

1PH60

AC-DC Power Supply Card

(Document Rev A08, 6/22/17)



**Single Phase 115/220Vac Input
Single Output, 650W Max Total Possible**

Features

- 115/220Vac per MIL-STD-704F and MIL-STD-1399A/B *
- Single Output, 600/650W
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *
- Single Slot VME Power Card

* Designed to meet portions of the standard. Contact Aegis Power for details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	95 - 250	Vac	
Temperature	-40 to +85	°C	Refer to Figure 1
Output Power	650	W	28Vdc Output
Input power	783	W	115Vac Input
Max +5Vdc power	400	W	80A
Max +12Vdc power	600	W	50A
Max +24Vdc power	600	W	25A
Max +28Vdc power	650	W	23.2A
Max +48Vdc power	600	W	12.5A

Product Highlights

This single slot 6U high 5HP wide filtered ac-dc power supply converter card has a single output available from five possible factory configured output selections (+5Vdc, +12Vdc, +24Vdc, +28Vdc, or +48Vdc) with 400W, 600W or 650W available depending on the output voltage. This Military Mil-COTS power supply solution is designed to meet portions of Mil-Std-704F and Mil-Std-1399 input requirements, designed to meet portions of MIL-STD-810F vibration and shock requirements and portions of the MIL-STD-461E EMI requirements. When compared to VME power supplies using conventional technology, this single slot conduction cooled ac-dc power supply converter provides users with higher efficiency (83%), lower weight (3.2 lbs), and higher power (up to 650W).

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 Power Systems for details on Mil-Specs that this product is designed to meet.

SPECIFICATIONS

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

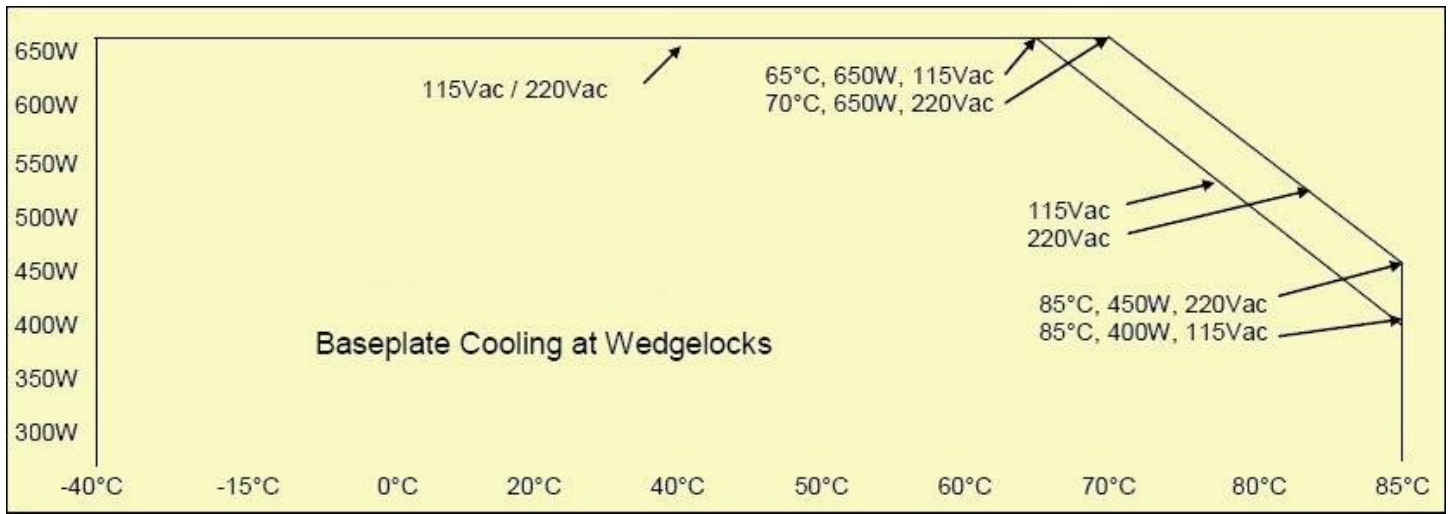
Input voltage:	95Vac - 250Vac, 47Hz - 63Hz. Transient 70Vac to 270Vac, 100mSec. Designed to meet MIL-STD-704F Normal and Abnormal Range. Designed to meet MIL-STD-1399A/B Type I 60Hz.
Input line current:	6.35/6.88A @ 115Vac, 3.18/3.44A @ 220Vac.
Input power:	723/783W @ 115Vac, 700/760W @ 220Vac, Typical.
Power Factor:	0.99 Typical @ 47Hz - 63Hz.
Output power:	600/650W Max. See Table 2. See Figure 1 for output power derating.
Holdup Time:	10mSec Typical.
Output voltages:	See table 2. See Figure 1 for output power derating.
Output ripple:	See table 2.
Current Limit:	Short circuit protected with automatic recovery.
Efficiency:	83%/115VAC, 86%/220VAC, Typical at full load.
Start up time:	500 mSec. Max.
Voltage set point:	±2.5%.
Line regulation:	± 2.5%.
Load regulation:	± 2.5%.
Temperature regulation:	± 0.01% / °C.
Temperature rating:	-40°C to +85°C Operating baseplate temperature max. See Figure 1.
Cooling:	Conduction through baseplate wedgelocks attached to customer card rack.
Package:	Single slot pluggable slide-in card with attached baseplate.
Dimensions:	6U x 5HP x 160mm (see mechanical drawing on last page).
Weight:	3.2 lbs. Typical.
Connector:	1ea Positronics PCIM30W15M400A1 or equivalent (see pin assignment page).
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 (CE102 and CS101).

Specifications subject to change without notice.

Table 2: Voltage Outputs

Part Number	Vdc out	Watts out	Amps out	Ripple (20MHz BW)
1PH60-001	+28V	650W	23.2A	280mVp-p
1PH60-002	+48V	600W	12.5A	480mVp-p
1PH60-003	+12V	600W	50.0A	100mVp-p
1PH60-004	+5V	400W	80.0A	50mVp-p
1PH60-005	+24V	600W	25.0A	240mVp-p

Figure 1: 1PH-60 Power De-rating for Temperature and Input Voltage per below graph



Connector Pin Out Assignment

30 Pin Positronic Connector
P/N PCIM30W15M400A1 or Equivalent

Connector J1:

Pin 1 #1 Return
Pin 2 #2 Return
Pin 3 #1 Return
Pin 4 #2 Return
Pin 5 #1 Return
Pin 6 #2 Return
Pin 7 #1 +Out
Pin 8 #2 +Out
Pin 9 #1 +Out
Pin 10 #2 +Out
Pin 11 #1 +Out
Pin 12 #2 +Out
Pin 13 No Connection
Pin 14 No Connection
Pin 15 #1 Pos Sense
Pin 16 No Connection
Pin 17 No Connection
Pin 18 #1 Neg Sense
Pin 19 No Connection
Pin 20 No Connection
Pin 21 Share Pos
Pin 22 No Connection
Pin 23 No Connection
Pin 24 Share Neg
Pin 25 No Connection
Pin 26 #2 Neg Sense
Pin 27 #2 Pos Sense
Pin 28 Chassis Ground
Pin 29 AC Neutral
Pin 30 AC Line Input

CAUTION:

Contact AEGIS Power
Systems before connecting
power supply units in parallel
or connecting the Share Pins.

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DWG NO.

SH REV

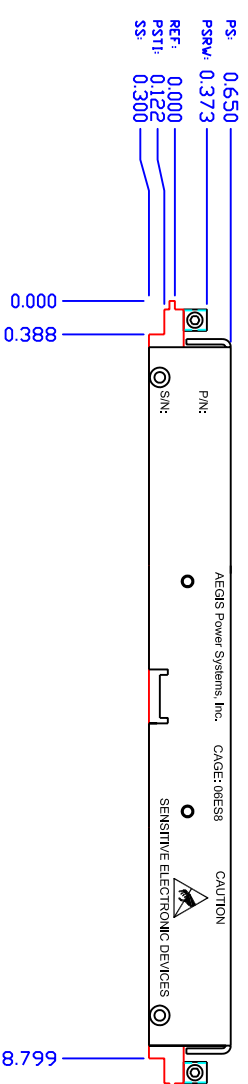
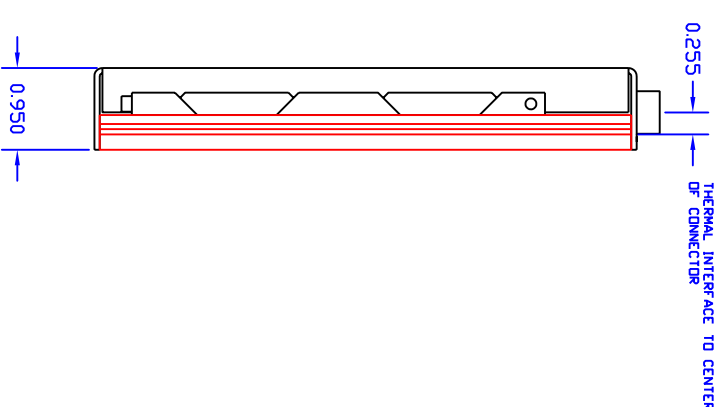
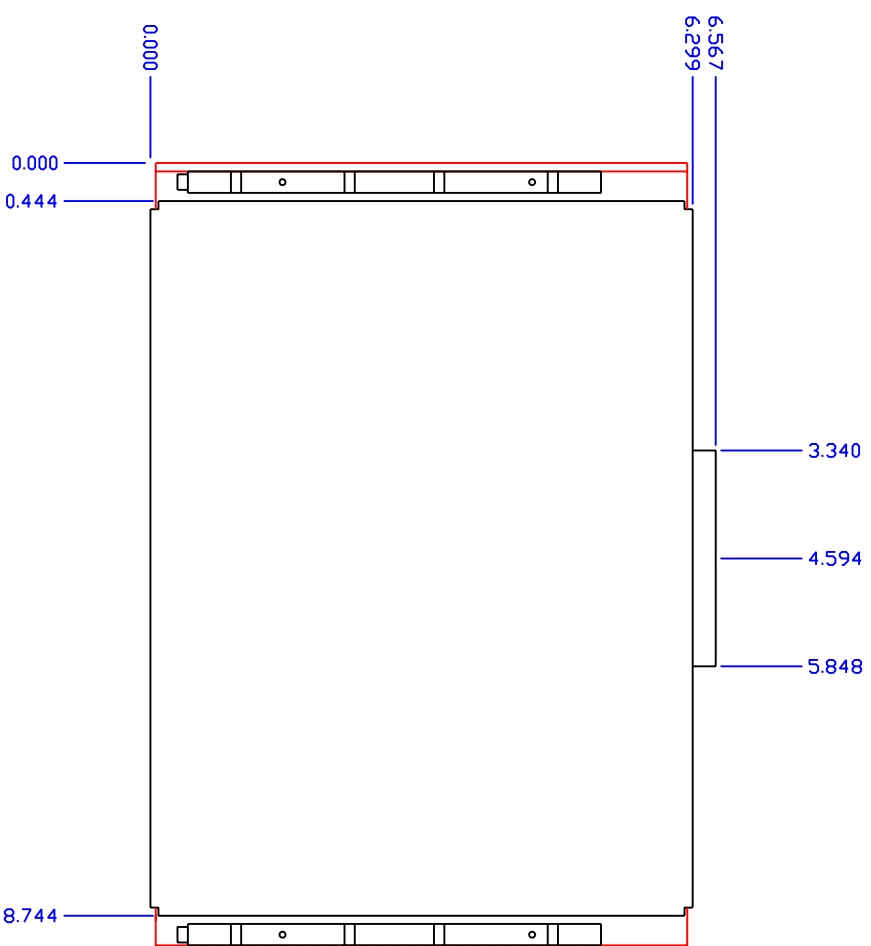
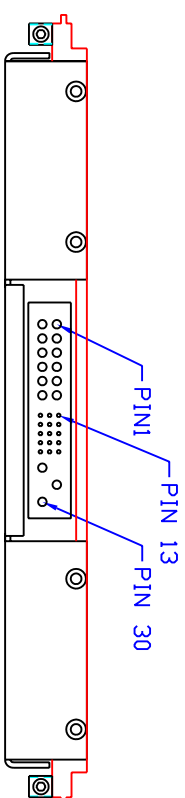
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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	09/24/09	MVM
	A02	REV A02 BASEPLATE	09/30/09	MVM
	A03	MOVED WEDGE LOCATION	10/06/09	MVM

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY

NOTES:

- 1. TYPE 1, 6U PLUG-IN UNIT - PRIMARY SIDE RETAINER. 100 INCH PITCH.
- 2. CONNECTOR POSITRONIC PCIM30V15M400A1
- 3. PIN1-12 = 28AMP RATING, PIN13-27 = 3AMP RATING, PIN28,29 AND 30 = 40AMP RATING



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS DECIMALS
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CONTRACT NO.	APPROVALS	DATE	TITLE
	MVM	06/16/09	VME SINE PHASE PFC 650W MECHANICAL LAYOUT AEGIS P/N: 1PH60
	CHECKED		PROJ ENGR
	FINISH	SEE NOTE 3	DWG NO. 1PH60-M00
	USED ON		REV A03
	APPLICATION		SCALE 1/1
			SHEET 1 OF 1

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