

CUSTOMER

JAMES

SPECIFICATION FOR APPROVAL

AC/DC ADAPTOR

CUSTOMER SPEC:INPUT: 100-240V AC 50/60Hz OUTPUT:12VDC 1500mA

CUSTOMER DWG./PART NO.

PART NO. DCT18W120150US-A0

SAMPLE NO: SD2020040662 REV.: A ISSUE DATE: 2020-04-14

PRDUCT NO:

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
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E. C. LIST

Rev.	Description	Date	Remark
A0	First Released	2020-04-13	

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1. SCOPE 概述

The document details the electrical, mechanical and environmental specifications of a SMPS.
The power supply provides rated 18W continuous output power with 2Pin input.

2. Input Characteristics 输入特性

2.1. Input Voltage & Frequency 输入电压与频率

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

	Minimum	Nominal	Maximum
Input Voltage	90Vac	100Vac~240Vac	264Vac
Input Frequency	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current 输入电流

0.7A max. @ 100-240Vac input & Full load

2.3. Inrush Current (cold start) 开机浪涌

The PSU should not get damaged

2.4. Averaged Efficiency 平均效率

85.00% min. @ 115/230Vac 60/50Hz input with 25%, 50%, 75% and 100% load

2.5. Energy Consumption 空载损耗

0.1W max. @ 115/230Vac input with no load

3. Output Characteristics 输出特性

3.1. Static Output Characteristics 静态输出特性

Output	Load			Output Range	R+N	Remark
Rate	Min. Load	Rated Load	Max. Load			
+12.0V	0.0A	1.5A	1.5A	11.4V ~ 12.6V	150mVp-p	100-240Vac

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (Test under the condition of rated input and rated output at 25°C & burn in 5mins)

3.2. Line/ Load Regulation 线性/负载调整率

Output	Load Condition			Line Regulation	Load Regulation
Rate	Min. Load	Rated Load	Max. Load		
+12.0V	0.0A	1.5A	1.5A	± 5%	± 5%

3.3. Turn - on Delay Time 开机延迟

3S max. @115/230Vac input & Full load

3.4. Hold-up Time 关机维持

5ms min @115/230Vac input with Full load at 0 degree.

3.5. Rise Time 上升时间

50mS max. with full load

3.6. Fall Time 下降时间

50mS max. with full load

3.7. Overshoot/Undershoot 过冲

5% max. When the power on or off with full load

3.8. Dynamic 动态

Output voltage within 10.8-13.2V for load step from 20% to 80%, R/S: 0.1A/uS,
T1=T2=50mS

4. Protection Requirements 保护特性

4.1. Over Current Protection (OCP)过流保护

1.6A<OCP<2.5A & Recovery

4.2. Short Circuit Protection (SCP)短路保护

No damage & Recovery

4.3. Over Voltage Protection (OVP)过压保护

No damage & Recovery

5. Environment Requirements 环境要求

5.1. Operating Temperature and Relative Humidity 工作温度/湿度

-10℃ ~ +40℃

10%RH ~ 90%RH non-condensing

5.2. Storage Temperature and Relative Humidity 存储温度/湿度

-20℃ ~ +80℃

10%RH ~ 90%RH non-condensing

5.3. Altitude Range 海拔高度

Sea level shall be lower than 2000m

6. Reliability Requirements 可靠性要求

6.1. Burn-in 老化

The power supply shall be burn-in for 2 Hours under variable voltage of 100V, 240V input and 100% rated load at 40℃~45℃

6.2. MTBF 平均故障间隔时间

The MTBF shall be at least 20,000hours (SR-332) at 25℃, @115/230Vac input with full load .

6.3. E-cap Life 电容寿命

The lifetime shall be at least 3 years @25℃, @115/230Vac input with 80% load .

7. Mechanical Requirements 结构要求

7.1. Vibration 振动

Freq: 10Hz-500Hz

Displacement: 0.35mm peak

Acceleration: 49m/s²

Number of Sweeps: 2

Sweep Duration: 15 min cycles in each axis X,Y,Z

7.2. Drop Test 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 10 drops (6 faces + 3 edges+ 1 corner).

8. EMC Standards 电磁兼容

8.1. EMI Standards 电磁干扰

FCC Part15B

8.2. EMS Standards 电磁抗扰

8.2.1 Standard

EN 61000-4-2	(ESD)Electrostatic Discharge: air $\pm 8\text{kV}$, contact $\pm 4\text{kV}$, (Criteria A)
EN 61000-4-4	(EFT)Electrical Fast Transient/Burst: 1KV (Criteria A)
EN 61000-4-5	(Surge)Differential Mode : $\pm 1\text{kV}$;Common Mode: $\pm 2\text{kV}$ (Criteria A)

8.2.2 Assessment criteria

Acceptance criteria	performance
A	Agreed operational behavior within the specified limits
B	Time limited functional diminishment or malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests.
C	Malfunction is permitted .The function can be reactivated either by reconnection to the mains or by operator intervention.

9. Safety Standards 安规标准

9.1. Dielectric Strength (Hi-pot)高压

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

9.2. Leakage Current 漏电流

0.25mA max. at 264Vac / 50Hz

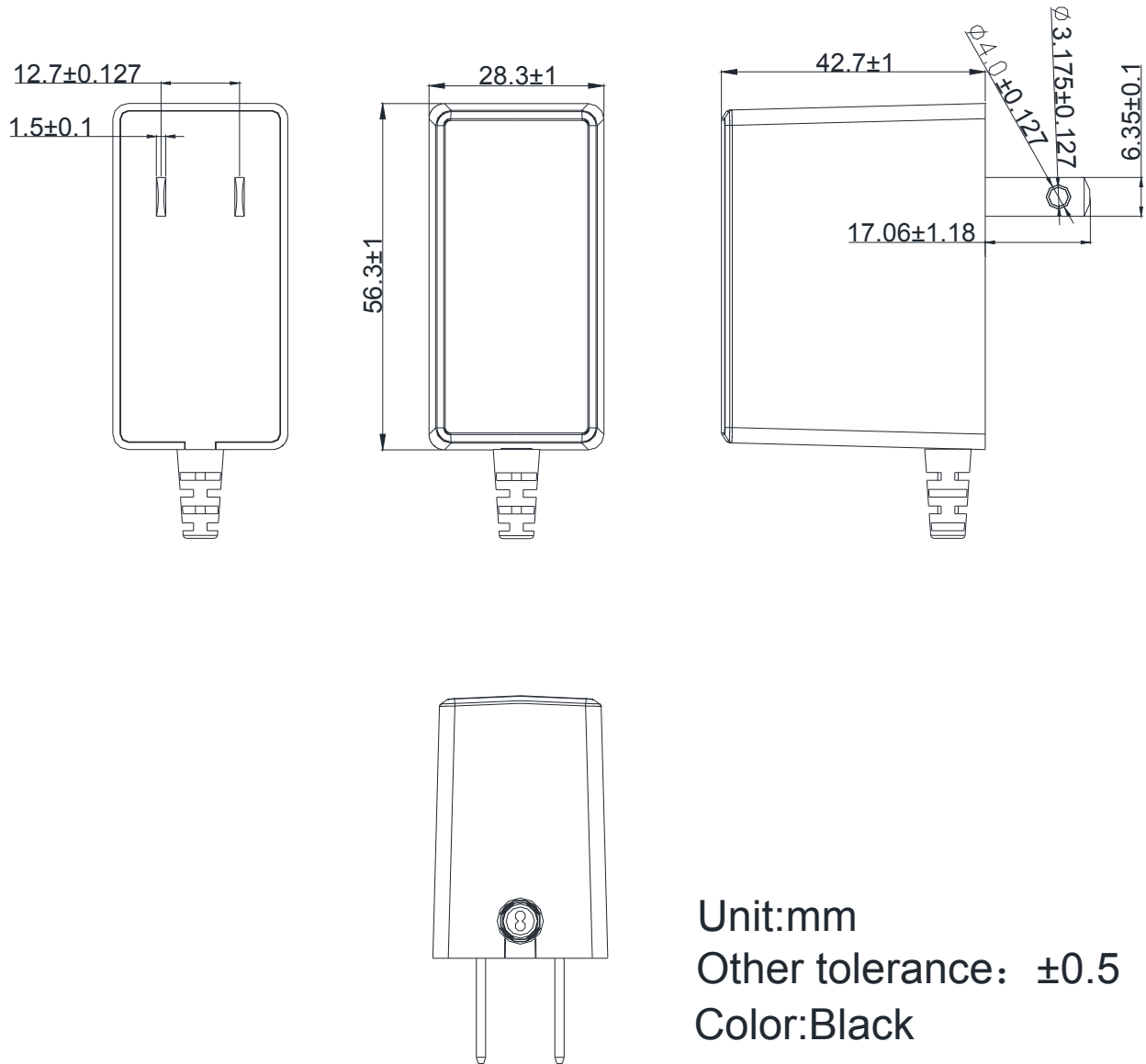
9.3. Insulation Resistance 绝缘阻抗

100M Ω min. at primary to secondary add 500Vdc test voltage.

9.4. Regulatory Standards 标准

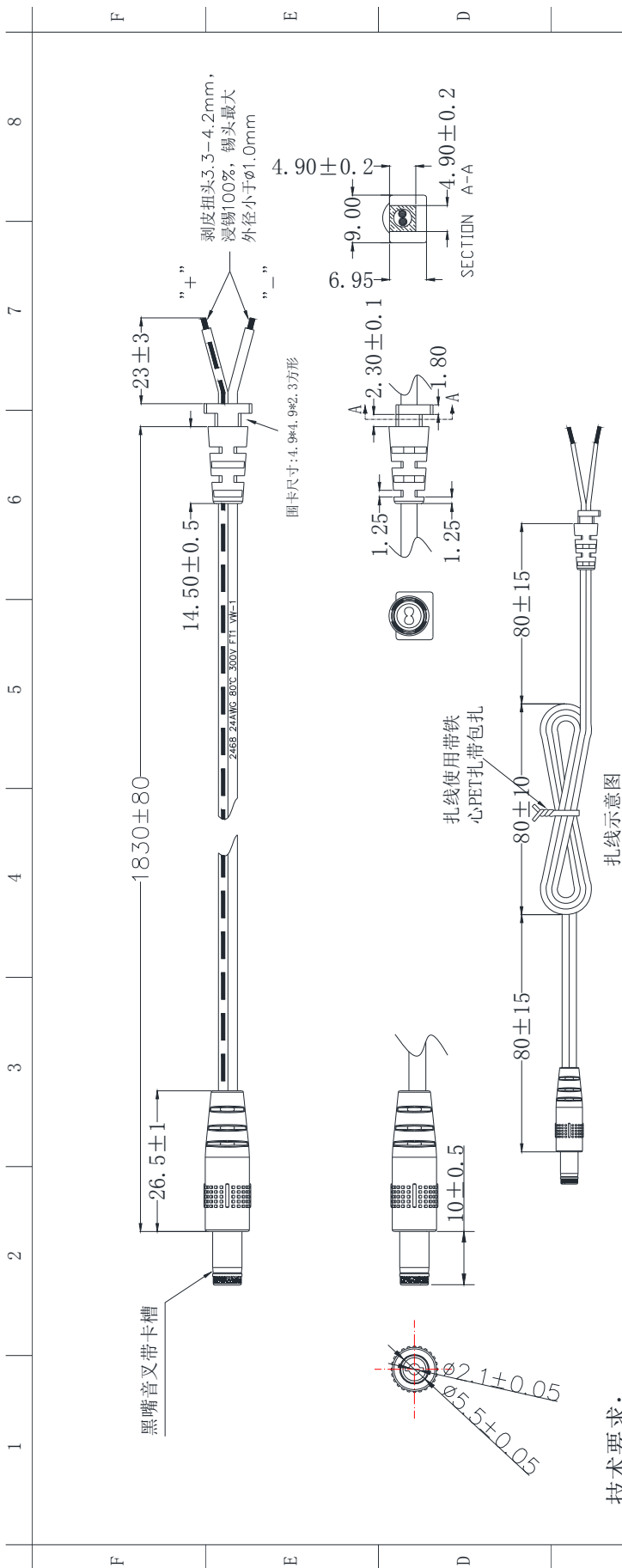
Type	Country	Standard	State	Note
UL	USA	UL62368	Approval	

10. Match. Outline Drawing 外观



Unit:mm
Other tolerance: ± 0.5
Color:Black

11. DC Cord Drawing 线材

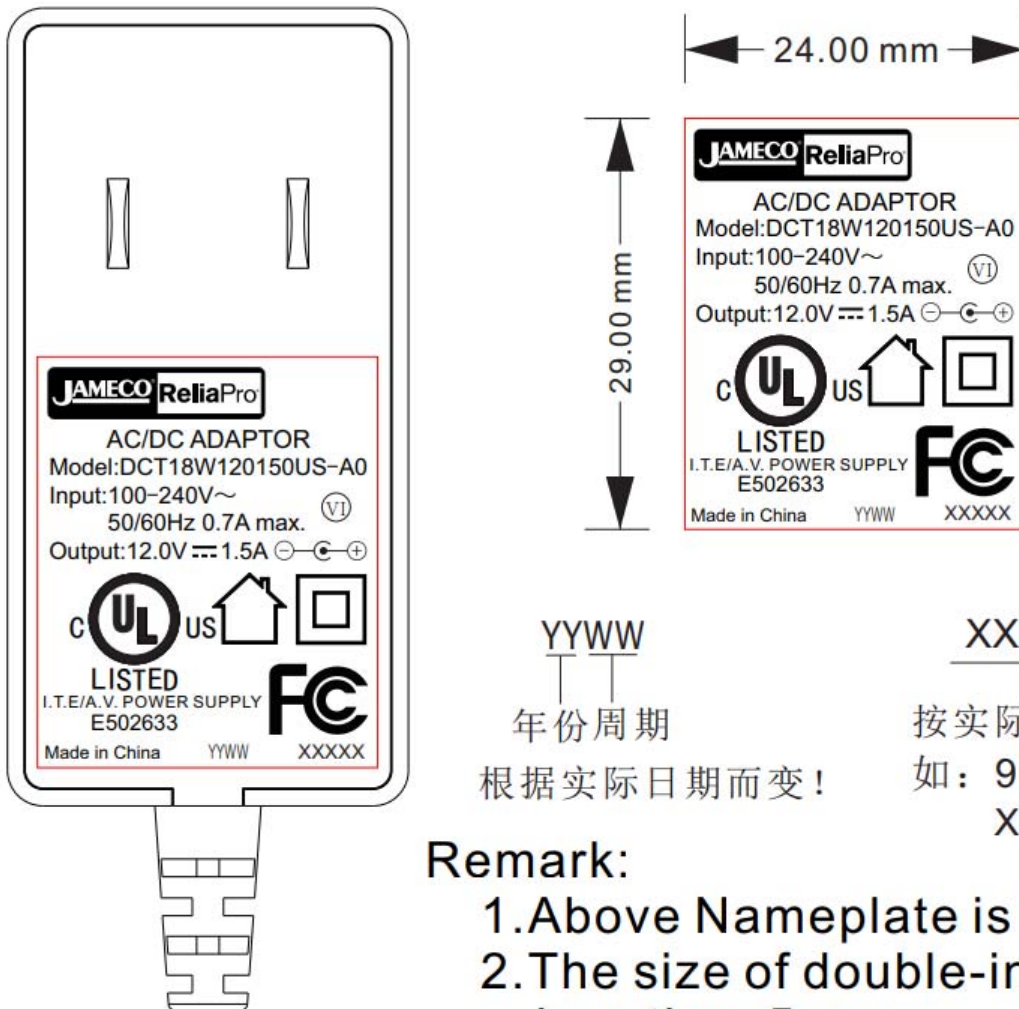


技术要求:

- 一、拉力试验要求：1、SR和DC头与线身的拉力 $\geq 5\text{KG}$ （1分钟），位移 $\leq 2\text{MM}$ ；
2、整条线拉力 $\geq 10\text{KG}$ （1分钟无断芯和延伸率 $\leq$ 总长的10%）；
- 二、摇摆测试要求：SR端：200g， 120° （左右各 60° ），20次/分钟，最少1000次；
DC头：200g， 120° （左右各 60° ），20次/分钟，最少1000次；
- 三、外观要求：1、线材外皮，每米不能超过3个小凸点；
2、线材表面不能有破损、压伤、脏污等外观不良；
3、SR和DC头表面不能有变形、缩水、披锋、气纹、缺胶等不良；
4、DC头外露铜钉不能有氧化、刮伤等不良；
5、线头浸锡需完全；
6、SR和DC头尾部不能有压线现象；
- 四、耐温要求：热变形温度 $\geq 80^\circ\text{C}$ ，3H试验后，无变形、开裂等不良；
- 五、线材规格：2468 24AWG 80°C 300V VW-1 线上有印字，线芯要求 $1\text{I}/\varnothing 0.16\text{X}2\text{CX}1\text{F}$ ，芯线截面积 0.205mm^2 ；
- 六、印字要求：2468 24AWG 80°C 300V VW-1 带有有效UL认证号码和公司名字；
- 七、DC头外露尺寸要求： $\varnothing 5.5\text{X}\varnothing 2.1\text{X}10\text{mm}$ 黑嘴、音叉、带卡槽；
- 八、材质要求：DC头要求45P-PVC料，SR头外皮要求为 $70\pm 5\text{P}$ -PVC料；
- 九、接线方式：白色条纹线接铜钉内部，印字线接铜钉外部；
- 十、盐雾试验：在 $35^\circ\text{C}\pm 2^\circ\text{C}$ 的密闭环境中，湿度 $>85\%$ ，PH值在6.5-7.2范围内，用 $5\%\pm 0.1\%$ 的NaCl溶液连续48h盐雾喷雾后，检查产品表面无锈蚀、及镀层剥落等不良，且功能正常；
- 十一、颜色要求：黑色（1101MM）
- 十二、环保要求：过ROHS标准；

版次	日期	变更内容	变更者						
01	20200413	首次制作	谢利梅						
				公差:未注公差±0.2mm					
				核准:林伟金	审核:曹新球		绘图:谢利梅		
				物料名称:DC线材		物料编码:		比例: 1:1	
	1	2	3	4	5	6	7	8	

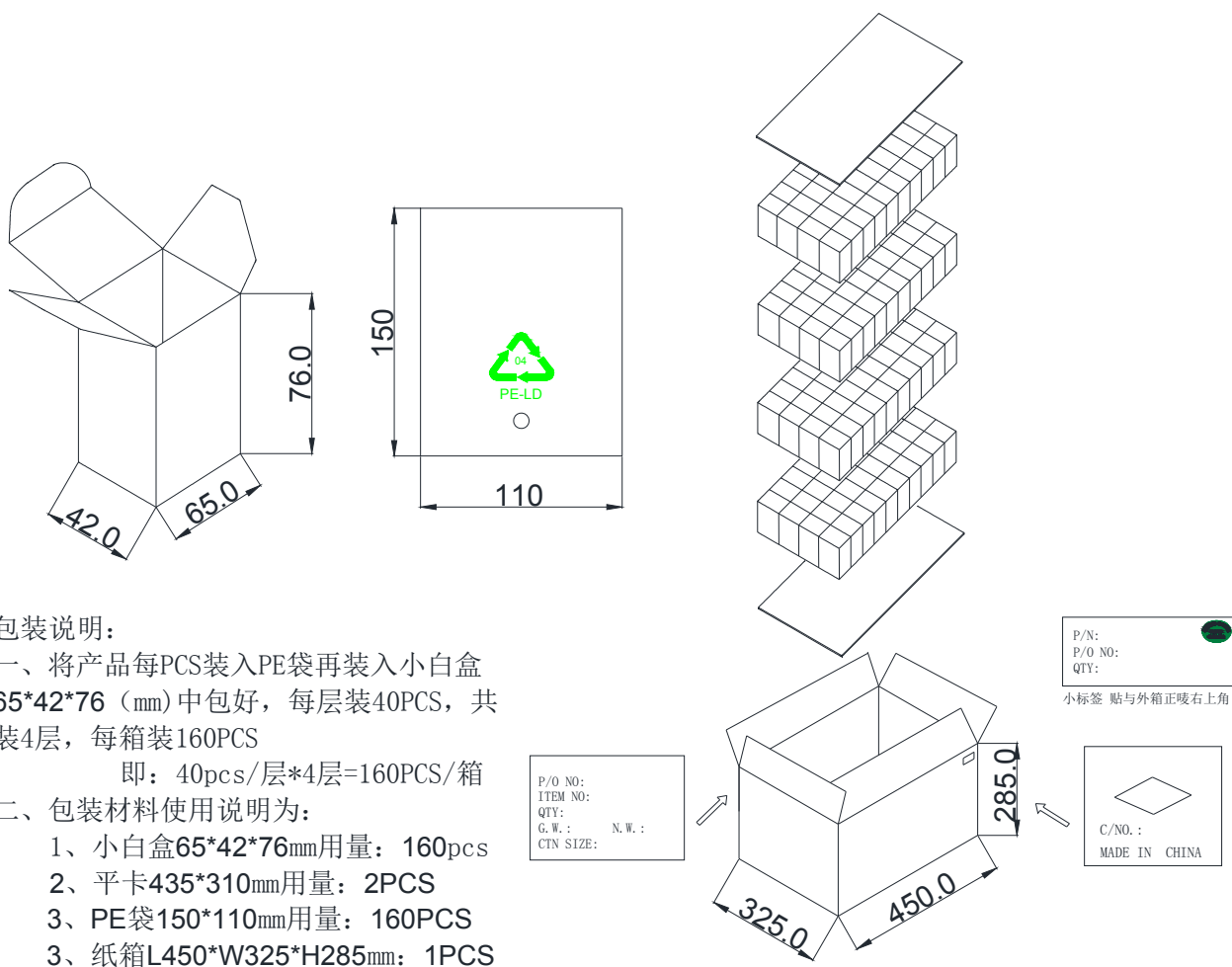
12. Marking Drawing 铭牌



Remark:

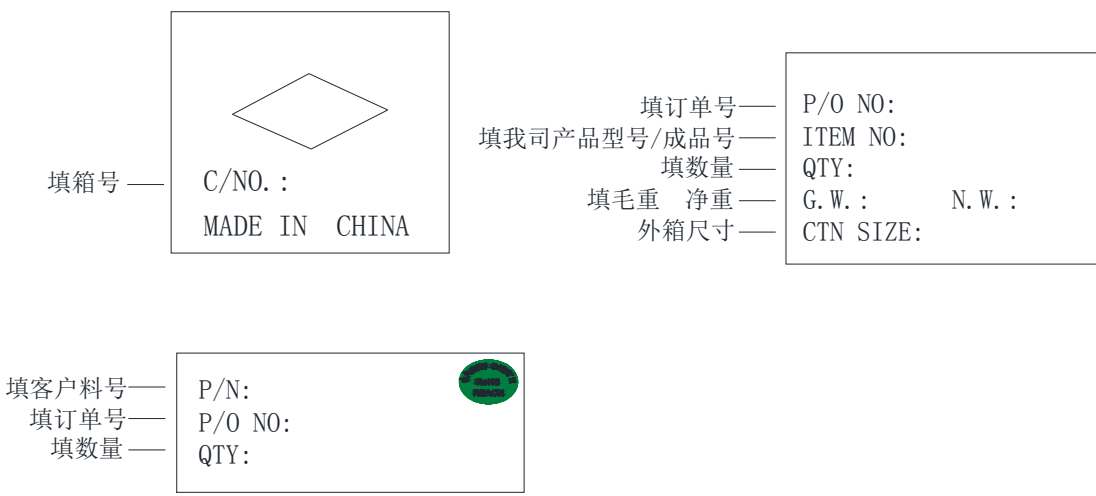
1. Above Nameplate is laser engraved.
2. The size of double-insulation is no less than 5mm;

13. Package Drawing 包装



包装说明：
一、将产品每PCS装入PE袋再装入小白盒
65*42*76（mm）中包好，每层装40PCS，共
装4层，每箱装160PCS
即：40pcs/层*4层=160PCS/箱
二、包装材料使用说明为：
1、小白盒65*42*76mm用量：160pcs
2、平卡435*310mm用量：2PCS
3、PE袋150*110mm用量：160PCS
3、纸箱L450*W325*H285mm：1PCS

纸箱正面、侧面印刷内容
纸箱的外尺寸：L450*W325*H285 MM



14. CERTIFICATE 证书

CERTIFICATE OF COMPLIANCE

Certificate Number 20190506-E502633
Report Reference E502633-A6003-UL
Issue Date 2019-MAY-06

Issued to: Zhuzhou Dachuan Electronic Technology Co Ltd
Building A5 Nanzhou Industrial Park
Zhuzhou
Hunan 412101 CHINA

This certificate confirms that
representative samples of POWER SUPPLIES FOR USE WITH AUDIO/VIDEO,
INFORMATION AND COMMUNICATION TECHNOLOGY
EQUIPMENT
AC/DC Adapter;
Model: DCT18W/xxxxyyUS-aa (xxx, yyy, aa are variables,
"xxx"=050-240, "yyy"=001-300, "aa"=A0, B0, C0 or D0).

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 62368-1 and CAN/CSA C22.2 No. 62368-1-14,
Audio/video, information and communication technology
equipment Part 1: Safety requirements

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up
Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's
Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahlenholz, Director North American Certification Program

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