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-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.

PMP135 SERIES

CE (LVD)

RoHS

FEATURES

- Low safety ground leakage current
- Class I models are to be certified to medical and ITE safety standards, Class II models to medical standards only.
- 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
- 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
Overvoltage protection:	Provided and set at 115-140% of its nominal output voltage
Overcurrent protection:	Protected to short circuit conditions
Temperature coefficient:	±0.04% /℃ 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℃ to +60℃
Storage temperature:	-40℃ to +85℃
Relative humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +40℃ linearly to 50% at +60℃

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
(except class II models)

TÜV EN 60950-1
(except class II models)

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℃ 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℃ ambient , calculated per MIL-HDBK-217F

EMC Performance (IEC60601-1-2)

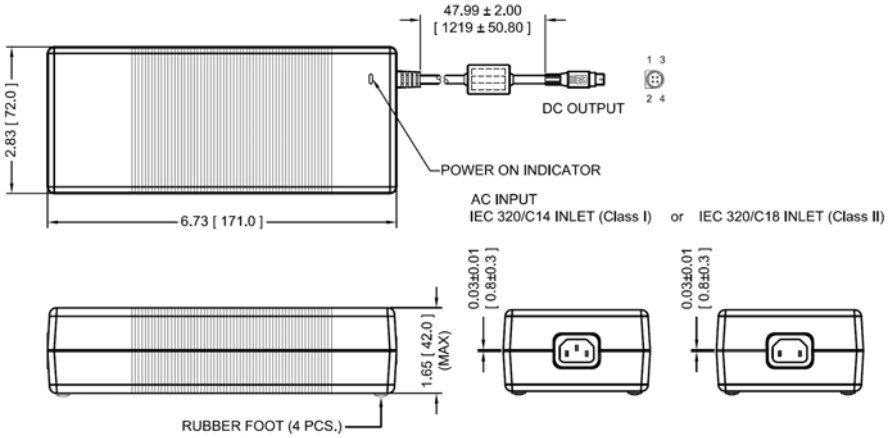
EN55011 /EN55022:	Class B conducted, class B radiated
FCC:	Class B conducted, class B radiated
VCCI:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class A and D
EN61000-3-3:	Line flicker
EN61000-4-2:	ESD, ±8 KV air and ±6 KV contact
EN61000-4-3:	Radiated immunity, 3 V/m
EN61000-4-4:	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	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 %

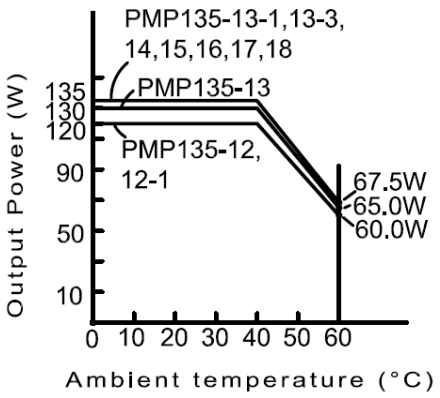
NOTES:
1. Class I models are equipped with IEC320/C14 inlet, and class II models with IEC320/C18 inlet.
2. For 10 seconds maximum, average power not to exceed maximum power rating.
3. Ripple and noise is maximum peak-to-peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage 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:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 681 grams (1.505 lbs.) approx.
4. 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.
5. The length of output cable for PMP135-12, PMP135-12-1, PMP135-13, PMP135F-12, PMP135F-12-1, and PMP135F-13 is 37.4 (950)

OUTPUT POWER DERATING CURVE



PIN CHART

MODEL / PIN		1	2	3	4
PMP135-12	PMP135F-12	V1 Return	+V1	V1 Return	+V1
PMP135-12-1	PMP135F-12-1				
PMP135-13	PMP135F-13				
PMP135-13-1	PMP135F-13-1				
PMP135-13-3	PMP135F-13-3				
PMP135-14	PMP135F-14				
PMP135-15	PMP135F-15				
PMP135-16	PMP135F-16				
PMP135-17	PMP135F-17				
PMP135-18	PMP135F-18				