Protek

PMP220 SERIES

220 Watt External Power Supply

Measures: 7.76 x 3.46 x 1.74”

DESCRIPTION

The PMP220 series of AC/DC switching power supplies are for 200-220 watts of continuous output power. They are enclosed in a 94V-0 rated polycarbonate case with an inlet to mate with interchangeable cord for world-wide use. All models meet EN 55011 and FCC class B emission limits, and are designed for medical applications not for life-supporting equipment.

FEATURES

- High efficiency
- Low ripple & noise
- Overvoltage protection
- Short-circuit protection
- Overpower protection
- Overcurrent protection
- Over temperature protection
- 100% burn-in at full rated load
- Standby consumption less than 0.5 W
- Compliant with CEC and ENERGY STAR efficiency level V requirements
- Compliant with RoHS requirements

INPUT SPECIFICATIONS

Input voltage:	90-264 VAC
Input frequency:	47-63 Hz
Input current:	2.5 A (rms) for 115 VAC 1.2 A (rms) for 230 VAC
Earth leakage current:	100 µA max. @ 264 VAC, 63 Hz
Touch current:	100 µA max. @ 264 VAC, 63 Hz

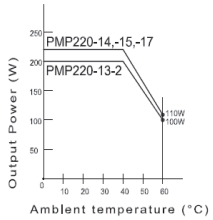
OUTPUT SPECIFICATIONS

Output voltage /current:	See rating chart.
Maximum output power:	See rating chart.
Ripple and noise:	1% peak to peak maximum
Overvoltage protection:	Set at 110% to 130% of its nominal output voltage
Overcurrent protection:	All models protected 110% to 120% of full load conditions
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:	-20℃ to +80℃
Relative humidity:	10% to 90% non-condensing
Derating:	Derate from 100% at +40℃ linearly to 50% at +60℃

OUTPUT DERATING CURVE



PMP220 SERIES

SAFETY STANDARD APPROVALS

c UL us	UL ES 60601-1, CSA C22.2 No. 60601-1 File No. E178020
TÜV EN 60601-1	TÜV EN 60601-1

GENERAL SPECIFICATIONS

Hold-up time:	12 ms minimum at 100 VAC
Turn on delay time:	3 s maximum at 100 VAC
Power Factor:	0.95 typical
Efficiency:	87% min. at 100 VAC or 240 VAC
Line regulation:	±0.5% maximum at full load
Inrush current:	100 A @ 115 VAC or 200 A @ 230 VAC at 25℃ 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:	100,000 hours at full load at 25℃ ambient, calculated per MIL-HDBK-217F

EMC Performance (IEC60601-1-2)

EN55011:	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

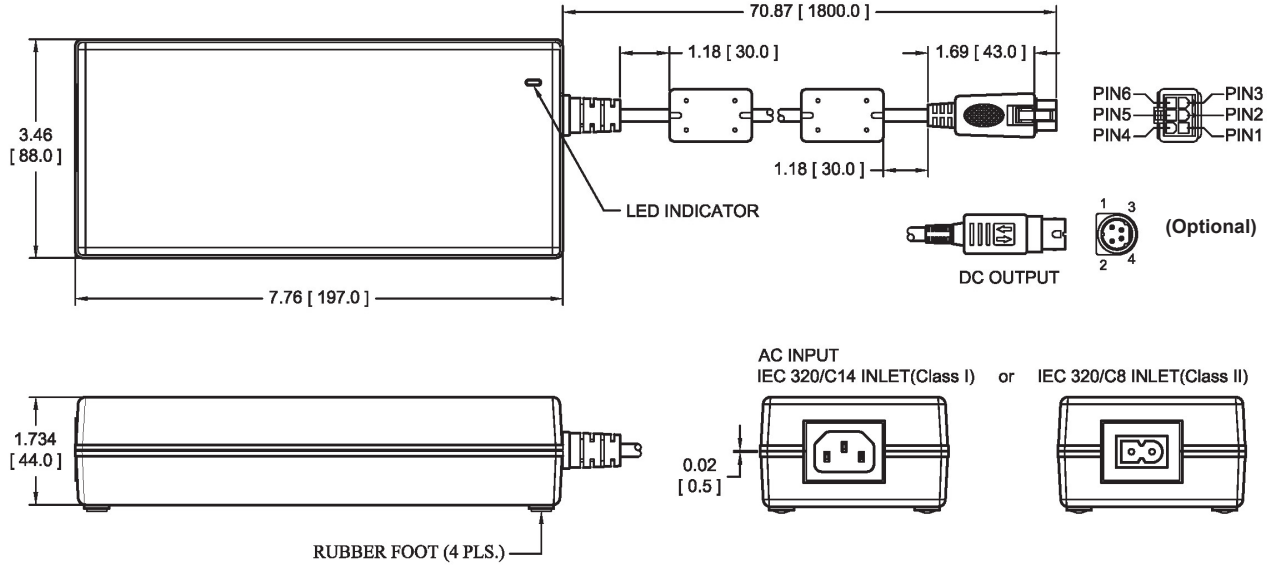
UNIVERSAL INPUT PMP220 MEDICAL SERIES

OUTPUT VOLTAGE/CURRENT RATING CHART

Model(1)		Output						Average Active Efficiency (typical) @ 115 / 230 Vac
Class I	Class II	V1	Min. Current(3)	Max. Current	Tol.	Ripple & Noise(2)	Max. Power	
PMP220-13-2	PMP220SF-13-2	19 V	0.1 A	10.53 A	±5%	190 mV	200 W	87 /87%
PMP220-14	PMP220SF-14	24 V	0.1 A	9.17 A	±5%	240 mV	220 W	90 /92%
PMP220-15	PMP220SF-15	28 V	0.1 A	7.86 A	±5%	280 mV	220 W	90 /92%
PMP220-17	PMP220SF-17	36 V	0.1 A	6.11 A	±5%	360 mV	220 W	90 /92%

NOTES:
1. Class I models are equipped with IEC320/C14 inlet, and class II models with IEC320/C8 inlet.
2. 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 electrolytic capacitor in parallel with a 0.1 µF ceramic capacitor across the output.
3. All models may be operated at no-load without damage. At no load, output voltage fluctuates beyond 5% due to the burst-mode operation of the control IC in them for energy saving.

MECHANICAL SPECIFICATIONS



OUTPUT DERATING CURVE

NOTES:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 1.0 kg (2.2 lbs.) approx.
4. Output connector is Molex Mini - Fit receptacle, P/N: 39-01-2060 with female terminal #5556 or equivalent, mating with Molex plug 39-01-2066 and male terminal #5558 or equivalent. It also mates with Molex headers #5566, #5569, or equivalent.
5. Optional output connector is 4-pin plug with lock, Kycon P/N KPPX-4P or equivalent, mating with 4-pin socket, Kycon P/N KPJX-4S-S or equivalent, add the suffix assigned for a selected connector to a wanted model number, e.g. PMP220-13-2-HI, for ordering.

PIN CHART

PIN	1	2	3	4	5	6
PIN6 PIN5 PIN4 PIN3 PIN2 PIN1	+V1	V1 Return	V1 Return	+V1	+V1	V1 Return

PIN	1	2	3	4	SHELL OF CONNECTOR	
					Class I	Class II
HI (1 3 / 2 4)	+V1		V1 Return		AC Ground	NC