

# SPECIFICATION

## Switching Desktop Adapter Efficiency Level VI

**Universal AC Input  
60W 12V 5.0A Output**

**P/N: A120050DSI ML**

**\*\* Specification Approval\*\***

This specification (including cover page) is approved in it's entirety by:

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101910V1.0

## 1. Descriptions:

These are a series of general purpose AC/DC adapters which convert 100Vac ~ 240Vac to a stabilized DC voltage of 12V with rated output current of 5000mA.

The switching mode power supply meets the requirements of lead free and ROHS.

## 2. Input Feature:

### 2.1 Input Voltage and Frequency

The switching mode power supply shall meet all specifications when powered from the following sources.

Rating Voltage	Line Frequency	Minimum Voltage	Maximum Voltage
100-240V AC	50/60Hz	90V AC	264V AC

### 2.2 Efficiency

The minimum efficiency shall be 88% under 115Vac/230Vac input and output full load.

### 2.3 Input Current

The maximum input current shall be less than 1.5A.

### 2.4 Input In-rush Current

Peak inrush current shall be limited to 60A.

### 2.5 Input Leakage Current

The leakage current shall not exceed 0.25mA.

## 3. Output Feature:

### 3.1 Output Voltage and Current

The switching mode power supply shall have one regulated DC output voltage: 12V DC.

The table below defines the total regulation for the output, which includes line regulation, load regulation, transient response, and effects due to environmental conditions.

Voltage shall be measured at its output connector.

Output	Output Current Range		Output Voltage Range		Ripple & Noise
	Min	Max	Min	Max	Max.
+12.0V	0.0A	5.0A	11.4V	12.6V	150mVpp

Ripple & Noise Test: Add 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal. Measured with 20MHz Bandwidth Oscilloscope.

### **3.2 Dynamic Response**

The load current of the output is changed between 20% and 80% under full load at 0.25A/us; the excursion of the output shall not exceed 10% of the nominal output voltage. The output voltage shall be within 10% of the steady state voltage in 1ms.

### **3.3 Startup and Turn- on Delay**

The switching mode power supply shall be able to start up into a resistive load up to the maximum rated current with maximum load capacitance of 1,000uF. The elapsed time between the application of input power and the attainment of output voltage to the nominal value shall not exceed 3 seconds.

## **4. Protection Feature:**

### **4.1 Over-Current Protection**

The switching mode power supply shall withstand a continuous over current without damage. It may be applied before power-up, or after power-up. The switching mode power supply shall perform normally again after over current removed.

### **4.2 Short Circuit Protection**

Short circuit will not cause switching mode power supply to damage, or any safety hazards. It shall perform normally again after it is removed.

## **5. Safety Standards:**

### **5.1 Safety**

The switching mode power supply meets the following safety standards:

UL60950, EN60950

### **5.2 Dielectric Strength (HI-POT)**

Input to Output Terminal: 4242Vdc 3Sec  $\leq$  5mA.

Input to Case: 4242Vdc 3Sec  $\leq$  5mA.

When DC voltage of 4.24KV is applied, and the voltage applied to the insulation under test, it gradually rises from zero to the prescribed voltage in 1s, and holds at the value for 3s among the input, output and housing, the current sensitivity shall be less than 5mA, after the test, the switching mode power supply shall exhibit no electrical and mechanical abnormalities.

## **6. Reliability:**

### **6.1 Burn-in**

The burn-in test will be performed at least 2 hours at 40 degrees centigrade under full load.

**7. Mechanical Specifications:**

Weight: 250g

Output cord: 16AWG UL2468, 1.5M Black

Output Connector: Lead O/P~OD: 5.5mm, ID: 2.1mm, Length: 10.0mm (H)

**8. Environmental Conditions:**

The switching mode power supply shall meet all requirements of this specification on any combination of operation ambient conditions and after exposure to any combination of non-operation ambient conditions specified in this section.

**8.1 Temperature**

Operating Temperature: 0°C~40°C

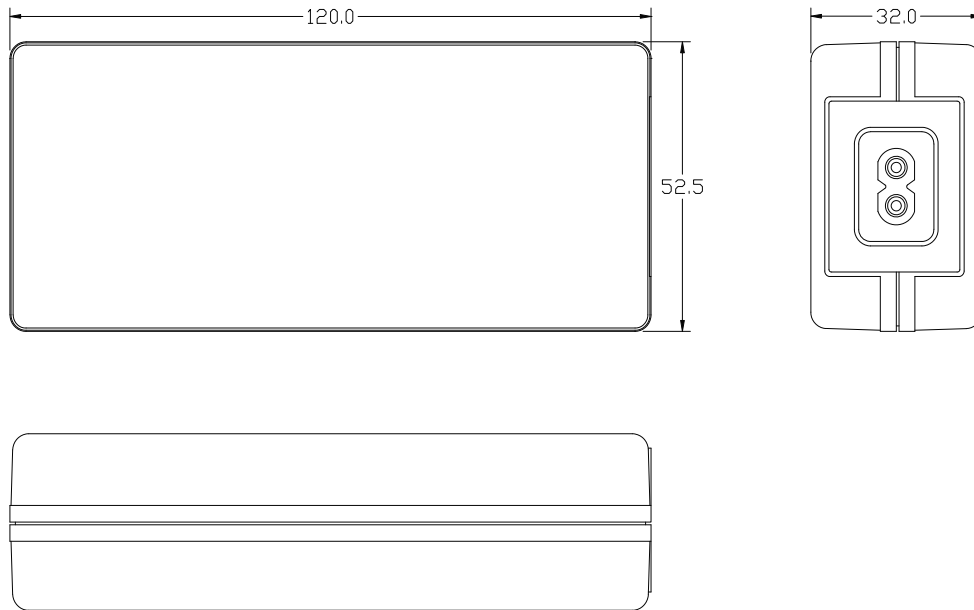
Storage Temperature: -20°C~ 80°C

**8.2 Humidity**

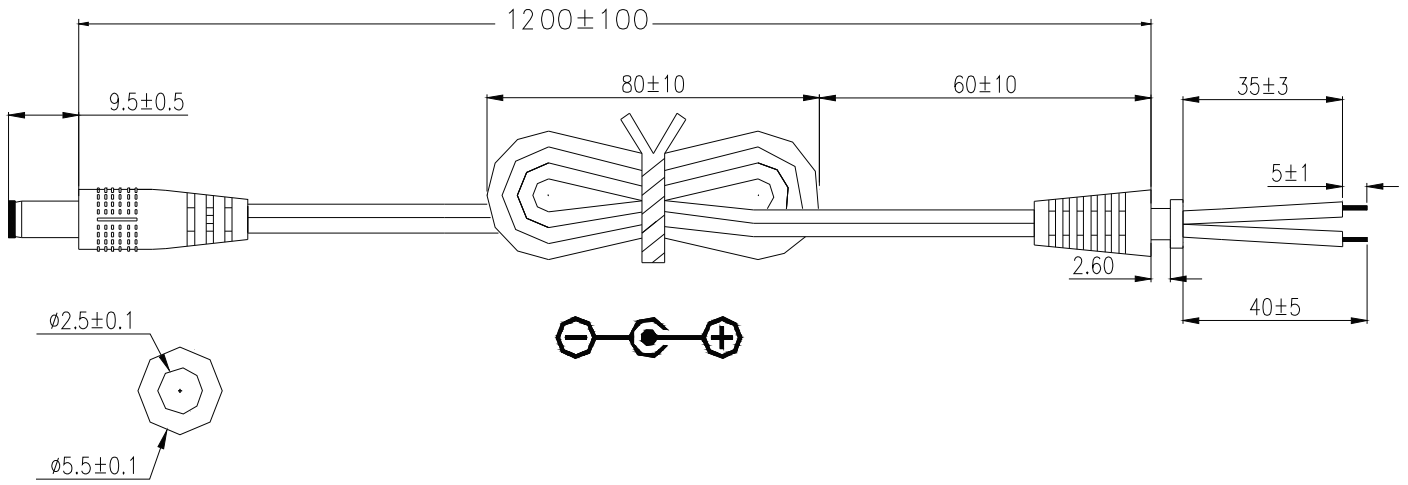
Operating Humidity: 10%~90%( non condensing)

Relative Humidity: 5%~95% ( non condensing)

**9. Case Drawing:**



**10. DC Cable Drawing:**



11. Label Drawing:

