The LaserBoxx HPE series is a high power laser diode module offering excellent performance and reliability in a compact driver integrated laser head. It comes in free space multimode elliptical beam or with removable MM fiber coupling.

Microscopy
Medical
Illumination
High-Throughput inspection
Polymer curing
Laser pumping
Sensor

Laser head with integrated drivers
Elliptical Collimated beam
Multimode fiber coupling option
Analog modulation
USB, RS232 and Analog interfaces
Industry standard compact package
Specifications

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Oxxius has a policy of continuous product improvement. Specifications may change without notice.

## Multimode laser diode

### Optical characteristics

<table>
<thead>
<tr>
<th>Technology</th>
<th>Multimode laser diode</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emission wavelength (typ.)</strong></td>
<td>375 nm 405 nm 450 nm 473 nm 488 nm 520 nm 638 nm 750 nm 785 nm 940 nm</td>
</tr>
<tr>
<td><strong>Wavelength range</strong></td>
<td>± 5 nm ± 5 nm ± 10 nm ± 5 nm ± 5 nm ± 10 nm ± 5 nm ± 10 nm ± 5 nm ± 10 nm</td>
</tr>
<tr>
<td><strong>Linewidth</strong></td>
<td>≤ 5 nm; 2 nm typical</td>
</tr>
<tr>
<td><strong>Output power, continuous wave</strong></td>
<td>200, 400 mW 900, 1200 mW 650, 1200 mW 1000 mW 1000 mW 800 mW 1100 mW 1200 mW 800 mW 800 mW</td>
</tr>
<tr>
<td><strong>Control mode(s)</strong></td>
<td>Automatic power control (APC), Automatic current control (ACC), Automatic current control (ACC)</td>
</tr>
<tr>
<td><strong>Power stability</strong></td>
<td>over 8 hours and within ±3%K</td>
</tr>
</tbody>
</table>

### Transverse multimode free-space beam (*)

| **Beam dimensions (typ.)** | 3.0 x 1.4 mm 2.6 x 1.2 mm 2.6 x 0.7 mm 2.6 x 1.2 mm 2.2 x 1.2 mm 2.0 x 0.5 mm 1.3 x 4.5 mm 3.8 x 1.9 mm 3.8 x 1.9 mm 3.8 x 1.9 mm |
| **Beam divergence (typ.)** | at 1/e², at laser aperture 1.4 x 2.2 mrad 0.2 x 2.6 mrad 0.2 x 4.0 mrad 0.2 x 2.6 mrad 0.2 x 2.6 mrad 0.2 x 2.6 mrad 0.2 x 2.6 mrad 0.3 x 15 mrad 0.3 x 15 mrad 0.3 x 15 mrad |

### Modulation functions

| **Analog modulation** | 0-5V input voltage |
| **Bandwidth** | DC-1 MHz |
| **Rise / fall time** | ≤ 300 ns ≤ 200 ns ≤ 500 ns ≤ 200 ns |
| **10%-90%, ACC mode** | ≤ 300 ns ≤ 200 ns ≤ 500 ns ≤ 200 ns |

### MM fiber coupling option (*)

| **Output power** | 160, 320 mW 720, 960 mW 950 mW 800 mW 800 mW 600 mW 750 mW 950 mW 640 mW 600 mW |
| **Fiber core diameter** | ≥ 50 µm ≥ 50 µm ≥ 50 µm ≥ 50 µm ≥ 50 µm ≥ 50 µm ≥ 50 µm ≥ 100 µm ≥ 200 µm ≥ 100 µm |

### Supply Voltage

| **OEM version** | 5 - 12 VDC 9 - 12 VDC 5 - 12 VDC |

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**Multimode fiber coupling option**

The ACX-FCMM option offers a cost-effective and compact way to couple the LaserBoxx beam into a multimode fiber. The coupling efficiency exceeds 80%.

### Custom capabilities:

- L6Cc-HPE wavelength combiner
- Wavelength selection
- Electro-mechanical shutter
- External modulator
- Specific beam shaping

### Optional heatsink for LCX series & LBX series

Optional air-forced heat sink for maximum ambient temperature of 38°C. Including power supply.

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* Specifications at nominal power
* preliminary

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Other available wavelengths: 525nm/1000mW, 830nm/1200mW

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Visible and Infrared Laser Radiation
Avoid exposure to beam
Class 3B Laser Product
Power up to 500 mW

Visible and Infrared Laser Radiation
Avoid eye or skin exposure to
direct or scattered radiation
Class 4 Laser Product