

**SPECIFICATION FOR APPROVAL  
AC/DC ADAPTOR**

**CUSTOMER SPEC: INPUT: 100-240V AC 50/60Hz OUTPUT: 12VDC2000mA**

**PART NO. SW3114LUG-B**

**SAMPLE NO: \_\_\_\_\_ REV.: A ISSUE      DATE: 2013-10-24**

**PRODUCT NO: \_\_\_\_\_**

**Unit Color: Black**

**White**

**APPROVED SIGNATURES/客户确认**

核准/APPROVED BY	审核/ CHECKED BY:	检测/TESTED BY:

**Manufacturer/制造商**

业务/SALES	品管/QE	核准/APPROVED BY	制样/DESIGNED BY
刘伊倩	周松平	宋军	毛银娥

## Project Modify List

<b>Item</b>	<b>Content</b>	<b>Rev.</b>	<b>Date</b>	<b>Designed By</b>	<b>Checked By</b>
1	First REV.	A	2013-10-24	LVYAO	LINYINGQING
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## 1 GENERAL

### 1.1 Description

This specification defines the performance characteristics for a class II adapter., single-phase 24 watts. 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 of **50K** hours MTBF @ 25° C (rated input voltage, and using the BELLCORE SR-332 method).
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC60950-1.

The maximum room ambient temperature ( $T_{mra}$ ), as mentioned in clause 1.4.12 of IEC 60950-1, for the external power supply is **40°C**.

- Cooling: natural convection.

## 2 INPUT REQUIREMENTS

### 2.1 Input Conditions

The Supply shall operate over the voltage ranges as follows:

Rated input voltage	<b>100-240Vac</b>
Operating range	<b>90-264Vac</b>
Rated input frequency	<b>50/60Hz +/- 3Hz</b>
Rated input current	<b>0.6A max.</b>
Maximum input power	<b>29.24W</b>
Input current (no loading)	<b>≤25mA</b>
Power consumption (no loading)	<b>Max. 0.3W</b>
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 to **120 A** for a cold start. Under both cold & warm start conditions, there shall be no immediate damage or long term impact on the reliability of the Supply. The conformance test for this requirement 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 closure coincident with a voltage peak. The current measured during this occurrence will be defined as the peak inrush current.

## 3 OUTPUT REQUIREMENTS

3.1	Nominal dc output voltage	<b>+12.0V</b>
3.2	Minimum load current	<b>0.0A</b>
3.3	Rating load current	<b>2.0A</b>

3.4	Peak load current	/
3.5	Rating output power	<b>24W</b>
3.6	Line regulation	The line regulation is less than <u>±5%</u> while measuring at rated load and +/-10% of input voltage changing.
3.7	Load regulation	The load regulation for <u>+12.0V</u> is less than <u>+/-5%</u> , at measured output load from 10% to 100% rated load .
3.8	Peak load regulation	The peak load regulation for <u>+12.0V</u> is less than <u>/</u> , at measured output load from 30% to 100% rated load.
3.9	Ripple and noise	<b>150 mVp-p</b>
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
3.10	Switching efficiency	<b>82.1%</b> minimum
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.
3.11	Turn on delay time	<b>3000 mS</b> At nominal input AC voltage and full load
3.12	Rise time	The Supply shall have a start-up rise time of less than <b>20 mS</b> to rise to within regulation limits for all DC outputs.
3.13	Hold up time	<b>7 mS</b> minimum At nominal input AC voltage and full load
3.14	Output over-shoot	Less than <u>7%</u> of nominal voltage value
3.15	Temperature coefficient	Output voltage temperature coefficient ±0.05%/°C
3.16	LED indication function	/
3.17	Protection function	
	Short-circuit protection	The adapter shall <b>not damage and with auto recovery function</b> by short the DC output to Ground.
	Over current protection	The power supply will be protection when output power at <b>110-200%</b> of all rated dc output

## 4 MECHANICAL

### 4.1 Enclosure And Layout

Plastic case: **UL94V-1**  
 Weight : **138 g** (Max.)  
 Dimensions: **112\*49.8\*35.1 mm**  
 Colour : **BLACK**

### 4.2 Input and Output Configuration

Input pin: **H03 VVH 2-F 2X0.75 mm 300V VDE 100mm 剥度 25mm**  
 Output connector : dc plug type: **5.5\*2.1\*12mm(FORK AND GROOVE)**  
 Polarity: **center:"+"**

**Cable: 1.5m VW-1 80°C 300V 2468 22AWG 2C BLACK+WHITE(FORK AND GROOVE)  
(PAHS REACH ROHS)**

## 5 REGULATORY COMPLIANCE

### 5.1 Safety Requirements and Certification

#### 5.1.1 Regulatory Standard

The power supply shall comply the following international regulatory standards

for short	Country	Certified Status	Standard/标准
UL	USA/美国	/	UL 60950-1
CSA	Canada/加拿大	/	CSA C22.2 NO.950
TUV	Europe/欧洲	/	TUV/VDE-EN60950-1
CE	Europe/欧洲	Meet	Declared& CE Mark
UK	Britain/英国	/t	EN60950-1:2000
TCA	Australia/澳洲	/	AS/NZS 60950

#### 5.1.2 Additional Safety Requirements

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

## 6 ENVIRONMENTAL REQUIREMENTS

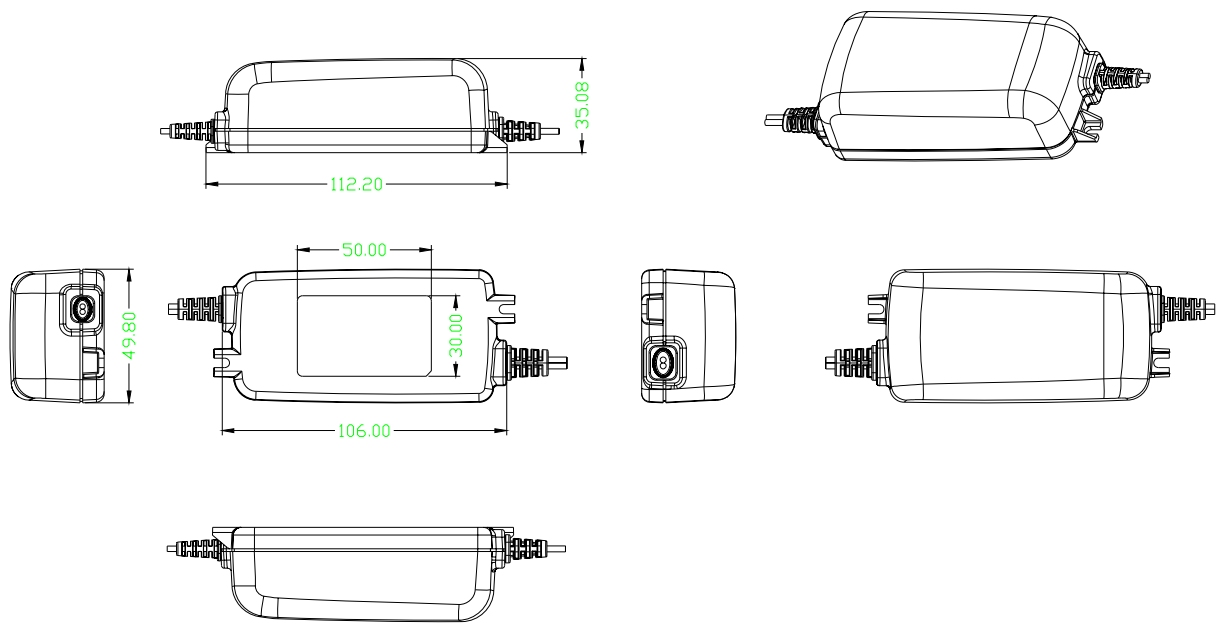
### 6.1 Temperature

- ⊙ Operating: **0 °C +40 °C**
- ⊙ Non-Operating: **-20 °C +80 °C**

### 6.2 Humidity

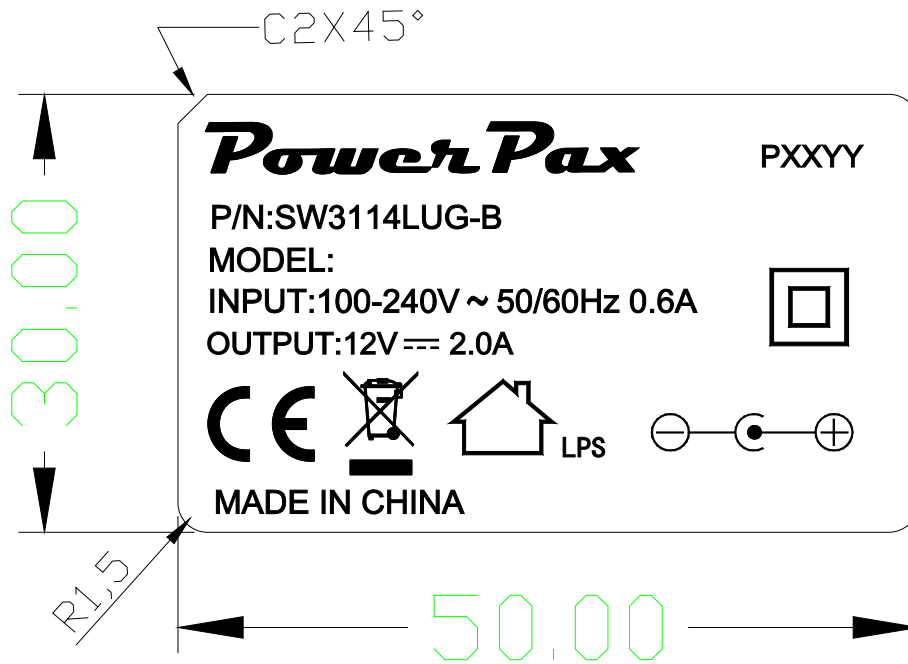
- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

7 APPEARANCE DRAWING: (Unit: mm)



- NOTE: 1. Case cover & chassis material:  
SE-1/SE-100 BLACK  
2. AC PIN MATERIAL: BRASS (NI PLATED)  
3. PAHS REACH ROHS

8 NAME PLATE:



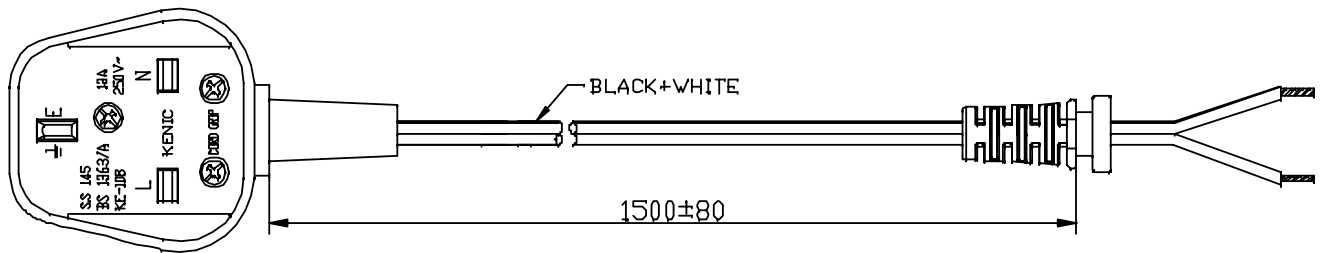
Note: 1.  MATERIAL: POLYESTER+PVC; COATING:0.25+-0.05mm  
White characters Black background  
PAHS REACH ROHS

2.  Laser (镭射)  
DATE CODE (PXXYY P=PAHS XX=WEEK YY=YEAR)  
按实际生产日期制作



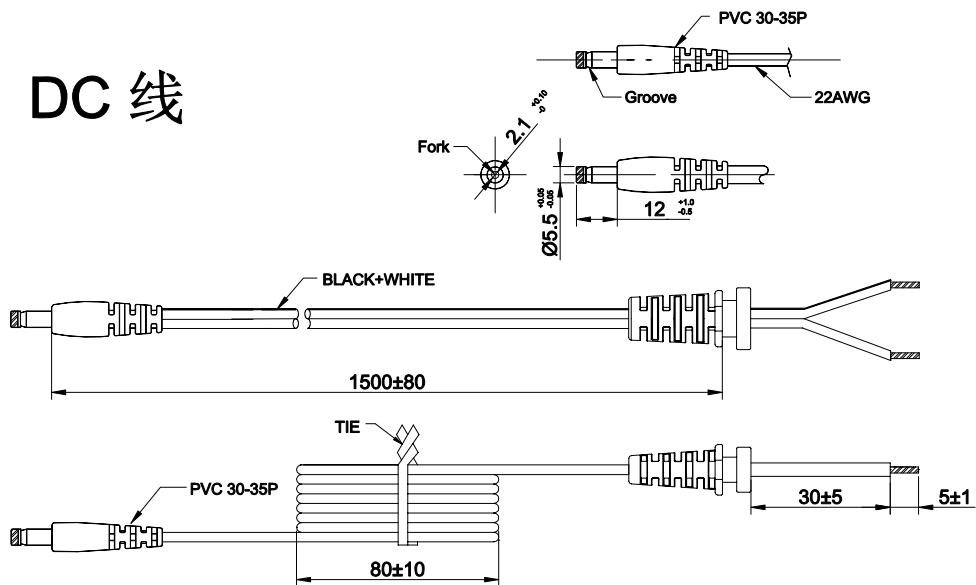
9 DIMENSION OF OUTPUT PLUG & DC CORD (Unit: mm)

## AC 线



特殊要求备注:  
1. 环保要求:符合ROHS, REACH, PAHS<10PPM;

## DC 线



NOTE: (unit:mm)

1). WIRE TYPE: VW-1 80°C 300V L=1500mm 2468 22AWG 2C BLACK+WHITE  
BLACK and WHITE—Positive BLACK—Negative

2). THE POLARITY:  $\ominus$   $\oplus$   $\oplus$

3). PAHS REACH ROHS