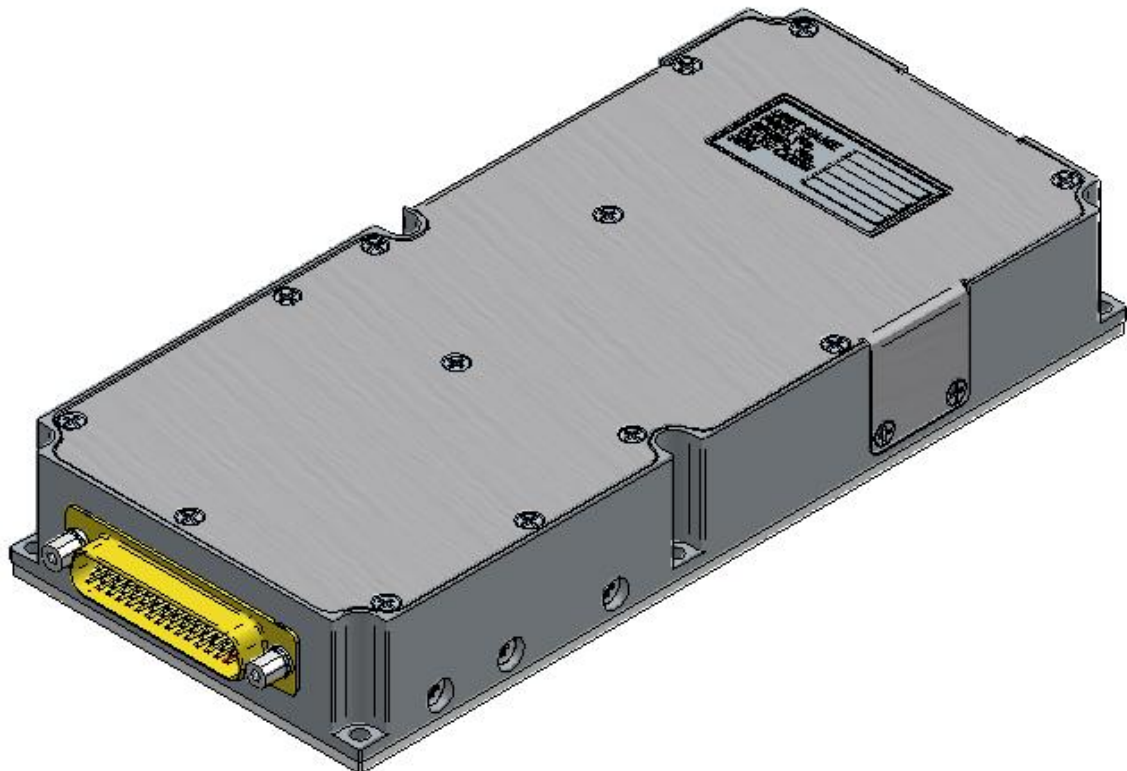


M8694 SERIES

A FIVE-OUTPUT, 200W DC/DC POWER SUPPLY

The M8694 is a series of mechanically robust, base-plate cooled, high performance, 200W DC to DC power supplies, designed for Navy shipboard applications.



STANDARD CONFIGURATIONS

Part number	Input	Output				
	Voltage range	#1	#2	#3	#4	#5
M8694-100	12-48V	28V/2.6A	12V/3.3A	5V/2.5A	5V/20A	N.C
M8694-102	12-48V	-15V/1.5A	5V/1.5A	5V/1.5A	28V/5A	-10V/0.25A

* Additional standard configurations available. **Contact factory for more details.**

* All of our products can be configured to comply with **EU REACH** regulations. **Contact factory for more details.**

THE MAIN FEATURES OF THE M8694 SERIES ARE:

- DC/DC Dual output power supply up to 200W
- Standard input version: 12 to 48 VDC
- Extended input option: 9 to 36VD (up to 150W)
- Can be configure as charger
- Can be configure to meet MIL-STD-1275E
- Complies with MIL-STD-461F
- High efficiency
- Full galvanic isolation between Input, Chassis and Outputs. (outputs 5 & 1 same ground)
- Inrush Current Limiter
- External Inhibit (On/Off)
- Fixed switching freq. (250 kHz)
- EMI filters included
- Remote sense compensation for outputs 1-4
- Indefinite short circuit protection with auto-recovery
- Over-voltage shutdown with auto-recovery
- Over temperature shutdown with auto-recovery
- High density
- Conduction cooled via the baseplate

SPECIFICATIONS:

DC Input	Voltage and Frequency	12 to 48 VDC 9 to 36 VDC
	Isolation*	Input to Output: 200 VDC Input to Case: 200 VDC
	Reverse Polarity Protections	Protection for unlimited time
DC Output	Rating	See table on page 10
	Voltage Regulation	±1% or better (no load to full load, low line to high line, -46 °C to +85 °C).
	Ripple & Noise	Max. 1% of output voltage without external capacitance. When connected to system capacitance ripple drops significantly.
	Isolation	Output to Case: 200 VDC
	Current Limit & Overload	Continuous protection (10-30% above maximum current) for unlimited time (Hiccup), output 5 C.L
	Efficiency	Minimum 80%-85%
	Overvoltage Protection	Output Active Over-Voltage Protection: The power supply shall protect the outputs from overvoltage greater than 110% of the specified output voltage. (output #5 only passive Zener)
Over Temp. Protection	Output shuts down if base plate temperature exceeds +105°C ± 5°C. Automatic recovery when baseplate temperature returns to below +95°C ± 5°C.	

SPECIFICATIONS (CONT.):

Control & Indication	<i>ENABLE Input</i>	<p>The ENABLE signal is used to turn the power supply ON and OFF.</p> <p>To turn the power supply OFF, apply a TTL “0” signal or SHORT to SIGNAL RTN.</p> <p>To turn the power supply ON, apply a TTL “1” signal or leave this pin OPEN.</p> <p>If not used (always ON), leave this pin OPEN.</p> <p>This signal is referenced to SIGNAL RTN.</p>
	<i>VOUT SENSE</i>	<p>The SENSE is used to achieve accurate load regulations at load terminals (this is done by connecting the pins directly to the load’s terminals). The use of remote sense has a limit of voltage dropout between converter’s output and load terminals up to 0.25V.</p> <p>When not used connect SENSE to OUT and SENSE RTN to OUT RTN.</p>
	<i>GPIO</i>	<p>Contact factory for more details.</p>
Environment Designed to meet MIL-STD-810H	<i>Temperature</i>	<p>Operating: –46 °C to +85 °C (at baseplate)</p> <p>Storage: –46 °C to +105 °C</p>
	<i>Humidity</i>	<p>Method 514.8 , 516.8</p> <p>Procedure I & VI</p> <p>Up to 95%-100%</p>
	<i>Salt-fog</i>	<p>Method 509.4</p>
	<i>Altitude</i>	<p>Method 514.8 & 516.8</p> <p>Procedures I & VI</p> <p>Up to 10,000 ft. AGL</p>
	<i>Mechanical Shock</i>	<p>Functional Shock IAW MIL-STD-810H, Method 516.8, Procedure-I, SRS Curve for</p> <p>Functional Test for Ground Equipment (40g peak, 45hz crossover frequency).</p>
	<i>Vibration</i>	<p>Functional Vibration IAW MIL-STD-810H, Method 514.8, Procedure-I, Cat 4, Composite</p> <p>Wheeled Vehicle Unknown Orientations (Figure 514.8C-6 / Table 514.8C-VIII).</p>
	<i>Fungus</i>	<p>Method 509.5</p> <p>Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4.</p>

M8694 Series– DC/DC Power Supply

EMI	MIL-STD-461F	Meets* MIL-STD-461F CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103 *EMC Compliance achieved with 5 μ H LISN, shielded harness and static resistive load.
Reliability	150,000 hours, calculated per MIL-HDBK-217F Notice 2 at +85 °C baseplate, Ground Fix conditions.	
Cooling Requirements	The M8694 is a baseplate cooled unit. The base of the M8254 should be thermally attached to a suitable heatsink that maintains it below +85 °C.	
Form factor	3.192" wide, 1.1" high and 6.992" deep. For detailed dimensions and tolerances see Drawing: TBD	
Weight	600gr (1.35LB)	
Connectors	See page 8	

PIN ASSIGNMENT

Function	Pin No.
VIN	14,15,29,30,43,44
VIN RTN	11,12,13,27,28,42
OUT 1 & 5	3
OUT 1 RTN	4
OUT 1 +SENSE	20
OUT 1 -SENSE	5
OUT 3	35
OUT 3	34
OUT 3 +SENSE	31
OUT 3 -SENSE	32
OUT 4	9,10,25,26,41
OUT 4 RTN	7,8,23,24,37
OUT 4 +SENSE	21
OUT 4 -SENSE	6
OUT 2 OUT	1,16
OUT 2 OUT RTN	2,17
OUT 2 +SENSE	19
OUT 2 -SENSE	18
GPIO ¹ 5V	22
GPIO ¹ 12V	38
GPIO ¹ 28V	39
ENABLE ¹	36
SIGNAL RTN	40
OUT 5	33

Notes:

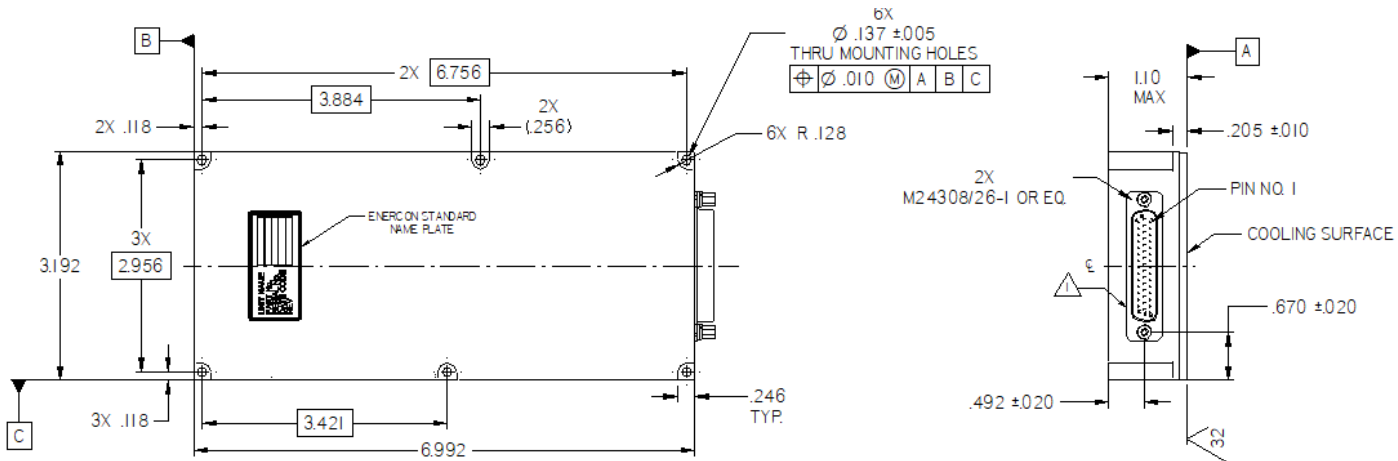
¹This signal received pullup resistor of 4.7kΩ from 5V auxiliary voltage.

M8694 Series– DC/DC Power Supply

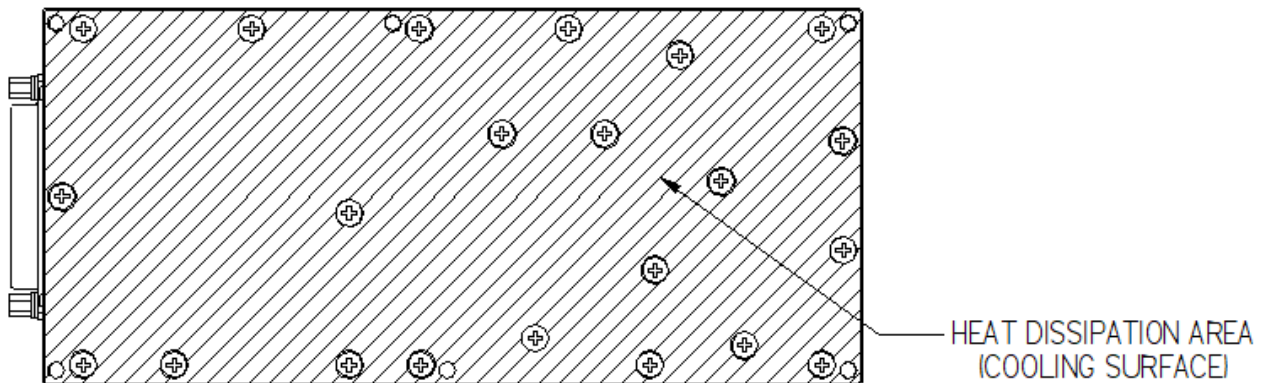
OUTLINE DRAWING

For detailed dimensions and tolerances see Drawing: TBD

CONNECTOR- INPUT/OUTPUT: MALE CONNECTOR, POSITRONIC DD44M4000C-15 OR EQ.



HEAT DISSIPATION SURFACE



Please note: Specifications are subject to change without prior notice by the manufacturer.