




APPROVAL SHEET

CUSTOMER	易通電
CUSTOMER P/N	
DESCRIPTION	24V/7.5A SERIES NO. (01)
EDAC MODEL	EA11801D-240
DATE	2008-08-12
REVISION	0

APPROVED	DESIGN	PREPARE	RoHS
			
CONCLUSION 判定結果	APPROVED 承認	CONDITON APP'D 有條件承認	CUSTOMER'S SIGNATURE: 客戶簽章:



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SUBJECT: SCOPE OF DOCUMENT

CONTAINS :

1-0 General Description

2-0. Input Requirements

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4-0. Reliability

5-0. Environment

6-0. Safety

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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: EA11801D Series

This product is AC to DC switching power transfer device, it can provide

for a 24V, 7.5A max & 180W 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 110Vac/220Vac.

2-2. Input Frequency

47~63 Hz

2-3. Input Current

a. 2.5A (Max.) @ Rated AC input with full load.

b. 1.25A (Max.) @ Rated AC input with full load.

2-4. Efficiency

85% typical at normal line input and full load output

Meet CEC Level III Requirement.

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 45A at 110 Vac

\leq 90A at 220 Vac At cold start, maximum load.

2-8. Line Regulation

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

2-9. Hold Up Time

\geq 16 mSec., @ Normal line, with full load.

2-10. Rise Time

≤ 50 mSec., @ Rated 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 ≤ 0.75 Watts., @ 230Vac / 50Hz.

3-0. Output Requirements

3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
<u>+24V</u>	<u>0</u>	<u>7.5A</u>

3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)	Regulation (Vdc)
<u>+24V</u>	<u>+5/, -5</u>	<u>22.8~25.2V</u> <u>26.4V Max @ 0A</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>+24V</u>	<u>1.5% max. of rated output voltage</u>

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 30,000 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 10,000Ft (operation) and 40,000Ft (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 750 uA, at 240Vac/50 Hz

6-4. Safety

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 : 171 mm (L) * 71 mm (W) * 40 mm (H)

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

7-3. Output Cable (Reference) : [UL2464 #16](#)

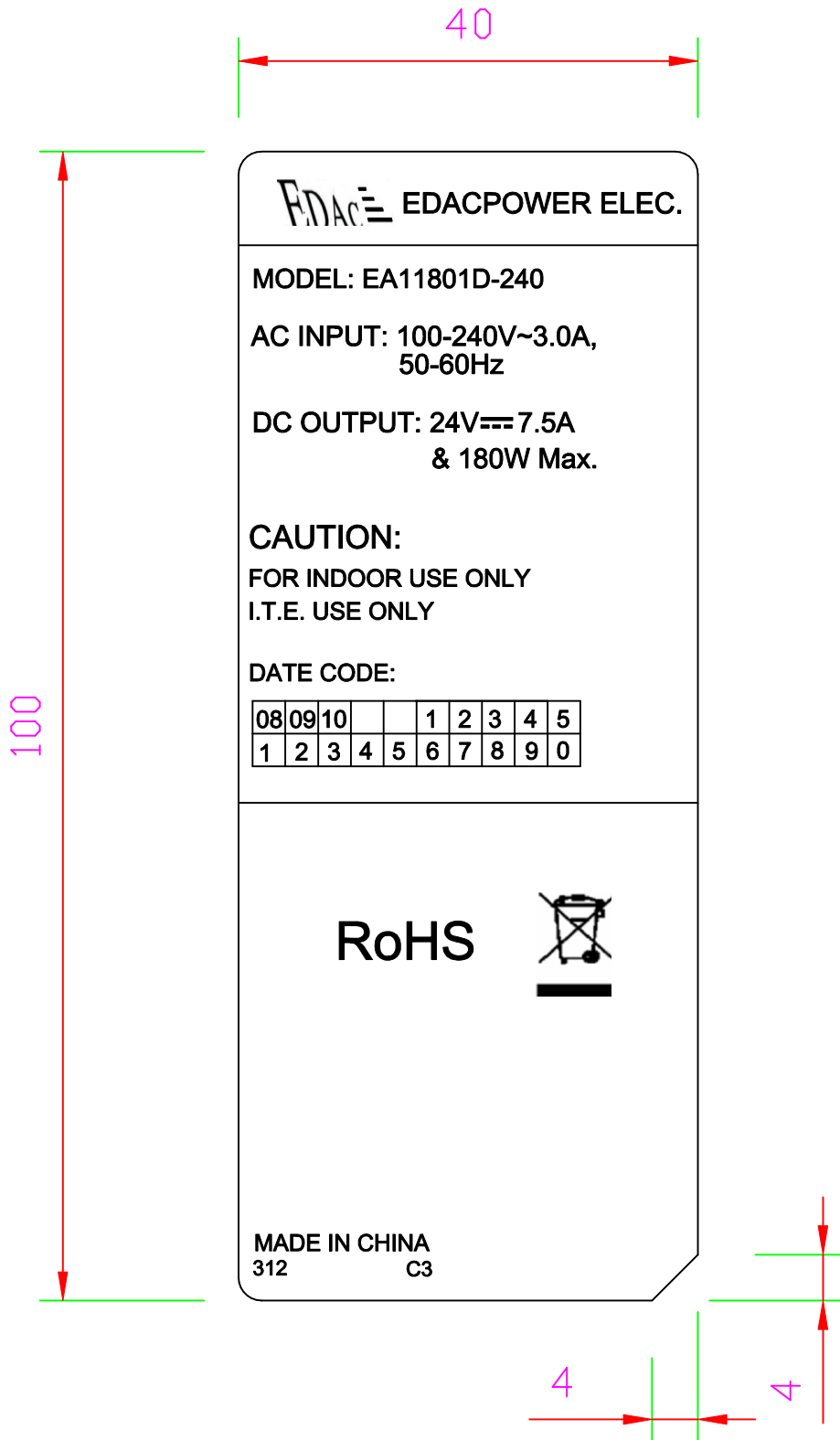
7-4. Vibration Test

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.

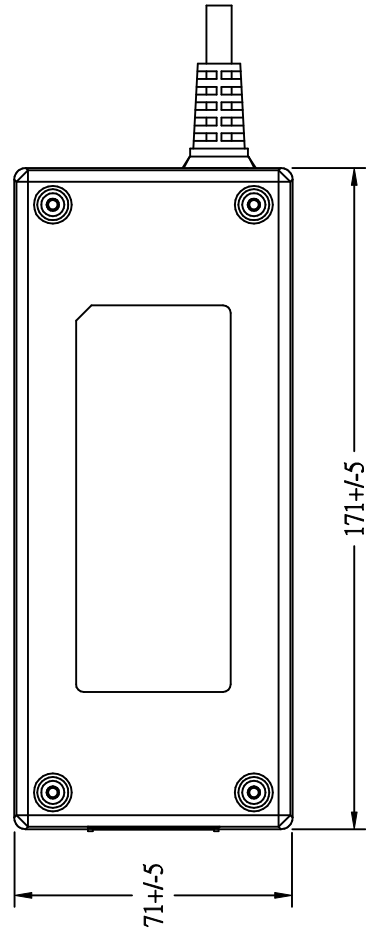
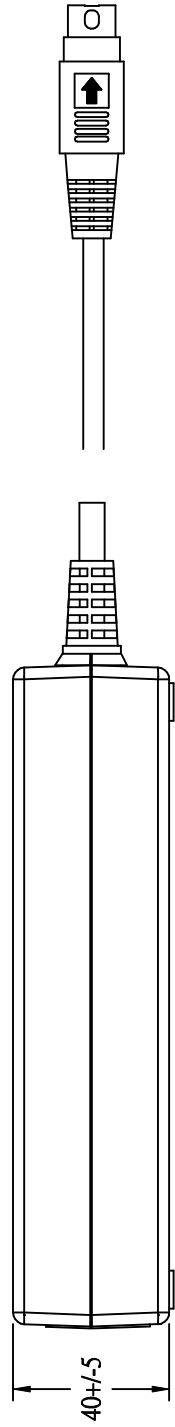
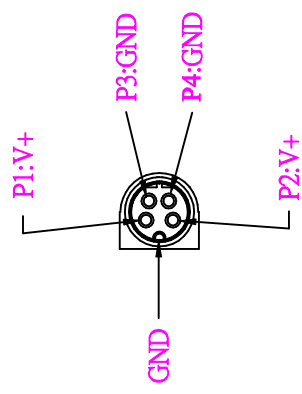
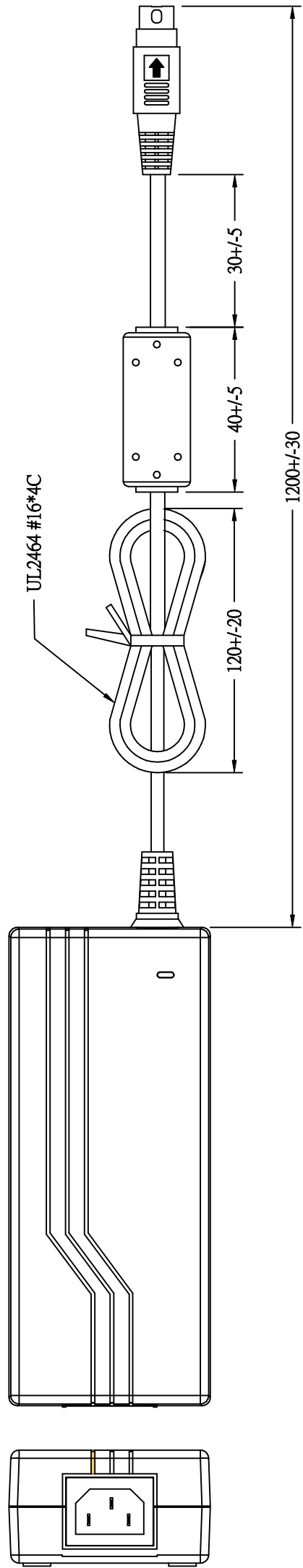
7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)

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) : [820g](#)



EDAC P/N.: 312
 Background: Black color
 Character: Siliver color
 Unit: mm



EDAC POWER ELEC.				APPROVED
MODEL	EA1180ID(01)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2008-08-12	DRAWING L.J.YU