

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 μ A 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 $\pm 0.04\%$ / $^{\circ}$ C maximum
Transient response: Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 μ s after a 25% step load change

ENVIRONMENTAL SPECIFICATIONS

Operating temperature: -10 $^{\circ}$ C to +70 $^{\circ}$ C
Storage temperature: -40 $^{\circ}$ C to +85 $^{\circ}$ C
Relative humidity: 5% to 95% non-condensing
Derating: Derate from 100% at +50 $^{\circ}$ C linearly to 50% at +70 $^{\circ}$ C
Cooling: Convection cooling

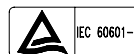
TMC100 SERIES



SAFETY STANDARD APPROVALS



UL 60601-1
CSA C22.2 No. 601.1



TÜV EN60601-1

GENERAL SPECIFICATIONS

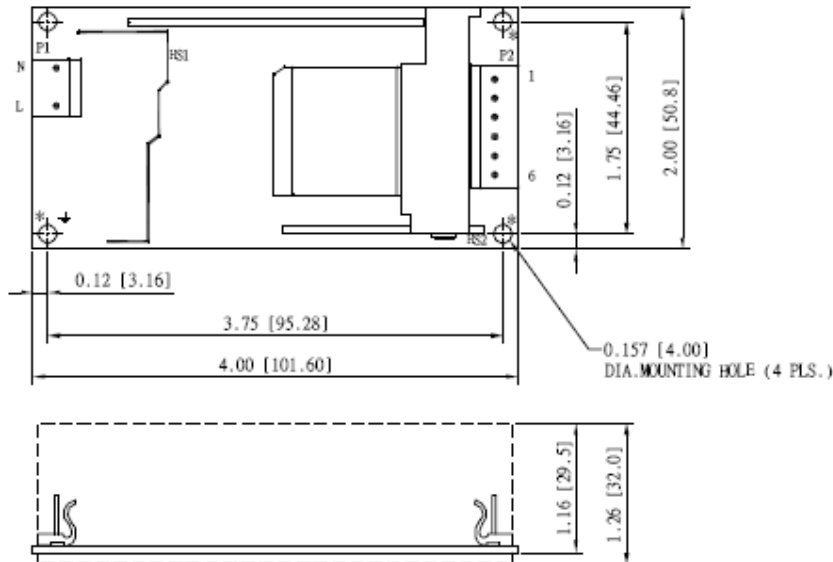
Switching frequency: 100 KHz
Efficiency: 87-90% @ 230 VAC full load.
Hold-up time: 12 msec minimum at 110 VAC.
Line regulation: $\pm 0.2\%$ maximum at full load
Inrush current: 40 A @ 115 VAC or 80 A @ 230 VAC, at 25 $^{\circ}$ C cold start
Withstand voltage: 4000 VAC from input to output
1500 VAC from input to ground
500 VAC from output to ground
MTBF: 270,000 hours at full load at 25 $^{\circ}$ 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							