

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 \leq 1 Watt	$\geq 0.48 * P_{no} + 0.14$
□	$> 1 \leq 50$ Watts	$\geq [0.0626 * \ln (P_{no})] + 0.622$
▪	> 50 to 250 Watts	≥ 0.87

$\geq 87\%$ (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

\leq 50A at 110 Vac

\leq 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°C on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25°C.

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 °C

Quantity : 45 pcs

Result : without failure after 30 days burn-in

5-0. Environment

5-1 Temperature

a. Operating : 0 to 40 °C

b. Storage : -20 to 85 °C

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 \geq 50 M Ω .

6-3. Leakage Current

\leq 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 N136
Tel: +82-42-936-4905 SGSEA/090148
KTL:SU10315-9002



R33147
RoHS



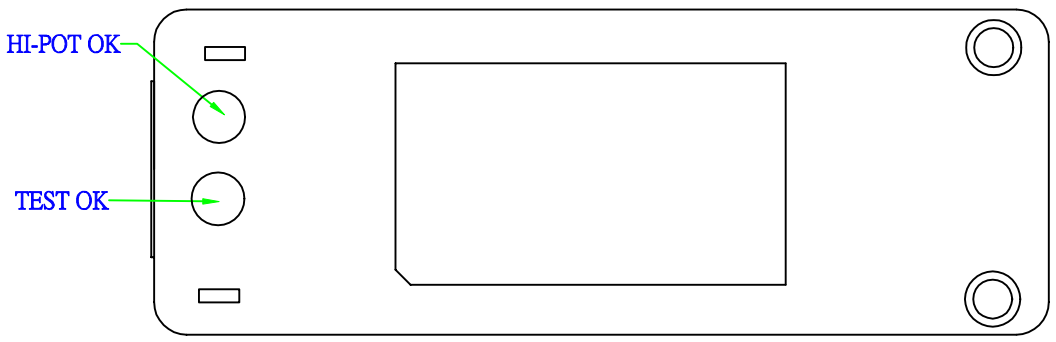
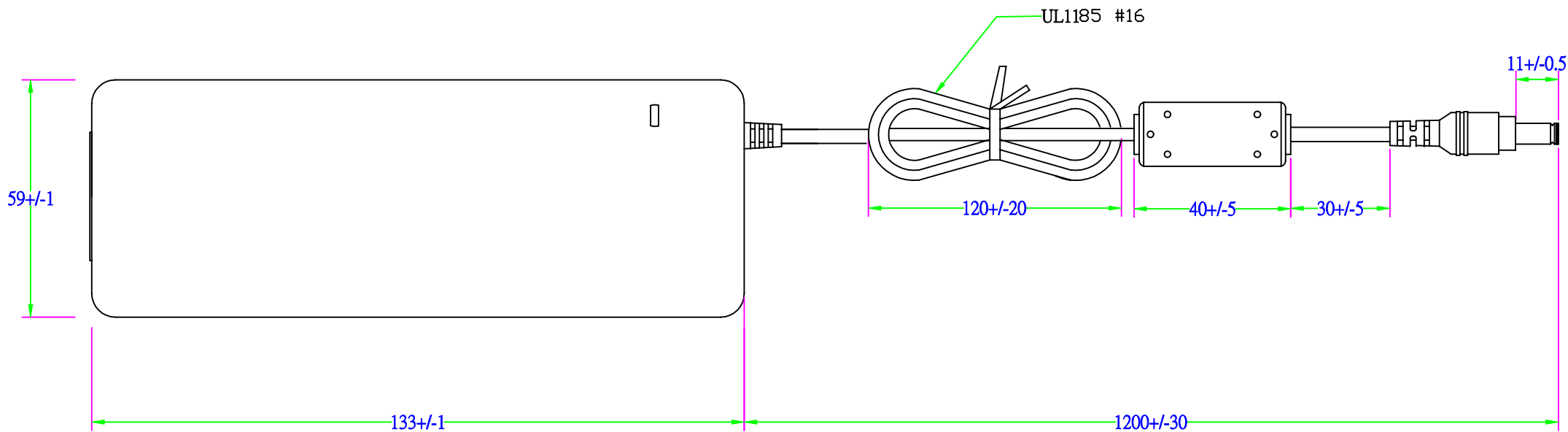
MADE IN CHINA 中国制造 中國製造
131211003A8 C3

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