SPECIFICATION

For

SWITCHING POWER SUPPLY

M/N: MPD-810H-V

Revision History

Version	Revise Date	Change Items
Rev. 01	Mar. 28. 2011	Updated the safety approvals status.
Rev. 02	Jan. 11. 2018	1. Changed form. 2. Added EN 55032.
Rev. 03	Dec. 22. 2018	Added output current to output field.

MPD-810H-V

120W DC / DC

FEATURES

- ✓ The MPD-810H-V is a 120 watts forced air cooling, 85 watts convection cooling, 30-120 VDC input, five outputs switching power supply, it is designed for use in General Purpose.

Models & Ratings

Model Number	Wattage (Rated / Max)	Output Voltage		Min. Current	Rated Current	Max. Current
MPD-810H-V	85 W / 120 W	V1	+5 V	1.0 A	8.0 A	10.0 A
		V2	+12 V	0 A	1.5 A	4.0 A
		V3	-12 V	0 A	0.5 A	1.0 A
		V4	+3.3 V	0 A	5.0 A	8.0 A
		V5	+5Vsb	0.1 A	0.75 A	-

Total Output Power: 120 watts with forced air cooling, 85 watts with convection cooling.

Note:

1. At the factory, the +5V output is set between 5.08V to 5.13V and all output at 60% rated load; 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. The maximum load cannot exceed 120W.

Summary

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Range	30	48 / 90	120	VDC	
Efficiency	70			%	While measuring at nominal line and rated.
Operation Temperature	-10		+50	°C	Output power is 120 watts forced air cooling, 85 watt convection cooling. Derate linearly above 50ºC by 2.5% per ºC to a maximum temperature of 70ºC
Weight		628		g	
Dimensions	141.6 (L) x 83.8 (W) x 38.0 (H) mm, Tolerance +/- 0.4mm.				
EMC	FCC docket 20780 ,EN 55022 / EN 55032, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4				
Safety Approvals	UL 60950-1 First Edition, CAN/CSA C22.2 No.60950-1				

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	30	48 / 90	120	VDC	
Input Current			7	A	At 30 VDC Input.
Inrush Current			70	A	At 120 VDC Input.

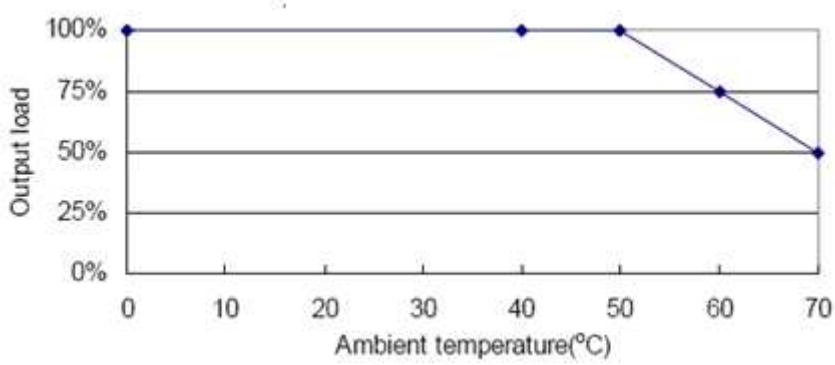
Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage		+5 V		DC	
		+12 V			
		-12 V			
		+3.3 V			
		+5Vsb			
Output Current		8.0	10.0	A	
		1.5	4.0		
		0.5	1.0		
		5.0	8.0		
		0.75			
Initial Set Accuracy	4.95		5.15	VDC	
	11.25		12.75		
	-11.75		-13.1		
	3.0		3.50		
	4.80		5.20		
Minimum Load		1.0		A	At Output Voltage +5V
		0			At Output Voltage +12 V, -12 V, +3.3 V
		0.1			At Output Voltage +5Vsb
Line Regulation		±2.5(V1) ±2.5(V2) ±2.5(V3) ±2.5(V4) ±2.5(V5)		%	Less than ±2.5% at rated load with ±10% changing in input voltage.
Load Regulation		±2.0(V1) ±5.0(V2) ±5.0(V3) ±5.0(V4)		%	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.
Ripple & Noise		100(V1) 120(V2) 200(V3) 100(V4) 120(V5)		mV	At rated load and nominal input, which is measured by a 20MHz bandwidth limited oscilloscope and the each output is connected with a 0.47µF capacitor.
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.				
Power good signal	The power is turned on, the power good signal will go high between100ms to 500ms after all output DC voltage are within regulation limits.				
Power fail signal	The power fail signal will go low at least 1ms before any of the output voltages fall below the regulation limits.				
Power On / Off	The power supply will start-up when the power On/Off pin be connected to secondary GND.				

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operation Temperature	-10		+50	°C	Output power is 120 watts forced air cooling, 85 watt convection cooling. Derate linearly above 50ºC by 2.5% per ºC to a maximum temperature of 70ºC
Storage Temperature	-40		+70	°C	
Relative Humidity	10		90	%RH	Non-condensing.
Operating Altitude	0		10000	Feet	

Derating curve



EMC: Emissions

Phenomenon	Standard	Class	Notes & Conditions
Conducted	FCC docket 20780, EN 55022 / EN 55032	B	
Radiated	FCC docket 20780, EN 55022 / EN 55032	B	

EMC: Immunity

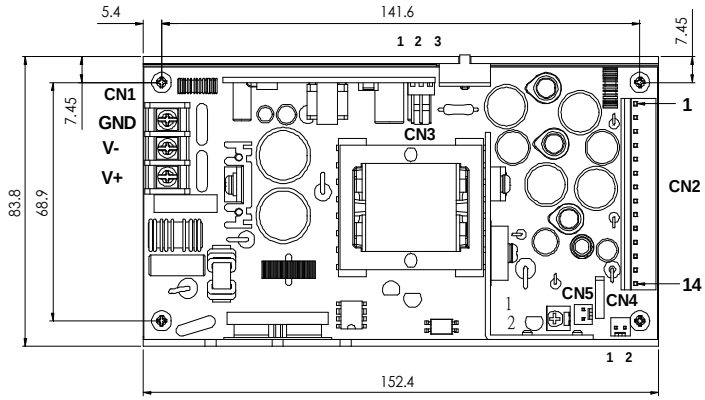
Phenomenon	Standard	Notes & Conditions
ESD	IEC 61000-4-2	±8KV air discharge
Radiated	IEC 61000-4-3	3V/m
EFT	IEC 61000-4-4	2KV

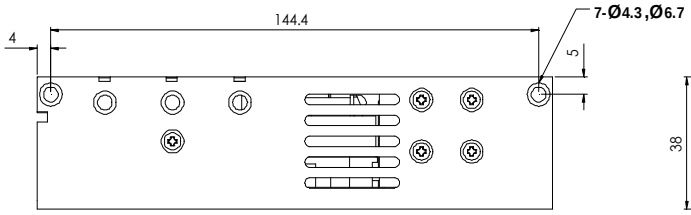
Safety Approvals

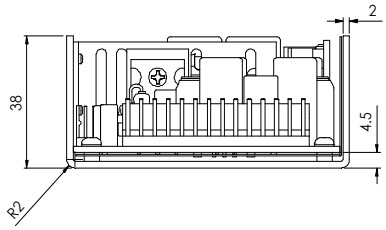
Safety Agency	Safety Standard	Notes & Conditions
UL/cUL	UL 60950-1 First Edition, CAN/CSA C22.2 No.60950-1	Approved.

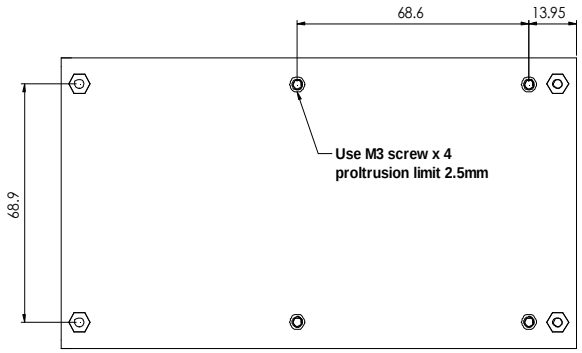
Mechanical Details

SIZE：141.6(L) x 83.8(W) x 38.0(H)mm, Tolerance specified is ±0.4mm.

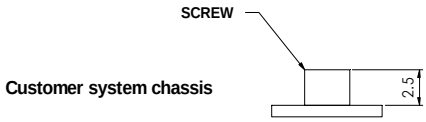








measuring the screw portrusion f irst:



Connectors

CN1 — DC input	:	Dinkle DT-35-B01W-03 or equivalent.
CN2 — DC output	:	Molex 5273-14A or equivalent.
CN3 — DC output	:	Molex 5045-03A or equivalent.
CN4 — Power Good output	:	Molex 5045-02A or equivalent.
CN5 — Fan output	:	Molex 5045-02A or equivalent.

DC output pin assignment

CN2	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		

CN3	Pin	1.	Power On/Off
		2.	GND
		3.	5Vsb

CN4	Pin	1. GND
		2. Power Good
CN5	Pin	1. GND
		2. +12V(For Fan)