HMA Series

100V – 1kV; 0.5W, 1W
REGULATED, PROGRAMMABLE
HIGH VOLTAGE POWER SUPPLIES

**FEATURES**
- High voltages up to 1kV
- Positive or negative polarity
- Internal reference voltage
- Stable output voltage
- Patented resonance converter technology
- Low ripple and noise
- Made in Germany

The HMA series is a line of small DC to HV converters providing 100VDC to 1000VDC, positive or negative, at 0.5W or 1W output power. The output voltage control is achieved by means of a programming resistor or a control voltage. An output voltage monitor and an ON/OFF input are provided. The units are housed in a compact PCB mountable package. The metal box and a patented resonant converter principle guarantee very low EMI. Protected against overload and short circuit. RoHS compliant.

<table>
<thead>
<tr>
<th>Output Voltage</th>
<th>0.5W Models</th>
<th>1W Models</th>
<th>Ripple / Noise @f&gt;10Hz typ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VNOM</td>
<td>Max. Output Current</td>
<td>Model</td>
<td>Max. Output Current</td>
</tr>
<tr>
<td>0 – 100V</td>
<td>5mA</td>
<td>HMA-0.1#5-5</td>
<td>6mA</td>
</tr>
<tr>
<td>0 – 200V</td>
<td>2.5mA</td>
<td>HMA-0.2#2.5-5</td>
<td>5mA</td>
</tr>
<tr>
<td>0 – 400V</td>
<td>1.2mA</td>
<td>HMA-0.4#1.2-5</td>
<td>2.5mA</td>
</tr>
<tr>
<td>0 – 600V</td>
<td>0.8mA</td>
<td>HMA-0.6#0.8-5</td>
<td>1.6mA</td>
</tr>
<tr>
<td>0 – 800V</td>
<td>0.6mA</td>
<td>HMA-0.8#0.6-5</td>
<td>1.2mA</td>
</tr>
<tr>
<td>0 – 1000V</td>
<td>0.5mA</td>
<td>HMA-1#0.5-5</td>
<td>1mA</td>
</tr>
</tbody>
</table>

*: output polarity designators: ’P’ for positive / ’N’ for negative

**SPECIFICATIONS**
- Input Supply Voltage (+Vin): -5: +5VDC ±10% -12: +11.5VDC to +15.5VDC
- Input Supply Current: -5: 180mA max. *1 -12: 150mA max. *1
- Programming Input (Vset): 1. External control voltage: -5: 0 to +2.5V -12: 0 to +5.0V results in 0 to full rated output ±1%; input impedance: 10kΩ to internal reference voltage (2.5V/5.0V); Since the output voltage is not internally limited, the control voltage must not exceed the values specified above! 2. External resistor Rset connected between Vset and Gnd: Rset = Vout * 10kΩ / (|Vnom - Vout|)
- Output Current Limit: 1.5 * Inom
- Line Regulation: < 1 * 10⁻³ * Vnom (ΔVout / ΔVin min to max supply voltage)
- Load Regulation: < 2 * 10⁻³ * Vnom (ΔVout / Δload no load to rated load)
- Temperature Coefficient: < 50ppm/K
- Voltage Monitor (Vmon): -5: 0 to 2.5V -12: 0 to 5.0V
- /ON Input: ON: 0V or open; OFF (Vout = 0): 2.5V – 5.5V
- Protection: overload and short circuit
- Temperature Range: Operating: 0°C to +40°C Storage: -20°C to +60°C
- Dimensions (LxWxH): 39.6 x 15.7 x 11mm³
- Weight: ca. 13g

Operating Conditions: All voltages are referenced to GND. *1 at full rated output voltage, rated load, 25°C, after 1h warm up

© 2018 hivolt.de – Subject to change without notice, errors expected.
**CONNECTION DIAGRAM**

- **GND**
- **VSET**
- **VMON**
- **/ON**
- **+VIN**
- **HV**
- **LOAD**

**PIN FUNCTION DESCRIPTIONS**

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Designation</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+VIN</td>
<td>Input Supply Voltage</td>
</tr>
<tr>
<td>2</td>
<td>VSET</td>
<td>Programming Input</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>Ground Reference</td>
</tr>
<tr>
<td>4</td>
<td>/ON</td>
<td>Remote On Input</td>
</tr>
<tr>
<td>5</td>
<td>VMON</td>
<td>Voltage Monitor Output</td>
</tr>
<tr>
<td>6</td>
<td>HV</td>
<td>High Voltage Output</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
<td>High Voltage Return</td>
</tr>
</tbody>
</table>

- Pins 3 and 7 are internally connected to the case.

**DIMENSIONS**

All dimensions are in mm; drawings not to scale

**FOOTPRINT**

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>HMA</th>
<th>-</th>
<th>0.2</th>
<th>P</th>
<th>5</th>
<th>-</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Part Designation</td>
<td>Output Voltage [kVDC]</td>
<td>Polarity</td>
<td>Output Current [mA]</td>
<td>Supply Voltage [V]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: HMA-0.2P5-12 (HMA series, 0.2kV, positive, 5mA, 12V supply)

Disclaimer

The information given in this data sheet is technical data, not assured product characteristics. It has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. The user has to ensure by adequate tests that the product is suitable for his application regarding safety and technical aspects.

hivolt.de GmbH & Co. KG does not assume any liability arising out of the application or use of any product described.

Safety Advice

Design, installation and inspection of machinery and devices carrying high voltage require accordingly trained and qualified personnel. Appropriate safety rules and directives must be complied with.

Improper handling of high voltage can mean severe injuries or death and may cause serious collateral damage!