

HY2705

AC-DC Enclosed Power Supply

(Document Rev A05, 09/28/15)



**Three Phase Delta 400Hz 115/208Vac Input
Quad Output, 624W Max Combined Total**

Market: Military (Mil-Cots)

Application: Aircraft Electronic Equipment Rack

Features

- 115/208Vac 3 Phase Delta input
- Mil-Std-704A Category B*
- Quad Output, 624W total.
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *
- Ruggedized Enclosed Case Mil-Cots Military Power Supply

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

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	---	Vac	Contact Aegis
Temperature	-40 to +60	°C	Non-operating
Output Power	624	W	All outputs combined
Input power	821	W	
+5Vdc output	300	W	Refer Table 2 (Outputs)
+3.3Vdc output	300	W	Refer Table 2 (Outputs)
+12Vdc output	12	W	Refer Table 2 (Outputs)
-12Vdc output	12	W	Refer Table 2 (Outputs)

Product Highlights

This ruggedized filtered ac-dc mil-cots military power supply is configured with four outputs (+5Vdc, +3.3Vdc, +12Vdc, and -12Vdc) at a combined total output power of 821W. This COTS solution works well for military power supply applications and is designed to power mine detection equipment. This unit is designed to meet portions of MIL-STD-810F vibration and shock, and designed to meet portions of the MIL-STD-461E EMI requirements. Easy installation and removal having wedge lock fasteners and circular military quick disconnect connector and equipment rack slide in connectors.

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for Mil-COTS, defense, industrial, telecomm, aircraft, shipboard, rack mount, and electric powered vehicle applications. Contact Aegis for specific details on what portions of a particular military standard is offered for this military power supply or what other military power supply can be designed to meet your requirements.

SPECIFICATIONS

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

Input voltage:	115VAC Nominal, 3-Phase Delta, 400Hz. Designed to meet Mil-Std-704A Category B.
Input current:	7.2A Max.
Input power:	821W Max.
Power factor:	Contact Aegis.
Output power:	624W Maximum. See Table 2.
Output voltages:	+5Vdc, +3.3Vdc, +12Vdc, -12Vdc. See table 2.
Efficiency:	76% Typical.
Output ripple:	See table 2.
Current Limit:	105%-150%, Automatic restart.
Start up time:	2 Seconds Maximum.
Voltage set point:	Contact Aegis.
Line regulation:	+/- 1%, 10-90% Load.
Load regulation:	+/- 1%, 10-90% Load.
Temperature regulation:	± 0.02% / °C.
Temperature:	-40°C to +60°C Non-Operating.
Cooling:	Conduction through Wedgelocks.
Package:	Metal Case with Wedge Lock Fasteners.
Dimensions:	Length = 9.2", Width = 8.0", Height = 3.2".
Weight:	12 lbs. Maximum.
Connector:	Output Positronics PCIH49M, Input D38999.
Vibration:	Designed to meet MIL-STD-810F, Method 514.5, Procedure IV.
Shock:	Designed to meet MIL-STD-810F, Method 516.5, Procedure I.
Altitude:	5,000 Feet Operating, 40,000 Feet Non-Operating.
Humidity:	0 – 95% non-condensing.
EMI:	Designed to meet portions of MIL-STD-461E. (CE101, CE102, CS101, CS114, CS115, and CS116).

Specifications subject to change without notice.

Table 2: Voltage Outputs

Parameter	V1	V2	V3	V4
Voltage	+5Vdc	+3.3Vdc	+12Vdc	-12Vdc
Current	60A	90.9A	1.0A	1.0A
Power	300W	300W	12W	12W
Ripple	50mVpk-pk	50mVpk-pk	150mpk-pk	150mVpk-pk
Over voltage protection 110-135%, Recycle input power to restart.				

Output Connector Pin Out Assignment

J1 (Backplane)

Pin	Description	Pin	Description
1	+5Vdc Out	25	+5V Sense RTN
2	+5Vdc Out	26	(Aegis Reserve)
3	+5Vdc Out	27	-12V Sense
4	+5Vdc Out	28	-12V Sense
5	+5Vdc Out	29	(Aegis Reserve)
6	+5Vdc Out	30	-12V Sense RTN
7	RTN	31	-12V Sense RTN
8	+5Vdc Out	32	(Aegis Reserve)
9	RTN	33	+12V Sense
10	RTN	34	+12V Sense
11	RTN	35	N/C
12	RTN	36	+12V Sense RTN
13	RTN	37	+12V Sense RTN
14	RTN	38	N/C
15	RTN	39	OV/UV
16	RTN	40	N/C
17	-12Vdc Out	41	N/C
18	-12Vdc Out	42	OV/UV
19	+12Vdc Out	43	OV/UV RTN
20	+12Vdc Out	44	OV/UV RTN
21	+5V Sense	45	+5V_STDBY
22	+5V Sense	46	N/C
23	(Aegis Reserve)	47	Chassis GND
24	+5V Sense RTN		

Output Connector Pin Out Assignment

J2 (Backplane)

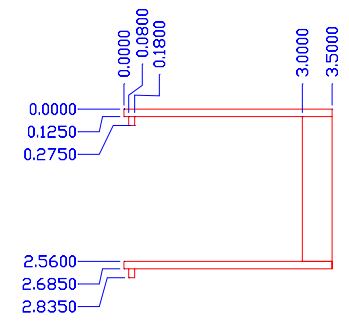
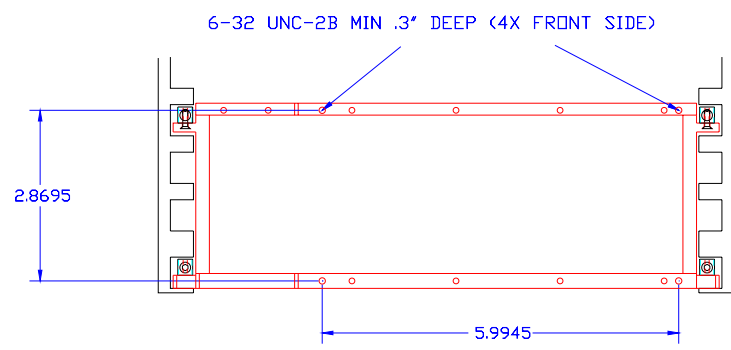
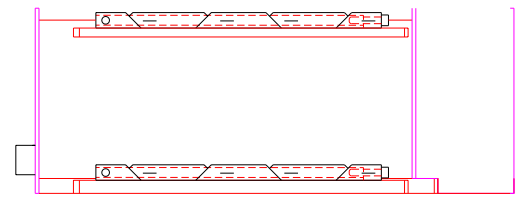
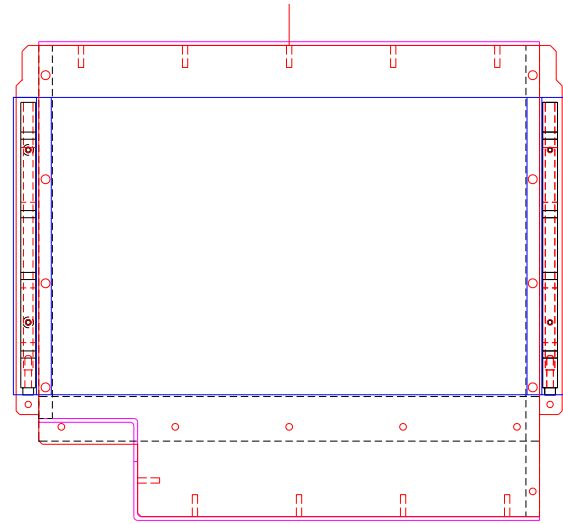
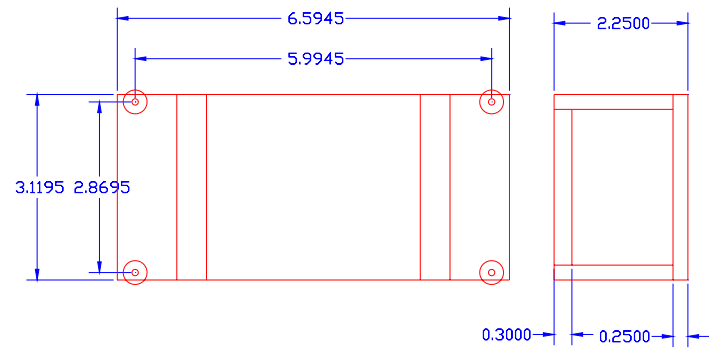
Pin	Description	Pin	Description
1	+3.3Vdc Out	25	+3.3V Sense
2	+3.3Vdc Out	26	(Aegis Reserve)
3	+3.3Vdc Out	27	N/C
4	+3.3Vdc Out	28	N/C
5	+3.3Vdc Out	29	N/C
6	+3.3Vdc Out	30	N/C
7	+3.3Vdc Out	31	N/C
8	+3.3Vdc Out	32	N/C
9	+3.3Vdc Out	33	PSU_Shutdown
10	+3.3Vdc Out	34	N/C
11	RTN	35	N/C
12	RTN	36	SMB_SDA
13	RTN	37	N/C
14	RTN	38	N/C
15	RTN	39	SMB_SCL
16	RTN	40	N/C
17	RTN	41	N/C
18	RTN	42	SMB_ALERT
19	RTN	43	N/C
20	RTN	44	N/C
21	+3.3V Sense RTN	45	N/C
22	+3.3V Sense RTN	46	N/C
23	(Aegis Reserve)	47	Chassis GND
24	+3.3V Sense		

Input Connector Pin Out Assignment

Pin	Signal
A	Phase 2
B	Phase 3
C	Phase 1
D	GND

DVG NO.		SH REV		1	
REVISIONS					
ZONE	REV	DESCRIPTION	DATE	APPROVED	
A01		INITIAL RELEASE	XX/XX/XX	MVS	
XXX	XXX		XX/XX/XX	XXX	

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



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. FRACTIONS: DECIMALS: DEGREES: N/A .02 .5		CONTRACT NO.		AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA	
MATERIAL	SEE NOTE 2	APPROVALS	DATE	TITLE HY2705 MECHANICAL CONCEPT	
FINISH	SEE NOTE 3	DRAWN	MVS	3/8/2007	AEGIS P/N: HY2705
NEXT ASSY	USED ON	CHECKED			
APPLICATION	DO NOT SCALE DRAWING	PROJ. ENL.			
		WFG			
		QUALITY			
		SCALE	1/1	SIZE	D 06ES8
				FORM NO.	HY2705-M00
				DWG NO.	A01
				REV	
				SHEET	1 OF 1