

	MODEL NO : KPL-050F 12.0V/4.17A ENGINEERING SPECIFICATION SHEET
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Table of Contents

1	SCOPE	5
2	ELECTRICAL SPECIFICATION	5
2.1	INPUT REQUIREMENT	5
2.1.1	Input voltage range	5
2.1.2	Input frequency range	5
2.1.3	AC inrush current.....	5
2.1.4	Input current	5
2.1.5	Leakage current	5
2.1.6	Insulation resistance	6
2.1.7	Low power consumption	6
2.2	INPUT PROTECTION	6
2.2.1	Input current protection	6
2.3	OUTPUT REQUIREMENT	6
2.3.1	Output power	6
2.3.2	Output voltage and current	6
2.3.3	Ripple and noise.....	7
2.3.4	Over voltage protection	7
2.3.5	Over current protection.....	7
2.3.6	Overshoot.....	7
2.3.7	Short circuit Protection	7
2.3.8	Audible noise.....	7
2.3.9	Limited power source.....	8
2.4	PERFORMANCE REQUIREMENT	8
2.4.1	Efficiency.....	8
2.4.2	Turn on delay time	8
2.4.3	Hold-up time	8
2.4.4	Dynamic load.....	8
3	ENVIRONMENTAL SPECIFICATION	8
3.1	TEMPERATURE	8
3.2	HUMIDITY	9
3.3	VIBRATION AND SHOCK.....	9

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 3 of 13	

3.4	ALTITUDE.....	9
3.5	CALCULATED MEAN TIME BETWEEN FAILURES (MTBF)	9
4	APPLICATION STANDARD & RELATED SPECIFICATION	9
4.1	STANDARD & SAFETY CERTIFICATION	9
4.1.1	<i>Safety standard</i>	9
4.1.2	<i>EMI</i>	10
4.1.3	<i>Immunity</i>	10
4.1.4	<i>Environment standards</i>	10
4.1.5	<i>Energy star</i>	10
5	MECHANICAL	11
5.1	INPUT CONNECTOR AND OUTPUT CABLE	11
5.1.1	<i>Input connector</i>	11
5.1.2	<i>Output jack and cable</i>	11
5.2	AC ADAPTER EXTERNAL DIMENSION.....	11

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 4 of 13	

1 SCOPE

This document describes basic electrical characteristics and mechanical characteristic of 50W power adapter.

2 ELECTRICAL SPECIFICATION

2.1 INPUT REQUIREMENT

2.1.1 INPUT VOLTAGE RANGE

Power adapter shall operate within input specification from 90Vac to 264Vac or provide automatic switching between high line and low line input ranges. The table below shows common input voltage range.

Input Range	Minimum	Nominal	Maximum	Unit
	90 V	100V- 240V	264V	Vac, rms

Table 1 - Input Voltage Range

2.1.2 INPUT FREQUENCY RANGE

The power adapter shall operate within specification from 47 to 63 Hz.

2.1.3 AC INRUSH CURRENT

Peak inrush current should not exceed 70 A at 240Vac, 50Hz, 25 degrees C, cold start. It should not interrupt line fuse or cause damage to the power adapter either at cold or warm start.

Peak inrush current should not exceed 70 A at 100Vac, 60Hz, 25 degrees C, cold start. It should not interrupt line fuse or cause damage to the power adapter either at cold or warm start.

The inrush current must be limited to the extent that no damage is done to the supply under any specified line, load, and temperature conditions. The inrush current shall not cause any external protection devices (i.e. fuses) to trip.

2.1.4 INPUT CURRENT

Maximum steady state input current shall not exceed 1.7 A for any line voltage specified in 2.1.1.

2.1.5 LEAKAGE CURRENT

0.7mA max. at 240Vac .

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 5 of 13	

2.1.6 INSULATION RESISTANCE

Insulation resistance shall be more than 100M ohm between primary and secondary.

2.1.7 LOW POWER CONSUMPTION

Vin	Load	Power consumption
240Vac/50Hz 100Vac/60Hz	0A	≤ 0.3 W

Note: No load (0A) current draw complies to EPA standard Version 2.0 Energy Star EPS specification.

2.2 INPUT PROTECTION

2.2.1 INPUT CURRENT PROTECTION

A fuse with rating of 4.0 A / 250 V (Time Lag type) shall be installed on the input line side near the input connector and no any electrical components before.

2.3 OUTPUT REQUIREMENT

2.3.1 OUTPUT POWER

The total output power, under steady state conditions, shall not exceed 50 W.

Power supply will meet and be tested to IEC60950-1 LPS (Limited Power Source, section 2.5 in the standard) requirements. The LPS designation will be included on the data-plate label.

2.3.2 OUTPUT VOLTAGE AND CURRENT

Under any combination of line and load variation and environmental conditions, all outputs shall remain within tolerance as defined in Table 2. Output voltage(s) shall be measured at the load side of output connector.

Output Voltage	Voltage Range		Current Range	
	Lower Limit	Upper Limit	Minimum Load	Full rated load
+12.0V	11.40V	12.60V	0A	4.17A

Table 2 - Output Voltage and Current

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 6 of 13	

2.3.3 RIPPLE AND NOISE

Measurements shall be made with an oscilloscope with minimum of 20MHz bandwidth and 1:1 scope probe, Output shall be bypassed at the connector with a 0.1μF ceramic disk capacitor and a 22μF electrolytic capacitor for general testing purpose.

Output Voltage	Maximum Ripple & Noise (Vp-p)
+12.0V	240mV

Table 3 – Ripple and Noise

2.3.4 OVER VOLTAGE PROTECTION

The power adapter shall provide with over voltage protection such that under any single component failure.

Output Voltage And Current	Maximum OVP Trip Voltage
+12.0V 4.17A	18.5V

Table 4 – Over Voltage Protection

The power supply provides output over voltage protected in latch off by zener diode, and no damage to customer device.

2.3.5 OVER CURRENT PROTECTION

The power supply shall be protected when operating any output in overload condition (set @ max load: 5.0A – 8.0A). The power adapter shall be shut down and no any damage when the over current condition occurs on the output, and It will be auto-recovered when the failure is removed. Input voltage:100Vac or 240Vac

2.3.6 OVERSHOOT

During turn on or turn off, the output overshoot shall not exceed nominal output voltage by more than 5%, and output shall not change its polarity with respect to its return line.

2.3.7 SHORT CIRCUIT PROTECTION

Power adapter shall have self-limiting protection to protect against short circuit or overload conditions. No damage to the power adapter shall result from a continuous or intermittent short circuit condition. It will be auto-recovered when the failure is removed.

2.3.8 AUDIBLE NOISE

There is no audible noise can be hear when it work with rated spec.

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 7 of 13	

2.3.9 LIMITED POWER SOURCE

The power supply shall comply with the limited power source requirement as defined in IEC 60950-1 section 2.5 standard.

2.4 PERFORMANCE REQUIREMENT

2.4.1 EFFICIENCY

Efficiency (watt out / watt in) shall be a minimum of 87.0 % at active average mode, which complies to EPA standard Version 2.0 Energy Star EPS specification.

Note: when testing efficiency, adapter need to electrify to perform after full load 30 minutes

Input voltage 115Vac 60Hz or 230Vac 50Hz

2.4.2 TURN ON DELAY TIME

Output shall reach steady state within 3.0 seconds of turn on at 100Vac or greater.

2.4.3 HOLD-UP TIME

Hold-up time shall be a minimum of 8.0 mS at 115Vac / 60Hz input.

2.4.4 DYNAMIC LOAD

Power adapter shall operate within regulation defined in section 2.3.2 at following conditions:

Step load change: from 50% Load to 100% Load on the output.

Dwell Time: 100Hz & 1 KHz 50% duty.

Slew rate: 0.5A/usec

3 ENVIRONMENTAL SPECIFICATION

3.1 TEMPERATURE

Operation within specification: -10 to 40 degrees C.

Storage: -20 to 85 degrees C

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 8 of 13	

3.2 HUMIDITY

Operation: 10% to 90% relative humidity, non-condensation.

Storage: 5% to 95% relative humidity, including condensation.

3.3 VIBRATION AND SHOCK

The power supply shall be designed to withstand normal transportation vibration per MIL-STD-810F, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.

3.4 ALTITUDE

Sea level to 2000 meters.

3.5 CALCULATED MEAN TIME BETWEEN FAILURES (MTBF)

The MTBF for the power adapter shall equal or exceed **50,000** hours when operated at full rated load in an ambient temperature of 25 degree C.

4 APPLICATION STANDARD & RELATED SPECIFICATION

4.1 STANDARD & SAFETY CERTIFICATION

4.1.1 SAFETY STANDARD

Agency	Certification required	Countries
UL	UL60950-1	US
cUL	C22.2 No. 60950	Canada
CE	IEC/EN 60950-1	EU
CCC	GB 4943	China
BSMI	CNS13438, CNS14336	Taiwan
NOM	EN60950	Mexico
IRAM	IEC/EN 60950-1	Argentina
Australia/New Zealand	AS/NZS 60950.1	Australia/New Zealand

(All certification marks need to be shown on data-plate)

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 9 of 13	

4.1.2 EMI

VCCI Class-B

FCC 15(Class-B, 115Vac operation)

CISPR 22 Class-B limits

EN55022 (1998+A1:2000+A2:2003 Class-B limits)

47 CFR Part 15, Subpart B, Class B limits

EN 61000-3-2 Power line Harmonics

EN 61000-3-3 Flicker Emissions

GB 9254 ITE Emissions Latest Edition

GB 17625.1 Harmonics Latest Edition

4.1.3 IMMUNITY

EN 55024: 1998+A1:2001+A2:2003

Electrostatic Discharge: 61000-4-2

RF Immunity: 61000-4-3

Electrical Fast Transients: 61000-4-4

Surge: 61000-4-5

Voltage Sags and Interrupts: 61000-4-11

Conducted Immunity: 61000-4-6

4.1.4 ENVIRONMENT STANDARDS

RoHS regulation.

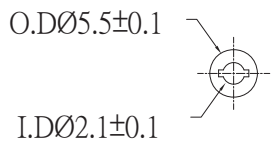
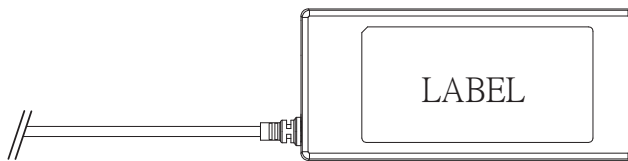
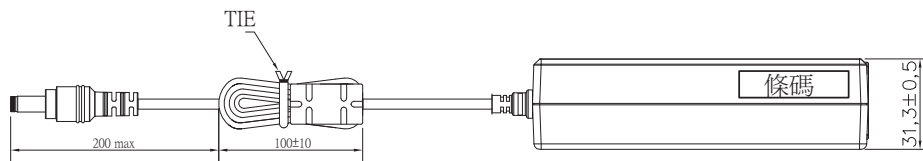
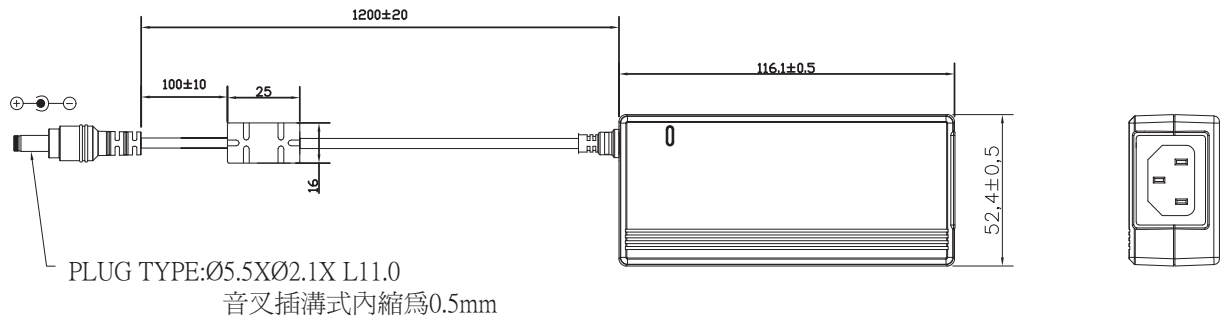
The RoHS compliance symbol will be included on the dataplate.

4.1.5 ENERGY STAR

EPS complies to EPA standard Version 2.0 Energy Star EPS specification.

CWT will be responsible for meeting the EPA requirements. Including all testing and application. The Energy Star Version 2.0 compliance symbol is to be included on the data-plate.

ISSUE DATE: 2011/5/12	Revision No.: 4.0	
Specification No:	Page: 10 of 13	



VIEW "A"
(SCALE 3:1)

NOTES:

1. CASE & CABLE COLOR : BLACK
2. CABLE SPEC.:CABLE ARE UL 1185 单#18AWG*1C+S BLACK
4. MODEL:G99-KPL060K-N001,G99-KPL040F-N001
5. PART NO.:G18-B1A312A-MN00

	APPROVED JH HUANG	DRAWING NO. KP-L-C14-006	UNIT INCHES(MM)	REV. A
TITLE Desktop Switching Adapter	DATE 2011-7-26	MODEL NO. KPL	TOLERANCES:	SHEET 1/1

版本	修訂內容	修訂者	日期
0.1	新制訂	羅幸金	20120412

其它说明：
认证标志使用请务必重新确认是否有证书
FACTORY ID:I I表示生产厂为冠硕
FACTORY ID:G G表示生产厂为贵冠

冠硕厂用的KC标志及号码		贵冠厂用的KC标志及号码
	SU10214-11006	 HU10387-11038A 用于2-6W输出包机
	SU10214-11003	 HU10387-11007A 用于17W及以上输出包机

AC ADAPTER

电源适配器/電源供應器/직류전원장치

AC ADAPTER 电源适配器/電源供應器/직류전원장치
MODEL / 型号/型號/오델명:KPL-050F
INPUT / 輸入/輸入/정격입력:
100-240V~ 50/60Hz 1.7A
OUTPUT / 輸出/輸出/정격출력:
+12V ≒ 4.17A 50W

I.T.E POWER SUPPLY, ALSO LISTED AS AUDIO, VIDEO PRODUCT.
仅供信息技术设备以及音视频设备使用.
僅供資訊類設備以及影音類設備使用,周邊連接設備需V1以上防火外殼

A / S 센터:Sunflower Energy
제조사 :Ningbo ISO Electronic Co.,Ltd.
TEL:82-070-7011-2806
제조국:중국(Made in China)
주의사항:감전의 위험이 있으니 두 손을 열지 마십시오

























































































































































































































































































































































































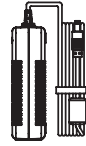




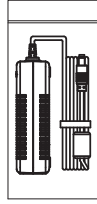




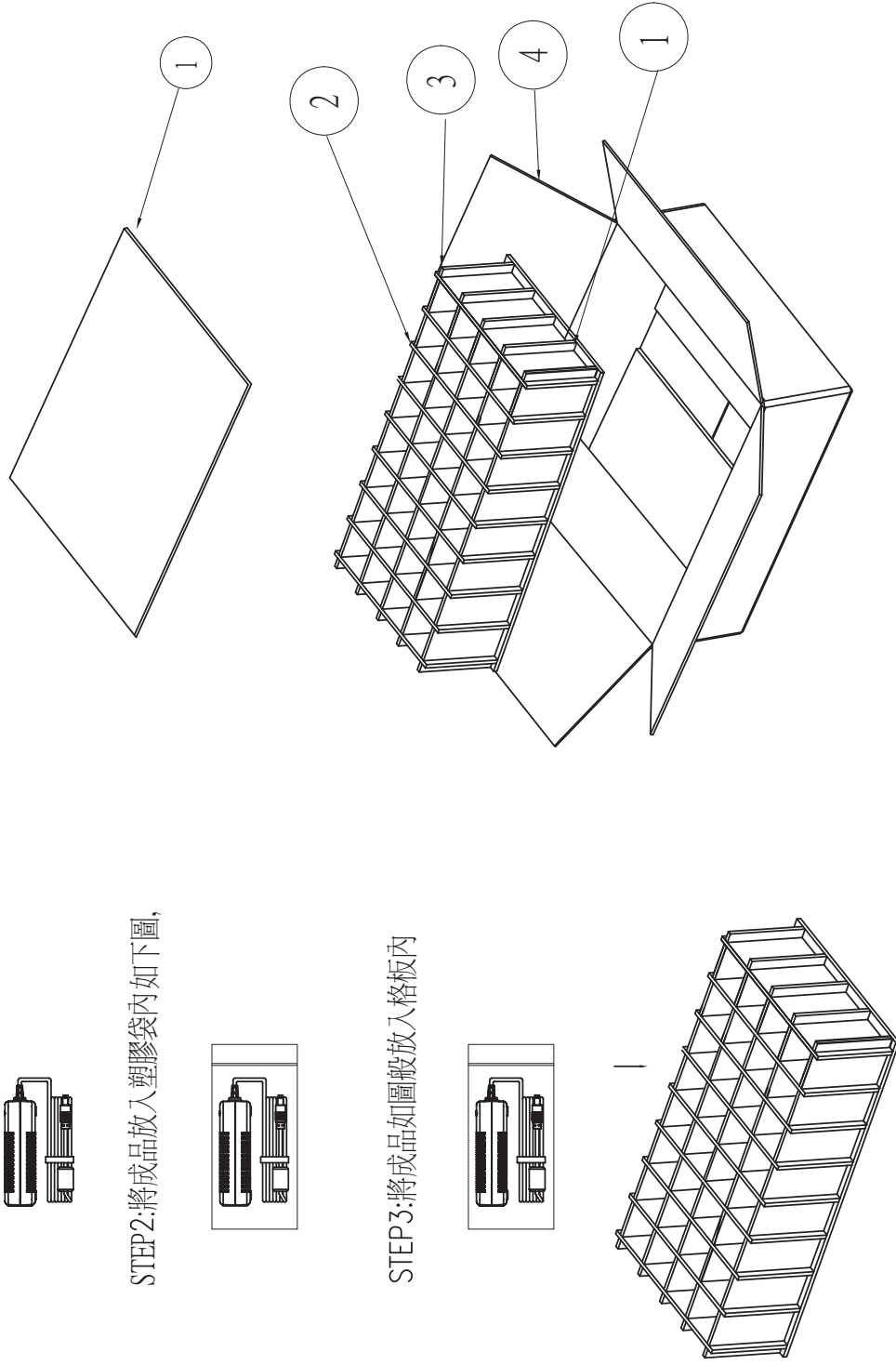
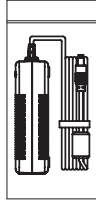
STEP1:將成品及線材整理如下圖,



STEP2:將成品放入塑膠袋內如下圖;



STEP3:將成品如圖般放入隔板內



- 1.組件:
1.1.:天地板: 用量:2PCS
1.2.:五万卡: 用量:9PCS
1.3.:九万卡: 用量:5PCS
1.4.:外箱: 用量:1PCS

環保材料標準：

[illegible]