

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: EA10953(M)Series. This product is AC to DC switching power transfer device, it can provide for a 19Vdc/4.73A max&90Wmax 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

2-2. Input Frequency

50~60(47~63) Hz

2-3. Input Current

a. 2.50A (Max.) @ 115Vac/60Hz input with full load.

b. 1.25A (Max.) @ 230Vac/50Hz input with full load.

2-4. 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.

2-5. Efficiency

≥ 87% (avg.) at 115Vac/60Hz&230Vac/50Hz, measured by 25%, 50%, 75% & 100% of max output current at output terminal.

Meet CEC level V requirement.

2-6. Configuration

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

2-7. Input Fuse

The hot line side of the input shall have a fuse, rating (T3.15A/250V)

2-8. Inrush Current

≤ 90A at 230 Vac At cold start, maximum load.

≤ 45A at 115 Vac At cold start, maximum load.

2-9. Line Regulation

This line regulation is less than ± 1%, 100Vac/60Hz-240Vac/50Hz, with full load.

2-10. Hold Up Time

≥ 16 mSec.@ 100Vac/60Hz-240Vac/50Hz, with full load.

2-11. Rise Time

≤ 50 mSec. @ 100Vac/60Hz-240Vac/50Hz, with full load.

From 10% to 90% of output voltage.

2-12. Turn-ON Time

The output voltage should rise to 90% of rated output voltage

in less than 3.0 SEC. 100Vac/60Hz-240Vac/50Hz, with full load.

3-0. Output Requirements

3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
<u>+19V</u>	<u>0A</u>	<u>4.73A</u>

3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)
<u>+19V</u>	<u>+5/, -5 (18.05V ~ 19.95V)</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>Rated output voltage</u>	<u>1.5% 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. Short-Circuit Protection

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. Over current protection

110~150% of rated output current, auto recovery

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-STD-781C)

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 testing 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 Meters (operation) and 5,000 Meters (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 250 uA, at 240Vac/50 Hz

6-4. Safety

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

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	\pm 1KV (peak)	IEC 61000-4-5

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-0 minimum

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

7-4. Vibration Test

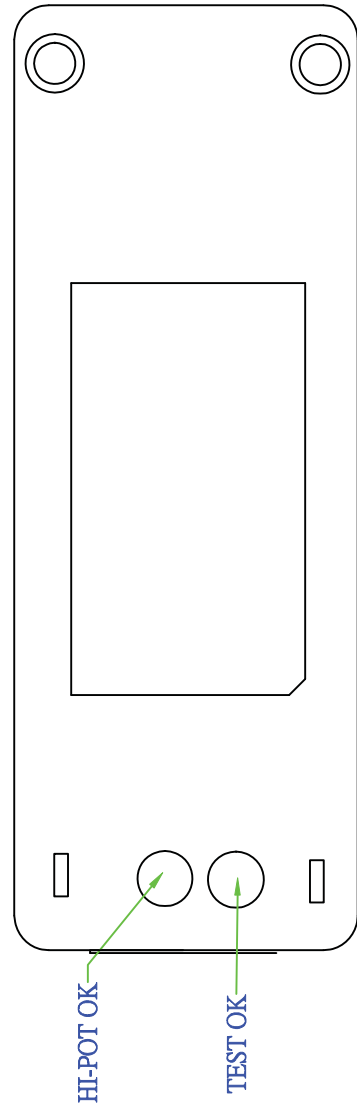
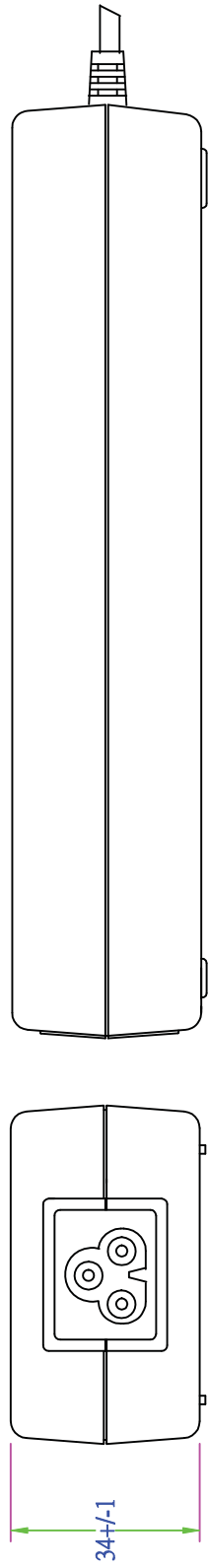
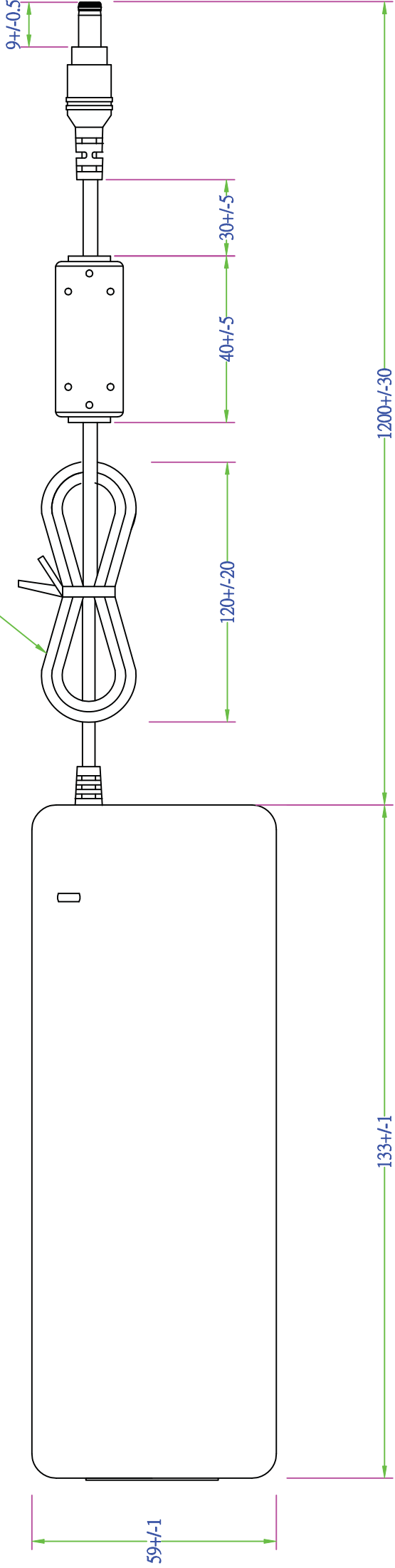
The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm
Along the 3 directions namely X-Y-Z. The each direction should be vibrated
for 60 minutes, after testing no abnormal electrical or mechanical should occur.

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): 420g

UL1185 #16



APPROVED					
MODEL	EA10953(M49)	UNIT	mm		
COLOR	BLACK	SCALE			
CUS.		DATE	2011-11-21		DRAWING L.J.YU

3.5

电源适配器 / AC ADAPTER

型号 /MODEL: EA10953

输入 /AC INPUT: 100-240V~2.5A,
50-60Hz

输出 /DC OUTPUT: 19V === 4.73A

注意 /注意 CAUTION:

室内产品使用 /室內產品使用 FOR INDOOR USE ONLY

I.T.E. USE ONLY

出厂日期 /出廠日期

DATE CODE:

12	13	14			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0

직류전원장치 電源供應器

모델명 型號:EA10953-190

정격입력 輸入:100-240V~2.5A, 50-60Hz

정격출력 輸出:19V ===4.73A



Local Rep: SPS Inc
Tel: +82-42-936-4905
KTL:SU10315-8005



R33147



I.T.E. POWER SUPPLY
41TJ
E209833



MO04



N27108
A/13837EA



LPS
RoHS



中国制造 /中國製造MADE IN CHINA
43121095176 C3

71

41

EDAC P/N.: 3121095176

Background: Black color

Character: Silver color

Unit: mm