

Figure 1. Physical Photo of AHVAC1KV1ABT

#### **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**

AHVAC1KV1ABT, 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 110VAC 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.	Тур.	Max.	Unit/Note
AC Input Voltage		$V_{ m VPS}$		100	110	120	$V_{AC}$
Input Voltage Regulation Ratio		$\Delta V_{OUT}/\Delta V_{VPS}$	$V_{VPS} = 110V \sim 120V$		0.05		%
Output Voltage		V <sub>OUT</sub>	$I_{OUT} = 0 \sim 1A$	0		1000	V
Maximum Output Current		I <sub>OUTMAX</sub>	$V_{VPS} = 110V \sim 120V$	0		1	A
Ripple					< 0.02		%V <sub>P-P</sub>
Load					1		kΩ
Regulation Mode				Potentio	meter Adjı	ustment	
Output Modulation Linearity					< 0.05		%
Load Regulation Rate			$I_{OUT} = 0 \sim 1A$		≤0.05		%
Full Load Efficiency		η			≥86		%
Temperatu	re Coefficient	TCVo	−20 ~ 55°C		< 0.01		%/°C
Time Drift	Short Time Drift		After 30 minute's		< 0.05		%/ min
	Long Time Drift		warming up		< 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
Voltage and Current Signal Readback		Provides 0-5V, 0-10V, 0-20mA, 4-20mA voltage and current signal					
(Optional)*		readback, analog voltage and current signal sampling					
Communication and Program Control		Provides RS485/RS232 communication data interface, connecting with a computer, or with PLC					
(Optional)*							
Additional Output Functions		Provides 0-5					
(Optional)*							
Timer (Optional)*		Provides a tim					
LCD Touch Screen (Optional)		Provides a LCD touch screen					
External Dimensions				43	$0 \times 500 \times 1$	33	mm
Weight					13		Kg
					28.66		lbs
					458.56		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. Over heating: Indicate the overheating of the power supply
- 7. Short circuit: Indicate a short circuit in the power supply
- 8. Over voltage: Indicate over voltage.
- 9. Over current: Indicate over current
- 10. Fault: Fault indicator
- 11. Work: Working status indicator
- 12. SDN: Standby and shutdown control.

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# **Back Panel**



Figure 3. Front Panel

- 9. HV output: High voltage output terminal
- 13. Input connector: AC input 110V 60Hz connector.
- 14. HV output: High voltage output terminal
- 15. Output ground: High voltage output ground terminal

# **TESTING DATA**

High voltage power supply testing data (Test condition: the load is  $1k\Omega$ )

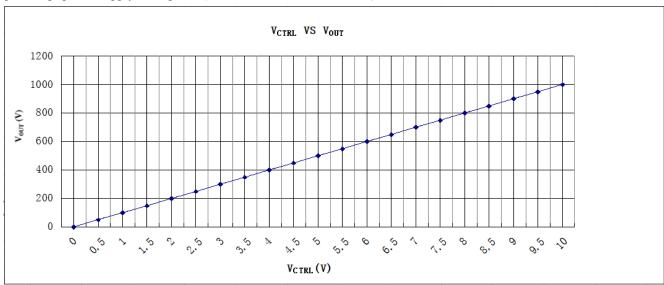


Figure 4. V<sub>CTRL</sub> vs. V<sub>OUT</sub>

#### **BLOCK DIAGRAM**

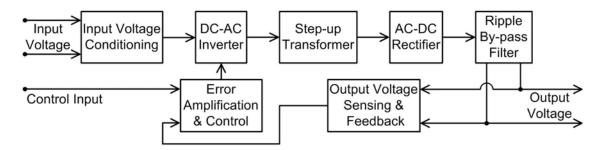


Figure 5. Block Diagram

#### NAMING INSTRUCTIONS

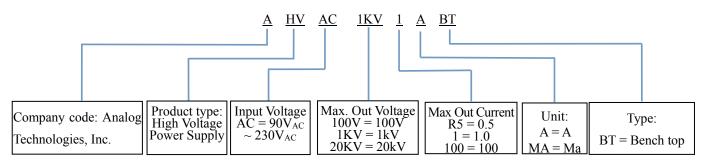


Figure 6. Naming Rules of AHVAC1KV1ABT

# **DIMENSIONS**

I. Dimension of the leads.



Figure 7. Leads of AHVAC1KV1ABT

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

## II. Dimension of AHVAC1KV1ABT.



Figure 8. Dimensions for AHVAC1KV1ABT

# **High Voltage Power Supply**



# **AHVAC1KV1ABT**

## **PRICES**

Quantity (pcs)	1~9	10~49	50~99	≥100
AHVAC1KV1ABT	\$1399	\$1299	\$1199	\$1099

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