The IMAD series provides the system designer with an acousto-optic modulator and associated drive electronics in a single compact package. The IMAD-P80L video input is designed for the proportional (analog) control of laser beam intensity. A single 4 way connector provides connection to the modulation and DC inputs.

The RF drive power is adjusted by means of a 11 turn PWR ADJ potentiometer. The setting depends on the operating wavelength and desired peak efficiency.

**SPECIFICATIONS**

- **Standard Operating Wavelength:** 488-633nm *
- **Interaction Material:** Lead Molybdate (PbMoO₄)
- **Active Aperture:** 1.5mm
- **Centre Frequency (fc):** 80MHz
- **RF Bandwidth (Δf):** 30MHz
- **Frequency Accuracy:** ± 0.003%
- **Frequency Stability:** ± 0.003%
- **Analogue Input:** 0 - 5V ** for 100% depth of modulation
- **Input Impedance:** 110 Ω (600 Ω optional)
- **Static Contrast Ratio:** >1500:1 min (>2500:1 typical)
- **DC Power Input:** +12Vdc or +15 Vdc at < 0.3A, diode protected
- **Connector:** JST ZH Series 4 way, 1.5mm Pitch
- **Mating Housing:** ZHR-4
- **Crimp Contacts:** BZH-003-PO.5
- **Recommended wire:** 28awg, 2 x twisted pairs

**PERFORMANCE vs. BEAM DIAMETER**

<table>
<thead>
<tr>
<th>Beam Diameter (mm)</th>
<th>1.0</th>
<th>0.34</th>
<th>0.20</th>
<th>0.14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rise Time (ns)</td>
<td>180</td>
<td>60</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>Modulation Bandwidth (MHz)</td>
<td>1.9</td>
<td>5.8</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Deflection Efficiency (%)</td>
<td>≥85</td>
<td>≥85</td>
<td>≥80</td>
<td>≥75</td>
</tr>
</tbody>
</table>

**PERFORMANCE vs. WAVELENGTH**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>473</th>
<th>488</th>
<th>532</th>
<th>633</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static Insertion Loss:</td>
<td>&lt;7.0</td>
<td>&lt;5.0</td>
<td>&lt;3.0</td>
<td>&lt;3.0</td>
</tr>
<tr>
<td>Bragg Angle (mrad):</td>
<td>5.2</td>
<td>5.4</td>
<td>5.9</td>
<td>7.0</td>
</tr>
<tr>
<td>Separation Angle (mrad):</td>
<td>10.4</td>
<td>10.8</td>
<td>11.7</td>
<td>14.0</td>
</tr>
</tbody>
</table>

* Other Anti-Reflection coatings available upon request.
** Options available
IMAD-P80L-1.5
Integrated AO Modulator & Driver

OUTLINE DRAWING

Mount device on a heat conducting surface