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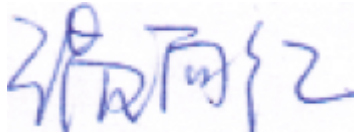
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**SPECIFICATION FOR APPROVAL**

**KO P/N** : SWP-30234-01  
**REVISION** : 04  
**DATE** : 2019.10.07

**Keen Ocean Development**

Drawn by :

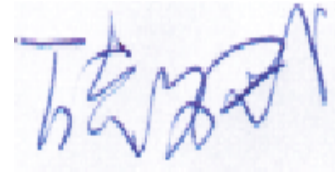


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Checked by :

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Approved by



2019.10.07

**Please kindly sign back for approval.**

Accepted by Customer :

Signed and chopped

Accepted by Customer :

Date

## Revision Note/更新記錄

Rev/版本	Data/時間	Changed Cause/更改理由	Changed Comment/更改內容
<b>00</b>	<b>2018.12.13</b>	First Issue/文件首次發放	
<b>01</b>	<b>2019.02.14</b>	Change the DC jack from straight type to L type / 將DC頭由直頭改為L頭	9
		The power supply shall meet the ROHS 2.0 requirement /此款電源符合ROHS 2.0 要求	
<b>02</b>	<b>2019.04.26</b>	Change the Packing Drawing/更改包裝示意圖	11
<b>03</b>	<b>2019.09.20</b>	Change the Label Drawing/更改標貼圖	10
<b>04</b>	<b>2019.10.07</b>	Change the Label Drawing/更改標貼圖	10

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## 1.SCOPE

The document detail the electrical,mechanical and environmental specifications of a SMPS,the power supply provide48V 300mA continuous output power.

資料詳細描述了一款48V 300mA (連續輸出功率)開關電源的電氣性,結構性及環境等要求.

The power supply shall meet the ROHS 2.0 requirement.

此款電源符合ROHS 2.0 要求.

## DESCRIPTION

- SMPS Adaptor(Wall mount)/插牆式適配器       SMPS Adaptor(Desk-top)/桌面型適配器  
 Open Frame/開放式結構                               SMPS Unit (With Case)/帶鐵殼型  
 Others/其他

## 2.Input Characteristics/輸入特性

## 2.1. Input Voltage &amp; Frequency/輸入電壓與頻率

The range of input voltage is from 90Vac to 264Vac single phase.

輸入電壓範圍: 從90Vac 到 264 Vac,單相輸入.

	Minimum/最小	Nominal/額定值	Maximum/最大
Input Voltage/輸入頻率	90Vac	100Vac~240Vac	264Vac
Input Frequency/輸入頻率	47Hz	60Hz/50Hz	63Hz

## 2.2. Input AC Current/AC 輸入電流

0.4Amax. @ 100-240Vac input & Full load/滿載

## 2.3. Inrush Current (cold start)/浪涌電流(冷啟動)

15Amax. @ 264Vac input

## 2.4. Average Efficiency (Normal)/平均效率(額定輸入)

84.28% min.@ 115VAC & 230VAC 25% full load,50% full load , 75%full load,100% full load

## 2.5. Energy Consumption /空載功耗

空載功耗 $\leq$ 0.1W.@ 115VAC & 230VAC

## 3.Output Characteristics/輸出特性

## 3.1. Static Output Characteristics&lt;Vo &amp; R+N&gt;/靜態輸出特性

Output Rate	Rated Load/額定電流		Output Range 輸出電壓範圍	R+N 紋波與噪聲	Remark 備註
	Min. Load	Max. Load			
+48V	0.0A	0.3A	45.6V~50.4V	480mVp-p	

Ripple & Noise: Measurement is done by 20MHZ bandwidth oscilloscope and the output

Paralleled a 0.1 $\mu$ F ceramic capacitor and a 10 $\mu$ F electrolysis capacitor.(test under the

Condition of rated input and rated output)

波紋與噪聲：量測時示波器選用20MHz帶寬限制，輸出端要并聯一顆0.1 $\mu$ F的陶

瓷電容和一顆10 $\mu$ F的電解電容。（在額定輸入及輸出的條件下檢測）

## 3.2. Line/Load Regulation/線性/負載調整率

Output	Load Condition/負載條件		Line Regulation 線性調整率	Load Regulation 負載調整率	Remark 備註
	Min. Load	Max. Load			
+48V	0.0A	0.3A	±2%	±5%	

## 3.3. Turn –on Delay Time/開機延遲時間

3S max. @ 100 Vac to 240 Vac input & Full load/滿載

## 3.4. Hold-up Time/關機維持時間

8mS min. @ Full load &115Vac/60Hz input turn off at worst case/在最差情況關機

## 3.5. Rise Time/上升時間

20mS max. @ Full load/滿載

## 3.6. Fall Time/下降時間

20mS max. @ Full load/滿載

## 3.7. Output Overshoot/Undershoot/輸出過沖/欠沖

10% max. When the power on or off/當電源開/關機時

## 3.8. Output Load Transient Response/輸出負載瞬態響應

Output voltage within 45.6V~50.4V for load. step from20% to 80%,R/S:0.1A/uS,

Frequency:100Hz duration and 8Ms at 80%

輸出電壓在45.6V~50.4V之間，負載變化：從20%到80%，斜率：0.1A/uS，頻率：100Hz,80%

負載持續時間為8mS.

## 4. Protection Requirements/保護要求

## 4.1 Over voltage Protection/過壓保護

The output shall hiccup when the over rate voltage 120%~150% applied to the output rail,and shall be self-recovery when the fault condition is removed

當過額定電壓值120%~150%時，輸出將進入打嗝模式，當過失情況解除後，產品將會自動恢復正常

## 4.2 Over Current Protection/過流保護

The output shall be hiccuped When over-current protection and shall be self-recovery when the fault condition is removed

當過流達到過流保護時，輸出將進入打嗝模式，當過失情況解除後，產品將會自動恢復正常

#### 4.3. Short Circuit Protection/短路保護

The input power shall decrease when the output rail short,the power supply shall no damage, and shall be self-recovery when the the fault condition is removed

當輸出短路時，產品輸入功率降低且不會損傷，當短路情況解除後，產品將會自動恢復正常

#### 5.Environmental Requirements/環境要求

##### 5.1. Operating Temperature,and Relative Humidity/操作溫/濕度要求

0°C to +40°C

20%RH to 90%RH

##### 5.2. Storage Temperature,and Relative Humidity/存儲溫/濕度要求

-10°C to +80°C

0%RH to 95%RH non-condensing @ Sea level shall be low 10,000 feet/低于10,000英尺

##### 5.3. Vibration/振動

10 to 300Hz sweep at a constant acceleration of 1.0G(Breath:3.5mm) for 1Hour for each of the perpendicular axes X,Y,Z

掃描頻率：10 to 300Hz, 加速度：1.0G ( 位移：3.5mm ) ,X,Y,Z三垂直坐標軸向各振動1小時

##### 5.4. Drop in/跌落

Height:1m;the product should be fell off on the hardwood with the thickness of 20mm, and the hardwood should be put on the base of the cement or on the ground without flexibility. Apply one times on all surface.

跌落高度：1米,並跌落到厚度為20mm的硬木應放在水泥基座或等同的無彈性地面上，每面各1次

#### 6.Reliability Requirements/可靠性要求

##### 6.1. Burn-in/煲機

The power supply shall be burn-in at least 2 Hours under normal input and 80% rated load at ambient temperature

產品至少要在室溫的環境及80%額定負載條件下至少煲機2小時

##### 6.2. MTBF Qualification/平均間隔故障時間估算

The MTBF shall be at least 20,000hours at 25°C,Full load and nominal input condition

平均間隔故障時間：至少20,000小時，25°C環境及額定輸入與滿載條件下

#### 7.EMI/EMS Standards/EMI/EMS 標準

##### 7.1. EMI Standards/EMI標準

EN 55022:1998,+A1:2000+A2:2003,Class B

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

CISPR 22:2003,Class B

AS/NZS CISPR 22:2004,Class B

FCC Part 15

## 7.2. EMS Standards/EMS 標準

EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge(ESD):8Kv air discharge,4kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient/Burst-EFT
EN 61000-4-5	Surge Immunity Test:AC Power Line:line to line 1kV,
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips

## 8.Safety Standards/安規標準

## 8.1. Dielectric Strength(Hi-pot)/介電耐壓強度 ( 高壓 )

Primary to Secondary:4250Vdc and 3000Vac/10mA Max/60second(3second for production)

初級對次級: 4250Vdc或3000Vac /10mA Max,/60秒(生產時高壓測試時間 : 3秒)

## 8.2. Leakage Current/漏電流

0.25mA max.at 264Vac/50Hz

## 8.3. Insulation Resistance/絕緣阻抗

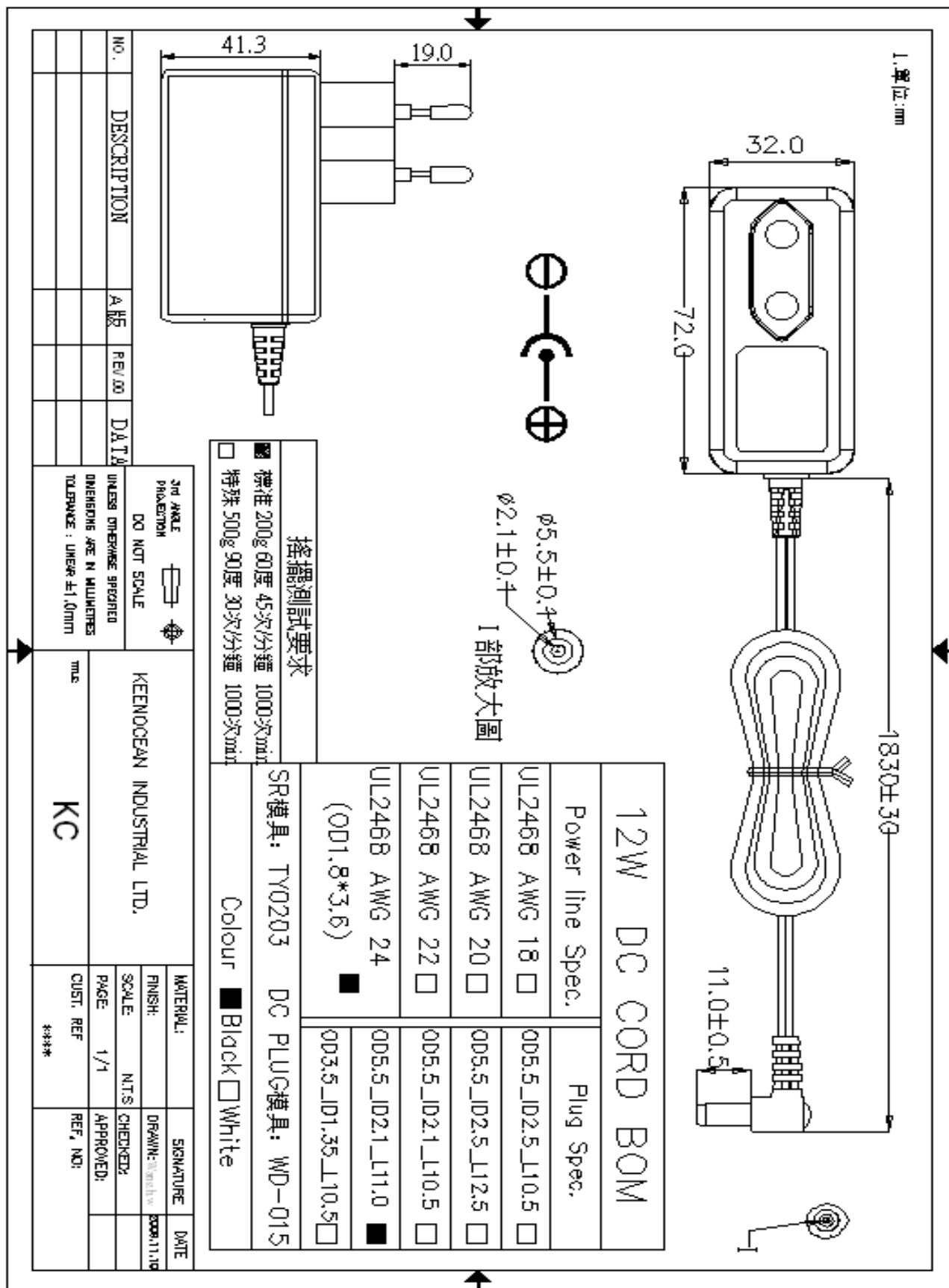
50MΩ min. at primary to secondary add 500Vdc test voltage

在初級與次級間加500Vdc進行測試

## 8.4. Regulatory Standards/安規標準

Type/安規	Country/國家	Standard/標準
CB	Global	IEC60950-1
KC	Korea	K60950
DOE	USA	Level VI
EUP	Europe	COC V5 tier 2
MEPS	Australia New Zealand Korea	Level VI

9.Mech.Outline Drawing/外觀示意圖





## 10.Label Drawing/標貼圖

<i>Keen Ocean Industrial Ltd</i>	
Switching Adaptor	
제 품 명: 직류 전 원 장 치	
모 델 명: SWP-30234-01	
정격입력: 100-240 Vac 50/60Hz	HU10549-19014A R-R-Rih-S15-015-0480
0.4A Max	
정격출력: 48.0Vdc 0.3A	
A/S연락처: XX-XX-XXXXXX	
제 조 자: He Yuan Sky Wealth Electronic and Plastic Co. Ltd.	
제 조 국: China	
제 조 년 월: XXXX-XX-XX	

Note: Laser marking

Typeface: Arial

11.Packing Drawing/包裝示意圖

