

## 200 Watt, Single Output Military Power Supply

### Product Description

This unit is a 200 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.

### Product 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
M198-X-1	3.3Vdc	22 Amps	±5%	50mV pk-pk
M198-X-2	5.0Vdc	22 Amps	±5%	50mV pk-pk
M198-X-3	9.0Vdc	22 Amps	±5%	120mV pk-pk
M198-X-4	12Vdc	16.6 Amps	±3%	120mV pk-pk
M198-X-5	15Vdc	13.3 Amps	±3%	150mV pk-pk
M198-X-6	19Vdc	10.5 Amps	±3%	150mV pk-pk
M198-X-7	24Vdc	8.3 Amps	±3%	240mV pk-pk
M198-X-8	28Vdc	7.1 Amps	±3%	240mV pk-pk
M198-X-9	36Vdc	5.5 Amps	±3%	240mV pk-pk
M198-X-10	48Vdc	4.1 Amps	±3%	240mV pk-pk

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

## DC Output Characteristics (floating)

- Output Power: 200 Watts (maximum continuous power, may require derating for some low voltage outputs)
- Line Regulation:  $\pm 5.0\%$  Typical
- Load Regulation:  $\pm 2.0\%$  Typical (No load to full load; nominal input)
- Output Ripple/Noise: 1% Typical (pk-pk; nominal input; full load; 20MHz bandwidth)
- Set Point Accuracy:  $\pm 1.0\%$  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:  $\pm 2.0\%/^{\circ}\text{C}$  ( $\pm .005\%/^{\circ}\text{C}$  max; over operating temp range)

## Protection

- Over Current Limit:  $\sim 115$  to 120% of maximum rating. Hiccup, continuous.
- Over-Voltage Setpoint:  $\sim 115\%$  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 ( $\pm 5^{\circ}\text{C}$ ) Automatic recovery at baseplate temperature lower than +95°C ( $\pm 5^{\circ}\text{C}$ )

## 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
- Shock & Vibration Standards: MIL-STD-810D
- 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: ~0.8" X 4.6" X 6.2" (H X W X L) – not including I/O connector
- Weight: ~1.5 lbs. (650 grams)
- AC Input & Output Connector: 25 Pin D-Sub

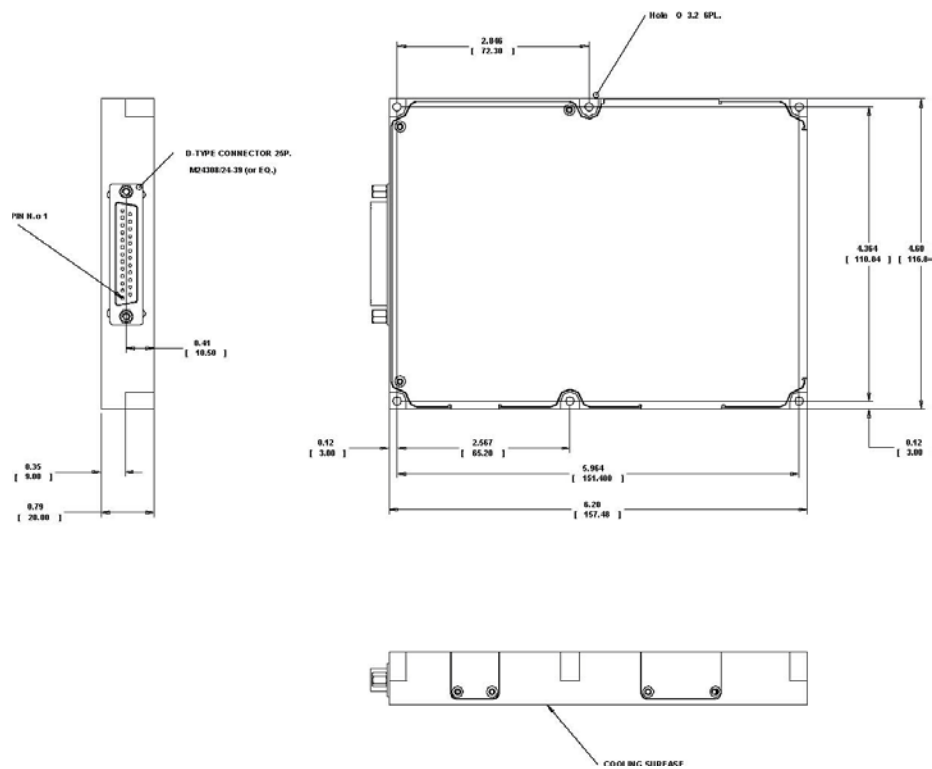
## Additional Features, Controls or Alarms

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

## Notes

- Product specifications subject to change without notice. All rights reserved.
- The information and specifications contained in this document are believed to be correct and accurate at the time of publication.

## Outline Drawing



## Notes

1. Dimensions are in Inches [mm]
2. Tolerance is: .XX ±.02 IN .XXX ±.01 IN
3. Weight: Approx. 23 Oz (650 gr)

## Pinout Assignments

Pin #	Assignment	Pin #	Assignment	Pin #	Assignment	Pin #	Assignment
1	-Vdc	9	N/C	17	+Vdc	25	CHASSIS
2	-Vdc	10	AC LINE	18	+Vdc		
3	N/C	11	N/C	19	N/C		
4	+Vdc	12	AC NEUTRAL	20	SYNC (RTN)		
5	+Vdc	13	AC NEUTRAL	21	INHIBIT (RTN)		
6	N/C	14	-Vdc	22	N/C		
7	N/C	15	-Vdc	23	AC LINE		
8	INHIBIT	16	N/C	24	N/C		