



**IDEALPOWER**

experts in power conversion

# SPECIFICATION FOR APPROVAL

CUSTOMER: \_\_\_\_\_

DESCRIPTION: SWITCHING POWER SUPPLY REV: (A4)

MODEL NO: HK-AB-050A400-D56 PART NO: HKSC-160727

DESIGNED NO: 160727-0628 DATE: MAR.07th.2020

CUSTOMER APPROVED SIGNATURES			VENDOR APPROVED SIGNATURES		
					

Ideal Power, 14 Larks Way, Tree Beech Enterprise Park, Gunn, Barnstaple, Devon, England EX32 7NZ

Web: [www.idealpower.co.uk](http://www.idealpower.co.uk) email: [sales@idealpower.co.uk](mailto:sales@idealpower.co.uk) TEL +44 (0) 845 2603400 Fax +44 (0) 845 2603401



MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	1 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## CONTENTS

1. INTRODUCTION
2. INPUT REQUIREMENTS
3. OUTPUT REQUIREMENTS
4. EFFICIENCY
5. LINE REGULATION
6. HOLD UP TIME
7. TURN ON TIME
8. TEMPERATURE COEFFICIENT
9. DIELECTRIC STRENGTH (Hi-Pot) TEST
10. INSULATION RESISTANCE
11. PROTECTION
12. ENVIRONMENTAL CONDITIONS
13. EMI/ EMC
14. RELIABILITY AND QUALITY CONTROL
15. SAFETY
16. OVERALL DRAWING
17. PACKING
18. MARKING

MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	2 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## 1.0 INTRODUCTION

This document specifies a switching power supply with a output of +5V, and electronic process. The switching power supply will provide power for technology equipments including electrical business equipment. The adaptor meets the requirement of lead free and RoHS.

## 2.0 INPUT REQUIREMENTS

2.1 Input Voltage Range: 100(-10%)VAC to 240(+10%)VAC

2.2 Input Frequency Range: 47 Hz to 63 Hz

2.3 Input Power Consumption at no-load : 0.1W Max

2.4 Input In-rush Current: 60A Max

2.5 Input Current: 0.8A Max

## 3.0 OUTPUT REQUIREMENTS

3.1 Output Voltage: +5V

3.2 Output Regulation: 4.75-5.25V

3.3 Output Load Range: 4.0A

3.4 Output Ripple & Noise: 240mV Max @20MHz bandwidth with  
10UF/50V capacitance and 104/50V ceramic capacitor.

4.0 EFFICIENCY  $\geq$  83.08% @ average of 25/50/75/100% loads 115V&230VAC input

5.0 LINE REGULATION:  $\pm$ 2% maximum

6.0 HOLD UP TIME: 10ms Min at 110VAC full load.

7.0 TURN ON TIME: 2S Max at 110VAC full load.

MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	3 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

8.0 TEMPERATURE COEFFICIENT: 0.05%/°C

#### 9.0 DIELECTRIC STRENGTH (Hi-Pot) TEST

Primary to Secondary : AC 3.0 KVrms, 4mA, 1 minute for type, 2 second for production test.

#### 10.0 INSULATION RESISTANCE

Primary to secondary: 50M OHM to 500VDC.

#### 11.0 PROTECTION

##### 11.1 Input Protection

The switching power supply has a 2 Amps inner current fuse to protect itself.

##### 11.2 Output Protection

###### 11.2.1 Output Current:

Overload conditions shall decrease the output voltage. Removal of an output overload shall provide automatic recovery for the output voltage.

###### 11.2.2 Short Circuit Protection: Auto Recovery.

MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	4 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## 12.0 ENVIRONMENTAL CONDITIONS

The switching power supply can withstand the following environmental conditions:

12.1 Storage Temperature:-20°C ~ +70 °C

Relative Humidity: 10% ~ 95%

12.2 Operation Temperature:0°C~40°C

Relative Humidity: 10%~95%

## 13.0 EMI / EMC

The switching power supply has approved by the following standards:

FCC PART 15 Class B AS/NZS CISPR 32: 2015  
 EN 55032: 2015, Class B CISPR 32: 2012 (Ed 2.0)  
 EN 61000-3-2: 2014 EN 61000-3-3: 2013  
 IEC 61000-4-2: 2008 IEC 61000-4-3: 2006 +A1: 2007 +A2: 2010  
 IEC 61000-4-4: 2012 IEC 61000-4-5: 2014 IEC 61000-4-6: 2013  
 IEC 61000-4-8: 2009 IEC 61000-4-11: 2004 +A1: 2017  
 K00022(2009-12) K00024 (2009-12) CNS 13438 (95年完整版)  
 GB17625.1-2012; GB 9254-2008

## 14.0 RELIABILITY AND QUALITY CONTROL

### 14.1 Burn-in

The burn-in test will be performed at least 2 hours at 40 centigrade degrees under full load condition.

### 14.2 MTBF

When the operation is complying with this specification, the switching power supply's MTBF will be 50,000 hours at 25 centigrade degrees.

## 15.0 SAFETY

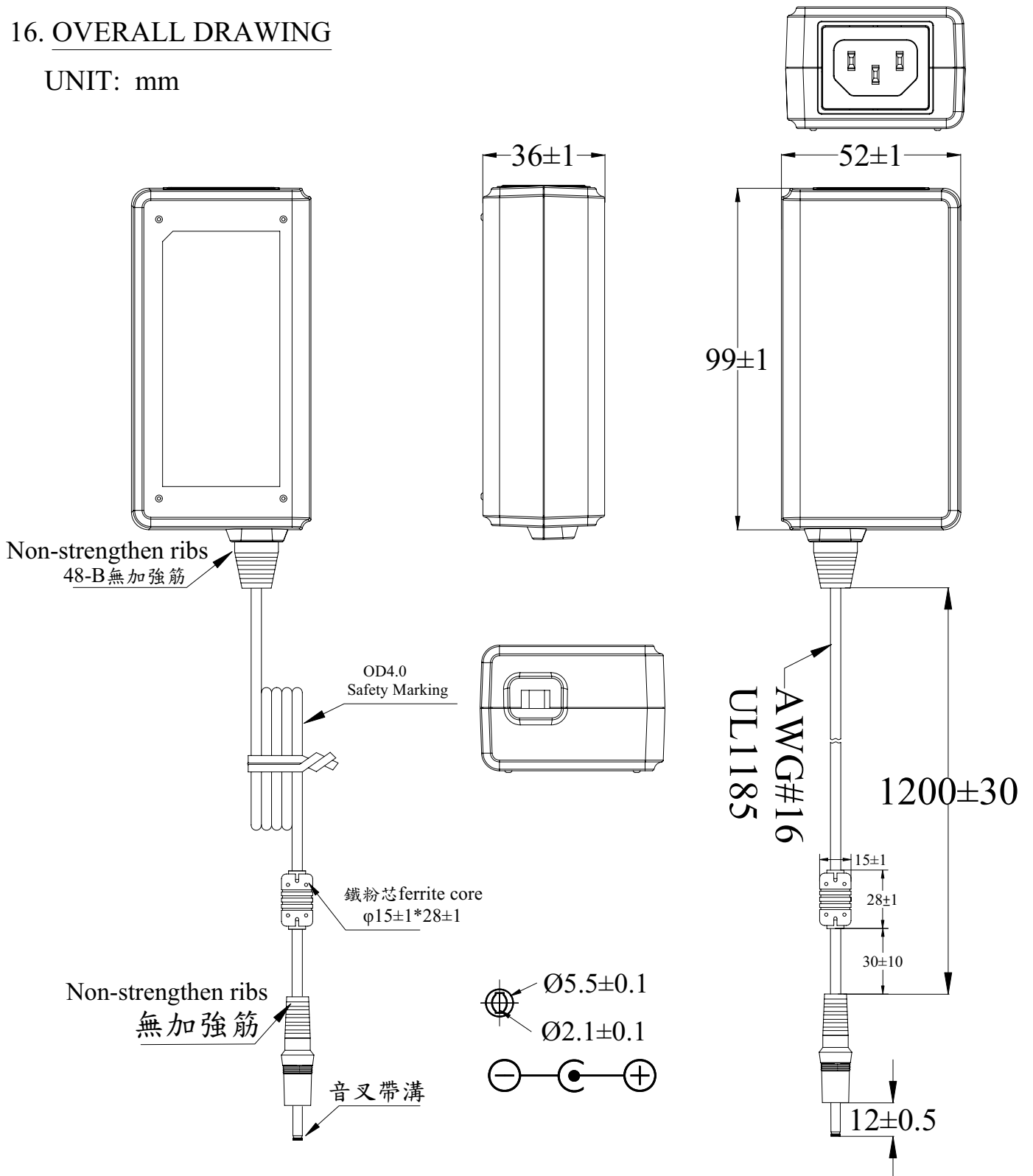
The switching power supply has approved by the following safety standards:

UL 62368-1, Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements  
 CSA C22.2 NO. 62368-1-14, Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements  
 EN 62368-1:2014+A11 BS EN 62368-1:2014+A11 AS/NZS 62368.1:2018  
 GB4943.1-2011 CNS 14336-1(99年版) K 60950-1(2011-12)

MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	5 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## 16. OVERALL DRAWING

UNIT: mm



MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	6 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## 17. PACKING

### 17.1 Inner Box

UNIT: mm

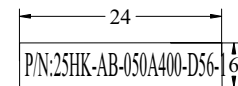
BOX(
  Normal BOX
  Corrugated BOX)

Length: 120

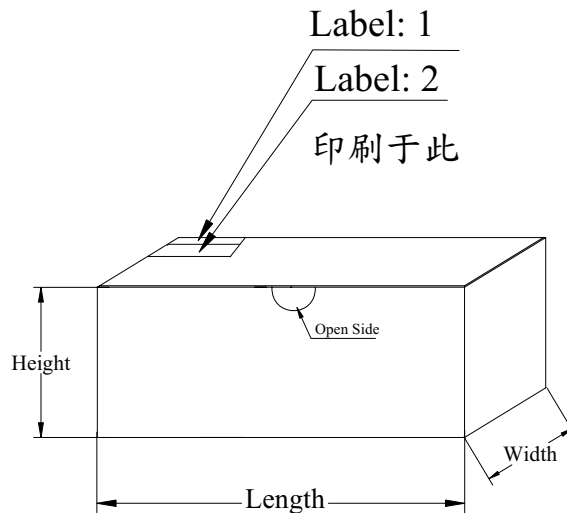
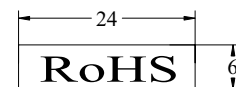
Width: 60

Height: 52

Label: 1



Label: 2



### NOTICE:

Its probably different from the white box of the sample and the figure dimension. The white box is used to pack during product.

注意: 樣品使用的小白盒尺寸可能與此圖面尺寸不同, 此圖面尺寸是用于生產時的包裝.

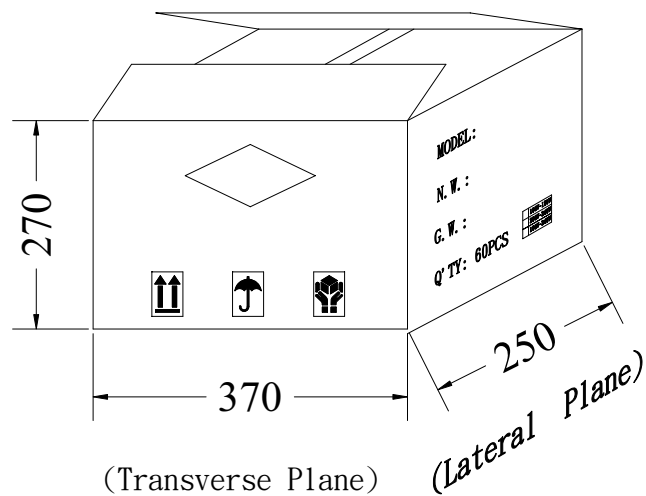
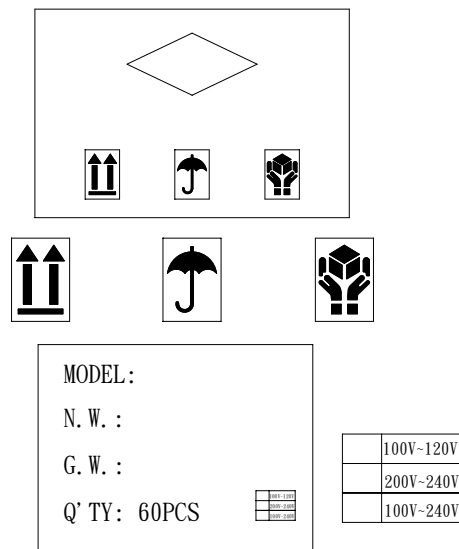


MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	7 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## 17. PACKING

### 17.2 Carton

UNIT: mm



MODEL NO. :	HK-AB-050A400-D56	PAGE NO. :	8 OF 9
PART NO. :	HKSC-160727	ISSUED DATE:	2020.03.07
DESCRIPTION :	SWITCHING POWER SUPPLY	REV:	(A4)

## 18. MARKING

200# CPC 合成紙+上光 NAME-PLATE:WHITE CHARACTERS BLACK BACKGROUND.

UNIT: mm

M	M	Y	Y	S	제조일자: XX 년 XX 월
month	year	made in China by Hon-kwang			生産日期 XX年 XX月

