

SPECIFICATION

For

SWITCHING POWER SUPPLY

M/N: MPD-807H

Revision History

Version	Revise Date	Change Items
Rev. 01	Mar. 28. 2011	Updated safety approvals status.
Rev. 02	Aug. 23. 2013	Add note at input voltage 9V " Note: start up voltage is from 9.1VDC to 32VDC at rated load."
Rev. 03	Jan. 8. 2018	1. Changed form. 2. Added EN 55032.
Rev. 04	Dec. 20. 2018	Added output current to output field.



FEATURES

- ✓ Wide range DC input 9-32V.
- ✓ 100W with 8.6CFM forced air- cooling, 70W convection cooling.
- ✓ Compact size with ATX output.
- ✓ Power Good / Power Fail Signal.
- ✓ +5V Stand by & Remote On/Off.
- ✓ MTBF>130,000 hr. MIL-217F.

Models & Ratings

Model Number	Wattage (Rated / Max)	Output Voltage		Min. Current	Rated Current	Max. Current ^(Note 1)
		V1	V2			
MPD-807H	70 W / 100 W	V1	+5 V	0.5 A	5.0 A	8.0 A
		V2	+12 V	0 A	1.75 A	3.0 A
		V3	-12 V	0 A	0.5 A	-
		V4	+3.3 V	0 A	4.0 A	6.0 A
		V5	+5Vsb	0 A	0.75 A	-

Total Output Power: 100W at 50°C environment temperature. ^(Note 2)

Note:

1. The maximum total combined output power on the +3.3V and +5V rails is 40W.
- 2.

Convection cooling		With 8.6CFM forced air-cooling	
Input voltage	Output wattage	Input voltage	Output wattage
9Vdc	60W	9Vdc	80W
10-11Vdc	65W	10-11Vdc	90W
12-32Vdc	70W	12-32Vdc	100W

Summary

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Range	9	12 / 24	32	VDC	Continuous input range. ^(Note 1)
Efficiency		80		%	Nominal DC Input Voltage, rated load.
Operation Temperature	0		+50	°C	Derate linearly above 50°C by 2.5% per °C to a maximum temperature of 70°C At 100% load.
	0		+70	°C	Derate linearly above 50°C by 2.5% per °C to a maximum temperature of 70°C At 50% load.
Weight		632		g	
Dimensions	128.0 (L) x 81.0 (W) x 40.0 (H) mm, Tolerance +/- 0.4mm.				
EMC	EN 55022 / EM 55032 / CISPR 22 & FCC Part 15, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6				
Safety Approvals	EN 60950-1: 2006+A1: 2009				

Note:1. Start up voltage is from 9.1VDC to 32VDC at rated load.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	9	12 / 24	32	VDC	Continuous input range. ^(Note 1)
Input Current			15	A	Nominal DC Input Voltage, rated load.
Inrush Current			30	A	Nominal DC Input Voltage, one cycle at 25°C.
Input Protection	Non-user serviceable internally located DC input line fuse.				

Note:1. Start up voltage is from 9.1VDC to 32VDC at rated load.

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage		+5V		DC	
		+12V			
		-12V			
		+3.3V			
		+5Vsb			
Output Current		5.0	8.0	A	
		1.75	3.0		
		0.5			
		4.0	6.0		
		0.75			
Initial Set Accuracy	5.08		5.13	VDC	
	11.4		12.6		
	-11.4		-12.6		
	3.1		3.5		
	4.8		5.2		
Minimum Load		0.5		A	At +5V
		0			At+12 V, -12 V, +3.3 V, +5Vsb
Start Up Delay	0.3		4	Sec	Time required for initial output voltage stabilization.
Hold Up Time	3			ms	Nominal DC Input Voltage, rated load.
Line Regulation		±1.0 ^(V1) ±1.0 ^(V2) ±1.0 ^(V3) ±1.0 ^(V4) ±1.0 ^(V5)		%	Less than ±1% at rated load with ±10% changing in input voltage.
Load Regulation		±2.0 ^(V1) ±4.0 ^(V2) ±5.0 ^(V3) ±2.0 ^(V4) ±2.0 ^(V5)		%	Measured from 60% to 100% rated load and from 60% to 20% rated load (60% ±40% rated load).
Ripple & Noise		50 ^(V1) 120 ^(V2) 120 ^(V3) 50 ^(V4) 120 ^(V5)		mV	Measured by a 20MHz bandwidth limited oscilloscope and the each output is connected with a 10µF Electrolytic Capacitor and a 0.1µF Ceramic Capacitor.
Over Voltage Protection	The build-in over voltage protection circuit will shut down the outputs to prevent damaging external circuits. The trigger point is about 5.8-6.8V at +5V. If the OVP occur, PSU will into latch off model.				
Over Load Protection	Fully protected against output overload and short circuit. Automatic recovery upon of overload condition.				
Power On / Off	The power supply will be turned on when the power On/Off pin is connected to secondary GND.				
Power Good Signal	When power is turned on, the power good signal will go high 100ms to 500ms after all output DC voltages are within regulation limits.				
Power Fail Signal	The power fail signal will go low at least 1 mS before any of the output voltages fall below the regulation limits.				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		80		%	Nominal DC Input Voltage, rated load.
Isolation IP to OP	500			VDC	
Switching Frequency		60		KHZ	
MTBF			>130,000	hrs.	MIL-217F

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	0		+50	°C	Derate linearly above 50°C by 2.5% per °C to a maximum temperature of 70°C At 100% load.
	0		+70	°C	Derate linearly above 50°C by 2.5% per °C to a maximum temperature of 70°C At 50% load.
Storage Temperature	-40		+70	°C	
Relative Humidity	5		95	%RH	Non-condensing.
Cooling	8.6			CFM	Forced-cooled > 70W
Operating / Non-Operating Altitude		10000 / 40000		Feet	

EMC: Emissions

Phenomenon	Standard	Class	Notes & Conditions
Conducted	EN 55022 / EN 55032 CISPR 22 & FCC Part 15	B	
Radiated	EN 55022 / EN 55032 CISPR 32 & FCC Part 15	B	

EMC: Immunity

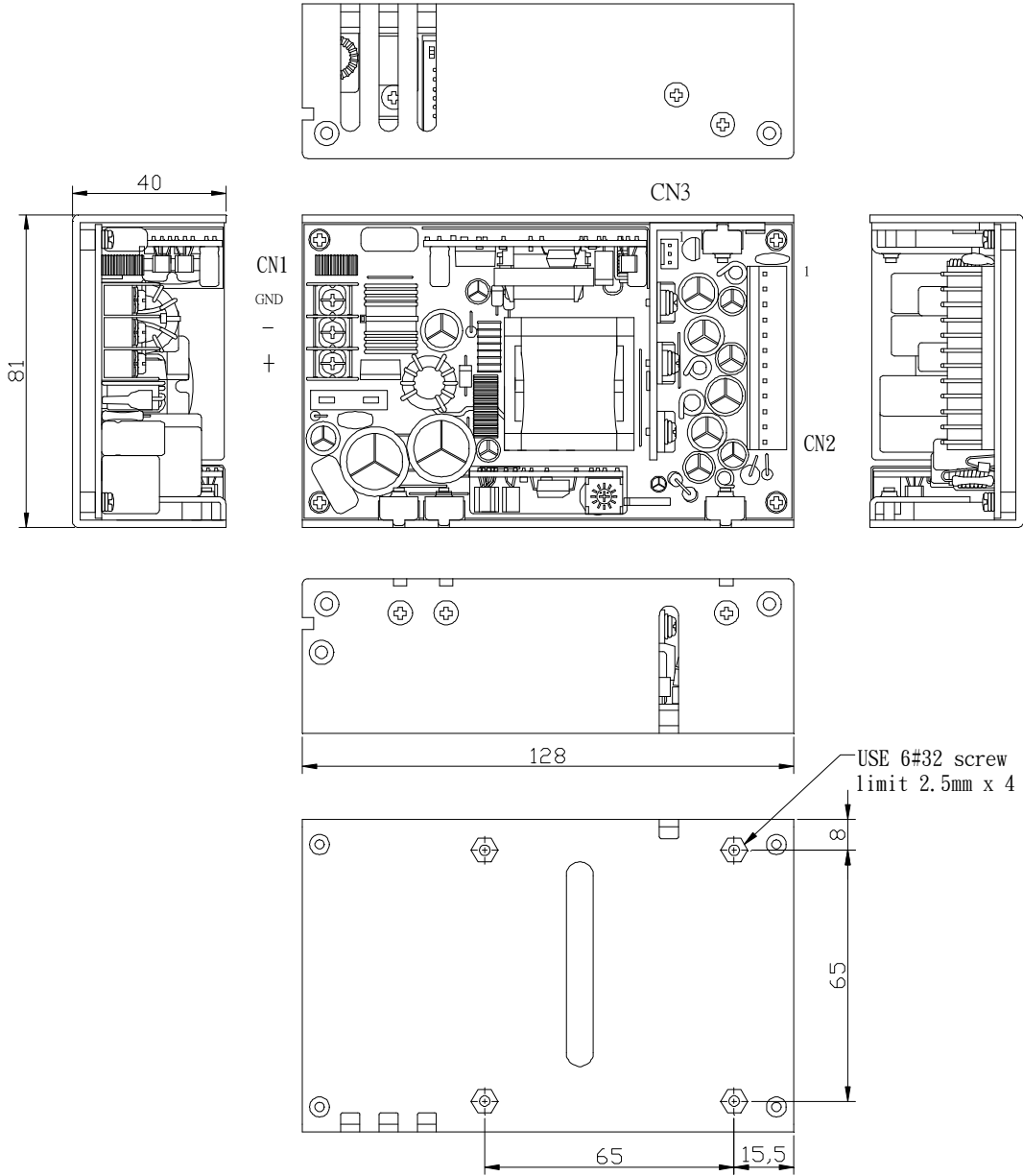
Phenomenon	Standard	Notes & Conditions
ESD	IEC 61000-4-2	±8KV air discharge, ±6KV contact discharge
Radiated	IEC 61000-4-3	3V/m
EFT	IEC 61000-4-4	2KV Line & PE
Surges	IEC 61000-4-5	±0.5KV, Line to earth & Line to Line
Conducted	IEC 61000-4-6	10V

Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
TUV	EN 60950-1: 2006+A1: 2009	Designed to meet.

Mechanical Details

SIZE : 128.0(L) x 81.0(W) x 40.0(H)mm, Tolerance +/-0.4mm.



Parameter	Conditions/Description					
Dimension	128 x 81 x 40 mm, Tolerance +/- 0.4mm.					
Connector	CN1 --- DC input: 3 pin terminal block					
	CN2 --- DC output: Molex 5273-12A or equivalent.					
	CN3 --- DC output: Molex 5045-03A.					
Pin Assignment	CN1	Pin	1. Positive	2. Negative		
	CN2	Pin	1. 3.3V	4. GND	7. +5V	10. PG/PF
			2. 3.3V	5. GND	8. +5V	11. +12V
CN3	Pin	3. GND	6. GND	9. +5V	12. -12V	
		1. +5Vsb	2. GND	3. PS on/off		

Options

Parameter	Conditions/Description
Cable (No. 866-806H)	ATX connector, HDD connector x 2, FDD connector x 1

Thermal Considerations

In order to ensure safe operation of the PSU in the end-use equipment, the temperature of the components listed in the table below must not be exceeded.

Temperature should be monitored using J type thermocouples placed on the hottest part of the component (out of any direct air flow). See Mechanical Details for component locations.

Temperature Measurements at max. amb.	
Component	Max Temperature
T1	110°C
Q2, Q3	120°C
D17	120°C
C3, C4	105°C
C19	105°C