APPROVAL SHEET

CUSTOMER	CIDEV
CUSTOMER P/N	
DESCRIPTION	**12V/3A**
EDAC MPN	**EA1024PR(L24)**
EDAC MODEL NO FOR SAFETY	**EA1024PR**
DATE	**2025-12-13**
REVISION	**0**

APPROVED	DESIGN	PREPARE	RoHS
蔡朝豐	陳兵	陳兵	
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

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: **EA1024PR Series**
This product is AC to DC switching power transfer device, it can provide for a **12V/3.0A max & 36W 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. 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.) @ 115Vac input with full load.
b. 0.5A(Max.) @ 230Vac input with full load.

2-4. Energy saving standards :

Designed to meet the following standard
Energy Efficiency level VI

2-4-1 Efficiency:

87.4% minimum at 115Vac/60Hz & 230Vac/50Hz input voltage and 25%, 50%, 75% & 100% of max output current. Meet CEC Level VI

2-4-2 No Load Power Consumption:

No Load Watt < 0.1W at 115Vac/60Hz & 230Vac/50Hz input voltage.

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 (**T2A/250V**)

2-7. Inrush Current

≦ **30A** at 115 Vac

≦ **60A** at 230 Vac At cold start, maximum load.

2-8. Line Regulation

This line regulation is less than **± 1%**, of rated output voltage @ full load.

2-9. Hold Up Time

≧ **8.3mSec**., @115Vac/60Hz & 230Vac/50Hz input voltage., with full load.

2-10. Rise Time

≦**50mSec**., @ 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 100Vac from start up.

3-0. Output Requirements

3-1. Output Voltage and Current

Output Voltage (Vdc)	**Current Min.(A)**	**Current Max.(A)**
+12V	**0**	**3.0A**

3-2. Load Regulation

Voltage (Vdc)	Tolerance (%)	Regulation (Vdc)
+12V	**+5/, -5**	**11.40V~12.60V**

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	1.5% max. of rated output voltage

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

(Output clamped with zener diode, do not test with external DC source.)

3-6. 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.

3-7. Stability

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

3-8.Temperature Rise

Less than 45℃ on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25℃.

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 at 115Vac/50Hz & 230Vac/50Hz input voltage.

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

4242Vdc 3mA 2Sec. between primary and secondary circuit

6-2. Insulation Test

500Vdc, 3 Sec. between primary and secondary circuit

IR should ≧ **50 MΩ.**

6-3. Leakage Current

≦ **250uA**,at 240Vac/50 Hz

6-4. Safety

UL, CUL, TUV, CB, UKCA, CE, FCC, CCC, RCM, PSE, BSMI

6-5. EMS

Items	Specification	Reference
ESD	Contact: ± 4KV	IEC 61000-4-2
	Air: ± 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: ± 1KV (peak)	IEC 61000-4-5

6-6. EMI

Comply with Standards
EN 55032 Class B FCC PART 15 Class B

7-0. Mechanical Characteristics

7-1. Physical Size : 73.6 mm (L) * 42.8 mm (W) * 32.5 mm (H)

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

7-3. Output Cable (Reference) :UL 1185 #16

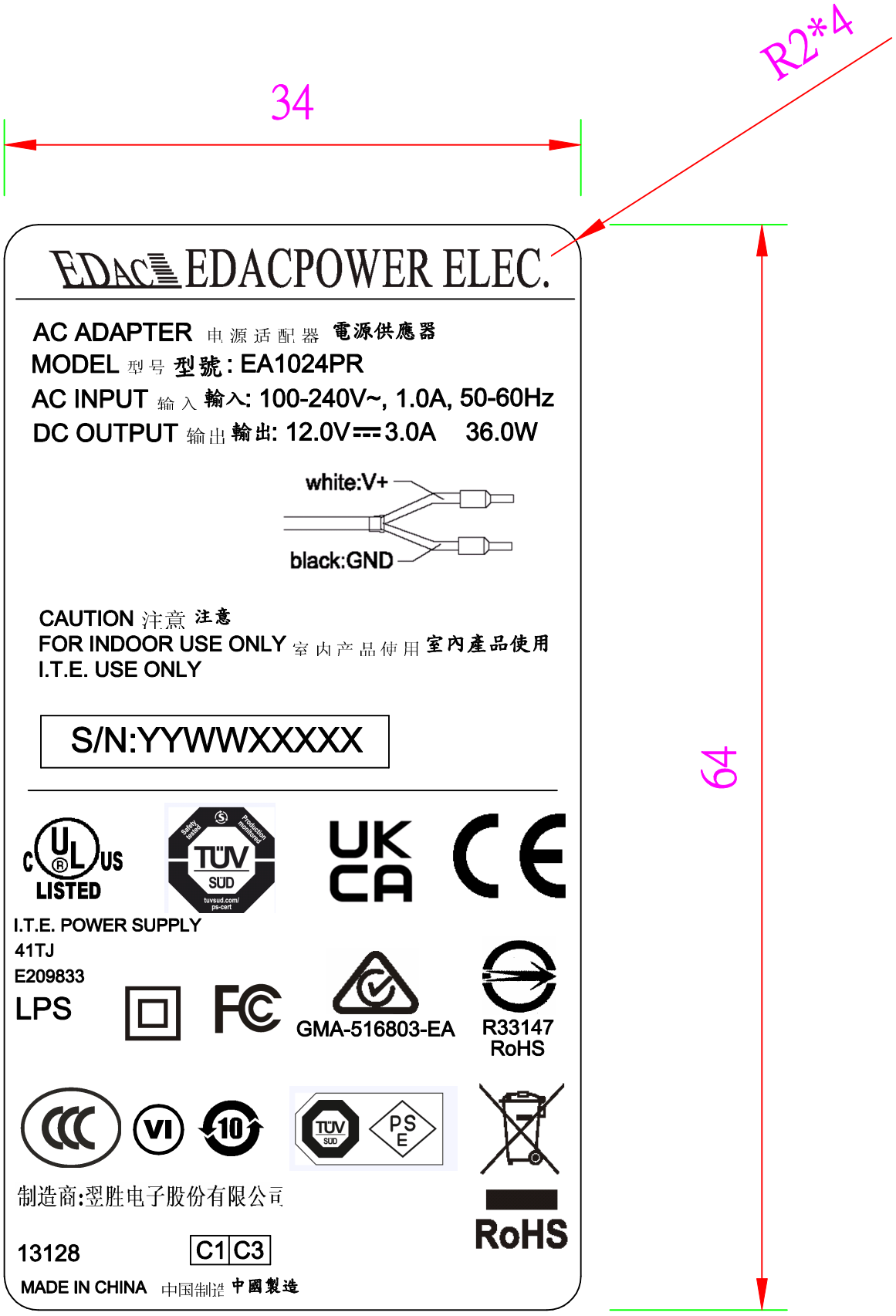
7-4. Vibration Test

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.

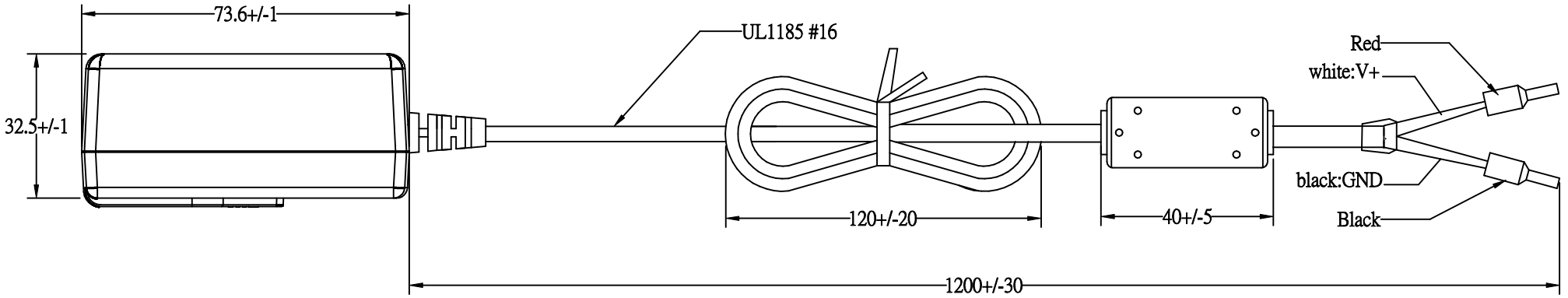
7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN62368)

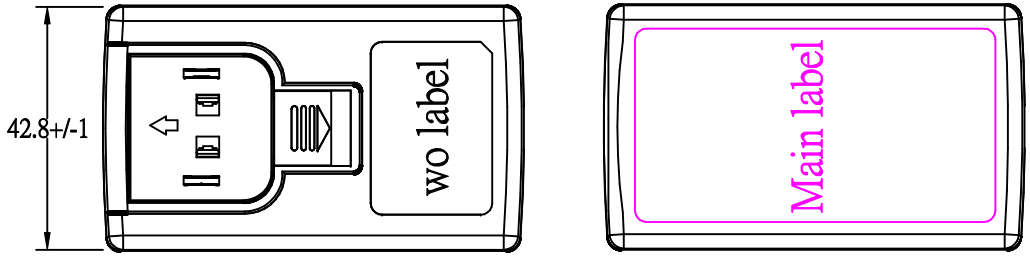
Products shall be dropped from a height of 1000 mm onto a horizontal surface consists of hardwood at 13mm thick , mounted on two layers of plywood each 19mm to 20mm thick , all supported on a concrete or equivalent non-resilient floor. Upon conclusion of test , the equipment cannot into hazardous moving parts and hazardous voltage circuits need be operational , and need meet Hi-Pot specification requirement.

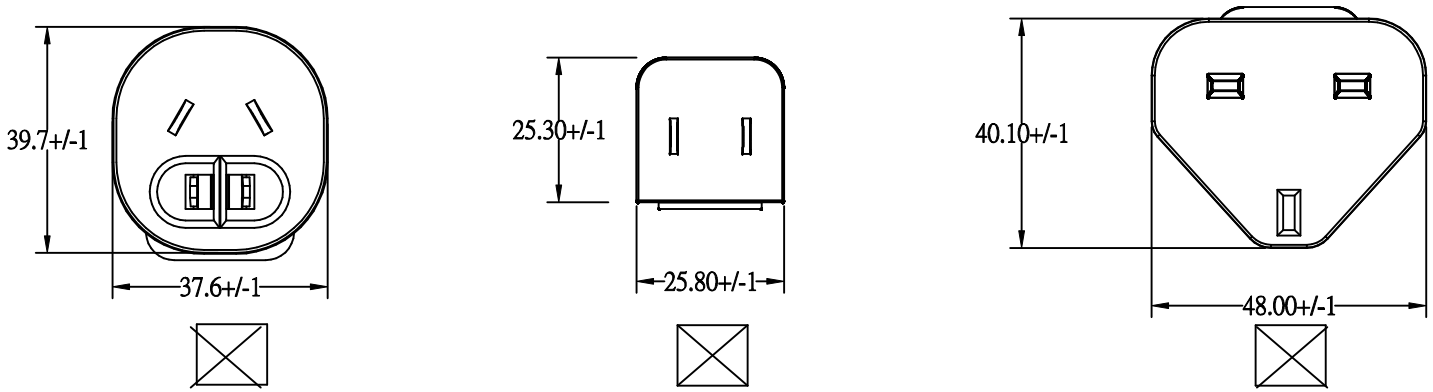
7-6. Net Weight (Reference) : 200g



EDAC P/N.: 3128
Background: Black color
Character: Silver color
Unit: mm







EDACPOWER ELECTRONICS CO., LTD.				APPROVED
MODEL	EA1024PR(L24)	UNIT	mm	DESIGNED
color	BLACK	SCALE		CHECK
cus.		DATE	2025-12-13	DRAWING L.J.YU