

**SNP-X20H-M SPECIFICATION**

**SPECIFICATION**

**For**

**SWITCHING POWER SUPPLY**

**M/N : SNP-X20H-M**

**STANDARD PRODUCT**

Reviewed by Product Manager	<i>Clavis</i> 05/31/11	<i>Clavis</i> 01/11/11				
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<b>SKYNET ELECTRONIC</b>			<b>LAST REV. NO.</b>			

## 1.0 INTRODUCTIONS

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

The range of input voltage is from 90VAC to 264VAC. Nominal line 115VAC/230VAC.

### 2.2 Input frequency

The range of input frequency is from 47HZ to 63HZ.

### 2.3 Input current

The maximum input current is 5A at 115VAC or 3A at 230VAC.

### 2.4 Inrush current

Inrush current will not exceed 30A at 115VAC input or 60A at 230VAC input, cold start, 25°C.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

output	min. load	rated load	max. load	peak load	voltage accuracy
+60V	0A	3.3A	5A	9.15A	

At factory, +60V output is set between +59.70V to +60.30V at 60% rated load, nominal line.

At peak load, the output can last for 400m seconds without shut down.

+60V output can be adjusted  $\pm 10\%$  from +60V, but rated load and max. load power should be kept within 200W and 300W respectively.

200W with convection cooling, 200W~300W with 5.2CFMx2 forced air cooling.

### 3.2 Ripple and noise

The peak to peak ripple and noise is less than 100mV at rated load and nominal line.

Measuring is done by 15 MHz band width limited oscilloscope and terminated output with a 0.47uF capacitor.

### 3.3 Line regulation

The line regulation for +60V output is less than  $\pm 1\%$  while measuring at rated load and  $\pm 10\%$  of nominal line input voltage changing.

### 3.4 Load regulation

The load regulation for +60V output is less than  $\pm 1\%$ , measured by changing the output load  $\pm 40\%$  from 60% rated load at nominal line input.

### 3.5 Peak load start up capability

550W/115Vac, 380W/90Vac.

### 3.6 Capacitance loading capability

The capacitance loading capability can be up to 100000uF at 50% rated load.

**4.0 GENERAL FEATURES**

**4.1 Efficiency**

The efficiency is typical 87% while measuring at nominal line and rated load.

**4.2 Hold up time**

The hold up time is higher than 40mS at 115VAC input and rated load, which is measured from the end of the last charging pulse to when the main output drops down to 95% output voltage.

**4.3 Protection**

**4.3.1 Over voltage protection**

For some reasons, the power supply may fails to control itself. The build-in over voltage protection circuit will shut down the output to prevent damaging external circuits. The trip point is around 68V to 80.5V. To recover from over voltage protection, cycle the AC line OFF and ON is necessary.

**4.3.2 Short circuit and over load protection**

The power supply will generate a hiccup mode to protect itself against short circuit or over load conditions, and will return to normal after fault conditions are removed.

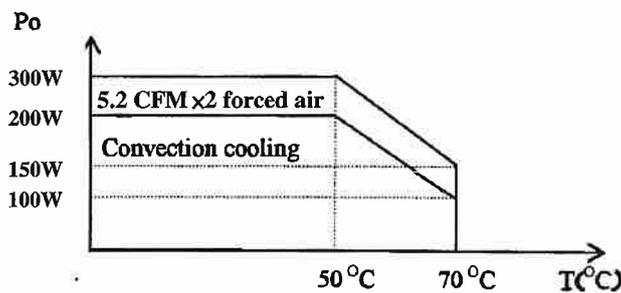
**4.3.3 Thermal protection**

This power supply has thermal protection. Protection mode is auto recovery.

**5.0 ENVIRONMENT SPECIFICATIONS**

**5.1 Operating temperature**

-20°C to 70°C (> 50°C with derating curve below)



**5.2 Storage temperature**

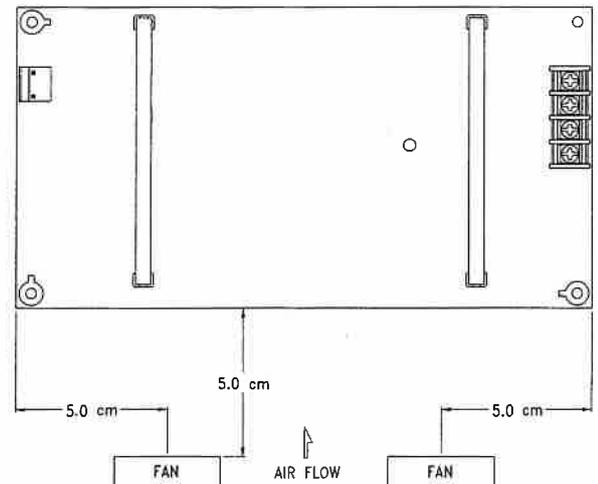
-40°C to 85°C

**5.3 Operating humidity**

10% to 90% Non-Condensing

**5.4 Altitude**

0 to 3000m.



## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety standards

Designed to meet the following standards : (Label Voltage is 100VAC~240VAC.)

UL 60601-1

CSA 22.2 NO.60601-1

EN 60601-1

### 6.2 EMI standards

Designed to meet the following limits :

FCC docket 20780 curve "B"

CISPR 22 "B"

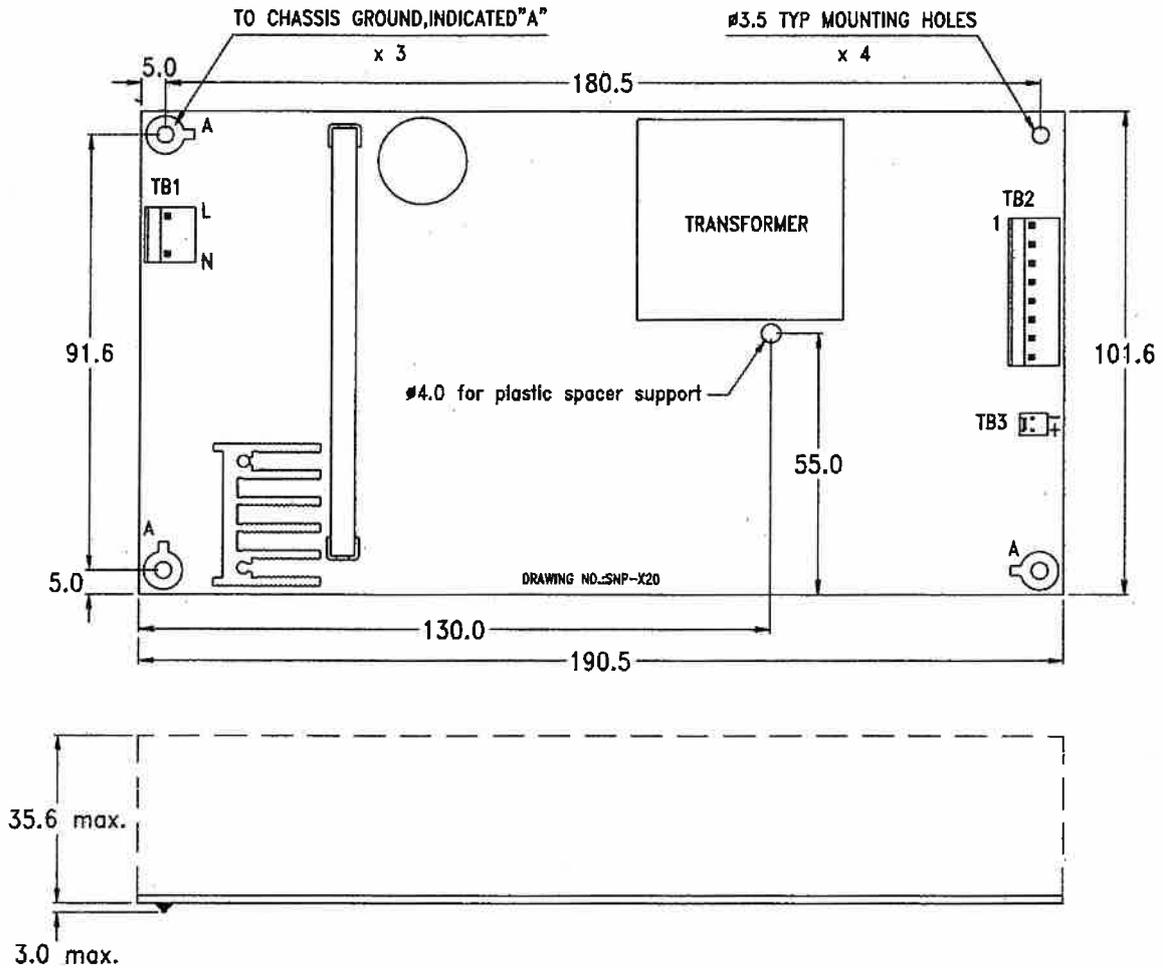
EN 61000-3-2 class "D"

### 6.3 EMS standards

Designed to meet the following limits :

EN61000-4-2	6KV contact; 8KV air discharge	Criterion A
EN61000-4-3	10V/M with 80% AM	Criterion A
EN61000-4-4	2KV	Criterion A
EN61000-4-5	Line to Line 1KV; Line to Earth 2KV.	Criterion A
EN61000-4-6	10V with 80% AM	Criterion A
EN61000-4-8	10A/m	Criterion A
EN61000-4-11	30% dips 10ms,	Criterion A
	60% dips 100ms,	Criterion C
	95% dips 5000ms,	Criterion C

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

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

7.2 Connectors

- TB1 - - AC input : Molex 5277-02A or equivalent
- TB2 - - DC output : Molex 5273-08A or equivalent
- TB3 - - For +12V fan use only : Molex 5045-02A or equivalent

7.3 DC output pin assignment

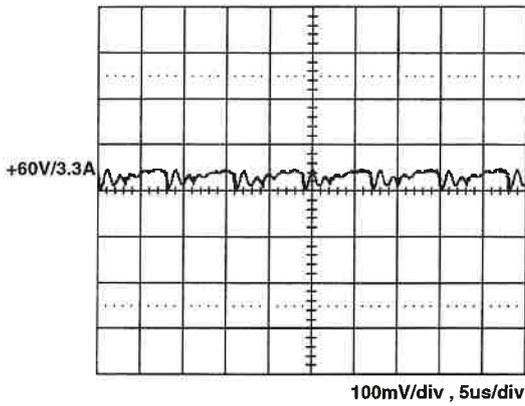
TB2 : Pin	1	GND	5	+60V
	2	GND	6	+60V
	3	GND	7	+60V
	4	GND	8	+60V

7.4 Packing

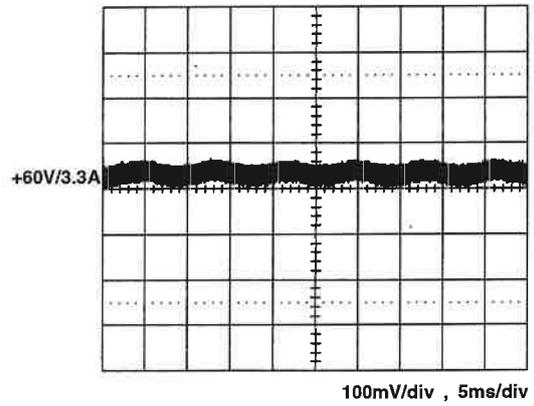
- Net weight : 475g approx. / unit
- Carton size (mm) : 489 (L) x 357 (W) x 285 (H) approx.
- Quantity : 24 units / carton
- Gross weight : 14.5kg approx. / carton

8.0 PERFORMANCE (input voltage is 115VAC, unless others specified)

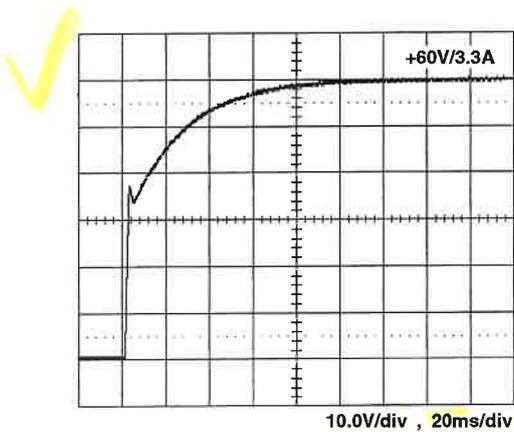
8.1 Switching frequency ripple



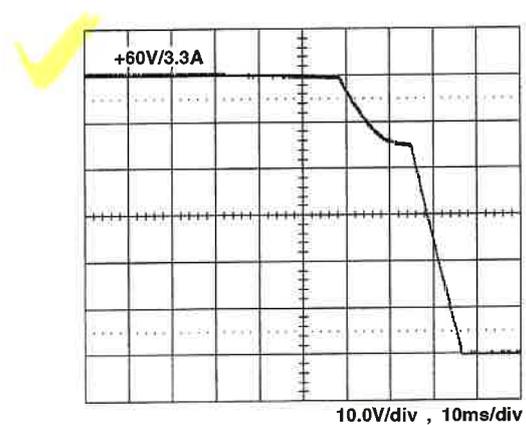
8.2 Line frequency ripple



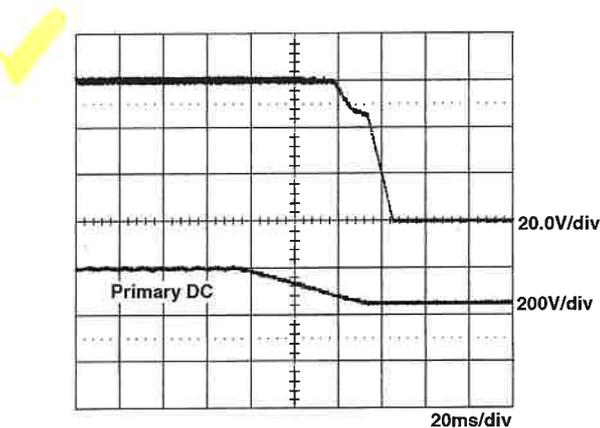
8.3 Output turn on wave form



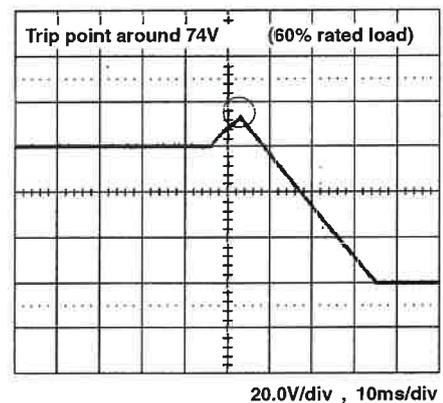
8.4 Output turn off wave form



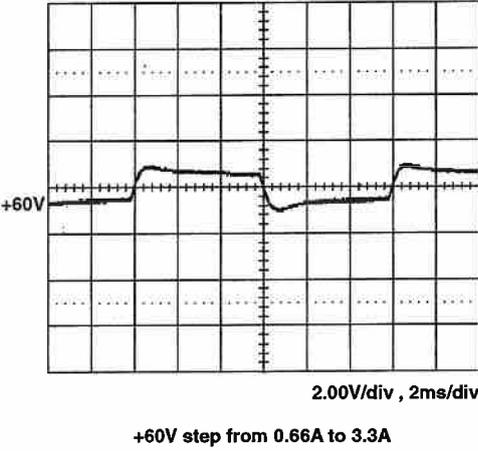
8.5 Hold-up time



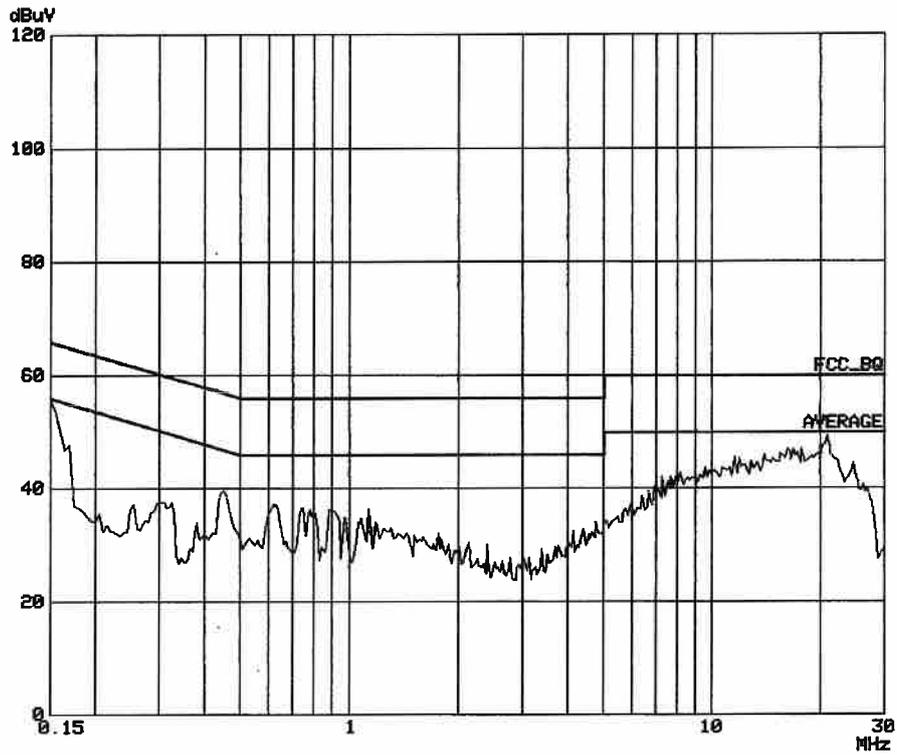
8.6 Over voltage protection



8.7 Step response



8.8 FCC B performance



8.9 CISPR 22 "B"

