



检 验 报 告

产品名称 IPS30000 通信用高频开关电源系统

产品型号 IPS30000(48V/50A,200A)

受检单位 深圳安耐特电子有限公司

检验类型 委托试验

深圳市安博技术服务有限公司



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深圳市安博技术服务有限公司

测试报告

报告编号: 201302694S

客户: 深圳安耐特电子有限公司

客户地址: 深圳市光明新区凤新路新健兴科技工业园 B2 栋东座

制造厂商: 深圳安耐特电子有限公司

制造商地址 ..: 深圳市光明新区凤新路新健兴科技工业园 B2 栋东座

实验室地址...: 深圳市前海路深能源工业小区一栋一楼

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报告编写

审 核

批 准

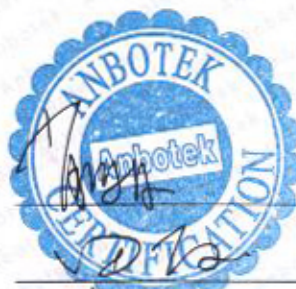
职 位

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样品接收日期 : 2013-1-18

样品测试日期 : 2013-1-19 至 2013-2-20

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委托检验的样品及申请商对样品的说明如下:

样品名称 : 通信用高频开关电源系统
型号 : IPS30000 (48V/50A, 200A)
输入参数 AC220V
输出参数 : 输出电压: DC 48V/50A, 最大电流: 200A
样品数量 : 1台
样品编号 : 系统 13000176
制造商 : 深圳安耐特电子有限公司
检测依据 : GB 4943-2011 信息技术设备的安全
YD/T 731-2008 通信用高频开关整流器
YD/T 1058-2007 通信用高频开关组合电源
YD/T 1104-2001 通信用开关电源系统监控技术要求和试验方法
YD/T 1051-2000 电源系统总技术要求

检测结论 : 该公司生产的 IPS30000 (48V/50A, 200A 及以下) 通信用高频开关电源系统经检验, 各项性能、功能及技术指标共 45 项, 其检验结果均达到 YD/T 731-2008 通信用高频开关整流器; YD/T 1058-2007 通信用高频开关组合电源; YD/T 1104-2001 通信用开关电源系统监控技术要求和试验方法; YD/T 1051-2000 电源系统总技术要求中规定的要求。
该电源系统采用高效和普效模块混插后, 具备休眠功能, 系统可实现节能, 具体数据见第 28 项

综合判定: 该样品检验结论为合格

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测试设备清单:

名称	型号	制造厂商	编号	校准有效期
数字万用表	FLUKE 45	FLUKE	SE-046	2013.10.16
感应调压器	TDGC2-5	Querli	SE-087	2013.9.27
电能质量分析仪	3196	HIOKI	SE-288	2013.10.16
声级计	2238	Bruel&Kjaer	SE-091	2013.10.16
钳形表	318	FLUKE	SE-296	2013.10.16
高压测试仪	CS2672C	南京长盛	SE-025	2013.10.16
数字示波器	TDS 210	Tektronix	SE-113	2013.10.16
浪涌发生器	801/RC	KEYTEK	SE-253	2013.10.16
恒温恒湿箱	LA-H005F	Shenzhen Longan	SE-026	2013.10.16
数显卡尺	DC-6"CSX	Mitutoyo	SE-052	2013.10.16
数字功率计	PF9811	杭州远方	SE-080	2013.09.27
温升记录仪	34970A	HP-Agilent	SE-059	2013.09.27
热电偶	Type K	--	SE-085	2013.9.27
接地电阻测试仪	MN11B	Yiyuan	SE-024	2013.9.27
绝缘电阻测试仪	DZ2630	Da Zhan	SE-010	2013.04.25

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检测项目

系统 13000176

序号	检验项目	标准要求	检验结果	单项评定
1	交流输入电压变动范围	单相 154V~286V	交流输入 154V~290V 时 满功率输出, 交流输入 90V~154V 降额输出	合格
2	输入频率变动范围	50Hz $\pm$ 5 Hz	45~65	合格
3	输入电压波形畸变率	不大于 5% (电压)	3.5%	合格
4	输入电流谐波	不大于 28% (电流)	3.9%	合格
5	输入功率因素	$\geq$ 0.99 (满载时)	0.996	合格
6	直流输出电压可调节范围	-42V~-58V 手动或自动连续可调	-42V~-58V	合格
7	输出电流	总容量 200A, 50A 模块, 2900W (176Vac~290Vac)	57.6v 时输出 200A	合格
8	系统效率	$\geq$ 92%(满载)	94.3%	合格
9	系统稳压精度	$\leq \pm 0.6\%$	0.5%	合格
10	系统平衡杂音	$\leq 2\text{mV}$	1.1 mV	合格
11	系统峰-峰杂音	$\leq 200\text{ mV}$	95mV	合格
12	直流配电部分电压降	$\leq 500\text{ mV}$	340 mV	合格
13	显示功能	输入: 交流电压、电流 输出: 直流电压、电流	符合	合格

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13	显示功能	输入: 交流电压、电流 输出: 直流电压、电流	符合	合格
14	蓄电池管理功能	系统对蓄电池能进行手动或自动均浮充转换, 均充充电时有三级限流功能, 有温度补偿、估算蓄电池容量功能	符合	合格
15	并联工作性能	不平衡度应优于输出电流的 $\pm 5\%$ (负载 50~100%)	2. 15%	合格
16	监控性能	能实时监视系统工作状态, 采集和存储系统运行参数, 设置参数的掉电存储功能, 三遥功能, 干接点输出	符合	合格
17	通信接口	RS232/IP	符合	合格
18	系统音响噪声	$\leq 55\text{dB}$	48 dB	合格
19	交流输入单元防雷	配置 C 级防雷器, 40KA 以上	符合	合格
20	交流输入过、欠压保护	交流高于 300V 或低于 90V 模块可自动关机, 恢复到正常范围时可自动恢复	欠压关机: 77v, 过压关机: 310V 欠压恢复点: 84V 过压恢复点: 292V	合格
21	直流输出过、欠压保护	当输出电压达到设定的过欠压时能自动告警; 高于关机电压时 (如 58.5V) 应能自动关机保护, 高压关机需手动恢复	符合	合格
22	直流输出电流限制或输出功率限制功能	限流范围可在标称值的 20%~110% 之间调整 达到恒功率值时以限功率输出	符合	合格

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23	直流输出过流及短路保护	具有过流与短路的自动保护功能,故障消除后能自动或人工恢复工作	符合	合格	
24	蓄电池欠压保护	具有下电功能,低于 43.5V 切断全部负载,停止输出,电压正常时能自动接入,	符合	合格	
25	熔断器(或断路器)保护	交流输入分路应具有断路器保护装置,直流输出分路应具有熔断器(或断路器)	符合	合格	
26	温度过高保护	当系统所处环境温度超过系统温度告警点时系统能自动告警,温度正常时告警自动消除 系统机内 温度超过模块内部限值时,应能停止输出或限流,恢复正常范围时可自动恢复工作	符合	合格	
27	告警性能	组合电源在各种保护功能动作的同时应能自动发出相应的可闻、可见告警信号且能送近、远端监控设备上,有记录可查 如交流异常、蓄电池低压、模块故障等	符合	合格	
28	休眠及混插功能 (系统总容量 200A)	系统效率 (一个高效模块,三个普效模块)	输出电流为额定值的 15%	96.10%	合格
			输出电流为额定值的 20%	95.2%	
			输出电流为额定值的 25%	94.61%	
			输出电流为额定值的 30%	94.08%	
			输出电流为额定值的 35%	93.78%	
			输出电流为额定值的 40%	93.69%	
			输出电流为额定值的 45%	93.38%	
			输出电流为 15%的损耗降低率	53.01%	

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			输出电流为 20%的 损耗降低率	43.02%	
			输出电流为 25%的 损耗降低率	34.60%	
			输出电流为 30%的 损耗降低率	24.06%	
			输出电流为 35%的 损耗降低率	23.29%	
			输出电流为 40%的 损耗降低率	21.99%	
			输出电流为 45%的 损耗降低率	18.13%	
	系统效率 (两个高 效模块, 两个普效 模块)		输出电流为额定值 的 15%	96.10%	
			输出电流为额定值 的 20%	95.31%	
			输出电流为额定值 的 25%	96.10%	
			输出电流为额定值 的 30%	96.10%	
			输出电流为额定值 的 35%	95.31%	
			输出电流为额定值 的 40%	95.30%	
			输出电流为额定值 的 45%	94.71%	
	系统损耗 降低率(4 个全是普 通模块,)		输出电流为 15%的 损耗降低率	53.01%	
			输出电流为 20%的 损耗降低率	43.06%	
			输出电流为 25%的 损耗降低率	46.00%	
			输出电流为 30%的 损耗降低率	53.08%	
			输出电流为 35%的 损耗降低率	43.06%	
			输出电流为 40%的 损耗降低率	43.06%	
			输出电流为 45%的 损耗降低率	35.47%	
			输出电流为 15%的 效率	92.05%	

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		块, 同样启动节能功能, 普通效率模块 92%以上)	输出电流为 20%的效率	92.03%	
			输出电流为 25%的效率	93.01%	
			输出电流为 30%的效率	92.04%	
			输出电流为 35%的效率	92.03%	
			输出电流为 40%的效率	92.03%	
			输出电流为 45%的效率	92.02%	
29	接地性能	系统应具有工作地和保护地, 且有明显的标志, 接地点应用铜螺母 (直径 $\geq$ M8)	符合		合格
30	绝缘电阻	交流对地、直流 直流输出对机壳均 $>2\text{M}\Omega$	50 $\text{M}\Omega$		合格
31	抗电强度	交流对地、直流应能承受交流 2500V 或直流 3535V 电压 1min 且无击穿飞狐现象 直流输出对机壳应能承受交流 1000V 或直流 1414V 电压 1min 且无击穿飞狐现象	符合		合格
32	接触电流	系统接触电流应不大于 3.5mA	1.8 mA		合格
33	传导骚扰限值	符合 YD/T983-1998 中 A 级的要求	符合 B 级		合格
34	辐射骚扰限值	符合 YD/T983-1998 中 A 级要求	符合 B 级		合格
35	热插拔性能	热插拔系统不应振荡	符合		合格

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36	振动或运输试验	10~55Hz、振幅为 0.35mm 的正弦波振荡	符合	合格
37	材料阻燃性能	模块 PCB 的阻燃等级达到 GB4943 中规定的 V-0 要求； 塑胶导线的阻燃等级达到 GB/T18380-2001 中规定的要求； 其他绝缘材料的阻燃等级达到 GB4943 中规定的 V-1 要求	符合	合格
38	防雷性能	交流能承受 10/700us,5KV 正负极各五次 8/20us,20KA 正 负 极 各 五 次 , 8/20us,40KA 一次 直流能承受 8/20us,10KA 和 15KA 各一次	符合	合格
39	可靠性试验	MTBF $\geq 5 \times 10^4$ h	----	----
40	低温储存试验	-40℃ $\pm 3^\circ\text{C}$	符合	---
41	低温工作试验	-25℃ $\pm 3^\circ\text{C}$ 2h	符合	---
42	高温储存试验	70℃ $\pm 2^\circ\text{C}$	符合	---
43	高温工作试验	55℃ $\pm 2^\circ\text{C}$ 2h	符合	
44	恒定湿热试验	温度 40℃ $\pm 2^\circ\text{C}$, 湿度 95% 2 天	符合	---
45	系统外观	系统面板平整, 镀层牢固, 漆面均匀, 所有标记、标牌清晰可辨, 无剥落、锈蚀、明显变形等不良现象, 机框应有防尘、防潮、防盗设施	符合	合格

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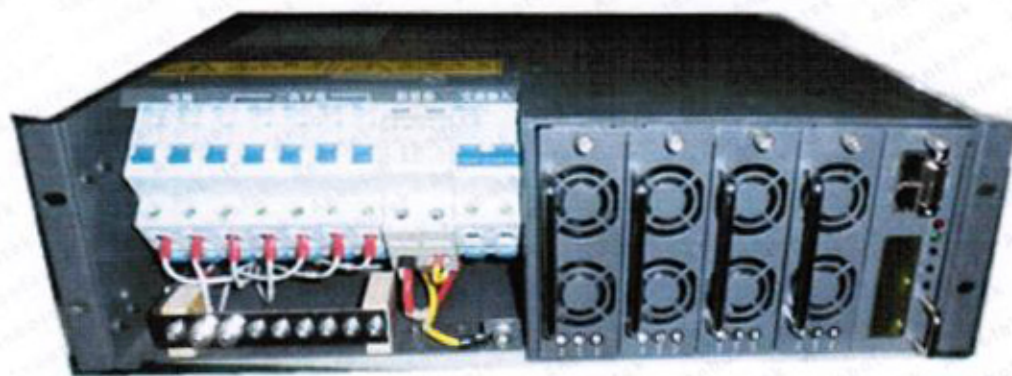
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