200W Single Output Medical Type

**MSP-200 series**

**Features:**
- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- High efficiency up to 89%
- Withstand 300VAC surge input for 5 seconds
- Protection: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- 1U low profile 38mm
- Medical safety approved (MOOP level)
- Built-in remote ON-OFF control
- Standby 5V@0.3A
- Built-in remote sense function
- No load power consumption<0.5W (Note 6)
- 5 years warranty

**SPECIFICATION**

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</tr>
</thead>
<tbody>
<tr>
<td>DC VOLTAGE</td>
<td>3.3V</td>
<td>5V</td>
<td>7.5V</td>
<td>12V</td>
<td>15V</td>
<td>24V</td>
<td>36V</td>
<td>48V</td>
</tr>
<tr>
<td>RATED CURRENT</td>
<td>40A</td>
<td>35A</td>
<td>26.7A</td>
<td>16.7A</td>
<td>13.4A</td>
<td>8.4A</td>
<td>5.7A</td>
<td>4.3A</td>
</tr>
<tr>
<td>RATED POWER</td>
<td>132W</td>
<td>175W</td>
<td>200.3W</td>
<td>200.4W</td>
<td>201W</td>
<td>201.6W</td>
<td>202V</td>
<td></td>
</tr>
<tr>
<td>RIPPLE &amp; NOISE (max.)</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
<td>13%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
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**OUTPUT VOLTAGE ADJ. RANGE**

- 2.8 ~ 3.8V
- 4.3 ~ 5.8V
- 6.8 ~ 9V
- 10.2 ~ 13.8V
- 13.5 ~ 16V
- 21.6 ~ 28.8V
- 28.8 ~ 39.6V
- 40.8 ~ 55.2V

**VOLTAGE ADJ. RANGE**

- ±0.2%
- ±0.5%
- ±1%
- ±2%
- ±3%
- ±0.5%
- ±1.0%
- ±2%
- ±1.0%
- ±1.0%

**VOLTAGE TOLERANCE**

- ±0.2%
- ±0.5%
- ±1.0%
- ±2%
- ±3%
- ±0.5%
- ±1.0%
- ±2%
- ±1.0%
- ±1.0%

**VOLTAGE RANGE**

- 55 ~ 264VAC
- 120 ~ 370VDC

**FREQUENCY RANG**

- 47 ~ 63Hz

**POWER FACTOR (Typ.)**

- PF>0.95/230VAC
- PF>0.99/115VAC at full load

**EFFICIENCY (Typ.)**

- 80%
- 84%
- 86%
- 88%
- 88%
- 88%
- 89%
- 89%

**AC CURRENT (Typ.)**

- 2.2A/115VAC
- 1.1A/230VAC

**INRUSH CURRENT (Typ.)**

- 35A/115VAC
- 70A/230VAC

**LEAKAGE CURRENT Note.3**

- Earth leakage current < 300mA/264VAC
- Touch leakage current < 100mA/264VAC

**OVER VOLTAGE**

- 115 ~ 135% rated output power
- Protection type: Constant current limiting, recovers automatically after fault condition is removed

**OVER TEMPERATURE**

- 50 ~ 60°C
- Protection type: Shut down o/p voltage, re-power on to recover

**5V STANDBY**

- 5VSB: 5V@0.3A, tolerance±5%
- Ripple: 50mV-p-p

**REMOTE CONTROL**

- RC+RC-: 4 ~ 10V or open = power on; 0 ~ 0.8V or short = power off

**WORKING TEMP.**

- -40 ~ +70°C (Refer to “Derating Curve”)

**WORKING HUMIDITY**

- 20 ~ 90% RH non-condensing

**STORAGE TEMP., HUMIDITY**

- -40 ~ +85°C, 10 ~ 95% RH

**VIBRATION**

- 10 ~ 60Hz, 1g

**SAFETY STANDARDS**

- Approvals: Primary: Secondary: 2:MOOP, Primary:Earth: 1:MOOP

**ISO20000 LEVEL**

- Primary:Secondary: 2:MOOP, Primary:Earth: 1:MOOP

**ISOLATION RESISTANCE**

- IP-O:40kVAC, IP-F:2kVAC, IP-F:0.005kVAC

**ECC Certifications**

- Compliance to EN55011 (CISPR11) Class B, EN61000-3-2,-3, EAC TP TC 020

**OTHERS**

- MTBF: 209.4k hrs min.
- MIL-HDBK-217F (25°C)
- Dimensions: 199*98*38mm (L*W*H)
- Weight: 0.77Kg; 18pcs/14.9Kg/0.87CUFT

**NOTE**

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20kHz of bandwidth by using a 12” twisted pair-wire terminated with a 0.1μF & 47μF parallel capacitor.
3. Tolerance : includes set-up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to “EMI testing of component power supplies.” (as available on http://www.meanwell.com)
5. Derating may be needed under low input voltage. Please check the derating curve for more details.
6. No load power consumption<0.5W when RC+ & RC- (CN100 pin1,2) 0 ~ 8V or short.
7. Touch current was measured from primary input to DC output.
8. The ambient temperature derating of 3.5%/1000m with fanless models and of 5%/1000m with fan models for operating altitude higher than 2000m (6500ft).
**Mechanical Specification**

**Block Diagram**

**Derating Curve**

**Output Derating VS Input Voltage**
The remote sensing compensates voltage drop on the load wiring up to 0.5V.

2. Remote Control
The PSU can be turned ON/OFF by using the "Remote ON/OFF" function

<table>
<thead>
<tr>
<th>Between RC+ (pin2) and RC- (pin1)</th>
<th>Output Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW ON (Short)</td>
<td>OFF</td>
</tr>
<tr>
<td>SW OFF (Open)</td>
<td>ON</td>
</tr>
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</table>

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