DIAMOND FLC-Series

Fiber Lasers for Fine Cutting, Drilling and Welding

The Coherent DIAMOND FLC is a robust and compact fiber laser source, satisfies all criteria for optimized industrial laser material processing.

For laser joining, the DIAMOND FLC allows very small seam geometries at very high welding speeds. The welded joints show maximum strength with minimal heat input to the workpieces.

Laser fine cutting and drilling with DIAMOND FLC results in clean cuts with low heat affected zones and high edge qualities.

Features such as fast turn on, fast parameter switching interlock response, and high modulation frequency provides a speed advantage for high throughput applications.

FEATURES & BENEFITS

• 100 W, 200 W
• High efficiency
• Smallest spot size
• Excellent power stability
• Safety features (industrial standard)
• Analog power control
• Fast Turn ON
• Highest Modulation Frequency
• Fast Parameter Changes
• Fast Recovery after interlock
• Back Reflection Protection

APPLICATIONS

• Fine Cutting
• Fine Drilling
• Fine Welding
• Additive Manufacturing

COHERENT®
Superior Reliability & Performance
# Diamond FLC-Series Datasheet

## Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Diamond FLC-100</th>
<th>Diamond FLC-200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength (nm)</td>
<td>1070</td>
<td>1070</td>
</tr>
<tr>
<td>Output Power (W) (maximum)</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Modulation Frequency (kHz)</td>
<td>0 to 170</td>
<td>0 to 170</td>
</tr>
<tr>
<td>Mode of Operation</td>
<td>CW/Modulated</td>
<td>CW/Modulated</td>
</tr>
<tr>
<td>Beam Diameter (mm) (1/e²)</td>
<td>5 ±0.5</td>
<td>5 ±0.5</td>
</tr>
<tr>
<td>Beam Divergence (full angle)</td>
<td>Collimated</td>
<td>Collimated</td>
</tr>
<tr>
<td>Beam Quality (M²)</td>
<td>&lt;1.1</td>
<td>&lt;1.1</td>
</tr>
<tr>
<td>Free Fiber Length (m)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fiber Connection</td>
<td>QCS</td>
<td>QCS</td>
</tr>
</tbody>
</table>

### Environmental and Electrical Operating Conditions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Diamond FLC-100</th>
<th>Diamond FLC-200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage (VAC/A)</td>
<td>110 to 240 V, 1P/N/PE, AC</td>
<td>208 to 240 V, 1P/N/PE, AC</td>
</tr>
<tr>
<td>Line Frequency (Hz)</td>
<td>50/60</td>
<td>50/60</td>
</tr>
<tr>
<td>Wall Plug Efficiency (%) (maximum)</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Power Consumption (W) (maximum)</td>
<td>750</td>
<td>1,500</td>
</tr>
<tr>
<td>Cooling</td>
<td>Air</td>
<td>Air</td>
</tr>
<tr>
<td>Weight: Laser Source (kg)</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Dimensions: Output Module (L x W x H)</td>
<td>5 HU x 19&quot; x 493 mm</td>
<td>5 HU x 19&quot; x 493 mm</td>
</tr>
</tbody>
</table>

### Standardized Interfaces

- Communication via RS-232 interface
- Laser control via TTL signal (gate)
- Power control RS-232 or analog input (0 to 10 V)
- Safety shutter according to DIN EN 13849-1

---

1 Other beam diameters available on request.
2 Other wavelengths available upon request.
3 Other fiber lengths available upon request.
MECHANICAL SPECIFICATIONS

DIAMOND FLC

Rear View

Front View

Top View

Coherent, Inc.,
5100 Patrick Henry Drive Santa Clara, CA 95054
p. (800) 527-3786    |   (408) 764-4983
f.  (408) 764-4646

tech.sales@Coherent.com  www.Coherent.com