Ahnalog Technologies

AHVA1KV7A

High Voltage Amplifier/Piezo Driver

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 ±10 % @ 50/60 Hz</td>
<td>VAC</td>
</tr>
<tr>
<td>Output Voltage Range</td>
<td>0 ~ 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 ~ 10</td>
<td>V</td>
</tr>
<tr>
<td>Input Resistance</td>
<td>1 MΩ</td>
<td></td>
</tr>
<tr>
<td>Full Load Efficiency</td>
<td>≥86%</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>−10 ~ 45</td>
<td>°C</td>
</tr>
<tr>
<td>Digital Display</td>
<td>Output voltage display accuracy: 0.1%;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Output current display accuracy: 1%</td>
<td></td>
</tr>
<tr>
<td>Ripple Noise</td>
<td>≤2%</td>
<td></td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>&lt;0.4 × 10 − 4°C (preheating for 30 min)</td>
<td></td>
</tr>
<tr>
<td>Protection Temp. for Overheat</td>
<td>70 ~ 80</td>
<td>°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 × 550 × 220</td>
<td>mm</td>
</tr>
<tr>
<td>Weight</td>
<td>25/55</td>
<td>kg/lbs</td>
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</table>

DIMENSIONS

Figure 2. Dimensions of AHVA1KV7A
**High Voltage Amplifier/Piezo Driver**

**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](image)

- 1: Ground
- 2: Not used
- 3: Ground
- 4: Not used
- 5: Voltage output

![Figure 4. Pin Assignments for the Output Connector 5W1](image)

- A1: 0 ~ +1000V
  - 1: Ground
  - 2: Not used
  - 3: Ground
  - 4: Not used

**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.

**NAMING INSTRUCTIONS**

- A
- HVA
- 1KV
- 7A

![Figure 6. Naming Rules of AHVA1KV7A](image)

High Voltage Amplifier

Company code: Analog Technologies, Inc
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>
<td>$9300</td>
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