

1PH402

Overview

AC-DC Power Supply Card
 Single Phase 400Hz 115/220Vac Input
 Dual Output, 500W Max Combined Output

Market(s)

Military, Industrial

Typical Application(s)

Electronic Equipment Rack



Product Highlights

This single slot 5HP (1.0") wide 6U high filtered ac-dc power supply converter card has dual outputs available of +5Vdc at 200W and +12Vdc at 300W. This Military MIL-COTS power supply solution is designed to meet applicable portions of MIL-STD-704F input requirements, MIL-STD-810F vibration and shock requirements, and MIL-STD-461E EMI requirements. When compared to VME power supplies using conventional technology, this single slot wedgelock conduction cooled ac-dc power supply converter provides users with higher efficiency (85% with 220Vac input), lower weight (3.2 lbs.), and higher power (up to 500W).

Features

- 115/220Vac per MIL-STD-704F*
- Dual Output, 500W combined
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *
- Single Slot VME Power Card

* 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	95 to 250	Vac	360-440Hz
Temperature	+85	°C	Refer to Figure 1
Output power	500	W	@ 65°C with 115Vac Input
Output power	500	W	@ 70°C with 220Vac Input
Input power	610	W	@ 115Vac 400Hz Input
Input power	590	W	@ 220Vac 400Hz Input
+5Vdc output	200	W	
+12Vdc output	300	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	95Vac - 250Vac, 360Hz - 440Hz. Transient 70Vac to 270Vac, 100mSec. Designed to meet MIL-STD-704F Normal and Abnormal Range.
Input Current	5.42A @ 115Vac, 2.74A @ 220Vac.
Input Power	610W @ 115Vac, 590W @ 220Vac, Typical.
Power Factor	0.99 Typical @ 360Hz - 440Hz.
Output Power	500W Max. See Table 2. See Figure 1 for output power derating.
Holdup Time	2ms Typical.
Output Voltages	+5Vdc & +12Vdc. See table 2. See Figure 1 for output power derating.
Output Ripple	See table 2.
Current Limit	Short circuit protected with automatic recovery.
Efficiency	82% / 115Vac, 85% / 220Vac, Typical at full load.
Start-Up Time	500ms Max.
Voltage Set Point	± 2.5%.
Line/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 Positronic PCIM30W15M400A1 or equivalent (see Table 3).
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 Output (Nominal)

1PH402-001	V1	V2
Voltage	+5Vdc	+12dc
Current	40A	25A
Power	200W	300W
Ripple	50mVpk-pk*	120mVpk-pk*

* 20MHz Bandwidth Limited.

Figure 1: 1PH402 Power De-rating for Temperature and Input Voltage per below graph

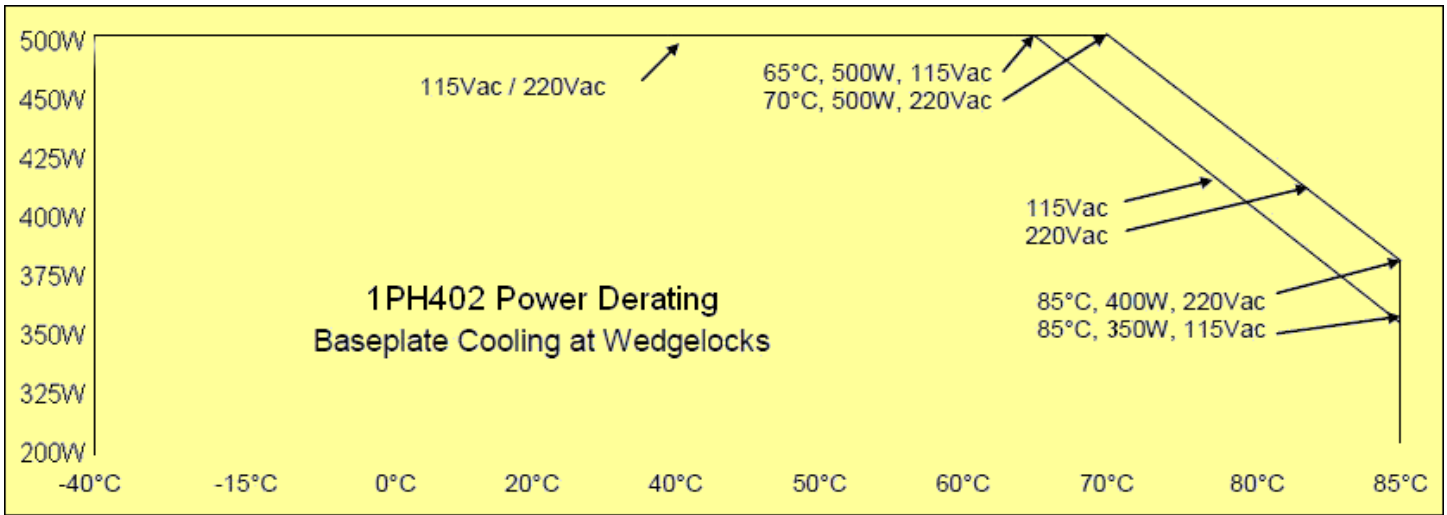


Table 3: 1PH402-XXX Connector Specifications

30 Pin Positronic Connector - P/N PCIM30W15M400A1 or Equivalent

Contact Designation	Conductor Circuit
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	#2 Current Monitor, Analog Output
Pin 14	#2 Temperature, Analog Output
Pin 15	#1 Pos Sense
Pin 16	#1 Current Monitor, Analog Output
Pin 17	#1 Temperature, Analog Output
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.

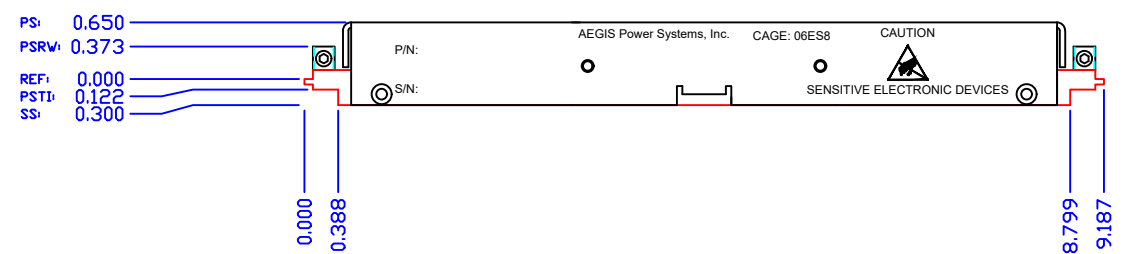
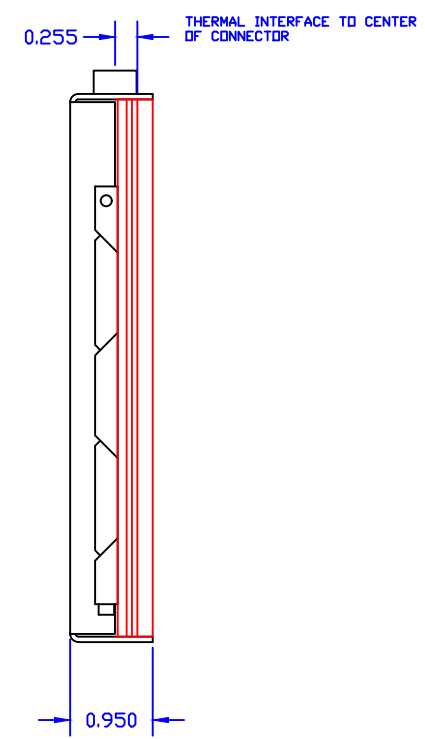
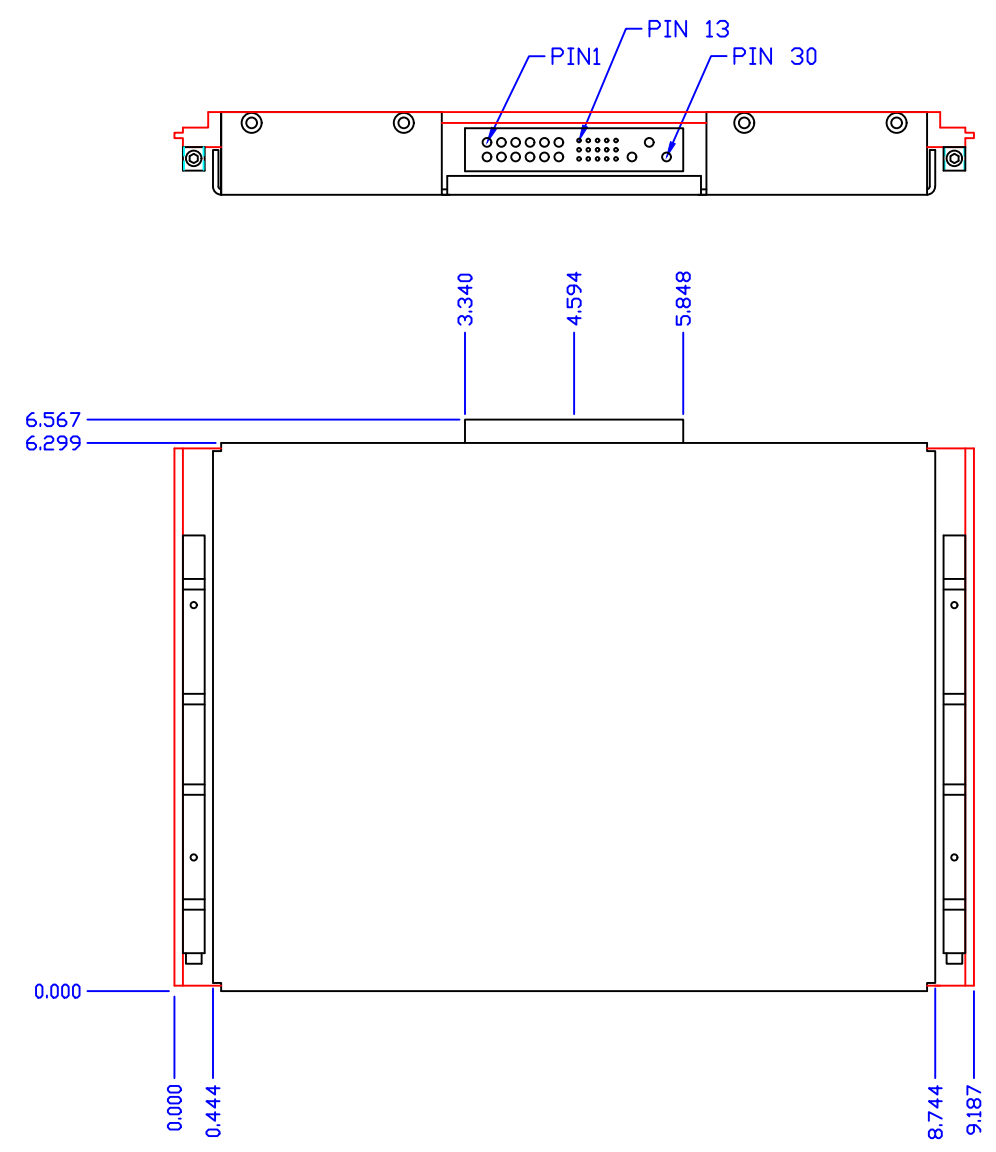
DWG NO.	SH	REV	1	
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	09/24/09	MVM
	A02	REV A02 BASEPLATE	09/30/09	MVM
	A03	MOVED WEDGE LOCATION	10/06/09	MVM

NOTES: UNLESS OTHERWISE SPECIFIED

- TYPE 1, 6U PLUG-IN UNIT - PRIMARY SIDE RETAINER. 1.00 INCH PITCH. (FIGURE 10 OF VITA 48.2, 12/26/07)
- CONNECTOR POSITRONIC PCIM30W15M400A1
- PIN1-12 = 28AMP RATING, PIN13-27 = 3AMP RATING, PIN28,29 AND 30 = 40AMP RATING

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

- J1:1 - #1 RETURN
- J1:2 - #2 RETURN
- J1:3 - #1 RETURN
- J1:4 - #2 RETURN
- J1:5 - #1 RETURN
- J1:6 - #2 RETURN
- J1:7 - #1 +DUT
- J1:8 - #2 +DUT
- J1:9 - #1 +DUT
- J1:10 - #2 +DUT
- J1:11 - #1 +DUT
- J1:12 - #2 +DUT
- J1:13 - #2 I MONITOR, ANALOG OUT
- J1:14 - #2 TEMP, ANALOG OUT
- J1:15 - #1 +SENSE
- J1:16 - #1 I MONITOR, ANALOG OUT
- J1:17 - #1 TEMP, ANALOG OUT
- J1:18 - #1 -SENSE
- J1:19 - NC
- J1:20 - NC
- J1:21 - SHARE+
- J1:22 - NC
- J1:23 - NC
- J1:24 - SHARE-
- J1:25 - NC
- J1:26 - #2 -SENSE
- J1:27 - #2 +SENSE
- J1:28 - CHASSIS
- J1:29 - NEUTRAL
- J1:30 - LINE



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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS DECIMALS DEGREES ± N/A .XX ± .02 ± .5 .XXX ± .005		CONTRACT NO.		AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA	
MATERIAL	SEE NOTE 2	APPROVALS	DATE	TITLE VME SINLE PHASE PFC 650W MECHANICAL LAYOUT AEGIS P/N: 1PH402	
FINISH	SEE NOTE 3	DRAWN	MVM	06/16/09	SIZE FSCM NO. DWG NO. REV D 06ES8 1PH402-M00 A03
NEXT ASSY	USED ON	CHECKED			SCALE 1/1 SHEET 1 OF 1
APPLICATION	DO NOT SCALE DRAWING	PROJ. ENG.			
		MFG.			
		QUALITY			