

CUSTOMER

ADVIC

SPECIFICATION FOR APPROVAL

AC/DC ADAPTOR

CUSTOMER SPEC:INPUT: 100-240V AC 50-60HZ OUTPUT:15VDC2000mA

CUSTOMER DWG./PART NO. _____

Ktec PART NO. KSAFE1500200W1EU (LEAD FREE)

SAMPLE NO: S26156 REV.: A ISSUE DATE: 2007-11-28

PRODUCT NO: KS011475

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
PETER	周松平	魏忠	毛银娥

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冠德科技(深圳)有限公司
KUANTECH(SHEN ZHEN) COMPANY LIMITED

Switching power supply specification(class B)

KUANTECH P/N:

CUSTOMER P/N:

KSAFE1500200W1EU

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1 GENERAL

1.1 Description

This specification defines the performance characteristics for a class II adapter., single-phase **30** 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 & 0.5% annual field failure rate @ 25° C.
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC60950 3rd edition.

The maximum room ambient temperature (T_{mra}), as mentioned in clause 1.4.12 of IEC 60950 3rd edition, 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	0.6A max.
Maximum input power	40W
Input current (no loading)	≤35mA
Power consumption (no loading)	Max. 0.9W
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 **35 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	+ 15V
3.2	Minimum load current	0.05A
3.3	Rating load current	2.0A

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3.4	Peak load current	/
3.5	Rating output power	30W
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>+15.0V</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>+15.0V</u> is less than <u>/</u> , at measured output load from 30% to 100% rated load.
3.9	Ripple and noise	100 mVp-p
		At 20 MHz, 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	75% minimum
		At nominal input voltage and full load
3.11	Turn on delay time	2000 mS At nominal input AC voltage and full load
3.12	Rise time	The Supply shall have a start-up rise time of less than 20 mS to rise to within regulation limits for all DC outputs.
3.13	Hold up time	10 mS minimum At nominal input AC voltage and full load
3.14	Output over-shoot	Less than 7% of nominal voltage value
3.15	Temperature coefficient	Output voltage temperature coefficient ±0.05%/°C
3.16	LED indication function	/
3.17	Protection function	
	Over-voltage protection	22.5V max.The output voltage shall be clamped by internal protection zener.
	Short-circuit protection	The adapter shall not damage and with auto recovery function by short the DC output to Ground.
	Over current protection	The power supply will be protection when output power over 200% of all rated dc output

4 MECHANICAL

4.1 Enclosure And Layout

Plastic case: **UL94V-1**
 Weight : **180 g** (Max.)
 Dimensions: **93x47x34.2mm**
 Colour : **BLACK**

4.2 Input and Output Configuration

Input pin: **European PIN**
 Output connector : dc plug type: **5.5*2.1*11mm**
 Polarity: **center:"+"**

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Switching power supply specification(class B)

KUANTECH P/N:

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KSAFE1500200W1EU

Cable: **6FT VW-1 80°C 300V 2468 20AWG 2C BLACK+WHITE (LEAD FREE)**

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	Meet	UL 60950
CSA	Canada/加拿大	Meet	CSA C22.2 NO.950
TUV	Europe/欧洲	Meet	TUV/VDE-EN60950
CE	Europe/欧洲	Meet	Declared& CE Mark
PSE	Japan/日本	Meet	J60950(H14)/J55001(H14)
BSMI	Taiwan/台湾		CNS13438
CCC	CHINA	Meet	GB4943-2001
UK	Britain/英国	Meet	EN60950:2000

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 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)

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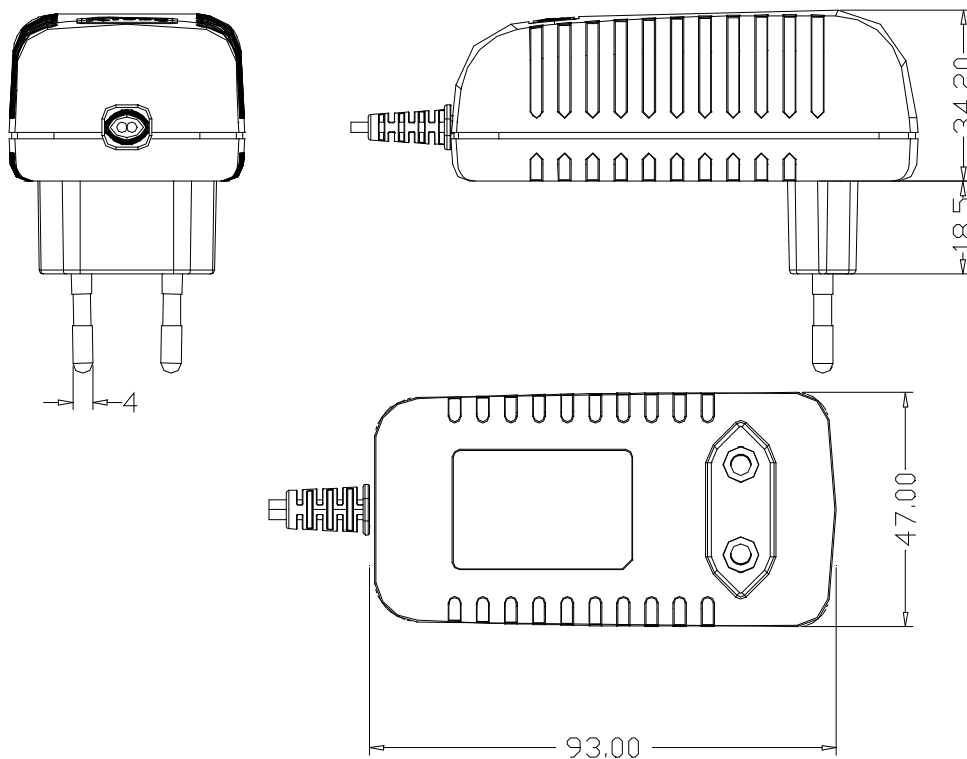
Switching power supply specification(class B)

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KSAFE1500200W1EU

7 APPEARANCE DRAWING: (Unit: mm)



- NOTE:1. Case cover & chassis material:
PPHOX (UL94V-1) BLACK (NO KTEC)
2. AC PIN MATERIAL:BRASS (NI PLATED)
3. LEAD FREE

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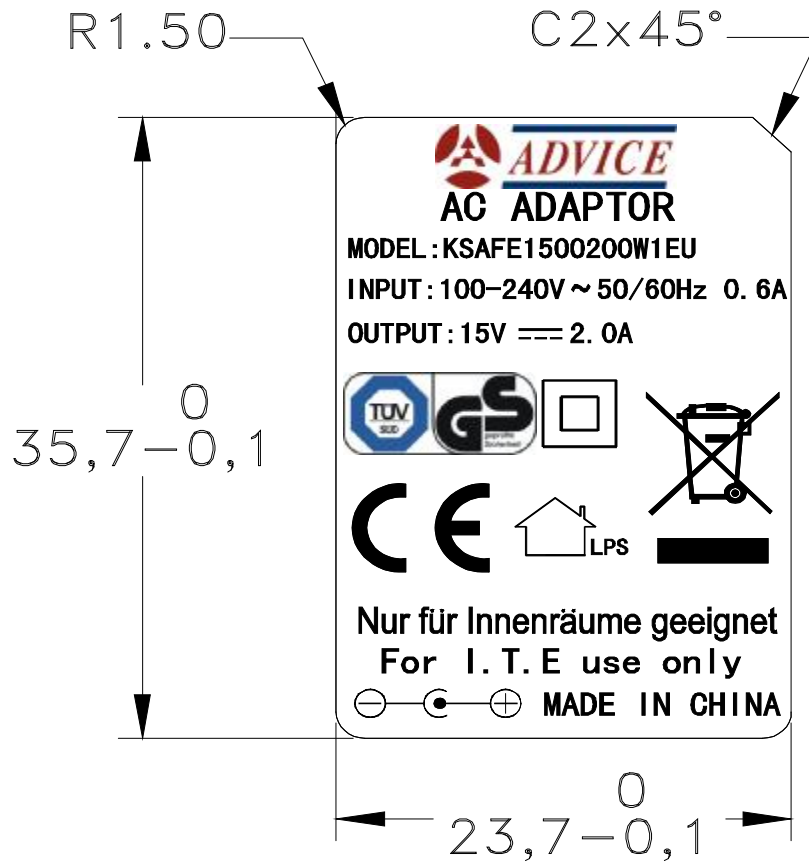
Switching power supply specification(class B)

KUANTECH P/N:

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KSAFE1500200W1EU

8 NAME PLATE:



- Note: 1. MATERIAL: POLYESTER+PVC; COATING:0.25+-0.05mm
 2. White characters Black background
 3. LEAD FREE

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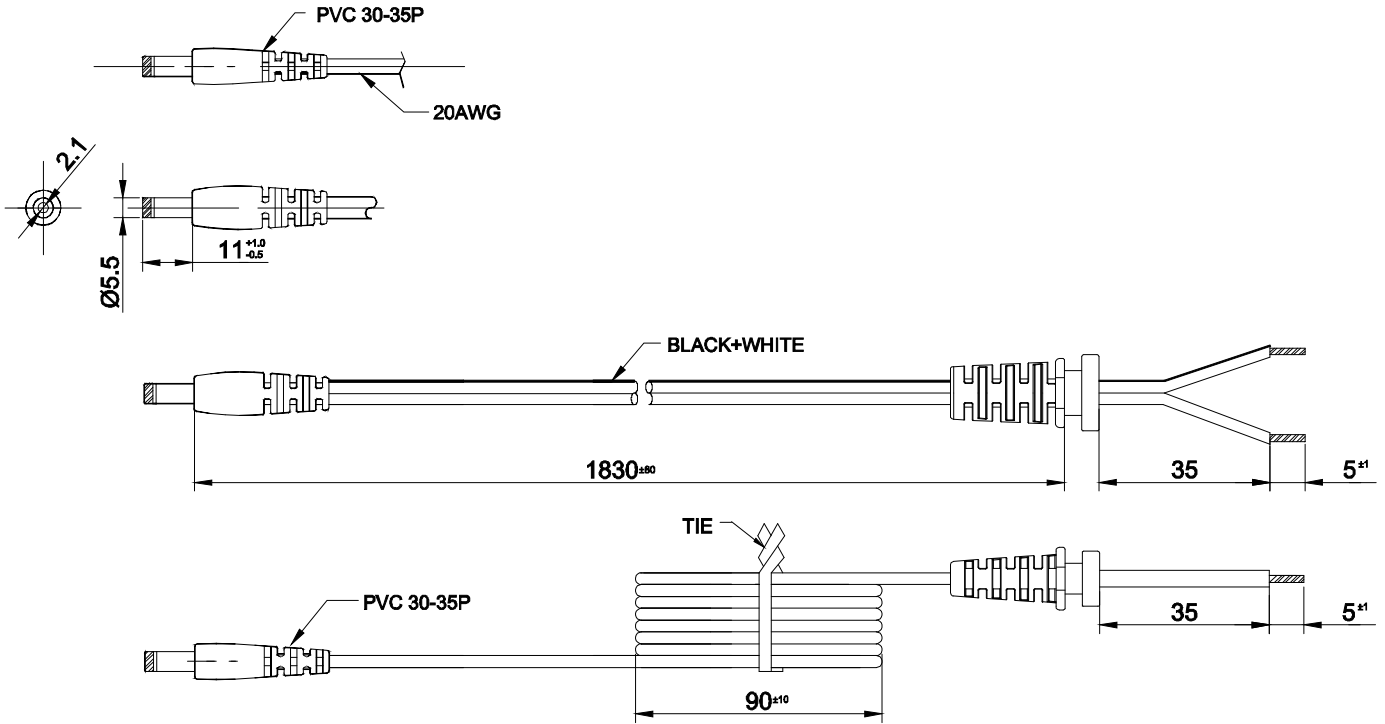
Switching power supply specification(class B)

KUANTECH P/N:

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



NOTE: (unit:mm)

- 1). WIRE TYPE: 2468 VW-1 80°C 300V L=6FT(1830mm) 2C 20AWG BLACK+WHITE
BLACK and WHITE----Positive BLACK----Negative
- 2). WIRE JACKET MATERIAL: PVC (94V-0)
- 3). THE POLARITY: \ominus — \bullet — \oplus

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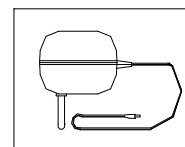
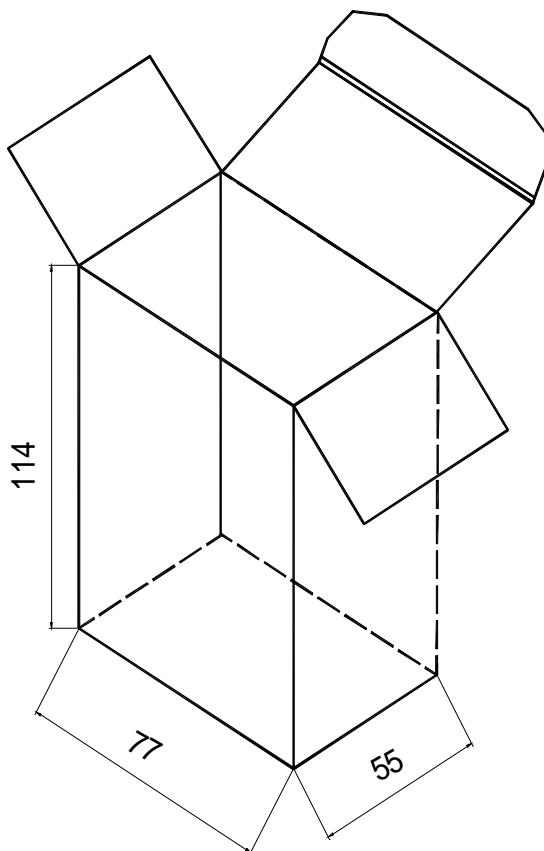
Switching power supply specification(class B)

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10 BOX DRAWING (Unit: mm)



Bag

NOTE: WHITE BOX: 77*55*114mm
MATERIAL:400g(LEAD FREE)

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SAMPLE SHIPPING TEST REPORT / 样品测试报告

CUSTOMER / 客户:		ADVIC								SAMPLE NO. / 样品编号				S26156		
MODEL NO. / 产品型号:		KSAFE1500200W1EU								机种名称				25W		
Sample form		sample (one)				sample (two)				sample (three)						
Items No.	Test Items / 测试项目	Unit / 单位	Test condition & result				Test condition & result				Test condition & result				Spec. Limit	Pass/Fail
			90Vac	120Vac	180Vac	264Vac	90Vac	120Vac	180Vac	264Vac	90Vac	120Vac	180Vac	264Vac		
1	Unload input current 空载输入电流	mA	15.5	16.2	27.6	28.9	16.1	16.6	25.9	28.6	/	/	/	/	≤35mA	PASS
2	Unload input power 空载输入功率	W	0.5	0.46	0.48	0.43	0.53	0.51	0.52	0.52	/	/	/	/	≤0.5W	PASS
3	Rated load input power 额定负载输入功率	W	37.9	37.3	35.2	35.2	37.7	37	34.87	34.94	/	/	/	/	≤40W	PASS
4	Unload output voltage 空载输出电压	V	15.245	15.245	15.245	15.245	15.176	15.176	15.176	15.176	/	/	/	/	4.75-15.2	PASS
5	Rated load output voltage 额定负载输出电压	V	14.936	14.936	14.936	14.936	14.87	14.87	14.87	14.87	/	/	/	/	4.75-15.2	PASS
6	Output ripple&noise voltage	mV	40	38	36	34	46	44	42	40	/	/	/	/	≤100mVp-p	PASS
7	Dynamic load(20%-80%*Io	mV	360	360	360	360	372	372	372	372	/	/	/	/	≤500mVp-p	/
8	Over current protection 过流保护点	A	2.8	3	3	3	2.7	3	3	3	/	/	/	/	ref.	/
9	Short-circuit input power 短路输入功率	W	0.26	0.36	1.08	1.36	0.23	0.36	0.98	1.42	/	/	/	/	≤3W	PASS
10	Rated output current 额定输出电流	A	2	2	2	2	2	2	2	2	/	/	/	/	2A	PASS
11	Output overshoot 输出过冲幅度	%	1	1	1	1	1.4	1.4	1.4	1.4	/	/	/	/	≤7%	PASS
12	Input inrush current 输入浪涌电流	A												≤60A	PASS	
13	Rated load input current 额定负载输入电流	A	0.592	0.473	0.267	0.244	0.572	0.468	0.27	0.24	/	/	/	/	≤0.6A	PASS
14	Efficiency 效率	%	78.82	80.09	84.86	84.86	78.89	80.38	85.29	85.12	/	/	/	/	≥75%	PASS
15	Drop test 跌落试验	OK														PASS
16	Burn-in test 老化试验	40oC Ambient, 80% load, 45min. ON and 15min. OFF, Burn-in 4Hrs														PASS
17	Hi-pot test 介电强度	INPUT TO OUTPUT: 3000Vac, 1 Minute, Cut off current ≤10mA														PASS

DATE/日期	2007-11-28	EDITION /版本: 2	PAGE/页码: 1
TEST/测试员:	孙琪	CHECK/审核: 梁永涛	APPROVAL/审核: 周松平



Product Service

CERTIFICATE

No. Z1A 06 12 48694 321

Holder of Certificate: **Kuantech (Shenzhen) Co., Ltd.**

6th Honghua Road, Gongming Town
Baoan District, Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Factory(ies): 48694

Certification Mark:



Product: **Switch mode power supplies**

Model(s): KSAFExxxxxxyW1EU, KSAFExxxxxxyW1UV,
KSAFExxxxxxyW1UV-1 (xxx=030-480, yyyy=0002-0410)
xxx indicates rated output voltage 3,0-48,0 V d.c.,
yyyy indicates rated output current 20-4100 mA.

Parameters:

Rated voltage:	100-240 V
Rated frequency:	50/60 Hz
Rated current:	0,6 A
Rated output voltage:	3,0-48,0 V d.c.
Rated output current:	0,02-4,1 A
Protection class:	II
Degree of protection:	IPX0
Remark:	See page 2-28 for details.

Tested according to: EN 60950-1/A11:2004

The product meets the requirements of the German Equipment and Product Safety Act. The Certification marks shown above can be affixed on the product. The certification marks must not be altered in any way. The use of the GS-Mark is permitted until the listed date, the use of the TÜV-Mark is unlimited, unless it is cancelled. See also notes overleaf.

Test report no.: 64210344905

GS-Mark valid until: 2011-12-11

Date, 2006-12-11

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Product Service

EC-Attestation of Conformity

No. N8 06 12 48694 322

Holder of Certificate: **Kuantech (Shenzhen) Co., Ltd.**

6th Honghua Road, Gongming Town
Baoan District, Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Product: **Switch mode power supplies**

Model(s): **KSAFExxxxxxyW1EU, KSAFExxxxxxyW1UV,
KSAFExxxxxxyW1UV-1 (xxx=030-480, yyyy=0002-0410)
xxx indicates rated output voltage 3,0-48,0 V d.c.,
yyyy indicates rated output current 20-4100 mA.**

Parameters:

Rated voltage:	100-240 V
Rated frequency:	50/60 Hz
Rated current:	0,6 A
Rated output voltage:	3,0-48,0 V d.c.
Rated output current:	0,02-4,1 A
Protection class:	II
Degree of protection:	IPX0
Remark:	See page 2-28 for details.

Tested according to: EN 60950-1/A11:2004

This EC-Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 73/23/EEC relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive. It refers only to the particular sample submitted for testing and certification. See also notes overleaf.

Test report no.: 64210344905



275141

Date, 2006-12-11

CE After preparation of the necessary technical documentation as well as the conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.

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