

## CWA305

### DC-DC Power Supply

(Document Rev A02, 8/27/18)



Note: Faceplate provided by customer  
**270VDC Input**  
**Multiple Output, 2368W Max Total**

**Market:** Military

**Application:** Electronic Equipment Rack

#### Features

- 270Vdc input.  
Multiple Output, 2368W Total.
- Designed to meet portions of Mil-Std-461E EMI specifications.\*
- I2C temperature monitoring.
- Liquid Cooled enclosure  
50/50 glycol and water mixture.

\* Contact AEGIS Power Systems for specific details.

**Table 1: Maximum Ratings**

Parameter	Rating	Unit	Notes
Vin max range	250 to 280	Vdc	
Temperature range	-40 to +60	°C	Liquid Temp
Output power	2368	W	
Input power	2980	W	
+3.3Vdc output	693	W	
+5Vdc output	1425	W	
+28Vdc output	250	W	

#### 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.)**

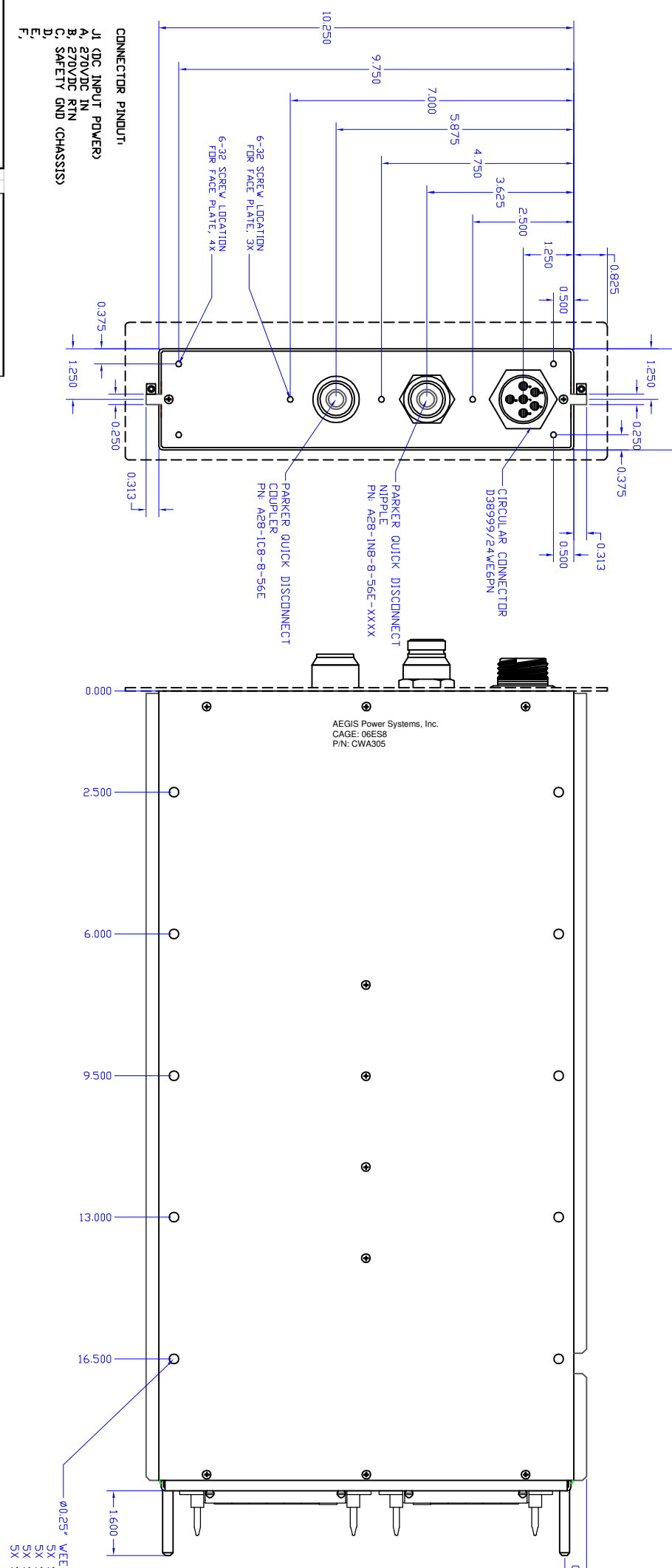
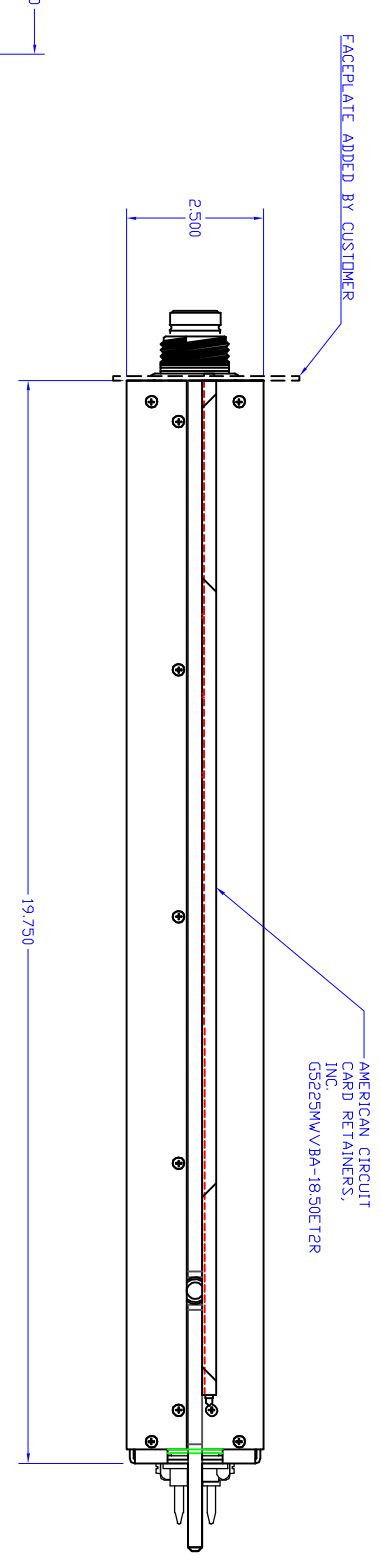
<b>Input voltage:</b>	270Vdc. Transient, 200Vdc @ 10mSec. - 375Vdc @ 50mSec.
<b>Input ripple voltage:</b>	2.5% of input V P-P from 10Hz to 10MHz
<b>Input current:</b>	11.0A @ 270Vdc typical.
<b>Input power:</b>	2980W @ 270Vdctypical.
<b>Output power:</b>	2368W Maximum.
<b>Holdup time:</b>	10mSec. Minimum.
<b>Output voltages:</b>	See table 2 for details.
<b>Efficiency:</b>	80% Typical, 75% Minimum.
<b>Output ripple:</b>	See table 2 for details.
<b>Current Limit:</b>	Short circuit protected with automatic recovery.
<b>Start up time:</b>	500 mSec. Maximum.
<b>Voltage set point:</b>	± 2.5%.
<b>Line regulation:</b>	± 2.5%.
<b>Load regulation:</b>	± 2.5%.
<b>Temperature regulation:</b>	± 0.02% / °C.
<b>Temperature:</b>	-40°C to +85°C Operating. -40°C to +100°C Non-Operating.
<b>Cooling:</b>	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.
<b>Package:</b>	Chassis mounted enclosed metal enclosure.
<b>Dimensions:</b>	2.5"H x 12"W x 19" L (see mechanical drawing).
<b>Weight:</b>	30.6 lbs. Typical.
<b>Connector:</b>	2ea Hypertac connectors. ( see mechanical drawing)
<b>Vibration:</b>	Designed to meet MIL-STD-810F, Method 514.5, Category 6, Procedure I.
<b>Shock:</b>	Shock impact of 15g @ 11 ms along long axis on chassis, 15g @ 11ms vertical and 15g @ 11ms lateral (side to side)
<b>Humidity:</b>	0 – 95% non-condensing.
<b>EMI:</b>	Designed to meet MIL-STD-461E (CE102 and CS101).

Specifications subject to change without notice.

**Table 2: Voltage Outputs**

<b>CWA305</b>	<b>V1</b>	<b>V2</b>	<b>V3</b>	
Voltage	+3.3Vdc	+5Vdc	+28Vdc	
Current	210A	285A	8.93A	
Power	693W	1425W	250W	
Ripple	50mVpk-pk	50mVpk-pk	250mVpk-pk	
Maximum total output power is 2368W (all DC outputs combined).				

NOTES: UNLESS OTHERWISE SPECIFIED  
 1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.  
 2. MATERIAL:  
 3. FINISH:



ZONE	REV	DESCRIPTION	DATE	APPROVED	ZONE	REV	DESCRIPTION	DATE	APPROVED
B08	WEDGELOCK (G5225MWVBA-18.50E12R)	4/30/14	NVM	A01	INITIAL RELEASE	xxx	xxx		
B09	QUICK DISCONNECT P/N CHANGE	2/23/15	NVM	A02	ADDED INPUT CONNECTOR	6/4/13	NVM		
B10	FACEPLATE NOTE ADDED	8/27/18	NVM	A03	MOVED INPUT CONN, WATER FITTING	6/13/13	NVM		
				A04	MOVED INPUT CONN, WATER FITTING	6/24/13	NVM		
				A05	ADDED CONFORMAL COATING (SR)	7/8/13	NVM		
				A06	DEFINED INPUT CONNECTOR	7/17/13	NVM		
				A07	PDS BUS BARS MOVED IN 0.19"	7/22/13	NVM		
				A08	MOVED BUS BARS IN 0.0625"	7/22/13	NVM		
				A09	ALIGNMENT PIN LOCATION	8/5/13	NVM		
				A10	PDR REVISIONS HEIGHT TO 10.375", ADDED CARD-LOCK	8/6/13	NVM		
				B01	HYPERTRAC CONNECTOR	9/3/13	NVM		
				B02	PIN ORIENTATION, HYPERTRAC CONNECTOR	9/9/13	NVM		
				B03	ADDED DC OK AND CHASSIS TO J3 MOUNTING HOLES FOR FACEPLATE	9/12/13	NVM		
				B04	ADDED MORE CHASSIS TO HYPERTRAC ADDED 270V PRESENT TO DRIVE LED	9/16/13	NVM		
				B05	REMOVED 270V FROM J1-D-E	9/25/13	NVM		
				B06	J3 ROTATED 180°, MODULES REARRANGE	9/26/13	NVM		
				B07	WEDGELOCK (G5225MWVBA-18.50E12R)	9/30/13	NVM		
						4/14/14	NVM		

ITEM	DESCRIPTION	QTY	UNIT
1	FACEPLATE	1	PCB
2	DC OK AND CHASSIS TO J3 MOUNTING HOLES FOR FACEPLATE	1	PCB
3	ADDED MORE CHASSIS TO HYPERTRAC ADDED 270V PRESENT TO DRIVE LED	1	PCB
4	REMOVED 270V FROM J1-D-E	1	PCB
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CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES DEGREES \* N/A \*\* XX \* .02 \*\*\* \* .005

0.25" WEEP HOLE, SX SIDE A TOP SX SIDE A BOTTOM SX SIDE B TOP SX SIDE B BOTTOM

APPROVALS	DATE	TITLE
BRAWN	5/14/13	CWA305 MECHANICAL OUTLINE
MVM		AEGIS P/N: CWA305 REV B02

SIZE	FCDM NO.	DWG NO.	REV
D	06ES8	CWA305-M00	B10
			B10