

## M4060 SERIES

*DC/DC HOLDUP UNIT*



### PRODUCT HIGHLIGHTS

- VITA 62 COMPLIANT
- 3U FORM FACTOR
- WIDE INPUT RANGE
- IPMI COMMUNICATION
- 300W HOLDUP @ 50MS



**Electrical Specifications**

**DC Input**

Up to 100V<sub>DC</sub>  
 Continuous work during MIL-STD-704 transients

**DC Output**

VS1: Power up to 85 V<sub>DC</sub>  
 VS2: Power return

**Isolation**

Over 20 MΩ at test voltage:  
 200V between Input & output to case

**Communication**

IPMI protocol available for voltages

**Efficiency**

Up to 90 % at Low Line  
 Up to 98 % at Normal Line

**EMC**

Complies with MIL-STD-461F (5μH LISN): CE101, CE102, CS101

**Environmental**

Design to Meet MIL-STD-810G

**Temperature**

Operating: -55°C to +85°C at unit edge  
 Storage: -55°C to +125°C

**Altitude**

Method 500.5, Procedure I & II  
 Storage/Air Transport: 40 kft  
 Operation/Air carriage: 70 kft

**Salt Fog:**

Method 509.5

**Fungus**

Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4.

**Humidity**

Method 507.5, Up to 95% RH

**Shock**

Method 516.6  
 40g, 11msec saw-tooth (all directions)

**Vibration**

Shock: Saw-tooth, 20g peak, 11mS.  
 Vibration: Figure 514.6E-1. General minimum integrity exposure. (1 hour per axis.)

Note: **Environmental Stress Screening (ESS)** Including random vibration and thermal cycles is also available. Please consult factory for details.

**Protections**

**Input**

- **Inrush Current Limiter**  
 Peak value of 5 x I<sub>IN</sub> for initial inrush currents lasting more than 50μSec.

• **Under Voltage**

Unit shuts down when input voltage drops below 11± 0.5V<sub>DC</sub>.  
 Automatic restart when input voltage returns to 12V Line.

**General**

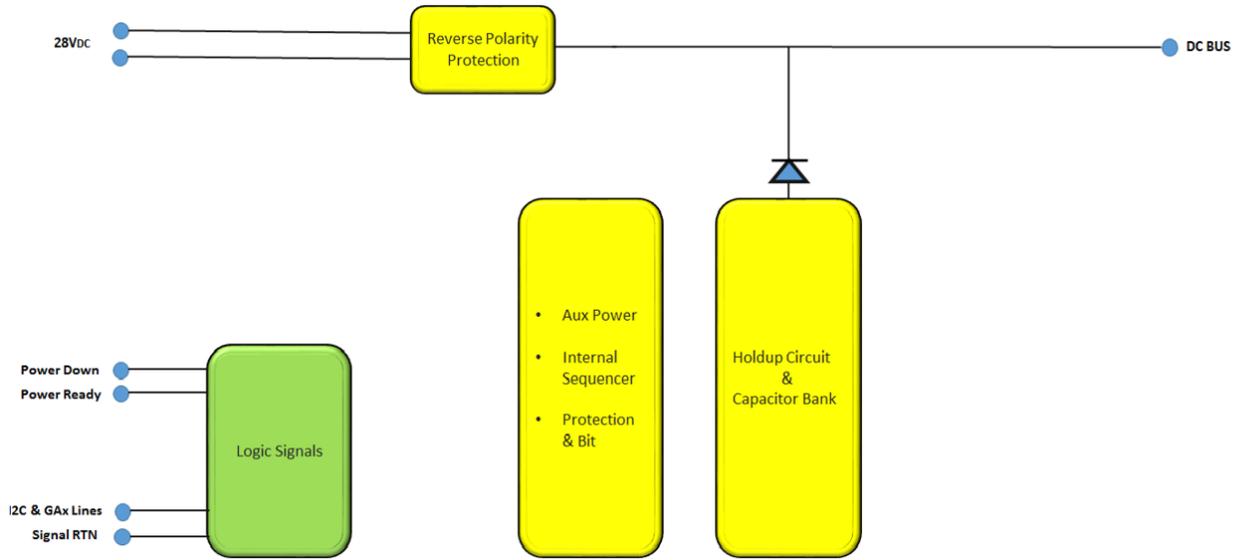
- **Over Temperature Protection**  
 Automatic shutdown at internal temperature of 95 ± 5°C.  
 Automatic recovery when temperature drops below 90 ±5°C.

**Note: Thresholds and protections can be modified/removed (please consult factory)**

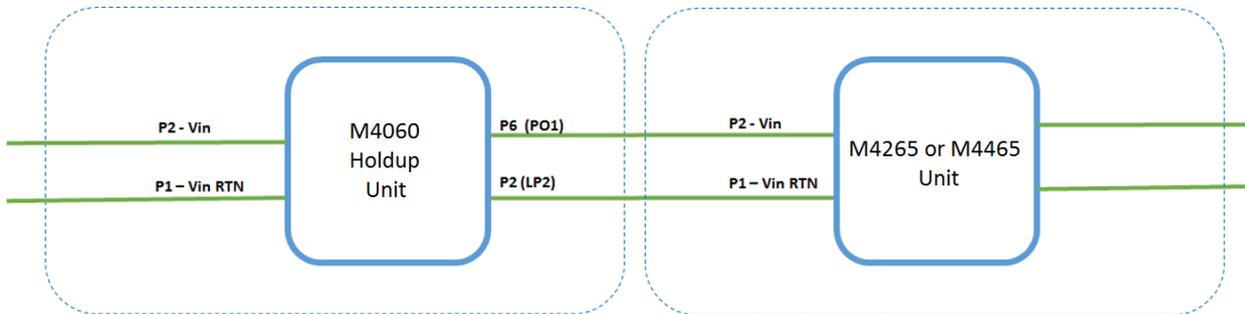
**Functions and Signals - According to VITA 62**

Signal No.	Signal Name	Type	Description	Pin No'
1	Power Down	Output	Indicates that Holdup event has occurred. Open Drain. Normally Open, goes low during Holdup time.	A3
2	Power Ready	Input	Indicates to other modules that Holdup capacitor bank is Fully charged. Open Drain. Normally Open, goes low when Holdup energy under 90%.	D1
5	GA0, GA1	Input	Used for geographical addressing. GA1 is the most significant bit and GA0 is the least significant bit.	A5,B5
6	SCL, SDA	Bidirectional	I2C bus Clock and Data respectively. Through this bus the voltage and temperature readouts can be shared.	C5,D5

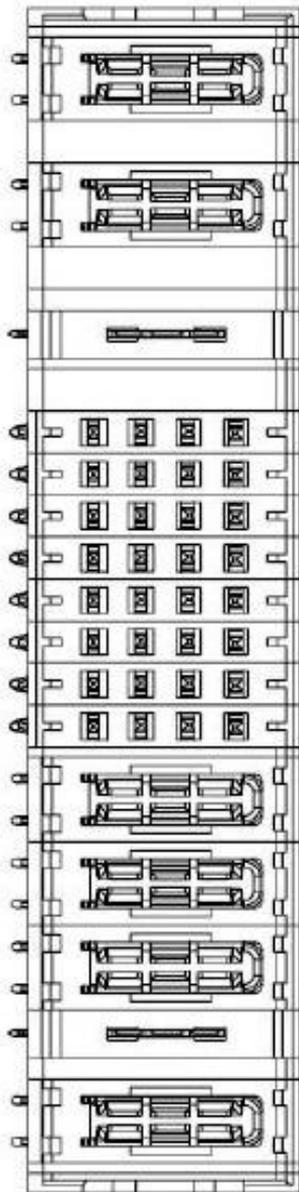
**Simplified Block Diagram**



**Typical Application**

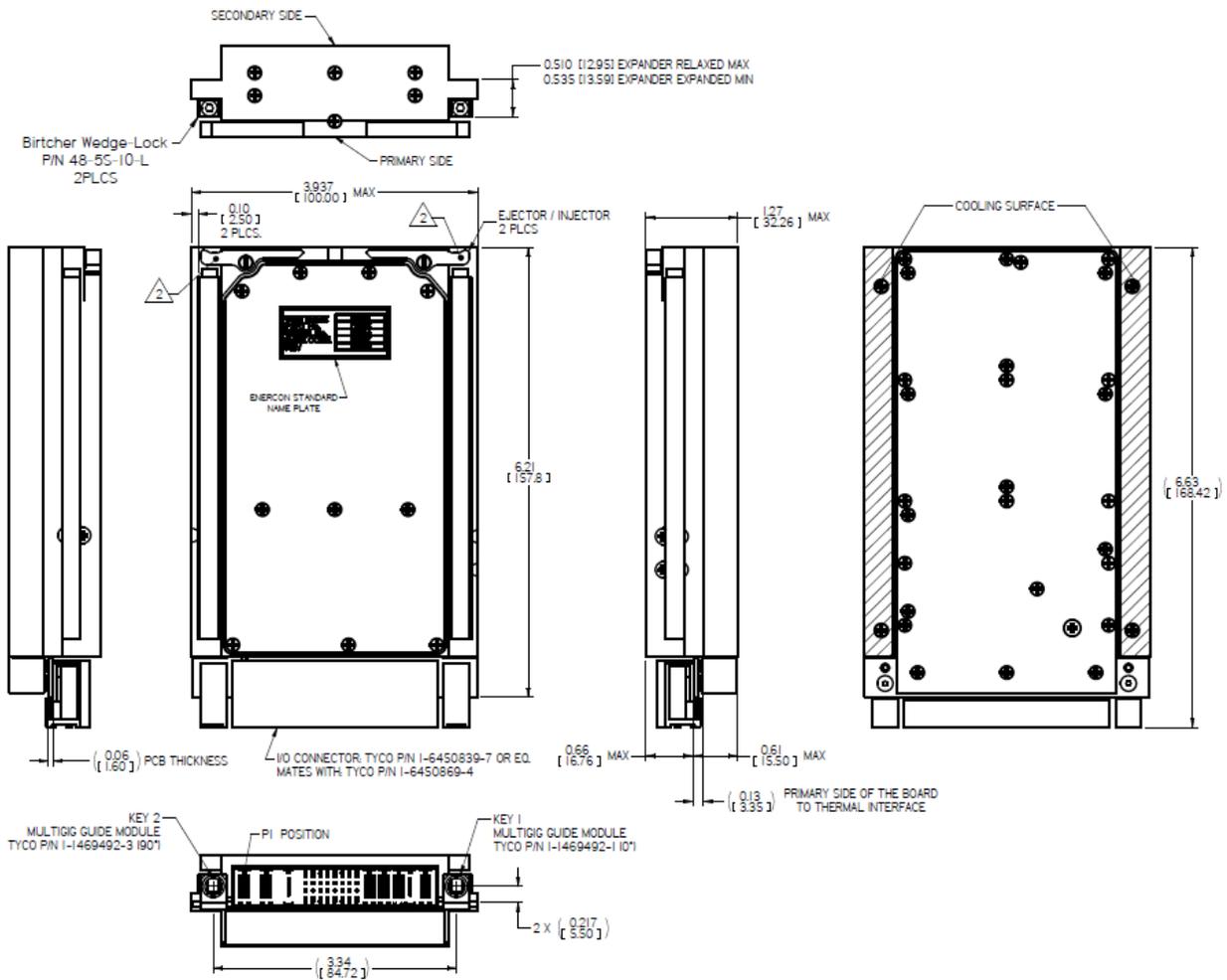


Pin Assignment



PART NUMBER	ROWS	POWER						SIGNAL								POWER					
		P1	P2	LP1	1	2	3	4	5	6	7	8	P3	P4	P5	LP2	P6				
6450849-7	D				Z5	Z5	Z5	Z5	Z5	Z5	Z5	Z5	Z5	Z5	Z5						
	C				Y5	Y5	Y5	Y5	Y5	Y5	Y5	Y5	Y5	Y5	Y5	TT	TT	TT			
	B	TT	TT	LT	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5	R5	TT	TT	TT			
	A				05	05	05	05	05	05	05	05	05	05	01						
2ACP+1LP+32S+3HDP+1LP+1HDP																					

Outline Drawing



Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:  
 .XX ± 0.02 IN  
 .XXX ± 0.008 IN
3. Weight: Approx. TBD gr (24.34) Oz
4. 3D model available

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