

产 品 规 格 书

Product Specification

客户/Customer	
客户料号 /Customer P/N	
产品规格 /Product Spec.	12V/12.5A
海英特料号 /HIENT P/N	HA11801E(03)
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客 户 承 认/Customer Approval

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Revision History (版本历史)

REV. (版本)	REVISION DESCRIPTION (版本描述)	DATE 日期
1.0	Initial release	2022.5.28

1. General(概述)

This specification defines the performance characteristics of HA11801E_12V/12.5A single output AC/DC adapter. Intended for worldwide use in Information technology equipment. Meet safety and EMC requirements of worldwide.

本规格书详细定义HA11801E_12V/12.5A AC/DC适配器单组输出产品特性, 该产品可适用于信息技术设备, 音视频及类似电子设备中, 产品符合安规及EMC要求。

2. Electrical Characteristics(电气特性)

2.1 Input Rated Voltage (输入额定电压): 100 -- 240Vac

2.2 Input Voltage Range (输入电压范围): 90 -- 264Vac

2.3 Input Frequency (输入频率): 47 -- 63Hz

2.4 Input Current: 2.5A max. with normal input, full load.

输入电流: 2.5A max. 额定输入电压和满载。

2.5 No Load Power Consumption: $\leq 0.1W$

空载待机功耗: $\leq 0.1W$

2.6 Output Voltage and Current(输出电压和输出电流)

Output Voltage (输出电压)	Voltage Range (电压范围)	Current Range (电流范围)
12V	11.4 -- 12.6V	0 -- 12.5A

2.7 Line Regulation (线性调整率)

The line regulation is less than $\pm 1\%$ @ full load.

输出满载时, 输入电压调整率小于 $\pm 1\%$ 。

2.8 Load Regulation(负载调整率)

The load regulation is less than $\pm 5\%$.

负载调整率小于 $\pm 5\%$ 。

2.9 Average Efficiency(平均效率)

88% min@115Vac/60Hz and 230Vac/50Hz input with 25%, 50%, 75% and 100% of full load.

88% min.在115Vac/60Hz和230Vac/50Hz电压下, 25%, 50%, 75%和100%负载。

2.10 Ripple and Noise(纹波噪声)

$\leq 180mV(PK)$ @100 -- 240Vac input with full load.

$\leq 180mV(PK)$, 输入电压100 -- 240Vac, 输出满载.

The measure terminated need to add a 47uF electrolytic capacitor and a 0.1uF ceramic capacitor with 20MHz band width.

纹波和杂讯测试时需要在输出端增加一个0.1uF瓷片电容和一个47uF/50V电解电容, 并使用20MHz带宽进行测试。

2.11 Safety Test(安全测试)

2.11.1 Hi-Pot Test (耐压测试)

3000Vac, 10mA, 60sec. Between primary and secondary circuit.

初级侧和次级侧: 3000Vac, 漏电流10mA, 时间60秒。

2.11.2 Insulation Test(绝缘阻抗测试)

500VDC, 60sec. Between primary and secondary circuit, $IR \geq 100M \Omega$

初级侧和次级侧: 500VDC, 绝缘阻抗 $\geq 100M \Omega$

2.11.3 Leakage Current (漏电流)

$\leq 0.25mA$ at 240Vac/50Hz.

$\leq 0.25mA$ 输入电压240Vac/50Hz

2.12 Case Temperature Rise (外壳温升)

Normal input voltage with full load should not exceed $60^{\circ}C$ on case surface with ambient $25^{\circ}C$

额定输入电压, 满载输出, 在环境温度 $25^{\circ}C$ 时, 外壳表面温升小于 $60^{\circ}C$ 。

2.13 Transient Response (瞬态响应)

$< 5\%$ @ output load change between 0% and 100% of full load, frequency is 100Hz and 1KHz.

小于5%, 当负载从0% -- 100%变化, 频率从100Hz到1KHz。

2.14 Hold Up Time (关机时间)

$\geq 8.3mS$ min. @normal input with full load.

额定输入电压, 输出满载, 关机时间最小为10mS。

2.15 Rise Time (上升时间)

$\leq 50mS$ @normal input, full load, from 5% -- 95% of output voltage.

额定输入电压, 输出满载, 输出电压从5%上升到95%时小于50mS。

2.16 Inrush Current (浪涌电流)

$\leq 20A$, 100Vac/60Hz, cold start; $\leq 20A$, 100Vac/60Hz输入, 冷机启动

$\leq 40A$, 230Vac/50Hz, cold start; $\leq 40A$, 220Vac/50Hz输入, 冷机启动

3. Protection Characteristics (保护功能特性)

3.1 Over Current Protection (过载保护)

110% --- 150% of rated output load. The output voltage shall shutdown with auto recovery when OCP is occurred.

额定输出负载的110 -- 150%, 当过电流发生时, 输出电压将关断且能自恢复。

3.2 Over Voltage Protection (过压保护)

OVP: 18V max. The output voltage shall shutdown with latch off when OVP is occurred.

OVP: 18V max. 当过电压发生时, 输出电压将关断且锁定。

3.3 Short Circuit Protection(输出短路保护)

The products can with stand continuous short at DC output and no danger. It will enter into normal condition if the fault condition is removed.

适配器的输出端可经受连续短路, 适配器会自动保护不会发生危险, 当故障条件排除后, 适配器会自动

恢复。

4. Environment (环境)

4.1 Operating Temperature(工作温度): 0℃ -- 40℃

4.2 Operating Humidity(工作湿度): 10% -- 96%RH

4.3 Storage Temperature(贮藏温度): -40℃ -- +85℃

4.4 Storage Humidity(贮藏湿度): 5% -- 95%RH

4.5 Operating Altitude(工作海拔高度): 5000M

5. Reliability(可靠性)

5.1 MTBF(MIL-HDBK-217F)

平均无故障时间(MIL-HDBK-217F)

The power supply shall be designed and produced to have a mean time between failure (MTBF) of 300,000 hours at ambient temperature 25℃ and 80% full load.

电源产品平均无故障时间应该满足300,000小时，在环境温度25℃和80%负载条件下。

5.2 Vibration Test(振动测试)

The vibration frequencies are set at 10 -- 55 -- 10 Hz. With total amplitude of 1.5mm along the 3 directions namely X-Y-Z. The each direction should be vibrated for 30 minutes, after testing, no abnormal electrical or mechanical should occur.

振动测试频率范围10 -- 55 -- 10Hz，振动幅度为1.5mm，在X-Y-Z 3个相互垂直方向，持续30分钟振动测试后，产品电气特性和机械特性没有异常。

5.3 Drop Test(落地测试)

Products shall be dropped from a height of 900mm onto a horizontal surface consists of hardwood at 13mm thick, mounted on two layers of plywood each 9mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor. Upon conclusion of test, the equipment need not be operational.

产品从900mm高度自由落地到一个13mm厚度的木板水平面，测试后，产品电气特性和机械特性没有异常。

6. Safety and EMC(安全及电磁兼容)

6.1 Safety(安全)

CCC,CE, UL/cUL, IC, FCC, PSE,CB, UKCA

6.2 EMI(电磁干扰)

EN55032 Class B, CISPR 32

6.3 EMS(电磁免疫)

Item	Specification	Reference
ESD	Contact: $\pm 4KV$	IEC 61000-4-2
	Air: $\pm 8KV$	

RS	Frequency: 80~1000MHz Field Strength: 3V/M, 80% AM(1KHz)	IEC 61000-4-3
EFT	1.0 KV on input AC power ports.	IEC 61000-4-4
SURGE	Line to Line: ± 1KV (peak)	IEC 61000-4-5
	Line to FG: ± 1KV (peak)	

7. Mechanical Characteristics(机构特性)

7.1 Physical Size (外壳尺寸): L179 x W64.2 x H40(mm)

7.2 Enclosure Material (外壳材质): 94V-0 min, white

7.3 Net Weight (净重): 710+/-10g

7.4 Output Cable (输出线): TBD

8. Product Outline(产品外形)

