TMC300 Series
300 Watts AC/DC Medical & ITE Grade Power Supplies

FEATURES
- 3" x 6" x 1.38" Compact Size
- Class I/II, BF Rated Outputs
- Low Leakage Current
- 5V/2A or 12V/1A Standby Power
- 12V/1A Fan Power or Auxiliary Output
- PFD, Remote Sense, Output Inhibit

INPUT SPECIFICATIONS
- Input Voltage Range .............. 90-264 VAC
- Input Frequency ..................... 47-63 Hz
- Input Current .......................... 4A rms @ 115 VAC, 2A rms @ 230 VAC
- Inrush Current ....................... 20A @ 115 VAC or 40A @ 230 VAC, at 25°C cold start
- Earth Leakage Current .......... 220 µA max. @ 264 VAC, 63Hz
- Touch Current ........................ 100 µA max. @ 264 VAC, 63Hz
- Standby Power Cons. ............ 5V/100mA, 1W max.

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%
- Overvoltage Protection .......... Set at 112-140% of its nominal output voltage
- Overcurrent Protection .......... Protected to short-circuit conditions
- Temperature Coefficient ...... ±0.04%/°C max.
- 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/2A (standard) or 12V/1A
- Fan Power/Aux. Output .......... 12V/1A max. (isolated output)

GENERAL SPECIFICATIONS
- Switching Frequency ............. 100 kHz
- Power Factor ....................... 0.98 typical, with active PFC
- Efficiency .......................... 87% typical
- Operating Altitude .......... 5,000 meters max.
- Turn-on Delay ...................... 3 sec. max. @ 100 VAC
- Hold-up Time ...................... 10 ms min. @ 110 VAC
- Operating Temperature ........... 0°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)
- MTBF ............................... 250 kHrs minimum at full load, 25°C ambient, calculated per MIL-HDBK-217F

STANDARDS & COMPLIANCES
- 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 & D
- EN61000-3-3 .............. Line flicker
- EN61000-4-2 .......... ESD, ±8 KV air and ±6 KV contact
- EN61000-4-3 .......... Radiated immunity, 3V/m
- EN61000-4-4 .......... Fast transient/burst, ±2 KV
- EN61000-4-5 .......... Surge, ±1 KV dif., ±2 KV com.
- EN61000-4-6 .......... Conducted immunity, 3 Vrms
- EN61000-4-8 .......... Magnetic field immunity, 3A/m
- EN61000-4-11 .......... Voltage dips immunity, 30% reduction for 500 ms, 60% reduction for 100 ms, >95% reduction for 10 ms

- Agency Approvals .......... UL, cUL, TUV, CB, CE
- Other Compliance .......... RoHS

MODELS LIST

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Voltage</th>
<th>@ Convection Max. Current</th>
<th>@ Convection Max. Power</th>
<th>@ 10 CFM Forced Air Max. Current</th>
<th>@ 10 CFM Forced Air Max. Power</th>
<th>Ripple &amp; Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMC300-S12</td>
<td>12V</td>
<td>16.67A</td>
<td>200W</td>
<td>25A</td>
<td>300W</td>
<td>120mV</td>
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<tr>
<td>TMC300-S15</td>
<td>15V</td>
<td>13.34A</td>
<td>200W</td>
<td>20A</td>
<td>300W</td>
<td>150mV</td>
</tr>
<tr>
<td>TMC300-S19</td>
<td>19V</td>
<td>10.53A</td>
<td>200W</td>
<td>15.8A</td>
<td>300W</td>
<td>190mV</td>
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<tr>
<td>TMC300-S24</td>
<td>24V</td>
<td>8.34A</td>
<td>200W</td>
<td>12.5A</td>
<td>300W</td>
<td>240mV</td>
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<tr>
<td>TMC300-S30</td>
<td>30V</td>
<td>6.67A</td>
<td>200W</td>
<td>10A</td>
<td>300W</td>
<td>300mV</td>
</tr>
<tr>
<td>TMC300-S36</td>
<td>36V</td>
<td>5.56A</td>
<td>200W</td>
<td>8.34A</td>
<td>300W</td>
<td>360mV</td>
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<tr>
<td>TMC300-S48</td>
<td>48V</td>
<td>4.17A</td>
<td>200W</td>
<td>6.25A</td>
<td>300W</td>
<td>480mV</td>
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</table>

NOTES:
1. Standard form factor is open from PCB. Add suffix “B” for L-bracket, e.g. TMC300-S12B. Add suffix “C” for enclosed frame with cooling fan, e.g. TMC300-S24C.
2. Standard models come with 5V@2A standby power. Add suffix “-E” for 12V@1A standby power, e.g. TMC300-S12-E.
### TMC300 Series

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### MECHANICAL SPECIFICATIONS

#### PCB Form Factor (Standard)

![PCB Form Factor Diagram]

- **Mounting Hole**: 0.16 [4.0] 4 Places
- **VR ADJUST**:

#### L-Bracket Form Factor (Suffix “B”)

![L-Bracket Form Factor Diagram]

- **AMOUNTING HOLES, THREADED INSERT**: FOR #8-32 SCREWS (6 PLTS.)

### CONNECTOR PIN FUNCTION

<table>
<thead>
<tr>
<th>CONNECTOR</th>
<th>PIN</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1, P8</td>
<td>1</td>
<td>AC LIVE</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>NEUTRAL</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>GROUND</td>
</tr>
<tr>
<td>P2</td>
<td></td>
<td>+V</td>
</tr>
<tr>
<td>P3</td>
<td></td>
<td>COMMON RETURN</td>
</tr>
<tr>
<td>P4</td>
<td>1</td>
<td>+12V FAN (ISOLATED)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>FAN RETURN (ISOLATED)</td>
</tr>
<tr>
<td>P5</td>
<td>1</td>
<td>-V SENSE</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>+V SENSE</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>PFD</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>INHIBIT</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>+5V or 12V STANDBY</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>COMMON RETURN</td>
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<tr>
<td>P7</td>
<td>1</td>
<td>+5V or +12V STANDBY</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>INHIBIT</td>
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<tr>
<td></td>
<td>3 - 8</td>
<td>+V</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>FAN RETURN</td>
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<tr>
<td></td>
<td>10</td>
<td>STANDBY RETURN</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>PFD</td>
</tr>
<tr>
<td></td>
<td>12 - 17</td>
<td>COMMON RETURN</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>+12V FAN</td>
</tr>
</tbody>
</table>

### CONTROL SIGNALS

- **PFD**: TTL logic high for normal operation, low upon loss of input power. This signal appears at least 1ms prior to V1 output dropping 5% below its nominal value. This signal also provides a minimum delay of 100ms after V1 is within regulation.

- **INHIBIT**: Requires an external TTL high level signal to inhibit outputs for standard models.
MECHANICAL SPECIFICATIONS (cont.)

Enclosed Form Factor (Suffix “C”)

NOTES:
1. Dimensions: inches [mm]
2. Tolerance: 0.02 [0.5] maximum
3. Input connector P1 is Dinkle terminal P/N DT-35-B01W-03 with M3, nickel plated screws
4. Output connectors P2, P3: M3 x 0.5 screw connectors
5. Fan connector P4: Molex header 22-04-1021 or equivalent, mating with Molex housing 22-01-1022 or equivalent
6. Connector P5: Molex header 22-04-1061 or equivalent, mating with Molex housing 22-01-1062 or equivalent
7. Optional output connector P7: Molex housing 39-30-1180 or equivalent, mating with Molex housing 39-01-2185 or equivalent
8. Optional input connector P8: Molex header 26-60-4050 or equivalent, mating with Molex housing 09-50-8050 or equivalent
9. Weight: 510 grams approx. (1.12 lbs) for L-bracket format, 612 grams approx. (1.35 lbs) for PCB format, 744 grams approx. (1.64 lbs) for enclosed format
10. Maximum penetration depth of fixing screws is 4mm from the outer chassis surface