

The AC-DC Power Supply converts Single-Phase 115VAC 60Hz power to Isolated/Regulated 28VDC outputs delivering up to 280W Peak. Demonstrated compliance to RTCA/D0-160G and D6-36440 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:

- **Air Cooled power supply**
- **Input: 102 - 132VAC, 47 – 800Hz per RTCA/D0-160G**
- **Single - Output Voltage, 280W Peak**
- **Low output ripple and noise @ Full Load**
- **Efficiency: 83% typical; Nominal input at Full Load**
- **Power Factor: 0.99 minimum from 47 – 800Hz @ 300W**  
(Performance data available upon request. PF vs Load and Input Frequency)
- **EMI: Embedded EMI Filter designed to meet RTCA/D0-160G 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 : -40 to +71C (power derating to +85°C)**
- **Over-current, Over-voltage and Over-temperature protection with auto-recovery**
- **Isolation: 1000VRMS Input to Chassis, 1000VRMS Input to Outputs, >20MEG Ohms Output to Chassis**
- **NAVSO P-3641A Power Supply De-rating and Manufacturing Guidelines**



Input	
Input Voltage	1-PH 47-800 Hz 115VAC
Input Current	3 Amps @ 115VAC @ PO = 280W
Efficiency	83% Typical @ 115VAC @ 280W

Outputs			
Total Output Power	LOAD CONFIG #1: 280W; ( $\eta$ = 83.0%)		
	28V	10A	280W
Ripple / Noise	Less than 280mVpk-pk on main and (20MHz BW)		
Line Regulation	±1%		
Load Regulation	+/-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**

TEMPERATURE SENSE PIN (J3-1) OUTPUT 1  $\mu$ A/K. SEAT CONTROL MODULE

(SCM) COMPARES TO PREDETERMINED THRESHOLD. IF OVER TEMPERATURE EXISTS, SCM PULLS PSU LED (J3-2) INPUT LOW TO ILLUMINATE THE LED YELLOW.

- **External Controls and interfaces**

- **Discrete I/O**

- Status LED See chart Below

### Electromagnetic interference / Electromagnetic Compatibility

<b>Conducted Emissions</b>	MIL-STD-461E CE102, RTCA/D0-160G
<b>Conducted Susceptibility</b>	MIL-STD-461E CS101, CS102, CS114, CS115, CS116, RTCA/D0-160G
<b>Radiated Emissions</b>	MIL-STD-461E RE102, RTCA/D0-160G

- **Environmental**

- **Conduction Cooled : -40 to +71C**

- **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

<b>Input to Output</b>	1000 VRMS
<b>Input to Chassis</b>	1000 VRMS
<b>Output to Chassis</b>	>20MEG Ohms

- **Mechanical**

- **Size and Weight**

- See 1346OTL100 for details

- **I/O Connector**

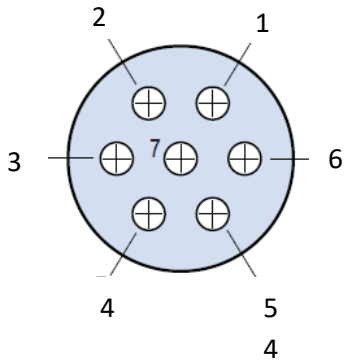
- See table below

STATUS LED:

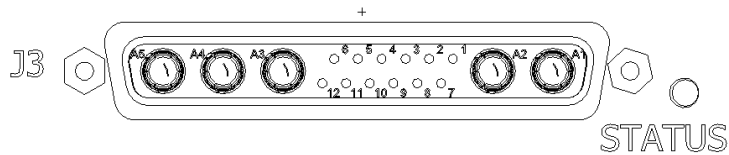
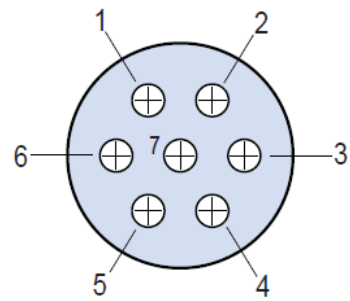
PIN 2 CONFIGURATION		
CONDITION OF PSU	PIN 2 CONFIG	LED ILLUMINATION
PSU NORMAL OPERATION	SHORT TO 28V RTN	GREEN
SCM REPORTING HIGH TEMP OR FAULT	OPEN TO 28V RTN	AMBER
PSU OVER TEMP	OPEN TO 28V RTN	RED
PSU OVER VOLTAGE	OPEN TO 28V RTN	RED
PSU SHORT CIRCUIT	OPEN TO 28V RTN	RED
PSU NO OUTPUT	SHORT TO 28V RTN	OFF

## Interface Connectors

J1



J2



**Power Output J1 AC Input Connector: MS24264R14B7PN****J1 Mating Connector: MS24266R14B7SN**

Pin #	Max Size wire	Signal Name
1	16	115VAC Phase C
2	16	AC Return
3	16	Static Ground
4	16	115VAC Phase A
5	16	115VAC Phase B
6	16	Static Ground
7	N/A	Not Used

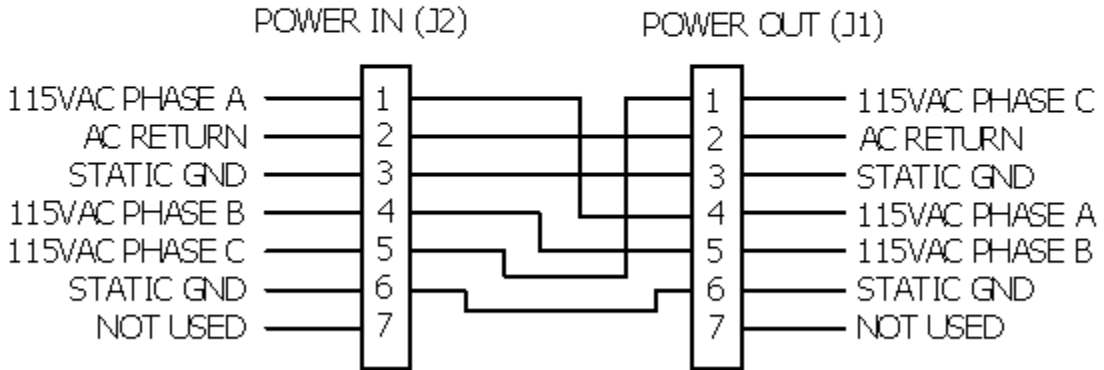
**Power Input J2 AC Input Connector: MS24264R14B7SN****J2 Mating Connector: MS24266R14B7PN**

p	Max Size wire	Signal Name
1	16	115VAC Phase A
2	16	AC Return
3	16	Static Ground
4	16	115VAC Phase B
5	16	115VAC Phase C
6	16	Static Ground
7	N/A	Not Used

**J3 28V Main Power Output Connector: 3017W5SCT56N40X****J3 Mating Connector: 3017W5PCM99A10X, Contacts HP:131C10029X**

Pin #	Signal Name
1	Temp_Sense
2	Psu_LED
3	Not Used
4	Not Used
5	Not Used
6	28V Output Return
7	Not Used
8	Not Used
9	Not Used
10	Not Used
11	+28V Aux Fused
12	Not Used
A1	Not Used
A2	Not Used
A3	Not Used
A4	+28V Output
A5	28V Output Return

# PSU PIN OUT SCHEMATIC (REFERENCE)



MATING CONNECTOR INFORMATION
J1- CIRCULAR BAYONET MS4068R1-6076
J2- CIRCULAR BAYONET MS4068R1-6076
J3- D-SUB CONIC 361795P19A000

