

APFC1000

**AC-DC
Power Factor Correction**

(Harmonic Distortion Attenuation)

(Document Rev A01, 4/12/18)

**Single Phase 115/220Vac Input
Single Output, 1000W Max**



Features

- 115/220Vac per MIL-STD-704F and MIL-STD-1399A/B *
- Single Output, 750/1000W
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	95 - 250	Vac	
Temperature	-40 to +100	°C	Refer to Figure 1
Output Power	1000	W	370Vdc Output
Input power	1041	W	220Vac Input

* Designed to meet portions of the standard when used with compliant DC/DC converters and EMI filtering. Contact Aegis Power for details.

Product Highlights

The APFC1000 is a PFC front-end that has been designed to be used for input power to +370V DC/DC converters. (Note: The APFC1000 is a standalone PFC Front End. The APFC1000 is not designed for parallel operation)

A single APFC1000 can be used with any combination of DC/DC converter configuration. This gives the designer the ability to have a multiple output AC/DC power converter that meets their specific needs.

The APFC1000 along with our AEMI1000, and our ACRL1000 is the perfect solution for any designer who needs to meet Military requirements. (Note: The designer needs to provide the discrete components based on the application notes of the DC/DC manufacturer)

[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, telecom, 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.)

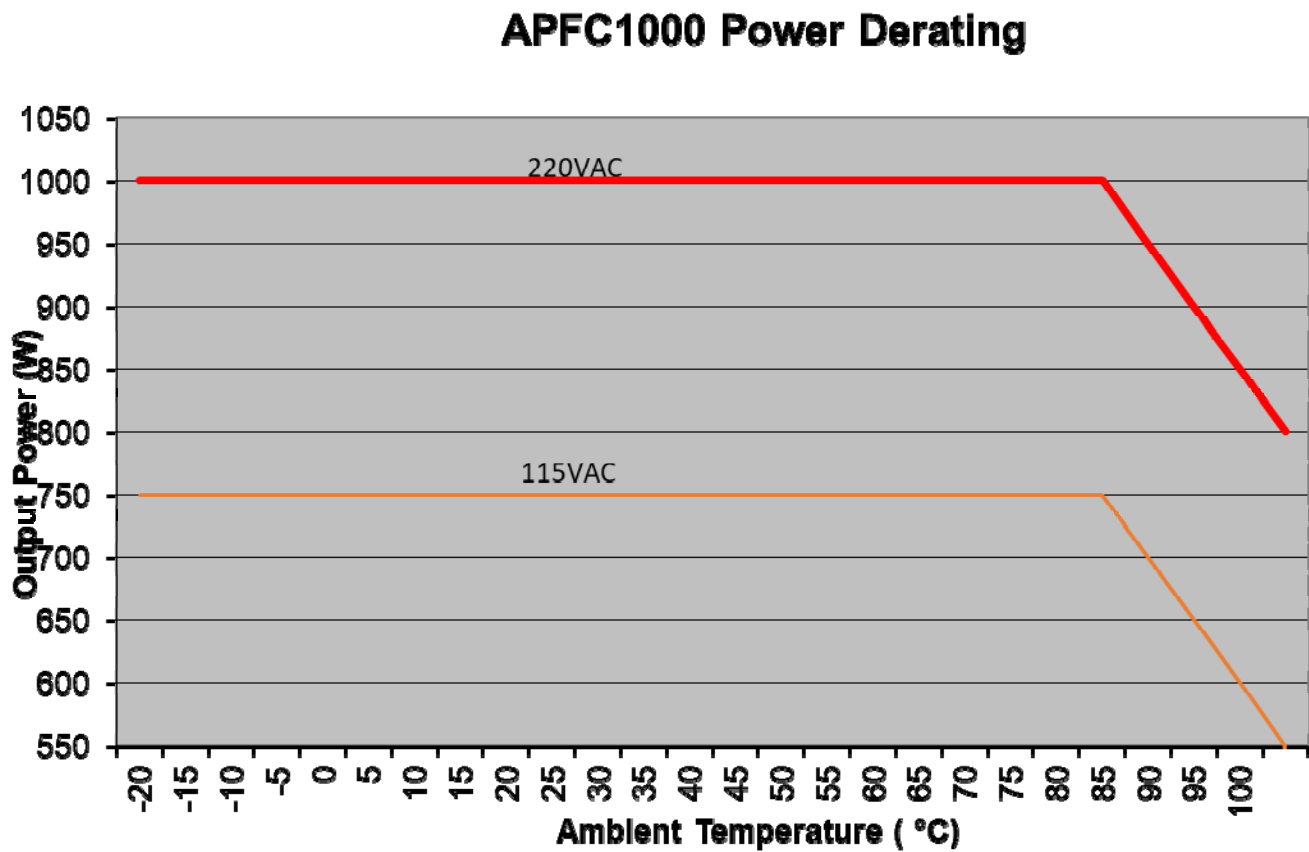
Input voltage:	95Vac - 250Vac, 47Hz - 63Hz. Transient 70Vac to 270Vac, 100mSec. Designed to meet MIL-STD-704F Normal and Abnormal Range. Designed to meet MIL-STD-1399A/B Type I 60Hz.
Input line current:	7.0A @ 115Vac, 4.75A @ 220Vac.
Input power:	806W @ 115Vac, 1040W @ 220Vac, Typical.
Power Factor:	0.99 Typical @ 47Hz - 63Hz.
Output power:	750/1000W Max. See Table 2. See Figure 1 for output power derating.
Output voltages:	See table 2. See Figure 1 for output power derating.
Output ripple:	See table 2.
Current Limit:	Requires ACRL1000
Efficiency:	93%/115VAC, 96%/220VAC, Typical at full load.
Start up time:	500 mSec. Max.
Temperature rating:	-40°C to +85°C Operating baseplate temperature max. See Figure 1.
Cooling:	Conduction through baseplate.
Package:	APFC1000
Dimensions:	6" x 2.38" x 0.75" (see mechanical drawing on last page).
Weight:	0.55 lbs. Typical.
Connector:	(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). Requires AEMI1000 filter or equivalent.

Specifications subject to change without notice.

Table 2: Voltage Outputs

Part Number	Vdc out	Watts out	Amps out
APFC1000	+370V	750W/1000W	2.0A/2.7A

Figure 1: APFC1000 Power De-rating for Temperature and Input Voltage per below graph



Connector Pin Out Assignment

Connector 2mm, 10 positions, 2 row

Connector J1:1-10, L1

Connector J2:1, PFC Fault Collector

J2:2, PFC Fault Emitter

J2:3, Open

J2:4, Open

J2:5, Open

J2:6, Open

J2:7-8, Signal Passthrough+

J2:9-10, Signal Passthrough-

Connector J3:1-10, L2/Neutral

Connector J4:1-10, +Out

J5:2, Signal Gnd

J5:3-4, PFC Fault Collector

J5:5-6, PFC Fault Emitter

J5:7-8, Signal Passthrough+

J5:9-10, Signal Passthrough-

Connector J6:1-10, -Out

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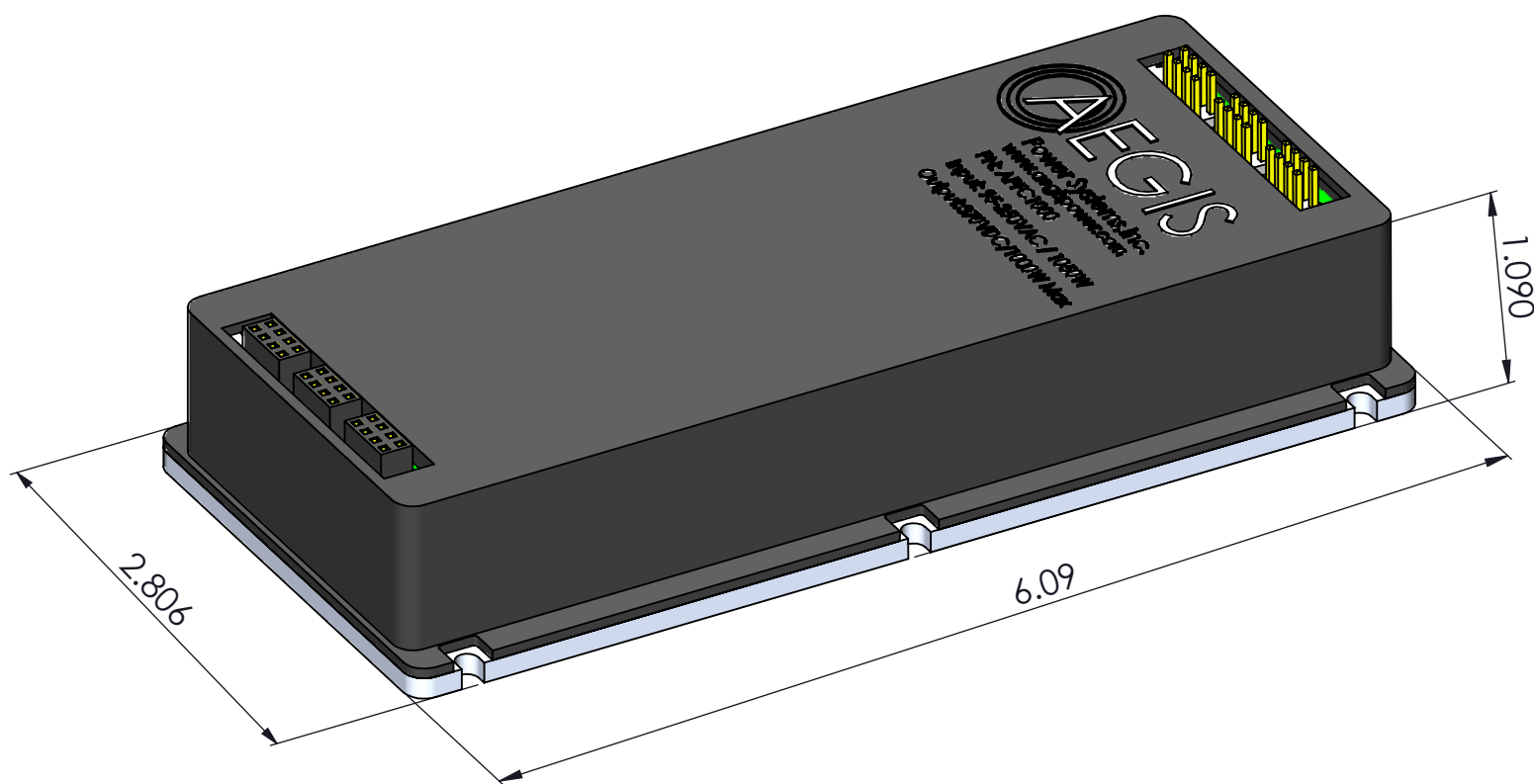
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NOTES: UNLESS OTHERWISE SPECIFIED

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.

DWG NO.		SH		REV	
REVISIONS					
ZONE	REV	INITIAL RELEASE		DATE	APPROVED
	A01			4/10/18	TBL



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UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ± N/A
 DEGREES: ± .5
 TWO PLACE DECIMAL ± .02
 THREE PLACE DECIMAL ± .005

NEXT ASSY	USED ON
APPLICATION	

MATERIAL: SEE NOTE 2
 FINISH: SEE NOTE 3
 DO NOT SCALE DRAWING

CONTRACT NO.		
APPROVALS	NAME	DATE
DRAWN	TBL	4/17/18
CHECKED	MSM	
ENG APPR.		
MFG APPR.	JM	
Q.A.	MH	

AEGIS POWER SYSTEMS MURPHY, NORTH CAROLINA			
TITLE: PFC ASSY PROTOTYPE			
AEGIS P/N:			
SIZE B	FSCM NO. 06ES8	DWG. NO. PFC PROTOTYPE	REV A01

COMMENTS:	SCALE: 1:1	SHEET 1 OF 1
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