

HP3APFC3K400

Overview

AC-DC Power Supply, Water Resistant (Sealed Enclosure)
 Three Phase 400Hz 200Vac Input Line-Line (115Vac L-N)
 +28Vdc Output, 3000W 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 3000W output capability is the power supply solution for MIL-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% Maximum), 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

- 200Vac/400Hz 3-Phase Input
- MIL-STD-810F Environmental *
- MIL-STD-704F Electrical*
- MIL-STD-461F EMI *
- IP56 Enclosure
- Color Options (Green), (Tan), (Gold Tinted)
- Enable options (Enable), (Inhibit)

Table 1: Maximum Continuous Operating Ratings

| Parameter | Rating | Unit | Notes |
|---------------|------------|------|--------------------------------------|
| Vin max range | 187 to 204 | Vac | Line to Line (Neutral not connected) |
| Temperature | -40 to +50 | °C | -40 to +100 Non-operating |
| Input power | 3334 | W | (+50°C) |
| Output Power | 3000 | W | (+50°C) |
| Max output | 3000 | 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.)

| Parameter | Notes |
|-----------------------------|---|
| Input Voltage | 3 Phase, 200Vac L-L, 400 Hz, Nominal. Input range 393 Hz to 407 Hz, 187Vac - 204Vac Line-Line. |
| Input Current | 10.47 per phase (3000W Output). |
| Input Power | 3614W (3000W Output). |
| Power Factor | .92 (Active Power Factor Correction). |
| Output power | 3000W Maximum. |
| Output Voltages and Current | (see Table 2). |
| Efficiency | 83% Typical, 79% Minimum (Includes fan efficiency). |
| 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%. |
| Temperature Regulation | -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 (see mechanical drawing). |
| Color | Options (-G for Green), (-T for Tan), (-M for Gold Tinted) (see Table 4). |
| Weight | 30 lbs. 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 (see Table 3). |
| 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 | 107A |
| Power | 3000W |
| Ripple | 280mVpk-pk* |

* 20MHz Bandwidth Limited.

Table 3: Connector Specifications

Three Phase Input Connector (DAMM3W3P)

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

Three Phase Input Connector (DAMM3W3P)

| 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 @ 90°C)

DC Output Studs

| Contact Designation | Conductor Circuit |
|---------------------|----------------------|
| Black 3/8" Stud | Return for DC output |
| Red 3/8" Stud | +28V Output |

Table 4: Customer Selected Options

Base Part number (HP3APFC3K400XXY)

| XX | Custom Option |
|-----|--|
| -00 | Enable with applied +5V to Status connector pins D and E |
| -01 | Enable with applied +5V to Status connector pins D and E |

| Y | 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),**

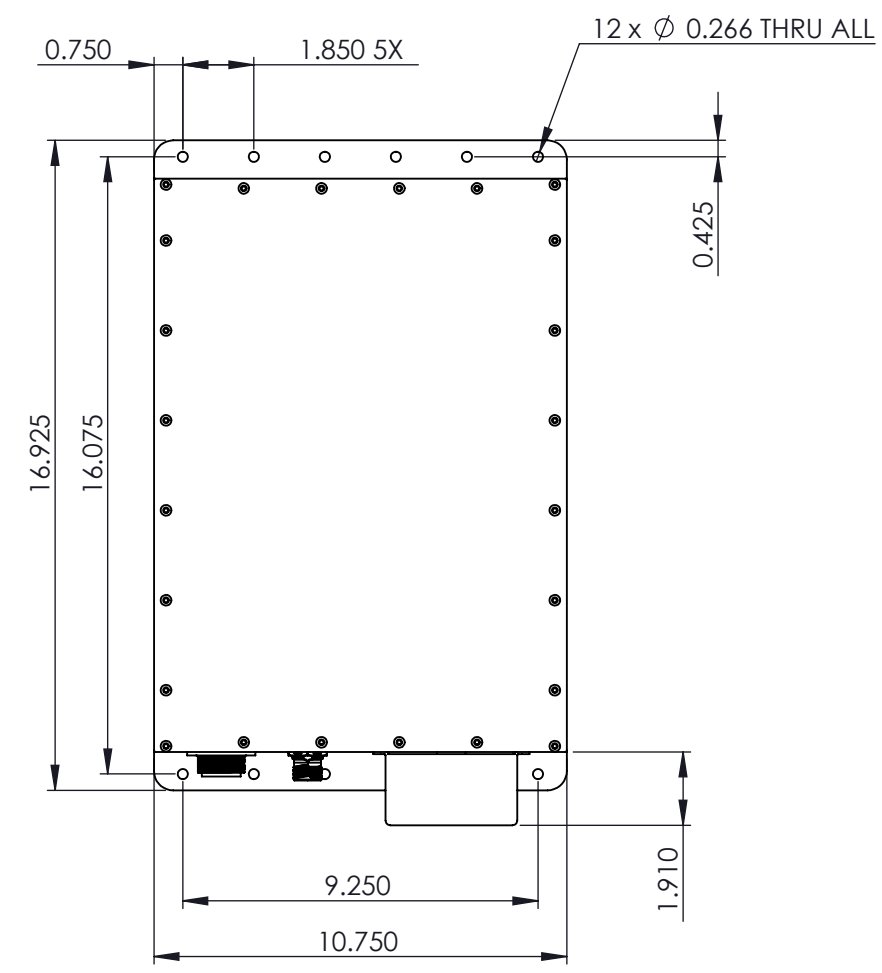
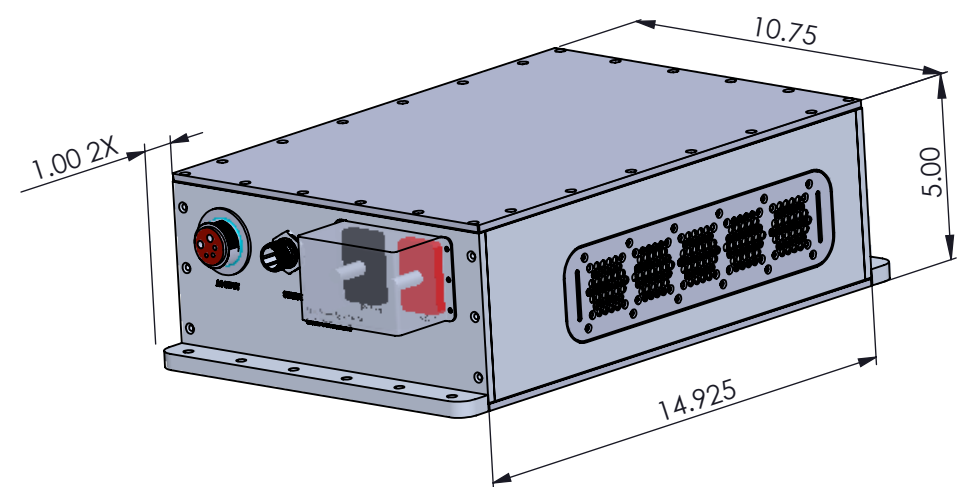
NOTES: UNLESS OTHERWISE SPECIFIED

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

| DWG NO. | | REV | | DATE | | APPROVED | |
|---------|-----|--|--|---------|----------|----------|--|
| ZONE | REV | REVISIONS | | 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.

AEGIS POWER SYTEMS, INC. PROPRIETARY INFORMATION. NODISCLOSURE, REPRODUCTION, OR USE OF ANY PARTY HERE OF MAY BE MADE EXCEPT BY EXPRESS WRITTEN PERMISSION OF AEGIS POWER SYTEM, INC.

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:
 GENERATED: BY SOLIDWORKS

SCALE: 1:5
 SHEET 1 OF 1