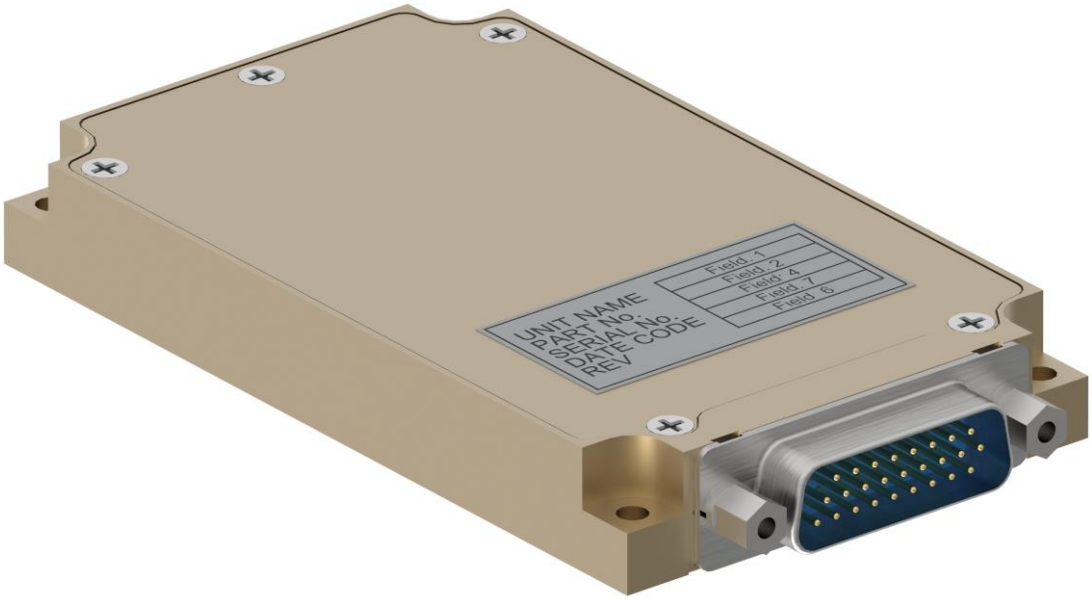
M8349 SERIES

FOUR-OUTPUTS, 60W DC TO DC POWER SUPPLY

The M8349 is a series of mechanically robust, base-plate cooled, high performance, power supplies, designed for Ground Mobile (MIL-STD-1275), Airborne (MIL-STD-704) and other Hi-Reliability applications where 28VDC has to be converted to a tightly regulated, filtered and protected DC output.



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Standard Models List (for other voltages – consult factory)

Part number	Input	Output 1		Output 2		Output 3		Output 4	
	Voltage range	Voltage	Current	Voltage	Current	Voltage	Current	Voltage	Current
M8349101	18 to 48 V_{DC}	N.C	N.C	12 V_{DC}	3A	5 V_{DC}	3 A	12 V_{DC}	1A

- *tolerance at output #3 up to ± 2% of nominal voltage, peak-to-peak.
- 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.**

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THE MAIN FEATURES OF THE M8349 ARE:

- DC/DC Four outputs power supply up to 60W
- 18 to 48VDC Standard Input version
- For extended input version - **Please contact factory for more details**
- No damage (may shutdown) due to abnormal transients IAW MIL-STD-1275A (100 V / 50 ms) and MIL-STD-704A (80 V / 0.1 s)
- High efficiency – up to 80% (depending on output voltage).
- Full galvanic isolation between Input, Chassis and Outputs
- External Inhibit (On/Off)
- Fixed switching freq. (250 kHz)
- EMI filters included
- Indefinite short circuit protection with auto-recovery
- Over-voltage protection
- Over temperature shutdown with auto-recovery
- High density
- Conduction cooled via the baseplate
- J-STD-001B and IPC-610A Class-3 workmanship
- Conformal Coating per MIL-I-46058C and IPC-CC-830

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SPECIFICATIONS:

DC Input	***Voltage Range***	Normal range: 18 to 48 V_{DC} No damage (may shutdown) due to abnormal transients IAW MIL-STD-1275A (100 V / 50 ms) and MIL-STD-704A (80 V / 0.1 s) For extended input version - **Please contact factory for more details**
	Isolation	Input to Output: 200 VDC Input to Case: 200 VDC
	Over and under protection	Vin high from 50-52V P.S.S.D Vin low from 16-17 P.S.S.D
DC Output	***Rating***	See table on page 8
	Voltage Regulation	Better than or equal to ±1% * (low to high line voltage, no load to full load, –55 °C to +85 °C at baseplate).
	Ripple	Less than 50 mVp-p, typical (max. 1% of output voltage)
	Isolation	Output to Case: 100 VDC
	Current Limit & Overload	Continuous protection for unlimited time Overload/short-circuit *If output current is higher than 1.5A and there is short due to failure, when the failure is removed the load will be 50%.
	Efficiency	Up to 80%, depending on output voltage.
	Overvoltage Protection	Passive transorb, chosen at 120% ± 10% of nominal voltage.
	Over Temp. Protection	Shutdown if base plate temperature rises above +105 °C ± 5 °C. Auto recovery when baseplate cools down to +95 °C ± 5 °C.

*For 5V/3.3V/2.5V in current more then 1A tolerance will be ±2%

Specifications (Cont.):

Control & Indication	***INHIBIT Input***	The INHIBIT signal is used to turn the power supply ON and OFF. TTL "1"or OPEN – Power supply active (output turned on). TTL "0" or SHORT to Signal RTN – Power supply inhibited (output turned off). If this function is not required, leave this pin unconnected. This signal is referenced to SIGNAL RTN (pin 17)
	SIGNAL RTN	INHIBIT and SYNC signals are referenced to this pin. This pin is referenced to VIN RTN (pins 5,14,15,23 and 24).
	SYNC	The SYNC signal is used to allow the power supply's switching frequency to sync with the system clock. The external clock's frequency can be 250 kHz ± 10 kHz. When this pin is left open (unconnected) the power supply will synchronize to its internal clock, set at 250 kHz ± 10 kHz
Environment Designed to meet MIL-STD-810F	***Temperature***	Methods 501.4 & 502.4 Operating: –55 °C to +85 °C (at baseplate) Storage: –55 °C to +125 °C (ambient)
	Humidity	Method 507.4 Up to 95% RH
	Salt-fog	Method 509.4
	Altitude	Method 500.4 Procedures I – Storage/Air transport: up to 70,000 ft. (non-operational) Procedure II – Operation/Air Carriage: up to 70,000 ft. (operational)
	Mechanical Shock	Method 516.5 Procedure I 50 g / 11 ms terminal peak half-sine shock pulse
	Vibration	Method 514.5 Procedure I 14.76 g_{rms} 20-2000 Hz for 500 seconds at each of 3 perpendicular axes.
	Fungus	Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4.

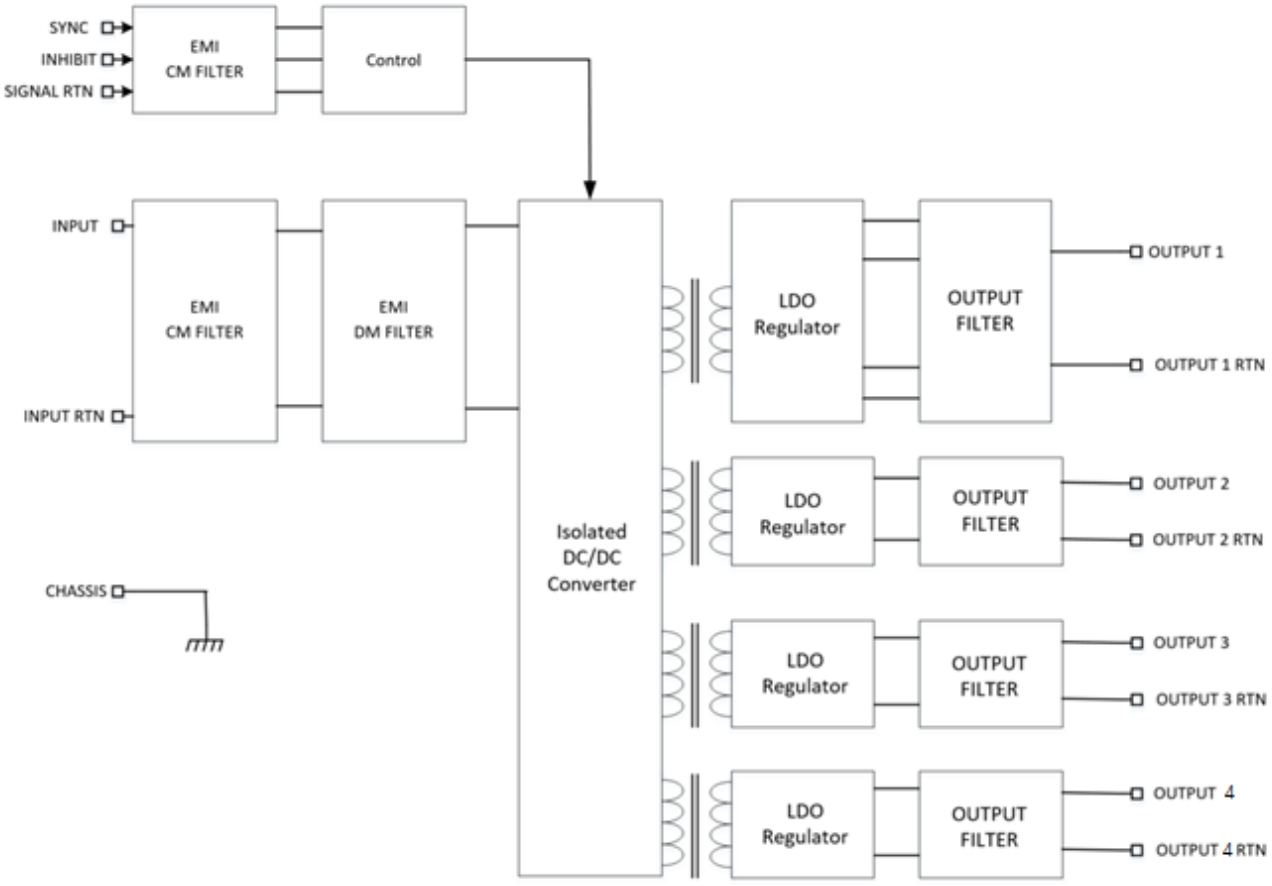
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EMI	***MIL-STD-461F***	Designed to meet* MIL-STD-461F CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103
Reliability	150,000 hours, calculated per MIL-HDBK-217F Notice 2 at +85 °C baseplate, Ground Fix conditions.	
Cooling Requirements	The M8349 is a baseplate cooled unit. The base of the M8349 should be thermally attached to asuitable heatsink that maintains it below +85 °C.	
Form factor	2.16'' wide, 0.5'' high and 3.65'' deep. For detailed dimensions and tolerances see Drawing: M8349001	
Weight	TBD	
Connectors	See Page 8	

* Compliance achieved with 5µH LISN, shielded harness and static resistive load.

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OPERATIONAL BLOCK DIAGRAM



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PIN ASSIGNMENT:

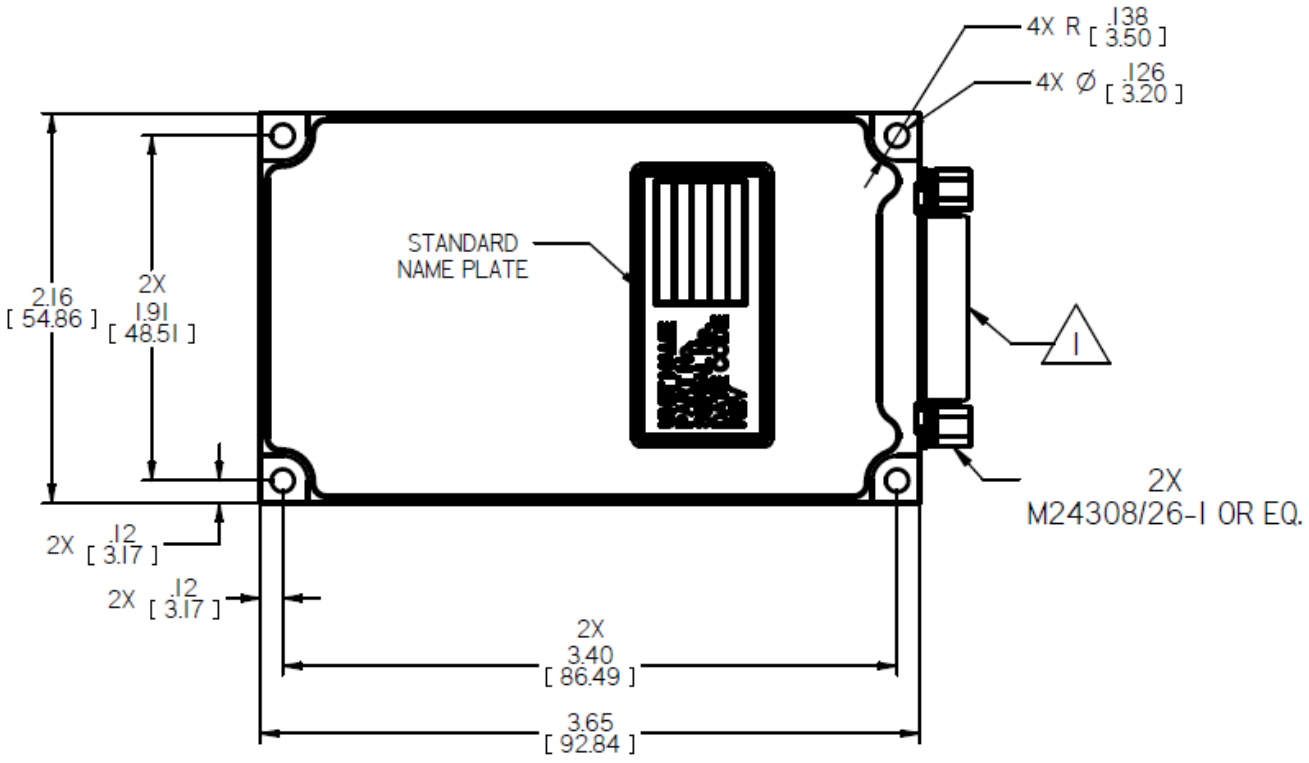
Connector type*:* M24308/24-74F OR EQ
Mates with: M24308/2-12F OR EQ

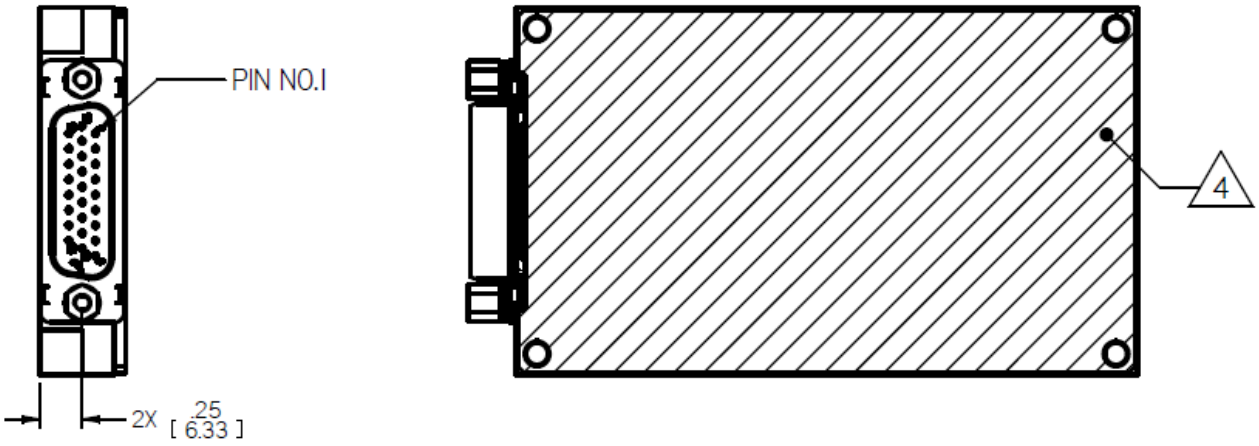
Name	Pin No.
OUT 1	10, 11
OUT 1 RTN	19, 20
OUT 2	25, 26
OUT 2 RTN	8, 9
OUT 3	2
OUT 3 RTN	1
OUT 4	7
OUT 4 RTN	6
VIN	3, 4, 13 ,21 22
VIN RTN	5, 14, 15, 23, 24
INHIBIT	18
STNC	16
SIGNAL RTN	17

Note: All pins with identical function/designation should be connected together for optimal performance.

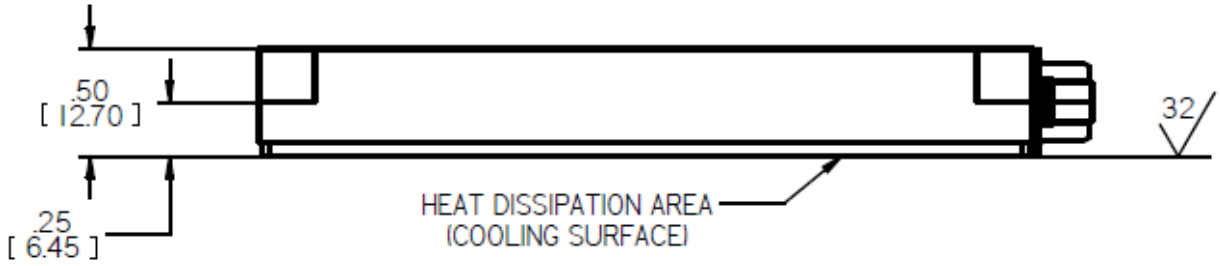
OUTLINE DRAWING:

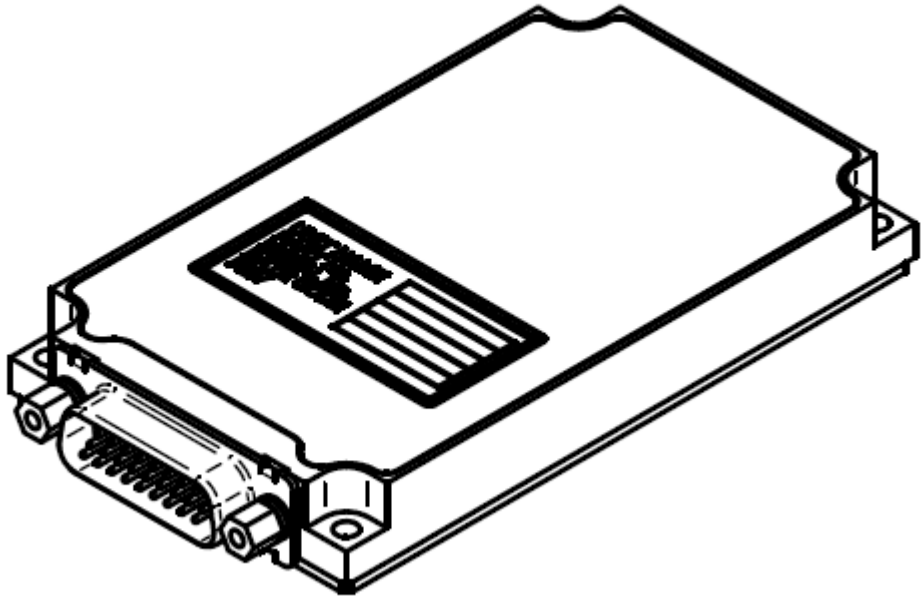
For detailed dimensions and tolerances see Drawing: M8349101





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NOTES :
1. CONNECTOR: INPUT/OUTPUT, D- TYPE, DD SERIES, 3 LINES, 26P, P/N DD26M4000C OR EQ.
2. MTL. AL 6061-T651, AL 5052-H32.
3. FINISH: CHROMATE CONVERSION COATING PER MIL -DTL-5541, LAST REVISION, TYPE I, CLASS 1A, OR EQ.
4. COOLING: HEAT DISSIPATION AREA- 7.405 [IN²].
5. WORKMANSHIP SHALL BE MIL-STD-454, REQT. 9.

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

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