PowerPax UK

SPECIFICATION FOR APPROVAL
AC/DC ADAPTOR

CUSTOMER SPEC:INPUT: 100-240V AC 50/60Hz OUTPUT: 5.0VDC 1000mA

CUSTOMER DWG./PART NO. _____

PART NO. SW4492-V4

SAMPLE NO: S78856 REV.: B ISSUE DATE: 2016-5-6

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	贺洪明	陈彩云

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Project Modify List

Item	Content	Rev.	Date	Designed By	Checked By
1	First REV.	A	2016.01.07	Chenxian	Limin
2	Update Polarity and label	B	2016.5.6	Chenxian	Limin
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1 GENERAL

1.1 Description

This specification defines the performance characteristics for a class Ⅱ adapter., single-phase 5.0 watts. Single output level power supply.

- Simple design philosophy.
- 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 IEC60950-1, for the external power supply is 50°C.

- Cooling: natural convection.

2 INPUT REQUIREMENTS

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 frequency	50/60Hz +/- 3Hz
Rated input current	0.18A max.
Maximum input power	7.15W
Input current (no loading)	≤20mA
Power consumption (no loading)	Max. 0.1W
Primary current protection	An adequate internal fuse on the AC input line is provide.
Configuration	2 Conductor

2.2 AC Inrush Current

No damage shall be occurred and the input fuse shall not be blown up nominal input voltage full load 25°C cold start.

3 OUTPUT REQUIREMENTS

3.1	Nominal dc output voltage	+5.0V
3.2	Minimum load current	0.01A
3.3	Rating load current	1.0A
3.4	Rating output power	5.0W
3.5	Line regulation	The line regulation is less than±5% while measuring at rated load and +/-10% of input voltage changing.
3.6	Load regulation	The load regulation for +5.0V is less than ±5%, at measured output load from 0% to 100% rated load .

3.7	Ripple and noise	200mVnominal input AC voltage at 25℃
		Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.
3.8	Switching efficiency	73.62% minimum
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%.
3.9	Turn on delay time	4000mS At nominal input AC voltage and full load
3.10	Rise time	The Supply shall have a start-up rise time of less than 50mS to rise to within regulation limits for all DC outputs.
3.11	Hold up time	8 mS minimum At nominal input AC voltage and full load
3.12	Output over-shoot	Less than 10% of nominal voltage value
3.13	Temperature coefficient	Output voltage temperature coefficient ±0.05%/℃
3.14	LED indication function	/
3.15	Protection function	
	Short-circuit protection	The adapter shall not be damaged by short the DC output to Ground. The adapter shall resume normal operation when a short circuited fault condition is removed.
	Over current protection	The output shall be protected against the over current conditions. A power cycle shall be required to restore normal operation.

4 MECHANICAL

4.1 Enclosure And Layout

Plastic case: UL94V-1
Weight : /g (Max.)
Dimensions: 55.1*49.5*42.49mm
Colour : BLACK

4.2 Input and Output Configuration

Input pin: UK PIN
Output connector : dc plug type: USB 4 PIN
Polarity: PIN1“-” PIN4“+”PIN2.3“Short”

5 REGULATORY COMPLIANCE

5.1 EMC Specifications

The external power supply must meet all specification in this section. It is recommended that the external power supply be tested with the customer's equipment in order to get the best EMC solution.

5.1.1 Radiated and Conducted Emission

The power supply shall comply to:
FCC part 15: Class B for radiated and conducted emissions.
EN55022:2010+A1:2007, Class B for radiated and conducted emissions.
GB9254-2008, GB17625.1-2003

5.2 Immunity

5.2.1 Electrostatic Discharge Immunity

EN 55024:2010+A1:2001+A2:2003, EN 61000-4-2

- Air Discharge: ±8kV
- Contact Discharge: ±4kV
- Performance Criteria B

Electrostatic-discharge test by contract or air should be conducted with Static-discharge tester, energy storage capacitance of 150pF, and discharge resistance of 330Ω, 8KV air discharge, 4KV contact discharge.

5.2.2 Radiated Field Immunity

EN 55024:2010+A1:2001+A2:2003, EN 61000-4-3

Frequency Range: 80-1000MHz
Field Strength: 3 V/m with 80% amplitude modulation of 1kHz
Performance Criteria A

Radio-frequency electromagnetic field susceptibility test, RS 80-1000MHz, 3V/m, 80%AM(1KHz).

5.2.3 Fast Transient Immunity

EN 55024:2010+A1:2001+A2:2003, EN 61000-4-4

- Power line: 1kV
- Signal line: 0.5kV
- Performance Criteria B

5.2.4 Surge Immunity

EN 55024:2010+A1:2001+A2:2003, EN 61000-4-5

- 1.2/50 usec Open Circuit voltage
- 8/20 usec Short Circuit current
- Power line: 1kV

- Line to Earth: 2kV

Lightning Surge Voltage shall be applied in differential and common mode to AC input lines and cross primary ac input and secondary GND.

5.3 Safety Requirements and Certification

The power supply shall complied the following international regulatory standards

for short	Country	Certified Status	Standard/标准
UK	Britain/英国	MEET	BS EN60950-1
CE	Europe/欧洲	MEET	Declared& CE Mark

5.4 Additional Safety Requirements

◎ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): 3000Vac, 5m A, 1 minute.

◎ Insulation Resistance, Input to output: 40MΩ(MIN.) at 500VDC.

◎ 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 +50 °C

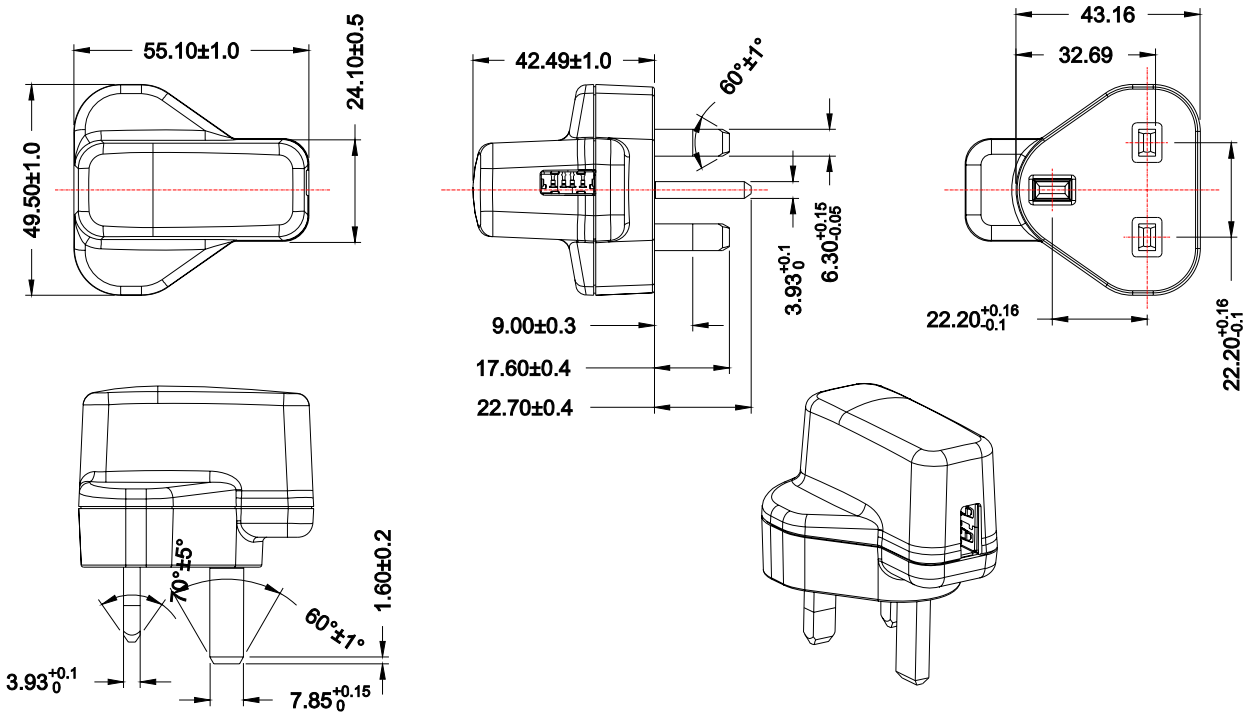
◎ Non-Operating: -20 °C +80 °C

6.2 Humidity

◎ Operating: 10%~90% (Non Condensing)

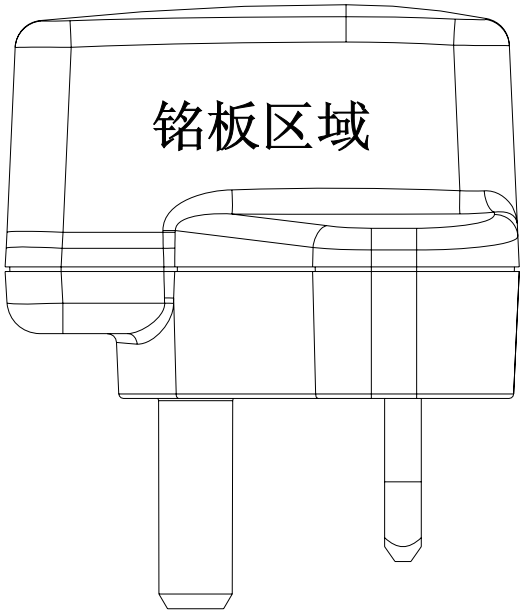
◎ Non-Operating: 10%~90% (Non Condensing)

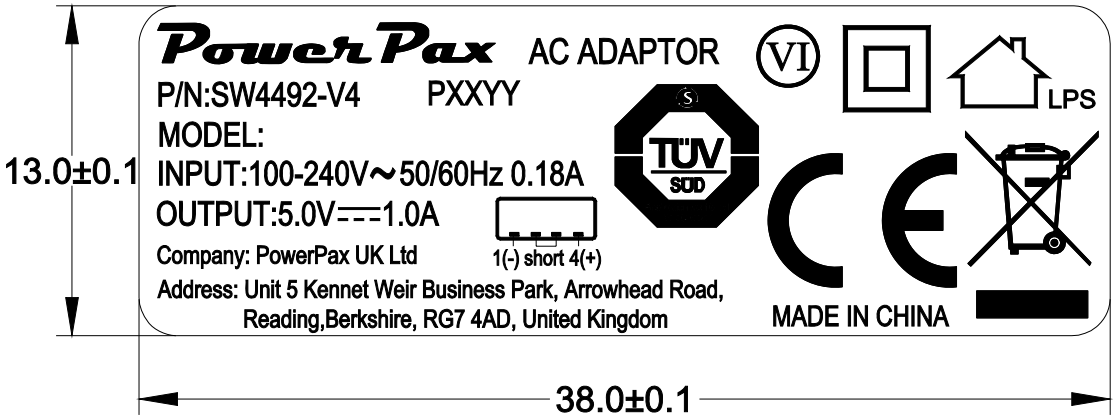
7 APPEARANCE DRAWING: (Unit: mm)



NOTE: 1. Case cover & chassis material:
SE-1/PC, BLACK
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS+REACH+ROHS
4. Satin Finish 雾面

8 NAME PLATE:

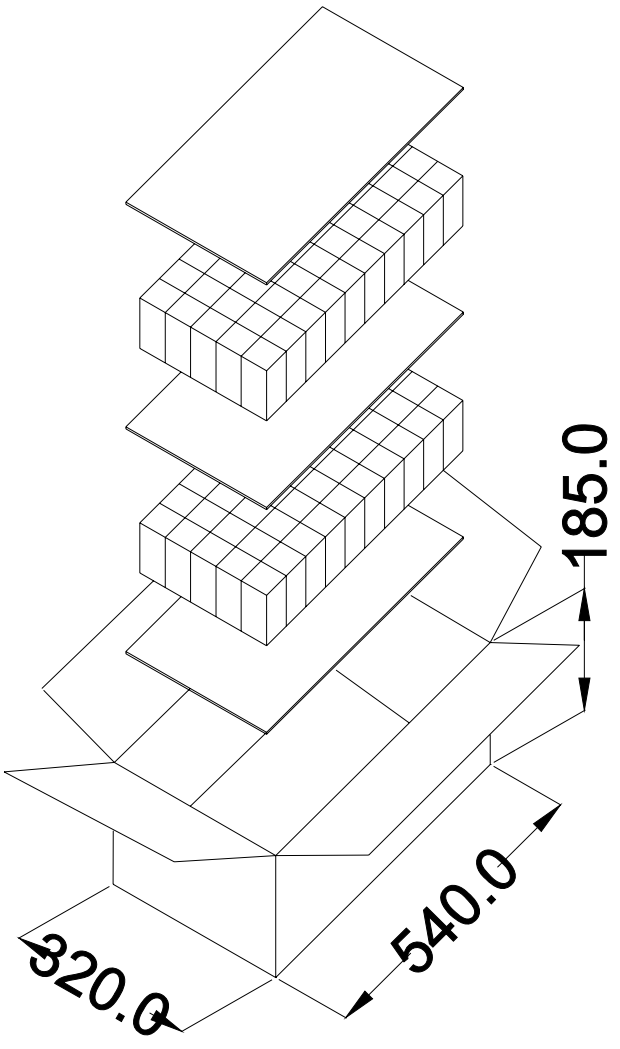


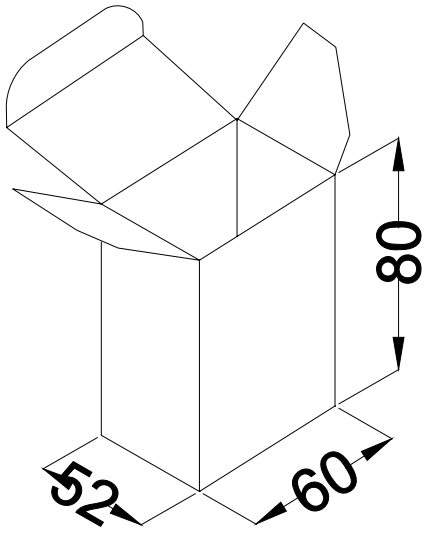


Note: ☐ 1. MATERIAL: POLYESTER+PVC; COATING: 0.25+-0.05mm
White characters, Black background
PAHS+REACH+ROHS

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

9 PACKING (Unit: mm)





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