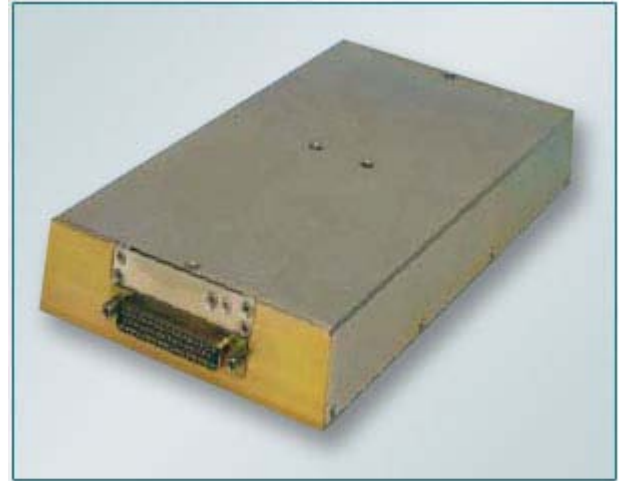


Product Description

This unit is a 1000 watt, single output, military grade power supply designed for electronic systems operating in harsh environments (subject to abnormal shock and vibration) and extreme temperature conditions. It is conduction cooled providing a -40° to +85° C operating temperature range. This highly reliable design will meet or exceed all applicable military standards including MIL-STD-810D & MIL-STD-461D.

Features

- Meets MIL-STD-461D
- Meets MIL-STD-810D
- Wide Range Input: 90-265Vac
- Wide Range Frequency: 47-415Hz
- Operating Temperature Range: -40° to +85° C



AC Input

- Voltage Input Range: 90-264VAC (115/230Vac nominal input)
- Frequency: 50/60/400Hz (47-415Hz)
- Phase: Single Phase, 2 wire plus ground
- Power factor correction: 0.99 @ Full Load

Output Selection Guide

Model #:	Voltage	Max Current	Regulation	Ripple
M169-X-1	3.3Vdc	85 Amps	±5%	50mV pk-pk
M169-X-2	5.0Vdc	85 Amps	±5%	50mV pk-pk
M169-X-3	9.0Vdc	85 Amps	±5%	120mV pk-pk
M169-X-4	12Vdc	83 Amps	±3%	120mV pk-pk
M169-X-5	15Vdc	67 Amps	±3%	150mV pk-pk
M169-X-6	19Vdc	53 Amps	±3%	150mV pk-pk
M169-X-7	24Vdc	42 Amps	±3%	240mV pk-pk
M169-X8	28Vdc	36 Amps	±3%	240mV pk-pk
M169-X-9	36Vdc	29 Amps	±3%	240mV pk-pk
M169-X-10	48Vdc	21 Amps	±3%	240mV pk-pk

Note: Alternate output voltages are available, consult factory for availability.

DC Output Characteristics (Floating)

- Output Power: 1000 Watts (maximum continuous power, requires derating for low voltage outputs)
- Line Regulation: ±5.0% Typical
- Load Regulation: ±2.0% Typical (No load to full load; nominal input)
- Output Ripple/Noise: 1% Typical (pk-pk; nominal input; full load; 20MHz bandwidth)
- Set Point Accuracy: ± 1.0% of Output Voltage (Nominal input; full load; 25°C)

- Transient Response: Output voltage returns to within 1% in less than 2.5mS for a 50% load change and the peak transient does not exceed 5%.
- Overshoot: Turn-on and turn-off overshoot should not exceed 5% over nominal voltage.

Electrical Characteristics

- Switching Frequency: 250KHz Fixed
- Efficiency: 85% Typical (Measuring at 115Vac and at full load)
- Turn On Delay: 1.5 second maximum at 120 VAC
- Isolation Voltage: 1500V between input and output. 1500V between input and case.
- Isolation Resistance: 10Mohms (Input to output)
- Temperature Regulation: +/-2.0%/°C (+/- .005%/ °C max; over operating temp range)

Protection

- Over Current Limit: ~115 to 120% of maximum rating. Hiccup, continuous.
- Over-Voltage Setpoint: ~115% of nominal main. Unit latched 1 minute, recycle AC input to reset at 25°C.
- Short Circuit: Auto-Recovery after short circuit condition is removed.
- Over temperature Protection: Shutdown at baseplate temperature of +105°C (±5°C) Automatic recovery at baseplate temperature lower than +95°C (±5°C)

Environmental

- Operating Temperature: -40° to +85° C (baseplate)
- Storage Temperature: -55° to 125° C
- Operating Humidity: 5% to 90% RH, Non-condensing
- Storage Humidity: 5% to 95% RH, Non-condensing
- Operating Altitude: Sea-level to 40,000 ft. in pressurized environment
- Conducted EMI: MIL-STD-461D
- Cooling: Conduction cooled, coldplate mounting

Reliability

- 150,000 hours, calculated per MIL-STD-217F at +85°C baseplate, ground fixed.

Mechanical

- Outline Dimensions: ~1.5" X 5.5" X 10.0" (H X W X L) – not including I/O connector
- Weight: ~4.25 lbs. (1922 grams)
- AC Input Connector: 15 Pin D-Sub
- Output Connector: 50 Pin D-Sub

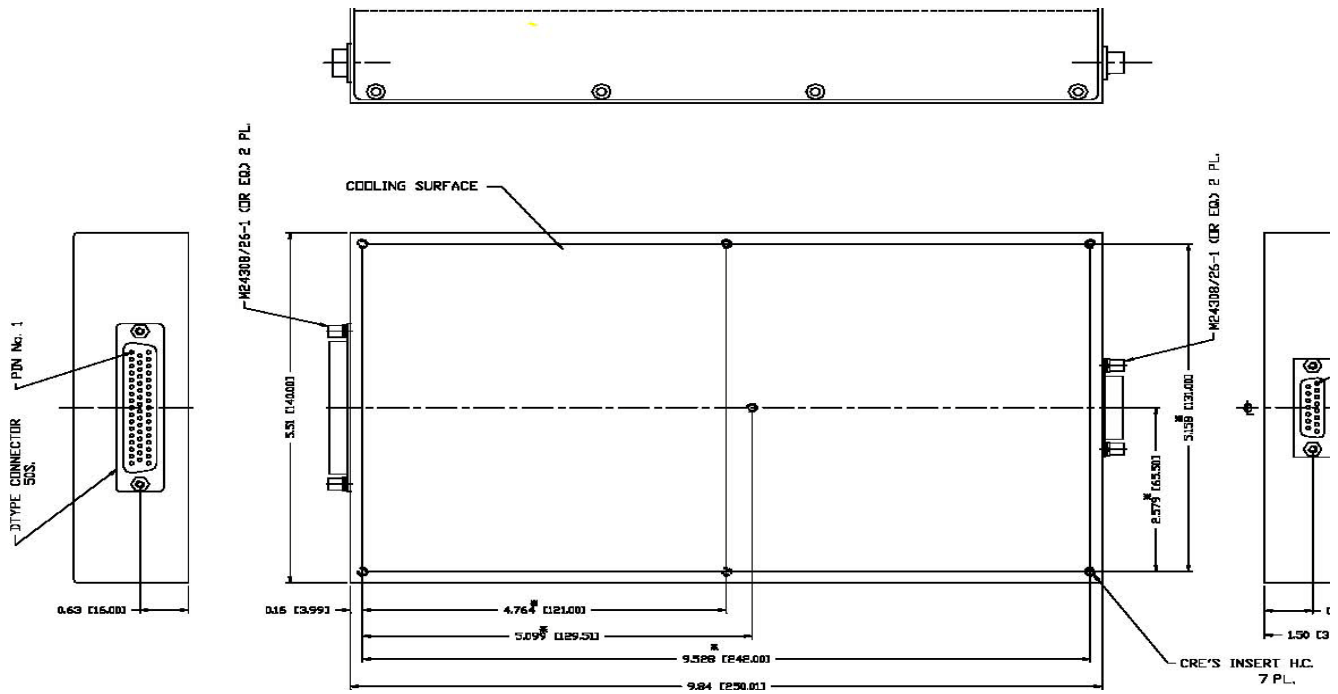
Additional Features, Controls or Alarms

- Remote External Synchronization Capability In/Out
- TTL Logic Enable
- Remote Sense
- Parallel Operation – Single Wire Connection

Notes

- Some specifications have not been tested for actual compliance and can not be guaranteed to meet 100% compliance during system testing.
- Product specifications subject to change without notice. All Rights Reserved.
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Outline Drawing



Dimensions are in Inches [mm]

Tolerance is: .XX ±.02 IN .XXX ±.01 IN

Input Pin Assignment

Pin #	Assignment	Pin #	Assignment
1	LINE	9	LINE
2	LINE	10	LINE
3	LINE	11	N/C
4	N/C	12	NEUTRAL
5	NEUTRAL	13	NEUTRAL
6	NEUTRAL	14	NEUTRAL
7	N/C	15	N/C
8	CHASSIS		

Output Pin Assignment

Pin #	Assignment	Pin #	Assignment	Pin #	Assignment	Pin #	Assignment	Pin #	Assignment
1	SIGNAL RTN	11	-V	21	+V	31	-V	41	+V
2	SYNC OUT	12	-V	22	+V	32	-V	42	+V
3	+ SENSE	13	-V	23	+V	33	-V	43	+V
4	+V	14	-V	24	+V	34	SYNC IN	44	-V
5	+V	15	-V	25	+V	35	INHIBIT IN	45	-V
6	+V	16	-V	26	+V	36	N/C	46	-V
7	+V	17	-V	27	-V	37	+V	47	-V
8	+V	18	INHIBIT OUT	28	-V	38	+V	48	-V
9	+V	19	- SENSE	29	-V	39	+V	49	-V
10	+V	20	+V	30	-V	40	+V	50	-V