

## 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-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 and FCC class B emission limits, and are designed for medical applications.

## FEATURES

- Low safety ground leakage current
- Wide input range 90 to 264 VAC
- Optional output connectors
- 100% burn-in
- Overvoltage protection
- Over-temperature 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 $\mu$ A max. @ 264 VAC, 63 Hz
Touch current:	100 $\mu$ 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 $\mu$ s 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



CE

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:	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:	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 $^{\circ}$ C 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, $\pm 15$ KV air and $\pm 8$ KV contact
EN61000-4-3:	Radiated immunity, 10 V/m
EN61000-4-4:	Fast transient/burst, $\pm 2$ KV
EN61000-4-5:	Surge, $\pm 1$ KV diff., $\pm 2$ 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

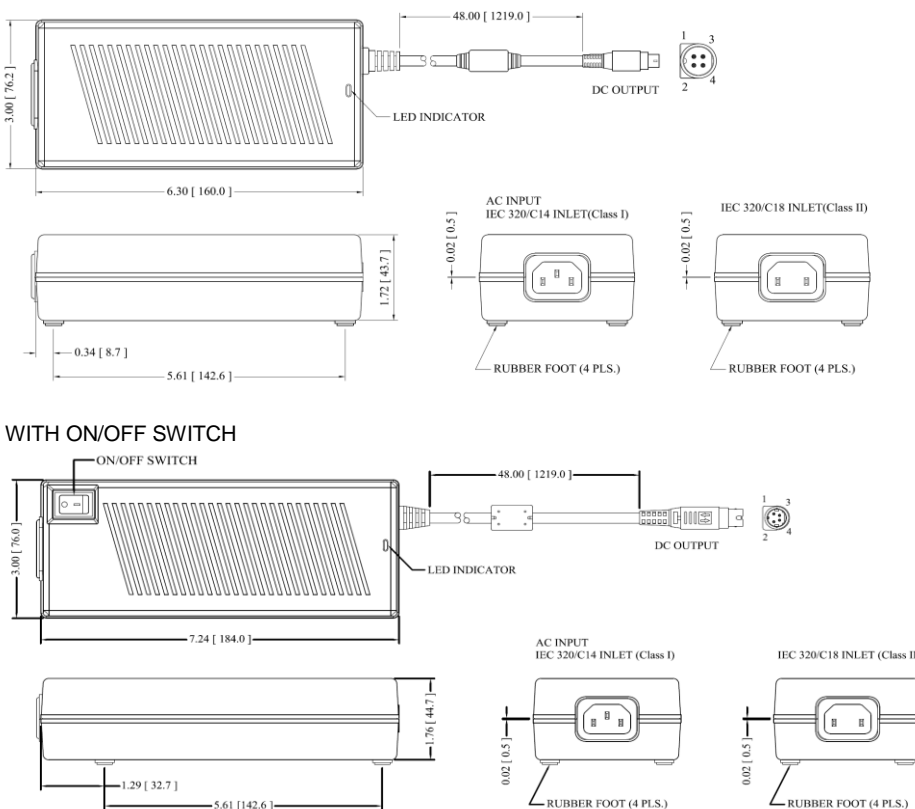
## OUTPUT VOLTAGE/CURRENT RATING CHART

Model <sup>(1)</sup>		Output						Average Active Efficiency (typical) @ 115 / 230 Vac
Class I	Class II	V1	Min. Current	Max. Current	Tol.	Ripple & Noise <sup>(2)</sup>	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%

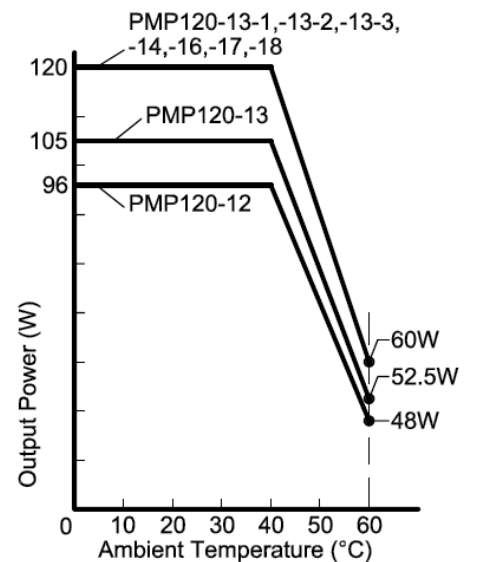
### NOTES:

- 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  $\mu$ F tantalum capacitor in parallel with a 0.1  $\mu$ F 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.
- To order a model with on/off switch, add suffix " S " to the model number , e.g. PMP120-14-B1-S

## PIN CHART

PIN1	V1 Return
PIN2	+V1
PIN3	V1 Return
PIN4	+V1