Spellman’s Bertan brand of PMT modular high voltage power supplies offer well regulated, fixed polarity outputs up to 7.5kV, which operate off a low voltage DC input voltage. These fully enclosed modules are specifically designed with proprietary linear power conversion techniques to provide exceptionally low ripple and noise. The PMT is ideal for precision applications including: photomultiplier tubes, solid state detectors and ultrasonic transducers.

The output voltage can be controlled by either a local internal potentiometer or by a customer provided ground referenced signal for remote operation. Additionally a ground referenced output voltage monitor signal is provided. The PMT can be powered from either a single positive voltage source or a split ± voltage source, providing application flexibility.

**TYPICAL APPLICATIONS**
- Photomultiplier tubes
- Ultrasonic transducers
- Solid state detectors

**SPECIFICATIONS**

**Input Voltage:**
- Option 1: +24Vdc to +30Vdc @ 400mA
- Option 3: ±12Vdc to ±18Vdc @ 400mA

Specify “-1” (option 1) or “-3” (option 3) when ordering

**Efficiency:**
≈50%, typical

**Output Polarity:**
Positive or negative, specify at time of order

**Output Voltage:**
See “model selection” table

**Output Current:**
See “model selection” table

**Output Power:**
1.875W, 2W, 2.5W, 3W, 4W

**Voltage Regulation:**
- Line: ±0.001% of rated output voltage for a +1% input line change
- Load: ±0.001% of rated output voltage for a full load change

- **Ripple:**
  See “model selection” table

- **Stability:**
  ≤0.005% per hour, 0.02% per 8 hours, after a 1/2 hour warm up

- **Accuracy:**
  Remote Programming ±(2% of setting, +0.5% of maximum)
  Voltage Monitor ±2%

- **Temperature Coefficient:**
  ≤50ppm/°C

- **Arc/Short Circuit:**
  All units are fully arc and short circuit protected and will limit continuous short circuit output current to less than 150% of maximum rated output current.

- **Operating Temperature**
  0°C to +50°C

- **Storage Temperature:**
  -40°C to +85°C

- **Humidity:**
  20% to 85% RH, non-condensing

- **Interface Connector:**
  12 position card edge connector, mate provided with unit

- **Output Connector:**
  A captive 24˝ (610mm) of RG-59B/U shielded cable, unterminated is provided

- **Cooling:**
  Convection cooled.

- **Dimensions:**
  3.875˝W X 1.25˝H X 6.3125˝D (98mm x32mm x 160mm)

- **Weight:**
  ≤2.0 pounds (0.9kg)

- **Regulatory Approvals:**
  RoHS compliant.
### MODEL SELECTION TABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Ripple (Vpp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMT-05C-P.N</td>
<td>0 to 500V</td>
<td>0 to 8mA</td>
<td>5mV</td>
</tr>
<tr>
<td>PMT-10C-P.N</td>
<td>0 to 1kV</td>
<td>0 to 4mA</td>
<td>4mV</td>
</tr>
<tr>
<td>PMT-20C-P.N</td>
<td>0 to 2kV</td>
<td>0 to 2mA</td>
<td>2mV</td>
</tr>
<tr>
<td>PMT-30C-P.N</td>
<td>0 to 3kV</td>
<td>0 to 1mA</td>
<td>6mV</td>
</tr>
<tr>
<td>PMT-50C-P.N</td>
<td>0 to 5kV</td>
<td>0 to 0.5mA</td>
<td>10mV</td>
</tr>
<tr>
<td>PMT-75C-P.N</td>
<td>0 to 7.5kV</td>
<td>0 to 0.25mA</td>
<td>100mV</td>
</tr>
</tbody>
</table>

Specify “P” for positive polarity or “N” for negative polarity.

### INTERFACE CONNECTOR

<table>
<thead>
<tr>
<th>Signal</th>
<th>Parameters</th>
<th>Option 1 Pin Number</th>
<th>Option 3 Pin Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Power Input</td>
<td>+24Vdc to +30Vdc or +12Vdc to +18Vdc</td>
<td>3&amp;4</td>
<td>3 &amp; 4 &amp; 5</td>
</tr>
<tr>
<td>- Power Input</td>
<td>-12Vdc to -18Vdc</td>
<td>n/a</td>
<td>2 &amp; 6</td>
</tr>
<tr>
<td>Ground</td>
<td>Ground</td>
<td>1 &amp; 12</td>
<td>1 &amp; 12</td>
</tr>
<tr>
<td>Voltage Monitor</td>
<td>See Voltage Monitor Table</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>+9Vdc Reference</td>
<td>+9.0Vdc, 10mA maximum</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Voltage Program Input</td>
<td>0 to 9Vdc = 0 to 100% rated output, 100kΩ Zin</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Local Voltage Program</td>
<td>Internal program potentiometer wiper, 0 to 9Vdc</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

### VOLTAGE MONITOR TABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Signal Voltage</th>
<th>Signal Impedance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMT-05C-P.N</td>
<td>0 to 5 volts</td>
<td>50k ohms</td>
</tr>
<tr>
<td>PMT-10C-P.N</td>
<td>0 to 1 volts</td>
<td>10k ohms</td>
</tr>
<tr>
<td>PMT-20C-P.N</td>
<td>0 to 2 volts</td>
<td>25k ohms</td>
</tr>
<tr>
<td>PMT-30C-P.N</td>
<td>0 to 3 volts</td>
<td>30k ohms</td>
</tr>
<tr>
<td>PMT-50C-P.N</td>
<td>0 to 5 volts</td>
<td>100k ohms</td>
</tr>
<tr>
<td>PMT-75C-P.N</td>
<td>0 to 7.5 volts</td>
<td>200k ohms</td>
</tr>
</tbody>
</table>

Note: The Voltage Monitor polarity matches the high voltage output polarity.

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**SPELLMAN HIGH VOLTAGE ELECTRONICS CORPORATION**

**DIMENSIONS: in.[mm]**

**TOP VIEW**

**BOTTOM VIEW**

**FRONT VIEW**

**INTERFACE CONNECTOR**

**VOLTAGE MONITOR TABLE**