

## SPECIFICATION FOR REFERENCE

<b>CUSTOMER:</b>	
<b>CUSTOMER P.N.:</b>	
<b>MODEL NO.:</b>	<b>MS-Z7000R120-090C0-Q</b>
<b>PRODUCT NO.:</b>	<b>SCXXX-Q0/XXXXXX</b>
<b>SAMPLE DATE:</b>	<b>2024-07-15</b>

### CUSTOMER AUTHORIZED SIGNATURE

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

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### MANUFACTURER AUTOGRAPH

<b>Reviser</b>	<b>Confirm</b>	<b>Checked</b>	<b>Approval</b>



**\*\* 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. Rise Time.....	5
3.6. Fall Time.....	5
3.7. Output Overshoot / Undershoot .....	5
3.8. Output Load Transient Response.....	5
4. Protection Requirements.....	5
4.1. Over Current Protection .....	5
4.2. Short Circuit Protection.....	6
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. Sea level.....	6
5.4. Vibration .....	6
5.5. Drop Test .....	6
6. Reliability Requirements .....	6
6.1. Burn-in.....	6
6.2. MTBF .....	6
6.3. E-cap 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. Earthing Resistance.....	8
8.5. 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 84W 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**

1.8A max. @ 100-240Vac input & Full load.

**2.3. Inrush Current (cold start)**

The energy of inrush current should not be over the  $I^2 T$  of fuse & bridge diodes

**2.4. Averaged Efficiency**

88% min. @115Vac, 230Vac input (@25%, 50%, 75% and 100% of max load).

**2.5. Energy Consumption**

No load Consumption  $\leq 0.21W(115Vac/60Hz, 230Vac/50Hz)$ .

**3. Output Characteristics**

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

Output Rate	Rated Load		Output Range	R+N	Remark
	Min. Load	Max. Load			
+12V	0.0A	7A	11.4V ~ 12.6V	200mVp-p	100-240V

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (Test under the condition of rated input and rated output at ambient temperature 25Deg)

**3.2. Line/ Load Regulation**

Output Rate	Load Condition		Line Regulation	Load Regulation	Remark
	Min. Load	Max. Load			
+12V	0.0A	7A	$\pm 2\%$	$\pm 5\%$	

**3.3. Turn - on Delay Time**

4S max. @ 110 Vac input & Full load

**3.4. Hold-up Time**

5mS min. @ Full load & 115Vac/60Hz input & full load.

**3.5. Rise Time**

50mS max. @ Full load

**3.6. Fall Time**

50mS max. @ Full load

**3.7. Output Overshoot / Undershoot**

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

**3.8. Output Load Transient Response**

Output voltage within 11.4V ~ 12.6V for load step from 0% to 100%, 100% to 0%, R/S: 0.25A/uS, Frequency: 100Hz , 50%duty.

**4. Protection Requirements**

**4.1. Over Current Protection**

Over Current Point Limited:  $9.5A > I > 7.5A (100-240Vac)$

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

5%RH to 95%RH

#### **5.2. Storage Temperature and Relative Humidity**

-30°C to +70°C

5%RH to 95%RH

#### **5.3. Sea level**

5,000 meters

#### **5.4. Vibration**

10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.

#### **5.5. Drop Test**

Height: 1m; the product should be fell off on the hardwood floor with the thickness of 20mm, Apply one times on all surfaces, total 6 times. The electric performance and Hi-Pot test must be OK after the drop tests.

### **6. Reliability Requirements**

#### **6.1. Burn-in**

The power supply shall be burn-in for 2 Hours under normal input and 80% rated load at 40°C ± 5°C, the electric performance and Hi-Pot test must be OK.

#### **6.2. MTBF**

The MTBF shall be at least 50,000H at 25°C, under 100% load and 115V/230VAC input condition.

#### **6.3. E-cap lifetime**

The E-caps used in this PSU must be with lifetime of 3 years at 115Vac/60Hz and 230Vac/50Hz with 80% load under 25°C ambient.

## 7. EMI/EMS Standards

### 7.1. EMI Standards

GB/T9254 GB17625.1 EN55032 EN55035 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	1KV	A
AC-input	2KV	B

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

Surge voltage	judgment criteria
Common mode +/-2KV	A
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: 1800Vac /10mA max. / 60S (when safety testing)

Primary to Secondary: 1800Vac /5mA max. / 3S (when production)

**8.2. Leakage Current**

0.5mA max. at 264Vac / 60Hz

**8.3. Insulation Resistance**

100MΩ min. at primary to secondary add 500Vdc test voltage.

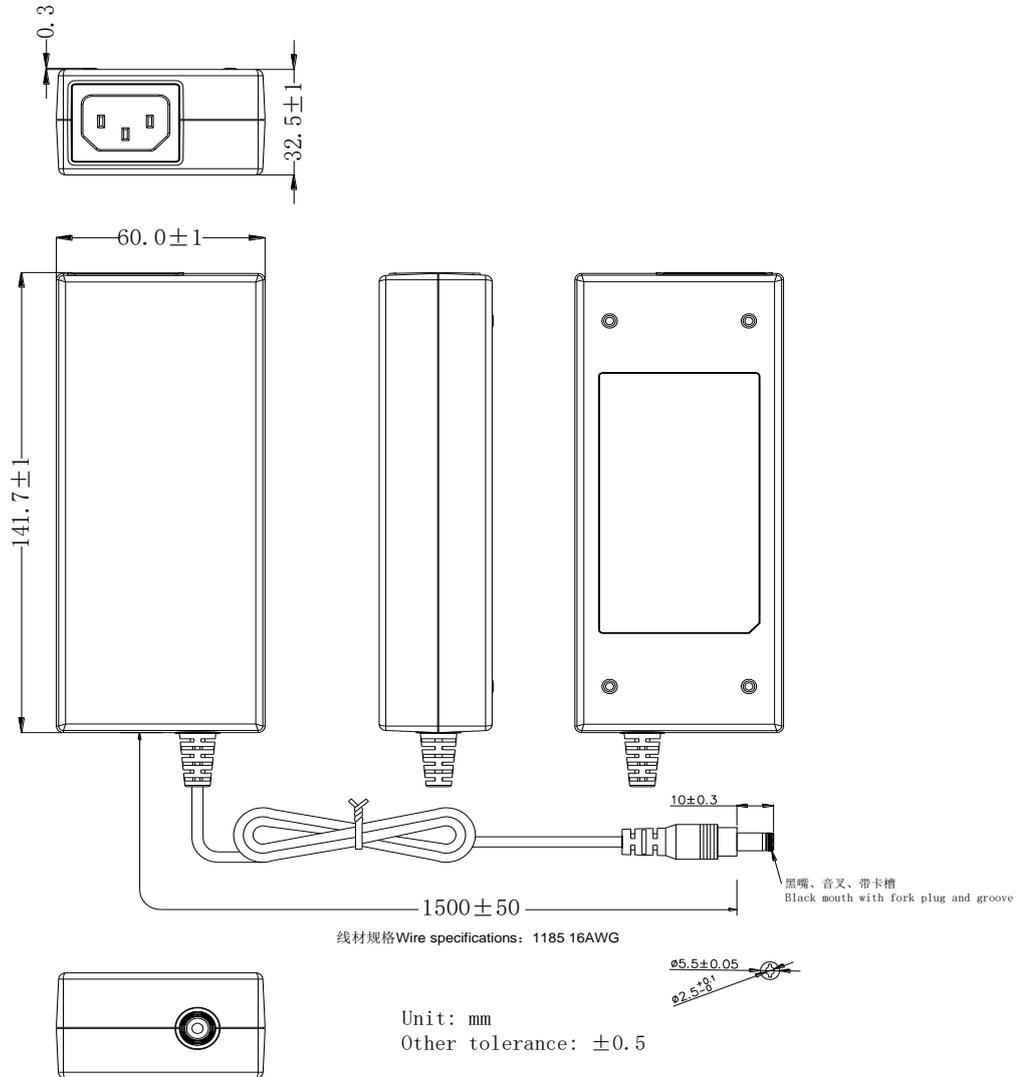
**8.4. Earthing Resistance**

Earthing Resistance: <0.1 Ω at 12VDC/25A/1S.

**8.5. Regulatory Standards**

Type	Country	Standard	State	Note
CCC	China	GB4943.1	APPROVAL	
CE	Europe	EN62368-1	APPROVAL	

## 9. Mechanical Outline Drawing



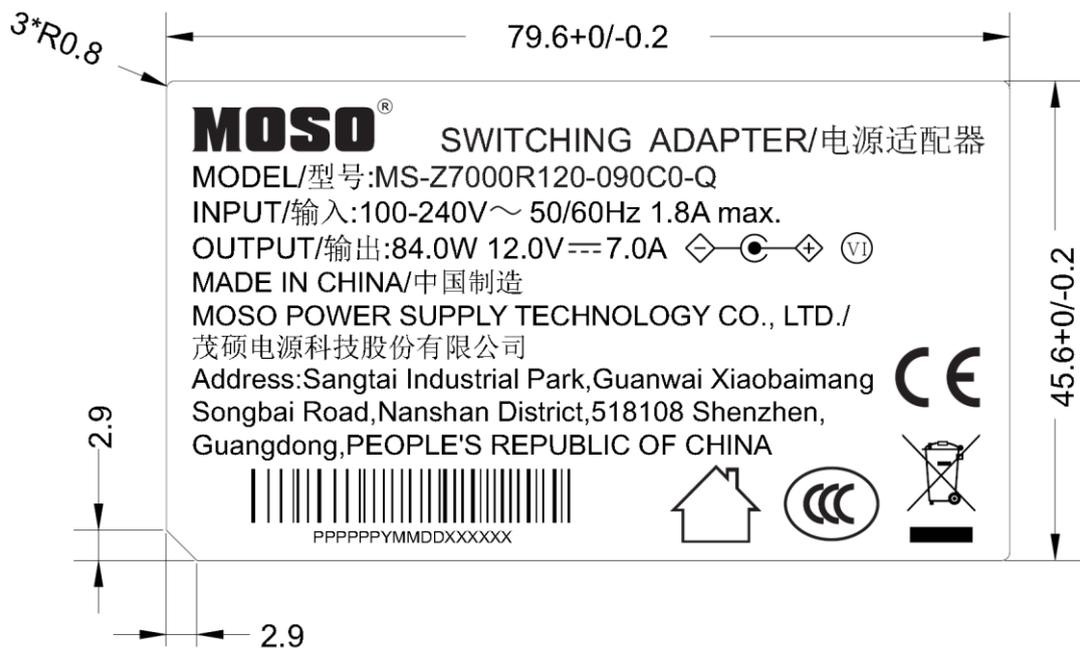
Case material: ■ PC temperature resistance: 125°C.

□ PC+ABS temperature resistance: 95°C.

Remark: 1) PC material compliances with ball pressure testing requirement.

2) The color of enclosure and DC cable are black(1101M).

### 10. I/O Marking Drawing



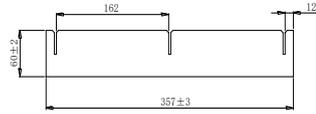
**Remark:**

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

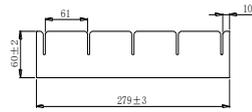


product code(产品编码:实际S编码后六位, 如SC840-Q0, 取C840Q0)  
 producing year(产品实际生产年份,年份最后一位, 如2024年, 取4)  
 producing month(产品实际生产月份, 如11月, 取11)  
 producing date(产品实际生产日期, 如12日, 取12)  
 product listing number(产品序列号, 000001-999999)

## 11. Package Drawing



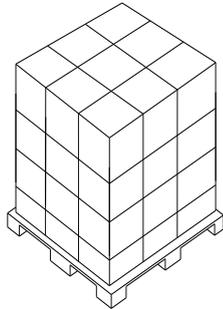
三刀卡357\*60



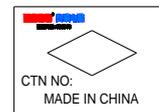
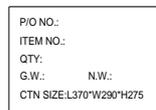
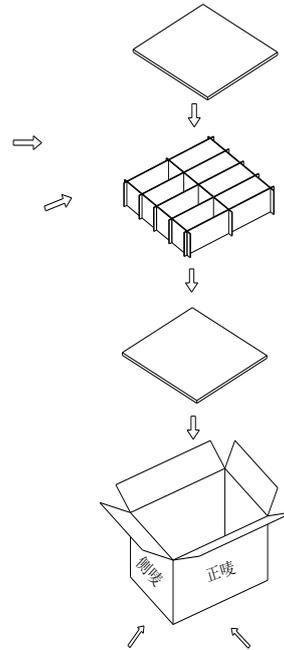
五刀卡279\*60

### 包装说明:

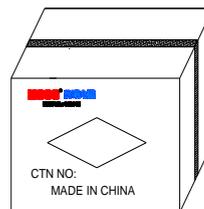
- 一、将产品每PCS装入PE袋中包好，再将包装的产品放入刀卡槽中，每层装8PCS，共装4层，每箱装32PCS  
即：8pcs/层\*4层=32PCS/箱
- 二、包装材料使用说明为：
  - 1、三刀卡357\*60用量：20PCS
  - 2、五刀卡279\*60用量：12PCS
  - 3、PE袋250\*120用量：32PCS
  - 4、平卡357\*279用量：5PCS
  - 5、纸箱370\*290\*275：1PCS
- 三、栈板堆放说明为：
  - 1、栈板尺寸为：L1150\*W1050\*H160mm
  - 2、每层放3行\*3列=9箱
  - 3、竖直堆放4层\*9箱共36箱



栈板堆放示意图



纸箱的外尺寸：370L\*290W\*275H



产品装入包装箱用胶袋封箱，位置参考图中所示。

- 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.