

DESCRIPTION

The PMP135 series of AC/DC switching power supplies are for 120-135 watts of continuous output power. They are enclosed in a 94V-0 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 class B emission limits, and are designed for medical applications.

FEATURES

- Low safety ground leakage current
- Wide input range 90 to 264 VAC
- Power factor corrected
- 200% peak power capability on models below 26 Vdc output
- Optional output connectors
- Overvoltage protection
- Over temperature protection
- Overcurrent protection
- Compliant with CEC and Energy Star Efficiency level V requirements
 - * No load power consumption less than 0.5 W
 - * Average active efficiency greater than 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: | 200 µA max. @ 264 VAC, 63 Hz |
| Touch current: | 100 µA 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 at the full load |
| Over voltage protection: | Provided and set at 115-140% of its nominal output voltage, latching by recycle input to reset |
| Short circuit protection: | Automatic recovery |
| Over temperature protection: | Latching by recycle input to reset |
| Temperature coefficient: | ±0.04% /°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°C to +60°C |
| Storage temperature: | -40°C to +85°C |
| Relative humidity: | 5% to 95% non-condensing |
| Temperature derating: | Derate from 100% at +40°C linearly to 50% at +60°C |

PMP135 SERIES



RoHS



SAFETY STANDARD APPROVALS



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



TÜV EN 60601-1

GENERAL SPECIFICATIONS

| | |
|----------------------|---|
| Switching frequency: | 90-160 KHz |
| Power factor: | 0.98 Typical at 115 VAC |
| Efficiency: | 87% min. at full load |
| Hold-up time: | 15 ms minimum at 110 VAC |
| Line regulation: | ±0.5% maximum at full load |
| Inrush current: | 80 A @ 115 VAC or 160 A @ 230 VAC, at 25°C cold start |
| Withstand voltage: | 5600 VDC from input to output (2 MOPP) 2100 VDC from input to ground (1 MOPP) 700 VDC from output to ground (To verify AC strength, get correct test method to avoid power supply damage.) For Class II models, 4000 VAC from input to output |
| MTBF: | 150,000 hours at full load at 25°C ambient , calculated per MIL-HDBK-217F |
| EMC Performance | |
| EN55011: | Class B conducted, class B radiated |
| EN61000-3-2: | Harmonic distortion, class A and D |
| EN61000-3-3: | Line flicker |
| EN60601-1-2 | |
| EN61000-4-2: | ESD, ±15 KV air and ±8 KV contact |
| EN61000-4-3: | Radiated immunity, 9-28 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, 10 Vrms |
| EN61000-4-8: | Magnetic field immunity, 30 A/m |
| EN61000-4-11: | Voltage dip immunity, 30% reduction for 500 ms, 100% reduction for 10 ms |

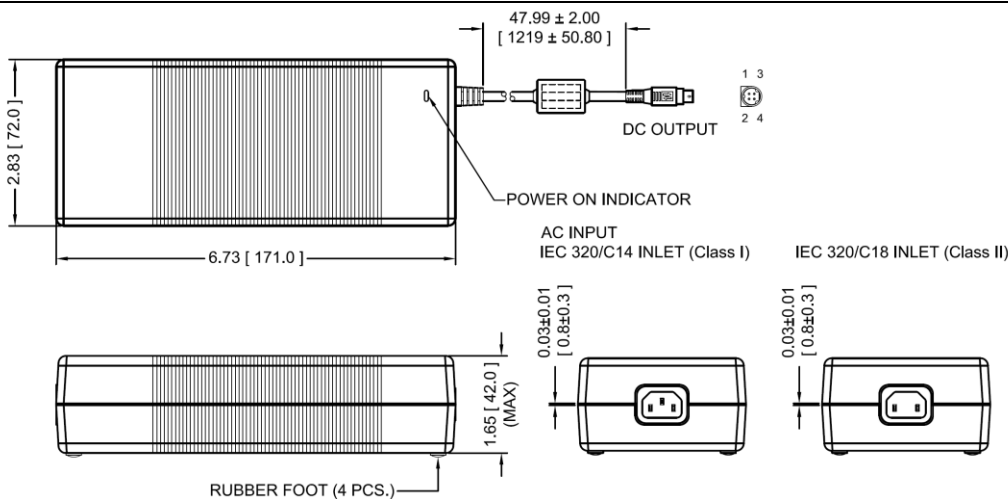
OUTPUT VOLTAGE/CURRENT RATING CHART

| Model ⁽¹⁾ | | Output | | | | | | | Average Active Efficiency (typical) @ 115 / 230 Vac |
|----------------------|--------------|-----------|-----------------|-----------------|-----------------------------|------|-------------------------------|------------|---|
| Class I | Class II | V1 | Minimum Current | Maximum Current | Peak current ⁽²⁾ | Tol. | Ripple & Noise ⁽³⁾ | Max. Power | |
| PMP135-12 | PMP135F-12 | 12 V | 0 A | 10.00 A | 20.0 A | ±5% | 120 mV | 120 W | 87 /89% |
| PMP135-12-1 | PMP135F-12-1 | 13 V | 0 A | 9.23 A | 18.5 A | ±5% | 130 mV | 120 W | 87 /89% |
| PMP135-13 | PMP135F-13 | 14 V-16 V | 0 A | 9.29 A | 18.6 A | ±5% | 150 mV | 130 W | 87 /89% |
| PMP135-13-1 | PMP135F-13-1 | 18 V-19 V | 0 A | 7.50 A | 15.0 A | ±5% | 180 mV | 135 W | 87 /89% |
| PMP135-13-3 | PMP135F-13-3 | 20 V-21 V | 0 A | 6.75 A | 13.5 A | ±5% | 200 mV | 135 W | 87 /89% |
| PMP135-14 | PMP135F-14 | 24 V-25 V | 0 A | 5.63 A | 11.3 A | ±5% | 240 mV | 135 W | 88 /90% |
| PMP135-15 | PMP135F-15 | 28 V-29 V | 0 A | 4.83 A | 5.8 A | ±5% | 280 mV | 135 W | 88 /90% |
| PMP135-16 | PMP135F-16 | 30 V-32 V | 0 A | 4.50 A | 5.4 A | ±5% | 300 mV | 135 W | 89 /90% |
| PMP135-17 | PMP135F-17 | 36 V-38 V | 0 A | 3.75 A | 4.5 A | ±5% | 360 mV | 135 W | 89 /91% |
| PMP135-18 | PMP135F-18 | 46 V-50 V | 0 A | 2.94 A | 3.5 A | ±5% | 480 mV | 135 W | 90 /91% |

NOTES:

- Class I models are equipped with IEC320/C14 inlet, and class II models with IEC320/C18 inlet.
- For 10 seconds maximum, average power not to exceed maximum power rating.
- 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: 681 grams (1.505 lbs.) approx.
- Refer to Section titled "OPTIONAL OUTPUT CONNECTORS". Add the suffix assigned for a selected connector to a wanted model number, e.g. PMP135-14-B1, for ordering.
- Output cable length of PMP135-12, PMP135-12-1, PMP135-13, PMP135F-12, PMP135F-12-1, and PMP135F-13 is 37.4 inches [950mm].

PIN CHART

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

OUTPUT POWER DERATING CURVE

