

|  |             |                   |              |               |
|--|-------------|-------------------|--------------|---------------|
|  | MODEL NO.   | EA10681T-480      | SHEET NO     | AP20206236855 |
|  | DESCRIPTION | Switching Adaptor | ISSUED DATE: | 2020/03/09    |

|                    |
|--------------------|
| APPROVAL SIGNATURE |
|                    |
| DATE:              |

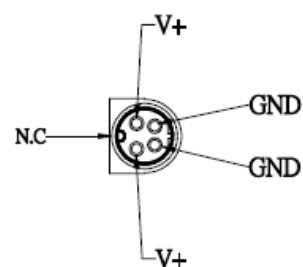
Customer :

Model No : EA10681T-480

Part No : EA10681T(29)

Type : Desk Top Adapter

Efficiency Level: DoE VI



|               |                                    |                |                      |
|---------------|------------------------------------|----------------|----------------------|
| Input Voltage | 100-240VAC 50/60 Hz                | Output Voltage | 48.0V DC 1.5 A 72.0W |
| Output Cable  | UL1185 18AWG L=1200mm Min Din 4pin |                |                      |
| AC IN NET     | IEC320 / C14                       | Packaging      | PE                   |

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## 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: **EA10681T**Series

This product is AC to DC switching power transfer device, it can provide for a **48V,1.5A** max & **72W** 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: 100~240Vac

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:**

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

Energy Efficiency level VI

#### **2-4-1.Efficiency**

**88.0%** ( avg. ) at 115Vac/60Hz & 230Vac/50Hz input voltage and 25%, 50%, 75% &100% of max output current.

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

No Load Watt  $\leq$  **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 (3.15A/250V)

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

**80A** at 110 Vac

**120A** 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**

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

## **2-10. Rise Time**

**50 mSec.**, @ 115V 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.

## **3-0. Output Requirements**

### **3-1. Output Voltage and Current**

| <b>Output Voltage (Vdc)</b> | <b>Current Min.(A)</b> | <b>Current Max.(A)</b> |
|-----------------------------|------------------------|------------------------|
| <b>+48V</b>                 | <b>0</b>               | <b>1.5A</b>            |

### **3-2. Load Regulation**

| <b>Voltage (Vdc)</b> | <b>Tolerance (%)</b> | <b>Regulation (Vdc)</b> |
|----------------------|----------------------|-------------------------|
| <b>+48V</b>          | <b>+5/, -5</b>       | <b>45.6~50.4V</b>       |

### **3-3. Dynamic Load Regulation**

$\pm 5\%$  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                      |
|--------|-----------------------------------|
| +48V   | 1.5% 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

150% Max. of rated voltage.

The output voltage shall be shutdown and auto-recover mode when OVP occurred.

### 3-6. Stability

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

### 3-7 Over Current Protection

110~200% output current. At 100-240Vac input,

The adapter can withstand continuous short at DC output and no damage.

It will enter into normal condition if the fault condition is removed.

### 3-8. 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

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

## **6-0. Safety**

### **6-1. Hi-Pot Test**

**1800Vac, 3mA 2Sec.** between primary and secondary circuit

### **6-2. Insulation Test**

500Vdc, 2 Sec. between primary and secondary circuit

IR should **50 MΩ**.

### **6-3. Leakage Current**

**250 uA**, at 240Vac/50 Hz

### **6-4. Safety**

UL, CUL, TUV, CB, CE, FCC, PSE, BSMI, RCM CU, ARGENTINA

### **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 32, EN 55032 Class B<br>FCC PART 15 Class B |

## **7-0. Mechanical Characteristics**

**7-1. Physical Size :** 113 mm (L) \* 49 mm (W) \* 35.0mm (H)

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

**7-3. Output Cable (Reference) :** UL1185 #18

### **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 g**

33.1

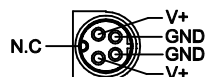
85.2

AC ADAPTER 電源供應器

MODEL 型號 :EA10681T-480

AC INPUT 輸入 :100-240V~, 2.0A, 50-60Hz

DC OUTPUT 輸出 :48.0V==1.5A 72.0W



CAUTION: 注意

FOR INDOOR USE ONLY 室內產品使用

I.T.E. USE ONLY

DATE CODE:

出廠日期

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



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



RoHS



1312

C1 C3

MADE IN CHINA 中國製造

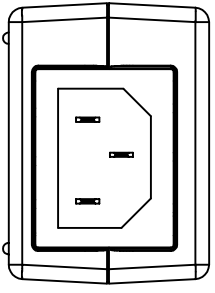
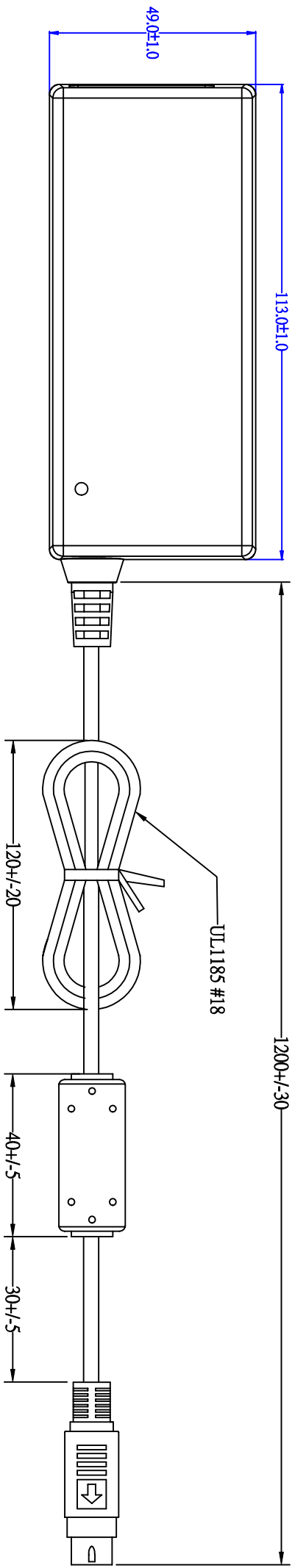
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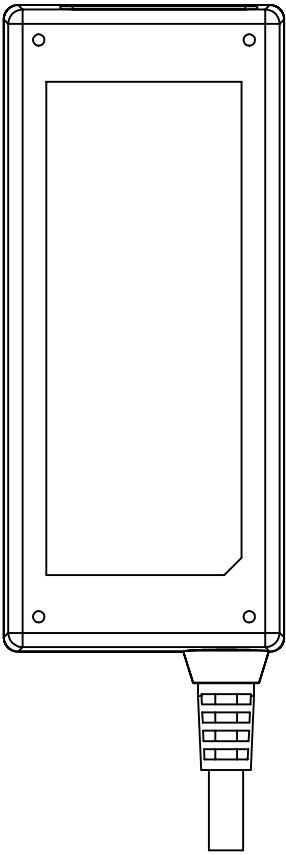
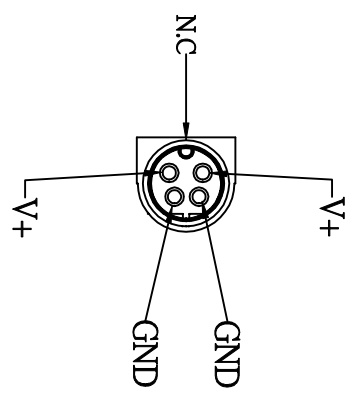
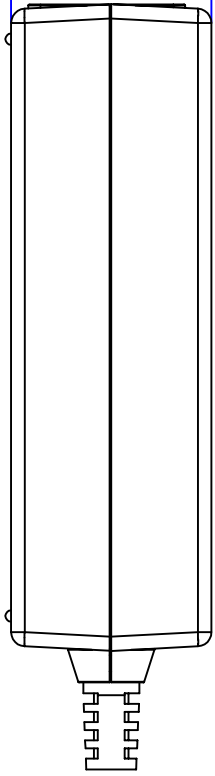
Character: Silver color

Unit: mm





35.0±1.0



| APPROVED |              |       |                |
|----------|--------------|-------|----------------|
| MODEL    | EA10681(T29) | UNIT  | mm             |
| COLOR    | BLACK        | SCALE | CHECK          |
| CUS.     |              | DATE  | 2020-03-09     |
|          |              |       | DRAWING L.J.YU |