

SPECIFICATION

Switching Desktop Power Adapter

Universal AC Input 48W 12VDC Output

P/N: A120040SU1

*** Specification Approval ***

This specification (total 7 pages including cover page) in its entirety is approved by:

Company Name

Print Name

Signature

Date

Specification subject to change without prior notice.



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General

The specification defines the performance characteristics of a 48W single 12VDC output switching power supply designed for I.T.E use. The power supply is designed and approved to meet various international safety and radiation requirements.

1.0 Input

1.1 Input Voltage

Type	Low Range	High Range
Nominal	115Vac	230Vac
Minimum	90Vac	185Vac
Maximum	132Vac	264Vac
Frequency	47-63Hz	47-63 Hz

1.2 Input Current

1.5A rms max	AC low line input and DC output full load
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1.3 Input Protection

2A Fuse	The power supply shall be protected against power line surges and any abnormal condition.
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1.4 Input Surge Ccurrent

40A/60A max	At power supply cold start, ambient temperature 25 °C @115Vac /230Vac nominal AC input.
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1.5 Efficiency

86.4%	Minimum average efficiency in active mode
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1.6 Hold Up Time

10ms min	AC nominal input @ output full load
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1.7 Power Consumption

0.3W rms max	AC nominal input @ output min load
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2.0 Output Requirements

2.1 Turn On Delay

5000 ms max	AC low line input @ output full load
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Test on delay is measured from 0 voltage output to the main output regulation.

2.2 DC Output Regulation

Voltage	Loading(A)		Tolerance Range	Adjustable	Range
	Min	Max	Total Regulation		
+12V	0	4.0A	5%	none	11.4~12.6V

Line regulation is measured from 90Vac to 132Vac or 185vac to 264vac

Load regulation is measured from min load to max load at 115vac and 230vac nominal AC input voltage.

2.3 Ripple/Noise*

Voltage	Low frequency *1	High frequency*2	*3	*4
(DC)	Ripple mv(p-p)	Ripple mv(p-p)	Noise mv(p-p)	Ripple/Noise(p-p)
+12V	—	—	—	120mV

The ripple is measured from peak to peak with bandwidth limit of 20Mhz, bypassed at the end of the connector with a 10uf electrolytic and 0.1uf ceramic disk capacitor (under DC output full load, AC nominal input 25°C ambient temperature).

2.4 Output Transient Response (dv, tmax)

0.7v dv max	AC nominal input loading from 50% load to max load or peak load.
16ms t max	Dynamic rise time 10uS max, duty 40mS max, Dynamic load step is slew rate of 0.5A/uS

2.5 Led Display

LED Status

ON Power on

OFF Power off

3.0 Protection

3.1 Short Protection / Over Current Protection

The power supply will self-protect any output to ground, and auto recover when abnormal circuit faults are removed. An output short circuit is defined as any output impedance of less than 0.1 ohms.

Voltage	OCP Current
+12V	4.3A~9.0A

3.2 Over Voltage Protection

Voltage	OVP range
+12V	16±2 V

3.3 No Load Protection

The power supply operates with no-load protection to prevent the power supply and system from damage in the absence of an AC source.

3.4 Temperature Coefficient

Less than $\pm 0.5\%/^{\circ}\text{C}$

4.0 PLD (Power Line Disturbance)

4.1 Line Power Surge

The power supply shall meet its specification with a rise in AC voltage to 120 % of maximum rated line voltage (288 voltage for 100-240 Vac operation) for a maximum of 20 milliseconds at 50Hz and 16 milliseconds at 60Hz. The surge is to be applied five times with an interval of one minute between surges.

4.2 Line Voltage Sag

The power supply shall continue to meet its specifications with a line voltage drop (and subsequent return to minimum rated voltage) to 68 Vac with a total power sag cycle time of 20 ms (rise and fall time shell equal 10 ms each).

5.0 EMC

Meet EN55022 class B, Fcc part 15 Sub part B class B.

5.1 CE

EN55022 Limits and methods of measurement of radio disturbance characteristics of information technology equipment.

EN61000-3-2 By household appliances and similar electrical equipment “Harmonics”.

EN61000-3-3 By household appliances and similar electrical equipment “Voltage fluctuations”.

EN55024(1998)+A1(2001) By EMS TEST:

ESD Measurement(EN61000-4-2).

RF Field strength Susceptibility Measurement(EN61000-4-3).

Electrical Fast Transient/Burst Measurement(EN61000-4-4).

Surge Immunity Test(EN61000-4-5).

Conducted Disturbances Induced By Radio-Frequency Field Immunity Test (CS) (EN61000-4-6).

Power Frequency Magnetic Field Immunity Tests (EN61000-4-8).

Voltage Dips, Short interruptions and Voltage Variation immunity tests(EN61000-4-11).

6.0 Leakage current

3.5 mA max.

7.0 Safety approval

CUL PSE TUV/GS

CB FCC KC

BSMI CE CCC

8.0 Hi-pot

IEC 320 3pin primary to secondary (FG) 1500Vac 10mA 1min

IEC 320 2pin primary to secondary 3000Vac 10mA 1min

9. Environment

TEMPERATURE AND HUMIDITY

OPERATING TEMPERATURE 0DEGREES C TO 40 DEGREES C.

OPERATING HUMIDITY 8%TO 90 % RH.(RELATIVE HUMIDITY).

STORAGE TEMPERATURE -20DEGREES C TO 85 DEGREES C.

STORAGE HUMIDITY 5 %TO 95 % RH.(RELATIVE HUMIDITY).

10. Rating Label

