

CWA401

AC-DC Power Supply

(Document Rev A01,09/28/15)



**Three Phase 60Hz/400Hz 115/208Vac Input
Multiple DC Outputs, 750W Max Total**

Market: Military

Application: Electronic Equipment Rack

Features

- 115Vac/208Vac 3-phase input. Designed to meet portions of MIL-Std-704A*
- Multiple DC Outputs, 750W.
- Designed to meet portions of Mil-Std-810F environmental specs.*
- Designed to meet portions of Mil-Std-461E EMI specifications.*

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	95 to 250	Vac	Line to Neutral
Temperature range	-40 to +75	°C	Base Plate Temperature
Output power	750	W	
Input power	915	W	
+5Vdc output	320	W	
+12Vdc output	428	W	
+3.3Vdc output	2	W	

* Contact AEGIS Power Systems for specific details.

Product Highlights

This chassis pluggable slide-in filtered ac-dc power converter card has three DC outputs. The +5Vdc and +12Vdc outputs have external remote sense connections to allow regulation at the point of load. Each DC output has monitoring for voltage and current and there is an internal temperature sensor. All of that data can be accessed via an I2C communication bus. This COTS solution works well for Mil-cots and is designed to meet portions of Mil-Std-704A input, 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, telecom, 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:	Three Phase, 95Vac - 250Vac, 60/400Hz. Transient 70Vac - 270Vac, 100mSec. Designed to meet MIL-STD-704A Normal and Abnormal Range.
Input current:	2.65A @ 115Vac, per phase typical.
Input power:	915W @ 115Vac
Power factor:	0.985 typical at 60Hz or 400Hz.
Output power:	750W Maximum.
Holdup time:	50mSec. Minimum.
Output voltages:	See table 2 for details.
Efficiency:	82% Typical, 80% Minimum.
Output ripple:	See table 2 for details.
Current Limit:	Short circuit protected with automatic recovery.
Start up time:	2000 mSec. Maximum.
Voltage set point:	± 2.5%.
Line regulation:	± 2.5%.
Load regulation:	± 2.5%.
Temperature regulation:	± 0.02% / °C.
Temperature:	-40°C to +75°C Operating. -40°C to +100°C Non-Operating.
Cooling:	Conduction cooled via side mounted wedgelocks or through baseplate
Package:	Chassis mounted enclosed metal case.
Dimensions:	2.5"H x 9.181"W x 8" L (see mechanical drawing).
Weight:	8.8 lbs. Typical.
Connector:	1ea Positronics PLB06M4B0A1 (input), PCIM33W18M400A1 (output) (see mechanical drawing for pin assignments).
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 (CE102 and CS101).

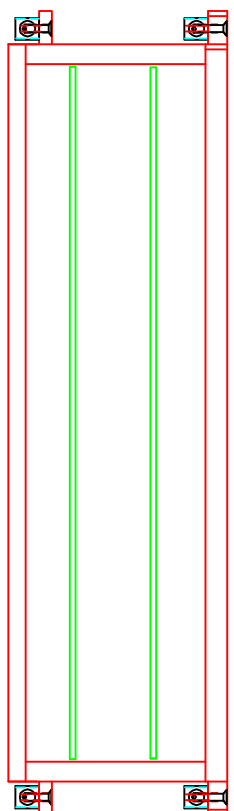
Specifications subject to change without notice.

Table 2: Voltage Outputs

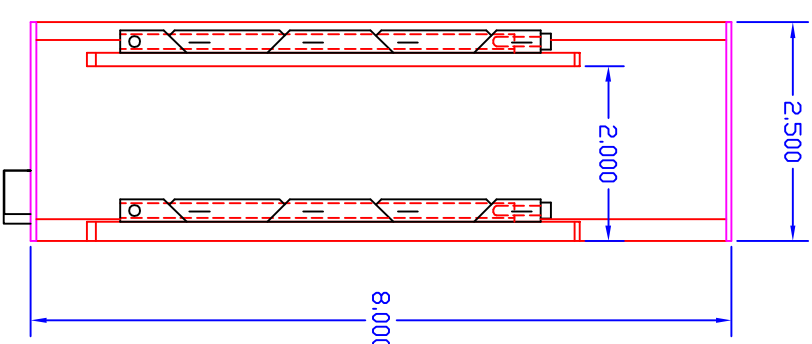
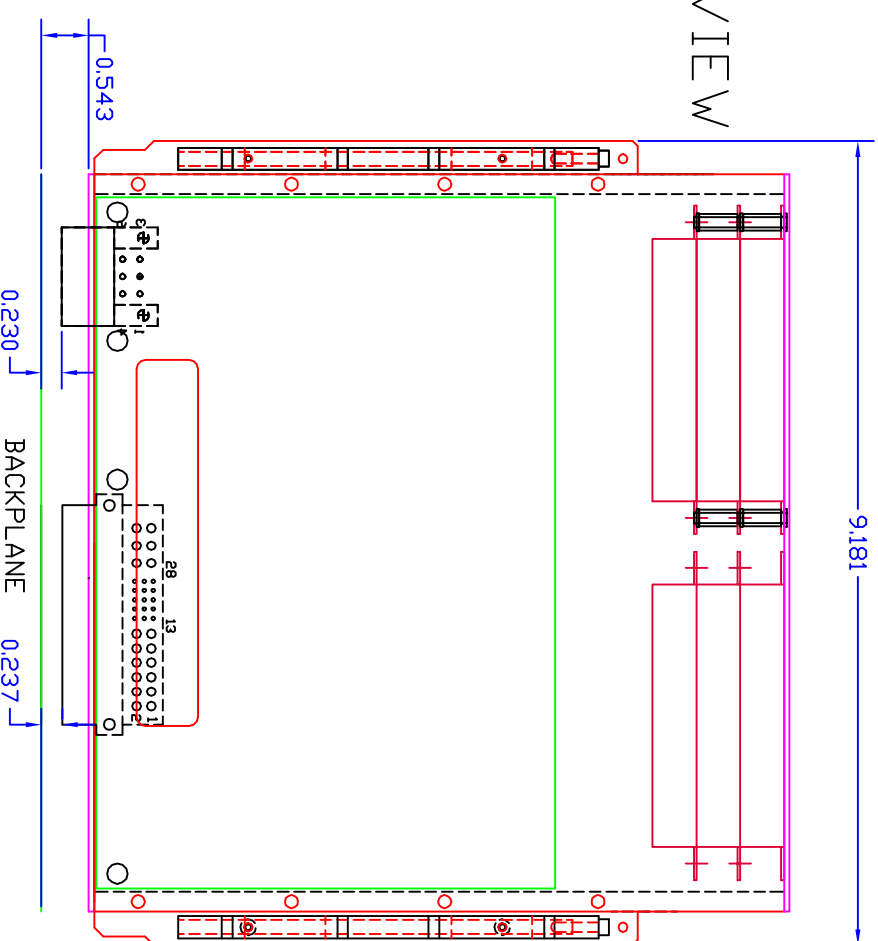
CWA401	V1	V2	V3
Voltage	+5Vdc	+12Vdc	+3.3Vdc
Current	64A	35.7A	.606A
Power	320W	428W	2W
Ripple	100mVpk-pk	150mVpk-pk	100mVpk-pk

ZONE	REV	DESCRIPTION	DATE	APPROVED
A01	INITIAL	RELEASE	2/28/14	MVS
A02	CHANGED	DEPTH DIMENSION	3/20/14	MVS
A03	ADDED	CONNECTOR DETAIL	05/21/14	MVS
A04	CORRECTED	PIN-OUT	05/22/14	MVS

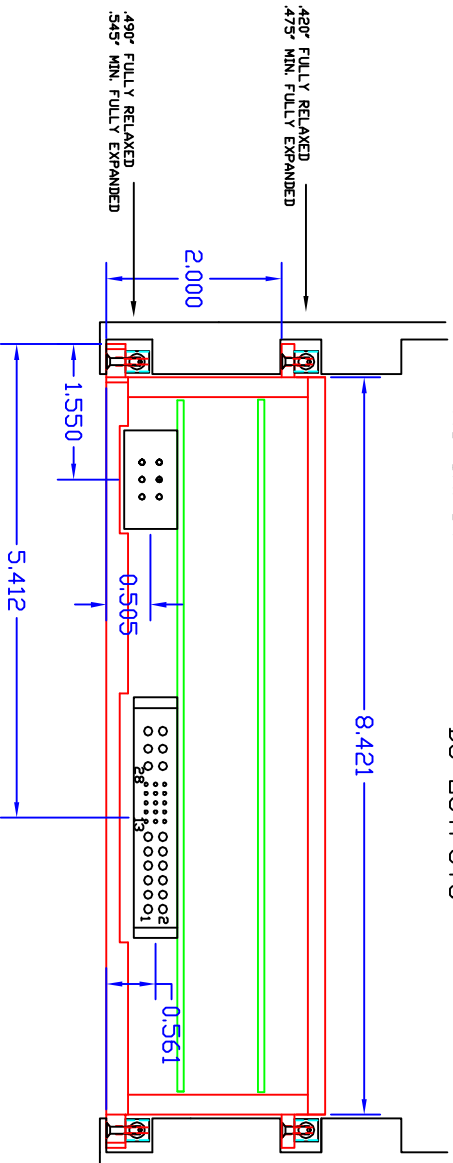
CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.



TOP VIEW



REAR VIEW



J1 - AC INPUT
 POSITRONIC
 PLB06M4B0A1
 PIN 1 - PHASE A
 PIN 2 - PHASE B
 PIN 3 - PHASE C
 PIN 4 - NEUTRAL
 PIN 5 - UNUSED
 PIN 6 - CHASSIS

J2 - DC OUTPUT/CONTROLS
 POSITRONIC
 PCIM33W18M400A1
 PINS 1-5 - +5V OUTPUT
 PINS 6-10 - RTN
 PIN 11 - +3.3V
 PIN 12 - RTN
 PIN 13 - +5V Sense +
 PIN 14 - +5V Sense -
 PIN 16 - SCL(I2C)
 PIN 19 - SDA(I2C)
 PIN 22 - RTN(I2C)
 PIN 25 - +12V Sense +
 PIN 26 - +12V Sense -
 PINS 28-30 - RTN
 PINS 31-33 - +12V OUTPUT
 PINS 15,17,18,20,21,23,24,27 - UNUSED

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

CONTRACT NO.	APPROVALS	DATE	TITLE
	BHAVN	2/28/14	CWA401 MECHANICAL CONCEPT
	MVS		AEGIS P/N: CWA401
MATERIAL	CHECKED		SIZE FCSM NO.
SEE NOTE 2	FRBL ENG		D 06ES8
FINISH			DWG NO.
SEE NOTE 3			CWA401-M00
DO NOT SCALE DRAWING	QUALITY		REV
			A04
APPLICATION			SCALE 1/1
			SHEET 1 OF 1