The Bertan VS100 high voltage power supply was specifically designed for precision electron beam applications like semiconductor nano-lithography, micro-optics and development mask work. It's ultra low ripple and excellent stability specifications make it ideal for use in these demanding applications. A switch selectable low and high output current range is featured. The solid encapsulated high voltage section eliminates any user maintenance issues, while isolating the components from environmental variables. The unit is fully overload, arc and short circuit protected. Remote control programming and monitoring capability is provided. A second high voltage monitor, separate from the control electronics is provided. This allows accurate passive measurement of the high voltage output.

**TYPICAL APPLICATIONS**
- Micro-Optics
- Semiconductor lithography
- Development mask work

**SPECIFICATIONS**

**Input Voltage:**
220Vac, ±10%, single phase 50/60 Hertz

**Output Voltage:**
0 to 100kV, negative polarity. Externally switch selectable to 105kV, ±500 volts

**Output Current:**
0-10μA, low range
0-100μA, high range
Switch selectable

**Line Regulation:**
±0.001% of rated voltage over specified input voltage range

**Load Regulation:**
≤20V for a current change of 25μA to 60μA and 60μA to 25μA

**Ripple:**
≤75mV peak to peak

**Partial High Voltage Discharge:**
less than 200mV

**Stability:**
0.001% per 8 hours after a 6 hour warm up, for a temperature of 20°C ±0.2°C

**Temperature Coefficient:**
50ppm per degree C over a 10°C to 40°C range

**Environmental:**
- Operating Temperature: 0 to 40 degrees C
- Storage Temperature: -40 to 85 degrees C
- Humidity: 10 to 90% RH, non condensing

**Cooling:**
- Forced Air-control chassis;
- Convection Cooled- high voltage chassis

**Front Panel:**
- Power ON/OFF switch
- HV ON/OFF switch
- HV ON/OFF indicator
- Analog output voltage meter

**Dimensions:**
- Control Chassis: 5.25˝ H X 19˝ W X 15.3˝ D
  (13.3cm X 48.3cm X 38.4cm)
- HV Chassis: 10.25˝ H X 19˝ W X 27˝ D
  (26.7cm X 48.3cm X 55.9 cm)

**Weight:**
- Control Chassis: 20 pounds (9kg)
- HV Chassis: 116 pounds (50kg)

**Interface Connector:**
- 19 pin Burndy GOB1619SNE
  (mating connector provided)

**AC Input Connector:**
- 3 pin IEC320 input socket

**Output HV Connector:**
- Claymount 2050-073

**Output HV Cable:**
- Detachable at rear panel, cable not provided.
## Remote Interface Connector

<table>
<thead>
<tr>
<th>PIN</th>
<th>Signal</th>
<th>Signal Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-5V Reference</td>
<td>-5.0 volts @ 10mA output</td>
</tr>
<tr>
<td>B</td>
<td>Voltage Programming</td>
<td>0 to -5V = 0 to 100% rated output, Zin = 100KΩ</td>
</tr>
<tr>
<td>C</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>D</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>E</td>
<td>Monitor Common</td>
<td>Ground</td>
</tr>
<tr>
<td>F</td>
<td>HV Status</td>
<td>TTL High = HV OFF, TTL Low = HV ON</td>
</tr>
<tr>
<td>G</td>
<td>+5V</td>
<td>5.0 volts @ 250mA output</td>
</tr>
<tr>
<td>H</td>
<td>Interlock</td>
<td>Ground or TTL low to enable interlock</td>
</tr>
<tr>
<td>J</td>
<td>Program Common</td>
<td>Ground</td>
</tr>
<tr>
<td>K</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>L</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>M</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>N</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>P</td>
<td>Voltage Monitor</td>
<td>0 to -5V = 0 to 100% rated output, Zout = 10KΩ</td>
</tr>
<tr>
<td>R</td>
<td>Current Monitor</td>
<td>0 to -5V = 0 to 100% rated output, Zout = 10KΩ</td>
</tr>
<tr>
<td>S</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>T</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>U</td>
<td>Spare</td>
<td>N/C</td>
</tr>
<tr>
<td>V</td>
<td>Spare</td>
<td>N/C</td>
</tr>
</tbody>
</table>

## Dimensions: in. [mm]

### HV Chassis
- Front View:
  - Width: 19.00 [483]
  - Height: 11.38 [290]
  - Depth: 10.50 [267]

### Control Chassis
- Front View:
  - Width: 19.00 [483]
  - Height: 5.25 [133]

### Top View
- Width: 16.68 [424]
- Height: 15.13 [384]

### Back View
- Width: 18.31 [465.12]
- Height: 19.00 [483]

---

 Spellman High Voltage is an ISO 9001 and ISO 14001 registered company

Copyright © 2005 Spellman High Voltage Electronics Corp.