

DESCRIPTION

The TMC100 series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 100 watts of continuous output power at convection. They operate at 90-264 VAC input voltage without the need of voltage selection, and are suited for medical, information technology and industrial applications. 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 ITE approvals
- Compact size 2" x 4" x 1.26"
- Ultra high power density 10 W/cubic inch
- Full range input 90-132 VAC, or 180-264 VAC
- Low earth leakage current
- Conducted EMI class B
- RoHS compliant

INPUT SPECIFICATIONS

Input voltage: 90-132 VAC or 180-264 VAC
 Input frequency: 47-63 Hz
 Input current: 1.9A (rms) for 100-120 VAC
 1.0A (rms) for 200-240 VAC
 Earth leakage current: 150 µA max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/current: See rating chart
 Total output power: 100 watts maximum
 Ripple and noise: 250 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 µs 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

TMC100 SERIES



SAFETY STANDARD APPROVALS



UL 60601-1
 CSA C22.2 No. 601.1



TÜV EN60601-1

GENERAL SPECIFICATIONS

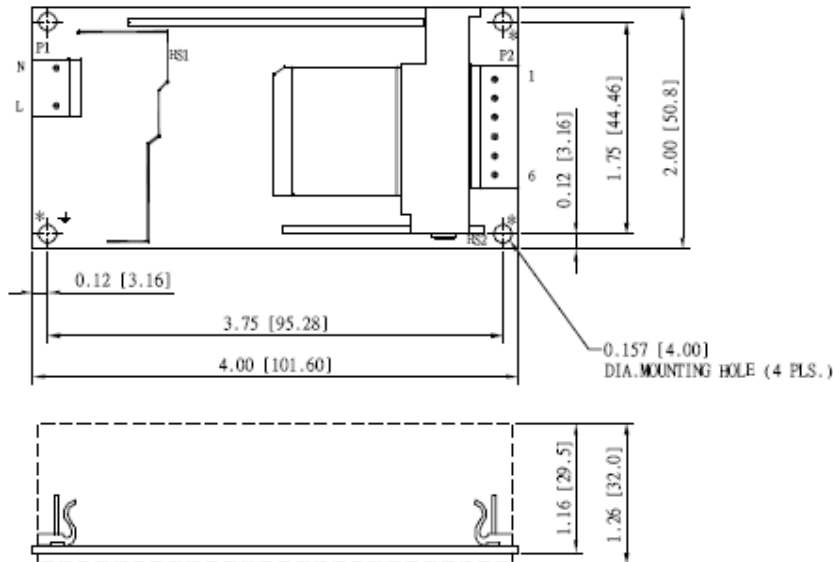
Switching frequency: 100 KHz
 Efficiency: 87-90% @ 230 VAC full load.
 Hold-up time: 12 msec minimum at 110 VAC.
 Line regulation: ±0.2% maximum at full load
 Inrush current: 40 A @ 115 VAC or 80 A @ 230 VAC, at 25°C cold start
 Withstand voltage: 4000 VAC from input to output
 1500 VAC from input to 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 A radiated
 FCC: Class B conducted, class A radiated
 VCC: Class B conducted, class A 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 5 sec.
 Performance criteria A, B, A.

OUTPUT VOLTAGE/CURRENT RATING CHART

P/N	Vnom.	Output		Tol.	Maximum Output Power
		Imin.	I _{max}		
TMC100-S05	5 V	0 A	20 A	2%	100 W
TMC100-S12	12 V	0 A	8.34 A	2%	100 W
TMC100-S15	15 V	0 A	6.7 A	2%	100 W
TMC100-S18	18 V	0 A	5.56 A	2%	100 W
TMC100-S24	24 V	0 A	4.2 A	2%	100 W
TMC100-S28	28 V	0 A	3.58 A	2%	100 W
TMC100-S36	36 V	0 A	2.78 A	2%	100 W
TMC100-S48	48 V	0 A	2.1 A	2%	100 W

NOTES: 1. Safety approvals are for PCB form only. To order unit with cover fitted, add suffix "C".

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3061 and Molex 2878 series crimp terminal.
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

MODEL	PIN		1	2	3	4	5	6
	TMC100-S05	TMC100-S12	TMC100-S15	RETURN	RETURN	RETURN	OUTPUT	OUTPUT
TMC100-S18	TMC100-S24	TMC100-S28						
TMC100-S36	TMC100-S48							