



IDEAL POWER LTD

SPECIFICATION FOR APPROVAL

CUSTOMER: 01097 REV.00
ARTICLE: AC-DC ADAPTER
STANDARD: CE
MODEL NO. : DYS605-120050W-5
OUR PART NO.: DYS605-120050-16630(A1)
YOUR PART NO.:
INPUT: 100-240V AC 50/60Hz
OUTPUT: 12.0V DC 0.5A

供应商确认			客户确认		
Made by	Checked by	Approved by	Made by	Checked by	Approved by
Zhaoliu	Liufei	Rock Bin			

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Ideal Power Ltd
SWITCHING MODE POWER SUPPLY
SPECIFICATION

Model No.: DYS605-120050W-5

REV.00

Date: 2017/03/06

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1. Record of Revision:

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REVISION	DESCRIPTIONS OF CHANGE	DATE	Operator
REV.00	New document	2017/03/06	Zhaoliu

2. Descriptions:

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These are series of general purpose AC/DC adapters which convert 100Vac ~ 240Vac to a stabilized DC voltage of 12.0V with rated output current of 500mA.. Please connect the electrical power first and then add the load when using this SMPS.

The switching mode power supply meets the requirements of lead free and RoHS.

3. Input Feature:

3.1 Input Voltage and Frequency

The switching mode power supply shall meet all specifications when powered from the following sources.

Rating Voltage	Line Frequency	Minimum Voltage	Maximum Voltage
100-240V AC	50/60Hz	90V AC	264V AC

3.2 Efficiency

The minimum efficiency shall be 78.88% under 115Vac/230Vac input and output full load.

3.3 Input Current

The maximum input current shall be less than 0.2A.

3.4 Input In-rush Current

Peak inrush current shall be limited to 50A.

3.5 Input Leakage Current

The leakage current shall not exceed 0.25mA.

4. Output Feature:

4.1 Output Voltage and Current

The switching mode power supply shall have one regulated DC output voltage: 12.0V DC.

The table below defines the total regulation banding for the output, which includes line regulation, load regulation, transient response, and effects due to environmental conditions and aging. Voltage shall be measured at its output connector.

Output	Output Current Range	Output Voltage Range	Ripple & Noise
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	Min	Max	Min	Max	Max.
+12.0V	0.0A	0.5A	11.4V	12.6V	150mVpp

Ripple & Noise Test: Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.

4.2 Dynamic Response

The load current of the output is changed between 20% and 80% under full load at 0.25A/us; the excursion of the output shall not exceed 10% of the nominal output voltage. The output voltage shall be within 10% of the steady state voltage in 1ms.

4.3 Startup and Turn- on Delay

The switching mode power supply shall be able to start up into a resistive load up to the maximum rated current with maximum load capacitance of 1,000uF. The elapsed time between the application of input power and the attainment of output voltage to the nominal value shall not exceed 3 seconds.

5. Protection Feature:

5.1 Over Current Protection

The switching mode power supply shall withstand a continuous over current without damage. It may be applied before power-up, or after power-up. The switching mode power supply shall perform normally again after the over current removed.

5.2 Short Circuit Protection

Short circuit will do not cause the switching mode power supply to damage, or any safety hazards. It shall perform normally again after the short circuit removed.

6. Safety Standards:

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6.1 Safety

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

*EN60950

6.2 Dielectric Strength (HI-POT)

Input to Output Terminal: 4242Vdc 3Sec \leq 5mA.

Input to Case: 4242Vdc 3Sec \leq 5mA.

When DC voltage of 4.24KV is applied, and the voltage applied to the insulation under test, it gradually rises from zero to the prescribed voltage in 1s, and holds at the value for 3s between the input and output, and between the input and housing, the current sensitivity shall be less than 5mA, after the test, the switching mode power supply shall exhibit no electrical and mechanical abnormalities.

7. Reliability:

7.1 Burn-in

The burn-in test will be performed at least 4 hours at 25 degrees centigrade under full load.

7.2 MTBF

When the operation is complying with this specification, the MTBF of switching mode power supply will be 25K hours at 25 °C.

8. Mechanical Specifications:

Weight:	About 78g
Dimensions:	Refer Outline on page 8
Input socket:	BS PLUG
Output cord:	DCD1290, 24AWG UL2468, 1.5M Black
Output Connector:	Lead O/P~OD: 2.1mm, ID: 5.5m, Length: 12.0mm (H).

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9. Environmental Conditions:

The switching mode power supply shall meet all requirements of this specification on any combination of operation ambient conditions and after exposure to any combination of non-operation ambient conditions specified in this section.

9.1 Temperature

Operating Temperature: 0°C~40°C

Storage Temperature: -20°C~ 80°C

9.2 Humidity

Operating Humidity: 10%~90%(non condensing)

Relative Humidity: 5%~95% (non condensing)

10. Main Measurement Equipments:

- A. AC Source: YOKOGAWA JL-1005A-500W
- B. Power Meter: Everfine YF9901
- C. Electronic Load: Yokogawa IT8511
- D. Oscilloscope: Matrix Mos-620CH 20MHZ
- E. Digital Multimeter: Victor Vc890D
- F. DC Power: RS1305DN
- .G. HI-POT Tester: CHANGSHENG CS2670
- H. Insulation Resistance Tester: TRANST TR7122

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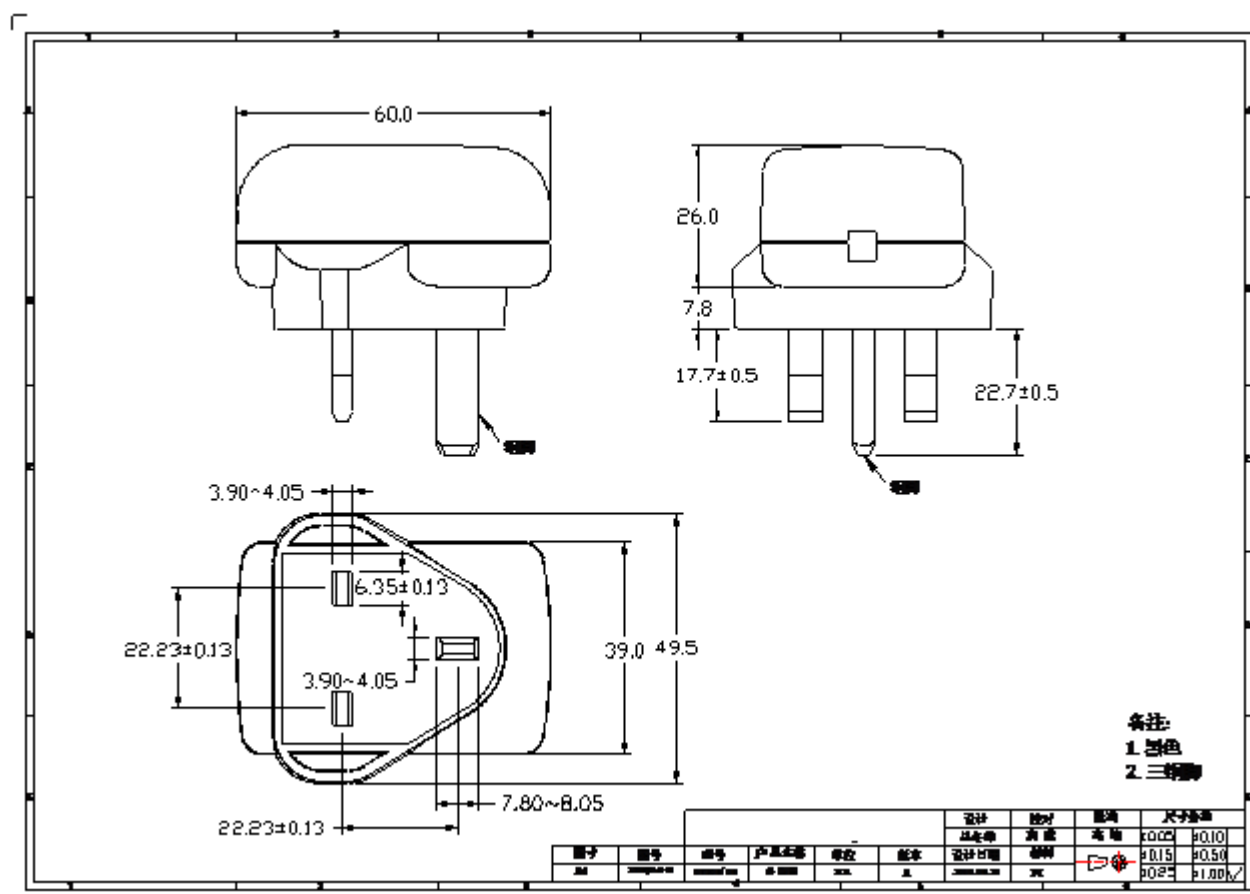
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11. Case Drawing:



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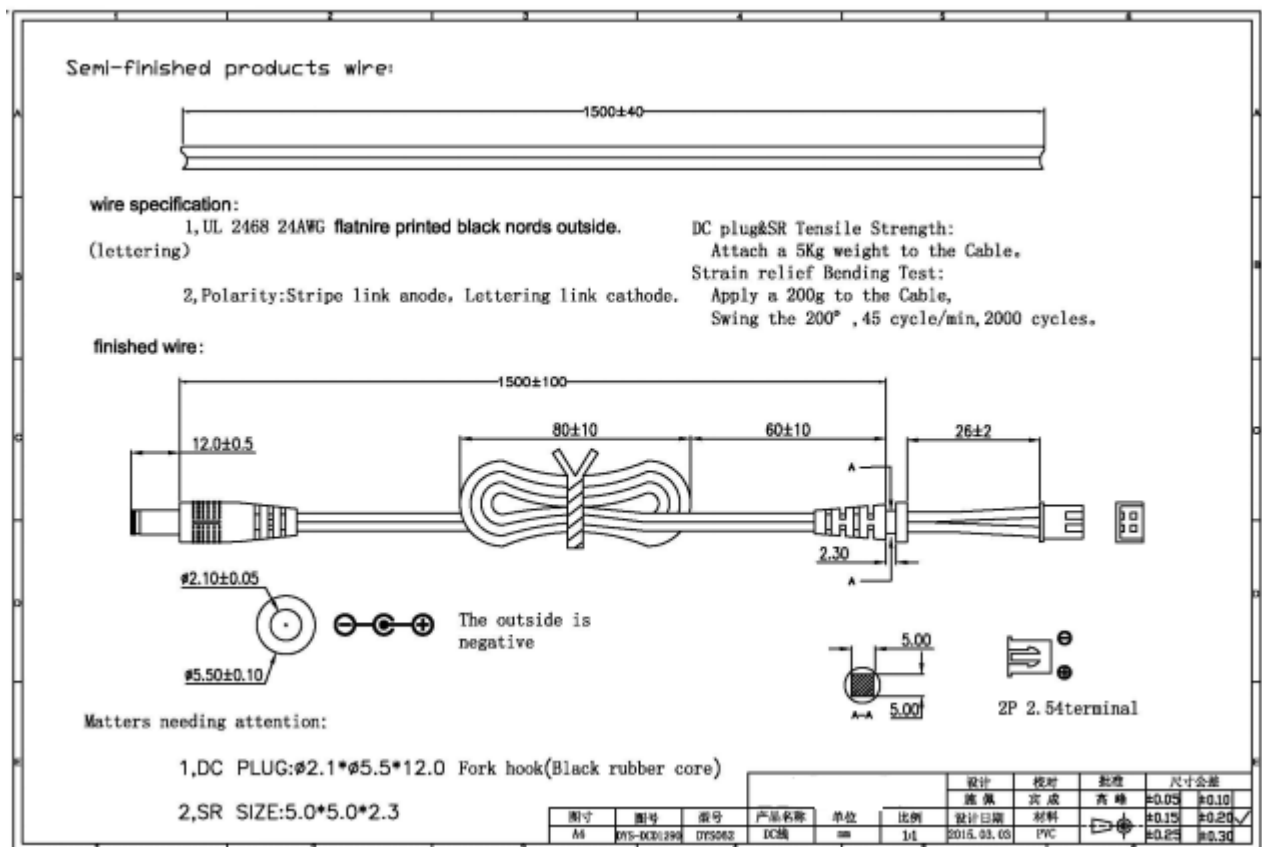
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12. DC Cable Drawing:



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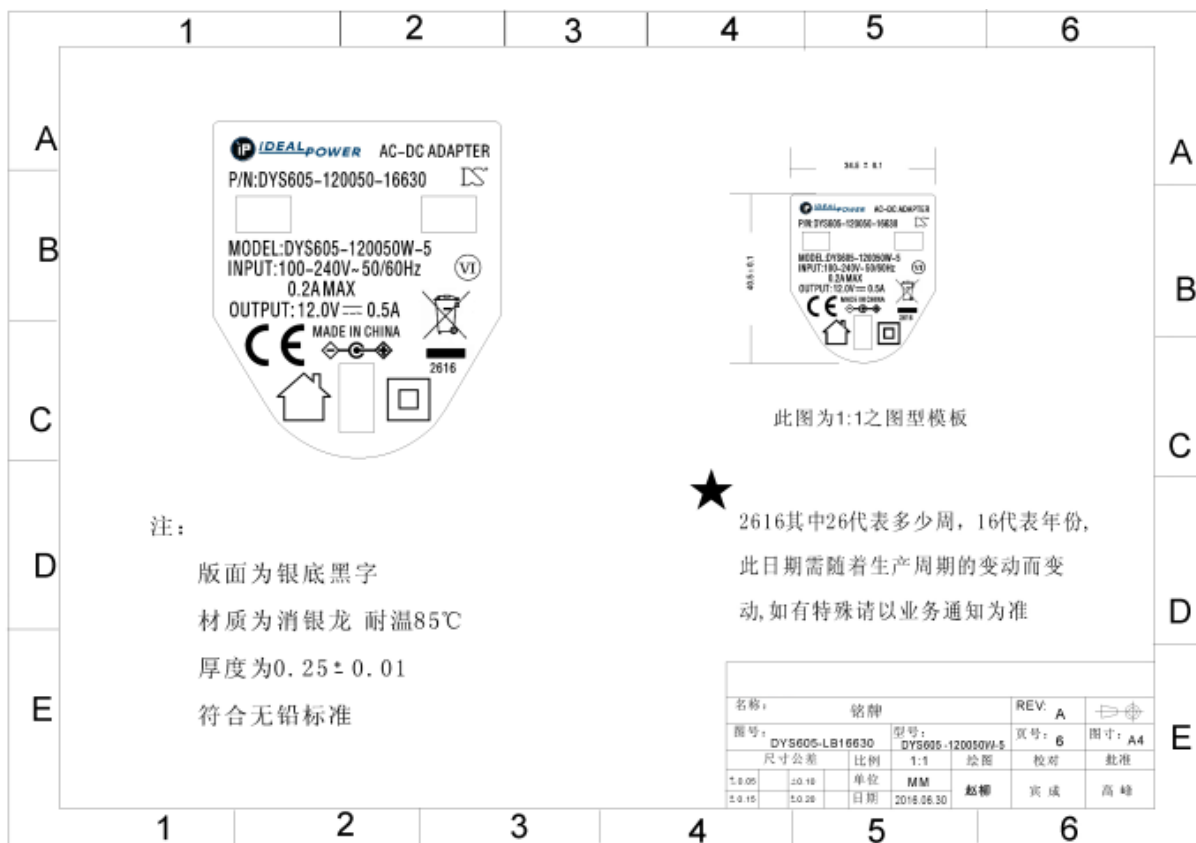
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13. Lable Drawing:



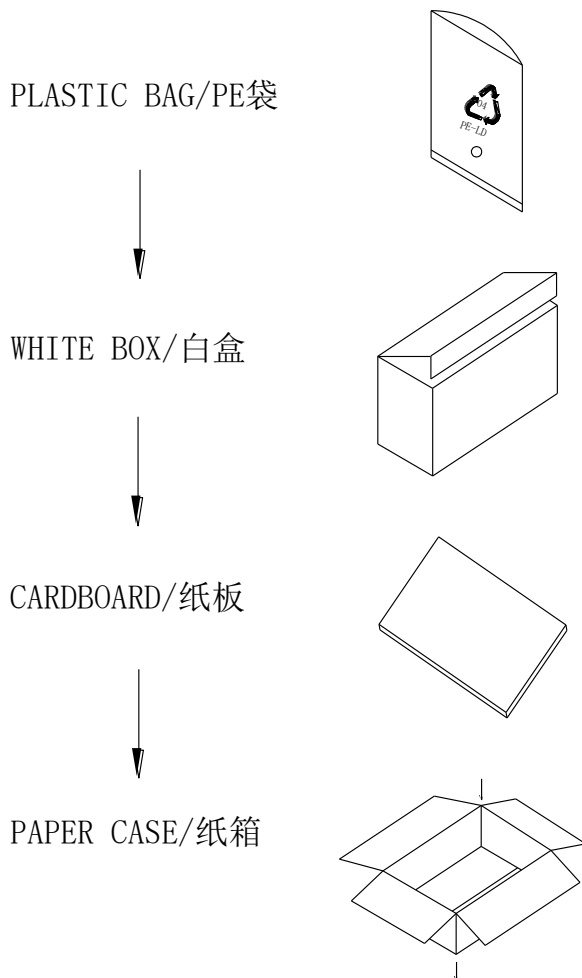
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14. Package Drawing:



MECHANICAL DIMENSION:

	L(mm)	W(mm)	H(mm)
PLASTIC BAG	160	130	
WHITE BOX	90	80	52
CARDBOARD	460	335	
PAPER CASE	470	345	230

PACKING METHOD:

PACKING METHOD	20PCS/LAYER * 4 LAYERS
QTY	80PCS
N.G	6.4Kg
GW	8.6Kg

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15. Sample Test Report:

客户:01097			产品名称:开关电源适配器				产品编号:DYS605-120050-16630 (A1)			
产品规格: AC100-240V 50/60Hz DC 12.0V/0.5A						安规: BS				
检查项目	检验名称		检验标准	样品数量和测试结果						
	项目	条件		1	2	3	4	5		
基本电气特性	1、空载电压	AC90V/60Hz	DC 12.0 V ± 0.6 V	12.12	12.02	12.06			PASS	
		AC180V/50Hz	DC 12.0 V ± 0.6 V	12.03	12.00	11.99			PASS	
		AC264V/50Hz	DC 12.0 V ± 0.6 V	12.00	11.99	11.96			PASS	
	2、满载电压	AC90V/60Hz	DC 12.0 V ± 0.6 V	12.02	12.04	12.03			PASS	
		AC180V/50Hz	DC 12.0 V ± 0.6 V	12.02	12.03	12.02			PASS	
		AC264V/50Hz	DC 12.0 V ± 0.6 V	12.01	12.01	12.00			PASS	
	3、满载输入功率	AC90V/60Hz	LOAD 满载(W)	7.54	7.60	7.59			PASS	
		AC180V/50Hz	LOAD 满载(W)	7.30	7.39	7.38			PASS	
		AC264V/50Hz	LOAD 满载(W)	7.40	7.47	7.48			PASS	
	4、转换效率	AC115V/50Hz	≥78.88%(Average Of 25/50/75/100% Loads)	81.83	81.27	81.41			PASS	
		AC230V/50Hz	≥78.88%(Average Of 25/50/75/100% Loads)	81.15	80.85	80.44			PASS	
	5、纹波及杂讯	AC90V/60Hz	≤150 mV (LOAD 满载)	80	90	90			PASS	
		AC180V/50Hz	≤150 mV (LOAD 满载)	80	80	80			PASS	
		AC264V/50Hz	≤150 mV (LOAD 满载)	70	80	80			PASS	
	6、待机功率(W)		< 0.1 W	0.06	0.07	0.06			PASS	
	7、短路保护(W)		输出短路时无输出, 恢复后正常输出 (240Vac)	0.13	0.12	0.12			PASS	
	8、过电流保护点(A)	过流保护点 0.65 - 2.0 A (100Vac)		0.91	0.91	0.92			PASS	
		过流保护点 0.65 - 2.0 A (240Vac)		0.92	0.93	0.93			PASS	
	9、异声测试		40 分贝 MAX, 10CM	OK	OK	OK			PASS	
	10、耐压测试		DC4242V 60S<5mA (输入对输出、外壳)	OK	OK	OK			PASS	
	11、温升		在常温 25℃环境下, CASE 表面温升≤55℃	OK	OK	OK			PASS	
	12、DC 线尺寸		客户要求: 2.1 * 5.5 * 12.0 L= 1.5M H	2.1 * 5.5 * 12.0 L= 1.5M H					PASS	
试验状况	1、高温		□60℃ ■80℃ ■48H □96H	OK	OK	OK			PASS	
	2、低温		■-20℃ □-40℃ ■48H □96H	OK	OK	OK			PASS	
	3、恒湿		■ 40℃ 95%RH ■48H □96H	OK	OK	OK			PASS	
	4、插拔(公插 TO 母插)		3000 次 Min	OK	OK	OK			PASS	

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	5、烧机测试	≥8 小时 AC100/240V 各 4H 满载	OK	OK	OK			PASS
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