FEATURES

High Efficiency
High Output Current: 7A
High Output Voltage Stability
Linear Modulation of Output Voltage
Wide Range of Capacitance Load: 2µF to 20µF
Over-current and Short Circuit Protections
Displays for Output Voltage and Current
Low Cost

APPLICATIONS

Driving piezos or other high voltage high current loads.

DESCRIPTION

AHVA1KV7A is a bench-top high voltage amplifier/piezo driver for amplifying an analog input voltage into a high voltage high current output. AHVA1KV7A has a built-in high voltage high current AC–DC converter which converts the 240VAC input voltage into an output voltage adjustable from 0 to 1kVDC.

SAFETY PRECAUTIONS

To ensure the safety for using the high voltage amplifier, make sure that the input voltage value falls within the value range required, 220VAC to 240VAC, and the maximum current allowed is ≥40A. All the connection harnesses must have sufficient current capacity and enough voltage insulation rating. Keep a distance of at least 1.2 ft (30cm) away from other objects or walls to provide sufficient cool air for the internal ventilation fan.
SPECIFICATIONS

Table 1. Characteristics.

$T_A = 25^\circ C$, unless otherwise noted

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit/Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains Voltage</td>
<td>$230 \pm 10 % @ 50/60 \text{Hz}$</td>
<td>VAC</td>
</tr>
<tr>
<td>Output Voltage Range</td>
<td>$0 \sim 1000$</td>
<td>V</td>
</tr>
<tr>
<td>Max. Output Current</td>
<td>$7$</td>
<td>A</td>
</tr>
<tr>
<td>Input Modulation Voltage</td>
<td>$0 \sim 10$</td>
<td>V</td>
</tr>
<tr>
<td>Input Resistance</td>
<td>$1$</td>
<td>MΩ</td>
</tr>
<tr>
<td>Full Load Efficiency</td>
<td>$\geq 86%$</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>$-10 \sim 45$</td>
<td>$^\circ C$</td>
</tr>
<tr>
<td>Digital Display</td>
<td>Output voltage display accuracy: $0.1%$; Output current display accuracy: $1%$</td>
<td></td>
</tr>
<tr>
<td>Ripple Noise</td>
<td>$\leq 2%$</td>
<td></td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>$&lt; 0.4 \times 10^{-4} ^\circ C$ (preheating for 30 min)</td>
<td></td>
</tr>
<tr>
<td>Protection Temp. for Overheat</td>
<td>$70 \sim 80$</td>
<td>$^\circ C$</td>
</tr>
<tr>
<td>High Voltage Output Port</td>
<td>D-Sub 5W1 connector</td>
<td></td>
</tr>
<tr>
<td>External Control Port</td>
<td>BNC</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>$430 \times 550 \times 220$</td>
<td>mm</td>
</tr>
<tr>
<td>Weight</td>
<td>$25/55$</td>
<td>kg/lbs</td>
</tr>
</tbody>
</table>

DIMENSIONS

Figure 2. Dimensions of AHVA1KV7A
PANEL INSTRUCTIONS

Front panel

1. Power switch: ON and OFF indicate that 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. OUT: The D-Sub 5W1 plug is the voltage output of the amplifier. The output voltage ranges from 0V to +1000 V; This is the connector (part #: 681M5W1203LYYY) used for the output, the pin locations in Figure 4; the cable connector (part #: 680M5W1103L201) can be used for mating with the output connector.

Figure 3. Front Panel

7. USB.
8. 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.
9. MOD: Modulation input. A 0 ~ 10V external input control voltage will be amplified to an output voltage of 0 ~ 1000V.

Back Panel

10. Input connector: A connector with 230VAC, 50/60Hz and up to 40A current.

Note: The plug on our piezo driver is NEMA 10–50.

Figure 5. Back Panel

NAMING INSTRUCTIONS

Figure 6. Naming Rules of AHVA1KV7A
ORDERING INFORMATION

Table 2. Unit Price

<table>
<thead>
<tr>
<th>Quantity (pcs)</th>
<th>1 – 5</th>
<th>6 – 10</th>
<th>11 – 19</th>
<th>≥20</th>
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<tr>
<td>AHVA1KV7A</td>
<td>$9600</td>
<td>$9500</td>
<td>$9400</td>
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