Figure 1. Physical Photo of AHVAC1KV7ABT

FEATURES

High precision

High efficiency

High output voltage stability

Linear modulation of output voltage

Over-current and Short Circuit Protections

Short circuit protection

Displays for Output Voltage and Current

APPLICATIONS

AHVAC1KV7ABT, is designed for achieving AC-DC conversion from AC voltage to high DC voltage. High voltage power supply is widely used in industrial measurement and control, energy spectrum analysis, and medical equipment such as: X-ray machine, vacuum/plasma processing, semiconductor fabrication equipment, analytical instrumentation, medical diagnostic and therapeutic systems, test equipment, and research and academic applications, etc.

DESCRIPTION

Connect to 230VAC input, and then power on. When the potentiometer is in “0”, turn on the high voltage switch, and then adjust the potentiometer clockwise. Observe the digital display readings.

SAFETY PRECAUTIONS

High voltage power supply must be connected to ground reliably.

Do not touch the high voltage wire, unless the high voltage power supply is powered off, and the load and internal capacitors are fully discharged.

When the high voltage power supply is powered off, wait for another 5 minutes for fully discharging all the capacitors inside the power supply.

Do not operate the power supply in humid environment, and do not connect the operator to ground.

The internal protection circuit is provided in the high voltage power supply, but the high voltage short circuit shall be avoided.

Make sure the circuit is insulated perfectly, especially between the high voltage output and the surroundings so as to avoid electronic shock.

SPECIFICATIONS

Table 1. Characteristics.

T_A = 25°C, unless otherwise noted

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit/Note
AC Input Voltage		V_{VPS}		220	230	240	V_{AC}
Input Voltage Regulation Ratio		$\Delta V_{OUT}/\Delta V_{VPS}$	V_{VPS} = 220V ~ 240V		0.05		%
Output Voltage		V_{OUT}	I_{OUT} = 0 ~ 7A	0		1000	V
Maximum Output Current		I_{OUTMAX}	V_{VPS} = 220V ~ 240V	0		7	A
Ripple					<0.02		$\%V_{P-P}$
Load					143		Ω
Regulation Mode				0 ~ 10V or Potentiometer Adjustment			
Output Modulation Linearity					<0.05		%
Load Regulation Rate			I_{OUT} = 0 ~ 7A		≤0.05		%
Full Load Efficiency		η			≥86		%
Temperature Coefficient		TCV_O	−20 ~ 55°C		<0.01		%/°C
Time Drift	Short Time Drift		After 30 minute's warming up		<0.05		%/ min
	Long Time Drift				<0.05		%/h
Output Voltage Temperature Stability			−20 ~ 55°C		<±0.01		%
Operating Temperature Range		T_{opr}		−10		45	°C
Storage Temperature Range		T_{stg}		−40		70	°C
External Dimensions				430×550×220			mm
Weight					25		Kg
					55.12		lbs
					881.85		Oz

PANEL INSTRUCTIONS

Front Panel

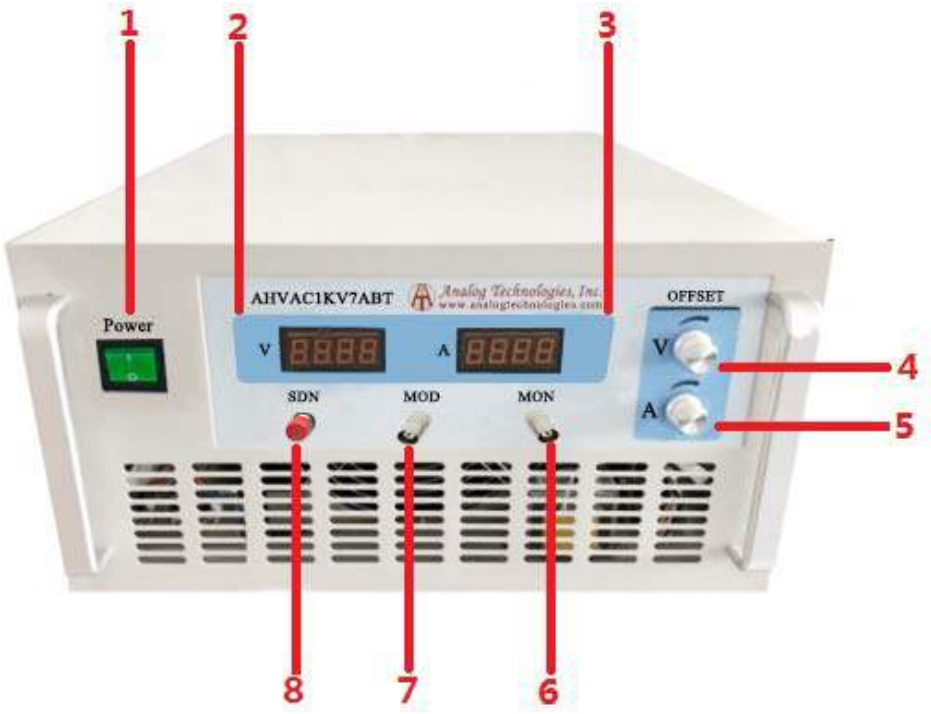

Figure 2. Front Panel

1. Power switch: ON and OFF indicate the power is on and off respectively;

2. Display current: Display the actual current value;

3. Display voltage: Display the actual voltage value;

4. Offset: Turn the switch to adjust the output voltage;

5. Offset: Turn the switch to adjust the output current;

6. MON: Monitor output. Monitor the output voltage by a multimeter or an oscilloscope. The ratio of monitored voltage and output voltage is 1:100. The output signal ranges from 0V to +10V. The voltage can be set remotely when using both MOD and MON.

7. MOD: Modulation input. 0 ~ 10V external input control voltage indicates an output voltage of 0 ~ 1000V;

8. SDN: Enable or disable high voltage output

Back Panel

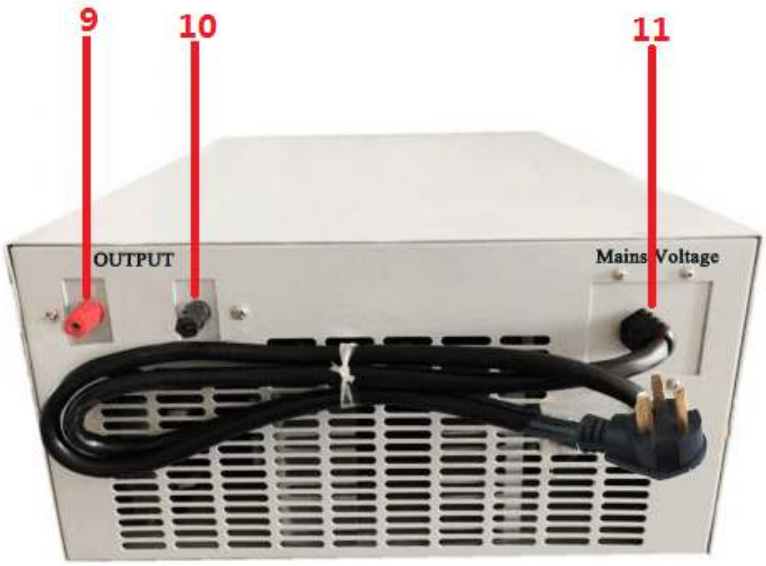

Figure 3. Front Panel

9. HV output: High voltage output terminal

10. Output ground: High voltage output ground terminal

11. Input connector: AC input 230V 50/60Hz connector.

TESTING DATA

High voltage power supply testing data (Test condition: the load is 143Ω)

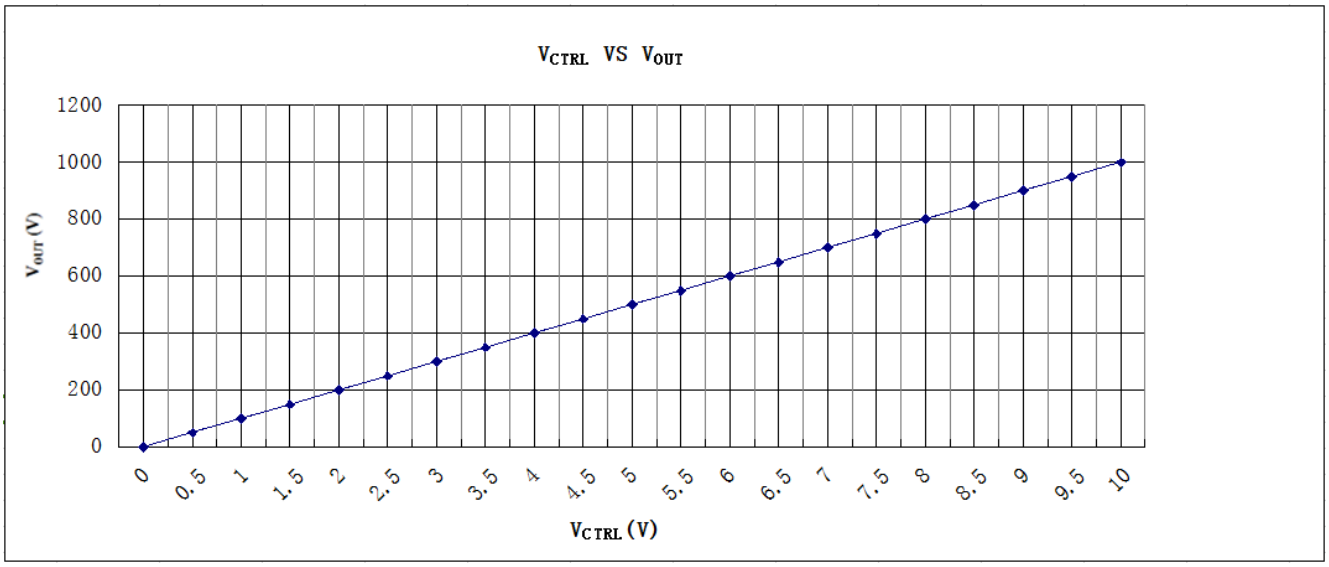

Figure 4. V_{CTRL} vs. V_{OUT}

BLOCK DIAGRAM

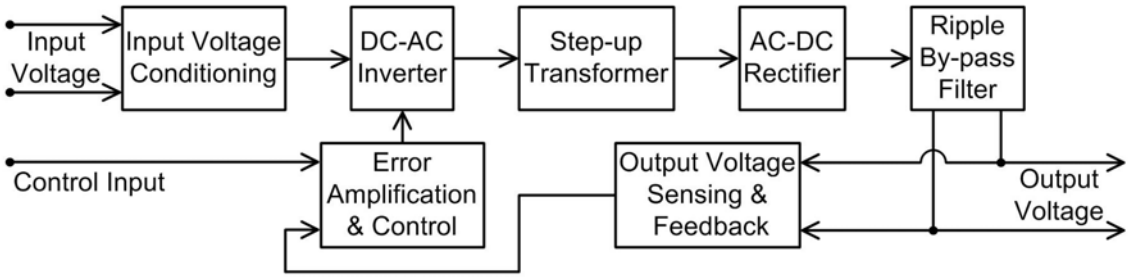

Figure 5. Block Diagram

NAMING INSTRUCTIONS

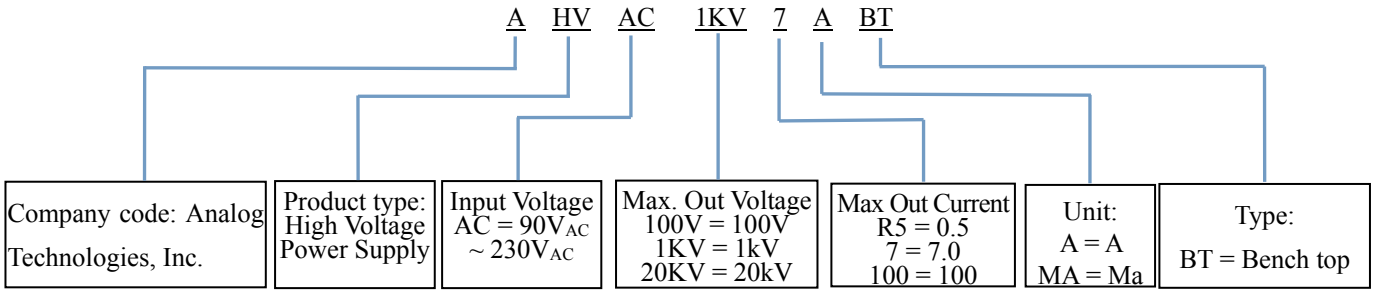

Figure 6. Naming Rules of AHVAC1KV7ABT

DIMENSIONS

I. Dimension of the leads.

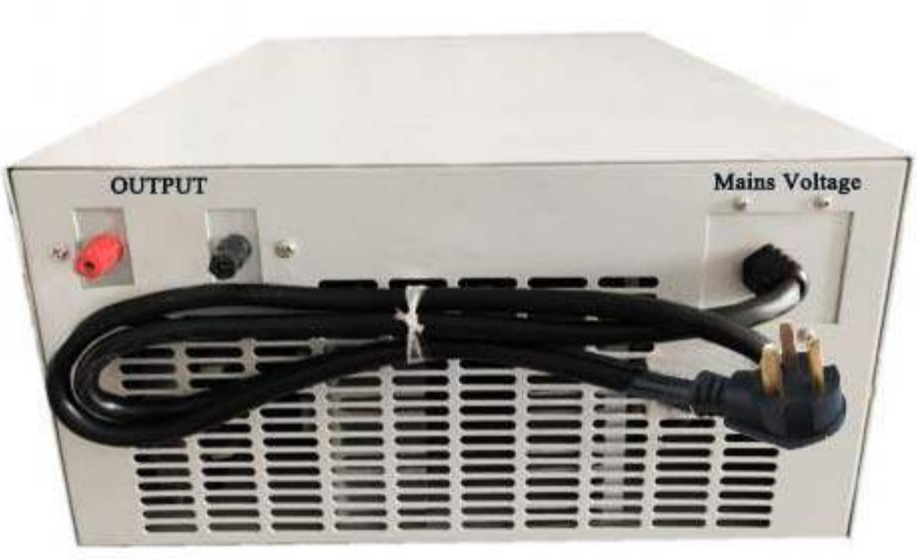

Figure 7. Leads of AHVAC1KV7ABT

Leads	Diameter (mm)	Length (m)
Power cord	6.5	1.8

II. Dimension of AHVAC1KV7ABT.

Figure 8. Dimensions for AHVAC1KV7ABT

PRICES

Quantity (pcs)	1~9	10~49	50~99	≥100
AHVAC1KV7ABT	$4999	$4899	$4799	$4699

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