

# SPECIFICATION FOR APPROVAL

**CUSTOMER:** \_\_\_\_\_

## AC/DC ADAPTER

**CUSTOMER DWG./PART NO.** 100-240VAC 50/60Hz OUTPUT:15VDC1.5A

**MODEL NO.** HNN150150A

**REV.:** A ISSUE

**DATE:** 2010-02-07

**Unit Color:** Black

White

APPROVED SIGNATURES/客户确认		
核准/APPROVED BY:	审核/CHECKED BY:	检测/TESTED BY:
		楊南聖 2010/2/26

Manufacturer/制造商		
核准/APPROVED BY	审核/CHECKED BY	制样/DESIGNED BY

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Switching power supply specification(class B)

HUONIU TECH P/N

CUSTOMER P/N:

HNN150150A

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**1 GENERAL**

**1.1 Description**

This specification defines the performance characteristics for a class II adapter.,single-phase0.3watts.Single output level power supply.

- Simple design philosophy.
- Overload Latch-off protection during either(a) specified power threshold requirements or(b)short circuit condition.
- Reliability level of30Khours MTBF&0.5% annual field failure rate @25°C.
- DC output voltage must be Safe Extra Low Voltage (SELV)&Limited Power as defined by IEC60065 3<sup>rd</sup> edition.

The maximum room ambient temperature(Tmra), as mentioned in clause 1.4.12 of IEC60065 3<sup>rd</sup> edition,for the external power supply is 40°C.

- Cooling:natural convection.

**2 INPUT REPUIREMENTS**

**2.1 Input Conditions**

The Supply shall operate over the voltage ranges as follows:

Rated input voltage	100-240Vac
Operating range	90-264Vac
Rated input frepency	50/60Hz +/-3Hz
Rateg input current	1.0A max
Maximum input power	27.5W
Power consumption (no loading)	Max.0.3W(input:230VAC 50Hz)
Primary current protection	An adequate internal fuse on the AC input line is provide
configuration	<u>2</u> Conductor

**2.2 AC Inrush Current**

Peak inrush current shall be limited to30A for a cold start. Under both cold & warm start conditions, ther shall be no immediate damage or long term impact on the reliability of the Supply. The conformance test for this repuirement shall be performed at +12.5% of the rated input voltage. Voltage and current waveforms will be observed on an oscilloscope following closure of the external power switch. Switch closure will be repeated until the waveforms show coincident with a voltage peak. The current measured during this occurrence will be defined as the peak inrush current.

**3 OUTPUT REPUIREMENTS**

3.1	Nominal dc output voltage	+15.0V
3.2	Minimum load current	0.00A
3.3	Rating load current	1.5A
3.4	Peak load current	/

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3.5	Rating output power	22.5W
3.6	Line regulation	The line regulation is less than $\pm 5\%$ while measuring at rated and +/-10% of input voltage changing.
3.7	Load regulation	The load regulation for <u>+15.0V</u> is less than $\pm 5\%$ , at measured output load from 10% to 100% rated load.
3.8	Peak load regulation	The peak load regulation for <u>+15.0V</u> is less than $\pm 5\%$ , at measured output load from 30% to 100% rated load.
3.9	Ripple and noise	120mVpp Max
		At 20MHz, and output parallel with a 100nf ceramic capacitor and a 10μF electrolytic capacitor to ground temperature at 25°C, and nominal AC input voltage
3.10	Switching efficiency	<u>81.67%</u> minimum
		At nominal input voltage and full load
3.11	Turn on delay time	<u>2S</u> At nominal input AC voltage and full load
3.12	Rise time	The Supply shall have a start-up rise time of less than <u>20mS</u> to rise to within regulation limits for all DC outputs.
3.13	Hold up time	<u>12mS</u> minimum At nominal input AC voltage and full load
3.14	Temperature coefficient	Output voltage temperature coefficient $\pm 0.15\%/^{\circ}\text{C}$
3.15	LED indication function	/
3.16	Protection function	
3.17	Short-circuit protection	ok
	Over current protection	The power supply will be protection when output power over

**4 MECHANICAL**

4.1 Enclosure And Layout

Plastic case: UL94V-1

Dimensions: 80X46X28 mm

Colour: black

4.2 Input and Output Configuration

Input pin: US PIN

Output connector: dc plug type:DC2.1\*5.5\*10mm

Polarity: inside”+” outside:”-”

Cable: (1200mm) VW-1SC 80°C 300V 2464+core 22AWG 2C BLACK

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**5 REGULATORY COMPLIANCE**

5.1 Safety Requirements and Certification

5.1.1 Additional Safety Requirements

- ✧ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): **3000 Vac,5m A, 1 minute.**
- ✧ Insulation Resistance,Input to output: **10MΩ at 500VDC.**
- ✧ **Reinforced insulation system,Primary-to-Ground and Primary-to-Secondary.**
- ✧ The leakage current shall not exceed **0.25m A.**

**6 ENVIRONMENTAL REQUIREMENTS**

6.1 Temperature

- ✧ Operating: **0°C+45°C**
- ✧ Non-Operating: **-20°C+65°C**

6.2 Humidity

- ✧ Operating: 10%~90%(Non Condensing)
- ✧ Non-Operating: 10%~90% (Non Condensing)

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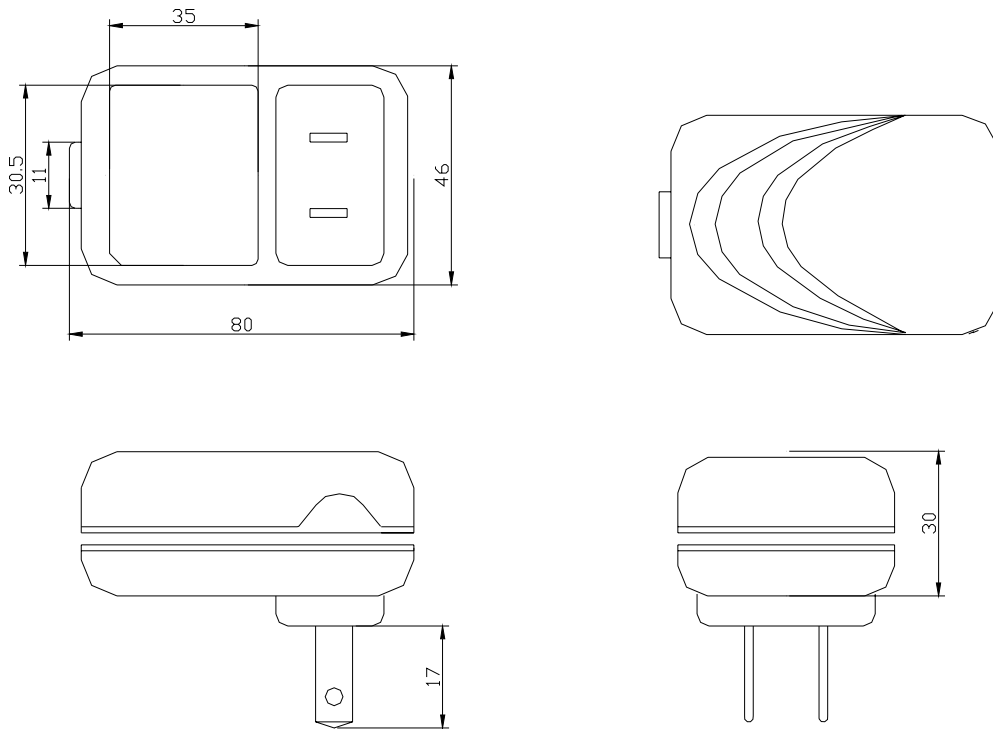
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**7 APPEARANCE DRAWING:(Unit:mm)**



Unit: mm  $\pm 0.5$ mm

NOTE:1.Case cover&chassis material:

PPHOX (UL94V-1)BLACK

2.AC PIN MATERIAL:BRASS(NIPLATED)

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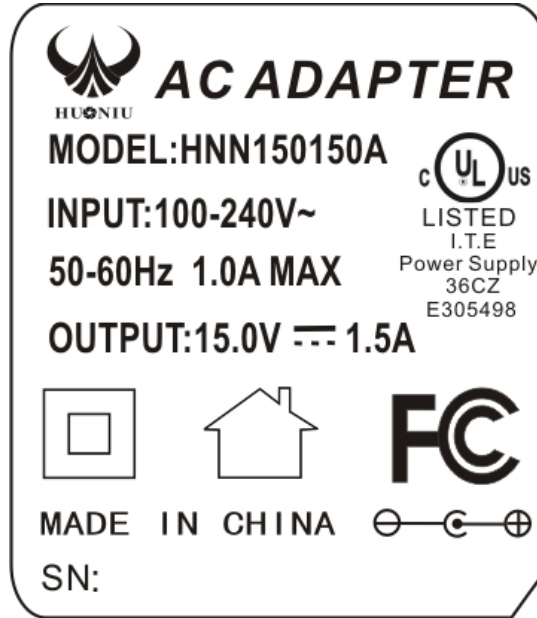
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**8 NAME PLATE:**



Size:30.5\*35mm

Note:1.MATERIAL:POLYESTER+PET; COATING:0.25+-0.05mm

2.White characters Black background

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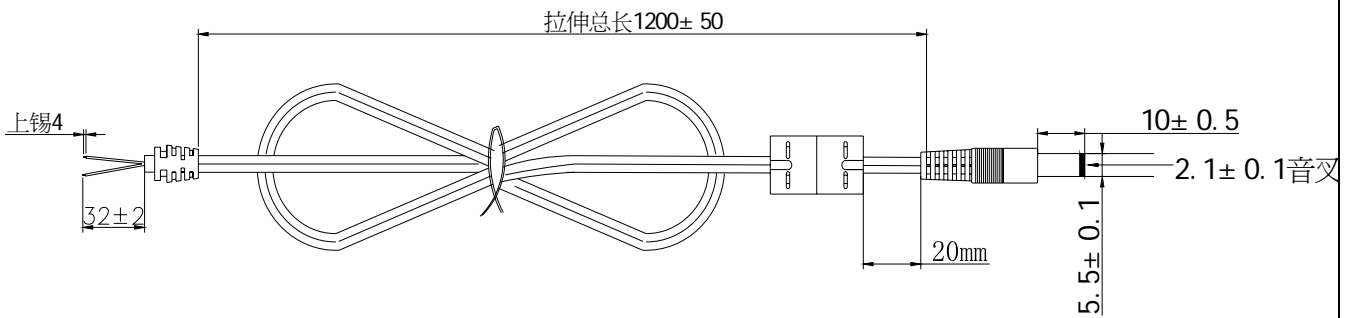
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**9 DIMENSION OF OUTPUT PLUG&DC CORD (Unit:mm)**



- NOTE:1.WIRE TYPE: 1200mm VW-ISC 80°C 300V 2464+core 2C BLACK 22AWG  
 2.WIRE jacket material:pvc (94V-0)  
 3.THE POLARITY: inside “+” outside: “-”



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