TMC500 Series
500 Watts Medical Grade AC/DC Power Supplies

FEATURES
• 4" x 7" x 1.7" Compact Size
• Low Leakage Current
• 5V/200mA Standby Power
• 12V/300mA Fan Power or Auxiliary Output
• PFD, Remote Sense, Output Inhibit
• BF Rated Outputs

INPUT SPECIFICATIONS
Input Voltage Range .............. 90-264 VAC, with active PFC
Input Frequency ..................... 47-63 Hz
Input Current .......................... 5.2A rms @ 115 VAC, 60 Hz
Inrush Current ....................... 30A @ 115 VAC or 60A @ 230 VAC, at 25°C cold start
Earth Leakage Current .......... 300 µA max. @ 264 VAC, 63Hz
Touch Current ........................ 100 µA max. @ 264 VAC, 63Hz

OUTPUT SPECIFICATIONS
Output Power Ratings ........... See table
Ripple and Noise*............... 1% peak to peak max.
Line Regulation ..................... ±0.5% max. @ full load
Output Tolerance ................... ±2%
Over Voltage Protection ........ Set at 115-140% of its nominal output voltage
Over Current Protection .......... Protected to short-circuit conditions
Thermal Shutdown ................. Protected to over temperature conditions
Temperature Coefficient ....... ±0.04%/°C max.
Remote Sense ........................ Compensation for cable losses up to 0.5V
Transient Response ............... Max. excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change
Standby Power ....................... 5V/200mA max.
Fan Power/Aux. Output .......... 12V/300mA max.
* Peak to peak with 20MHz bandwidth and 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor at rated line voltage and load ranges

GENERAL SPECIFICATIONS
Switching Frequency ............. 85 kHz typical
Efficiency ............................ 90% typical
Operating Altitude ............... 5,000 meters max.
Hold-up Time ....................... 10 ms min. @ 110 VAC
Operating Temperature .......... -10°C to +70°C
Derating ............................ Derate from 100% @ +50°C linearly to 50% @ +70°C; applicable to convection and forced-air cooling conditions
Storage Temperature ............. -40°C to +85°C
Relative Humidity ............... 5% to 95% non-condensing
Withstand Voltage ............... 4,000 VAC, input-output (2MOPP)
1,500 VAC, input-ground (1MOPP)
1,500 VAC, output-ground

MODELS LIST

<table>
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<tr>
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<tr>
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<td>12V</td>
<td>29.17A</td>
<td>350W</td>
<td>37.5A</td>
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<td>27.8A</td>
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NOTES:
1. Standard form factor is U-bracket. Add suffix "C" for enclosed frame with cooling fan, e.g. TMC500-S24C.
2. All models may be operated at no-load without damage and output voltage fluctuates beyond 5% due to the burst-mode operation of the IC control.

STANDARDS & COMPLIANCE
EN/IEC 60601-1-2:2014 ... EMC & Immunity Performance
EN55011, EN55022 .......... Class B conducted, Class A radiated
FCC ................................ Class B conducted, Class A radiated
VCCI................................... Class B conducted, Class A radiated
EN61000-3-2 ..................... Harmonic distortion, Class A & D
EN61000-3-3 ..................... Line flicker
EN61000-4-2 ..................... ESD, ±15 KV air and ±8 KV contact
EN61000-4-3 ..................... Radiated immunity, 10V/m
EN61000-4-4 ..................... Fast transient/burst, ±2 KV
EN61000-4-5 ..................... Surge, ±1 KV diff., ±2 KV com.
EN61000-4-6 ..................... Conducted immunity, 10 Vrms
EN61000-4-8 ..................... Magnetic field immunity, 30A/m
EN61000-4-11 .................... Voltage dip immunity, 30% reduction for 500 ms, 100% reduction for 10 ms
Safety Standards ............... UL/IEC/EN 60601-1 (Edition 3.1)
ANSI/AAMI ES 60601-1:2012
CSA C22.2 No. 60601-1:2014
IEC/EN 60950-1 (2nd Edition)
Agency Approvals .............. UL, cUL, TUV, CB, CE
Other Compliance ............. RoHS

MTBF .................................................. 250 kHrs minimum at full load, 25°C ambient, calculated per MIL-HDBK-217F

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MECHANICAL SPECIFICATIONS

U-Bracket Form Factor (Standard)

Enclosed Form Factor (Suffix “C”)

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<thead>
<tr>
<th>CONNECTOR</th>
<th>PIN</th>
<th>FUNCTION</th>
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<tr>
<td>P1 (AC)</td>
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<tr>
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<tr>
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<td>+5V STANDBY</td>
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<td>N.C.</td>
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<td>P5</td>
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<td>2</td>
<td>COMMON RETURN</td>
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NOTES:
1. Dimensions: inches [mm]
2. Tolerance: 0.02 [0.5] maximum
3. Input connector P1: Dinkle terminal P/N DT-35-B01W-03 with M3, nickel plated screws.
4. Output connectors P2, P3: M4 x 0.7 screw connectors.
5. Output connector P4: Molex header 87833-08 or equivalent, mating with Molex housing 51110-0850 or equivalent.
6. Fan connector P5: JST header S2B-ZR-3.4 or equivalent, mating with JST housing ZHR-2 or equivalent.
7. Weight: 1 KG approx. (2.23 lbs) for U-bracket format, 1.14 KGS approx. (2.52 lbs) for enclosed format.
8. Maximum penetration depth of fixing screws is 4mm from the outer chassis surface.