

# CS2401

## AC-DC Power Supply System

(Document Rev A04 09/17/15)



**Three Phase "Y" 400Hz 115/208Vac Input  
Multiple (5) Output, 1.6 KW Max Total**

**Market: MIL-COTS**

**Application: Aircraft Electronics**

### Features

- Ruggedized
- Over current and voltage protected
- MIL-STD-167-1 Vibration\*
- MIL-STD-461E CE102 EMI\*
- Mil-Std-704 Input Specifications\*

\* Designed to meet portions of this particular standard. Contact AEGIS Power Systems for specific details.

**Table 1: Maximum Ratings**

Parameter	Rating	Unit	Notes
Temperature	0 to +50 -32 to +71	°C	Operating Non-Operating
Output Power	1.6	KW	@ 45°C
Input power	2052	W	120/208 Vac 3 phase "Y"
+5Vdc	800	W	160A
+3.3Vdc	528	W	160A
+12Vdc	240	W	20A
+24Vdc	240	W	10A
+5Vdc	2.5	W	0.5A

### Product Highlights

The CS2401 is a ruggedized metallic enclosed multiple output power supply, operable from a 3 phase 400Hz VAC input source. An attached forced air fan provides cooling through internal cooling fins. This Mil-Cots military power supply has over current and over voltage protection.

**AEGIS Power Systems, Inc.** specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for defense, industrial, telecomm, aircraft, shipboard, rack mount, electric powered vehicle, and Mil-Cots military power supply applications.

## SPECIFICATIONS

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

<b>AC input voltage:</b>	3 Phase "Y" 115/208Vac, 400Hz (Designed to meet MIL-STD-704).
<b>AC input line current:</b>	10A Max @ 115Vac.
<b>Input power:</b>	2052W Max.
<b>Output power:</b>	1600W Max.
<b>Holdup Time:</b>	Contact Aegis.
<b>Output voltages:</b>	See Table 2. (+5Vdc, +3.3Vdc, +12Vdc, +24Vdc, and +5Vdc)
<b>Over Voltage Protection:</b>	Typically 125% of nominal output voltage (outputs 1 &2) Typically 117% of nominal output voltage (outputs 3 &4)
<b>Efficiency:</b>	78% Minimum
<b>Inrush Current:</b>	25A Maximum
<b>Output ripple:</b>	See Table 2.
<b>Current Limit:</b>	Typically 115% of nominal output current.
<b>Voltage set point:</b>	± 0.5 %.
<b>Line/ Line regulation:</b>	± 1 %. (Outputs 1-4) +/- 2% (Output 5).
<b>Temperature regulation:</b>	± 0.01 % / °C.
<b>Temperature:</b>	-0°C to +50°C Operating. -32°C to +71°C Non-Operating.
<b>Cooling:</b>	Forced Fan Cooling.
<b>Package:</b>	Rugged metallic enclosed Case.
<b>Dimensions:</b>	5" H x 8.5" W x 12" L.
<b>Weight:</b>	22 lbs Max.
<b>Connector:</b>	Input: DAMM3W3P; Output: DBMMG24H7SJ (2); DBMMG5H5SJ (2).
<b>Signals:</b>	DC OK and AC OK status: open collector output: Low = Ok, High = Failure. Over Temperature status: open collector output: Low = Ok, High = Failure. Remote inhibit: signal inhibits the output when connected to inhibit return. Remote sensing with 0.25V compensation (output 1 through 4).
<b>Vibration:</b>	Designed to meet portions of Mil-Std-167-1.
<b>Shock:</b>	24Gs, 11ms half sine, on three axis.
<b>Humidity:</b>	0-95% non-condensing.
<b>EMI:</b>	MIL-STD-461E (CE102).

Specifications subject to change without notice.

**Table 2: Voltage Outputs**

Output	Vdc out	Watts out	Amps out	Ripple (20MHz BW)
V1	+5Vdc	800W	160A	50mVp-p
V2	+3.3Vdc	528W	160A	50mVp-p
V3	+12Vdc	240W	20A	120mVp-p
V4	+24Vdc	240W	10A	240mVp-p
V5	+5Vdc	2.5W	0.5A	50mVp-p

**Connector Pin Outs**

J1 Pins	Signal	J3 Pins	Signal	J2 Pins	Signal
A1	+3.3V RTN	A1	+5V RTN	A1	+3.3V RTN
A2	+3.3Vdc	A2	+5Vdc	A2	+3.3V RTN
A3	+3.3Vdc	A3	+5Vdc	A3	+3.3V RTN
A4	+3.3Vdc	A4	+5Vdc	A4	+3.3V RTN
A5	+3.3Vdc	A5	+5Vdc	A5	+3.3V RTN
A6	+3.3Vdc	A6	+5Vdc		
A7	+3.3Vdc	A7	+5Vdc		
1	Inhibit	1	5V Standby		
2	Inhibit RTN	2	5V Standby	<b>J4 Pins</b>	<b>Signal</b>
3	Over Temp	3	5V Standby RTN	A1	+5V RTN
4	AC OK	4	5V Standby RTN	A2	+5V RTN
5	+12Vdc	5	+24Vdc	A3	+5V RTN
6	+12Vdc	6	+24Vdc	A4	+5V RTN
7	+12Vdc	7	+24Vdc	A5	+5V RTN
8	+12Vdc	8	+24Vdc		
9	+12Vdc RTN	9	+24Vdc RTN		
10	+12Vdc RTN	10	+24Vdc RTN	<b>J5 Pins</b>	<b>Signal</b>
11	+12Vdc RTN	11	+24Vdc RTN	A1	TBD
12	+12Vdc RTN	12	+24Vdc RTN	A2	TBD
13	NO Connection	13	Global DC OK	A3	TBD
14	3.3V Sense +	14	5V Sense +		
15	3.3V Sense -	15	5V Sense -		
16	12V Sense +	16	24V Sense +		
17	12V Sense -	17	24V Sense -		

DWG NO.		SH		REV	
				REVISIONS	
ZONE	REV	DESCRIPTION	DATE	APPROVED	
	A01	INITIAL RELEASE	06/07/04	JFS	
	A02	Moved Chassis Stud location	07/13/04	JFS	
	A03	ADDED FAN DIM INFO	07/14/04	JFS	

NOTES: UNLESS OTHERWISE SPECIFIED

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

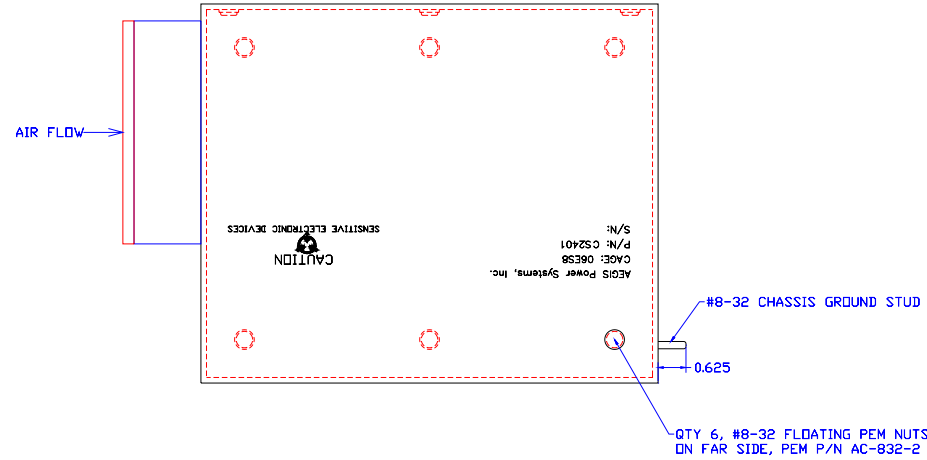
CONNECTOR J1 & J3 P/N DDMMG24H7SJ (SOCKET TYPE)  
CONNECTOR J2 & J4 P/N DBMMG5H5SJ (SOCKET TYPE)  
CONNECTOR J5 P/N DAMM3W3P (PIN TYPE)

J1 PINOUT:	J3 PINOUT:
A1, +3.3V RTN	A1, +5V RTN
A2 - A7, +3.3VDC	A2 - A7, +5VDC
PIN 1, INHIBIT	PIN 1, 5V STANDBY
PIN 2, INHIBIT RTN	PIN 2, 5V STANDBY
PIN 3, OVER TEMP SIGNAL	PIN 3, 5V STANDBY RTN
PIN 4, AC OK SIGNAL	PIN 4, 5V STANDBY RTN
PINS 5 - 8, +12VDC	PINS 5 - 8, +24VDC
PINS 9 - 12, +12V RTN	PINS 9 - 12, +24V RTN
PIN 13, NO CONNECT	PIN 13, GLOBAL DC OK SIGNAL
PIN 14, 3.3V SENSE +	PIN 14, 5V SENSE +
PIN 15, 3.3V SENSE -	PIN 15, 5V SENSE -
PIN 16, 12V SENSE +	PIN 16, 24V SENSE +
PIN 17, 12V SENSE -	PIN 17, 24V SENSE -

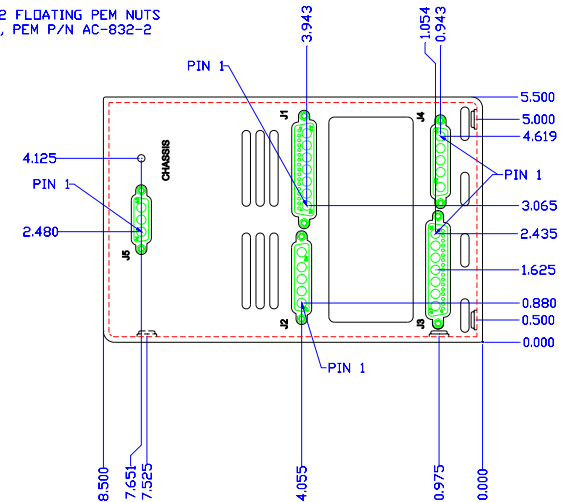
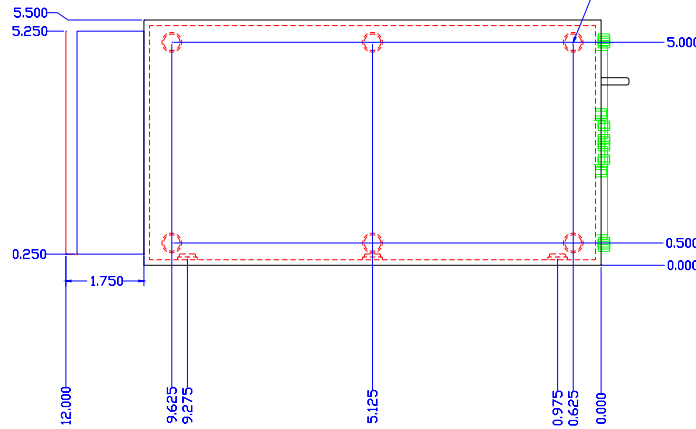
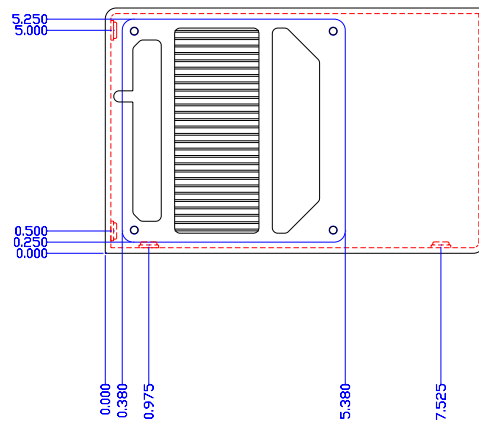
J2 PINOUT:  
A1 - A5, 3.3V RTN

J4 PINOUT:  
A1 - A5, +5V RTN

J5 PINOUT:  
A1, TBD  
A2, TBD  
A3, TBD



CAD MAINTAINED. CHANGES SHALL BE  
INCORPORATED BY THE DESIGN ACTIVITY



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES	
FRACTIONS	TOLERANCES ARE:
N/A	.02
.XXX	.005
MATERIAL SEE NOTE 2	
FINISH SEE NOTE 3	
NEXT ASSY	USED ON
APPLICATION DO NOT SCALE DRAWING	

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CONTRACT NO.		AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA	
APPROVALS	DATE	TITLE CS2401 MOUNTING INFO	
DRAWN JFS	07/14/04	AEGIS P/N: CS2401	
CHECKED		SIZE	FORM NO.
PROJ. ENL.		D	06ES8
WFG		DWG NO.	CS2401-M02
QUALITY		SCALE	1/1
		REV	A03
		SHEET 1 OF 1	