

NRA301

AC-DC Power Supply

(Document Rev A07 (9/15/16))



3 Phase Delta 60Hz 208Vac Line to Line Input Triple Output, 4505W Max Total

Market: Military Cots

Application: Shipboard Radar Electronic Equipment Rack

Features

- 3 Phase 208Vac Line to Line input.
- Designed to meet MIL-STD-1399B for Type I, 60Hz Power.
- Triple Outputs @ 4505W total.
- Designed to meet portions of Mil-Std-810F environmental specs.*
- Designed to meet portions of Mil-Std-461F EMI specifications.*

* Contact AEGIS Power Systems for specific details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin	208	Vac	3 Phase
Temperature range	-20 to +70	°C	Operating Range
Output power	4505	W	
Input power	5625	W	
+29Vdc output (V1)	2700	W	
+28Vdc output (V2)	900	W	
+28Vdc output (V3)	900	W	
+5Vdc output	5	W	

Product Highlights

This ruggedized military commercial off the shelf (Mil-Cots) ac-dc filtered 3 phase 208Vac input power supply has one +29Vdc output, two +28Vdc outputs, and one +5Vdc output with a total output capacity of 4505W. 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 (80% typical), 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.

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for defense, industry, telecomm, aircraft, shipboard, rack mount, electric powered vehicle, and Mil-Cots military power supply applications. Contact Aegis for specific details on what can be designed for your particular military power supply application and what portions of a particular military standard can be offered for that power supply.

SPECIFICATIONS

(Typical at 25°C, nominal line and 100% load, unless otherwise specified.)

Input voltage:	Three Phase 208Vac Line to Line, 47Hz - 63Hz.
Input current:	5.46A per phase @ 208Vac, Nominal.
Input power:	5627W (5684VA) Nominal, all three phases combined.
Power factor:	0.99 typical.
Output power:	4505W Maximum all outputs combined.
Output voltages:	+29vdc (V1) 2700W +28vdc (V2) 900W +28vdc (V3) 900W +5vdc 5W
Over voltage:	117% typical. Recycle input power to reset.
Efficiency:	80% Nominal.
Output ripple:	300mVp-p Typical, 20MHz BW
Current Limit:	Short circuit protected with automatic recovery.
Start up time:	700 msec. Maximum (After being enabled).
Voltage set point:	± 2.5%.
Line regulation:	± 2.5%.
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:	11.3" H x 9.75" W x 14.75" L (see mechanical drawing).
Weight:	38 lbs. Typical.
Connector:	AC Input Connector: ITT Cannon; PN CA3102R24-22PF80. DC Output Connectors: See mechanical drawing.
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 Outputs

See mechanical drawing.

Table 3: Input Connector Pin-Out Assignment

Pin A	Phase A input power
Pin B	Phase B input power
Pin C	Phase C input power
Pin D	Power Ground

Table 4: Status/Enable Connector Pin-Out Assignment

1	+5Vdc, 2Amp, Output
2	+5Vdc, 2Amp, Return
3	+5Vdc, 2Amp, Output
4	+5Vdc, 2Amp, Return
5	Spare
6	Spare
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

