Aegis Power Systems, Inc., P.O. Box 429, 805 Greenlawn Road, Murphy, NC 28906 Tel: (828) 837-4029 www.aegispower.com

CWA005

DC-DC Power Supply

(Document Rev A02, 6/17/24)

28VDC Input Multiple Output, 311W Max Total

Market: Military **Application: VME power for Electronic Warfare**

Features

- 28VDC +/- .75V
- Designed to meet portions of Mil-Std-810F environmental specs.*
- Designed to meet portions of Mil-Std-461 for surface ship applications.*
- VME Power.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	27.25 to 28.75	VDC	
Temperature range	0 to +65	°C	
Output power	311	W	
+3.3Vdc output	13.2	W	On when enabled
+5Vdc output	216.5	W	On when enabled
+12Vdc output	82	W	On when power applied

* Contact AEGIS Power Systems for specific details.

Product Highlights

This chassis mount open frame filtered dc-dc power converter has multiple outputs available with N+1 redundancy. This COTS solution works well for Mil-cots and is designed to meet portions MIL-STD-810F vibration and shock, and MIL-STD-461surface ship applications EMI requirements. When compared to VME power supplies using conventional technology, this chassis mount forced air cooled ac-dc power supply converter provides users with higher efficiency (81%), lower weight (6.3 lbs), and higher power (up to 311W, N+1 redundant).

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:	28VDC +/- 0.75VDC.
Input current:	13.7A @ 28VDC, typical.
Input power:	384W @ 28VDC, typical.
Output power:	311W Maximum. (N+1 redundant)
Output voltages:	See table 2 for details.
Efficiency:	81% Typical, 78% Minimum.
Output ripple:	See table 2 for details.
Current Limit:	Short circuit protected with automatic recovery.
Start up time:	1 Sec. Maximum.
Voltage set point:	± 2.5%.
Line regulation:	± 2.5%.
Load regulation:	± 2.5%.
Temperature regulation:	± 0.02% / °C.
Temperature:	0°C to +50°C Operating. -40°C to +70°C Non-Operating.
Cooling:	External fan, forced fan cooling across internal Heatsink.
Package:	Chassis mounted open frame.
Dimensions:	1.83 "H x 8.7"W x 11" L (see mechanical drawing).
Weight:	6.3 lbs. Typical.
Connector:	(see mechanical drawing).
Vibration:	Designed to meet MIL-STD-810F, Method 514.5, Procedure I.
Shock:	Designed to meet MIL-STD-810F, Method 516.5, Procedure I.
Humidity:	0 – 95% non-condensing.
EMI:	Designed to meet MIL-STD-461E (CE101,CE102 and CS101).

Specifications subject to change without notice.

Table 2: Voltage Outputs

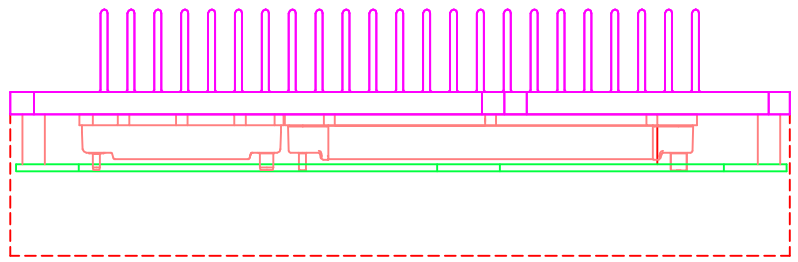
CWA005	V1	V2	V3
Voltage	+5Vdc	+3.3Vdc	+12Vdc
Current	43.3A	4A	6.83A
Power	216.5W	13.2W	82W
Ripple	50mVpk-pk	50mVpk-pk	100mVpk-pk
Maximum total output power is 311W (all DC outputs combined).			

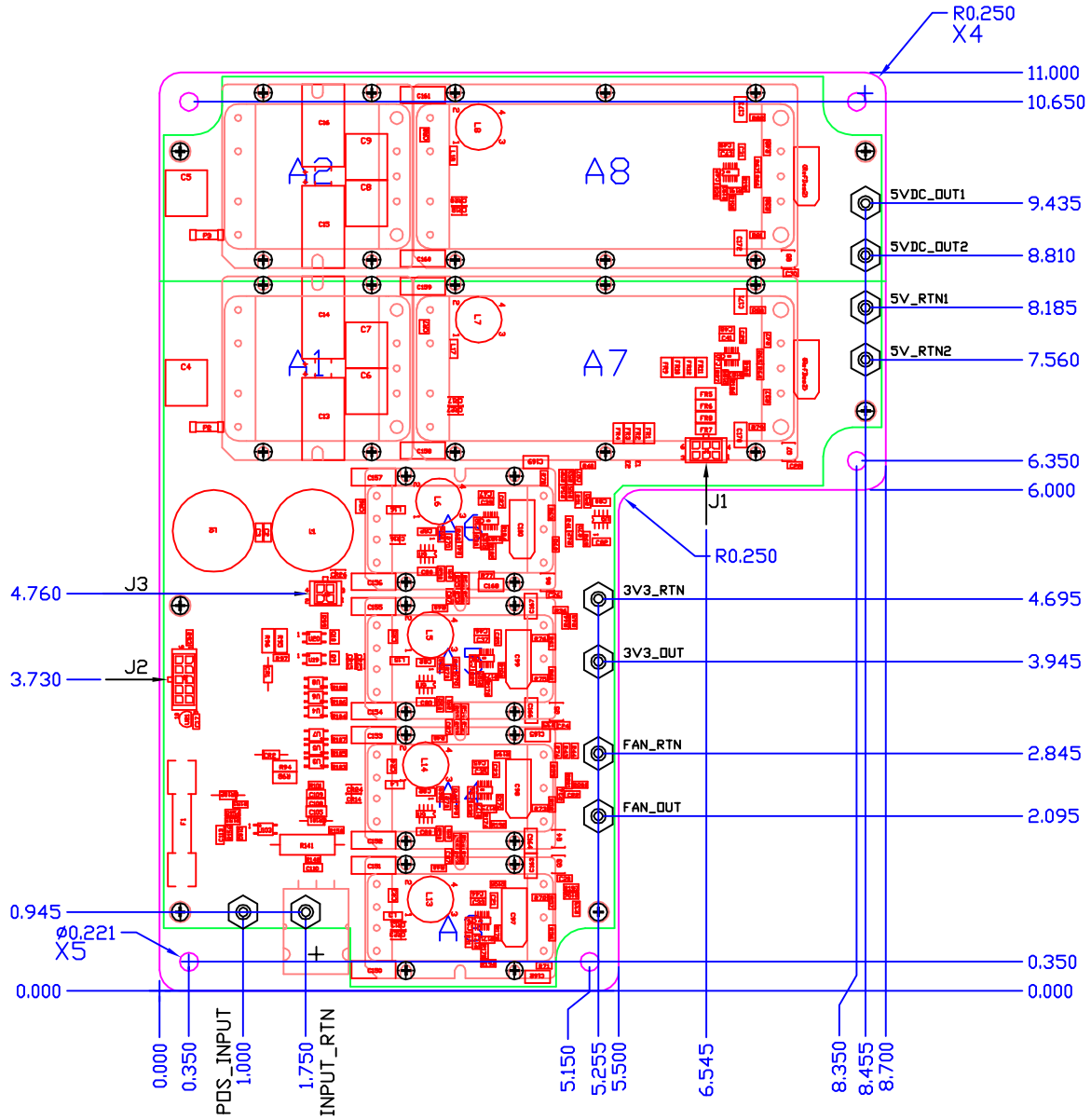
NOTES: UNLESS OTHERWISE SPECIFIED

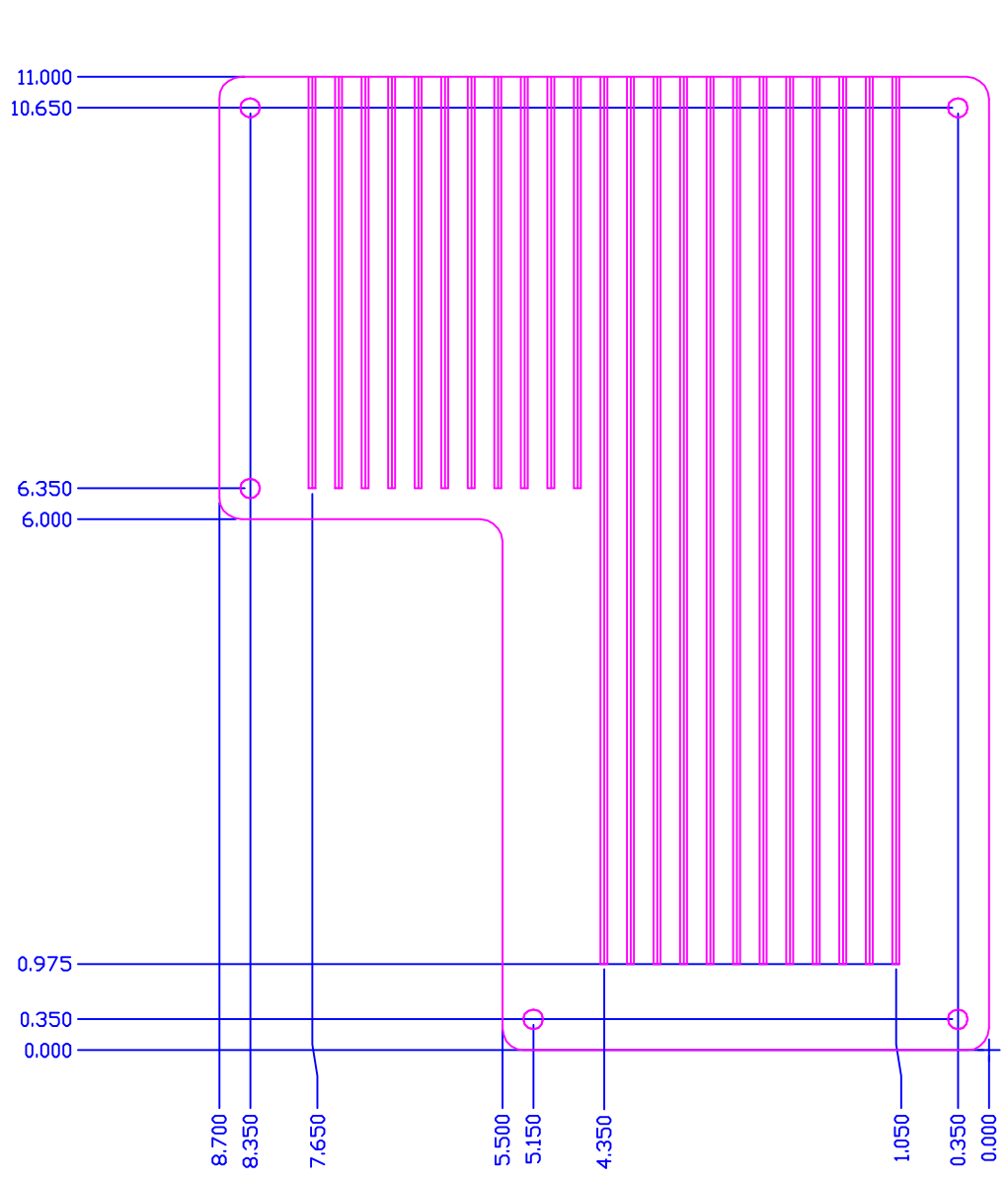
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
2. MATERIAL: TUCKER ENGINEERING 8413
3. FINISH:

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A03	RE-ARRANGE INPUT MODULES/STUDS	02/14/11	MRA
	A04	INCREASE WIDTH TO 9.00"	02/21/11	MRA
	A05	PDR RELEASE	03/10/11	MRA
	A06	CDR RELEASE	04/19/11	MRA

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.







J1: MOLEX MICRO FIT 43045-0613
MATES WITH 43025-0600

PIN 1 - +3.3V +SENSE
PIN 2 - +5V +SENSE
PIN 3 - OPEN
PIN 4 - +3.3V -SENSE (RTN)
PIN 5 - +5V -SENSE (RTN)
PIN 6 - OPEN

J2: MOLEX MICRO FIT 43045-1013
MATES WITH 43025-1000

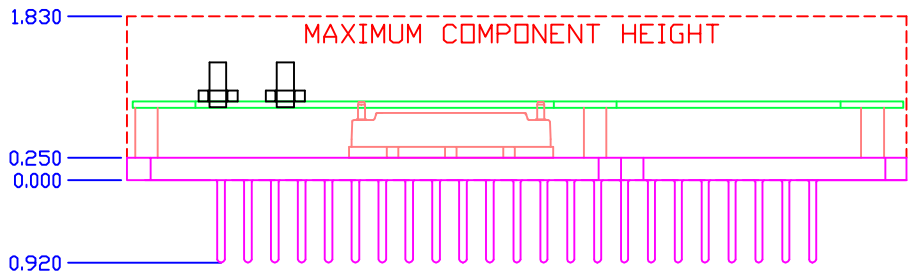
PIN 1 - INPUT VOLTAGE STATUS LED - ANODE
PIN 2 - DC ENABLE FOR SWITCHED SUPPLIES CATHODE
PIN 3 - N+1 MODULE STATUS EMITTER
PIN 4 - ANALOG TEMPERATURE VCC
PIN 5 - ANALOG TEMPERATURE GND
PIN 6 - INPUT VOLTAGE STATUS LED - CATHODE
PIN 7 - DC ENABLE FOR SWITCHED SUPPLIES ANODE
PIN 8 - N+1 MODULE STATUS COLLECTOR
PIN 9 - OPEN
PIN 10 - ANALOG TEMPERATURE V OUTPUT

J3: MOLEX MICRO FIT 43045-0413
MATES WITH 43025-0400

PIN 1 - ATP TEST CONNECTOR (BANK 1 DISABLE)
PIN 2 - ATP TEST CONNECTOR (BANK 1 RTN)
PIN 3 - ATP TEST CONNECTOR (BANK 2 DISABLE)
PIN 4 - ATP TEST CONNECTOR (BANK 2 RTN)

NOTE: INPUT AND OUTPUT STUDS ARE 10-32 THREAD

A1 MFIAM9: 97% EFF. 186.34W 5.76W DIS
A2 MFIAM9: 97% EFF. 186.34W 5.76W DIS
A3 V24C3V3H75: 79% EFF. 6.6W 4.0W DIS
A4 V24C3V3H75: 79% EFF. 6.6W 4.0W DIS
A5 V24C12H100: 88.0% EFF. 41W 5.59W DIS
A6 V24C12H100: 88.0% EFF. 41W 5.59W DIS
A7 V24A5H300: 84.4% EFF. 109W 20.15W DIS.
A8 V24A5H300: 84.4% EFF. 109W 20.15W DIS.



NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ± N/A DECIMALS XX ± .02 XXX ± .005 DEGREES ± .5

MATERIAL: SEE NOTE 2

FINISH: SEE NOTE 3

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN MVM	12/13/10
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: CWA005 OUTLINE CONCEPT

AEGIS P/N: CWA005

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	CWA005-M00	A06

SCALE 1/1 SHEET 1 OF 1