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1. General Description

The purpose of this document is to specify a single phase AC input switching power supply with full range. The product is AC to DC switch mode power supply that provide single output EA10402E-12V @3.5A_{max} with 42W max DC output with constant voltage source. This Specification defines the input, output, performance characteristics, environment , noise and safety requirement.

2. Input Electrical Specification

2-1. AC Input Voltage

Maximum Voltage: 264Vac
Normal Voltage : 100~240Vac
Minimum Voltage: 90Vac

2-2. AC Input Frequency

Maximum Frequency: 63Hz
Normal Frequency: 50~60Hz
Minimum Frequency: 47Hz

2-3. Input Current

- a. 1.0A (Max.) @ AC 100Vac input with full load.
- b. 0.75A (Max.) @ AC 240Vac input with full load.

2-4. Efficiency

Meet CEC level V

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

Efficiency $\geq 85.38\%$ (avg.) @ normal input & 25%, 50%, 75%, 100% of max output load.

2-5. Configuration

2-wire AC input (Line ,Neutral.)

2-6. Input Fuse

The Line of the AC input shall have a fuse , rated is T3.15A/250V

2-7. Inrush Current

- $\leq 30A$ at 110 Vac At cold start, nominal load.
- $\leq 60A$ at 240 Vac At cold start, nominal load.

2-8. Hold Up Time

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

2-9. Rise Time

≤ 20 mSec. @ min Input voltage , with full load from 10% to 90% of output voltage.

2-10. Turn-ON Time

The output voltage should rise to 90% of rated output voltage in less than 3 seconds from AC apply..

2-11. No load Power Consumption

Less then ≤ 0.3 Watts. at normal line.

3. Output Electrical Specification

3-1. Output Voltage and Current

Output Voltage	Min Current(A)	Max Current(A)	Peak Current(A)
+12V	0A	3.5A	

3-2. Line / Load Regulation

	Output Voltage (V)	Tolerance (%)	Regulation(V)
Vo	+12V	+5% ~ -5%	11.4 ~ 12.6V

3-3. Dynamic Load Regulation

$\pm 5\%$ excursion from 50% to 100% load and back to 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 and output parallel with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor to ground. Temperature at 25°C and nominal AC input voltage

Output	Ripple/Noise(PK)
12V	240mVmax.

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

3-5. Short Circuit Protection :

The output should shut-down when subjected to short circuit. The power supply shall return to normal operating after removing the short situation .

3-6. Open Circuit Protection :

When primary power is applied with no load on any output level, no damage or hazardous conditions should be occurred..

3-7. Over Current Protection :

110% ~ 150% of max current

When over-current occurred, the output should shut down and the over –current situation is removed, the output shall be auto-recover without any harm .

3-8. Over Voltage Protection :

110% ~ 150% of rated voltage

When over-voltage occurred, the output should shut down and the over –voltage Situation is removed, the output shall auto-recover without any harm .

3-9. Stability

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

3-10. 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.

4. Reliability Specification

4-1. MTBF (MIL-STD-781C)

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 50000 operating hours minimum conditions: 80% maximum load at 25 °C, nominal input voltage.

5. Environment Specification

5-1 Temperature

- a. Operating: 0 to 40°C
- b. Storage: -20 to 60°C

5-2 Humidity

- a. Operating: 20 to 85 % RH, NON-CONDENSING
- b. Storage: 5 to 95 % RH, NON-CONDENSING

5-3 Altitude

From sea level to 2000M(operation) and 50000M(non operation).

6-0. Safety Specification

6-1. Hi-Pot Test

3000VAC, 10mA, 3 seconds between primary and secondary circuit

6-2. Insulation Test

500Vdc, 3 Sec. between primary and secondary circuit

IR should $\geq 100 \text{ M}\Omega$.

6-3. Leakage Current

$\leq \underline{250 \text{ uA}}$ @ 240VAC 50Hz

6-4. Safety

UL, CUL, TUV/GS, CE, FCC, CCC, BSMI, PSE

7. Mechanical Specification

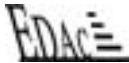
7-1. Physical Size : 85.5 L x 35.7 W x 25.7H (mm)

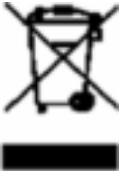
7-2. Enclosure material : 94V-0


7-3. Net Weight (Reference) : 160g \pm 10g


64+/-1


27+/-1

 **EDACPOWER ELEC.**



 **LISTED**





AC ADAPTER 电源适配器 電源供應器


MODEL 型号 型號 :EA10402E-120

AC INPUT 输入 輸入:100-240V~1.0A, 50-60Hz


DC OUTPUT 输出 輸出:12V==3.5A


CAUTION 注意 注意

RoHS




LPS







FOR INDOOR USE ONLY 室内产品使用 室內產品使用

I.T.E. USE ONLY 制造商:翌胜电子股份有限公司
此产品仅适用于非热带气候条件海拔2000m以下的地区







DATE CODE:

13	14	15			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0

MADE IN CHINA 中国制造 中國製造

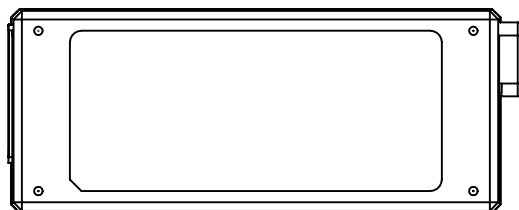
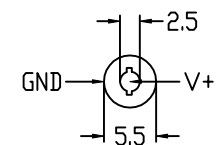
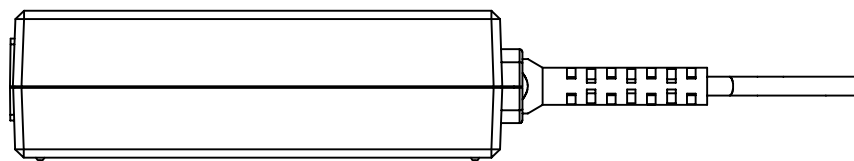
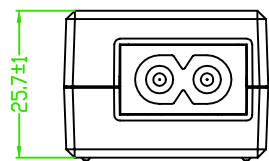
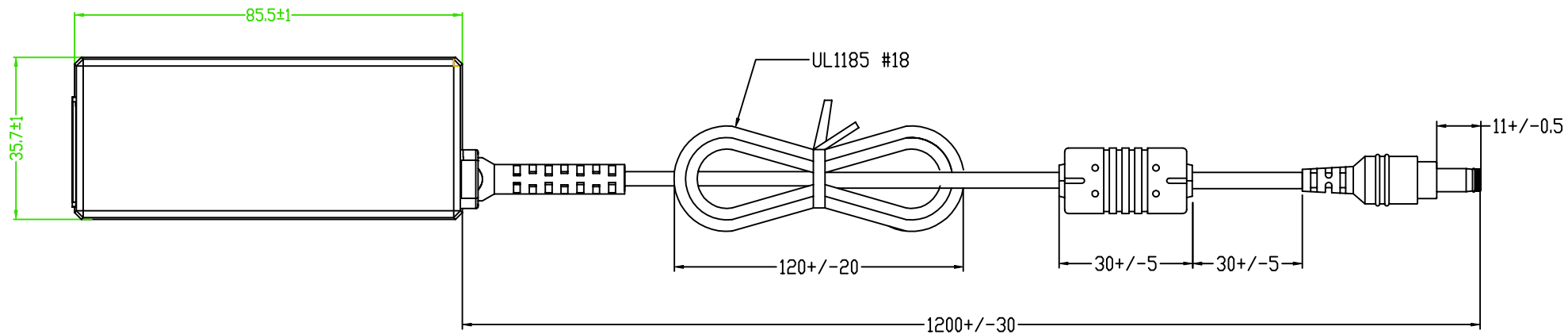
23121040020 C3

EDAC LABEL P/N.: 3121040020

Background: Black color

Character: Silver color

Unit: mm



EDACPOWER ELEC.				APPROVED
MODEL	EA10402E(21)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2013-03-29	DRAWING