PROTEK POWER

TT Electronics
POWER PARTNERS

PMP92 Power Supply Series (92W)

Features:

- High efficiency
- Operation up t o 5000 meters
- Low safety ground leakage current
- Wide input range 90 to 264 VAC
- 100% burn-in
- Overvoltage protection
- Over-temperature protection
- Short-circuit protection
- Compliant with DOE Efficiency level VI requirement
  * No load power consumption less than 0.21W
  * Average active efficiency greater than 88%
- Compliant with RoHS requirements
- IEC 60601-1-2 4th Edition EMC Compliant

c US IEC 60601-1 VI CE RoHS

Description:

This series of AC/DC switching power supplies are for 90watts of continuous output power. They are enclosed in a 94V-0rated polycarbonate case with an IEC320/C8or IEC320/C6 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.

Model		Output						Average Active Efficiency (typical) @115/230 Vac
Class-I	Class-II	V1	Min. Current	Max. Current	Tol.	Ripple & Noise[2]	Max. Power	
PMP92-12 PMP92S-12	PMP92SF-12	12V 12V	0A 0A	7.5A 7.5A	±5%	200mV 200mV	90W 90W	88/89%
PMP92-13-1 PMP92S-13-1	PMP92SF-13-1	15V 18V	0A 0A	6A 5A	±5%	300mV 300mV	90W 90W	88/89%
PMP92-13-2 PMP92S-13-2	PMP92SF-13-2	19V 19V	0A 0A	4.74A 4.74A	±5%	300mV 300mV	90W 90W	88/89%
PMP92-14 PMP92S-14	PMP92SF-14	24V 24V	0A 0A	3.75A 3.75A	±5%	300mV 300mV	90W 90W	88/89%

NOTES:

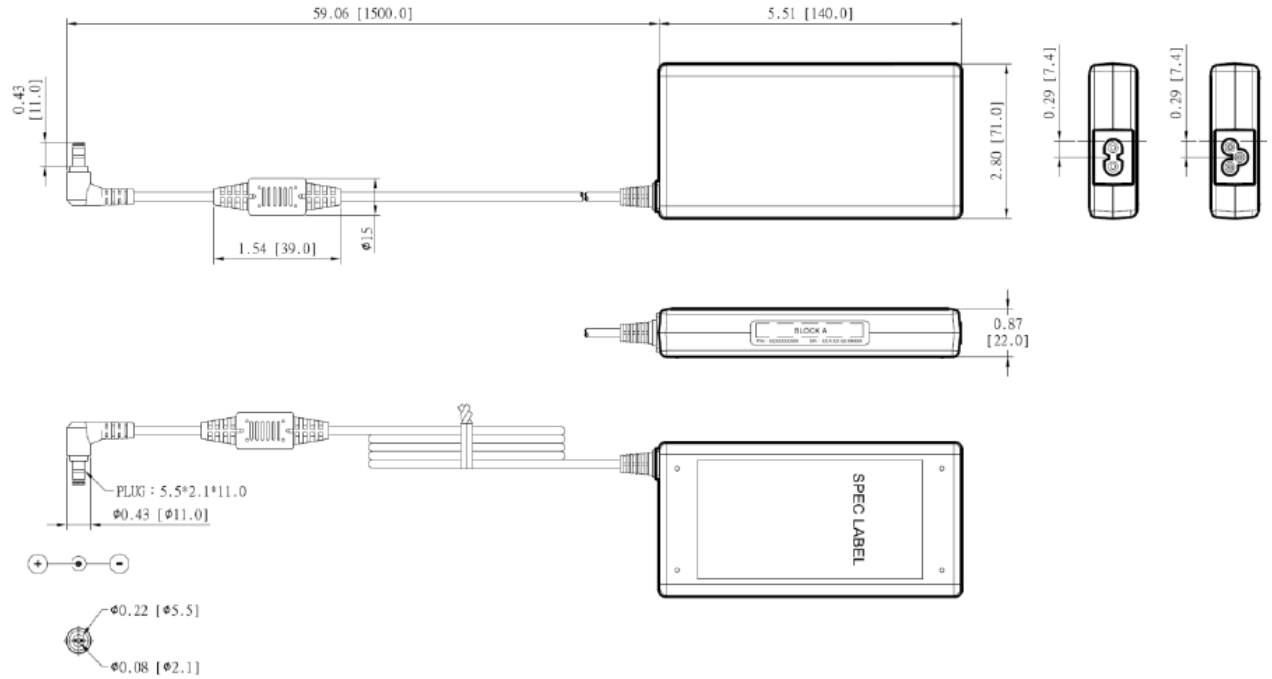
1. Class-I models are equipped with IEC320/C6 inlet, and Class-II models with IEC320/C8 inlet
2. Ripple and noise is maximum peak to peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and 100%load with a 47µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

PMP92 Power Supply Series (92W)

Specifications	
Safety Standards & EMC Specifications	
Safety Standard Approvals	UL ES 60601-1, CSA C22.2 No. 60601-1 File No. E211696 TÜV EN 60601-1
EMI Standard	EN55011/EN55022, FCC, and VCCI Class B (radiated and conducted)
EMC Performance	EN61000-3-2: Harmonic distortion, Class A and D EN61000-3-3: Line flicker EN61000-4-2: ESD, ±15 KV air and ± 8KV contact EN61000-4-3: Radiated immunity, 10V/m EN61000-4-4: Fast transient/burst, ±2KV EN61000-4-5: Surge, ±1 KV diff., ±2 KV com. EN61000-4-6: Conducted immunity, 10Vrms EN61000-4-8: Magnetic field immunity, 30 A/m EN61000-4-11: Voltage dip immunity, 30% reduction for 500ms, and 100% reduction for 10ms
*Consult with TT Electronics for information on additional country safety approvals	
Input Specifications	
Input Voltage Range	90 to 264VAC
Input Frequency Range	47 to 63Hz
Input Current	1.5A (rms) for 115 VAC 0.6A (rms) for 230 VAC
Earth Leakage Current	220µA max. @ 264VAC, 63Hz
Touch Current	100µA max. @ 264 VAC, 63Hz
Output Specifications	
Ripple & Noise	200 mV_{P-P} maximum on 12V, 300 mV_{P-P} maximum on other voltage outputs (15,18V, 19V and 24V)
Overvoltage Protection	Provided and set at 112-140% of nominal output voltage
Overcurrent Protection	Protected to short circuit conditions
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
General Specifications	
Switching Frequency	75 KHz to 150 KHz
Power Factor	0.98 typical
Efficiency	88% minimum
Hold-up Time	10ms minimum at 110 VAC
Line Regulation	±0.5% maximum at full load
Inrush Current	50A @ 115VAC or 100A @ 230VAC, at 25°C cold start
Withstand Voltage	4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP)
MTBF	100,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F

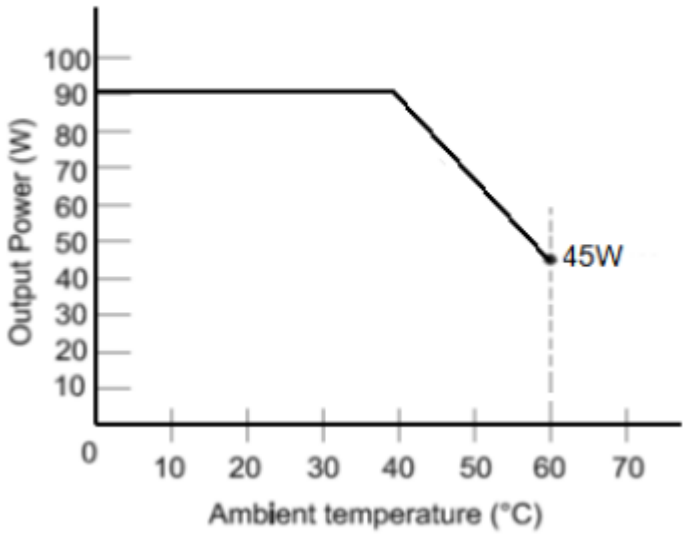
Diagrams

MECHANICAL SPECIFICATIONS



NOTES:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Weight: 350 grams (0.772 lbs.) approx.

OUTPUT POWER DERATING CURVE

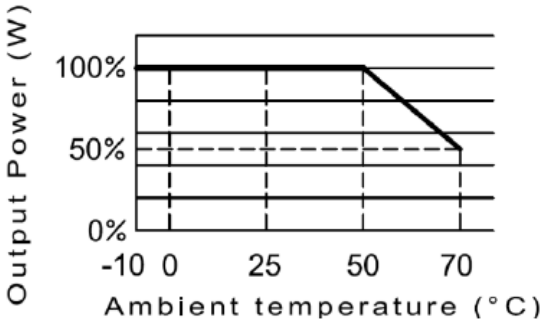


Diagrams

INTERFACE SIGNALS

PFD: TTL high for normal operation, low upon loss of input power, turn-on delay time 100-2500 ms, turn-off delay time 1 ms minimum
Inhibit: TTL low to turn off output
DC OK: TTL high when output voltage >95%
PS OFF: TTL high to turn off output

OUTPUT POWER DERATING CURVE



PIN CHART

Connector	P1 (AC)			P2		P3	
PIN NO.	1	2	3	1	2	1	2
Polarity	Live	Neutral	Ground	+V1		V1 Return	

Connector	P4									
PIN NO.	1	2	3	4	5	6	7	8	9	10
Polarity	FAN Return	+12V FAN	PS OFF	DC OK	+5V Standby	Inhibit	PFD	-V1 Sense	+V1 Sense	common Return