

EIA301

Overview

AC-DC Power Supply
 Single Phase 400Hz 115Vac Input
 6 DC Outputs, 225W Max Combined Output

Market(s)

Military, Industrial

Typical Application(s)

Electronic Equipment Rack



Product Highlights

This chassis mounted AC-DC power supply has a six DC outputs. It operates on 115Vac/400Hz and provides a minimum 50ms hold-up time per MIL-STD-704F. This COTS solution works well for Mil-cots and is designed to meet portions of MIL-STD-704F input, MIL-STD-1399 input, MIL-STD-810F vibration and shock, and MIL-STD-461E EMI requirements.

Features

- 115Vac/400Hz input.
- 6 DC Outputs, 225W.
- MIL-STD-704F* and MIL-Std-1399. *
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *

* 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	108-118	Vac	
Temperature range	-15 to +37	°C	Operating
Output Power	225	W	
Input Power	300	W	
+3.3Vdc output	42	W	
+5Vdc output	110	W	
+12Vdc output	13	W	
-12Vdc output	13	W	
+15Vdc output	23	W	
-15Vdc output	23	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	Single Phase, 108Vac - 118Vac, 400Hz.
Input Current	2.62A @ 115Vac.
Input Power	300W @ 115Vac.
Power factor	0.90 typical @ 400Hz.
Total Output Power	225W Maximum.
Holdup time	50mSec. Minimum.
Output Voltages	See table 2 for details.
Efficiency	78% Typical, 75% Minimum.
Output Ripple	See table 2 for details.
Current Limit	Short circuit protected with automatic recovery.
Start-Up Time	500ms Maximum.
Voltage Set Point	± 2.5%.
Line/Load Regulation	± 2.5%.
Temperature Regulation	± 0.02% / °C.
Temperature	-15°C to +37°C Operating. -55°C to +71°C Non-Operating.
Cooling	Customer provided forced fan cooling across attached Heatsink (600LFM min).
Package	Chassis mounted enclosed metal case.
Dimensions	2"H x 6.4"W x 11.5" L (see mechanical drawing).
Weight	6.06 lbs. Typical.
Connector	1ea - D38999 / 20WB5PN (Input AC) (see Table 3). 1ea - D38999 / 20WF32SN (Output DC) (see Table 4).
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)

EIA301	V1	V2	V3	V4	V5	V6
Voltage	+5Vdc	+3.3Vdc	+12Vdc	-12Vdc	+15Vdc	-15Vdc
Current	22 A	12.75A	1.1A	1.1A	1.5A	1.5A
Power	110W	42W	13W	13W	23W	23W
Ripple	50mVpk-pk*	50mVpk-pk*	50mVpk-pk*	50mVpk-pk*	150mVpk-pk*	150mVpk-pk*
Maximum total output power is 225W (all DC outputs combined).						

* 20MHz Bandwidth Limited.

Table 3: EIA301- Input Connector Specifications

AC Input Connector J1 (D38999 / 20WB5PN - SHELL SIZE 11 (B))

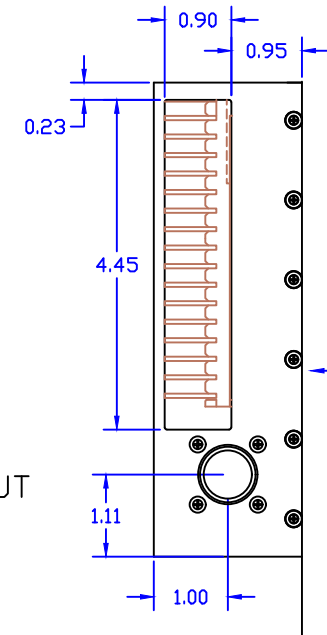
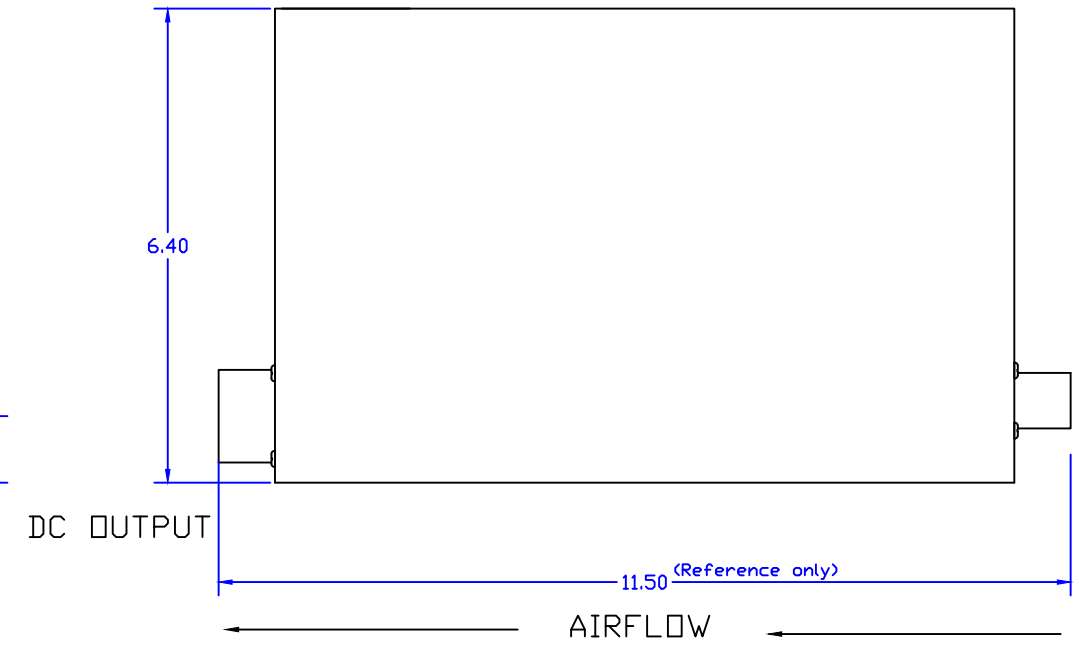
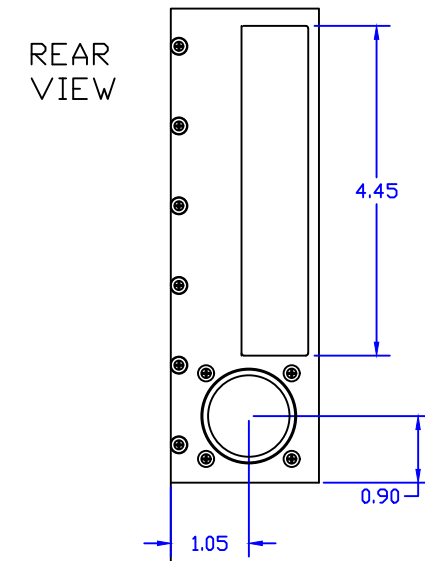
Contact Designation	Conductor Circuit
1 & 2	AC Line
3 & 4	AC Neutral
5	Chassis Ground

Table 4: EIA301- Output Connector Specifications

DC Output Connector J2 (D38999 / 20WF32SN - SHELL SIZE 19 (F))

Connection	Circuit
A, B, C, D, E	+5V OUT
F, G, H, J, K	+5V RETURN
L, M, N	+3.3V OUT
P, R, S	+3.3V RETURN
T	+12V OUT
U	+12V RETURN
V	-12V OUT
W	-12V RETURN
X	+15V OUT
Y	+15V RETURN
Z	-15V OUT
a	-15V RETURN
b	POWER OK (COLLECTOR)
c	CHASSIS GND
d	+5V SENSE+
e	+5V SENSE-
f	+3.3V SENSE+
g	+3.3V SENSE-
h	POWER OK (EMITTER)
j	UNUSED

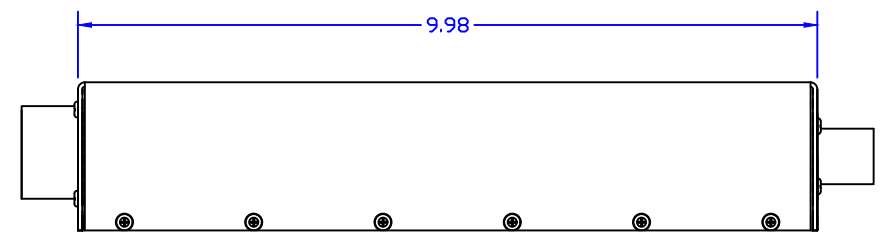
REVISONS		DATE	APPROVED
A01	INITIAL RELEASE	02/05/14	MVS
A02	UPDATE TO INITIAL RELEASE	02/06/14	MVS
A03	CHANGED TO VICOR BRICKS	02/07/14	MVS
A04	REDUCED HEIGHT	02/24/14	MVS
A05	ADDED CONNECTOR & MOUNTING INFO	03/10/14	MVS
A06	ADDED PIN-OUT & HELI-COIL INFO	03/18/14	MVS
A07	UPDATED POST PDR	03/28/14	MVS
A08	UPDATED TO PRTO LEVEL	04/15/14	MVS
A09	ADDED DIMENSIONAL TOLERANCES	06/03/14	MVS
A10	ADDED REFERENCE NOTE	06/03/14	MVS
A11	UPDATED MOUNTING DIMENSIONS	06/04/14	MVS
A12	UPDATED WIRING	12/03/15	RP



FRONT VIEW

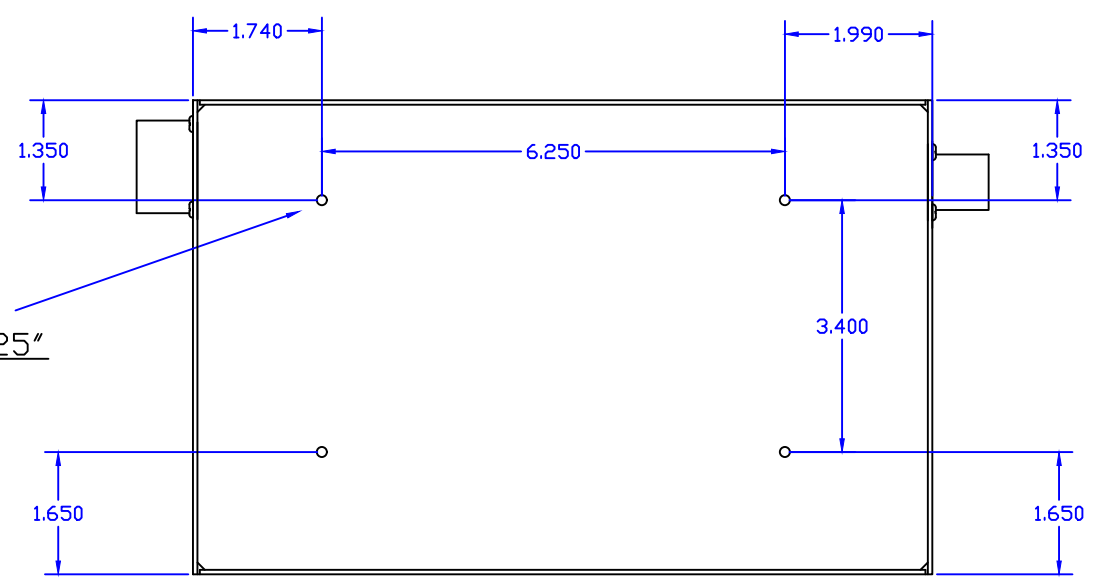
- CHASSIS WALL
- INPUT AC CONNECTOR (J1)
- D38999 / 20WB5PN
 - SHELL SIZE 11 (B)
 - (5x) #20 CONTACTS (PINS)
 - 7.5A MAX PER PIN USING 20AWG WIRE
 - E1,E38- PIN A&B - AC LINE
 - E2,E39- PIN C&D - AC NEUTRAL
 - E37- PIN E - CHASSIS GROUND

600LFM AIRFLOW REQUIRED



OUTPUT DC CONNECTOR (J2)

- D38999 / 20WF32SN
 - SHELL SIZE 19 (F)
 - (32x) #20 CONTACTS (SOCKETS)
 - 7.5A MAX PER PIN USING 20AWG WIRE
- | | | |
|------------------|----------------|-----------------------|
| E5,6,7,8,9- | PINS A,B,C,D,E | +5V OUT |
| E10,11,12,13,14- | PINS F,G,H,J,K | +5V RETURN |
| E15,16,17- | PINS L,M,N | +3.3V OUT |
| E18,19,20- | PINS P,R,S | +3.3V RETURN |
| E23- | PIN T | +12V OUT |
| E24- | PIN U | +12V RETURN |
| E28- | PIN V | -12V OUT |
| E27- | PIN W | -12V RETURN |
| E21- | PIN X | +15V OUT |
| E22- | PIN Y | +15V RETURN |
| E26- | PIN Z | -15V OUT |
| E25- | PIN a | -15V RETURN |
| E35- | PIN b | POWER OK (COLLECTOR) |
| E36- | PIN c | CHASSIS GND |
| E29- | PIN d | +5V SENSE+ |
| E30- | PIN e | +5V SENSE- |
| E31- | PIN f | +3.3V SENSE+ |
| E32- | PIN g | +3.3V SENSE- |
| E44- | PIN h | POWER OK RTN(EMITTER) |
| N/C- | PIN j | UNUSED |



BOTTOM VIEW - MOUNTING SURFACE

(4X) 8-32 MOUNTING HOLES
 MAXIMUM LENGTH SCREWS = .25"
 Locking Heli-coil insert
 (3585-2CN164 insert)

UNLESS OTHERWISE SPECIFIED
 TOLERANCES ARE:
 2 PLACE DECIMAL : +/- .01
 3 PLACE DECIMAL : +/- .005
 DIMENSIONS ARE IN INCHES
 AND INCLUDE APPLIED FINISH

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

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CONTRACT NO.		AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA	
APPROVALS	DATE	TITLE	
DRAWN MVS	02/05/14	EIA301 MECHANICAL OUTLINE	
CHECKED		AEGIS P/N: EIA301	
PROJ. ENG.		SIZE D	FSCM NO. 06ES8
MFG.		DWG NO. EIA301-M00	REV A12
QUALITY		SCALE 1/1	SHEET 1 OF 1