

Features:

- Medical and ITE approvals
- Compact size 2" x 4" x 1.26"
- High Power density 10W / cubic inch
- 100W output with convection cooling up to +50°C
- Low Earth leakage current
- EN55011/55022 class B emissions
- RoHS compliant



Description:

The PM100 series of compact, open PCB standard constructed, AC –DC switching power supplies are capable of delivering 100 watts of continuous output power at convection cooling. They are suited for medical, information technology and industrial applications. Approval to both EN60601-1 and EN60950-1 safety standards improves design– in time and reduces end equipment costs.

Model ⁽¹⁾	Output						Efficiency (typical) @ 115/230 VAC
	V1	Min Current	Max Current	Tol	Ripple & Noise ⁽²⁾	Max Power	
PM100-10A PM100-12A	5V 12V	0A 0A	20.00A 8.34A	±2 % ±2 %	150mV 120mV	100W 100W	87/88% 88/89%
PM100-13A PM100-13-1A	15V 18V	0A 0A	6.70A 5.56A	±2 % ±2 %	150mV 180mV	100W 100W	88/89% 88/89%
PM100-14A PM100-15A	24V 28V	0A 0A	4.20A 3.58A	±2 % ±2 %	240mv 280mV	100W 100W	87/90% 87/90%
PM100-17A PM100-18A	36V 48V	0A 0A	2.78A 2.10A	±2 % ±2 %	360mV 480mV	100W 100W	88/89% 88/89%

Notes:

1. Safety approvals are for PCB form only. To order models with metallic L-bracket or box, change suffix "A" to "B" for L-bracket form, to "C" for enclosed form (see Outline Drawing of Cased Internal Switchers), e.g. PM100-14C.
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 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output

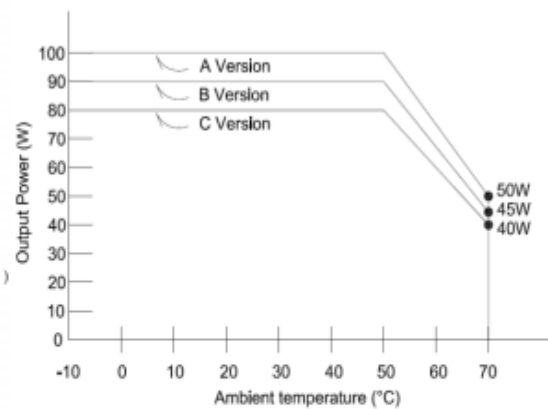
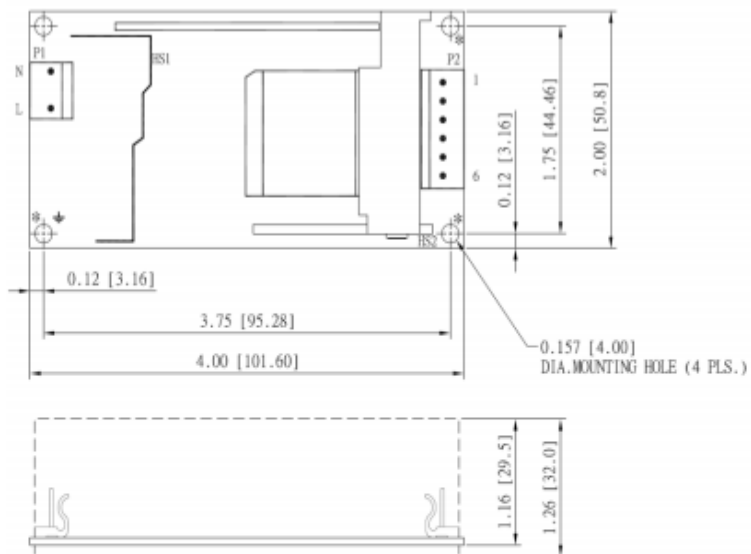
Specifications	
Input	
Input Voltage	90-132/180-264 VAC
Input Frequency	47-63Hz
Input Current	1.9 A (rms) for 100-120 VAC 1.1 A (rms) for 200-240 VAC
Output	
Total Output Power	100W Max
Ripple and noise	150 mV peak to peak on 5.0 V model, 1% peak to peak on other models
Temperature coefficient	All outputs $\pm 0.04\%/^{\circ}\text{C}$ maximum
Transient response	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 μs after a 25% step load change
Protection Features	
Overvoltage Protection	Provided on output; set at 110-140% of its nominal output voltage
Overcurrent Protection	All outputs protected to short circuit conditions
Environmental	
Operating Temperature	-10°C to $+70^{\circ}\text{C}$
Storage Temperature	-40°C to $+85^{\circ}\text{C}$
Humidity	5% to 95% non-condensing
Temperature Derating	Derate from 100% at $+50^{\circ}\text{C}$ linearly to 50% at $+70^{\circ}\text{C}$
Cooling	Convection
General Specifications	
Switching frequency	100 KHz (typical)
Power Factor	>0.9
Efficiency	88-90% @ 230 VAC full load
Hold-up time:	12 ms minimum at 100 VAC
Line regulation	$\pm 0.2\%$ maximum at full load
Inrush current	40 A @ 115 VAC or 80 A @ 230 VAC, at 25°C cold start
Withstanding voltage:	5600 VDC from input to output (2 MOPP) 2100 VDC from input to ground (1 MOPP) 700 VDC from output to ground
Weight	0.44 lbs
MTBF	270,000 hours at full load at 25°C ambient temperature, calculated per MIL-HDBK-217F

Specifications Continued	
Safety	
Safety Approvals	UL ES 60601-1, CSA C22.2 No. 60601-1 File No. E178020 TÜV EN 60601-1 UL 60950-1, CSA C22.2 No. 60950-1 TÜV EN 60950-1
EMC	
EMC (IEC60601-1-2:2014)	EN55011/EN55022: Class B conducted/Class B radiated FCC: Class B conducted/Class B radiated VCCI: Class B conducted/Class B radiated
Harmonic Currents Voltage Flicker Electrostatic Discharge Radiated Immunity EFT Surge Immunity Conducted Immunity Power Frequency Magnetic Field Immunity Dips/Interruptions	IEC 61000-3-2 Class D IEC 61000-3-3 IEC 61000-4-2: 15kV Air, 8kV contact IEC 61000-4-3: 10V/m IEC 61000-4-4: +/-2kV IEC 61000-4-5: 1kV diff, 2kV com IEC 61000-4-6: 3Vrms IEC 61000-4-8: 30A/m IEC 61000-4-11: 70% reduction for 416ms >95% reduction for 10ms.
*Consult with TT Electronics for information on additional country safety approvals	

Diagrams

MECHANICAL SPECIFICATIONS

OUTPUT POWER DERATING CURVE



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Connector P1: Molex header 09-65-2038 or equivalent, mating with Molex housing 09-50-1031 or equivalent.
4. Connector P2: Molex header 09-65-2068 or equivalent, mating with Molex housing 09-50-1061 or equivalent.
5. To ensure compliance with level B emissions, connect the three " * " marked mounting holes with metallic standoffs to chassis.
6. Weight: 190 grams (0.44 lbs.) approx.

PIN CHART

			PIN						
MODEL				1	2	3	4	5	6
PM100-10A	PM100-13-1A	PM100-17A							
PM100-12A	PM100-14A	PM100-18A	V1 Return	V1 Return	V1 Return	+V1	+V1	+V1	
PM100-13A	PM100-15A								