

**SPECIFICATION**

and

**PERFORMANCE**

for

SWITCHING POWER SUPPLY

**M/N : SNP-B109**

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SKYNET ELECTRONIC			LAST REV. NO.			

## 1.0 INTRODUCTIONS

SNP-B109 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 2A at 115VAC or 1A 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	4.2A	6A	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 100W.

### 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 capacitor.

### 3.3 Line regulation

The line regulation is better than  $\pm$ 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 8000uF capacitances simultaneously present on the DC outputs at nominal line & rated load.

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

The efficiency is more than 84% 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 32V to 37V.

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.

### 4.4 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 4KV contact discharge, 8KV air discharge criteria A

EN61000-4-3 10V/M 80%AM (1KHz) criteria A

EN61000-4-4  $\pm 2$ KV criteria A

EN61000-4-5 L-G  $\pm 2$ KV, L-L  $\pm 1$ KV criteria A

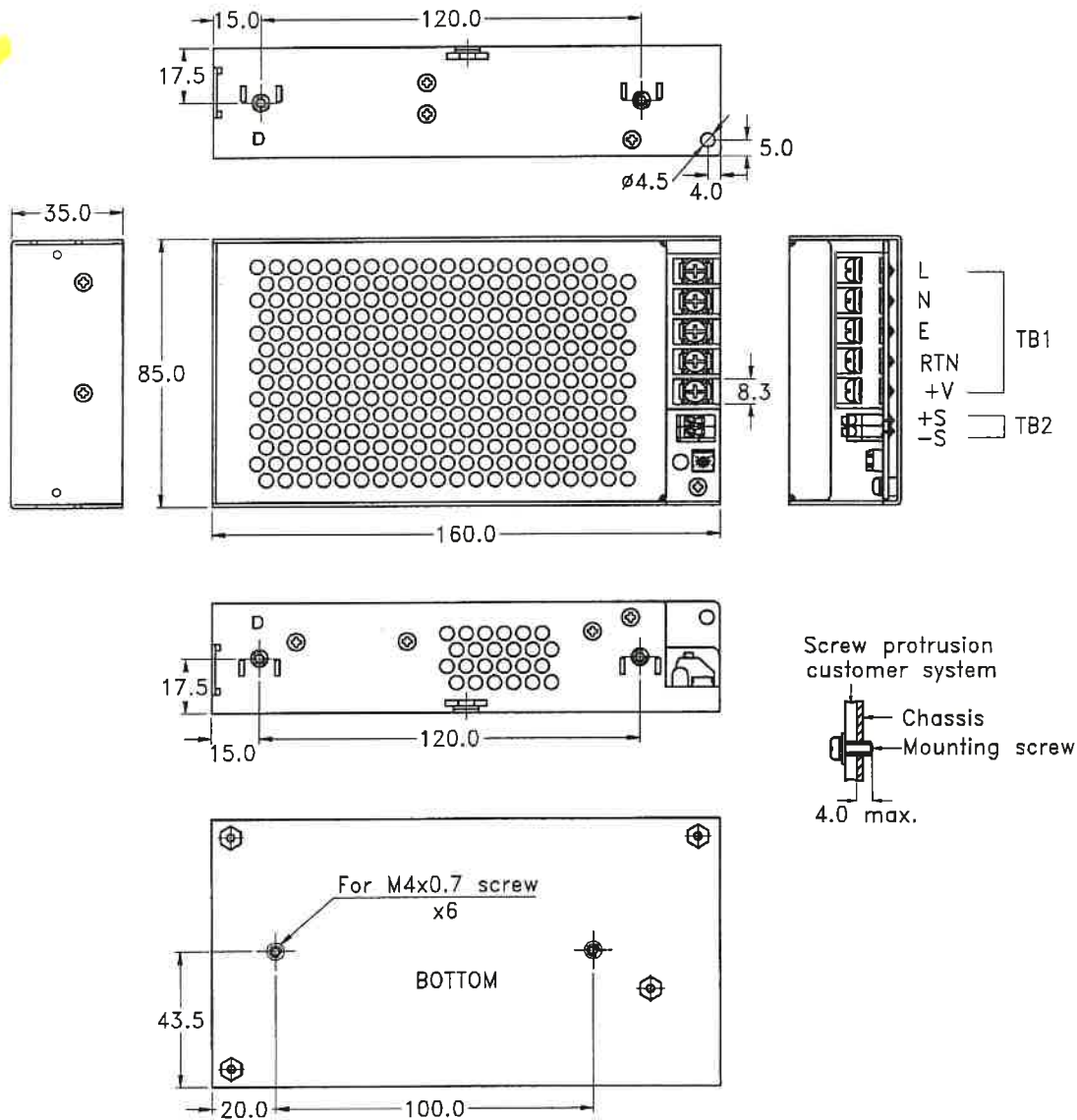
EN61000-4-6 10V 80%AM (1KHz) criteria A

EN61000-4-11 30% 0.5 periods criteria B

60% 5~50 periods criteria C

>95% 250 periods criteria C

**7.0 MECHANICAL SPECIFICATION**



**7.1 Dimensions**

Dimensions shown in mm as above.

Tolerance specified is + -0.4mm between mounting holes, + -0.8mm other dimensions.

**7.2 Connectors**

TB1--AC Input & DC Output : Terminal Blocks

TB2--Remote sense: 2 pins WAGO PCB terminal blocks

(suitable wire 20~16AWG, wire strip length 8.5~9.5mm)

**7.3 Packing**

Net weight : 480 g approx. / unit

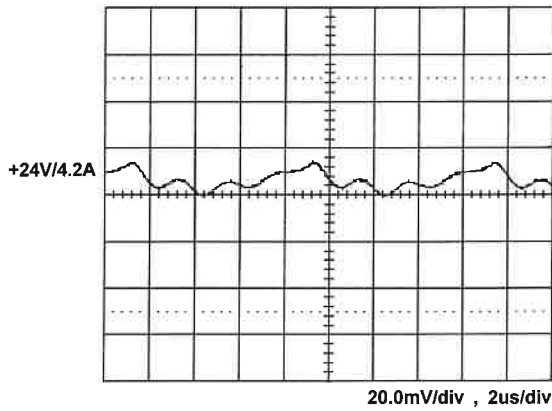
Carton size (mm) : 458 (L) x 360 (W) x 264 (H)

Quantity : 20 units / carton

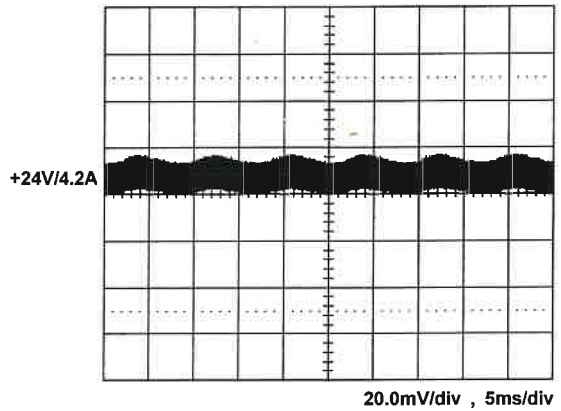
Gross weight : 12.7 kg approx. / carton

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

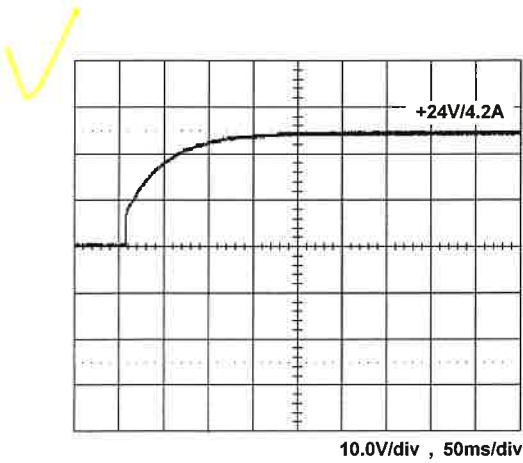
8.1 Switching frequency ripple



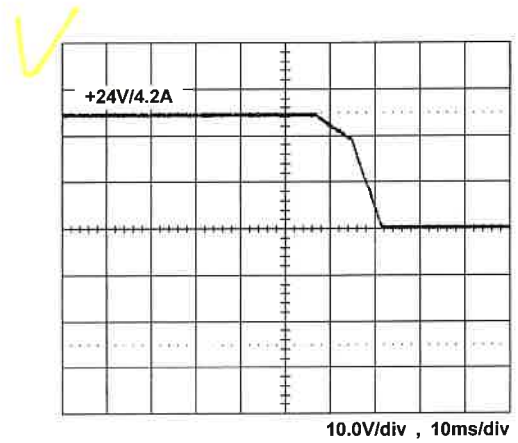
8.2 Line frequency ripple



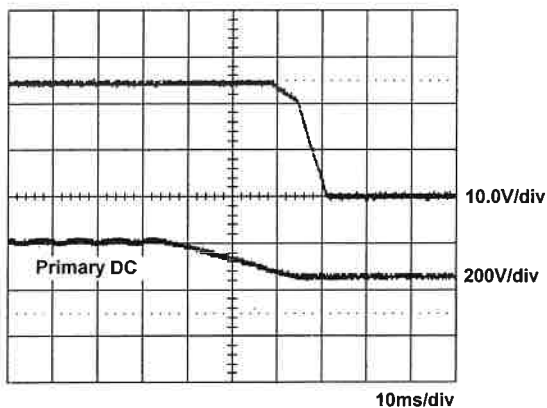
8.3 Output turn on wave form



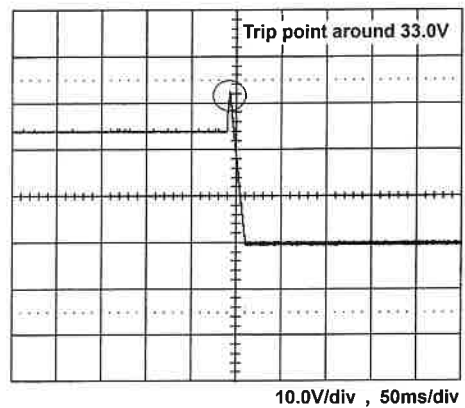
8.4 Output turn off wave form



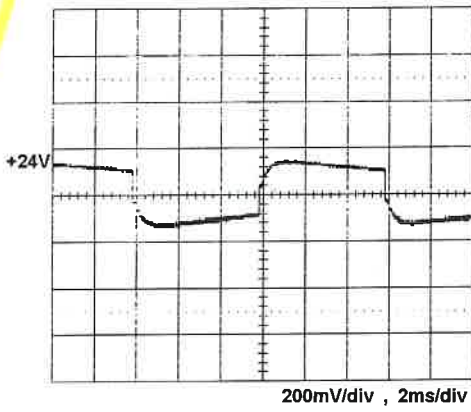
8.5 Hold-up time



8.6 Over voltage protection

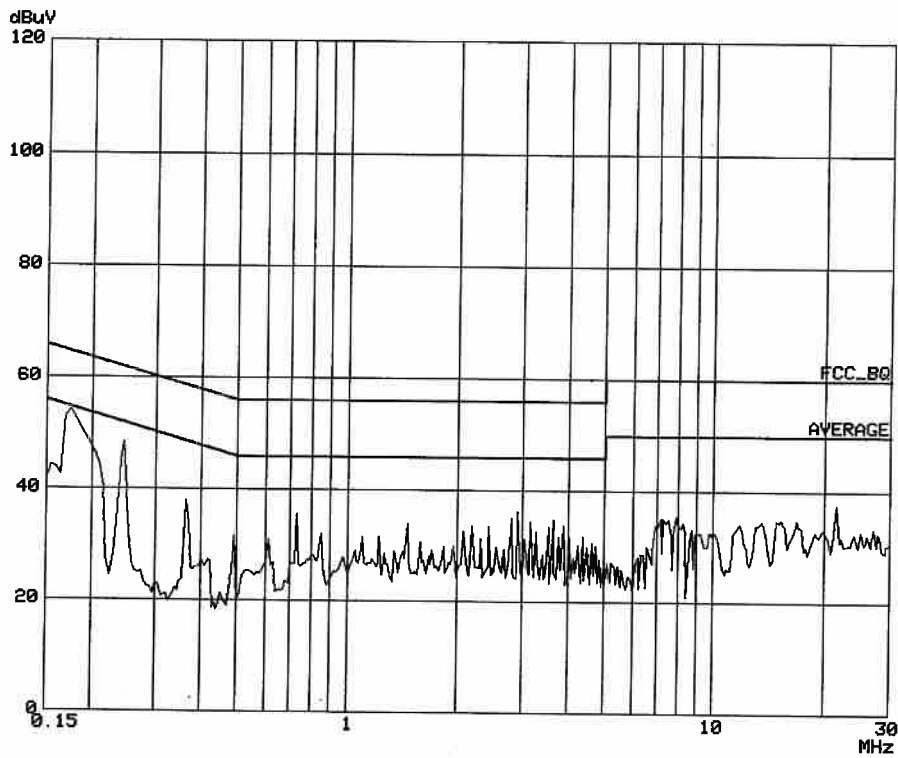


8.7 +24V step response



+24V step from 0.84A to 4.2A

8.8 FCC B performance



8.9 EN 55022 B

