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(Document Rev A03, 5/23/23)

HP3APFC3K60

Overview

AC-DC Power Supply, Water Resistant (Sealed Enclosure)
Three Phase 60Hz 208Vac Line-Line (120Vac 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 208Vac 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/60Hz 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	181 to 216	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.

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, 208Vac L-L, 60 Hz, Nominal. Input range 59.5 Hz to 60.5 Hz, 181Vac - 216Vac Line-Line.
Input Current	9.26A per phase (3000W Output).
Input Power	3409W (3000W Output).
Power Factor	.99 (Active Power Factor Correction).
Output power	3000W Maximum.
Output Voltages and Current	(see Table 2).
Efficiency	88% Typical, 83% 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	35 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 (MS3454W20-14P)

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

Status Connector (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 @ 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 (HP3APFC6K60XXY)

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

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-DLT-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.

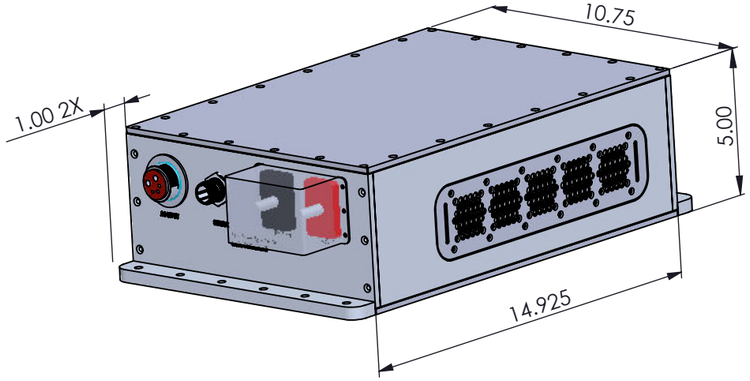
DWG NO.		SH	REV

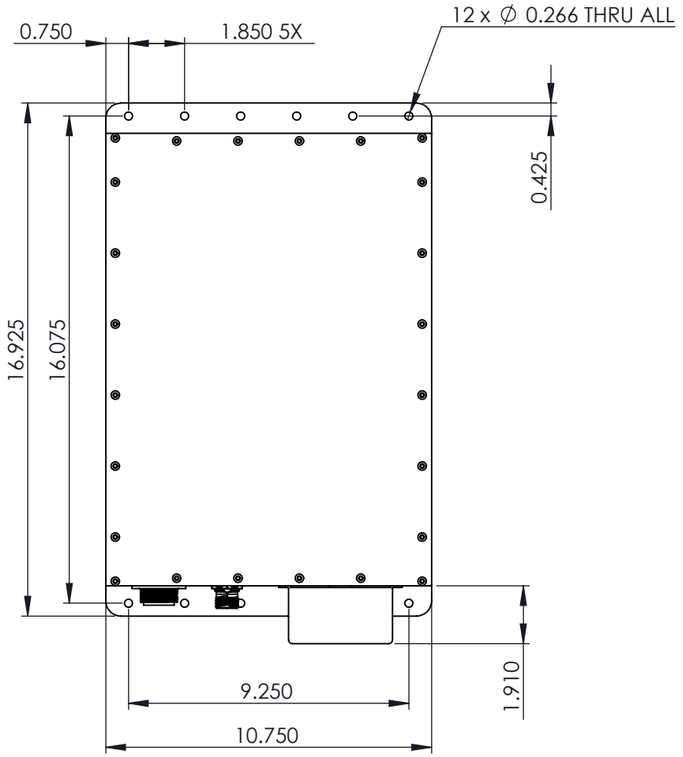
REVISIONS

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.

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

COMMENTS:
GENERATED:BY SOLIDWORKS

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE:
HP3APFC

AEGIS P/N:

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

SCALE: 1:5 | SHEET 1 OF 1