

## SUBJECT: SCOPE OF DOCUMENT

### CONTAINS :

1-0. General Description

2-0. Input Requirements

3-0. Output Requirements

4-0. Reliability

5-0. Environment

6-0. Safety

7-0. Mechanical Characteristics

## 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: EA10442D Series

This product is AC to DC switching power transfer device, it can provide for a 12V, 3.33A max & 40W 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, 230Vac/50Hz.

### 2-2. Input Frequency

47~63 Hz

### 2-3. Input Current

a. 1.0A(Max.) @ 115Vac input with full load.

b. 0.75A(Max.) @ 230Vac input with full load.

### 2-4. Energy saving standards:

2-4-0. Designed to meet the following standard :

CoC Tier2

#### 2-4-1. Efficiency

Efficiency 88.59% ( avg. ) normal input & 25%, 50%, 75% ,100% of max output load

Efficiency 78.59% ( avg. ) normal input & 10% of max output load

#### 2-4-2 No Load Power Consumption.

No Load Watt 75mW at normal line input.

### 2-5. Configuration

2-wire AC input (Line , Neutral)

### 2-6. Input Fuse

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

### 2-7. Inrush Current

70A at 110 Vac At cold start, maximum load.

140A at 240 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

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

## 2-10. Rise Time

50 mSec.,@ 100-240VAC 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.

## 3-0. Output Requirements

### 3-1. Output Voltage and Current

Output Voltage (Vdc)	Current Min.(A)	Current Max.(A)
+12V	0	3.33A

### 3-2. Load Regulation

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

### 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
+12V	2% max. of rated output voltage

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

180% Max. of rated voltage.

The output voltage shall be shutdown and latch-off when OVP occurred.

### 3-6. Over Current Protection

110%-200% of rated output current.

The adapter will enter protection at overload mode 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 failure ( MTBF) of 100,000 hours at 25 degrees C.

## 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 5,000 Meter (operation ) and 5,000 Meter (non operation )

## 6-0. Safety

### 6-1. Hi-Pot Test

P->S: 3000Vac 2Sec 10mA;

## 6-2. Insulation Test

500Vdc, 2Sec. between primary and secondary circuit

IR should 100 M .

## 6-3. Leakage Current

250uA at 240Vac/50 Hz

## 6-4. Safety

UL, CUL, TUV, CB, CE, FCC, BSMI, CU, IRAM, RCM, CCC

## 6-5. EMS

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

## 6-6. EMI

Comply with Standards
CISPR 32, EN 55032 Class B FCC PART 15 Class B

## 7-0. Mechanical Characteristics

7-1. Physical Size : 85.5 L x 35.7 W x 25.7 H (mm)

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/EN62368)

Products shall be dropped from a height of 1000 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 cannot into hazardous moving parts and hazardous voltage circuits need be operational , and need meet Hi-Pot 19mm to 20mm thick , all supported on a concrete or equivalent non-resilient

7-6. Net Weight (Reference) :160g

64+/-1

27+/-1


**EDAC EDACPOWER ELEC.**

AC ADAPTER 电源适配器 電源供應器

MODEL 型号型号 :EA10442D-120

AC INPUT 输入输入 :100-240Vac, 1.0A, 50-60Hz

DC OUTPUT 输出输出 :12.0V==3.33A 40.0W

CAUTION 注意 注意 




FOR INDOOR USE ONLY 室内产品使用 室內產品使用

I.T.E. USE ONLY




DATE CODE:



20	21	22			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0




出厂日期  
出廠日期




  

I.T.E. POWER SUPPLY  
41TJ LPS  
E209833

R33147  
RoHS

RoHS

制造商:翌胜电子股份有限公司

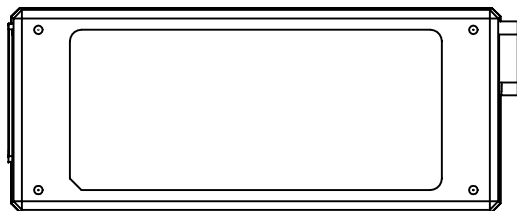
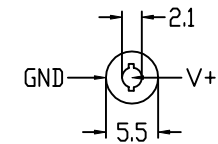
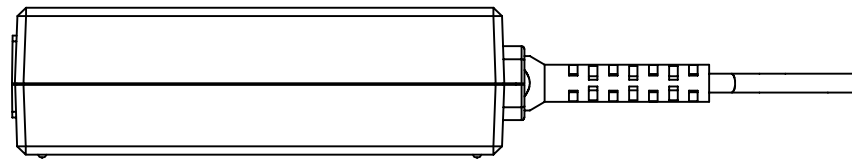
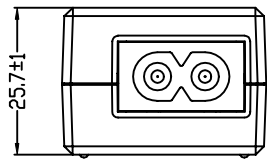
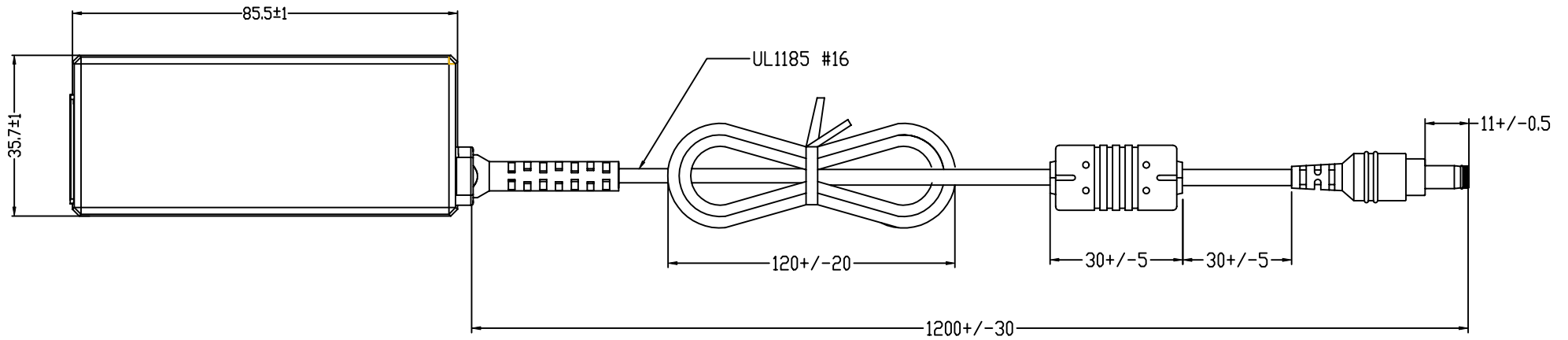
2312810440006 **C1 C3** MADE IN CHINA 中国制造 中國製造

EDAC LABEL P/N.: 312810440006

Background: Black color

Character: Silver color

Unit: mm



EDACPOWER ELEC.				APPROVED
MODEL	EA10442D(T03)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2020-03-15	DRAWING