TTG200 Series
200W GaN FET AC/DC Power Adapters

FEATURES
- IEC 320/C14 or C8 AC Inlet
- GaN FET Based Compact Design
- 12.5W/in³ High Power Density
- 91-93% Average Efficiency
- Thermal Protection
- Compliant with DoE Level VI
- IEC/EN/UL 62368-1 & 60950-1 Approved

INPUT SPECIFICATIONS
- Input Voltage Range .......... 100-240VAC
- Input Frequency .................. 50-60 Hz
- Input Current .................. 2.4A max. @ 100 VAC/240 VAC
- Inrush Current .................. 100A max. @ Full Load,
  at 25°C cold start
- Touch Current .................... 100µA max. @ 264 VAC
- Leakage Current .................. 250µA max. @ 264 VAC (Class I)

OUTPUT SPECIFICATIONS
- Output Power Ratings ........ See models list
- No Load Power Cons. ........... 0.15W typical
- Line Regulation .................. ±0.5% max.
- Load Regulation ............... ±5% max.
- Ripple and Noise* ............... 1% Vp-p max. of output @ full load
- Over Voltage Protection ...... Set @ 110-150%; Latch off
- Over Current Protection ...... Set @ 150-180%; Auto-recovery
- Short Circuit Protection ...... Shut down; Auto recovery
- Thermal Shutdown ............... Protected to over-temp. conditions
- Temperature Coefficient ...... ±0.04%/°C max.
- Transient Response .......... 0.5 ms for 50% load change typical

GENERAL SPECIFICATIONS
- Power Factor .................. >0.94 typical @ full load
- Efficiency ....................... 90% min. @ full load
- Switching Frequency .......... 250 kHz.
- Hold-Up Time .................. 10 ms min. @ full load
- Operating Altitude ............ 5,000 meters max.
- Operating Temperature ........ 0°C to +70°C
- Derating ......................... Derate from 100% at +40°C
  linearly to 50% at +70°C except 50% at +60°C for 12V
- Storage Temperature ............ -20°C to +80°C
- Operating Humidity ........... 20 to 80% non-condensing
- Storage Humidity .............. 10 to 90% non-condensing
- Withstand Voltage .......... 3,000 VAC, input to output
- MTBF ......................... 300,000 hours minimum at full load,
  25°C ambient, calculated per Telcordia SR-332

MODELS LIST

<table>
<thead>
<tr>
<th>Product No. (1)</th>
<th>Output Voltage</th>
<th>Maximum Output Current</th>
<th>Maximum Output Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTG200-12</td>
<td>12V</td>
<td>15A</td>
<td>180W</td>
</tr>
<tr>
<td>TTG200-18</td>
<td>18V</td>
<td>11.1A</td>
<td>200W</td>
</tr>
<tr>
<td>TTG200-19</td>
<td>19V</td>
<td>10.5A</td>
<td>200W</td>
</tr>
<tr>
<td>TTG200-19.5</td>
<td>19.5V</td>
<td>10.2A</td>
<td>200W</td>
</tr>
<tr>
<td>TTG200-20</td>
<td>20V</td>
<td>10A</td>
<td>200W</td>
</tr>
<tr>
<td>TTG200-24</td>
<td>24V</td>
<td>8.3A</td>
<td>200W</td>
</tr>
<tr>
<td>TTG200-48</td>
<td>48V</td>
<td>4.2A</td>
<td>200W</td>
</tr>
<tr>
<td>TTG200-56</td>
<td>56V</td>
<td>3.6A</td>
<td>200W</td>
</tr>
</tbody>
</table>

Note: 1) Add suffix "-4" to the P/N for models furnished with IEC 320/C14 AC inlet, "-8" for C8 inlet, e.g. TTG200-12-4, TTG200-24-8, etc.

STANDARDS & COMPLIANCE
- EN 55032, CISPR 32 ........ Class B, conducted & radiated
- FCC, VCCI ...................... Class B, conducted & radiated
- EN 61000-3-2 ................. Harmonic distortion, Class A & D
- EN 61000-3-3 .................. Line flicker
- EN 61000-4-2 ................. ESD, ±8 KV air and ±4 KV contact
- EN 61000-4-3 ................. Radiated immunity, 3V/m
- EN 61000-4-4 ................. Fast transient/burst, ±1 KV
- EN 61000-4-5 ................. Surge, ±1 KV diff., ±2 KV com.
- EN 61000-4-6 ................. Conducted immunity, 3 Vrms
- EN 61000-4-8 ................. Magnetic field immunity, 1A/m
- EN 61000-4-11 .......... 30% reduction for 500ms,
  >95% reduction for 10ms
- Safety Standards .............. IEC/EN/UL 62368-1:2014,
  CAN/CSA C22.2 No. 62368-1-14,
  IEC/EN/UL 60950-1 (2nd edition)
- Agency Approvals ............. UL, cUL, TUV, PSE, CE, CB
- Other Compliance ............. RoHS, Energy Star 2.0, ErP Stage 2,
  DoE Level VI, CoC Tier 2, NRCan &
  GEMS Level VI

Tumbler Technologies + TRUMPower
3350 Scott Blvd., Building 13 • Santa Clara, California 95054, USA • 408-988-6616 • sales@trumpower.com • www.TRUMPower.com
MECHANICAL SPECIFICATIONS

Notes:
1. Unit: mm
2. Weight: 500 grams approx.
3. Standard output connector: Kycon P/N KPPX-4P or equivalent, mating with Kycon P/N KPJX-4S-S or equivalent
4. Length of output cable: 1200mm for 12V, 1500mm for 18-56V
5. Contact TRUMPower for non-standard models.

OUTPUT CONNECTOR

<table>
<thead>
<tr>
<th>PIN</th>
<th>CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+V</td>
</tr>
<tr>
<td>2</td>
<td>+V</td>
</tr>
<tr>
<td>3</td>
<td>RETURN</td>
</tr>
<tr>
<td>4</td>
<td>RETURN</td>
</tr>
<tr>
<td>SHELL</td>
<td>AC GND/*NC</td>
</tr>
</tbody>
</table>

*Shell is NC on C8 inlet models.