

SPECIFICATION FOR APPROVAL
AC/DC ADAPTOR

CUSTOMER SPEC: INPUT: 100-240V AC 50/60Hz OUTPUT: 12VDC 1250mA

PART NO. SW3526-VI

SAMPLE NO: _____ REV.: A ISSUE _____ DATE: 2015-08-04

PRODUCT NO: _____



Project Modify List

| <i>Item</i> | <i>Content</i> | <i>Rev.</i> | <i>Date</i> | <i>Designed By</i> | <i>Checked By</i> |
|-------------|----------------|-------------|-------------|--------------------|-------------------|
| 1 | First REV. | A | 2015-08-04 | Longli | Zhumingshuang |
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1 GENERAL

1.1 Description

This specification defines the performance characteristics for a class II adapter., single-phase 15 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 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 | 100-240Vac |
| Operating range | 90-264Vac |
| Rated input frequency | 50/60Hz +/- 3Hz |
| Rated input current | 0.5A max. |
| Maximum input power | 18.77W |
| 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 | <u>2</u> 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 | +12.0V |
| 3.2 | Minimum load current | 0.0A |
| 3.3 | Rating load current | 1.25A |
| 3.4 | Peak load current | |
| 3.5 | Rating output power | 15W |
| 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 | 150 mVp-p |
| | | 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 | <u>84.13%</u> minimum in active mode |
| | | 115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%. |
| 3.11 | Turn on delay time | <u>3000 mS</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>20 mS</u> to rise to within regulation limits for all DC outputs. |
| 3.13 | Hold up time | <u>10 mS</u> minimum At nominal input AC voltage and full load |
| 3.14 | Output over-shoot | Less than <u>10%</u> of nominal voltage value |
| 3.15 | Temperature coefficient | Output voltage temperature coefficient $\pm 0.05\%/^{\circ}\text{C}$ |
| 3.16 | LED indication function | / |
| | | |
| 3.17 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. |

4 MECHANICAL

4.1 Enclosure And Layout

Plastic case: UL94V-1
Weight : /g (Max.)
Dimensions: 85.5X43.8X31.7mm
Colour : BLACK

4.2 Input and Output Configuration

Input pin: Europe PIN
Output connector : dc plug type: 5.5*2.1*12mm (FORK AND GROOVE)
Polarity: Center"+"

Cable: 1.83M VW-1 80°C 300V 2468 22AWG 2C BLACK+WHITE(PAHS REACH ROHS)

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, Class B for radiated and conducted emissions.
GB9254-2008, GB17625.1-2012

5.2 Immunity

5.2.1 Electrostatic Discharge Immunity

EN 55024:2010, EN 61000-4-2

- Air Discharge: $\pm 8\text{kV}$
- Contact Discharge: $\pm 4\text{kV}$
- Performance Criteria B

Electrostatic-discharge test by contact 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, 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, EN 61000-4-4

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

5.2.4 Surge Immunity

EN 55024:2010, 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

5.3.1 Regulatory Standard

The power supply shall comply the following international regulatory standards

| for short | Country | Certified Status | Standard/标准 |
|-----------|-----------|------------------|-------------------|
| TUV | Europe/欧洲 | MEET | TUV/VDE-EN60950-1 |
| CE | Europe/欧洲 | MEET | Declared& CE Mark |

5.3.2 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: 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

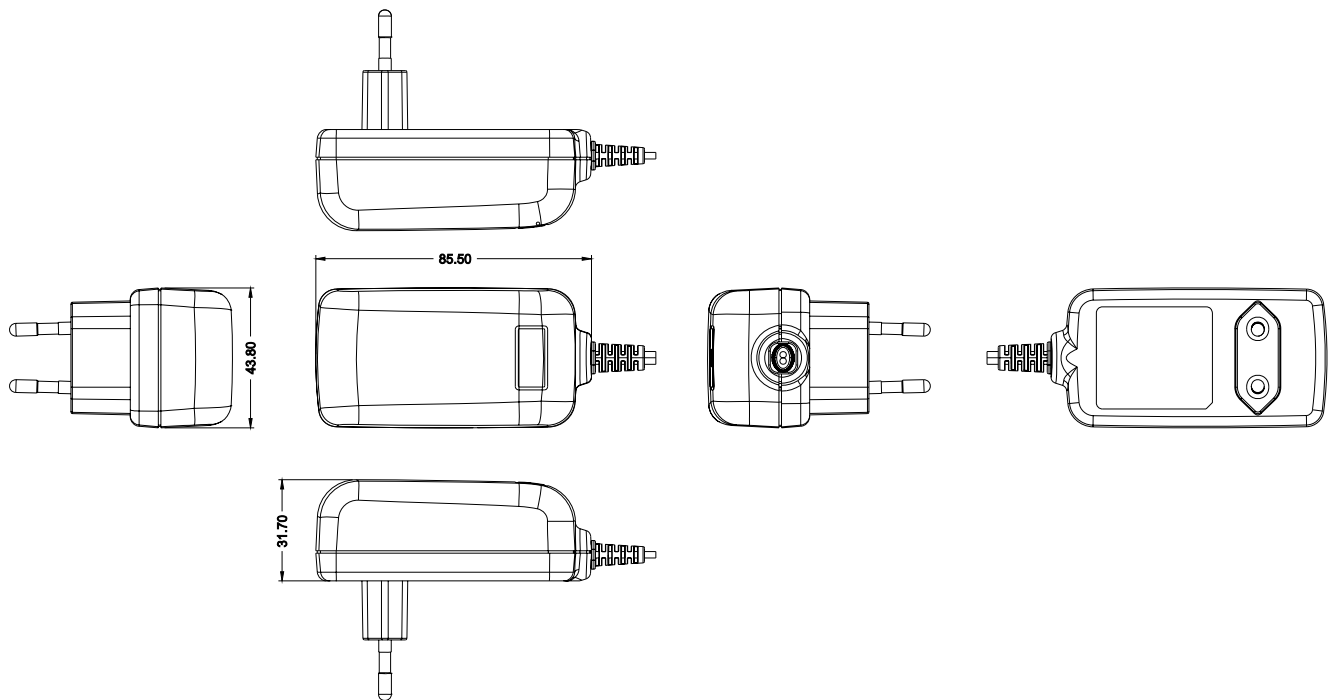
6.1 Temperature

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

6.2 Humidity

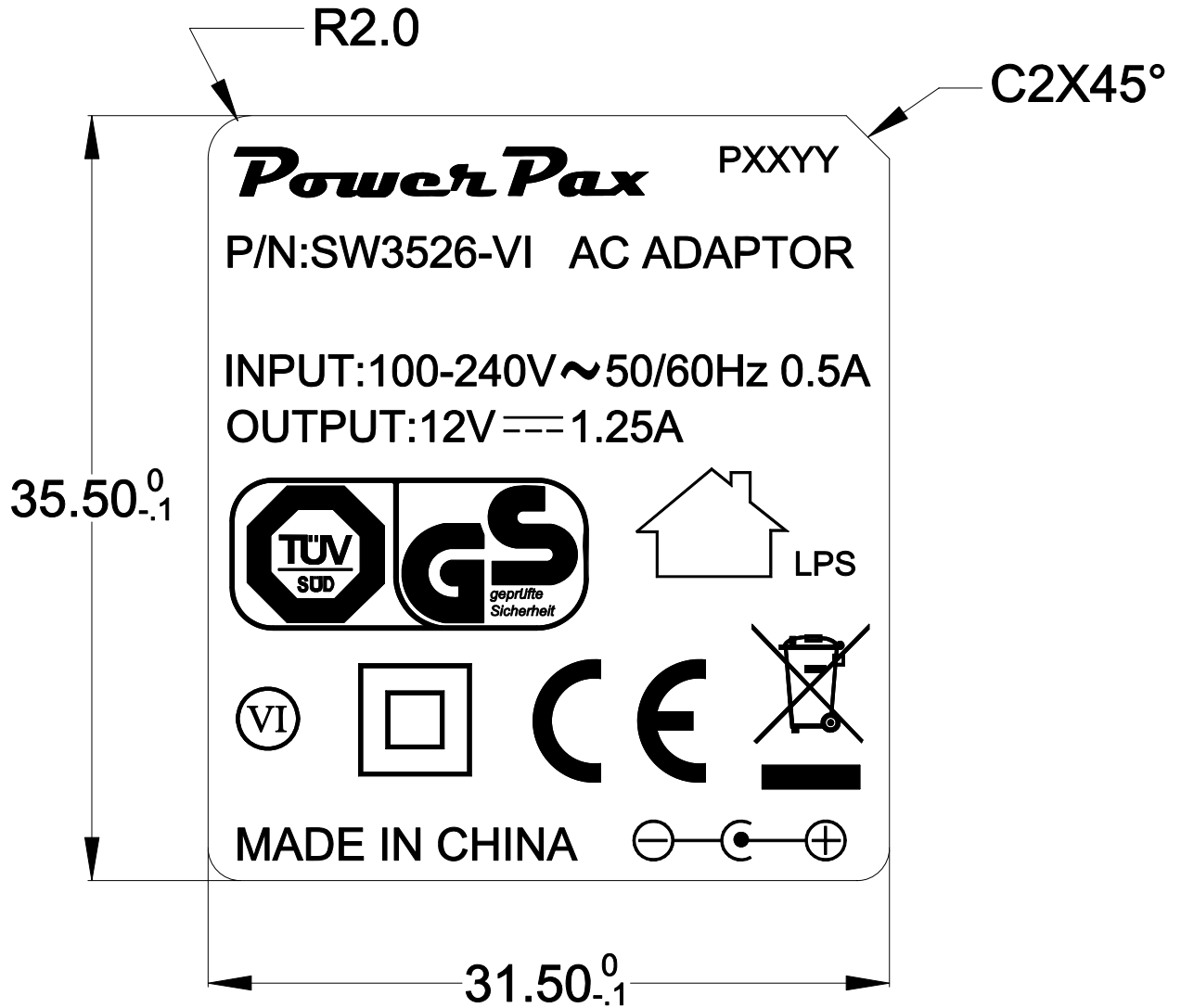
- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

7 APPEARANCE DRAWING: (Unit: mm)



- NOTE: 1. Case cover & chassis material:
SE-1 BLACK (NO KTEC)
2. AC PIN MATERIAL: BRASS (NI PLATED)
3. PAHS REACH ROHS

8 NAME PLATE:



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

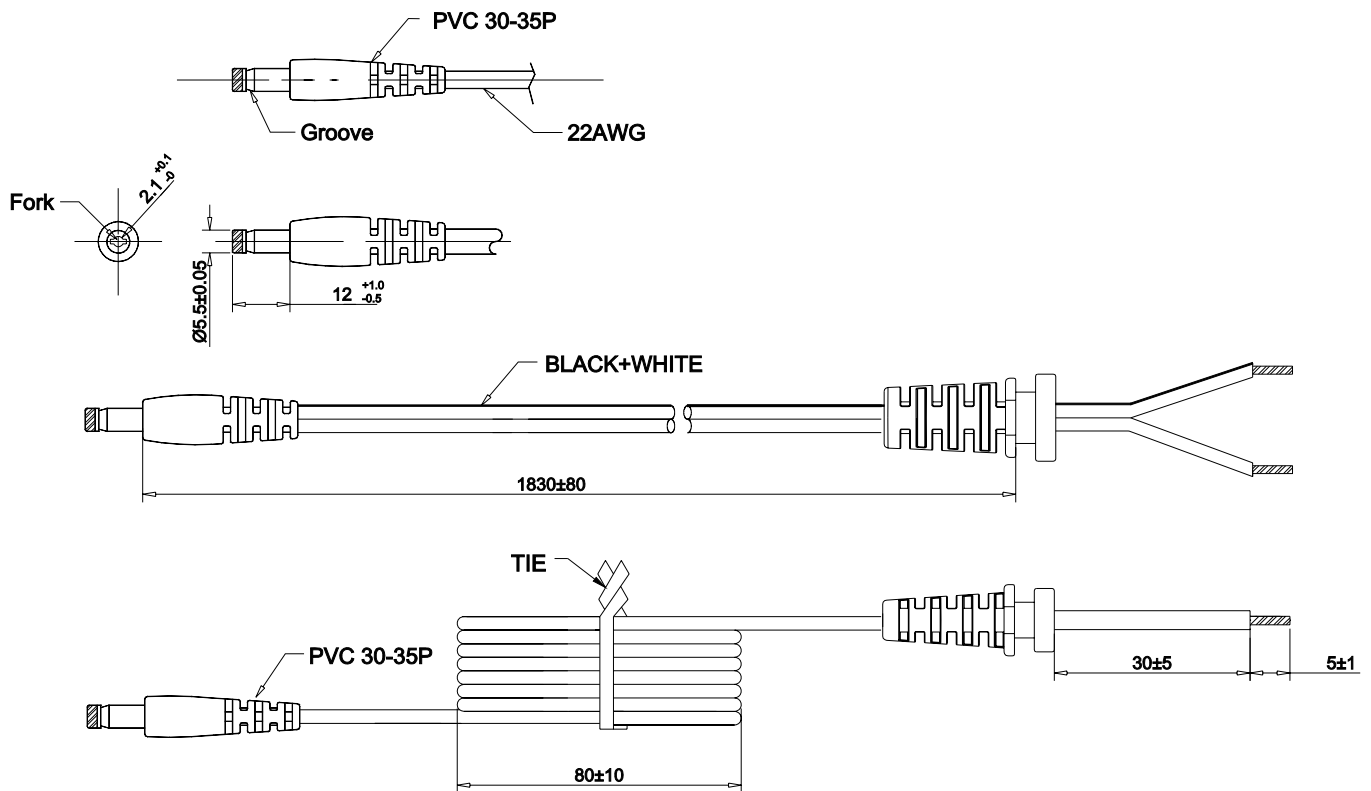
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PAHS REACH ROHS

2. Laser 镭射

DATE CODE (PXXYY: P=PAHS, XX=Week, YY=Year) 按实际生产日期制作

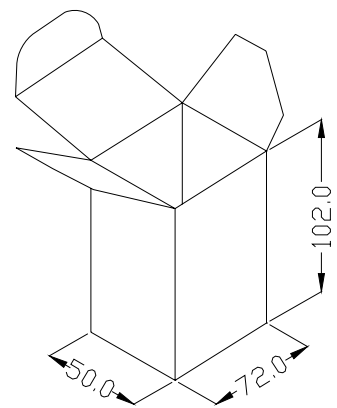
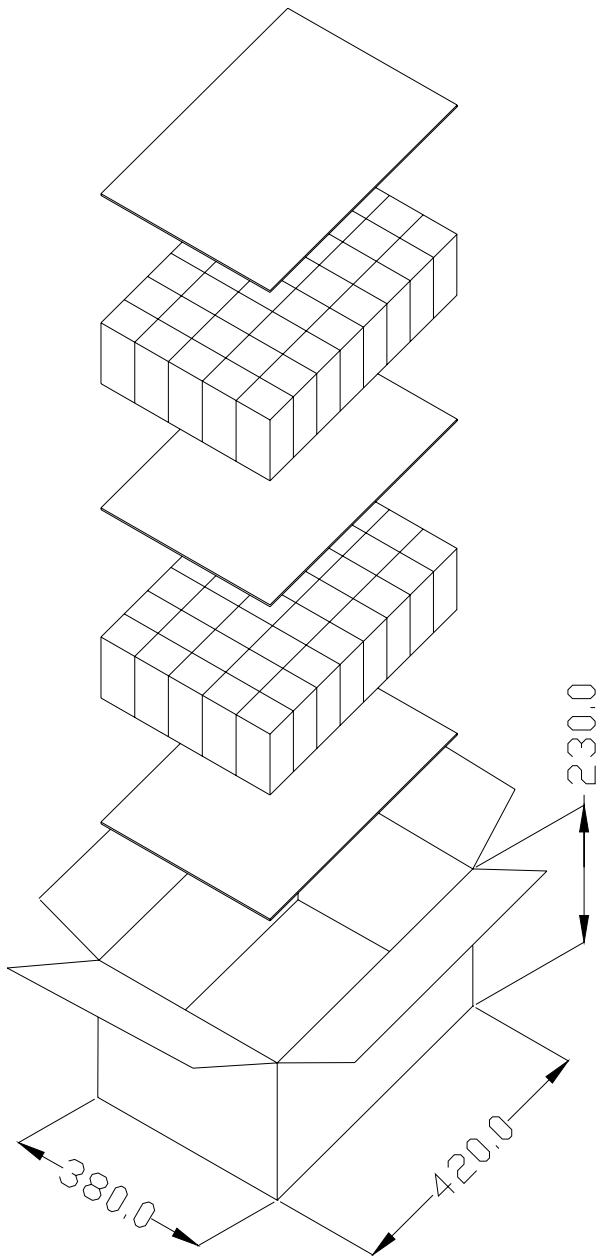
9 DIMENSION OF OUTPUT PLUG & DC CORD (Unit: mm)



NOTE: (unit:mm)

- 1). WIRE TYPE: VW-1 80°C 300V L=1830mm 2468 22AWG 2C BLACK
BLACK and WHITE----Positive BLACK----Negative
- 2). THE POLARITY: \ominus — \bullet — \oplus
- 3). PAHS REACH ROHS

10 PACKING (Unit: mm)



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