

UMEC

SMPS SPECIFICATION

UMEC P/N:

UP075-AE-C(open frame)



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1.0 DESCRIPTION

The power supply that is described by this report is a 2 output 75 watts unit. The model number is UP075-AE-C. This unit will be designed to meet the relevant safety and EMC regulations.

2.0 INPUT REQUIREMENTS

2.1 Operating Voltage Ranges

The input working voltage which the power supply will working normally, and meet its specification.

Selectable Auto-Switching

	Nominal	Min.	Max.
Low range	VAC	VAC	VAC
High range	VAC	VAC	VAC

Universal

DC-DC

100 VAC to 240 VAC.

____ VDC to ____ VDC.

Note:

1. Nominal Input Voltage is 115 VAC (Low range) / 230VAC(High range).

2.2 Line Frequency Range

The input working frequency which the power supply will working normally, and meet its specification.

47 Hz to 63 Hz

DC-DC

2.3 Steady Current

The maximum input current(Arms) which is occurs when the power supply is operating.

Testing procedure:

Set the outputs at max. load, and the source at the lowest input voltage. Then take down the data of maximum input current.

Steady-Current	3 Arms max.
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2.4 Inrush Current

The peak input current occurs when the power supply is power up at nominal line.

	Spec.
Inrush-Current <input checked="" type="checkbox"/> cold start 25 DegC <input type="checkbox"/> any conditions	50 Amax.

2.5 Hi-Pot

The high voltage stress withstands capability of the power supply.

Testing procedure:

There are three setting need to be tested, Primary-Safety ground or Case, Primary-Secondary, Secondary-Safety ground or Case.

Tie all the primary input connector together (short circuit), and tie all the secondary outputs short circuit, then conducted the specific voltage between test point for one minute.

Note: Insulation break down within testing is a failure.

Spec.	Test Data	Result
Primary to <input type="checkbox"/> Safety-ground <input checked="" type="checkbox"/> Case	<input type="checkbox"/> _____ VAC <input type="checkbox"/> <u>2121</u> VDC	_____ VAC _____ VDC
Primary to Secondary <input checked="" type="checkbox"/>	<input type="checkbox"/> _____ VAC <input type="checkbox"/> <u>4242</u> VDC	_____ VAC _____ VDC
Secondary to <input type="checkbox"/> Safety-ground <input type="checkbox"/> Case	<input type="checkbox"/> _____ VAC <input type="checkbox"/> _____ VDC	_____ VAC _____ VDC

Conducted with specified voltage for one minute.

3.0 OUTPUT REQUIREMENTS

3.1 Output Load and Current

In this section describe the output voltage, and minimum, rated, maximum, peak output current of each output channel; The voltage multiple rated current value come out the output power of each output channel.

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	Specified O/P Voltage	Accuracy voltage	Total Power			75W
			Min.	Rated	Max.	
<input checked="" type="checkbox"/> CH1	+5.2V	5.04V to 5.35V	0.1 A	3 A	3 A	
<input checked="" type="checkbox"/> CH2	+24V	23.0V to 25.2V	0.1 A	2.5 A	2.5 A	

Accuracy voltage is conducted at 100% rated load, and nominal input voltage.

3.2 Ripple & Noise

The magnitude of AC voltage on the output of a power supply, expressed in millivolt peak-to-peak, at a specified bandwidth. Which is include line noise, switching noise and random noise.

Testing procedure:

Testing is conducted under the condition of rated load, and nominal line, nominal ambient temperature, and connected a 0.1 uF ceramic, and 100 uF EL capacitor at the output connector. Measuring is done with a 20MHz bandwidth (unless otherwise specified) oscilloscope, on the output connector.

	Spec.
<input checked="" type="checkbox"/> CH1	60mV
<input checked="" type="checkbox"/> CH2	240mV

3.3 Total Regulation None

The maximum deviation of output voltage in percent, including line, load, cross regulation, and temperature coefficient.

Testing procedure:

Set testing CH at maximum, and the other output at minimum load to get the Low-V of the testing CH. Set testing CH at minimum, and the other output at maximum load to get the High-V of the testing CH. Take down the worst case data.

	Spec.
<input checked="" type="checkbox"/> CH1	+4 % to -4%
<input checked="" type="checkbox"/> CH2	+6 % to -6%

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4.0 PROTECTION REQUIREMENTS

4.1 Over-Voltage Protection

	Spec.	Test Data	Result
<input checked="" type="checkbox"/> CH2	26.5V ~ 31V	28V	Pass

Setting : the load of 24V at 0.5A

4.2 Short Circuit Protection None

The power supply will be protected from short circuit at any outputs with no damage.

Testing procedure:

Set the power supply at rated load condition, then short circuit all the output itself individually or each other for at least one minute with no damage.

5.0 GENERAL REQUIREMENTS

5.1 Efficiency None

The ratio of total output power to input power, express in percent.

Testing procedure:

Set the output at rated load and nominal input voltage (unless otherwise specified) condition. The ratio of total output power to input power, express in percent is efficiency.

Line voltage of low range: AC110V

Spec.	Test Data	Result
76 %		

Line voltage of high range: AC230V

Spec.	Test Data	Result
78 %		

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5.2 Turn-On Delay None

The delay time for all output rises within regulation limits after the input power turn on.

Testing procedure:

Set the power supply at rated load, and nominal input voltage (unless otherwise specified) condition. Then turn on the input power, measuring the time between input power is turn on and all output voltage go within regulation limits.

Line voltage of full range: AC100V~AC240V

	Spec.	Test Data	Result
Main CH	500ms(MAX)		

5.3 Hold-Up Time None

The time duration of the output voltage stay within regulation after the input power is removed.

Testing procedure:

Set the output at rated load and nominal input voltage (unless otherwise specified) condition. Then measuring the time between input power is removed and all the output voltage stay within regulation.

Main CH	Spec.	3mS <input type="checkbox"/> typical <input checked="" type="checkbox"/> min.
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5.4 Rise Time None

The rise up speed of the output voltage.

Testing procedure:

Set the power supply at rated load(max load),and nominal input voltage (unless otherwise specified) condition. Then turn on the input power, measuring the time between 10% to 90% of output voltage.

AC110V

	Spec.	Test Data	Result
CH1	20ms		
CH2	90ms		

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AC230V

	Spec.	Test Data	Result
CH1	20ms		
CH2	90ms		

Temperature Coefficient None

The ratio of variation of output voltage to temperature change, express in percent.

Testing procedure:

Keep the power supply at rated load , and nominal input voltage, then change the ambient temperature, take down the variation of the output voltage of main channel. Test should be conducted after 1/2 hour warm-up. For full operating temperature range, at lease two step range should be checked, and at least ten minutes per each step range. Then take down the worse case data.

Main CH	Spec.	±0.05 % / °C max.
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6.0 ENVIROMENTAL REQUIREMENTS

6.1 Operating Temperature/humidity

The power supply shall operate in its normal operating mode or be capable of operation after being exposed to the non-operational specified environment for an indefinite period of time throughout the following temperature/humidity ranges specific to the type of equipment.

6.1.1 Operating Temperature Range 0 to 40 DegC

6.1.2 Storage Temperature Range - 20 to 85 DegC

6.1.3 Humidity Range, Operating/Non-Operating
20 to 90 %RH, non-condensing.

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