSA C22.2 No. 60950-1
File No. E137410



TÜV EN 60950-1

GENERAL SPECIFICATIONS

| | |
|--------------------------------|---|
| Switching frequency: | 50-110 KHz |
| Power factor: | 0.98 Typical at 115 VAC |
| Efficiency: | 85% min. at full load |
| Hold-up time: | 15 ms minimum at 110 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: | 4000 VAC from input to output, 1500 VAC from input to ground, 500 VAC from output to ground |
| MTBF: | 150,000 hours at full load at 25 $^{\circ}$ C ambient , calculated per MIL-HDBK-217F |
| EMC Performance (IEC60601-1-2) | |
| EN55011 /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 ± 6 KV contact |
| EN61000-4-3: | Radiated immunity, 3 V/m |
| EN61000-4-4: | Fast transient/burst, ± 2 KV |
| EN61000-4-5: | Surge, ± 1 KV diff., ± 2 KV com. |
| EN61000-4-6: | Conducted immunity, 3 Vrms |
| EN61000-4-8: | Magnetic field immunity, 3 A/m |
| EN61000-4-11: | Voltage dip immunity, 30% reduction for 500 ms, 60% reduction for 100 ms and >95% reduction for 10 ms |

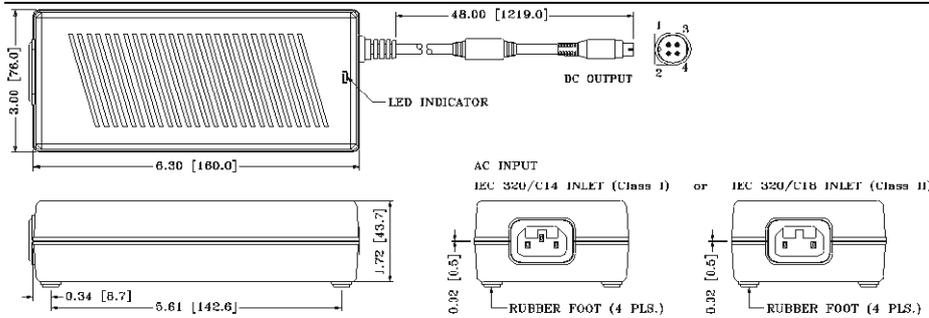
OUTPUT VOLTAGE/CURRENT RATING CHART

| Model ⁽¹⁾ | | Output | | | | | | Average Active Efficiency (typical) @ 115 / 230 Vac |
|----------------------|--------------|--------|--------------|--------------|------|-------------------------------|------------|---|
| Class I | Class II | V1 | Min. Current | Max. Current | Tol. | Ripple & Noise ⁽²⁾ | Max. Power | |
| PMP120-12 | PMP120F-12 | 12 V | 0 A | 8.00 A | ±5% | 120 mV | 96 W | 86 / 86 % |
| PMP120-13 | PMP120F-13 | 15 V | 0 A | 7.00 A | ±5% | 150 mV | 105 W | 86 / 86 % |
| PMP120-13-1 | PMP120F-13-1 | 18 V | 0 A | 6.67 A | ±5% | 180 mV | 120 W | 87 / 86 % |
| PMP120-13-2 | PMP120F-13-2 | 19 V | 0 A | 6.32 A | ±5% | 190 mV | 120 W | 87 / 86 % |
| PMP120-13-3 | PMP120F-13-3 | 20 V | 0 A | 6.00 A | ±5% | 200 mV | 120 W | 87 / 86 % |
| PMP120-14 | PMP120F-14 | 24 V | 0 A | 5.00 A | ±5% | 240 mV | 120 W | 88 / 88 % |
| PMP120-16 | PMP120F-16 | 30 V | 0 A | 4.00 A | ±5% | 300 mV | 120 W | 89 / 88 % |
| PMP120-17 | PMP120F-17 | 36 V | 0 A | 3.34 A | ±5% | 360 mV | 120 W | 89 / 88 % |
| PMP120-18 | PMP120F-18 | 48 V | 0 A | 2.50 A | ±5% | 480 mV | 120 W | 88 / 88 % |

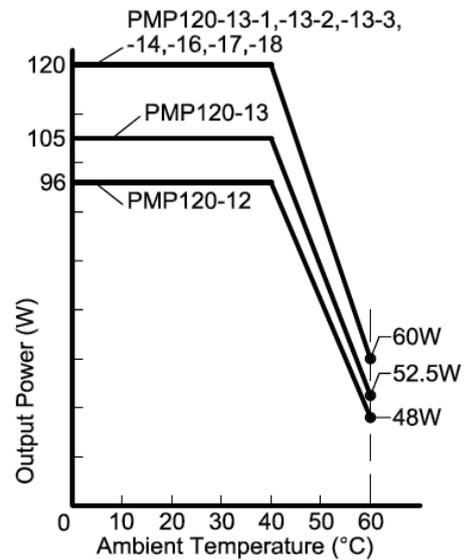
NOTES:

- Class I models are equipped with IEC320/C14 inlet, and class II models with IEC320/C18 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 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

MECHANICAL SPECIFICATIONS



OUTPUT POWER DERATING CURVE



NOTES:

- Dimensions shown in inches [mm]
- Tolerance 0.02 [0.5] maximum
- Weight: 780 grams (1.716 lbs.) approx.
- Output connector is 4 pin plug without lock, mating with Kycon P/N KPJX-4S-S socket or equivalent.
- Refer to Section titled "OPTIONAL OUTPUT CONNECTORS". Add the suffix assigned for a selected connector to a wanted model number, e.g. PMP120-14-B1, for ordering.

PIN CHART

| MODEL | PIN | 1 | 2 | 3 | 4 |
|-------------|--------------|-----------|-----|-----------|-----|
| PMP120-12 | PMP120F-12 | V1 Return | +V1 | V1 Return | +V1 |
| PMP120-13 | PMP120F-13 | | | | |
| PMP120-13-1 | PMP120F-13-1 | | | | |
| PMP120-13-2 | PMP120F-13-2 | | | | |
| PMP120-13-3 | PMP120F-13-3 | | | | |
| PMP120-14 | PMP120F-14 | | | | |
| PMP120-16 | PMP120F-16 | | | | |
| PMP120-17 | PMP120F-17 | | | | |
| PMP120-18 | PMP120F-18 | | | | |