TPM120 Series
Medical Grade 96-120W AC/DC Power Adapters

FEATURES
• IEC 320/C6, C8, C14, C18 Inlets
• AC Power Cord Retention Clip Option
• IP54 Environmental Rating
• IEC/EN/UL 60601-1 Ed. 3.1 Safety Approvals
• IEC/EN 60601-1-2 Ed. 4 Medical EMC
• Class II Meets IEC 60601-1-11

INPUT SPECIFICATIONS

Input Voltage Range .......... 90-264 VAC
Input Frequency ............... 47-63 Hz
Input Current ................. 1.6A rms @ 115 VAC
................................ 0.8A rms @ 230 VAC
Inrush Current ............... 90A @ 115 VAC or 180A @ 230 VAC,
at 25°C cold start
No Load Power Cons. ......<0.15W
Earth Leakage Current .......... 150 μA max. @ 264 VAC, 63 Hz
Enclosure Leakage Current .. 100 μA max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output Power Ratings ........... See models list
Tolerance ........................ ±5%
Ripple and Noise* ............... 1% Vp-p max. at full load
Overvoltage Protection ....... Set at 112-140% of its nominal
output voltage
Overcurrent Protection ........... Protected to short-circuit
conditions, auto-recovery
Over Temp. Protection .............. Latch off, recycle input to reset
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 μs after
a 25% step load change

GENERAL SPECIFICATIONS

Power Factor ................. 0.98 typ. @ 115 VAC
Efficiency ..................... 88% min. @ full load
Hold-up Time ................. 20 ms @ 100 VAC
Line Regulation ................ ±0.5% max. @ full load
Switching Frequency .......... 50-130 KHz
Operating Temperature ...... -20°C to +60°C
Derating ...................... Derate from 100% at +40°C linearly
to 50% at +60°C
Storage Temperature ........-40°C to +85°C
Relative Humidity ............ 5% to 95% non-condensing
Ingress Protection ........... IP54
Withstand Voltage .......... 4,000 VDC input-output (2MOPP)
................................ 1,500 VDC input-ground (1MOPP)
500 VDC output-ground
Operating Altitude .......... 5,000 meters max.
MTBF ......................... 100K hours minimum at full load,
25°C ambient, calculated per
MIL-HDBK-217F

STANDARDS & COMPLIANCE

IEC/EN 60601-1-2 Ed. 4 ..... EMC & Immunity Performance
EN 55011, FCC, VCCI ...... Class B, conducted & radiated
EN 61000-3-2 ............... Harmonic distortion, Class A & D
EN 61000-3-3 ............... Line fluctuations & flicker
EN 61000-4-2 ................ ESD, ±15 KV air and ±8 KV contact
EN 61000-4-3 ................ Radiated immunity, 10 V/m
EN 61000-4-4 .............. Fast transient/burst, ±2 KV
EN 61000-4-5 ............. Surge, ±1 KV diff., ±2 KV com.
EN 61000-4-6 ............... Conducted immunity, 10 Vrms
EN 61000-4-8 ........... Magnetic field immunity, 30A/m
EN 61000-4-11 ...... Voltage dip immunity,
30% reduction for 500 ms,
60% reduction for 100 ms,
>95% reduction for 20 ms

Safety Standards ............ IEC/EN 60601-1 Edition 3.1,
................................ ANSI/AAMI ES 60601-1:2012,
................................ CSA C22.2 No. 60601-1:14
Agency Approvals .......... UL, cUL, TUV, CE, CB
Other Compliance .......... RoHS, CEC & Energy Star Level VI,
................................ EU CoC EPS V5 Tier 2, IP54,
................................ IEC 60601-1-11 (Class II version)

MODELS LIST

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Output Voltage</th>
<th>Maximum Current</th>
<th>Maximum Output Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPM120-12</td>
<td>12V</td>
<td>8.00A</td>
<td>96W</td>
</tr>
<tr>
<td>TPM120-15</td>
<td>15V</td>
<td>7.00A</td>
<td>105W</td>
</tr>
<tr>
<td>TPM120-18</td>
<td>18V</td>
<td>6.67A</td>
<td>120W</td>
</tr>
<tr>
<td>TPM120-19</td>
<td>19V</td>
<td>6.32A</td>
<td>120W</td>
</tr>
<tr>
<td>TPM120-20</td>
<td>20V</td>
<td>6.50A</td>
<td>120W</td>
</tr>
<tr>
<td>TPM120-24</td>
<td>24V</td>
<td>5.00A</td>
<td>120W</td>
</tr>
<tr>
<td>TPM120-30</td>
<td>30V</td>
<td>4.00A</td>
<td>120W</td>
</tr>
<tr>
<td>TPM120-36</td>
<td>36V</td>
<td>2.34A</td>
<td>120W</td>
</tr>
<tr>
<td>TPM120-48</td>
<td>48V</td>
<td>2.50A</td>
<td>120W</td>
</tr>
</tbody>
</table>

Note:
Add suffix “-4” to the P/N for model with C14 inlet, “-6” for C6, “-8” for C8, “-F” for
C18 inlet, e.g. TPM120-24-4, TPM120-24-6, TPM120-24-8, TPM120-24-F.

* Measured with 20 MHz bandwidth at rated line voltage and output load ranges, with
a 47 μF electrolytic capacitor in parallel with a 0.1 μF ceramic capacitor in parallel
across the output.
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MECHANICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PIN</th>
<th>FUNCTION</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>DC RETURN</td>
</tr>
<tr>
<td>2</td>
<td>+V</td>
</tr>
<tr>
<td>3</td>
<td>DC RETURN</td>
</tr>
<tr>
<td>4</td>
<td>+V</td>
</tr>
</tbody>
</table>

SHELL/SHEILD: AC GND (Class I) / DC RETURN (Class II)

Notes:
1. Unit: inch [mm]
2. Tolerance: 0.02 [0.5] maximum, unless otherwise stated
3. Weight: 1.326 lbs. (600 grams) approx.
4. Standard output connector: Kycon P/N KPPX-4P 4-pin circular DIN plug without lock or equivalent
5. Mating connector: Kycon P/N KPJX-4S-S or equivalent
7. Contact TRUMPower for AC power cord retention clip and output connector options.