

SPECIFICATION FOR REFERENCE

CUSTOMER:	
CUSTOMER P.N.:	
MODEL NO.:	A30-Z1310R190-025E0-P
PRODUCT NO.:	SCXXX-P0
SAMPLE DATE:	2024-02-18

CUSTOMER AUTHORIZED SIGNATURE

--	--	--

Please return to us one copy of "SPECIFICATION FOR APPROVAL"
with you approved signature.

**ADD: MOSO Industrial Park, Nanshan District, Shenzhen, Guangdong
518108, P. R. China**

TEL: 86-755-27657000 27657555

P.C.: 518108

FAX: 86-755-27657908

E-mail: moso@mosopower.com

<http://www.mosopower.com>

MANUFACTURER AUTOGRAPH

Reviser	Confirm	Checked	Approval

**** Table Of Content ****

1.	SCOPE	4
1.1. Description.....		4
1.2. Green Requirements.....		4
1.3. Energy Efficiency Requirements		4
2. Input Characteristics		4
2.1. Input Voltage & Frequency		4
2.2. Input AC Current		5
2.3. Inrush Current (cold start)		5
2.4. Averaged Efficiency		5
2.5. Energy Consumption.....		5
3. Output Characteristics		5
3.1. Static Output Characteristics <Vo & R+N>		5
3.2. Line/ Load Regulation		5
3.3. Turn - on Delay Time		5
3.4. Hold-up Time.....		5
3.5. Output Overshoot / Undershoot		5
3.6. Output Load Transient Response.....		5
4. Protection Requirements.....		5
4.1. Over Current Protection		5
4.2. Short Circuit Protection.....		5
4.3. Over Voltage Protection.....		6
5. Environment Requirements.....		6
5.1. Operating Temperature and Relative Humidity		6
5.2. Storage Temperature and Relative Humidity.....		6
5.3. Altitude		6
5.4. Vibration		6
5.5. Impact test.....		6
6. Reliability Requirements		6
6.1. Burn-in.....		6
6.2. MTBF Qualification.....		6
6.3. E-caps lifetime.....		6
7. EMI/EMS Standards		7
7.1. EMI Standards.....		7
7.2. EMS Standards.....		7
8. Safety Standards		8
8.1. Dielectric Strength(Hi-pot).....		8
8.2. Leakage Current		8

8.3. Insulation Resistance.....	8
8.4. Regulatory Standards.....	8
9. Mechanical Outline Drawing.....	9
10. I/O Marking Drawing.....	10
11. Package Drawing.....	11

1. SCOPE

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provide 19V/1.31A continuous output power.

The power supply shall meet the **HSF** requirement.

1.1. Description

- SMPS Adaptor(Wall mount)
 SMPS Adaptor(Desk-top)
 Open Frame
 SMPS Unit (With Case)
 Others

1.2. Green Requirements

- RoHS:2011/65/EU & (EU) 2015/863;
 REACH:1907/2006/EC;
 Halogen-free:IEC 61249-2-21;
 CA Prop 65;
 POPs:(EU)2023/1608;
 PAHs: 2005/69/EC;
 Packaging Directive:94/62/EC;
 US EPA Toxic Substances Control Act (TSCA);
 MOSO Environmental standards: WI-QM006-G;
 Others

1.3. Energy Efficiency Requirements

No.	Country	Energy efficiency abbreviation	Whether it meets the requirements/(YES/ <input checked="" type="checkbox"/> , NO/ <input type="checkbox"/>)
1	USA	DoE VI	<input checked="" type="checkbox"/>
2		CEC	<input type="checkbox"/>
3	Canada	NRCan	<input type="checkbox"/>
4	Australia/New Zealand	GEMS	<input type="checkbox"/>
5	Europe	Erp VI	<input type="checkbox"/>
6		CoC Tire 2	<input type="checkbox"/>
7	South Korea	KMEPS	<input type="checkbox"/>
8	Mexico	MEPS	<input type="checkbox"/>
9	Byelorussia	MEPS	<input type="checkbox"/>

2. Input Characteristics

2.1. Input Voltage & Frequency

The range of input voltage is from 90Vac to 264Vac single phase.

	Minimum	Nominal	Maximum
Input Voltage	90Vac	100Vac-240Vac	264Vac
Input Frequency	47Hz	50Hz /60Hz	63Hz

2.2. Input AC Current

0.6A max. @ 100-240Vac input & Full load.

2.3. Inrush Current (cold start)

120A max. @ 100-240Vac input. & Full load for a cold start at 25°C.

2.4. Averaged Efficiency

86.34% min. @ 115Vac/60Hz, 230Vac/50Hz input (@25%, 50%, 75% and 100% of max load).

2.5. Energy Consumption

No load Consumption $\leq 0.1W$ (115Vac/60Hz, 230Vac/50Hz).

3. Output Characteristics

3.1. Static Output Characteristics <Vo & R+N>

Output Rate	Rated Load		Output Range	R+N	Remark
	Min. Load	Max. Load			
+19.0V	0.0A	1.31A	18V~ 20V	200mVp-p	100-240V

Ripple & Noise: Measurement is done by 20MHz b width oscilloscope paralleled a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor. (test under the condition of rated input and rated output)。

3.2. Line/ Load Regulation

Output Rate	Load Condition		Line Regulation	Load Regulation	Remark
	Min. Load	Max. Load			
+19.0V	0.0A	1.31A	$\pm 5\%$	$\pm 5\%$	

3.3. Turn - on Delay Time

3S max. @ 100-240Vac input & Full load.

3.4. Hold-up Time

10mS min. @ Full load & 115Vac/60Hz input turn off at worst case.

20mS min. @ Full load & 230Vac/50Hz input turn off at worst case.

3.5. Output Overshoot / Undershoot

10% max. When the power on or off, when it is the full input voltage and full load.

3.6. Output Load Transient Response

Output voltage within 18V~ 20V for load step from 20% to 80% R/S: 0.5A/uS, frequency: 100Hz duration and 5mS at 80%.

4. Protection Requirements

4.1. Over Current Protection

The output shall hiccup when the over currents applied to the output rail, and shall be self-recovery when the fault condition is removed.

4.2. Short Circuit Protection

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed.

4.3. Over Voltage Protection

The power supply has to be protected against over voltage conditions. No damage allowed. The power supply must come back to nominal working without on/off powering after removal of the over voltage condition.

5. Environment Requirements

5.1. Operating Temperature and Relative Humidity

0°C to +40°C, 10%RH to 90%RH

5.2. Storage Temperature and Relative Humidity

-30°C to +70°C, 10%RH to 90%RH non-condensing

5.3. Altitude

Sea level to 5,000 m.

5.4. Vibration

10 to 55Hz sweep, 1mm for 15minutes for each of the perpendicular axes X, Y, Z

5.5. Impact test

Sample is to be subjected to a single impact of 5 foot-pounds(6.78N.m) on any surface that is exposed to a blow during intended use. This impact is to be produced by dropping a steel sphere, 2 inches(51 mm) in diameter and weighing approximately 1.18 pounds(535 g), from a height of 51 inches(1.30 m). The steel sphere is to strike the surface in a location different from those in the other two impacts. For surfaces other than the top of an enclosure, the steel sphere is to be suspended by a cord and allowed to swing as a pendulum dropping through a vertical distance of 51 inches(1.30 m)

6. Reliability Requirements

6.1. Burn-in

The power supply shall be burn-in test under nominal input and full load at 35~40°C room temperature.

6.2. MTBF Qualification

The MTBF of power supply shall be over than 50,000 Hours @ 25°C 100% load (MIL-HDBK-217F).

6.3. E-caps lifetime

The E-caps used in this PSU must be with lifetime of 3 years @25°C@100% load@115Vac/60Hz and 230Vac/50Hz input.

7. EMI/EMS Standards

7.1. EMI Standards

FCC Part15

7.2. EMS Standards

7-2-1 EN 61000-4-2,electrostatic discharge(ESD) requirement

Discharge characteristic	Test level	judgment criteria
Air discharge	+/-8KV	B
Contact discharge	+/-4KV	B

7-2-2 EN 61000-4-3,radiated electromagnetic field susceptibility(rs)

Test level	judgment criteria
3V/m (r.m.s)	A
80-1000MHz,80%AM(1KHz) sine-wave	

7-2-3 EN 61000-4-4,electric fast transients(burst) immunity requirement

Coupling	Test level	judgment criteria
AC-input	0.5KV	B
AC-input	1KV	B

7-2-4 EN 61000-4-5,surge capability requirement

Surge voltage	judgment criteria
Common mode +/-1KV	B
Differential mode +/-1KV	

7-2-5 EN 61000-4-6, Induced radio frequency fields conducted disturbances immunity requirement

Test level	judgment criteria
3V	A
0.15-80 MHz,80%AM(1KHz)	

7-2-6 Assessment criteria

Acceptance criteria	Performance
A	Agreed operational behavior within the specified limits
B	Time limited functional diminishment or malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests.
C	Malfunction is permitted .The function can be reactivated either by reconnection to the mains or by operator intervention.

8. Safety Standards

8.1. Dielectric Strength(Hi-pot)

Primary to Secondary: DC4242/ 3.5mA max. / 60S

Primary to Secondary: DC4500 / 3.5mA max. / 2S for production.

8.2. Leakage Current

0.25mA max. at 264Vac / 60Hz..

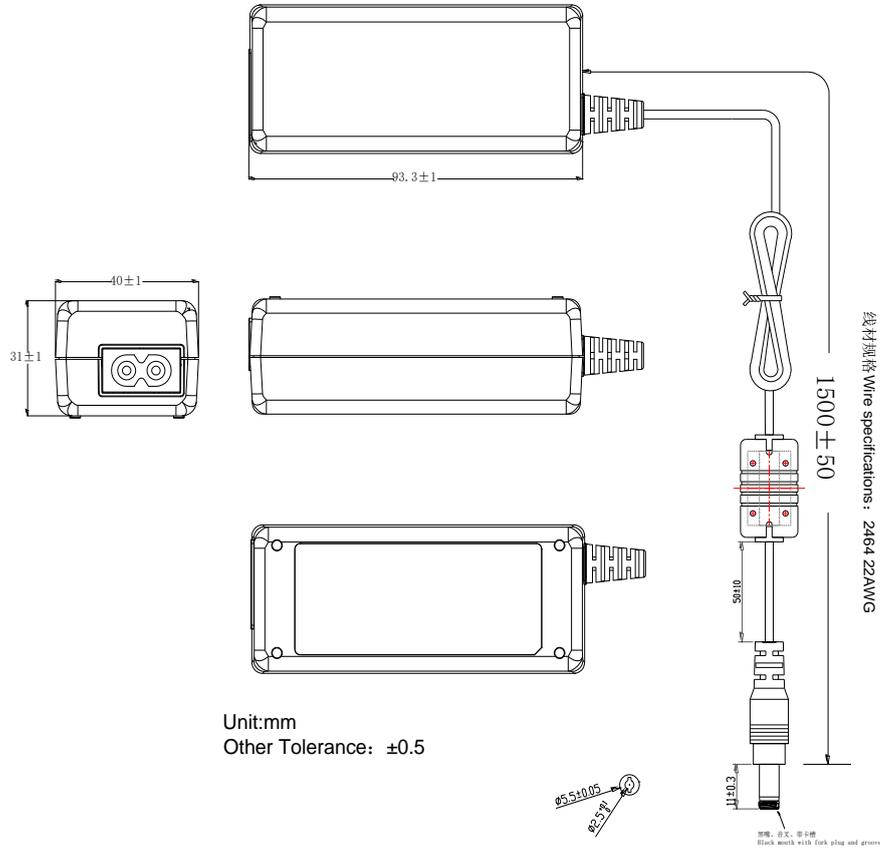
8.3. Insulation Resistance

10MΩ min. at primary to secondary add 500Vdc test voltage.

8.4. Regulatory Standards

Type	Country	Standard	State	Note
UL	USA	UL62368-1	MEET	

9. Mechanical Outline Drawing

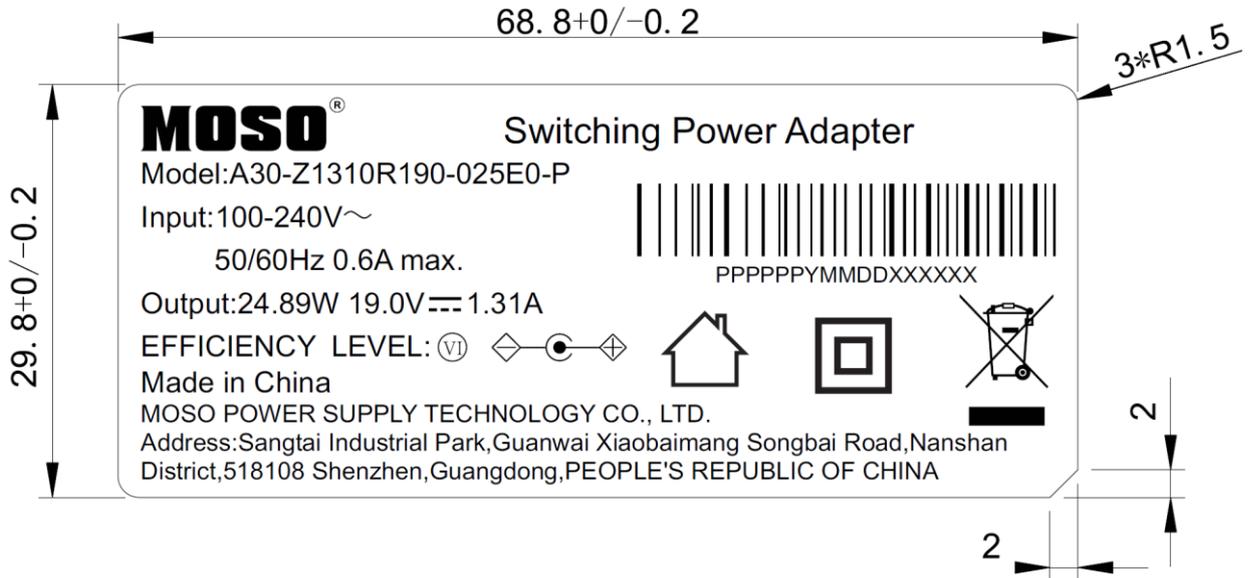


Case material: ■ PC temperature resistance: 125°C

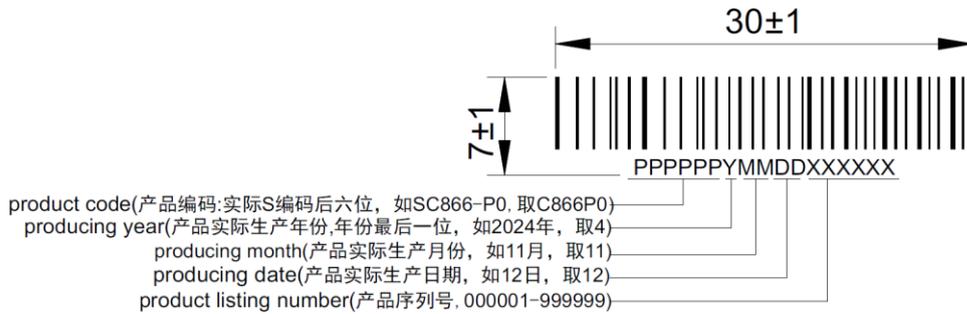
□ PC+ABS temperature resistance: 95°C

- Remark: 1. PC material compliances with ball pressure testing requirement.
2. The color of the casing and DC cable is Black.

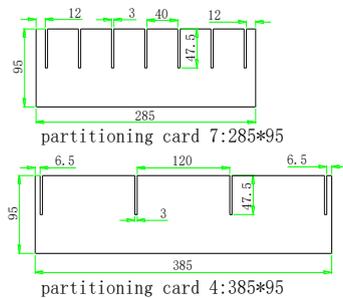
10. I/O Marking Drawing



1. Above label is laser engraved.
2. The dimension of double insulation mark can not less than 5mm.
3. The dimension of garbage bin mark can not less than 7mm.

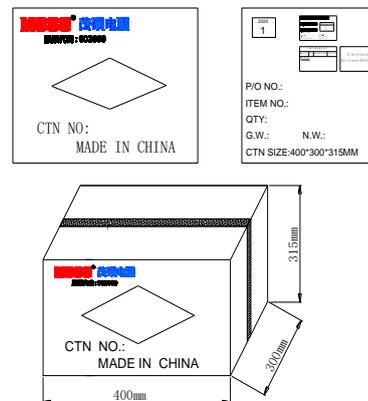
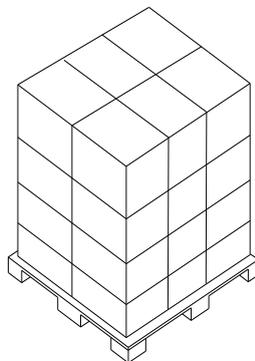
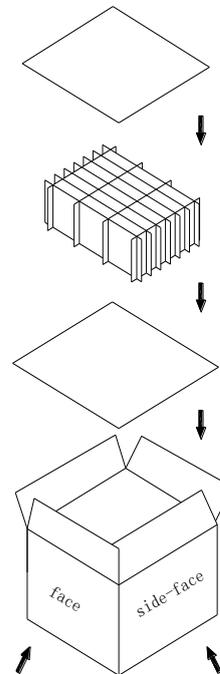


11. Package Drawing



Packing Instruction:

- I. the product put in the PE bag, then the packing product put in the partitioning card groove, 18PCS/floor, 3 floors in all, 54PCS/box
such as: 18pcs/floor*3floor=54 PCS/box
- II. the usage of the packing materials:
 1. the usage of the sever partitioning card 285*95: 12PCS
 2. the usage of the four partitioning card 385*95: 21PCS
 3. the usage of the PE bag 350*120: 54PCS
 4. the usage of the flat 385*285: 4PCS
 5. carton box 400*300*315: 1PCS
- III. Pallet stack instruction:
 1. Pallet size is: L1200*W950*H135mm
 2. per floor set 6pcs
 3. stacke per 4floor*6pcs carton total 24 pcs carton



The pallet stack drawing

The product will be packed in the carton box and the box will be sealed by the sticker

The requirement of PE bag packing: PE bag without sealing by adhesive tape.

PE bag with sealing by adhesive tape

Other requirement

Remark: If the customer has not chose the PE bag packing way,
we will use the PE bag without sealing by adhesive tape