SPECIFICATION

For

SWITCHING POWER SUPPLY

M/N: MPI-810H

Revision Index

REV.	053007	Adding index page and OVP description
REV.	051608	Adding derating curve.
REV.	092810	Updating the safety approval status.
REV.	032811	Updating the safety approval status.
REV.	072511	Updating the efficiency; Revising the operating temperature.

1.0 INTRODUCTIONS

MPI-810H is a 120Watts forced air-cooling, five outputs switching power supply; and it's designed for General Purpose.

2.0 INPUT SPECIFICATIONS

2.1 Universal AC Input Voltage

The range of input voltage is from 90VAC to 260VAC.

2.2 Input frequency

The range of input frequency is between 47Hz to 63Hz.

2.3 Input current

The maximum input current is 3A at 115VAC or 1.5A at 230VAC.

2.4 Inrush current

The inrush current is less than 30A at 115VAC input or 60A at 230VAC input, cold start at 25℃.

3.0 OUTPUT SPECIFICATIONS

3.1 Load range

Output voltage	Min. load	Rated load	Max. load	Voltage accuracy
+5V	1A	8A	14A	5.05V to 5.15V
+12V	0A	2.5A	6A	11.25V to 12.75V
-12V	0A	0.5A	1A	-11.25V to -13.0V
+3.3V	0A	8A	12A	3.10V to 3.50V
+5Vsb	0A	0.75A		4.80V to 5.20V

At the factory, the +5V output is set between 5.08V to 5.13V and all output at 60% rated load and the other outputs are checked to be within the accuracy range. The maximum total combined output power on the 3.3V and 5V rails is 70W, and the max. load cannot be exceed 120W.

3.2 Ripple and noise

The peak to peak ripple and noise for +5V, +3.3V outputs are less than 50mV for +5Vsb is 120mV, for +12 V is less than 120mV, for -12V is less than 200mV at ranted load and nominal input, which is measured by a 15MHz bandwidth limited oscilloscope and the each output is connected with 0.47μF capacitor.

3.2 Line regulation

The line regulation is less than +/-1% at rated load with +/-10% change in input voltage.

3.3 Load regulation

The load regulation for +5V is less than +/-2 %, for +12V is less than +7%～-3%, for -12V is +8%～-3%, + 3.3V is less than +/-5% while the measuring is done by changing the measured output loading +/-40% from 60% rated load, and keep other output is at 60% rated load.

4.0 GENERAL FEATURES

4.1 Efficiency

The efficiency is higher than 70% while measuring at nominal line and rated load.
Note: The efficiency is about 81% max. in specified condition that input is at 159V and output are +12V/6A, +5V/4.32A.

4.2 Hold up time

The hold up time is longer than 16mS at 115VAC input and rated load.

4.3 Protection

The power supply will generate the hiccup mode to protect itself against short circuit or over load condition, and will return to normal after wrong condition is removed.

4.4 Over voltage Protection

For some reason the power supply fails to control itself, the build-in over voltage protection circuit will shut down and into latch off model.

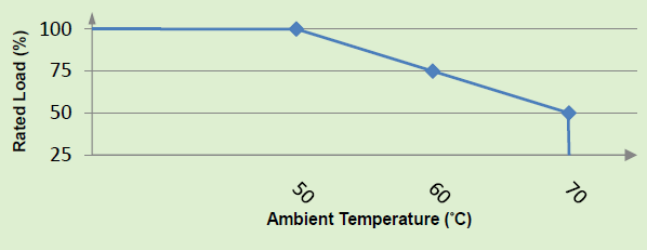
4.5 Power On/Off

The power supply will be turned on when the power On/Off pin is connected to secondary GND.

5.0 ENVIRONMENT SPECIFICATIONS

5.1 Operating temperature

0℃ to 70℃ derating from 50 ℃ (Output power 120W with min. 38CFM forced air, and 85W fan-less)



5.2 Storage temperature

-40℃ to +70℃

5.3 Altitude

Will operate properly at any altitude between 0 to 10000ft.

5.4 Humidity

10% to 90% Non-Condensing.

6.0 INTERNATIONAL STANDARDS

6.1 Safety standards

IEC 60950:1991+A1+A2+A3+A4	TUV approved
UL 60950-1, 2nd edition, 2007-03-27	UL approved
CSA C22.2 No. 60905-1-07, 2nd Edition, 2007-03	cUL approved
EN 60950-1: 2006+A11	TUV, CE approved

6.2 EMI standards

Designed to meet the following limits:

FCC docket 20780 curve” B”

EN 55022 ”B”

6.3 CE standards

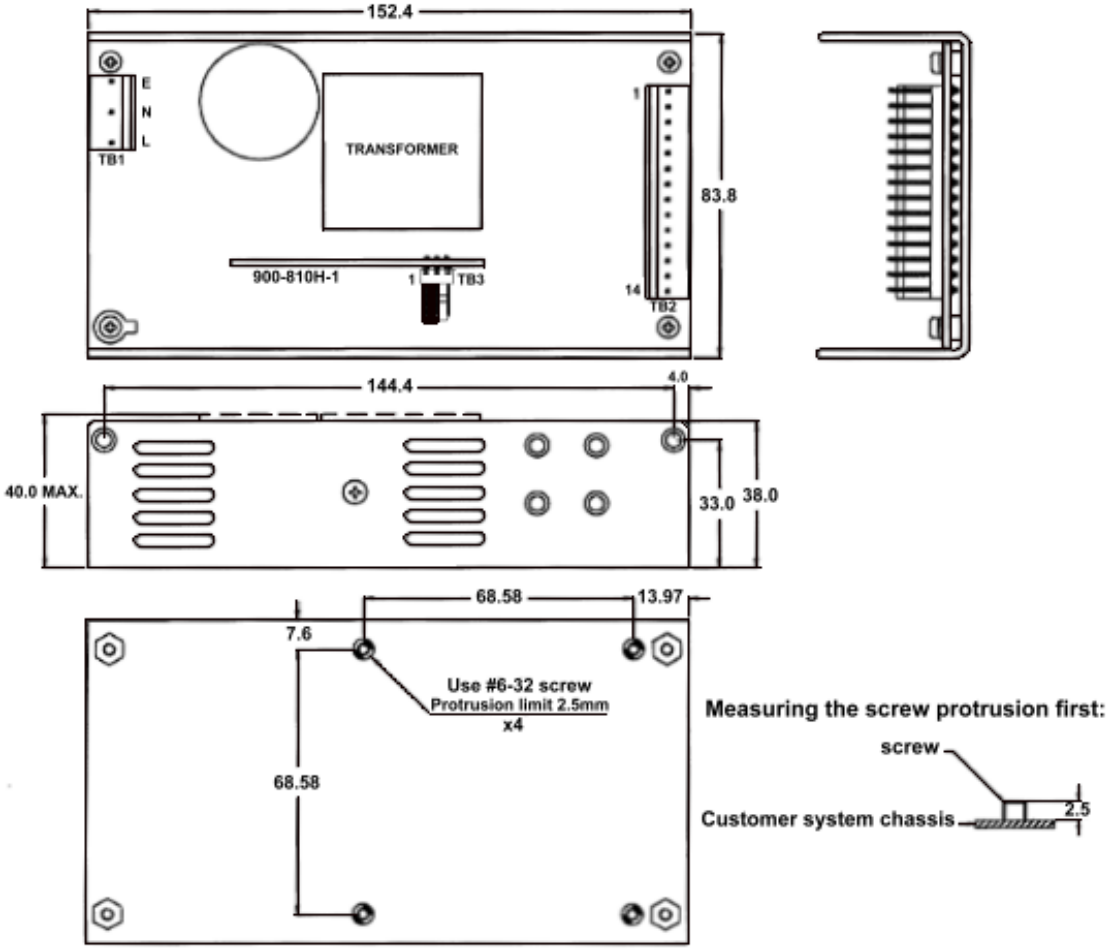
Designed to meet the following standards:

IEC-801-2 Level 3 8KV air discharge

IEC-801-3 Level 3 3V/M

IEC-801-4 Level 3 2KV

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

Dimensions are shown in mm as above. Tolerance specified is +/-0.4mm.

7.2 Connectors

TB1 --- AC input : Molex 5273-05A withdraws 2 pins or equivalent.

TB2 --- DC output : Molex 5273-14A or equivalent.

TB3 --- DC output : Molex 5045-03A

7.3 DC output pin assignment

TB2	Pin	1.	+5V	6.	GND	11.	3.3V
		2.	+5V	7.	GND	12.	3.3V
		3.	+5V	8.	GND	13.	3.3V
		4.	GND	9.	+12V	14.	-12V
		5.	GND	10.	+12V		
TB3	Pin	1.	PS On/OFF	2.	GND	3.	+5Vsb