



**04151A(AM10268)—20W      CEC**  
**SWITCHING ADAPTOR**  
**SPECIFICATIONS**

|        |                 |        |  |  |             |      |   |  |
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**AM04151A SWITCHING ADAPTOR SPECIFICATIONS****1. SCOPE**

This document is applied to 04151A(AM10268) model for S.M.P.S

**2. SPECIFICATION NUMBER**

AMPLUS part number : 04151A(AM10268)

Customer part number:

**3. ENVIRONMENTAL REQUIREMENTS**

Operating temperature: 0 °C -- 40 °C

Storage temperature : -25 °C -- +85 °C

Operating humidity : 30% -- 95%

Storage humidity : 30% --98%

Operating bar : 1BAR

**4. INPUT REQUIREMENTS**

Regular input voltage: AC 100 –AC 240V

Variable input voltage range : AC 90V—AV264V

Rating frequency : 50Hz—60Hz

Frequency range : 47Hz—63Hz

Input current : 0.45Arms MAX (at regular voltage & current)

**5. INTRODUCTION**

The S.M.P.S Particular design for 2-pin multi-plug.

The S.M.P.S A variety of efficiency work mode for saving power.

The S.M.P.S Overcurrent, overload, overheat, undervoltage protection.

The S.M.P.S Advanced dithering switch work mode, reduce electromagnetic interference

The S.M.P.S Overshock resistance switch circuit design, prevent device from instant implus damage

The S.M.P.S Design with environment friendly materials, safe and healthy.

The S.M.P.S operated at input regular voltage AC 100V – 240V.

The S.M.P.S should be capable of a total continuous DC power output of 20 Watts.

The S.M.P.S should be capable of a total peak 25 Watts.

The S.M.P.S designed a energy saving to meet Europe energy star standard.

The S.M.P.S should be able to single output only. Refer output rated and electrical specifications table.

The S.M.P.S will shut down automatically when the AC input voltage lower than AC 90 V.

The S.M.P.S output voltage will drop to very low when overload by overload protection.

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The S.M.P.S should not be fired or emitted smoke by protection when the circuit is short.  
The S.M.P.S can be changeable output voltage by changeable slot.

**6. DC INSULATION RESISTANCE**

Input – Output : 50MΩminimum (at 500VDC)

Input – Body metal : 50MΩminimum (at 500VDC)

**7. DIELECTRIC WITHSTAND - VOLTAGE**

Input – Output : 3750VAC minimum (2s)

Input – Body metal : 3750VAC minimum (2s)

**8. MAIN FUSE**

Input fuse is 2.5A/250V

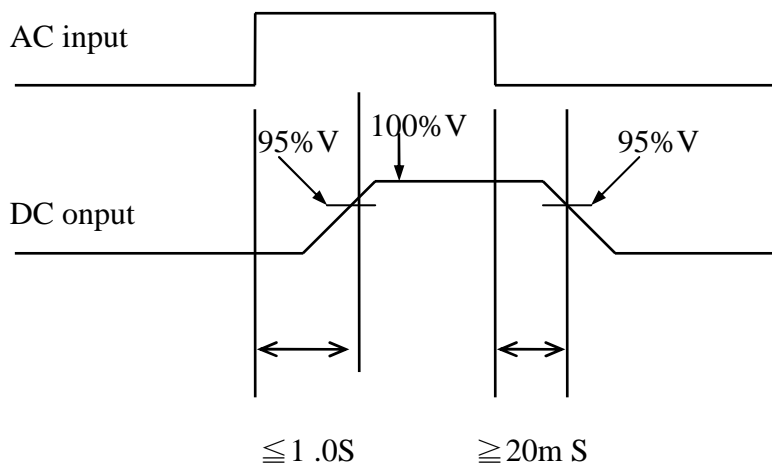
**9. INRUSH CURRENT**

Peak inrush current shall be limited to 30A for a cold start

**10. TIME SEQUENCE**

Time sequence should be satisfied to power ON/OFF, restart in power failure

AC switch at ON/OFF



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### 11. EFFICIENCY

The efficiency of the S.M.P.S must be satisfied the maximum 84%.

### 12. SAFETY STANDARD

To meet ETL-UL1950,CETL-C22.2 NO.950, GS-DIN EN60950

**AS/NZS 4665.1 : 2005, EuP 2005/32/EC**

### 13. RFI EMISSION

EN55022: 2006+A1

EN61000-3-2: 2000

EN61000-3-3: 1995+A1

EN55024: 1998+A1+A2

FCC PART 15

### 14. OUTPUT RATED & ELECTRICAL SPECIFICATIONS

| RATED OUTPUT (V)       | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rated current(A)       | 3.0    | 2.5    | 2.3    | 2.1    | 1.9    | 1.7    | 1.6    | 1.5    | 1.4    | 1.3    |
| Max. output voltage(V) | 5.5    | 6.5    | 7.5    | 8.5    | 9.5    | 10.5   | 11.5   | 12.5   | 13.5   | 14.5   |
| Min. output voltage(V) | 4.5    | 5.5    | 6.5    | 7.5    | 8.5    | 9.5    | 10.5   | 11.5   | 12.5   | 13.5   |
| Ripple & Noise(mV)     | <150   | <150   | <150   | <150   | <150   | <150   | <150   | <150   | <150   | <150   |
| Over load current(A)   | >4     | >3.8   | >3.5   | >3.3   | >3.1   | >2.9   | >2.8   | >2.7   | >2.5   | >2.4   |
| Over heat protection   | YES    | YES    | YES    | YES    | YES    | YES    | YES    | YES    | YES    | YES    |
| Rated power(W)         | 15     | 15     | 16.1   | 16.8   | 17.1   | 17     | 17.6   | 18     | 18.2   | 18.2   |
| Switch frequency(KHZ)  | 132    | 132    | 132    | 132    | 132    | 132    | 132    | 132    | 132    | 132    |
| Insulation class       | II     | II     | II     | II     | II     | II     | II     | II     | II     | II     |
| Consumes(W)            | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  |
| Efficiency (%)         | >76.42 | >76.42 | >79.71 | >79.98 | >80.09 | >80.05 | >80.27 | >80.41 | >80.48 | >80.48 |
| Efficiency Level       | V      | V      | V      | V      | V      | V      | V      | V      | V      | V      |

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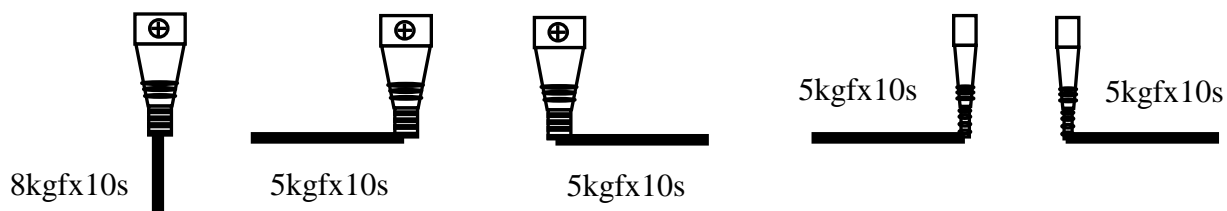
| RATED OUTPUT (V)       | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     | 24     |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rated current(A)       | 1.2    | 1.13   | 1.06   | 1.0    | 0.98   | 0.94   | 0.9    | 0.88   | 0.85   | 0.83   |
| Max. output voltage(V) | 15.5   | 16.5   | 17.5   | 18.5   | 19.5   | 20.5   | 21.5   | 22.5   | 23.5   | 24.5   |
| Min. output voltage(V) | 14.5   | 15.5   | 16.5   | 17.5   | 18.5   | 19.5   | 20.5   | 21.5   | 22.5   | 23.5   |
| Ripple & Noise(mV)     | <150   | <150   | <150   | <150   | <150   | <150   | <150   | <150   | <150   | <150   |
| Over load current(A)   | >2.3   | >2.2   | >2.1   | >2.0   | >1.9   | >1.8   | >1.7   | >1.6   | >1.5   | >1.5   |
| Over heat protection   | YES    | YES    | YES    | YES    | YES    | YES    | YES    | YES    | YES    | YES    |
| Rated power(W)         | 18     | 18.08  | 18.02  | 18     | 18.62  | 18.8   | 18.9   | 19.36  | 19.55  | 19.92  |
| Switch frequency(KHZ)  | 132    | 132    | 132    | 132    | 132    | 132    | 132    | 132    | 132    | 132    |
| Insulation class       | II     | II     | II     | II     | II     | II     | II     | II     | II     | II     |
| Consumes(W)            | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  | <0.3W  |
| Efficiency (%)         | >80.41 | >80.44 | >80.42 | >80.41 | >80.63 | >80.69 | >80.72 | >80.87 | >80.93 | >81.05 |
| Efficiency Level       | V      | V      | V      | V      | V      | V      | V      | V      | V      | V      |

**15. RELIABILITY TESTING**

**A. DC OUTPUT CORD PUSH/PULL TEST OF I/O CONECTOR SIDE**

Test condition: 8kgf X10sec at Y axis; 5kgfX10sec at other 4 direction verticality

RESULT: No cutting inner wire is acceptable



**B. DC OUTPUT CORD PUSH/PULL TEST OF ADAPTOR SIDE**

Test condition: 8kgf X10sec at 5 direction verticality

RESULT: No cutting inner wire is acceptable

**C. CORD BENDING TEST OF I/O CONECTOR SIDE**

Test condition: 60°+60°=1 cycle, 30 cycle/1min, weight = 200g ,

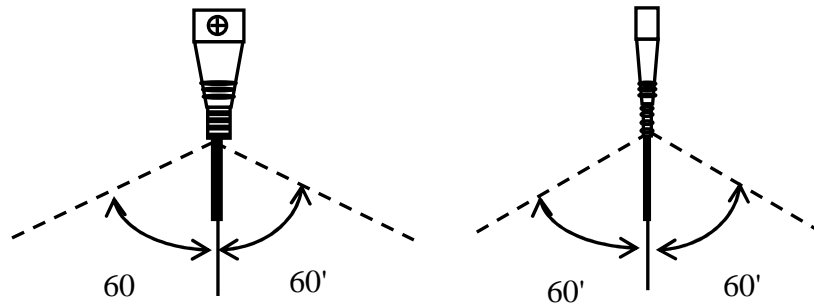
from step 1 to step 2 continuously

Step 1. 2000 cycle for difficult bending direction

Step 2. 3000 cycle for easy bending direction

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RESULT: No cutting inner wire is acceptable



STEP1

STEP2

**D. CORD BENDING TEST OF ADAPTOR SIDE**

Test condition: 60°+60°=1 cycle, 30 cycle/1min, weight = 500g ,  
from step 1 to step 2 continuously

Step 1. 500 cycle for difficult bending direction

Step 2. 500 cycle for easy bending direction

RESULT: No cutting inner wire is acceptable

**E. INDIVIDUAL DROP TEST**

Test condition: 6 face, each face 1 time 70 cm, on the 5mm wooden board.

RESULT: Without opening of case and crack, etc. electric characteristic shall be satisfied. light crack after test is acceptable.

**F. LOW TEMPERATURE STORAGE TEST**

Keep on -30℃ (Packing) for 168 hours, and check the action after 3 hours in 25℃.

RESULT: All normal function and meet specification.

**G. HIGH TEMPERATURE STORAGE TEST**

Keep on +70℃ (Packing) for 168 hours, and check the action after 3 hours in 25℃.

RESULT: All normal function and meet specification.

**H. HIGH HUMIDITY STORAGE TEST**

Keep on +45℃95%RH (Packing) for 168 hours, and check the action after 3hour in 25℃.

RESULT: All normal function and meet specification.

**I. TEMPERATURE CYCLE TEST**

Keep on -45℃(Packing) for 1 hour, then keep on +85℃(Packing) for 1 hour

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Repeat this cycle until 10 cycle, check the action after an hour in 25□.

RESULT: All normal function and meet specification.

**J. CURRENT- CARRYING OF HIGH VOLTAGE TEST**

Select power consumption at a standard load condition. The test samples shall be active with input voltage is 280V/50Hz,50□,48 hours, confirm its operation after left in the standard condition for 1 hour.

RESULT:any case deformation, smoking, or burn by heat should not be found.

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**16. OUTLOOK DRAWING**

