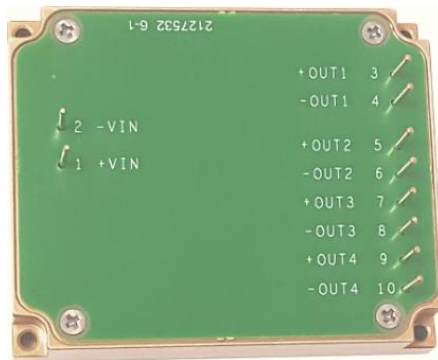


M7971 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- **MINIATURE, PCB MOUNT**
- **HIGH DENSITY**
- **QUAD OUTPUTS**
- **DC/DC CONVERTER**
- **UP TO 40W**

Applications

Military (airborne, shipboard, mobile) ruggedized on-board isolated PoL (point of load) regulator

Special Features

- Extremely Miniature size
- High efficiency
- Wide input range
- Input / Output isolation
- Fixed switching frequency (500 kHz)
- EMI filters included
- Reverse battery connection protection
- Non-latching protections:
 - Overload / Short-circuit
 - Over temperature

Environmental Conditions

Meets or exceeds MIL-STD-810G

Temperature:

Operating -55°C to $+85^{\circ}\text{C}$ (baseplate)

Storage -55°C to $+125^{\circ}\text{C}$

Reliability

150,000 hours, calculated IAW MIL-HDBK-217F Notice 2 at $+85^{\circ}\text{C}$ baseplate, Ground Fix conditions.

Electrical Specifications

DC INPUT

Voltage range: 18 to 36 V_{DC}

Reverse polarity protection:

No damage up to -36 V_{DC}

Efficiency: 80% (Typical)

EMC: Designed to MIL-STD-461F*: CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103

Isolation:

Input to Output: 200 V_{DC}

Input to Case: 200 V_{DC}

DC OUTPUT (floating)

Voltage regulation:

Up to $\pm 1.5\%$ (no load to full load, -55°C to $+85^{\circ}\text{C}$)

Ripple and Noise:

50 mV_{p-p}, typical (max. 1%)

Current limiting (Hiccup):

Continuous protection for unlimited time

Over voltage protection:

Passive transorbs on outputs.

Over temperature protection:

Shutdown if baseplate temperature exceeds $+105^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

Automatic recovery upon baseplate cooldown to below $+95^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

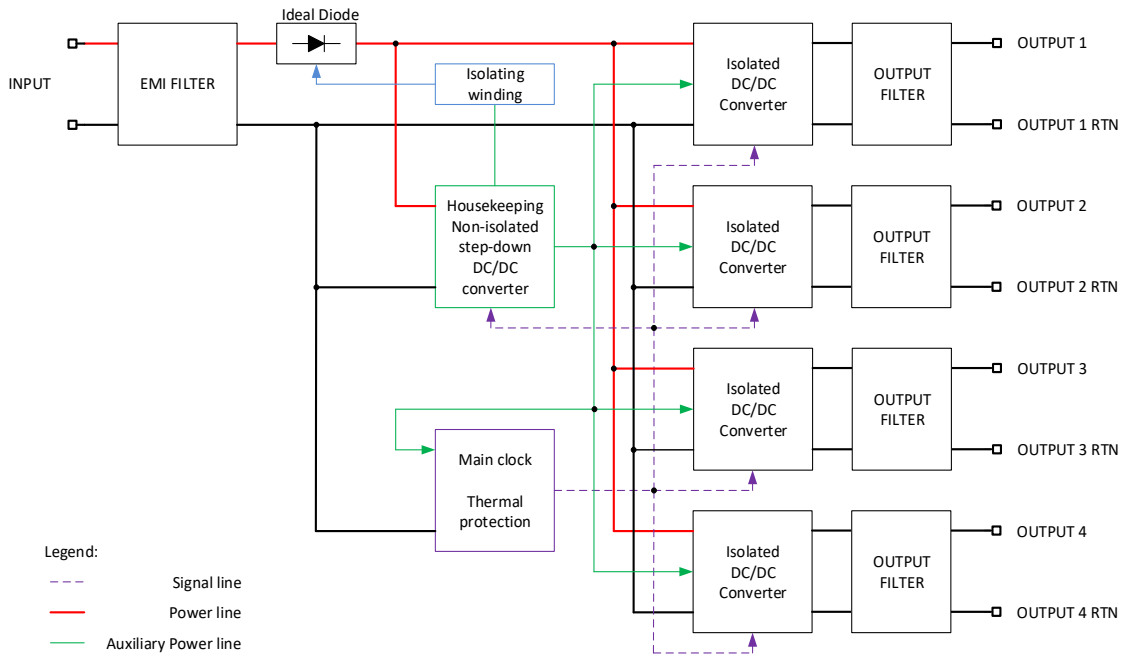
Isolation:

Output to Case: 100 V_{DC}

* EMC Compliance achieved with 5 μH LISN, shielded harness and static resistive load. Depending on the actual configuration, an external filter may be required for full compliance.

M7971 SERIES DC/DC POWER SUPPLY

Functional Block Diagram



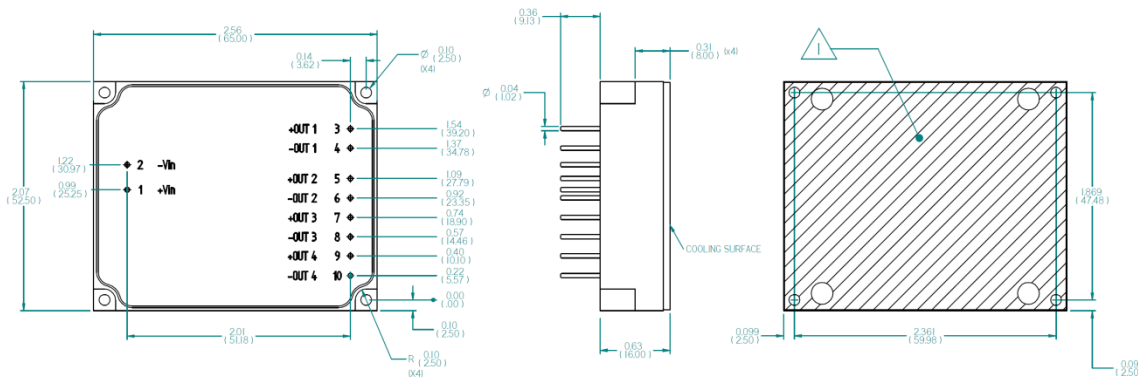
Outputs Range

Output #	Voltage Range	Current Range	Power Range
1	5 to 28 V _{DC}	0 to 1 A	0 to 5 W
2	5 to 28 V _{DC}	0 to 2 A	0 to 12 W
3	5 to 28 V _{DC}	0 to 2 A	0 to 12 W
4	5 to 28 V _{DC}	0 to 2 A	0 to 12 W
Total			0 to 40 W

PIN ASSIGNMENT

Pin No.	Pin Function
1	VIN
2	VIN RTN
3	OUT 1
4	OUT 1 RTN
5	OUT 2
6	OUT 2 RTN
7	OUT 3
8	OUT 3 RTN
9	OUT 4
10	OUT 4 RTN

Outline Drawing



Heat Dissipation Surface Area

5 sq.in. [32.26 sq.cm.]

Electrical Interface

Pin type: Cambion 460-2946-02-03-00 or Eq.

Notes

- Dimensions are in inches [mm]
- Tolerance is:
 .XX ± 0.02 in
 .XXX ± 0.01 in
- Weight: Approx. 100 g (3.52 oz)

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