PO Box 429 | 805 Greenlawn Rd. | Murphy, NC 28906 USA | +1 (828) 837-4029 | www.aegispower.com

(Document Rev A05, 3/4/20)

NRA202

Overview

AC-DC Power Supply
3 Phase "Y" 60Hz 120/208Vac Input
Triple Output, 4500W Max Total

Market(s)

Military Cots

Typical Application(s)

Maximum Ratings

Product Highlights

This ruggedized military commercial off the shelf (Mil-Cots) ac-dc filtered 3 phase "Y" 120/208Vac input power supply has three +28Vdc outputs available with a total output capacity of 4500W. This COTS solution works well for MIL-COTS and is designed to meet portions of MIL-STD-810F vibration and shock, and designed to meet portions of MIL-STD-461F EMI requirements. In comparison to other power supplies using conventional technology, this package provides its users with higher efficiency (83% maximum), higher power factor (0.99), less weight and higher power output. This power supply incorporates a configured array of AEGIS Power System's cutting edge proprietary high reliability and high density 1PH60 power assemblies, leading the Mil-COTS industry in power density and technical performance.

Features

- 3 Phase "Y" 120/208Vac input.
- Triple Outputs @ 4500W total.
- MIL-STD-810F environmental specs. *
- MIL-STD-461F EMI specifications. *

* 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	120/208	Vac	3 Phase "Y" Input
Temperature range	–20 to +70	°C	Operating Range
Output power	4500	W	
Input power	5421	W	
+28Vdc output (V1)	2700	W	
+28Vdc output (V2)	900	W	
+28Vdc output (V3)	900	W	

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	Three Phase "Y", 120/208Vac, 47Hz - 63Hz.
Input Current	5.45A @ per phase @ 120/208Vac
Input Power	5625W (5682VA), all three phases combined.
Power factor	0.99
Total Output Power	4500W, all outputs combined.
Output Voltages	See table 2 for details.
Over voltage	117%, recycle input power to reset.
Efficiency	80%
Output Ripple	See table 2 for details.
Current Limit	Short circuit protected with automatic recovery.
Start-Up Time	700 msec. Maximum (After being enabled).
Voltage Set Point	± 2.5%.
Line/Load Regulation	± 2.5%.
Temperature Regulation	± 0.02% / °C.
Temperature	–20°C to +70°C Operating. -55°C to +100°C Non-Operating.
Cooling	Conduction through cold plate
Package	Chassis mounted enclosed metal case.
Dimensions	8.5" H x 9.75" W x 14.75" L (see mechanical drawing).
Weight	38 lbs.
Connectors	AC Input Connector: ITT Cannon; PN CA3102R24-22PF80. DC Output Connector: Nextek; PN HPR1754705Z10.
Vibration	Designed to meet MIL-STD-810F, Method 514.5, Procedure I. 4-15 Hz @ 0.030"; 16-25 Hz @ 0.020"; 26-33Hz @ 0.010".
Shock	Designed to meet MIL-STD-810F, Method 516.5, Procedure I. 40G, 11mSec half sine pulse.
Humidity	0 – 95% non-condensing.
EMI	Designed to meet MIL-STD-461F (CE101, CE102 and CS101).
Status	DC OK Signal, Opto Isolated, Opto on = DC OK.
Enable	Apply power to enable outputs, Opto Isolated.

Specifications subject to change without notice.

Table 2: Voltage Output (Nominal)

	V1	V2	V3	
Voltage	+28Vdc	+28Vdc	+28Vdc	+28Vdc
Current	96.4A	32A	32A	96.4A
Power	2700W	900W	900W	2700W
Ripple	150mVpk-pk*	150mVpk-pk*	150mVpk-pk*	150mVpk-pk*
Maximum total output power is 4500W (all DC outputs combined).				

* 20MHz Bandwidth Limited.

Table 3: Connector Specifications

Input Connector Pin-Out Assignment

Contact Designation	Conductor Circuit
A	Phase A input power
B	Phase B input power
C	Phase C input power
D	Power Ground

Status/Enable Connector Pin-Out Assignment

Contact Designation	Conductor Circuit
1	+Sense Output 1
2	- Sense Output 1
3	+Sense Output 2
4	- Sense Output 2
5	+Sense Output 3
6	- Sense Output 3
7	Enable Output 1 Anode
8	Enable Output 1 Cathode
9	Enable Output 2 Anode
10	Enable Output 2 Cathode
11	Enable Output 3 Anode
12	Enable Output 3 Cathode
13	Status Output 1 Collector
14	Status Output 1 Emitter
15	Status Output 2 Collector
16	Status Output 2 Emitter
17	Status Output 3 Collector
18	Status Output 3 Emitter
19	No Connection

PO Box 429 | 805 Greenlawn Rd. | Murphy, NC 28906 USA | +1 (828) 837-4029 | www.aegispower.com

PDF Mechanical Drawing

As provided by Project Engineer