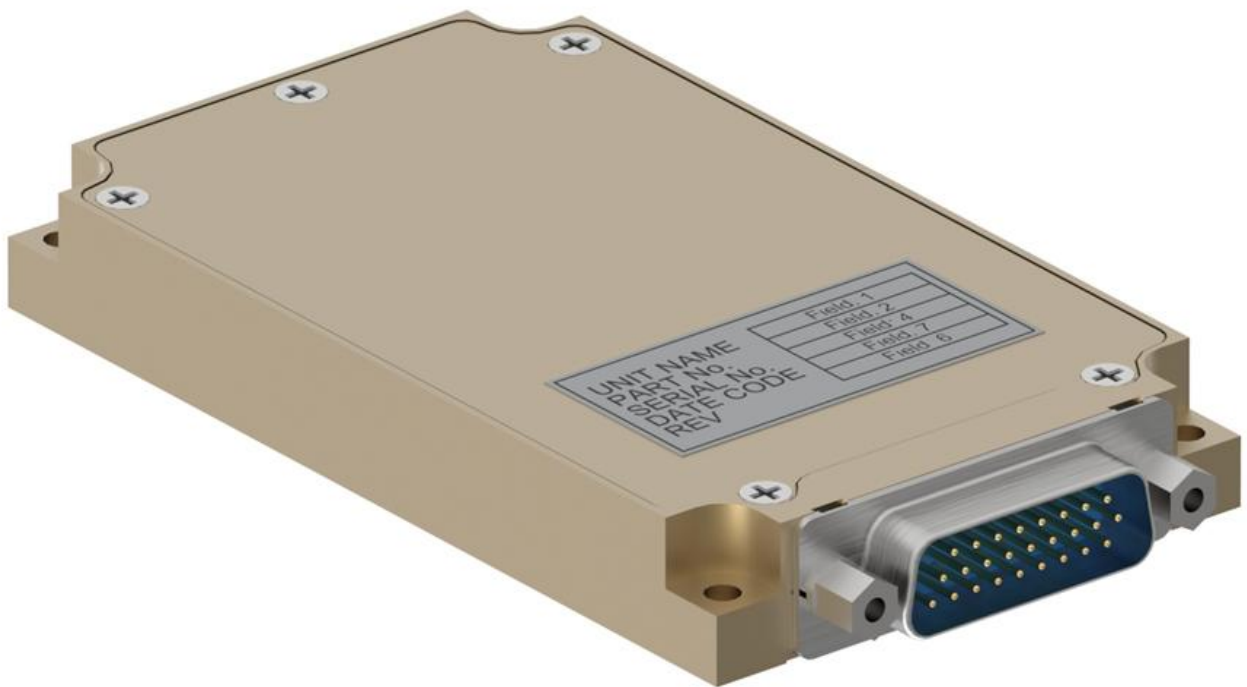


M8349 SERIES

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.



M8349 SERIES DC/DC POWER SUPPLY

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
M8349-101	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 $\pm 2\%$ 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.**

M8349 SERIES DC/DC POWER SUPPLY

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

M8349 SERIES DC/DC POWER SUPPLY

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 $\pm 1\%$ * (low to high line voltage, no load to full load, $-55\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$ 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 $120\% \pm 10\%$ of nominal voltage.
Over Temp. Protection	Shutdown if base plate temperature rises above $+105\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$. Auto recovery when baseplate cools down to $+95\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.	

*For 5V/3.3V/2.5V in current more than 1A tolerance will be $\pm 2\%$

M8349 SERIES DC/DC POWER SUPPLY

Specifications (Cont.):

Control & Indication	<i>INHIBIT Input</i>	<p>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.</p> <p>This signal is referenced to SIGNAL RTN (pin 17)</p>
	<i>SIGNAL RTN</i>	INHIBIT and SYNC signals are referenced to this pin. This pin is referenced to VIN RTN (pins 5,14,15,23 and 24).
	<i>SYNC</i>	<p>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</p>
Environment Designed to meet MIL-STD-810F	<i>Temperature</i>	<p>Methods 501.4 & 502.4</p> <p>Operating: -55 °C to +85 °C (at baseplate)</p> <p>Storage: -55 °C to +125 °C (ambient)</p>
	<i>Humidity</i>	<p>Method 507.4</p> <p>Up to 95% RH</p>
	<i>Salt-fog</i>	Method 509.4
	<i>Altitude</i>	<p>Method 500.4</p> <p>Procedures I – Storage/Air transport: up to 70,000 ft. (non-operational)</p> <p>Procedure II – Operation/Air Carriage: up to 70,000 ft. (operational)</p>
	<i>Mechanical Shock</i>	<p>Method 516.5</p> <p>Procedure I</p> <p>50 g / 11 ms terminal peak half-sine shock pulse</p>
	<i>Vibration</i>	<p>Method 514.5</p> <p>Procedure I</p> <p>14.76 g_{rms} 20-2000 Hz for 500 seconds at each of 3 perpendicular axes.</p>
	<i>Fungus</i>	Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4-
EMI	<i>MIL-STD-461F</i>	Designed to meet* MIL-STD-461F CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103

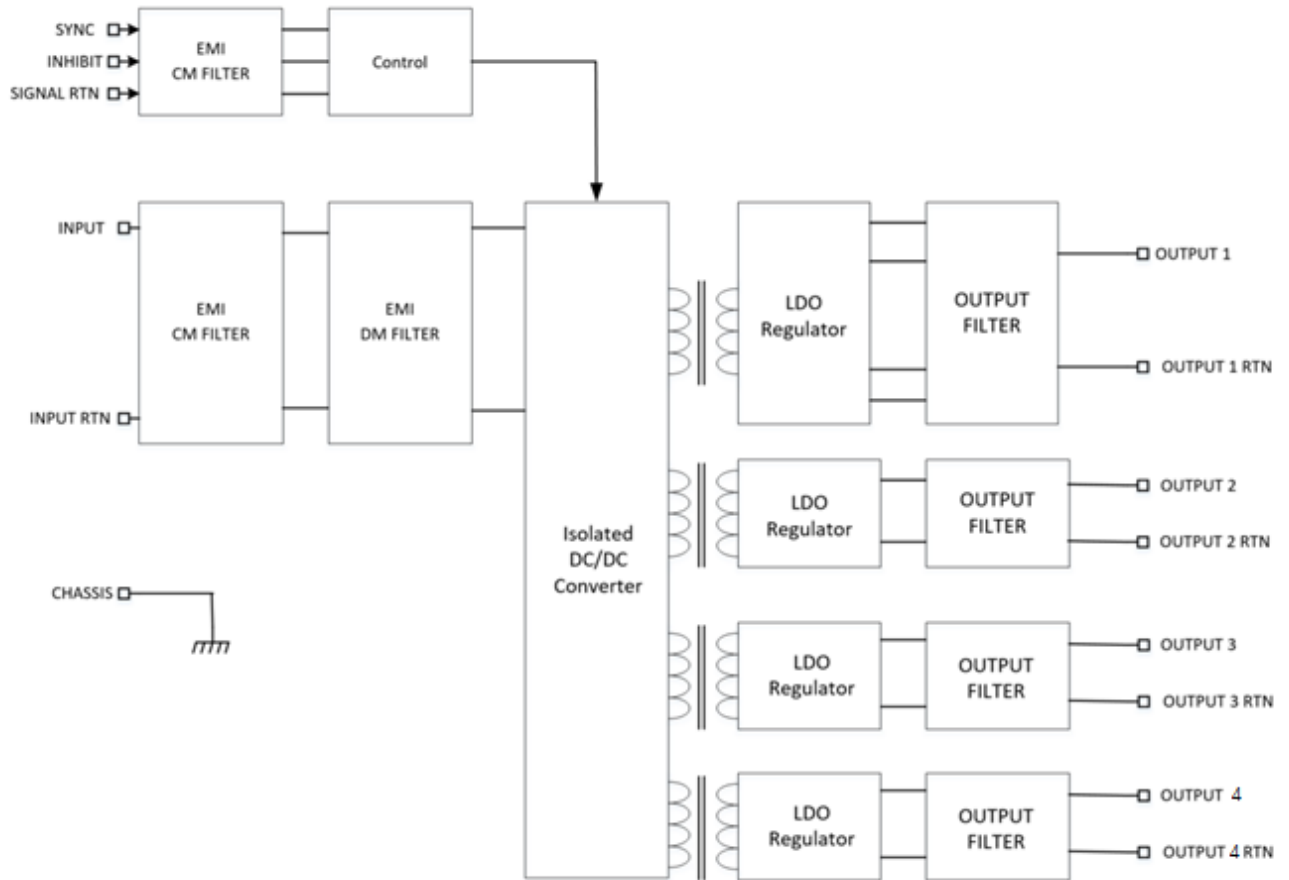
M8349 SERIES DC/DC POWER SUPPLY

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 a suitable 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 5 μ H LISN, shielded harness and static resistive load.

M8349 SERIES DC/DC POWER SUPPLY

OPERATIONAL BLOCK DIAGRAM



M8349 SERIES DC/DC POWER SUPPLY

PIN ASSIGNMENT:

Connector type: M24308/24-74F OR EQ

Mates with: M24308/2-12F OR EQ

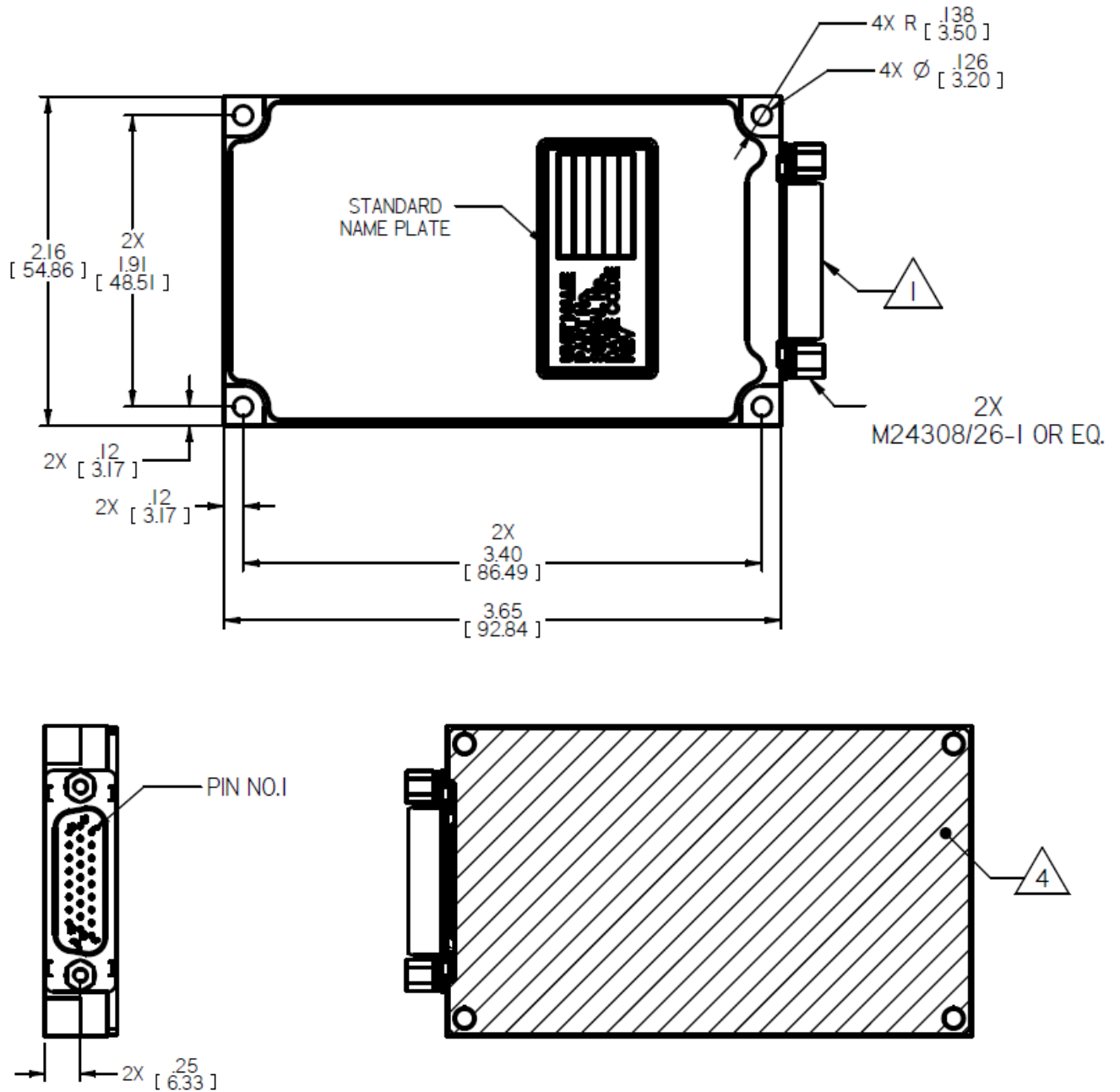
Name	Pin No.
OUT 1	10, 11
OUT 1 RTN	19, 20
OUT 2	25, 26
OUT 2 RTN	8, 9
OUT 3	2
OUT 3 RTN	1
OUT 4	7
OUT 4 RTN	6
VIN	3, 4, 13, 21 22
VIN RTN	5, 14, 15, 23, 24
INHIBIT	18
STNC	16
SIGNAL RTN	17

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

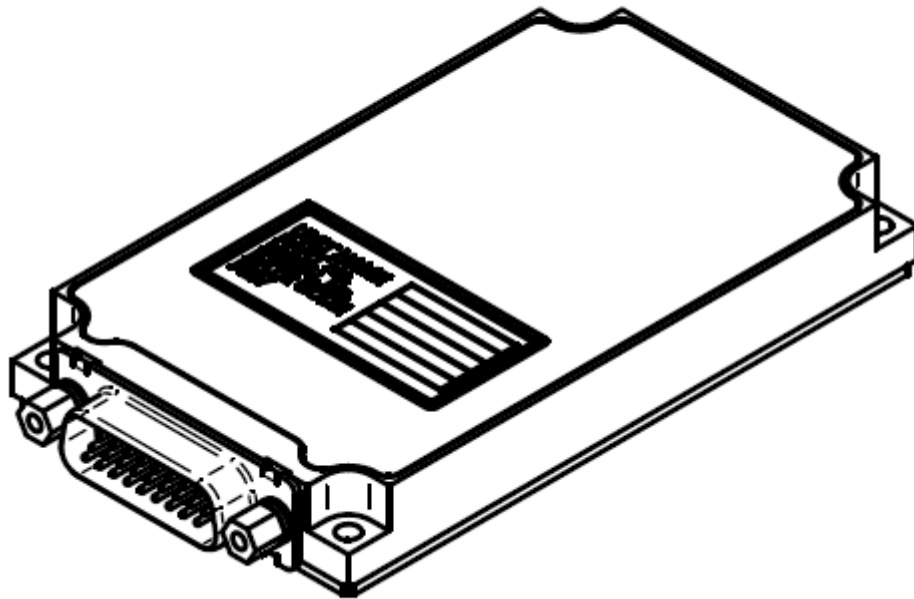
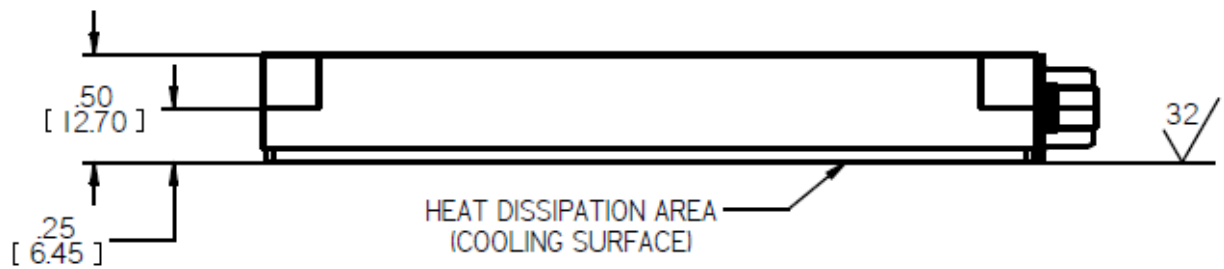
M8349 SERIES DC/DC POWER SUPPLY

OUTLINE DRAWING:

For detailed dimensions and tolerances see Drawing: M8349101



M8349 SERIES DC/DC POWER SUPPLY



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-554I, LAST REVISION, TYPE I, CLASS IA, OR EQ.
4. COOLING: HEAT DISSIPATION AREA- 7.405 [IN²].
5. WORKMANSHIP SHALL BE MIL-STD-454, REQ. 9.

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