

ENGINEERING CHANGE REQUEST

ORIGINAL/修改前

REVISION/修改后

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REV	DATE	DESCRIPTION	REVISION OF CAUSES/修改原因:

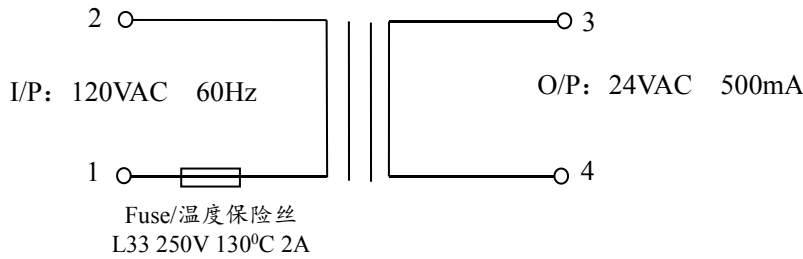
DRAWER/制定	CHECKED/审核	APPROVED/核准	CUSTOMER/客户	
邓惠娟	龙见灿	黄元坤	MODEL NO/型号	GPU412400500WAOO
			REV/版本	A
			DATE/日期	January 15, 2018
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1.ELECTRICAL PERFORMANCE/电气特性:

1-1.Primary rated voltage and frequency: 120VAC 60Hz.

初级级额定电压及频率: 120VAC 60Hz.

1-2.ELECTRICAL CHARACTERISTICS/电气原理图:



1-3. Secondary rated voltage and current/次级额定电压及电流

TEST POINT /测试点	FULL LOAD RATED VOLTAGE /负载额定电压	RATED CURRENT /额定电流	VOLTAGE REGULATION /电压调整率	NO LOAD VOLTAGE /空载电压
3~4	24VAC±5%	500mA		31.5VAC±5%

1-4.Primary exciting current(Io): 10mA rms max,at input 120VAC 60Hz.

初级空载电流(Io): 有效值最大 10mA 输入 120VAC 60Hz.

Loading(IL): 180mA rms max.

初级负载电流(IL): 有效值 180mA 最大.

1-5.D.C.Resistance: Primary: Ω±15%,measured at25°C.

初级直流电阻: Ω±15%,环境温度 25°C.

1-6.Empty loss max: 0.21watts max,at input 115VAC 60Hz.

最大空损: 0.21watts,输入 115VAC 60Hz.

1-7.效率 (Efficiency) When input voltage 115V/60Hz AC,the average efficiency of(25%50%75%100%)

Current at load shall be 82.96%)Min.Meet CEClevel VI.

1-8.Temperature rise: 85°C max on primary coil by the resistance method,and 45°C max on the surface of the case by the thermometer method at 25°C ambient,rated load condition.

额定负载下电阻法线圈最大温升 85°C.热偶法外壳表面最大温升 45°C,环境温度 25°C.

1-9.Insulation resistance: 500VDC supplied,100M ohms minimum between winding & core.

绝缘电阻: 线圈与铁芯间加 500VDC,绝缘电阻不小于 100MΩ.

1-10.HI-pot test: 1750VAC 50Hz for 60seconds (leakage current 1mA) primary to secondary&core.

耐压强度测试: 初级-次级、初级-铁芯压 1750VAC 50Hz 60 秒 (漏电流 1 毫安) 无击穿、无拉弧.

1200VAC 50Hz for 60seconds (leakage current 1mA) secondary to core.

次级-铁芯 1200VAC 50Hz 60 秒 (漏电流 1 毫安) 无击穿、无拉弧.

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1-11. Induce voltage : All secondary opened, primary should withstand 240V 360Hz for 60second without breakdown.

倍频倍压测试: 所有次级开路, 初级需承受电压 240V 360Hz 60 秒而无击穿.

1-12. Life test: In an ambient temperature of 25°C , 90-95% R.H., applying a power source of 120VAC 60 Hz to primary, with full load 500 mA for 24 hours continuously, unit output normally and meet the requirements of item 1-8、1-9.

老化测试: 环境温度 25°C, 相对湿度 90-95%, 输入电压 120VAC 60 Hz 时, 带额定负载 500mA 连续工作 24 小时, 产品输出正常且满足 1-8、1-9 项特性要求.

1-13. Humidity test: In an ambient temperature of 25±2°C and 90-95% R.H. for 48 hours after 10 minutes out of the oven, the unit should meet item 1-9 requirements, and insulation Resistance shall be 10M ohms minimum.

耐湿测试: 在环境温度 25±2°C, 相对湿度 90-95% 条件下放置 48 小时, 取出 10 分钟后, 产品需满足第 1-9 项要求, 且绝缘电阻不小于 10MΩ

2. MECHANICAL CHARACTERISTICS/机械特性:

2-1. Drop test: Dropped freely from 3 feet height onto a concrete floor covered with 1/8 inch vinyl tile 3 times from 3 different surface, the unit should meet the item 1-9

落地测试: 从 3 英尺高自由落下到表面铺有 1/8 英寸厚聚乙烯垫的水泥地板上, 三个不同面各一次, 产品需符合 1-9 项特性要求.

2-2. Strain relief test: At normal position, 10 lbs to output cord for 60 secods each, there shall be no breakage displacement.

S/R 吊重试验: 在正常位置, 输出线需吊重 10 英磅, 持续 60 秒钟不可断裂. S/R 不可有移位现象.

2-3. Bending test: The plug and S/R should withstand weight of 200 gram, swinging from left to right at an angle of 120 degree for 1000 cycles, and 40cycles per minute. The cord shall be conductible.

摇摆测试: 输出线吊重 200 克, 摆动角度 120 度, 每分钟 40 来回, 1000 个来回后仍需导通.

3. SAFETY STANDARD/安规标准:

◇ Meet/符合

◆ Approved/认可

◆ UL/CUL

◇ CSA

◇ TUV/CE

◇ BSI/CE

◇ T-MARK

CQC

◇ CCC

4. INSULATION SYSTEM/绝缘系统:

◇ CLASS A (105°C)

◇ CLASS E (120°C)

◆ CLASS B (130°C)

◇ CLASS F (155°C)

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5. MECHANICAL REQUIRMENTS/外观要求:

5-1. Appearance: Damage and rusting are not permitted.

外观: 无损伤无锈迹

6.ENVIROMENTAL CONDITION/外部条件:

6-1.Operating temperature range: -10°C---+40°C

正常工作温度: -10°C---+40°C

6-2.Storage temperature range: -20°C---+80°C

存贮温度: -20°C---+70°C

6-3.Operation humidity range: 30---85% R.H

正常工作湿度: 30---85% R.H

7.INSPECTION ON LINE/线上检测:

7-1. The test items for each produce/全检项目

- ◆ Primary exciting current/初级激磁电流
- ◆ Core loss/铁芯损耗
- ◆ Output voltage/输出电压
- ◆ Input current and power at rated load/输入电流及功率
- ◆ Foreign mass by shock/敲击听异物
- ◆ Polarity of output plug/输出极性
- ◆ Hi-pot test/耐压测试
- ◆ Apperance/外观检查

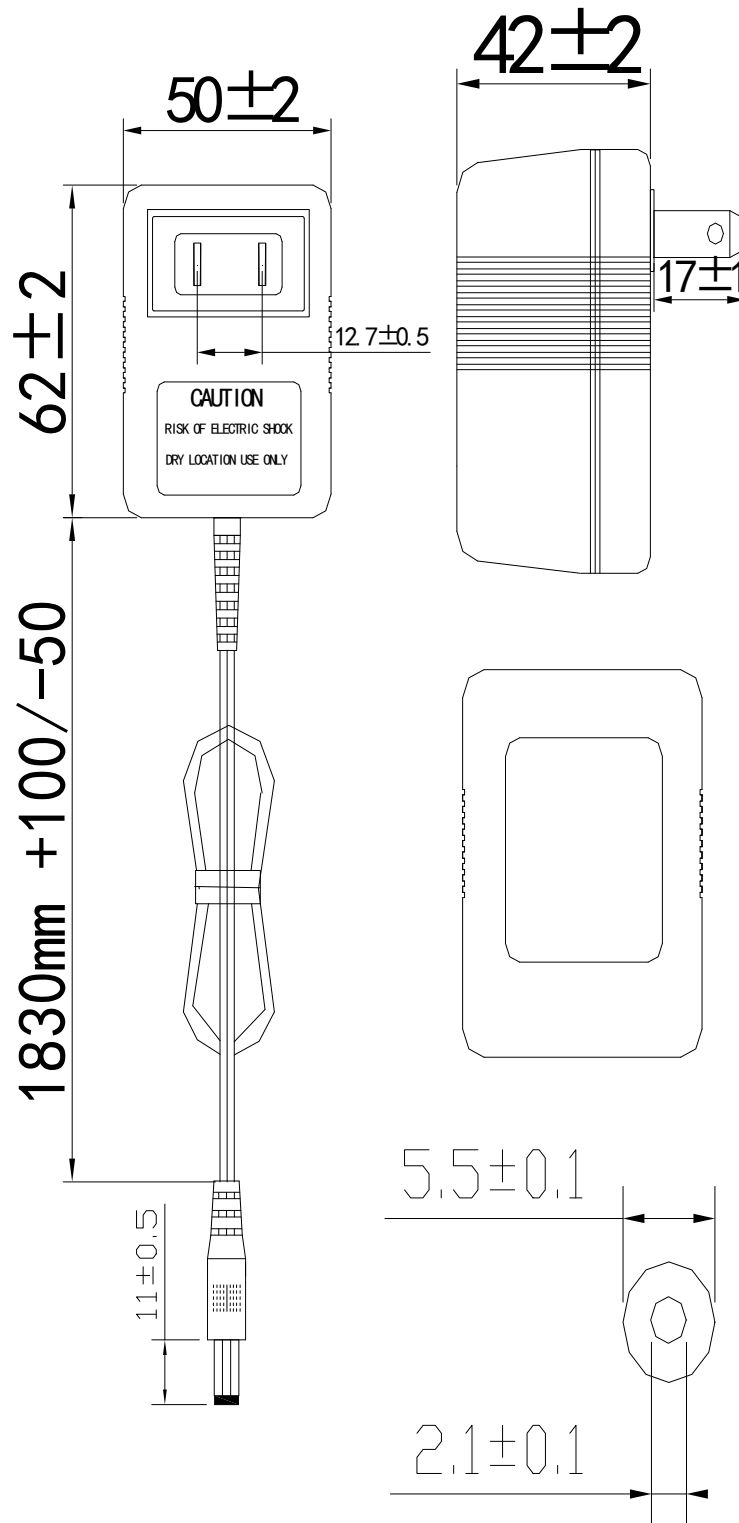
7-2. The test item for part of products/抽测项目:

- ◆ Hum operating at rated load/额定负载时哼声
- ◆ D.C.Resistance/直流电阻
- ◆ Insulation test/绝缘测试

8.NET WEIGHT/单体净重/g

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9. APPEARANCE DIMENSION/外观尺寸图: (UNIT/单位: mm)



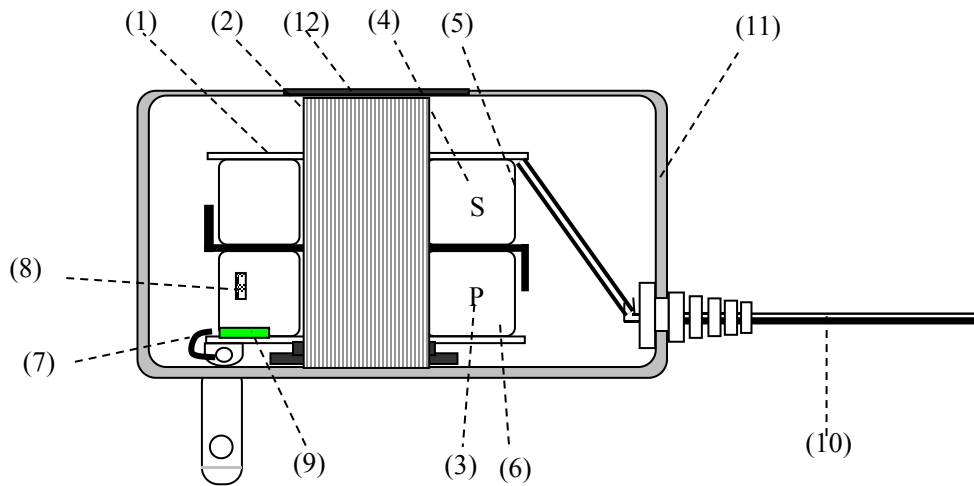
OUTPUT CORD/输出线: 2468#24AWG 1.83M 直头

PLUG/DC 插头: 5.5±0.1mm*2.1±0.1mm*11±0.5mm

CENTER/中心:

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10.MATERIAL LIST /材料明细:



ITEM M 序号	PARTS NAME 材料名称	MATERIAL&SPEC 材质	Q'TY 数量	MANUFATURER 供应商			
1.	BOBBIN 线架	Nylon CLASS B 尼龙	THICK0.71mm MIN	E I DUPONT DE NEMOURS&CO INC(E41938M)			
2.	CORE 铁芯	E-I LAMINATED SILICON STEEL/E-I 硅钢片		BEST LEGEND HUI DINGS LTD			
3.	PRI.WINDING 初级线圈	2UEW MAGNET WIRE CLASS B 2UEW 漆包线		PACIFIC ELECTRIC WIRE & CABLE CO., LTD			
4.	SEC.WINDING 次级线圈	2UEW MAGNET WIRE CLASS B 2UEW 漆包线		JUNG SHING WIRE CO., LTD E201757/E174837			
5.	SEC.OUTER INSULATION 次级绝缘	MYLAR TAPE 0.025mm 玛拉胶带 0.025mm		JING JIANG PRESSURE SENSITIVE CO.,LID E165111(N)			
6.	PRI.OUTER INSULATION 初级绝缘	MYLAR TAPE 0.025mm 玛拉胶带 0.025mm					
7.	LEAD WIRE/引线	UL1015# AWG22 红色		CHINA LONSID ELECTRONIC CO.,LTD E251728/E21382/E189474/E332522 E249743			
8.	PROTECTION 保护器	THERMAL CUTOFF130℃ 2A 250V 温度保险 L33		JOINT FORCE METAL RESEARCH & CO JING JIANG ZING CHENG ELECTROTICS CO.,LTD E142267/R2134811/E140847			
9.	Primary Crossover Insulation/ 初级直立绝缘	ACETATE CLOTH TAPE CLASS B/皱纹胶		DUCK SUNG TAPE CO.,LTD(E105147)			
10.	OUTPUT CORD/输出 线	2468#24AWG 黑色		XIN LONG ELECTRONIC CO.,LTD. E332522 E157717E164535/E189674/E341894/E49420 5			
11.	ENCLOSURE/外壳	41# UL 插黑色		WEI DA INDUSTRIAL CO.,LTD			
12.	NAMEPLATE 铭牌	PVC(UL/CSA)OR ALUMINUM PVC(UL/CSA 认可)或铝质		YOUNG TONE PRINTING MFG MH27610			
13.							
NOTE	Vannish/凡立水	VARNISH V-1630FS		VIKING ELECTRONIC CO., LTD E60614			
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11.SAMPLE TEST DATA/样品测试报告:

ITEM/项目		SPEC/范围	SAMPLE/样品编号						
			#1	#2	#3	#4	#5	#6	
PRIMARY EXCITING CURRENT 初级空载电流(I ₀) I/P: 120VAC 60Hz		10mA MAX	6.02						
PRIMARY FULL LOAD CURRENT 初级负载电流(IL) I/P: 120VAC 60Hz		180mA MAX	135.2						
SECONDARY VOLTAGE 次级电压 NO LOAD/空载(V ₀)		31.5VAC±5%	31.51						
SECONDARY VOLTAGE 次级电压(VL) FULL LOAD/负载: AC 500mA		24VAC±5%	24.17						
NO LOAD CORE LOSS 空载损耗(P ₀) I/P: 115VAC 60Hz		0.21W MAX	0.191						
Hi-pot test 耐压	PRI.TO SEC-CORE 初级-次级-铁芯	AC 1750V/1mA/50Hz/60Seconds 交流 1750V/1mA/50Hz/60 秒	OK	OK					
	SEC.TO CORE 次级-铁芯	AC 1200V/1mA/50Hz/60Seconds 交流 1200V/1mA/50Hz/60 秒	OK	OK					
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12.SAMPLE TEST DATA/样品测试报告:

CEC TEST DATA(SAMPLE1) 冷机测试 V

Input : 115 V / 60 Hz

Load(%)	Output Current		Output Voltage		O/P Power		I/P Consumption		Efficiency
		mA	V		W	W	W		
0%	0	mA	30.18	V	0	W	0.191	W	
25%	125	mA	28.5	V	3.562	W	3.74	W	95.25%
50%	250	mA	26.54	V	6.635	W	7.68	W	86.39%
75%	375	mA	24.78	V	9.292	W	11.36	W	81.8%
100%	500	mA	22.82	V	11.41	W	15.28	W	74.67%

Level V
Efficiency

82.96 %

Average
Efficiency

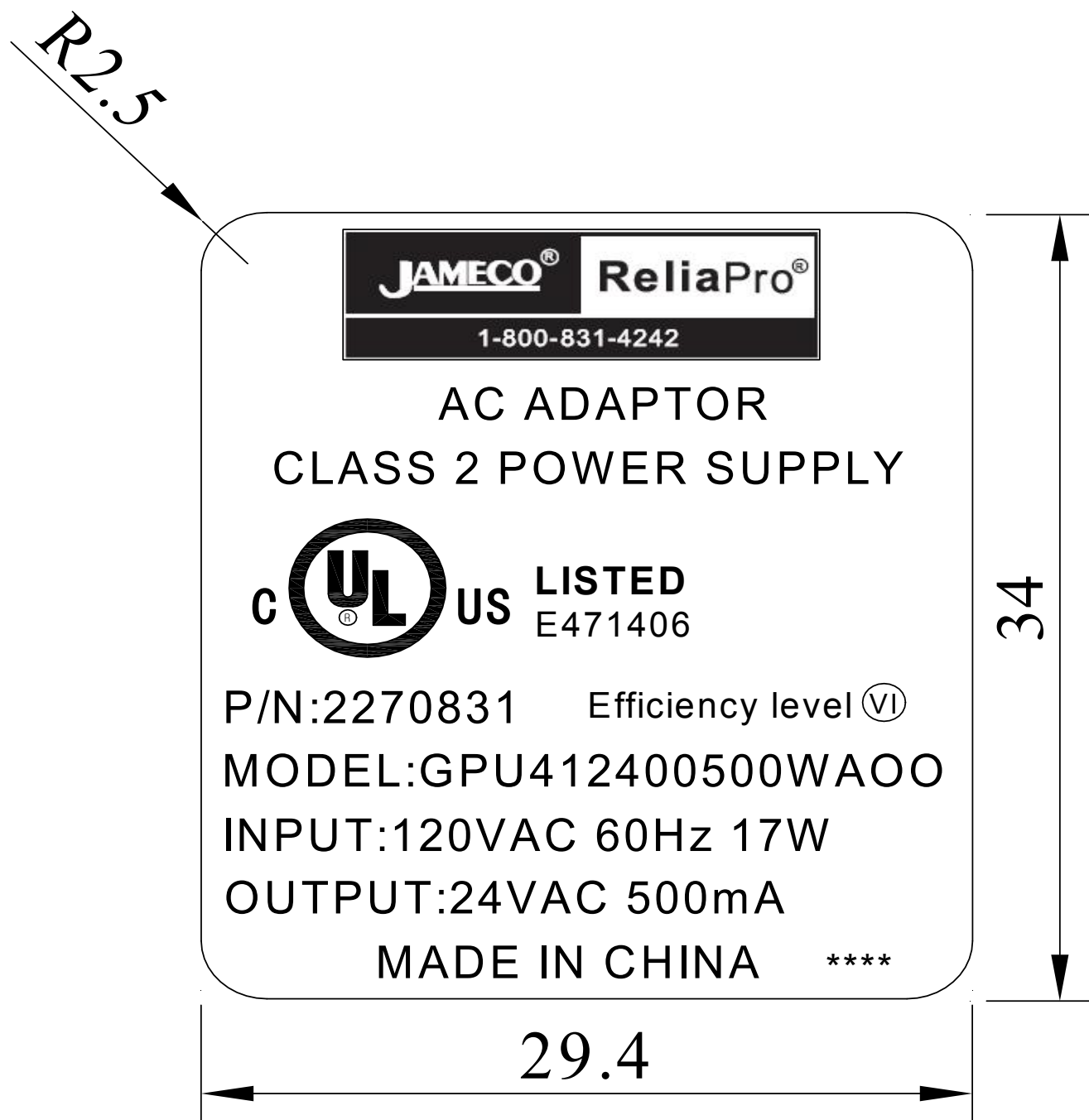
84.52% %

OK NG

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13.NAMEPLATE DRAWING/铭牌图案:

Unit: mm
单位: (mm)

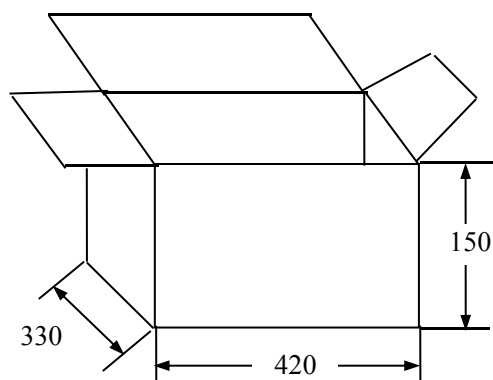


NOTE:

- 1、材质 PVC 0.17mm THICK MIN
- 2、银底黑字
- 3、自粘型
- 3、****前两个表示年份后两个表示月份

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14.PACKING/包装



(外箱尺寸)

L: 420mm W: 330mm H: 150mm

13-1: 外箱

- 1、依照图面尺寸制作，尺寸为外径尺寸，
- 2、材质：外箱使用B=B纸，
- 3、使用机种：EI-41。
- 4.白盒(80*51*64)
- 5.包装数量：60PCS/箱
每层5排6行，每箱二层。

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