PROTEK POWER

TT Electronics
POWER PARTNERS

PM101 Medical & ITE Power Supplies (80-100W)

Features:

- BF class insulation
- Operation altitude up to 5000 meters
- 2 x 4 inch footprint with a 1.29 inch low profile
- Less than 275 µA leakage current
- Wide input range 80-264 VAC
- Meet EN55011/ 55022 and FCC Class B
- Short-circuit protection
- Compliant with RoHS requirements
- No Load power consumption less than 0.15W

RoHS

Description:

The PM101 series of AC-DC switching power supplies in a package of 2 x 4 x 1.29 inches are capable of delivering 100 watts of continuous power at 7.5 CFM forced air cooling or 80 watts at convection cooling. The units are constructed on a printed circuit board. They are suited for medical applications, information technology and industrial applications. Approval to both IEC60601-1 and IEC609501-1 safety standards improves design-in time and reduces end equipment compliance costs.

Model[1]	Output							Efficiency (typical) @115/230 Vac
	V1	Min. Load	Max. Current at convection	Max. Current at 7.5 CFM	Tol.	Ripple & Noise[2]	Max. Output Power[3]	
PM101-12A	12V	0A	6.67A	8.34A	±2%	120mV	80W/100W	87/90%
PM101-13A	15V	0A	5.34A	6.67A	±2%	150mV	80W/100W	87/90%
PM101-13-1A	18V	0A	4.45A	5.56A	±2%	180mV	80W/100W	87/90%
PM101-14A	24V	0A	3.34A	4.17A	±2%	240mV	80W/100W	88/90%
PM101-15A	28V	0A	2.86A	3.58A	±2%	280mV	80W/100W	88/90%
PM101-16A	30V	0A	2.50A	3.13A	±2%	320mV	80W/100W	88/90%
PM101-17A	36V	0A	2.23A	2.78A	±2%	360mV	80W/100W	88/90%
PM101-18A	48V	0A	1.67A	2.09A	±2%	480mV	80W/100W	88/90%

NOTES:

1. The first value of max. power is at convection cooling. The second value is with 7.5 CFM forced air provided by user.
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 10µF tantalum (or electrolytic) capacitor in parallel with a 0.1 µF ceramic capacitor across the output except model PM101-12A which is with a22µF tantalum (or electrolytic) capacitor in parallel with a 0.1 µF ceramic capacitor across the output

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Specifications	
Safety Standards & EMC Specifications	
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	80 to 264VAC
Power derating	Derate linearly from 100% at 90VAC to 90% at 85VAC and 80% at 80VAC
Input Frequency Range	47 to 63Hz
Input Current	2.0A (rms) for 115VAC 1.2A (rms) for 230VAC
Earth Leakage Current	175µA max. @ 264VAC, 63Hz
Touch Current	100µA max. @ 264 VAC, 63Hz
Output Specifications	
Ripple & Noise	1% peak to peak maximum
Overvoltage Protection	Set 112-140% of nominal output voltage, latching by recycle input to reset
Short circuit protection	Automatic recovery
Over temperature protection	Latching by recycle input to reset
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 µs after a 25% step load change
Environmental Specifications	
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +85°C
Relative Humidity	5% to 95% non-condensing
Temperature Derating	De-rate from 100% at +50°C linearly to 50% at +70°C, applicable to convection and forced-air cooling conditions
General Specifications	
Hold-up Time	10ms minimum at 80 W load and 110VAC 10ms minimum at 100W load and 115 VAC
Power Factor	>0.9
Switching Frequency	65 KHz (typical)
Line Regulation	±0.5% maximum at full load
Inrush Current	80A @ 115 Vac or 160A @ 230 Vac at 25°C cold start
Withstand Voltage	4000 VAC from input to output (2 MOPP) 1500 VAC from input to ground (1 MOPP) 1500 VAC from output to ground
MTBF	150,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F

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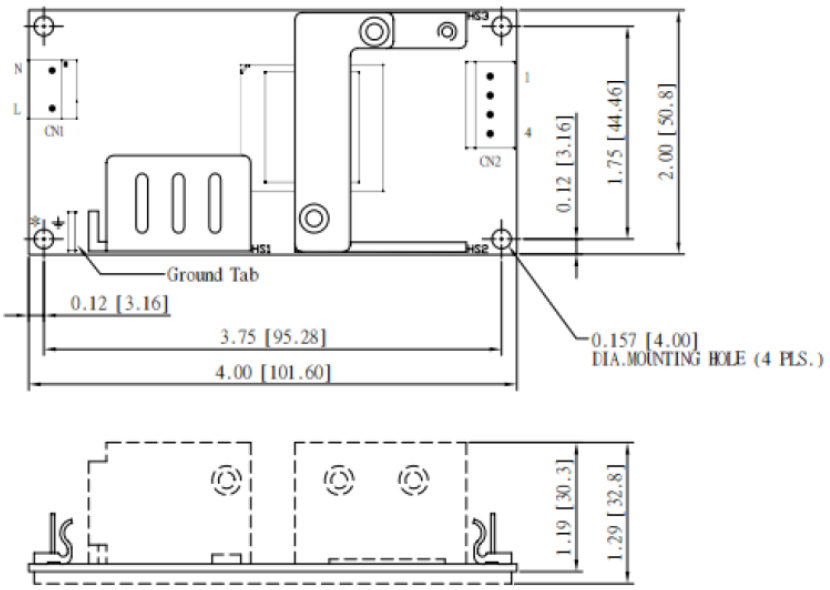
Diagrams

MECHANICAL SPECIFICATIONS



NOTES:
1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1: Molex header 09-65-2038, mating with Molex housing 09-50-1031 or equivalent.
4. Output connector P2: Molex header 09-65-2048 , mating with Molex housing 09-50-1041 or equivalent.
5. Weight: xxx grams (x.xx lbs.) approx.

PIN CHART

Connect	P1			P2			
PIN NO.	1	2	3	1	2	3	4
Polarity	Live	Void	Neutral	V1	V1	Common Return	Common Return

OUTPUT POWER DERATING CURVE