

CWA401

Overview

AC-DC Power Supply
 Three Phase 60Hz/400Hz 115/208Vac Input
 3 DC Outputs, 750W Max Combined Output

Market(s)

MIL-COTS

Typical Application(s)

Electronic Equipment Rack



Product Highlights

This chassis pluggable slide-in filtered AC-DC power converter card has three DC outputs at a combined total output power of 750W with hold-up during 50ms transfer. 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 that data can be accessed via an I2C communication bus. This COTS solution works well for military applications and is designed to meet portions of Mil-Std-704A input, MIL-STD-810F vibration and shock, and MIL-STD-461E EMI requirements.

Features

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

* Designed to meet applicable portions of this standard. Contact Aegis Power Systems, Inc. for specific details.

Table 1: Maximum Continuous Operating Ratings

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

About Us

Aegis Power Systems, Inc. specializes in the design, development, and manufacture of AC-DC and DC-DC power supplies for high-performance, rugged, critical, and specialty applications. Markets served include defense, industrial, communications, aircraft, shipboard, rack mount, embedded computing, and electric vehicle applications.

[Contact us](#) to find out if this item can be configured or redesigned to meet your specific technology need.

SPECIFICATIONS

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

Parameter	Notes
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.
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 ms 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	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 Positronic 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 (CE101, CE102 and CS101).

Specifications subject to change without notice.

Table 2: Voltage Output (Nominal)

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*

* 20MHz Bandwidth Limited.

REVISONS		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
A05	UPDATED HANDLE LOCATION	07/06/14	MVS

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

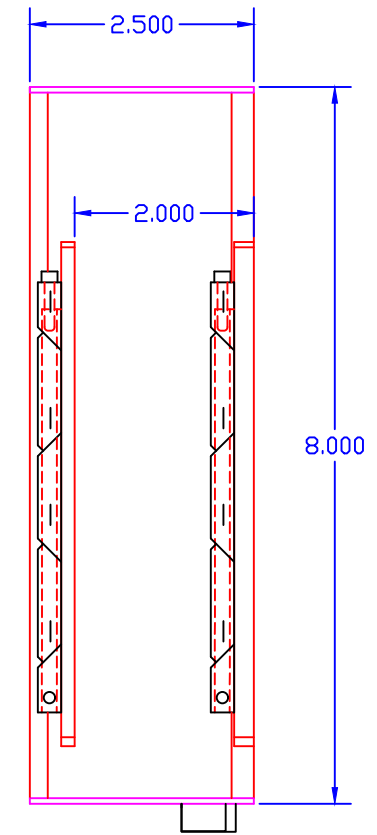
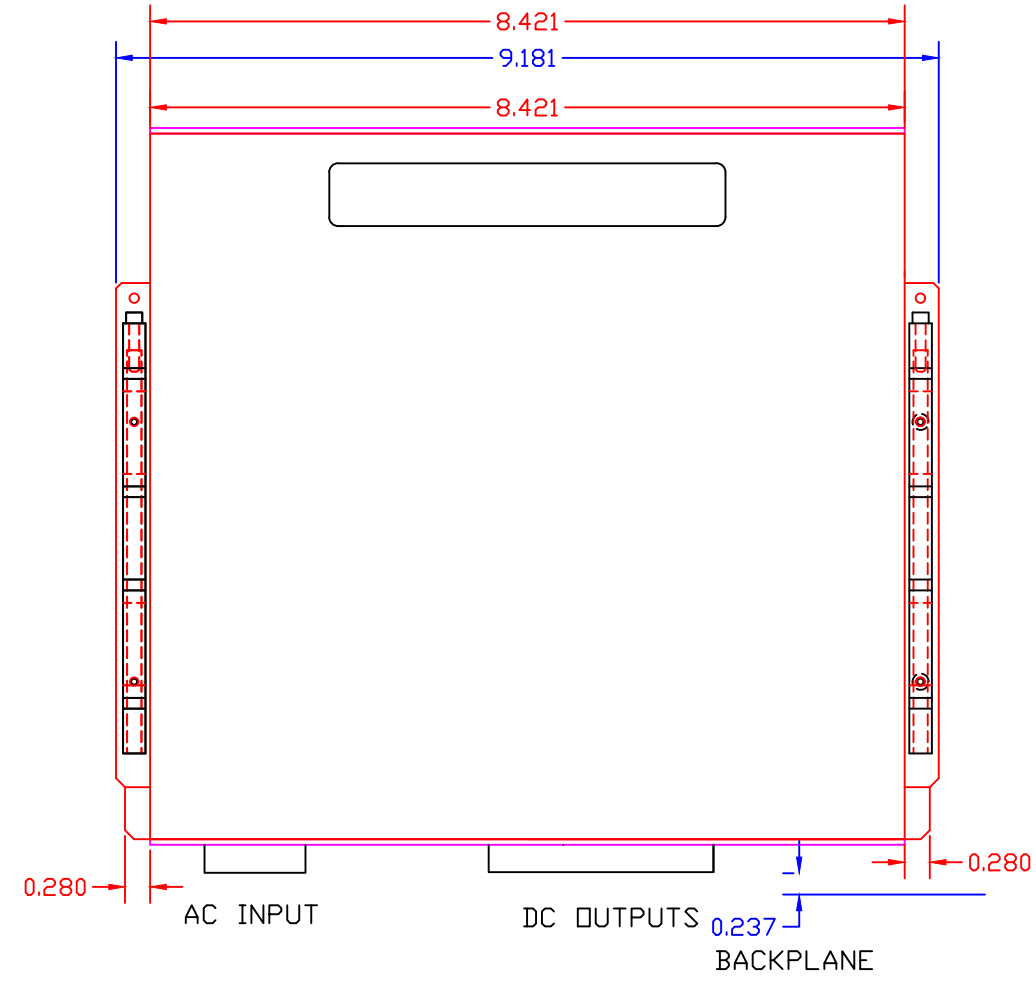
D



C

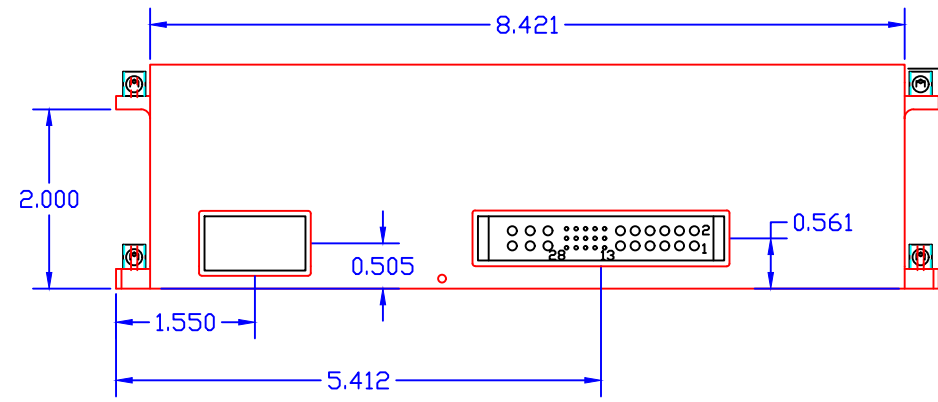
B

A



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 DEGREES ± N/A .XX ± .02 ± .5 .XXX ± .005		CONTRACT NO.		AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA	
MATERIAL SEE NOTE 2		APPROVALS	DATE	TITLE	
FINISH SEE NOTE 3		MVS	2/28/14	CWA401 MECHANICAL CONCEPT	
DO NOT SCALE DRAWING		CHECKED		AEGIS P/N: CWA401	
NEXT ASSY	USED IN	PROJ. ENG.		SIZE	FSCM NO.
				D	06ES8
APPLICATION		QUALITY		DWG NO.	REV
				CWA401-M00	A05
				SCALE	SHEET
				1/1	1 OF 1