

HP3APFC1K5400

Overview

AC-DC Power Supply, Water Resistant (Sealed Enclosure),
 Three Phase 400Hz 200Vac Input Line-Line (115Vac Line-Neutral), +28
 Output, 1500W Max

Market(s)

Defense, Industrial

Typical Application(s)

Electronic equipment rack, Onboard vehicle power



Product Highlights

This ruggedized High-Power PSU operates from a 3-Phase 200Vac input. The single 1500W output capability is the power supply solution for military COTS applications. It is designed to meet the environmental requirements of MIL-STD-810F and EMI requirements of MIL-STD-461F. In comparison to other power supplies using conventional technology, this package provides users with higher efficiency (90% typical), less weight, and higher power output. This power supply is designed to power military electronic equipment including communication centers. Contact Aegis Power Systems, Inc. for specific details on what applicable portions of a military standard is offered for this power supply.

Features

- 3 Phase 200Vac
- MIL-STD-810F Environmental *
- MIL-STD-704F Electrical**
- MIL-STD-461F EMI *
- Enclosed case IP56
- Conformal Coated Circuit Boards
- Dust covers for AC Input & Status connector

Table 1: Maximum Continuous Operating Ratings

Parameter	Rating	Unit	Notes
Vin max range	181 to 216	Vac	Line to Line (Neutral not connected)
Temperature	-40 to +50	°C	-40 to +100 Non-operating
Input Power	1670	W	(+50°C)
Output power	1500	W	(+50°C)
Max output	1500	W	Refer to Table 2 (Output)

* Designed to meet applicable portions of this standard. Contact Aegis Power Systems, Inc. for specific details.

**Input Voltage range meets and exceeds the MIL-STD-704F requirement of 187 to 204Vac.

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.)

Input Voltage	3 Phase, 200Vac L-L, 400 Hz, Nominal. Input range 393 Hz to 407 Hz, 187Vac - 204Vac Line-Line.
Input Current	4.8A per phase (1500W Output)
Input Power	1670W (1500W Output)
Power Factor	.97- (Active Power Factor Correction)
Output Power	1500W Maximum
Output Voltages and Current	See table 2 for details
Efficiency	90% Nominal, 83% Minimum.
Output Ripple	See table 2.
Current Limit	Short circuit protected with automatic recovery
Start-Up Time	1 to 2 seconds
Voltage Set Point	25-30Vdc for +28VDC output (@25C ambient)
Line/Load Regulation	+/- 2%
Output Voltage Temperature Coefficient	-3.73 mV / °C.
Temperature	-40°C to +50°C Operating / -40°C to +100°C Non-operating
Cooling	Forced Fan Cooling. (Fans come on when needed.)
Package	Enclosed case chassis mounted.
Dimensions	14.75" L x 10.75" W x 5" H
Weight	35lbs. maximum
Connectors	AC Input Connector P/N: MS3454W20-14P DC Output Connector, two (2) each 3/8" Lugs, one POS, one Neg. Status Output Connector P/N: MS3474W12-8S.
Environmental	Designed to meet applicable portions of MIL-STD-810F, Ground Mobile
Ingress Protection	IP56 Enclosure, Connectors, and Cooling Fans
EMI	Designed to meet applicable portions of MIL-STD-461F Requirement: CE102, CS101, CS114, and RE102. (Ground Range)

Specifications subject to change without notice.

Table 2: Voltage Output (Nominal)

V1	
Voltage	+28Vdc
Current	54A
Power	1500W
Ripple	300mVpk-pk*

* 20MHz Bandwidth Limited.

Table 3: Connector Specifications

AC Input Connector P/N: MS3454W20-14P

Contact Designation	Conductor Circuit
A	Neutral
B	Ground
C	PHASE C
D	PHASE A
E	PHASE B

Status Connector P/N: MS3474W12-8S

Contact Designation	Conductor Circuit
A	AC OK Collector *
B	DC OK Collector*
C	Over Temp * **
D	Enable/Inhibit Anode
E	Enable/ Inhibit Cathode
F	
G	+5V Standby
H	Standby Return

*Common emitter internally tied to +5V Standby Return.

**Normally closed thermal switch (Open @ 95°C)

DC Output Studs

Connection	Circuit
Black 3/8" Stud	Return for DC output
Red 3/8" Stud	+28V Output



Table 4: Customer Selected Options

Base Part number (HP3APFC1K5400xxx)

xx	Custom Option
00	Enable with applied +5V to Status connector pins D and E
01	Inhibit with applied +5V to Status connector pins D and E

x	Color Option
G	Lusterless Green 383, color number 34094*
T	Desert Tan, color number 33446*
M	Gold Tinted Chem Film*

*Finish before paint: MIL-C-5541F, Class 3; in Accordance with MIL-DTL-81706, Type II, Class 3.

*Paint as Required: CHEMICAL AGENT RESISTANT IAW MIL-DTL-53072, (REF FED-SDT-595),

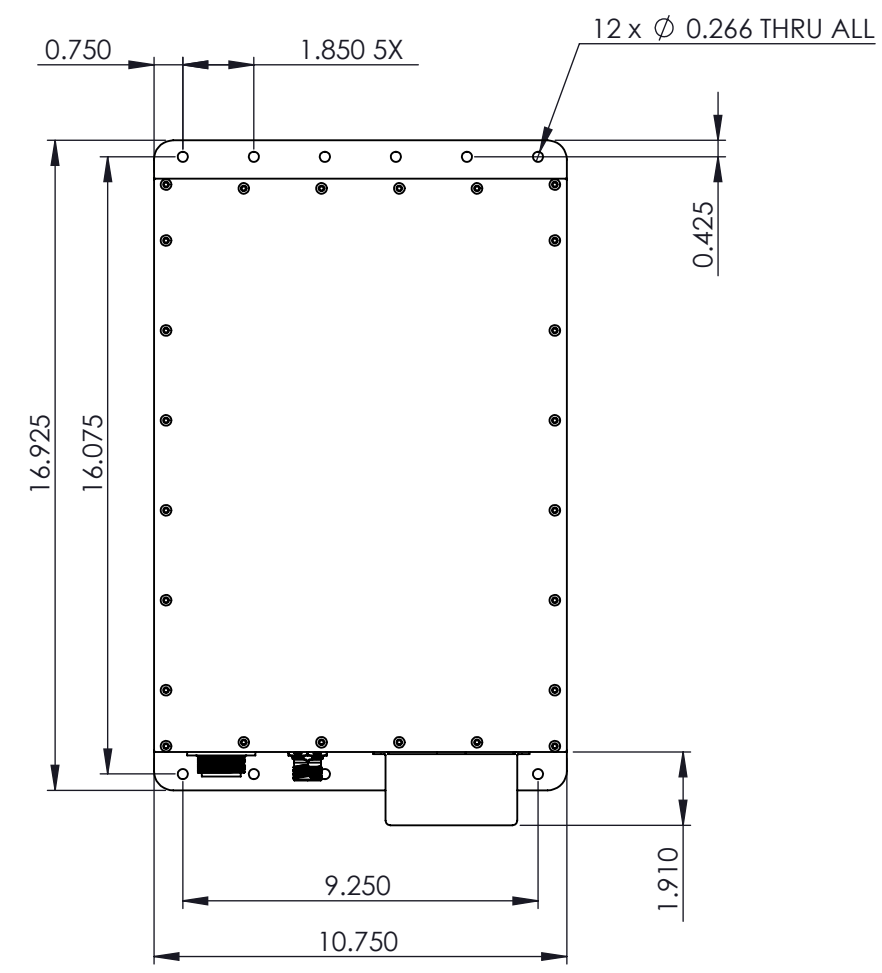
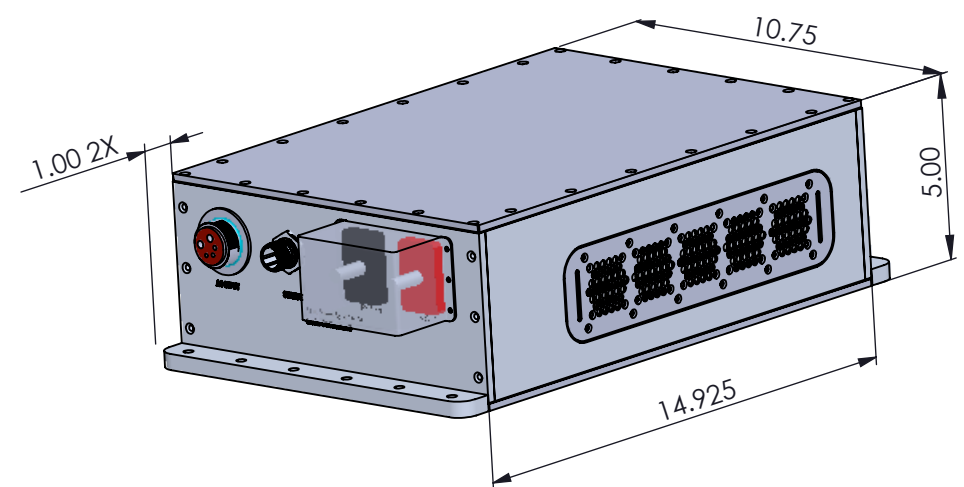
NOTES: UNLESS OTHERWISE SPECIFIED

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

DWG NO.		SH		REV	
REVISIONS					
ZONE	REV		DATE	APPROVED	
	A01	INITIAL RELEASE	4/24/19	TBL	
	B01	ADDED STATUS DUST COVER	1/29/20	TBL	
	B02	HOLES ARE .531 DIA FOR MOUNTING. INPUT CONNECTOR DUST COVER CALL OUT ADDED	2/17/20	TBL	
	B03	HOLES CHANGED BACK .266" DIA, DUST COVER REMOVED	3/12/20	TBL	

CAD MAINTAIN CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

MOUNTING INFORMATION



SPECIAL NOTE: STUD COVER IS SHOWN AS TRANSPARENT FOR VISUAL PURPOSES ONLY.

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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

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

CONTRACT NO.		
APPROVALS	NAME	DATE
DRAWN	TL	2/7/19
CHECKED	MVM	2/7/19
ENG APPR.	TL	2/7/19
MFG APPR.	JM	N/A
Q.A.	MH	N/A

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE:
HP3APFC

AEGIS P/N:

SIZE	FSCM NO.	DWG. NO.	REV
B	06ES8		B03

COMMENTS:
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