The MLB series Mercury lamp ballasts are designed for the OEM customer. MLB power supplies provide a precise constant power output that will track the varying impedance of the mercury lamp for stable light output. Combined with our “Short Pulse” igniter the system is offered in a wide range of voltage and current combinations and will operate lamps from all manufacturers.

Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics. Power factor is greater than 0.99 (1Ø models) and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN 55011 emission requirements.

The MLB Lamp Ballasts set the standard for reliable lamp ignition and long term high power operation in a low cost, compact package. All 5 models offer precision regulation and the lowest ripple specifications in the industry.

Advantages

- Models from 650 to 5000 watts
- Constant Power Output
- Reliable “Short Pulse” Ignition
- Power Factor Correction (1Ø models)
- Low conducted emissions
- Low Ripple < 0.5%

Applications

- Semiconductor Processing
- UV Sterilization
- UV Curing
- Medical Applications
### MLB Mercury Lamp Power Supplies

<table>
<thead>
<tr>
<th>Model</th>
<th>Pout max</th>
<th>Iout max</th>
<th>V lamp (Depending upon lamp model)</th>
<th>Input Voltage</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLB-650</td>
<td>650 watts</td>
<td>35 A</td>
<td></td>
<td>100 to 240 VAC</td>
<td>8.9&quot; x 5.8&quot; x 2.7&quot;</td>
</tr>
<tr>
<td>MLB-1000</td>
<td>1000 watts</td>
<td>50 A</td>
<td>15 to 150 V</td>
<td>10.6&quot; x 8.2&quot; x 3&quot;</td>
<td>269 x 208 x 76mm</td>
</tr>
<tr>
<td>MLB-1500</td>
<td>1500 watts</td>
<td>75 A</td>
<td></td>
<td>200 to 240 VAC</td>
<td>13&quot; x 8.5&quot; x 3.4&quot;</td>
</tr>
<tr>
<td>MLB-2500</td>
<td>2500 watts</td>
<td>150 A</td>
<td></td>
<td>33.2 x 21.6 x 8.6 cm</td>
<td>17&quot; x 16.6&quot; x 3.4&quot;</td>
</tr>
<tr>
<td>MLB-3000</td>
<td>3000 watts</td>
<td>150 A</td>
<td></td>
<td></td>
<td>431 x 422 x 108mm</td>
</tr>
<tr>
<td>MLB-5000</td>
<td>5000 watts</td>
<td>170 A</td>
<td>200 to 440 VAC (selectable)</td>
<td>17.3&quot; x 16.6&quot; x 4.25&quot;</td>
<td>439 x 422 x 108mm</td>
</tr>
</tbody>
</table>

### Specifications
- **Input Voltage:** See table: All input voltages ± 10%, 50/60Hz
- **Power Factor:** >.98 (1Ø Models)
- **Efficiency:** >80%

### Interface
- **Connector:** 15 Pin "D" Sub Female

### Ignition/Boost
- **Boost Voltage:** 250V
- **Boost Energy:** 500 mj.
- **Ignition Voltage:** Up to 45kV (~1uSec rise time)
- **Igniter Polarity:** Positive or Negative (Factory Set)
- **Ignition Energy:** 65mj.
- **Igniter Dimensions:** 5.5" x 3.6" x 2.6", 140 x 92 x 66mm

### Performance
- **Line Regulation:** <0.2% of maximum output current
- **Current Regulation:** <0.5% of Maximum output current
- **Current Ripple:** <0.5% of maximum output current
- **Power Limit:** Limited to maximum power with power fold-back circuit

### Environment
- **Operating Temp:** 0 to 40°C
- **Storage:** -25 to 85°C
- **Humidity:** 0 to 95% RH non-condensing
- **Cooling:** Forced air

**Note:** MLB-5000 can be upgraded to 7kW. Contact customer service for details. Units can also be paralleled for higher power applications.
## MLB Mercury Lamp Power Supplies

### Interface

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Pin Name</th>
<th>Functional Voltage Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lamp On/Off (input)</td>
<td>High = RUN = +5V to +15V</td>
<td>The Lamp On/Off function is the control function which turns the lamp on and off. When the lamp is turned on, a trigger and boost sequence will ignite the lamp and deliver power as programmed via Iprogram, Pin 7.</td>
</tr>
<tr>
<td></td>
<td>(Note: 1)</td>
<td>Low = OFF = 0V</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Current Limit</td>
<td>Analog Level</td>
<td>The Current Limit Pin is used to limit the output current of the supply. The pin can be pulled lower through the use of an external resistor to Gnd to limit the output current of the supply. The default setting is set to 105% of Ioutmax.</td>
</tr>
<tr>
<td></td>
<td>Default = 10 V</td>
<td>(not available on MLB-650)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Interlock (Input)</td>
<td>Open = OFF Connect to GND = RUN</td>
<td>The Interlock function can be connected to external interlock switches such as door or over-temp switches.</td>
</tr>
<tr>
<td>4, 9, 15</td>
<td>GND</td>
<td>Interface Return</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Vout Monitor (output)</td>
<td>0-10V = 0-Voutmax</td>
<td>The output voltage of the supply can be monitored by Vout Monitor.</td>
</tr>
<tr>
<td>6</td>
<td>Iout Monitor (output)</td>
<td>0-10V = 0-Ioutmax</td>
<td>The output current of the supply can be monitored by Iout Monitor.</td>
</tr>
<tr>
<td>7</td>
<td>Pprogram (input)</td>
<td>0-10V = 0-Poutmax</td>
<td>The power supply output power is set by applying a 0-10V analog signal to Iprogram (+).</td>
</tr>
<tr>
<td>8</td>
<td>Lamp Status</td>
<td>High = lamp off = 15V</td>
<td>The status of the lamp can be monitored using this pin</td>
</tr>
<tr>
<td></td>
<td>Low = lamp on = 0V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13, 14</td>
<td>+15V (output)</td>
<td></td>
<td>Auxiliary 250mA</td>
</tr>
</tbody>
</table>

### MLB Series Block Diagram

(power factor corrected models)

![MLB Series Block Diagram](image-url)
Outline Drawings (dimensions in inches)

MLB-650

MLB-1000/1500

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MLB-2500

MLB Mercury Lamp Power Supplies