

**SPECIFICATION**

and

**PERFORMANCE**

for

SWITCHING POWER SUPPLY

**M/N : SNP-B209**

Reviewed by Project Manager	張嘉振 12-25-03	張嘉振 09-01-06	張嘉振 09-13-07	張嘉振 09-20-07	張嘉振 11/6/19	
Typed by Document Assistant	林錦英 12-24-03	張惠芬 8-24-06	黃翠穎 09-13-07	黃翠穎 09-20-07	蕭瑞英 01/16/19	
SKYNET ELECTRONIC			LAST REV. NO.			

## 1.0 INTRODUCTIONS

SNP-B209 is single adjustable output switching power supply that designed for Machinery application.

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input Voltage

90VAC to 264VAC, Label: 100V to 240V.

Nominal line: 115VAC(60Hz) / 230VAC(50Hz).

### 2.2 Input frequency

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

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

output	min. load	rated load	peak load	voltage accuracy
+24V	0A	8.3A	10A	24V $\pm$ 2%

At factory, all outputs in 60% rated load and nominal line conditions, the 24V is set between 24.0V to 24.2V.

The output voltage shall be adjustable from 22V to 30Vdc.

The peak load can deliver up to 10 seconds.

The total continuous output power shall be kept within 200W.

### 3.2 Ripple and noise

The peak to peak ripple and noise is less than 50mV at rated load and nominal line input, measuring is done by 20MHz band width limited oscilloscope and terminated each output with a 0.47uF ceramic capacitor.

### 3.3 Line regulation

The line regulation is better than + -1% while measuring at rated load and  $\pm$ 10% of input voltage changing.

### 3.4 Load regulation

The load regulation is less than  $\pm$ 1%, the measuring is done by changing the output load from 0% to 100% of rated load and nominal line.

### 3.5 Capacitive Load

The power supply should be able to power up and operate normally with 10000uF capacitances simultaneously present on the DC outputs at rated load & nominal line.

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

The efficiency is 85% typical at rated load and nominal line.

### 4.2 Hold up time

The hold up time is longer than 20mS 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

Protects load against power supply induced over-voltage. The trip point is set around 32.0V to 37.0V.

Input power must be recycled ON/OFF to reset.

#### 4.3.2 Over load and short protection

The power will go into hiccup mode against overload and short circuit conditions, and will auto-recovery while fault conditions are removed.

#### 4.3.3 Over temperature protection

The PSU should protect itself when the temperature of components rise over the limitations.

#### 4.3.4 Input under-voltage protection

The power supply shall not damage when the input voltage is below 90VAC.

#### 4.3.5 Repetitive ON/OFF

The power supply shall not damage or cause the input fuse to blow when the AC input cycling ON/OFF.

### 4.5 Remote sensing

The output should have provisions for remote sensing to compensate for excessive cable drops. The power supply should draw no more than 10mA through the remote sense line to keep DC offset voltages to a minimum.

### 4.5 Power on indicator

Green LED on PCB nearby the Terminal blocks.

## 5.0 ENVIRONMENT SPECIFICATIONS

### 5.1 Operating temperature

0°C to 70°C, (-20°C could start up at nominal line, 50°C to 70°C can operate decreasingly 2.5%/°C from 50°C)

### 5.2 Storage temperature

-20°C to 85°C

### 5.3 Operating humidity

The power supply can operate from 5% humidity to 95% humidity non-condensing at 50°C.

**5.4 Altitude**

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

**6.0 INTERNATIONAL STANDARDS****6.1 Safety standards**

Designed to meet the following standards:

UL 60950 & 2601-1

CSA 22.2 NO.234 & No.950 & 601-1

EN 60950 & 60601-1

**6.2 EMI standards**

Designed to meet the following limits:

FCC docket 20780 curve "B"

EN55022 class "B"

**6.3 Harmonics**

Designed to meet the following limits

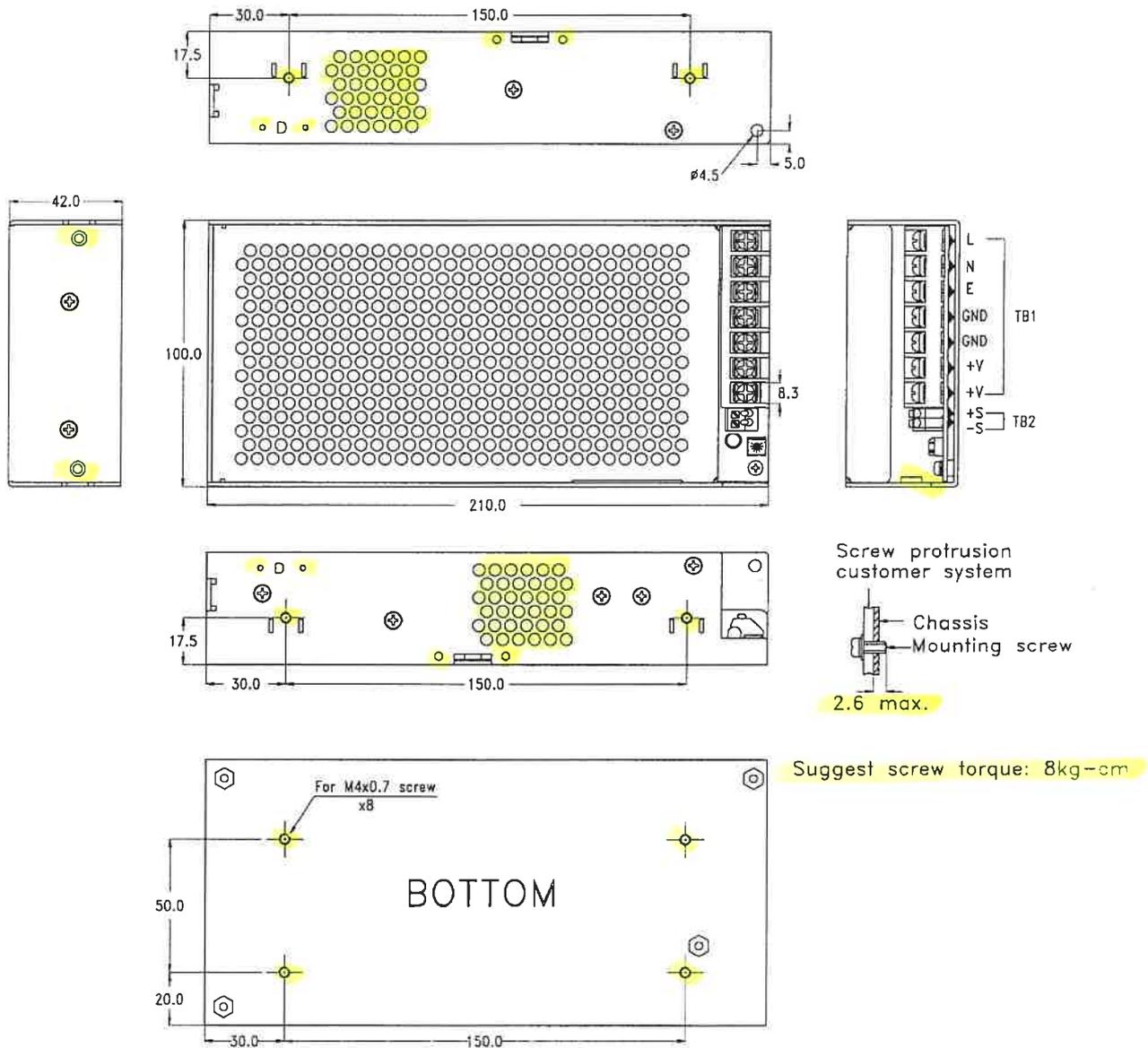
EN 61000-3-2 class D

**6.4 EMS standards**

Designed to meet:

EN61000-4-2	8KV contact discharge, 15KV air discharge	Criterion A
EN61000-4-3	10V/M 80%AM (1KHz)	Criterion A
EN61000-4-4	±2KV (100KHz)	Criterion A
EN61000-4-5	L-G ±2KV, L-L±1KV	Criterion A
EN61000-4-6	10V 80%AM (1KHz)	Criterion A
EN61000-4-8	30A/m	Criterion A
EN61000-4-11	30% dips 500ms,	Criterion A
	60% dips 200ms,	Criterion B
	100% dips 10ms,	Criterion A
	100% dips 5000ms,	Criterion B
	100% dips 20ms,	Criterion B

7.0 MECHANICAL SPECIFICATION



7.1 Dimensions

Dimensions shown in mm as above.

Tolerance specified is  $\pm 0.4$ mm between mounting holes,  $\pm 0.8$  mm other dimensions.

7.2 Connectors

TB1--AC Input & DC Output : Terminal Blocks.

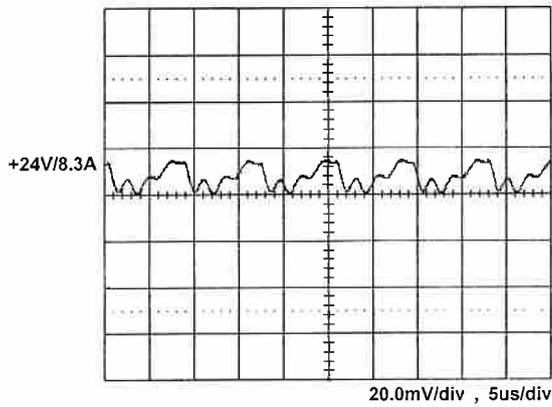
TB2--Remote sense : 2pins WAGO PCB terminal blocks  
(suitable wire 20~16AWG, wire trip length 8.5~9.5mm)

7.3 Packing

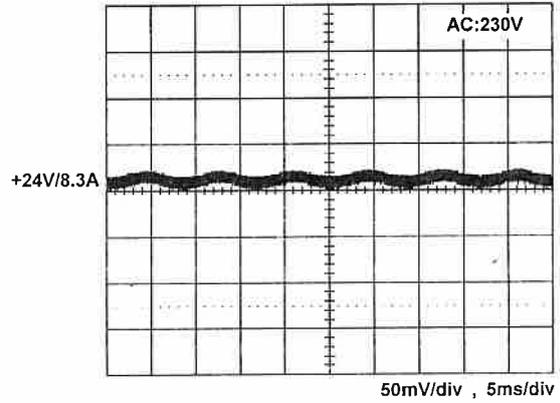
- Net weight : 760 g approx. / unit
- Carton size(mm) : 527 (L) x 322 (W) x 294 (H)
- Quantity : 14 units / carton
- Gross weight : 12.9 kg approx. / carton

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

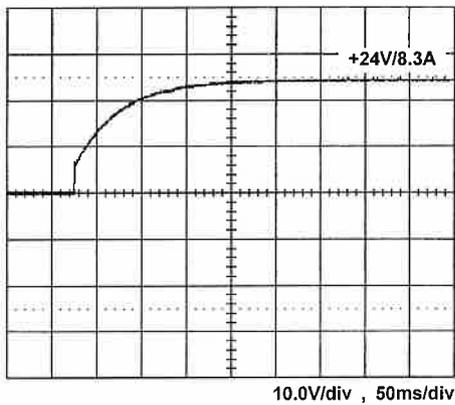
8.1 Switching frequency ripple



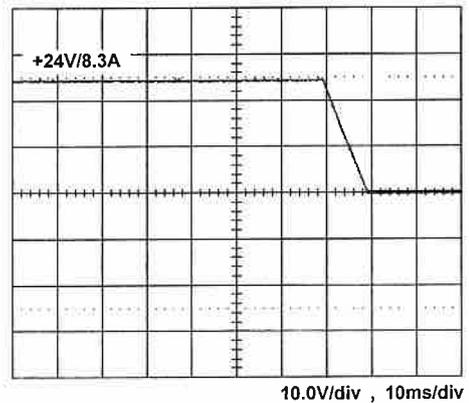
8.2 Line frequency ripple



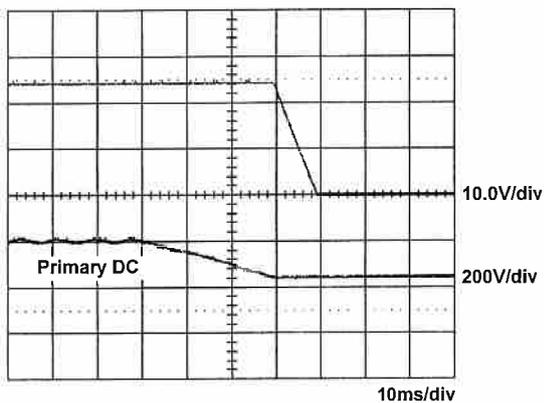
8.3 Output turn on wave form



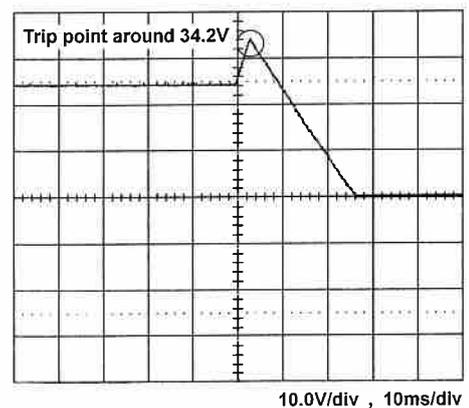
8.4 Output turn off wave form



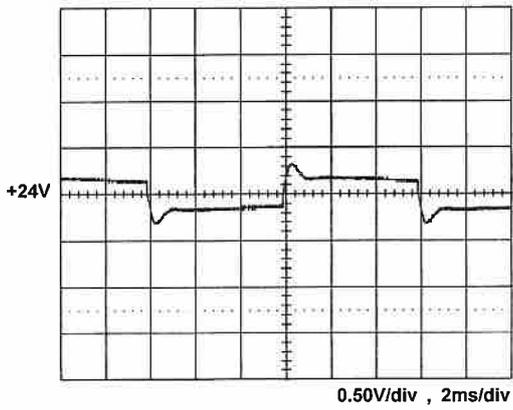
8.5 Hold-up time



8.6 Over voltage protection

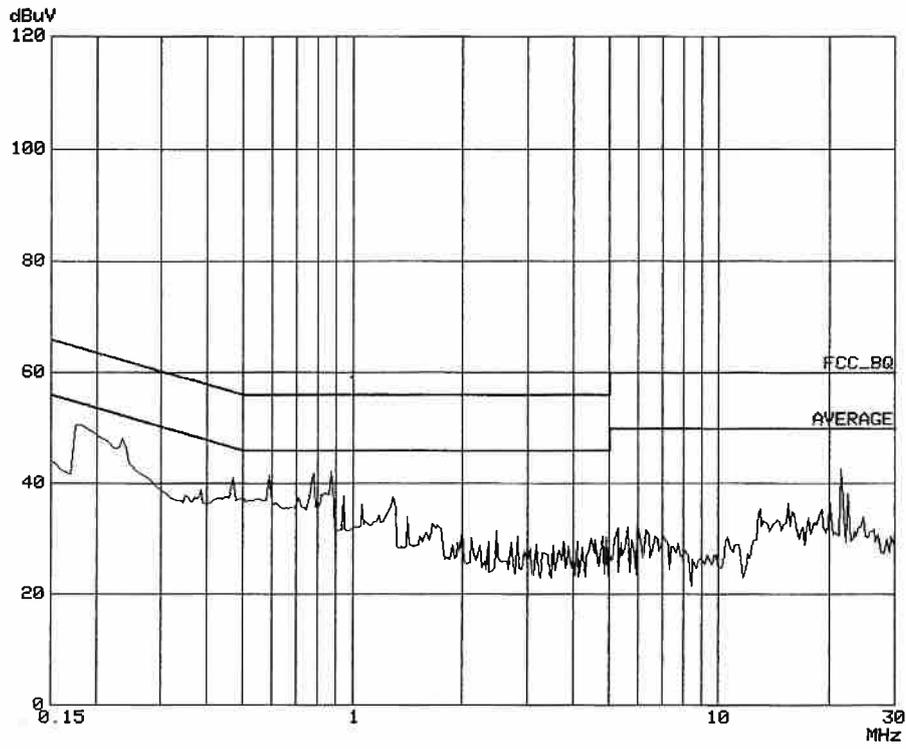


8.7 +24V step response



+24V step from 1.66A to 8.3A

8.8 FCC B performance



8.9 EN 55022 B

