PO Box 429 | 805 Greenlawn Rd. | Murphy, NC 28906 USA | +1 (828) 837-4029 | www.aegispower.com

(Document Rev A03, 4/1/24)

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	70% Minimum, 75% Typical
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

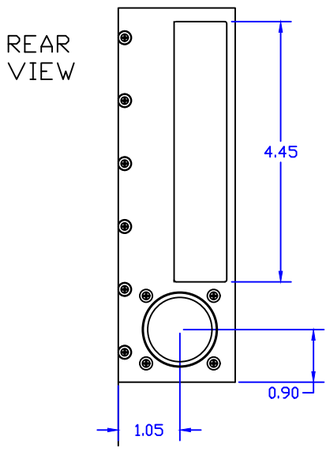
DC Output Connector J2 (D38999 / 20WF32SN - SHELL SIZE 19 (F))

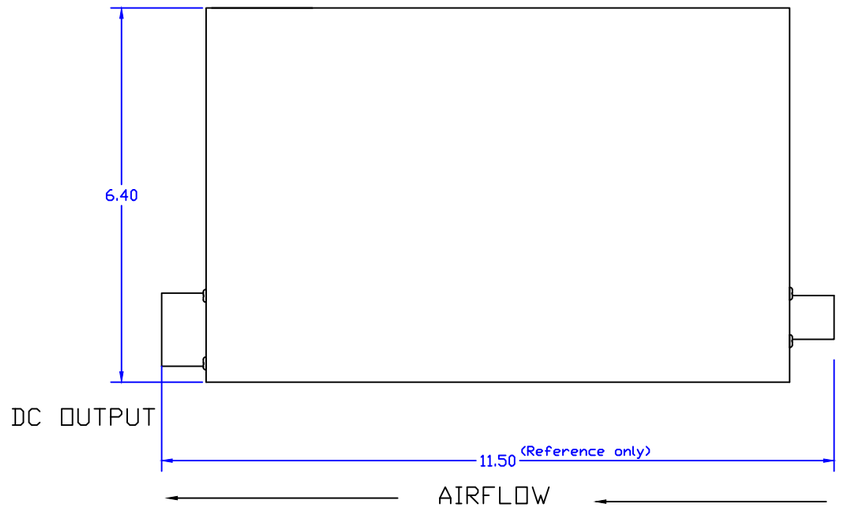
Connection	Circuit
A, B, C, D, E	+5V OUT
F, G, H, J, K	+5V RETURN
L, M, N	+3.3V OUT
P, R, S	+3.3V RETURN
T	+12V OUT
U	+12V RETURN
V	-12V OUT
W	-12V RETURN
X	+15V OUT
Y	+15V RETURN
Z	-15V OUT
a	-15V RETURN
b	POWER OK (COLLECTOR)
c	CHASSIS GND
d	+5V SENSE+
e	+5V SENSE-
f	+3.3V SENSE+
g	+3.3V SENSE-
h	POWER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

DWG NO.	SH	REV

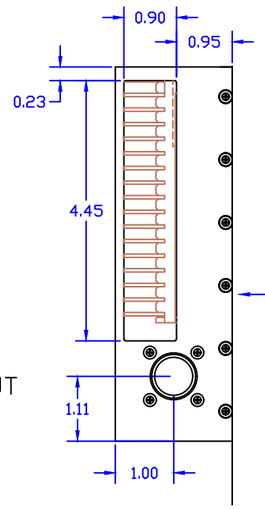
REVISIONS

ZONE	REV	DESCRIPTION	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 PROTO 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





600LFM AIRFLOW REQUIRED



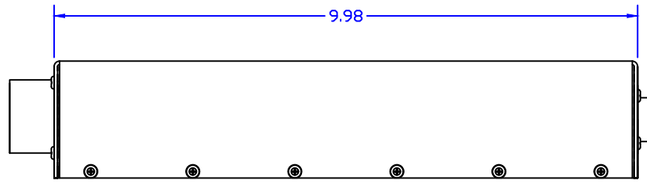
CHASSIS WALL

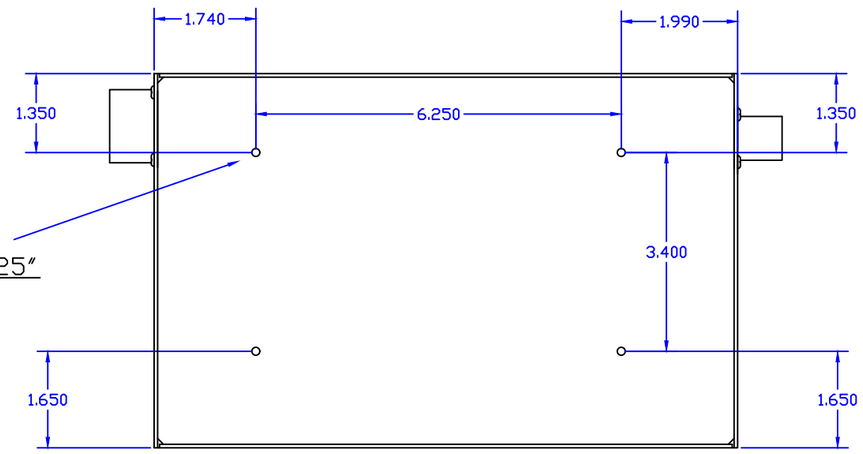
INPUT AC CONNECTOR (J1)
- D38999 / 20WB5PN
- SHELL SIZE 11 (B)
- (5x) #20 CONTACTS (PINS)
- 7.5A MAX PER PIN USING 20AWG WIRE

E1,E38- PIN A&B - AC LINE
E2,E39- PIN C&D - AC NEUTRAL
E37- PIN E - CHASSIS GROUND

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





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

BOTTOM VIEW - MOUNTING SURFACE

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.

CONTRACT NO.

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

APPROVALS	DATE
DRAWN MVS	02/05/14
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

TITLE
EIA301 MECHANICAL OUTLINE
AEGIS P/N: EIA301

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	EIA301-M00	A12

SCALE 1/1 SHEET 1 OF 1