

## 1-0. General Description

The purpose of the document is to specify a Single phase AC input, single output switching power supply. This specification is suitable for: EA11003A Series

This product is AC to DC switching power transfer device, it can provide for a 12V, 7.5A max & 90W max DC output with constant voltage source.

This Specification defines the input, output, performance characteristics, environment, noise and safety requirement for a power supply.

## 2-0. Input Requirements

### 2-1. Input Voltage

Rated Voltage 100-240 Vac +/- 10% full range.

Normal line input 115Vac/60Hz, 220Vac/50Hz.

### 2-2. Input Frequency

47~63 Hz

### 2-3. Input Current

a. 2.5A (Max.) @ 115Vac input with full load.

b. 1.25A (Max.) @ 230Vac input with full load.

### 2-4. Efficiency(Out put voltage >6V) (Warm up 30 minutes)

	Nameplate Output Power	Energy Star Spec
	0 to 1 Watt	$0.48 * P_{no} + 0.14$
	> 1 50 Watts	$[ 0.0626 * \ln ( P_{no} ) ] + 0.622$
	> 50 to 250 Watts	0.87

87% (avg.) @ Normal input & 25% , 50% , 75% , 100% of max output load.

Meet CEC Level V requirement or Eup Step 2.

### 2-5. Configuration

3-wire AC input (Line ,Neutral, FG)

### 2-6. Input Fuse

The hot line side of the input shall have a fuse, rating (3.15A/250V)

### 2-7. Inrush Current

50A at 110 Vac

100A at 220 Vac At cold start, maximum load.

### 2-8. Line Regulation

This line regulation is less than ± 1%, of rated output voltage @ full load .

### 2-9. Hold Up Time

10 mSec., @ Normal line, with full load.

### 2-10. Rise Time

50 mSec., @ 115V AC input, with full load.

From 10% to 90% of output voltage.

### 2-11. Turn-ON Time

The output voltage should rise to 90% of rated output voltage in less than 3 SEC. from AC apply to 110Vac start up.

### 2-12. Harmonic Standard and Power Factor

The adapter complied with IEC 61000-3-2 class D harmonic standard while input power over than 75W. The P.F. shall >0.95 @100Vac input and >0.9 @240Vac input.

### 2-13. No Load Power Consumption.

Less than 0.5 Watts., @ 230Vac / 50Hz.

Meet CEC Level V Requirement.

## 3-0. Output Requirements

### 3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
<u>+12V</u>	<u>0</u>	<u>7.5A</u>

### 3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)
<u>+12V</u>	<u>+5/, -5</u>

### 3-3. Dynamic Load Regulation

±5% excursion for 50% - 100% or 100% - 50% load change of DC output at any frequency up to 1KHz(duty 50%)

### 3-4. Ripple & Noise

The power supply shall not exceed the following limits on the indicated voltage for 60Hz or 50Hz ripple, Switching frequency ripple and noise and dynamic load variations measured with a 20MHz bandwidth

Output	Ripple/Noise
<u>+12V</u>	<u>2.0% max. of rated output voltage</u>

Input condition : for rated voltage , Output condition : for max load

Ripple / Noise: 60Hz ripple + switching ripple and noise

Ripple & Noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor

### 3-5. Over Voltage Protection

150% Max. of rated voltage.

The output voltage shall be shutdown and latched when OVP occurred.

### 3-6. Over Current Protection

110~150% of rated output current.

The adapter can withstand continuous short at DC output and no damage.

It will enter into normal condition if the fault condition is removed.

### 3-7. Stability

2% Max. at constant load with constant input (after 30 minutes of operation).

### 3-8. Temperature Rise

Less than 45 on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25 .

### 3-9. Drop-out (Power Line Disturbance)

Output voltage shall remain within the specified regulation range, through the absence of a line input during 1/2 cycle, at full load and normal AC line input

### 3-10. Voltage Isolation

The DC ground will be isolated from the AC neutral and AC line.

#### **4-0. Reliability**

##### **4-1. MTBF ( MIL-HDBK-217F)**

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 50,000 operating hours at 90% confidence-level while operating under the following conditions.

Test condition : Input: 220Vac 45 minutes on , 15 minutes off

Output: 80% of rated load

Temperature : 40 +/- 5

Quantity : 45 pcs

Result : without failure after 30 days burn-in

#### **5-0. Environment**

##### **5-1 Temperature**

a. Operating : 0 to 40

b. Storage : -20 to 85

##### **5-2 Humidity**

a. Operating : 10 to 90 %

b. Storage: 5 to 90 %

##### **5-3 Altitude**

From sea level to 2,000 Meter ( operation ) and 5,000 Meter ( non operation )

#### **6-0. Safety**

##### **6-1. Hi-Pot Test**

4242 Vdc 5mA 3 Sec. between primary and secondary circuit

##### **6-2. Insulation Test**

500Vdc, 3 Sec. between primary and secondary circuit

IR should 50 M .

##### **6-3. Leakage Current**

500 uA, at 240Vac/50 Hz

##### **6-4. Safety**

UL, CUL, TUV/GS, CE, FCC, EK, DOIR+C-TICK, CCC, PSE, BSMI, NOM

### 6-5. EMS

Items	Specification	Reference
ESD	Contact: $\pm 4KV$	IEC 61000-4-2
	Air: $\pm 8KV$	
RS	Frequency: 1KHz Field Strength: 3V/M	IEC 61000-4-3
EFT	1.0 KV on input AC power ports.	IEC 61000-4-4
SURGE	Line to Line: $\pm 1KV$ (peak)	IEC 61000-4-5
	Line to F.G : $\pm 2KV$ (peak)	

### 6-6. EMI

Comply with Standards
CISPR 22, EN 55022 Class B

### 7-0. Mechanical Characteristics

**7-1. Physical Size :** 133 mm (L) \* 59 mm (W) \* 34 mm (H)

**7-2. Enclosure material :** 94V-1 minimum

**7-3. Output Cable (Reference) :** [UL1185 #16](#)

### 7-4. Vibration Test

The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm  
Along the 3 directions namely X-Y-Z. The each direction should be vibrated  
for 60 minutes, after testing no abnormal electrical or mechanical should occur.

**7-5. Drop Test** (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)

Products shall be dropped from a height of 900 mm onto a horizontal surface  
consists of hardwood at 13mm thick, mounted on two layers of plywood each  
19mm to 20mm thick, all supported on a concrete or equivalent non-resilient  
floor. Upon conclusion of test, the equipment need not be operational.

**7-6. Net Weight (Reference) :** [450 g](#)

**EDAC** EDACPOWER ELEC.

AC ADAPTER 직류전원장치 电源适配器 電源供應器

MODEL 모델명 型号 型號 : EA11003A-120

AC INPUT 정격입력 輸入 輸入 : 100-240V~2.5A,  
50-60Hz

DC OUTPUT 정격출력 輸出 輸出 : 12V=7.5A

CAUTION 注意 注意

FOR INDOOR USE ONLY 室内产品使用 室内產品使用

I.T.E. USE ONLY

DATE CODE:

出厂日期 出廠日期

11	12	13			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0



I.T.E. POWER SUPPLY  
41TJ  
E209833



Local Rep: SPS Inc  
Tel: +82-42-936-4905  
KTL:SU10315-9002

N136  
SGSEA/090148



R33147

RoHS



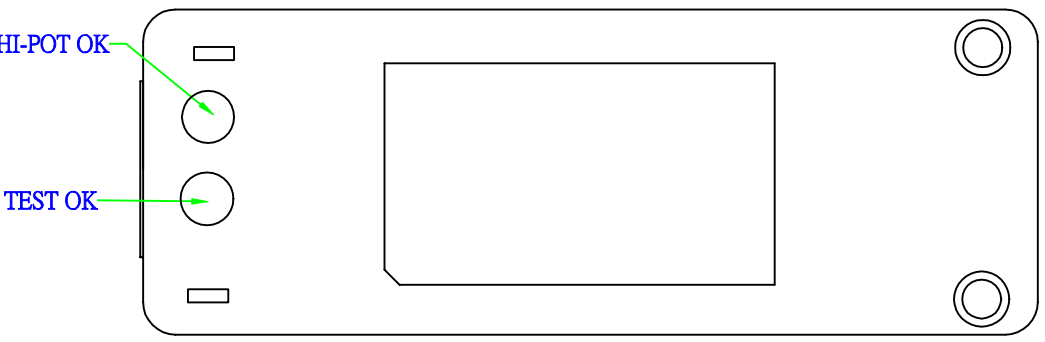
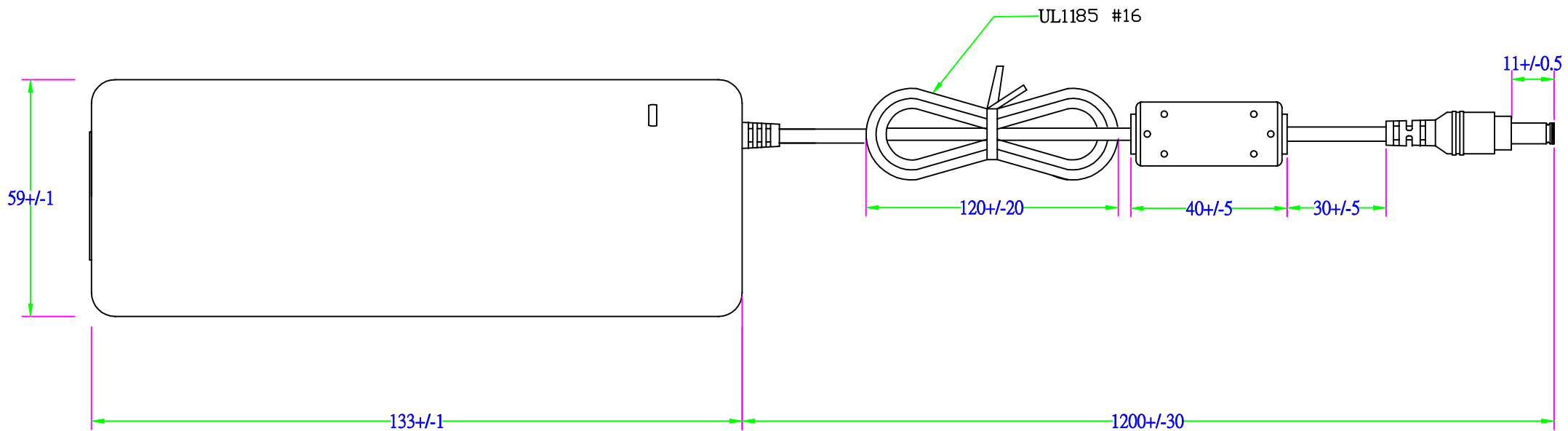
MADE IN CHINA 中国制造 中國製造  
131211003A8 C3

EDAC P/N.: 31211003A8

Background: Black color

Character: Silver color

Unit: mm



EDACPOWER ELEC.				APPROVED
MODEL	EA11003A(24)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2012-06-06	DRAWING L.J.YU