



The AC-DC Power Supply converts Single-Phase MIL-STD-704E/F 115VAC 60Hz power to Isolated/Regulated FOUR defined outputs delivering up to 362W. Demonstrated compliance to EMI standards of MIL-STD-461G without external EMI filter. The AC-DC Power Supply provides the ultimate overall solution in performance, protection and reliability for airborne, shipboard and vehicle applications.

AC-DC POWER SUPPLY FEATURES:

- Baseplate mounted and cooled power supply
 - Input: 102 - 132VAC, 47 – 63HZ per MIL-STD-704F
 - Four - Output Voltages, 362W
 - Low output ripple and noise @ Full Load
 - Efficiency: 83% typical; Nominal input at Full Load
 - Power Factor: 0.99 minimum from 47 – 63Hz @ 362W
- (Performance data available upon request. PF vs Load and Input Frequency)
- EMI: Embedded EMI Filter designed to meet MIL-STD-461G compliance
 - Meets CE101 and CE102 per MIL-STD-461F/G W/O EXTERNAL EMI FILTER
- (Performance data available upon request. CE101 & CE102 vs Load and Input Frequency)
- Meets Harmonic Content per MIL-STD-461F/G, RTCA/D0-160G
 - Meets Input voltage transient and surge protection per MIL-STD-704F
 - Operating temperature : -42 to +55C (power derating to +71°C)
 - Over-current, Over-voltage and Over-temperature protection with auto-recovery
 - ESS at 55°C Base-plate; Temperature Cycling per MIL-STD-883 Method 1010 Cond B, 10 Cycles
 - Isolation: 1000Vdc Input to Chassis, 1000Vdc Input to Outputs, >20MEG Ohms Output to Chassis
 - NAVSO P-3641A Power Supply De-rating and Manufacturing Guidelines
 - Output Fault Tolerant MOSFET Diode OR'G
 - Redundant and current share capability on main 24V output



Input	
Input Voltage	1-PH 47-63 Hz 115VAC
Input Current	3.75 Amps @ 115VAC @ PO = 362W
Efficiency	83% Typical @ 115VAC @ 362W

Outputs			
Total Output Power	LOAD CONFIG #1: 362W; (η = 83.0%)		
<u>Notes:</u>	<u>24V</u>	13A	312W
<u>Volt Regulation on the 24V: 23.4 – 24.6Vdc</u>	+15V	1A	15W
	-15V	1A	15W
	5V	4A	20W
Ripple / Noise	Less than 300mVpk-pk on main and 150mVpk-pk on others(20MHz BW)		
Line Regulation	±1%		
Load Regulation	24V ±4%; all other outputs +/-1%		
Turn on Overshoot	≤ 0.5%		

- **Protection**
 - **Over Current / Short Circuit**
 - Individual over current protection 105 – 130% of max load and short circuit protection with automatic recovery.
 - **Over Temperature**
 - Internal heat sink monitor disables output if unit temperature rises above 85°C
- **External Controls and interfaces**
 - **Discrete I/O**
 - INHIBIT*
 - POWER GOOD(BIT)*

Electromagnetic interference / Electromagnetic Compatibility	
Conducted Emissions	MIL-STD-461E CE102
Conducted Susceptibility	MIL-STD-461E CS101, CS102, CS114, CS115, CS116
Radiated Emissions	MIL-STD-461E RE102

- **Environmental**
 - **Conduction Cooled : -20 to +55°C**
 - **Storage**
 - -55 to +125°C
 - **Humidity**
 - 0 to 95% Non-Condensing
 - **Operating Acceleration**
 - 3g, in any direction
 - **Operating Vibration**
 - Sinusoidal vibration 0.05g cont. 10 to 2000 Hz

Isolation	
Input to Output	1000 VDC
Input to Chassis	1000 VDC
Output to Chassis	>20MEG Ohms

- **Mechanical**
 - **Size and Weight**
 - See 1465OTL100 for details
 - **I/O Connector**
 - See table below

Signal Functions

INHIBIT*

Control signal is used to turn off all the output voltages . When INHIBIT* is pulled low to SIGNAL_RETURN, turns 'OFF' the VS1, VS2, VS3, +12V_AUX and -12V_AUX outputs. The INHIBIT* signal regards a no-connect as a high. At power-on, if ENABLE* and INHIBIT* are configured to turn all outputs on, +3.3V_AUX will be powered up approximately 50ms prior to when the other outputs are powered up. Note both the INHIBIT* and ENABLE* signals determine the output status of the power supply. Reference table below.

BIT*

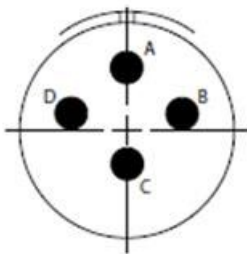
BIT* signal is an output generated from the module which is used to indicate a failure on any one of the outputs. The FAIL* signal transitions to a low state when any of the outputs are outside the voltage specification. FAIL* is an active low open-drain signal. This signal produces a 24V when good.

Parallel Operation/Current Share

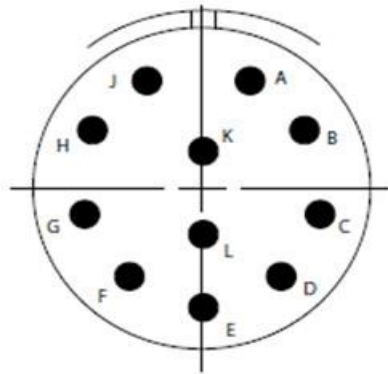
+24V

Voltage slope programming current sharing on +24V_MAIN is supported. The INHIBIT signal should be OR'd between power supplies.

Interface Connectors



C4,
4 # 16, I



F11,
11 # 16, II

J1:D38999/20WC4PN
 Mate:D38999/26WC4SN

J2:M38999/20WG11SN Mate:D38999/24WG11PN

Pin #	Schem Pin #	Signal Name
J1-A	J1-1	Line
J1-B	J1-2	GND
J1-C	J1-3	Neutral
J1-D	J1-4	Reserved

J2- DC Output

Pin #	Schem Pin #	Signal Name
J2-A	J2-1	+24VDC Output
J2-B	J2-2	+24VDC Output
J2-C	J2-3	+24VDC RETURN
J2-D	J2-4	+24VDC RETURN
J2-E	J2-5	Secondary Side Inhibit
J2-F	J2-6	BIT (High=Good)
J2-G	J2-7	+5VDC Output
J2-H	J2-8	+15VDC Output
J2-J	J2-9	-15VDC Output
J2-K	J2-10	+/-15VDC RETURN
J2-L	J2-11	+/-15VDC RETURN

MECHANICAL LAYOUT

