

ES6051A

**AC-DC
Power Supply**
(Document Rev A05 09/17/15)



**Single Phase 47-63Hz 107-123Vac Input
Quad Output, 345W**

Market: Military

Application: Shipboard Command Center

Features

- Zeus Rack Mount
- Battery OK and Charged indicators
- Remote enable/disable
- Battery backup capability
- Designed to meet portions of MIL-STD-461E CE102* for EMI

* Designed to meet portions of this particular standard. Contact AEGIS Power Systems for specific details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Input Voltage	107-123	Vac	47-63Hz Single Phase
Temperature	-25 to +60	°C	Operating
Output Power	345	W	
Input power	550	W	
Max +5Vdc output	190	W	38A
Max +36Vdc output	95	W	2.6A
Max +12Vdc output	10	W	0.83A
Max -12Vdc output	50	W	4.16A

Product Highlights

The ES6051A is an AC-DC power supply that has been in production at AEGIS Power Systems for over 15 years. This metallic enclosed quad output Mil-Cots military power supply receives 107-123Vac of single phase power into and provides four outputs of DC power with a total of 345 Watts. Six LED indicators provides status for battery charge, battery ok and one for each of the DC outputs (5Vdc, 12Vdc, 36Vdc, & -12Vdc). The ES6051A is convection cooled with attached heatsink for additional heat transfer by customer supplied air flow in an environmental stable electronics rack. This custom designed shipboard military power supply is used in a shipboard command center.

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for Mil-COTS, defense, industrial, telecomm, aircraft, shipboard, rack mount, electric powered vehicle, and other industrial and military power supply applications. Contact Aegis for specific details on what portions of a particular military standard is offered for this power converter power supply or available for your custom power needs.

SPECIFICATIONS

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

Input voltage:	Nominal Ranges: 107-123Vac, 47-63Hz, Single Phase
Input current:	4.5/5.17A @ 115Vac typical.
Input power:	550W @ 115Vac typical.
Power factor:	0.99 typical 47Hz - 63Hz.
Output power:	345W total
Holdup time:	Contact Aegis.
Output voltages:	See table 2 for details.
Efficiency:	63% typical.
Output ripple:	1.5% of Vout Pk-Pk (20Mhz BW). See table 2.
Current Limit:	Short circuit protected with automatic recovery.
Start up time:	Contact Aegis.
Voltage set point:	±1.0%.
Line regulation:	±0.2%.
Load regulation:	±0.2%.
Temperature regulation:	±0.01%.
Temperature:	-25°C to +60°C Operating. -40°C to +80°C Storage.
Cooling:	Convection, Attached cooling fins for customer supplied air flow.
Package:	Enclosed Metallic Case.
Dimensions:	3.75"H x 8.0"W x 12.9"L.
Weight:	11.62 lbs.
Connector:	See connector pin out tables.
Vibration:	Designed to meet Mil-Std-167-1, Type 1, 5-25Hz.
Shock:	Designed to meet Mil-Std-202, Meth. 213, Cond. A, 20g pk, 11mS, ½ sine wave.
Humidity:	0 – 95% non-condensing.
EMI:	Designed to meet MIL-STD-461E (CE101 and CE102).

Specifications subject to change without notice.

Table 2: Voltage Outputs

ES6051A	V1	V2	V3	V4
Voltage	+5Vdc	+36Vdc	+12Vdc	-12Vdc
Current	38A	2.6A	0.83A	4.16A
Power	190W	95W	10W	50W
Ripple	75mV	540mV	180mV	180mV
Maximum total output power is 345W (all DC outputs combined).				

Connector Pin Outs

Table 3: Output Connector

Front Panel Connector	AWG Size	Customer Signal Names
J1- A1	08	Battery Pos
J1- A2	08	Battery Neg
J1- A4	08	+5VDC (38A 190W)
J1- A3	08	+5VDC (38A 190W)
J1- A5	08	+5VDC-Rtn
J1- A6	08	+5VDC-Rtn
J1- 1	20	-12VDC (4.17A 50W)
J1- 2	20	-12VDC (4.17A 50W)
J1- 3	20	+12VDC (0.83A 10W)
J1- 4	---	No Used (Spare)
J1- 5	20	-12VDC-Rtn
J1- 6	20	-12VDC-Rtn
J1- 7	20	+12VDC-Rtn

Table 4: Monitor Connector plus 36VDC Output

Front Panel Connector	AWG Size	Customer Signal Names
J2- 1	20	+36VDC (2.64A 95W)
J2- 2	22	+36VDC mon
J2- 3	22	+5VDC mon
J2- 4	22	+12VDC mon
J2- 5	22	-12VDC mon
J2- 6	22	Battery mon
J2- 7	22	Charger IN mon
J2- 8	22	Charger OUT mon
J2- 9	22	-12 OV mon
J2- 10	---	Not Used (Spare)
J2- 11	22	ps-cciuacingood-n
J2- 12	22	cciu-pssvmeenable
J2- 13	22	cciu-psbbuenable-n
J2-14	20	+36VDC-rtn
J2-15	22	+36VDC mon-rtn
J2-16	22	+5VDC mon-rtn
J2-17	22	+12VDC mon-rtn
J2-18	22	-12VDC mon-rtn
J2-19	22	Battery mon-rtn
J2-20	22	Charger IN mon-rtn
J2-21	22	+12V OV mon
J2-22	22	FET Gate mon
J2- 23	22	ps-cciuacingood-n-rtn
J2- 24	22	cciu-pssvmeenable-rtn
J2- 25	22	cciu-psbbuenable-n-rtn

Table 5: Input Connector

Front Panel Connector	AWG Size	Customer Signal Names
J3- 1 (Filter-In)	16	115 VAC (AC LINE INPUT 90-264VAC)
J3- 2 (Filter-In)	16	115 VAC (AC LINE INPUT 90-264VAC)
J3- 3 (Filter-In)	---	No Connection (Spare)
J3- 4 (Filter-In)	16	115 VAC-rtn (AC NEUTRAL INPUT)
J3- 5 (Filter-In)	16	115 VAC-rtn (AC NEUTRAL INPUT)
J3- 6 (Filter-In)	16	cb-status
J3- 7 (Filter-In)	16	safety ground
J3- 8 (Filter-In)	16	safety ground
J3- 9 (Filter-In)	16	cb-status-rtn