



## 2.0 Electrical performance 电气性能

### 1.1 2.1 Input Characteristics 输入特性:

Rated input voltage 额定输入电压	100-240Vac
Operating range 工作范围	90-264Vac
Rated input frequency 额定输入频率	50-60Hz
Rated input current 额定输入电流	<b>0.9A Max.</b>
Power consumption (no loading) 功耗 (空载)	<b>0.1W Max.</b> (Input voltage 115V and 230V) 在输入电压 115V 和 230V 条件下 0.1W 最大
Primary current protection 初级电流保护	An adequate internal fuse on the AC input line is provide. 在交流输入的火线上加一个合适的保险丝
Configuration 结构	<u>2</u> Conductor 2 类电源

### 2.2 Output Characteristics 输出特性:

2.2.1	Nominal dc output voltage 额定直流输出电压	<b>12.0V</b>
2.2.2	Minimum load current 最小负载电流	<b>0.0A</b>
2.2.3	Rating load current 额定负载电流	<b>3.0A</b>
2.2.4	Rating output power 额定输出功率	<b>36.0W</b>
2.2.5	Line regulation 线性调节	The line regulation is less than $\pm 5\%$ while measuring at rated load and $\pm 10\%$ of input voltage changing. 额定输入电压 $\pm 10\%$ 内变化, 带额定负载, 线性调节在 $\pm 5\%$ 范围内
2.2.6	Load regulation 负载调节	The load regulation for output is less than $\pm 5\%$ , at measured output load from 10% to 100% rated load . 从负载 10%到 100%变化,输出负载调节率在 $\pm 5\%$ 范围内,
2.2.7	No load voltage range 空载电压范围	<b>11.4-12.6</b>
2.2.8	Ripple and noise 纹波和噪声	<b><math>\leq 200\text{mVp-p}</math></b>
		Full load Ripple and noise 200mVp-pmax. Measurement is done by 20MHZ bandwidth oscilloscope and the output Paralleled a 0.1 $\mu\text{F}$ ceramic capacitor and a 10 $\mu\text{F}$ electrolysis capacitor.(test under the Condition of rated input and rated output) 测试条件:在输入 115/230Vac 和输出最小及最大负载时,使用示波器带宽为 20MHz 连接到适配器的输出端,同时输出端并联一个 10uF 的电解电容和一个 0.1uF 的瓷片电容.
2.2.9	Average efficiency 平均效率	Accord with energy level VI. Average efficiency <b>87.40%</b> minimum 符合能效六级, 平均效率 87.40%最小
		115V/60Hz and 230V/50Hz, output current from 100%, 75%, 50%, 25%. 当 115Vac 和 230Vac 输入电压时, 100%, 75%, 50%和 25%. 计算平均效率,

2.2.10	Turn on delay time 启动延迟时间	<b>5000 mS</b> . At nominal input AC voltage and full load 在额定输入交流电压和满负载状态下，不超过 5000 毫秒
2.2.11	Rise time 上升时间	The Supply shall have a start-up rise time of less than <b>100 mS</b> to rise to within regulation limits for all DC outputs. 在直流输出端，启动上升时间限制在 100 毫秒以内
2.2.12	Hold up time 保持时间	<b>5 mS minimum</b> At nominal input AC voltage and full load 在额定输入交流电压和满负载状态下，输出维持至少 5 毫秒
2.2.13	Output over-shoot 输出过冲	<b>Less than 10%</b> of nominal voltage value 低于额定电压值的 10%
2.2.14	Protection function	
	Over current protection 过流保护	At 100-240V AC input, output current in the range of <u>  </u> , the power supply will protect 在 100-240V 交流输入下，输出电流在 <u>  </u> 范围时，电源供应器将保护

### 2.3 Dielectric Withstand Voltage (HI-POT) 电气耐压:

Engineering test: This Adapter shall be applied 3000Vac for 60s between AC input terminal to DC output terminal and enclosure. The cutoff current is specified as 10 mA; Large cargo product testing: This Adapter shall be applied 3000Vac for 2s between AC input terminal to DC output terminal and enclosure. The cutoff current is specified as 10 mA

工程样品测试: 在交流输入端与输出端和交流输入与外壳之间，适配器须承受持续 60 秒的 3000 伏交流电压，截止电流设定为 10 毫安; 大货产品测试: 在交流输入端与输出端和交流输入与外壳之间，适配器须承受持续 2 秒的 3000 伏交流电压，截止电流设定为 10 毫安。

### 2.4 Insulation Resistance 绝缘阻抗:

DC 500 V 30 MΩ min between input to output and enclosure.

在初级与次级间加 500VDC 进行测试，其绝缘电阻 30 兆欧最小。

### 2.5 Overload Test 过载试验:

In an ambient temperature of 25°C applies a power source of rated input with the output load adjusted to 10% of rated output and rated continuously for 4 Hours, after turning off 60 minutes in normal temperature.

在 25°C 环境温度下，提供额定交流源给适配器，让适配器输出大于额定值的 10%，连续工作 4 小时后，在常温下关闭 60 分钟。测试电性正常。

### 2.6 Humidity Test 湿度测试:

Temperature 35°C, 90~95% RH for 4 Hours after taken out from oven.

温度 35°C，相对湿度 90~95%，4 小时后从烤箱中取出测试电性正常。

## 3.0 Mechanical Characteristics 机械特性

### 3.1 Strain Relief Test 拉力测试:

Distance plug or 30CM SR position to impose a 10 pound weight, 1 minutes after the shift is less than 2MM。  
距插头或 SR 30CM 位置施加 10 磅重量，1 分钟后移位小于 2MM。

### **3.2 Cord Bending Test:线弯曲试验:**

The cord shall withstand a weight of 400 g, swinging from left to right at an angle of 120 degree, 40 cycle/min, 1000 times minimum. The cord shall be conductible.

电源线应能承受 400 克重, 摆动一个角度, 从左至右 120 度, 40 次/分, 1000 次最低。电源线应导通。

### **3.3 Drop Test 跌落测试:**

Product shall be dropped from a height of 80cm, onto 1cm thickness dry wood surface 1 times from 3 different surface.

产品从 3 个不同的表面进行测试, 在 80 厘米的高度上跌落在 1 厘米厚干实木板表面各 1 次

### **4.0 Environmental 环境:**

#### **4.1 Operating Temperature and Humidity Range 工作温度和湿度范围:**

Operate over the temperature range of 0°C to 35°C , 20% to 90% relative humidity no condensation.

工作在 0°C至 35°C温度范围内, 20%到 90%相对湿度无冷凝

#### **4.2 Storage Temperature and Humidity Range 贮藏温度和湿度范围**

The operation specified herein will not be adversely affected if stored or transported within the temperature limits of -20°C to +70°C with relative humidity up to 90% no condensation.

储存在 -20°C至 +70°C温度范围, 相对湿度运送高达 90%无凝结, 操作不会受到影响

### **5.0 Surface Structure 表面结构:**

#### **5.1 Appearance: Rift, dirty etc. are not permitted.**

外观: 裂缝, 脏等都是不允许的

#### **5.2 Outline: Dimension and express as drawing**

外形: 素描的方式表示尺寸

#### **5.3 Net Weight: 168g Max.**

净重量: 168g最大

### **6.0 Safety & EMC 安全与电磁兼容:**

**6.1 Safety Standard 安全标准: UL60950/EN60950-1/A12:2011/AS/NZS 60950.1:2011**

**6.2 EMC Standard 电磁标准: FCC Part 15/EN55022:2010/ AS/NZS CISPR 13**

### **7.0 MTBF 可靠性:**

the design and construction of this power supply shall exhibit a minimum mean time between failure of 35000 hours full rated load operation at 20--25°C.

在满载 20-25°C环境下, 这个电源适配器的设计 MTBF 是 35000 小时。

### **8.0 Others: 其他:**

#### **8.1 Instructions: 说明:**

This power unit is intended to be correctly orientated in a vertical or floor mount position.

这个电源装置是被正确用在一个垂直或地板上的位置。

#### **8.2 CAUTION (ATTENTION) 小心 (注意):**

##### **8.2.1 FOR INDOOR USE ONLY**

只能在室内使用

( POUR UTILISATION À L'INTÉRIEUR SEULEMENT )

(只能在室内使用)

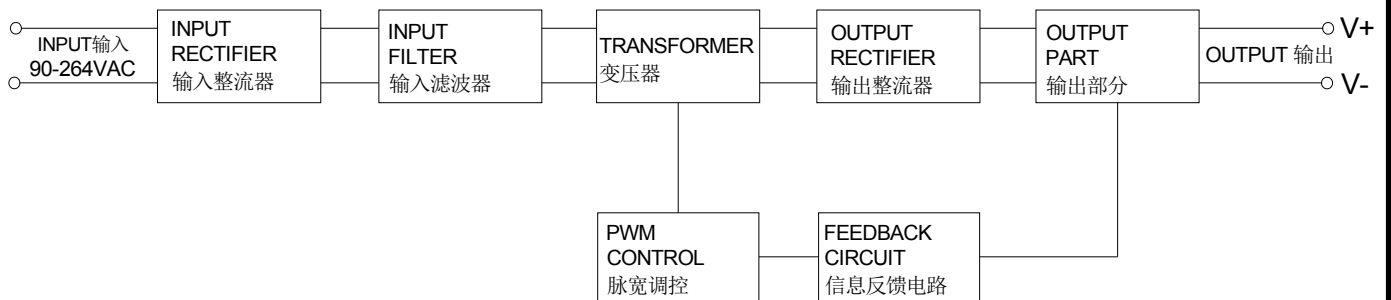
### 8.2.2 RISK OF FIRE OR ELECTRIC SHOCK

火灾危险或电击

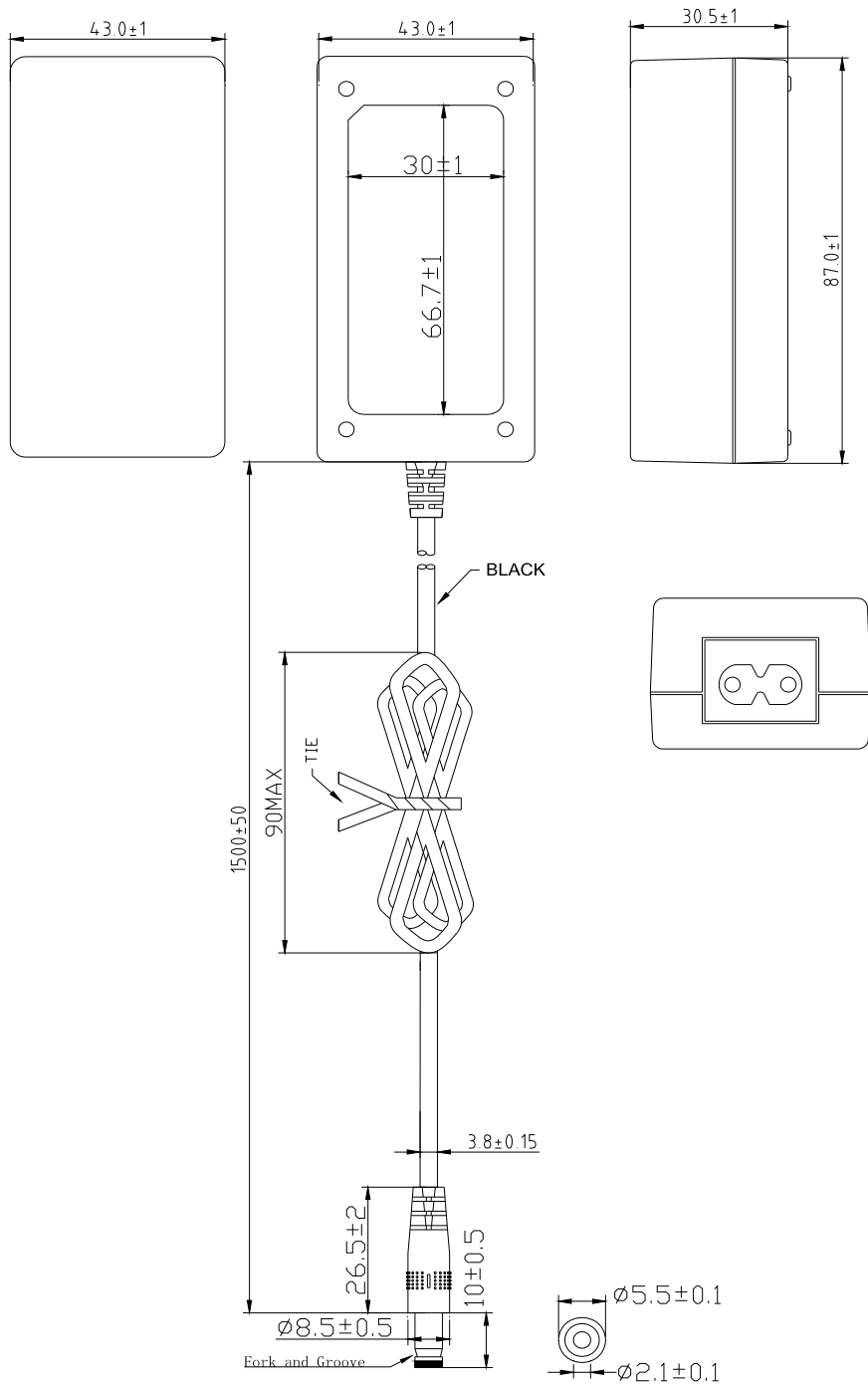
( RISQUES D'INCENDIE OU DE CHOC ÉLECTRIQUES )

(火灾或触电的危险)

### 9.0 WORKING MANUAL& BLOCK DIAGRAM: 工作手册及框图:



10.0 Appearance Drawing(Unit:mm) 外观尺寸图 (单位: 毫米):



NOTE 备注: (单位: mm)

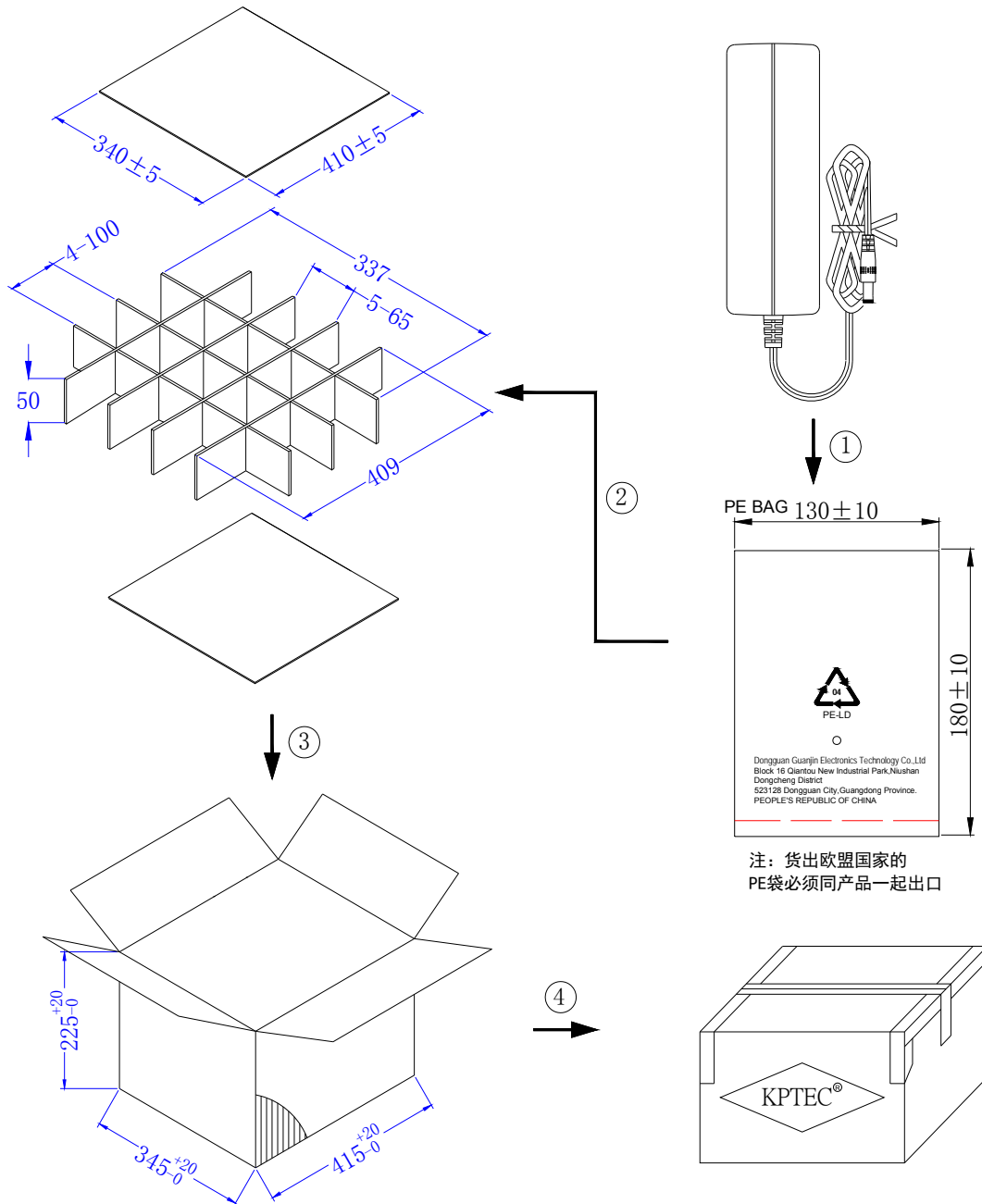
1) WIRE TYPE 线材类型: VW-1 2464 80°C 300V L=1500mm 2C 20AWG 黑色

2) DC PLUG DC头规格: 5.5\*2.1\*10mm 普通带槽 直头

3) THE POLARITY 极性:  $\ominus$  —  $\bullet$  —  $\oplus$



12. 0Packing Drawing(Unit:mm) 包装图 (单位: 毫米):



**NOTE: A case of 80 PCS, a total of 4 layers, 20 PCS/layer.一箱 80pcs, 共 4 层, 一层 20pcs。**

- |   |  |
|---|--|
| <b>1) Cardboard and Corrugated Board Material: B=C</b><br>隔板及刀卡材质: B=C  | <b>2) PE bag Material :0.03mm</b><br>PE 袋材质: <b>0.03mm</b> |
| <b>3) Outer Carton Material: A=B</b><br>外箱材质: A=B   | <b>4) Anlistatig: No requirement.</b><br>抗静电: 无要求          |
| <b>5) Environmental protection requirement: 94/62/EC.</b> 环保要求: 94/62/EC  |  |
| <b>6) We will select cardboard packing if customer don't specify packing type.</b><br>如果客户没有指定包装类型, 我们将选择纸板包装                     |  |
| <b>7)The sample package for temporary packaging, the big goods packaging as shown above packaging.</b><br>样品包装为临时包装, 大货包装如上图所示包装。 |  |



### 12.0. Testing Report 测试报告:

CUSTOMER / 客户:		<b>KP169</b>		SAMPLE NO./样单编号:			<b>K14310</b>				
MODEL NO. / 产品型号:		<b>K36V120300E2</b>		Voltage / Current/电压/电流:			<b>12.0V/3.0A</b>				
Sample form		sample ( 1 )									
Items No.	Test Items / 测试项目	Unit / 单位	Test condition & result							Spec. Limit	Pass/ Fail
			90V	100V	115V	200V	230V	240V	264V		
1	Unload input power 空载输入功率	W	0.03	0.03	0.03	0.05	0.07	0.07	0.09	≤0.1W	PASS
2	Rated load input power 额定负载输入功率	W	42.32	41.91	41.56	41.09	41.10	41.10	41.15	≤44.0W	PASS
3	Unload output voltage 空载输出电压	V	12.30	12.30	12.30	12.30	12.30	12.30	12.30	11.4-12.6V	PASS
4	Rated load output voltage 额定负载输出电压	V	11.91	11.91	11.91	11.91	11.91	11.91	11.91	11.4-12.6V	PASS
5	Output ripple&noise voltage 输出纹波及噪声电压	m V	56	52	48	46	46	46	46	≤200mVp-p	PASS
6	Over current protection 过流保护点	A	3.98	4.12	4.24	4.44	4.52	4.52	4.60	/	PASS
7	Short-circuit Protection 短路保护	not damage and with auto recovery function									
8	Average Efficiency 平均效率	%	/	/	87.66	/	88.10	/	/	≥87.40% (AV Eff.)	PASS
9	Drop test 跌落试验	OK									
10	appearance 外观	Content of the NP label is correct, the appearance is clear no spot, scratch color-difference ,disconnection and gap 标签内容是正确的, 外观没有明显污点, 刮伤, 色差, 断线和间隙									
11	Burn-in test 老化试验	35°C Ambient, 85-95% load, 50min. ON and 10min. OFF, Burn-in 4Hrs 35°C 环境, 85-95%负载, 50分钟/开和10分钟/关, 老化4小时									
12	Insualtiontest 绝缘测试	INPUT TO OUTPUT:30MΩ min/DC500V, 输入对输出: 30兆欧最小/直流500V									
13	Hi-pot test 介电强度	INPUT TO OUTPUT:3000Vac, 60 s, Cut off current ≤10mA 输入对输出: 3000Vac, 60 s, 切断电流≤10mA									
Sample form		sample ( 2 )									
1	Unload input power 空载输入功率	W	0.03	0.04	0.04	0.06	0.07	0.08	0.09	≤0.1W	PASS
2	Rated load input power 额定负载输入功率	W	42.46	41.96	41.49	41.01	40.98	41.01	41.02	≤44.0W	PASS
3	Unload output voltage 空载输出电压	V	12.30	12.30	12.30	12.30	12.29	12.29	12.29	11.4-12.6V	PASS
4	Rated load output voltage 额定负载输出电压	V	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.4-12.6V	PASS
5	Output ripple&noise voltage 输出纹波及噪声电压	m V	78	70	68	66	68	62	66	≤200mVp-p	PASS
6	Over current protection 过流保护点	A	4.12	4.28	4.38	4.50	4.56	4.58	4.64	/	PASS
7	Short-circuit Protection 短路保护	not damage and with auto recovery function									
8	Average Efficiency 平均效率	%	/	/	87.92	/	88.40	/	/	≥87.40% (AV Eff.)	PASS
9	Drop test 跌落试验	OK									
10	appearance 外观	Content of the NP label is correct, the appearance is clear no spot, scratch color-difference ,disconnection and gap 标签内容是正确的, 外观没有明显污点, 刮伤, 色差, 断线和间隙									
11	Burn-in test 老化试验	35°C Ambient, 85-95% load, 50min. ON and 10min. OFF, Burn-in 4Hrs 35°C 环境, 85-95%负载, 50分钟/开和10分钟/关, 老化4小时									
12	Insualtiontest 绝缘测试	INPUT TO OUTPUT:30MΩ min/DC500V, 输入对输出: 30兆欧最小/直流500V									
13	Hi-pot test 介电强度	INPUT TO OUTPUT:3000Vac, 60 s, Cut off current ≤10mA 输入对输出: 3000Vac, 60 s, 切断电流≤10mA									

### 13. 0External Power Supply Efficiency 能效测试报告:

N/O	机种名称/型号: Model:	K36V120300E2		电压/电流: Voltage / Current:	12.0V/3.0A	
	测试项目/条件 Test items/conditions	115Vac/60Hz		230Vac/50Hz		
		限制值/Limit	实测值/Measured Values	限制值/Limit	实测值/Measured Values	
1#	空载测试功耗 No-load test power	≤0.1W	0.03	≤0.1W	0.07	
	25%负载测试: 25% load test:	87.40%	89.39%	87.66%	88.60%	
	50%负载测试: 50% load test:		88.32%		88.67%	
	75%负载测试: 75% load test:		87.17%		88.17%	
	100%负载测试: 100% load test:		85.76%		86.96%	
2#	空载测试功耗 No-load test power	≤0.1W	0.04	≤0.1W	0.07	
	25%负载测试: 25% load test:	87.40%	89.30%	87.92%	88.76%	
	50%负载测试: 50% load test:		88.54%		88.89%	
	75%负载测试: 75% load test:		87.53%		88.59%	
	100%负载测试: 100% load test:		86.33%		87.36%	
3#	空载测试功耗 No-load test power	≤0.1W	0.04	≤0.1W	0.07	
	25%负载测试: 25% load test:	87.40%	89.39%	87.95%	88.84%	
	50%负载测试: 50% load test:		88.61%		88.82%	
	75%负载测试: 75% load test:		87.53%		88.24%	
	100%负载测试: 100% load test:		86.30%		87.31%	

批准 Approval:

审核 Checked:

测试 Test: 杨海