

1PH60

Overview

AC-DC Power Supply Card
 Single Phase 60Hz 115/220Vac Input
 One Output, 650W Max

Market(s)

Military, Industrial

Typical Application(s)

Electronic Equipment Rack



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 applicable portions of MIL-STD-704F and MIL-STD-1399 input requirements, designed to meet applicable portions of MIL-STD-810F vibration and shock requirements and applicable 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).

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 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	
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

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, 47Hz - 63Hz. Transient 70Vac to 270Vac, 100ms. Designed to meet MIL-STD-704F Normal and Abnormal Range. Designed to meet MIL-STD-1399A/B Type I 60Hz.
Input 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	10ms 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	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)

	1PH60-001	1PH60-002	1PH60-003	1PH60-004	1PH60-005
Voltage	+28Vdc	+48Vdc	+12Vdc	+5Vdc	+24Vdc
Current	23.2A	12.5A	50A	80A	25A
Power	650W	600W	600W	400W	600W
Ripple	280mVpk-pk*	480mVpk-pk*	100mVpk-pk*	50mVpk-pk*	240mVpk-pk*

* 20MHz Bandwidth Limited.

Figure 1: 1PH60 Power De-rating for Temperature and Input Voltage per below graph

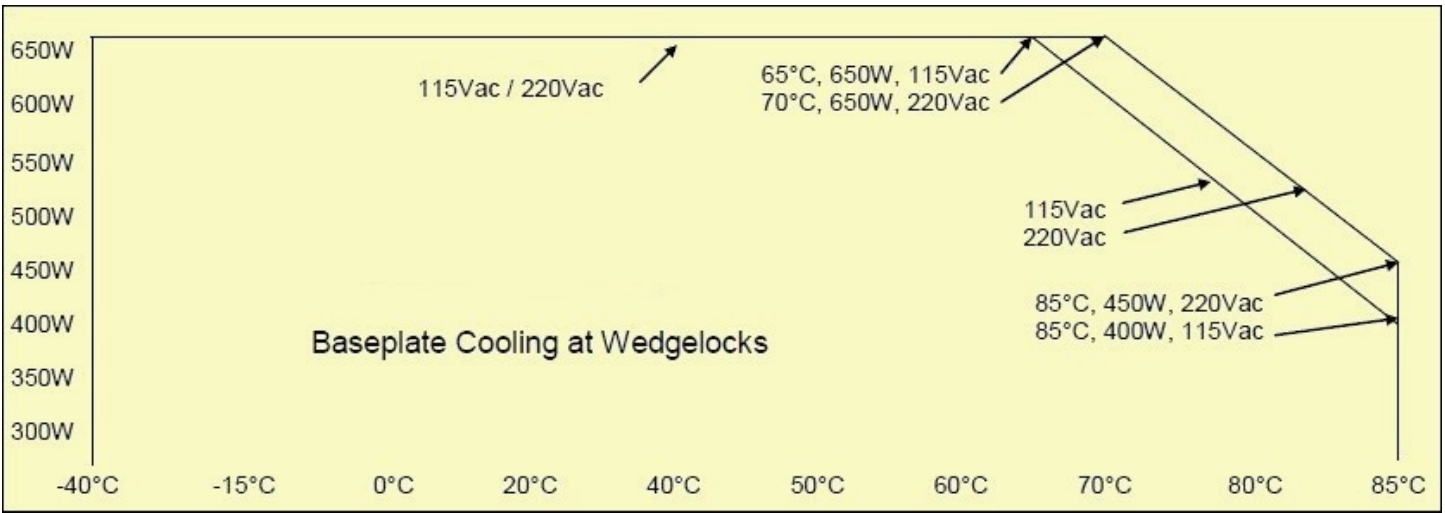


Table 3: 1PH60-XXX - Connector Specifications

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	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.

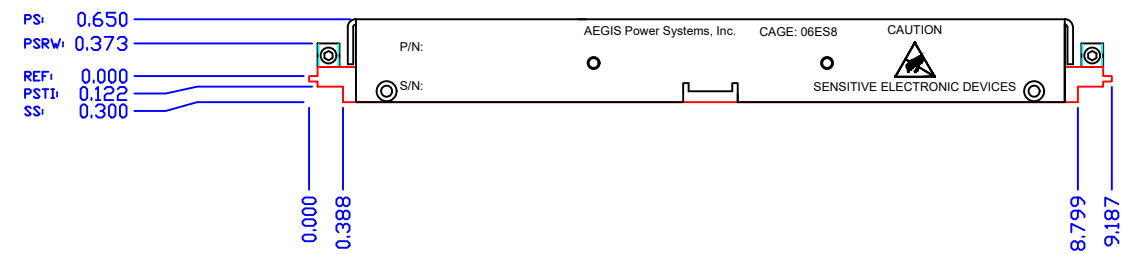
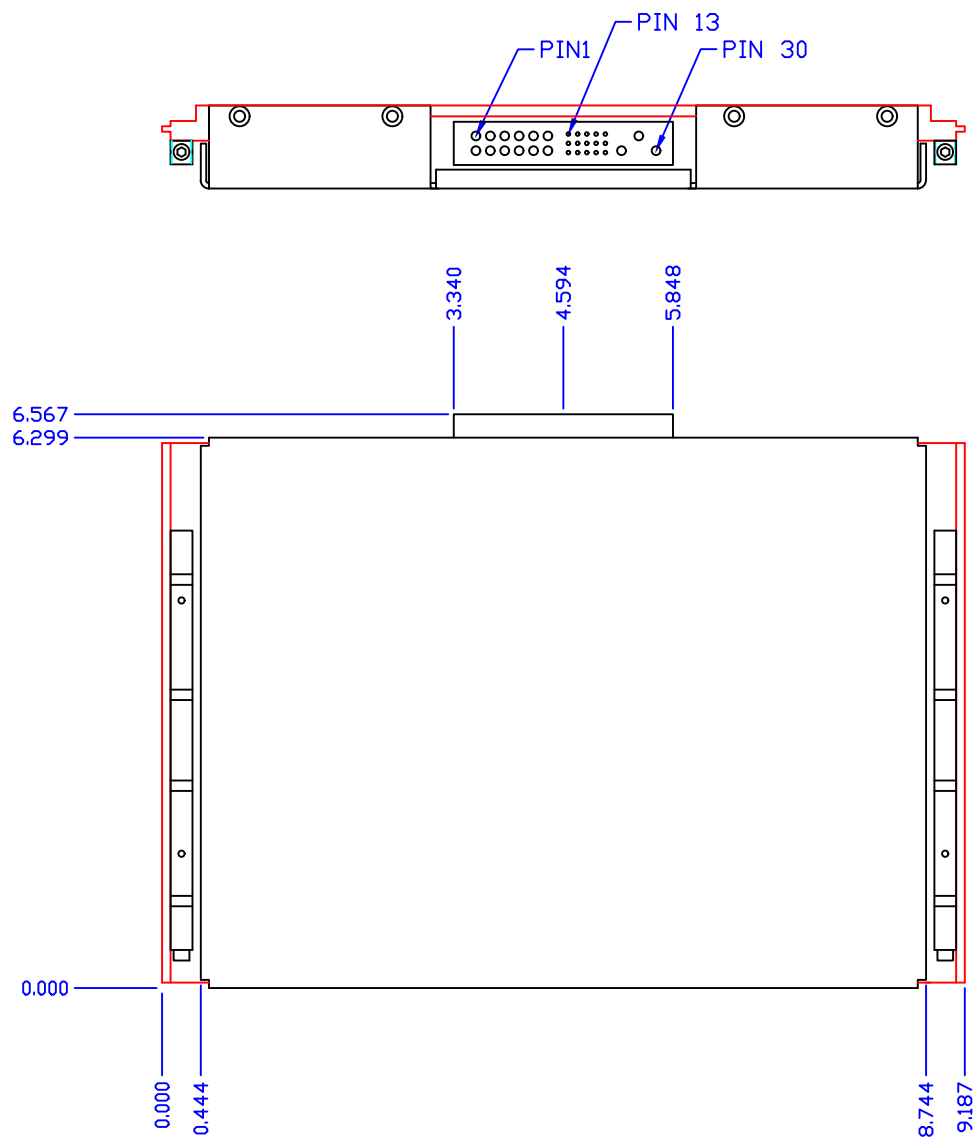
REV		DESCRIPTION	DATE	APPROVED
A01		INITIAL RELEASE	09/24/09	MVM
A02		REV A02 BASEPLATE	09/30/09	MVM
A03		MOVED WEDGE LOCATION	10/06/09	MVM

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 - NC
- J1:14 - NC
- J1:15 - #1 +SENSE
- J1:16 - NC
- J1:17 - NC
- 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:		CONTRACT NO.		AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA	
FRACTIONS	DECIMALS	DEGREES	APPROVALS	DATE	TITLE
± N/A	.XX ± .02	± .5		06/16/09	VME SINLE PHASE PFC 650W MECHANICAL LAYOUT
	.XXX ± .005		CHECKED		AEGIS P/N: 1PH60
MATERIAL	SEE NOTE 2	FINISH	PROJ. ENG.		SIZE D
			MFG.		FSCM NO. 06ES8
NEXT ASSY	USED DN	DO NOT SCALE DRAWING	QUALITY		DWG NO. 1PH60-M00
					REV A03
					SCALE 1/1
					SHEET 1 OF 1