

# APPROVAL SHEET

CUSTOMER	Digimax
CUSTOMER P/N	
DESCRIPTION	12V/5A
EDAC MPN	EA10681N(152)
EDAC MODEL NO FOR SAFETY	EA10681N-120
DATE	2023-08-19
REVISION	5

APPROVED	DESIGN	PREPARE	
蔡朝豐	鄧長根	鄧長根	RoHS
CONCLUSION 判定結果	APPROVED 承認	CONDITON APP'D 有條件承認	C <input type="checkbox"/> ST <input type="checkbox"/> MER'S SI <input type="checkbox"/> NAT <input type="checkbox"/> RE: 客戶簽章:

**EDACPOWER**

**翌勝電子股份有限公司**

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新北市中和區建一路 150 號 11 樓之 2(E 棟)

TEL:886-2-82263289 FAX:886-2-82263327

**翌勝電子(蘇州)有限公司**

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**東莞市翌勝電子有限公司**

廣東省東莞市鳳崗鎮金鳳凰工業區金鳳凰大道108號

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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: **EA10681N** This product is AC to DC switching power transfer device, it can provide for a **12V/ 5.0A , 60W 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. AC Input Voltage**

Maximum Voltage: 264Vac

Normal Voltage : 115~230Vac

Minimum Voltage: 90Vac

### **2-2. AC Input Frequency**

Maximum Frequency: 63Hz

Normal Frequency: 50~60Hz

Minimum Frequency: 47Hz

### **2-3. Input Current**

**2.0A (Max.) @ 100Vac/60Hz-240Vac/50Hz with full load.**

### **2-4. Energy saving standards :**

Designed to meet the following standard :

Energy Star Ver. 2.0

DoE Level VI

ErP STEP 2

2-4-1 Efficiency: Average Efficiency  $\geq 88\%$  @ Normal Input Voltage

2-4-2 No Load Power Consumption: No Load Watt  $< 0.21W$  at normal line input

### **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 (**T3.5A/250V**)

### **2-7. Inrush Current**

**160A** at 230 Vac At cold start, maximum load.

**80A** at 115 Vac At cold start, maximum load.

## 2-8. Line Regulation

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

## 2-9. Hold Up Time

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

## 2-10. Rise Time

**50 mSec.** @ 100Vac/60Hz-240Vac/50Hz, 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 **3.0 SEC.** 100Vac/60Hz-240Vac/50Hz, with full load.

## 2-12 Fall Time

**25 mSec.** @ 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)
12V $\pm$ 5%	0A	5.0A

### 3-2. Combine Regulation

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

### 3-3. Static Load Regulation

$\pm 5\%$  @ 100Vac,240Vac input, with 0A--full load

### 3-4. Dynamic Load Regulation

$\pm 5\%$  excursion for **50% - 100%** load @ 100Vac-240Vac input

### 3-5. Drift(Warm-up period)

$\pm 2\%$  @ 100Vac-240Vac input, with full load for 30Minutes warm up

### **3-6. 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

Ripple & Noise Vp-p **240mV** @ 100Vac-240Vac input with full load

Ripple & Noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor

### **3-7. Over Voltage Protection**

**150%** Max. of rated output voltage , output shutdown, no damage

### **3-8. 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. The short circuit impedance should be less than 0.3R.

### **3-9. Over current protection**

The OCP trigger point is less than 180% Io @ 100-240Vac input, Autorecovery mode.

### **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

### **3-11. 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 Meters ( operation ) and 5,000 Meters ( non operation )

## 6-0. Safety

### 6-1. Hi-Pot Test

3000Vac/4242VDC, 3mA 2Sec. between primary side and secondary side.  
L,N to FG 1800Vac 3mA 2S

### 6-2. Leakage Current

250 uA, at 240Vac/50 Hz

### 6-3. Safety

UL, CUL, TUV/GS, CB, UKCA, CE, FCC, PSE, CCC, RCM, CU, ARGENTINA, BSMI, EK, BIS

### 6-4. 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
	Line to F.G : $\pm 2KV$ (peak)	

### 6-5. EMI

Comply with Standards
CISPR 32, EN 55032 Class B

## 7-0. Mechanical Characteristics

7-1. Physical Size : 113mm (L) \*49 mm (W) \*35 mm (H)

**7-2. Enclosure material : 94V-0 minimum**

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

**7-4. Vibration Test**

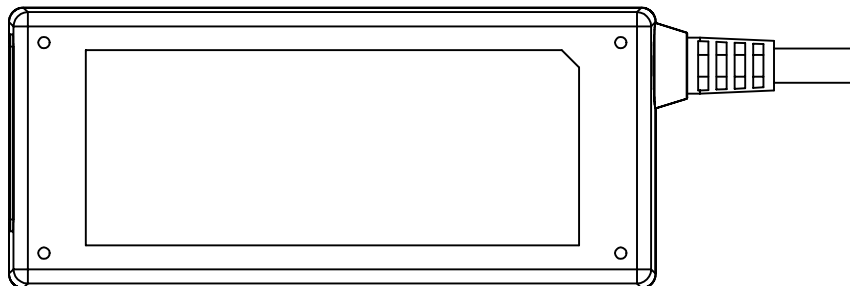
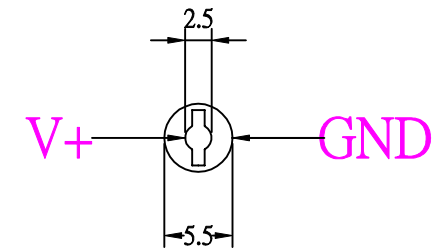
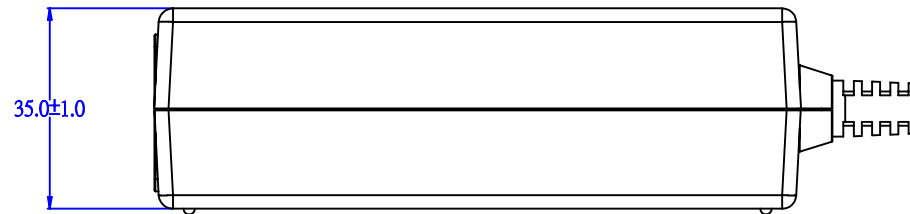
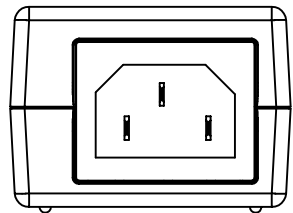
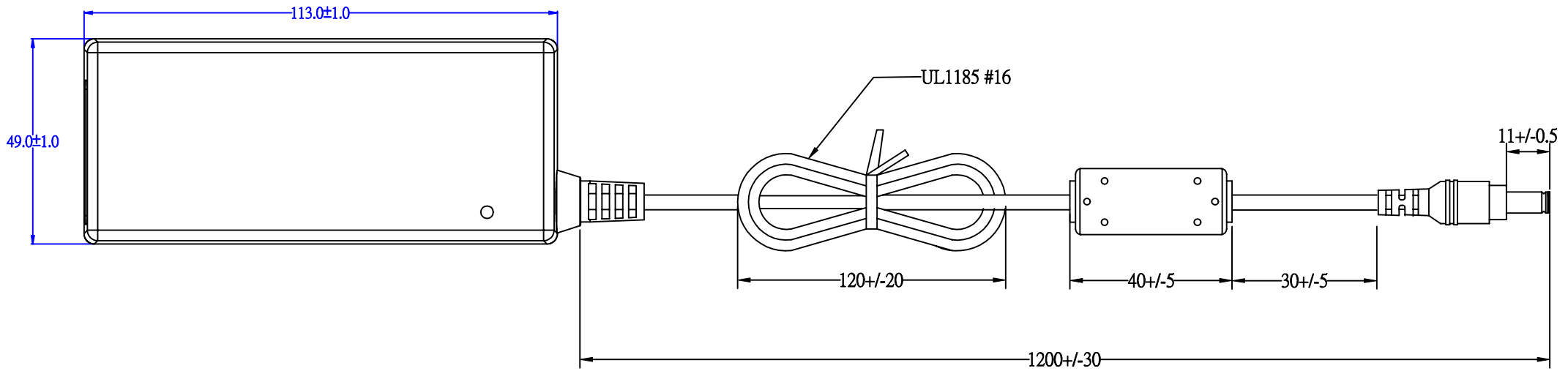
The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm  
Along the 3 directions namely X-Y-Z. The each direction should be vibrated  
for 60 minutes, after testing no abnormal electrical or mechanical should occur.

**7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/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  
specification requirement .

**7-6. Net Weight (Reference) : 300+/-5g**





EDAC POWER ELEC.				APPROVED
MODEL	EA10681N(152)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2018-05-09	DRAWING L.J.YU

客戶名稱

B009

版本

變更項目

2

\*① 33.1

3mm

3mm

\*② 85.2

**EDAC EDACPOWER ELEC.**  
 AC ADAPTER 电源适配器 電源供應器 직류전원장치  
 MODEL 型号 型號 모델명 :EA10681N-120  
 AC INPUT 輸入 輸入 정격입력 :100-240V~, 2.0A, 50-60Hz  
 DC OUTPUT 輸出 輸出 정격출력 :12.0V=5.0A 60.0W

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

IS 13252 (Part 1)/  
 IEC 60950-1

R-41019178  
 www.bis.gov.in

Local Rep: HANJUN Corporation  
 Tel: +82-54-461-0629  
 KTL: SU10315-15003  
 MSIP-REM-EPE-EA10681U-120

제조업자명: EDAC Power Electronics (Suzhou) Co.,Ltd.  
 Imported by: DIGIMAX S.R.L.  
 Via dei Laghi, 31  
 36077 - Altavilla Vicentina (VI) - Italy  
 Manufacturer: EDACPOWER Electronics Co., LTD.  
 11F-2, No. 150, Jian Yi Rd., Chung Ho Dist.,  
 New Taipei City, Taiwan (R.O.C.)

SGS-180781-EA LPS  
 R33147 RoHS

UL LISTED  
 TUV CA CE FC  
 EAC  
 RoHS

S/N:YYWWXXXXXX

**EDAC EDACPOWER ELEC.**  
 AC ADAPTER 电源适配器 電源供應器 직류전원장치  
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SGS-180781-EA LPS  
 R33147 RoHS

UL LISTED  
 TUV CA CE FC  
 EAC  
 RoHS

S/N:YYWWXXXXXX



S/N:YYWWXXXXXX(YY: 年: 2017=17, WW: 週期, XXXXX: 序號)

4

- 1.材质: 格底50#压花底变色龙+可打印雾膜
- 2.颜色: 黑底银字+黑色流水号
- 3.公差: ±0.1 / ±0.3
- 4.UL编号:
- 5.出货检验报告 有 无
- 6.包装方式:
- 7.其他: \*标示为重点检验尺寸

吴江 巷泉包装材料有限公司  
 FAX:0512-63333167  
 TEL:0512-63330858

訂單號 (ORDER NUMBER)

核準 (APPROVED BY:)

品名 (DESCRIPTION)

料號 (PART NO.)

單位 (UNIT)

日期 (DATE)

标签

312810680048

mm

2023/08/01

繪圖 (DRAWN BY:)

校稿 (CHECKED BY:)

修訂 (REVISION)

主管 (CHARGE)

程文坦

侯恩英

## Operating instructions

### Safety Instructions:

- Keep the power supply unit, its individual parts and the packaging material away from children.
- Only use the power supply unit indoors. Never operate it in damp rooms or in the rain.
- Never use the power supply unit in areas where there is a risk of explosion.
- Keep the power supply unit away from open flames and hot surfaces.
- Do not expose the power supply unit to extreme temperatures, direct sunlight, strong vibrations, mechanical pressure, moisture, flammable vapours or solvents.
- If the power supply unit moves from a cold to a warm environment, condensation may form which can damage the electronic. Do not connect the power supply unit until it has reached room temperature.
- Do not operate the power supply unit if it shows visible damage, has been stored for a long time under unfavourable conditions or is defective.
- Do not immerse the power supply unit in water or other liquids. Never operate the power supply unit in such a way that it can fall into a tub or sink.
- Never reach for the power supply unit if it has fallen into water. In such a case, disconnect the mains plug immediately.
- Never pull the mains adapter out of the socket by the mains cable; always grasp the mains plug.
- Never use the connection cables as carrying handles.
- Never handle the power supply unit with wet or damp hands. There is a risk of electric shock.
- Also observe the safety instructions and operating instructions of the consumer devices that are connected to the power supply unit.
- When using in commercial facilities, observe the accident prevention regulations of the Association of Industrial Trade Associations for electrical installations and equipment.
- Do not alter or modify the power supply unit

### Start up:

- Place the power supply unit on a solid surface that is not sensitive to heat.
- Only connect the power supply unit if the mains voltage of the socket corresponds to the specification on the type plate.
- Only connect the power supply unit to an easily accessible socket so that you can quickly disconnect it from the mains in the event of a fault.
- Lay the connection cables so that they do not become a tripping hazard.
- Do not bend the connection cables and do not lay them over sharp edges.
- The product heats up during operation. Do not cover the power supply unit with objects and ensure sufficient ventilation.

### Imported by:

DIGIMAX S.R.L.  
Via dei Laghi, 31  
36077 - Altavilla Vicentina (VI)- Italy

### Manufacturer:

EDACPOWER Electronics Co., LTD.  
11F-2, No. 150, Jian Yi Rd., Chung Ho Dist.,  
New Taipei City, Taiwan (R.O.C.)

## Istruzioni

### Istruzioni di sicurezza:

- Tenere l'alimentatore, tutte le sue singole parti e il materiale di imballaggio lontano dalla portata dei bambini.
- Utilizzare l'alimentatore solo in ambienti chiusi. Non utilizzarlo mai in ambienti umidi o sotto la pioggia.
- Non utilizzare mai l'alimentatore in aree a rischio di esplosione.
- Tenere l'alimentatore lontano da fiamme libere e superfici calde.
- Non esporre l'alimentatore a temperature estreme, luce solare diretta, forti vibrazioni, pressione meccanica, umidità, vapori infiammabili o solventi.
- Se l'alimentatore passa da un ambiente freddo a uno caldo, può formarsi condensa che può danneggiare l'elettronica. Non collegare l'alimentatore fino a quando non ha raggiunto la temperatura ambiente.
- Non utilizzare l'alimentatore se presenta danni visibili, è stato conservato a lungo in condizioni sfavorevoli o è difettoso.
- Non immergere l'alimentatore in acqua o altri liquidi. Non utilizzare mai l'alimentatore in modo tale che possa cadere in una vasca, in un lavandino o in un contenitore con acqua o altri liquidi.
- Non toccare mai l'alimentatore se è caduto in acqua. In tal caso, scollegare immediatamente la spina di rete.
- Non estrarre mai la spina dalla presa di rete tirandola dal cavo; per scollegare l'alimentatore dalla rete afferrare la spina.
- Non utilizzare mai i cavi di collegamento come maniglie per il trasporto.
- Non maneggiare mai l'alimentatore con le mani bagnate o umide. C'è il rischio di scosse elettriche.
- Osservare anche le istruzioni di sicurezza e di funzionamento dei dispositivi collegati all'alimentatore.
- Quando si utilizza in ambiti diversi da quello privato, rispettare le norme in vigore del relativo settore di utilizzo.
- Non alterare o modificare l'alimentatore

### Utilizzo:

- Posizionare l'alimentatore su una superficie solida non sensibile al calore.
- Collegare l'alimentatore solo se la tensione di rete della presa corrisponde alle specifiche indicate sulla targhetta.
- Collegare l'alimentatore solo a una presa facilmente accessibile in modo da poterlo scollegare rapidamente dalla rete elettrica in caso di guasto.
- Posizionare i cavi di collegamento in modo che non costituiscano un pericolo di inciampo.
- Non curvare i cavi di collegamento e non appoggiarli su spigoli vivi.
- Il prodotto si riscalda durante il funzionamento. Non coprire l'alimentatore con oggetti e garantire una sufficiente ventilazione.

### Importato da:

DIGIMAX S.R.L.  
Via dei Laghi, 31  
36077 - Altavilla Vicentina (VI)- Italy

### Prodotto da:

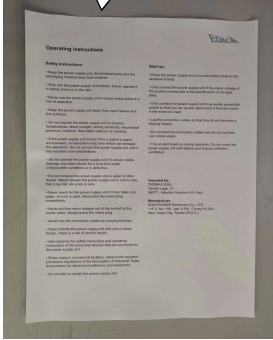
EDACPOWER Electronics Co., LTD.  
11F-2, No. 150, Jian Yi Rd., Chung Ho Dist.,  
New Taipei City, Taiwan (R.O.C.)

# EA10681N(152) Packaging diagram

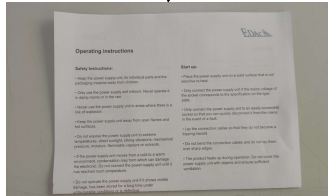
1. Instruction Manual: A4 Double-sided  
(English & Italian version) / Black & White printed

Carton size: 520\*319\*300mm  
Item No: 510104043

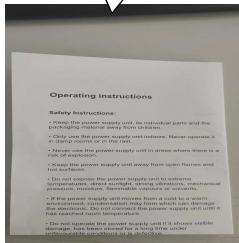
Step 1



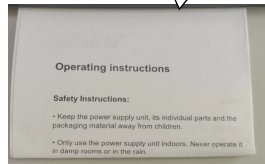
Step 2



Step 3

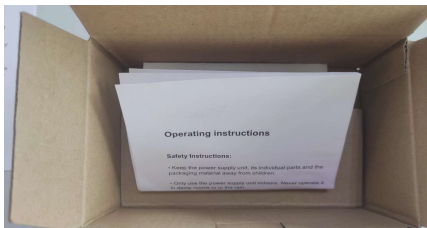


Step 4

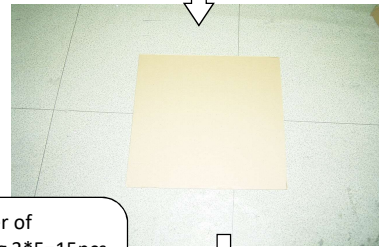


2. Put the instruction manual in the bottom of gift box  
("Operating Instructions" Above)

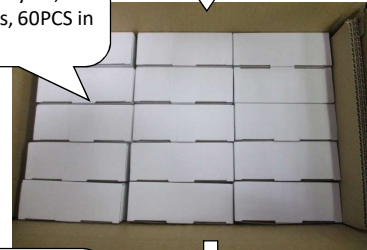
Gift box size: 150\*60\*65MM Item No: 294106801



3. Place the power adapter in the gift box



Each layer of packaging 3\*5=15pcs, a total of 4 layers, 15\*4=60pcs, 60PCS in a carton.



Place 2 partitions at the bottom, 1 partition at the top, and 7 partitions on the side

