

## DESCRIPTION

The PM100 series of compact, open PCB 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, but not for life-supporting medical equipment. Approval to both EN 60601-1 and EN 60950-1 safety standards improves design-in time and reduces end equipment compliance costs.

## FEATURES

- Medical and industrial approvals
- Compact size 2" x 4" x 1.26"
- High power density 10 W /cubic inch
- 100 W output with convection cooling up to +50°C
- Low earth leakage current
- Conducted EMI class B
- RoHS compliant

## INPUT SPECIFICATIONS

Input voltage: 90-132 VAC or 180-264 VAC, autoranging  
 Input frequency: 47-63 Hz  
 Input current: 1.9A (rms) for 100-120 VAC  
 1.1A (rms) for 200-240 VAC  
 Earth leakage current: 150 uA max. @ 264 VAC, 63 Hz

## OUTPUT SPECIFICATIONS

Output voltage/current: See rating chart.  
 Total output power: 100 watts maximum  
 Ripple and noise: 150 mV peak to peak on 5.0 V model,  
 1% peak to peak on other models  
 Overvoltage protection: Provided on output; set at 110-140% of its nominal output voltage.  
 Overcurrent protection: All outputs protected to short circuit conditions  
 Temperature coefficient: All outputs ±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: -10°C to +70°C  
 Storage temperature: -40°C to +85°C  
 Relative humidity: 5% to 95% non-condensing  
 Derating: Derate from 100% at +50°C linearly to 50% at +70°C  
 Cooling: Convection cooling

## PM100 SERIES

**CE (LVD)**  
**RoHS**



## SAFETY STANDARD APPROVALS



**UL 60601-1, CSA C22.2 No. 601.1**  
 File No. E178020



**TÜV EN60601-1**



**UL 60950-1, CSA-C22.2 No. 60950-1**



**TÜV EN60950-1**

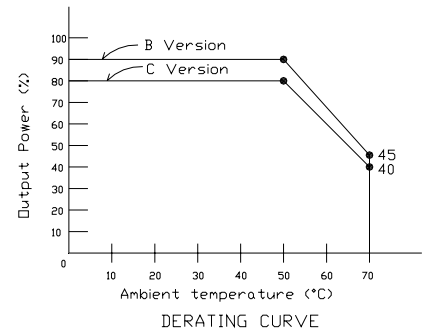
## GENERAL SPECIFICATIONS

Switching frequency: 100 KHz  
 Efficiency: 87-90% @ 230 VAC full load  
 Hold-up time: 12 msec minimum at 110 VAC  
 Line regulation: ±0.2% maximum at full load  
 Inrush current: 40 A @ 115 VAC or 80 A @ 230 VAC,  
 at 25°C cold start  
 Withstand voltage: 4000 VAC from input to output  
 1500 VAC from input to ground  
 500 VAC from output to ground  
 MTBF: 270,000 hours at full load at 25°C ambient temperature, calculated per MIL-HDBK-217F  
 EMC Performance  
 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  
 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 dips,  
 30% reduction for 500 ms  
 60% reduction for 100 ms  
 >95% reduction for 10 ms  
 Performance criteria A, B, A @ 230 Vac  
 B, B, A @ 100 Vac

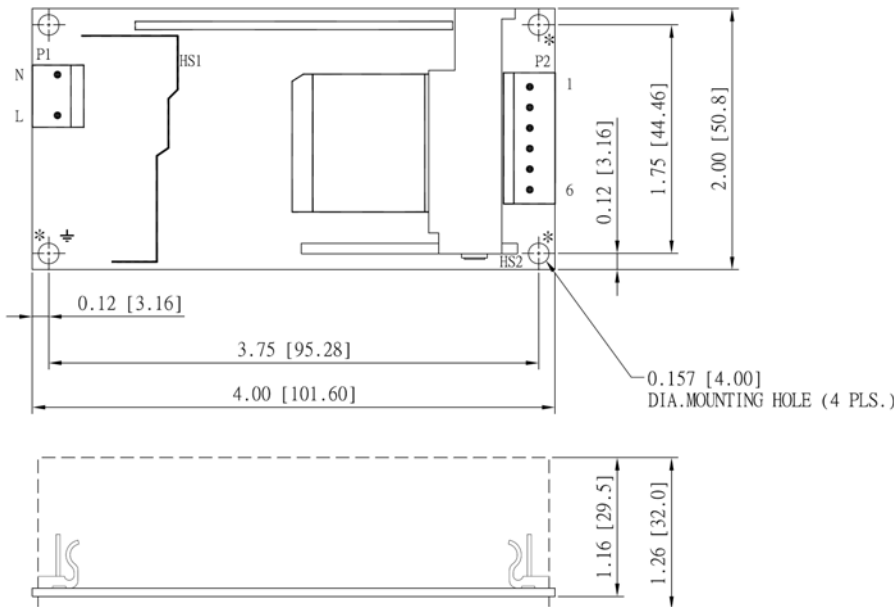
## OUTPUT VOLTAGE/CURRENT RATING CHART

MODEL <sup>(1)</sup>	Vnom.	Output			Maximum Output Power
		Imin.	I <sub>max.</sub>	Tol.	
PM100-10A	5 V	0 A	20 A	2%	100 W
PM100-12A	12 V	0 A	8.34 A	2%	100 W
PM100-13A	15 V	0 A	6.7 A	2%	100 W
PM100-13-1A	18 V	0 A	5.56 A	2%	100 W
PM100-14A	24 V	0 A	4.2 A	2%	100 W
PM100-15A	28 V	0 A	3.58 A	2%	100 W
PM100-17A	36 V	0 A	2.78 A	2%	100 W
PM100-18A	48 V	0 A	2.1 A	2%	100 W

- NOTES:
- Safety approvals are for PCB form only. To order models with metallic L-bracket or box, change suffix "A" to "B" for L-bracket format, to "C" for enclosed format (Outline Drawing of Cased Internal Switchers), e.g. PM100-14C.
  - Ripple and noise: Peak to peak with 20 MHz bandwidth and 10 uF tantalum capacitor in parallel with a 0.1 uF ceramic capacitor at rated line voltage and load ranges.



## MECHANICAL SPECIFICATIONS



### NOTES:

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

## PIN CHART

MODEL	PIN			1	2	3	4	5	6
	1	2	3						
PM100-10A	PM100-12A	PM100-13A							
PM100-13-1A	PM100-14A	PM100-15A	RETURN	RETURN	RETURN	OUTPUT	OUTPUT	OUTPUT	
PM100-17A	PM100-18A								