CWA305

DC-DC Power Supply

(Document Rev A01, 2/10/16)

270VDC Input
Multiple Output, 2368W Max Total

Market: Military

Application: Electronic Equipment Rack

Table 1: Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Unit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vin max range</td>
<td>250 to 280</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>–40 to +60</td>
<td>°C</td>
<td>Liquid Temp</td>
</tr>
<tr>
<td>Output power</td>
<td>2368</td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>Input power</td>
<td>2980</td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>+3.3Vdc output</td>
<td>693</td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>+5Vdc output</td>
<td>1425</td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>+28Vdc output</td>
<td>250</td>
<td>W</td>
<td></td>
</tr>
</tbody>
</table>

* Contact AEGIS Power Systems for specific details.

Product Highlights

This liquid cooled dc-dc power converter has three outputs (+3.3Vdc, +5Vdc, and +28Vdc) and total output power of 2368 Watts. This COTS solution works well for Mil-cots and is designed to meet portions MIL-STD-810F vibration and shock, and MIL-STD-461E EMI requirements.

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for defense, industry, telecomm, aircraft, shipboard, rack mount, electric powered vehicle, and Mil-Cots military power supply applications. Contact Aegis for specific details on what can be designed for your particular military power supply application and what portions of a particular military standard can be offered for that power supply.
SPECIFICATIONS

(Typical at 25°C, nominal line and 100% load, unless otherwise specified.)

Input voltage: 270Vdc.
Transient, 200Vdc @ 10mSec. - 375Vdc @ 50mSec.

Input ripple voltage: 2.5% of input V P-P from 10Hz to 10MHz

Input current: 11.0A @ 270Vdc typical.

Input power: 2980W @ 270Vdc typical.

Output power: 2368W Maximum.

Holdup time: 10mSec. Minimum.

Output voltages: See table 2 for details.

Efficiency: 80% Typical, 75% Minimum.

Output ripple: See table 2 for details.

Current Limit: Short circuit protected with automatic recovery.

Start up time: 500 mSec. Maximum.

Voltage set point: ± 2.5%.

Line regulation: ± 2.5%.

Load regulation: ± 2.5%.

Temperature regulation: ± 0.02% / °C.

Temperature: −40°C to +85°C Operating. -40°C to +100°C Non-Operating.

Cooling: Liquid cooled with an integrated cold plate, and military grade quick disconnects for circulation of 50% glycol and 50% water mixture. Coolant flow rate = 2.5 liter/minute.

Package: Chassis mounted enclosed metal enclosure.

Dimensions: 2.5"H x 12"W x 19" L (see mechanical drawing).

Weight: 30.6 lbs. Typical.

Connector: 2ea Hypertac connectors. (see mechanical drawing)

Vibration: Designed to meet MIL-STD-810F, Method 514.5, Category 6, Procedure I.

Shock: Shock impact of 15g @ 11 ms along long axis on chassis, 15g @ 11ms vertical and 15g @ 11ms lateral (side to side)

Humidity: 0 – 95% non-condensing.

EMI: Designed to meet MIL-STD-461E (CE102 and CS101).

Specifications subject to change without notice.
CWA305 Spec Sheet
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Table 2: Voltage Outputs

<table>
<thead>
<tr>
<th>CWA305</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>+3.3Vdc</td>
<td>+5Vdc</td>
<td>+28Vdc</td>
</tr>
<tr>
<td>Current</td>
<td>210A</td>
<td>285A</td>
<td>8.93A</td>
</tr>
<tr>
<td>Power</td>
<td>693W</td>
<td>1425W</td>
<td>250W</td>
</tr>
<tr>
<td>Ripple</td>
<td>50mVpk-pk</td>
<td>50mVpk-pk</td>
<td>250mVpk-pk</td>
</tr>
</tbody>
</table>

Maximum total output power is 2368W (all DC outputs combined).